ROAD ACCIDENTS ANALYSIS DASHBOARD

A PROJECT REPORT

Submitted by

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for

20ADC33 DATA ANALYSIS

DEPARTMENT OF ARTIFICIAL INTELLIGENCE

KONGU ENGINEERING COLLEGE
(Autonomous)

PERUNDURAI ERODE – 638 060

DECEMBER 2022

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Department of Artificial Intelligence

20ADC33 – Data Analysis Project Report

Signature of course in-charge

Signature of the HOD

Submitted for the continuous Assessment viva voice examination held on _____

EXAMINER I

EXAMINER II

ABSTRACT

It is being recorded that most people mainly youngsters die in Road Accidents. Road accidents is like a daily ritual in India, everybody witnesses it in their daily lives and would have been in one. Road accidents have become very common nowadays. As more and people are buying automobiles, the incidences of road accidents are just increasing day by day. Furthermore, people have also become more careless now. Not many people follow the traffic rules. Especially in big cities, there are various modes of transports. Moreover, the roads are becoming narrower and the cities have become more populated. Every year thousands of people lose their lives to road accidents. According to World Bank report India contributes to 11 percent of global deaths in road accidents. In 2018, India ranks 3 rd (Deaths: 150,785) and this trend never seem to steep down.

Road accidents will be resulting in death or bodily injury, which would give rise to third Party claims. Our project aims to get into past years accident data. And get some valuable insights and help reduce road accidents eventually lives. This dataset contains about 491 records of road accidents from the year 2001 to 2014 all-over the states of India.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This project is all about getting insights from the dataset that is extracted from online on a specific topic(i.e. “Road Accidents Analysis”). Not all datasets are clean and legible, so it is prescribed to use many data modelling methods and DAX functions and create new columns and measures and alter/update our dataset into a tangible one. Incorrect or incomplete dataset are should be cleaned before getting the dataset for analysis. And POWER BI and POWER PIVOT are used to analyses and extract valuable insights from the vast dataset.

1.2 DATA COLLECTION

Data regarding Road Accident were collected from Kaggle, (Online community platform for data scientists and machine learning enthusiasts.)

https://www.kaggle.com/datasets/manugupta/road-accidents-in-india

This dataset contains the list of road accidents in every Indian state and union territories (e.g., Andhra Pradesh, Tamil Nadu….), with which year it took place (from 2001,…,2014) with which time range it took place (0-3 hrs night, 6-9 hrs day…). It contains 491 records, i.e., 491 rows and 11 columns.

1.3 PROBLEM STATEMENT

The major cause for early death nowadays results road accident. It's being recorded that this occurs due to fearlessness of young people. Due to increase in population and inconvenience in space for common use, roads have become narrow. This creates an unhealthy way for riding. Not all accidents end up with death, some cause bodily injury. Which is more most than death.

1.4 BUSSINESS OBJECTIVE

1. Which year contributes to maximum no. of accidents?
2. Which year contributes to minimum no. of accidents?
3. Which states contributes to maximum no. of accidents?
4. Which states contributes to minimum no. of accidents?
5. Compare the total day and night accident in Himachal Pradesh?
6. Total no. of accidents occurred in Maharashtra in march 2004?
7. Compare the no. of first and second half accidents in 2009?
8. Compare the no. of accidents in Kerala between years 2003 to 2006?
9. Find the no. of accidents in different time range in 2014 in the state category?
10. Compare the no. of accidents between 2001 to 2014 in Tamil Nadu?
11. Find the no. of accidents between 12am to 3am in the year of 2013?
12. Compare the no. of accidents occurred in the month of may in each and every STATE/UT?
13. Compare the no. of accidents between 6pm to 9pm in each and every year between 2001 to 2014 in Andhra Pradesh?
14. Compare the total day and night accidents in Goa?
15. Find the states where accidents occurs mostly in night time?
16. Find the list of year where most accidents occurs in second half?
17. Find the state in year where maximum accidents in daytime has ever been recorded in between 2001 to 2014?
18. Check Whether no. of accidents in Gujarat 2010 is more or less than average no. of accidents in Gujarat?
19. List the accidents took place in 2001 to 2014 in Odisha?
20. What is the percentage of increase in no. of accidents from 2013 to 2014?

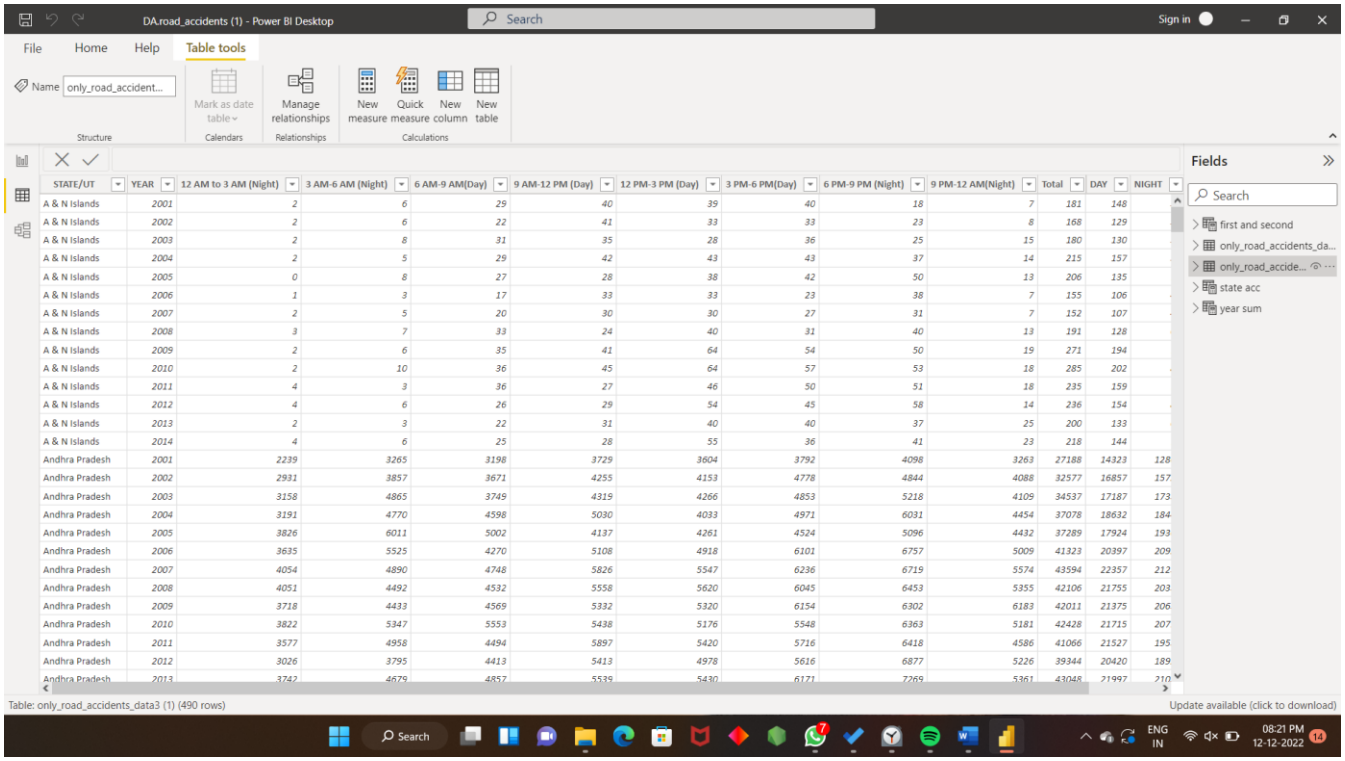
CHAPTER 2

DATA PREPARATION AND MODELING

2.1 DATA CLEANING:

This is a process of making the data more standardized, by removing or replacing null values and making it more accessible for the analyst to access and analyze the data and get the required insights that can bring out some revelations appropriate to the problem statement.

As our dataset is regarding the road accidents in India, there is not a single day without accidents, so we got zero null values in our dataset, which seems so comfortable.



STATE/UT	YEAR	12 AM to 3 AM (Night)	3 AM-6 AM (Night)	6 AM-9 AM(Day)	9 AM-12 PM (Day)	12 PM-3 PM (Day)	3 PM-6 PM(Day)	6 PM-9 PM (Night)	9 PM-12 AM(Night)	Total	DAY	NIGHT
A & N Islands	2001	2	6	29	40	39	40	18	7	181	148	
A & N Islands	2002	2	6	22	41	33	33	23	8	168	129	
A & N Islands	2003	2	8	31	35	28	36	25	15	180	130	
A & N Islands	2004	2	5	29	42	43	43	37	14	215	157	
A & N Islands	2005	0	8	27	28	38	42	50	13	206	135	
A & N Islands	2006	1	3	17	33	33	23	38	7	155	106	
A & N Islands	2007	2	5	20	30	30	27	31	7	152	107	
A & N Islands	2008	3	7	33	24	40	31	40	13	191	128	
A & N Islands	2009	2	6	35	41	64	54	50	19	271	194	
A & N Islands	2010	2	10	36	45	64	57	53	18	285	202	
A & N Islands	2011	4	3	36	27	46	50	51	18	235	159	
A & N Islands	2012	4	6	26	29	54	45	58	14	236	154	
A & N Islands	2013	2	3	22	31	40	40	37	25	200	133	
A & N Islands	2014	4	6	25	28	55	36	41	23	218	144	
Andhra Pradesh	2001	2239	3265	3198	3729	3604	3792	4098	3263	27188	14323	128
Andhra Pradesh	2002	2931	3857	3671	4255	4153	4778	4844	4088	32577	16857	157
Andhra Pradesh	2003	3158	4865	3749	4319	4266	4853	5218	4109	34537	17187	173
Andhra Pradesh	2004	3191	4770	4598	5030	4033	4971	6031	4454	37078	18632	184
Andhra Pradesh	2005	3826	6011	5002	4137	4261	4524	5096	4432	37289	17924	193
Andhra Pradesh	2006	3635	5525	4270	5108	4918	6101	6757	5009	41323	20397	209
Andhra Pradesh	2007	4054	4890	4748	5826	5547	6236	6719	5574	43594	22357	212
Andhra Pradesh	2008	4051	4492	4532	5558	5620	6045	6453	5355	42106	21755	203
Andhra Pradesh	2009	3718	4433	4569	5332	5320	6154	6302	6183	42011	21375	206
Andhra Pradesh	2010	3822	5347	5553	5438	5176	5548	6363	5181	42428	21715	207
Andhra Pradesh	2011	3577	4958	4494	5897	5420	5716	6418	4586	41066	21527	195
Andhra Pradesh	2012	3026	3795	4413	5413	4978	5616	6877	5226	39344	20420	189
Andhra Pradesh	2013	3742	4679	4857	5539	5430	6171	7269	5361	43048	21997	210

Columns were renamed with the time limits of 3 hours which makes it much easier to understand in which time limit the accident has occurred.

2.2 DATA TRANSFORMATION

Data transformation is the process of converting data from one format, such as a database file, XML document or Excel spreadsheet, into another. Transformations typically involve converting a raw data source into a cleansed, validated and ready-to-use format.

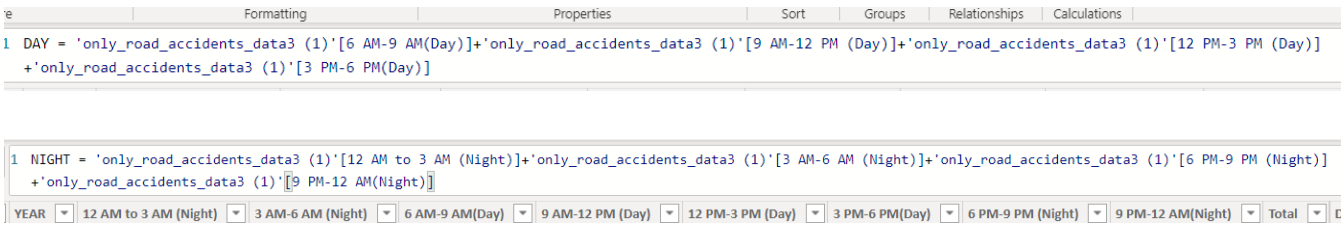
Benefits:

- higher data quality;
- reduced number of mistakes, such as missing values;
- faster queries and retrieval times;
- less resources needed to manipulate data;
- better data organization and management; and
- more usable data, especially for advanced business intelligence or analytics.

DAY	NIGHT
148	33
129	39
130	50
157	58
135	71
106	49
107	45
128	63
194	77
202	83
159	76
154	82
133	67
144	74
14323	12865
16857	15720
17187	17350
18632	18446
17924	19365
20397	20926
22357	21237
21755	20351
21375	20636
21715	20713
21527	19539
20420	18924

Two columns were created in order to make it convenient to know the number of accidents which happened in Daytime and Night time.

DAX FORMULA USED:



Tables were created accordingly:

The table below provides the number of accidents took place in each states and union territories with giving the number of accidents in night and day time.

only_road_accidents_data3 (1)_STATE/UT	state_accidents	Nightaccidents	Dayaccidents	nightorday
A & N Islands	2893	867	2026	Day
Andhra Pradesh	546821	267861	278960	Day
Arunachal Pradesh	3389	1100	2289	Day
Assam	61718	16443	45275	Day
Bihar	92648	36623	56025	Day
Chandigarh	6411	3127	3284	Day
Chhattisgarh	117817	48403	69414	Day
D & N Haveli	1303	588	715	Day
Daman & Diu	643	295	348	Day
Delhi (Ut)	119274	60285	58989	Night
Goa	44931	16783	28148	Day
Gujarat	300325	124665	175660	Day
Haryana	131921	60800	71121	Day
Himachal Pradesh	37105	14619	22486	Day
Jammu & Kashmir	82820	24084	58736	Day
Jharkhand	46209	18407	27802	Day
Karnataka	584761	250435	334326	Day
Kerala	518161	164182	353979	Day
Lakshadweep	14	8	6	Night
Madhya Pradesh	394007	148903	245104	Day
Maharashtra	641614	295145	346469	Day
Manipur	8130	1924	6206	Day
Meghalaya	3863	1576	2287	Day
Mizoram	1116	484	632	Day

DAX formula used to create the above table:

```
state acc = GROUPBY('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[STATE/UT],"Nightaccidents",SUMX(CURRENTGROUP(),'only_road_accidents_data3 (1)'[12 AM to 3 AM (Night)]+'only_road_accidents_data3 (1)'[3 AM-6 AM (Night)]+'only_road_accidents_data3 (1)'[6 PM-9 PM (Night)]+'only_road_accidents_data3 (1)'[9 PM-12 AM(Night)]),
"Dayaccidents",SUMX(CURRENTGROUP(),'only_road_accidents_data3 (1)'[12 PM-3 PM (Day)]+'only_road_accidents_data3 (1)'[3 PM-6 PM(Day)]+'only_road_accidents_data3 (1)'[6 AM-9 AM (Day)]+'only_road_accidents_data3 (1)'[9 AM-12 PM (Day)]),"state_accidents",SUMX(CURRENTGROUP(),[12 AM to 3 AM (Night)]+[3 AM-6 AM (Night)]+[6 AM-9 AM(Day)]+[9 AM-12 PM (Day)]+
[12 PM-3 PM (Day)]+[3 PM-6 PM(Day)]+[6 PM-9 PM (Night)]+[9 PM-12 AM(Night)]))
```

The table below gives information about the total number of accidents took place in every year from 2001 to 2014 which is further divided into day and night time accidents.

only_road_accidents_data3 (1)_YEAR	sum	Daytime	Nighttime
2001	323720	189121	134599
2002	335707	197394	138313
2003	336468	195677	140791
2004	361343	211355	149988
2005	390378	231022	159356
2006	394432	224788	169644
2007	418657	238658	179999
2008	415855	238946	176909
2009	421628	243336	178292
2010	430654	248374	182280
2011	440123	258285	181838
2012	440042	257901	182141
2013	443001	259110	183891
2014	450898	268069	182829

DAX formula used to create the above table:

```
1 year sum = GROUPBY('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR],"sum",SUMX(CURRENTGROUP(),[12 AM to 3 AM (Night)]+[3 AM-6 AM (Night)]+[6 AM-9 AM(Day)]+
  [9 AM-12 PM (Day)]+[12 PM-3 PM (Day)]+[3 PM-6 PM(Day)]+[6 PM-9 PM (Night)]+[9 PM-12 AM(Night)]),"Nighttime",SUMX(CURRENTGROUP(),'only_road_accidents_data3 (1)'[12 AM to 3 AM
  (Night)]+'only_road_accidents_data3 (1)'[3 AM-6 AM (Night)]+'only_road_accidents_data3 (1)'[6 PM-9 PM (Night)]+'only_road_accidents_data3 (1)'[9 PM-12 AM(Night)]),"Daytime",SUMX
  (CURRENTGROUP(),'only_road_accidents_data3 (1)'[12 PM-3 PM (Day)]+'only_road_accidents_data3 (1)'[3 PM-6 PM(Day)]+'only_road_accidents_data3 (1)'[6 AM-9 AM(Day)]
  +'only_road_accidents_data3 (1)'[9 AM-12 PM (Day)]))
```

The table below gives information about the number of accidents took place in every year from 2001 to 2014 which is further divided into accidents took place in first half(January to June) and second half(July to December).

only_road_accidents_data_month2_YEAR	firsthalf	secondhalf	totalyear	firstorsecond
2001	166576	157144	323720	First
2002	171515	164192	335707	First
2003	167600	168868	336468	Second
2004	184145	177198	361343	First
2005	214008	176370	390378	First
2006	202938	191494	394432	First
2007	217518	201139	418657	First
2008	216704	199151	415855	First
2009	216040	205588	421628	First
2010	223782	206872	430654	First
2011	229102	211021	440123	First
2012	228085	211957	440042	First
2013	231960	211041	443001	First
2014	232959	217939	450898	First

DAX formula used to create the above table:

```
first and second = GROUPBY(only_road_accidents_data_month2,only_road_accidents_data_month2[YEAR],"firsthalf",SUMX(CURRENTGROUP(),only_road_accidents_data_month2[JANUARY]
+only_road_accidents_data_month2[FEBRUARY]+only_road_accidents_data_month2[MARCH]+only_road_accidents_data_month2[APRIL]+only_road_accidents_data_month2[MAY]
+only_road_accidents_data_month2[JUNE]),"secondhalf",SUMX(CURRENTGROUP(),only_road_accidents_data_month2[JULY]+only_road_accidents_data_month2[AUGUST]
+only_road_accidents_data_month2[SEPTEMBER]+only_road_accidents_data_month2[OCTOBER]+only_road_accidents_data_month2[NOVEMBER]+only_road_accidents_data_month2[DECEMBER]),
"totalyear",SUMX(CURRENTGROUP(),only_road_accidents_data_month2[JANUARY]+only_road_accidents_data_month2[FEBRUARY]+only_road_accidents_data_month2[MARCH]
+only_road_accidents_data_month2[APRIL]+only_road_accidents_data_month2[MAY]+only_road_accidents_data_month2[JUNE]+only_road_accidents_data_month2[JULY]
+only_road_accidents_data_month2[AUGUST]+only_road_accidents_data_month2[SEPTEMBER]+only_road_accidents_data_month2[OCTOBER]+only_road_accidents_data_month2[NOVEMBER]
+only_road_accidents_data_month2[DECEMBER]))
```

All the new tables have been created using the function called GROUP BY from the pre-existing tables form our initial dataset that has been taken from Kaggle.

GROUP BY: This particular function in POWER BI can be used to summarise the data with using one or more aggregate functions.

2.3 DATA MODELLING:

Data modeling is the process of analyzing and defining all the different data your business collects and produces, as well as the relationships between those bits of data. Data modeling concepts create visual representations of data as it's used at your business, and the process itself is an exercise in understanding and clarifying your data requirements.

Measures have been created in order to make the way of analysis easier:

1.
```
mah2004march =
CALCULATE(SUM(only_road_accidents_data_month2[MARCH]),FILTER(only_road_accidents_data_month2,
only_road_accidents_data_month2[STATE/UT]="Maharashtra"),FILTER(only_road_accidents_data_mont
h2,only_road_accidents_data_month2[YEAR]=2004))
```

the above measure evaluates the total number of accidents took place in Maharashtra in the month of March, 2004.

2.
```
tamilnadumay =
CALCULATE(SUM(only_road_accidents_data_month2[MAY]),FILTER(only_road_accidents_data_month2,on
ly_road_accidents_data_month2[STATE/UT]="Tamil Nadu"))
```

the above measure evaluates the total number of accidents took place in Tamil Nadu in the month of May, 2001 to 2014.

3.
```
averageguj = CALCULATE(AVERAGE('only_road_accidents_data3
(1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3
(1)'[STATE/UT]="Gujarat"))
```

the above measure evaluates the average number of accidents by year in Gujarat.

4.
```
maxguj = CALCULATE(MAX('only_road_accidents_data3
(1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3
(1)'[STATE/UT]="Gujarat"))
```

the above measure evaluates the maximum number of accidents recorder in an entire year in Gujarat.

5.
```
minguj = CALCULATE(MIN('only_road_accidents_data3
(1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3
(1)'[STATE/UT]="Gujarat"))
```

the above measure evaluates the minimum number of accidents recorder in an entire year in Gujarat.

6.
```
gujarat2010 = CALCULATE(SUM('only_road_accidents_data3
(1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3
(1)'[STATE/UT]="Gujarat"),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3
(1)'[YEAR]=2010))
```

the above measure evaluates the total number of accidents occurred in Gujarat in 2010.

7.
```
maxstateaccidents = MAX('state acc'[state_accidents])
```

the above measure evaluates the maximum number of accidents statewise.

8.
```
total12to3am-2013 = CALCULATE(SUM('only_road_accidents_data3 (1)'[12 AM to 3 AM (Night)]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR]=2013))
```

the above measure evaluates the total number of accidents took place in the time range 12 AM to 3 AM in the year 2013.

9.
```
kerala2003 = CALCULATE(SUM('only_road_accidents_data3 (1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[STATE/UT]="Kerala"),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR]=2003))
```

the above measure calculates the total number of accidents happened in Kerala in the year 2003.

10.
```
kerala2004 = CALCULATE(SUM('only_road_accidents_data3 (1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[STATE/UT]="Kerala"),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR]=2004))
```

the above measure calculates the total number of accidents happened in Kerala in the year 2004.

11.
```
kerala2005 = CALCULATE(SUM('only_road_accidents_data3 (1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[STATE/UT]="Kerala"),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR]=2005))
```

the above measure calculates the total number of accidents happened in Kerala in the year 2005.

12.
```
kerala2006 = CALCULATE(SUM('only_road_accidents_data3 (1)'[Total]),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[STATE/UT]="Kerala"),FILTER('only_road_accidents_data3 (1)','only_road_accidents_data3 (1)'[YEAR]=2006))
```

the above measure calculates the total number of accidents happened in Kerala in the year 2006.

13.
```
maxnight = MAX('state acc'[Nightaccidents])
```

the above measure evaluates the Maximum number of accidents occurred in night time out of all given states.

14.
```
minstate = CALCULATE(MIN('state acc'[state_accidents]))
```

the above measure evaluates the Minimum number of accidents occurred out of all states.

15.
```
2013acci = CALCULATE(SUM('year sum'[sum]),FILTER('year sum','year sum'[only_road_accidents_data3 (1)_YEAR]=2013))
```

the above measure evaluates the total number of accidents happened in year 2013.

16.
```
2014acci = CALCULATE(SUM('year sum'[sum]),FILTER('year sum','year sum'[only_road_accidents_data3 (1)_YEAR]=2014))
```

the above measure evaluates the total number of accidents happened in year 2014.

17.
```
maxyear = CALCULATE(MAX('year sum'[sum]))
```

the above measure evaluates the maximum number of accidents among 2001 to 2014.

18.
```
minyear = CALCULATE(MIN('year sum'[sum])
```

the above measure evaluates the minimum number of accidents among 2001 to 2014.

19.
```
percent_inc_2013to2014 = (([2014acci]-[2013acci])/[2013acci])*100
```

the above measure evaluates the percentage increase in number of accidents from 2013 to 2014.

Columns added:

1.
```
firstorsecond = IF('first and second'[firsthalf]>'first and second'[secondhalf],"First","Second")
```

the above DAX formula gives information if the year has more accidents in first half or second half.

2.
```
nightorday = IF('state acc'[Dayaccidents]<'state acc'[Nightaccidents],"Night","Day")
```

the above the DAX formula gives information if the particular state has more accidents in Day or Night time.

nightorday
Day
Day
Day
Day
Day
Day
Day
Day
Day
Night
Day
Day
Day
Day
Day
Day
Day
Day
Night
Day
Day
Day
Day
Day
Day
Day

firstorsecond
First
First
Second
First
First
First
First
First
First
First
First
First
First
First

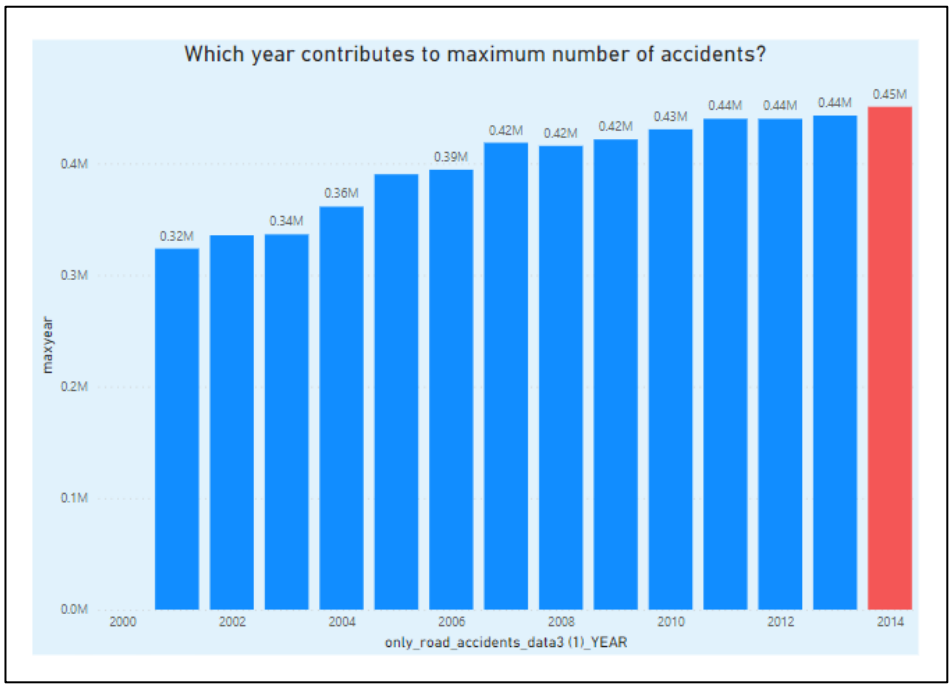
CHAPTER 3

DATA ANALYSIS AND INTERPRETATION

3.1 DATA ANALYSIS

For analyzing the dataset, 20 questions where taken. For which visualization was done in Power BI.

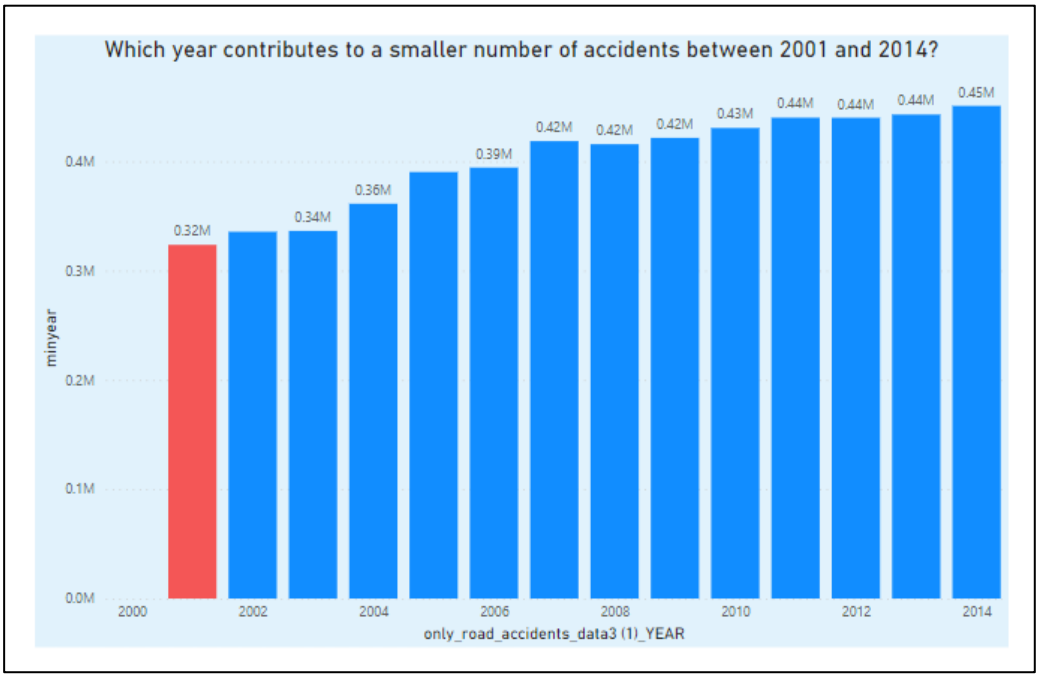
1. Which year contributes to maximum number of accidents?



INFERENCE :

The year 2014 contributes maximum number of accidents.

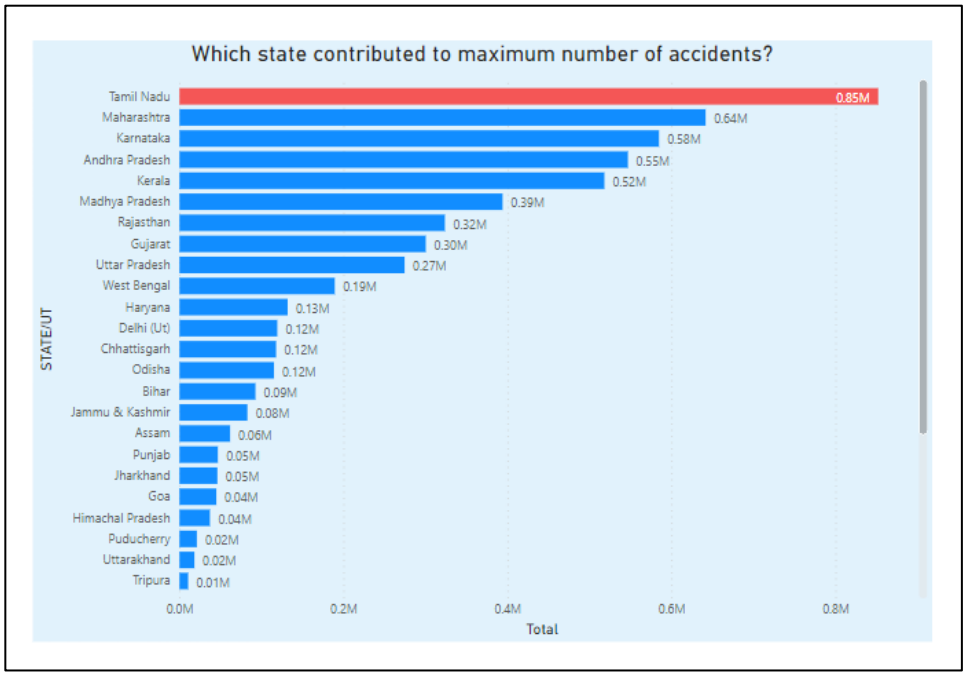
2. Which year contributes to minimum number of accidents?



INFERENCE:

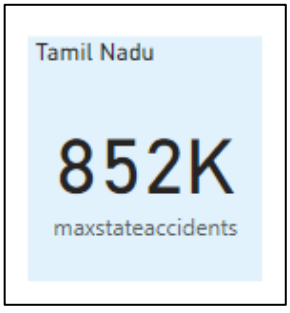
The year 2001 contributes minimum number of accidents.

3. Which states contributes to maximum number of accidents?

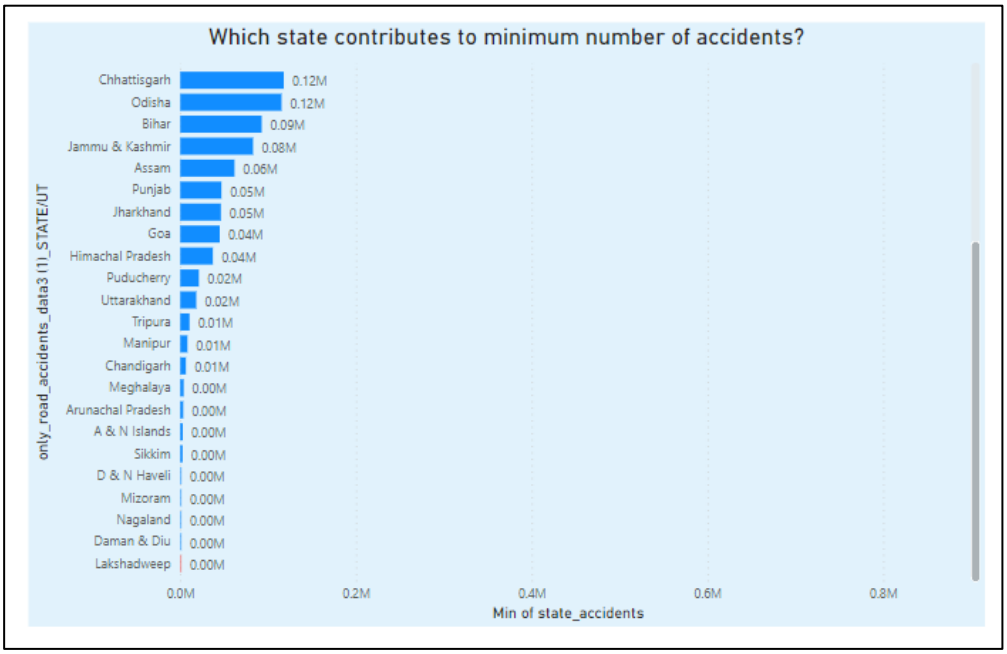


INFERENCE:

TAMIL NADU contributes maximum number of accidents in the period of 2001 to 2014.



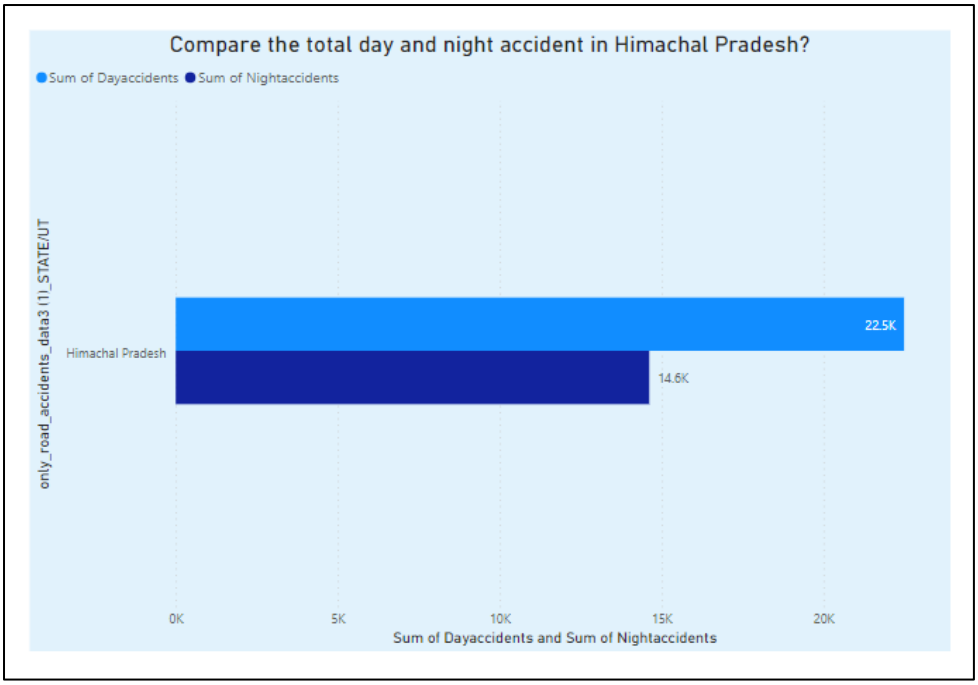
4. Which states contributes to minimum number of accidents?



INFERENCE:

LAKSHADWEEP contributes minimum number of accidents in the year 2001 to 2014.

5. Compare the total day and night accident in Himachal Pradesh?



INFERENCE:

While comparing the accidents occurred in day and night time in Himachal Pradesh, Day time has been observed as maximum accidents occurred.

6. Total no. of accidents occurred in Maharashtra in march 2004?

DAX MEASURE USED:

```
mah2004march=CALCULATE(SUM(only_road_accidents_data_month2[MARCH]),FILTER(only_
road_accidents_data_month2,only_road_accidents_data_month2[STATE/UT]="Maharashtra"),
FILTER(only_road_accidents_data_month2,only_road_accidents_data_month2[YEAR]=2004))
```

Total no. of accidents occurred in Maharashtra in march 2004?

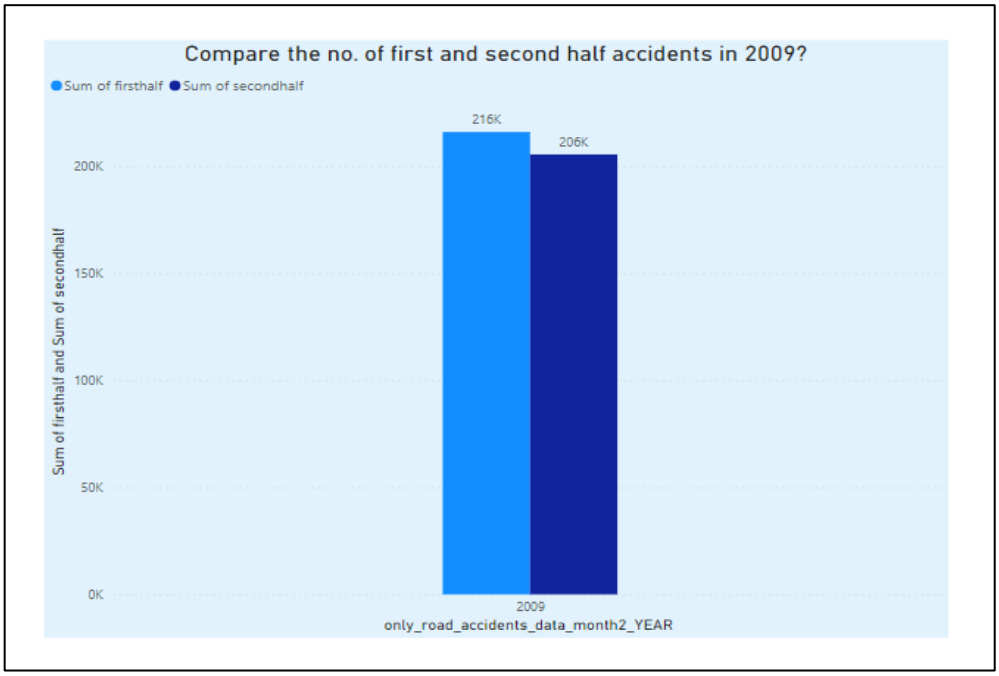
3677

mah2004march

INFERENCE:

On March 2004 alone 3677 accidents has been observed in Maharashtra.

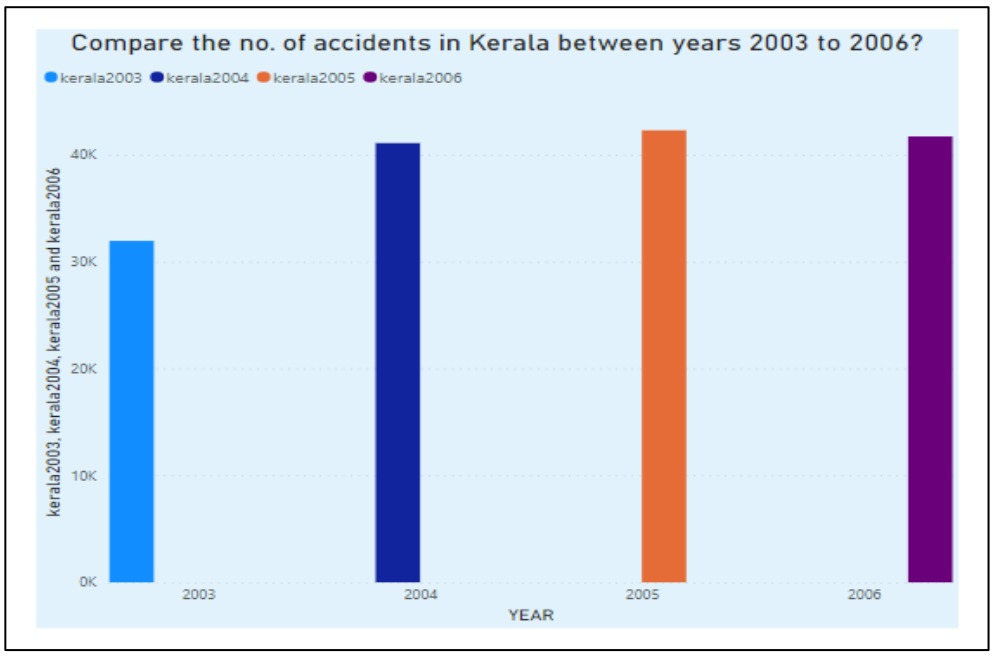
7. Compare the no. of first and second half accidents in 2009?



INFERENCE:

First half of the year (I.e., Jan – Jun) is observed to have more accidents in the year of 2009.

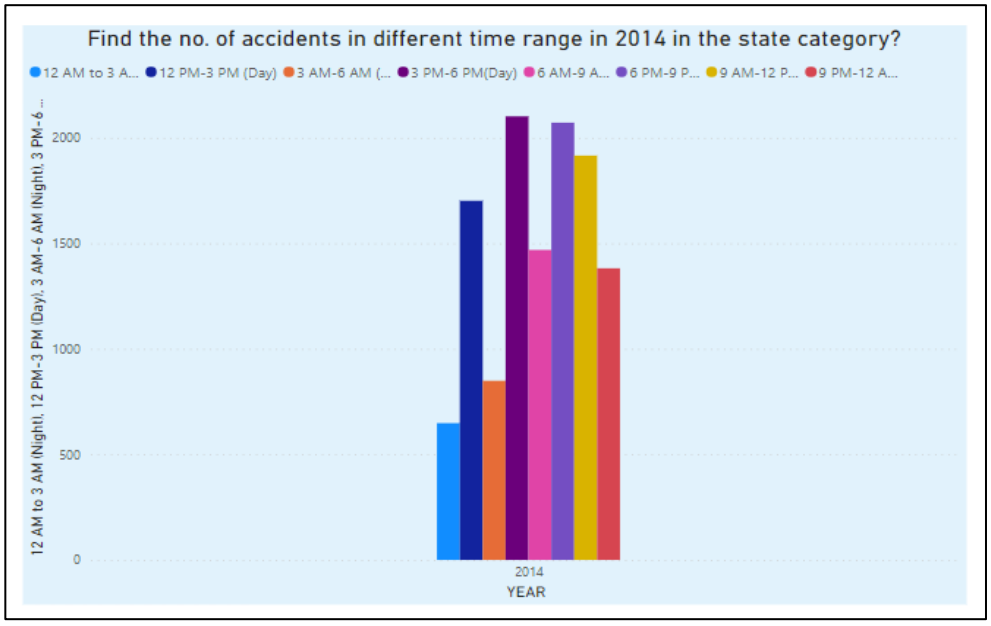
8. Compare the no. of accidents in Kerala between years 2003 to 2006?



INFERENCE:

2005 has more accidents occurred among the years 2003 to 2006, in Kerala.

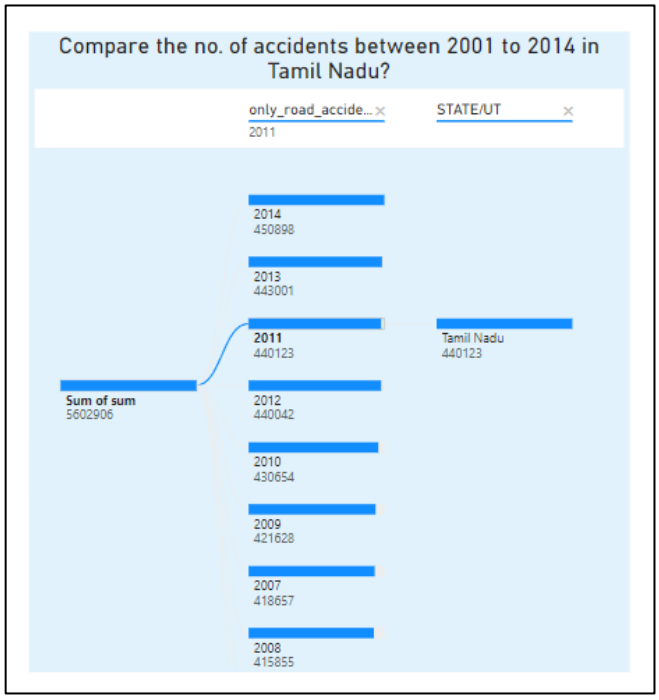
9. Find the no. of accidents in different time range in 2014 in the state category?



INFERENCE:

During 3 PM to 6 PM more accidents are recorded in 2014 allover India.

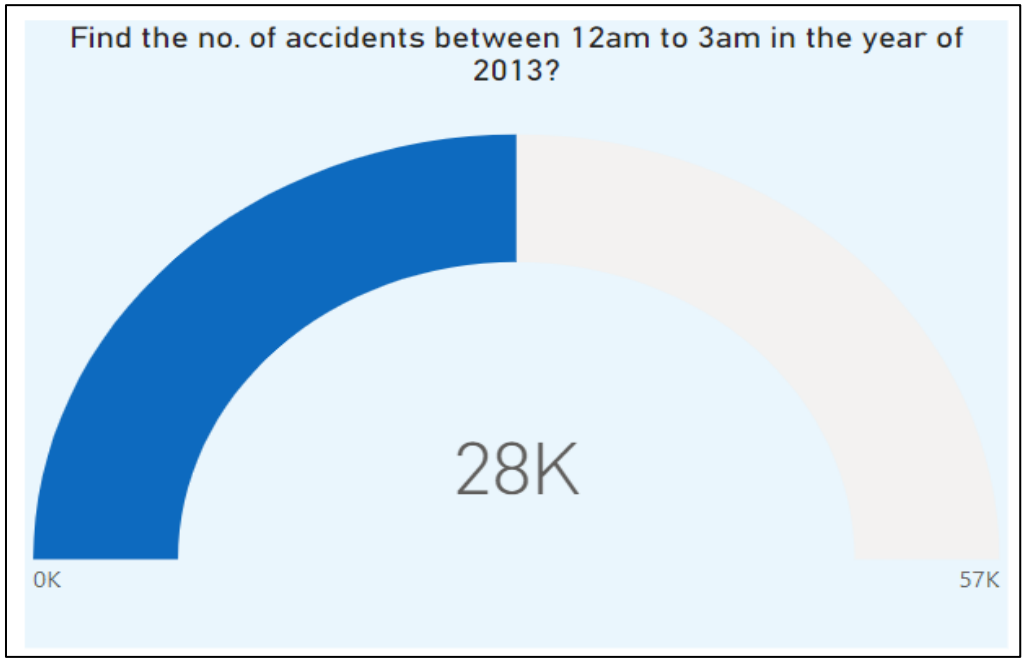
10. Compare the no. of accidents between 2001 to 2014 in Tamil Nadu?



INFERENCE:

Tamil Nadu has an increased rate of accidents from 2001 to 2014.

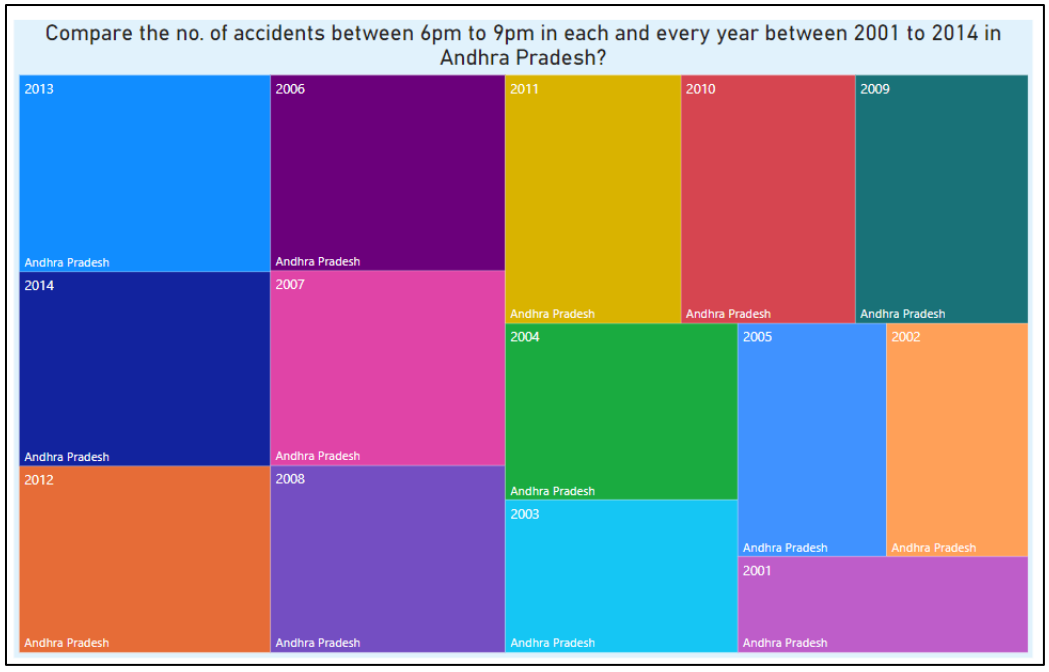
11. Find the no. of accidents between 12am to 3am in the year of 2013?



INFERENCE:

Accidents occurred in-between 12AM to 3AM in the year of 2013 is 28K.

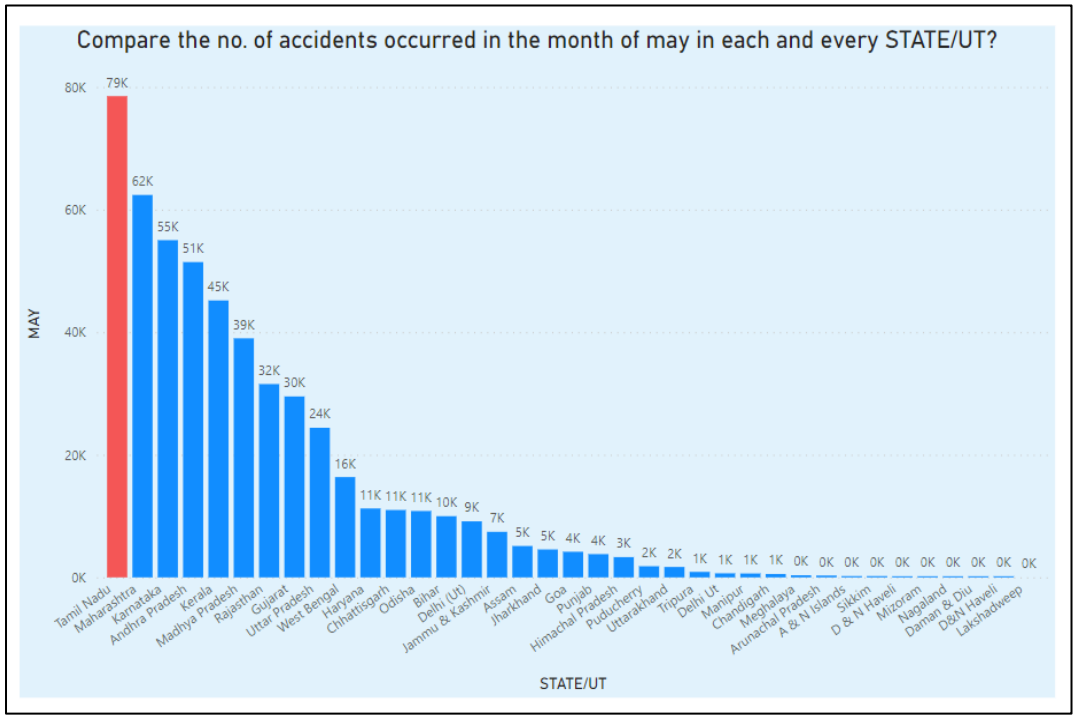
12. Compare the no. of accidents between 6pm to 9pm in each and every year between 2001 to 2014 in Andhra Pradesh?



INFERENCE:

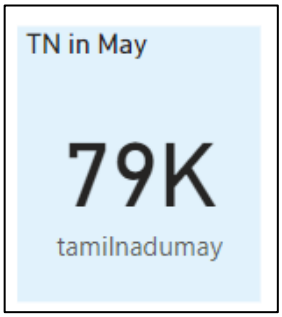
Number of accidents occurred during 6PM to 9PM in Andhra Pradesh in the year 2001 to 2014.

13. Compare the no. of accidents occurred in the month of may in each and every STATE/UT?

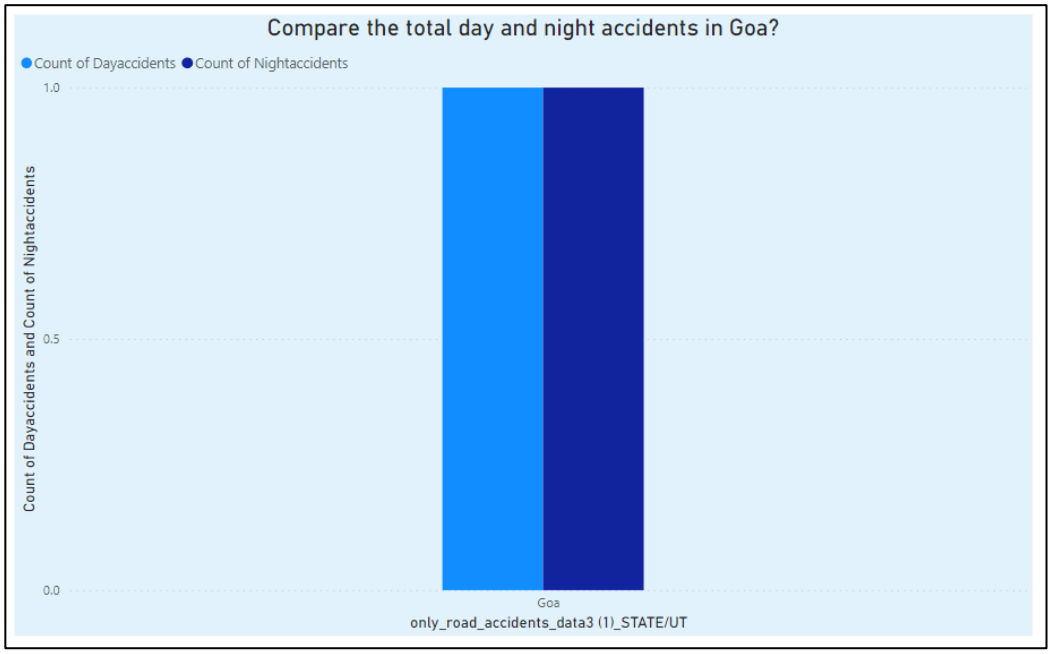


INFERENCE:

Accidents occurred in the month of May all-over the States and Union Territory, Tamil Nadu has highest number of accidents.



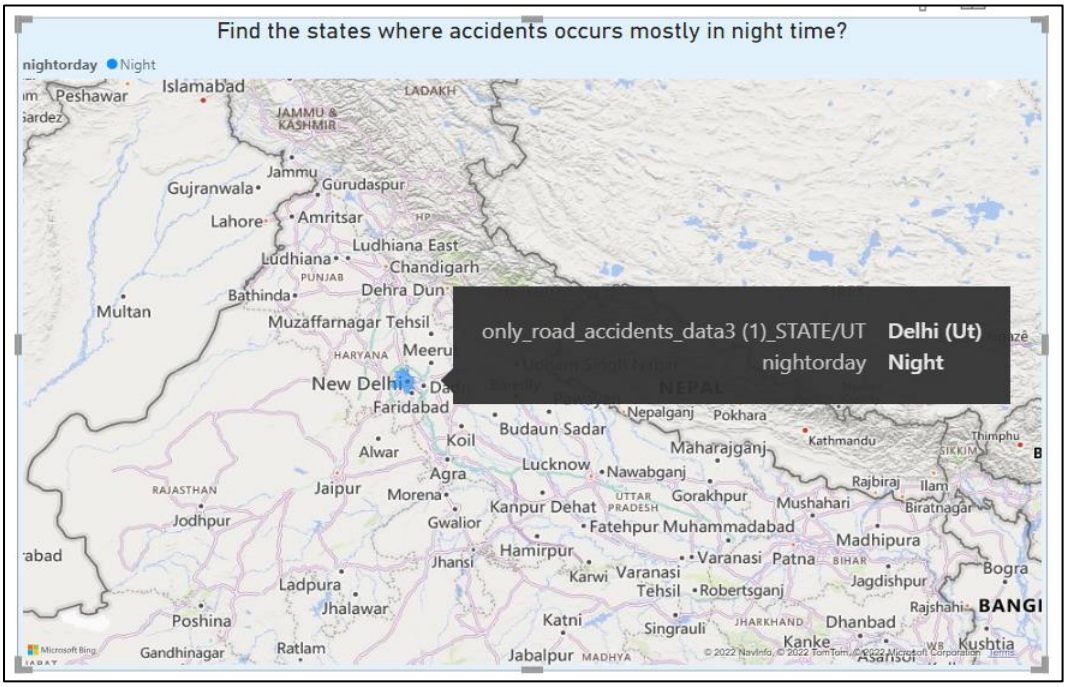
14. Compare the total day and night accidents in Goa?



INFERENCE:

Number of accidents occurred during day and night time in Goa remains same.

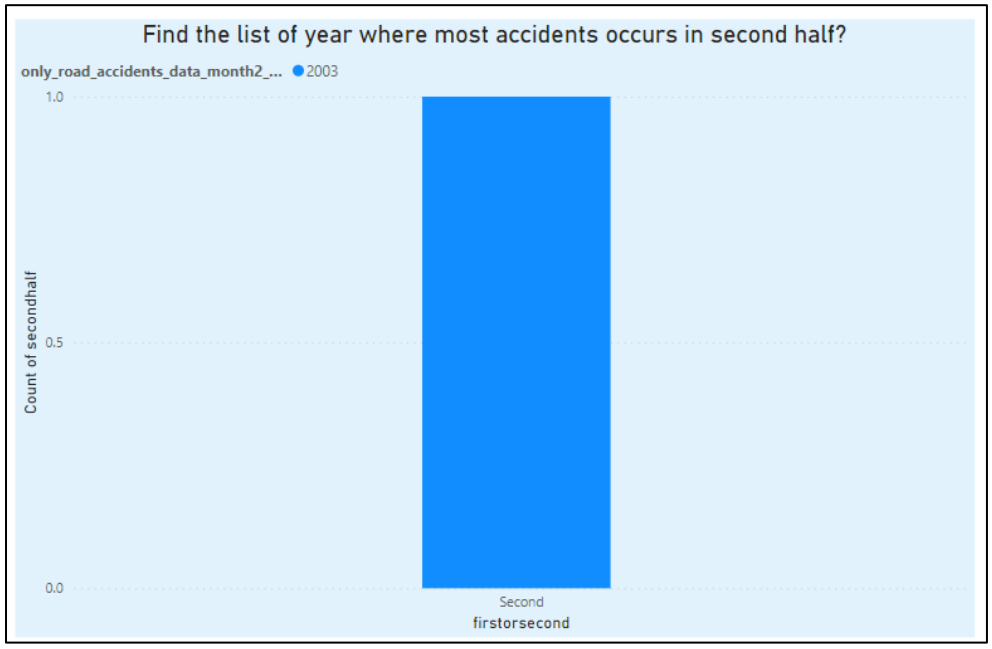
15. Find the states where accidents occurs mostly in night time?



INFERENCE:

During night time DELHI is observed to have more number of accidents occurred.

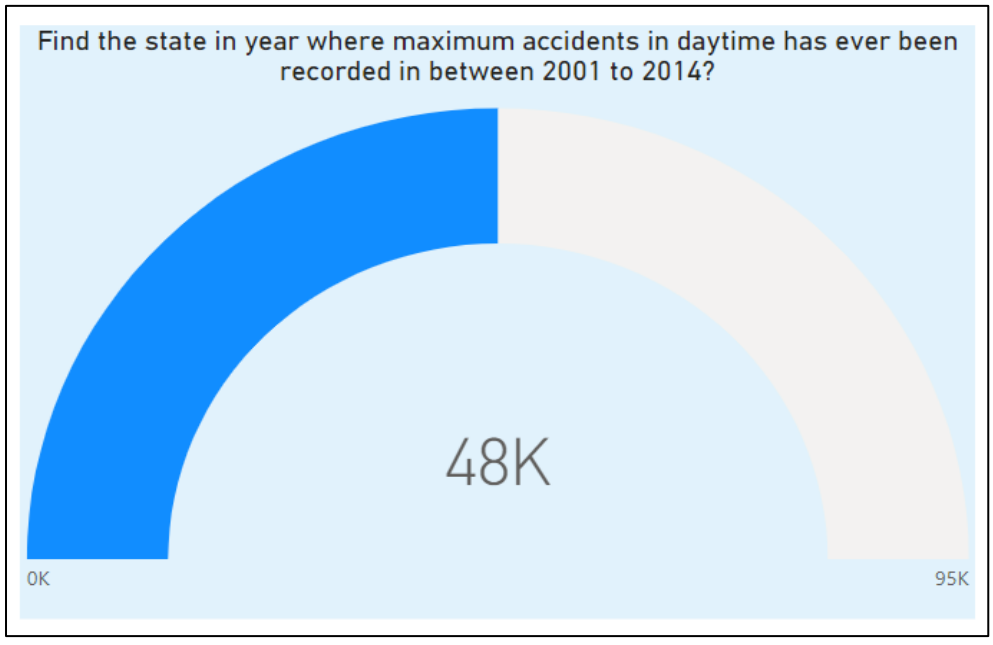
16. Find the list of year where most accidents occurs in second half?



INFERENCE:

In 2003, most accidents occurred in Second Half.

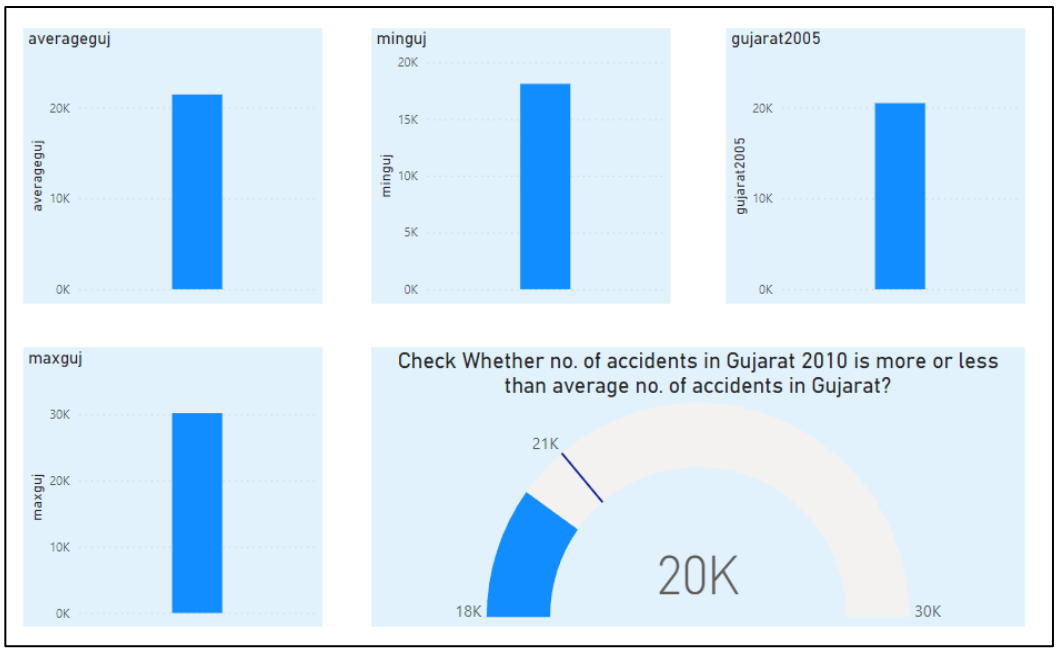
17. Find the state in year where maximum accidents in daytime has ever been recorded in between 2001 to 2014?



INFERENCE:

Tamil Nadu is the state with maximum accidents in Day time.

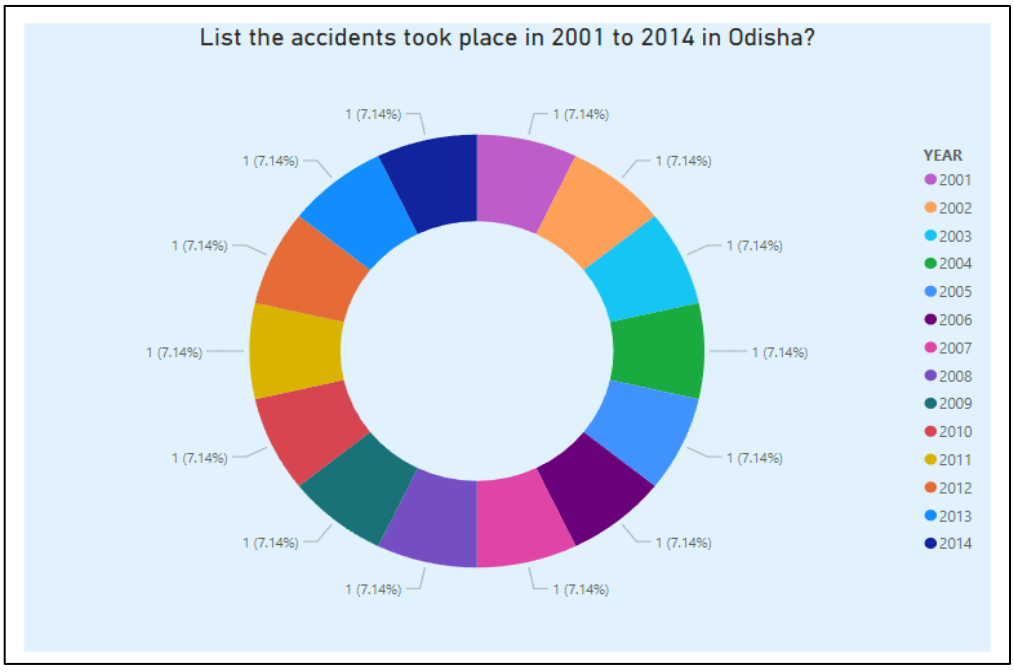
18. Check Whether no. of accidents in Gujarat 2010 is more or less than average no. of accidents in Gujarat?



INFERENCE:

Number of accidents occurred in 2010 in Gujrat in lesser than the average number of accidents in Gujrat.

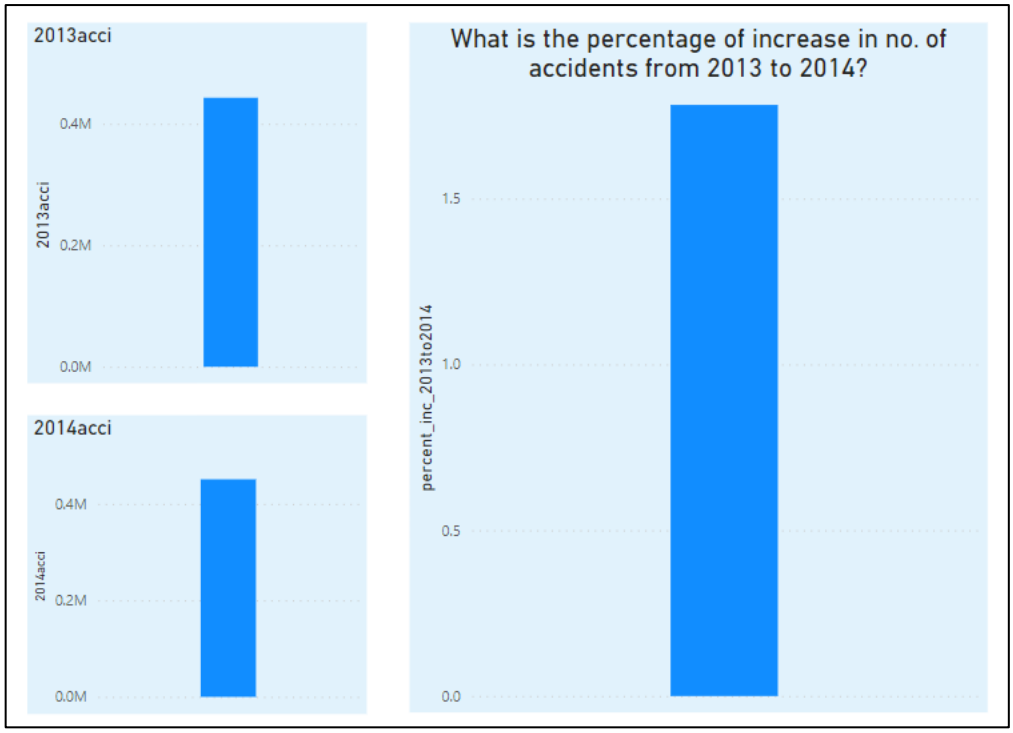
19. List the accidents took place in 2001 to 2014 in Odisha?



INFERENCE:

In Odisha during 2001 to 2014, 2013 has more number of accidents (i.e., 9680)

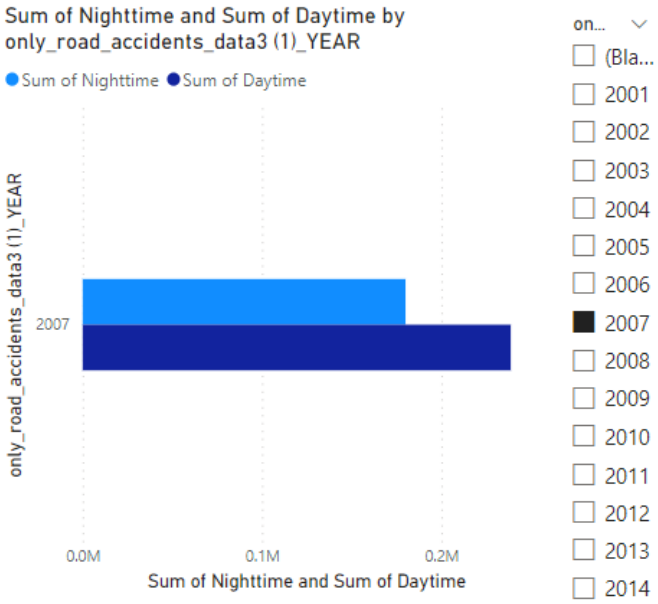
20. What is the percentage of increase in no. of accidents from 2013 to 2014?

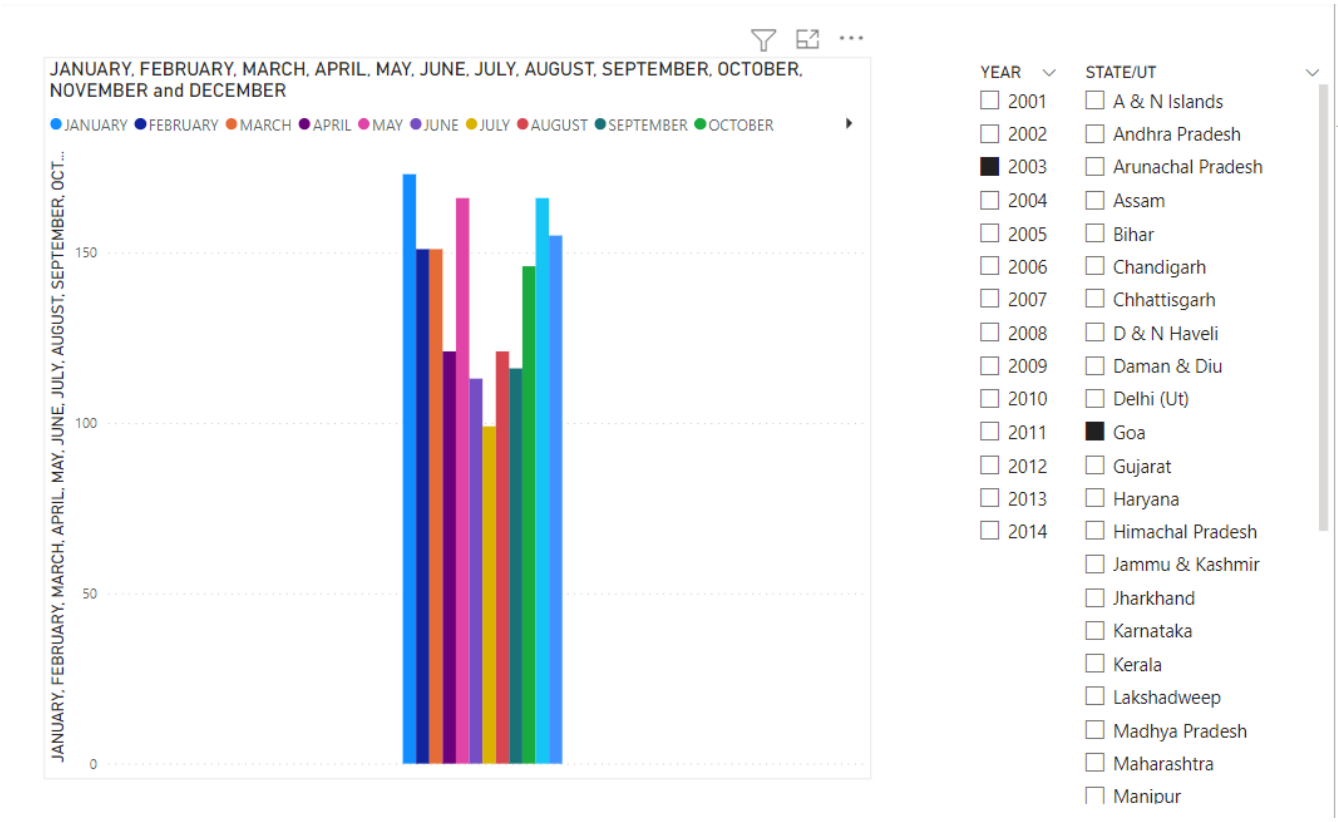


INFERENCE:

Percentage of increase in number of accidents from 2013 to 2014 is 1.78.

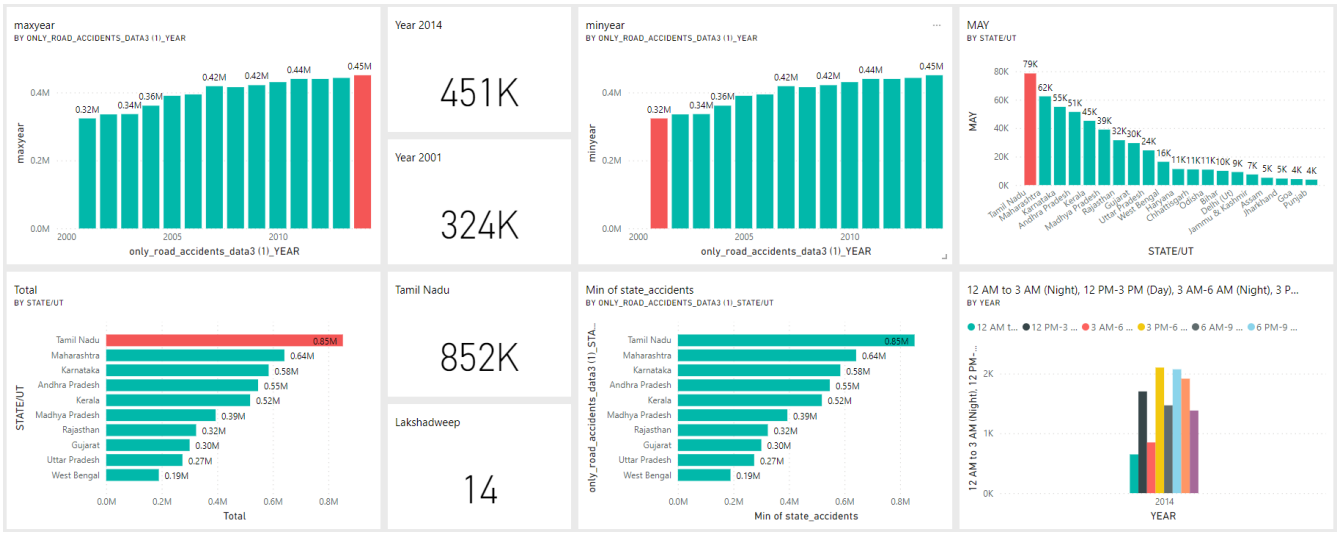
SLICERS also have been created which brings easier results:

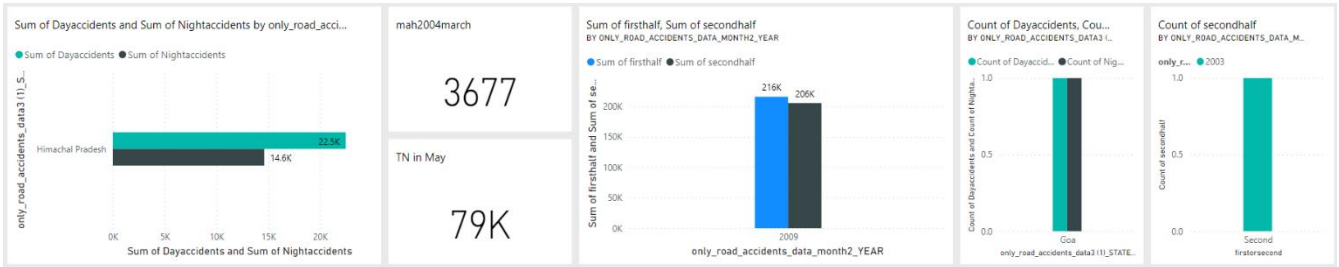


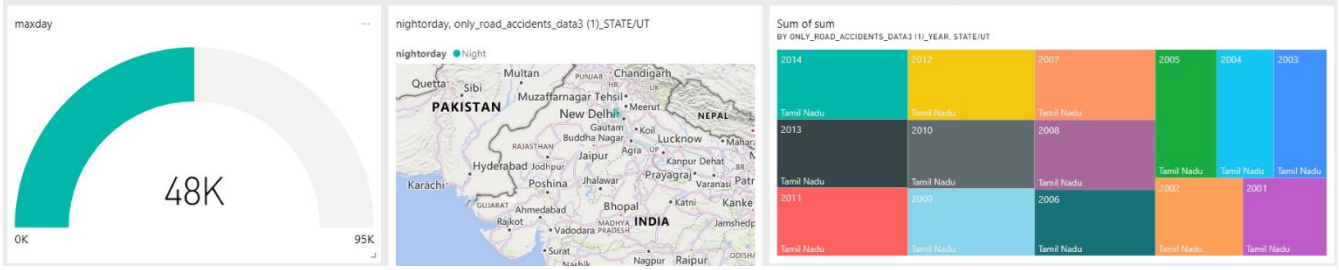


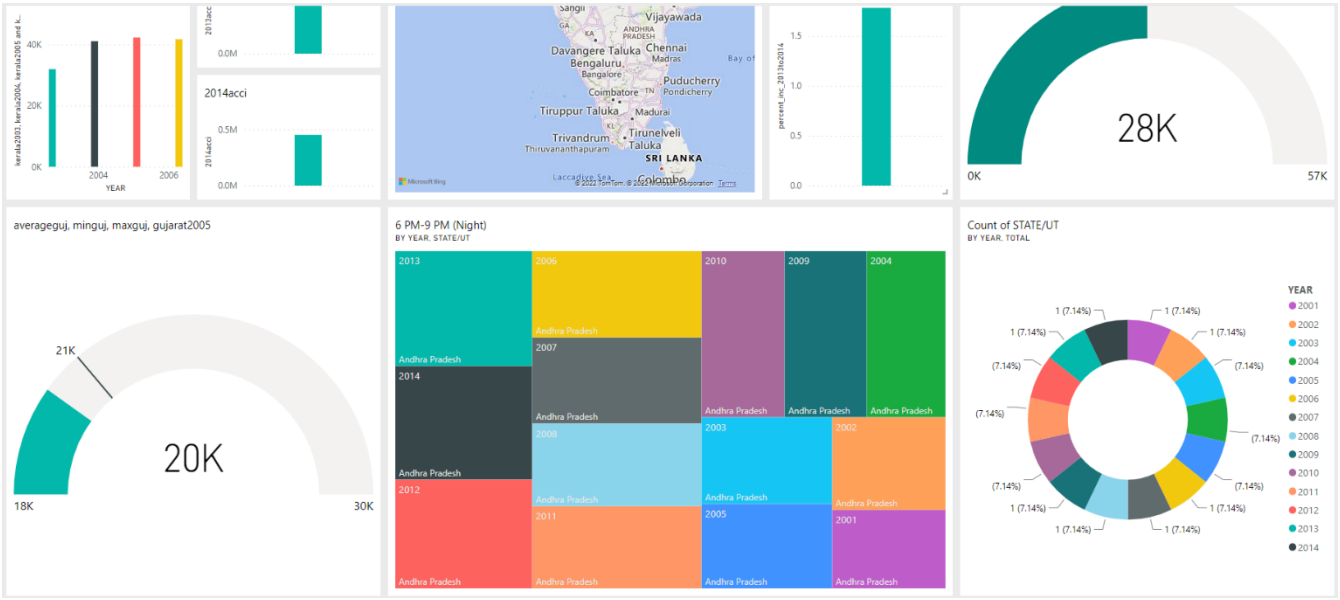
3.2 PUBLISHING DASHBOARD

The analyzed questions are uploaded to the Power BI dashboard.









3.3 INFERENCES

Thus, by analyzing the above questions the maximum and minimum number of accidents occurred in India can be easily notified. Also, the year of maximum and minimum accidents occurred state wise was clearly visualized by the charts and tables created. In an overall view, 2014 has highest number of accidents recorded.

CHAPTER 4

CONCLUSION

4.1 RECOMMENDATIONS

After analyzing the occurrence of road accidents from the year 2001 to 2014, it's clear that Tamil Nadu holds the first place in accident. More over the number of accidents that occur are increasing rapidly both during day and night time. In this case, it is our responsibility to drive safely, and to follow the rules as much as possible. Also make sure that people around come to know about the lives being lost in accidents.

REFERENCES

i. Accidental Deaths & Suicides in India, 1970 to 2013 published by the National Crime Records Bureau, Ministry of Home Affairs, Government of India, New Delhi.

ii. Finch, *et al.*,Speed, speed limits and accidents, Transport Research Laboratory (1994).

iii. O'Neill B., *et al.*.,The World Bank's global road safety and partnership Traffic Injury Prevention, 3 (3) (2002), pp. 190-194.

iv. Taylor, *et al..*,The effects of drivers' speed on the frequency of road accidents, Transport Research Laboratory (2000).

v. Ashton S.J., Mackay G.M.., Proceedings of the Society of Automotive Engineers, Society of Automotive Engineers, Detroit, MI (1983), pp. 255-264