Texas Home Buyers Guide

Brainstorming Ideas

Who is the Audience?

Texas Homeowners

Audience Interest?

Housing price

COVID rate?

Is the place safe?

How to achieve it?

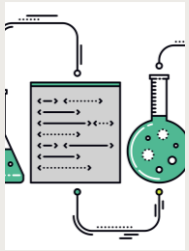
Assign a score to each category.

Find livability grade by county using the score

Main Questions ?

- **Housing Price:** Where are housing prices rising the most in the past 6 years? Where have prices fallen? AKA where do you want to stay away from in your home investment?
- **COVID transmission**: Does the place have higher COVID transmission rate?
- **Public safety:** Is the place safe to live in? What is the crime rate?

Data Source Search



- **Housing Price:** Zillow Housing Data https://www.zillow.com/research/data/
- **COVID transmission**: Texas Health and Human service COVID-19 data https://www.dshs.texas.gov/covid-19-coronavirus-disease-2019/texas-covid-19-data
- **Public safety:** Texas Open Data Portal https://data.texas.gov/browse?Dataset-Category_Category-Tile=Public+Safety
- **Population Count**: API Call to https://data.cdc.gov/

REVIEW THE DATASHEET

CLEAN THE DATASHEET

PERFORM ANALYSIS

Analysis

Housing Analysis – Approach

Datasheet observation

- Original csv file had every US county
- Format was average home value by month
- Date range was 2010-2023

Cleaning the Datasheet

- Filter Data by State (254 Texas Counties remained)
- Retain only columns from April 2017-March 2023 (6 Years)
- Remove null values (211 Counties Remaining)

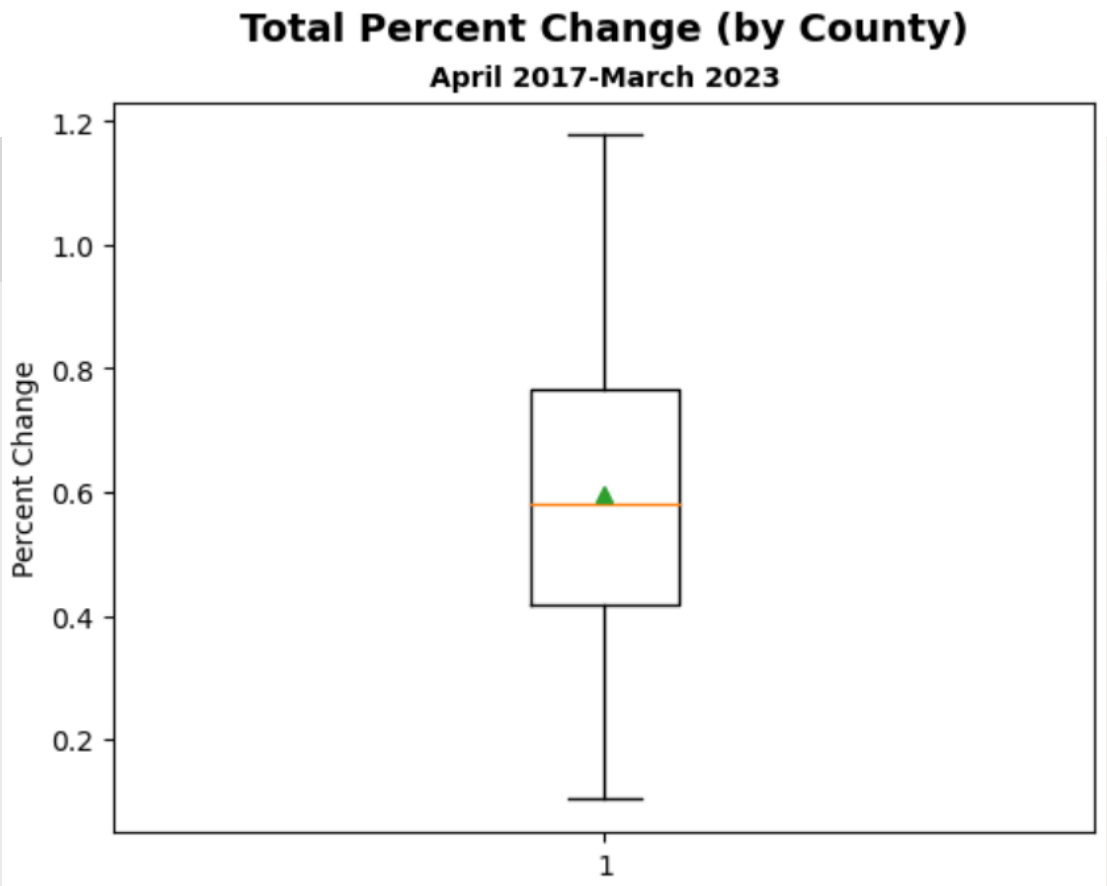
Identifying Limitations

- 43 Counties missing data and were excluded
- Data was average home value by county, did not include the range of values within a given county

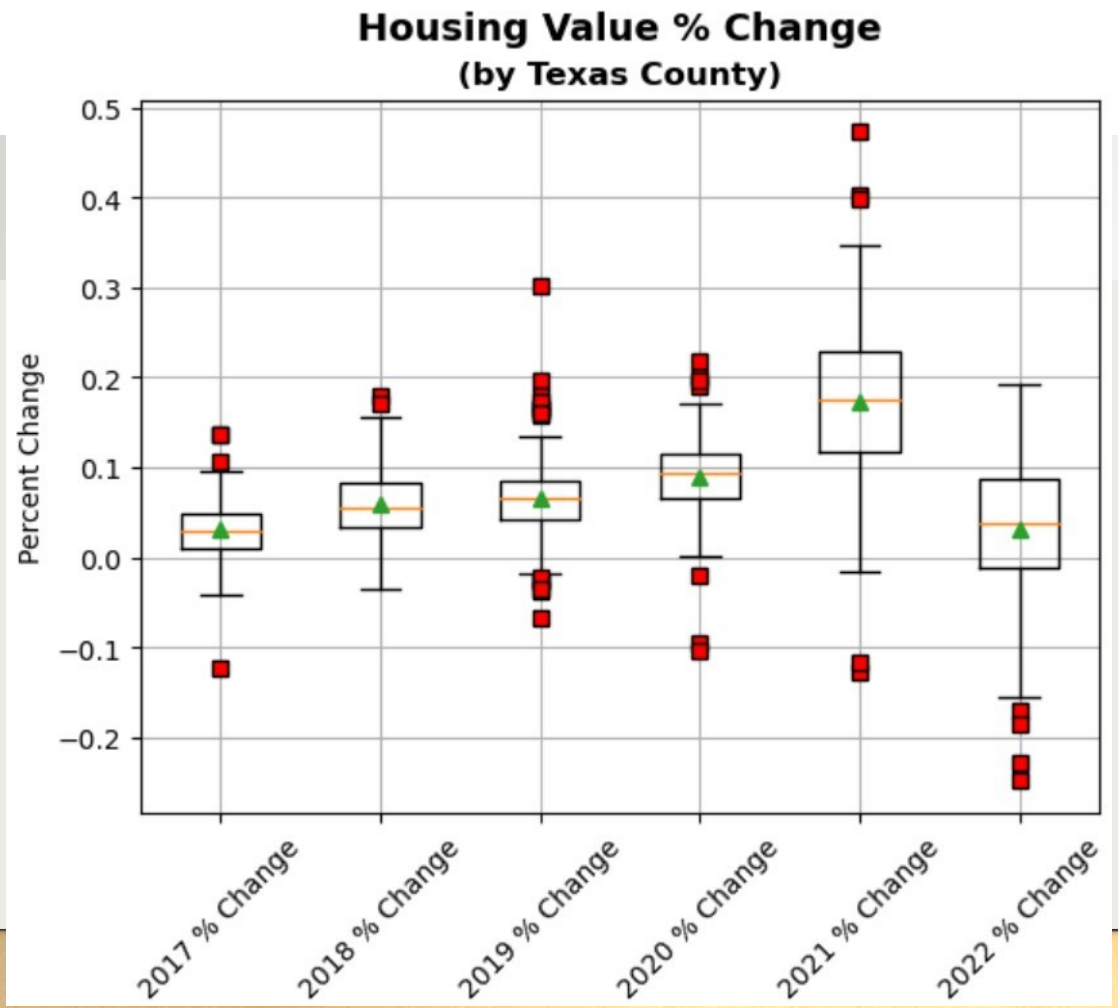
Housing Data Analysis

SUMMARY STATISTICS

	Ave House Value (Mar '23)	Total Change
count	211.000000	211.000000
mean	210191.215213	0.595651
std	116365.047633	0.231988
min	51395.705853	0.103070
25%	132042.741768	0.417610
50%	183460.563318	0.579587
75%	264249.683744	0.764944
max	655275.199060	1.177120



Texas Housing



Texas Housing

So... What's a good investment?

County Name	Percent Change	Housing Score
Blanco	1.177	5
Llano	1.137	5
Bosque	1.113	5
Hunt	1.083	5
Burnet	1.079	5

Highest increases in value from 2017 - 2023

County Name	Percent Change	Housing Score
Terry	0.103	1
Ochiltree	0.113	1
Hemphill	0.115	1
Floyd	0.150	1
Collingsworth	0.166	1

Lowest increases in value from 2017 - 2023

Safety Analysis – Approach

Datasheet observation

- 4 years data (2017 – 2020)
- 254 Unique Counties records.

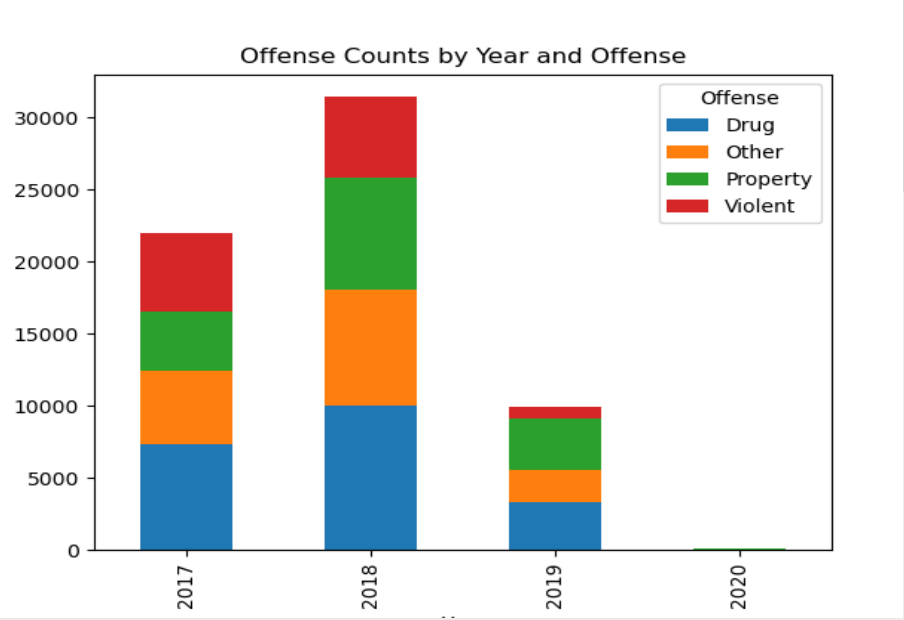
Cleaning the Datasheet

- Used only Offense date.
- Retain only data from 2017-2020.
- Remove null values

Identifying Limitations

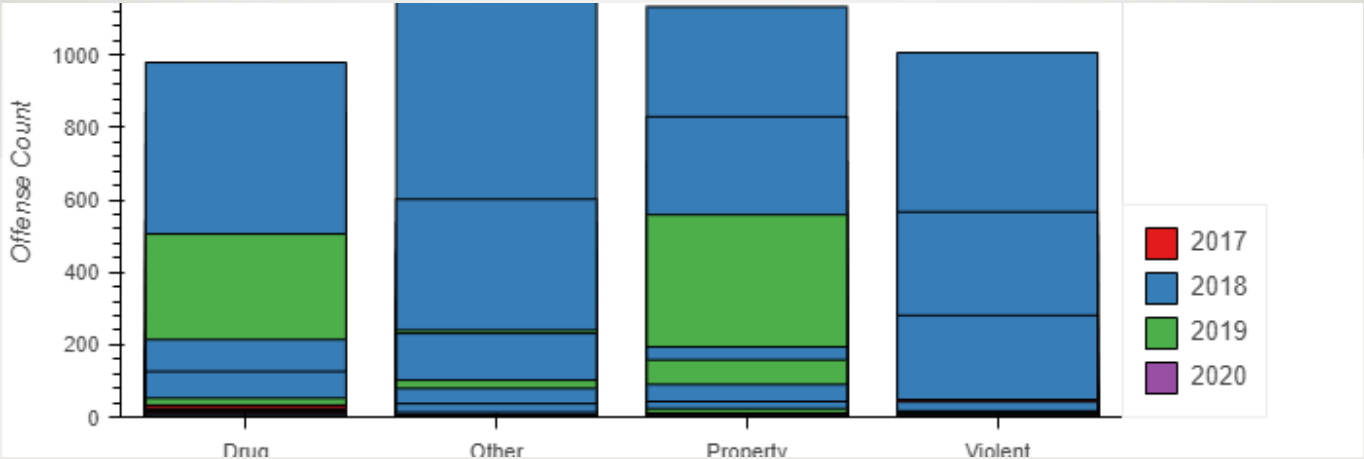
- Only 3 years have complete data. 2020 data is not complete or might nor be published for public records.

Safety Analysis – Visualization



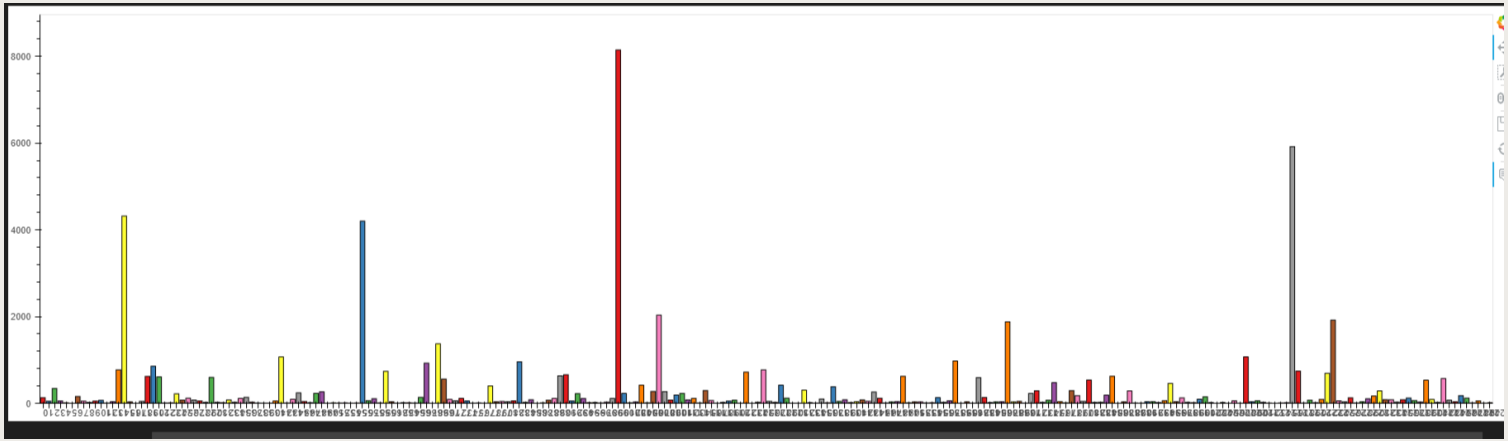
Offense count By Year

Year	Drug	Other	Property	Violence
2017	7351	5079	4109	5432
2018	10053	7970	7777	5617
2019	3360	2157	3570	795
2020	26	12	34	-



Offense Type over years

Offense Count By County



Top 5 Best Counties based on livability score

County	Livability Score	Avg Count	Offense Count	Safety Rank
Irion	5	1.0	3.0	0.08
Borden, Presidio & Edwards	5	1.0	1.0	0.04
DeWitt & Roberts	5	00	0.0	0.01
Foard	5	3.0	3.0	0.08
Schleicher	5	1.0	1.0	0.04

County	Livability Score	Avg Count	Offense Count	Safety Rank
Anderson	1	43.0	128.0	0.73
Hill	1	68.0	269.0	0.81
Smith	1	268.0	1071.0	0.96
Hood	1	64.0	191.0	0.77
Hopkins	1	76.0	227.0	0.79

Top 5 Least Preferred Counties based on Livability Score

COVID Analysis – Initial prework

Datasheet observation

- 4 years data(2020 to 2023).
- 254 Unique Counties records.
- Each row is cumulative addition
- Informational contents
- Total and Unknows date records

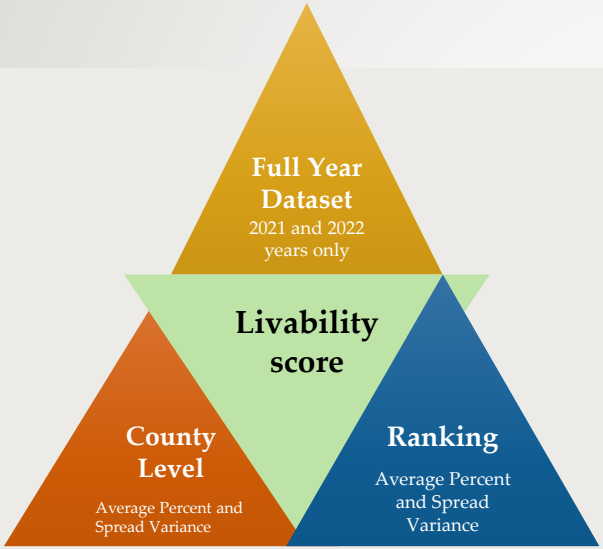
Cleaning the Datasheet

- Remove all informational text
- Retain only month wise data
- Remove null values

Identifying Limitations

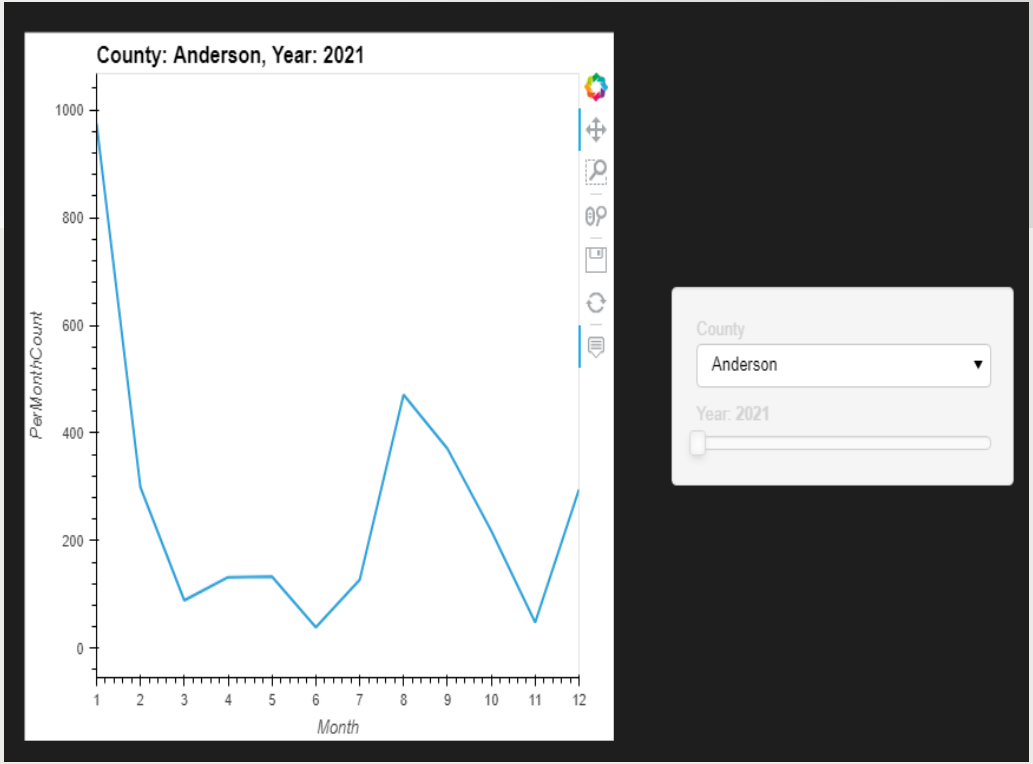
- Only the Cumulative Confirmed Cases over Time by County dataset will used for this analysis.
- Only 2 years have full year dataset (year 2021 and 2022)

COVID Analysis – Approach



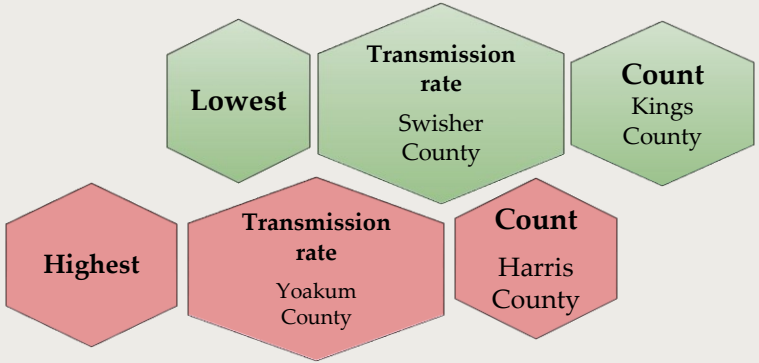
COVID Data Analysis

TIMESERIES VISUALIZATION



COVID Data Analysis

INTERESTING FINDINGS



COVID Analysis – Livability Score

Top 5 Best Counties based on livability score

COUNTY	Livability Score	Avg Count	Count Rank	Spread Rate	Spread Rank
King	5.0	0.15	0.00	-44.44	0.05
Shackelford	5.0	0.86	0.09	-61.86	0.01
Foard	5.0	0.74	0.07	-54.17	0.02
Stonewall	5.0	0.16	0.01	-59.09	0.01
Runnels	4.5	3.29	0.26	-44.25	0.05

COVID Analysis – Livability Score

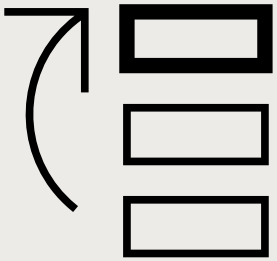
Top 5 Least preferred Counties based on livability score

COUNTY	Livability Score	Avg Count	Count Rank	Spread Rate	Spread Rank
Grimes	1.0	29.52	0.72	15.63	0.73
McLennan	1.0	197.98	0.91	30.59	0.83
Williamson	1.0	594.69	0.96	22.19	0.79
Cameron	1.0	318.43	0.94	52.39	0.91
Maverick	1.0	92.99	0.88	32.72	0.83

Time to Merge

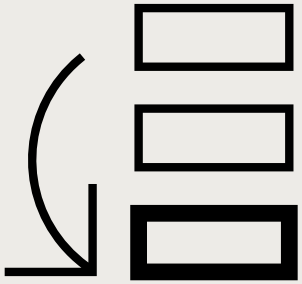
- Housing Score
- COVID Score
- Safety Score

Top 5 best county by Livability Score



COUNTY	Population	LIVABILITY GRADE	COVID SCORE	HOUSING SCORE	SAFTEY SCORE
Mason	4274	4.5	4.5	5	4
Stephens	9366	4.17	4.5	5	3
Delta	5331	4.17	3.5	5	4
Presidio	6704	4.17	2.5	5	5
San Augustine	8237	4	4	4	4

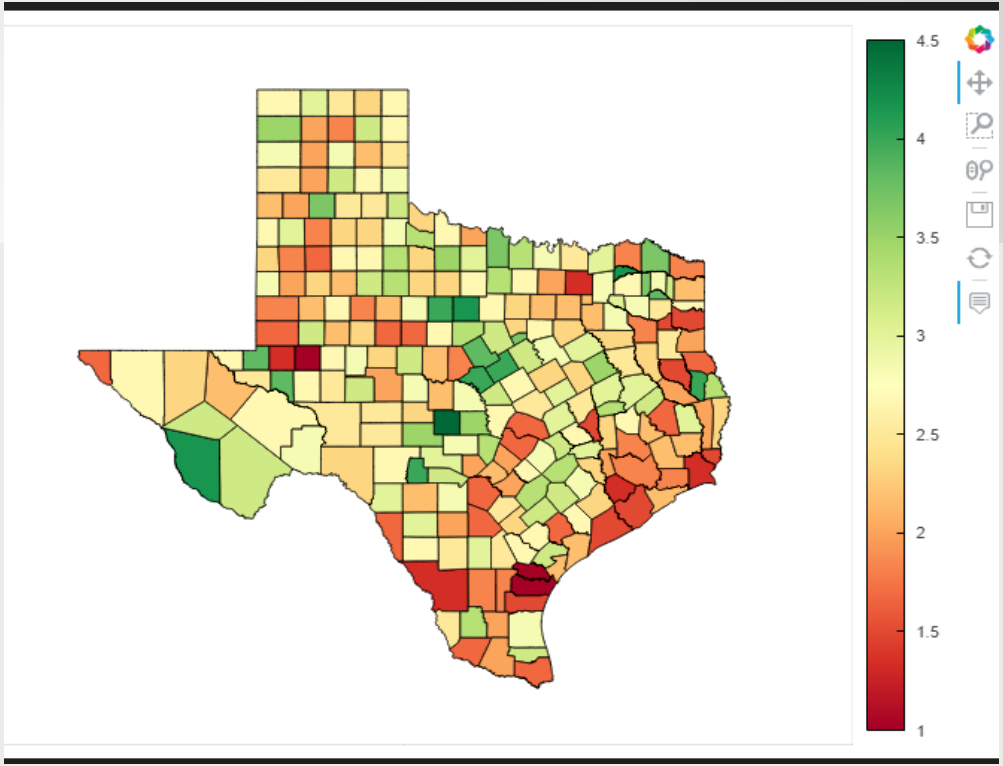
Top 5 least preferred county by Livability Score



COUNTY	Population	LIVABILITY GRADE	COVID SCORE	HOUSING SCORE	SAFTEY SCORE
Midland	176832	1	1	1	1
San Patricio	66730	1	1	1	1
Nueces	362294	1	1	1	1
Webb	276652	1.33	1	2	1
Fort Bend	811688	1.33	1	2	1

Texas Map Visualization

Counties by their livability grade



Questions ?

Thank you!!!