This study helps us to understand the data and gain insights pattern and relationship between attributes of warning and time speed of the vehicles we found that in overall headway monitoring warning where occupy around 57% with 12328 alters and lane departure hold next most of 30% with 6431 which describe the Lane warning where alter in the highway and central area of domain such as southern grand trunk road and Anna salai. the starting point of the initiation of traffic starts in the Vandalur Zoological Park Area

**ABSTRACT:**

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**Report on the Intel Grand Challenge**

Mentor Name: Saranya S

Email Id: [saranya.s@ritchennai.edu.in](mailto:saranya.s@ritchennai.edu.in)

**Department of Artificial Intelligence and Data Science**

Rajalakshmi Institute of Technology

Name : Sathvik N S

Email Id : [sathvik.n.s.2021.ad@ritchennai.edu.in](mailto:sathvik.n.s.2021.ad@ritchennai.edu.in)

**Department of Artificial Intelligence and Data Science**

Rajalakshmi Institute of Technology

Name : Rishikesh K.

Email Id : [rishikesh.k.2021.ad@ritchennai.edu.in](mailto:rishikesh.k.2021.ad@ritchennai.edu.in)

**Department of Artificial Intelligence and Data Science**

Rajalakshmi Institute of Technology

Name: Vishnu S

Email Id: [vishnu.s.2021@ritchennai.edu.in](mailto:vishnu.s.2021@ritchennai.edu.in)

**Department of Artificial Intelligence and Data Science**

Rajalakshmi Institute of Technology

**INTRODUCTION**

* From the understanding of the dataset that provided to analysis.
* The road safety alter tat collected from the on-road events from AI based ADAS devices which helps us to alter the collision between vehicles.
* The challenge we faced is the fund the pattern and high traffic alert area because that area is safety need to be focused.
* This need of data cleansing and transformation and cleansing were done using the Microsoft excel.
* We also used the Tableau software for Data Visualization to understand the data spread and variation with various plot such as bubble plot, scatter plot, heatmap...
* For geographical Analysis, we use Kepler.gl for gaming the insights of the alter area with respective latitude and longitude.

**On the data analysis of the dataset, we have second insight with total count of 21325**

|  |  |
| --- | --- |
| **maximum Speed** | **65** |
| **Minimum Speed** | **0** |
| **Average Speed** | **38.34966216** |
| **Count** | **21325** |
|  |  |

**ANALYSIS**

In the dataset, we have

i) FCW-Forward Collision Warning

ii) PCW-Pedestrian Collision Warning

iii) LDW- Lane Departure Warning

iv) HMW- Headway Monitoring Warning

we also have column of the data of the event, latitude, and longitude of the event that occurred.

With that data, we can able to derive the insight of the traffic alert area

**DATA SOURCE:**

In the where vehicle type 5339, holds 204 count and vehicle 805 hold 158 count and 2846 vehicle with count of 2846 with the total of 509 count of vehicle. Which contain maximum speed of 63 and average speed of 38 km/hr. and holds 270 of the total count

**Forward Collision Warning**

**HEADWAY MONITORING**

**PEAK ROUTE: VCH 805 / TIME (7. AM) ROUTE - VANDALUR TO GUINDY) COUNT - 48**

In headway monitoring, where vehicle type 805 vehicle holds 6875 count; major in it and next to the vehicle 5339 holds 5842 and vehicle 2846 hold 5886 count. Which contain maximum speed of 64 km/hr and average of 35 km/hr and 57% of the total count

|  |  |
| --- | --- |
| **maximum Speed** | **64** |
| **Minimum Speed** | **0** |
| **Average Speed** | **35.3166** |
| **Count** | **12328** |
|  |  |

**PEAK ROUTE: Crescent college Vandalur diverges into the count southern trunk and another one to annasalai -CEG-Chennai.**

|  |  |
| --- | --- |
| **maximum Speed** | **63** |
| **Minimum Speed** | **0** |
| **Average Speed** | **36.34966216** |
| **Count** | **590** |
|  |  |

From the above analysis we conclude that they are certain route are containing high traffic compare to another route.

There is pattern the high traffic area where vandalur is the hotspot for all the traffic which mean from there all vehicle are begun to join.

The Southern trunk road and anna salai are the high traffic route in the given dataset

**Summary**

|  |  |
| --- | --- |
| **maximum Speed** | **65** |
| **Minimum Speed** | **0** |
| **Average Speed** | **50.92349557** |
| **Count** | **6431** |
|  |  |

On the lane monitoring, where vehicle 806 holds count of 247 count Arnd vehicle type 805 holds 2052 count and total of 6431 count. The maximum speed 65 km/hr and the average speed of 50.9 km/hr and holds 30% of the total count

**LANE MONITORING**