



**Hurricanes
Irma and Maria
DR-4336
And
DR-4339**



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**Housing Recovery Support
Function (RSF)**

**U. S. Department of Housing and
Urban Development**

**Housing Damage Assessment
and
Recovery Strategies Report
*Puerto Rico***

TABLE OF CONTENTS

Executive Summary.....	4
National Disaster Recovery Framework	7
Housing Recovery Support Function (RSF)	9
Housing RSF Community Assessment & Outreach	10
Municipality Survey	10
Community Site Assessments.....	11
Disaster Recovery Resource Fairs.....	12
Housing Market Conditions	13
Background.....	13
Demographics.....	14
Housing Stock Overview.....	16
Affordable Housing.....	17
Post Irma and Maria Damage Assessment	18
Rental Market and Affordable Housing	24
Methods for Estimating Unmet Housing Needs	26
Recovery Priorities and Strategies	30
Puerto Rico Housing Recovery Task Force	30
Recovery Strategies.....	32
Goal I: Stabilize Homeowner and Rental Housing Market	32
Goal II: Restore the Housing Infrastructure	37
Goal III: Build Local Capacity to Support Housing Recovery	43
Next Steps & Acknowledgements.....	45
Appendix A: HUD Market-At-A-Glance – Puerto Rico	48

Appendix B: Most Impacted and FVL per Registrant - All Municipalities 50

Appendix C: Demographics of Puerto Rico Municipalities (April 2018) 52

Appendix D: Puerto Rico CDBG-DR – Methodology for Funding Allocation under Public Law 115-123 (April 10, 2018) 62

EXECUTIVE SUMMARY

In September 2017, Puerto Rico was impacted by Hurricanes Irma and Maria within the span of two weeks. Irma passed Puerto Rico on September 6, 2017 as one of the largest hurricanes to ever form in the Atlantic. Maria followed and made landfall in Puerto Rico on September 20, 2017 as a Category 4 Hurricane, the largest and most damaging storm to strike the island since 1928.

The devastation caused by Hurricanes Irma and Maria included the catastrophic failure of the Commonwealth's power grid, water and wastewater infrastructure, and communications networks. The storms also impacted economic and housing assets in distressed communities and caused multi-faceted health and social damage. The economy came to a grinding halt in the face of physical damages, loss of supporting infrastructure, and the absence of power and water. Roads were blocked, and bridges collapsed, leaving communities stranded and unable to obtain life-saving aid, food, water, and medicine for several weeks. These conditions set the stage for the intense consequences of the storms that delayed the delivery of assistance and created a humanitarian crisis the Commonwealth had never experienced. The damages and social-economic impacts caused by the storms highlighted in the FEMA Daily Fact Sheet/Mitigation After Hurricane Maria Briefing on February 14, 2018, are summarized below:

- Federal Emergency Management Agency (FEMA) reports that Puerto Rico faced the longest power outage affecting the largest number of people in modern U.S. history—over 3 million people without power for over 30 days.
- Longest sustained domestic air mission of food and water in U.S. history - 62 days.
- Largest disaster air mission in U.S. history - 4,214 air missions.
- Largest disaster commodity mission in U.S. history - 67.94 million liters of water, 61.92+ million meals.
- Largest disaster generator mission in U.S. history - 1,601 generators installed.
- One of the largest disaster medical response missions - 38,037 patients.
- One of the largest disaster housing missions in U.S. history.
- The largest disaster sea-bridge operation in U.S. history.

The Federal Emergency Management Agency (FEMA) activated the Housing Recovery Support Function (RSF) under the National Disaster Recovery Framework (NDRF) to support response and recovery efforts in Puerto Rico. The U.S. Department of Housing and Urban Development (HUD) is the coordinating agency and in this role collaborates with FEMA and other federal partners to support the housing recovery priorities established by the Commonwealth of Puerto Rico. This support includes coordinating federal and Commonwealth partners in identifying housing recovery challenges and priorities, providing technical assistance on federal housing recovery resources, co-sponsorship of the Puerto Rico Housing Recovery Task Force, implementation of Disaster Recovery Resource Fairs across the island, conducting community assessments and surveys across several municipalities, and the development of

damage assessment and recovery strategy documents as resources for the Commonwealth and municipal governments.

As part of these efforts, HUD and Housing RSF partners collaborated on this *Puerto Rico Damage Assessment and Recovery Strategies Report*. The report culminates months of data gathering, strategy development across local partners, including identifying unmet needs, recovery priorities and potential strategies that were raised by stakeholders participating in the Puerto Rico Housing Recovery Task Force committees, and the results of various community-level damage assessments. No single document can address all the issues and strategies for the recovery of Puerto Rico, yet this document summarizes pre-disaster housing market conditions, issues and challenges to recovery, unmet needs, and a proposed housing recovery agenda across three over-arching goals, 12 recovery priorities, and numerous corresponding strategies.

Recovery Goal 1

Stablize Homeowner and Renter Housing Market

- Reduce Delinquency and Foreclosure Rates
- Reduce the number of vacant and blighted properties
- Increase supply of affordable, resilient, energy efficient, and accessible housing, especially for special needs populations

Recovery Goal 2

Restore Housing Infrastructure

- Reduce the number of homes categorized as substandard or informal housing
 - Assist homeowners without title or other title issues
 - Incentivize homeowner to make home code compliant
 - Increase the utilization of building permits
- Reduce the number of properties located in flood zones
- Update address system
- Rebuild a resilient housing infrastructure

Recovery Goal 3

Build Local Capacity to Support Housing Recovery

- Develop and execute outreach and communication plan
- Develop and execute recovery education and training plan

Twenty-six communities in Puerto Rico have been identified as having the greatest impacts based on several different metrics. The ten most impacted communities by total number of damaged housing units (accounting for 1/3 of all damaged properties) are also population centers containing over 31% of Puerto Rico's population (San Juan, Bayamón, Caguas, Ponce, Toa Baja, Carolina, Arecibo, Humacao, Canóvanas, Guaynabo). When considering the number of damaged housing units as a percent of total units within a specific market, the 10 most impacted tend to be smaller communities such as Culebra, Vieques, Comerío, Canóvanas, Guayama, Toa Alta, Utuado, Cayey, and Aibonito. Finally, when looking at the 10 most impacted communities, based on highest FEMA Verified Loss (FVL) per registrant, the result is a cross-section of areas

including Cayey, Vieques, Maunabo, Comerío, Ciales, Canóvanas, Orocovis, Salinas, Yabucoa, and Caguas. Across these different metrics, Canóvanas was the only community that appeared on the top ten list in each category: top ten in total units damaged, percent of total housing market impacted, and highest FEMA Verified Loss per registrant, therefore suggesting a significant need in this community.

Upon the completion of a rigorous analysis of the damage caused by Hurricanes Irma and Maria, an appropriation under Public Law 115-56 and 115-123 of approximately \$1.5 billion and \$18.5 billion respectively, was allocated to the Commonwealth of Puerto Rico to undertake recovery efforts. These allocations are to be used to address the unmet housing needs and mitigation efforts island-wide. In addition to the significant impacts on the housing stock, there was major commercial and public infrastructure damage throughout the Commonwealth.

Recovery of housing in the impacted communities of the Commonwealth will require many things, including:

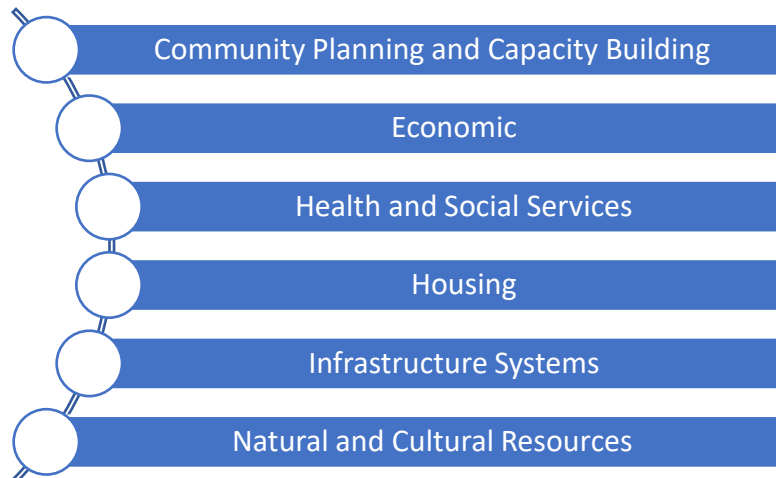
- Understanding the impacts to the Commonwealth and pre-disaster conditions which will affect post-disaster recovery.
- Identification of the affected population, particularly those who may be among the hardest to serve.
- Maximum community participation in developing recovery plans that are acceptable to the Commonwealth as well as the local communities.
- Development of strategies that incorporate specific recovery requirements, are technically feasible, and include resiliency.

NATIONAL DISASTER RECOVERY FRAMEWORK

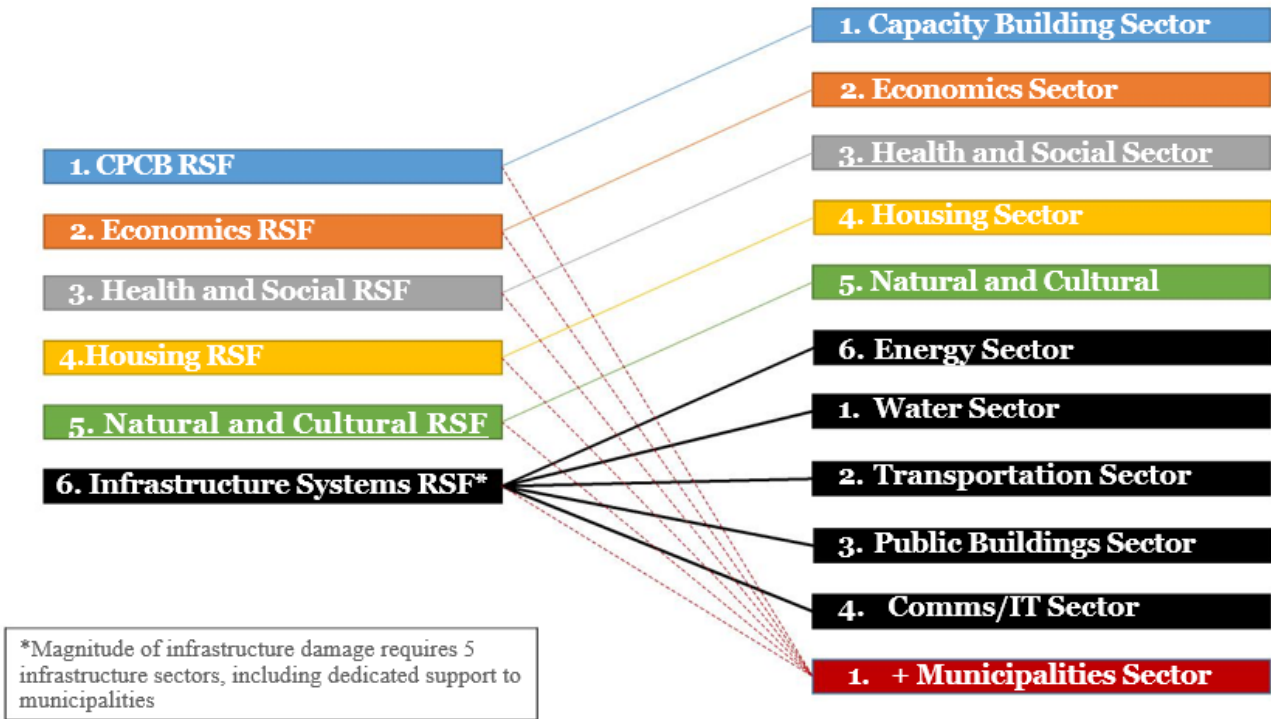
The Robert T. Stafford *Disaster Relief and Emergency Assistance Act*, 42 U.S.C. §§ 5121-5206, was enacted in 1988 to support state and local governments and their citizens during a disaster. This law, as amended, establishes a process for requesting and obtaining a Presidential Disaster Declaration, which defines the type and scope of assistance available from the federal government, and sets the conditions for obtaining that assistance. The Federal Emergency Management Agency (FEMA), part of the Department of Homeland Security, is tasked with coordinating all recovery efforts.

In 2011, Presidential Policy Directive Presidentially Declared Disaster 8, National Preparedness directed FEMA to publish recovery framework guidance as an interagency effort with federal partners, including U.S. Department of Housing and Urban Development (HUD), U.S. Department of Health and Human Services (HHS), U.S. Department of Interior (DOI), and U.S. Army Corps of Engineers (USACE), to name a few.

FEMA's National Disaster Recovery Framework Support Functions and Core Capabilities are the distinct elements needed to achieve this National Preparedness Goal. The Recovery Support Functions (RSFs) provide a structure to facilitate problem solving, improve access to resources, and foster coordination among state and federal agencies, nongovernmental partners and others. For each of its six RSFs, the Framework lists the federal agencies involved and their function for pre-disaster and post-disaster activities and expected outcomes.



Due to the level of impact and devastation caused by Hurricanes Irma and Maria, in addition to activating the six RSF's, FEMA DR-4339-PR will employ a sector-based approach to the recovery efforts. FEMA Sectors aligned to RSFs will facilitate cross-agency planning and program delivery towards unified outcomes. Organizing and staffing recovery resources using the sector approach and employing solution-based teams will support the Commonwealth efforts to rebuild a stronger more resilient, energy efficient, economically stable Puerto Rico.



HOUSING RECOVERY SUPPORT FUNCTION (RSF)

The Department of Housing and Urban Development is the coordinating agency for the Housing Recovery Support Function (RSF). The mission of the Housing RSF is to:

- Support efforts to address pre-and post-disaster housing issues,
- Facilitate the delivery of federal resources to implement housing solutions that effectively support the needs of the whole community and contribute to its sustainability and resilience,
- Support activities to assist local, state, and tribal governments in the rehabilitation and reconstruction of damaged and destroyed housing, and;
- Support efforts to develop new accessible, permanent housing options.

The Housing RSF staff participate in meetings with the other five RSF's to explore the housing needs of the impacted communities and technical assistance needs of state and local governments. The Housing RSF actively collaborates with federal, state, and nongovernmental agencies to contribute to the development of fully integrated plans to address solutions for pre-and post-disaster housing challenges and displaced households.

Coordinating Agency:¹ U.S. Department of Housing and Urban Development

Primary Agencies: Federal Emergency Management Agency
U.S. Department of Agriculture, Rural Development
U.S. Department of Justice

Supporting Agencies: U.S. Department of Commerce
U.S. Department of Health and Human Services
U.S. Environmental Protection Agency
Corporation for National and Community Service
U.S. Small Business Administration
U.S. Department of Energy
American Red Cross
U.S. Department of Veteran Affairs
National Voluntary Organizations Active in Disaster

Commonwealth Partners: Puerto Rico Department of Housing
Puerto Rico Housing Finance Authority
Puerto Rico Public Housing Administration
Central Recovery and Reconstruction Office
Office of Socio-Economic and Community Development
Puerto Rico Planning Board
Puerto Rico Emergency Management Agency
Puerto Rico Department of Family

¹ FEMA National Disaster Recovery Framework – Updated June 2016

This *Housing Damage Assessment and Recovery Strategies Report* will assist the Commonwealth of Puerto Rico, FEMA and other federal, state, local, and non-governmental partners on ways to frame the recovery issues and implement housing recovery strategies that:

- Meet the need for **quality affordable housing**,
- Utilize housing as a platform for **improving quality of life and resident self-sufficiency**,
- Identify strategies to **strengthen the housing market**,
- Build **inclusive and sustainable communities**,
- **Address housing at particularly high risk of damage** from future disasters, and;
- Improve disaster resiliency by integrating **disaster mitigation measures into community design** and development.

Housing RSF Community Assessment & Outreach

MUNICIPALITY SURVEY

Since Puerto Rico did not have an abundance of primary data available immediately following the disasters, the Housing RSF team developed and distributed a survey, which was issued to all 78 municipalities, to collect additional housing impact data for the Commonwealth. Results from the survey identified communities that were most affected, level of damage, primary housing concerns, cross-sector issues, and available resources and assistance from the Commonwealth, non-profit and private entities that could drive recovery efforts.

Approximately 70% of the municipalities responded and provided feedback on the level of damage their communities suffered during the disaster. Based on the survey responses, the top three municipalities with the most units reported as affected were: Ponce, Toa Baja, and Canóvanas. Most of the damage was reported as major and moderate. Many of the municipalities reported that the elderly and disabled population, as well as homeless and low-income families were the most in need in the aftermath of the hurricanes. Additionally, the chronically ill, handicapped and single mothers appeared to have also been significantly affected.

Moreover, some of the primary housing issues shared by the municipalities included the uncertainty of sufficient funding from the federal and state governments to supplement the limited or non-existent funds at the municipal level to address the immediate recovery needs for thousands. The next largest concern was the availability of rental housing to accommodate displaced citizens, so they could remain in their communities while their homes were being repaired.

The municipalities expressed concerns with their financial capacity to provide families with rehabilitation and/or rental assistance from programs such as the Housing Choice Voucher Program, which could ultimately lead to families living in substandard conditions and/or seeking housing opportunities on the mainland. Another critical concern expressed by municipalities was the uncertain future of families living in housing passed from generation to generation or built on family property, many times without title, thereby making them ineligible for FEMA disaster housing assistance.

COMMUNITY SITE ASSESSMENTS

The Housing RSF team, in collaboration with the Puerto Rico Emergency Management Agency (PREMA), performed 21² municipal site assessments from December 2017 through January 2018 to validate data identifying the areas of greatest impact. In prioritizing visits, the Housing RSF team focused on PREMA feedback and FEMA rankings based on inspections that, through normalization of the data, were representative not of municipality population size, but of the number of homes that suffered severe damages. Through ground proofing, the team was able to observe primary housing challenges for Puerto Rico and determined that the initial rankings were generally accurate.

The team observed challenges to long-term recovery that include complex cross-cutting housing, infrastructure, economic, and health and human services issues that serve to reinforce to the municipality survey results, such as:

- Lack of electrical power was a significant concern, especially in terms of construction.
- The communities were concerned about lack of access to health care and hospital facilities, unstable telephone communication, potable water supply, and food availability.
- Concern with the special needs populations: elderly, homeless, low-income and chronically ill.
- Housing stock suffered flooding, damage to foundations due to soil erosion, destruction due to mudslides, squatter communities were moving from more affected areas
- Lack of titles prevented households from receiving FEMA assistance.
- Guidance needed on rental availability, need for temporary housing and Housing Choice Vouchers.
- Need for reconstruction of homes, bridges and roads, damaged buildings.



² Municipalities visited: Naranjito, Morovis, Corozal, Barranquitas, Aibonito, Vega Baja, Vega Alta, Toa Alta, Las Marias, Mayaguez, Maricao, Utuado, Culebra, Vieques, Rio Grande, Loiza, Ceiba, Guayama, Patillas, Canóvanas and Ciales.

In addition to the Housing RSF community assessments, the local newspaper El Nuevo Día published a detailed look at the impacts and damages in each municipality. For more information visit their website <https://huracanmaria.elnuevodia.com/municipios/> and read “Puerto Rico: The Impact of Maria in each Municipality”.

DISASTER RECOVERY RESOURCE FAIRS

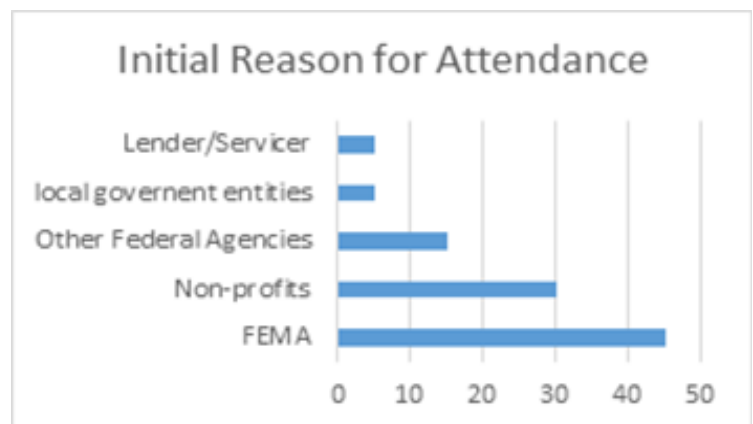
Housing Recovery Resource Fairs were deployed by the Housing RSF team as a comprehensive service delivery vehicle that provided resources and services directly to individuals and families impacted by hurricanes Irma and Maria. They served as an essential part of the immediate and long-term recovery response efforts delivering vital information on housing opportunities, legal resources, and supportive services to impacted residents in a coordinated way – a “one-stop shop.”



HUD Photo 1: Disaster Recovery Resource Fair

The Housing RSF hosted 20 fairs in municipalities covering ten PREMA zones, serving over 4,200 households. The agencies and organizations provided services, such as financial assistance and support, information on FEMA appeals, case status and mitigation, legal assistance, hazard and National Flood Insurance Program information, and information on FEMA’s STEP Program (Tu Hogar Renace).

Participating agencies included FEMA, HUD, USDA-Rural Development, SBA, Puerto Rico Department of Housing, Puerto Rico Housing Finance Authority, Legal Services of Puerto Rico, HUD-Approved Housing Counseling Agencies, Red Cross, non-profit organizations, crisis counselors, HUD multifamily administrators, and private banks. An intake form was used to collect information on the needs and issues from individuals attending the fairs. The figure to the right depicts which services attendees were most interested in receiving additional information.



HOUSING MARKET CONDITIONS

Background

The housing stock in Puerto Rico is characterized by older housing, a strong level of ownership (68.6%), comparatively expensive housing (compared to the median income), and elevated vacancy rates. Compared to the United States, the construction activity in Puerto Rico was greater in the decades of the 60s, 70s, and 80s. During that period, Section 936 of the Tax Code allowed American companies that had physical operations in Puerto Rico to be exempt from Federal tax on profits made in Puerto Rico if those monies were kept in Puerto Rican financial institutions and were made available for economic development loans. It is important to highlight the positive economic impacts that Section 936 of the Tax Code had on the Puerto Rican economy prior to the tax code being changed.

Additionally, during these decades development was also facilitated by HUD programs which funded many affordable housing developments using capital grants, FHA Multifamily Insurance programs and the Urban Development Action Grant (UDAG) program which provided mortgage write downs of up to \$35K per unit.

Older housing stock is typically costlier to maintain as the core components of the home are approaching (or have reached) their useful service life. The older housing stock has many challenges, including its lack of resiliency. Many have not been rehabilitated to meet revised or current building code, nor generally have they adopted energy efficient principles. Updating the home to ensure continued performance may require wholesale replacement of essential systems, something that may not be financially feasible for many homeowners.

Table 1: Age of housing stock

Period Constructed	United States		Puerto Rico	
		% of Total		% of Total
Total	135,702,775		1,555,880	
2014 or later	1,963,125	1.40%	2,508	0.20%
2010 to 2013	3,752,105	2.80%	11,948	0.80%
2000 to 2009	19,259,257	14.20%	202,064	13.00%
1990 to 1999	18,796,349	13.90%	240,963	15.50%
1980 to 1989	18,329,178	13.50%	263,232	16.90%
1970 to 1979	20,788,826	15.30%	355,439	22.80%
1960 to 1969	14,496,540	10.70%	265,954	17.10%
1950 to 1959	14,142,755	10.40%	131,409	8.40%
1940 to 1949	6,843,600	5.00%	51,870	3.30%
1939 or earlier	17,331,040	12.80%	30,493	2.00%

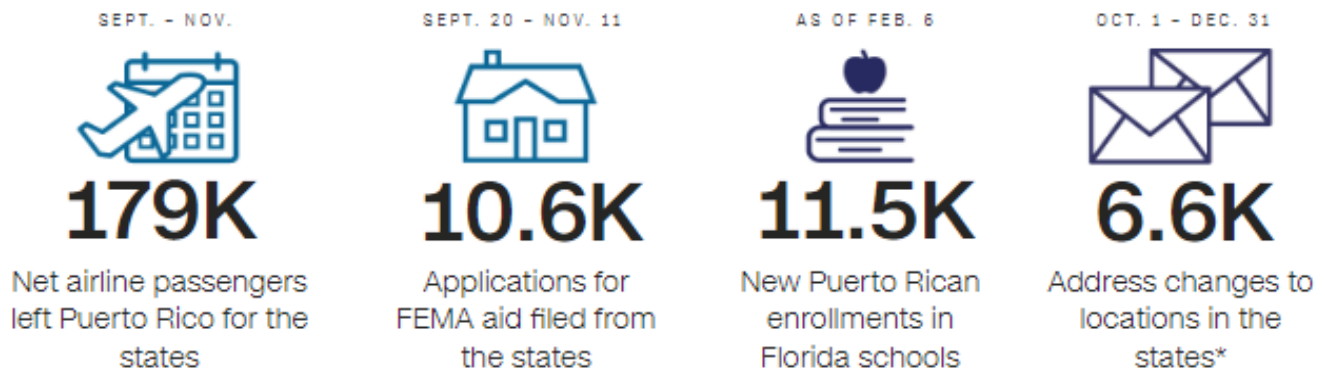
Source: ACS 2016 1-year Table B25034

Demographics

The Commonwealth of Puerto Rico has experienced a steady decline in population across all 78 municipalities since 2010. The reasons are beyond the scope of this effort; however, the Pew Research Center³ has shown that 79% of out-migration is a result of employment and family/household concerns.

In the aftermath of the hurricanes, many agencies and organizations have tried to identify the most appropriate metric to determine the number of individuals and households that have left Puerto Rico. According a CNN article entitled *'Exodus' from Puerto Rico: A visual guide*, the authors identified a mixture of governmental and non-governmental sources used to generate the visual representation in Figure A⁴.

Figure A: Measure of loss of population



Source: *'Exodus' from Puerto Rico: A visual guide*, John D. Sutter and Sergio Hernandez, CNN Investigates, February 21, 2018

³ <http://www.pewresearch.org/fact-tank/2016/03/24/historic-population-losses-continue-across-puerto-rico/>

⁴ *'Exodus' from Puerto Rico: A visual guide*, John D. Sutter and Sergio Hernandez, CNN Investigates, February 21, 2018

Table 2 below demonstrates the decrease of approximately 5.3% of the population in Puerto Rico between the 2010 Census and the 2016 American Community Survey (ACS) 5-year estimates (which reflect ACS surveys from 2011 through 2016). Multiple reports of out-migration from Puerto Rico to the other parts of the United States suggest this trend has accelerated since the hurricanes.

Table 2: Population change in Puerto Rico – 2010 Census to 2016 ACS 5-year

Metropolitan Statistical Area (MSA)	Population, 2010 Census	Population, 2016 ACS 5 year	Population Change, %
Aguadilla-Isabela-San Sebastian, P.R. MSA	306,292	289,941	-5.30%
Fajardo, P.R. MSA	70,692	65,687	-7.10%
Guayama, P.R. MSA	84,214	80,123	-4.90%
Mayagüez, P.R. MSA	106,330	98,272	-7.60%
Ponce, P.R. MSA	243,317	226,876	-6.80%
San German-Cabo Rojo, P.R. MSA	115,204	109,205	-5.20%
San Juan-Caguas-Guaynabo, P.R. MSA	2,481,115	2,355,684	-5.10%
Yauco, P.R. MSA	107,333	98,563	-8.20%
Not in MSA	191,414	183,699	-4.00%
Puerto Rico Total	3,705,911	3,508,050	-5.30%

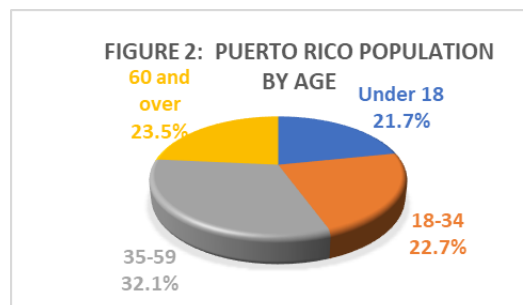
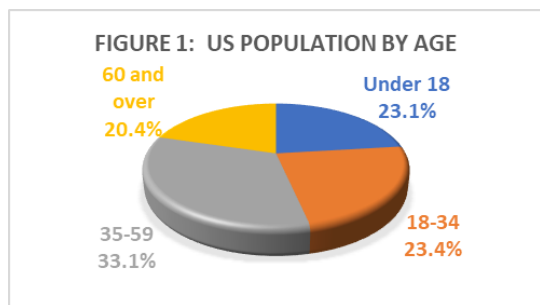
Source: U.S. Census data and ACS 2016 DP05 5-year population estimates

According to The Center for Puerto Rican Studies, it is estimated that between 114,000 and 213,000 Puerto Rico residents will leave the Commonwealth annually in the aftermath of Hurricane Maria. This means Puerto Rico could lose up to 470,335 residents or 14% of its population between 2017 and 2019⁵.

To ensure an inclusive, resilient and sustainable recovery, it is necessary to analyze key demographic indicators, examine housing characteristics across all impacted municipalities, and assess damages. The age of the population is a significant factor when reviewing the capacity of a community to recover. In Puerto Rico, 23.5% of the population is over 60 (compared to 20.4% for the U.S.). Older populations are more likely to require services from their communities and the government. Experience has shown that households with pre-disaster concerns such as poverty, unemployment, and individuals that are young, elderly (over the age of 62) or with disabilities have more difficulties re-establishing a stable housing environment after a disaster.

⁵ [The Center for Puerto Rican Studies, Estimates of Post-Hurricane Maria Exodus from Puerto Rico, Centro, October 2017.](#)

Figures 1 and 2 represent the U.S. and Puerto Rico population distribution by age groups.



The median household income of the Commonwealth is \$19,606 compared to \$55,322 for the rest of the United States. Similarly, the poverty rate for the Commonwealth is 45.1%, whereas the rest of the United States is significantly lower at 15.1%. For individual municipalities, the median income ranges⁶ from \$11,296 to \$33,979, and 74% of the municipalities have a lower median income than the Commonwealth median of \$19,606. These municipalities and their residents will have less flexibility in implementing and funding recovery programs and will require external assistance.

	United States	Puerto Rico
Population 2017	325,719,178	3,337,177
Median Household Income - Past 12 months	\$55,322	\$19,606
People in Poverty (%)	15.10%	45.10%

Housing Stock Overview

The Puerto Rico State Housing Plan⁷ (2014-2018) outlined a critical need of affordable housing for the elderly, special needs, and underserved populations. The Plan also places a priority on initiatives that address the shortage of affordable housing in the Commonwealth and recommends financial incentives as one potential solution.

The State Housing Plan incorporates two key areas: (1) integrating land use and urban development initiatives with housing programs, and (2) ensuring that the institutional framework is adequate for advancing housing policy objectives. The ability to leverage available public assets with private and community resources is key to the creation of a successful redevelopment plan.

⁶ Examination of the Demographics of Puerto Rico Municipality Data (Apr 2018) – Demographics

⁷ http://www.vivienda.pr.gov/docs/Puerto%20Rico%20State%20Housing%20Plan_%20Fiscal%20Years%202014-2018_%20%20Departamento%20de%20la%20Vivienda.pdf

In early 2018, HUD produced a Market-At-A-Glance (MAG), a compilation of economic and market data from various federal agencies, for each of the 78 municipalities and the metropolitan statistical areas (MSA) within the Commonwealth. According to the MAG dated April 18, 2018, there are 1,208,438 occupied single and multi-family housing units in Puerto Rico, with a homeownership rate of 68.6% (31.4% renters). The owner vacancy rate is 3.7% and the rental vacancy rate is estimated to be 7.8%. See Appendix A for HUD’s Market-At-A-Glance for Puerto Rico. You can access this report for Puerto Rico, each MSA and municipality at the HUD User website <https://www.huduser.gov/portal/ushmc/mag.html>.

Because of continuing population decline and economic contraction, the housing sales market is soft, which has contributed to increased vacancy, delinquency and foreclosure rates as well as underwater mortgages. According to the Puerto Rico Office of the Commissioner of Financial Institutions, in December 2016, 12.9% of all mortgage loans were 90+ days delinquent, in foreclosure, or had transitioned to Real Estate Owned (REO) or lender/mortgagee owned status. Even under these dire housing market conditions, home values have not decreased to the point that prices are accessible to low- and moderate-income earners.

New home construction, another important housing metric, is slow due to many factors including extremely high construction costs. Due to the limited supply of housing, increased housing prices force lower income households into older substandard housing options.

AFFORDABLE HOUSING

U.S. Department Housing and Urban Development (HUD)

HUD plays a significant role in supporting housing programs in Puerto Rico. Currently there are 116,915 FHA single-family insured mortgages in Puerto Rico. Table 4 below shows the number of HUD subsidized housing units in the Commonwealth. The five programs shown in the table represent the largest programs with the greatest level of HUD assistance. Details about the programs may be found in the publication Programs of HUD⁸. There are 106,136 units of subsidized housing in Puerto Rico supporting 230,803 residents⁹. U.S. Department of Agriculture – Rural Development (USDA-RD).

Table 4: HUD subsidized housing programs in Puerto Rico	
HUD Subsidized Housing Programs in Puerto Rico	Number of Units
Project Based Section 8	18,779
Housing for Persons with Disabilities Section 811	147
Housing for the Elderly, Section 202	977
Public Housing	53,477
Housing Choice Vouchers	32,761
Total HUD Subsidized Housing	106,136

⁸ <https://www.hud.gov/hudprograms>

⁹ Picture of Subsidized Households, <https://www.huduser.gov/portal/datasets/assthsg.html>, accessed April 9, 2018 Source: <https://hud.gov/cart/>

U.S. Department of Agriculture – Rural Development (USDA-RD)

The U.S. Department of Agriculture Rural Development (USDA-RD) Program provides housing assistance in the form of single family and multifamily loans, grants, and rental assistance, although this assistance is restricted to pre-designated rural areas. USDA-RD has two housing programs to be used for very low-income homeowners. The Section 504 program is to used help remove health and safety hazards and/or repair their homes. The Section 502 homeownership loan program can be used to refinance existing non-agency housing debt when coupled with major home repair. All housing programs can be used to assist recovery, but there should be a special disaster appropriation to prioritize or set aside funds for disaster area applicants.

Prior to the hurricane there were approximately 870 foreclosures actions pending. This created a backlog of services. There is an accumulation of accelerated foreclosed properties which has been magnified because of the hurricane.

In Puerto Rico, 12 of the 92 USDA-RD multi-family properties reported damages. There was no displacement of residents related to property damage.

Table 5: USDA Rural Development Single Family Units in Puerto Rico

USDA Rural Development Housing Programs in Puerto Rico - SF	Number of Units
Single Family Housing (subsidized payment mortgages)	10,861
Single Family Housing Guaranteed Loans	27,680

Table 6: USDA Rural Development portfolio in Puerto Rico

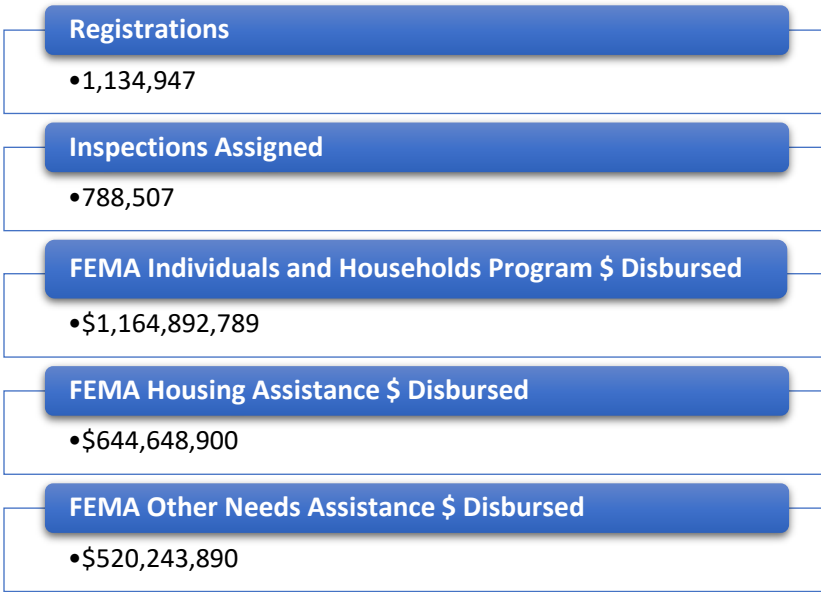
USDA Rural Development Housing Programs in Puerto Rico - MF	Number of Units
Multifamily Housing – 92 properties	5,284
Elderly Rental Housing – 4 properties	87

Note: Of the 5,284 Multifamily Housing Rental Units, 29% (1,553) receive Section 8 from HUD.

POST IRMA AND MARIA DAMAGE ASSESSMENT

In Puerto Rico, the majority of the impact analysis has been conducted at the municipality level. The damage and needs assessment information in this document is based on FEMA's disaster registration and assistance data, demographic analysis based on Census data, HUD's Market-At-A-Glance and community assessments and outreach to local government officials. Citizens were also asked to validate available data on damages and vulnerable populations. Impact analysis in Puerto Rico, similar in past disasters, revealed severe damages have been concentrated in a comparatively few areas.

As of April 23, 2018, over one million Puerto Rican households have registered with FEMA, 788,507 home inspections have been issued and over \$1.8 billion in FEMA Individuals and Households Program (IHP) and Housing Assistance (HA) funds have been disbursed. In addition to the significant impacts on the housing stock, the Commonwealth sustained significant commercial and public infrastructure damage which has delayed recovery efforts.



Over 307,000 total homes were identified with Moderate Damage, Major Damage, or Destroyed during the FEMA inspection process following Hurricanes Irma and Maria, as depicted in Table 7. Of those, 13,382 (4.3%) homes either had major damage or were destroyed. The FEMA Information Data Analysis FIDA-27487 report characterizes Moderate Damage as a Real Property FEMA Verified Loss (RP FVL) of less than \$17,000, Major Damage as a RP FVL of greater than \$17,000, and Destroyed as destroyed when inspected.

Table 7: Puerto Rico damage level of homes - Irma and Maria

Number of Homes Damaged in Puerto Rico	Moderate Damage	Major Damage	Destroyed	Totals
DR-4336-PR (Irma)	1,448	32	50	1,530
DR-4339-PR (Maria)	292,838	8,688	4,612	306,138
Both Declarations - Total Number of Homes	294,286	8,720	4,662	307,668

Source: FEMA FIDA-27487 – DR-4336-PR, FEMA FIDA-27487 – DR-4339-PR Reports 27 March 2018

The top 10 municipalities ranked by the total number of damaged homes, regardless of the level of the damage, as assessed by FEMA across the Commonwealth are depicted in Table 8. Of the 78 municipalities, these 10 comprised one-third (33.1%) of all damaged homes in Puerto Rico.

It also reflects the municipalities with a large population and most damaged homes, including eight of the 10 most populous municipalities in the Commonwealth. The 10 municipalities presented in Table 8 are home to 1.38 million¹⁰ residents, or 39.1% of the Commonwealth's population. Higher populated municipalities might tend to mask the damage experienced by less populous municipalities.

Table 8: Top 10 Municipalities with most damaged homes, in relation to total population* - Irma and Maria

Municipality	Moderate Damage	Major Damage	Destroyed	Totals	% of Total	Cumulative % of Total
San Juan	16,573	525	164	17,262	5.60%	5.60%
Bayamon	12,069	404	170	12,643	4.10%	9.70%
Caguas	10,614	294	130	11,038	3.60%	13.30%
Ponce	10,477	286	214	10,977	3.60%	16.90%
Toa Baja	10,119	498	109	10,726	3.50%	20.40%
Carolina	9,878	156	71	10,105	3.30%	23.60%
Arecibo	7,892	417	91	8,400	2.70%	26.40%
Humacao	8,021	192	124	8,337	2.70%	29.10%
Canovanas	5,958	223	220	6,401	2.10%	31.20%
Guaynabo	5,822	161	63	6,046	2.00%	33.10%

Source: FEMA FIDA-27487 – DR 4336, FEMA FIDA-27487 – DR 4339 Reports March 27, 2018

* Ranking based on total number of homes with damage levels assessed by FEMA, regardless of community size

¹⁰ Population estimates from the American Community Survey 2016 5-year estimates, Table DP05

Table 9 and Figure 3 below present information that is normalized to highlight locations where the damage impacted a significant portion of the municipality. The process of normalization allows the damage in a municipality to be expressed not as an absolute number (such as the number of homes destroyed), but as a ratio of some damage metric compared to population, registrations, or all damaged homes. This process helps to identify municipalities where the damage is a high proportion of the housing stock or where a significant number of residents were impacted. Table 9 reflects the homes in a municipality identified as having Major Damage or Destroyed as a percentage of the total number of homes with damage.¹¹ Tables 8 and 9 present an alternative form of analysis to identify those municipalities with the greatest impacts. This permits the Commonwealth to focus subsequent analytical efforts on significantly impacted areas that will likely face greater difficulties in recovery.

Table 9: Ten most impacted municipalities with housing damage - Irma and Maria

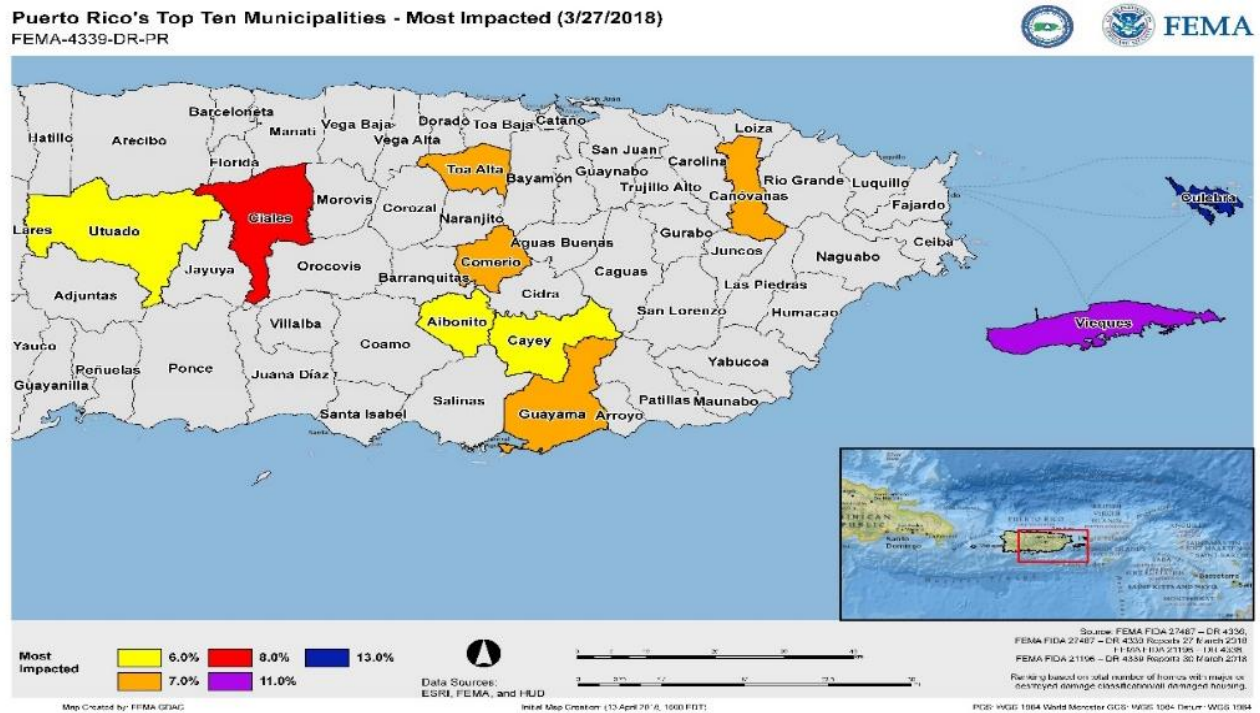
Municipality	ACS 2016 5yr Pop	Registrations	Total FVL	Damage Level			Total with Damage	Most Impacted	FVL per Registrant
				Moderate	Major	Destroyed			
Culebra	1,508	571	\$1,704,590	261	11	29	301	13.30%	\$2,985
Vieques	9,046	2,645	\$18,503,869	1,392	48	121	1,561	10.80%	\$6,996
Ciales	17,644	6,053	\$20,704,875	2,375	148	59	2,582	8.00%	\$3,421
Comerio	20,153	6,575	\$23,542,264	2,830	144	76	3,050	7.20%	\$3,581
Canovanas	47,174	15,846	\$53,998,631	5,958	223	220	6,401	6.90%	\$3,408
Guayama	43,210	12,755	\$34,914,126	4,298	185	113	4,596	6.50%	\$2,737
Toa Alta	74,467	20,937	\$44,337,934	5,241	178	184	5,603	6.50%	\$2,118
Utua	30,869	10,029	\$22,088,096	3,363	160	69	3,592	6.40%	\$2,202
Cayey	46,071	14,462	\$127,956,443	3,995	168	104	4,267	6.40%	\$8,848
Aibonito	24,438	8,148	\$22,818,268	3,113	131	78	3,322	6.30%	\$2,800
Puerto Rico	3,529,385	1,114,104	\$1,861,850,340	294,286	8,720	4,662	307,668	4.30%	\$1,671

Sources: FEMA FIDA-27487 – DR 4336, FEMA FIDA-27487 – DR 4339 Reports 27 March 2018, FEMA

FIDA-21196 – DR 4336, FEMA FIDA-21196 – DR 4339 Reports 30 March 2018, American Community Survey 2016 5-year Population Estimates, DP05

¹¹ The total number of homes is the sum of the homes with Moderate Damage (up to \$17,000 RP FVL), Major Damage (over \$17,000 RP FVL), and Destroyed.

Figure 3: Top ten most impacted municipalities



The inspection data listed in Table 10 reflects the total number of registrants¹² as of March 30, 2018 for the FEMA Individual and Household Assistance Program (IHP) by ownership status for both disasters. According to FEMA,¹³ 69% of registered Hurricane Maria survivors were homeowners and 30% were renters. This reflects the Commonwealth-wide homeownership rate of 68.6% and renter rate of 31.4%.

Table 10: FEMA verified loss by ownership status (tenure)

Ownership Status	Registrations	Real Property FVL Documented	Personal Property FVL Documented
Owner	768,470	283,410	242,682
Renter	339,178	633	347,875
Not Specified	6,456	169	207
Total	1,114,104	284,212	590,764

Source: FEMA FIDA-21196 – DR 4336, FEMA-FIDA-21196 – DR 4339 Reports March 30, 2018

¹² FEMA Open Disaster IA Statistics Update, 5 April 2018, 1802 hours

¹³ Extract from FIDA-21196, DR-4339-PR, 30 March 2018, showing 768,470 owners and 339,178 renters.

The inspection data listed in Table 11 reflects the FEMA Verified Loss (FVL) for real property (RP FVL) and Personal Property (PP FVL) per ownership status.

Table 11: Damage distribution (by FVL) by ownership status (tenure)

Ownership Status	FVL \$200-\$5,000	FVL \$5,000-\$24,999	FVL Over \$25,000	Destroyed	Total FVL
Owner	229,002	55,484	5,279	3,448	\$1,680,243,693
Renter	92,577	7,313	12	1,174	\$180,854,793
Not Specified	213	43	0	0	\$751,854
Total	321,792	62,860	5,291	4,622	\$1,861,850,340

Source: FEMA FIDA-21196 – DR-4336-PR, FEMA FIDA-21196 – DR-4339-PR Reports March 30, 2018

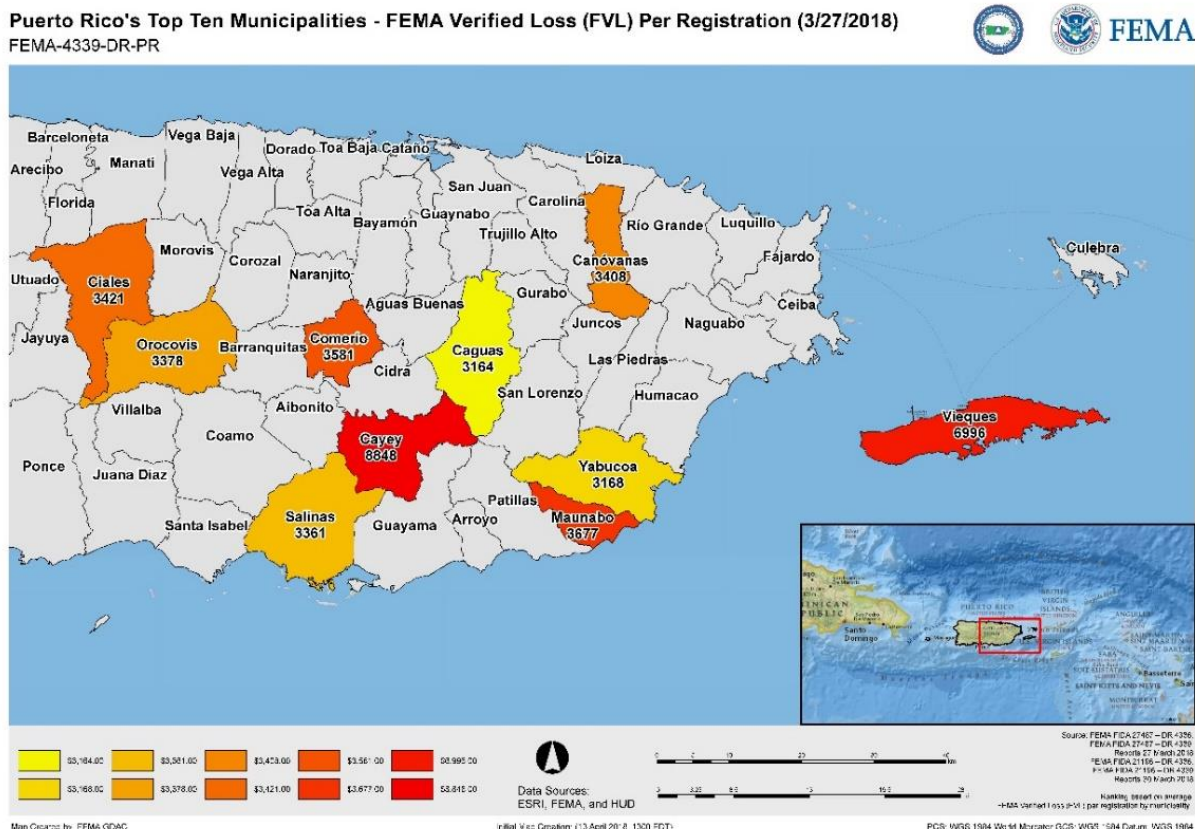
Table 12 indicates the average FEMA Verified Loss per disaster registrant in a selection of municipalities. Because registrants are typically households, it is reasonable to expect the number of registrants to be less than the population. Including the FVL in the assessment will reflect which of the municipalities experienced both high (in terms of the aggregate of the individual FVLs) and comprehensive damages (a large portion of the municipality experienced damage). Considering registrations without addressing the damage to the residence may not be informative because FEMA encourages registration following a disaster.

Table 12: Ten municipalities with highest FVL per registrant – Irma and Maria

Municipio	ACS 2016 5yr Pop	Registrations	Total FVL	Damage Level			Total with Damage	Most Impacted	FVL per Registrant
				Moderate	Major	Destroyed			
Cayey	46,071	14,462	\$127,956,443	3,995	168	104	4,267	6.40%	\$8,848
Vieques	9,046	2,645	\$18,503,869	1,392	48	121	1,561	10.80%	\$6,996
Maunabo	11,506	3,645	\$13,403,084	1,780	37	57	1,874	5.00%	\$3,677
Comerio	20,153	6,575	\$23,542,264	2,830	144	76	3,050	7.20%	\$3,581
Ciales	17,644	6,053	\$20,704,875	2,375	148	59	2,582	8.00%	\$3,421
Canovanas	47,174	15,846	\$53,998,631	5,958	223	220	6,401	6.90%	\$3,408
Orocovis	22,258	7,789	\$26,308,389	3,801	87	88	3,976	4.40%	\$3,378
Salinas	29,722	10,094	\$33,925,428	4,202	135	122	4,459	5.80%	\$3,361
Yabucoa	35,670	10,757	\$34,077,306	5,326	124	108	5,558	4.20%	\$3,168
Caguas	136,372	42,616	\$134,834,821	10,614	294	130	11,038	3.80%	\$3,164
Puerto Rico	3,529,385	1,114,104	\$1,861,850,340	294,286	8,720	4,662	307,668	4.30%	\$1,671

Sources: FEMA FIDA-27487 – DR 4336, FEMA FIDA-27487 – DR 4339 Reports 27 March 2018
 FEMA FIDA-21196 – DR 4336, FEMA FIDA-21196 – DR 4339 Reports 30 March 2018
 American Community Survey 2016 5-year Population Estimates, DP05

Figure 4: Ten municipalities with highest FVL per registrant – Irma and Maria



A complete list of all municipalities with housing damage and FEMA Verified Loss is included in Appendix B. In Puerto Rico the average impacted percentage is 4.3% and the FVL per registrant is \$1,671.

Rental Market and Affordable Housing

A preliminary review of the National Low-Income Housing Coalition, *Out of Reach 2017 Report*, and ACS 2011-2016 data suggests affordable housing concerns in Puerto Rico prior to the hurricanes. Pre-disaster homeowners who had no mortgages on their property, typically older homeowners, may be unwilling and/or financially unable to take on debt for home repairs, such as securing a loan. Combined with a high portion of the housing stock which is owner-occupied, the lack of available, affordable rental housing may force homeowners to repair their homes more rapidly. Builders are likely to charge a premium when the demand is high, contributing to decreased affordability.

A disaster will stress the housing market since residences may be destroyed or rendered temporarily uninhabitable, often resulting in a tightening of the rental market as competition for rental housing increases. Renters might have greater freedom of movement than homeowners following a disaster because they have less commitment to their pre-disaster home. A renter may

be able to leave their existing rental unit and relocate to some other residence that better meets their needs. From a community recovery perspective, the uncertainty about the future of the community rental market might impact other recovery decisions.

Table 13 below shows information extracted from HUD Market-At-A-Glance and FEMA data identifying impacts to rental properties across the eight MSAs following the hurricanes. For example, the Guayama MSA saw 35.7% of rental properties impacted by these disasters. This data clearly suggests a limited affordable rental market due to the loss of available rental properties.

Table 13: Impacts to renters in MSAs

Municipality	Households	Renter Households	Renter Households, %	Renters Registered	Destroyed	Disaster Impacted Renters	% Disaster Impacted Renters
Aguadilla-Isabela-San Sebastian MSA	110,316	37,141	33.70%	23,198	53	6,802	18.30%
Fajardo MSA	23,967	7,308	30.50%	6,131	26	2,341	32.00%
Guayama MSA	26,740	7,121	26.60%	6,072	57	2,542	35.70%
Mayaguez MSA	35,033	14,595	41.70%	11,788	11	2,042	14.00%
Ponce MSA	105,240	32,822	31.20%	21,465	64	5,175	15.80%
San German-Cabo Rojo MSA	43,167	14,023	32.50%	10,045	7	1,444	10.30%
San Juan-Caguas-Guaynabo MSA	770,603	248,133	32.20%	238,610	813	77,249	31.10%
Yauco MSA	30,241	7,397	24.50%	7,125	20	1,623	21.90%

Source: HUD Market at a Glance, FEMA data

As of March 25, 2018, the total of renter households registered with FEMA totaled 344,896 renters¹⁴. The largest group resided in houses/duplexes (45.3%) and apartments (36.4%) before the hurricanes. Table 14 also indicates that 61.6% of the total registrants that are renters report income at or below \$20,000 a year, whereas the median household income for the Commonwealth is \$19,606 per year. When the market tightens, rents are likely to rise, which reduces the inventory of rental units. Low-income renters will find fewer affordable housing options, as the cost of restoration of those units may exceed what the property owner is able to bear.

¹⁴ Open FEMA Dataset: Individual Assistance Housing Registrants Large Disasters, extracted March 25, 2018

Table 14: Rental properties and income

Dwelling Type	Reported Annual Income of Renter					
	Not Reported	\$0-\$10K	\$10-\$20K	\$20-\$30K	\$30-\$40K	>\$40K
Apartment	35.70%	42.10%	30.50%	29.30%	30.70%	34.90%
House/Duplex	41.00%	42.70%	51.70%	51.10%	48.40%	44.60%
Townhouse	12.40%	6.50%	9.50%	11.20%	11.50%	10.00%
Condo	2.20%	2.50%	1.90%	1.90%	2.60%	3.70%
Other	8.80%	6.10%	6.30%	6.40%	6.80%	6.80%
Total Number	73,357	138,875	73,930	29,118	13,970	15,918
Percent of Total	21.30%	40.20%	21.40%	8.40%	4.10%	4.60%

Source: HUD Market at a Glance, FEMA data

Methods for Estimating Unmet Housing Needs

Following Hurricanes Irma and Maria, HUD utilized information from FEMA’s disaster assistance registration process to estimate the unmet need¹⁵, in anticipation for allocation of funds appropriated under the Community Development Block Grant – Disaster Recovery (CDBG-DR) program. For purpose of allocating CDBG-DR funds as per statutory requirements, the data that HUD staff identified as being available for qualifying disaster is from the FEMA Individual Assistance program data on housing-unit damage as of February 22, 2018. The core data on housing damage for both the unmet housing needs calculation and the concentrated damage are based on home inspection data from FEMA’s Individual Assistance program.

HUD calculates “unmet housing needs” as the number of housing units with unmet needs times the estimated cost to repair those units less repair funds already provided by FEMA and SBA. Homeowner damage is calculated as the damages to real and personal property based on FEMA and SBA home inspections, while rental unit damage is evaluated by damage to personal property only. Following a rigorous method of calculation, as detailed in Appendix D, HUD concluded that the total serious housing unmet need for Puerto Rico is \$2,900,618,300. It is important to note that the breakdown HUD makes by municipality and zip code of serious unmet housing needs for purposes of this calculation, does not dictate the amount of HUD CDBG-DR investment the grantee must make in each location.

Table 15: Puerto Rico totals for serious unmet housing needs in most impacted areas

Total Serious Unmet Housing Need	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage	Renter Serious Damage	Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
\$2,900,618,300	276,024	23,023	299,047	50,144	16,444	66,588	42,778	12,255	55,033

Source: Office of Policy Development and Research, HUD

¹⁵ Puerto Rico CDBG-DR – Methodology for Funding Allocation under Public Law 115-123, April 10, 2018

The basic housing and community demographics information listed below for the ten municipalities with the greatest unmet needs is included for the United States and the entire Commonwealth for comparison in Appendix C.

Table 16: Demographics of Puerto Rico and 10 Municipalities with Greatest Unmet Needs

Demographic of most impacted municipalities from 2018 CDBG-DR Unmet Needs Assessment	United States	Puerto Rico	Arecibo	Bayamon	Caguas	Canovanas	Humacao	Mayagüez	Ponce	San Juan	Toa Baja	Vega Baja
Population 2017[1]	325,719,178	3,337,177	86,066	179,565	129,604	45,823	52,771	75,525	140,859	337,288	78,092	52,436
Values and % below based on 2016 ACS population												
Median Household Income - Past 12 months	\$55,322	\$19,606	\$16,796	\$24,612	\$24,278	\$20,426	\$19,349	\$15,017	\$16,561	\$21,395	\$23,889	\$17,634
People with Medical Insurance (%)	88.30%	93.70%	94.30%	93.10%	93.00%	89.10%	95.80%	94.00%	94.80%	89.90%	92.50%	93.10%
People in Poverty (%)	15.10%	45.10%	48.90%	35.30%	37.20%	43.50%	45.30%	51.30%	51.30%	42.30%	36.90%	46.00%
People Under 18 (%)	23.10%	21.70%	20.80%	20.30%	21.70%	23.70%	21.30%	18.80%	22.30%	19.90%	22.10%	22.20%
People Over 62 (%)	17.90%	21.00%	22.80%	22.40%	21.00%	18.50%	22.10%	24.50%	22.10%	23.40%	19.90%	20.40%
People 25 & Older w/o High School (%)	13.00%	26.00%	26.20%	20.70%	20.60%	26.60%	24.30%	29.40%	24.60%	21.30%	21.30%	41.80%
People with Disabilities (%)	12.50%	21.30%	17.50%	25.10%	23.50%	18.50%	11.20%	25.70%	16.30%	19.40%	23.10%	24.00%
Households	117,716,237	1,237,180	32,121	70,950	50,327	14,664	18,763	30,099	54,722	147,790	28,261	17,356
With Public Assistance (%) ^[3]	13.70%	39.30%	46.40%	29.10%	33.40%	42.70%	40.50%	41.70%	45.50%	29.00%	32.60%	39.10%
Housing Units	134,054,899	1,571,744	41,400	83,785	58,356	18,012	26,899	41,274	66,906	192,766	34,592	24,739
Vacant (%) ^[4]	12.20%	21.30%	22.40%	15.30%	13.80%	18.60%	30.20%	27.10%	18.20%	23.30%	18.30%	29.80%
For Sale (%)	1.80%	3.70%	2.60%	3.90%	3.70%	3.00%	3.90%	6.00%	3.50%	5.20%	3.50%	2.60%
For Rent (%)	6.20%	8.40%	7.60%	9.50%	7.70%	5.40%	10.90%	15.60%	6.40%	10.90%	8.00%	5.70%
Owner Occupied (%)	63.60%	68.60%	68.20%	69.10%	68.50%	76.60%	74.30%	58.60%	64.80%	52.90%	72.20%	83.20%
With a Mortgage (%)	64.10%	40.60%	35.30%	53.20%	50.70%	40.70%	39.30%	27.70%	35.40%	52.00%	48.10%	34.70%
Without a Mortgage (%)	35.90%	59.40%	64.70%	46.80%	49.30%	59.30%	60.70%	72.30%	64.60%	48.00%	51.90%	65.30%
Renter Occupied (%)	36.40%	31.40%	31.80%	30.90%	31.50%	23.40%	25.70%	41.40%	35.20%	47.10%	27.80%	16.80%
Gross Rent Under \$500 (%)	11.30%	56.20%	67.90%	44.20%	45.90%	51.70%	56.60%	72.10%	62.90%	53.90%	38.80%	41.80%
Gross Rent \$500 to \$1000 (%)	43.30%	37.00%	31.20%	46.40%	45.60%	47.70%	40.20%	24.90%	32.20%	38.40%	51.70%	52.50%
Gross Rent Above \$1000 (%)	45.50%	6.90%	0.90%	9.30%	8.50%	0.60%	3.20%	3.10%	4.90%	7.80%	9.50%	5.70%
With Rent Burden (%) ^[5]	51.10%	56.20%	58.80%	56.60%	55.00%	50.50%	58.70%	62.10%	56.10%	57.60%	56.30%	53.30%
Housing Built Pre-1950 (%)	18.20%	5.80%	6.00%	3.90%	4.80%	2.40%	3.20%	9.90%	8.20%	12.50%	3.40%	6.60%
Median Year Built	1977	1978	1979	1974	1979	1986	1982	1971	1976	1967	1977	1979
Manufactured Homes (%)	6.30%	0.30%	0.10%	0.20%	0.10%	0.10%	0.10%	0.10%	0.20%	0.40%	0.20%	0.40%
Median Value, Owner-Occ Homes, \$K	\$184.70	\$118.60	\$98.20	\$141.10	\$137.30	\$116.60	\$98.30	\$101.40	\$99.90	\$161.10	\$135.10	\$112.40
Source: [1] Census 2017 Pop Est; all other 2016 PRCS 5-year data						[4] 2016 5-year PRCS; percentage of total housing units						
[2] In 2016 inflation-adjusted dollars						[5] At or above 30% of income						
[3] 2016 5-year PRCS; includes cash and food stamps												

There are several notable elements in the table. They are:

- **The municipalities with the greatest unmet housing need have a larger population of individuals aged 62 and older as compared to the rest of the United States.**

The population of Puerto Rico is generally older (21.0% of the Puerto Rican population is over 62 compared to 17.9% for the rest of the United States). The elderly are likely to face greater challenges in disaster recovery due to their income, physical condition, and health. Typically, older residents have lower incomes and are likely to be less able to recover from a disaster.

- **The portion of the homes available for sale or rent in Puerto Rico is relatively higher than that of the United States.**

The portion of the housing stock available for sale or rent in Puerto Rico is about double the U.S. average for sale (7.8% for Puerto Rico vs. 3.7% for the United States) and a third more for rental (8.4% vs. 6.2%). This additional housing will tend to damp rapid increases in rent or sales prices until the available inventory is depleted. Because there is a large component of vacant housing in the category of “Other Vacant” some of those may become available for sale or rent as the market tightens.

- **Homeownership rates in Puerto Rico are higher than that of the United States and homes owned without a mortgage are much higher in Puerto Rico than the United States.**

While the rates of homeownership are slightly higher in Puerto Rico than elsewhere in the U.S., homeownership exceeds 75% in 25 municipalities. There are 69 municipalities where over half of the homeowners own their homes without mortgages. Despite not having a mortgage, low-income homeowners may not have the resources to repair or replace their existing homes. In such cases, those homeowners would be forced to enter the rental market or live in their unrepaired home.

- **Rent burden is slightly higher in Puerto Rico than for the United States.**

While 56.2% of the renters in Puerto Rico report gross rents under \$500 per month, the rent burden (households paying more than 30% of their income in rent) is slightly higher than the rest of the United States, as the comparatively low rents are tempered by low incomes. In some municipalities, virtually all the rental units cost under \$500 per month (Las Marias reported 97.9% of the rentals below \$500). Because renters have lower incomes than homeowners (the median income for renters¹⁶ is between \$10,000 and \$15,000 per year and for owners between \$20,000 and \$25,000 per year). As a result, the rents paid may have a greater impact on the household.

¹⁶ ACS 2016 5-year table B25118

- **Compared to median household income, homes in Puerto Rico are more expensive than elsewhere.**

The median value of owner-occupied housing for the Commonwealth is \$118,600. The median household income of \$19,606 compared to median home values suggests significant affordability concerns for Puerto Rico. Because housing is comparatively expensive, homeowners and renters may be unable to purchase a home to replace one which was damaged or destroyed.

- **Rates of individuals with disabilities are significantly higher in Puerto Rico than the rest of the United States.**

The percentage of people with disabilities in Puerto Rico is 21.3% versus 12.5% in the United States. The needs of individuals with disabilities should be considered as recovery efforts are developed to ensure accessibility concerns are addressed in single and multi-family housing.

RECOVERY PRIORITIES AND STRATEGIES

Puerto Rico Housing Recovery Task Force

The impacts of natural and man-made disasters often accentuate and exacerbate existing conditions that challenge many communities who were struggling before a catastrophic event occurred. The influx of federal, local and private financial and human resources post-disaster provides unique opportunities for local leaders and citizens to address the challenges and incorporate resiliency measures into recovery efforts.

With HUD's assignment of CDBG-DR funding to the Commonwealth of Puerto Rico there comes the task of maximizing each grant dollar in the planning and implementation of efficient, resilient housing and community projects, as well as other allowable activities such as mitigation and working with the power grid. HUD and the Commonwealth of Puerto Rico created the Puerto Rico Housing Recovery Taskforce (PRHRTF) to collect information, identify issues and possible recovery strategies, and make the best use of resources in planning efforts. The task force includes the following agencies:



The scope and objectives of the Puerto Rico Housing Recovery Task Force are:

- Management and oversight of joint federal and state responsibility to assess preliminary housing impacts and pre- and post-disaster needs.
- Identify available options for temporary housing, and support development of local plans for permanent housing.
- Create safe and healthy housing solutions that effectively support the needs of the affected community and contribute to their sustainability, resiliency and self-sufficiency.
- Ensure community leadership and planners focus on adequate, affordable, and universally accessible housing.
- Ensure that preparedness and mitigation measures are incorporated into new housing activities
- Collaborate and develop goals and strategies for the identified housing recovery priorities



HUD Photo 2: PRHRTF Meeting on April 19, 2018

The PRHRTF incorporates a FEMA Solutions Based Team Approach and has established several workgroups (ad-hoc committees) led by local subject-matter experts from public, private and non-profit sectors. These workgroups serve as the central source for strategy development and place-based solutions for the housing recovery efforts. A list of committee chairs members is in the Next Steps & Acknowledgements Section.

This unique working structure has nurtured a productive collaboration of key federal and state government agencies already involved in addressing housing challenges with innovative perspectives from the non-profit and private sectors. It fosters solutions that effectively support the needs of the whole community and ensures that community leaders and planners incorporate resident self-sufficiency and focus on adequate, resilient, sustainable, affordable and universally accessible housing.

Recovery Strategies

Recovery Goal 1

Stabilize Homeowner and Renter Housing Market

- Reduce delinquency and foreclosure rates
- Reduce the number of vacant and blighted properties
- Increase supply of affordable, resilient, energy efficient, accessible housing, especially for special needs populations

Recovery Goal 2

Restore Housing Infrastructure

- Reduce the number of homes categorized as substandard or informal housing
 - Assist homeowners without title or other title issues
 - Incentivize homeowner to make home code compliant
 - Increase the utilization of building permits
- Reduce the number of properties located in flood zones
- Update address system
- Rebuild a resilient housing infrastructure

Recovery Goal 3

Build Local Capacity to Support Housing Recovery

- Develop and execute outreach and communication plan
- Develop and execute recovery education and training plan

GOAL I: STABILIZE HOMEOWNER AND RENTAL HOUSING MARKET

Priority 1: Reduce Delinquencies and Foreclosures

The *Puerto Rico State Housing Plan 2014-2018*, pre-disaster housing challenges included constraints posed by a very difficult economic situation along with high energy costs posing a major obstacle in resolving housing problems, having numerous individuals and families migrating to the mainland. Many were unable to pay their mortgages and were unable to rent or sell their home, leading to foreclosure. This situation was exacerbated by the havoc of Hurricanes Irma and Maria. For weeks after the events the island was paralyzed, businesses closed and subsequently many families were without a source of income. This caused households to have to prioritize between paying obligations or purchasing gasoline to keep their houses powered by electric generators.

The number of foreclosed homes in Puerto Rico grew from 2,357 in 2008 to over 5,751 by the end of 2016. As of September 2017, when Hurricanes Irma and Maria passed over Puerto Rico, data provided by the Puerto Rico Office of the Commissioner of Financial Institutions (OCFI) stated that there were 13,436 properties (\$1,756,593,000) in the process of foreclosure, out of 385,334 (\$36,753,963,000) total mortgages in Puerto Rico. The number of foreclosed properties during the pre-disaster months of 2017, averaged 546 monthly, and receded to 49 monthly post-disaster as payment and foreclosure moratoriums were implemented.

Figure 4 - Residential units foreclosed

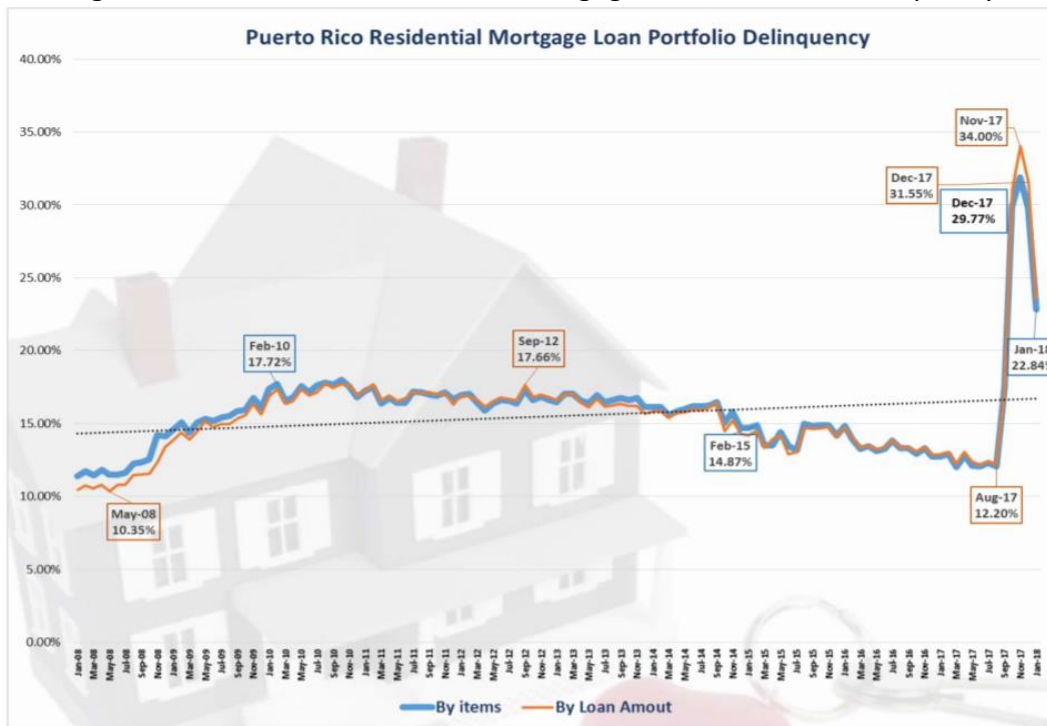


Source: OCFI Puerto Rico Financial Activity Report – December 2017

According to OCFI data, approximately 54% of mortgage loans disbursed during 2016 in Puerto Rico were FHA-insured. The FHA portfolio consists of 117,000 mortgages, which constitute approximately 30% of mortgage loans in Puerto Rico. As of February 2018, the default rate is 17.7% according data provided by HUD. Pre-disaster, the default rate was 8%, and since then, the highest rate reported was in December 2017 at 20.4%.

General mortgage loan delinquency, which had been falling since 2010 and averaging 15.39%, experienced an increase in the fourth quarter of 2017, going up to 31.5%. The misunderstanding of the terms in moratoriums in addition to financial hardships caused many borrowers to default on their mortgages. Clients experiencing hardship should have contacted their lender to explore payment options, since the moratorium was intended to provide a temporary relief on foreclosures.

Figure 5 – Puerto Rico Residential Mortgage Loan Portfolio Delinquency



Source: OCFI P.R. Financial Activity Report – December 2017

Suggested Strategies:

1. Analyze foreclosure data to assess the community impact of disaster related and non-disaster related foreclosures. Use this data to develop and execute programs that assist impacted residents with their mortgage payments.
2. Identify funding options and other mitigation resources to support and stabilize impacted homeowners, such as initiating a “Protecting Your Home” and “Hardest Hit Funds Program.”
3. Establish a Homeowner Interim Mortgage Assistance Program (IMA) that provides financial assistance to impacted residents.
4. Work with existing HUD approved housing counselling agencies and other organizations that provide homeowner assistance to ensure current and future homeowners remain in their homes.

Priority 2: Reduce the number of vacant and blighted properties

Blighted or abandoned properties pose various problems for a community. These properties detract from new sales and bring down property values. For years, municipalities have struggled with the problems posed by abandoned properties. Pursuant to the Commonwealth of Puerto Rico’s Autonomous Municipalities Act of 1991 (Act No. 81 of August 1991), municipalities have the authority to declare certain lots and properties as a public nuisance. They can compel the owner(s) to clean and maintain the property after the declaration is made and impose fines. On March 2016, the Act was amended (Act No. 13 of March 3, 2016) to allow municipalities follow foreclosure procedures if a response is not received after the required owner notification period.

A study issued in March 2018 by the Center for Puerto Rican Studies, reveals that in excess of 135,000 Puerto Ricans have relocated stateside from the island after the hurricane, based on school enrollments. The study assumes that families who enroll their children in a school system are more likely to stay a longer period or relocate permanently than families do not to enroll their children in school. Whether these families are homeowners with a mortgage is not contemplated in the study. Any percentage of these families (and future migrations) that have left their homes vacant and could eventually undergo a foreclosure process aggravates the increase of vacant property in Puerto Rico.

The most recent American Community Survey (ACS) 2016 study reflects that Puerto Rico has 334,564 vacant properties, out of 1.5 million total properties, a 21.3% vacancy rate. The homeowner vacancy rate is 3.7%, while the rental vacancy rate is 8.4%. At the core, a dwelling unit is either occupied or vacant. Those conditions are then refined by characterizing occupied units serving owners or renters and vacant units as either year-round vacant or seasonal. When analyzing the vacant units from the ACS data, there are several categories to further classify these units, affecting the real number of available units for rent, for purchase or abandoned. For example, because of its tropical weather, Puerto Rico has a considerable amount of seasonal or vacation housing units intended for occupancy only during certain seasons of the year and are found primarily in coastal and resort areas. This suggests that additional studies should be conducted to identify the actual number of vacant units available for post-disaster strategies.

In that effort, a recent study conducted by the Puerto Rico Homebuilders Association, *Estudio de la Situación de Vivienda en Puerto Rico y Recomendaciones de Política Pública, March 2018*, concluded that the rate of new construction declined considerably in comparison with the previous decade, and the number of vacant units increased by 14,746 units between 2010 and 2015. The study estimates that by 2015 there were over 30,000 rental units available and over 28,000 units available for sale.

According to OCFI, as of December 2017 there were 4,875 REO properties. When contrasted with the December 2016 numbers, 5,110 REO properties, this apparent decrease from 2016 to 2017 must be considered within the context of FHA's foreclosure moratorium, which prevents banks from initiating a foreclosure process or continuing with an existing foreclosure process, as well as other mitigation processes that other regulators and institutions may have offered post Hurricane Maria. The FHA moratorium began on September 21, 2017 and will continue until August 18, 2018.

Suggested Strategies:

1. Establish the Homeownership and Opportunity for People Everywhere (HOPE I) program to incentivize homeownership for low-income homebuyers.
2. Identify funding resources to support the restoration of Multifamily Low-Income Housing units in blighted neighborhoods that have demonstrated economic vitality.
3. Establish a Puerto Rico Blight Reduction Program to decrease preventable foreclosures and stabilize neighborhoods in the Commonwealth.

4. Develop a Neighborhood Revitalization Plan for affected communities that includes innovative uses for vacant properties such as community space for gardens, mini-parks, playgrounds, etc.
5. Identify funding resources to support Blighted Restoration Program for neighborhood stabilization.

Priority 3: Increase the supply of affordable, accessible, energy efficient housing, especially for special needs and elderly populations

The Housing Plan 2014-2018 states that pre-disaster housing challenges existed for the working population, young adults, women heads of household, the elderly and populations with special needs that were priority concerns for the Puerto Rico Department of Housing, since all are directly impacted by socio-economic trends. Pre-disaster figures estimated that close to 234,000 low income households, of which 64,422 were elderly homeowners experienced housing problems in 2011, including cost burden, overcrowded households and substandard housing. The Plan predicted that close to 12,000 additional elderly households would enter the ranks of those with housing burdens within five years. While the Housing Plan 2014-2018 did not foresee and consider the impacts of a natural disaster exacerbating these pre-existing challenges, recommendations were made to promote the development of new housing stock, and that elderly projects were fully occupied in Puerto Rico at that time. In addition, there is a need to increase funding to rehabilitate rental housing for the elderly to ensure that housing meets their recreational, health, social and transportation accessibility needs.

According to a 2016 study published by the Puerto Rican government, 23.3% of the population is over 60 years old. That's higher than any country in the Caribbean or Latin America, except the U.S. Virgin Islands, a retirement hotspot. While Puerto Rico's total population decreased by almost 200,000 people between 2010 and 2014, the population over 60 increased by almost 250,000 people, according to the U.S. Census Bureau. Hunter College's Center for Puerto Rican Studies estimated the island will lose a startling 14% of its population between 2017 and 2019, or approximately 470,335 residents, most of them working-age adults.

Female head of households were also identified as a special needs population in the State Housing Plan. With a low median income and challenging socioeconomic conditions, according to the Public Use Microdata Sample (PUMS) Puerto Rico Community Survey, 2012, 55% depend on food stamps, only 39.1% are employed, and most rent a unit at a median rent of \$306, suggesting most are living in public housing or receiving some rental subsidy.

Pre-disaster reports of homelessness from HUD in 2013, referenced in the State Housing Plan, totaled 4,128, with San Juan having the largest amount of homeless at 22%. Of the total homeless population – 80% are men, 16% are children, 51.6% are chronically disabled, 45.3% suffer from substance abuse, 18.5% are severely mentally ill, 7.9% are victims of domestic violence, 7.4% suffer from HIV/AIDS, and 2.0% served in armed forces. Continuum of Care Providers (COC's) have expressed a need for increased transitional and permanent housing for women and children, and emergency shelters for domestic violence victims. In addition, a high

rate of families in Puerto Rico (10,000+) were at risk of homelessness, with an expected increase due to increased economic hardship and the rise in foreclosures pre-disaster. Persons with HIV/AIDS were identified among the underserved/special needs population. A total of 36,105 AIDS cases have been reported in the Island as of September 30, 2013. Out of these cases, 24,357 persons died, representing a fatality rate of 67%. There were 9,251 persons were registered with the Department of Health as of September 30, 2013. Almost 35% of HIV/AIDS cases are residents of the San Juan Metropolitan Area.

Suggested Strategies:

1. Increase unit availability for elderly, special needs and underserved populations, including the homeless, and support various forms of rehabilitation and development of affordable housing by infusing capital resources.
2. Create public policy at the federal and state level to provide greater access to housing and supportive services for the elderly, special needs, and underserved populations including income limits that affect access to subsidized housing.
3. Develop policies and service programs to help elderly, special needs, and underserved populations remain in their homes so that they may age in place.
4. Identify senior-friendly neighborhoods and communities that foster aging-in-place and provide a sufficient amount of supportive services that can be expanded and replicated in other communities to create a senior network.
5. Consider the development of quality and affordable housing options, including continuum of care facility developments which can provide independent, assisted, and skilled nursing assistance in one location enabling aging in place. This offers seniors the ability to remain connected to friends and family and their surrounding neighborhood.
6. Ensure sufficient funds to continue assisting Law 173 projects.
7. Establish a First-Time Home Buyer Assistance Program that includes the appropriate incentives to entice homebuyers. Include an outreach, educational and marketing component to ensure maximum participation, especially among low and moderate-income families.

GOAL II: RESTORE THE HOUSING INFRASTRUCTURE

Priority 4: Reduce the number of homes categorized as substandard or informal

The Glossary of Environment Statistics, Studies in Methods, Series F, No. 67, United Nations, New York, 1997, defines informal settlements as:

1. Areas where groups of housing units have been constructed on land that the occupants have no legal claim to or occupy illegally;
2. Unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing).

The recent housing study commissioned by the Puerto Rico Home Builders Association, *Situación de la Industria de la Vivienda en Puerto Rico, March 28, 2018*, estimates that 55% of the existing housing units in Puerto Rico were built informally (not following the public process that regulates

the construction of units and land use), which equates to 919,020 units. Moreover, an article published by El Nuevo Día newspaper titled *Vulnerables miles de viviendas en el país a fenómenos naturales*, September 17, 2017, reports data from the Puerto Rico Management Office and Permits (OGPe for its Spanish acronym) reflects that as of March 2018, there are approximately 75,000 informal homes on the island that were built using sweat equity instead of obtaining permits and utilizing professional contractors. These structures, which are not built according to building code requirements are constructed by families purchasing the materials and doing it themselves.

This situation has been going on for generations. Socially, these neighborhoods are firmly anchored on the island. They are home to extended families and back-door business. Legally and economically, they exist on the fringe. Some residents survive on rainwater and stolen electricity, pay no property taxes and do not have homeowner's insurance.

The urgency to increase resiliency and construct safe and secure resilient housing in Puerto Rico through affordable housing programs, improved building design and construction, code development and enforcement will lead to greater resilience to hazard events. The government of Puerto Rico, local officials, property and business owners face major decisions as they plan rebuilding and recovery efforts.

Suggested Strategies:

1. Gather reliable data to determine the number of housing units and map the locations of informal communities and substandard housing utilizing Map Books and GIS. Having this detailed information will assist the Commonwealth and municipalities in prioritizing their housing rehabilitation and new development recovery planning.
2. Utilize FEMA Hazard Mitigation Grant Program (HMGP) as a resource to solicit and increase the number of building Inspectors
3. Establish design process/program to incentivize redevelopment compliant with the building code requirements.
4. Develop and implement grant programs and deliver other resources to assist residents currently living in informal and/or substandard housing either rehabilitate existing housing, where appropriate, or relocate to housing that currently or through rehabilitation will be code compliant.

Priority 4A: Assist homeowners without title or other title issues

The lack of property titles and tax records is part of the consequence of migration flows dating back to the 1930s and 1940s, when industrialization drew rural Puerto Ricans to urban areas. Insufficient affordable housing prompted takeovers of farming land for housing, resulting in the widespread formation of informal, unsanctioned communities. Since there is no requirement to register title to properties in Puerto Rico, families went decades without registering their land or structures with the government and many properties were subdivided without recording ownership.

Property law in Puerto Rico is modeled on the Spanish Civil Code and the process of obtaining legal title might be considered by some as time consuming and expensive. Documents must be prepared

and submitted to the "*Registro de la Propiedad*" (Property Registry) following certain legal formalities and the turnaround time can often be very lengthy. Fees must be paid to a Public Notary who, in Puerto Rico, must be a licensed attorney.

Lack of good property title records makes it difficult for both public and private entities to provide aid following disasters and complicates processes for collecting the property taxes that fund community services. Incomplete title records affected hundreds of thousands of Puerto Ricans after Hurricanes Irma and Maria. FEMA estimates that nearly 60% of the 1.1 million applications for financial support received were found ineligible. Although many factors contributed, one of the main reasons is the applicant's inability to verify that they own the homes for which they are claiming damage. These scenarios resulted in many citizens being denied repair assistance by FEMA due to the lack proof of ownership. These applicants were only eligible for personal items assistance upon submittal of proof of occupancy.

The Puerto Rico Department of Housing is the holder of approximately 48,000 land titles of properties that sustained damage by the hurricanes. The Puerto Rico Department of Housing stated that approximately 5,000 of these units were denied repair assistance from FEMA due to the inability to provide proof of ownership. FEMA has been working with Department of Housing to identify alternate forms of proof of ownership and implement procedures to streamline the process to ensure equitable approvals.

Suggested Strategies:

1. Establish a consistent process of certifying homeownership title by the Puerto Rico Department of Housing.
2. Reconcile the title discrepancies between FEMA and Commonwealth Government of Puerto Rico enabling numerous impacted households to receive FEMA recovery assistance.
3. Create a counseling and legal aid plan to address title inheritance issues.

Priority 4B: Incentivize homeowners to become code compliant

Puerto Rico adopted the 2009 International Code Council (ICC) code model in 2014 as the official building code. The Puerto Rico Management Office and Permits (OGPe) is the entity responsible for issuing construction permits and for code compliance/enforcement across the island, except in autonomous municipalities, where these processes are carried out by the municipality itself. Any construction project, regardless of size, requires a building permit. The time and cost of obtaining licensed professionals and the lack of consumer knowledge have resulted in a high rate of housing that is not compliant with the building code.

FEMA's Puerto Rico Mitigation Assessment Team (MAT) deployed teams of investigators to evaluate the performance of buildings and related infrastructure. The teams observed a high count of damaged residences that were not compliant with the current building code. The information on the magnitude of informal housing was publicly broadcast through local media outlets.

In the aftermath of Hurricane Maria, FEMA proposed changes to the current building code, recommending to Puerto Rico the adoption of the 2018 International Building Codes, which is currently under debate by local experts and government entities. Experts agree that there is an urgency to increase resiliency of infrastructure, as well as the construction of safe, secure, and resilient housing in all municipalities. This can be accomplished through improved building design, compliance with building code requirements, enforcement, and mitigation activities that will lead to a greater resistance to hazard events.

Suggested Strategies:

1. Currently under implementation: The allocation of FEMA Hazard Mitigation Grant Program (HMGP) funds for Puerto Rico is supporting the hiring and training of additional building inspectors and support staff to ensure ample resources to process the influx of new permits requests.
2. Provide builders with design guidelines and a clearly define permit process, along with appropriate incentives to increase code compliant rebuilding (ex. Louisiana). These incentives could also include tax incentives for homeowners who rebuild code compliant homes.
3. Establish a training program and conduct outreach to builders and all others engaged in rehabilitation and new construction projects to increase code compliant building.
4. Develop a process improvement plan to streamline the permit endorsement process and reduce redundancy.
5. Formalize and standardize terminology with the development of a glossary for permitting and create standardized and/or sample documents/forms.

Priority 4C: Permits

According to Puerto Rico State Housing Plan 2014-2018, for decades permitting has been a major obstacle for housing. The inefficiency and extensive length of time it takes to have a project approved have created prohibitive costs for developers. Coordination between municipal planning, permitting offices and PR Planning Board are instrumental in improving the process.

Suggested Strategies:

1. Streamline the permitting process, thereby reducing the end -to-end timeframe to obtain a building permit and related inspections. Process should include a mapping of the current state and the desired state to achieve the required reduction in time needed to complete the permitting process.
2. Develop and implement an educational and marketing plan to inform and train those engaged in rehabilitation and/or new construction of the permitting process as well as the available resources to build resilient, energy efficient, universally accessible, code compliant housing.
3. Conduct a cross agency human resource needs assessment to identify appropriate staffing levels to effectively and efficiently implement permitting process.
4. Develop and implement an IT solution that enables all agencies involved in the permitting process to access and upload data, as well as track permit status.

Priority 5: Properties Located in Flood Zones

Six months after the passage of Hurricanes Irma and Maria, the Puerto Rico Planning Board and FEMA updated the flood maps for Puerto Rico. This modification placed 92,180 additional structures in flood zones. The revised flood maps reflect 252,748 structures in flood zones. In April 2018, the Board adopted the new maps upon completion of the administrative procedures. Updating the maps created a 30-year storm surge zone known as the Coastal A Zone. The new Coastal A Zone identifies areas subject to flooding by breaking waves of heights between 1.5 and 3 feet. The new zone identified 1,126 structures at risk of being affected by coastal erosion.

Toa Baja, which had historic flooding during Hurricane Maria, has the most structures added to the new flood zones with 12,012 structures. Other municipalities with a significant increase in structures added to the flood zones are Carolina with 10,717 structures, Ponce with 7,069 structures, Bayamon with 6,710 structures and San Juan with 6,403 structures.

The National Flood Insurance Program (NFIP) provides flood insurance for homeowners and renters. Private firms also offer flood insurance in Puerto Rico. In NFIP participating communities, properties located in flood zones (Special Flood Hazard Areas (SFHA) by FEMA) may be required to have flood insurance as a condition of mortgage approval.

Suggested Strategies:

1. Develop an enforcement plan to increase compliance with existing flood damage prevention regulations and policies.
2. Develop plans and mechanisms to identify drainage concerns in areas planned for development or redevelopment.
3. Support municipality efforts to manage flood hazard areas within communities.
4. Coordinate the management of open space lands to ensure floodplains remain unimpeded.

Priority 6: Resilient Housing Infrastructure

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. For mitigation to be effective, action is needed now, before the next disaster to reduce human and financial consequences later. (FEMA-Mitigation After Hurricane Maria Briefing-February 14, 2018). FEMA's Puerto Rico Mitigation Assessment Team (MAT) deployed teams of investigators to evaluate the performance of buildings and related infrastructure in response to the effects of natural and man-made hazards for Hurricane Georges in PR (1999) and Hurricane Maria (2017).

Among the observations and challenges noted were its isolation from the mainland generating unique logistical considerations. Based on the 2010 Census, Puerto Rico estimated population is 3.5 million. A high number of residences are constructed without a building code, close to 1.3 million live near coastal areas, approximately 320,027 live in flood-prone zones. There is an urgency to increase the resiliency of damaged and undamaged infrastructure and construct safe, secure and resilient housing in Puerto Rico through improved building design and construction, code enforcement, and mitigation activities that will lead to greater resistance to hazard events. FEMA proposed recommendations for updated post Maria Advisory Base Elevations (ABFEs) to

support planning and permitting; adoption of latest building code from ICC; improved permitting and code enforcement; vulnerability assessments for public buildings and critical facilities; hazard-resistant design guidance for alternative energy systems; improved life-safety hurricane shelter facilities.

HUD assisted housing, the Puerto Rico Housing Authority (PRPHA) reports 15,386 public housing units with damage. As of February 20, 2018, PR Department of Housing Secretary and PRPHA were seeking revised damage estimates. The initial insurance claim stated \$102M in damages, the preliminary revised estimates put resilience/mitigation at \$700M. HUD, FEMA and PRDH continue to coordinate create and execute a public housing redevelopment plan, with use of FEMA PA-428 to support rebuild efforts. (Housing Deep Dive Briefing-RSFLG February 2018) As of February 2018, HUD was awaiting restoration plans from Multifamily Housing owners to return properties to fully operation status. Currently assessing gap needs by requesting initial estimates by the end of March to be included in the Restoration Plans. (Housing Deep Dive Briefing-RSFLG February 2018). In addition, to housing specific efforts, cross sector collaboration and coordination with federal and local partners to develop parallel holistic cross cutting solutions for resilient infrastructure to support housing is needed.

Suggested Strategies

1. Develop affordable and resilient housing for vulnerable populations for the ability to shelter in place in the event of an emergency or disaster.
2. Develop a strategic plan to address the needs communities with single power source, water supply and/or single point of access in able to assist the residents in the event of an emergency and/or disaster.
3. Identify sustainable capacity building opportunities and tax incentive programs that reinforce rehabilitation and rebuilding in the Commonwealth.
4. To facilitate a household's survival and speedy recovery after a hurricane or other natural or man-made disaster, retrofit existing housing stock and include in the design of new housing, systems that are resilient and can be self-sustaining in the event of loss of power and water.

Priority 7: Address System Overhaul

Puerto Rico's lack of a postal and physical address database system that can be used in an automated process or algorithms designed for a geographic location of a specific site using a valid physical or postal address as input is intrinsic to the way that it has been developed and utilized for decades, especially in the rural areas.

The physical address scheme in the rural areas of Puerto Rico is based on a reference point, taking the nearest principal street as a starting point, no matter at what distance is in relation with the final destination. This complicates the task of delivering any kind of services, including emergency response services or shipping provided by the private sector companies like UPS, FedEx and DHL among others.

In urban areas the physical address and the postal address are not the same. This occurs in communities that have security/controlled gate access or where residents receive their delivery/mail at a central location within the community.

Historically, the lack of a standardized and uniform physical address system affected the way the postal addresses were developed in Puerto Rico. For example, including elements of the name of the “Urbanizaciones” in the postal address or the use of any kind of abbreviation in the references of roads, avenues, streets, etc. creates a challenge for the automated handling of postal services.

In this effort, the government of Puerto Rico, in collaboration with the local municipalities will propose the guidelines and protocols in developing a standardized physical and postal address system. This system should not be applicable to locations where settlements should not be developed but for those properties with a “bundle of rights” the system should be applied in accordance with the regulations and local laws.

Suggested Strategies

1. Support the development of a “standardized physical address format” that is adopted and utilized throughout the Commonwealth by all residents, agencies and delivery companies (USPS, FedEx, UPS, etc.).
2. Develop a pilot program focused on identifying rural physical address locations and implementing uniform postal system within selected municipalities across the Commonwealth.
3. Identify funding sources to assist in the development of a comprehensive physical address list; including funding needed to hire requisite manpower, conduct research efforts, conduct comprehensive data collection, and develop physical address database.
4. Develop guidance and postal campaign informing the community and stakeholders about newly imposed formatting requirements and the transition process for the newly implemented uniform postal system.

GOAL III: BUILD LOCAL CAPACITY TO SUPPORT HOUSING RECOVERY

Priority 8: Develop and execute outreach and communication plan

This is intended to capture cross-cutting elements that will enhance all the recovery priorities recognized at this time, by ensuring a comprehensive and consistent approach to communication, outreach and education.

Suggested Strategies:

1. Develop an outreach and communications plan capable of disseminating housing resources and addressing housing issues throughout the Commonwealth.
2. Analyze housing data and establish programs targeted to the needs of the most vulnerable residents identified in the housing priorities.
3. Support recovery efforts by conduct relevant research and provide data and analysis useful in the development courses of action.

Priority 9: Develop and execute a training and capacity building program

This is intended to capture cross-cutting elements that will enhance all the recovery priorities recognized at this time, by ensuring respective staff and/or citizens obtains necessary training and capacity building to effectively carry out successful housing projects.

Suggested Strategies

1. Develop and conduct an educational campaign that will address housing priorities, resources, tools and building techniques to be shared with communities.
2. Enhance the resources and tools available to housing counseling and other support agencies to assist and support homeowners in their recovery efforts.
3. Work with educational institutions, especially vocational and other training organizations, to ensure reconstruction needs are aligned with training offered.
4. Engage and partner with non-profit and for-profit housing developers to increase their capacity to build affordable, resilient, energy efficient homes.

NEXT STEPS & ACKNOWLEDGEMENTS

The road to recovery that lies ahead for Puerto Rico will span generations and ideologies, shift in accordance to emerging technologies and ideas, and should strive to master the concept of *resilience* in every action that is taken. To achieve this, the Commonwealth counts with support from the federal, public, private, and non-profit sectors in many capacities, one of which is the Puerto Rico Housing Recovery Task Force. This Task Force is committed to continue serving as a vehicle to further develop the recommended strategies mentioned in this document, as well as explore new strategies that may arise, and assist in the implementation of recovery projects.

Throughout the recovery process of the island as a whole, one of the underlying messages that has prevailed is that this is a once-in-a-lifetime opportunity for Puerto Rico to build back better, a historic juncture where from disaster comes the opportunity for prosperity. The spirit of collaboration and determination of all sectors involved in this recovery process is promising and gives hope to all who were affected, directly or indirectly, by Hurricanes Irma and Maria.

The U.S. Department of Housing and Urban Development would like to acknowledge the participation of the members of the Puerto Rico Housing Recovery Task Force and the public and private entities who formed the PRHRTF Committees that helped develop the recovery strategies in this document. The Department also expresses its gratitude to the committee chairs, who volunteered their valuable time to lead weekly meetings and inspired committee members to think outside the box to tackle the issues and challenges of recovery.

PRHRTF RECOVERY STRATEGY COMMITTEES

<i>Elderly, Special Needs, and Underserved Population</i>	Chairperson: Dra. Carmen Delia Sanchez, Executive Director Ombudsman for the Elderly
AARP Continuums of Care (CoC) DWH Business Services FEMA Fondita de Jesus HUD Movement to Reach an Independent Living Office of Community and Socioeconomic Development Ombudsman for the Elderly	Pathstone P.R. Department of Housing P.R. Department of Health P.R. Planning Board Solo Por Hoy U.S. Department of Health and Human Services U.S. Department of Agriculture - Rural Development Veteran’s Administration
<i>Vacant and Blighted Properties</i>	Chairperson: Ms. Ciary Perez Pena Director Caguas Region P.R. Department of Housing
FEMA HUD Martinal Property Management	P.R. Department of Housing P.R. Mortgage Bankers Association P.R. Planning Board

<p><i>Resilient Housing and Infrastructure</i></p>	<p>Chairperson: Mr. Alejandro Salgado, Esq General Counsel P.R. Public Housing Administration</p>
<p>Creative Development- P.R. Builders Association EPA F&R Construction Group FEMA HUD P.R. Builders Association</p>	<p>P.R. Department of Housing P.R. Planning Board P.R. Public Housing Administration U.S. Department of Commerce Economic Development Administration U.S. Department of Agriculture - Rural</p>
<p><i>Properties Located in Flood Zones</i></p>	<p>Chairperson: Mr. Jose Valenzuela Vice President & Associate Member P.R. Planning Board</p>
<p>FEMA HUD P.R. Planning Board Office of Community and Socioeconomic Development</p>	<p>P.R. Department of Housing P.R. Housing Finance Authority Prisa Group Starlight Development</p>
<p><i>Informal and/or Substandard Housing</i></p>	<p>Chairperson: Mr. Jesus Velez Executive Director Office of Community and Socioeconomic Development</p>
<p>FEMA HUD Martinal Property Management Office of Community and Socioeconomic Development</p>	<p>P.R. Department of Housing P.R. Housing Finance Authority P.R. Planning Board Puerto Rico Community Foundation U.S. Department of Agriculture - Rural</p>
<p><i>Delinquencies/Foreclosures</i></p>	<p>Chairperson: Mr. George Joyner Commissioner Office of the Commissioner for Financial Institutions</p>
<p>BPPR HUD P.R. Planning Board P.R. Mortgage Bankers Association Office of Community and Socioeconomic Development</p>	<p>Office of the Commissioner for Financial Institutions P.R. Department of Housing P.R. Housing Finance Authority U.S. Department of Agriculture - Rural</p>

<p>Homeowners Without Title</p>	<p>Chairperson: Ms. Niurka E. Rivera Assistant Deputy Secretary for Management and Development of Housing Projects P.R. Department of Housing</p>
<p>FEMA HUD Marti Law P.R. Department of Housing</p>	<p>P.R. Mortgage Bankers Association P.R. Planning Board Puerto Rico Community Foundation</p>
<p>Code Enforcement</p>	<p>Chairperson: Mr. Roberto Gonzalez, Esq Lawyer P.R. Department of Housing</p>
<p>F&R Construction Group FEMA HUD</p>	<p>P.R. Department of Housing P.R. Planning Board</p>
<p>Address System</p>	<p>Chairperson: Mr. Daniel Díaz Torres Director GIS P.R. Planning Board</p>
<p>911 FedEx HUD P.R. Department of Housing P.R. Department of Transportation P.R. Housing Finance Authority P.R. Institute of Statistics</p>	<p>P.R. Planning Board Puerto Rican Planning Society U.S. Census Bureau University of Puerto Rico UPS USPS</p>
<p>Permits</p>	<p>Chairperson: Mr. Luis Avila Hazard Mitigation Branch Chief FEMA</p>
<p>Creative Development- P.R. Builders Association F&R Construction Group FEMA HUD</p>	<p>P.R. Builders Association P.R. Department of Housing P.R. Planning Board</p>

Appendix A: HUD Market-At-A-Glance – Puerto Rico



Market at a Glance

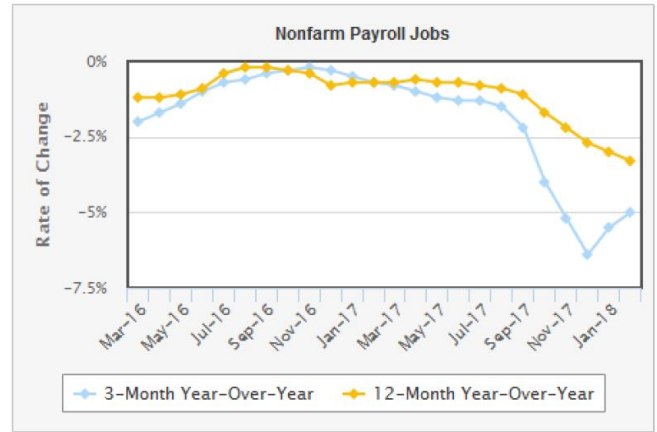
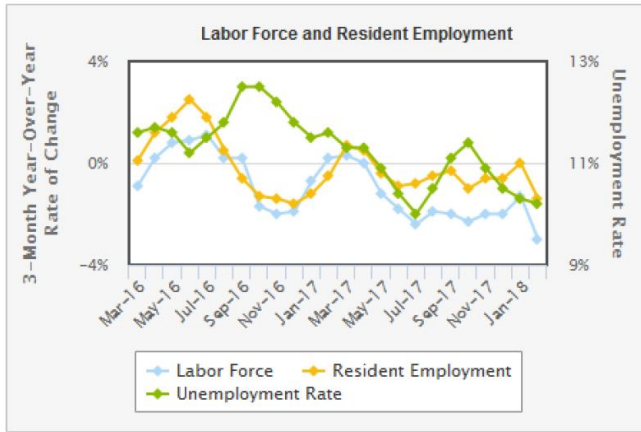
Puerto Rico

Prepared by: PD&R / Economic & Market Analysis Division (EMAD)
Southeast/Caribbean Regional Office



Created on: April 30, 2018

ECONOMIC CONDITIONS



Data Source: U.S. Bureau of Labor Statistics

Data Source: U.S. Bureau of Labor Statistics

	3-Month Average			3-Month Year-Over-Year Change			
	February 2016	February 2017	February 2018	February 2016 to February 2017		February 2017 to February 2018	
				Number	Percent	Number	Percent
Labor Force	1,130,147	1,132,760	1,099,028	2,613	0.2	-33,732	-3
Resident Employment	1,005,738	1,000,841	986,961	-4,897	-0.5	-13,880	-1.4
Unemployment Rate (%)	11	11.6	10.2	n/a	n/a	n/a	n/a
Nonfarm Payroll Jobs	902,900	896,567	851,433	-6,333	-0.7	-45,134	-5

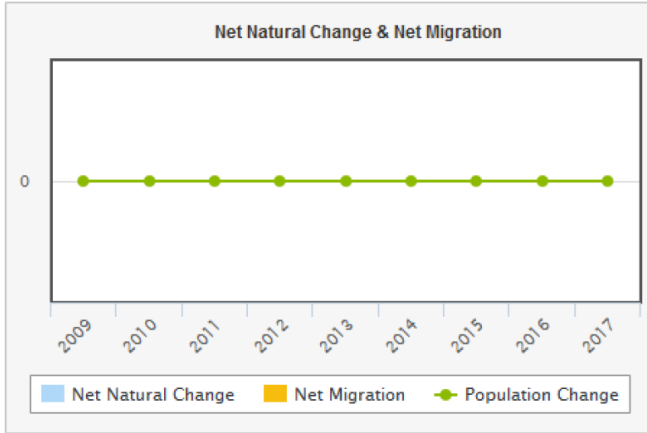
Data Source: U.S. Bureau of Labor Statistics

POPULATION & HOUSEHOLDS

	Decennial Census				ACS & Population Estimates Program						
	April 2000	April 2010	Average Annual Change 2000 to 2010		July 2015	July 2016	July 2017	2015 to 2016		2016 to 2017	
			Number	Percent				Number	Percent	Number	Percent
Population	3,808,610	3,725,789	-8,282	-0.2	0	0	0	0	0	0	0
Households	1,261,325	1,376,531	11,521	0.9	1,221,851	1,208,438		-13,413	-1.1		

Data Source: 1 - 2000 Census; 2010 Census; U.S. Census Bureau Population Estimates

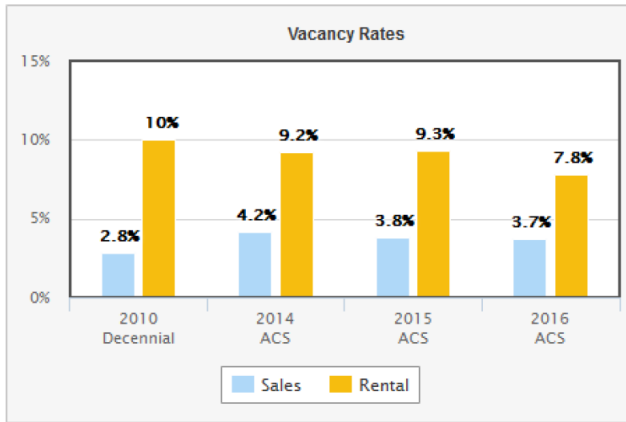
2 - 2000 Census; 2010 Census; 2014, 2015 and 2016 American Community Surveys (1 - Year)



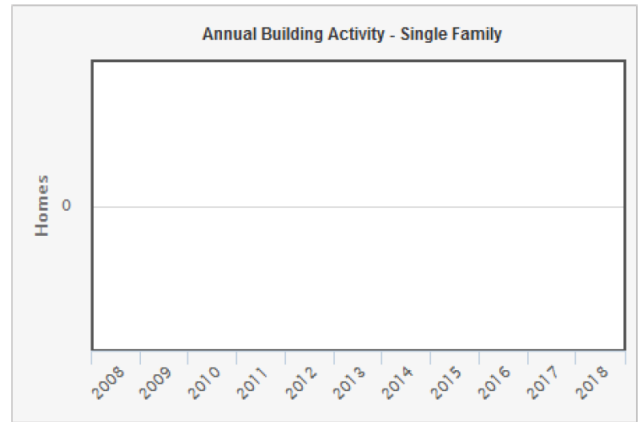
Data Source: U.S. Census Bureau Population Estimates

- Notes: 1 - Values in chart reflect July year-to-year changes
- 2 - Net Migration includes residual population change
- 3 - Annual components of population change are not available for 2010

HOUSING MARKET CONDITIONS



Data Source: 2010 Census; 2014, 2015 and 2016 American Community Surveys (1 - Year)

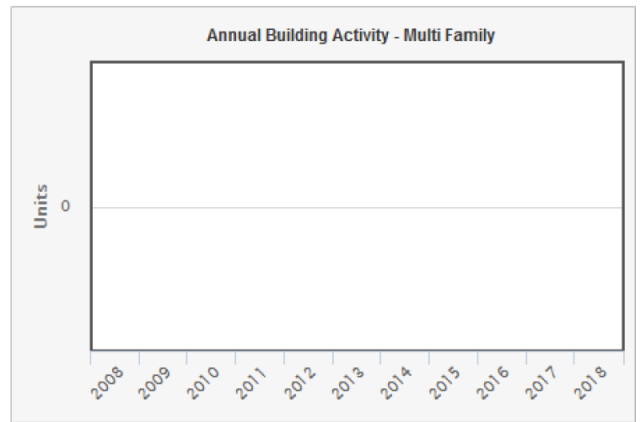


Data Source: U.S. Census Bureau, Building Permits Survey; adjustments by analyst

Note: Data for 2017 and 2018 is preliminary, through February 2018

Housing Inventory by Tenure				
	2010	2014	2015	2016
	Decennial	ACS	ACS	ACS
Total Housing Units	1,636,946	1,571,275	1,573,532	1,555,880
Occupied	1,376,531	1,233,490	1,221,851	1,208,438
Owners	986,165	837,840	836,820	821,672
% Owners	71.6	67.9	68.5	68.0
Renters	390,366	395,650	385,031	386,766
% Renters	28.4	32.1	31.5	32.0
Total Vacant	260,415	337,785	351,681	347,442
Available for Sale	28,182	36,672	33,121	31,138
Available for Rent	43,298	40,307	39,489	32,503
Other Vacant	188,935	260,806	279,071	283,801

Data Source: 2010 Census; 2014, 2015 and 2016 American Community Surveys (1 - Year)



Data Source: U.S. Census Bureau, Building Permits Survey; adjustments by analyst

Note: Data for 2017 and 2018 is preliminary, through February 2018

Appendix B: Most Impacted and FVL per Registrant - All Municipalities

Municipality	ACS 2016 5yr Pop	Registrants	Total FVL	Damage Level			Disaster Impact		
				Moderate	Major	Destroyed	Total with Damage	Most Impacted	FVL per Registrant
Adjuntas	18,760	5,667	\$15,222,056	2,036	95	40	2,171	6.2%	\$2,686
Aguada	40,083	12,623	\$22,124,006	3,706	77	42	3,825	3.1%	\$1,753
Aguadilla	56,893	17,516	\$18,849,924	3,523	100	31	3,654	3.6%	\$1,076
Aguas Buenas	27,323	8,036	\$15,736,623	2,542	78	41	2,661	4.5%	\$1,958
Aibonito	24,438	8,148	\$22,818,268	3,113	131	78	3,322	6.3%	\$2,800
Anasco	28,250	9,161	\$19,524,555	3,001	100	30	3,131	4.2%	\$2,131
Arecibo	91,096	29,898	\$45,140,930	7,892	417	91	8,400	6.0%	\$1,510
Arroyo	18,778	5,893	\$14,136,961	2,243	71	47	2,361	5.0%	\$2,399
Barceloneta	24,699	8,296	\$13,453,463	2,676	75	20	2,771	3.4%	\$1,622
Barranquitas	29,548	9,850	\$25,584,325	4,234	124	72	4,430	4.4%	\$2,597
Bayamon	192,974	63,185	\$56,460,389	12,069	404	170	12,643	4.5%	\$894
Cabo Rojo	50,096	14,338	\$6,693,517	1,902	22	11	1,935	1.7%	\$467
Caguas	136,372	42,616	\$134,834,821	10,614	294	130	11,038	3.8%	\$3,164
Camuy	33,481	10,409	\$9,826,756	2,323	47	12	2,382	2.5%	\$944
Canovanas	47,174	15,846	\$53,998,631	5,958	223	220	6,401	6.9%	\$3,408
Carolina	165,040	52,042	\$33,207,764	9,878	156	71	10,105	2.2%	\$638
Catano	26,137	7,727	\$9,774,184	1,895	79	19	1,993	4.9%	\$1,265
Cayey	46,071	14,462	\$127,956,443	3,995	168	104	4,267	6.4%	\$8,848
Ceiba	12,538	4,081	\$7,349,971	1,433	26	23	1,482	3.3%	\$1,801
Ciales	17,644	6,053	\$20,704,875	2,375	148	59	2,582	8.0%	\$3,421
Cidra	41,782	13,335	\$24,569,217	4,049	119	75	4,243	4.6%	\$1,842
Coamo	40,090	12,249	\$21,203,471	3,672	97	63	3,832	4.2%	\$1,731
Comerio	20,153	6,575	\$23,542,264	2,830	144	76	3,050	7.2%	\$3,581
Corozal	35,484	11,179	\$34,810,021	4,524	137	113	4,774	5.2%	\$3,114
Culebra	1,508	571	\$1,704,590	261	11	29	301	13.3%	\$2,985
Dorado	38,013	11,132	\$20,883,603	3,583	124	62	3,769	4.9%	\$1,876
Fajardo	33,912	11,224	\$9,571,376	2,984	52	24	3,060	2.5%	\$853
Florida	12,287	4,179	\$6,389,529	1,312	45	6	1,363	3.7%	\$1,529
Guanica	17,788	5,797	\$5,307,927	1,467	15	12	1,494	1.8%	\$916
Guayama	43,210	12,755	\$34,914,126	4,298	185	113	4,596	6.5%	\$2,737
Guayanilla	20,025	6,461	\$8,409,844	1,609	29	24	1,662	3.2%	\$1,302
Guaynabo	92,444	27,996	\$25,985,124	5,822	161	63	6,046	3.7%	\$928
Gurabo	46,990	12,821	\$17,083,820	4,017	72	47	4,136	2.9%	\$1,332
Hatillo	41,327	11,271	\$15,985,656	2,800	75	37	2,912	3.8%	\$1,418
Hormigueros	16,678	5,129	\$2,343,280	855	8	1	864	1.0%	\$457
Humacao	55,621	18,789	\$44,615,392	8,021	192	124	8,337	3.8%	\$2,375
Isabela	43,919	12,660	\$15,489,269	3,102	88	28	3,218	3.6%	\$1,223
Jayuya	15,605	4,940	\$11,534,067	1,734	72	34	1,840	5.8%	\$2,335
Juana Diaz	48,658	15,748	\$29,554,613	4,815	149	79	5,043	4.5%	\$1,877

Municipality	ACS 2016 5yr Pop	Registrants	Total FVL	Damage Level			Disaster Impact		
				Moderate	Major	Destroyed	Total with Damage	Most Impacted	FVL per Registrant
Juncos	39,942	13,104	\$21,680,664	4,773	97	54	4,924	3.1%	\$1,655
Lajas	24,323	7,559	\$4,339,434	1,373	20	7	1,400	1.9%	\$574
Lares	28,052	8,318	\$8,290,836	1,786	77	16	1,879	4.9%	\$997
Las Marias	9,093	2,884	\$4,977,052	780	29	19	828	5.8%	\$1,726
Las Piedras	38,466	11,882	\$20,060,616	4,590	76	59	4,725	2.9%	\$1,688
Loiza	27,857	7,583	\$16,424,681	3,509	52	43	3,604	2.6%	\$2,166
Luquillo	19,237	6,056	\$6,266,119	1,749	33	18	1,800	2.8%	\$1,035
Manati	41,468	13,625	\$18,400,056	3,813	113	40	3,966	3.9%	\$1,350
Maricao	6,274	1,665	\$3,832,177	545	19	16	580	6.0%	\$2,302
Maunabo	11,506	3,645	\$13,403,084	1,780	37	57	1,874	5.0%	\$3,677
Mayaguez	81,594	24,758	\$17,216,432	4,169	101	23	4,293	2.9%	\$695
Moca	38,289	11,146	\$15,602,854	2,864	84	30	2,978	3.8%	\$1,400
Morovis	32,087	9,811	\$29,313,344	3,956	129	86	4,171	5.2%	\$2,988
Naguabo	26,722	8,111	\$21,299,718	3,408	75	68	3,551	4.0%	\$2,626
Naranjito	29,467	9,673	\$30,470,907	4,173	159	96	4,428	5.8%	\$3,150
Orocovis	22,258	7,789	\$26,308,389	3,801	87	88	3,976	4.4%	\$3,378
Patillas	18,135	5,976	\$15,604,400	2,214	82	57	2,353	5.9%	\$2,611
Penuelas	22,231	6,402	\$9,693,289	1,805	42	27	1,874	3.7%	\$1,514
Ponce	152,594	49,947	\$79,627,324	10,477	286	214	10,977	4.6%	\$1,594
Quebradillas	24,904	7,910	\$5,690,025	1,667	25	10	1,702	2.1%	\$719
Rincon	14,700	4,659	\$5,064,215	1,235	19	12	1,266	2.4%	\$1,087
Rio Grande	52,479	15,873	\$24,515,003	5,012	82	71	5,165	3.0%	\$1,544
Sabana Grande	24,013	7,710	\$2,299,352	904	12	2	918	1.5%	\$298
Salinas	29,722	10,094	\$33,925,428	4,202	135	122	4,459	5.8%	\$3,361
San German	33,546	10,288	\$4,721,693	1,546	17	10	1,573	1.7%	\$459
San Juan	363,744	122,302	\$72,761,296	16,573	525	164	17,262	4.0%	\$595
San Lorenzo	39,283	11,930	\$17,913,388	3,647	70	58	3,775	3.4%	\$1,502
San Sebastian	39,755	11,738	\$11,154,371	2,478	67	14	2,559	3.2%	\$950
Santa Isabel	22,732	7,612	\$15,314,343	2,483	54	47	2,584	3.9%	\$2,012
Toa Alta	74,467	20,937	\$44,337,934	5,241	178	184	5,603	6.5%	\$2,118
Toa Baja	83,645	27,626	\$63,394,804	10,119	498	109	10,726	5.7%	\$2,295
Trujillo Alto	70,737	20,779	\$20,288,403	4,730	97	47	4,874	3.0%	\$976
Utuado	30,869	10,029	\$22,088,096	3,363	160	69	3,592	6.4%	\$2,202
Vega Alta	39,018	10,810	\$21,266,555	3,006	112	41	3,159	4.8%	\$1,967
Vega Baja	55,866	18,830	\$31,109,790	5,639	172	75	5,886	4.2%	\$1,652
Vieques	9,046	2,645	\$18,503,869	1,392	48	121	1,561	10.8%	\$6,996
Villalba	24,186	7,724	\$13,673,543	2,587	79	39	2,705	4.4%	\$1,770
Yabucoa	35,670	10,757	\$34,077,306	5,326	124	108	5,558	4.2%	\$3,168
Yauco	38,519	13,259	\$9,643,898	2,408	38	20	2,466	2.4%	\$727
Puerto Rico	3,529,385	1,114,104	\$1,861,850,340	294,286	8,720	4,662	307,668	4.3%	\$1,671

Sources: FEMA FIDA-27487 – DR 4336, FEMA FIDA-27487 – DR 4339 Reports 27 March 2018, FEMA FIDA-21196 – DR 4336, FEMA FIDA-21196 – DR 4339 Reports 30 March 2018, American Community Survey 2016 5-year Population Estimates, DP05

Appendix C: Demographics of Puerto Rico Municipalities (April 2018)

Demographics of Puerto Rico Municipalities (alphabetically). April	United States	Puerto	Adjuntas	Aguada	Aguadilla	Aguas Buenas	Aibonito	Añasco
Population 2017[1]	325,719,178	3,337,177	17,971	38,118	53,164	25,850	23,108	27,059
Values and % below based on 2016 ACS pop								
Median Household Income in the Past 12	\$55,322	\$19,606	\$11,296	\$15,543	\$17,191	\$15,409	\$18,145	\$17,712
People with Medical Insurance (%)	88.3%	93.7%	93.1%	94.6%	94.5%	94.9%	97.7%	97.2%
People in Poverty (%)	15.1%	45.1%	63.0%	54.5%	49.7%	50.8%	46.8%	48.9%
People Under 18 (%)	23.1%	21.7%	23.0%	20.7%	21.5%	22.4%	21.4%	21.0%
People Over 62 (%)	17.9%	21.0%	19.7%	19.6%	22.8%	19.4%	21.6%	21.3%
People 25 and Older Without High School (%)	13.0%	26.0%	37.6%	35.0%	30.2%	34.1%	26.1%	32.3%
People with Disabilities (%)	12.5%	21.3%	20.6%	27.4%	23.9%	26.8%	26.2%	24.3%
Households	117,716,237	1,237,180	6,305	12,934	20,999	8,675	8,569	9,373
With Public Assistance (%) [3]	13.7%	39.3%	53.9%	47%	44%	51.5%	50.5%	44%
Housing Units	134,054,899	1,571,744	7,673	17,508	27,365	10,790	9,961	12,448
Vacant (%) [4]	12.2%	21.3%	17.8%	26.1%	23.3%	19.6%	14.0%	24.7%
For Sale (%)	1.8%	3.7%	1.3%	2.8%	3.5%	2.0%	4.6%	1.0%
For Rent (%)	6.2%	8.4%	2.2%	11.2%	10.9%	10.1%	3.1%	12.6%
Owner Occupied (%)	63.6%	68.6%	52.9%	75.0%	61.8%	66.8%	80.3%	77.8%
With a Mortgage (%)	64.1%	40.6%	19.5%	22.3%	33.7%	29.0%	31.0%	25.6%
Without a Mortgage (%)	35.9%	59.4%	80.5%	77.7%	66.3%	71.0%	69.0%	74.4%
Renter Occupied (%)	36.4%	31.4%	47.1%	25.0%	38.2%	33.2%	19.7%	22.2%
Gross Rent Under \$500 (%)	11.3%	56.2%	79.9%	73.4%	62.0%	73.5%	66.5%	68.9%
Gross Rent Between \$500 and \$1000 (%)	43.3%	37.0%	19.3%	24.3%	31.9%	25.1%	30.7%	30.8%
Gross Rent Above \$1000 (%)	45.5%	6.9%	0.8%	2.3%	6.1%	1.4%	2.8%	0.4%
With Rent Burden (%) [5]	51.1%	56.2%	59.4%	49.3%	53.2%	58.7%	57.2%	61.8%
Housing Built Pre-1950 (%)	18.2%	5.8%	4.8%	1.2%	7.7%	3.8%	5.8%	5.4%
Median Year Built	1977	1978	1982	1979	1978	1978	1981	1979
Manufactured Homes (Mobile housing) (%)	6.3%	0.3%	0.4%	0.1%	0.2%	0.0%	0.6%	0.3%
Median Value of Owner-Occupied Housing	\$184,700	\$118,600	\$90,900	\$89,900	\$124,100	\$109,100	\$119,900	\$100,400

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Arecibo	Arroyo	Barceloneta	Barranquitas	Bayamón	Cabo Rojo	Caguas	Camuy
Population 2017[1]	86,066	17,881	24,240	28,511	179,565	48,824	129,604	31,732
Values and % below based on 2016 ACS pop								
Median Household Income in the Past 12 mo[2]	\$16,796	\$16,387	\$15,549	\$14,778	\$24,612	\$17,088	\$24,278	\$17,206
People with Medical Insurance (%)	94.3%	96.0%	95.1%	96.5%	93.1%	94.8%	93.0%	94.4%
People in Poverty (%)	48.9%	53.1%	53.0%	60.7%	35.3%	50.1%	37.2%	48.4%
People Under 18 (%)	20.8%	24.0%	22.8%	24.7%	20.3%	20.9%	21.7%	21.5%
People Over 62 (%)	22.8%	20.5%	20.6%	16.2%	22.4%	24.5%	21.0%	20.7%
People 25 and Older Without High School (%)	26.2%	25.2%	25.9%	30.2%	20.7%	30.8%	20.6%	31.2%
People with Disabilities (%)	17.5%	23.1%	25.3%	25.0%	25.1%	15.5%	23.5%	21.8%
Households	32,121	6,203	8,330	9,376	70,950	17,130	50,327	11,816
With Public Assistance (%) [3]	46.4%	48.7%	44.8%	64.0%	29.1%	35.4%	33.4%	46.6%
Housing Units	41,400	8,556	9,892	11,034	83,785	29,625	58,356	14,051
Vacant (%) [4]	22.4%	27.5%	15.8%	15.0%	15.3%	42.2%	13.8%	15.9%
For Sale (%)	2.6%	5.0%	4.5%	3.4%	3.9%	3.9%	3.7%	3.6%
For Rent (%)	7.6%	11.3%	5.2%	5.1%	9.5%	2.7%	7.7%	3.5%
Owner Occupied (%)	68.2%	76.8%	78.8%	75.9%	69.1%	58.4%	68.5%	70.5%
With a Mortgage (%)	35.3%	40.3%	39.2%	27.3%	53.2%	46.4%	50.7%	36.4%
Without a Mortgage (%)	64.7%	59.7%	60.8%	72.7%	46.8%	53.6%	49.3%	63.6%
Renter Occupied (%)	31.8%	23.2%	21.2%	24.1%	30.9%	41.6%	31.5%	29.5%
Gross Rent Under \$500 (%)	67.9%	65.0%	57.3%	80.9%	44.2%	65.9%	45.9%	64.3%
Gross Rent Between \$500 and \$1000 (%)	31.2%	30.0%	42.7%	18.0%	46.4%	29.3%	45.6%	32.9%
Gross Rent Above \$1000 (%)	0.9%	5.0%	0.0%	1.1%	9.3%	4.7%	8.5%	2.8%
With Rent Burden (%) [5]	58.8%	46.8%	57.6%	70.7%	56.6%	50.3%	55.0%	57.3%
Housing Built Pre-1950 (%)	6.0%	6.5%	3.2%	5.1%	3.9%	1.7%	4.8%	3.3%
Median Year Built	1979	1979	1984	1982	1974	1990	1979	1984
Manufactured Homes (Mobile housing) (%)	0.1%	0.7%	0.2%	0.1%	0.2%	4.7%	0.1%	0.0%
Median Value of Owner-Occupied Housing	\$98,200	\$92,300	\$108,200	\$102,500	\$141,100	\$112,800	\$137,300	\$105,300

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Canóvanas	Carolina	Cataño	Cayey	Ceiba	Ciales	Cidra	Coamo	Comerio
Population 2017[1]	45,823	154,489	24,374	44,027	11,602	16,627	39,813	39,071	19,343
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$20,426	\$28,611	\$18,562	\$20,577	\$20,038	\$12,511	\$21,846	\$18,453	\$13,164
People with Medical Insurance (%)	89.1%	91.7%	92.9%	93.2%	95.2%	95.4%	95.0%	95.2%	96.0%
People in Poverty (%)	43.5%	29.9%	49.1%	43.1%	44.8%	60.8%	42.0%	49.3%	61.0%
People Under 18 (%)	23.7%	20.7%	23.0%	21.2%	21.6%	22.5%	22.4%	23.1%	22.6%
People Over 62 (%)	18.5%	22.7%	19.3%	21.3%	24.5%	20.9%	18.1%	18.9%	18.9%
People 25 and Older Without High School (%)	26.6%	16.9%	27.2%	27.2%	24.7%	35.4%	24.0%	28.1%	38.1%
People with Disabilities (%)	18.5%	22.8%	21.4%	30.9%	10.5%	20.0%	28.3%	24.2%	29.0%
Households	14,664	64,408	9,190	16,629	4,585	5,883	13,519	13,609	6,249
With Public Assistance (%) [3]	42.7%	28.3%	42.4%	35.2%	41.5%	58.7%	38.8%	44.2%	61.5%
Housing Units	18,012	77,771	10,849	20,106	7,456	7,322	16,213	16,380	7,625
Vacant (%) [4]	18.6%	17.2%	15.3%	17.3%	38.5%	19.7%	16.6%	16.9%	18.0%
For Sale (%)	3.0%	2.8%	3.1%	2.8%	0.9%	2.2%	3.2%	2.9%	2.6%
For Rent (%)	5.4%	8.2%	5.7%	5.4%	12.5%	1.3%	6.1%	8.8%	7.9%
Owner Occupied (%)	76.6%	68.6%	61.9%	66.9%	76.1%	65.4%	73.9%	76.8%	63.8%
With a Mortgage (%)	40.7%	54.9%	48.5%	40.4%	38.9%	26.6%	38.2%	36.8%	25.8%
Without a Mortgage (%)	59.3%	45.1%	51.5%	59.6%	61.1%	73.4%	61.8%	63.2%	74.2%
Renter Occupied (%)	23.4%	31.4%	38.1%	33.1%	23.9%	34.6%	26.1%	23.2%	36.2%
Gross Rent Under \$500 (%)	51.7%	36.6%	67.8%	60.4%	66.3%	82.0%	49.3%	56.3%	81.4%
Gross Rent Between \$500 and \$1000 (%)	47.7%	48.0%	27.8%	36.4%	31.9%	18.0%	46.9%	38.9%	18.6%
Gross Rent Above \$1000 (%)	0.6%	15.4%	4.4%	3.3%	1.8%	0.0%	3.8%	4.8%	0.0%
With Rent Burden (%) [5]	50.5%	49.3%	57.6%	51.3%	50.3%	57.4%	48.6%	52.6%	55.5%
Housing Built Pre-1950 (%)	2.4%	3.0%	7.6%	7.1%	3.7%	6.1%	6.3%	8.2%	7.7%
Median Year Built	1986	1975	1974	1980	1981	1980	1983	1985	1979
Manufactured Homes (Mobile housing) (%)	0.1%	0.2%	0.3%	0.3%	0.2%	0.0%	0.3%	0.0%	0.0%
Median Value of Owner-Occupied Housing	\$116,600	\$150,300	\$127,100	\$120,800	\$96,200	\$103,700	\$120,000	\$90,500	\$89,000

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Corozal	Culebra	Dorado	Fajardo	Florida	Guánica	Guayama	Guayanilla	Guaynabo
Population 2017[1]	33,694	1,769	37,026	31,324	11,775	16,363	41,281	18,611	87,328
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$14,733	\$20,956	\$28,133	\$19,482	\$16,793	\$13,242	\$15,078	\$14,848	\$33,979
People with Medical Insurance (%)	96.6%	89.2%	95.2%	93.0%	97.3%	94.2%	94.7%	95.5%	93.1%
People in Poverty (%)	56.1%	45.8%	35.8%	44.1%	54.6%	63.0%	53.9%	58.8%	27.2%
People Under 18 (%)	23.4%	25.1%	24.1%	22.4%	23.3%	22.1%	23.1%	23.1%	18.9%
People Over 62 (%)	19.4%	20.0%	18.8%	22.1%	18.3%	24.4%	17.6%	21.1%	22.1%
People 25 and Older Without High School (%)	31.4%	32.8%	24.3%	22.2%	20.6%	33.2%	26.2%	28.4%	16.8%
People with Disabilities (%)	21.8%	6.7%	15.8%	21.7%	19.5%	31.8%	23.2%	16.5%	19.3%
Households	11,011	509	12,036	12,691	4,305	5,526	14,879	6,659	34,724
With Public Assistance (%) [3]	55.5%	36.0%	30.1%	42.1%	44.6%	54.6%	49.1%	52.2%	21.4%
Housing Units	13,063	1,519	15,803	18,627	4,919	9,346	18,819	8,364	40,303
Vacant (%) [4]	15.7%	66.5%	23.8%	31.9%	12.5%	40.9%	20.9%	20.4%	13.8%
For Sale (%)	1.7%	7.9%	2.0%	5.3%	0.8%	21.1%	4.6%	3.3%	3.1%
For Rent (%)	10.7%	48.6%	12.0%	5.0%	5.5%	20.2%	5.8%	8.5%	4.0%
Owner Occupied (%)	78.4%	64.2%	76.6%	67.2%	74.3%	74.0%	73.6%	72.2%	73.4%
With a Mortgage (%)	30.4%	8.9%	47.6%	51.7%	31.0%	16.4%	31.5%	19.5%	51.3%
Without a Mortgage (%)	69.6%	91.1%	52.4%	48.3%	69.0%	83.6%	68.5%	80.5%	48.7%
Renter Occupied (%)	21.6%	35.8%	23.4%	32.8%	25.7%	26.0%	26.4%	27.8%	26.6%
Gross Rent Under \$500 (%)	54.2%	36.5%	29.1%	54.2%	62.3%	72.8%	60.1%	77.8%	36.3%
Gross Rent Between \$500 and \$1000 (%)	44.6%	58.3%	36.3%	44.0%	37.7%	26.2%	36.2%	20.9%	36.4%
Gross Rent Above \$1000 (%)	1.1%	5.2%	34.4%	1.8%	0.0%	1.0%	3.7%	1.3%	27.1%
With Rent Burden (%) [5]	63.0%	57.4%	51.1%	55.8%	67.0%	56.3%	58.4%	61.9%	49.7%
Housing Built Pre-1950 (%)	3.8%	2.9%	3.9%	4.5%	2.5%	5.1%	4.8%	6.2%	3.0%
Median Year Built	1981	1994	1986	1978	1985	1981	1979	1977	1979
Manufactured Homes (Mobile housing) (%)	1.0%	2.4%	0.3%	0.2%	0.0%	0.2%	0.7%	0.1%	0.2%
Median Value of Owner-Occupied Housing	\$93,500	\$104,800	\$148,600	\$105,300	\$94,300	\$90,000	\$95,200	\$82,600	\$199,100

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Gurabo	Hatillo	Hormigueros	Humacao	Isabela	Jayuya	Juana Díaz	Juncos	Lajas
Population 2017[1]	47,109	40,111	16,032	52,771	41,949	14,625	46,400	39,101	22,929
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$31,070	\$18,480	\$20,589	\$19,349	\$15,947	\$15,893	\$20,231	\$19,084	\$12,785
People with Medical Insurance (%)	93.8%	95.5%	93.9%	95.8%	94.0%	97.0%	95.9%	94.5%	94.8%
People in Poverty (%)	32.4%	44.7%	36.3%	45.3%	54.8%	59.8%	48.2%	49.0%	59.9%
People Under 18 (%)	23.2%	21.4%	19.3%	21.3%	21.2%	24.3%	24.2%	23.8%	20.3%
People Over 62 (%)	16.5%	20.8%	28.9%	22.1%	21.2%	17.7%	18.6%	17.4%	24.8%
People 25 and Older Without High School (%)	21.4%	32.3%	27.1%	24.3%	29.9%	27.9%	27.3%	24.6%	38.4%
People with Disabilities (%)	23.7%	7.7%	30.1%	11.2%	27.3%	23.7%	21.2%	21.7%	19.6%
Households	15,473	14,339	6,233	18,763	15,084	4,720	16,143	12,746	8,375
With Public Assistance (%) [3]	26.2%	43.5%	36.1%	40.5%	43%	57.1%	45.3%	41.6%	48.4%
Housing Units	17,568	16,855	7,555	26,899	20,417	6,231	18,930	15,723	12,107
Vacant (%) [4]	11.9%	14.9%	17.5%	30.2%	26.1%	24.2%	14.7%	18.9%	30.8%
For Sale (%)	2.2%	2.3%	2.7%	3.9%	4.0%	1.9%	1.8%	2.9%	3.0%
For Rent (%)	7.1%	5.8%	9.2%	10.9%	7.0%	9.1%	2.3%	5.4%	3.2%
Owner Occupied (%)	84.5%	74.9%	75.7%	74.3%	63.7%	66.3%	75.9%	72.4%	54.0%
With a Mortgage (%)	59.1%	31.0%	38.1%	39.3%	36.8%	28.5%	37.4%	49.7%	27.6%
Without a Mortgage (%)	40.9%	69.0%	61.9%	60.7%	63.2%	71.5%	62.6%	50.3%	72.4%
Renter Occupied (%)	15.5%	25.1%	24.3%	25.7%	36.3%	33.7%	24.1%	27.6%	46.0%
Gross Rent Under \$500 (%)	38.0%	72.4%	59.7%	56.6%	54.3%	73.5%	62.5%	72.3%	73.2%
Gross Rent Between \$500 and \$1000 (%)	51.8%	26.9%	38.1%	40.2%	40.0%	24.9%	33.8%	26.0%	25.6%
Gross Rent Above \$1000 (%)	10.1%	0.7%	2.2%	3.2%	5.7%	1.6%	3.7%	1.8%	1.2%
With Rent Burden (%) [5]	59.1%	59.3%	51.5%	58.7%	63.3%	48.8%	47.6%	60.4%	51.6%
Housing Built Pre-1950 (%)	3.6%	2.3%	8.1%	3.2%	3.0%	4.8%	5.8%	3.5%	3.8%
Median Year Built	1990	1987	1976	1982	1983	1981	1984	1987	1980
Manufactured Homes (Mobile housing) (%)	0.1%	0.0%	0.2%	0.1%	0.0%	0.1%	0.1%	0.0%	1.9%
Median Value of Owner-Occupied Housing	\$156,700	\$112,800	\$109,200	\$98,300	\$109,000	\$90,300	\$99,000	\$116,100	\$93,900

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Lares	Las Marías	Las Piedras	Loíza	Luquillo	Manatí	Maricao	Maunabo	Mayagüez
Population 2017[1]	25,772	8,402	37,659	25,926	18,311	39,103	5,665	10,808	75,525
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$12,410	\$13,132	\$20,119	\$18,154	\$19,658	\$18,534	\$11,909	\$18,815	\$15,017
People with Medical Insurance (%)	92.5%	97.4%	95.1%	90.2%	92.9%	91.6%	97.6%	95.5%	94.0%
People in Poverty (%)	57.6%	58.9%	47.5%	49.6%	44.3%	46.3%	63.8%	56.0%	51.3%
People Under 18 (%)	21.2%	22.3%	22.7%	23.6%	22.4%	22.5%	20.4%	21.3%	18.8%
People Over 62 (%)	21.8%	21.0%	19.2%	17.1%	21.9%	21.6%	22.8%	22.0%	24.5%
People 25 and Older Without High School (%)	39.3%	46.9%	24.0%	25.0%	24.5%	29.2%	45.4%	35.6%	29.4%
People with Disabilities (%)	22.0%	7.1%	16.9%	18.7%	23.4%	20.0%	9.0%	16.7%	25.7%
Households	10,148	3,104	12,876	8,810	6,691	15,946	1,952	4,035	30,099
With Public Assistance (%) [3]	53%	51.0%	41.7%	47.3%	43.9%	41.5%	54.9%	44.8%	41.7%
Housing Units	12,263	3,932	15,634	11,588	10,529	18,799	2,634	5,353	41,274
Vacant (%) [4]	17.2%	21.1%	17.6%	24.0%	36.5%	15.2%	25.9%	24.6%	27.1%
For Sale (%)	2.5%	1.7%	2.4%	3.0%	5.0%	5.1%	1.1%	0.9%	6.0%
For Rent (%)	2.4%	1.7%	4.8%	1.1%	7.8%	15.9%	1.6%	3.7%	15.6%
Owner Occupied (%)	55.5%	65.6%	71.7%	72.7%	69.4%	72.2%	74.3%	70.5%	58.6%
With a Mortgage (%)	28.2%	21.2%	38.9%	33.5%	43.8%	37.1%	16.5%	26.5%	27.7%
Without a Mortgage (%)	71.8%	78.8%	61.1%	66.5%	56.2%	62.9%	83.5%	73.5%	72.3%
Renter Occupied (%)	44.5%	34.4%	28.3%	27.3%	30.6%	27.8%	25.7%	29.5%	41.4%
Gross Rent Under \$500 (%)	78.2%	97.9%	56.0%	60.2%	53.4%	58.7%	96.4%	83.5%	72.1%
Gross Rent Between \$500 and \$1000 (%)	21.4%	2.1%	41.6%	34.5%	43.9%	38.1%	3.6%	16.5%	24.9%
Gross Rent Above \$1000 (%)	0.5%	0.0%	2.4%	5.3%	2.7%	3.2%	0.0%	0.0%	3.1%
With Rent Burden (%) [5]	44.6%	67.9%	62.3%	55.7%	71.5%	59.1%	57.0%	51.6%	62.1%
Housing Built Pre-1950 (%)	8.8%	8.2%	2.8%	3.8%	3.7%	2.9%	12.6%	5.3%	9.9%
Median Year Built	1981	1983	1988	1984	1978	1977	1977	1979	1971
Manufactured Homes (Mobile housing) (%)	0.4%	0.0%	0.1%	0.0%	0.0%	0.3%	1.1%	0.0%	0.1%
Median Value of Owner-Occupied Housing	\$87,500	\$75,500	\$114,100	\$105,500	\$111,900	\$109,600	\$94,200	\$93,900	\$101,400

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Moca	Morovis	Naguabo	Naranjito	Orocovis	Patillas	Peñuelas	Ponce	Quebradillas
Population 2017[1]	36,328	31,092	26,177	28,306	21,109	17,004	20,447	140,859	23,734
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$14,157	\$17,649	\$18,973	\$18,828	\$14,662	\$13,975	\$16,764	\$16,561	\$15,641
People with Medical Insurance (%)	95.6%	93.3%	95.8%	95.7%	97.7%	95.7%	96.9%	94.8%	95.9%
People in Poverty (%)	56.6%	51.9%	49.9%	47.9%	57.7%	56.7%	57.7%	51.3%	56.0%
People Under 18 (%)	23.2%	24.2%	24.3%	22.4%	23.7%	21.1%	25.0%	22.3%	22.1%
People Over 62 (%)	18.3%	16.5%	18.8%	18.7%	18.1%	21.4%	17.9%	22.1%	20.9%
People 25 and Older Without High School (%)	33.6%	31.9%	32.2%	29.8%	36.3%	29.2%	29.1%	24.6%	30.0%
People with Disabilities (%)	24.6%	20.7%	10.6%	25.1%	35.3%	16.2%	14.8%	16.3%	24.2%
Households	12,473	9,827	8,586	8,645	6,858	6,458	7,398	54,722	8,773
With Public Assistance (%) [3]	52%	50.8%	45.9%	54.2%	57.1%	49.9%	48.0%	45.5%	47.4%
Housing Units	15,632	11,661	11,555	10,605	8,514	8,943	8,828	66,906	10,348
Vacant (%) [4]	20.2%	15.7%	25.7%	18.5%	19.5%	27.8%	16.2%	18.2%	15.2%
For Sale (%)	2.7%	1.6%	2.9%	1.4%	1.9%	1.6%	2.6%	3.5%	2.4%
For Rent (%)	7.6%	4.1%	14.1%	11.1%	4.7%	4.2%	3.9%	6.4%	1.6%
Owner Occupied (%)	68.2%	72.7%	79.5%	77.9%	69.2%	71.5%	76.4%	64.8%	60.3%
With a Mortgage (%)	23.7%	34.8%	36.7%	30.6%	19.2%	34.1%	26.3%	35.4%	34.7%
Without a Mortgage (%)	76.3%	65.2%	63.3%	69.4%	80.8%	65.9%	73.7%	64.6%	65.3%
Renter Occupied (%)	31.8%	27.3%	20.5%	22.1%	30.8%	28.5%	23.6%	35.2%	39.7%
Gross Rent Under \$500 (%)	72.5%	52.0%	67.0%	54.9%	87.0%	76.2%	71.1%	62.9%	63.9%
Gross Rent Between \$500 and \$1000 (%)	26.4%	44.1%	33.0%	43.2%	13.0%	23.8%	25.7%	32.2%	33.7%
Gross Rent Above \$1000 (%)	1.1%	3.9%	0.0%	1.9%	0.0%	0.0%	3.2%	4.9%	2.4%
With Rent Burden (%) [5]	61.3%	56.2%	60.8%	61.0%	56.4%	64.0%	64.9%	56.1%	64.3%
Housing Built Pre-1950 (%)	4.8%	4.9%	3.1%	4.8%	3.4%	6.2%	4.7%	8.2%	4.6%
Median Year Built	1982	1987	1983	1979	1984	1985	1983	1976	1984
Manufactured Homes (Mobile housing) (%)	0.2%	0.2%	0.0%	0.3%	0.2%	0.5%	0.1%	0.2%	0.3%
Median Value of Owner-Occupied Housing	\$96,300	\$99,400	\$94,600	\$100,700	\$98,400	\$94,000	\$77,500	\$99,900	\$108,900

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Rincón	Río Grande	Sabana Grande	Salinas	San Germán	San Juan	San Lorenzo	San Sebastián	Santa Isabel
Population 2017[1]	14,128	50,128	22,690	28,216	31,654	337,288	37,379	37,306	21,863
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$17,784	\$22,990	\$14,877	\$16,540	\$14,988	\$21,395	\$16,916	\$13,866	\$15,295
People with Medical Insurance (%)	96.3%	93.3%	95.3%	94.3%	95.5%	89.9%	95.6%	93.1%	92.1%
People in Poverty (%)	48.1%	37.6%	49.2%	53.2%	51.3%	42.3%	46.8%	56.5%	50.4%
People Under 18 (%)	19.9%	21.7%	22.0%	24.3%	20.7%	19.9%	21.5%	21.6%	25.4%
People Over 62 (%)	24.8%	20.5%	23.1%	19.9%	25.5%	23.4%	19.7%	24.4%	16.9%
People 25 and Older Without High School (%)	34.3%	24.1%	27.4%	27.6%	30.2%	21.3%	30.8%	38.4%	22.9%
People with Disabilities (%)	31.5%	22.4%	29.3%	20.8%	10.7%	19.4%	21.1%	26.3%	23.0%
Households	5,210	16,292	7,413	10,809	12,263	147,790	13,716	13,870	7,757
With Public Assistance (%) [3]	41%	39.4%	43.6%	44.3%	45.6%	29.0%	44.2%	53%	45.6%
Housing Units	9,462	23,191	10,806	13,873	15,652	192,766	16,434	17,695	9,380
Vacant (%) [4]	44.9%	29.7%	31.4%	22.1%	21.7%	23.3%	16.5%	21.6%	17.3%
For Sale (%)	2.9%	2.7%	18.9%	2.6%	1.8%	5.2%	3.0%	4.3%	2.1%
For Rent (%)	38.4%	5.8%	13.2%	5.2%	6.7%	10.9%	5.5%	4.3%	3.9%
Owner Occupied (%)	78.2%	77.3%	75.9%	81.9%	71.8%	52.9%	72.3%	63.1%	73.2%
With a Mortgage (%)	28.8%	45.8%	26.8%	29.0%	22.7%	52.0%	33.4%	27.4%	41.0%
Without a Mortgage (%)	71.2%	54.2%	73.2%	71.0%	77.3%	48.0%	66.6%	72.6%	59.0%
Renter Occupied (%)	21.8%	22.7%	24.1%	18.1%	28.2%	47.1%	27.7%	36.9%	26.8%
Gross Rent Under \$500 (%)	76.9%	43.0%	60.9%	66.8%	78.4%	53.9%	58.4%	74.2%	65.3%
Gross Rent Between \$500 and \$1000 (%)	23.1%	50.8%	39.1%	33.2%	20.9%	38.4%	38.9%	25.8%	23.2%
Gross Rent Above \$1000 (%)	0.0%	6.2%	0.0%	0.0%	0.7%	7.8%	2.8%	0.0%	11.6%
With Rent Burden (%) [5]	53.0%	57.4%	46.4%	56.7%	63.5%	57.6%	61.7%	60.3%	58.8%
Housing Built Pre-1950 (%)	1.6%	3.4%	4.5%	7.9%	6.8%	12.5%	6.2%	5.8%	7.1%
Median Year Built	1981	1984	1980	1984	1978	1967	1979	1983	1984
Manufactured Homes (Mobile housing) (%)	0.1%	0.4%	0.2%	0.6%	0.1%	0.4%	0.4%	0.3%	0.2%
Median Value of Owner-Occupied Housing	\$127,500	\$116,800	\$98,100	\$86,400	\$101,600	\$161,100	\$116,900	\$103,400	\$93,100

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Toa Alta	Toa Baja	Trujillo Alto	Utua	Vega Alta	Vega Baja	Vieques	Villalba	Yabucoa
Population 2017[1]	73,217	78,092	66,675	28,791	37,566	52,436	8,669	22,528	33,629
Values and % below based on 2016 ACS pop									
Median Household Income in the Past 12 mo[2]	\$29,578	\$23,889	\$30,427	\$15,875	\$18,312	\$17,634	\$17,535	\$18,974	\$16,308
People with Medical Insurance (%)	93.4%	92.5%	92.5%	94.0%	94.7%	93.1%	91.4%	96.3%	95.2%
People in Poverty (%)	30.6%	36.9%	29.9%	52.2%	48.7%	46.0%	35.9%	50.8%	49.5%
People Under 18 (%)	24.0%	22.1%	22.3%	21.9%	23.6%	22.2%	21.7%	24.2%	22.0%
People Over 62 (%)	15.4%	19.9%	19.4%	22.6%	18.6%	20.4%	22.1%	17.3%	20.2%
People 25 and Older Without High School (%)	20.6%	21.3%	16.4%	31.5%	33.3%	41.8%	30.7%	29.6%	32.5%
People with Disabilities (%)	18.6%	23.1%	18.2%	17.5%	17.0%	24.0%	8.4%	22.8%	18.6%
Households	22,375	28,261	24,660	10,058	12,677	17,356	2,673	7,870	12,011
With Public Assistance (%) [3]	29.8%	32.6%	24.1%	50%	42.3%	39.1%	35.9%	53.3%	49.0%
Housing Units	25,726	34,592	29,505	13,368	16,128	24,739	5,036	9,144	14,771
Vacant (%) [4]	13.0%	18.3%	16.4%	24.8%	21.4%	29.8%	46.9%	13.9%	18.7%
For Sale (%)	2.2%	3.5%	2.9%	2.3%	2.3%	2.6%	6.8%	1.5%	1.1%
For Rent (%)	7.3%	8.0%	6.6%	10.3%	4.7%	5.7%	30.1%	5.9%	1.7%
Owner Occupied (%)	85.5%	72.2%	67.3%	65.4%	71.2%	83.2%	83.4%	75.7%	72.0%
With a Mortgage (%)	56.0%	48.1%	57.3%	26.1%	35.6%	34.7%	8.8%	19.5%	28.5%
Without a Mortgage (%)	44.0%	51.9%	42.7%	73.9%	64.4%	65.3%	91.2%	80.5%	71.5%
Renter Occupied (%)	14.5%	27.8%	32.7%	34.6%	28.8%	16.8%	16.6%	24.3%	28.0%
Gross Rent Under \$500 (%)	33.7%	38.8%	42.9%	76.5%	45.1%	41.8%	36.4%	73.1%	67.1%
Gross Rent Between \$500 and \$1000 (%)	52.4%	51.7%	42.1%	22.9%	40.4%	52.5%	56.1%	26.9%	31.7%
Gross Rent Above \$1000 (%)	13.9%	9.5%	14.9%	0.6%	14.5%	5.7%	7.4%	0.0%	1.2%
With Rent Burden (%) [5]	61.0%	56.3%	39.1%	56.8%	69.9%	53.3%	44.0%	39.4%	59.3%
Housing Built Pre-1950 (%)	1.8%	3.4%	3.5%	5.4%	5.3%	6.6%	2.9%	6.3%	3.8%
Median Year Built	1989	1977	1982	1981	1982	1979	1981	1983	1982
Manufactured Homes (Mobile housing) (%)	0.8%	0.2%	0.0%	0.2%	0.1%	0.4%	2.2%	0.2%	0.0%
Median Value of Owner-Occupied Housing	\$146,900	\$135,100	\$155,700	\$93,000	\$119,100	\$112,400	\$109,600	\$93,000	\$90,800

Demographics of Puerto Rico Municipalities (alphabetically). April 2018.	Yauco
Population 2017[1]	35,635
Values and % below based on 2016 ACS pop	
Median Household Income in the Past 12	\$14,666
People with Medical Insurance (%)	94.7%
People in Poverty (%)	50.3%
People Under 18 (%)	21.4%
People Over 62 (%)	21.6%
People 25 and Older Without High School (%)	30.4%
People with Disabilities (%)	28.0%
Households	10,658
With Public Assistance (%) [3]	48.1%
Housing Units	17,252
Vacant (%) [4]	38.2%
For Sale (%)	21.1%
For Rent (%)	20.7%
Owner Occupied (%)	77.7%
With a Mortgage (%)	28.3%
Without a Mortgage (%)	71.7%
Renter Occupied (%)	22.3%
Gross Rent Under \$500 (%)	76.8%
Gross Rent Between \$500 and \$1000 (%)	22.7%
Gross Rent Above \$1000 (%)	0.6%
With Rent Burden (%) [5]	54.5%
Housing Built Pre-1950 (%)	6.0%
Median Year Built	1980
Manufactured Homes (Mobile housing) (%)	0.0%
Median Value of Owner-Occupied Housing	\$92,500

[1] Census 2017 Pop Est; all other 2016 PRCS 5-year data

[2] In 2016 inflation-adjusted dollars

[3] 2016 5-year PRCS; includes cash and food stamps

[4] 2016 5-year PRCS; percentage of total housing units

[5] At or above 30% of income

APPENDIX D: PUERTO RICO CDBG-DR – METHODOLOGY FOR
FUNDING ALLOCATION UNDER PUBLIC LAW 115-123 (APRIL
10, 2018)

MEMORANDUM FOR: Puerto Rico CDBG-DR Grantee

FROM: ~~Todd Richardson~~, Acting General Deputy Assistant Secretary for Policy Development and Research

SUBJECT: Methodology for Funding Allocation under Public Law 115-123

DATE: April 10, 2018

This memorandum describes the methodology and provides the specific data for allocations to Puerto Rico under Public Law 115-123.

Specifically, the overall formula combines four elements: (1) funding for remaining serious unmet housing and business need for 2017 disasters; (2) funding for local cost share requirement for FEMA Public Assistance for 2017 disasters plus an allocation to PR and VI to reflect the required \$2 billion of electric grid enhancement; (3) an adjustment to ensure PR and VI receive a minimum of \$11 billion as required by law; and (4) funding for mitigation activities for all disasters funded under CDBG-DR in 2015, 2016, and 2017. Table 1 shows the amount of funding provided to Puerto Rico for remaining serious unmet needs and for mitigation. It also shows the grand total from all prior appropriations for the eligible disasters (DR 4336 and DR 4339).

Table 1. PL 115-123 CDBG-DR Allocations

Disaster Year	Grantee	Remaining Serious Unmet Needs and Hurricane Maria Adjustment	Mitigation	TOTAL ALLOCATION FROM 115-123	GRAND TOTAL ALL APPROPRIATIONS 2015-2017
2017	Puerto Rico	\$10,153,130,000	\$8,285,284,000	\$18,438,414,000	\$19,945,593,000

Background

The language of PL 115-123 provides \$28 billion in CDBG-DR funding and directs that it be used for two purposes: 1) to address unmet needs remaining from qualifying 2017 disasters; and 2) to provide formula funding to CDBG-DR grantees from 2015 through 2017 for mitigation activities.

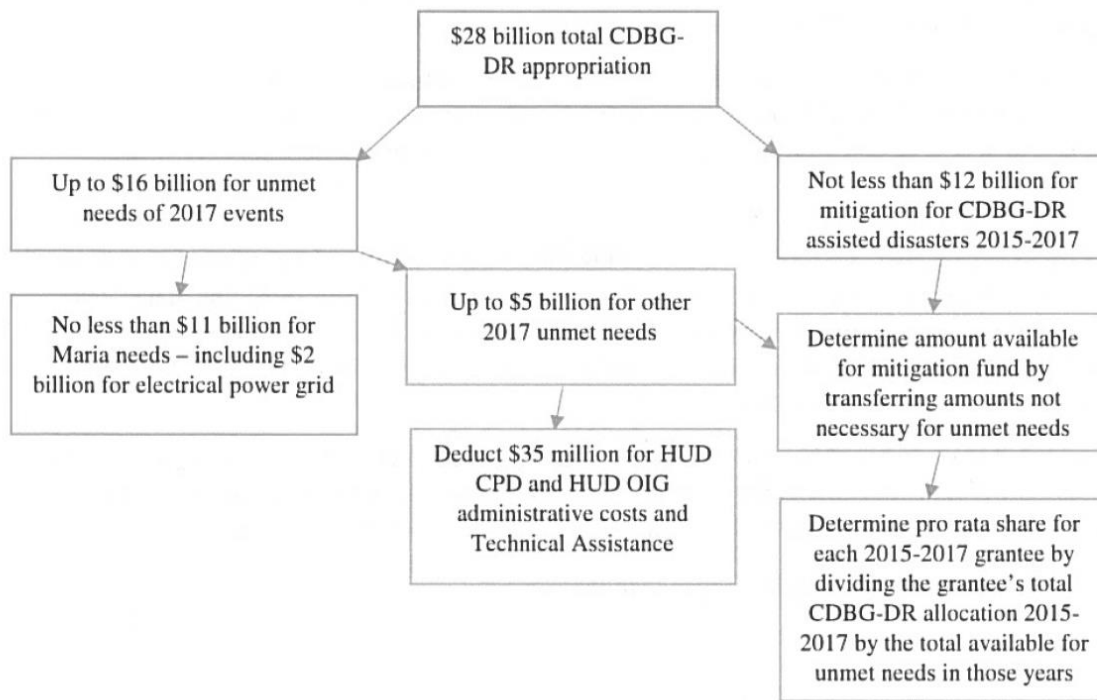
Diagram 1 shows the multiple components of the statutory language. The amounts available for each purpose are determined by HUD, consistent with the appropriation language which states “up to” \$16 billion will be available for 2017 unmet needs and “not less than” \$12 billion shall be available to 2015-2017 grantees for mitigation activities.

Within the \$16 billion for 2017 unmet needs, Congress specified that at least \$11 billion shall be allocated to jurisdictions impacted by Hurricane Maria. This statement effectively allocates not less than \$11 billion to Puerto Rico and the US Virgin Islands (USVI). Within the \$11 billion,

Grantee Briefing – April 10, 2018

the appropriation language directs exactly \$2 billion to the specific purpose of repairing and upgrading the electrical grid in these jurisdictions.

Diagram 1. Schematic explaining statutory allocation requirements



Formula Details

The allocation formula is based on the following principals:

- Using the serious unmet need methodology applied for 2015 and 2016 disasters also for 2017 disasters and add in the required \$2 billion for the electric grid enhancements
- Adjust for the Congressional language that a minimum of \$11 billion be allocated for Maria disasters
- All remaining funds be allocated to mitigation proportional to prior CDBG-DR unmet need calculations.

Unmet Needs

The method for calculating remaining unmet needs is the sum of the following less the \$7.448 billion previously allocated for 2017 disasters:

- (1) Serious unmet housing needs in most impacted counties and zip codes
- (2) Serious unmet business needs
- (3) FEMA Match Requirement estimate for Category C to G improvements

(4) (For Maria disasters only) \$2 billion for electric grid improvements, allocated between VI and PR based on relative share of the FEMA PA estimates Category F- Utilities.

To the extent the estimated remaining unmet needs for Maria impacted disasters (Puerto Rico and USVI) are less than the Congressionally mandated \$11 billion, the difference is allocated proportional to the total unmet needs of PR and USVI.

This approach generates a total amount to be allocated for unmet needs of \$12.030 billion, less than the “up to \$16 billion” Congress appropriated. The balance of \$3.935 billion is added to the “not less than \$12 billion” for mitigation and allocated as described below.

The Mitigation Fund

PL 115-123 states that “no less than \$12,000,000,000 shall be allocated for mitigation activities” to CDBG-DR grantees that received grants for disasters in 2015 - 2017. It further states that each grantee is to receive a proportional share of the Mitigation Fund based upon the grantee’s total share of CDBG-DR funding appropriated and subsequently allocated in response to unmet needs arising from disasters in 2015 - 2017.

For all eligible grantees of 2015 to 2017, \$22.4 billion has been allocated for unmet needs. The mitigation formula allocates \$15.935 billion (\$12 billion plus the \$3.935 billion described above) based on each grantee’s relative share of the \$22.425 billion allocated for unmet needs.

Appendix A provides the step-by-step allocation process.

Appendix A

(Step 1) First calculate total need for housing, business, and infrastructure; note that Congress has indicated that an additional \$2 billion be spent to improve the PR and VI electric grid, so that is added to unmet need calculation proportional to FEMA PA Estimates for Utility Repair to pre-storm condition

Disaster Year	Grantee	Housing Serious Unmet - 2/22/18	Business Serious Unmet - 3/22/18	Infrastructure Unmet (Local Match for FEMA Category C to G PA) - 3/30/18	Electric Grid 3/30/2018	TOTAL UNMET NEEDS pre-Maria adjustment
2017	PR	\$2,900,618,300	\$474,757,578	\$2,967,252,071	\$1,932,347,000	\$8,274,974,949

(Step 2) Subtract out previous allocations, plus up VI and PR to ensure they meet \$11 billion minimum based on their proportional share of total unmet needs

Disaster Year	Grantee	TOTAL UNMET NEEDS pre-Maria adjustment	Less Previously Allocated	Equals Remaining Serious Unmet Needs	Plus proportional share adjustment based on unmet needs for PR & VI to get to \$11 billion	EQUALS ALLOCATION FOR UNMET NEEDS FROM \$16 BILLION
2017	PR	\$8,274,974,949	\$1,507,179,000	\$6,767,795,949	\$3,385,334,047	\$10,153,130,000

(Step 3) Mitigation allocation is \$12 billion plus all that is left over from the \$16 billion, allocated proportion to previous allocations

Disaster Year	Grantee	TOTAL ALL APPROPRIATIONS FOR UNMET NEEDS 2015, 2016, 2017	SHARE ALL APPROPRIATIONS FOR UNMET NEEDS 2015, 2016, 2017	ALLOCATION FOR MITIGATION	GRAND TOTAL ALLOCATION FROM 115-123	ALL APPROPRIATIONS
2017	PR	\$11,660,309,000	0.51995852	\$8,285,284,000	\$18,438,414,000	\$19,945,593,000

Appendix B Table 1 – Totals for Serious Unmet Needs in Most Impacted Areas (2-22-18)

PR	Grantee	Total Serious Unmet Housing Need	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage		Renter Serious Damage		Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
						276,024	23,023	299,047	50,144				
	Puerto Rico	\$2,900,618,300											

Appendix B Table 2 – Number of Most Impacted Counties and Zip Codes (2-22-18)

PR	Grantee	Most Impacted Counties	Most Impacted Zips	Total Most Impacted Areas	
				68	10
	Puerto Rico				78

Appendix B Table 3 – Most Impacted Areas with Serious Unmet Housing Needs (2-22-18)

State	Most Impacted Area	Serious Unmet Housing Need Estimate	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage		Renter Serious Damage		Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
						9,301	1,258	10,559	3,787				
PR	Toa Baja (Municipio)	\$213,973,325	7,458	727	8,185	1,864	602	2,466	1,579	452	2,031	452	2,031
PR	Arecibo (Municipio)	\$114,030,126	14,396	2,495	16,891	1,623	1,410	3,033	1,212	891	2,103	891	2,103
PR	San Juan (Municipio)	\$106,661,251	5,701	541	6,242	1,786	430	2,216	1,575	335	1,910	335	1,910
PR	Canovanas (Municipio)	\$105,801,265	10,026	761	10,787	1,585	481	2,066	1,367	393	1,760	393	1,760
PR	Ponce (Municipio)	\$91,797,181	11,398	998	12,396	1,345	693	2,038	1,055	470	1,525	470	1,525
PR	Bayamon (Municipio)	\$80,435,451	7,621	485	8,106	1,327	380	1,707	1,094	300	1,394	300	1,394
PR	Humacao (Municipio)	\$74,519,230	9,819	954	10,773	1,186	605	1,791	936	441	1,377	441	1,377
PR	Caguas (Municipio)	\$72,668,641	5,252	432	5,684	1,147	335	1,482	984	265	1,249	265	1,249
PR	Vega Baja (Municipio)	\$66,814,043	4,077	338	4,415	1,026	284	1,310	928	222	1,150	222	1,150
PR	Guayama (Municipio)	\$60,174,752	2,824	235	3,059	1,059	193	1,252	958	137	1,095	137	1,095
PR	Anasco (Municipio)	\$58,021,471	4,391	283	4,674	1,032	227	1,259	860	169	1,029	169	1,029
PR	Corozal (Municipio)	\$55,923,462											

State	Most Impacted Area	Serious Unmet Housing Need Estimate Most Impacted Area	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage	Renter Serious Damage	Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
PR	Salinas (Municipio)	\$55,287,696	4,054	315	4,369	960	245	1,205	851	202	1,053
PR	Mayaguez (Municipio)	\$53,565,922	3,804	379	4,183	954	283	1,237	867	215	1,082
PR	Toa Alta (Municipio)	\$52,929,298	5,205	278	5,483	987	221	1,208	808	163	971
PR	Juana Diaz (Municipio)	\$50,663,559	4,580	359	4,939	917	268	1,185	779	212	991
PR	Barranquitas (Municipio)	\$48,413,446	3,930	401	4,331	785	313	1,098	677	253	930
PR	Morovis (Municipio)	\$47,657,877	3,773	245	4,018	884	187	1,071	769	143	912
PR	Aguada (Municipio)	\$46,926,102	3,474	206	3,680	910	157	1,067	796	112	908
PR	Yabucoa (Municipio)	\$46,717,801	5,043	279	5,322	787	196	983	705	168	873
PR	Naranjito (Municipio)	\$46,353,671	4,014	315	4,329	827	230	1,057	703	161	864
PR	Carolina (Municipio)	\$44,903,709	9,138	786	9,924	766	462	1,228	553	312	865
PR	Utua (Municipio)	\$44,536,791	3,144	329	3,473	719	272	991	610	222	832
PR	Cayey (Municipio)	\$43,090,793	3,862	319	4,181	708	232	940	626	178	804
PR	Comerio (Municipio)	\$41,015,051	2,737	247	2,984	684	201	885	591	163	754
PR	Aguadilla (Municipio)	\$40,157,516	3,249	329	3,578	640	263	903	551	209	760
PR	Coamo (Municipio)	\$39,315,719	3,402	279	3,681	654	205	859	582	162	744
PR	Vega Alta (Municipio)	\$38,443,238	2,862	201	3,063	706	147	853	618	122	740
PR	Dorado (Municipio)	\$38,405,711	3,390	294	3,684	674	227	901	571	159	730
PR	Ciales (Municipio)	\$37,685,885	2,301	220	2,521	597	181	778	525	153	678
PR	Rio Grande (Municipio)	\$37,439,312	4,732	282	5,014	655	195	850	570	148	718
PR	Orocovis (Municipio)	\$37,092,198	3,658	233	3,891	650	183	833	549	158	707
PR	Aibonito (Municipio)	\$37,060,253	2,915	260	3,175	631	192	823	545	148	693
PR	Guaynabo (Municipio)	\$36,681,205	5,463	460	5,923	680	298	978	529	185	714
PR	Manati (Municipio)	\$35,117,051	3,594	260	3,854	618	191	809	525	143	668
PR	Santa Isabel (Municipio)	\$34,576,205	2,305	218	2,523	570	183	753	508	153	661
PR	Cidra (Municipio)	\$33,970,569	3,900	288	4,188	606	207	813	482	155	637
PR	Naguabo (Municipio)	\$32,032,445	3,176	251	3,427	549	180	729	456	147	603
PR	Loiza (Municipio)	\$30,790,261	3,368	174	3,542	588	120	708	527	94	621
PR	Juncos (Municipio)	\$30,314,276	4,556	251	4,807	544	188	732	449	136	585
PR	Hatillo (Municipio)	\$28,385,275	2,699	162	2,861	543	116	659	463	91	554
PR	Moca (Municipio)	\$27,353,461	2,701	158	2,859	514	108	622	449	86	535

State	Most Impacted Area	Serious Unmet Housing Need Estimate Most Impacted Area	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage	Renter Serious Damage	Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
PR	Barceloneta (Municipio)	\$27,182,824	2,527	142	2,669	512	112	624	438	92	530
PR	San Sebastian (Municipio)	\$27,055,260	2,301	173	2,474	482	126	608	422	102	524
PR	Las Piedras (Municipio)	\$26,875,003	4,207	275	4,482	454	182	636	376	143	519
PR	Isabela (Municipio)	\$26,642,769	2,908	191	3,099	508	128	636	440	92	532
PR	Trujillo Alto (Municipio)	\$26,457,830	4,392	354	4,746	502	212	714	376	144	520
PR	Patillas (Municipio)	\$25,772,255	2,082	147	2,229	428	107	535	391	93	484
PR	Adjuntas (Municipio)	\$24,846,951	1,908	178	2,086	405	135	540	360	109	469
PR	Gurabo (Municipio)	\$22,806,695	3,848	206	4,054	394	154	548	327	113	440
PR	San Lorenzo (Municipio)	\$22,432,769	3,474	185	3,659	392	132	524	330	96	426
PR	Villalba (Municipio)	\$21,786,093	2,500	140	2,640	398	107	505	345	80	425
PR	Aguas Buenas (Municipio)	\$20,594,753	2,431	161	2,592	372	115	487	305	87	392
PR	Jayuya (Municipio)	\$19,882,561	1,601	161	1,762	324	114	438	282	89	371
PR	Lares (Municipio)	\$19,742,617	1,636	172	1,808	297	137	434	257	124	381
PR	Catano (Municipio)	\$19,535,456	1,742	236	1,978	339	152	491	282	105	387
PR	Arroyo (Municipio)	\$19,344,354	2,129	146	2,275	306	109	415	277	86	363
PR	Maunabo (Municipio)	\$19,247,042	1,716	99	1,815	321	79	400	292	62	354
PR	Yauco (Municipio)	\$19,214,877	2,260	146	2,406	338	108	446	279	82	361
PR	Camuy (Municipio)	\$18,646,437	2,209	115	2,324	346	83	429	304	65	369
PR	Vieques (Municipio)	\$18,075,514	1,344	165	1,509	265	85	350	242	68	310
PR	Fajardo (Municipio)	\$16,722,367	2,794	191	2,985	257	125	382	220	103	323
PR	Penuelas (Municipio)	\$16,278,382	1,743	97	1,840	291	71	362	260	61	321
PR	Florida (Municipio)	\$14,649,329	1,244	82	1,326	250	72	322	221	57	278
PR	Guayanilla (Municipio)	\$12,838,769	1,542	84	1,626	222	58	280	201	49	250
PR	Quebradillas (Municipio)	\$11,380,758	1,575	100	1,675	197	58	255	183	40	223
PR	Ceiba (Municipio)	\$10,771,489	1,345	91	1,436	187	69	256	151	55	206
PR	Las Marias (Municipio)	\$10,020,409	708	75	783	152	66	218	136	60	196
PR	00773	\$9,031,328	1,626	115	1,741	142	65	207	125	46	171
PR	00623	\$8,456,339	1,573	86	1,659	157	48	205	133	36	169
PR	00677	\$8,436,877	1,159	59	1,218	157	33	190	149	22	171
PR	00667	\$7,443,601	1,319	52	1,371	133	36	169	120	30	150

7

Grantee Briefing – April 10, 2018

State	Most Impacted Area	Serious Unmet Housing Need Estimate Most Impacted Area	Owner Any Damage	Renter Any Damage	Total Any Damage	Owner Serious Damage	Renter Serious Damage	Total Serious Damage	Owner Serious Unmet	Renter Serious Unmet	Total Serious Unmet
PR	00683	\$6,552,522	1,482	49	1,531	111	32	143	105	25	130
PR	00606	\$6,336,945	479	67	546	88	47	135	81	42	123
PR	00660	\$5,750,616	784	57	841	140	35	175	97	27	124
PR	00653	\$5,183,923	1,075	37	1,112	99	26	125	87	22	109
PR	00637	\$3,658,630	869	26	895	60	17	77	56	16	72
PR	00775	\$3,261,462	199	78	277	44	43	87	40	21	61

Appendix C – Serious Unmet Business Needs (3-22-18)

	A	B	C	D	E	F	G
state	Damage Type	Number inspected	Median Real Estate and Content Damage	Inspected and Denied (or no decision)	Weighting to capture denied prior to inspection	Total businesses denied (or no decision) (E*D)	Estimated Total Unmet Need (C*F)
PR	Major-Low	1466	\$42,971	937	3.193492156	2,992	\$128,580,720
PR	Major-High	886	\$92,277	582	3.193492156	1,859	\$171,506,250
PR	Severe	339	\$227,899	240	3.193492156	766	\$174,670,608
							\$474,757,578

Appendix D – Detailed Methodology (for Federal Notice Appendix)

Allocation of CDBG–DR Funds to Most Impacted and Distressed Areas due to 2017 Federally Declared Disasters and Allocation of Mitigation Funds for 2015, 2016, and 2017 Federally Declared Disasters

Background

The Bipartisan Budget Act of 2018, Public Law 115-123 enacted on February 9, 2018, appropriated \$28,000,000,000 through the Community Development Block Grant disaster recovery (CDBG-DR) program. The statutory text related to the allocation is as follows:

For an additional amount for “Community Development Fund”, \$28,000,000,000, to remain available until expended, for necessary expenses for activities authorized under title I of the Housing and Community Development Act of 1974 (42 U.S.C. 5301 et seq.) related to disaster relief, long-term recovery, restoration of infrastructure and housing, economic revitalization, and mitigation in the most impacted and distressed areas resulting from a major declared disaster that occurred in 2017 (except as otherwise provided under this heading) pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.): *Provided*, That funds shall be awarded directly to the State, unit of general local government, or Indian tribe (as such term is defined in section 102 of the Housing and Community Development Act of 1974) at the discretion of the Secretary: *Provided further*, That of the amounts made available under this heading, up to \$16,000,000,000 shall be allocated to meet unmet needs for grantees that have received or will receive allocations under this heading for major declared disasters that occurred in 2017 or under the same heading of Division B of Public Law 115–56, except that, of the amounts made available under this proviso, no less than \$11,000,000,000 shall be allocated to the States and units of local government affected by Hurricane Maria, and of such amounts allocated to such grantees affected by Hurricane Maria, \$2,000,000,000 shall be used to provide enhanced or improved electrical power systems: *Provided further*, That to the extent amounts under the previous proviso are insufficient to meet all unmet needs, the allocation amounts related to infrastructure shall be reduced proportionally based on the total infrastructure needs of all grantees: *Provided further*, That of the amounts made available under this heading, no less than \$12,000,000,000 shall be allocated for mitigation activities to all grantees of funding provided under this heading, section 420 of division L of Public Law 114–113, section 145 of division C of Public Law 114–223, section 192 of division C of Public Law 114–223 (as added by section 101(3) of division A of Public Law 114–254), section 421 of division K of Public Law 115–31, and the same heading in division B of Public Law 115–56, and that such mitigation activities shall be subject to the same terms and conditions under this subdivision, as determined by the Secretary: *Provided further*, That all such grantees shall receive an allocation of funds under the preceding proviso in the same proportion that the amount of funds each grantee received or will receive under the second proviso of this heading or the headings and sections specified in the previous proviso bears to the amount of all funds provided to all grantees specified in the previous proviso: *Provided further*, That of the amounts made available under the second and fourth provisos of this heading, the Secretary shall allocate to all such grantees an aggregate amount not less than 33 percent of each such amount of funds provided under this heading within 60 days after the enactment of this subdivision based on the best available data (especially with respect to data for all such grantees affected by Hurricanes Harvey, Irma, and Maria), and shall allocate no less than 100 percent of the funds provided under this heading by no later than December 1, 2018:

... *Provided further*, That of the amounts made available under this heading, up to \$15,000,000 shall be made available for capacity building and technical assistance, including assistance on contracting and procurement processes, to support States, units of general local government, or Indian tribes (and their subrecipients) that receive allocations pursuant to this heading, received disaster recovery allocations under the same heading in Public Law 115–56, or may receive similar allocations for disaster recovery in future appropriations Acts: *Provided further*, That of the amounts made available under this heading, up to \$10,000,000 shall be transferred, in aggregate, to “Department of Housing and Urban Development—Program Office Salaries and Expenses—Community Planning and Development” for necessary costs, including information technology costs, of administering and overseeing the obligation and expenditure of amounts under this heading:

Grantee Briefing – April 10, 2018

Further, under the General Provisions of the Act in Section 21102:

Any funds made available under the heading “Community Development Fund” under this subdivision that remain available, after the other funds under such heading have been allocated for necessary expenses for activities authorized under such heading, shall be used for additional mitigation activities in the most impacted and distressed areas resulting from a major declared disaster that occurred in 2014, 2015, 2016 or 2017: *Provided*, That such remaining funds shall be awarded to grantees of funding provided for disaster relief under the heading “Community Development Fund” in this subdivision, section 420 of division L of Public Law 114–113, section 145 of division C of Public Law 114–223, section 192 of division C of Public Law 114–223 (as added by section 101(3) of division A of Public Law 114–254), section 421 of division K of Public Law 115–31, and the same heading in division B of Public Law 115–56 subject to the same terms and conditions under this subdivision and such Acts respectively: *Provided further*, That each such grantee shall receive an allocation from such remaining funds in the same proportion that the amount of funds such grantee received under this subdivision and under the Acts specified in the previous proviso bears to the amount of all funds provided to all grantees specified in the previous proviso.

The methodology for allocating these funds has two core parts:

- *Unmet Needs*: Up to \$16 billion for the remaining unmet needs of communities most impacted by a disaster in 2017. After factoring in the \$35 million set-aside for HUD expenses, up to \$15.965 billion is available for unmet needs, of which no less than \$11 billion is provided to communities impacted by Hurricane Maria, specifically the Commonwealth of Puerto Rico and United States Virgin Islands. These funds are allocated based on a calculation of unmet needs as described below after taking into account the \$7.458 billion of CDBG-DR previously allocated for 2017 disasters.
- *Mitigation*: No less than \$12 billion for mitigation activities for grantees who have received CDBG-DR funding under this appropriation or earlier appropriations covering disasters in 2015, 2016, and 2017. This allocation is based on each grantee’s proportional share of total funds allocated for all of the eligible disasters.

Allocating for remaining unmet needs of 2017

Most impacted and distressed areas

As with prior CDBG-DR appropriations, HUD is not obligated to allocate funds for all major disasters declared in 2017. HUD is directed to use the funds “in the most impacted and distressed areas.” HUD has implemented this directive by limiting CDBG-DR formula allocations to jurisdictions with major disasters that meet three standards:

- (1) Individual Assistance/IHP designation. HUD has limited allocations to those disasters where FEMA had determined the damage was sufficient to declare the disaster as eligible to receive Individual and Households Program (IHP) funding.
- (2) Concentrated damage. HUD has limited its estimate of serious unmet housing need to counties and zip codes with high levels of damage, collectively referred to as “most impacted areas”. For this allocation, HUD is defining most impacted areas as either most impacted counties - counties exceeding \$10 million in serious unmet housing needs - and most impacted Zip Codes – Zip Codes with \$2 million or more of serious unmet housing needs. The calculation of serious unmet housing needs is described below.
- (3) Disasters meeting the most impacted threshold. Only 2017 disasters that meet this requirement for most impacted damage are funded:
 - a. One or more most impacted county
 - b. An aggregate of most impacted zip codes of \$10 million or greater

For disasters that meet the most impacted threshold described above, the unmet need allocations are based on the following factors summed together less previous CDBG-DR allocations for the 2017 disasters unmet needs:

- (1) Repair estimates for seriously damaged owner-occupied units without insurance (with some exceptions) in most impacted areas after FEMA and SBA repair grants or loans;
- (2) Repair estimates for seriously damaged rental units occupied by renters with income less than 50% of Area Median Income in most impacted areas;
- (3) Repair and content loss estimates for small businesses with serious damage denied by SBA;
- (4) The estimated local cost share for Public Assistance Category C to G projects;
- (5) \$2 billion for Maria-impacted disasters for improvements to the electric grid; and
- (6) An amount to ensure that Maria impacted disasters do not receive less than \$11 billion from Public Law 115-123, with the split between the eligible disasters in Puerto Rico and the Virgin Islands based on their relative share of needs as calculated under number 1 to 5 above.

Methods for estimating unmet needs for housing

The data HUD staff have identified as being available to calculate unmet needs for qualifying disasters come from the FEMA Individual Assistance program data on housing-unit damage as of February 22, 2018.

The core data on housing damage for both the unmet housing needs calculation and the concentrated damage are based on home inspection data for FEMA’s Individual Assistance program. HUD calculates “unmet housing needs” as the number

of housing units with unmet needs times the estimated cost to repair those units less repair funds already provided by FEMA and SBA. Puerto Rico and the Virgin Island owner damage is calculated based on both real property and personal property inspections based on findings by HUD that this likely is a more accurate estimate of serious homeowner damage in those areas. For the continental US, HUD finds its traditional approach of just using real property damage assessments for owner-occupied units continues to be effective.

Each of the FEMA inspected owner units are categorized by HUD into one of five categories:

- Minor-Low: Less than \$3,000 of FEMA inspected real property damage.
- Minor-High: \$3,000 to \$7,999 of FEMA inspected real property damage
- Major-Low: \$8,000 to \$14,999 of FEMA inspected real property damage and/or 1 to 4 feet of flooding on the first floor;
- Major-High: \$15,000 to \$28,800 of FEMA inspected real property damage and/or 4 to 6 feet of flooding on the first floor.
- Severe: Greater than \$28,800 of FEMA inspected real property damage or determined destroyed and/or 6 or more feet of flooding on the first floor.

For the Virgin Islands and Puerto Rico, the damage grouping would be the higher damage categorization based on the calculation above or:

- Minor-Low: Less than \$2,500 of FEMA inspected personal property damage
- Minor-High: \$2,500 to \$3,499 of FEMA inspected personal property damage
- Major-Low: \$3,500 to \$4,999 of FEMA inspected personal property damage or 1 to 4 feet of flooding on the first floor.
- Major-High: \$5,000 to \$8,999 of FEMA inspected personal property damage or 4 to 6 feet of flooding on the first floor.
- Severe: Greater than \$9,000 of FEMA inspected personal property damage or determined destroyed and/or 6 or more feet of flooding on the first floor.

To meet the statutory requirement of “most impacted” in this legislative language, homes are determined to have a high level of damage if they have damage of “major-low” or higher. That is, they have a real property FEMA inspected damage of \$8,000 or flooding over 1 foot.

Furthermore, a homeowner is determined to have unmet needs if they reported damage and no insurance to cover that damage and was outside the 1% risk flood hazard area; for homeowners inside the flood hazard area, only homeowners without insurance below 120% of Area Median Income are determined to have unmet needs. Homeowners without hazard insurance with non-flood damage with incomes below the greater of national median or 120% of Area Median Income are included as having unmet needs.

FEMA does not inspect rental units for real property damage so personal property damage is used as a proxy for unit damage. Each of the FEMA inspected renter units are categorized by HUD into one of five categories:

- Minor-Low: Less than \$1,000 of FEMA inspected personal property damage
- Minor-High: \$1,000 to \$1,999 of FEMA inspected personal property damage

- Major-Low: \$2,000 to \$3,499 of FEMA inspected personal property damage or 1 to 4 feet of flooding on the first floor.
- Major-High: \$3,500 to \$7,499 of FEMA inspected personal property damage or 4 to 6 feet of flooding on the first floor.
- Severe: Greater than \$7,500 of FEMA inspected personal property damage or determined destroyed and/or 6 or more feet of flooding on the first floor.

For rental properties, to meet the statutory requirement of “most impacted” in this legislative language, homes are determined to have a high level of damage if they have damage of “major-low” or higher. That is, they have a FEMA personal property damage assessment of \$2,000 or greater or flooding over 1 foot.

Furthermore, landlords are presumed to have adequate insurance coverage unless the unit is occupied by a renter with income less than the greater of the Federal poverty level or 50% of Area Median Income. Units occupied by a tenant with income less than the greater of the Federal poverty level or 50% of Area Median Income are used to calculate likely unmet needs for affordable rental housing.

The average cost to fully repair a home for a specific disaster to code within each of the damage categories noted above is calculated using the median real property damage repair costs determined by the Small Business Administration for its disaster loan program for the subset of homes inspected by both SBA and FEMA for each eligible disaster. Because SBA is inspecting for full repair costs, it is presumed to reflect the full cost to repair the home, which is generally more than the FEMA estimates on the cost to make the home habitable.

For each household determined to have unmet housing needs (as described above), their estimated average unmet housing need less assistance from FEMA and SBA provided for repair to homes with serious unmet needs. No unmet housing need cost multiplier can be less than the 25th percentile estimate across all disasters of 2017. Those minimum cost multipliers are: \$40,323 for major damage (low); \$55,812 for major damage (high); and \$77,252 for severe damage. The multipliers used for each disaster is shown below.

	Serious Unmet Housing Need Multipliers		
	Major-Low	Major-High	Severe
California	\$40,323	\$55,812	\$124,481
Florida	\$42,837	\$56,113	\$79,096
Georgia	\$40,323	\$55,812	\$77,252
Missouri	\$40,323	\$66,545	\$100,947
Puerto Rico	\$40,323	\$55,812	\$77,252
Texas	\$56,342	\$75,414	\$101,390
Virgin Islands	\$80,142	\$97,672	\$116,351

Methods for estimating unmet economic revitalization needs

Based on SBA disaster loans to businesses as of 3-22-2018, HUD calculates the median real estate and content loss by the following damage categories for each state:

- Category 1: real estate + content loss = below 12,000
- Category 2: real estate + content loss = 12,000–30,000
- Category 3: real estate + content loss = 30,000–65,000

- Category 4: real estate + content loss = 65,000–150,000
- Category 5: real estate + content loss = above 150,000

For properties with real estate and content loss of \$30,000 or more, HUD calculates the estimated amount of unmet needs for small businesses by multiplying the median damage estimates for the categories above by the number of small businesses denied an SBA loan, including those denied a loan prior to inspection due to inadequate credit or income (or a decision had not been made), under the assumption that damage among those denied at pre-inspection have the same distribution of damage as those denied after inspection.

Methods for estimating unmet infrastructure needs

To calculate unmet needs for infrastructure projects, HUD is using data obtained from FEMA as of March 30, 2018 showing the amount FEMA estimates will be needed to repair the permanent public infrastructure (Categories C to G) to their pre-storm condition. HUD uses these data to calculate two infrastructure unmet needs:

- The estimated local cost share for Public Assistance Category C to G projects.
- An allocation of \$2 billion for Maria affected disasters (Puerto Rico and the Virgin Islands) for “enhanced or improved electrical power systems”. This is allocated between Puerto Rico and Virgin Islands based on their relative share of total estimated Category F Public Assistance cost to repair public utilities.

Allocation Calculation

Once eligible entities are identified using the above criteria, the allocation to individual grantees represents their proportional share of the estimated unmet needs. For the formula allocation, HUD calculates total serious unmet recovery needs as the aggregate of:

- Serious unmet housing needs in most impacted counties less amounts of CDBG-DR previously allocated for serious unmet housing needs
- Serious unmet business needs less amounts of CDBG-DR previously allocated for serious business needs
- FEMA Public Assistance Category C to G local cost share and the \$2 billion additional amount for enhanced or improved electrical power systems in Puerto Rico and the Virgin Islands

Prior allocations for 2017 disasters are subtracted from this amount. Because this results in less than \$11 billion being allocated to Maria affected disasters (Puerto Rico and the Virgin Islands) from Public Law 115-123, an additional amount is added to those two grantees to reach \$11 billion based on their relative share of needs as calculated under the three bullets above.

This results in an estimate of unmet needs to be allocated from Public Law 115-123 of \$12.031 billion, allowing \$3.935 billion to be allocated to mitigation.

Allocating for mitigation

The allocation of \$15.935 billion in mitigation funds (the \$12 billion plus in funds appropriated for mitigation plus the \$3.935 billion remaining after allocation of 100% of unmet needs) is allocated proportionally based on each grantee’s relative share of the \$22.425 billion of CDBG-DR funds allocated for unmet needs to disasters occurring in 2015, 2016,

and 2017. For example, the combination of all grants to Puerto Rico for unmet needs represents 52 percent of the \$22.425 billion allocated for unmet needs. As a result, Puerto Rico receives 52 percent of the \$15.935 billion made available for mitigation funding.