Creating a Website for Homeowners and City Officials on the real estate Hazards posed by a Cascadia Subduction Zone EarthquakeUser

Proposal submitted to
the City of Portland

Opportunity: Prepare Portland residents for a catastrophic earthquake.

Need: Homeowners and families in the city of Portland currently do not have a "one-stop" website that provides them with information about how to prepare for an earthquake. The risk of injury and damage varies by housing construction. The purpose of this project will be to build a user-friendly website that provides residents preparedness information for their specific address. After the user types in their address they will be provided information regarding their home: 1) Does it need to be seismically retrofitted? 2) Where is the nearest location where FEMA will be set-up or a fire station with a working emergency contact line? 3) Based on the number of people in their home, how much food and water do they need to have stocked? Based on the number of people in their home and the data provided through the Department of Geological and Mineral Industries (DOGAMI), the user will be provided with links where they can buy emergency food kits, water, earthquake gas valve shut offs, and Portland based companies that can seismically retrofit their homes.

Initial Impact Hypothesis:

1) Quicker recovery time for Portland residents after an earthquake
2) Less casualties and injuries
3) Reduction in damage estimate to the city- which is currently 2.7 billion

Measures of success:

1) Web traffic to the website shows residents of Portland are using the website.
2) Currently 78% of homes built before 1974 are not seismically retrofitted. This number may drop over a year or two after the website launches.

Data Description: Web scraping will be used to collect the primary data for this project. Zillow will be used to scrape housing information for homes built before 1974 within the 97217 zip code of Portland, Oregon. Hazard data for Portland will be accessed through the DOGAMI Open File-Report Series.

Tools: Tableau and ArcGIS will be the primary softwares for the exploratory data analysis and table merging.

MVP Goal: A map in Tableau of 11,916 homes within the 97217 zip code of Portland built before 1974. And a full impact hypothesis.