Deconstruct, Reconstruct Web Report

Click the **Original**, **Code** and **Reconstruction** tabs to read about the issues and how they were fixed.

Original

Source: Road Accidents, Persons Killed and Injured from 1970 to 2017.

Objective

Road accidents has always been one of the leading causes of deaths in India.Although India accounts to only about 1 percent of the world's vehicle population it accounts for almost 6 percent of the traffic accidents that occur globally. One of the main reasons for the spike in accidents is over-speeding. The government has been trying to combat these issues by investing more time and resources.

The data was published by the Ministry of Road Transport and Highways,Goverentment of India in 2019. The objective of the depicted data was to throw light on the number of road accidents and road accidents per lakh of the population that took place from 1994 to 2017.

The target audience here is the general public of the country as it's purpose was to bring focus on the issue and raise a general sense of awareness.

The visualisation chosen had the following three main issues:

- The graph selected for this data is wrong as it is a Time Series data and a line graph or scatter plot should be utilised. A line graph is intuitive and it shows the gradual change of something over time. It can also show how a dependent and independent variable has transformed.
- The use of dual axis is visually misleading and the data can be misinterpreted.They can make it difficult for viewers to intuitively make the right statements about two data series.It would make more sense to use two charts instead of one.
- Poor selection of colours. The viewers who suffer from colour blindness,particulary deuternomaly and protanomaly,generally find it hard to distinguish between reds,greens,browns and oranges. The right colours help in telling a story,it provides clarity,insight and context. Choosing wrong colours can pull focus from the topic,hide points and send the wrong message.

Reference

- Road Accidents,Persons Killed and Injured from 1970 to 2017. (2019). *Road Accidents in India from 1994 to 2017*. Retrieved April 30, 2021, from Open Government Data(OGD) Platform India Website: https://community.data.gov.in/road-accidents-in-india-from-1994-to-2017/

Code

The following code was used to fix the issues identified in the original.

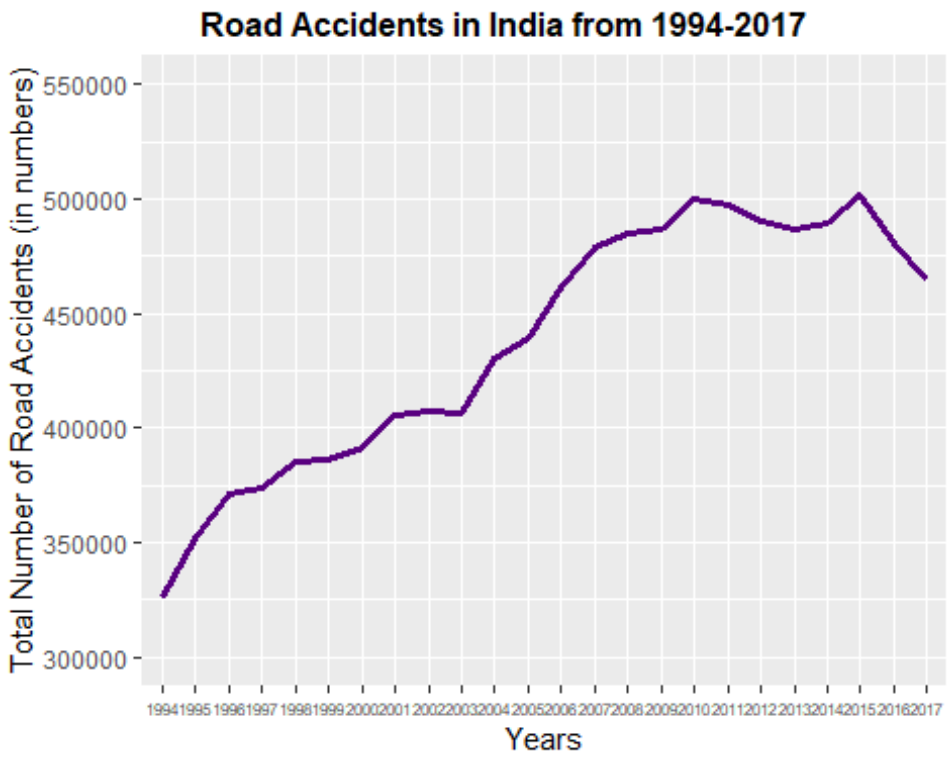
```
#Reading in the necessary packages
library(readr)
library(dplyr)
library(ggplot2)
library(magrittr)
library(tidyr)
library(gridExtra)

# Reading the data from csv file
road.acc<- read_csv("C:/Users/sweth/Desktop/Road_Accidents.csv")

# Pre-processing of the data
road.acc <- filter(road.acc,road.acc$Years>=1994)
road.acc$Years = as.factor(road.acc$Years)

p1 <- ggplot(road.acc,aes(x =(`Years`),
                  y = `Total Number of Road Accidents (in numbers)`,group = 1
)) +
  ggtitle("Road Accidents in India from 1994-2017")+
  geom_line(stat = "identity",size= 1.3,colour="#590080") +
  xlab("Years") + ylab("Total Number of Road Accidents (in numbers)") +
  theme(plot.title = element_text(face="bold" ,size = 12,hjust = 0.3),
        axis.text.x = element_text(size = 6)) +
  scale_y_continuous(limits = c(300000,550000))


p2 <- ggplot(road.acc,aes(x =(`Years`),
                  y = `Number of Accidents per Lakh Population`,
                  group = 1,caption ="https://community.data.gov.in/road-
accidents-in-india-from-1994-to-2017/")) +
  ggtitle("Number of Accidents per Lakh Population in India from 1994-2017")+
  geom_line(colour="#006080",size=1.3) +xlab("Years") + ylab("Number of
Accidents per Lakh Population")+
 theme(panel.background = element_rect(fill = "white", colour = "black"),
        plot.title = element_text(face="bold" ,size = 10,hjust = 0.3),
        axis.text.x = element_text(size = 6)) +
  scale_y_continuous(limits = c(30,45))
```

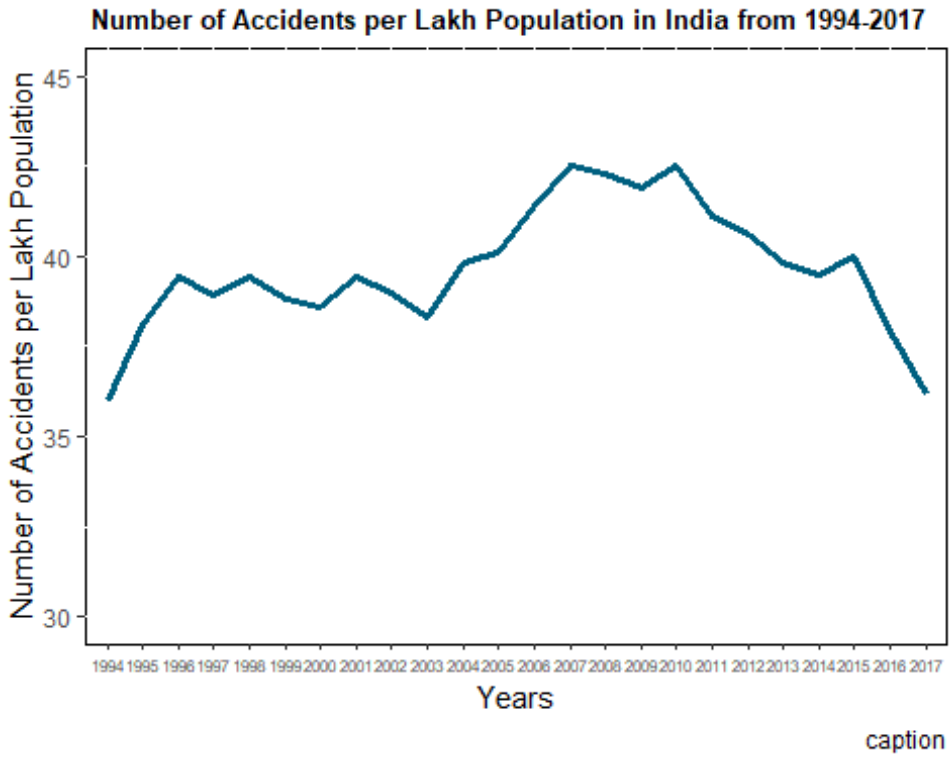
Data Reference

- Road Accidents,Persons Killed and Injured from 1970 to 2017. (2019). *Road Accidents in India from 1994 to 2017*. Retrieved April 30, 2021, from Open Government Data(OGD) Platform India Website: https://community.data.gov.in/road-accidents-in-india-from-1994-to-2017/

Reconstruction

The following plot fixes the main issues in the original.


Road Accidents in India from 1994-2017
Total Number of Road Accidents (in numbers)
550000
500000
450000
400000
350000
300000
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Years


Number of Accidents per Lakh Population in India from 1994-2017
Number of Accidents per Lakh Population
45
40
35
30
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Years

caption