

# Flood Insurance and Flood Risk Survey: Lents and Powellhurst-Gilbert Neighborhoods

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*Lents neighborhood, Portland, Oregon*

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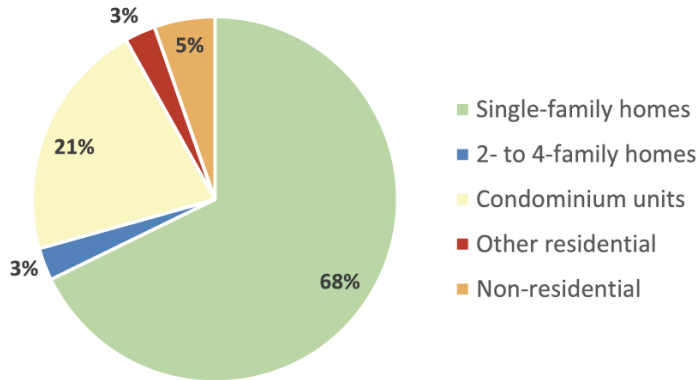
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*Johnson Creek Watershed Council  
Science Symposium, October 22, 2019*

# The National Flood Insurance Program (NFIP)

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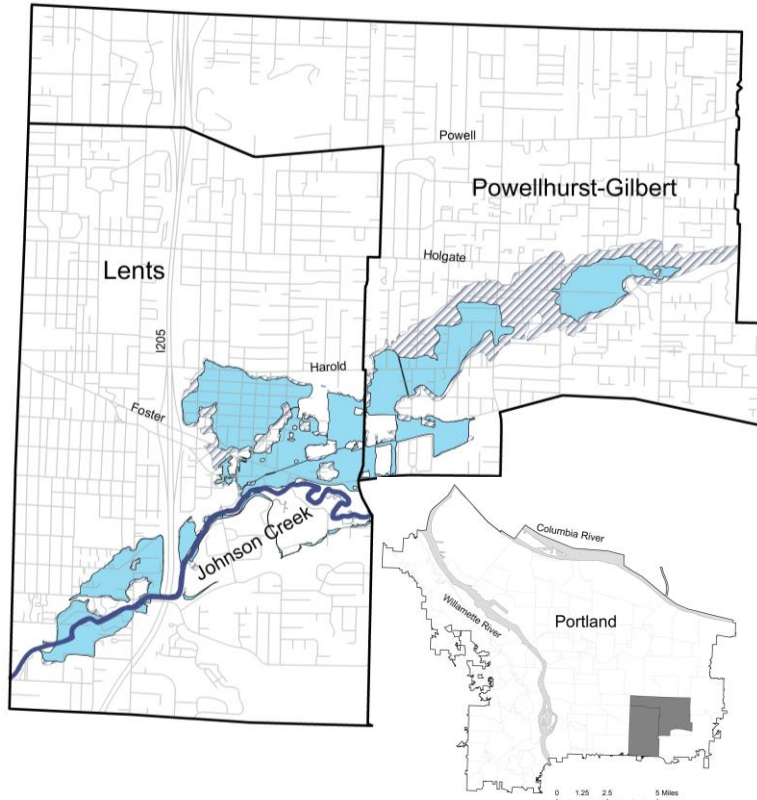
*NFIP Policies by Occupancy Type, August 2016*



Kousky, C. 2018. Financing Flood Losses: A Discussion of the National Flood Insurance Program *Risk Management and Insurance Review* 21(1): 11-32

- 50 years of NFIP
- Almost all communities with flood risk participate in the program
- Just over 5 million policies; \$1.3 trillion in exposure
- Mandatory purchase in mapped FEMA 100-year floodplain (SFHA) with loan from federally-backed lender
- Portland has a Class 6 CRS rating
- 1,852 policies in force today in Portland
- Almost 50% of claims in Portland (1978-2014) are outside the SFHA

# Study Area: Lents and Powellhurst-Gilbert



- Around 10,000 SFR properties with 800 in the SFHA
- 90% of SFHA properties were built before flood insurance rate maps were adopted
- Median flood insurance premium of \$777 in 2018; \$878 in the SFHA
- Using U.S. Census data, study area residents are:
  - 64% White, 17% Asian, 6% Black or African American, 16% Hispanic or Latino
  - 39% speak a primary language other than English at home
  - 23.3% poverty rate (15.6% Portland)
  - 51% owner occupied (56% Portland)

# Study Questions

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1. *Willingness-to-pay for flood insurance.* When would individuals forego flood insurance? Does willingness-to-pay vary with income, risk levels, house characteristics and respondent characteristics?
2. *Flood risk perceptions.* Do people have an accurate understanding of their flood risk? Does their perception match their objective flood risk? How does this vary based on characteristics of the individual and their past experience with flooding?
3. *Flood insurance literacy.* Do individuals understand flood insurance? The role and value? Policy details?

# Survey

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- In 2018, all 1,186 floodplain residents and 2,841 randomly selected residents outside the floodplain were invited to take the survey
- Survey was announced using postcards and letters, promoted on Facebook, Nextdoor, neighborhood associations, and JCWC
- Online or hard copy; available in English, Vietnamese, Russian and Spanish
- Response rate of around 11%, 17.8% in 100-year floodplain

Your voice  
matters.

Take our survey to improve flood risk  
management in your neighborhood.

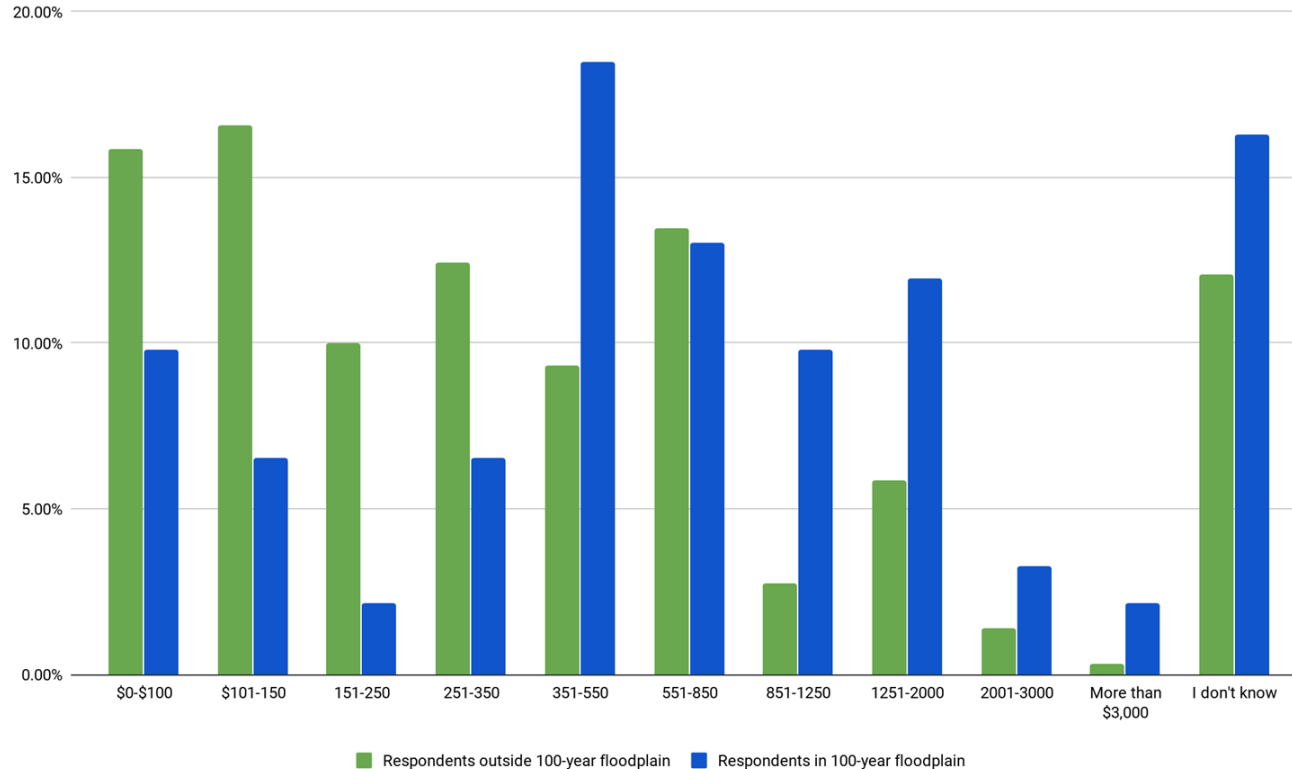


# Paper #1: Willingness to Pay for Flood Insurance

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- 100-year floodplain: “Based on current FEMA flood maps for your neighborhood, your home is located in a 100-year floodplain.”
- Outside 100-year floodplain: “Suppose you own a home in the Lents or Powellhurst-Gilbert neighborhoods that is located in a 100-year floodplain.”
- Questions emphasized
  - Flood insurance is required if the property owner has a mortgage
  - Flood insurance is not typically covered in a homeowner’s insurance policy
  - The risk of flooding (1-in-4 chance) over the life of a 30-year mortgage
  - A 100-year flood event could result in 1 to 3 feet of water in their home

# Willingness to Pay



Respondents in 100-year floodplain

Median WTP \$350  
Mean WTP \$628  
N=77

Respondents outside 100-year floodplain

Median WTP \$250  
Mean WTP \$345  
N=255

# Key Findings

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- Median predicted willingness-to-pay in the SFHA ranges from 47% to 59% of current cost of flood insurance
- Assistance is needed based on our estimated WTP values and how little financial support is available to homeowners without flood insurance
- Portland's pilot "Flood Insurance Savings Program" reduced average premiums by \$700
- Need for education and outreach focused on specific groups:
  - Long-term residents may underestimate flood risk if there hasn't been a recent flood event
  - In our study area, distance to the creek (instead of objective risk) is being used as a heuristic for flood risk
  - Respondents who identified as "Asian" or selected "Prefer Not to Answer" race had a lower WTP



# Paper #2: Residents' expected future flood risk

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## *Preliminary results....*

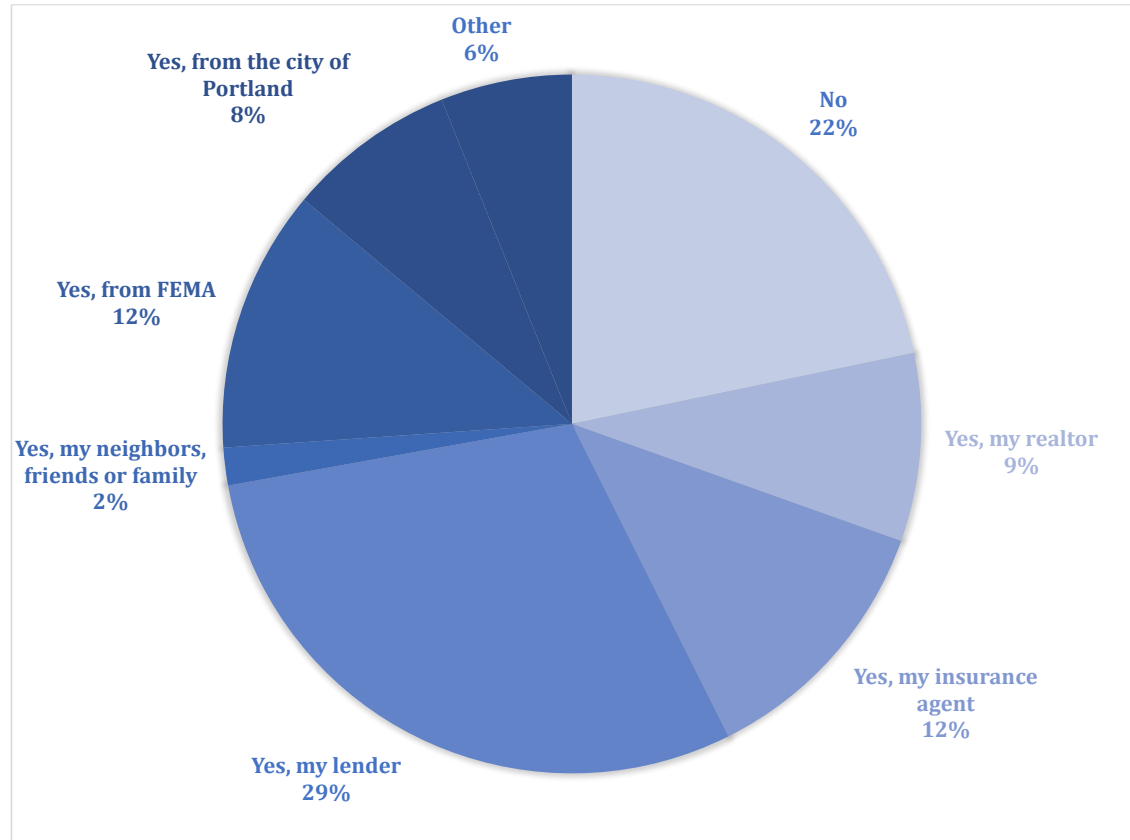
- Objective risk measures, like living in a 100-year floodplain, has a negative effect on expected future flooding (*not expected!*)
- Past experience with flooding, either at their current house or elsewhere, has a positive effect on expected future flooding
- The longer someone has lived in the neighborhood, the lower their expectation of future flooding
- Respondents with higher incomes have a lower expectation of future flooding
- As age increases, the expectation of future flooding declines

# Paper #3: Flood Insurance Literacy

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***Did you get advice on how to buy flood insurance from anyone?***

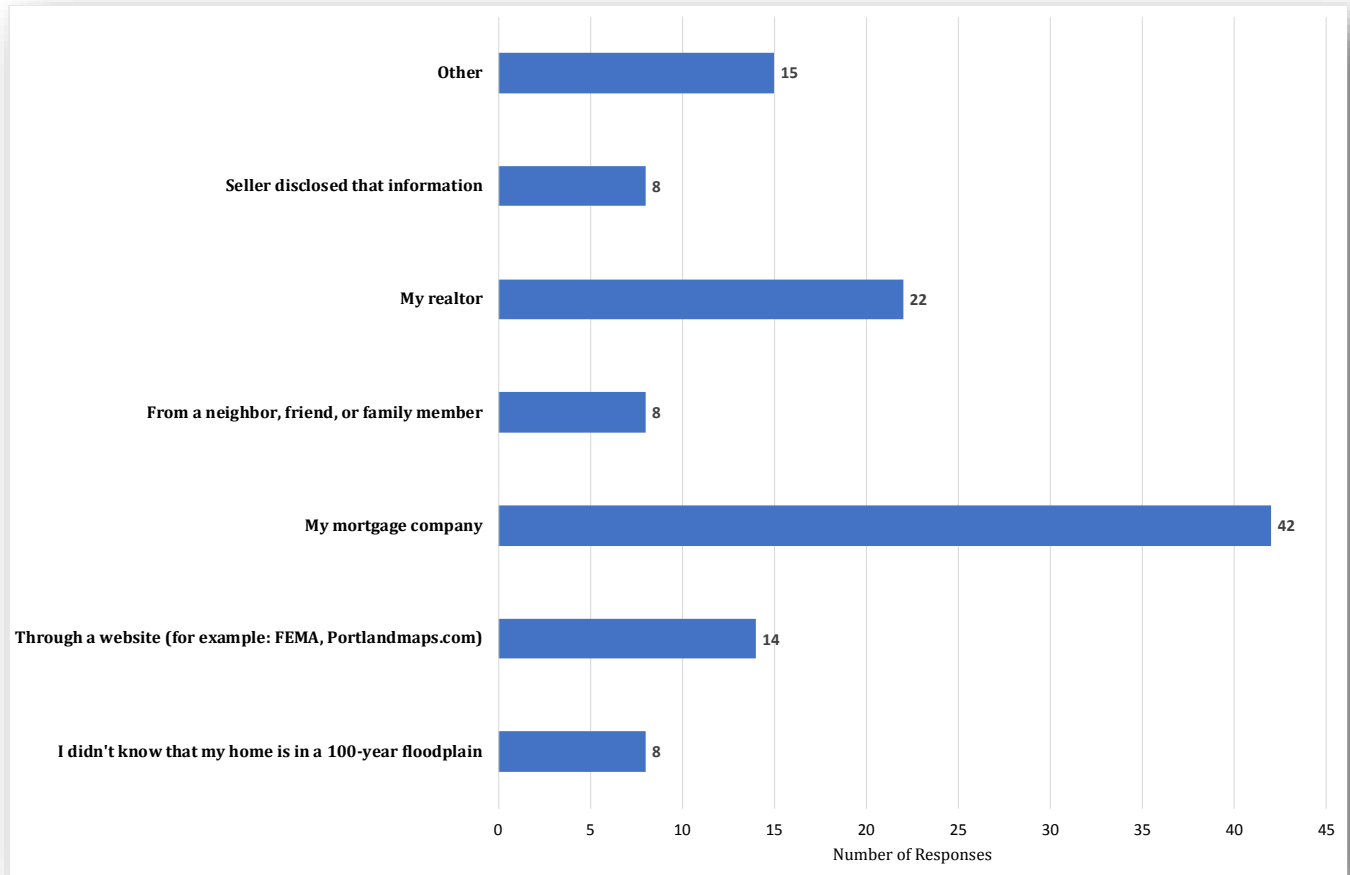
*For 100-year floodplain residents, 29% indicated receiving advice from their lender while 22% didn't receive advice from anyone.*



97 respondents in the 100-year floodplain and 115 responses

***How did you learn that your home is in a 100-year floodplain?***

*Almost half of 100-year floodplain residents reported learning about their status from their mortgage company.*

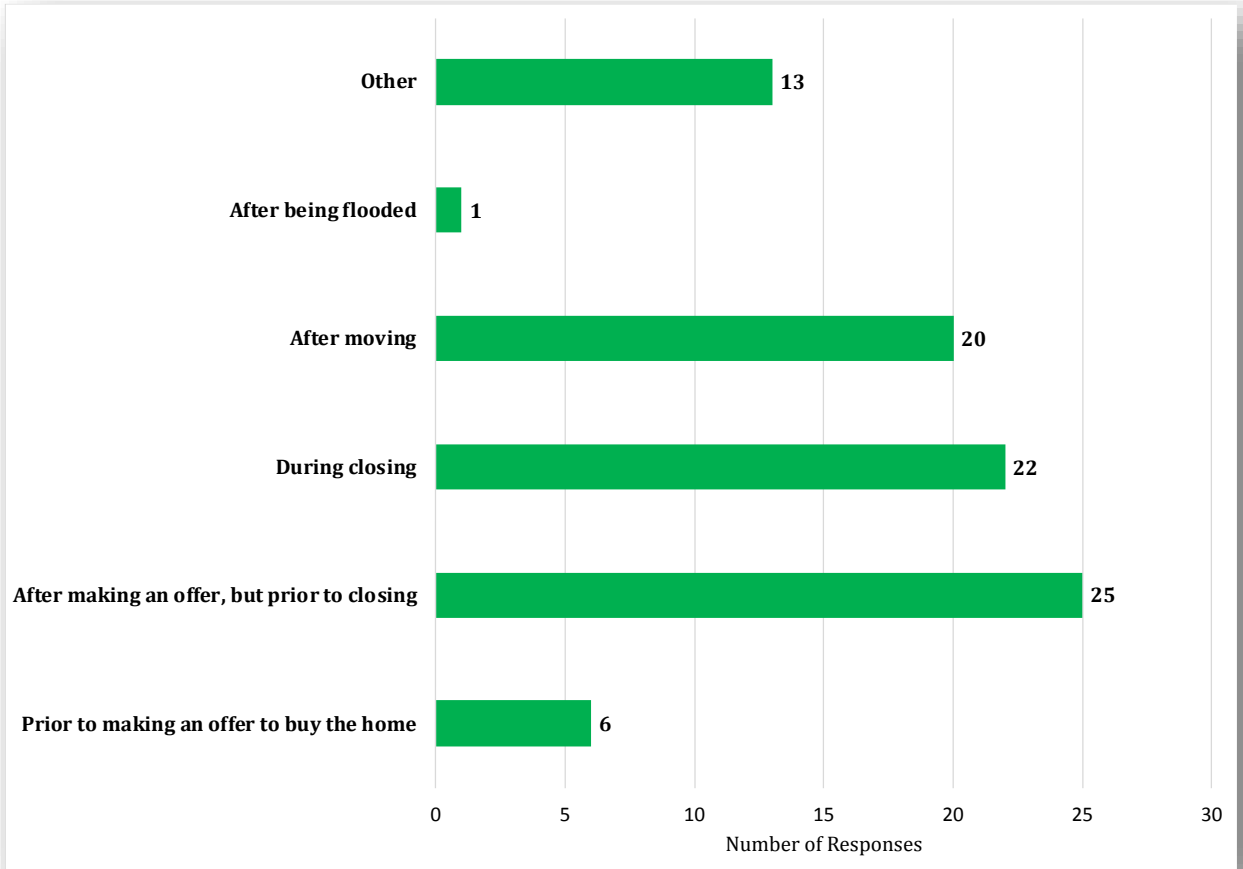


*97 respondents in the 100-year floodplain and 115 responses*

***When did you first learn of the cost of flood insurance for your home?***

*Some 100-year floodplain residents indicating “other” mentioned that they found out when a new FEMA map was updated or when they took out a new refinance or home improvement loan on the property.*

*Still, most are learning about flood insurance costs only after making an offer.*



*Number of respondents = 87*

# Questions?

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*Research assistance provided by Florin Feiner and Ben Thomas*