DATA VISUALIZATION

PROJECT PROPOSAL

Louisiana Road Home program

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DataSet: Louisiana Road Home program.

URL: https://www.propublica.org/datastore/dataset/road-home-rebuilding-grants

Background Information:

The dataset provides a comprehensive overview of grants awarded to homeowners in Louisiana from the Road Home program. This program was initiated in the aftermath of hurricanes Katrina and Rita which was a devastating Category 5 Atlantic hurricane, aiming to bridge the financial gap homeowners faced after exhausting insurance payouts and Federal Emergency Management Agency(FEMA) aid for repairing or rebuilding their homes.

The dataset in focus has been acquired from public records requests to the Louisiana Division of Administration. It contains individual-level records of homeowners who benefited from it, detailing out various types of grants that were on offer which are:

Compensation Grants(CG): Serving as the main source of funding for homeowners.
Additional Compensation Grants(ACG): Tailored for the benefit of lower-income homeowners.
Elevation Grants: Financial aids targeted at homeowners looking to raise their homes, mitigating the risks of future flooding.
Individual Mitigation Measure Grants(IMM): These are flexible grants, permitting homeowners to undertake diverse preventive actions against potential future flooding.

The data also pinpoints property locations down to a census block level across state of Louisiana.It includes Pre Storm Value of each Structure type and the damage incurred to it after the hurricane.

Description of Dataset Attributes:

Here's a breakdown of the dataset attributes, their semantics, and their types:

S.No	Attribute	Semantics	Type
1	Structure type	Type of structure that received grant	Categorical
2	GIS City	Structure Location	Categorical
3	GIS State	Structure Location	Categorical

S.No	Attribute	Semantics	Type
4	GIS Zip	Structure Zipcode	Categorical
5	PARISH	Structure Location(County)	Categorical
6	Closing Option	subprogram.	Ordinal
7	TOTAL_CLOSING_AMOUNT	Total Amount of funds disbursed.	Quantitative
8	Total CG Amount	Compensation grant amount.	Quantitative
9	Total ACG Amount	Additional compensation grant amount.	Quantitative
10	Total Elevation Grant Amount	Amount for elevation works.	Quantitative
11	Total IMM Amount	Amount for flood prevention measures.	Quantitative
12	NOLA Planning District Number	New Orleans District Number	Categorical
13	NOLA Planning District Name	New Orleans District Name	Categorical
14	NOLA Neighborhood Number	New Orleans Neighborhood Number	Categorical
15	NOLA Neighborhood Name	New Orleans Neighborhood Name	Categorical
16	STFID	Census block ID.	Categorical
17	Census Block	Census block	Categorical
18	Block Group	Census block group	Categorical
19	Census Track	Census tract.	Categorical
20	Current Damage Assessment	Type 1 or type 2 damage	Quantitative
21	Current Damage Assessment - Type 1	Repair estimate.	Quantitative
22	Current Damage Assessment - Type 2	Rebuild estimate.	Quantitative
23	Damage Type 1 or 2	Damage category.	Ordinal
24	Current PSV	Property worth before storm	Quantitative
25	Current Total DOB Amount (no Legal Fees removed)	FEMA+Insurance Amount	Quantitative
26	Current Legal Fees	Legal fee due to dispute with insurance company	Quantitative
27	Closing Damage Assessment	Final Damage Assessment	Quantitative

S.No	Attribute	Semantics	Type
28	PSV at Closing	Pre Storm Value	Quantitative
29	Closed file - PSV Option 1	Specific criteria file(Y/N)	Binary
30	Closed File - Option 2/3,	Specific criteria file(Y/N)	Binary
31	Closed with Approved Unmet Needs (Y/N)	Flag	Binary
32	Applicant With Current Insurance (Private and/or Flood) Y/N	Flag	Binary
33	Closing Total DOB Amount	Total duplication of benefits	Quantitative
34	Difference between Current PSV and Current Damage Assessment Type 2	PSV-damage difference.	Quantitative
35	ARS File (Yes/No)	Flag	Binary

Tasks and Questions:

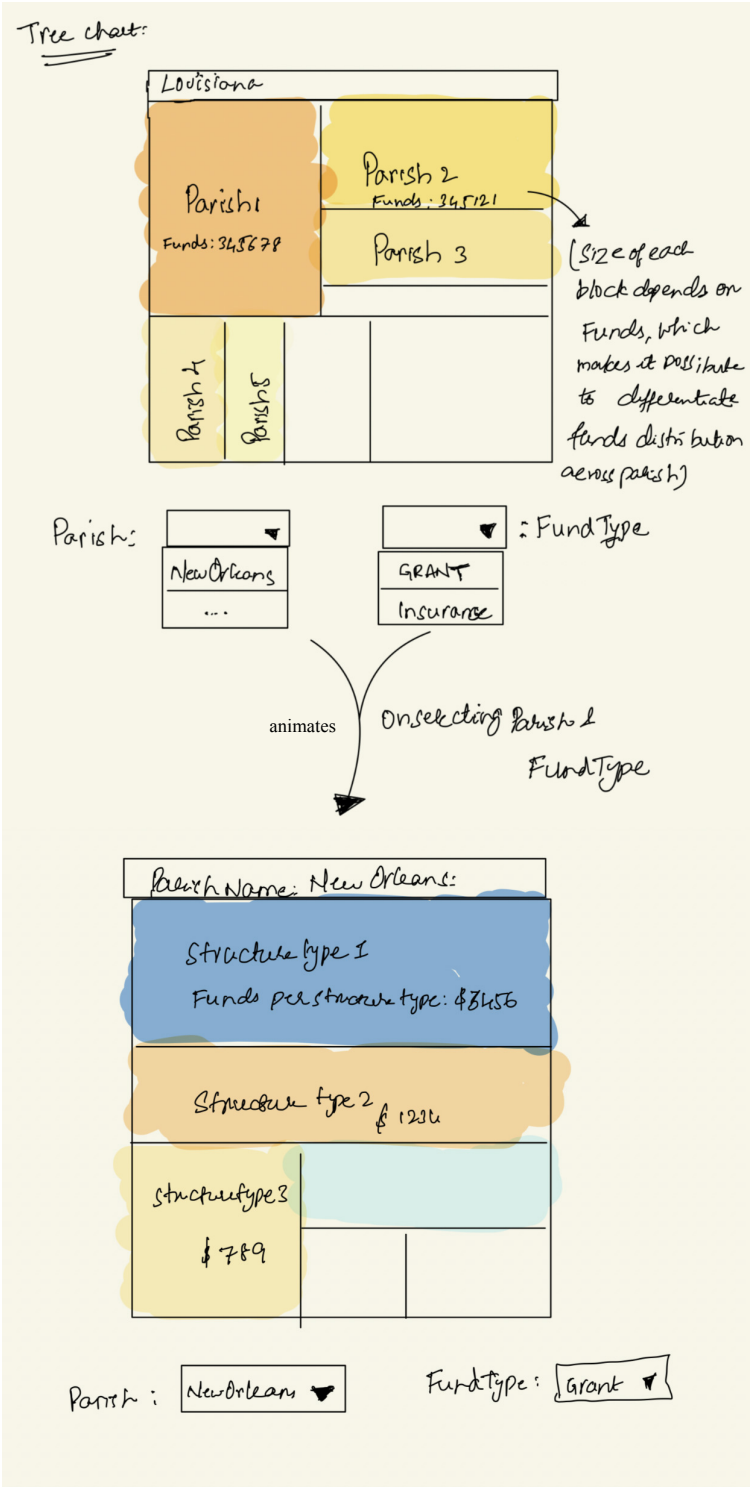
1.Which Parish(County) in Louisiana has taken most amount of property damage due to hurricane and which structure type has been distributed the most grant amount/insurance amount across each Parish?

2.Whats the trend between Funds distributed and Damage caused by hurricane across each Parish?Were Enough funds distributed?Are there any regions that experienced severe damage but received comparatively less grants?

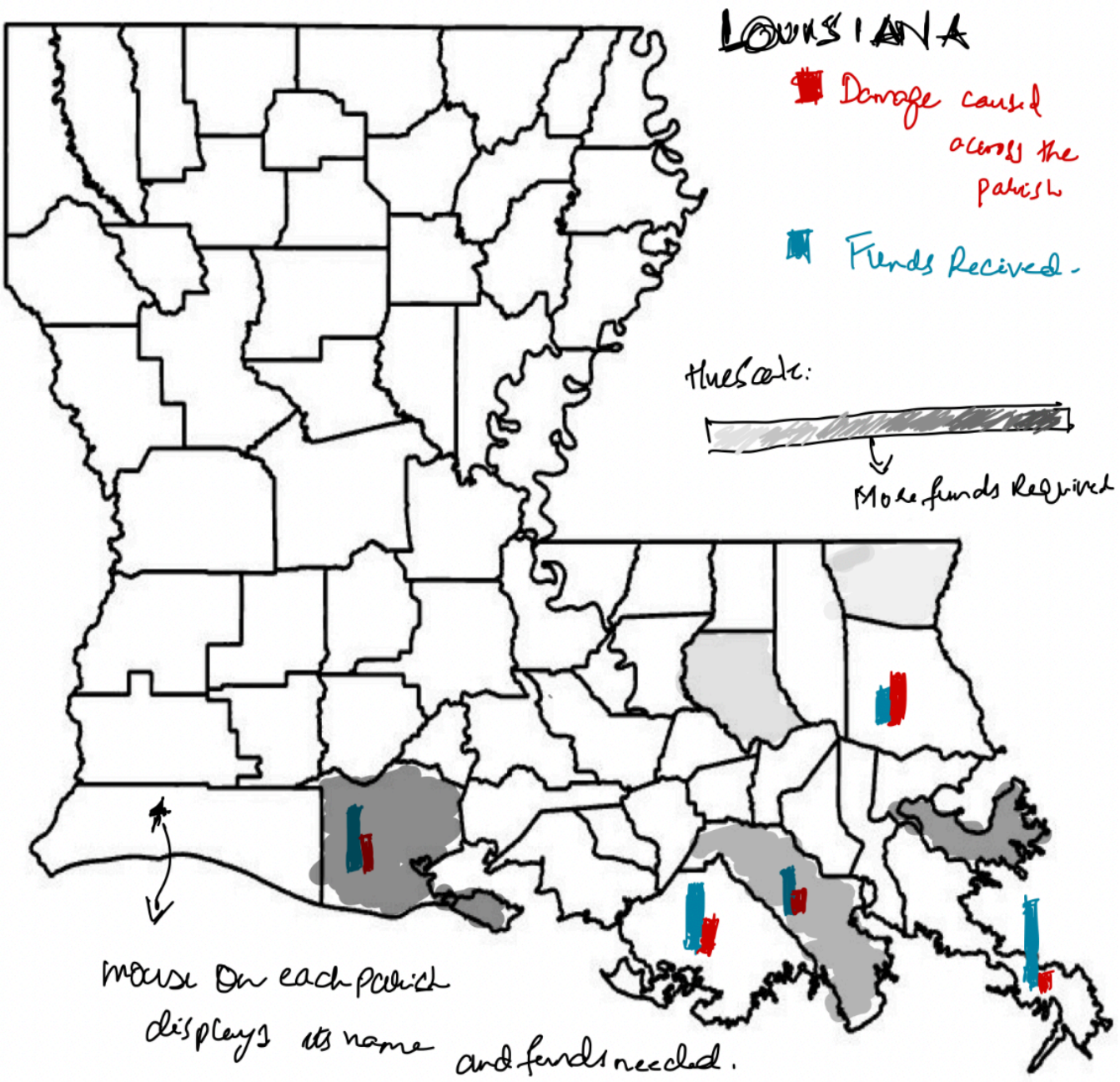
3.NewOrleans being the Port City has been hit the most because of hurricane Katrina **[Source].** How how much property damage Each Neighbored (NOLA Neighbored Name) in New Orleans has taken? Which source of financial assistance (insurance + FEMA aid, or grants) had the most impact in various neighborhood?

Rough Sketches :

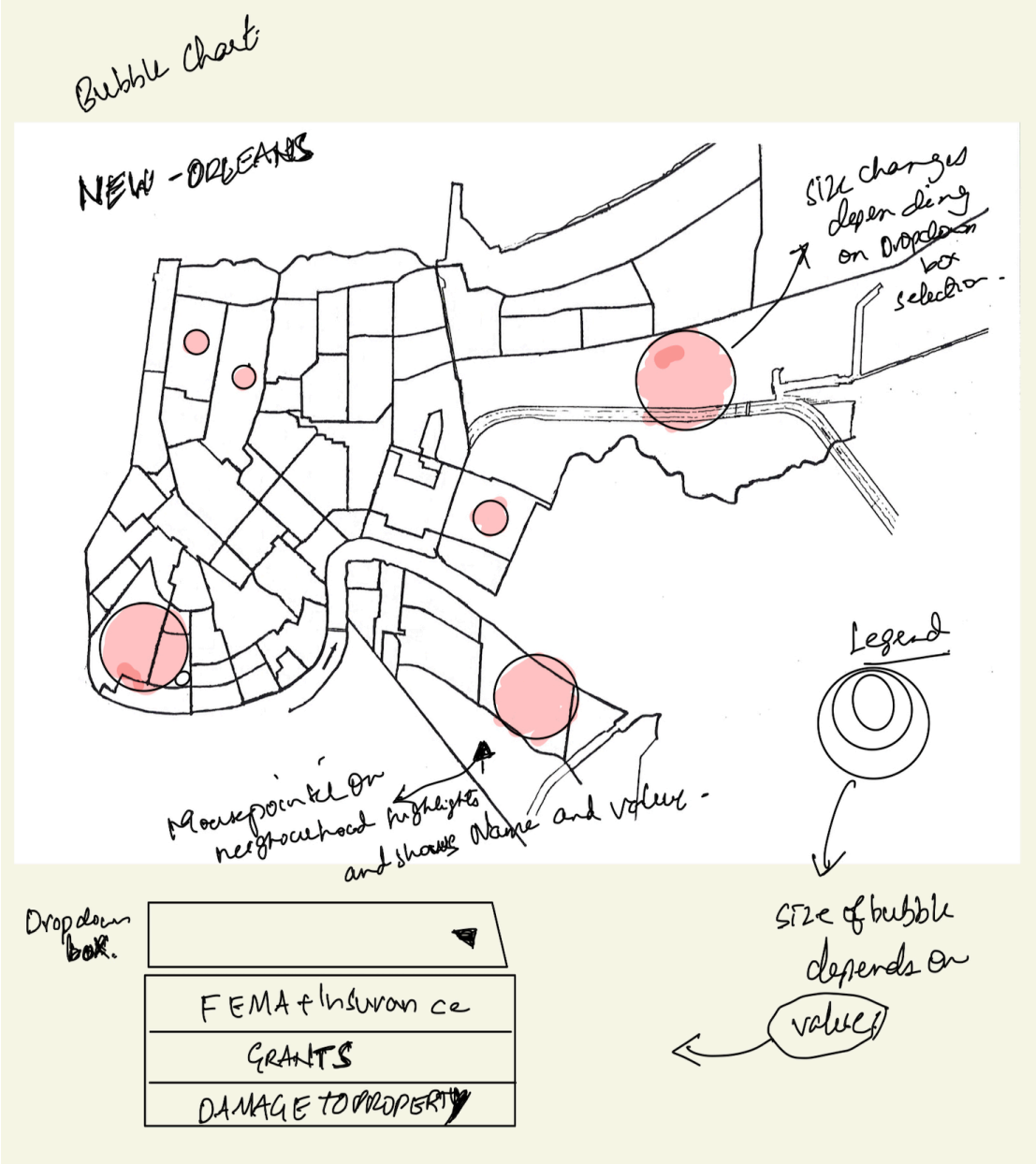
Sketch1(Task1):



Sketch2(Task2):



Sketch3(Task3):



Visualization Ideas and Requirements:

Task1:

Main Idea: A tree map showing Parishes of Louisiana state along with funds granted to each state.upon selecting a Parish the tree map shows funds granted to each building type(Single ,condo, duplex etc) and the funds granted to each type.

Views/Interactive Elements: View Box 1 to select Parish ,View box 2 to select type of fund.
The Tree transitions from Parishes to Structure types on selecting a parish.
Tooptip to show the Value when mouse is on the tree.

Attributes:PARISH, Structure type,TOTAL_CLOSING_AMOUNT,GIS State, Total CG Amount ,Total ACG Amount ,Total Elevation Grant Amount, Total IMM Amount ,Closing Damage Assessment, Closing Total DOB Amount are possible attributes needed for this Task.

Task2:

Main Idea: A choropleth map of Louisiana State with 2 bars on each Parish comparing Total Damage caused and Total Funds Granted , and Color(Hue) on each parish showing funds required

Views/Interactive Elements: Mouse pointer on a Parish highlights it and shows the Parish name and Required funds

Attributes:PARISH, Structure type,TOTAL_CLOSING_AMOUNT,GIS State, Total CG Amount ,Total ACG Amount ,Total Elevation Grant Amount, Total IMM Amount,Closing Damage Assessment ,Closing Total DOB Amount,Difference between Current PSV and Current Damage Assessment Type 2 are possible attributes needed for this Task.

Task3:

Main Idea: A choropleth map(Bubble chart) of New Orleans Parish and its Neighborhood with Bubble on each neighborhood with varying size showing the selected Value from the ViewBox.

Views/Interactive Elements: ViewBox to select Value Type (Damage/Insurance/Grant). Mouse pointer on the neighborhood highlights it and shows the neighborhood name .
Size of the bubbles changes depending in the selected Value.

Attributes: PARISH, NOLA Neighborhood name/NOLA Neighborhood Number,TOTAL_CLOSING_AMOUNT, Total CG Amount ,Total ACG Amount ,Total Elevation Grant Amount, Total IMM Amount,Closing Damage Assessment,Closing Total DOB Amount are possible attributes needed for this Task.

Resources:

- Maps for Sketches are taken via Google search.
- Research on Hurricanes.
- Background information from read me file from the dataset.