



# Business Ratings and the Impact of COVID

**TEAM RED**

ALEXANDER COFFIN

JOSEPH KORBEL

ANJALI SHARMA

# PROCESS AND OBJECTIVE

- Determine the average rating per business category in the United States for the years 2019, 2020, and 2021
- Determine number of cases of COVID for the years 2020 and 2021
- Analyze the data to determine which 10 business categories had the greatest change in average rating and which 10 business categories had the most consistent ratings from 2019 to 2020 and from 2020 to 2021
- Analyze the data to determine how the increase in cases of COVID affected average ratings for certain business categories

# Snowflake Queries

```
CREATE OR REPLACE VIEW covidcomp AS
SELECT avgrate.state, category_name, ratchg_2020, ratchg_2021, revchg_2020, revchg_2021, avg_case20, avg_case21
FROM covid_cases
FULL JOIN avgrate on avgrate.state = covid_cases.abbreviation;

-- select * from covidcomp limit 1000;
--Top 10 2021 biggest Losers
SELECT * FROM COVIDCOMP WHERE avg_case20 IS NOT NULL AND avg_case21 IS NOT NULL ORDER BY ratchg_2021, avg_case21 asc LIMIT 10;

-- TOP 10 2021 Winners
SELECT * FROM COVIDCOMP WHERE avg_case20 IS NOT NULL AND avg_case21 IS NOT NULL ORDER BY ratchg_2021, avg_case21 desc LIMIT 10;

--TOP 10 2020 Winner
SELECT * FROM COVIDCOMP WHERE avg_case20 IS NOT NULL AND avg_case21 IS NOT NULL ORDER BY ratchg_2020, avg_case20 asc LIMIT 10;

-- TOP 10 2021 Losers
SELECT * FROM COVIDCOMP WHERE avg_case20 IS NOT NULL AND avg_case21 IS NOT NULL ORDER BY ratchg_2020, avg_case20 desc LIMIT 10;
```

# Top 10 2021 Biggest Losses

	STATE	CATEGORY_NAME	RATCHG_2020	RATCHG_2021	REVCHG_2020	...	REVCHG_2021	AVG_CASE20	AVG_CASE21
1	ID	Addiction Medicine	11.111111111111	-100	-50		-100	941.318367	4,934.694291
2	ID	Emergency Rooms	-66.666666666666	-100	-50		-100	941.318367	4,934.694291
3	ID	Boxing	0	-100	0		-100	941.318367	4,934.694291
4	ID	Taekwondo	-80	-100	0		-100	941.318367	4,934.694291
5	ID	Cultural Center	0	-100	100		-100	941.318367	4,934.694291
6	ID	Brazilian Jiu-jitsu	0	-100	-80		-100	941.318367	4,934.694291
7	ID	British	33.333333333333	-100	-91.6666		-100	941.318367	4,934.694291
8	ID	Festivals	2.5641025641	-100	-81.25		-100	941.318367	4,934.694291
9	ID	Ear Nose & Throat	-8.5714285714	-100	-87.5		-100	941.318367	4,934.694291
10	ID	Real Estate Photography	0	-100	200		-100	941.318367	4,934.694291

# Top 10 2021 Biggest Gains

	STATE	CATEGORY_NAME	RATCHG_2020	RATCHG_2021	...	REVCHG_2020	REVCHG_2021	AVG_CASE20	AVG_CASE21
1	CA	Dive Shops	0	-100		100	-100	10,414.212011	70,664.519809
2	CA	Virtual Reality Centers	-4	-100		257.1428	-100	10,414.212011	70,664.519809
3	CA	Hookah Bars	45.8333515625	-100		-78.5714	-100	10,414.212011	70,664.519809
4	CA	Cosmetology Schools	-40	-100		100	-100	10,414.212011	70,664.519809
5	CA	Drama Schools	0	-100		-85.7142	-100	10,414.212011	70,664.519809
6	CA	Teeth Whitening	0	-100		100	-100	10,414.212011	70,664.519809
7	CA	Test Preparation	-57.1428510204	-100		-66.6666	-100	10,414.212011	70,664.519809
8	CA	Pool & Billiards	-8.333325	-100		0	-100	10,414.212011	70,664.519809
9	CA	Radio Stations	0	-100		-50	-100	10,414.212011	70,664.519809
10	CA	Marinas	400	-100		100	-100	10,414.212011	70,664.519809

# Top 10 2020 Biggest Losses

	STATE	CATEGORY_NAME	RATCHG_2020	RATCHG_2021	...	REVCHG_2020	REVCHG_2021	AVG_CASE20	AVG_CASE21
1	AZ	Cabaret	-100	0		-100	0	10,717.680837	63,631.333333
2	AZ	Musicians	-100	0		-100	0	10,717.680837	63,631.333333
3	AZ	Ticket Sales	-100	0		-100	0	10,717.680837	63,631.333333
4	AZ	Duplication Services	-100	0		-100	0	10,717.680837	63,631.333333
5	AZ	Wine Tasting Classes	-100	0		-100	0	10,717.680837	63,631.333333
6	AZ	Video/Film Production	-100	0		-100	0	10,717.680837	63,631.333333
7	AZ	Language Schools	-100	0		-100	0	10,717.680837	63,631.333333
8	AZ	Social Clubs	-100	0		-100	0	10,717.680837	63,631.333333
9	AZ	Vehicle Shipping	-100	0		-100	0	10,717.680837	63,631.333333
10	AZ	Immigration Law	-100	0		-100	0	10,717.680837	63,631.333333

# Top 10 2020 Biggest Gains

	STATE	CATEGORY_NAME	RATCHG_2020	RATCHG_2021	REVCHG_2020	...	REVCHG_2021	AVG_CASE20	AVG_CASE21
1	VT	Auto Repair	-100	0	-100		0	130.84305	1,846.93242
2	VT	Tires	-100	0	-100		0	130.84305	1,846.93242
3	VT	Gas Stations	-100	0	-100		0	130.84305	1,846.93242
4	VT	Roadside Assistance	-100	0	-100		0	130.84305	1,846.93242
5	VT	Automotive	-100	0	-100		0	130.84305	1,846.93242
6	VT	Towing	-100	0	-100		0	130.84305	1,846.93242
7	VT	Oil Change Stations	-100	0	-100		0	130.84305	1,846.93242
8	MT	Restaurants	-100	0	-100		0	392.182174	2,291.460176
9	MT	Food Trucks	-100	0	-100		0	392.182174	2,291.460176
10	MT	Burgers	-100	0	-100		0	392.182174	2,291.460176

# Biggest Losers 2020 without 0's

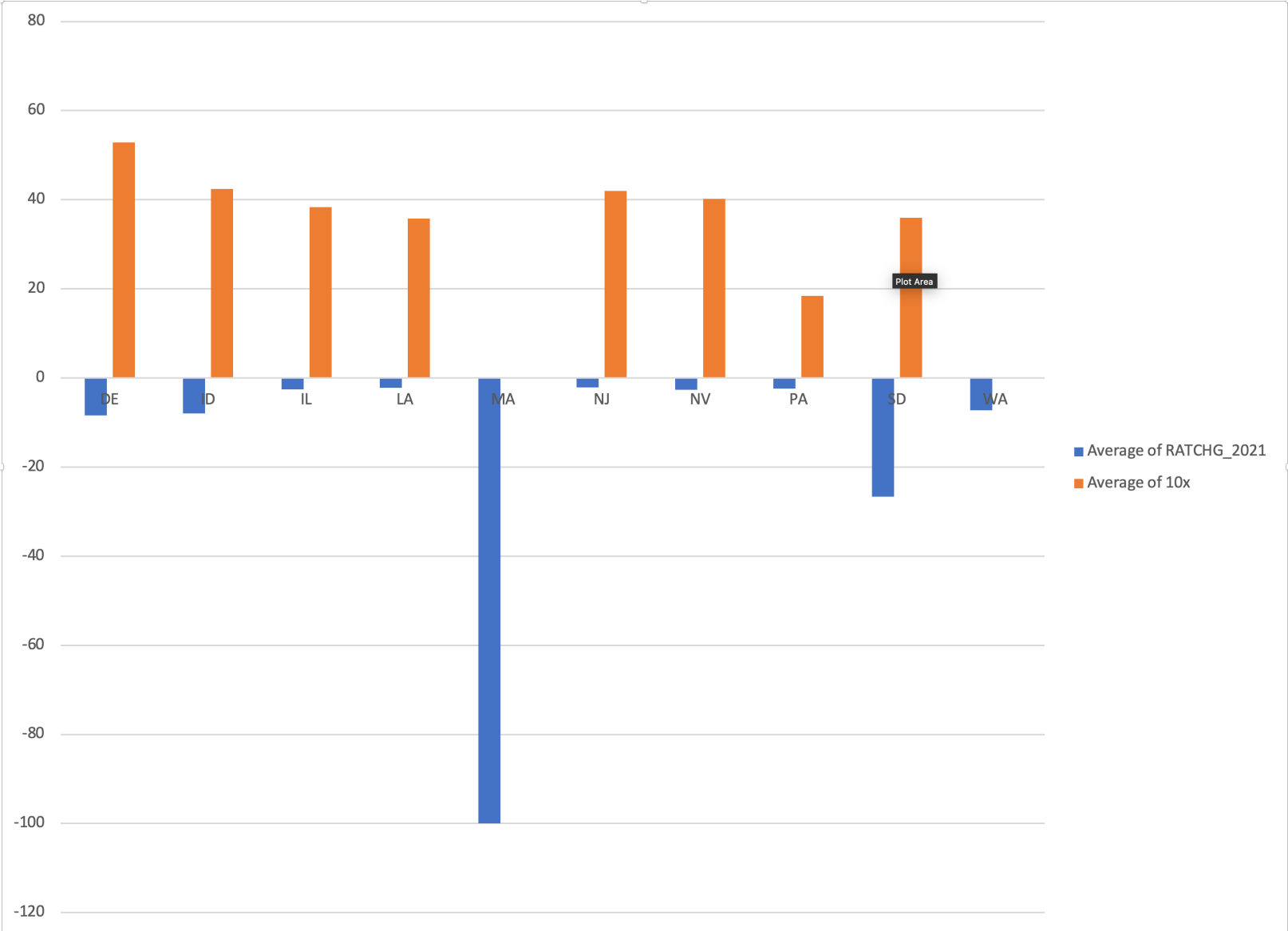
	<b>STATE</b>	<b>CATEGORY_NAME</b>	<b>RATCHG_2020</b>
1	CA	Cafeteria	-79.1666666666
2	MO	Employment Agencies	-79.1666666666
3	AZ	Animal Physical Therapy	-78.947368421
4	NJ	RV Rental	-78.571430102
5	FL	Mediators	-78.571430102
6	LA	Tax Services	-78.571430102
7	ID	Tubing	-78.571430102
8	ID	Skate Parks	-78.571430102
9	CA	Middle Schools & High Schools	-78.3783783783
10	AZ	Prosthetics	-78.2608695652



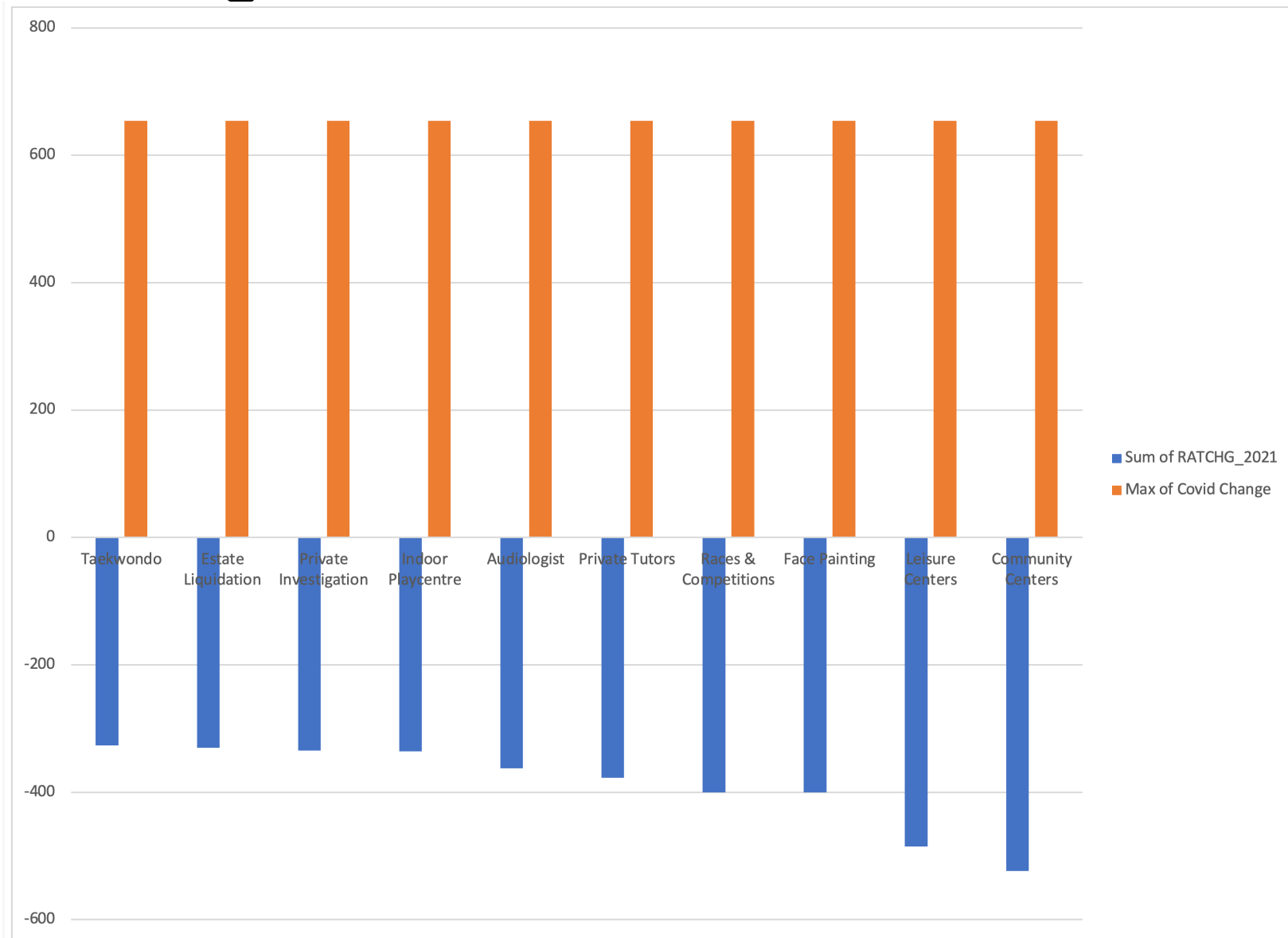
# BIGGEST Winners 2020 (Null and 0's filtered out)

	STATE	CATEGORY_NAME	RATCHG_2020
1	IL	Auto Customization	366.6667
2	NJ	Fire Protection Services	353.3333
3	ID	Business Financing	350
4	IL	Car Window Tinting	350
5	FL	Newspapers & Magazines	350
6	ID	Swimming Lessons/Schools	333.3333
7	FL	Bike Sharing	333.3333
8	PA	Grill Services	320
9	DE	Buses	300
10	FL	Military Surplus	300

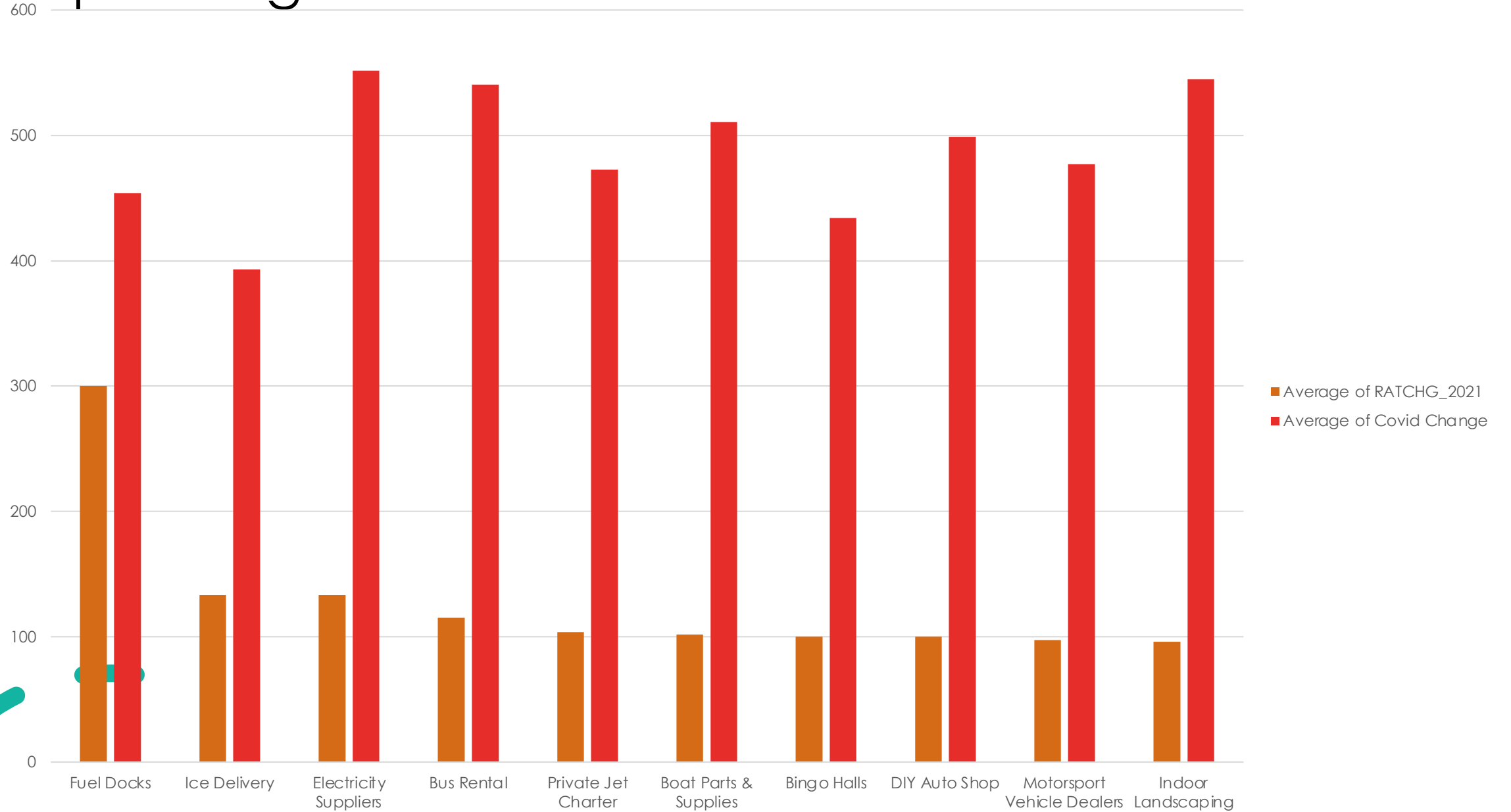
# 2021 Most Impacted States



# Bottom Categories



# Top Categories 2021



# Biggest hurdles in data set

- Null values compared against categories each year can skew the report
- Non-matching state values across data sets
- Contrasting large values on covid rates against growth percentages for quick analysis