



Systems and Computer Engineering Department (SYSC)

Ottawa Collision Data Report:

Initial Feature Values

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Ottawa Collision Data Report

About this Document

Version	Date	Author	Remarks
V1.0	December 10 th 2018	Enrique Reveron	First version
V2.0	December 13 th 2018	Enrique Reveron	Added a Content Table, Version Page and some formatting.
V3.0	December 17 th 2018	Enrique Reveron	Added new Plots / formatting
V4.0	December 23 th 2018	Enrique Reveron	Added new plots of feature values not allowed / needs to be removed

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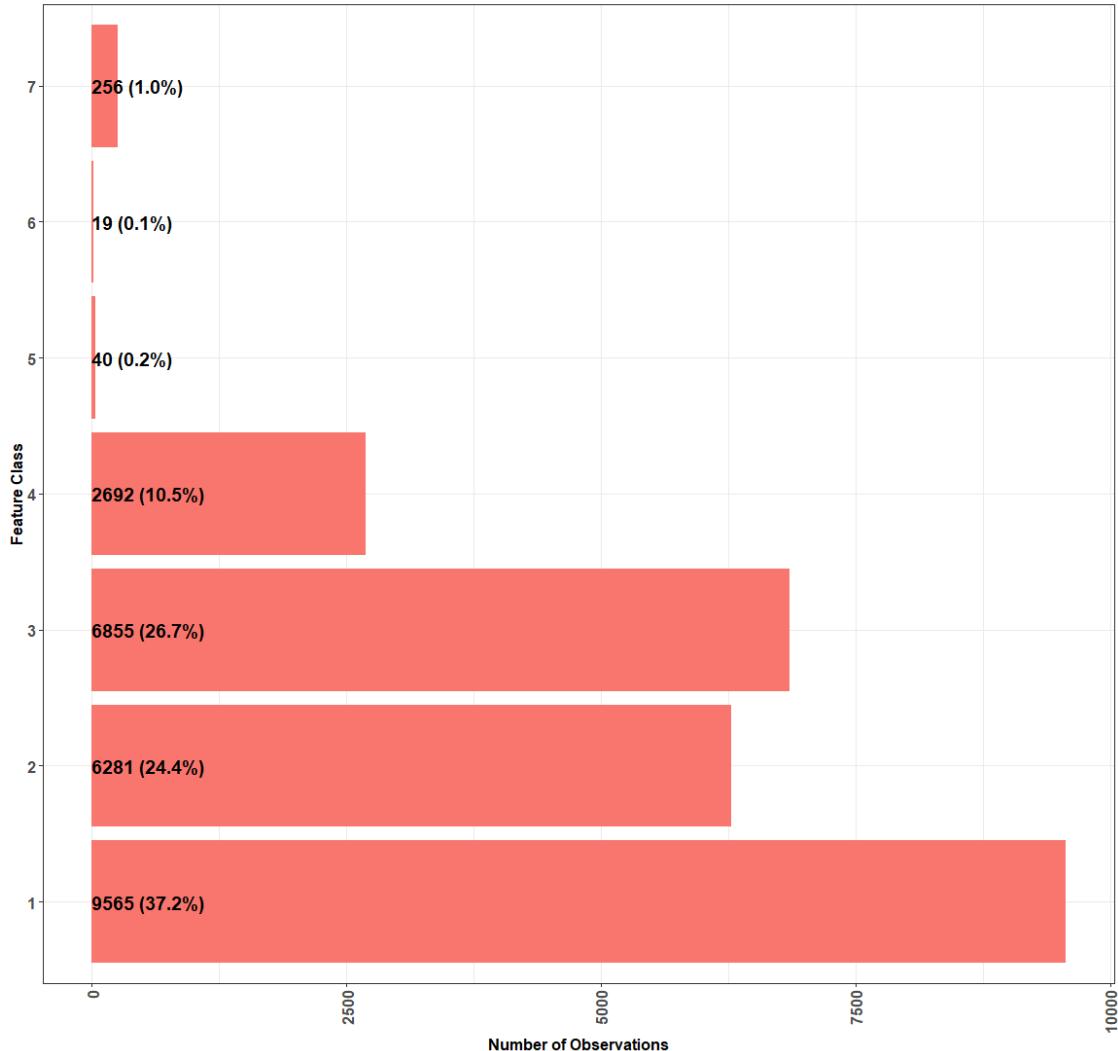
Introduction

This document includes simple histogram plots and information regarding each feature value of the Ottawa Collision Dataset (2004-2017).

1. Accident Location (ACCIDENT_LOCATION)

```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## 1 9565 37.2063  
## 2 6281 24.4321  
## 3 6855 26.6649  
## 4 2692 10.4714  
## 5 40 0.1556  
## 6 19 0.0739  
## 7 256 0.9958
```

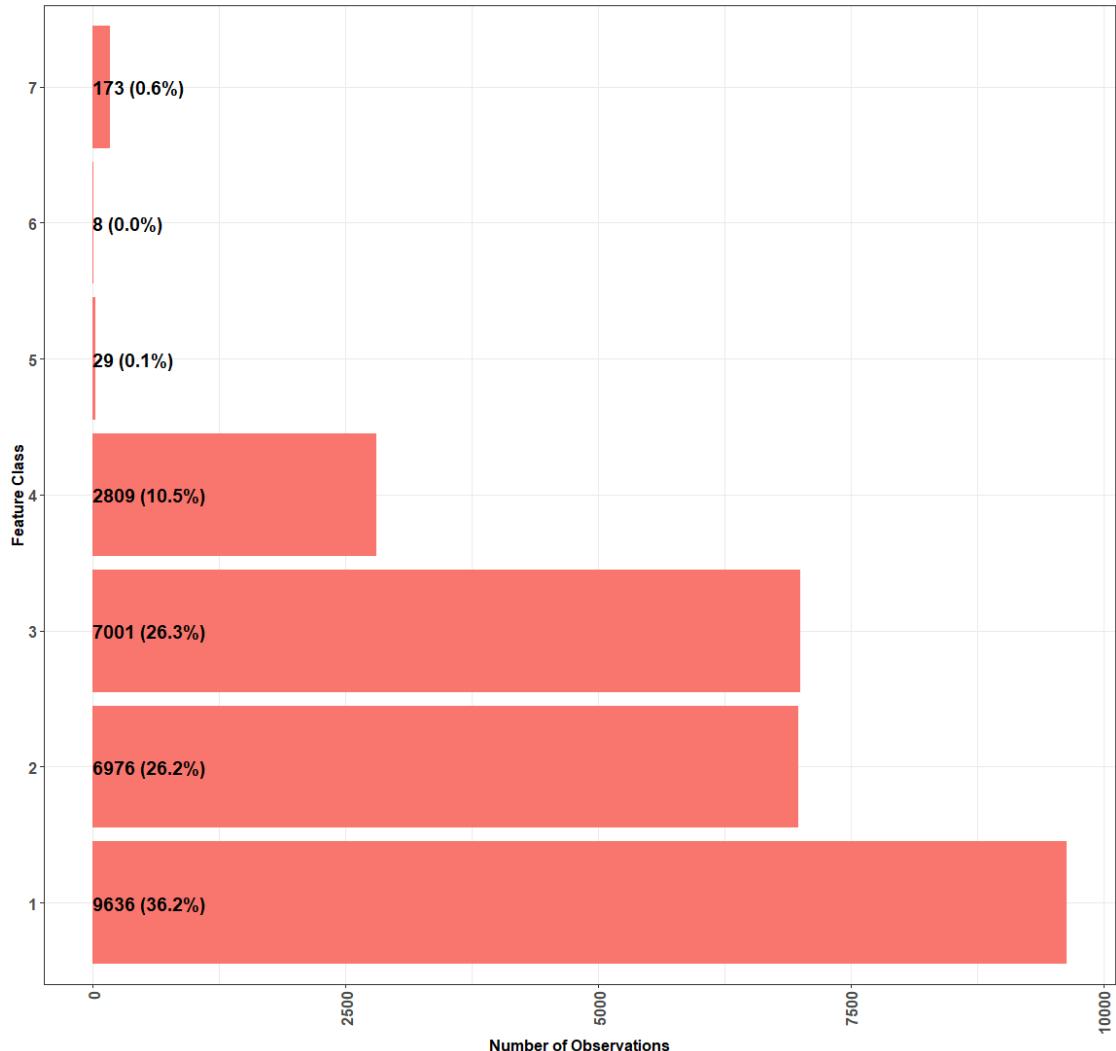
Plot of Feature:ACCIDENT_LOCATION Data>All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA>All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----
```

## 1	9636	36.1820
## 2	6976	26.1941
## 3	7001	26.2879
## 4	2809	10.5475
## 5	29	0.1089
## 6	8	0.0300
## 7	173	0.6496

Plot of Feature:ACCIDENT_LOCATION
Data>All 2005.csv



```

## 
## -----
## CHECKING FEATURE:ACCIDENT_LOCATION
## DATA>All 2006.csv...
## 
## Number of Blank Values:0
## 
```

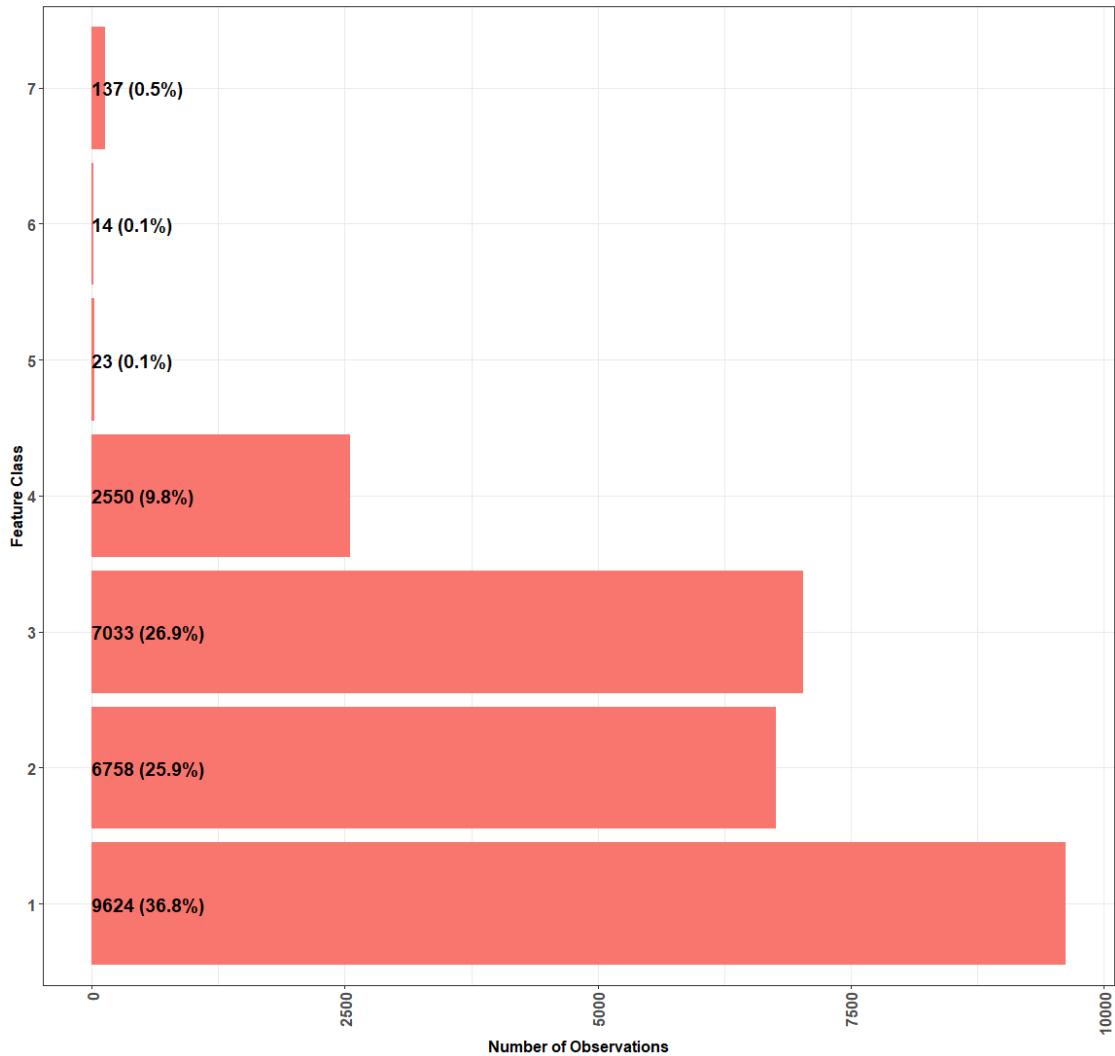
```

## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF ACCIDENT_LOCATION
## 
## Feature Value      Counter      Percentage
## ----- -----
## 1                  9624        36.8185
## 2                  6758        25.8541
## 3                  7033        26.9062
## 4                  2550        9.7555
## 5                  23          0.0880
## 6                  14          0.0536
## 7                  137         0.5241

```

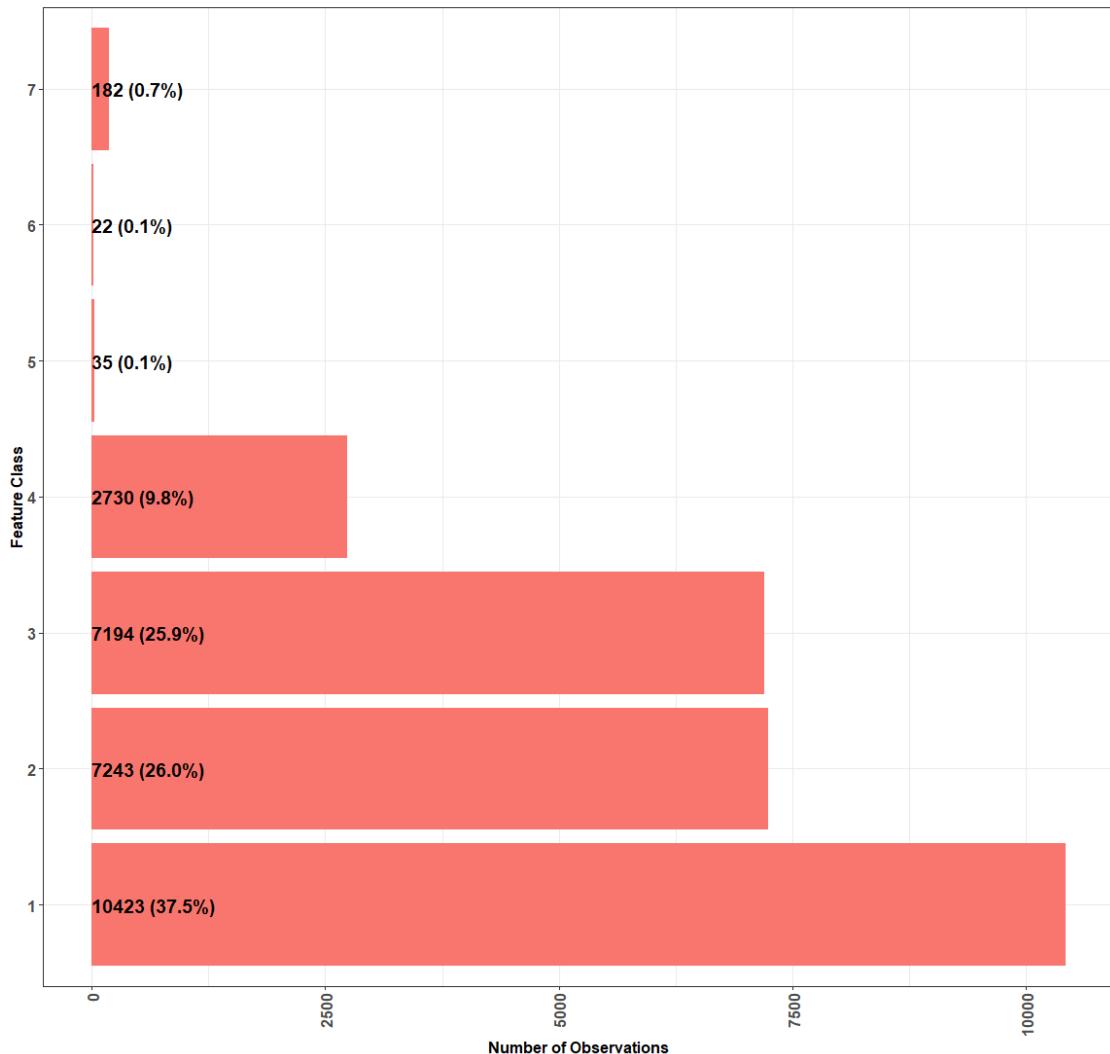
Plot of Feature:ACCIDENT_LOCATION

Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----  
## 1 10423 37.4537  
## 2 7243 26.0268  
## 3 7194 25.8507  
## 4 2730 9.8099  
## 5 35 0.1258  
## 6 22 0.0791  
## 7 182 0.6540
```

Plot of Feature:ACCIDENT_LOCATION
Data:All 2007.csv



```
##  

## -----  

## CHECKING FEATURE:ACCIDENT_LOCATION  

## DATA:All 2008.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 7  

##  

## TOP 100 FEATURES OF ACCIDENT_LOCATION  

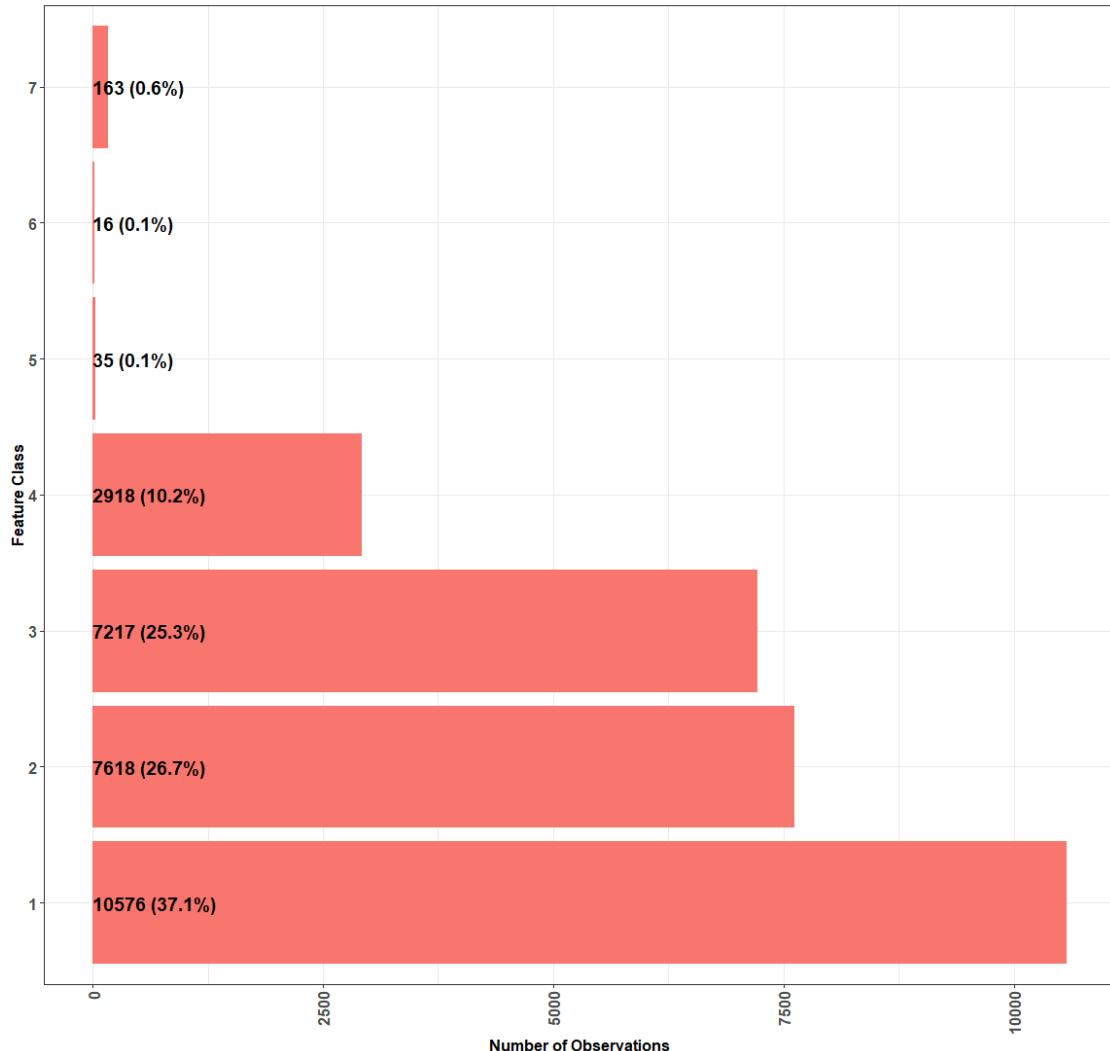
##  

## Feature Value Counter Percentage  

## -----
```

## 1	10576	37.0529
## 2	7618	26.6896
## 3	7217	25.2847
## 4	2918	10.2232
## 5	35	0.1226
## 6	16	0.0561
## 7	163	0.5711

Plot of Feature:ACCIDENT_LOCATION
Data>All 2008.csv



```
##
## -----
## CHECKING FEATURE:ACCIDENT_LOCATION
## DATA>All 2009.csv...
##
## Number of Blank Values:0
##
```

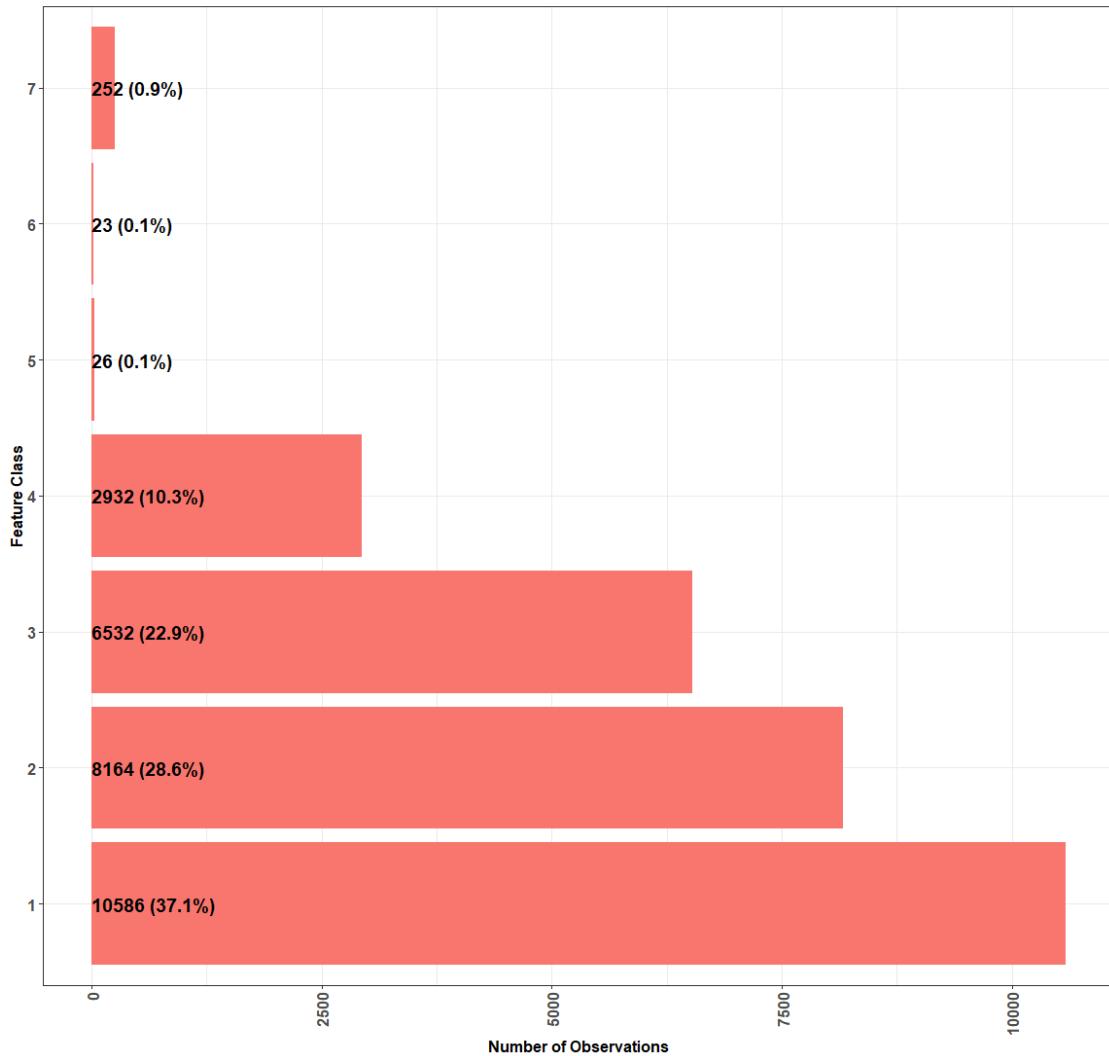
```

## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF ACCIDENT_LOCATION
## 
## Feature Value      Counter      Percentage
## ----- -----
## 1                  10586       37.1243
## 2                  8164        28.6305
## 3                  6532        22.9072
## 4                  2932        10.2823
## 5                   26         0.0912
## 6                   23         0.0807
## 7                   252        0.8837

```

Plot of Feature:ACCIDENT_LOCATION

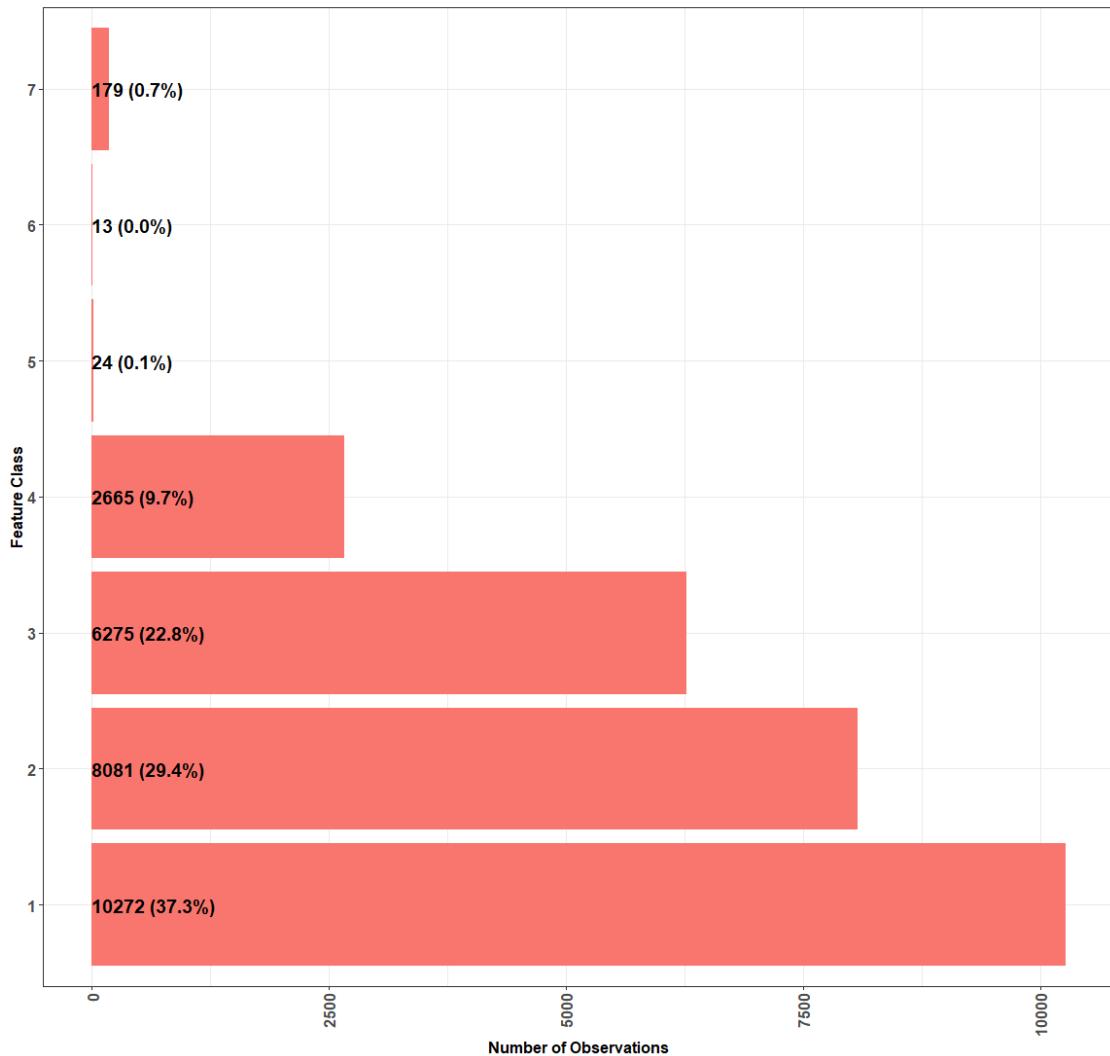
Data:All 2009.csv





```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----  
## 1 10272 37.3405  
## 2 8081 29.3758  
## 3 6275 22.8107  
## 4 2665 9.6877  
## 5 24 0.0872  
## 6 13 0.0473  
## 7 179 0.6507
```

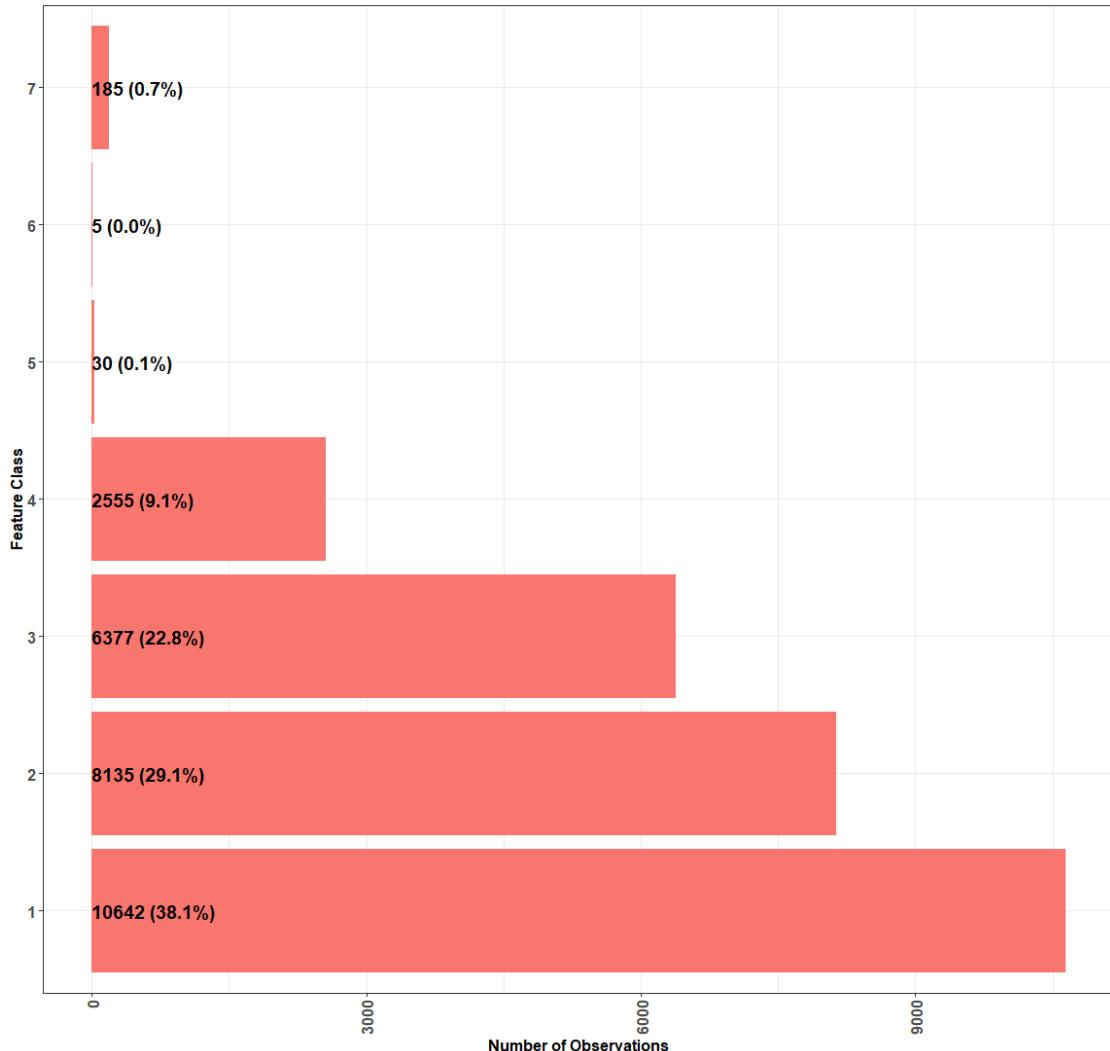
Plot of Feature:ACCIDENT_LOCATION Data>All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA>All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----
```

## 1	10642	38.1038
## 2	8135	29.1274
## 3	6377	22.8329
## 4	2555	9.1482
## 5	30	0.1074
## 6	5	0.0179
## 7	185	0.6624

Plot of Feature:ACCIDENT_LOCATION
Data>All 2011.csv



```

## 
## -----
## CHECKING FEATURE:ACCIDENT_LOCATION
## DATA>All 2012.csv...
## 
## Number of Blank Values:0
## 
```

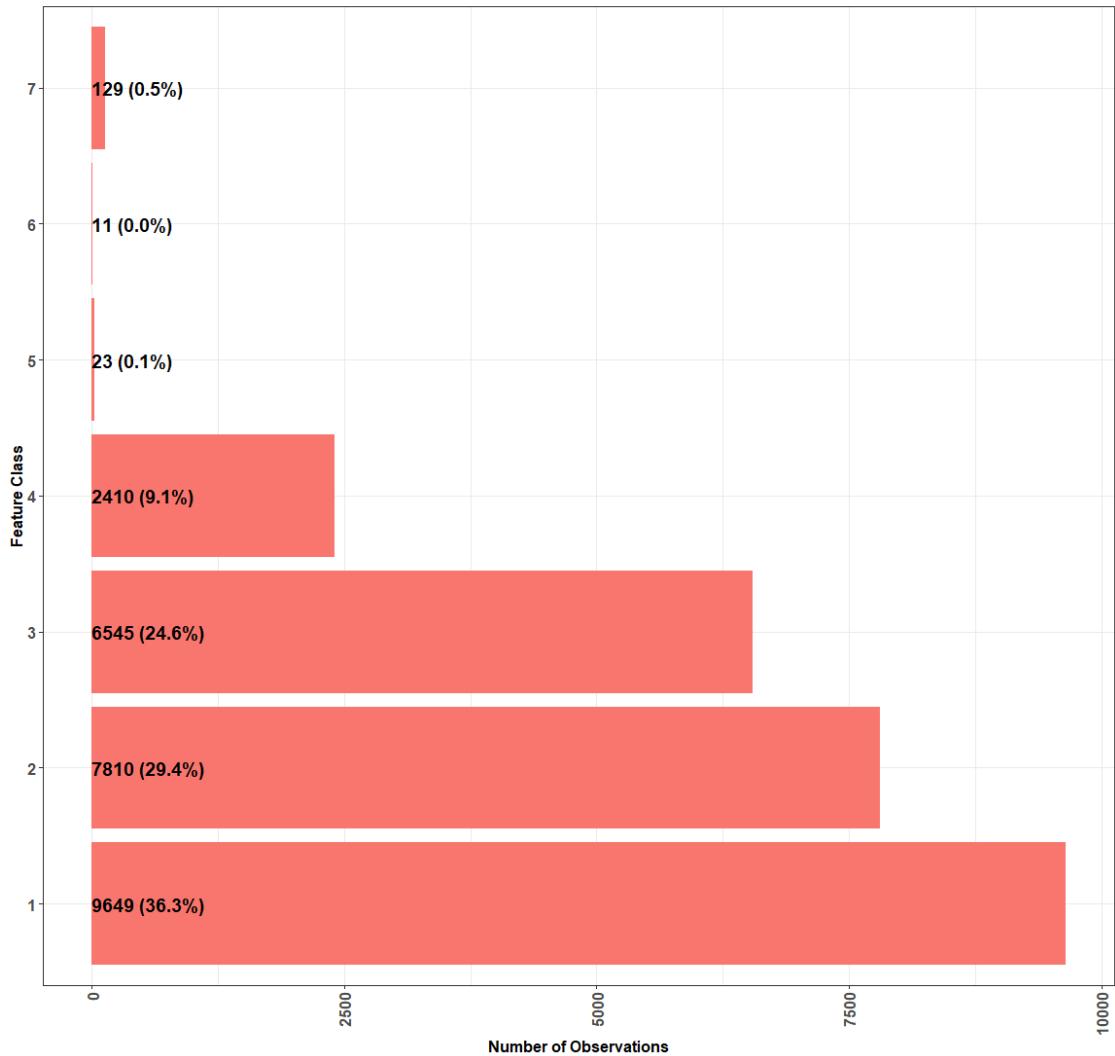
```

## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF ACCIDENT_LOCATION
## 
## Feature Value      Counter      Percentage
## ----- -----
## 1                  9649       36.3058
## 2                  7810       29.3863
## 3                  6545       24.6266
## 4                  2410        9.0680
## 5                   23        0.0865
## 6                   11        0.0414
## 7                  129        0.4854

```

Plot of Feature:ACCIDENT_LOCATION

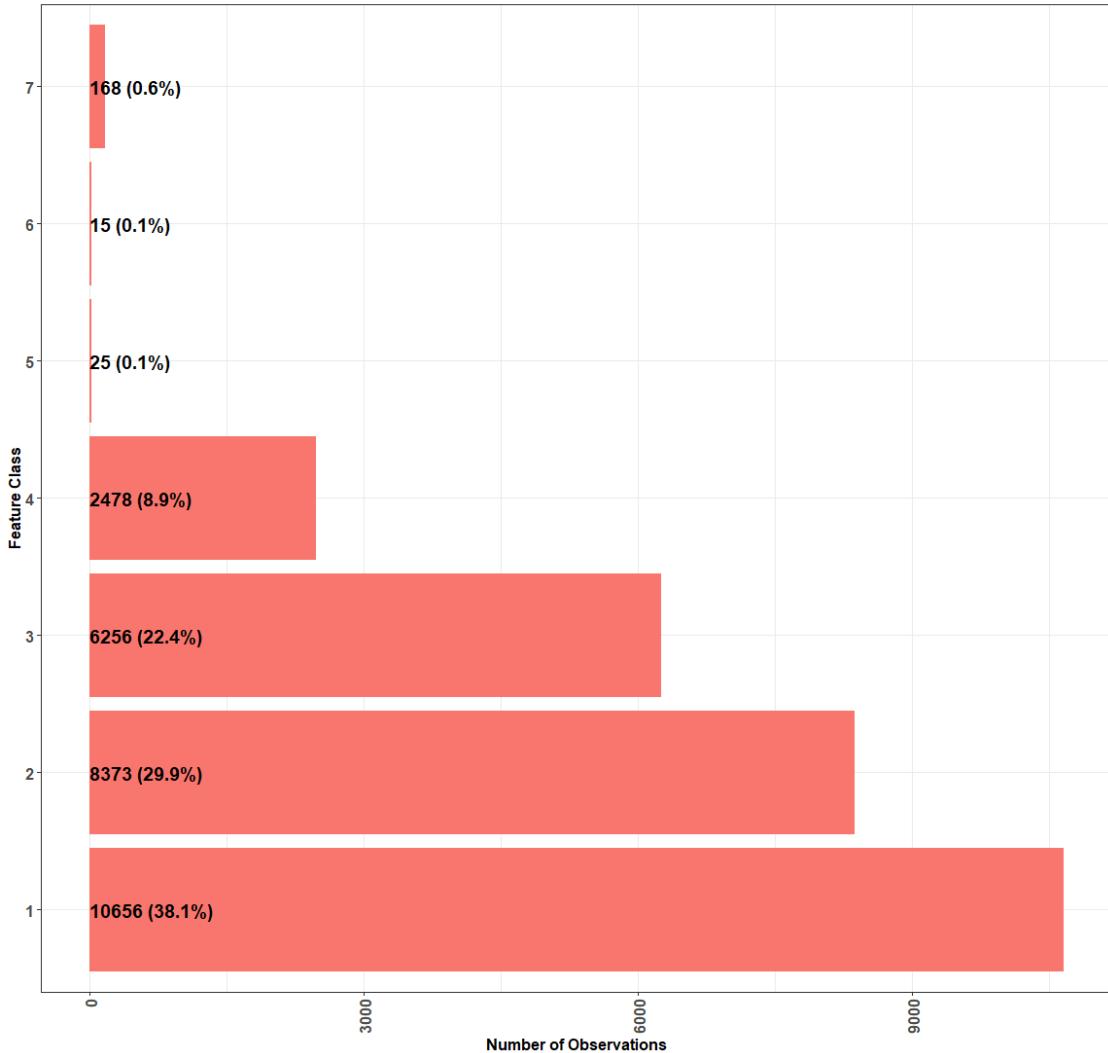
Data:All 2012.csv





```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----  
## 1 10656 38.0966  
## 2 8373 29.9346  
## 3 6256 22.3660  
## 4 2478 8.8592  
## 5 25 0.0894  
## 6 15 0.0536  
## 7 168 0.6006
```

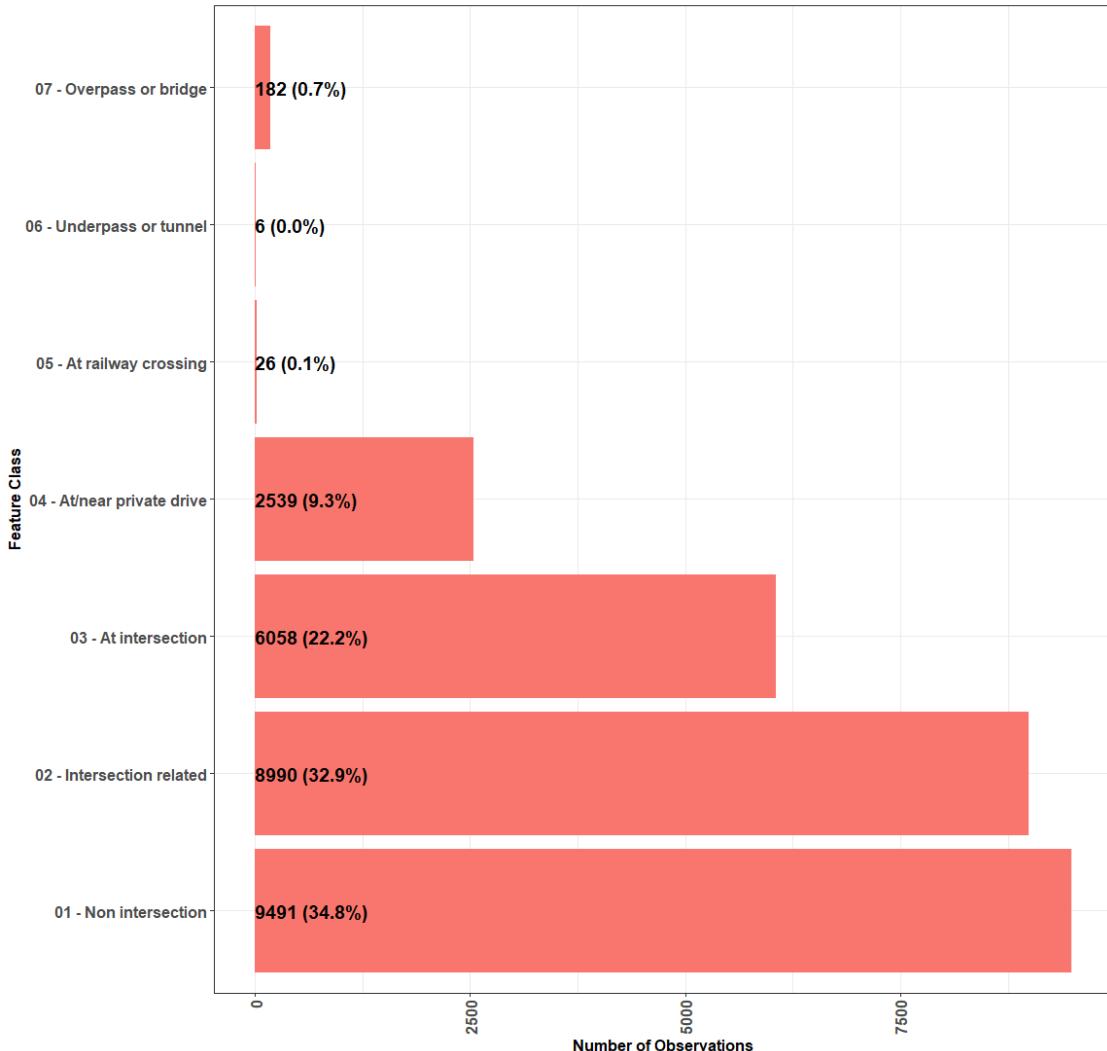
Plot of Feature:ACCIDENT_LOCATION Data>All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA>All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----
```

## 01 - Non intersection	9491	34.7758
## 02 - Intersection related	8990	32.9401
## 03 - At intersection	6058	22.1970
## 04 - At/near private drive	2539	9.3031
## 05 - At railway crossing	26	0.0953
## 06 - Underpass or tunnel	6	0.0220
## 07 - Overpass or bridge	182	0.6669

Plot of Feature:ACCIDENT_LOCATION
Data>All 2014.csv

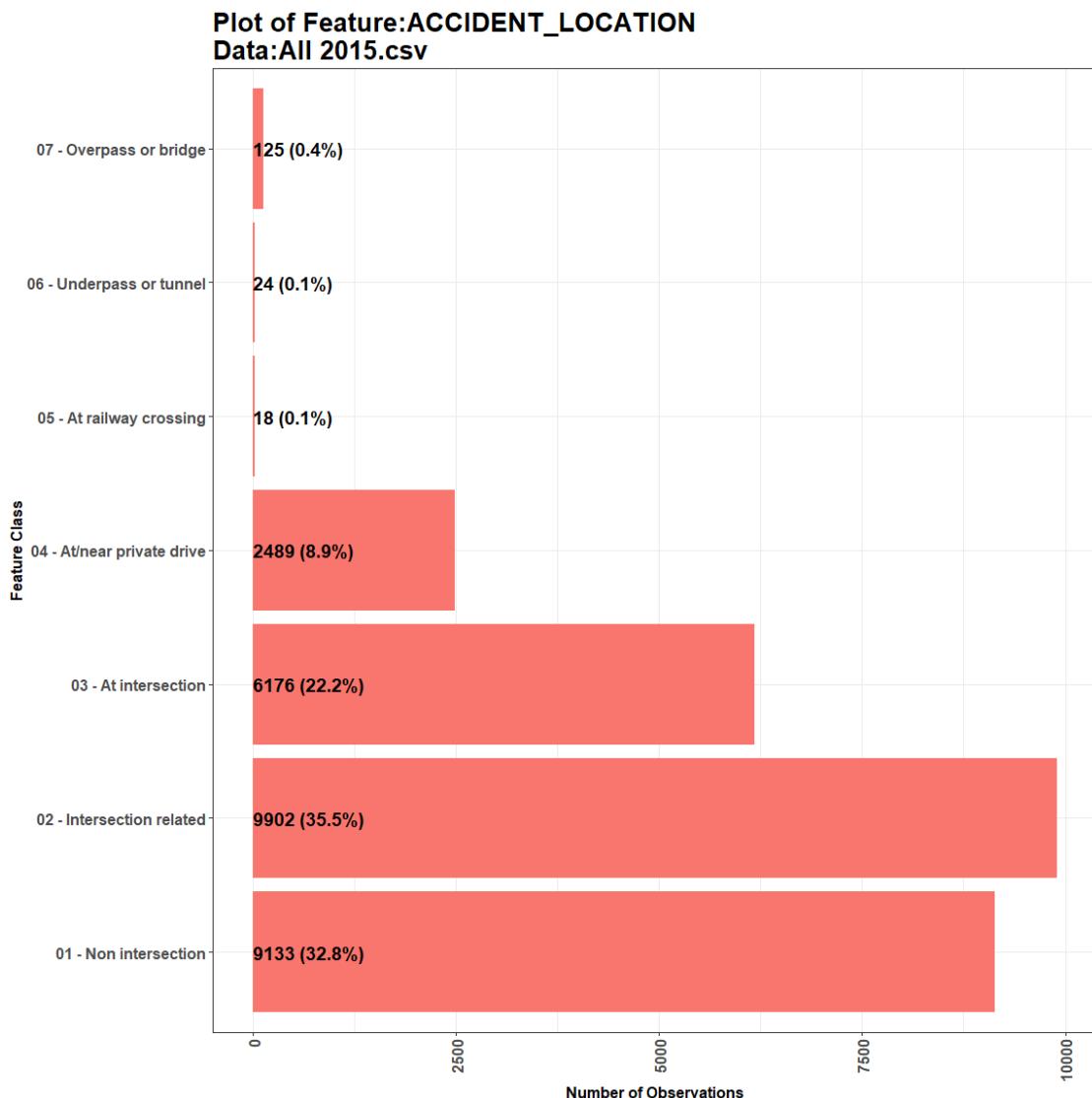


```
##
## -----
## CHECKING FEATURE:ACCIDENT_LOCATION
## DATA:All 2015.csv...
##
## Number of Blank Values:0
##
```

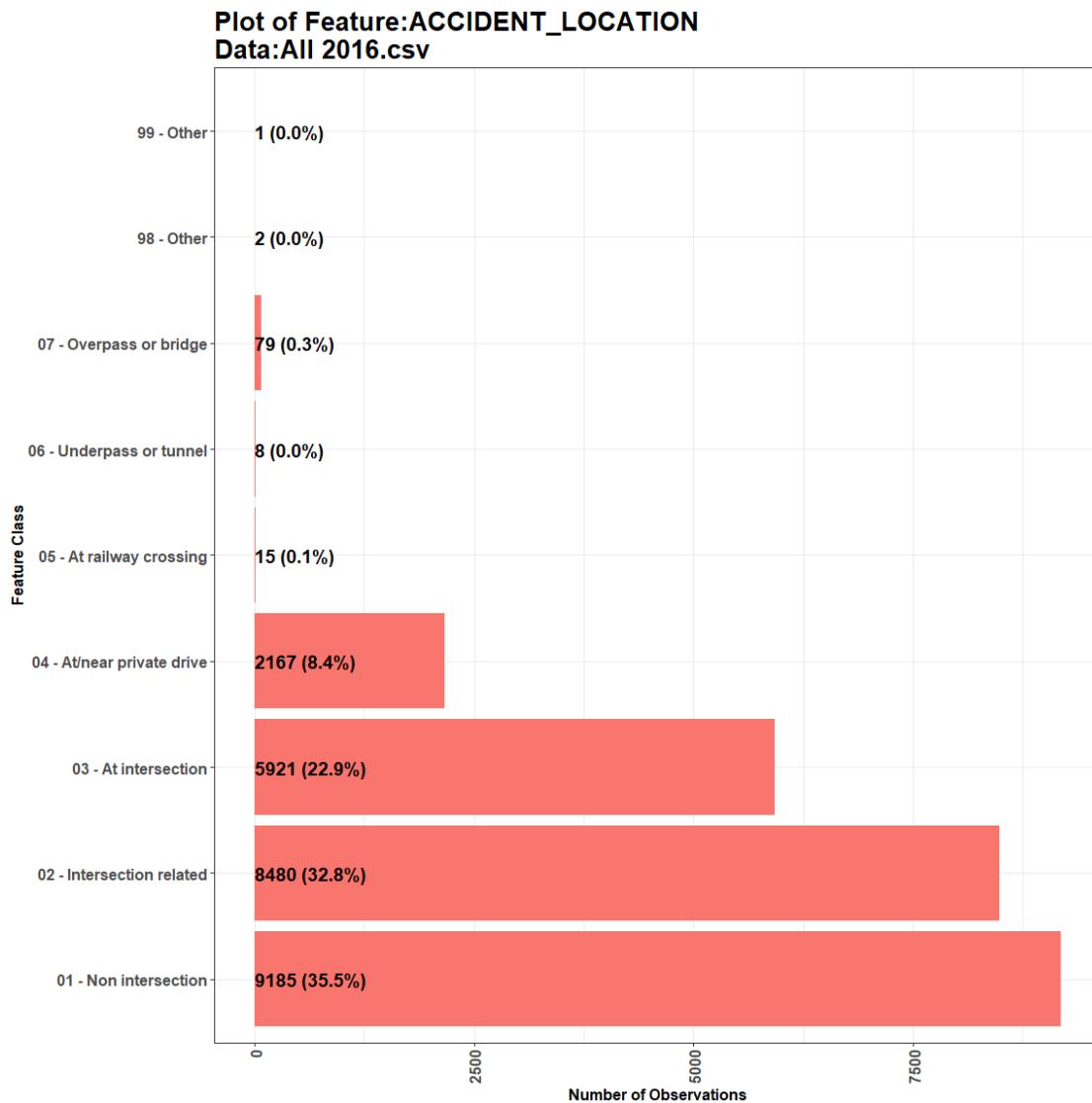
```

## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF ACCIDENT_LOCATION
## 
## Feature Value          Counter    Percentage
## -----
## 01 - Non intersection   9133     32.7735
## 02 - Intersection related 9902     35.5331
## 03 - At intersection     6176     22.1624
## 04 - At/near private drive 2489     8.9317
## 05 - At railway crossing  18       0.0646
## 06 - Underpass or tunnel  24       0.0861
## 07 - Overpass or bridge   125      0.4486

```



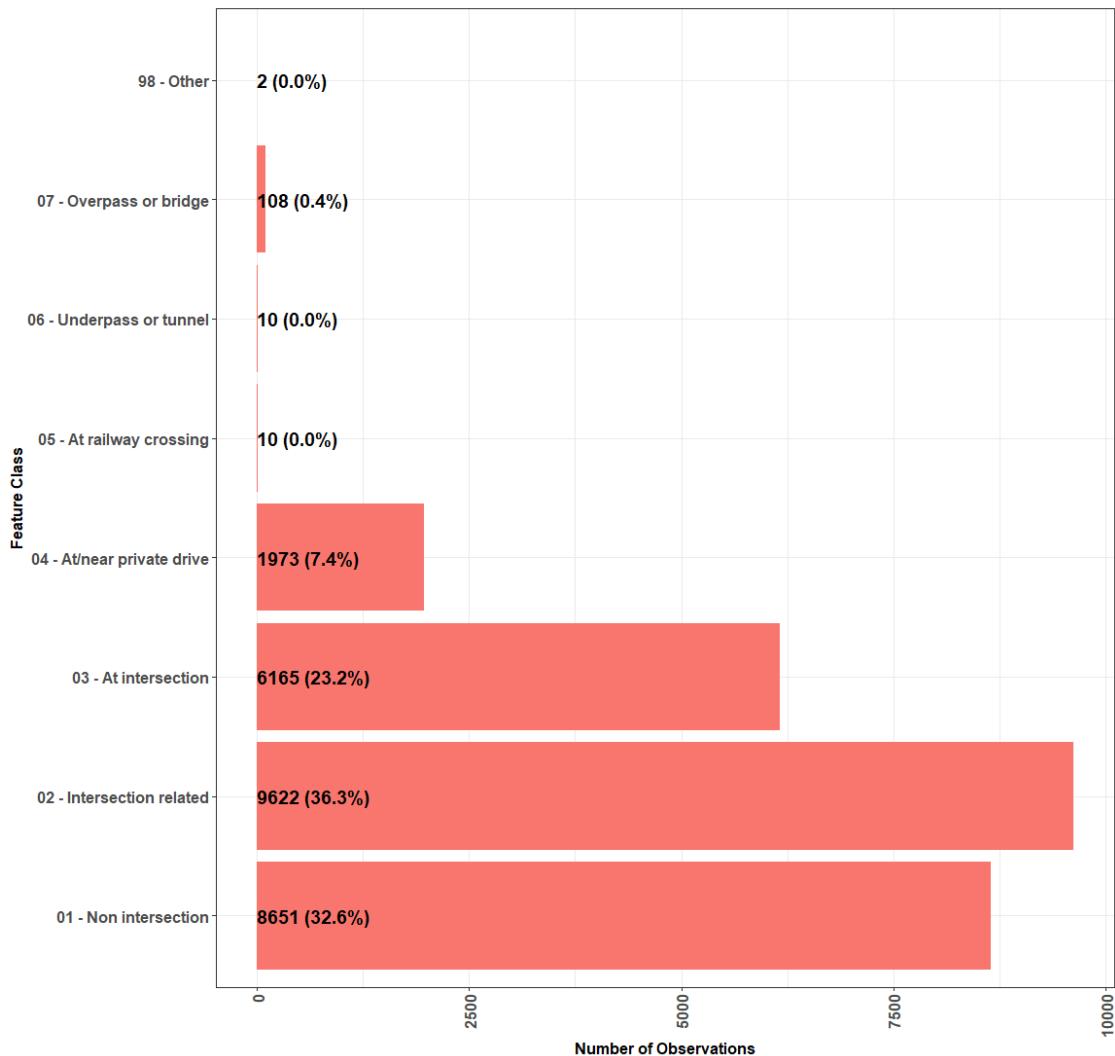
```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Non intersection 9185 35.5209  
## 02 - Intersection related 8480 32.7945  
## 03 - At intersection 5921 22.8981  
## 04 - At/near private drive 2167 8.3804  
## 05 - At railway crossing 15 0.0580  
## 06 - Underpass or tunnel 8 0.0309  
## 07 - Overpass or bridge 79 0.3055  
## 98 - Other 2 0.0077  
## 99 - Other 1 0.0039
```



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_LOCATION  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF ACCIDENT_LOCATION  
##  
## Feature Value Counter Percentage  
## -----
```

## 01 - Non intersection	8651	32.5949
## 02 - Intersection related	9622	36.2533
## 03 - At intersection	6165	23.2282
## 04 - At/near private drive	1973	7.4338
## 05 - At railway crossing	10	0.0377
## 06 - Underpass or tunnel	10	0.0377
## 07 - Overpass or bridge	108	0.4069
## 98 - Other	2	0.0075

**Plot of Feature:ACCIDENT_LOCATION
Data:All 2017.csv**

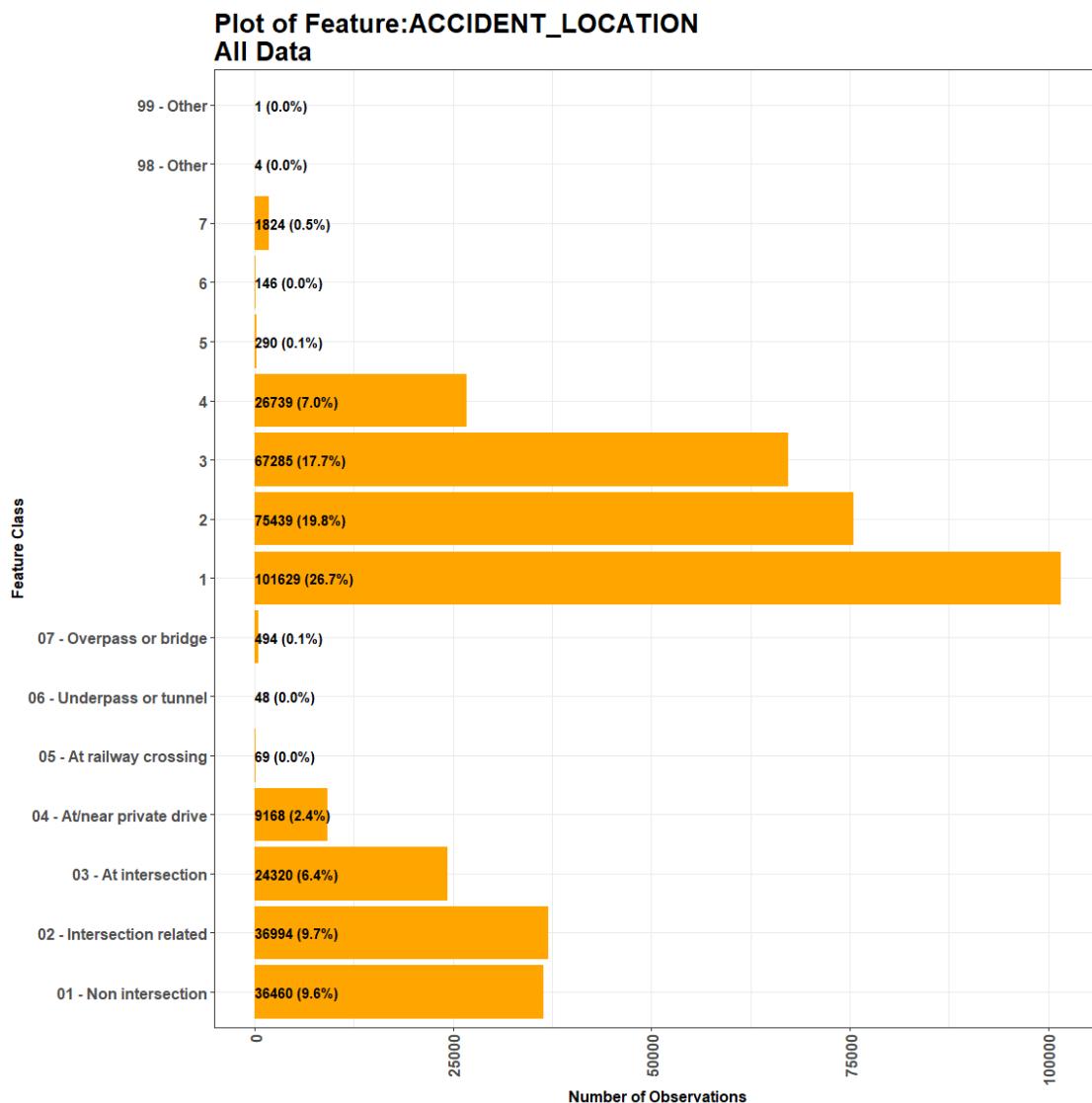


```
##
## =====
## FINAL INFO CHECKING FEATURE:ACCIDENT_LOCATION
## ALL DATA...
## =====
##
```

```

## Number of Blank Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
## Summary as Factor Feature:
## Number of Features: 16

```



```

## [1] "TOP 100 FEATURES COUNTERS OF:ACCIDENT_LOCATION"

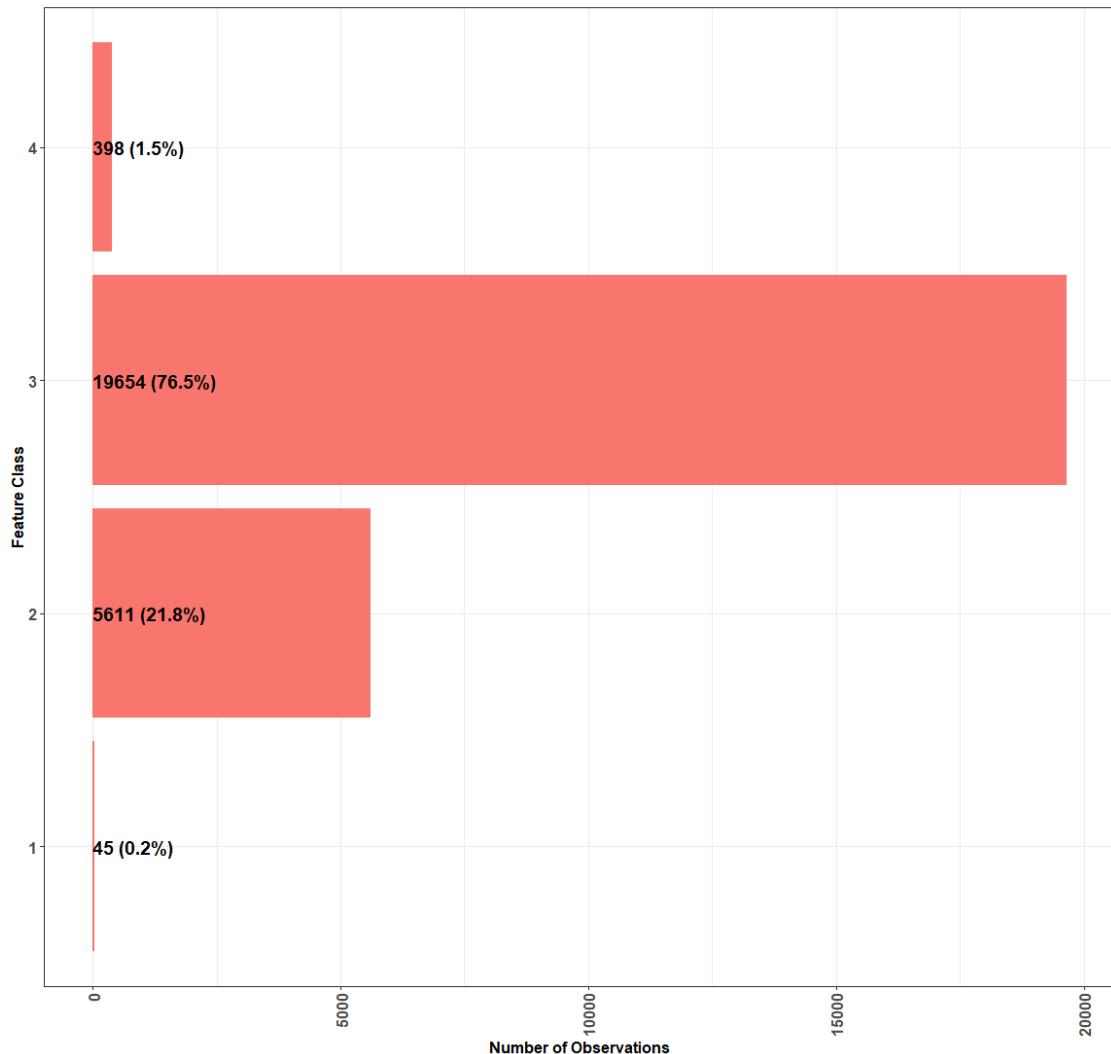
```

Feature Value	Counter	Percentage
01 - Non intersection	36460	9.5718
02 - Intersection related	36994	9.7120
03 - At intersection	24320	6.3847
04 - At/near private drive	9168	2.4069
05 - At railway crossing	69	0.0181
06 - Underpass or tunnel	48	0.0126
07 - Overpass or bridge	494	0.1297
1	101629	26.6806
2	75439	19.8049
3	67285	17.6643
4	26739	7.0198
5	290	0.0761
6	146	0.0383
7	1824	0.4789
98 - Other	4	0.0011
99 - Other	1	0.0003

2. Classification of Accident (CLASSIFICATION_OF_ACCIDENT)

```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 1 45 0.175  
## 2 5611 21.826  
## 3 19654 76.451  
## 4 398 1.548
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  

## DATA>All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 4  

##  

## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  

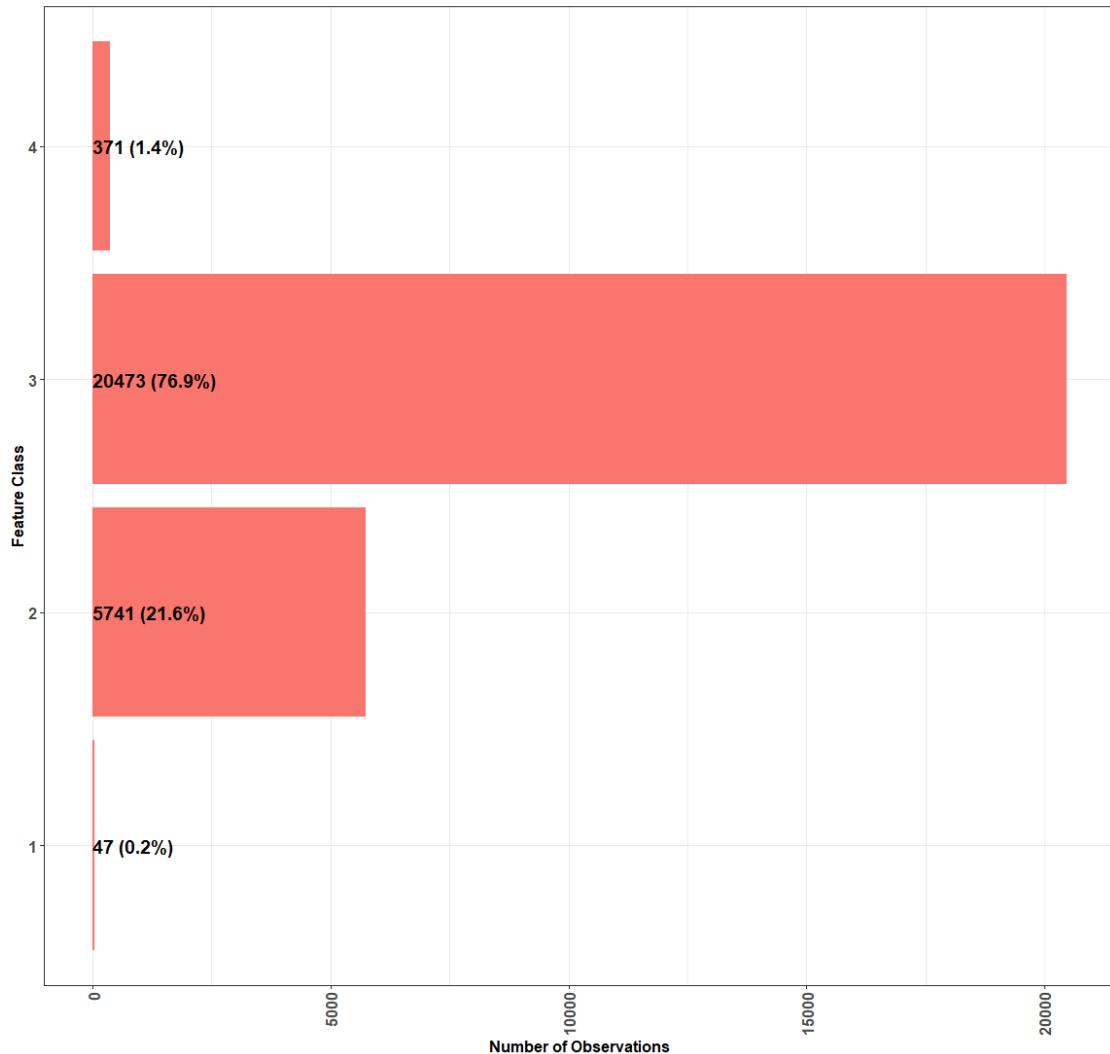
##  

## Feature Value      Counter      Percentage  

## -----
```

```
## 1           47      0.1765
## 2          5741    21.5568
## 3         20473   76.8737
## 4          371     1.3931
```

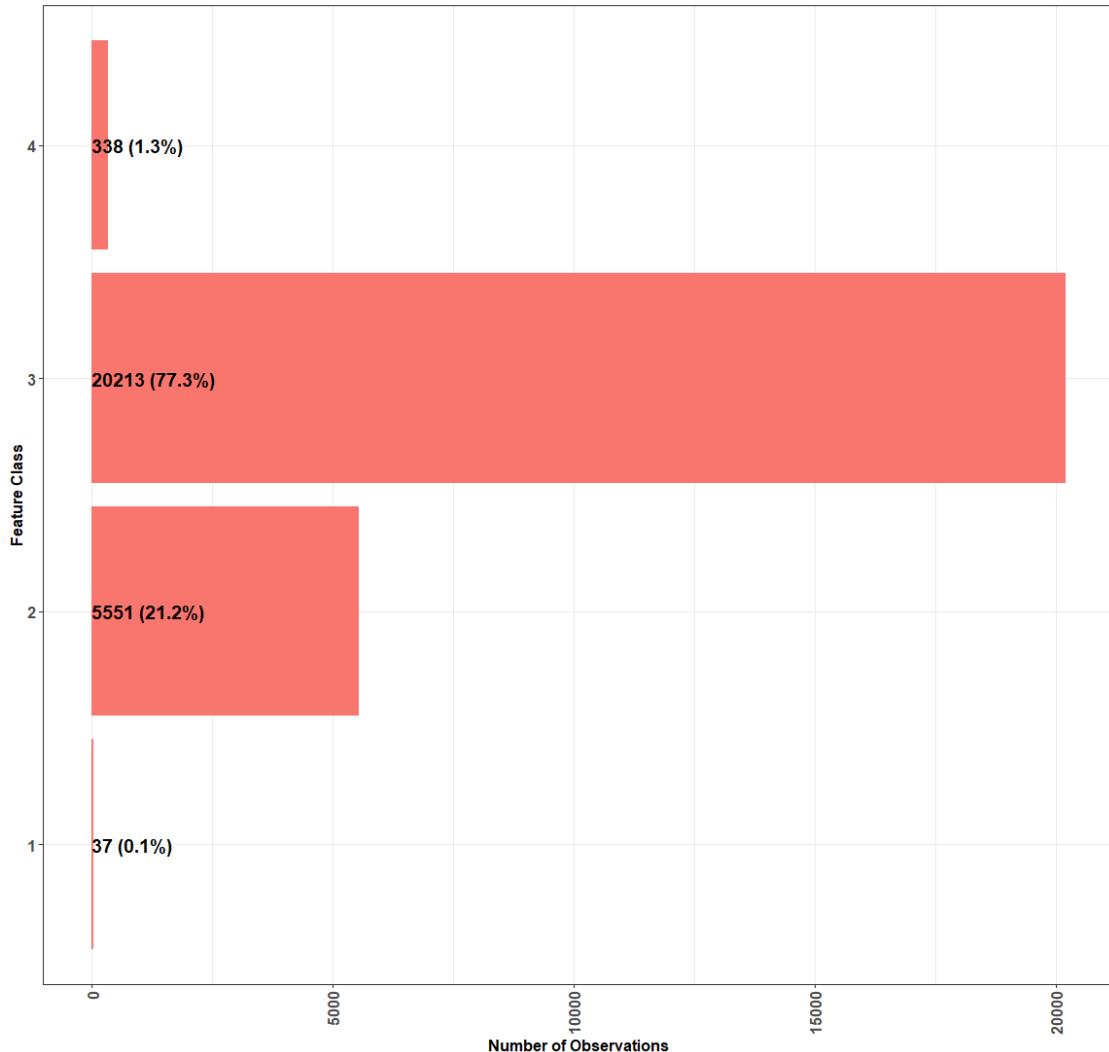
Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2005.csv



```
##
## -----
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 1 37 0.1416  
## 2 5551 21.2365  
## 3 20213 77.3289  
## 4 338 1.2931
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2006.csv



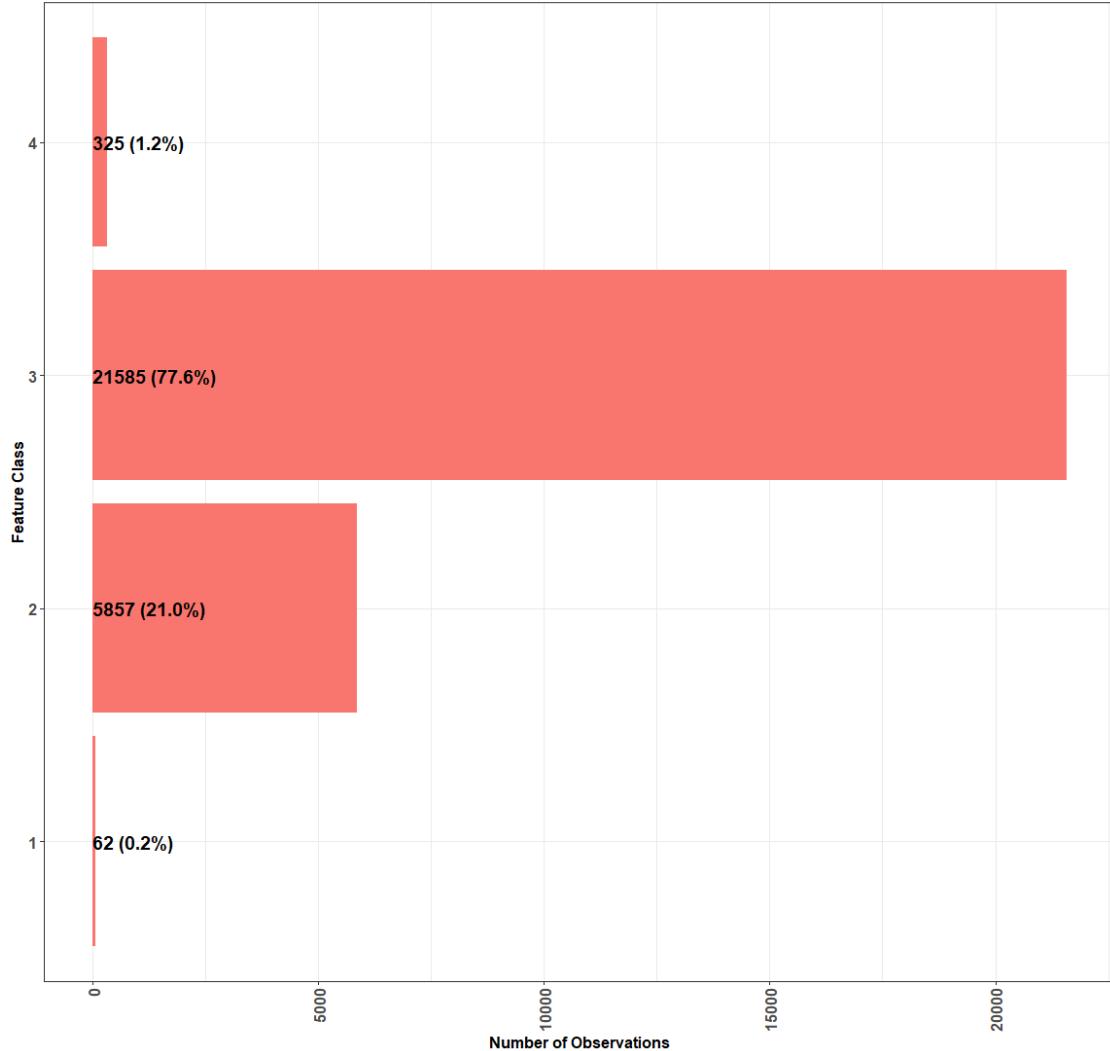
```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2007.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
##
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT
##
## Feature Value      Counter      Percentage
## ----- -----
## 1                  62          0.2228
## 2                  5857         21.0464
## 3                  21585        77.5630
## 4                  325          1.1678

```

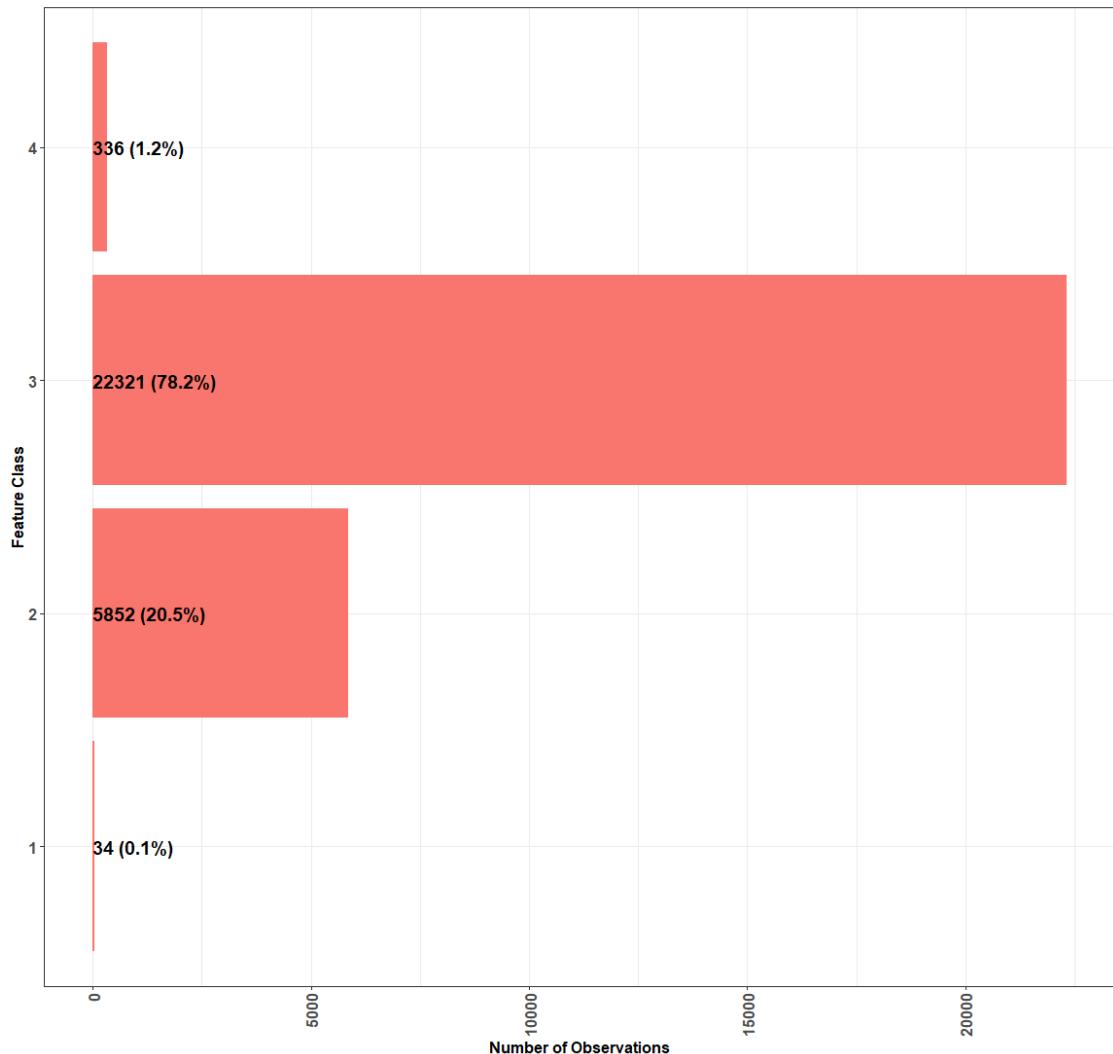
Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2007.csv





```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 1 34 0.1191  
## 2 5852 20.5024  
## 3 22321 78.2013  
## 4 336 1.1772
```

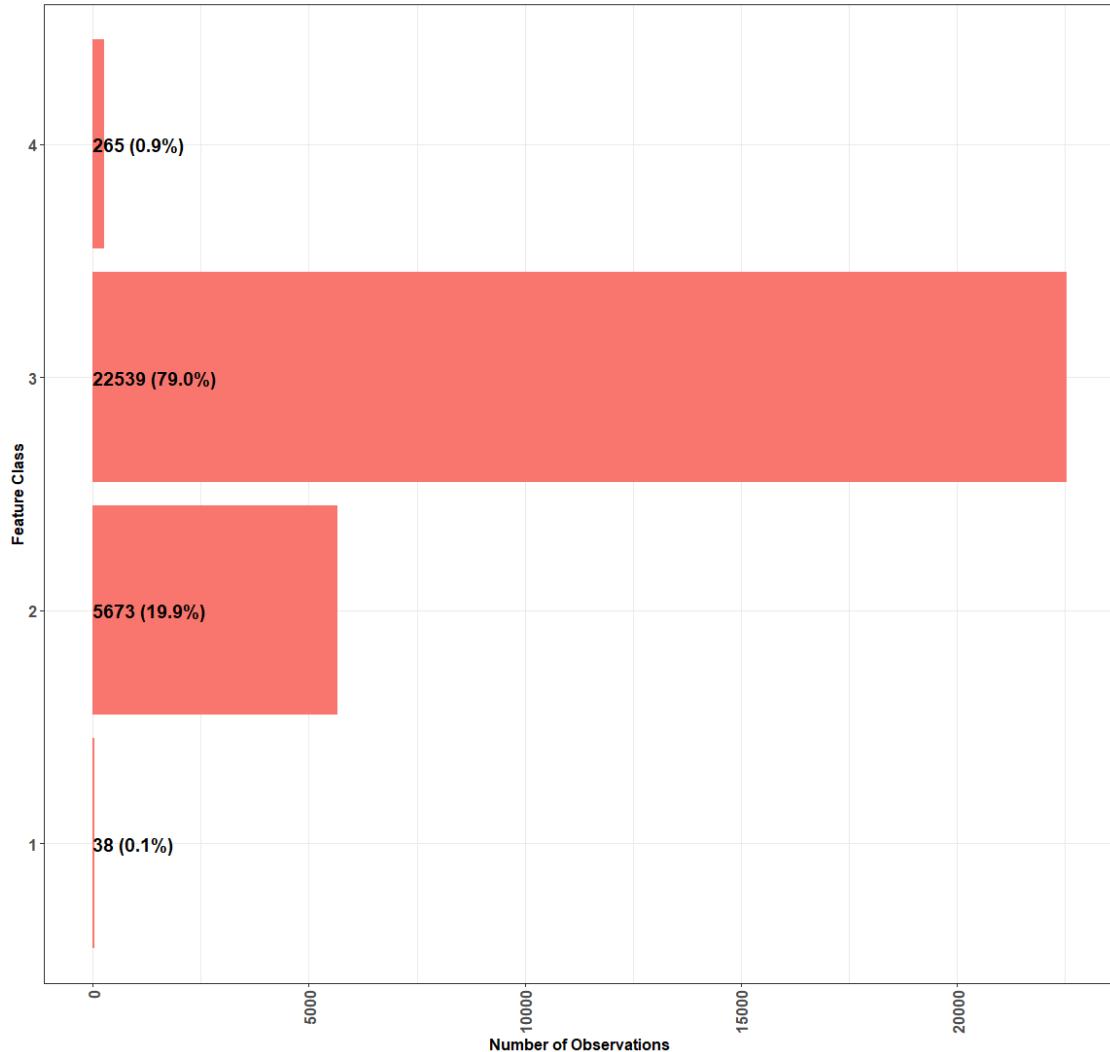
Plot of Feature:CLASSIFICATION_OF_ACCIDENT Data>All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 1           38      0.1333
## 2          5673    19.8948
## 3         22539   79.0426
## 4          265     0.9293
```

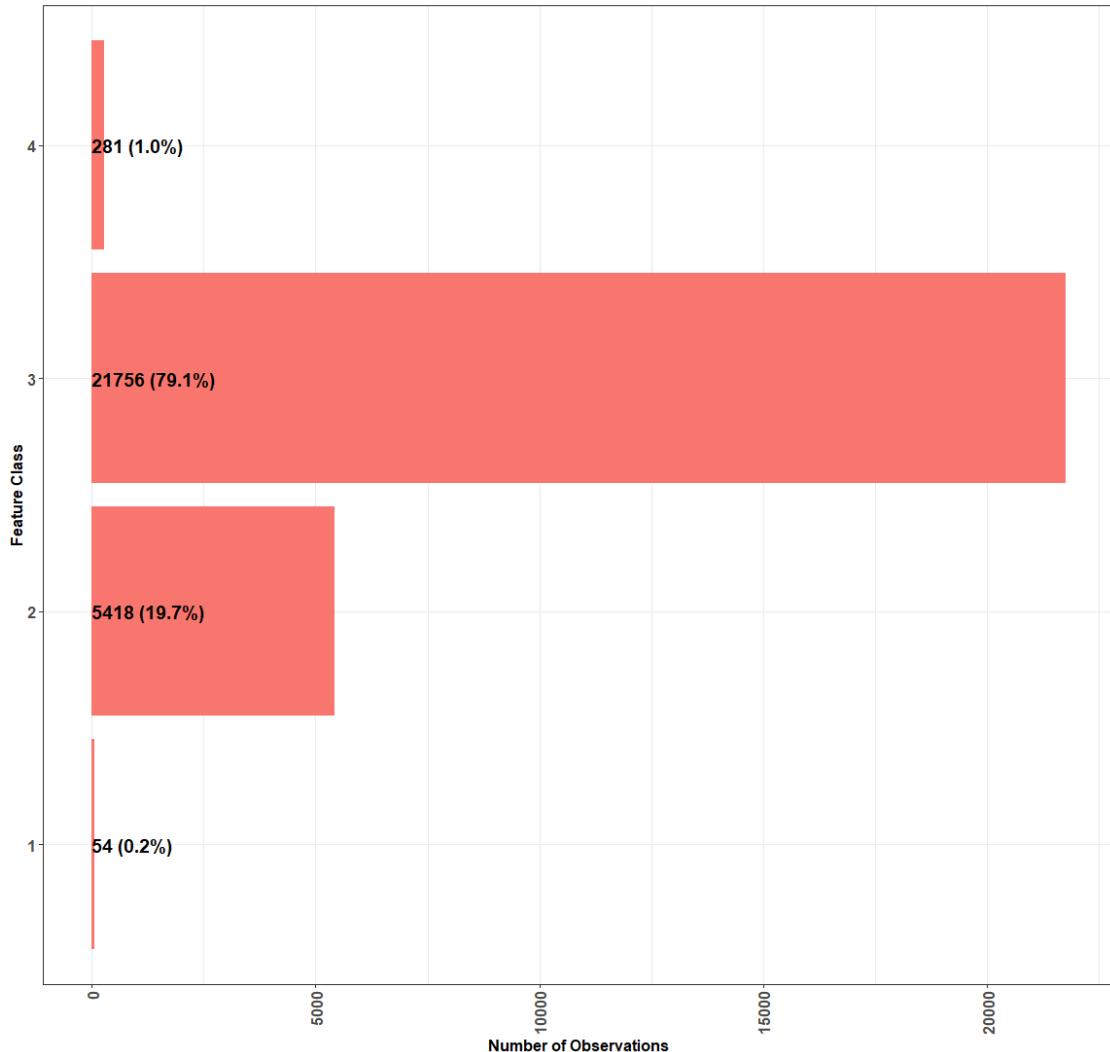
Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2009.csv



```
##
## -----
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 1 54 0.1963  
## 2 5418 19.6954  
## 3 21756 79.0868  
## 4 281 1.0215
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2010.csv



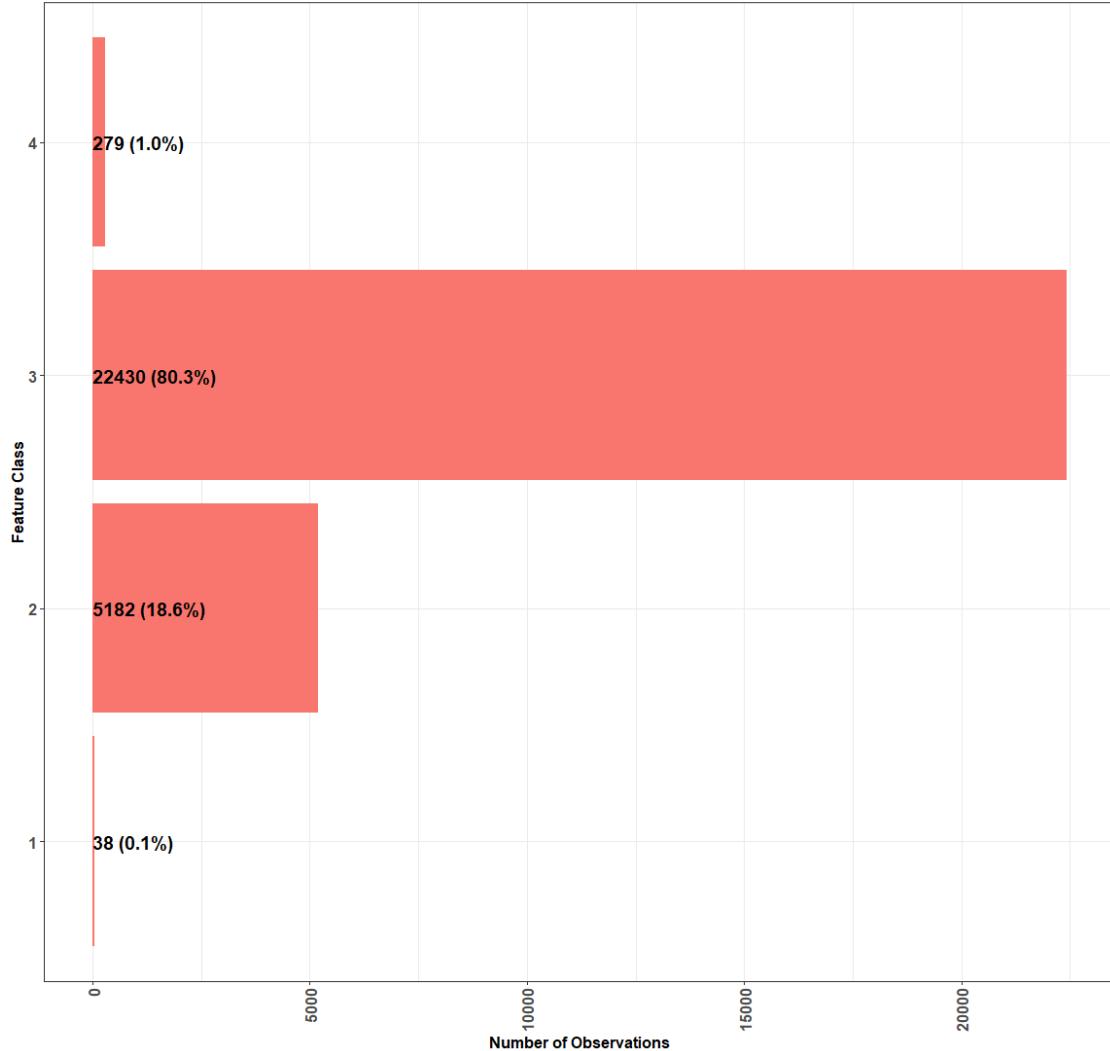
```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2011.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
##
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT
##
## Feature Value Counter Percentage
## -----
## 1 38 0.1361
## 2 5182 18.5542
## 3 22430 80.3108
## 4 279 0.9990

```

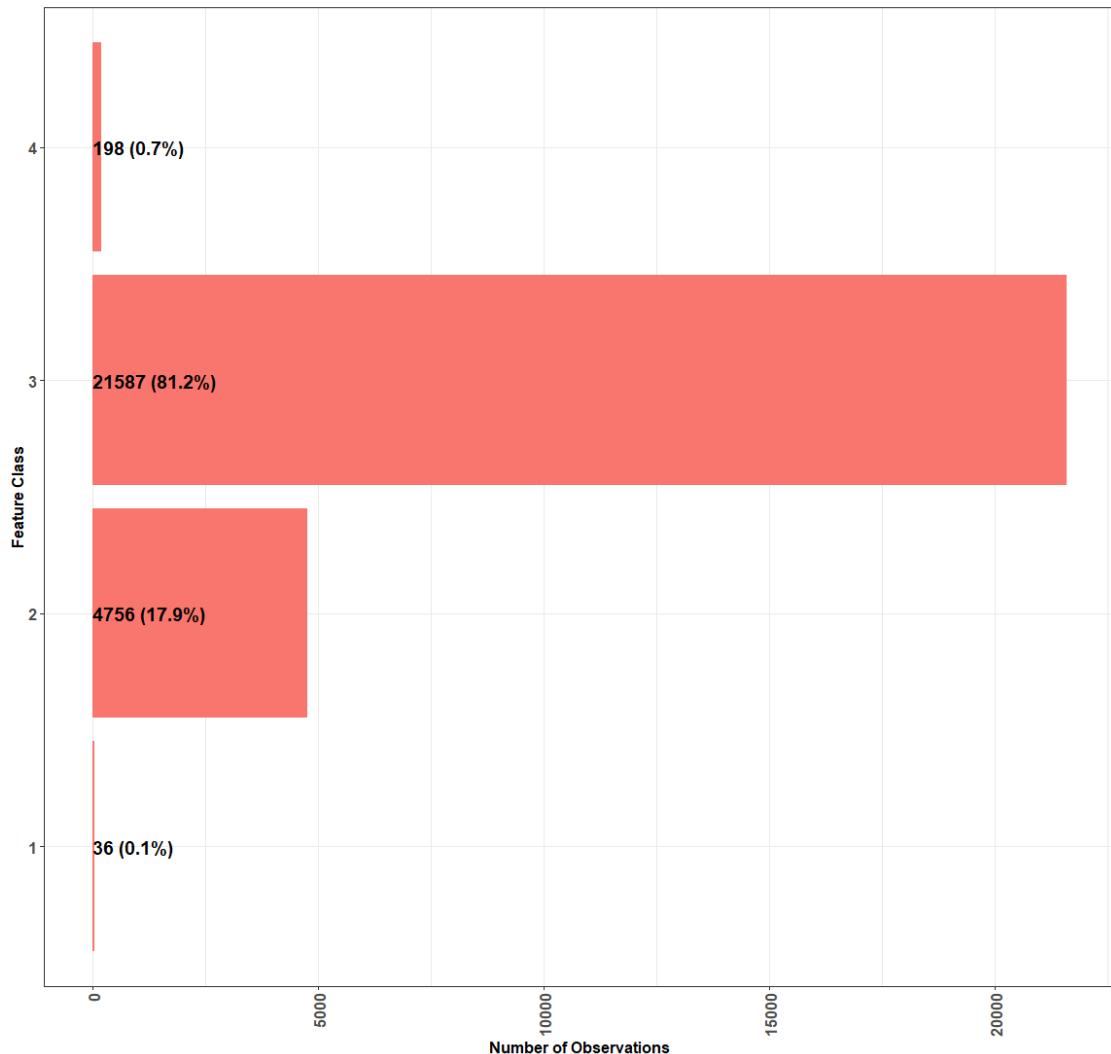
Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2011.csv





```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## ----- -----  
## 1 36 0.1355  
## 2 4756 17.8952  
## 3 21587 81.2244  
## 4 198 0.7450
```

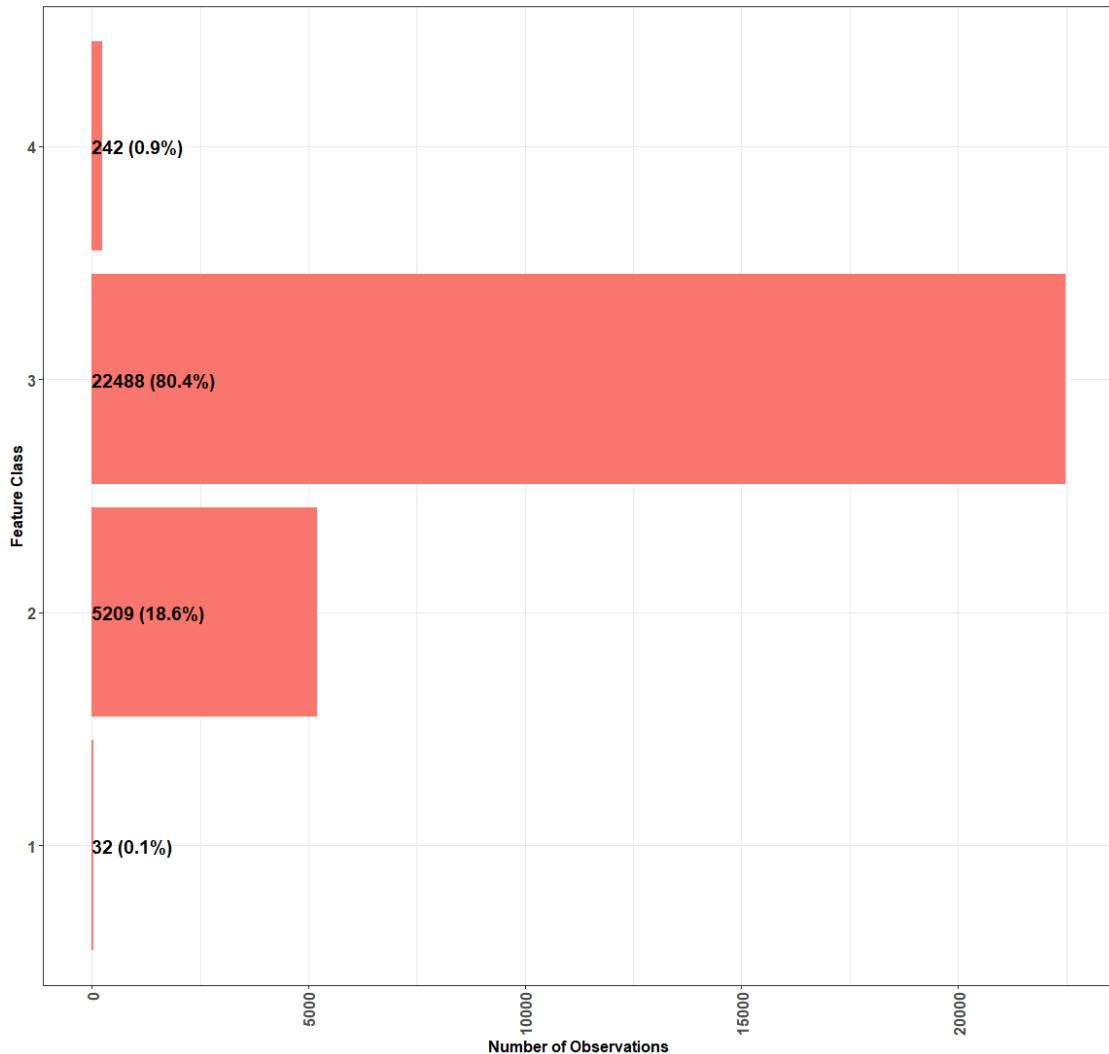
Plot of Feature:CLASSIFICATION_OF_ACCIDENT Data>All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA>All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 1           32      0.1144
## 2          5209    18.6229
## 3         22488   80.3976
## 4          242     0.8652
```

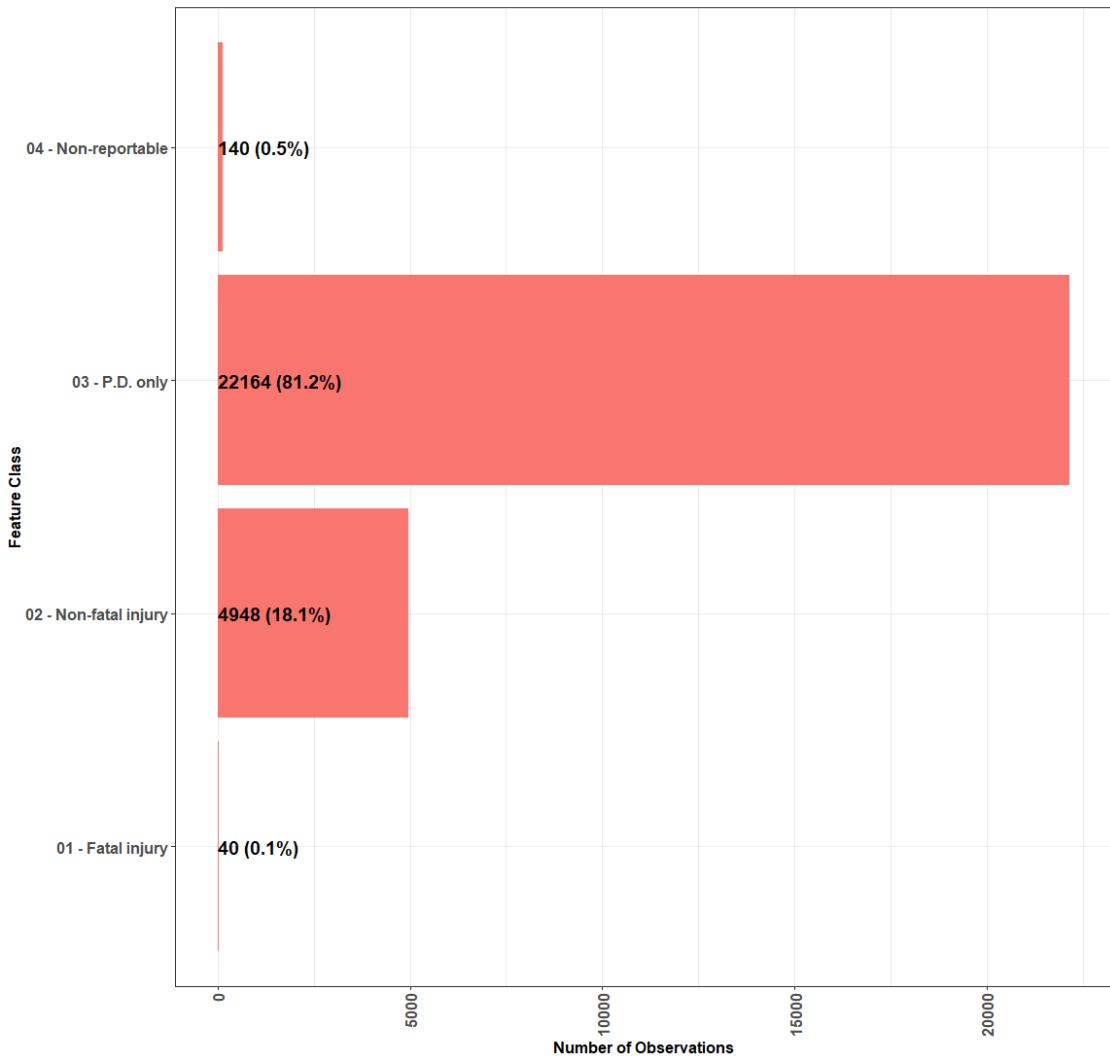
Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Fatal injury 40 0.1466  
## 02 - Non-fatal injury 4948 18.1299  
## 03 - P.D. only 22164 81.2106  
## 04 - Non-reportable 140 0.5130
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2014.csv



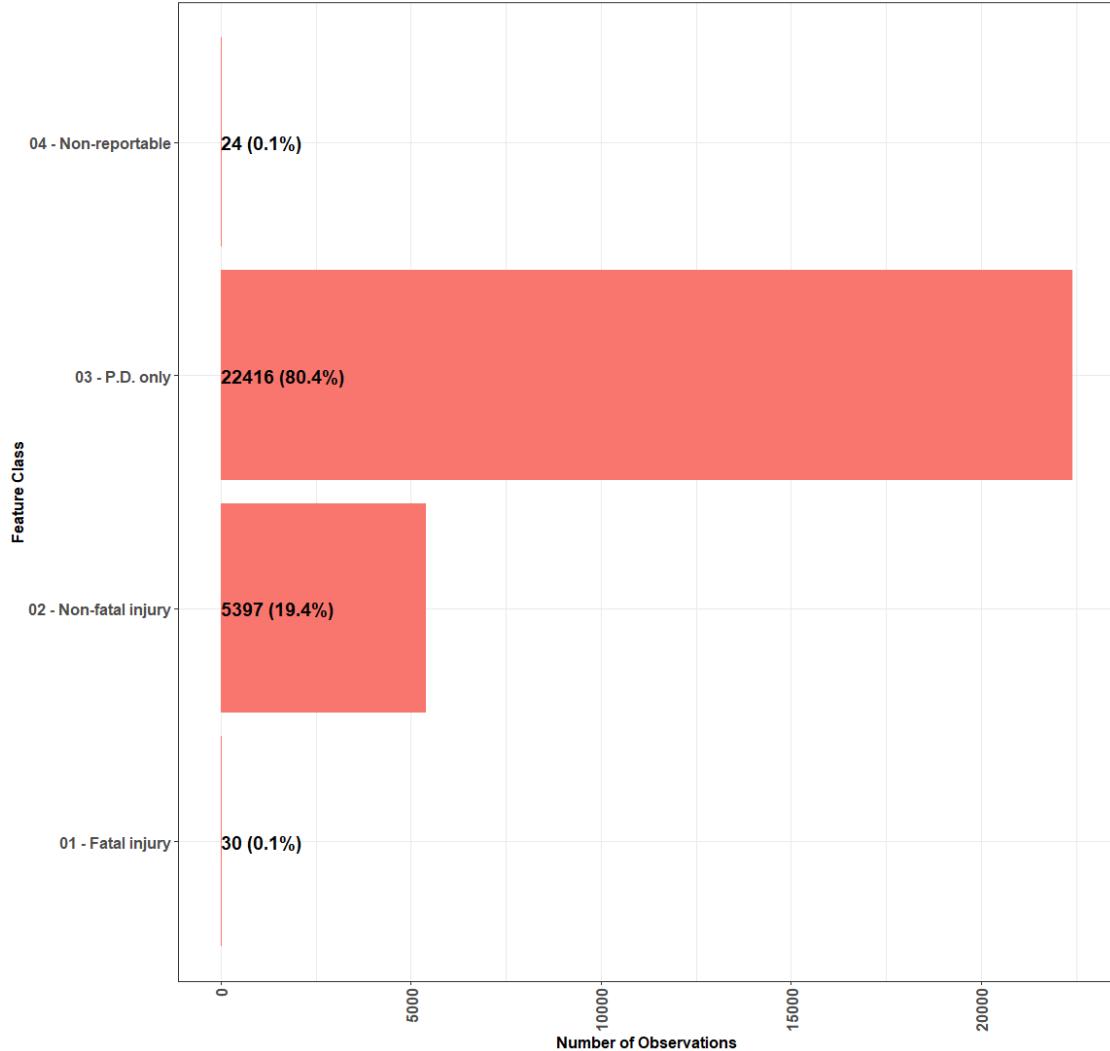
```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA>All 2015.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
##
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT
##
## Feature Value          Counter   Percentage
## ----- - -----
## 01 - Fatal injury      30        0.1077
## 02 - Non-fatal injury   5397      19.3670
## 03 - P.D. only          22416     80.4392
## 04 - Non-reportable    24        0.0861

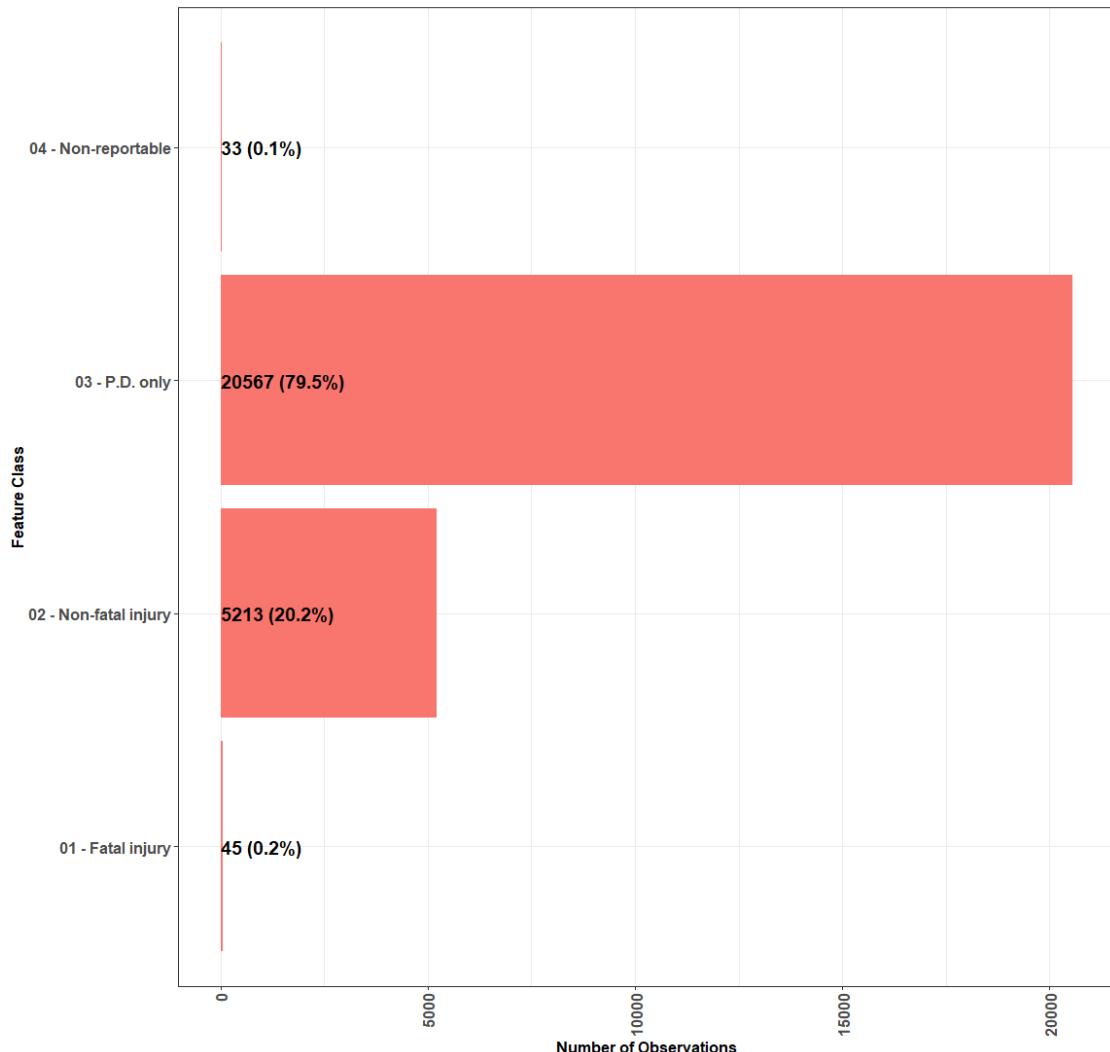
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data:All 2015.csv



```
##  
## -----  
## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Fatal injury 45 0.1740  
## 02 - Non-fatal injury 5213 20.1601  
## 03 - P.D. only 20567 79.5382  
## 04 - Non-reportable 33 0.1276
```

Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2016.csv



```
##  

## -----  

## CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT  

## DATA>All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 4  

##  

## TOP 100 FEATURES OF CLASSIFICATION_OF_ACCIDENT  

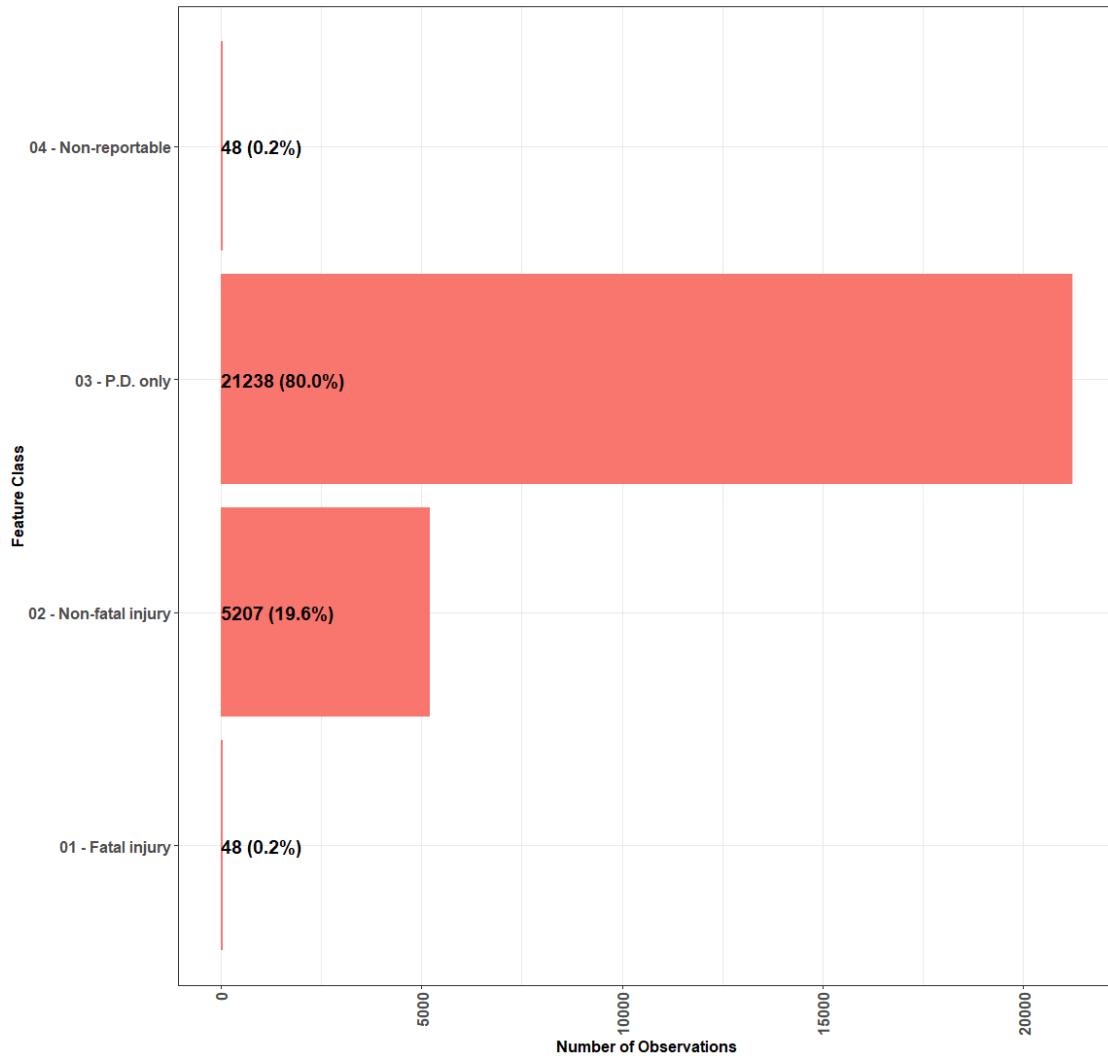
##  

## Feature Value          Counter    Percentage  

## -----
```

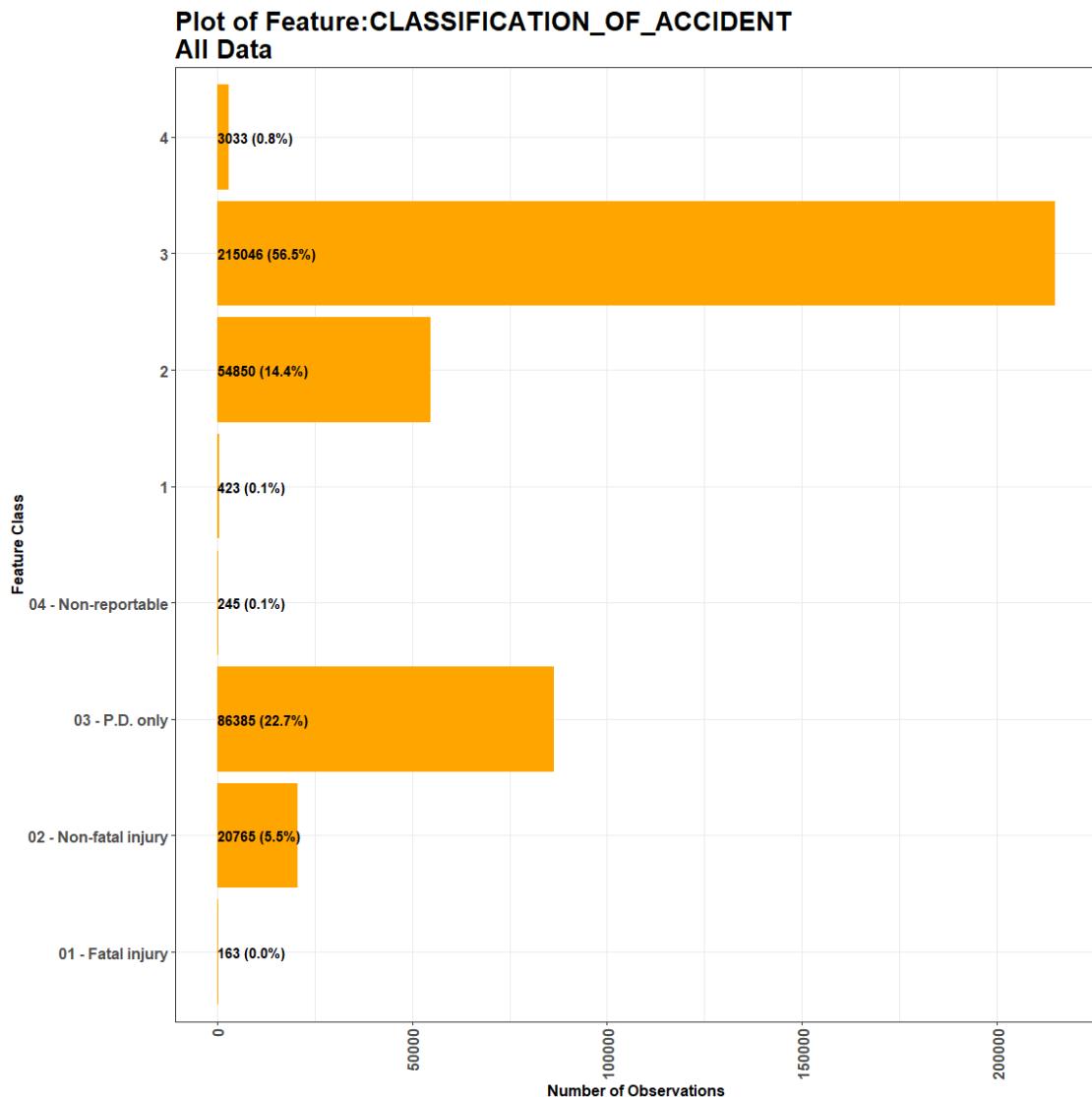
## 01 - Fatal injury	48	0.1809
## 02 - Non-fatal injury	5207	19.6187
## 03 - P.D. only	21238	80.0196
## 04 - Non-reportable	48	0.1809

**Plot of Feature:CLASSIFICATION_OF_ACCIDENT
Data>All 2017.csv**



```
##
## =====
## FINAL INFO CHECKING FEATURE:CLASSIFICATION_OF_ACCIDENT
## ALL DATA...
## =====
##
## Number of Blank Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      25708     26632     26139     27829     28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515     27509     27929     26577     27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292     27867     25858     26541
##
##
## Summary as Factor Feature:
## Number of Features: 8
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:CLASSIFICATION_OF_ACCIDENT"
```

Feature Value	Counter	Percentage
01 - Fatal injury	163	0.0428

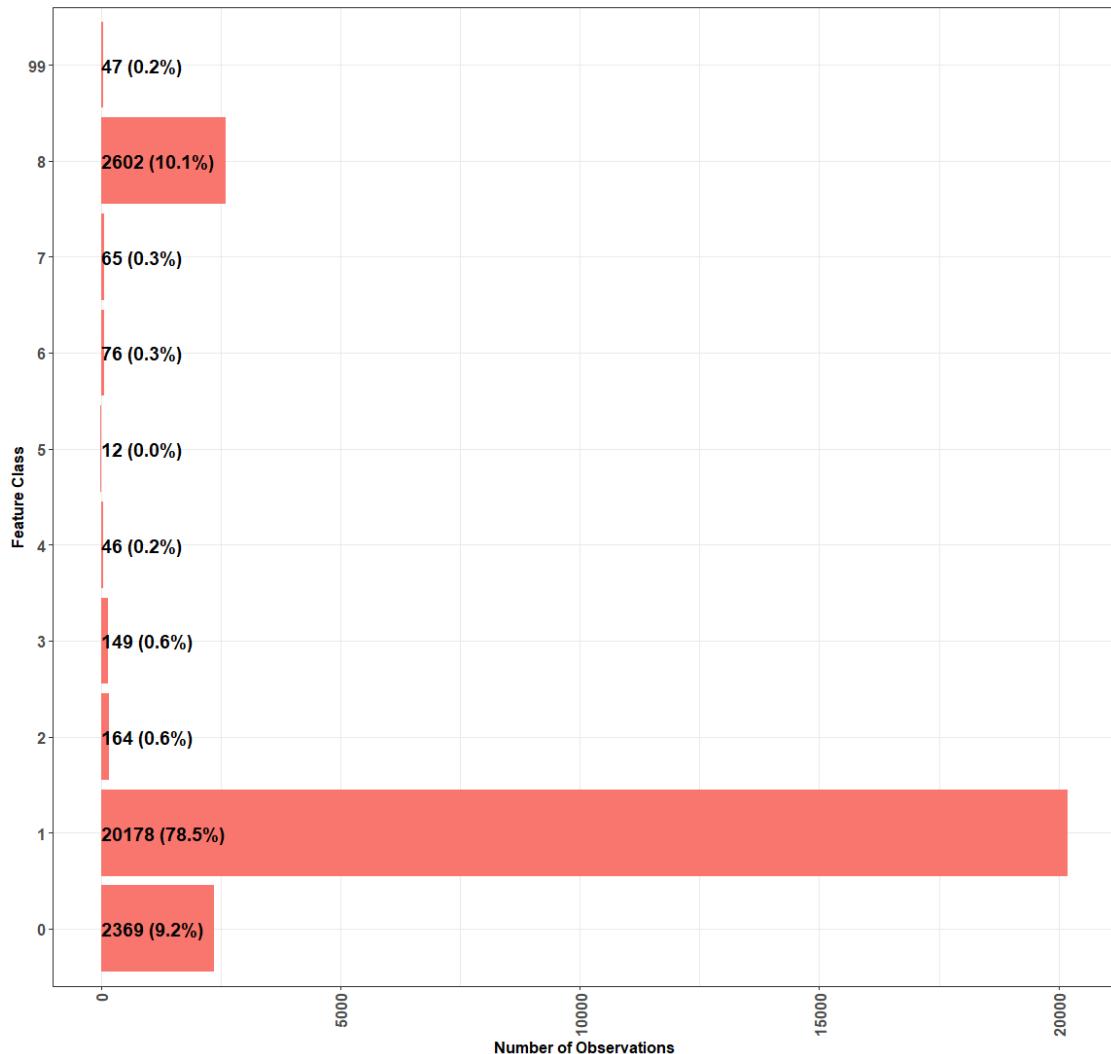


02 - Non-fatal injury	20765	5.4514
03 - P.D. only	86385	22.6786
04 - Non-reportable	245	0.0643
1	423	0.1110
2	54850	14.3997
3	215046	56.4559
4	3033	0.7963

3. Driver Condition (DRIVER_CONDITION)

```
##  
## -----  
## CHECKING FEATURE:DRIVER_CONDITION  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2369 9.2150  
## 1 20178 78.4892  
## 2 164 0.6379  
## 3 149 0.5796  
## 4 46 0.1789  
## 5 12 0.0467  
## 6 76 0.2956  
## 7 65 0.2528  
## 8 2602 10.1214  
## 99 47 0.1828
```

Plot of Feature:DRIVER_CONDITION
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF DRIVER_CONDITION  

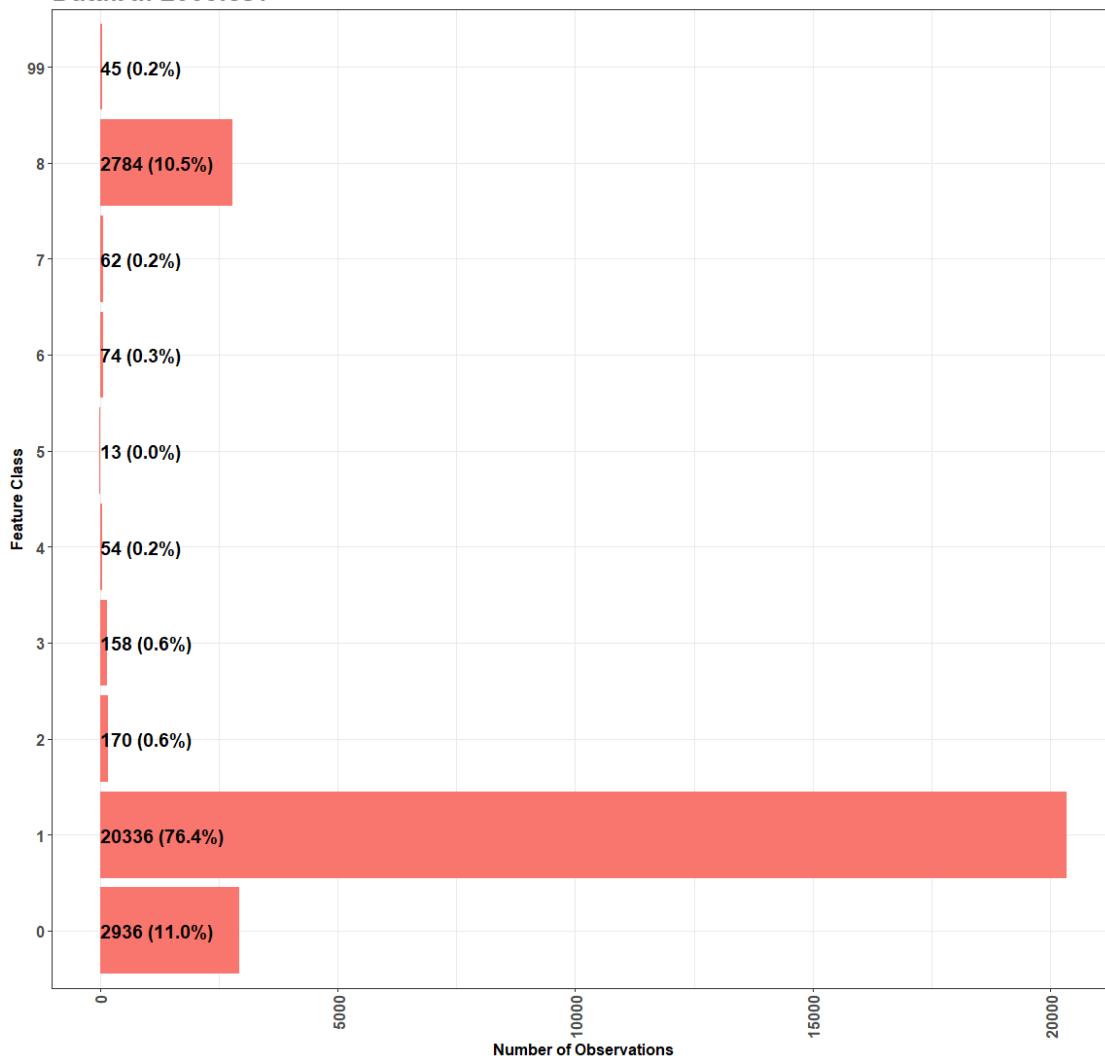
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           2936    11.0243
## 1          20336   76.3593
## 2            170    0.6383
## 3            158    0.5933
## 4             54    0.2028
## 5             13    0.0488
## 6              74    0.2779
## 7              62    0.2328
## 8            2784   10.4536
## 99            45    0.1690
```

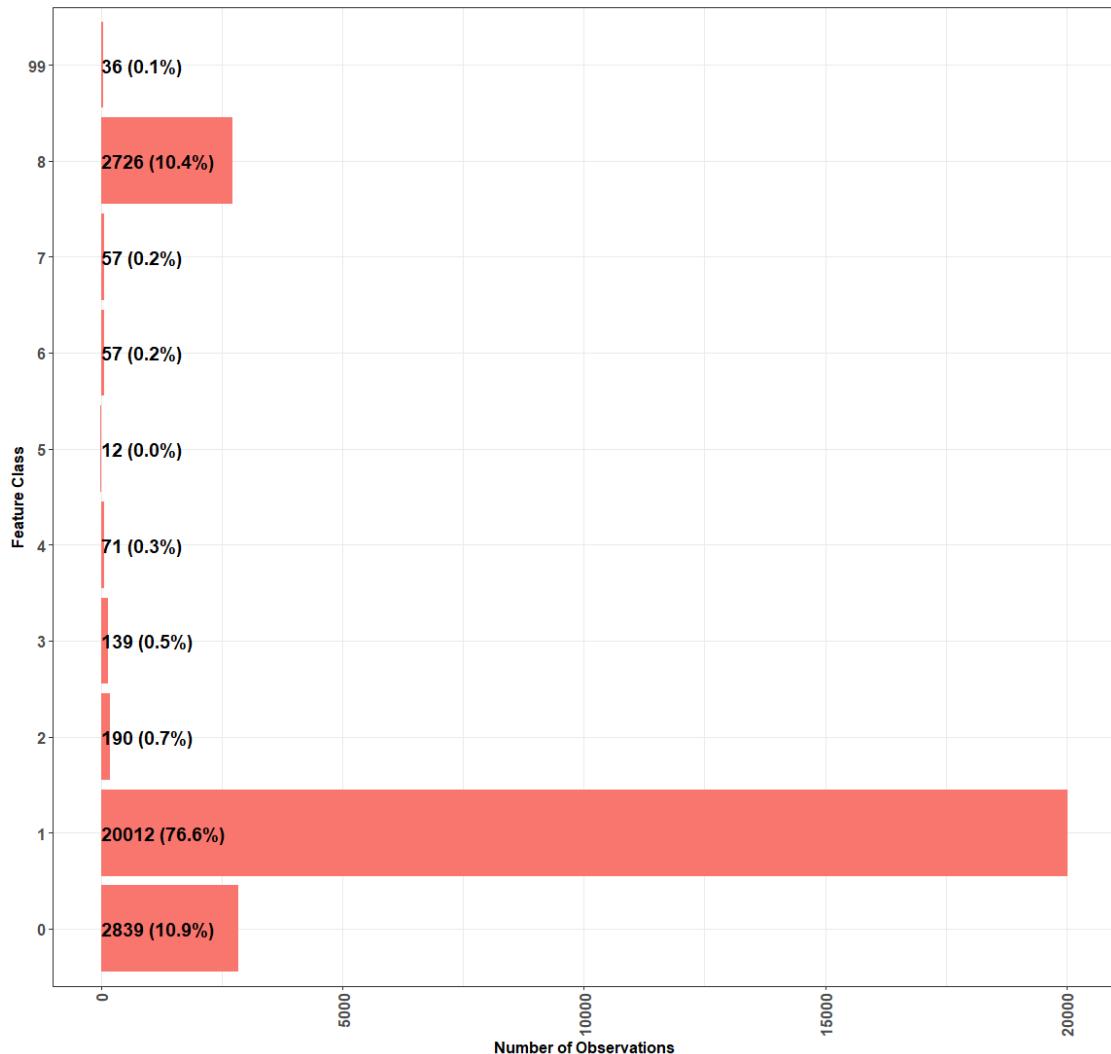
**Plot of Feature:DRIVER_CONDITION
Data>All 2005.csv**



```
##
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2006.csv...
```

```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2839 10.8612  
## 1 20012 76.5599  
## 2 190 0.7269  
## 3 139 0.5318  
## 4 71 0.2716  
## 5 12 0.0459  
## 6 57 0.2181  
## 7 57 0.2181  
## 8 2726 10.4289  
## 99 36 0.1377
```

Plot of Feature:DRIVER_CONDITION
Data:All 2006.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2007.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF DRIVER_CONDITION  

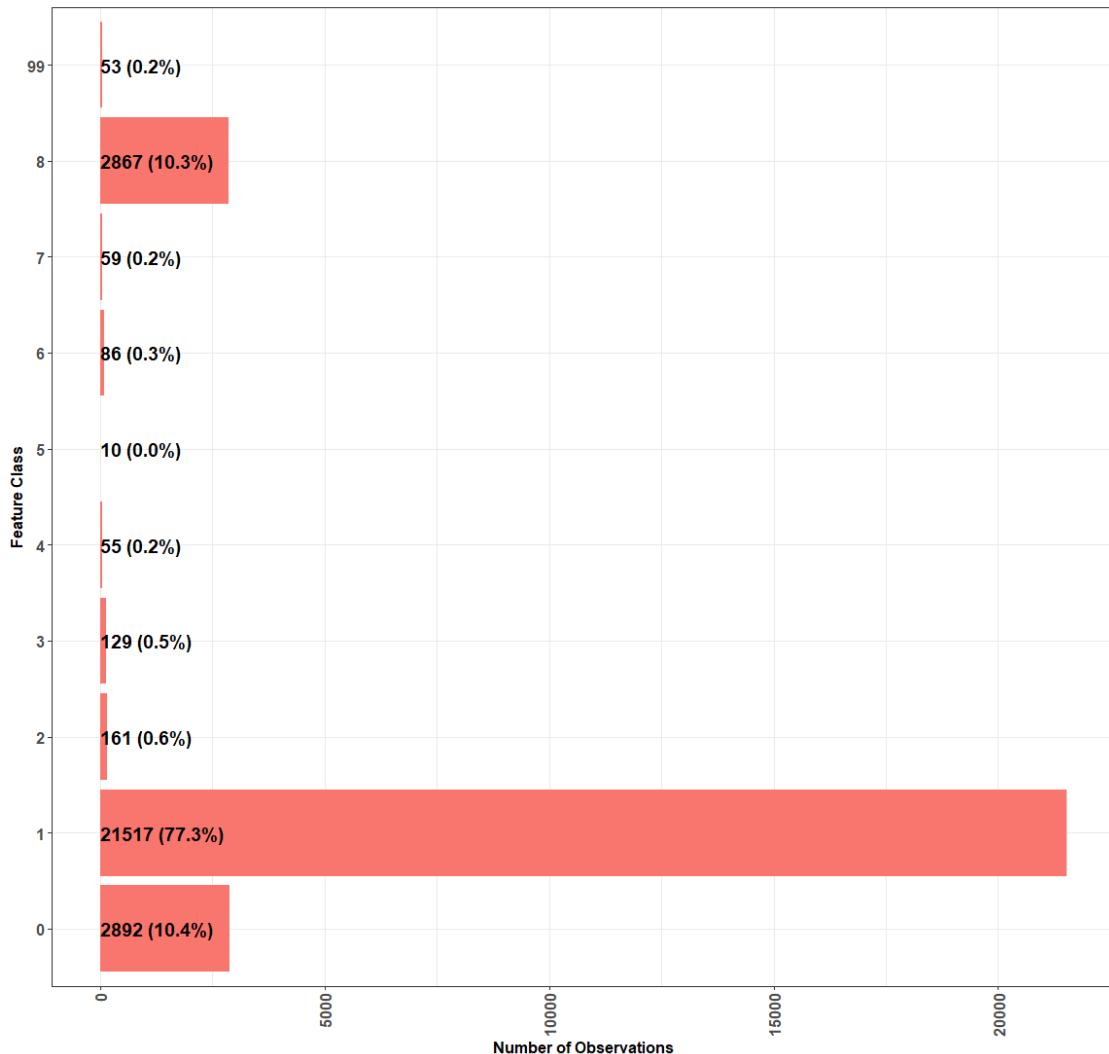
##  

## Feature Value      Counter      Percentage  

## -----
```

```
## 0           2892    10.3920
## 1          21517   77.3186
## 2            161    0.5785
## 3            129    0.4635
## 4             55    0.1976
## 5             10    0.0359
## 6             86    0.3090
## 7             59    0.2120
## 8          2867   10.3022
## 99            53    0.1904
```

**Plot of Feature:DRIVER_CONDITION
Data>All 2007.csv**

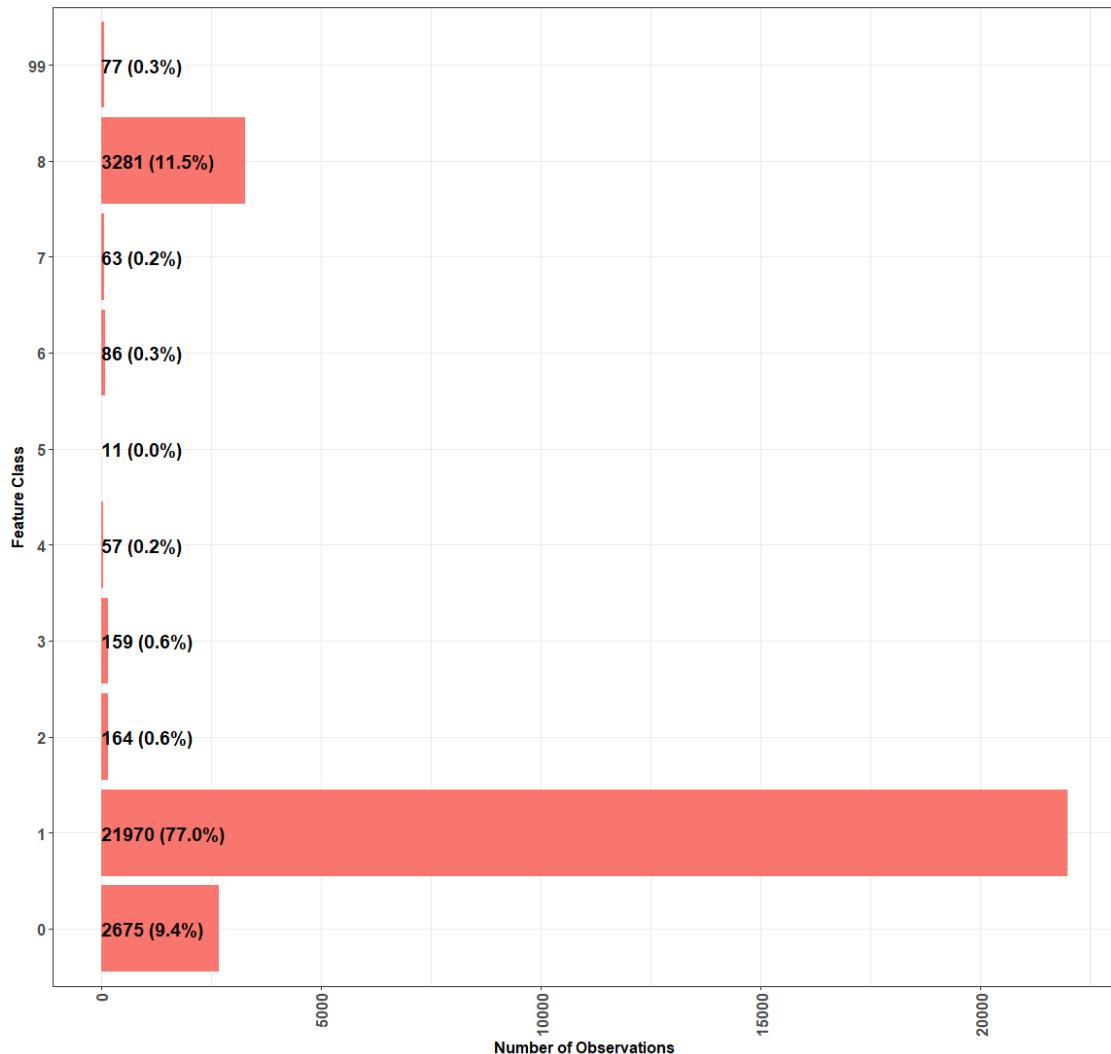


```
##
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2008.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2675 9.3718  
## 1 21970 76.9716  
## 2 164 0.5746  
## 3 159 0.5571  
## 4 57 0.1997  
## 5 11 0.0385  
## 6 86 0.3013  
## 7 63 0.2207  
## 8 3281 11.4949  
## 99 77 0.2698
```

Plot of Feature:DRIVER_CONDITION
Data:All 2008.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2009.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF DRIVER_CONDITION  

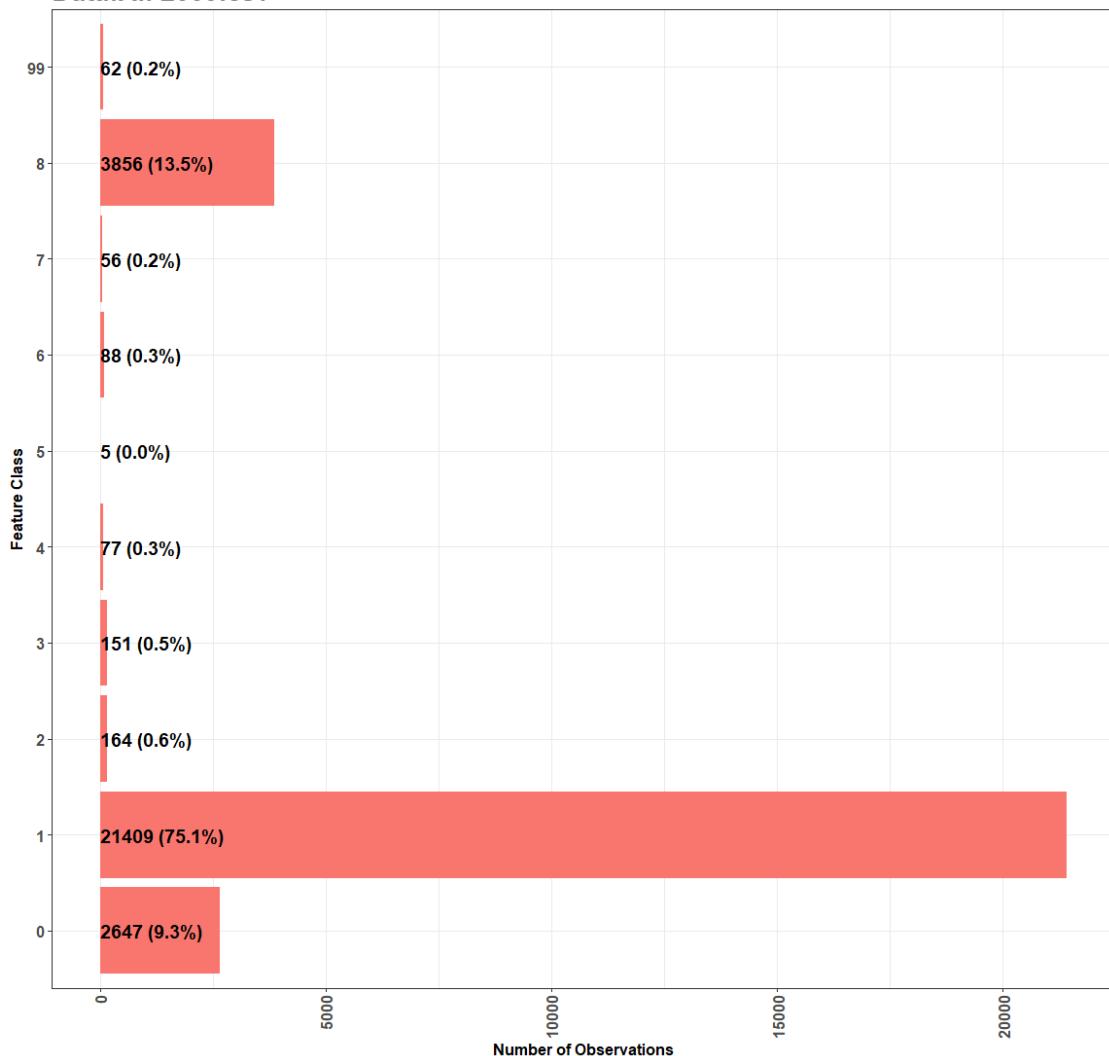
##  

## Feature Value Counter Percentage  

## -----
```

## 0	2647	9.2828
## 1	21409	75.0798
## 2	164	0.5751
## 3	151	0.5295
## 4	77	0.2700
## 5	5	0.0175
## 6	88	0.3086
## 7	56	0.1964
## 8	3856	13.5227
## 99	62	0.2174

**Plot of Feature:DRIVER_CONDITION
Data>All 2009.csv**

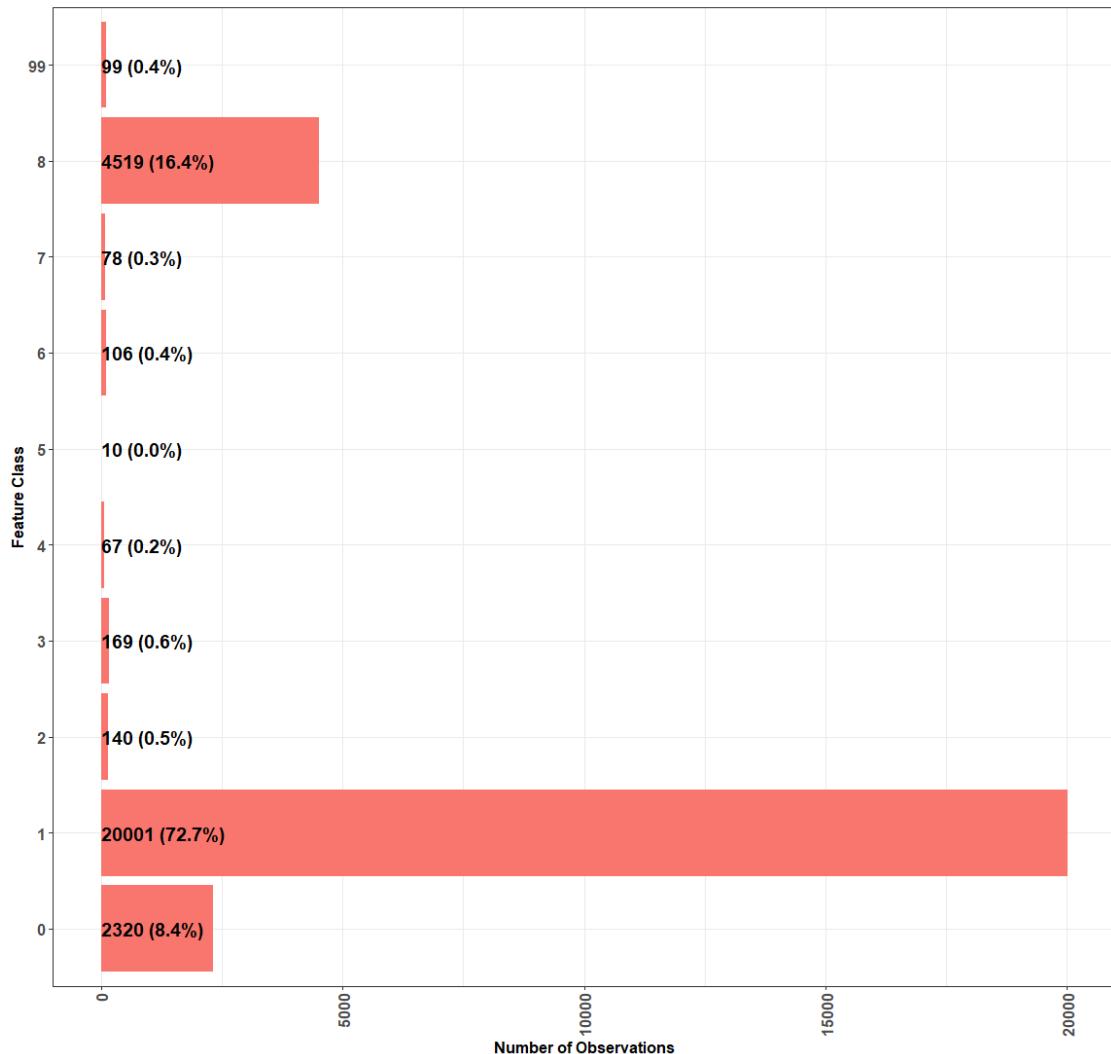


```
##  
## -----  
## CHECKING FEATURE:DRIVER_CONDITION  
## DATA:All 2010.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2320 8.4336  
## 1 20001 72.7071  
## 2 140 0.5089  
## 3 169 0.6143  
## 4 67 0.2436  
## 5 10 0.0364  
## 6 106 0.3853  
## 7 78 0.2835  
## 8 4519 16.4274  
## 99 99 0.3599
```

Plot of Feature:DRIVER_CONDITION
Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF DRIVER_CONDITION  

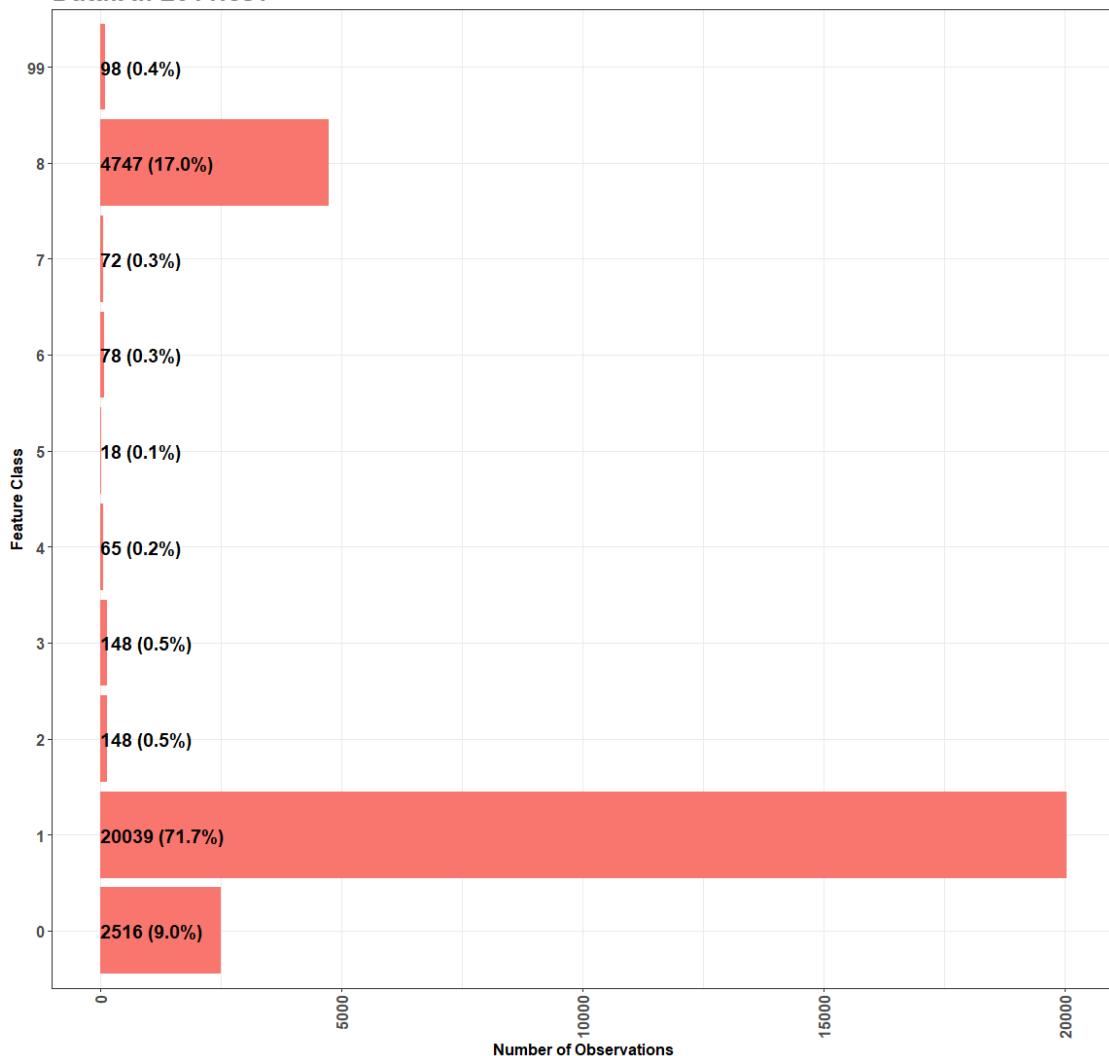
##  

## Feature Value      Counter      Percentage  

## -----
```

```
## 0           2516    9.0086
## 1          20039   71.7498
## 2           148    0.5299
## 3           148    0.5299
## 4            65    0.2327
## 5            18    0.0644
## 6            78    0.2793
## 7            72    0.2578
## 8          4747   16.9967
## 99           98    0.3509
```

**Plot of Feature:DRIVER_CONDITION
Data>All 2011.csv**

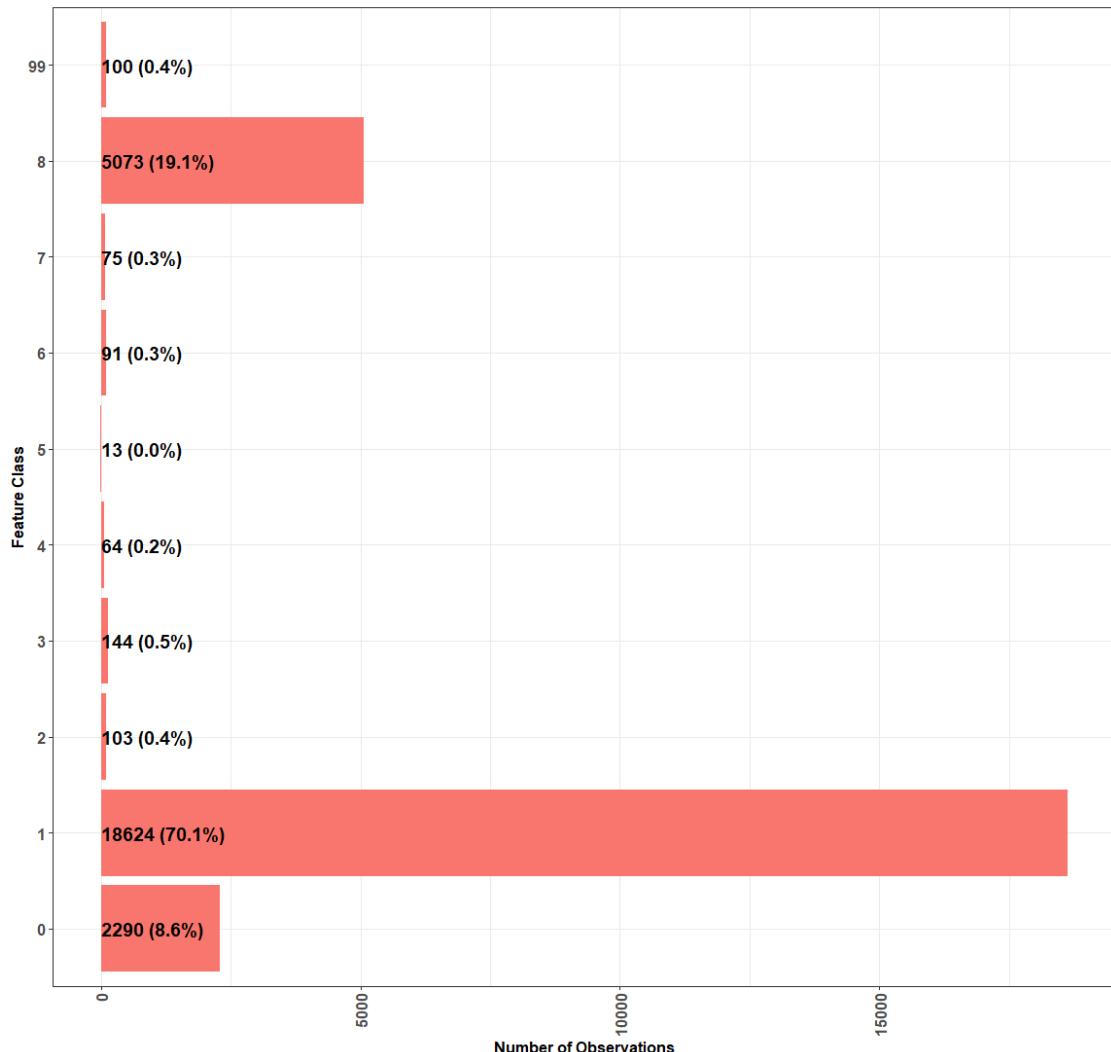


```
##
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2012.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2290 8.6165  
## 1 18624 70.0756  
## 2 103 0.3876  
## 3 144 0.5418  
## 4 64 0.2408  
## 5 13 0.0489  
## 6 91 0.3424  
## 7 75 0.2822  
## 8 5073 19.0879  
## 99 100 0.3763
```

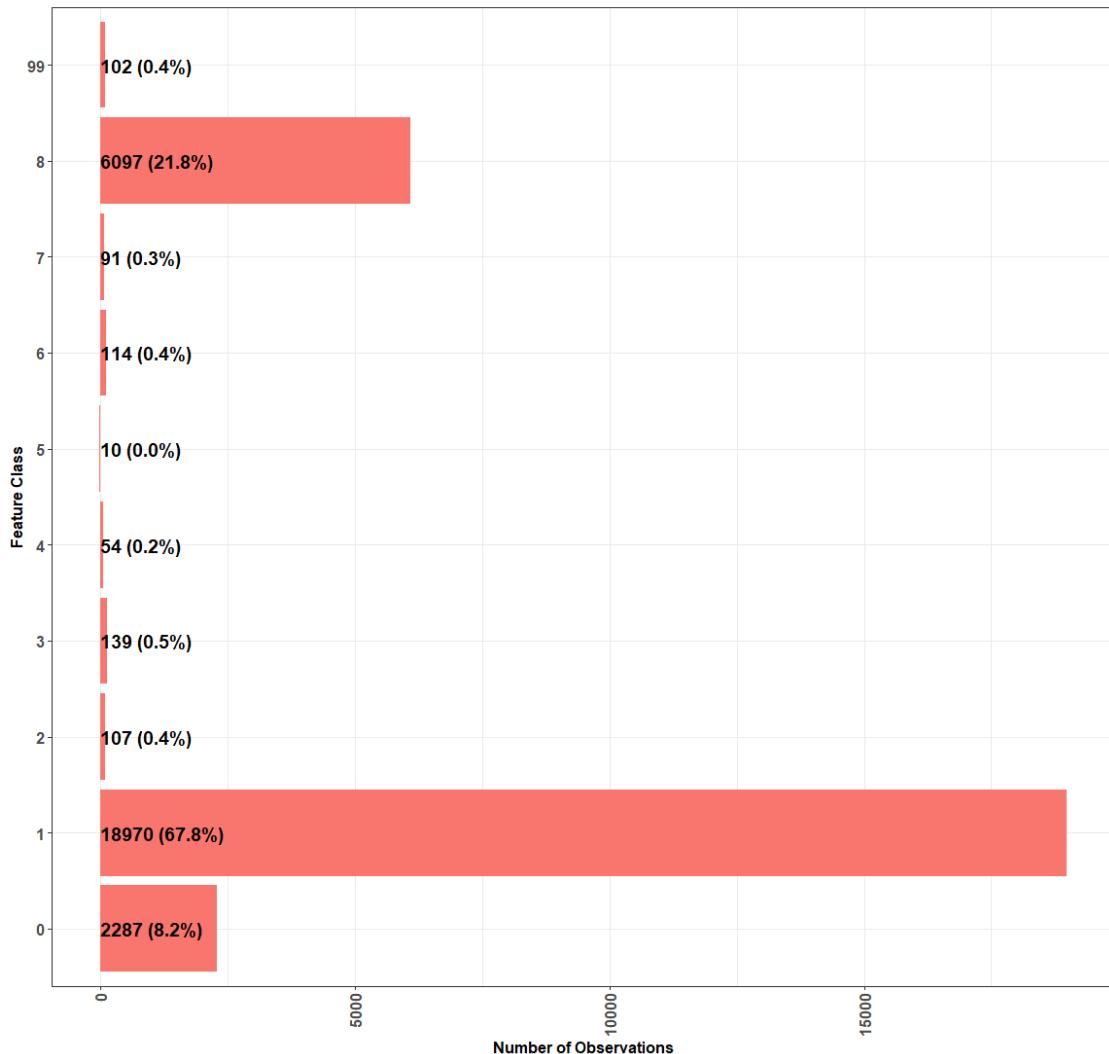
Plot of Feature:DRIVER_CONDITION
Data:All 2012.csv



```
## 
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2013.csv...
## 
## Number of Blank Values:0
## 
## Summary as Factor Feature:
## 
## Number of Features: 10
## 
## TOP 100 FEATURES OF DRIVER_CONDITION
## 
## Feature Value      Counter      Percentage
## -----
```

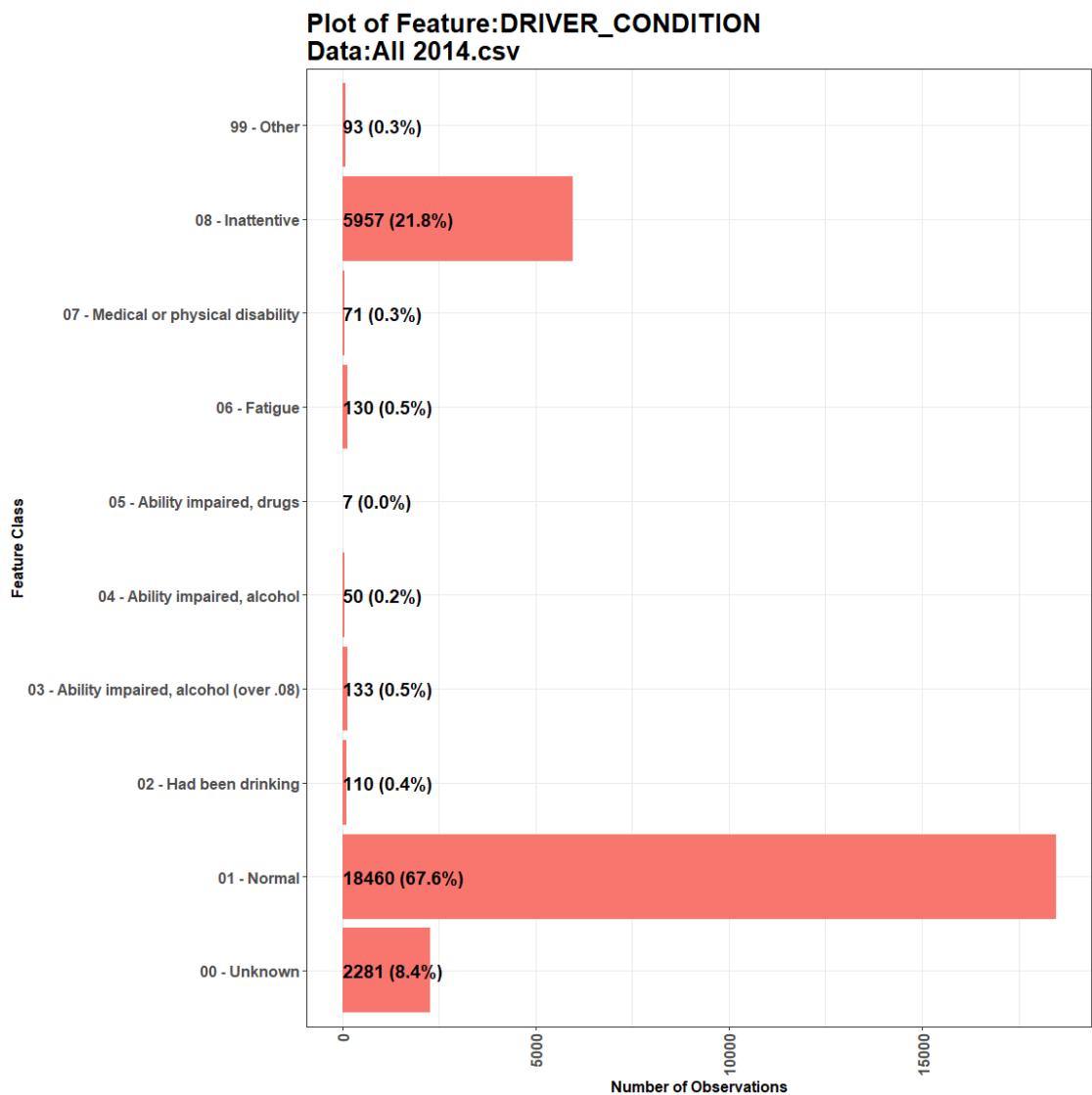
```
## 0           2287     8.1763
## 1          18970    67.8202
## 2            107     0.3825
## 3            139     0.4969
## 4             54     0.1931
## 5              10     0.0358
## 6            114     0.4076
## 7              91     0.3253
## 8          6097    21.7976
## 99            102     0.3647
```

**Plot of Feature:DRIVER_CONDITION
Data>All 2013.csv**



```
##
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2014.csv...
```

```
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 10
##
## TOP 100 FEATURES OF DRIVER_CONDITION
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 2281 8.3578
## 01 - Normal 18460 67.6389
## 02 - Had been drinking 110 0.4030
## 03 - Ability impaired, alcohol (over .08) 133 0.4873
## 04 - Ability impaired, alcohol 50 0.1832
## 05 - Ability impaired, drugs 7 0.0256
## 06 - Fatigue 130 0.4763
## 07 - Medical or physical disability 71 0.2601
## 08 - Inattentive 5957 21.8269
## 99 - Other 93 0.3408
```



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

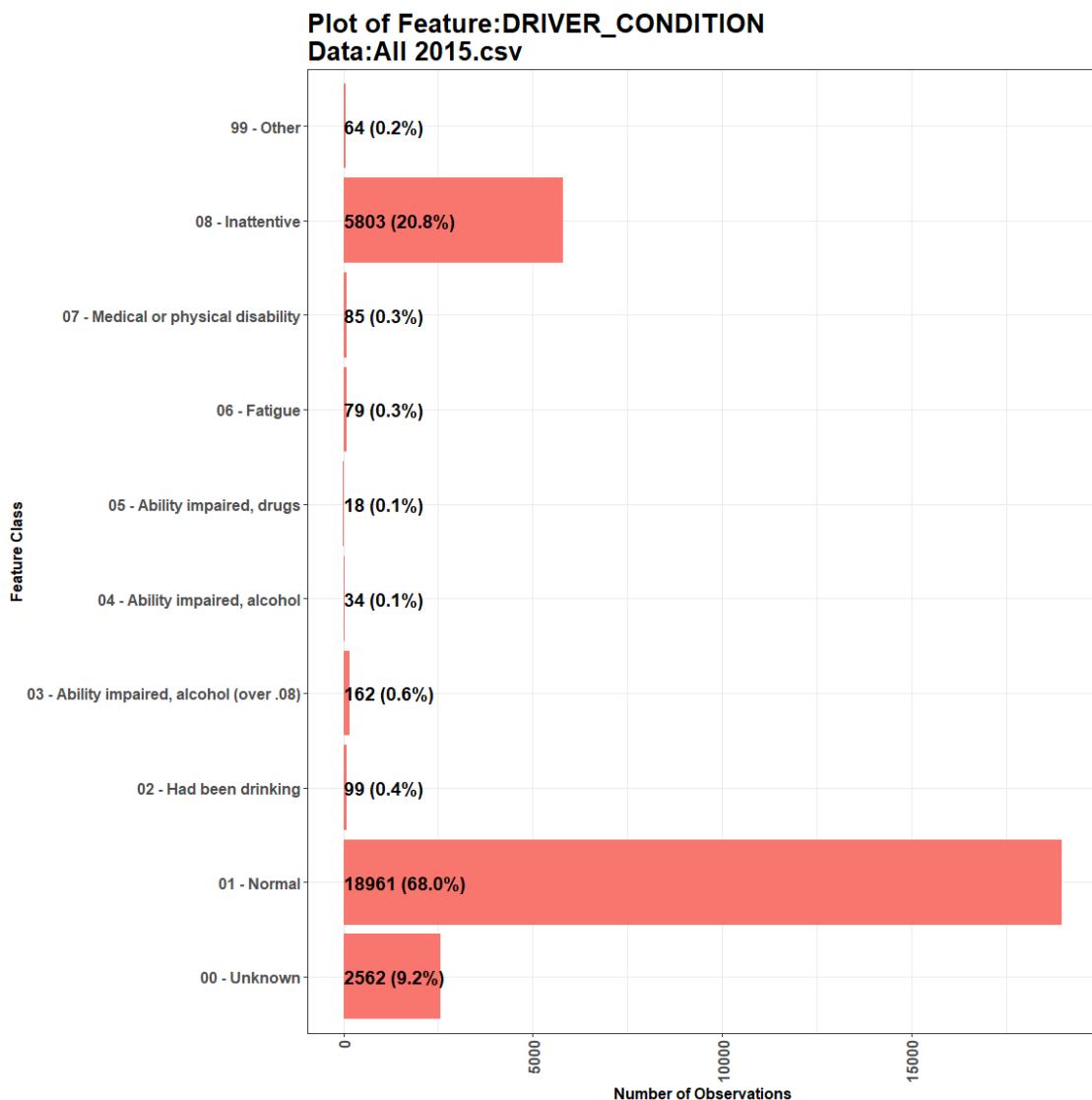
## TOP 100 FEATURES OF DRIVER_CONDITION  

##  

## Feature Value Counter Percentage  

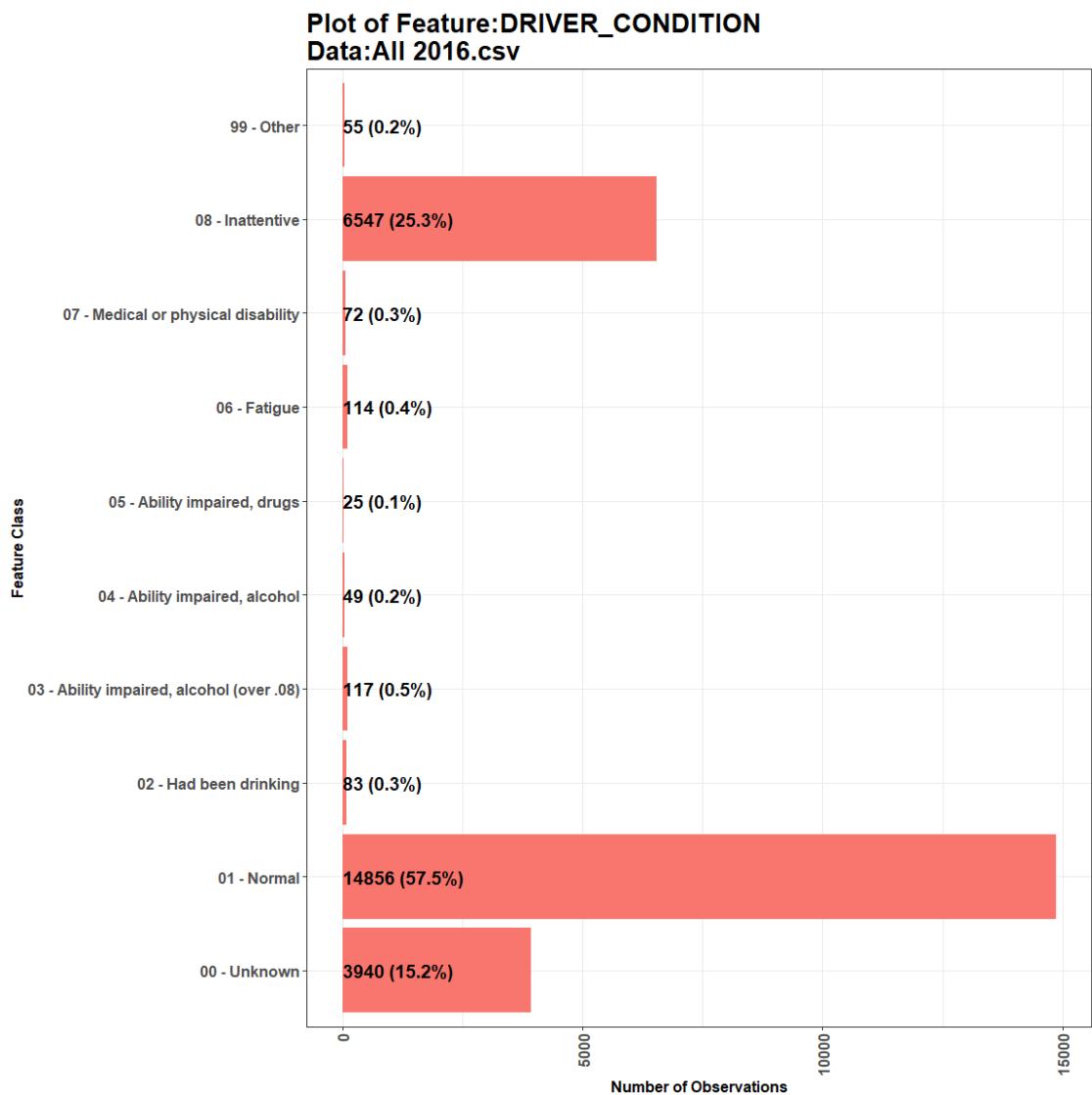
## -----
```

## 00 - Unknown	2562	9.1937
## 01 - Normal	18961	68.0411
## 02 - Had been drinking	99	0.3553
## 03 - Ability impaired, alcohol (over .08)	162	0.5813
## 04 - Ability impaired, alcohol	34	0.1220
## 05 - Ability impaired, drugs	18	0.0646
## 06 - Fatigue	79	0.2835
## 07 - Medical or physical disability	85	0.3050
## 08 - Inattentive	5803	20.8239
## 99 - Other	64	0.2297



```
##
## -----
## CHECKING FEATURE:DRIVER_CONDITION
## DATA:All 2016.csv...
```

```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF DRIVER_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 3940 15.2371  
## 01 - Normal 14856 57.4522  
## 02 - Had been drinking 83 0.3210  
## 03 - Ability impaired, alcohol (over .08) 117 0.4525  
## 04 - Ability impaired, alcohol 49 0.1895  
## 05 - Ability impaired, drugs 25 0.0967  
## 06 - Fatigue 114 0.4409  
## 07 - Medical or physical disability 72 0.2784  
## 08 - Inattentive 6547 25.3191  
## 99 - Other 55 0.2127
```



```
##  

## -----  

## CHECKING FEATURE:DRIVER_CONDITION  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

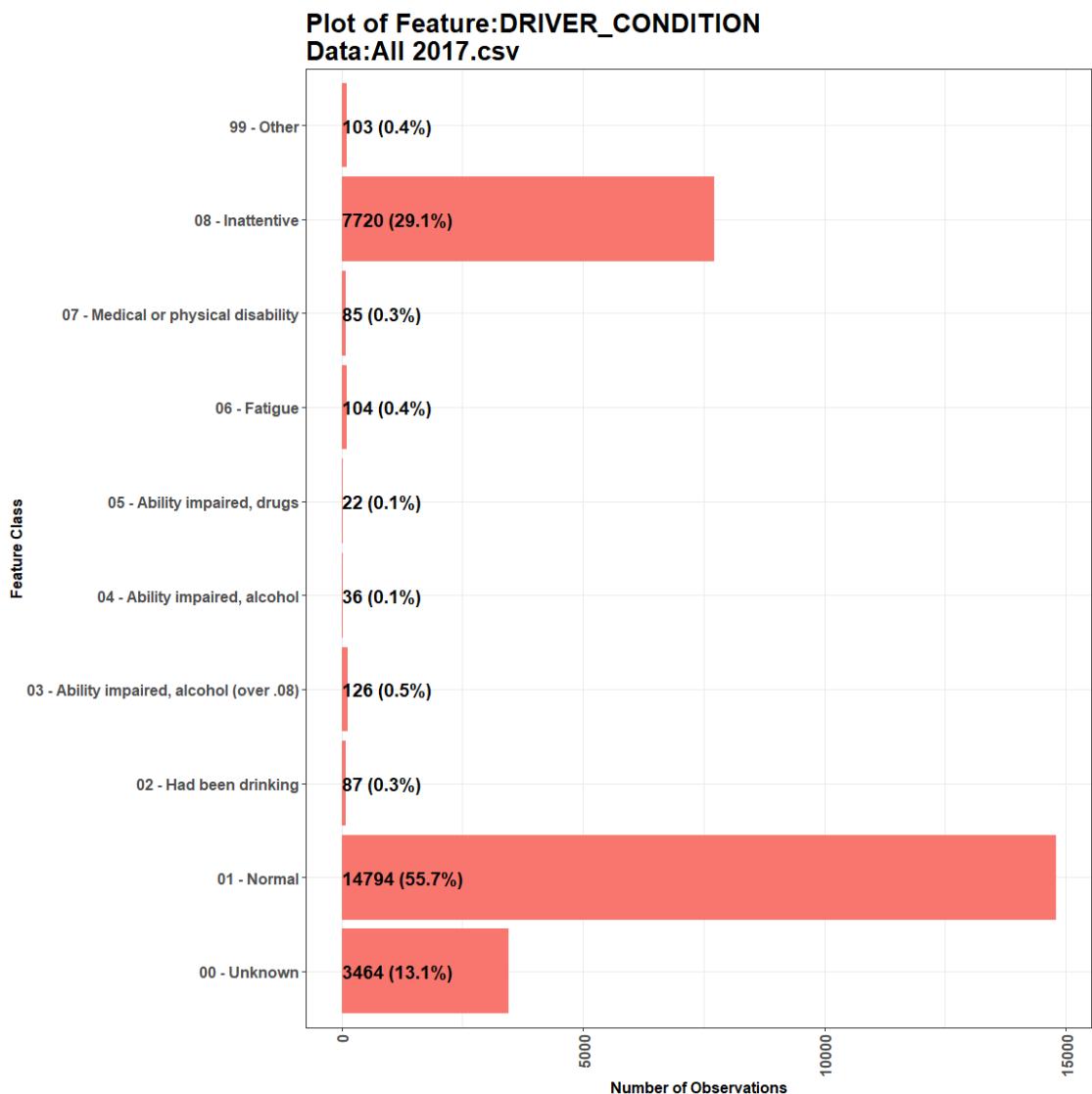
## TOP 100 FEATURES OF DRIVER_CONDITION  

##  

## Feature Value Counter Percentage  

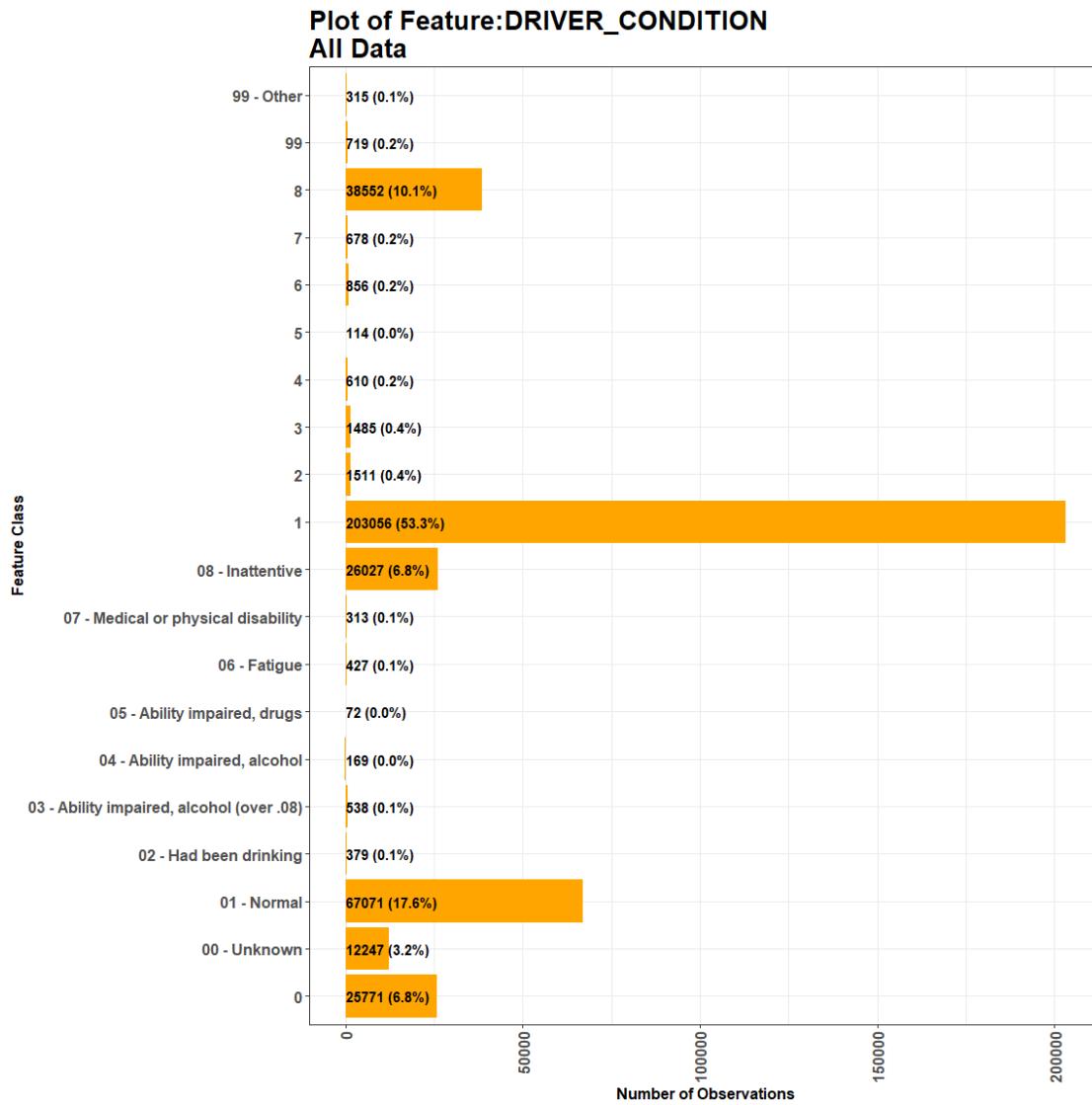
## -----
```

## 00 - Unknown	3464	13.0515
## 01 - Normal	14794	55.7402
## 02 - Had been drinking	87	0.3278
## 03 - Ability impaired, alcohol (over .08)	126	0.4747
## 04 - Ability impaired, alcohol	36	0.1356
## 05 - Ability impaired, drugs	22	0.0829
## 06 - Fatigue	104	0.3918
## 07 - Medical or physical disability	85	0.3203
## 08 - Inattentive	7720	29.0871
## 99 - Other	103	0.3881



```
##
## =====
## FINAL INFO CHECKING FEATURE:DRIVER_CONDITION
## ALL DATA...
```

```
## =====
## 
## Number of Blank Values:0
## 
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
## 
## 
## Summary as Factor Feature:
## Number of Features: 20
```

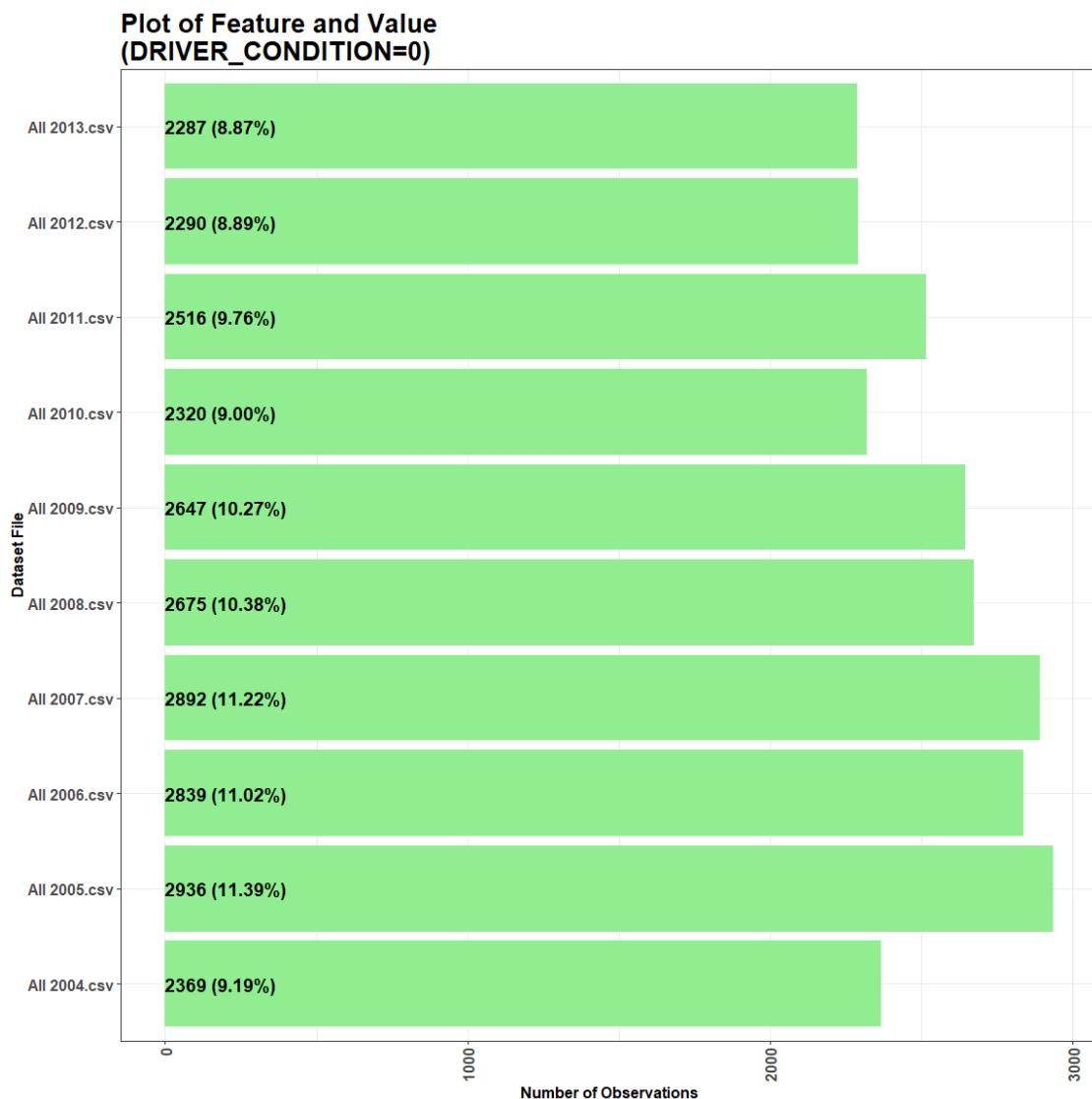


```
## [1] "TOP 100 FEATURES COUNTERS OF:DRIVER_CONDITION"
```

Feature Value	Counter	Percentage
0	25771	6.7656
00 - Unknown	12247	3.2152
01 - Normal	67071	17.6081
02 - Had been drinking	379	0.0995
03 - Ability impaired, alcohol (over .08)	538	0.1412
04 - Ability impaired, alcohol	169	0.0444
05 - Ability impaired, drugs	72	0.0189
06 - Fatigue	427	0.1121
07 - Medical or physical disability	313	0.0822
08 - Inattentive	26027	6.8328
1	203056	53.3081
2	1511	0.3967
3	1485	0.3899
4	610	0.1601
5	114	0.0299
6	856	0.2247
7	678	0.1780
8	38552	10.1210
99	719	0.1888
99 - Other	315	0.0827

3.1 DRIVER_CONDITION = “0”

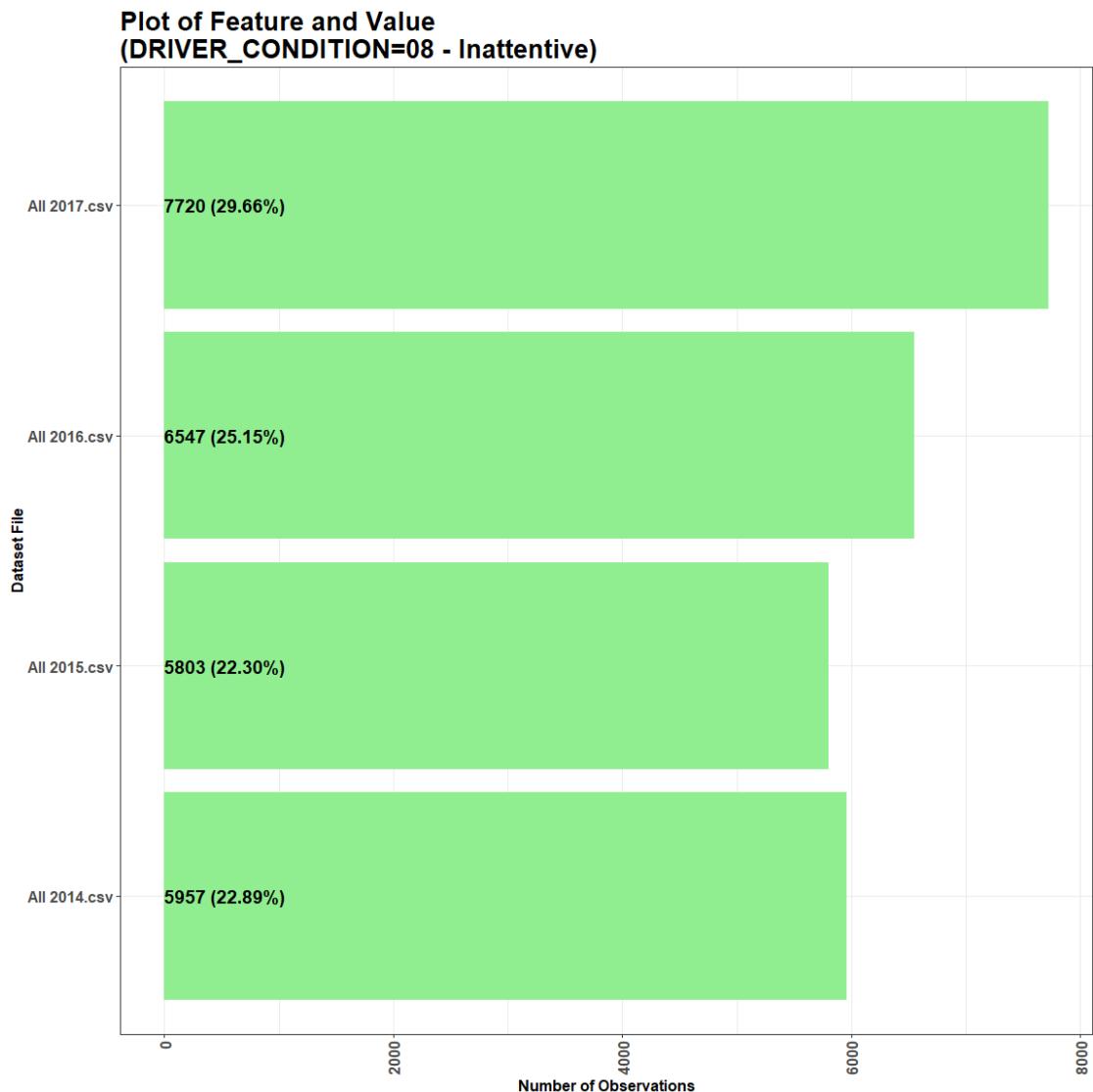
```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_CONDITION=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      2369      2936      2839      2892      2675  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      2647      2320      2516      2290      2287
```



DATASET FILE	COUNTER OF (DRIVER_CONDITION=0)	Percentage
All 2004.csv	2369	9.193
All 2005.csv	2936	11.393
All 2006.csv	2839	11.016
All 2007.csv	2892	11.222
All 2008.csv	2675	10.380
All 2009.csv	2647	10.271
All 2010.csv	2320	9.002
All 2011.csv	2516	9.763
All 2012.csv	2290	8.886
All 2013.csv	2287	8.874

3.2 DRIVER_CONDITION = "08 - Inattentive"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_CONDITION=08 - Inattentive)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      5957      5803      6547      7720
```



DATASET FILE	COUNTER OF (DRIVER_CONDITION=08 - Inattentive)	Percentage
All 2014.csv	5957	22.89
All 2015.csv	5803	22.30
All 2016.csv	6547	25.15

All 2017.csv 7720 29.66

4. Driver Age (DRIVER_AGE)

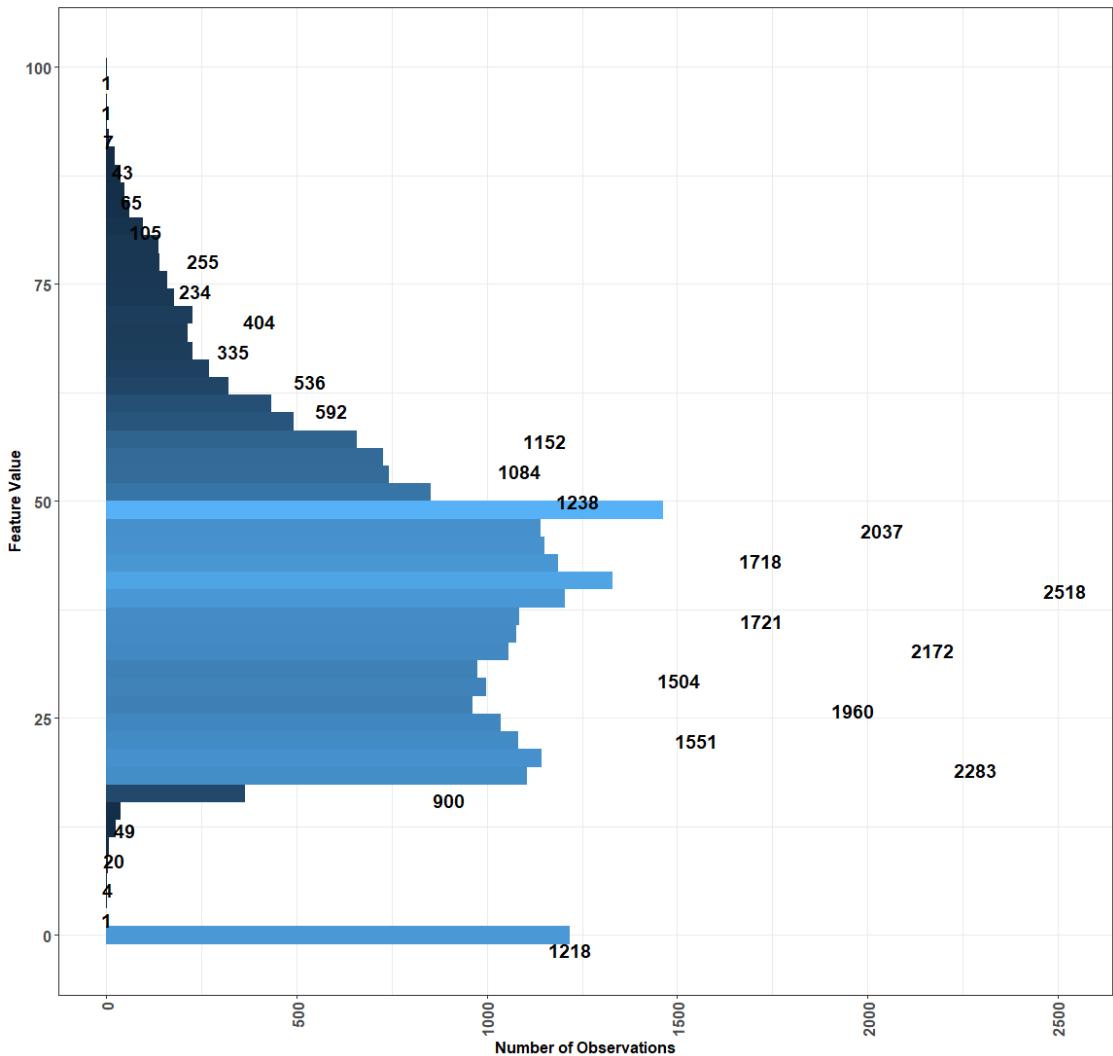
```
##  
## -----  
## CHECKING FEATURE:DRIVER_AGE  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:1218  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
##      0.0    26.0   39.0    38.7    50.0   100.0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 92  
##  
## TOP 100 FEATURES OF DRIVER_AGE  
##  
## Feature Value Counter Percentage  
## -----  
## 0           1218     4.7378  
## 5            1     0.0039  
## 7            2     0.0078  
## 8            2     0.0078  
## 9            2     0.0078  
## 10           1     0.0039  
## 11           5     0.0194  
## 12          12     0.0467  
## 13          12     0.0467  
## 14          15     0.0583  
## 15          22     0.0856  
## 16          39     0.1517  
## 17          325    1.2642  
## 18          536    2.0850  
## 19          569    2.2133  
## 20          554    2.1550  
## 21          591    2.2989  
## 22          569    2.2133  
## 23          514    1.9994  
## 24          524    2.0383  
## 25          513    1.9955  
## 26          500    1.9449  
## 27          462    1.7971
```

## 28	479	1.8632
## 29	519	2.0188
## 30	513	1.9955
## 31	462	1.7971
## 32	529	2.0577
## 33	527	2.0499
## 34	555	2.1589
## 35	522	2.0305
## 36	568	2.2094
## 37	517	2.0110
## 38	573	2.2289
## 39	631	2.4545
## 40	698	2.7151
## 41	632	2.4584
## 42	603	2.3456
## 43	585	2.2756
## 44	597	2.3222
## 45	555	2.1589
## 46	566	2.2016
## 47	575	2.2367
## 48	530	2.0616
## 49	519	2.0188
## 50	413	1.6065
## 51	438	1.7037
## 52	414	1.6104
## 53	386	1.5015
## 54	357	1.3887
## 55	341	1.3264
## 56	386	1.5015
## 57	357	1.3887
## 58	302	1.1747
## 59	251	0.9763
## 60	242	0.9413
## 61	234	0.9102
## 62	199	0.7741
## 63	159	0.6185
## 64	161	0.6263
## 65	144	0.5601
## 66	127	0.4940
## 67	104	0.4045
## 68	122	0.4746
## 69	110	0.4279
## 70	103	0.4007
## 71	102	0.3968
## 72	124	0.4823
## 73	100	0.3890
## 74	78	0.3034
## 75	91	0.3540

```
## 76           69    0.2684
## 77           74    0.2878
## 78           66    0.2567
## 79           74    0.2878
## 80           62    0.2412
## 81           53    0.2062
## 82           44    0.1712
## 83           25    0.0972
## 84           36    0.1400
## 85           32    0.1245
## 86           16    0.0622
## 87           17    0.0661
## 88           20    0.0778
## 89           11    0.0428
## 90           11    0.0428
## 91            1    0.0039
## 92            5    0.0194
## 93            1    0.0039
## 94            1    0.0039
## 96            1    0.0039
## 100           1    0.0039

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE
Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:DRIVER_AGE  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:1377  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
##      0.0    26.0   39.0     38.6    50.0   103.0  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 90
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value Counter Percentage
## -----
## 0 1377 5.1705
## 6 1 0.0038
## 8 4 0.0150
## 9 3 0.0113
## 10 5 0.0188
## 11 7 0.0263
## 12 5 0.0188
## 13 2 0.0075
## 14 10 0.0375
## 15 20 0.0751
## 16 34 0.1277
## 17 282 1.0589
## 18 518 1.9450
## 19 565 2.1215
## 20 600 2.2529
## 21 563 2.1140
## 22 580 2.1778
## 23 565 2.1215
## 24 555 2.0840
## 25 541 2.0314
## 26 543 2.0389
## 27 525 1.9713
## 28 530 1.9901
## 29 497 1.8662
## 30 504 1.8925
## 31 540 2.0276
## 32 513 1.9263
## 33 486 1.8249
## 34 526 1.9751
## 35 596 2.2379
## 36 542 2.0351
## 37 630 2.3656
## 38 565 2.1215
## 39 540 2.0276
## 40 646 2.4257
## 41 656 2.4632
## 42 654 2.4557
## 43 625 2.3468
## 44 643 2.4144
## 45 653 2.4519
## 46 567 2.1290
## 47 510 1.9150

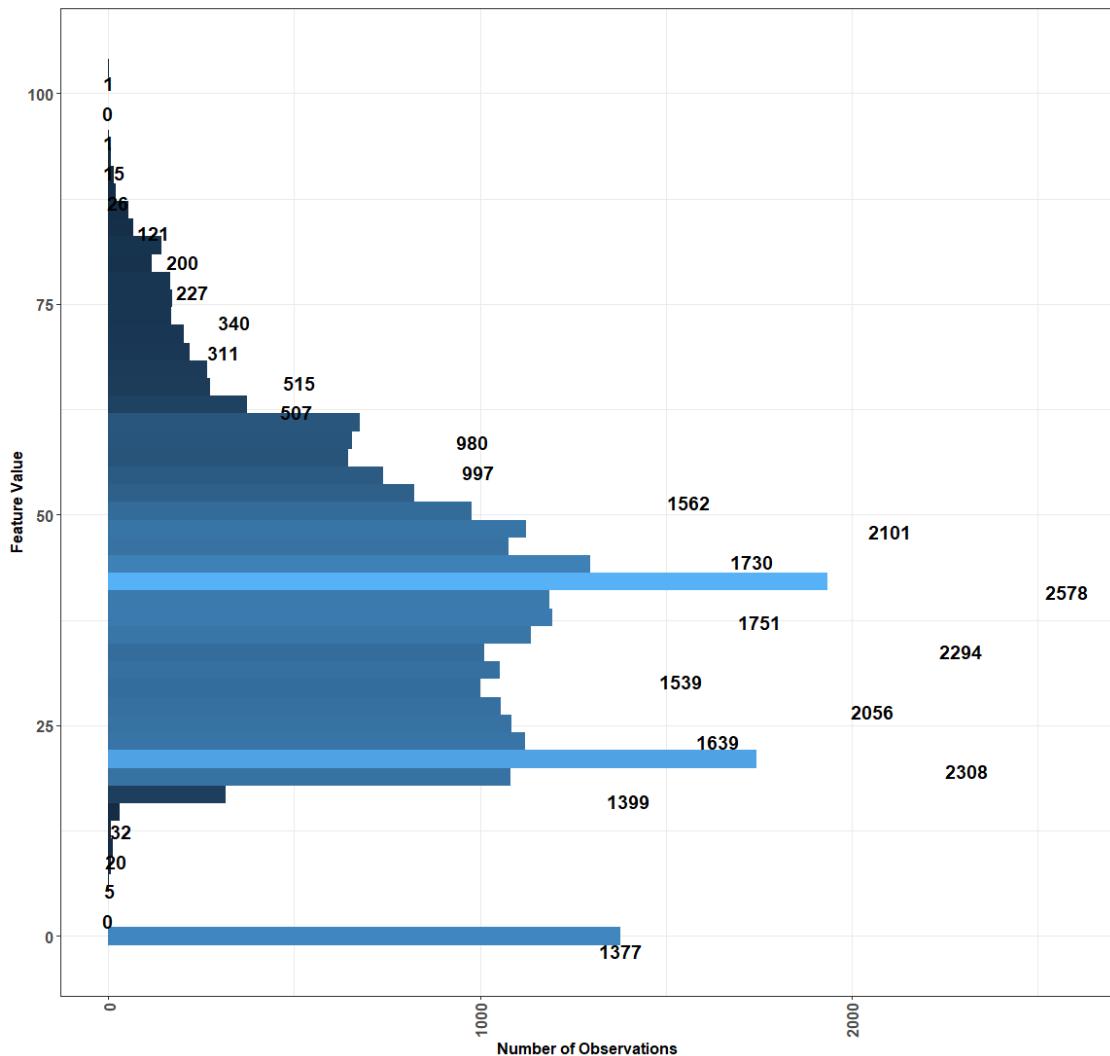
```

## 48	554	2.0802
## 49	570	2.1403
## 50	525	1.9713
## 51	452	1.6972
## 52	440	1.6521
## 53	382	1.4344
## 54	371	1.3931
## 55	369	1.3856
## 56	324	1.2166
## 57	320	1.2016
## 58	353	1.3255
## 59	303	1.1377
## 60	235	0.8824
## 61	205	0.7698
## 62	237	0.8899
## 63	211	0.7923
## 64	162	0.6083
## 65	134	0.5032
## 66	139	0.5219
## 67	139	0.5219
## 68	126	0.4731
## 69	111	0.4168
## 70	108	0.4055
## 71	98	0.3680
## 72	105	0.3943
## 73	87	0.3267
## 74	82	0.3079
## 75	83	0.3117
## 76	88	0.3304
## 77	88	0.3304
## 78	78	0.2929
## 79	61	0.2290
## 80	56	0.2103
## 81	51	0.1915
## 82	49	0.1840
## 83	44	0.1652
## 84	31	0.1164
## 85	37	0.1389
## 86	33	0.1239
## 87	20	0.0751
## 88	8	0.0300
## 89	13	0.0488
## 90	5	0.0188
## 91	9	0.0338
## 92	2	0.0075
## 93	4	0.0150
## 95	1	0.0038
## 103	1	0.0038

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE

Data:All 2005.csv



```
##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2006.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1367
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median     Mean 3rd Qu.    Max.
##   0.0    26.0   39.0    38.7   50.0    97.0
## 
```

```

## Summary as Factor Feature:
## 
## Number of Features: 92
## 
## TOP 100 FEATURES OF DRIVER_AGE
## 
## Feature Value      Counter      Percentage
## -----  -----
## 0                  1367       5.2297
## 2                  1          0.0038
## 7                  2          0.0077
## 8                  2          0.0077
## 9                  4          0.0153
## 10                 3          0.0115
## 11                 2          0.0077
## 12                 12         0.0459
## 13                 9          0.0344
## 14                 8          0.0306
## 15                 12         0.0459
## 16                 36         0.1377
## 17                 327        1.2510
## 18                 541        2.0697
## 19                 552        2.1118
## 20                 657        2.5135
## 21                 597        2.2839
## 22                 543        2.0774
## 23                 565        2.1615
## 24                 554        2.1194
## 25                 503        1.9243
## 26                 514        1.9664
## 27                 520        1.9894
## 28                 493        1.8861
## 29                 471        1.8019
## 30                 467        1.7866
## 31                 473        1.8096
## 32                 471        1.8019
## 33                 475        1.8172
## 34                 485        1.8555
## 35                 502        1.9205
## 36                 564        2.1577
## 37                 535        2.0468
## 38                 543        2.0774
## 39                 592        2.2648
## 40                 530        2.0276
## 41                 611        2.3375
## 42                 686        2.6244
## 43                 647        2.4752
## 44                 603        2.3069

```

## 45	597	2.2839
## 46	572	2.1883
## 47	554	2.1194
## 48	536	2.0506
## 49	510	1.9511
## 50	516	1.9741
## 51	443	1.6948
## 52	454	1.7369
## 53	453	1.7330
## 54	399	1.5265
## 55	383	1.4652
## 56	343	1.3122
## 57	325	1.2434
## 58	326	1.2472
## 59	312	1.1936
## 60	256	0.9794
## 61	230	0.8799
## 62	218	0.8340
## 63	183	0.7001
## 64	198	0.7575
## 65	179	0.6848
## 66	132	0.5050
## 67	133	0.5088
## 68	93	0.3558
## 69	100	0.3826
## 70	115	0.4400
## 71	102	0.3902
## 72	93	0.3558
## 73	88	0.3367
## 74	84	0.3214
## 75	92	0.3520
## 76	70	0.2678
## 77	78	0.2984
## 78	72	0.2755
## 79	63	0.2410
## 80	52	0.1989
## 81	57	0.2181
## 82	46	0.1760
## 83	44	0.1683
## 84	25	0.0956
## 85	31	0.1186
## 86	37	0.1416
## 87	18	0.0689
## 88	16	0.0612
## 89	10	0.0383
## 90	6	0.0230
## 91	6	0.0230
## 92	5	0.0191

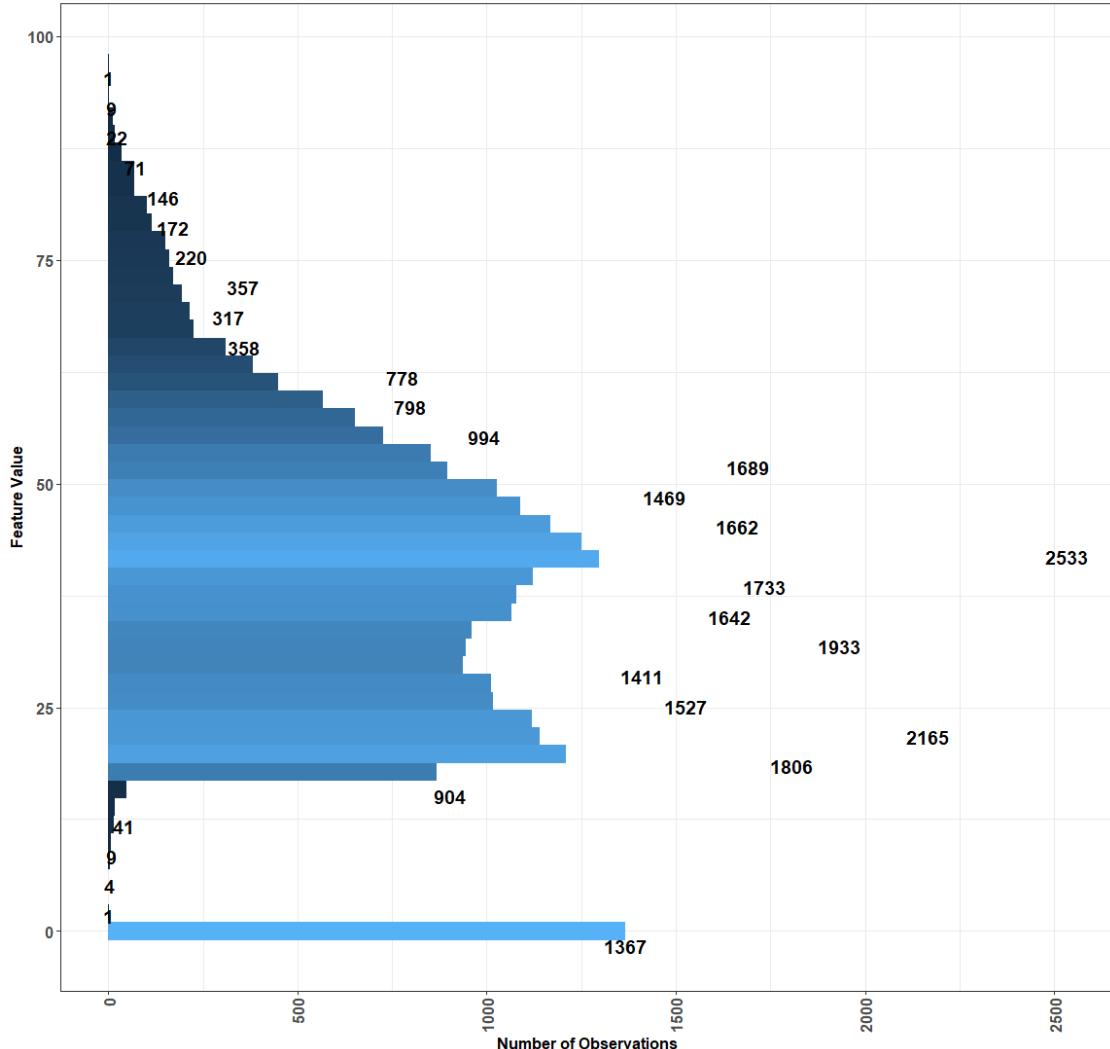
```

## 93           2    0.0077
## 94           1    0.0038
## 95           1    0.0038
## 97           1    0.0038

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2006.csv



```

##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2007.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1487
## Number of Negative Values:0
## 
```

```

##  Summary as Numeric Feature:
##    Min. 1st Qu. Median   Mean 3rd Qu.   Max.
##    0.0    26.0   39.0   38.7   50.0   97.0
##
##  Summary as Factor Feature:
##
##  Number of Features: 91
##
##  TOP 100 FEATURES OF DRIVER_AGE
##
##    Feature Value   Counter   Percentage
##    ----- -----
##    0           1487     5.3433
##    3             1     0.0036
##    5             2     0.0072
##    6             1     0.0036
##    7             2     0.0072
##    10            2     0.0072
##    11            4     0.0144
##    12            4     0.0144
##    13            5     0.0180
##    14            13    0.0467
##    15            14    0.0503
##    16            39    0.1401
##    17            328   1.1786
##    18            558   2.0051
##    19            632   2.2710
##    20            627   2.2530
##    21            633   2.2746
##    22            596   2.1417
##    23            626   2.2495
##    24            584   2.0985
##    25            573   2.0590
##    26            598   2.1488
##    27            564   2.0267
##    28            539   1.9368
##    29            459   1.6494
##    30            503   1.8075
##    31            500   1.7967
##    32            478   1.7176
##    33            534   1.9189
##    34            490   1.7608
##    35            588   2.1129
##    36            562   2.0195
##    37            563   2.0231
##    38            561   2.0159
##    39            603   2.1668
##    40            599   2.1524

```

## 41	615	2.2099
## 42	595	2.1381
## 43	645	2.3177
## 44	669	2.4040
## 45	659	2.3680
## 46	672	2.4147
## 47	597	2.1452
## 48	580	2.0842
## 49	555	1.9943
## 50	518	1.8614
## 51	478	1.7176
## 52	493	1.7715
## 53	463	1.6637
## 54	395	1.4194
## 55	387	1.3906
## 56	373	1.3403
## 57	364	1.3080
## 58	320	1.1499
## 59	321	1.1535
## 60	321	1.1535
## 61	306	1.0996
## 62	256	0.9199
## 63	203	0.7295
## 64	199	0.7151
## 65	168	0.6037
## 66	158	0.5678
## 67	136	0.4887
## 68	139	0.4995
## 69	86	0.3090
## 70	93	0.3342
## 71	97	0.3486
## 72	103	0.3701
## 73	99	0.3557
## 74	104	0.3737
## 75	88	0.3162
## 76	81	0.2911
## 77	67	0.2408
## 78	73	0.2623
## 79	76	0.2731
## 80	62	0.2228
## 81	45	0.1617
## 82	46	0.1653
## 83	55	0.1976
## 84	42	0.1509
## 85	41	0.1473
## 86	32	0.1150
## 87	26	0.0934
## 88	14	0.0503

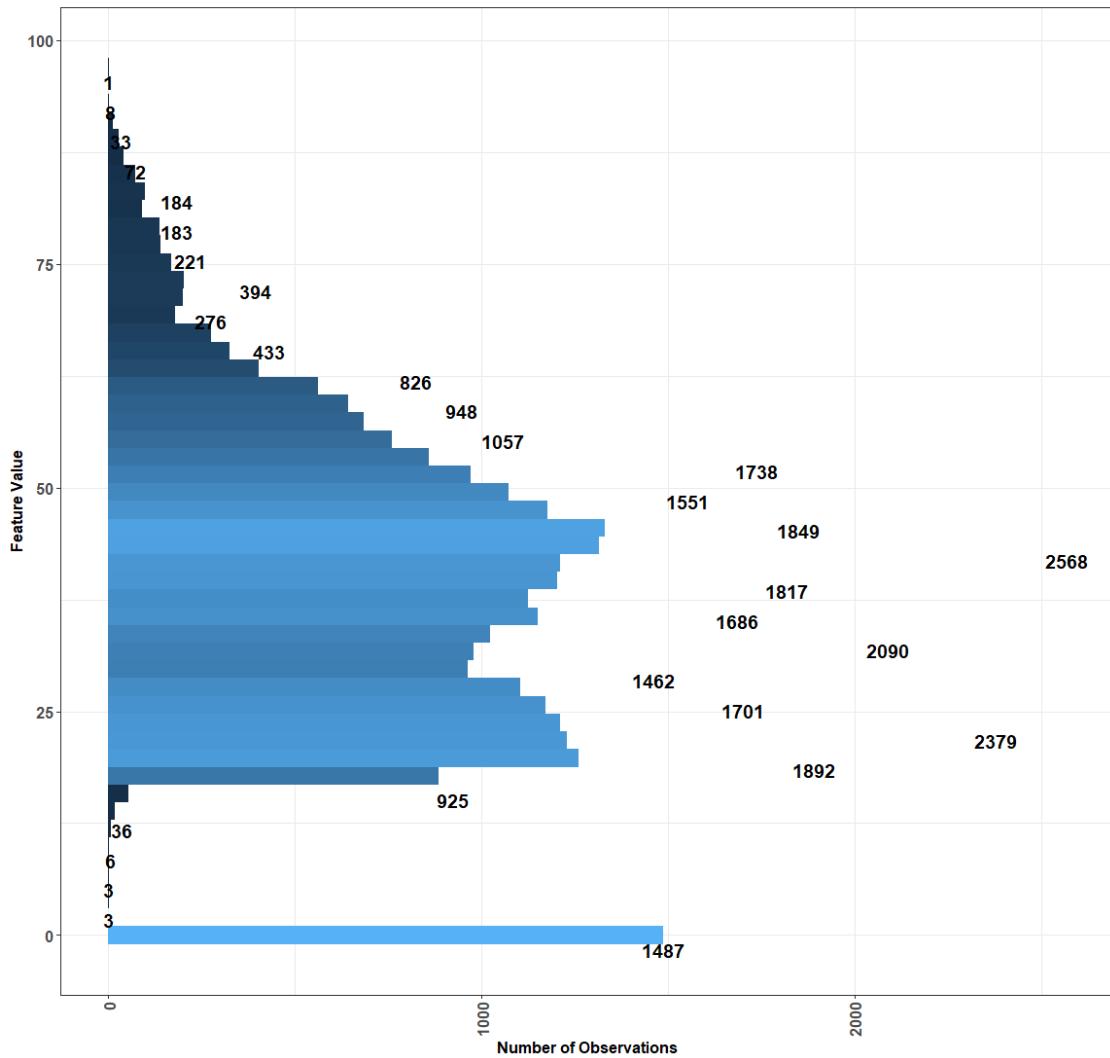
```

## 89          14    0.0503
## 90          14    0.0503
## 91           5    0.0180
## 92            6    0.0216
## 93            1    0.0036
## 94            1    0.0036
## 97            1    0.0036

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2007.csv



```

##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2008.csv...
##
## Number of Blank Values:0

```

```

## Number of Zero Values:1568
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median   Mean 3rd Qu.   Max.
##   0.0    26.0   39.0   38.9   51.0   98.0
##
## Summary as Factor Feature:
##
## Number of Features: 92
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value   Counter   Percentage
## -----
## 0               1568      5.4935
## 7               1          0.0035
## 8               2          0.0070
## 9               2          0.0070
## 10              1          0.0035
## 11              4          0.0140
## 12              4          0.0140
## 13              7          0.0245
## 14              9          0.0315
## 15              14         0.0490
## 16              40         0.1401
## 17              302        1.0581
## 18              536        1.8779
## 19              653        2.2878
## 20              608        2.1301
## 21              637        2.2317
## 22              626        2.1932
## 23              659        2.3088
## 24              649        2.2738
## 25              641        2.2457
## 26              596        2.0881
## 27              520        1.8218
## 28              579        2.0285
## 29              550        1.9269
## 30              504        1.7658
## 31              531        1.8604
## 32              495        1.7342
## 33              560        1.9620
## 34              516        1.8078
## 35              503        1.7623
## 36              558        1.9549
## 37              538        1.8849
## 38              594        2.0811

```

## 39	585	2.0495
## 40	567	1.9865
## 41	588	2.0600
## 42	602	2.1091
## 43	611	2.1406
## 44	661	2.3158
## 45	631	2.2107
## 46	650	2.2773
## 47	585	2.0495
## 48	561	1.9655
## 49	576	2.0180
## 50	544	1.9059
## 51	539	1.8884
## 52	521	1.8253
## 53	519	1.8183
## 54	430	1.5065
## 55	434	1.5205
## 56	366	1.2823
## 57	376	1.3173
## 58	368	1.2893
## 59	321	1.1246
## 60	326	1.1421
## 61	308	1.0791
## 62	303	1.0616
## 63	216	0.7568
## 64	224	0.7848
## 65	214	0.7497
## 66	179	0.6271
## 67	167	0.5851
## 68	153	0.5360
## 69	109	0.3819
## 70	124	0.4344
## 71	101	0.3539
## 72	115	0.4029
## 73	108	0.3784
## 74	102	0.3574
## 75	91	0.3188
## 76	78	0.2733
## 77	67	0.2347
## 78	74	0.2593
## 79	71	0.2487
## 80	63	0.2207
## 81	54	0.1892
## 82	43	0.1506
## 83	39	0.1366
## 84	37	0.1296
## 85	28	0.0981
## 86	22	0.0771

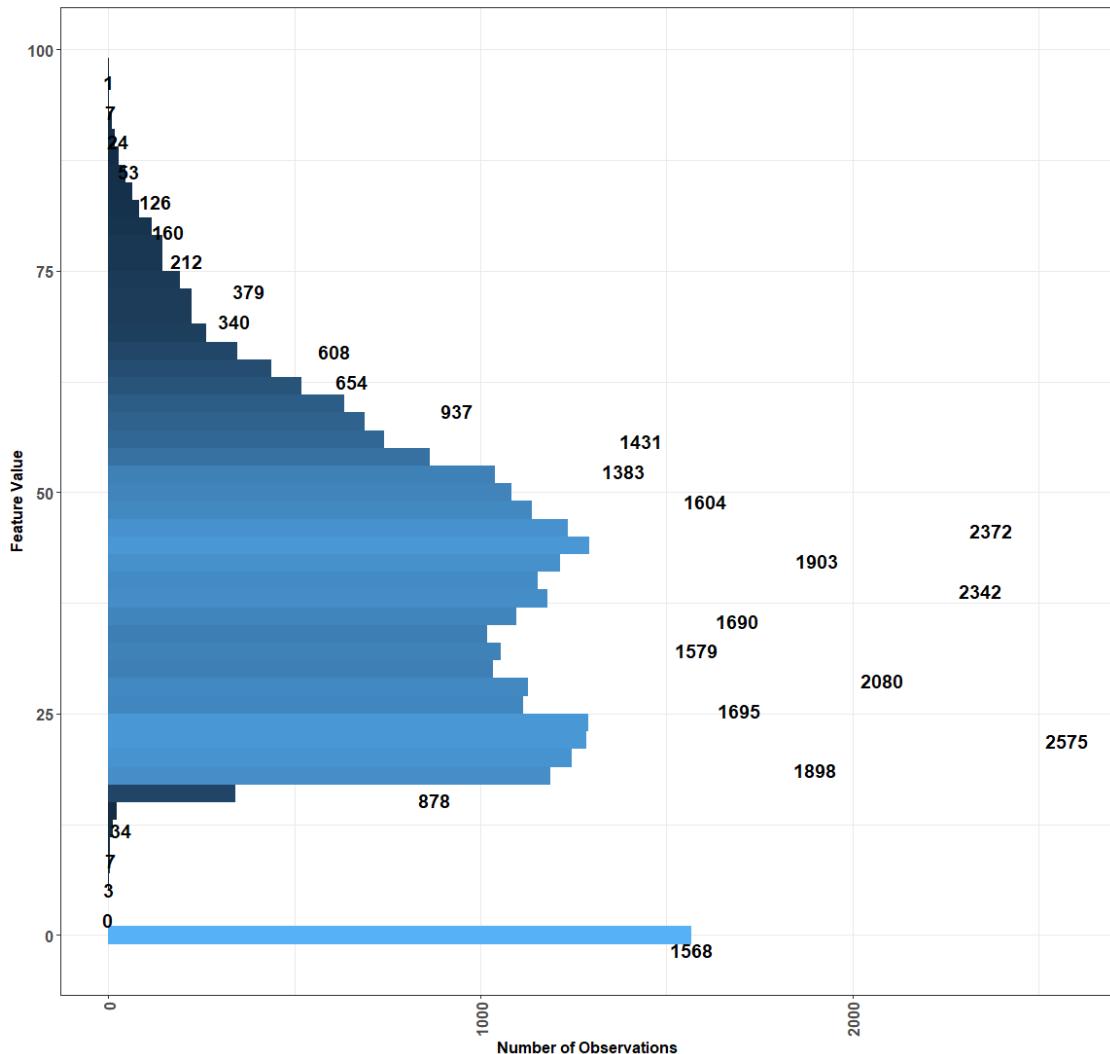
```

## 87           25    0.0876
## 88           18    0.0631
## 89           10    0.0350
## 90           10    0.0350
## 91            7    0.0245
## 92            7    0.0245
## 93            3    0.0105
## 94            1    0.0035
## 95            1    0.0035
## 96            2    0.0070
## 98            1    0.0035

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2008.csv



```

## 
## -----

```

```

## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2009.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1607
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.      Max.
##     0.0    26.0   39.0    38.9    51.0    95.0
##
## Summary as Factor Feature:
##
## Number of Features: 90
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value   Counter   Percentage
## ----- -----
## 0               1607      5.6356
## 5               1         0.0035
## 7               4         0.0140
## 8               1         0.0035
## 9               1         0.0035
## 10              4         0.0140
## 11              2         0.0070
## 12              3         0.0105
## 13              7         0.0245
## 14              10        0.0351
## 15              12        0.0421
## 16              19        0.0666
## 17              261       0.9153
## 18              558       1.9569
## 19              594       2.0831
## 20              673       2.3602
## 21              677       2.3742
## 22              673       2.3602
## 23              691       2.4233
## 24              627       2.1988
## 25              661       2.3181
## 26              633       2.2199
## 27              546       1.9148
## 28              556       1.9499
## 29              530       1.8587
## 30              504       1.7675
## 31              510       1.7885
## 32              537       1.8832
## 33              473       1.6588

```

## 34	475	1.6658
## 35	489	1.7149
## 36	471	1.6518
## 37	569	1.9954
## 38	567	1.9884
## 39	575	2.0165
## 40	559	1.9604
## 41	580	2.0340
## 42	584	2.0480
## 43	570	1.9989
## 44	578	2.0270
## 45	674	2.3637
## 46	605	2.1217
## 47	610	2.1392
## 48	636	2.2304
## 49	579	2.0305
## 50	573	2.0095
## 51	535	1.8762
## 52	517	1.8131
## 53	486	1.7044
## 54	451	1.5816
## 55	415	1.4554
## 56	398	1.3958
## 57	352	1.2344
## 58	351	1.2309
## 59	308	1.0801
## 60	321	1.1257
## 61	308	1.0801
## 62	284	0.9960
## 63	291	1.0205
## 64	192	0.6733
## 65	196	0.6874
## 66	204	0.7154
## 67	164	0.5751
## 68	161	0.5646
## 69	131	0.4594
## 70	112	0.3928
## 71	139	0.4875
## 72	124	0.4349
## 73	113	0.3963
## 74	95	0.3332
## 75	87	0.3051
## 76	79	0.2770
## 77	81	0.2841
## 78	74	0.2595
## 79	81	0.2841
## 80	60	0.2104
## 81	55	0.1929

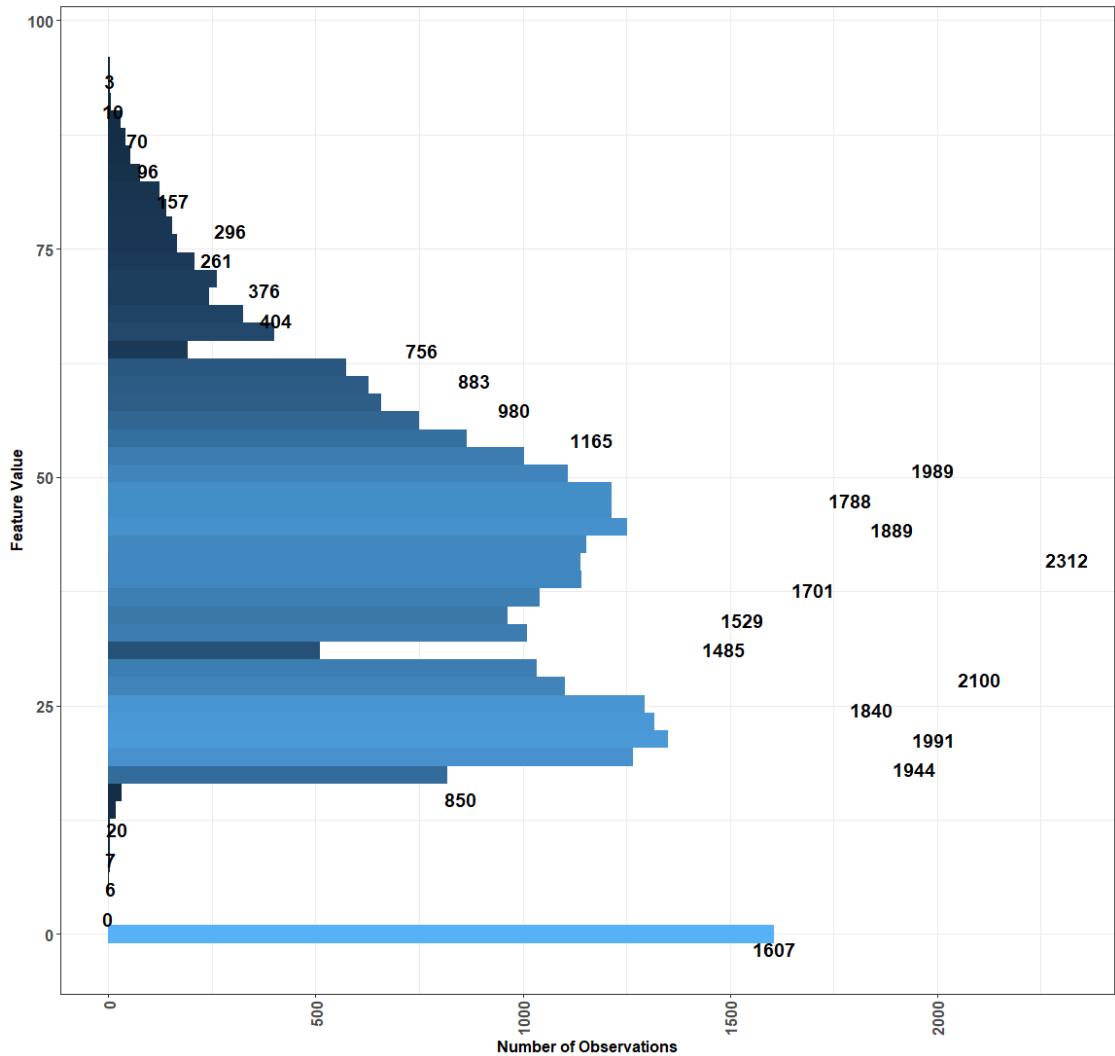
```

## 82           68    0.2385
## 83           34    0.1192
## 84           42    0.1473
## 85           28    0.0982
## 86           26    0.0912
## 87           23    0.0807
## 88           18    0.0631
## 89           17    0.0596
## 90           12    0.0421
## 91            5    0.0175
## 92            1    0.0035
## 93            4    0.0140
## 95            3    0.0105

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2009.csv



```

## 
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2010.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1445
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.      Max.
##     0.0    26.0   39.0    39.1    51.0    98.0
##
## Summary as Factor Feature:
##
## Number of Features: 91
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value   Counter Percentage
## -----
## 0              1445    5.2528
## 5              1        0.0036
## 7              1        0.0036
## 8              2        0.0073
## 10             2        0.0073
## 11             2        0.0073
## 12             4        0.0145
## 13             6        0.0218
## 14             9        0.0327
## 15            13        0.0473
## 16            40        0.1454
## 17            276       1.0033
## 18            498       1.8103
## 19            584       2.1229
## 20            660       2.3992
## 21            628       2.2829
## 22            668       2.4283
## 23            632       2.2974
## 24            664       2.4138
## 25            612       2.2247
## 26            590       2.1448
## 27            662       2.4065
## 28            541       1.9666
## 29            488       1.7740
## 30            461       1.6758
## 31            500       1.8176
## 32            468       1.7013

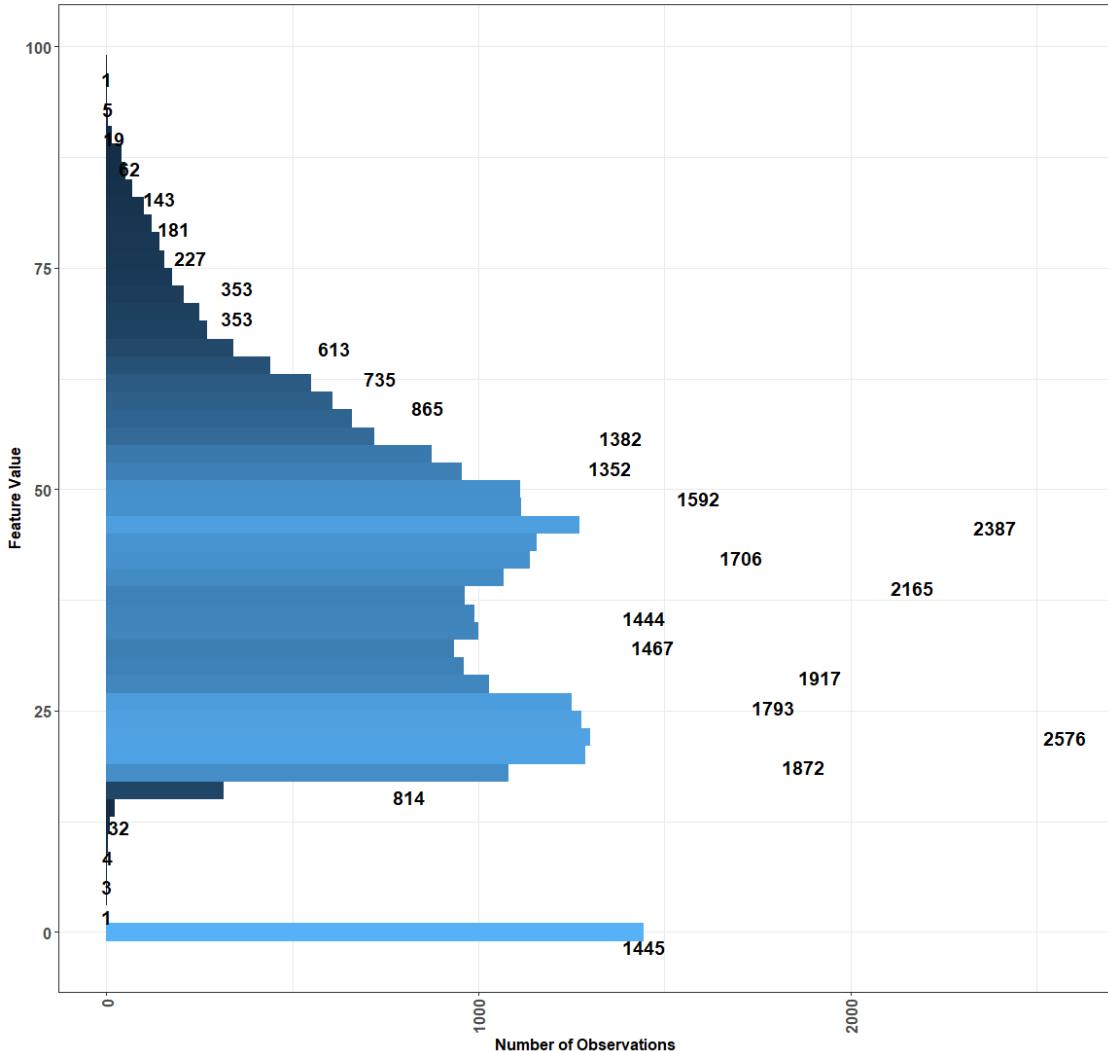
```

## 33	467	1.6976
## 34	503	1.8285
## 35	497	1.8067
## 36	519	1.8867
## 37	470	1.7085
## 38	455	1.6540
## 39	509	1.8503
## 40	537	1.9521
## 41	530	1.9266
## 42	589	2.1411
## 43	550	1.9993
## 44	569	2.0684
## 45	587	2.1338
## 46	650	2.3629
## 47	621	2.2574
## 48	585	2.1266
## 49	531	1.9303
## 50	543	1.9739
## 51	570	2.0720
## 52	479	1.7412
## 53	476	1.7303
## 54	459	1.6685
## 55	417	1.5159
## 56	369	1.3414
## 57	352	1.2796
## 58	316	1.1487
## 59	345	1.2541
## 60	343	1.2469
## 61	266	0.9670
## 62	256	0.9306
## 63	294	1.0687
## 64	253	0.9197
## 65	188	0.6834
## 66	175	0.6362
## 67	166	0.6034
## 68	140	0.5089
## 69	132	0.4798
## 70	131	0.4762
## 71	119	0.4326
## 72	103	0.3744
## 73	105	0.3817
## 74	87	0.3163
## 75	89	0.3235
## 76	72	0.2617
## 77	83	0.3017
## 78	79	0.2872
## 79	65	0.2363
## 80	58	0.2108

```
## 81          65    0.2363
## 82          58    0.2108
## 83          42    0.1527
## 84          33    0.1200
## 85          38    0.1381
## 86          30    0.1091
## 87          21    0.0763
## 88          25    0.0909
## 89          16    0.0582
## 90          10    0.0364
## 91           6    0.0218
## 92           3    0.0109
## 93           1    0.0036
## 94           2    0.0073
## 96           2    0.0073
## 98           1    0.0036

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:DRIVER_AGE  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:1591  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
##      0.0    26.0   39.0     39.1    51.0    96.0  
##  
## Summary as Factor Feature:  
##
```

```

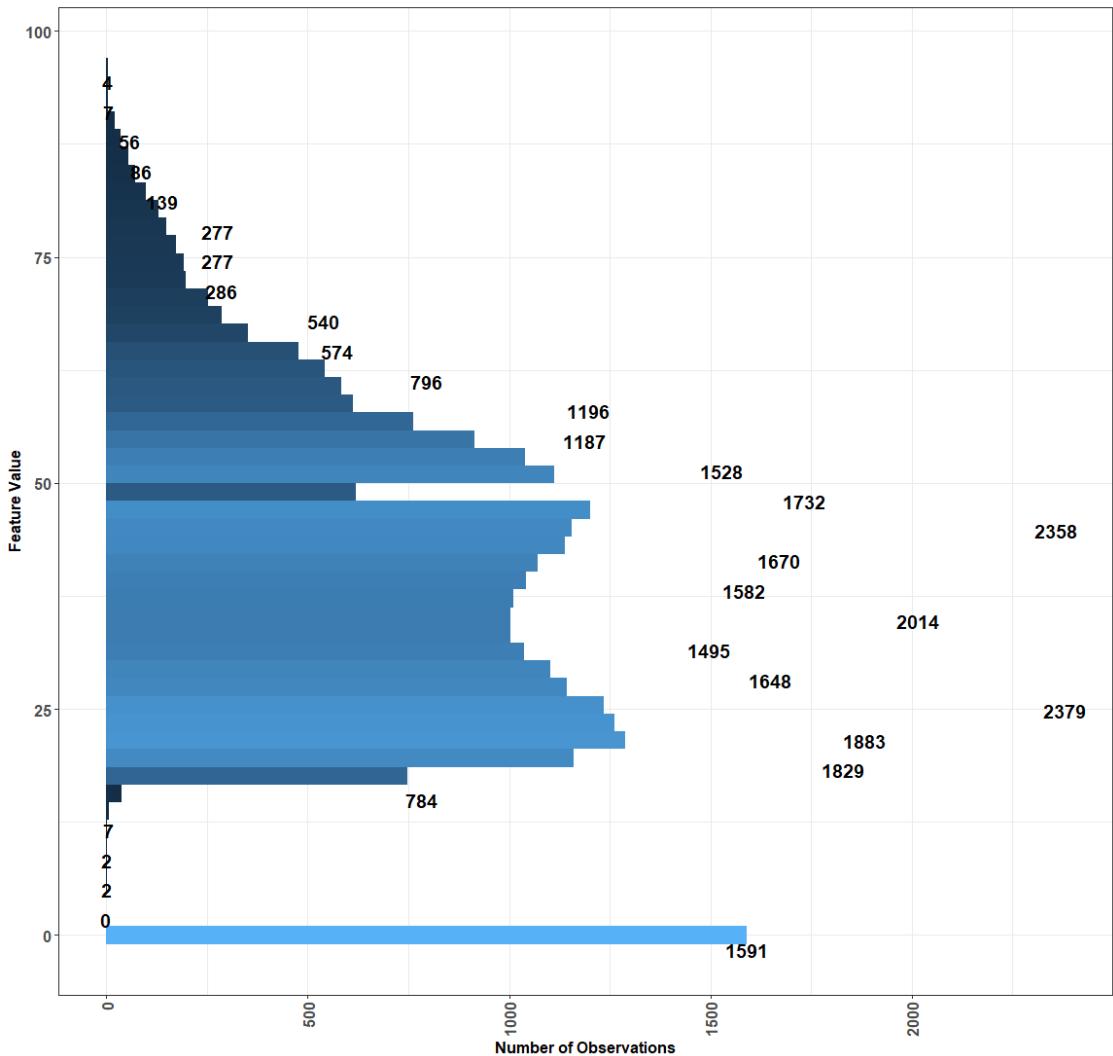
##   Number of Features: 89
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value      Counter      Percentage
## ----- -----
## 0                  1591       5.6966
## 6                  1          0.0036
## 8                  1          0.0036
## 10                 1          0.0036
## 11                 1          0.0036
## 12                 1          0.0036
## 14                 6          0.0215
## 15                 9          0.0322
## 16                 28         0.1003
## 17                 272        0.9739
## 18                 475        1.7007
## 19                 560        2.0051
## 20                 601        2.1519
## 21                 668        2.3918
## 22                 621        2.2235
## 23                 647        2.3166
## 24                 615        2.2020
## 25                 620        2.2199
## 26                 616        2.2056
## 27                 599        2.1447
## 28                 544        1.9478
## 29                 553        1.9800
## 30                 550        1.9693
## 31                 545        1.9514
## 32                 492        1.7616
## 33                 485        1.7365
## 34                 518        1.8547
## 35                 477        1.7079
## 36                 526        1.8833
## 37                 500        1.7903
## 38                 511        1.8296
## 39                 505        1.8082
## 40                 537        1.9227
## 41                 540        1.9335
## 42                 532        1.9048
## 43                 598        2.1411
## 44                 540        1.9335
## 45                 552        1.9764
## 46                 604        2.1626
## 47                 622        2.2271
## 48                 580        2.0767
## 49                 619        2.2163

```

## 50	555	1.9872
## 51	558	1.9979
## 52	525	1.8798
## 53	514	1.8404
## 54	489	1.7509
## 55	424	1.5181
## 56	386	1.3821
## 57	377	1.3499
## 58	329	1.1780
## 59	284	1.0169
## 60	294	1.0527
## 61	289	1.0348
## 62	252	0.9023
## 63	290	1.0383
## 64	254	0.9094
## 65	222	0.7949
## 66	177	0.6337
## 67	175	0.6266
## 68	140	0.5013
## 69	147	0.5263
## 70	128	0.4583
## 71	125	0.4476
## 72	102	0.3652
## 73	95	0.3401
## 74	89	0.3187
## 75	104	0.3724
## 76	85	0.3043
## 77	88	0.3151
## 78	60	0.2148
## 79	88	0.3151
## 80	67	0.2399
## 81	62	0.2220
## 82	49	0.1754
## 83	50	0.1790
## 84	40	0.1432
## 85	32	0.1146
## 86	27	0.0967
## 87	27	0.0967
## 88	23	0.0824
## 89	13	0.0465
## 90	14	0.0501
## 91	6	0.0215
## 92	3	0.0107
## 93	2	0.0072
## 94	2	0.0072
## 95	1	0.0036
## 96	3	0.0107

`stat_bin()` using `bins = 30` . Pick better value with `binwidth` .

Plot of Feature:DRIVER_AGE
Data:All 2011.csv



```
##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2012.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1450
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median     Mean 3rd Qu.    Max.
##   0.0    26.0   39.0    39.5    52.0   97.0
##
## Summary as Factor Feature:
##
```

```

## Number of Features: 90
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value Counter Percentage
## -----
## 0 1450 5.4558
## 7 1 0.0038
## 8 1 0.0038
## 10 1 0.0038
## 11 4 0.0151
## 12 1 0.0038
## 13 4 0.0151
## 14 4 0.0151
## 15 3 0.0113
## 16 31 0.1166
## 17 241 0.9068
## 18 394 1.4825
## 19 508 1.9114
## 20 562 2.1146
## 21 602 2.2651
## 22 657 2.4721
## 23 623 2.3441
## 24 578 2.1748
## 25 593 2.2313
## 26 612 2.3027
## 27 546 2.0544
## 28 563 2.1184
## 29 503 1.8926
## 30 467 1.7572
## 31 501 1.8851
## 32 548 2.0619
## 33 462 1.7383
## 34 495 1.8625
## 35 478 1.7985
## 36 474 1.7835
## 37 473 1.7797
## 38 457 1.7195
## 39 473 1.7797
## 40 469 1.7647
## 41 512 1.9265
## 42 515 1.9378
## 43 516 1.9415
## 44 566 2.1297
## 45 479 1.8023
## 46 571 2.1485
## 47 495 1.8625
## 48 601 2.2614

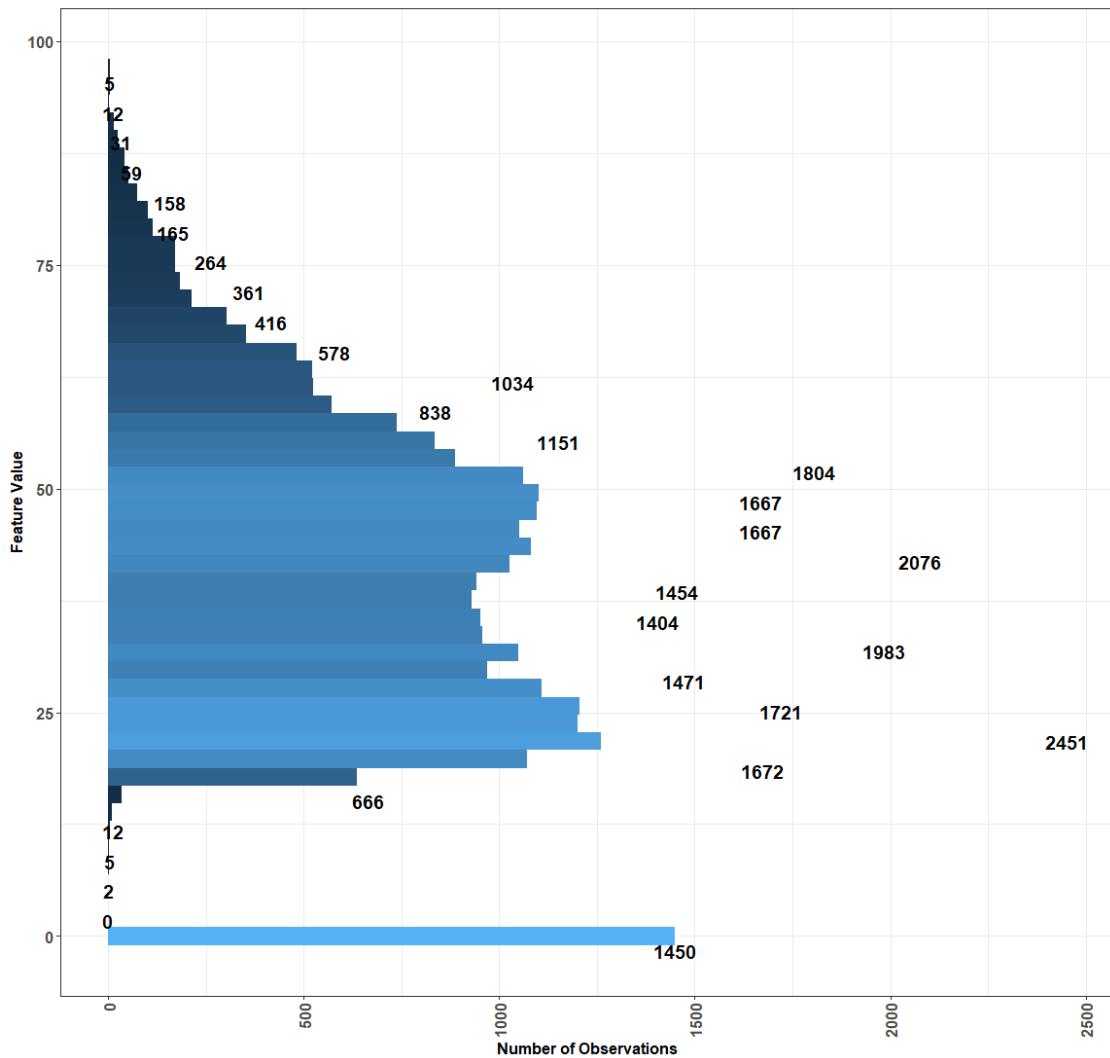
```

## 49	575	2.1635
## 50	525	1.9754
## 51	567	2.1334
## 52	495	1.8625
## 53	476	1.7910
## 54	410	1.5427
## 55	423	1.5916
## 56	413	1.5540
## 57	402	1.5126
## 58	336	1.2643
## 59	315	1.1852
## 60	255	0.9595
## 61	268	1.0084
## 62	257	0.9670
## 63	278	1.0460
## 64	243	0.9143
## 65	256	0.9632
## 66	226	0.8504
## 67	165	0.6208
## 68	187	0.7036
## 69	141	0.5305
## 70	162	0.6095
## 71	113	0.4252
## 72	101	0.3800
## 73	89	0.3349
## 74	93	0.3499
## 75	78	0.2935
## 76	92	0.3462
## 77	89	0.3349
## 78	83	0.3123
## 79	60	0.2258
## 80	53	0.1994
## 81	52	0.1957
## 82	49	0.1844
## 83	36	0.1355
## 84	39	0.1467
## 85	34	0.1279
## 86	17	0.0640
## 87	20	0.0753
## 88	22	0.0828
## 89	13	0.0489
## 90	12	0.0452
## 91	6	0.0226
## 92	8	0.0301
## 94	1	0.0038
## 95	3	0.0113
## 96	2	0.0075
## 97	3	0.0113

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE

Data:All 2012.csv



```
## 
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2013.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1515
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median   Mean 3rd Qu.   Max.
##   0.0    26.0   40.0   39.7   52.0   99.0
## 
```

```

## Summary as Factor Feature:
##
## Number of Features: 91
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value   Counter   Percentage
## -----
## 0              1515      5.4163
## 7              1          0.0036
## 8              1          0.0036
## 9              3          0.0107
## 10             1          0.0036
## 11             1          0.0036
## 13             3          0.0107
## 14             8          0.0286
## 15             15         0.0536
## 16             22         0.0787
## 17             233        0.8330
## 18             459        1.6410
## 19             477        1.7053
## 20             516        1.8448
## 21             633        2.2631
## 22             619        2.2130
## 23             654        2.3381
## 24             648        2.3167
## 25             640        2.2881
## 26             580        2.0736
## 27             590        2.1093
## 28             563        2.0128
## 29             521        1.8626
## 30             602        2.1522
## 31             539        1.9270
## 32             484        1.7304
## 33             525        1.8769
## 34             492        1.7590
## 35             482        1.7232
## 36             464        1.6589
## 37             503        1.7983
## 38             525        1.8769
## 39             561        2.0056
## 40             513        1.8340
## 41             535        1.9127
## 42             586        2.0950
## 43             585        2.0915
## 44             498        1.7804
## 45             554        1.9806
## 46             551        1.9699

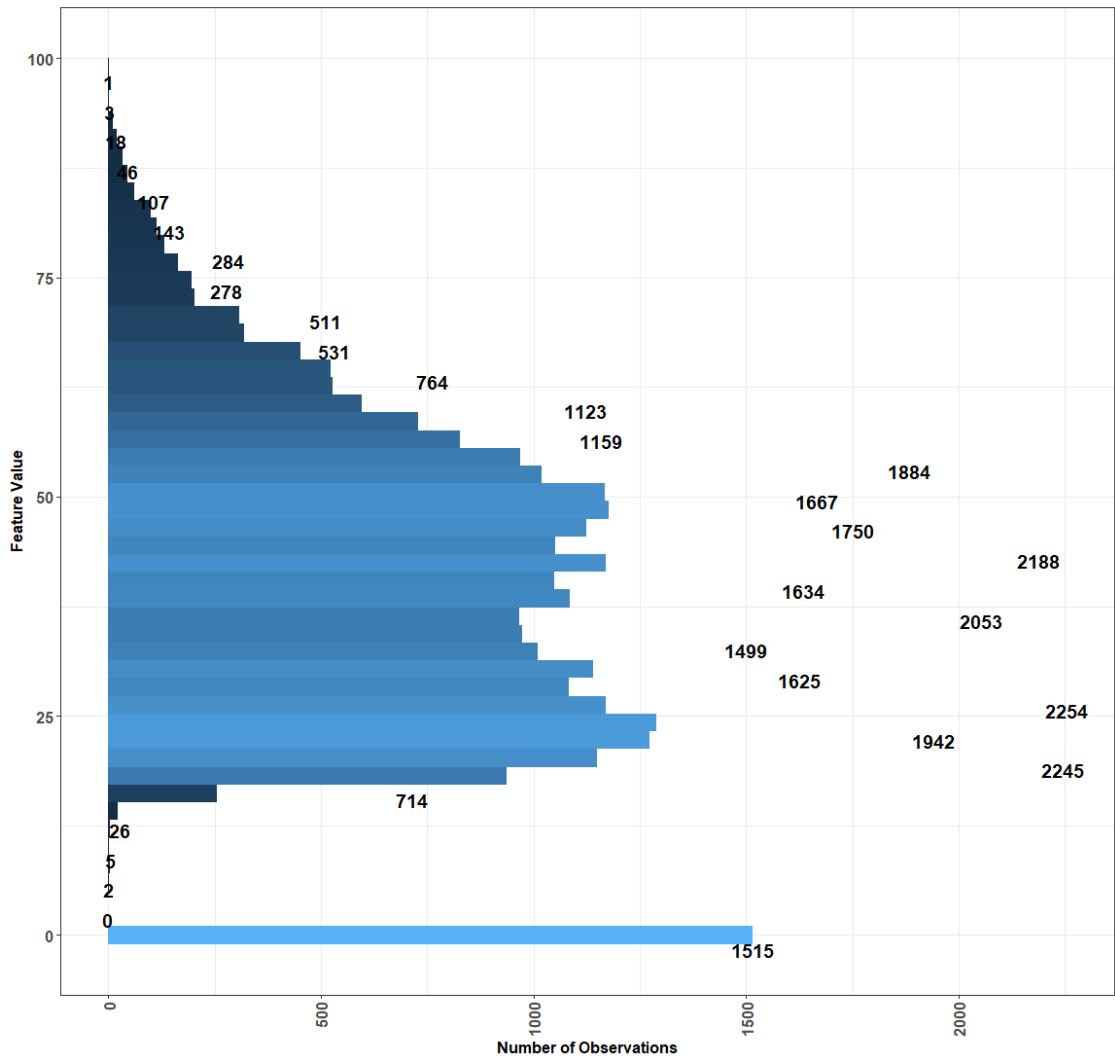
```

## 47	574	2.0521
## 48	583	2.0843
## 49	593	2.1201
## 50	584	2.0879
## 51	583	2.0843
## 52	500	1.7876
## 53	519	1.8555
## 54	484	1.7304
## 55	484	1.7304
## 56	397	1.4193
## 57	431	1.5409
## 58	373	1.3335
## 59	355	1.2692
## 60	326	1.1655
## 61	270	0.9653
## 62	285	1.0189
## 63	242	0.8652
## 64	271	0.9689
## 65	251	0.8974
## 66	242	0.8652
## 67	211	0.7544
## 68	162	0.5792
## 69	158	0.5649
## 70	172	0.6149
## 71	137	0.4898
## 72	99	0.3539
## 73	103	0.3682
## 74	90	0.3218
## 75	106	0.3790
## 76	82	0.2932
## 77	83	0.2967
## 78	64	0.2288
## 79	67	0.2395
## 80	70	0.2503
## 81	44	0.1573
## 82	56	0.2002
## 83	43	0.1537
## 84	34	0.1216
## 85	28	0.1001
## 86	26	0.0930
## 87	19	0.0679
## 88	20	0.0715
## 89	13	0.0465
## 90	13	0.0465
## 91	8	0.0286
## 92	9	0.0322
## 93	1	0.0036
## 94	1	0.0036

```
## 95           1    0.0036
## 97           1    0.0036
## 99           1    0.0036

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2014.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1481
## Number of Negative Values:0
##
## Summary as Numeric Feature:
```

```

##      Min. 1st Qu. Median     Mean 3rd Qu. Max.
##        0      27     40      40     53     94
##
##  Summary as Factor Feature:
##
##  Number of Features: 90
##
##  TOP 100 FEATURES OF DRIVER_AGE
##
##  Feature Value   Counter Percentage
##  ----- -----
##  0              1481    5.4265
##  3              1       0.0037
##  6              1       0.0037
##  7              1       0.0037
##  9              1       0.0037
##  10             1       0.0037
##  11             1       0.0037
##  12             4       0.0147
##  13             4       0.0147
##  14             3       0.0110
##  15             6       0.0220
##  16            31      0.1136
##  17            171     0.6266
##  18            399     1.4620
##  19            499     1.8284
##  20            492     1.8027
##  21            605     2.2168
##  22            603     2.2094
##  23            594     2.1765
##  24            648     2.3743
##  25            597     2.1875
##  26            593     2.1728
##  27            568     2.0812
##  28            604     2.2131
##  29            548     2.0079
##  30            508     1.8614
##  31            536     1.9639
##  32            529     1.9383
##  33            462     1.6928
##  34            493     1.8064
##  35            517     1.8943
##  36            464     1.7001
##  37            518     1.8980
##  38            440     1.6122
##  39            491     1.7991
##  40            495     1.8137
##  41            577     2.1142

```

## 42	555	2.0336
## 43	503	1.8430
## 44	567	2.0775
## 45	530	1.9420
## 46	587	2.1508
## 47	524	1.9200
## 48	518	1.8980
## 49	517	1.8943
## 50	562	2.0592
## 51	550	2.0152
## 52	557	2.0409
## 53	507	1.8577
## 54	484	1.7734
## 55	433	1.5865
## 56	401	1.4693
## 57	421	1.5426
## 58	365	1.3374
## 59	356	1.3044
## 60	283	1.0369
## 61	342	1.2531
## 62	247	0.9050
## 63	254	0.9307
## 64	224	0.8208
## 65	274	1.0040
## 66	249	0.9124
## 67	213	0.7804
## 68	181	0.6632
## 69	162	0.5936
## 70	143	0.5240
## 71	136	0.4983
## 72	139	0.5093
## 73	106	0.3884
## 74	96	0.3518
## 75	66	0.2418
## 76	85	0.3114
## 77	90	0.3298
## 78	67	0.2455
## 79	71	0.2601
## 80	65	0.2382
## 81	62	0.2272
## 82	55	0.2015
## 83	49	0.1795
## 84	52	0.1905
## 85	26	0.0953
## 86	25	0.0916
## 87	17	0.0623
## 88	23	0.0843
## 89	23	0.0843

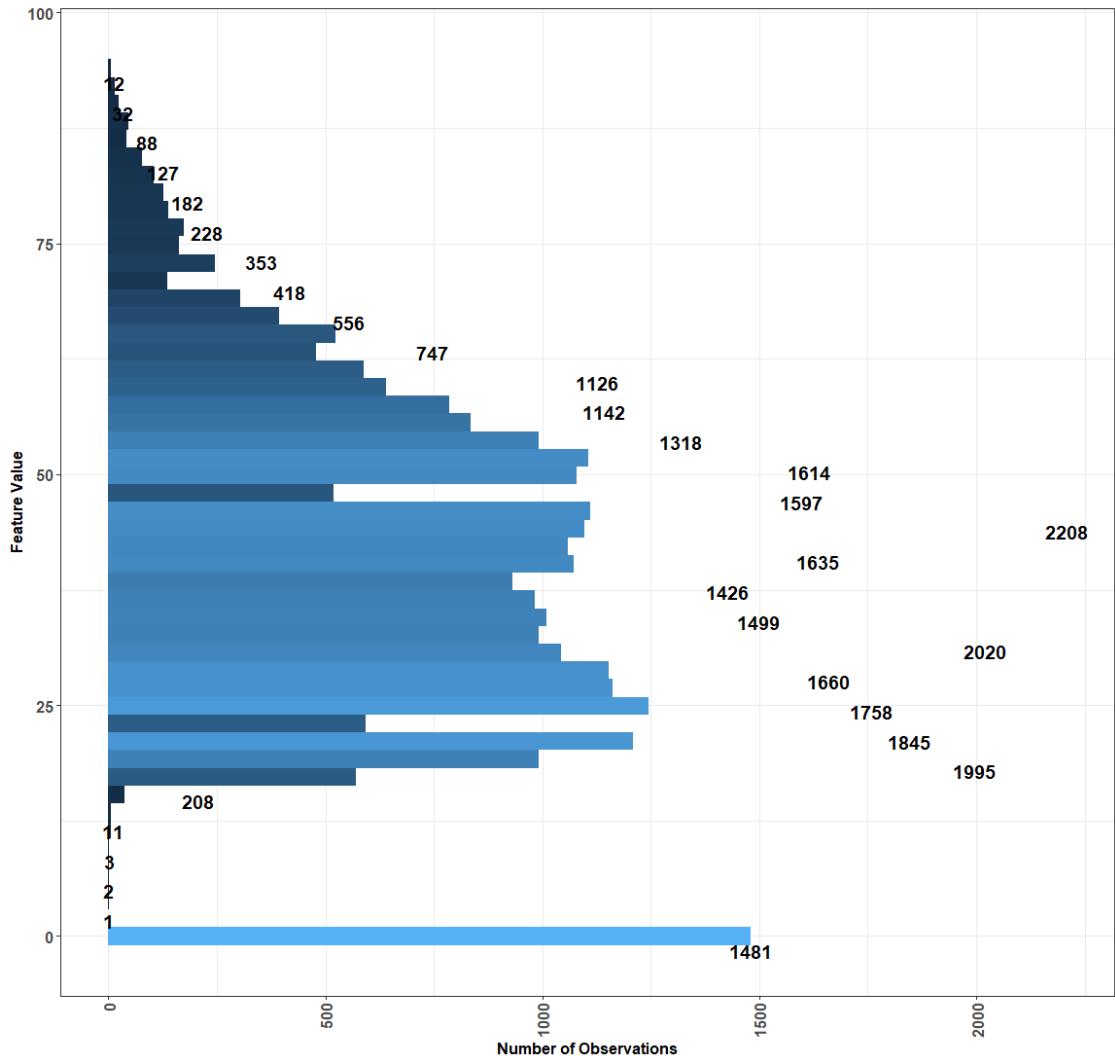
```

## 90           13   0.0476
## 91           10   0.0366
## 92            9   0.0330
## 93            7   0.0256
## 94            5   0.0183

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2014.csv



```

##
## -----
## CHECKING FEATURE:DRIVER_AGE
## DATA:All 2015.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1545
## Number of Negative Values:2

```

```

##  

## Summary as Numeric Feature:  

##   Min. 1st Qu. Median     Mean 3rd Qu.      Max.  

## -2959       27      40      40      53       99  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 93  

##  

## TOP 100 FEATURES OF DRIVER_AGE  

##  

## Feature Value   Counter Percentage  

## -----  

## -2959           1      0.0036  

## -1              1      0.0036  

## 0              1545    5.5442  

## 7              2      0.0072  

## 8              2      0.0072  

## 10             1      0.0036  

## 11             3      0.0108  

## 12             6      0.0215  

## 13             3      0.0108  

## 14             4      0.0144  

## 15             8      0.0287  

## 16            21      0.0754  

## 17            209     0.7500  

## 18            376     1.3493  

## 19            517     1.8552  

## 20            541     1.9414  

## 21            614     2.2033  

## 22            606     2.1746  

## 23            550     1.9737  

## 24            644     2.3110  

## 25            595     2.1351  

## 26            589     2.1136  

## 27            611     2.1926  

## 28            551     1.9772  

## 29            536     1.9234  

## 30            558     2.0024  

## 31            566     2.0311  

## 32            531     1.9055  

## 33            523     1.8768  

## 34            491     1.7619  

## 35            471     1.6902  

## 36            508     1.8229  

## 37            512     1.8373  

## 38            453     1.6256  

## 39            473     1.6973

```

## 40	499	1.7906
## 41	524	1.8804
## 42	519	1.8624
## 43	590	2.1172
## 44	537	1.9270
## 45	549	1.9701
## 46	505	1.8122
## 47	526	1.8875
## 48	492	1.7655
## 49	519	1.8624
## 50	588	2.1100
## 51	590	2.1172
## 52	563	2.0203
## 53	512	1.8373
## 54	498	1.7871
## 55	511	1.8337
## 56	428	1.5359
## 57	403	1.4462
## 58	389	1.3959
## 59	392	1.4067
## 60	368	1.3206
## 61	297	1.0658
## 62	307	1.1017
## 63	271	0.9725
## 64	236	0.8469
## 65	228	0.8182
## 66	215	0.7715
## 67	231	0.8289
## 68	220	0.7895
## 69	175	0.6280
## 70	158	0.5670
## 71	153	0.5490
## 72	152	0.5454
## 73	124	0.4450
## 74	120	0.4306
## 75	87	0.3122
## 76	88	0.3158
## 77	93	0.3337
## 78	70	0.2512
## 79	65	0.2333
## 80	67	0.2404
## 81	53	0.1902
## 82	41	0.1471
## 83	53	0.1902
## 84	49	0.1758
## 85	50	0.1794
## 86	33	0.1184
## 87	25	0.0897

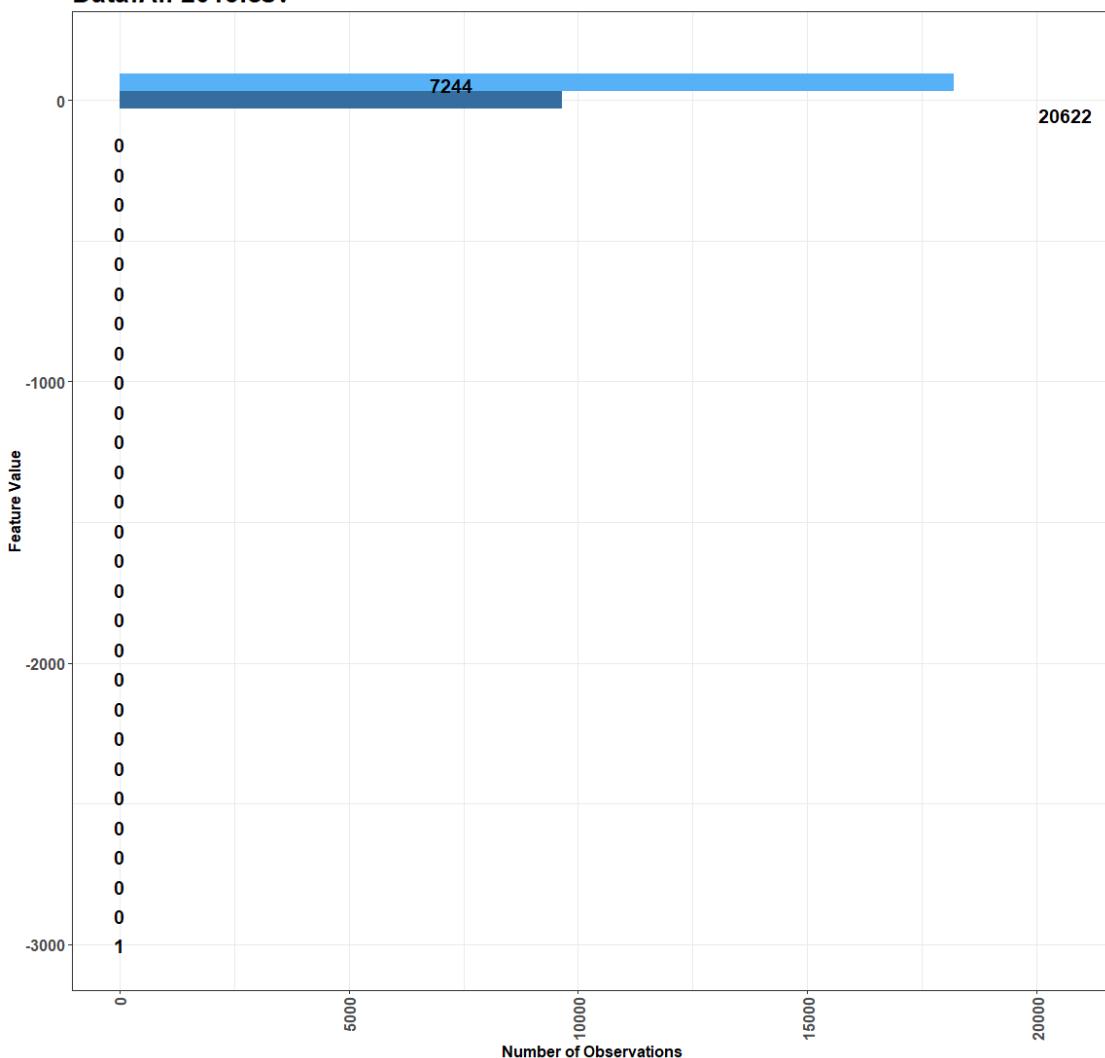
```

## 88           19   0.0682
## 89           16   0.0574
## 90           11   0.0395
## 91           18   0.0646
## 92           10   0.0359
## 93            3   0.0108
## 94            1   0.0036
## 96            2   0.0072
## 97            1   0.0036
## 99            1   0.0036

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2015.csv



```

##
## -----
## CHECKING FEATURE:DRIVER_AGE

```

```

## DATA:All 2016.csv...
##
## Number of Blank Values:0
## Number of Zero Values:1732
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##      Min. 1st Qu. Median    Mean 3rd Qu.    Max.
##      0.0    26.0   39.0    39.5   53.0    97.0
##
## Summary as Factor Feature:
##
## Number of Features: 90
##
## TOP 100 FEATURES OF DRIVER_AGE
##
## Feature Value     Counter    Percentage
## -----
## 0                 1732      6.6981
## 9                 1         0.0039
## 10                1         0.0039
## 11                2         0.0077
## 12                2         0.0077
## 13                4         0.0155
## 14                2         0.0077
## 15                4         0.0155
## 16                31        0.1199
## 17                197       0.7619
## 18                341       1.3187
## 19                424       1.6397
## 20                468       1.8099
## 21                528       2.0419
## 22                569       2.2005
## 23                582       2.2508
## 24                595       2.3010
## 25                604       2.3358
## 26                597       2.3088
## 27                603       2.3320
## 28                548       2.1193
## 29                545       2.1077
## 30                507       1.9607
## 31                501       1.9375
## 32                504       1.9491
## 33                504       1.9491
## 34                459       1.7751
## 35                451       1.7441
## 36                468       1.8099
## 37                476       1.8408

```

## 38	431	1.6668
## 39	413	1.5972
## 40	455	1.7596
## 41	465	1.7983
## 42	493	1.9066
## 43	434	1.6784
## 44	467	1.8060
## 45	455	1.7596
## 46	472	1.8254
## 47	479	1.8524
## 48	468	1.8099
## 49	462	1.7867
## 50	454	1.7557
## 51	486	1.8795
## 52	498	1.9259
## 53	482	1.8640
## 54	477	1.8447
## 55	419	1.6204
## 56	444	1.7171
## 57	390	1.5082
## 58	354	1.3690
## 59	355	1.3729
## 60	320	1.2375
## 61	260	1.0055
## 62	261	1.0094
## 63	254	0.9823
## 64	225	0.8701
## 65	194	0.7503
## 66	203	0.7851
## 67	186	0.7193
## 68	177	0.6845
## 69	195	0.7541
## 70	172	0.6652
## 71	128	0.4950
## 72	120	0.4641
## 73	114	0.4409
## 74	111	0.4293
## 75	104	0.4022
## 76	94	0.3635
## 77	74	0.2862
## 78	77	0.2978
## 79	63	0.2436
## 80	69	0.2668
## 81	57	0.2204
## 82	50	0.1934
## 83	40	0.1547
## 84	60	0.2320
## 85	20	0.0773

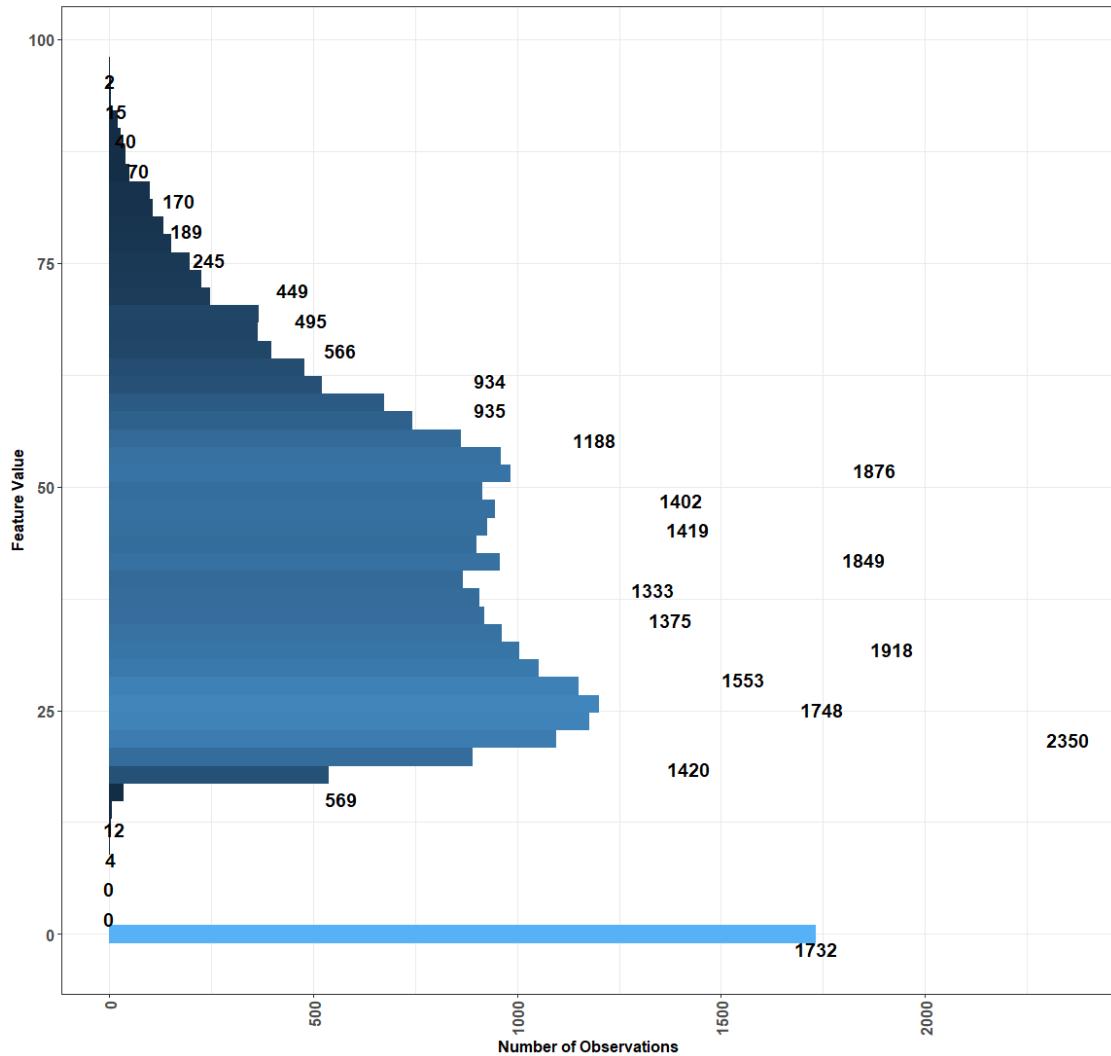
```

## 86           30    0.1160
## 87           27    0.1044
## 88           13    0.0503
## 89           15    0.0580
## 90           12    0.0464
## 91           13    0.0503
## 92            8    0.0309
## 93            3    0.0116
## 94            2    0.0077
## 95            2    0.0077
## 96            1    0.0039
## 97            1    0.0039

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:DRIVER_AGE
Data:All 2016.csv





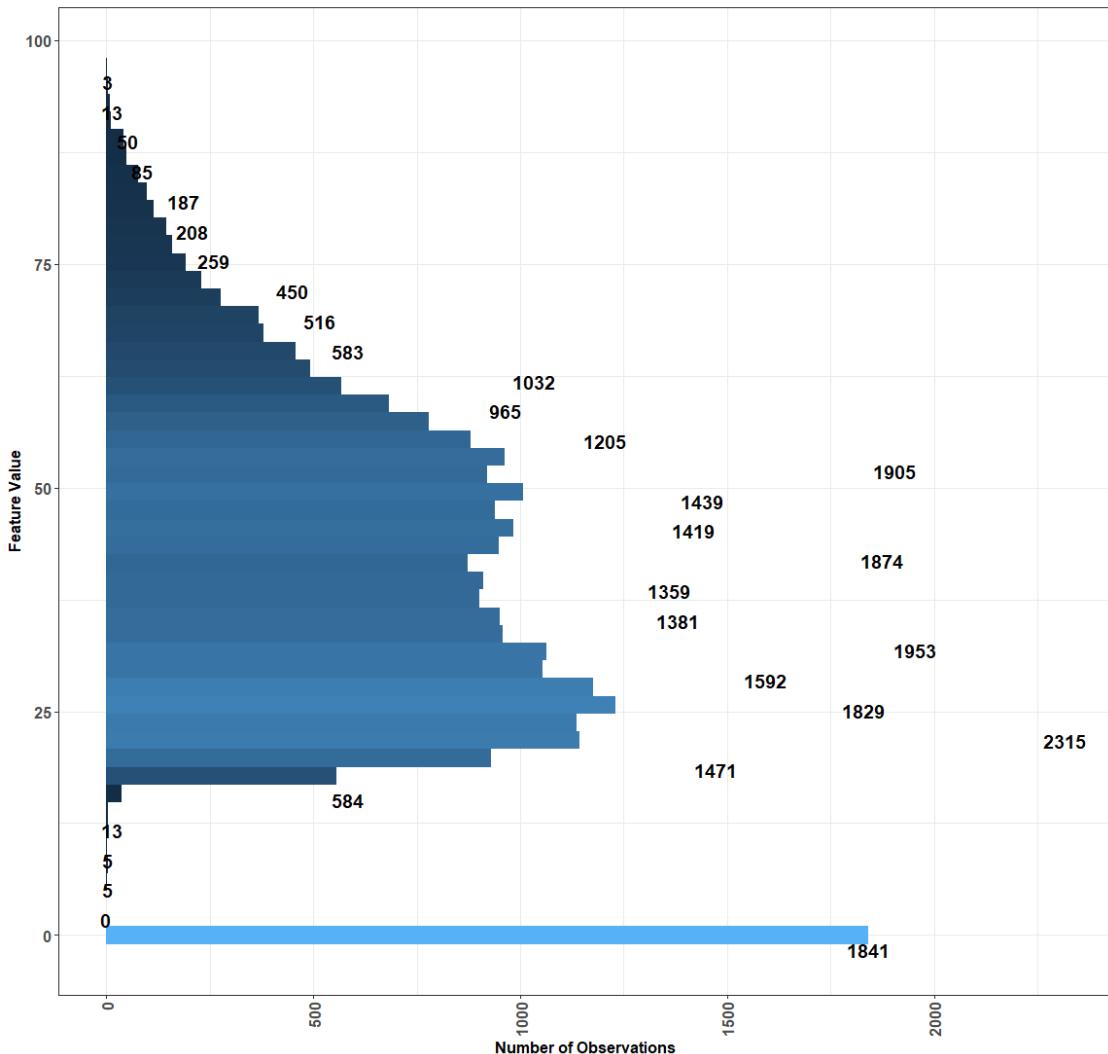
```
##  
## -----  
## CHECKING FEATURE:DRIVER_AGE  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:1841  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median    Mean 3rd Qu.    Max.  
##      0.0    26.0   39.0    39.6   53.0    97.0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 91  
##  
## TOP 100 FEATURES OF DRIVER_AGE  
##  
## Feature Value Counter Percentage  
## -----  
## 0          1841    6.9364  
## 6           1     0.0038  
## 7           1     0.0038  
## 8           3     0.0113  
## 10          1     0.0038  
## 11          4     0.0151  
## 13          2     0.0075  
## 14          2     0.0075  
## 15          9     0.0339  
## 16         28     0.1055  
## 17         195    0.7347  
## 18         361    1.3602  
## 19         418    1.5749  
## 20         511    1.9253  
## 21         542    2.0421  
## 22         601    2.2644  
## 23         571    2.1514  
## 24         565    2.1288  
## 25         578    2.1778  
## 26         652    2.4566  
## 27         611    2.3021  
## 28         566    2.1325  
## 29         537    2.0233  
## 30         517    1.9479  
## 31         538    2.0271  
## 32         525    1.9781  
## 33         436    1.6427
```

## 34	522	1.9668
## 35	470	1.7708
## 36	480	1.8085
## 37	458	1.7256
## 38	443	1.6691
## 39	433	1.6314
## 40	477	1.7972
## 41	449	1.6917
## 42	423	1.5938
## 43	468	1.7633
## 44	481	1.8123
## 45	502	1.8914
## 46	481	1.8123
## 47	467	1.7595
## 48	471	1.7746
## 49	508	1.9140
## 50	498	1.8763
## 51	433	1.6314
## 52	488	1.8387
## 53	494	1.8613
## 54	468	1.7633
## 55	455	1.7143
## 56	426	1.6051
## 57	399	1.5033
## 58	380	1.4317
## 59	370	1.3941
## 60	313	1.1793
## 61	282	1.0625
## 62	286	1.0776
## 63	258	0.9721
## 64	235	0.8854
## 65	253	0.9532
## 66	204	0.7686
## 67	172	0.6481
## 68	207	0.7799
## 69	185	0.6970
## 70	182	0.6857
## 71	149	0.5614
## 72	127	0.4785
## 73	122	0.4597
## 74	107	0.4031
## 75	94	0.3542
## 76	99	0.3730
## 77	80	0.3014
## 78	80	0.3014
## 79	83	0.3127
## 80	61	0.2298
## 81	64	0.2411

```
## 82          50    0.1884
## 83          51    0.1922
## 84          46    0.1733
## 85          40    0.1507
## 86          36    0.1356
## 87          30    0.1130
## 88          19    0.0716
## 89          29    0.1093
## 90          13    0.0490
## 91           8    0.0301
## 92           4    0.0151
## 93           6    0.0226
## 94           2    0.0075
## 95           1    0.0038
## 96           2    0.0075
## 97           1    0.0038

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:DRIVER_AGE
Data:All 2017.csv



```
##  
## =====  
## FINAL INFO CHECKING FEATURE:DRIVER_AGE  
## ALL DATA...  
## =====  
##  
## Number of Blank Values:0  
## Number of Zero Values:21224  
## Number of Negative Values:2  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      25708      26632      26139      27829      28543  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      28515      27509      27929      26577      27971
```

```
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292     27867     25858     26541
##
##  

## Summary as Numeric Feature:  

##   Min. 1st Qu. Median Mean 3rd Qu. Max.  

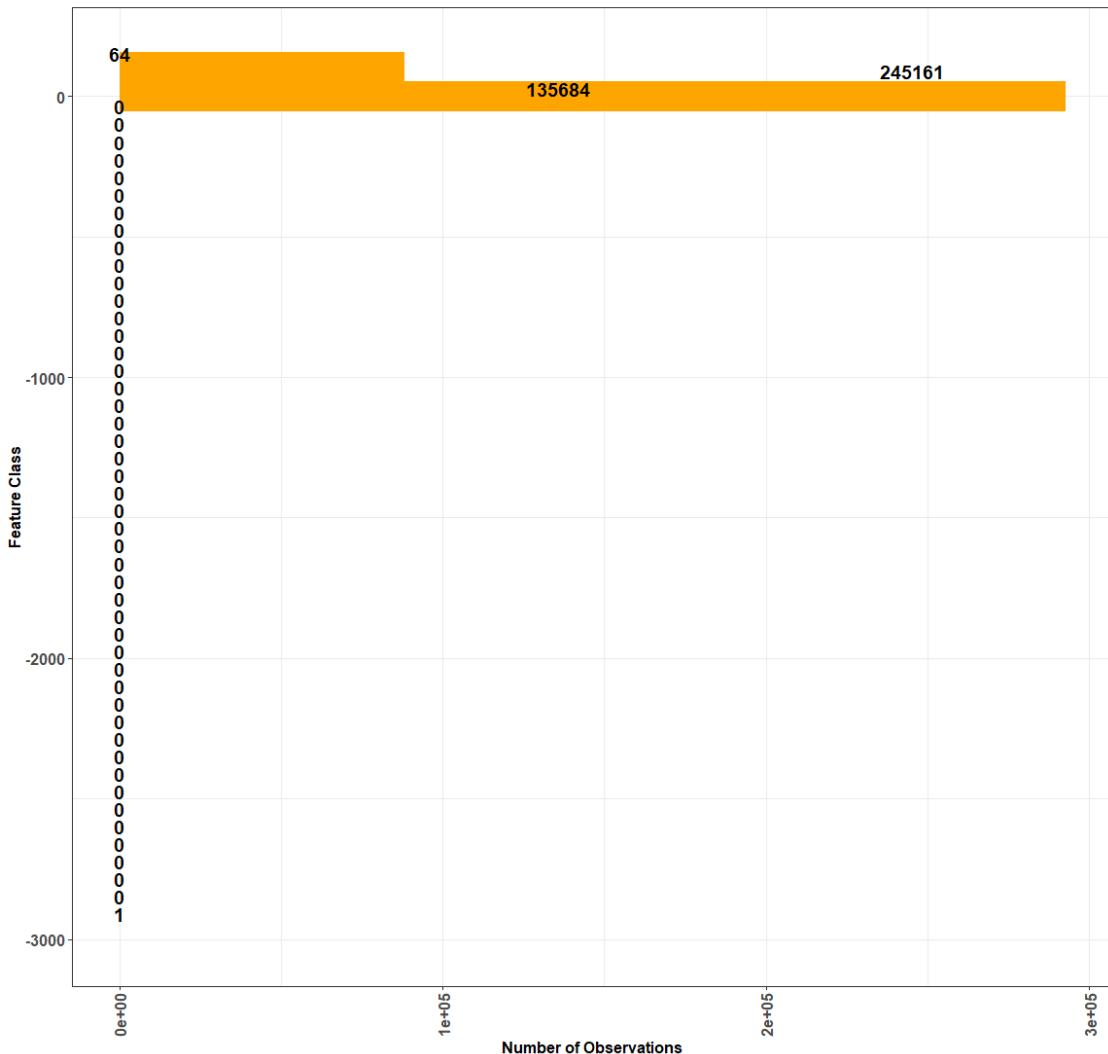
## -2959.0    26.0    39.0   39.2    52.0   103.0
##  

## Summary as Factor Feature:  

## Number of Features: 100  

## `stat_bin()` using `bins = 30` . Pick better value with `binwidth` .
```

Plot of Feature:DRIVER_AGE
All Data



```
## [1] "TOP 100 FEATURES COUNTERS OF:DRIVER_AGE"
```

Feature Value	Counter	Percentage
0	21224	5.5719
22	8531	2.2396
21	8518	2.2362
23	8473	2.2244
24	8450	2.2184
25	8271	2.1714
26	8213	2.1562
20	8070	2.1186
46	8053	2.1141
45	7977	2.0942
44	7976	2.0939
42	7936	2.0834
27	7927	2.0811
43	7927	2.0811
41	7814	2.0514
47	7739	2.0317
48	7695	2.0202
28	7656	2.0099
49	7633	2.0039
40	7581	1.9902
19	7552	1.9826
50	7398	1.9422
39	7384	1.9385
37	7262	1.9065
29	7257	1.9052
31	7242	1.9012
51	7222	1.8960
36	7168	1.8818
30	7165	1.8810
38	7118	1.8687
32	7104	1.8650
35	7043	1.8490
34	7020	1.8430
52	6944	1.8230

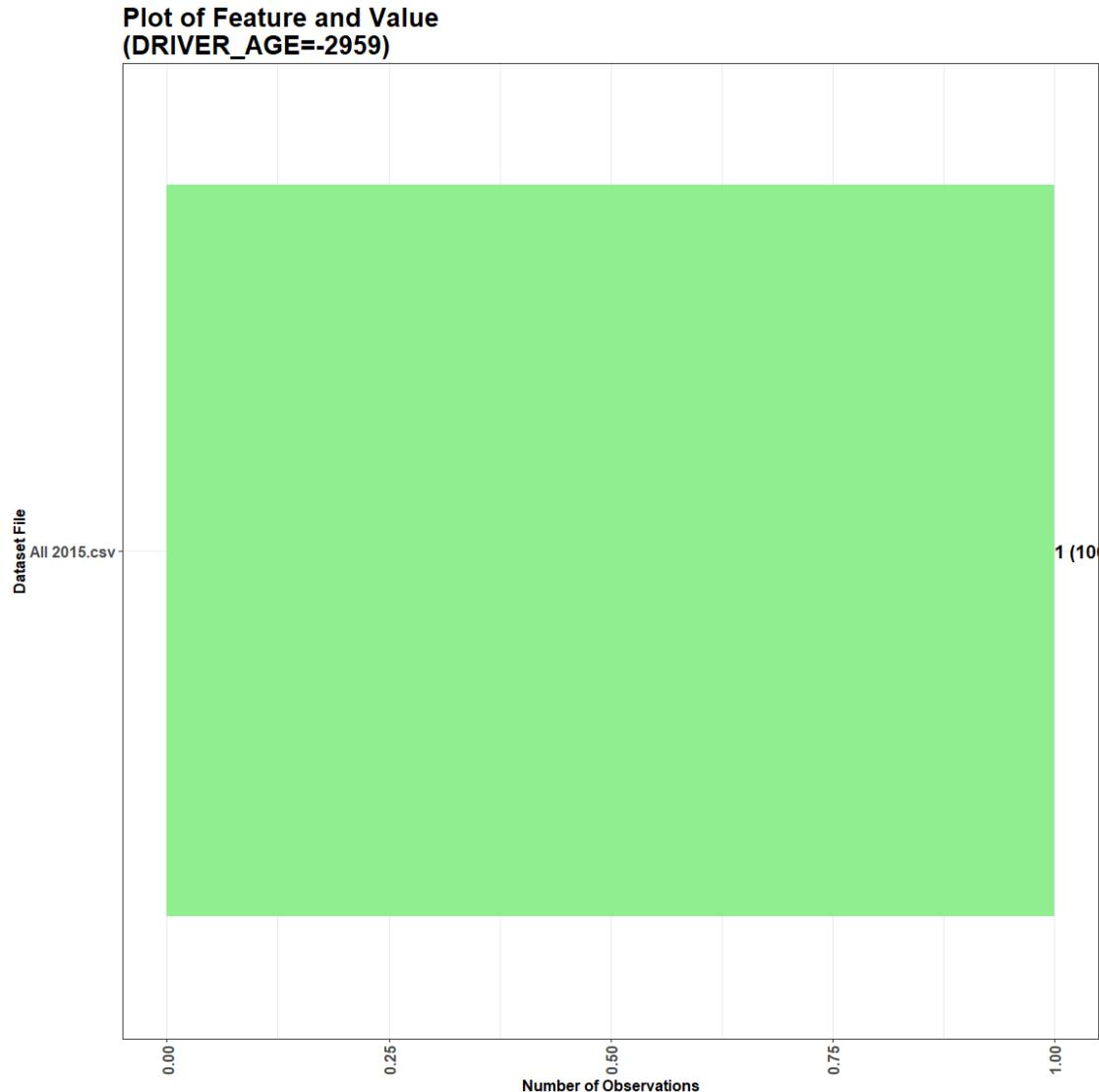
33	6919	1.8164
53	6669	1.7508
18	6550	1.7196
54	6172	1.6203
55	5895	1.5476
56	5454	1.4318
57	5269	1.3833
58	4862	1.2764
59	4588	1.2045
60	4203	1.1034
61	3865	1.0147
62	3648	0.9577
17	3619	0.9501
63	3404	0.8936
64	3077	0.8078
65	2901	0.7616
66	2630	0.6905
67	2362	0.6201
68	2208	0.5797
69	1942	0.5098
70	1903	0.4996
71	1699	0.4460
72	1607	0.4219
73	1453	0.3815
74	1338	0.3513
75	1260	0.3308
76	1162	0.3051
77	1135	0.2980
78	1017	0.2670
79	988	0.2594
80	865	0.2271
81	774	0.2032
82	704	0.1848
83	605	0.1588
84	566	0.1486

85	465	0.1221
16	439	0.1153
86	390	0.1024
87	315	0.0827
88	258	0.0677
89	213	0.0559
15	161	0.0423
90	156	0.0410
91	108	0.0284
14	103	0.0270
92	80	0.0210
13	68	0.0179
12	58	0.0152
11	42	0.0110
93	38	0.0100
10	25	0.0066
8	21	0.0055
94	20	0.0053
7	18	0.0047
9	17	0.0045
96	15	0.0039
95	14	0.0037
97	9	0.0024
5	5	0.0013
6	5	0.0013
3	2	0.0005
98	2	0.0005
99	2	0.0005
-2959	1	0.0003
-1	1	0.0003
(Other)	3	0.0008

4.1 DRIVER_AGE = “-2959”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (DRIVER_AGE=-2959)  
##
```

```
## Summary per Data File:  
## All 2015.csv  
## 1
```

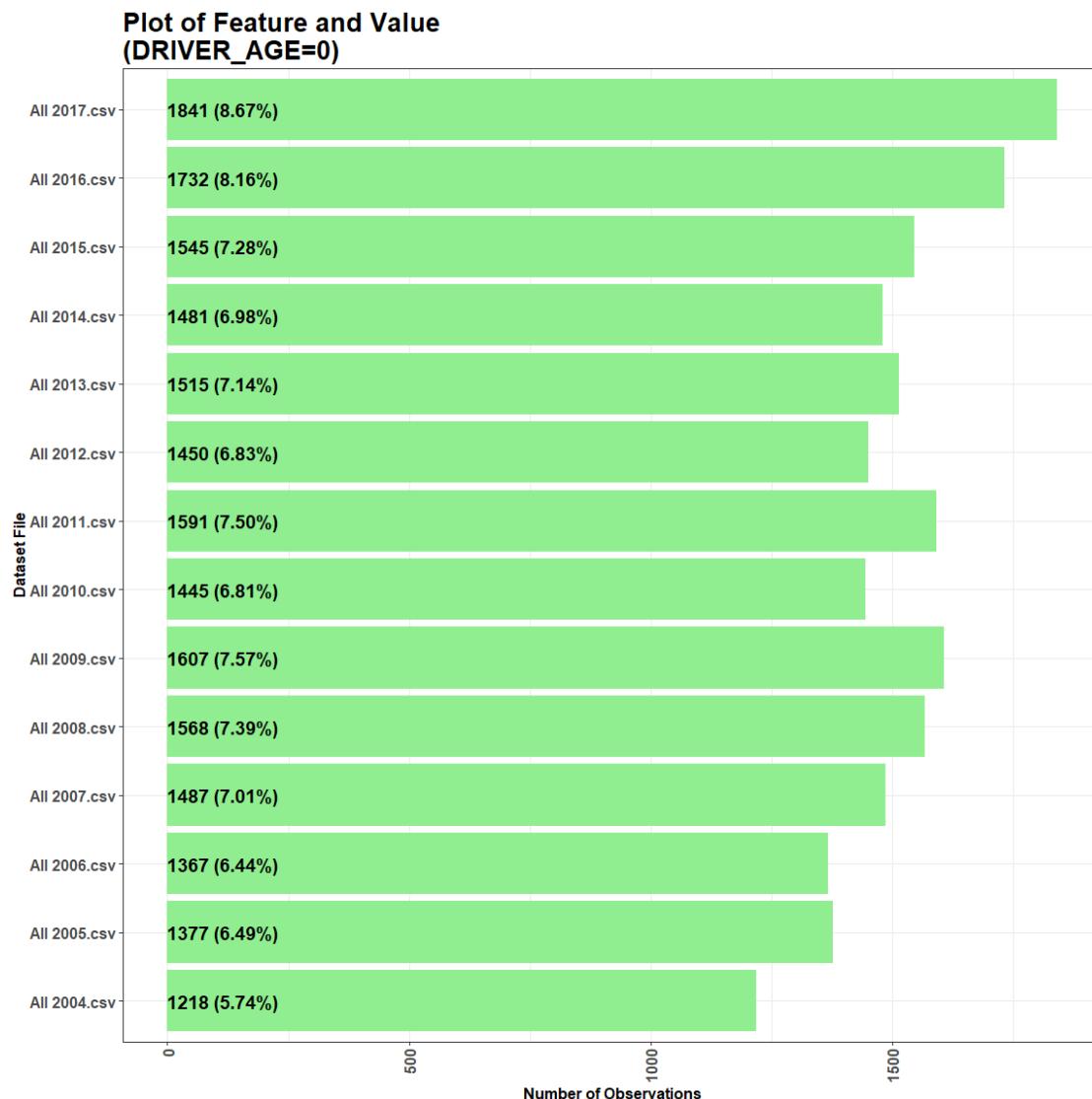


DATASET FILE	COUNTER OF (DRIVER_AGE=-2959)	Percentage
All 2015.csv	1	100

4.2 DRIVER_AGE = “0”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_AGE=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      1218      1377      1367      1487      1568
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      1607      1445      1591      1450      1515
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      1481      1545      1732      1841
```



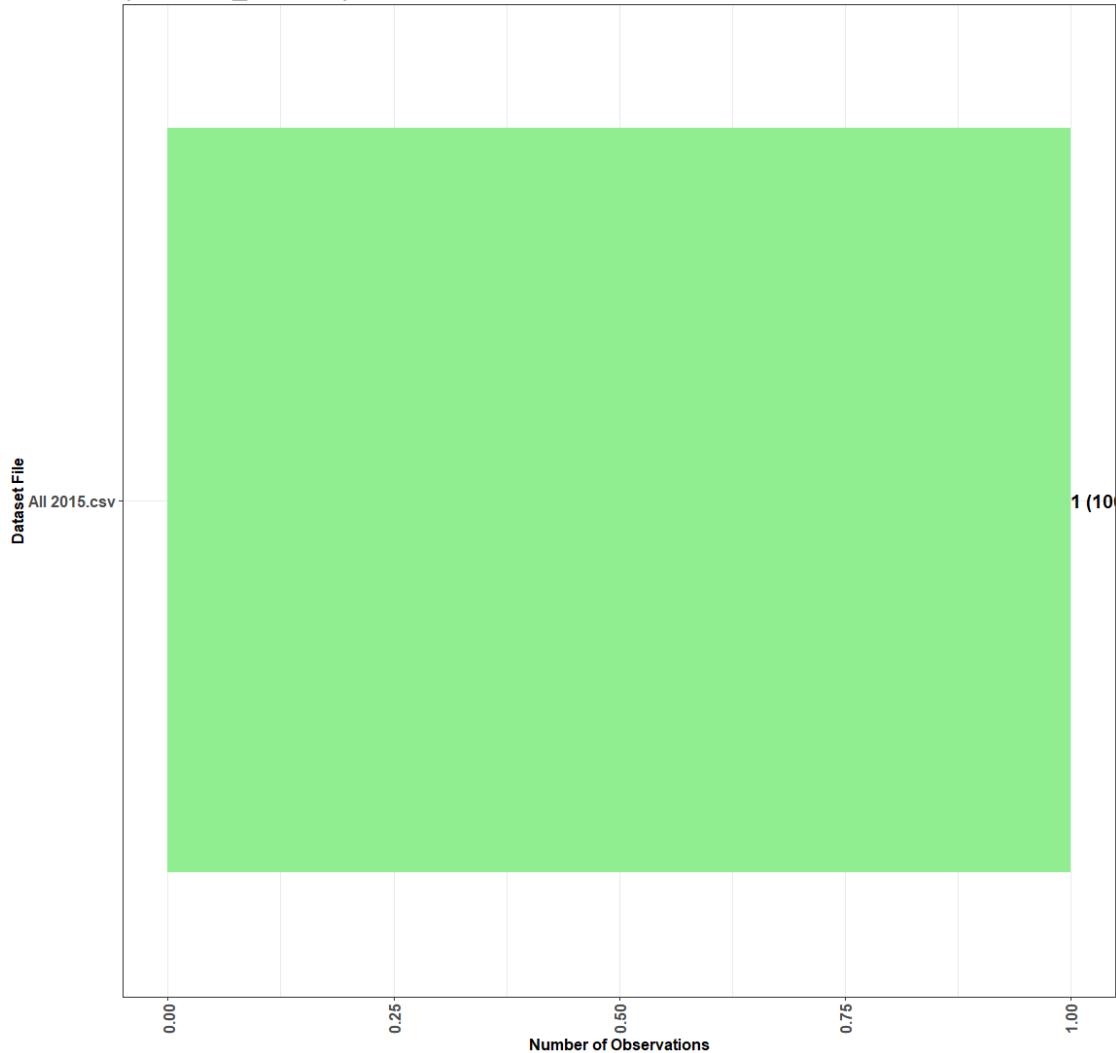
DATASET FILE	COUNTER OF (DRIVER_AGE=0)	Percentage
All 2004.csv	1218	5.739
All 2005.csv	1377	6.488
All 2006.csv	1367	6.441
All 2007.csv	1487	7.006
All 2008.csv	1568	7.388
All 2009.csv	1607	7.572

All 2010.csv	1445	6.808
All 2011.csv	1591	7.496
All 2012.csv	1450	6.832
All 2013.csv	1515	7.138
All 2014.csv	1481	6.978
All 2015.csv	1545	7.279
All 2016.csv	1732	8.161
All 2017.csv	1841	8.674

4.3 DRIVER_AGE = “-1”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_AGE=-1)  
##  
## Summary per Data File:  
## All 2015.csv  
## 1
```

**Plot of Feature and Value
(DRIVER_AGE=-1)**

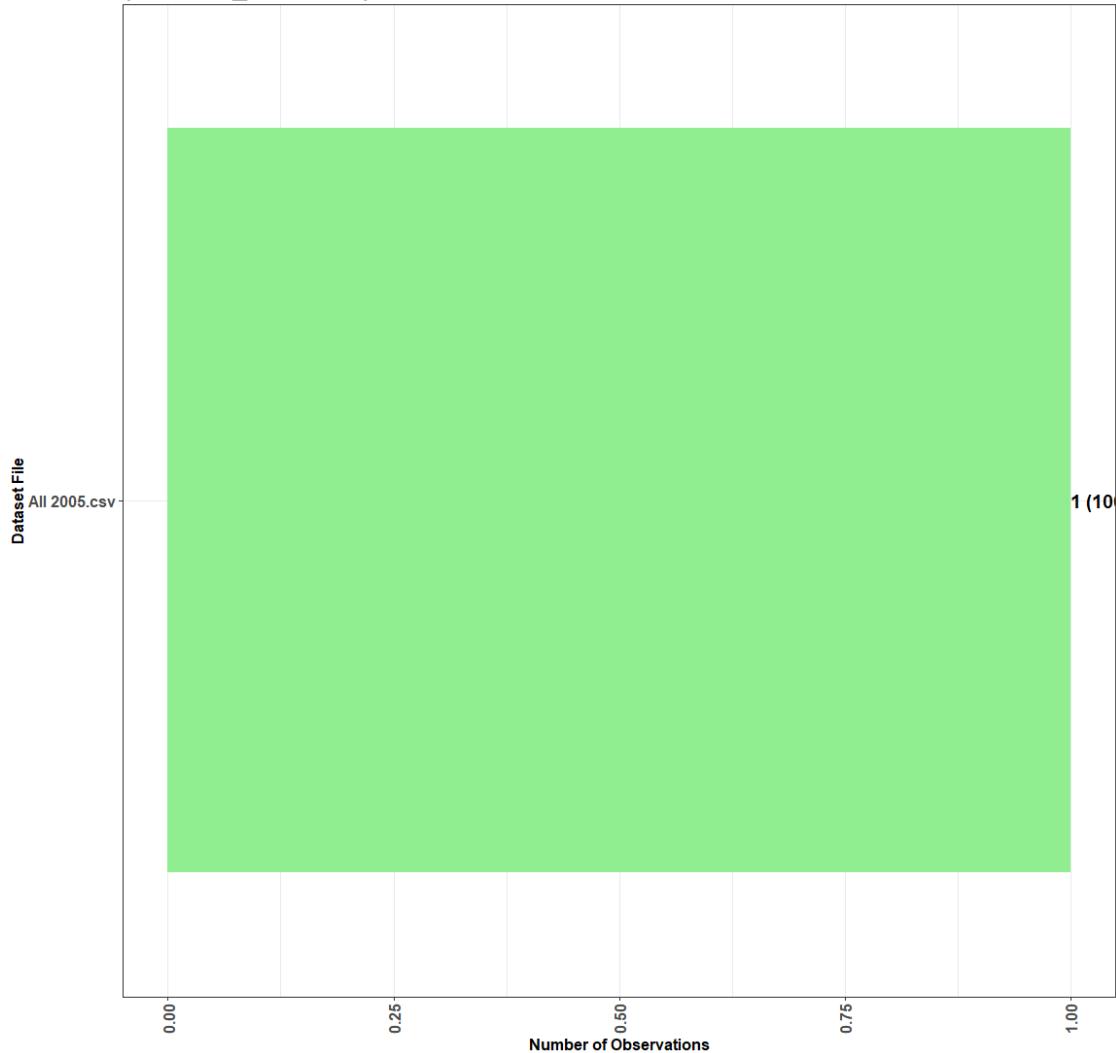


DATASET FILE	COUNTER OF (DRIVER_AGE=-1)	Percentage
All 2015.csv	1	100

4.4 DRIVER_AGE = “103”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_AGE=103)  
##  
## Summary per Data File:  
## All 2005.csv  
## 1
```

**Plot of Feature and Value
(DRIVER_AGE=103)**

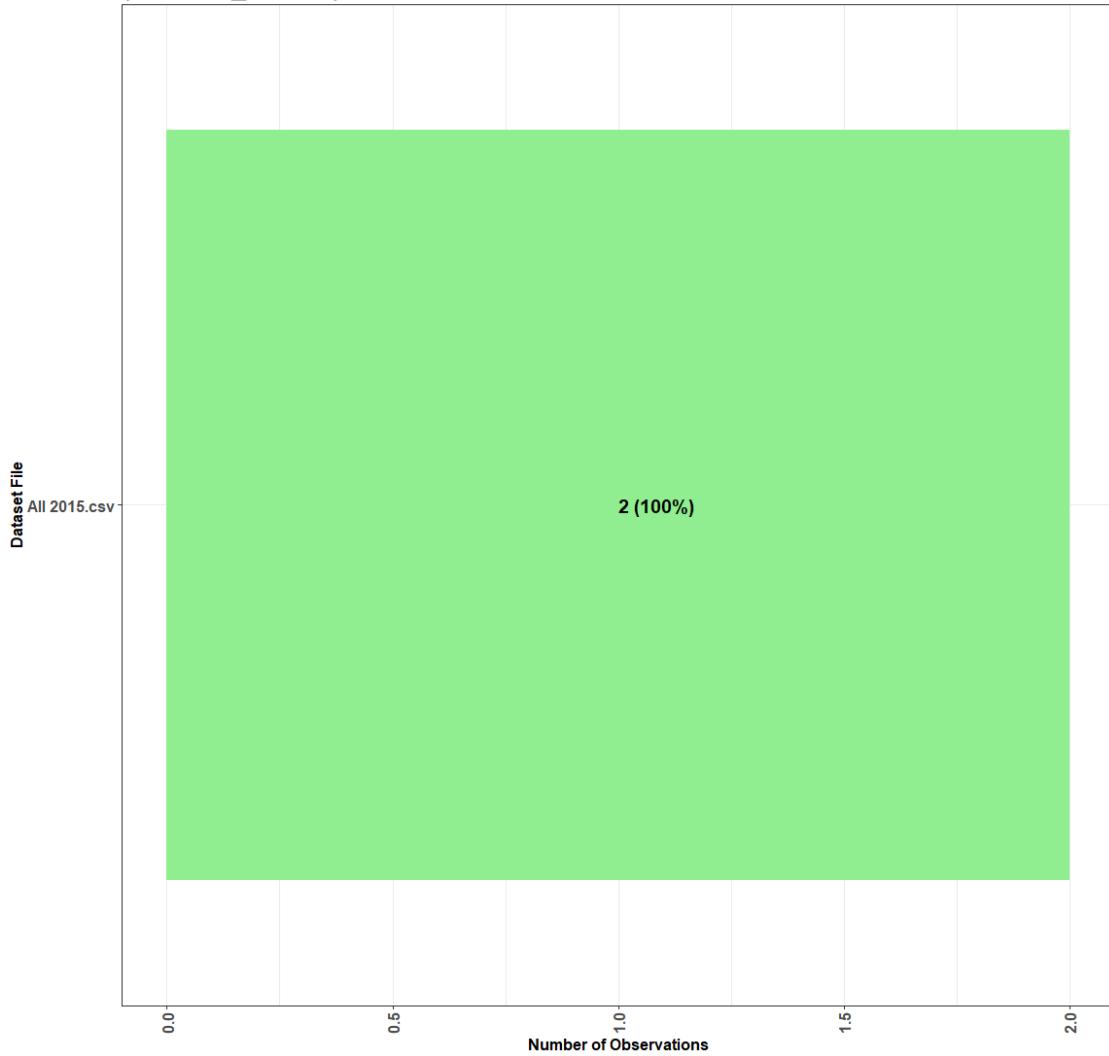


DATASET FILE	COUNTER OF (DRIVER_AGE=103)	Percentage
All 2005.csv	1	100

4.5 DRIVER_AGE < "0"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_AGE<0)  
##  
## Summary per Data File:  
## All 2015.csv  
## 2
```

**Plot of Feature and Value
(DRIVER_AGE<0)**

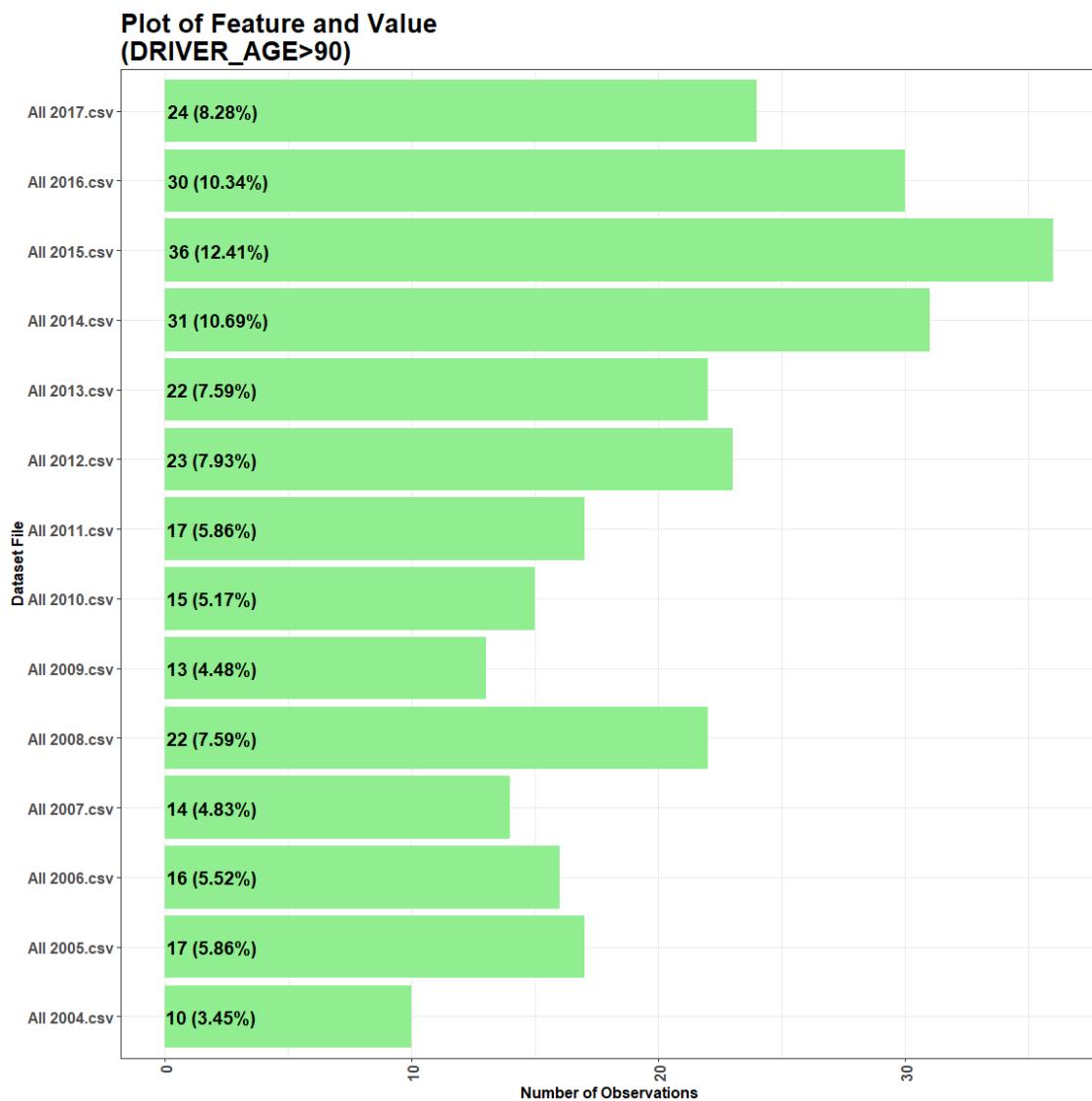


DATASET FILE	COUNTER OF (DRIVER_AGE<0)	Percentage
All 2015.csv	2	100

4.6 DRIVER_AGE > “90”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_AGE>90)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      10      17      16      14      22  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      13      15      17      23      22
```

```
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##          31         36         30         24
```



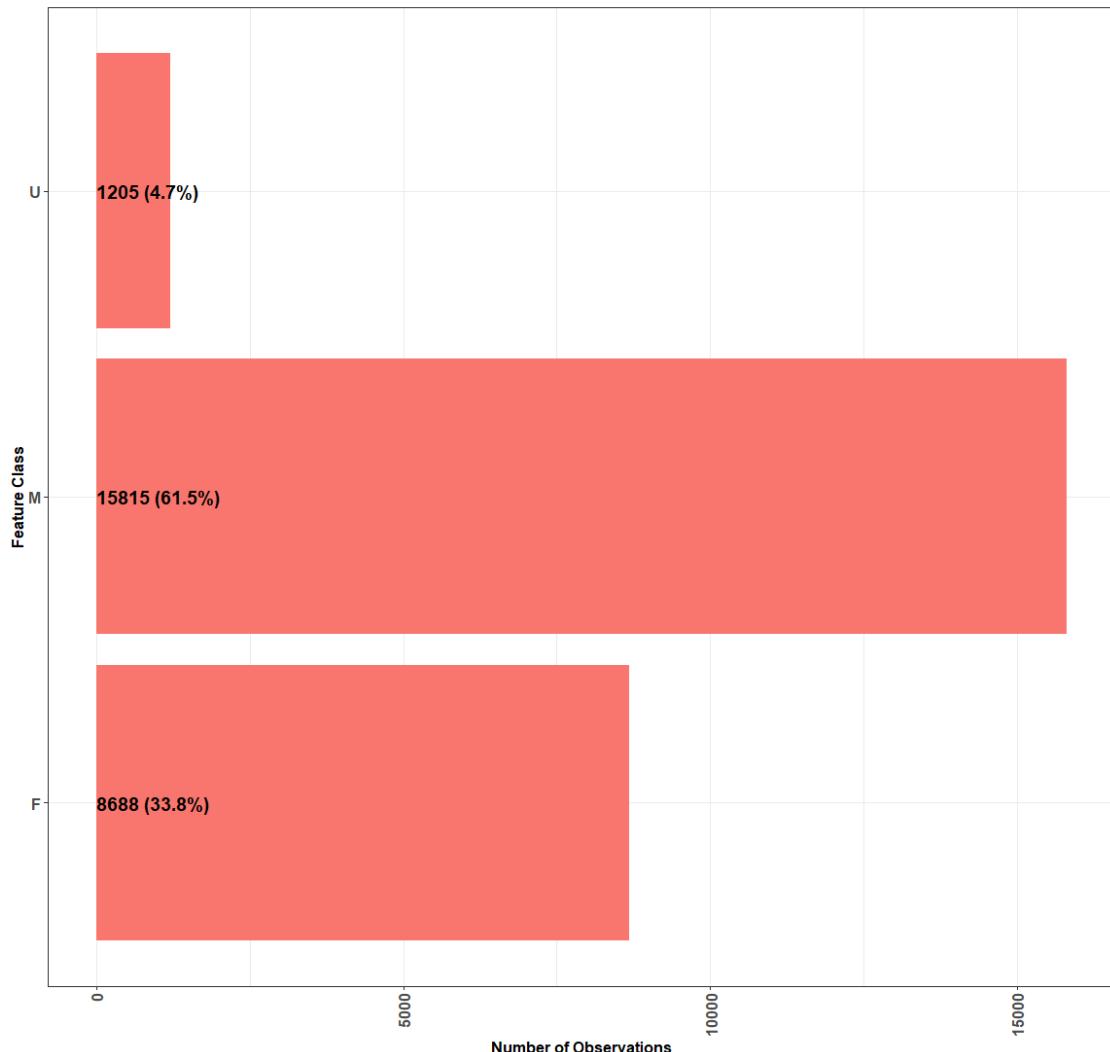
DATASET FILE	COUNTER OF (DRIVER_AGE>90)	Percentage
All 2004.csv	10	3.448
All 2005.csv	17	5.862
All 2006.csv	16	5.517
All 2007.csv	14	4.828
All 2008.csv	22	7.586
All 2009.csv	13	4.483
All 2010.csv	15	5.172
All 2011.csv	17	5.862

All 2012.csv	23	7.931
All 2013.csv	22	7.586
All 2014.csv	31	10.690
All 2015.csv	36	12.414
All 2016.csv	30	10.345
All 2017.csv	24	8.276

5. Driver Sex (DRIVER_SEX)

```
##  
## -----  
## CHECKING FEATURE:DRIVER_SEX  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 3  
##  
## TOP 100 FEATURES OF DRIVER_SEX  
##  
## Feature Value Counter Percentage  
## -----  
## F 8688 33.795  
## M 15815 61.518  
## U 1205 4.687
```

Plot of Feature:DRIVER_SEX
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_SEX  

## DATA:All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 3  

##  

## TOP 100 FEATURES OF DRIVER_SEX  

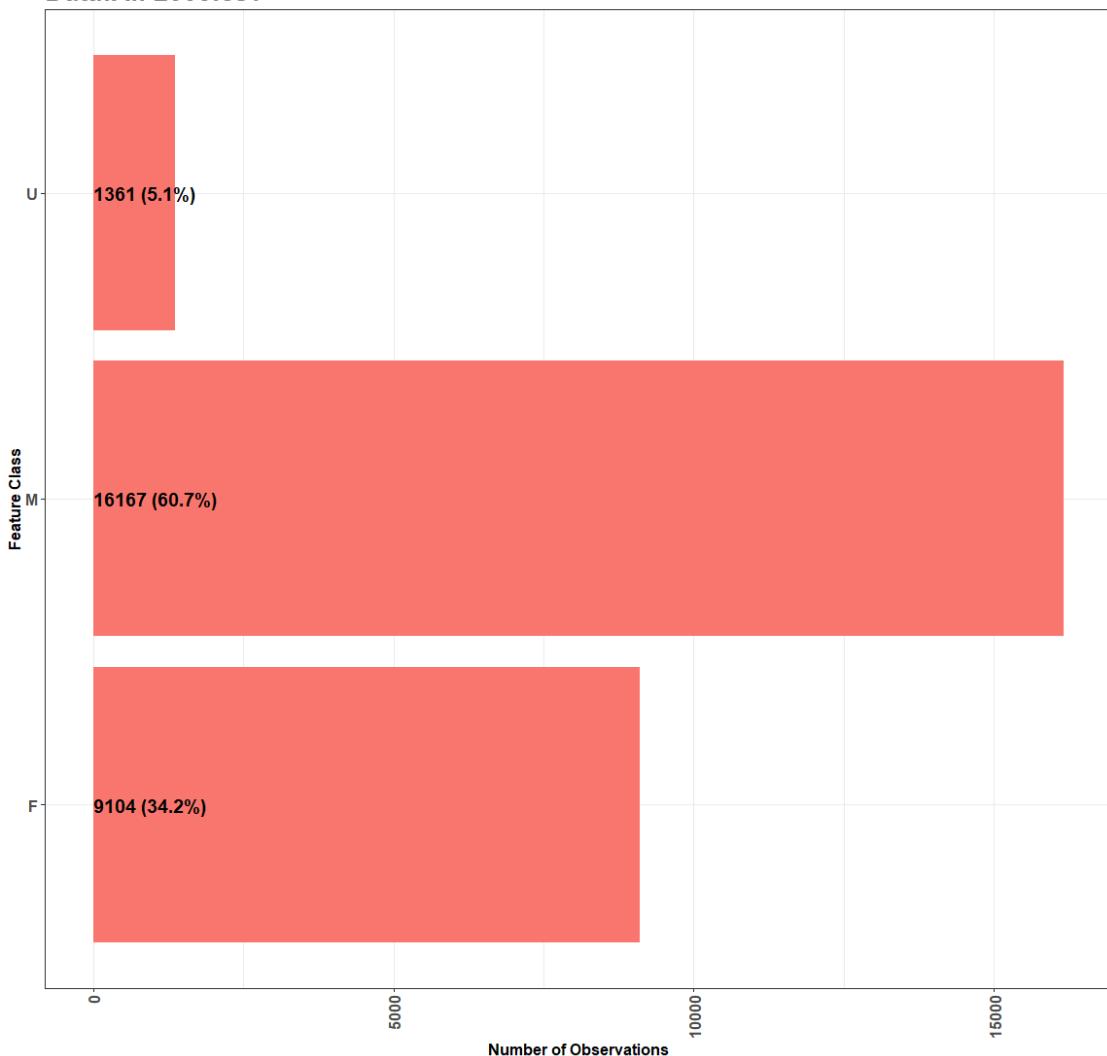
##  

## Feature Value   Counter   Percentage  

## -----
```

## F	9104	34.18
## M	16167	60.71
## U	1361	5.11

Plot of Feature:DRIVER_SEX
Data:All 2005.csv

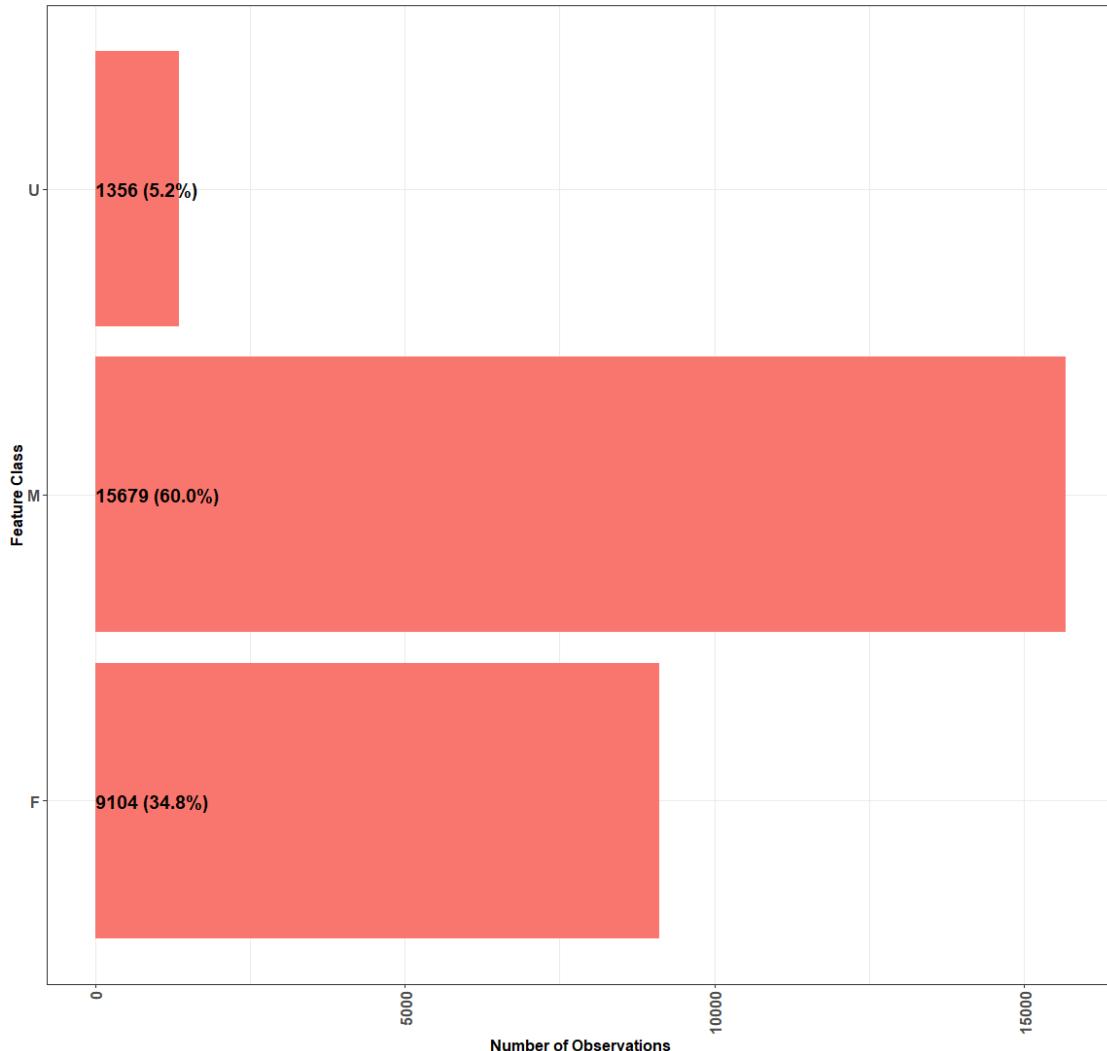


```
##
## -----
## CHECKING FEATURE:DRIVER_SEX
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 3
##
```

```
## TOP 100 FEATURES OF DRIVER_SEX
##
## Feature Value Counter Percentage
## -----
## F 9104 34.829
## M 15679 59.983
## U 1356 5.188
```

Plot of Feature:DRIVER_SEX

Data:All 2006.csv



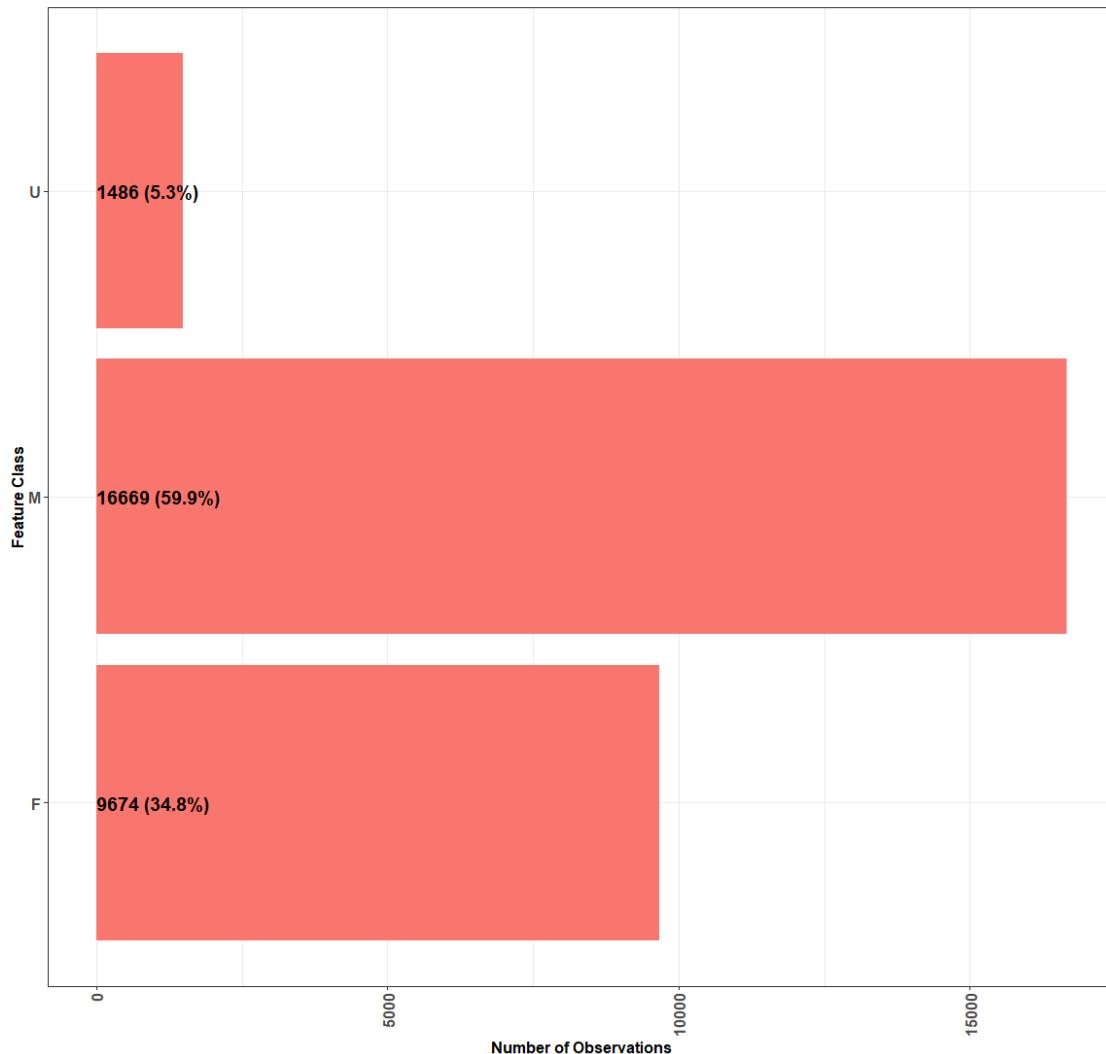
```
##
## -----
## CHECKING FEATURE:DRIVER_SEX
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
```

```

## Summary as Factor Feature:
## 
## Number of Features: 3
## 
## TOP 100 FEATURES OF DRIVER_SEX
## 
## Feature Value      Counter      Percentage
## ----- -----
## F                  9674        34.76
## M                  16669       59.90
## U                  1486        5.34

```

Plot of Feature:DRIVER_SEX
Data:All 2007.csv



```

## 
## -----
## CHECKING FEATURE:DRIVER_SEX

```

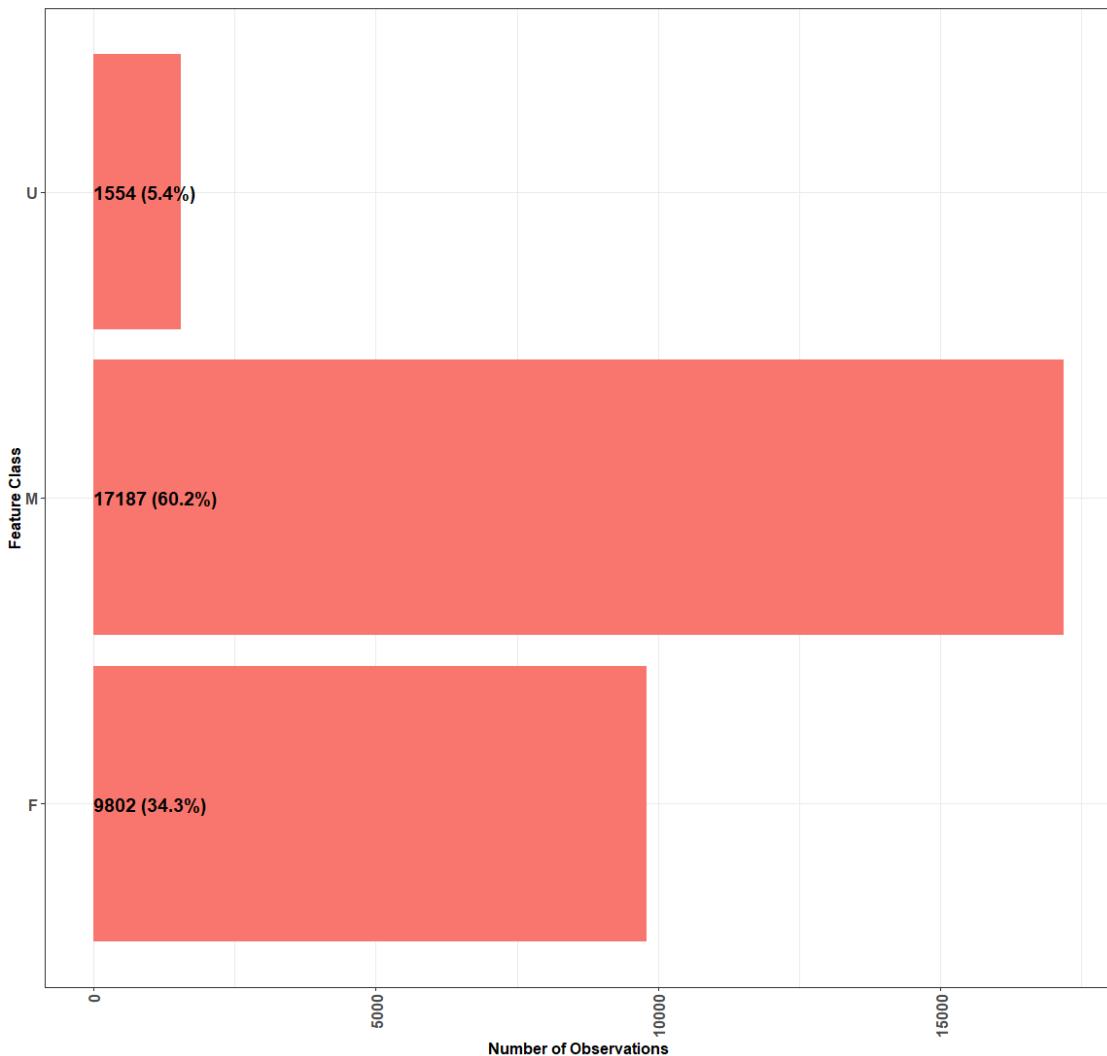
```

## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 3
##
## TOP 100 FEATURES OF DRIVER_SEX
##
## Feature Value      Counter      Percentage
## ----- -----
## F                  9802        34.341
## M                  17187       60.214
## U                  1554        5.444

```

Plot of Feature:DRIVER_SEX

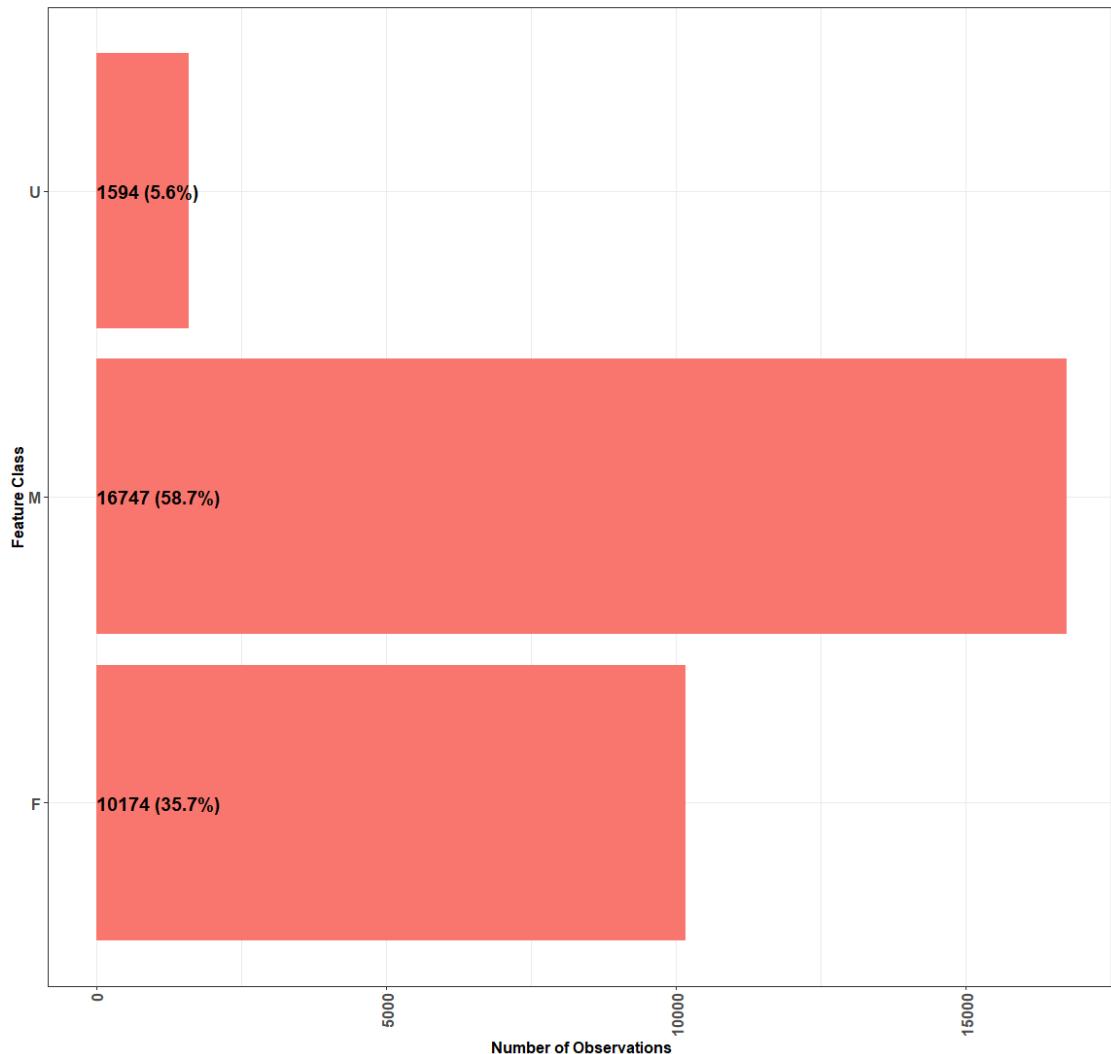
Data:All 2008.csv





```
##  
## -----  
## CHECKING FEATURE:DRIVER_SEX  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 3  
##  
## TOP 100 FEATURES OF DRIVER_SEX  
##  
## Feature Value Counter Percentage  
## -----  
## F 10174 35.68  
## M 16747 58.73  
## U 1594 5.59
```

Plot of Feature:DRIVER_SEX
Data:All 2009.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_SEX  

## DATA:All 2010.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 3  

##  

## TOP 100 FEATURES OF DRIVER_SEX  

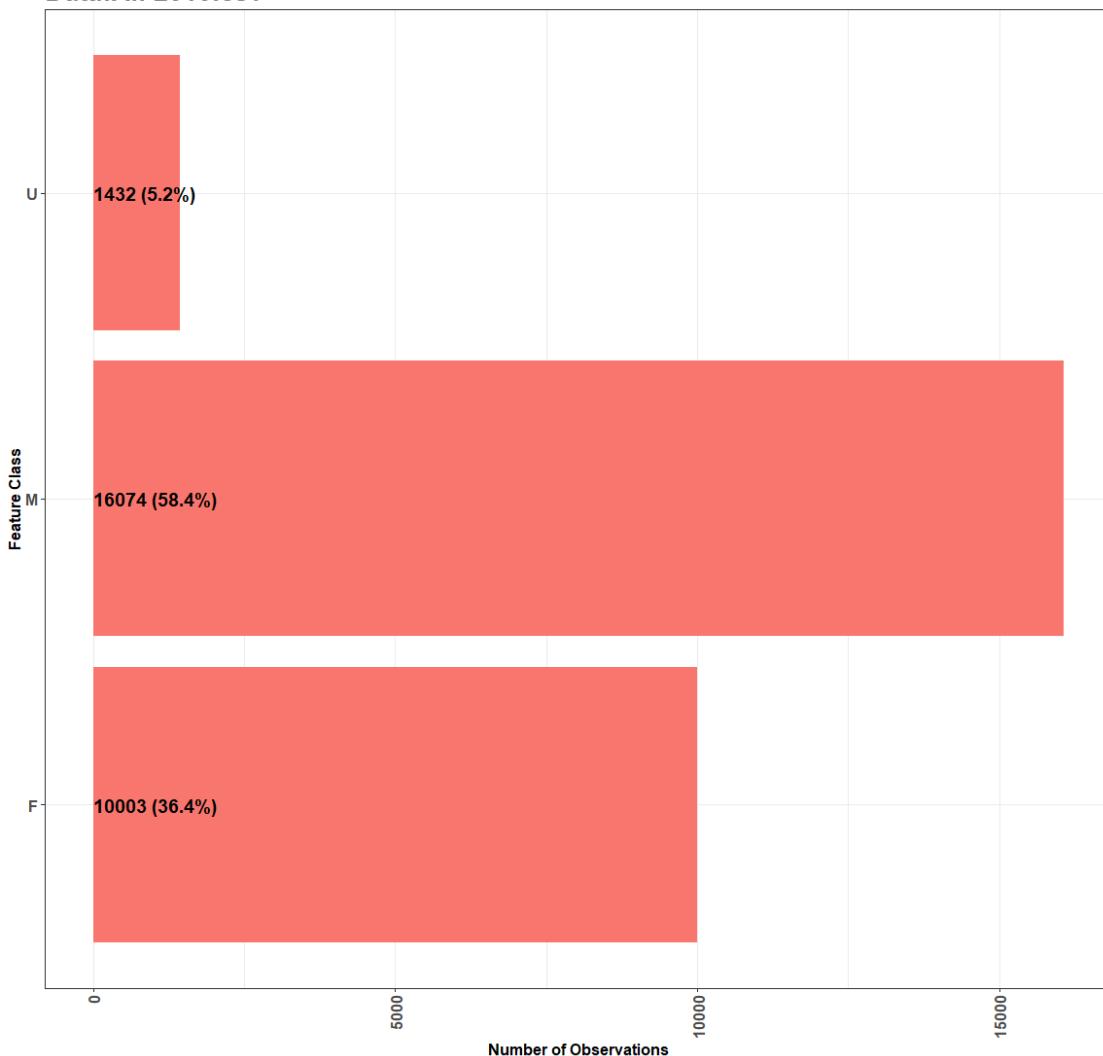
##  

## Feature Value Counter Percentage  

## -----
```

## F	10003	36.363
## M	16074	58.432
## U	1432	5.206

Plot of Feature:DRIVER_SEX
Data:All 2010.csv

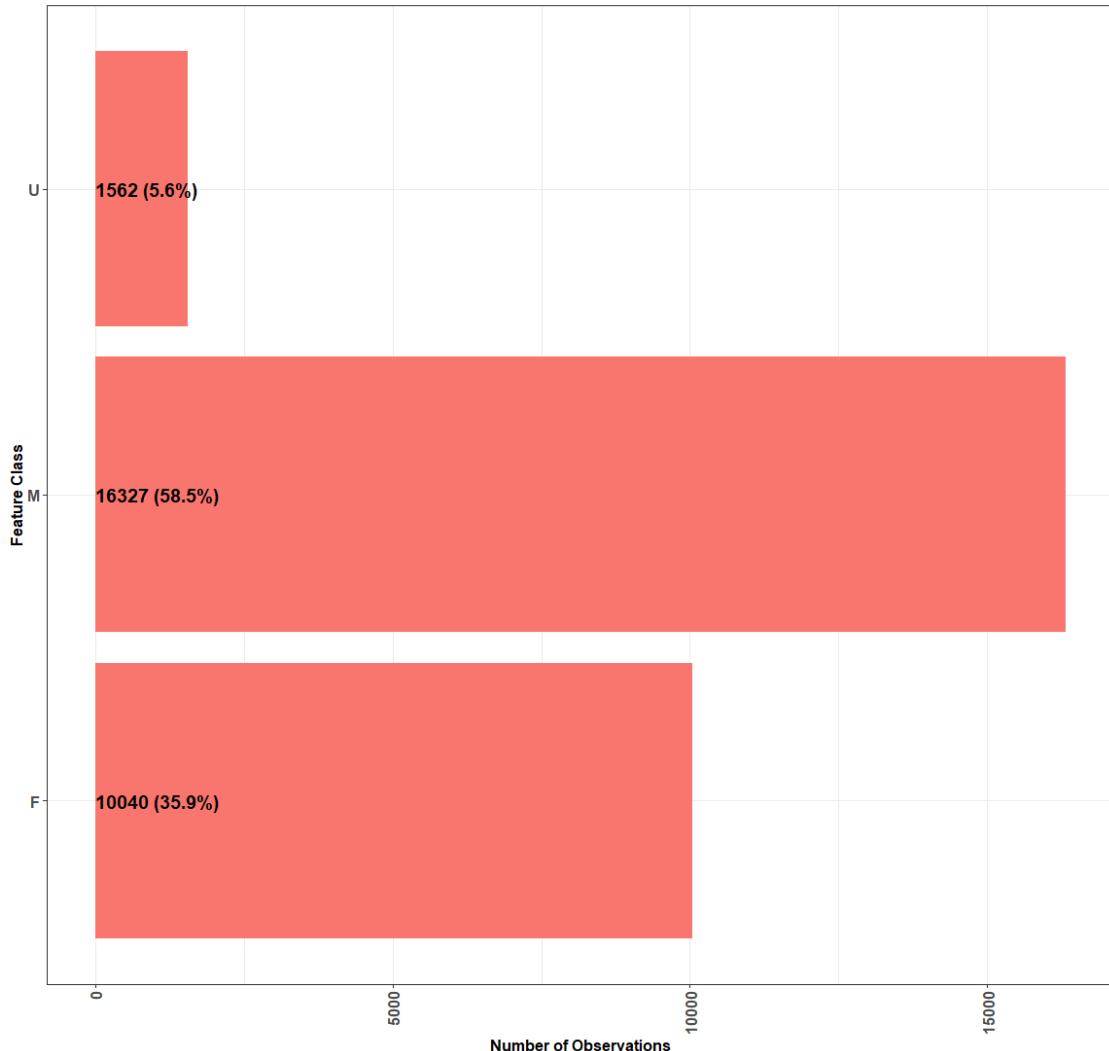


```
##
## -----
## CHECKING FEATURE:DRIVER_SEX
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 3
##
```

```
## TOP 100 FEATURES OF DRIVER_SEX
##
## Feature Value Counter Percentage
## -----
## F 10040 35.948
## M 16327 58.459
## U 1562 5.593
```

Plot of Feature:DRIVER_SEX

Data:All 2011.csv



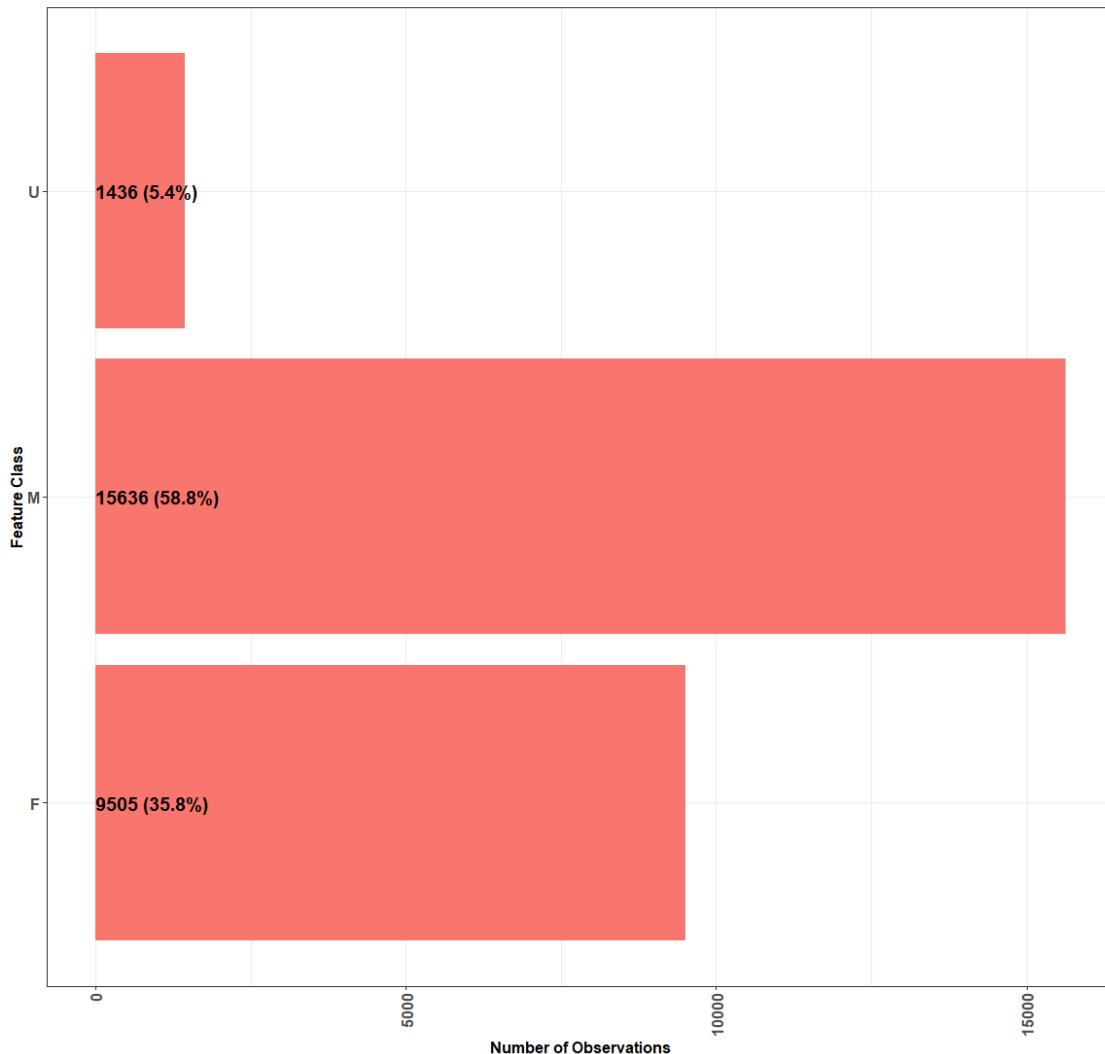
```
##
## -----
## CHECKING FEATURE:DRIVER_SEX
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
```

```

## Summary as Factor Feature:
## 
## Number of Features: 3
## 
## TOP 100 FEATURES OF DRIVER_SEX
## 
## Feature Value      Counter      Percentage
## ----- -----
## F                  9505       35.764
## M                  15636      58.833
## U                  1436       5.403

```

Plot of Feature:DRIVER_SEX
Data:All 2012.csv



```

## 
## -----
## CHECKING FEATURE:DRIVER_SEX

```

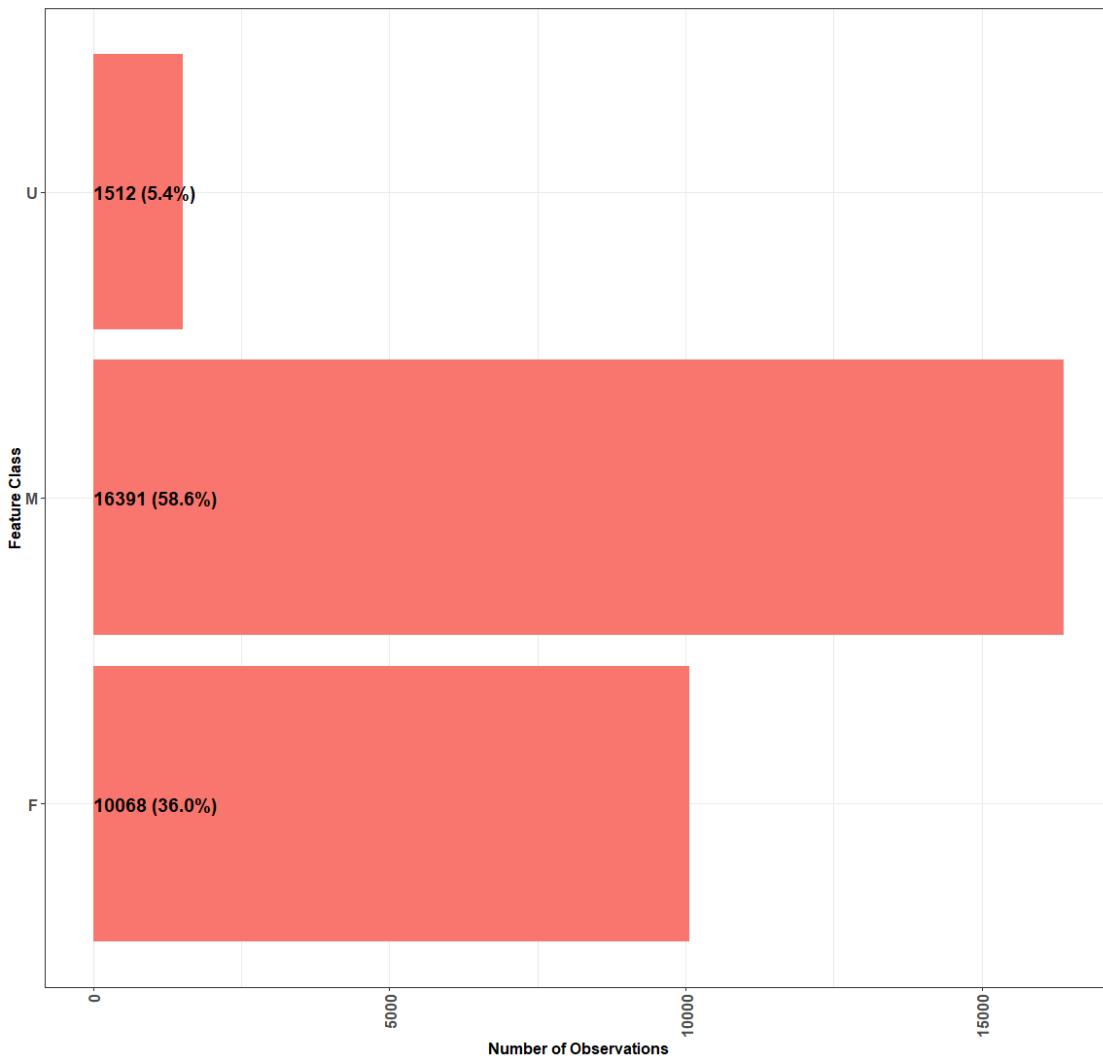
```

## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 3
##
## TOP 100 FEATURES OF DRIVER_SEX
##
## Feature Value      Counter      Percentage
## ----- -----
## F                  10068       35.994
## M                  16391       58.600
## U                  1512        5.406

```

Plot of Feature:DRIVER_SEX

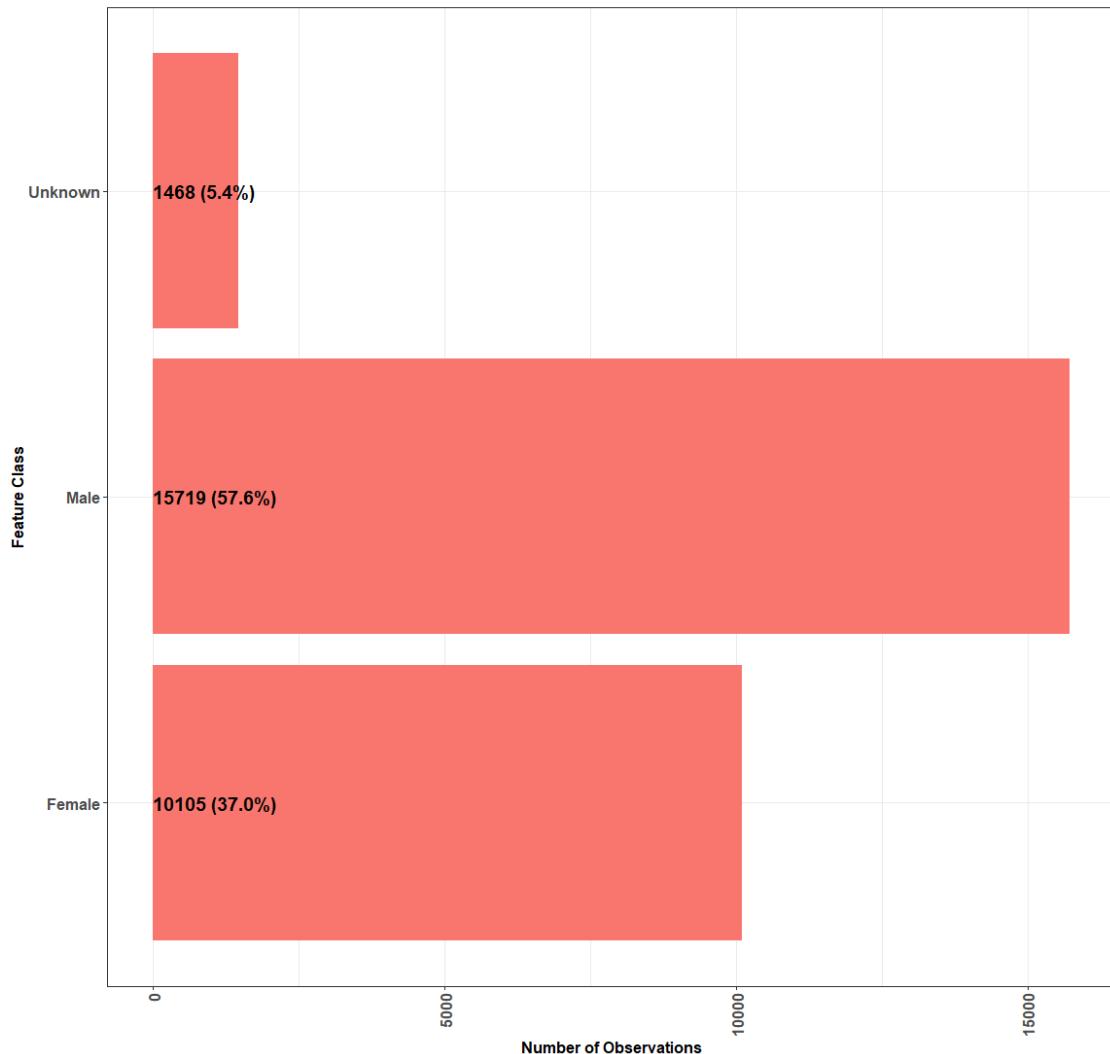
Data:All 2013.csv





```
##  
## -----  
## CHECKING FEATURE:DRIVER_SEX  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 3  
##  
## TOP 100 FEATURES OF DRIVER_SEX  
##  
## Feature Value Counter Percentage  
## -----  
## Female 10105 37.026  
## Male 15719 57.596  
## Unknown 1468 5.379
```

Plot of Feature:DRIVER_SEX
Data:All 2014.csv



```
##  

## -----  

## CHECKING FEATURE:DRIVER_SEX  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:11  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 4  

##  

## TOP 100 FEATURES OF DRIVER_SEX  

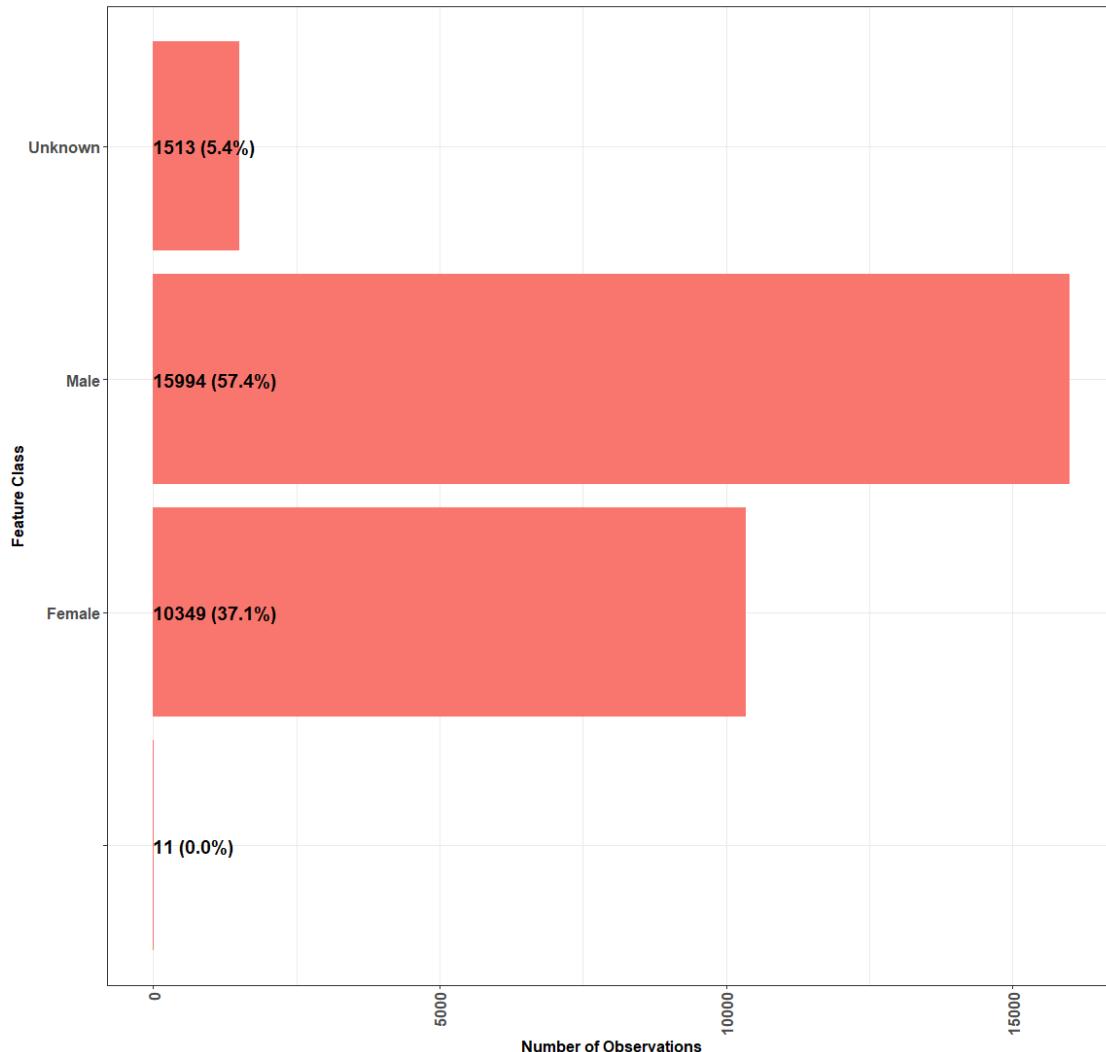
##  

## Feature Value Counter Percentage  

## -----
```

```
##           11      0.0395
## Female    10349   37.1371
## Male     15994   57.3941
## Unknown   1513    5.4294
```

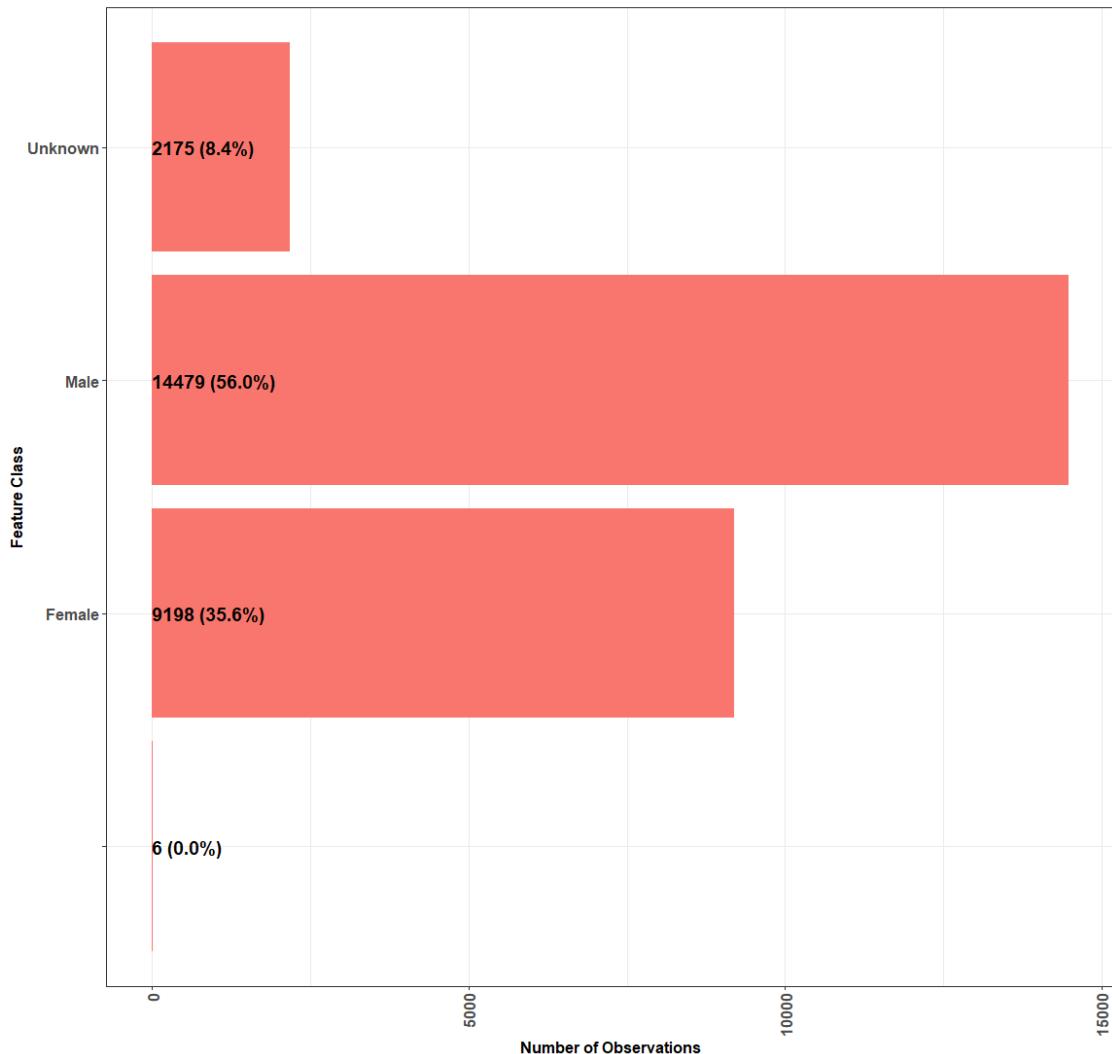
Plot of Feature:DRIVER_SEX
Data:All 2015.csv



```
## 
## -----
## CHECKING FEATURE:DRIVER_SEX
## DATA:All 2016.csv...
## 
## Number of Blank Values:6
## 
## Summary as Factor Feature:
## 
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF DRIVER_SEX  
##  
## Feature Value Counter Percentage  
## -----  
## 6 0.0232  
## Female 9198 35.5712  
## Male 14479 55.9943  
## Unknown 2175 8.4113
```

Plot of Feature:DRIVER_SEX
Data>All 2016.csv



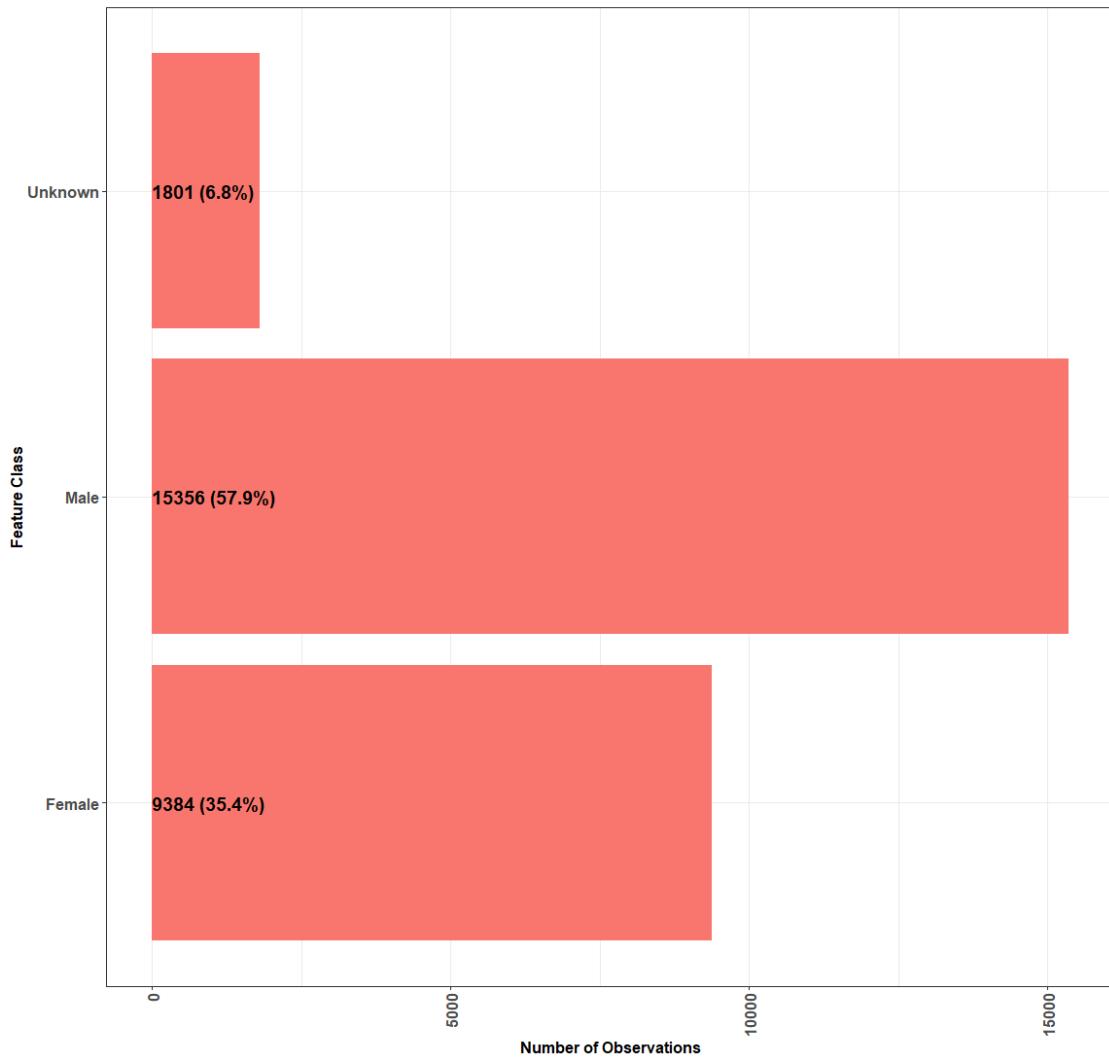
```
##  
## -----  
## CHECKING FEATURE:DRIVER_SEX  
## DATA>All 2017.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 3
##
## TOP 100 FEATURES OF DRIVER_SEX
##
## Feature Value      Counter      Percentage
## ----- -----
## Female            9384        35.357
## Male              15356       57.858
## Unknown           1801        6.786

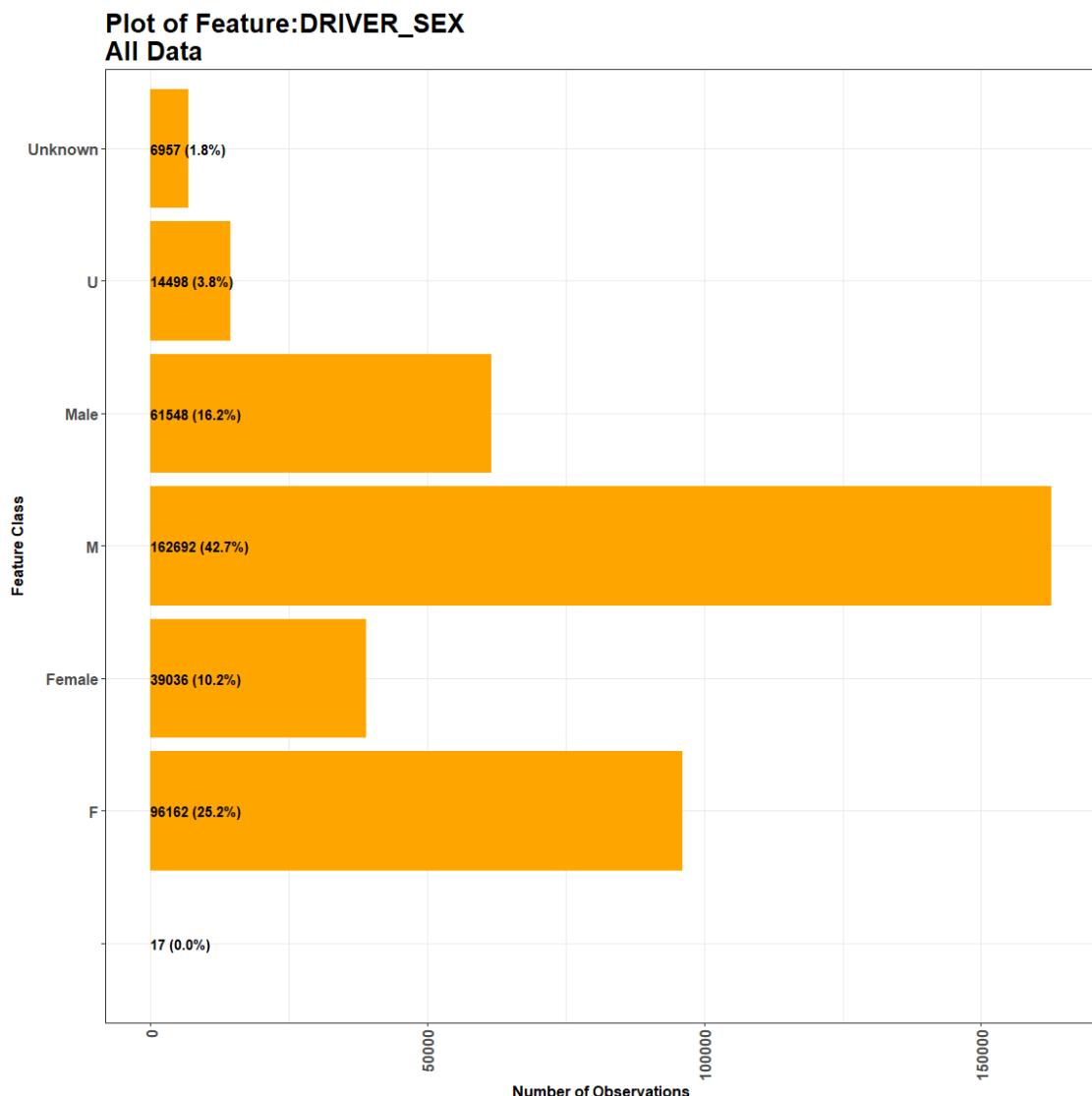
```

Plot of Feature:DRIVER_SEX
Data:All 2017.csv





```
##  
## =====  
## FINAL INFO CHECKING FEATURE:DRIVER_SEX  
## ALL DATA...  
## =====  
##  
## Number of Blank Values:17  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 25708 26632 26139 27829 28543  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 28515 27509 27929 26577 27971  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 27292 27867 25858 26541  
##  
##  
## Summary as Factor Feature:  
## Number of Features: 7
```

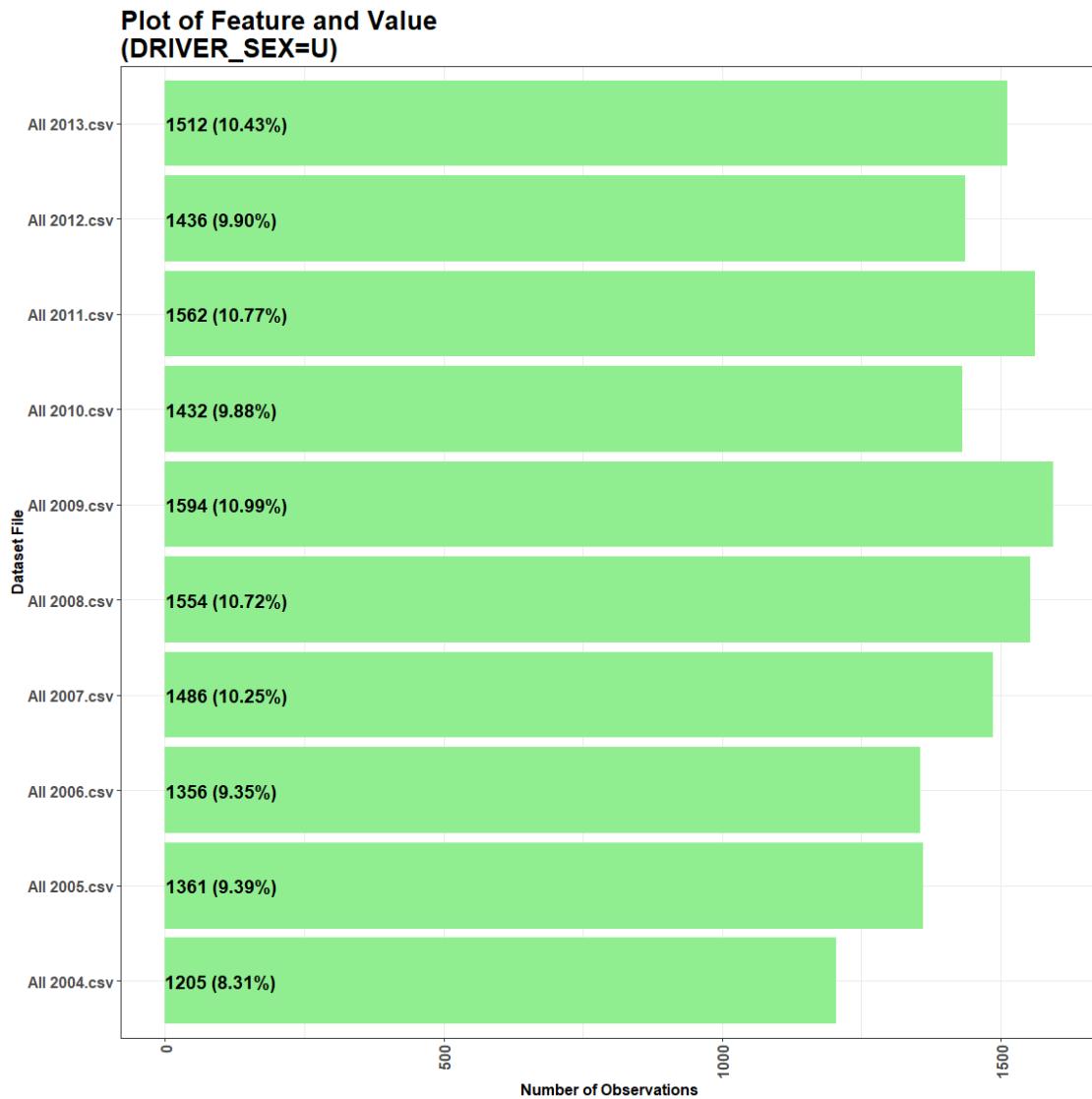


```
## [1] "TOP 100 FEATURES COUNTERS OF:DRIVER_SEX"
```

Feature Value	Counter	Percentage
	17	0.0045
F	96162	25.2453
Female	39036	10.2481
M	162692	42.7114
Male	61548	16.1581
U	14498	3.8061
Unknown	6957	1.8264

5.1 DRIVER_SEX = "U"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_SEX=U)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 1205 1361 1356 1486 1554  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 1594 1432 1562 1436 1512
```

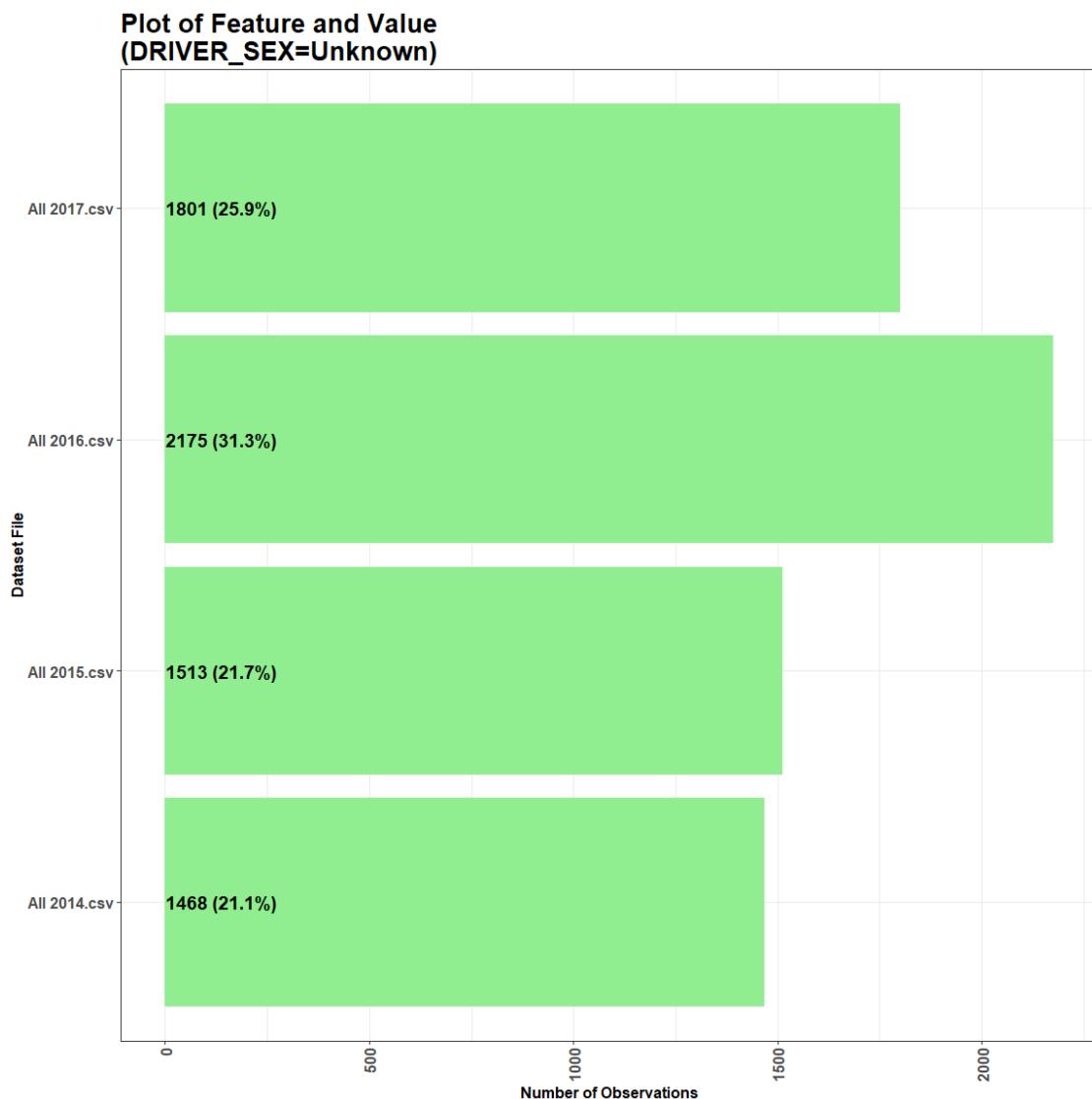


DATASET FILE	COUNTER OF (DRIVER_SEX=U)	Percentage
All 2004.csv	1205	8.312
All 2005.csv	1361	9.387

All 2006.csv	1356	9.353
All 2007.csv	1486	10.250
All 2008.csv	1554	10.719
All 2009.csv	1594	10.995
All 2010.csv	1432	9.877
All 2011.csv	1562	10.774
All 2012.csv	1436	9.905
All 2013.csv	1512	10.429

5.2 DRIVER_SEX = “Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (DRIVER_SEX=Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          1468          1513          2175          1801
```



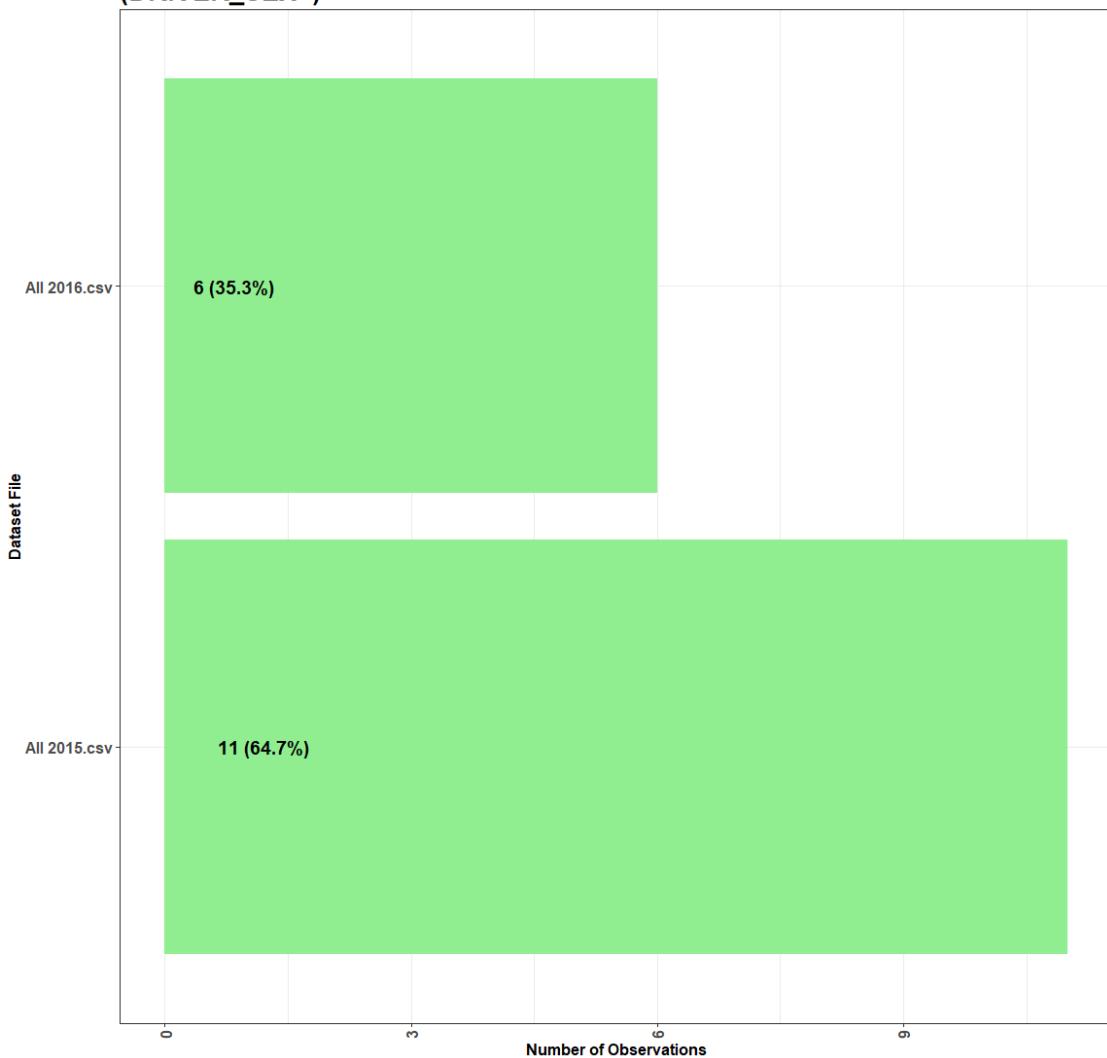
DATASET FILE	COUNTER OF (DRIVER_SEX=Unknown)	Percentage
All 2014.csv	1468	21.10
All 2015.csv	1513	21.75
All 2016.csv	2175	31.26
All 2017.csv	1801	25.89

5.3 DRIVER_SEX = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (DRIVER_SEX=)  
##  
## Summary per Data File:
```

```
## All 2015.csv All 2016.csv
##           11          6
```

**Plot of Feature and Value
(DRIVER_SEX=)**



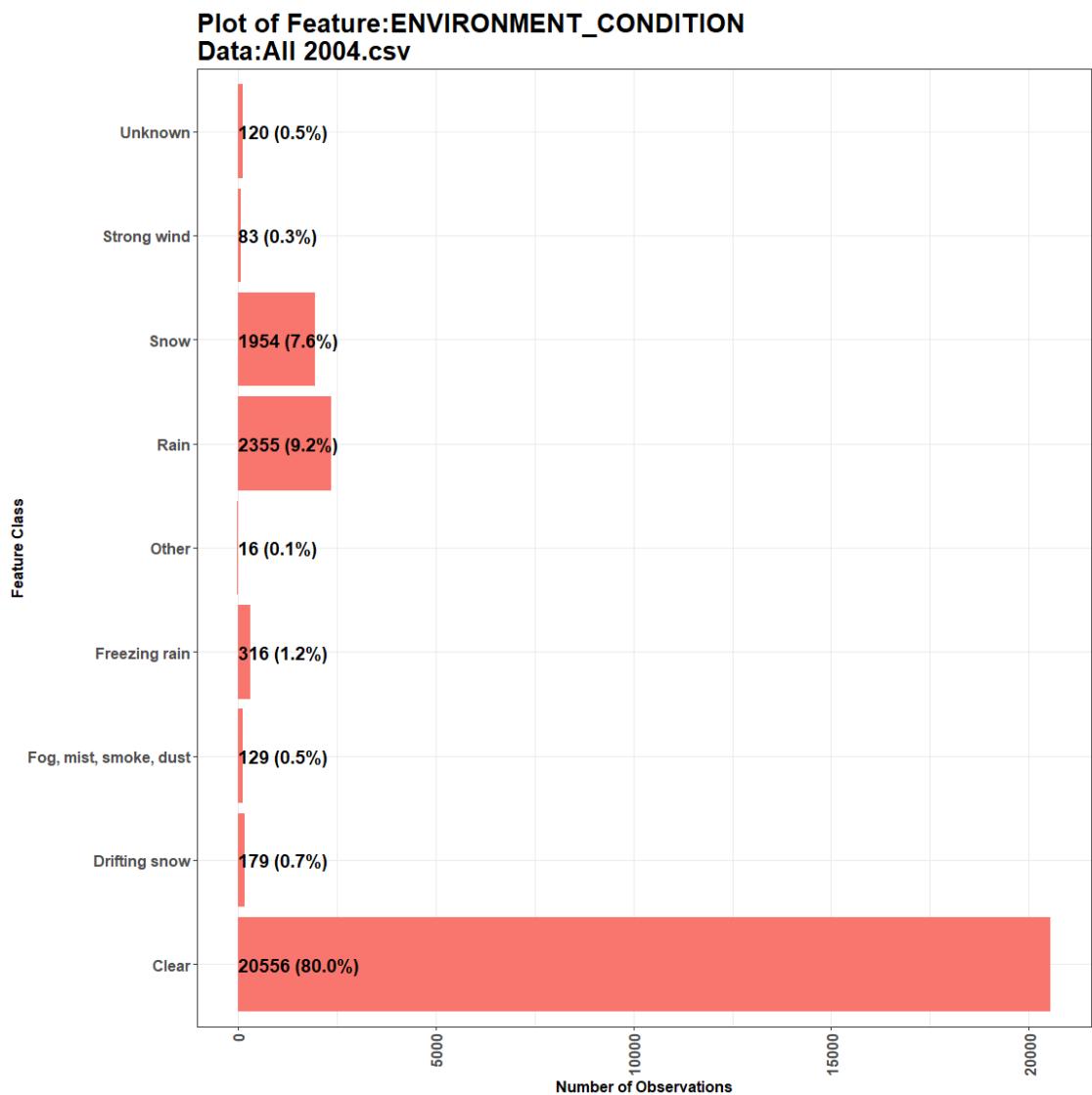
DATASET FILE	COUNTER OF (DRIVER_SEX=)	Percentage
All 2015.csv	11	64.71
All 2016.csv	6	35.29

6. Environment Condition (ENVIRONMENT_CONDITION)

```
##
## -----
## CHECKING FEATURE:ENVIRONMENT_CONDITION
## DATA:All 2004.csv...
##
```



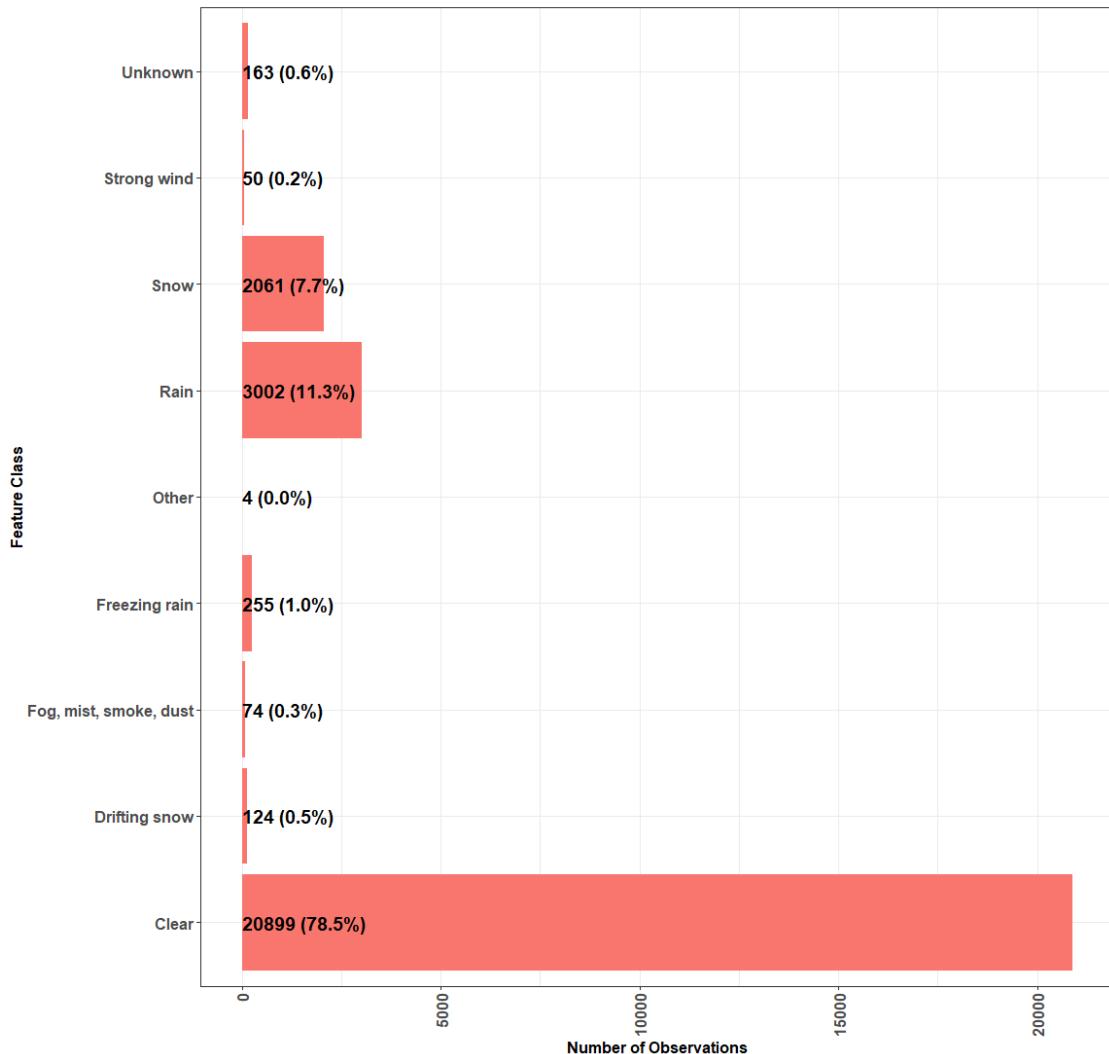
```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## Clear                  20556    79.9595
## Drifting snow          179      0.6963
## Fog, mist, smoke, dust 129      0.5018
## Freezing rain           316      1.2292
## Other                  16       0.0622
## Rain                   2355     9.1606
## Snow                   1954     7.6007
## Strong wind             83       0.3229
## Unknown                120      0.4668
```



```
##  
## -----  
## CHECKING FEATURE:ENVIRONMENT_CONDITION  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

## Clear	20899	78.4733
## Drifting snow	124	0.4656
## Fog, mist, smoke, dust	74	0.2779
## Freezing rain	255	0.9575
## Other	4	0.0150
## Rain	3002	11.2722
## Snow	2061	7.7388
## Strong wind	50	0.1877
## Unknown	163	0.6120

Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2005.csv



```
##  

## -----  

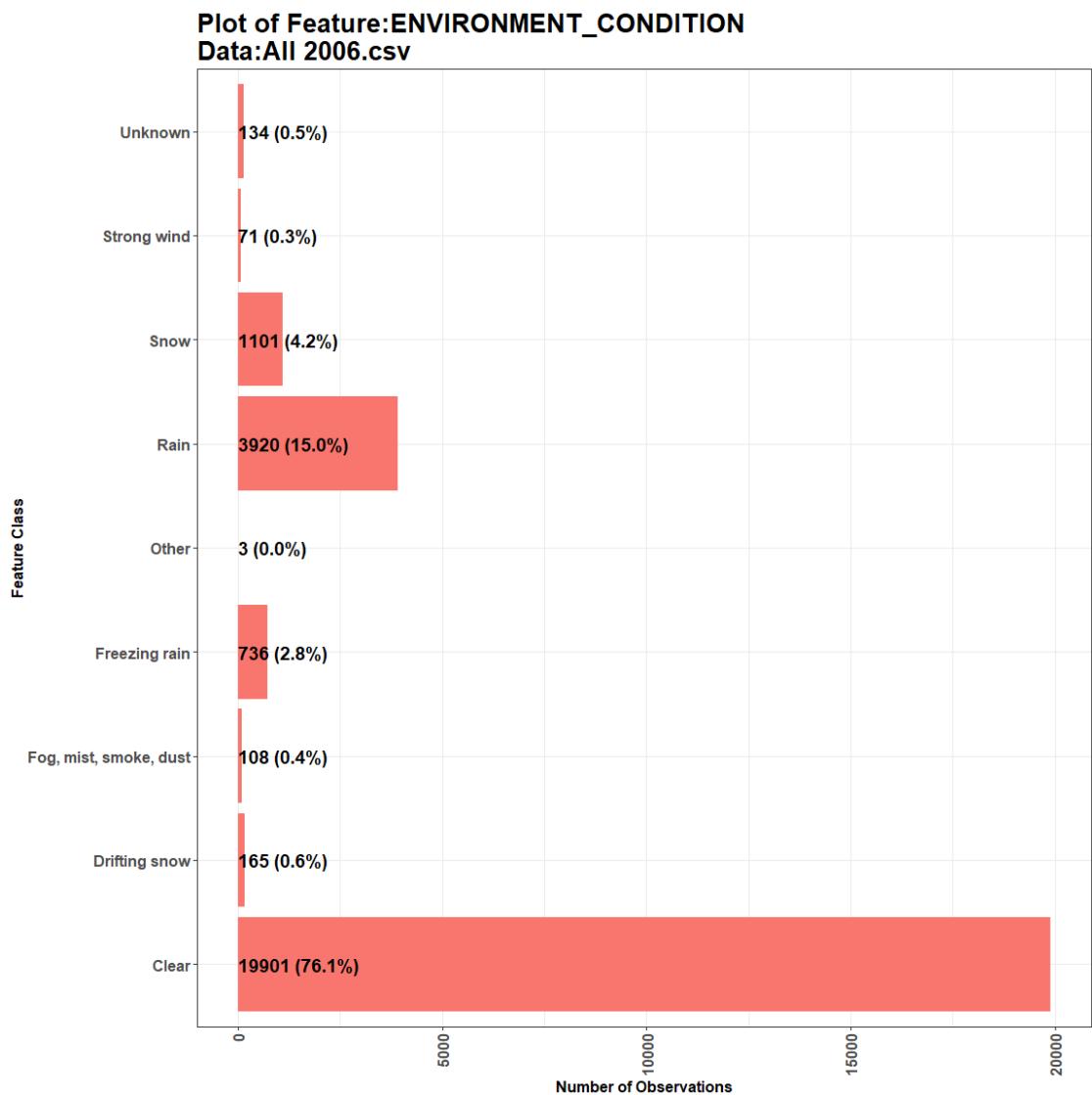
## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2006.csv...  

##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## Clear                  19901    76.1353
## Drifting snow          165      0.6312
## Fog, mist, smoke, dust 108      0.4132
## Freezing rain           736      2.8157
## Other                  3        0.0115
## Rain                   3920     14.9967
## Snow                   1101     4.2121
## Strong wind             71       0.2716
## Unknown                134      0.5126
```



```
##  

## -----  

## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2007.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  

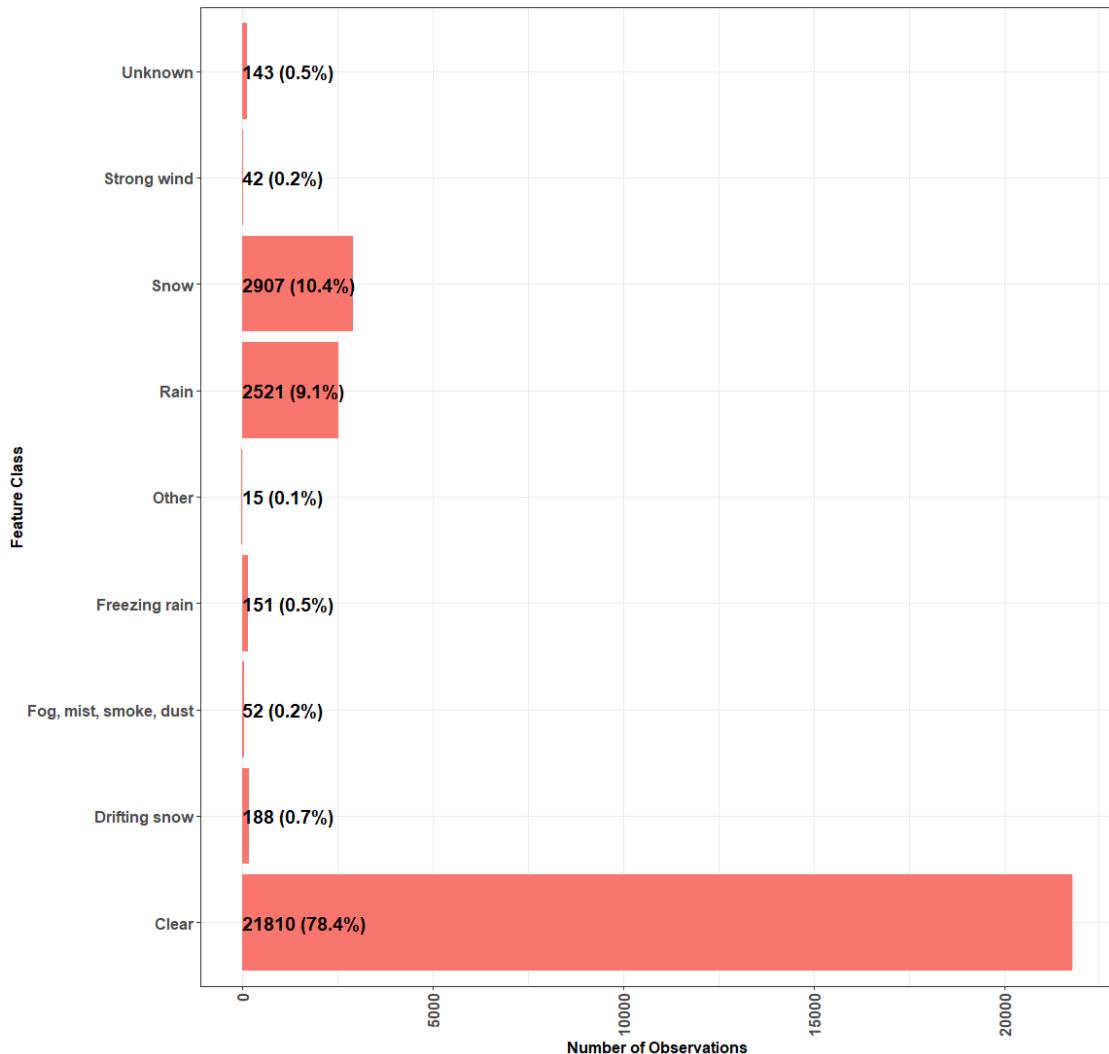
##  

## Feature Value Counter Percentage  

## -----
```

## Clear	21810	78.3715
## Drifting snow	188	0.6756
## Fog, mist, smoke, dust	52	0.1869
## Freezing rain	151	0.5426
## Other	15	0.0539
## Rain	2521	9.0589
## Snow	2907	10.4459
## Strong wind	42	0.1509
## Unknown	143	0.5139

Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2007.csv



```
##  

## -----  

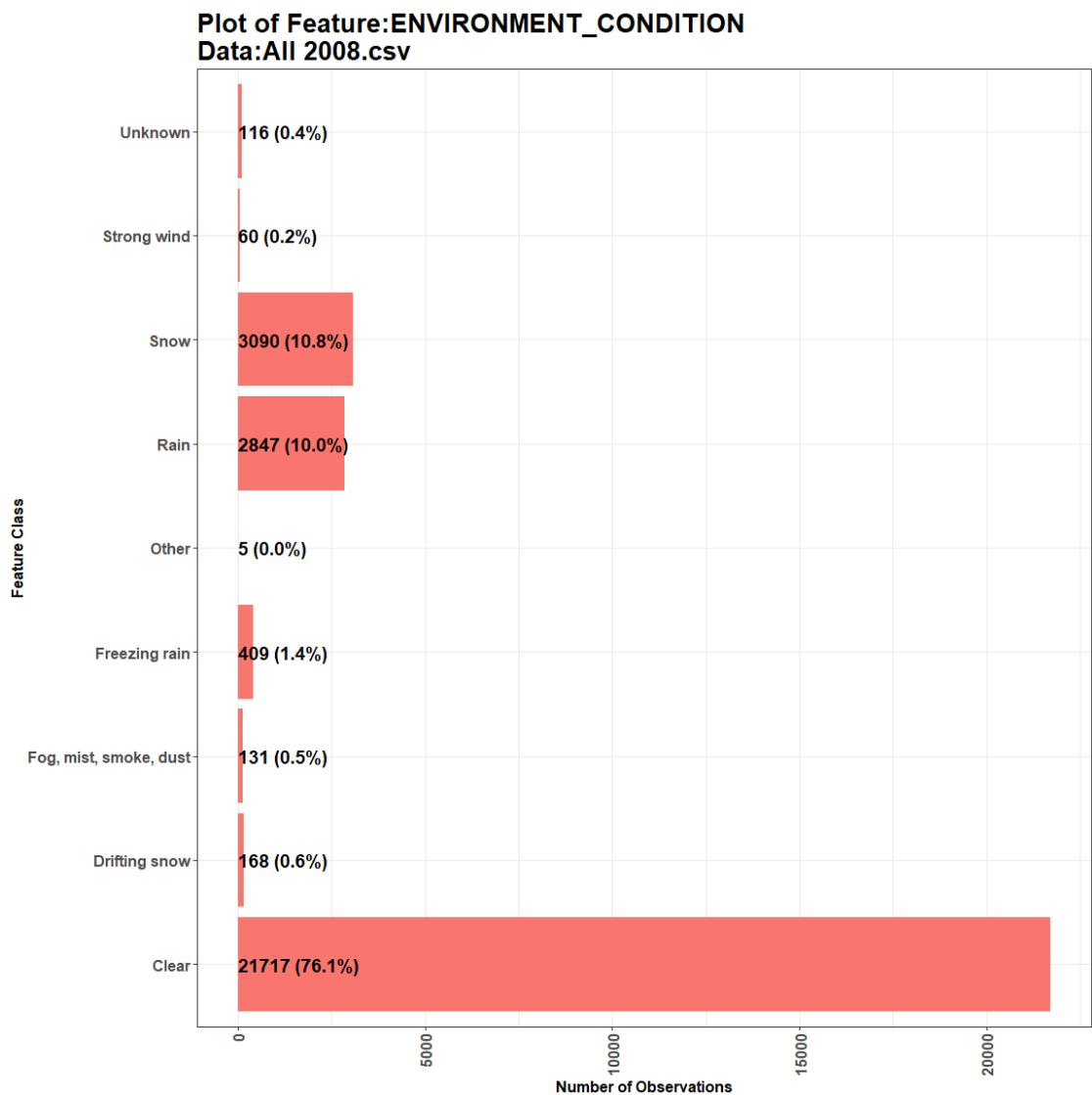
## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2008.csv...  

##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## Clear                  21717    76.0852
## Drifting snow          168      0.5886
## Fog, mist, smoke, dust 131      0.4590
## Freezing rain           409      1.4329
## Other                  5        0.0175
## Rain                   2847     9.9744
## Snow                   3090     10.8258
## Strong wind             60       0.2102
## Unknown                116      0.4064
```



```
##  

## -----  

## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2009.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  

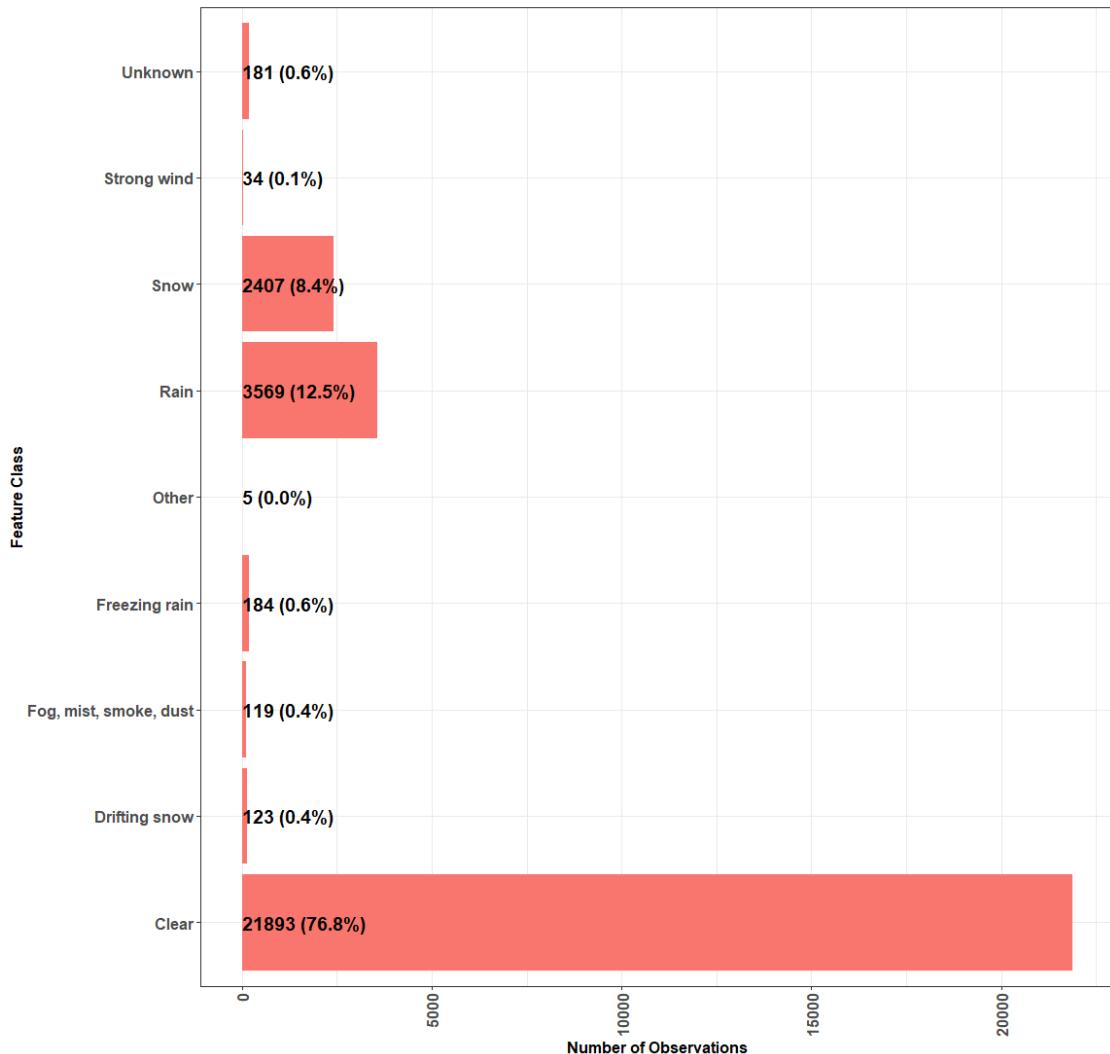
##  

## Feature Value Counter Percentage  

## -----
```

## Clear	21893	76.7771
## Drifting snow	123	0.4314
## Fog, mist, smoke, dust	119	0.4173
## Freezing rain	184	0.6453
## Other	5	0.0175
## Rain	3569	12.5162
## Snow	2407	8.4412
## Strong wind	34	0.1192
## Unknown	181	0.6348

Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2009.csv



```
##  

## -----  

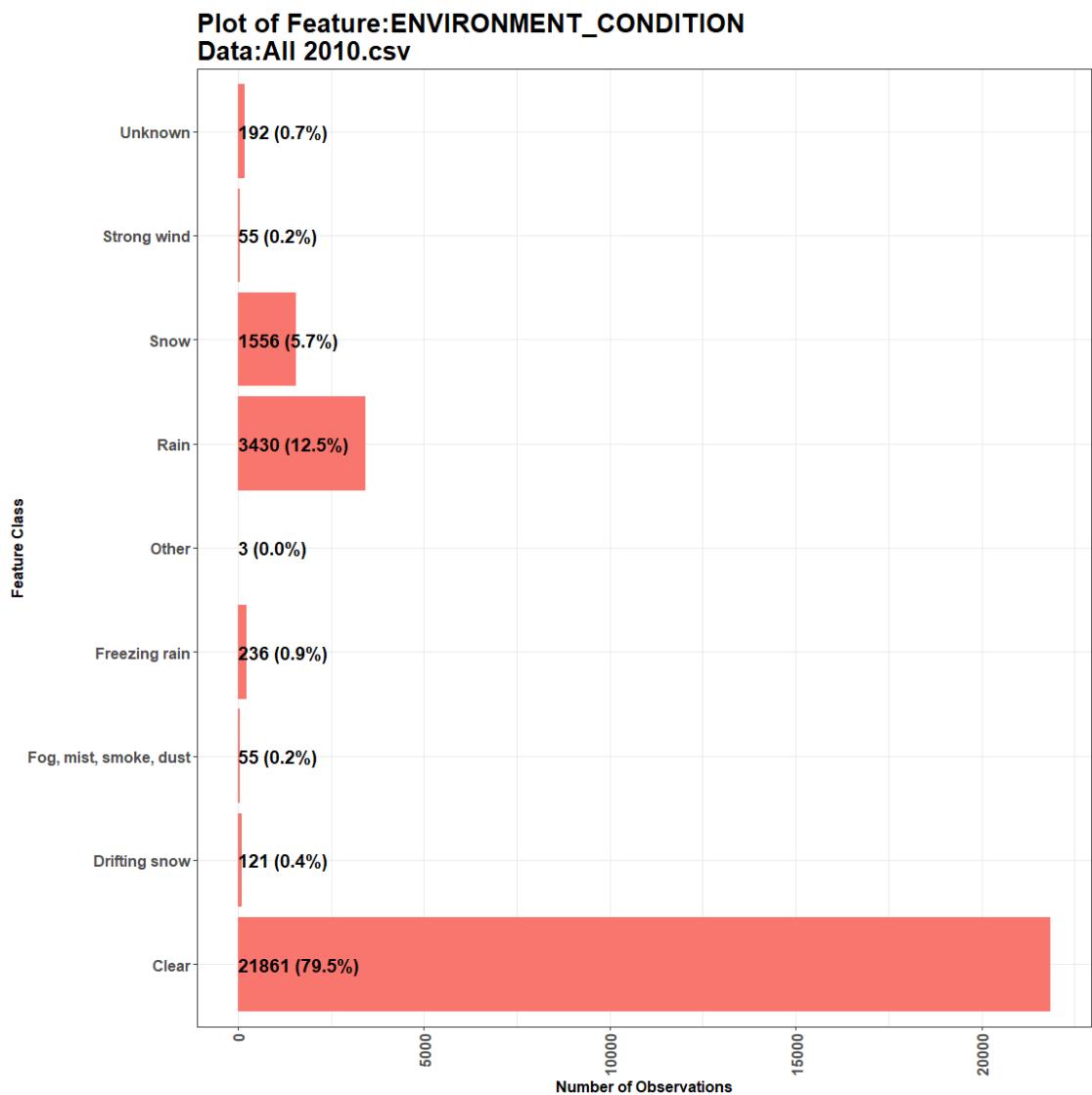
## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2010.csv...  

##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## Clear                  21861    79.4685
## Drifting snow          121      0.4399
## Fog, mist, smoke, dust 55       0.1999
## Freezing rain          236      0.8579
## Other                  3        0.0109
## Rain                   3430     12.4686
## Snow                   1556     5.6563
## Strong wind            55       0.1999
## Unknown                192      0.6980
```



```
##  

## -----  

## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  

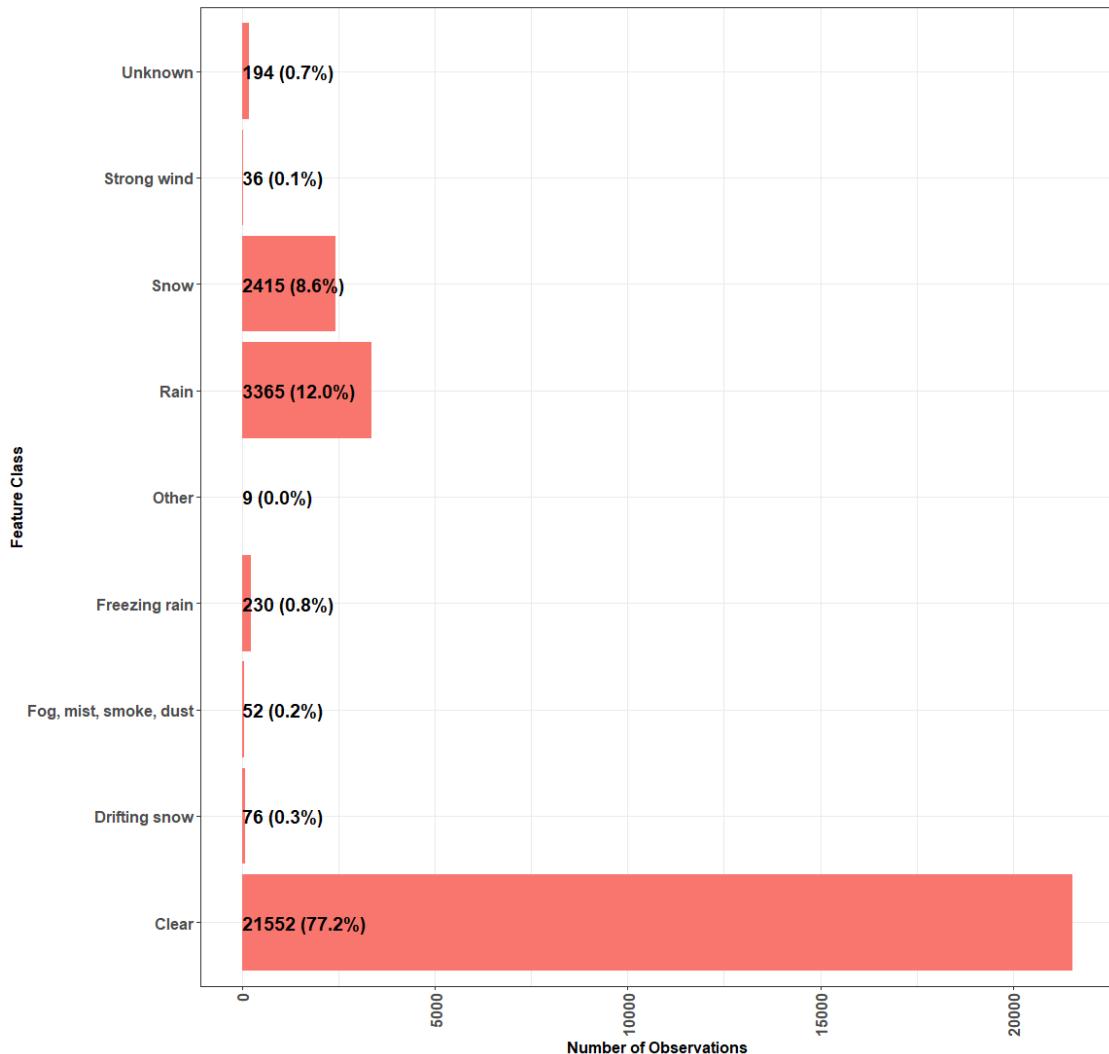
##  

## Feature Value Counter Percentage  

## -----
```

## Clear	21552	77.1671
## Drifting snow	76	0.2721
## Fog, mist, smoke, dust	52	0.1862
## Freezing rain	230	0.8235
## Other	9	0.0322
## Rain	3365	12.0484
## Snow	2415	8.6469
## Strong wind	36	0.1289
## Unknown	194	0.6946

Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2011.csv



```
##  

## -----  

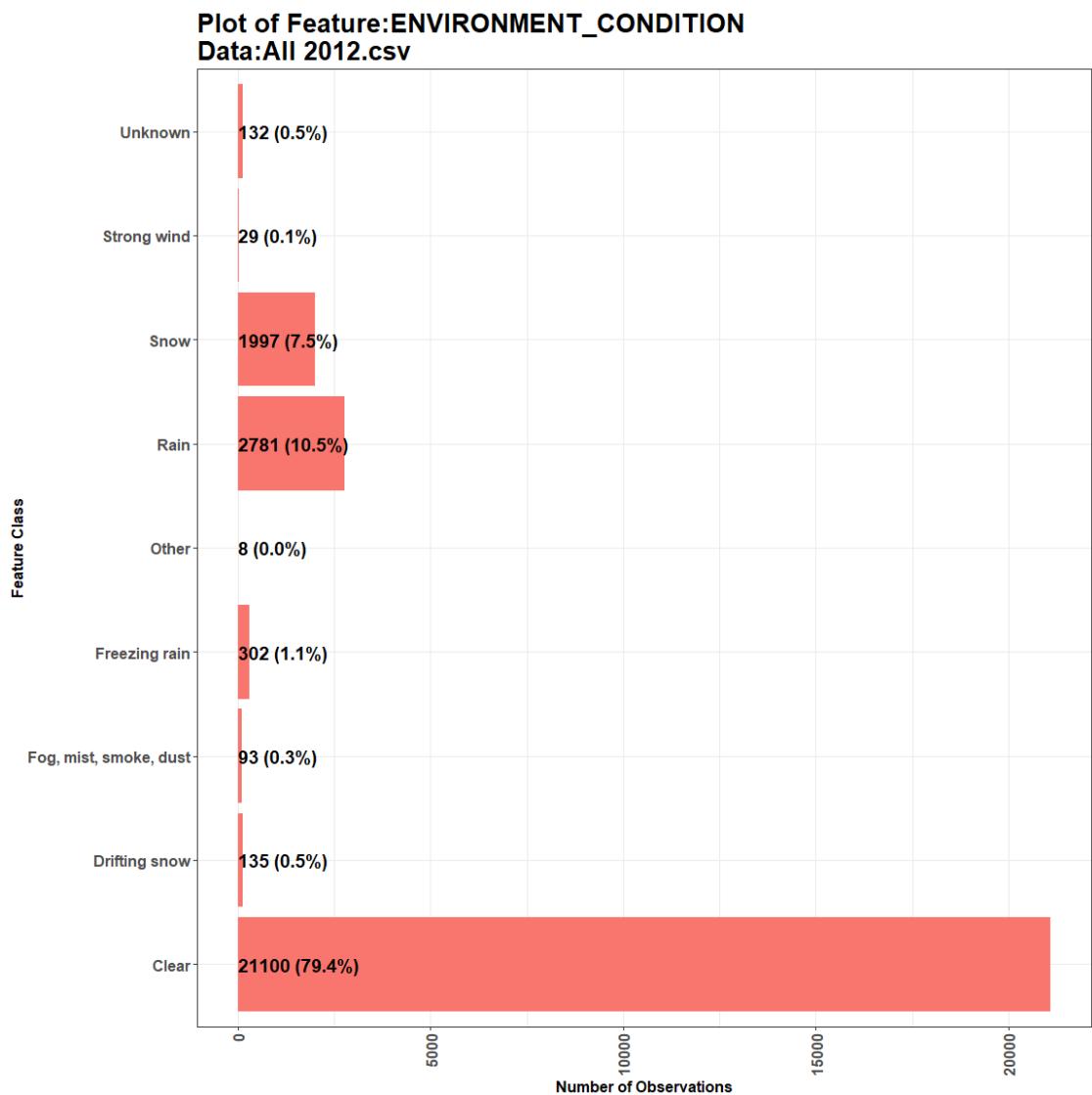
## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2012.csv...  

##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## Clear                  21100    79.3920
## Drifting snow          135      0.5080
## Fog, mist, smoke, dust 93       0.3499
## Freezing rain           302      1.1363
## Other                  8        0.0301
## Rain                   2781     10.4639
## Snow                   1997     7.5140
## Strong wind             29       0.1091
## Unknown                132      0.4967
```



```
##  

## -----  

## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2013.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  

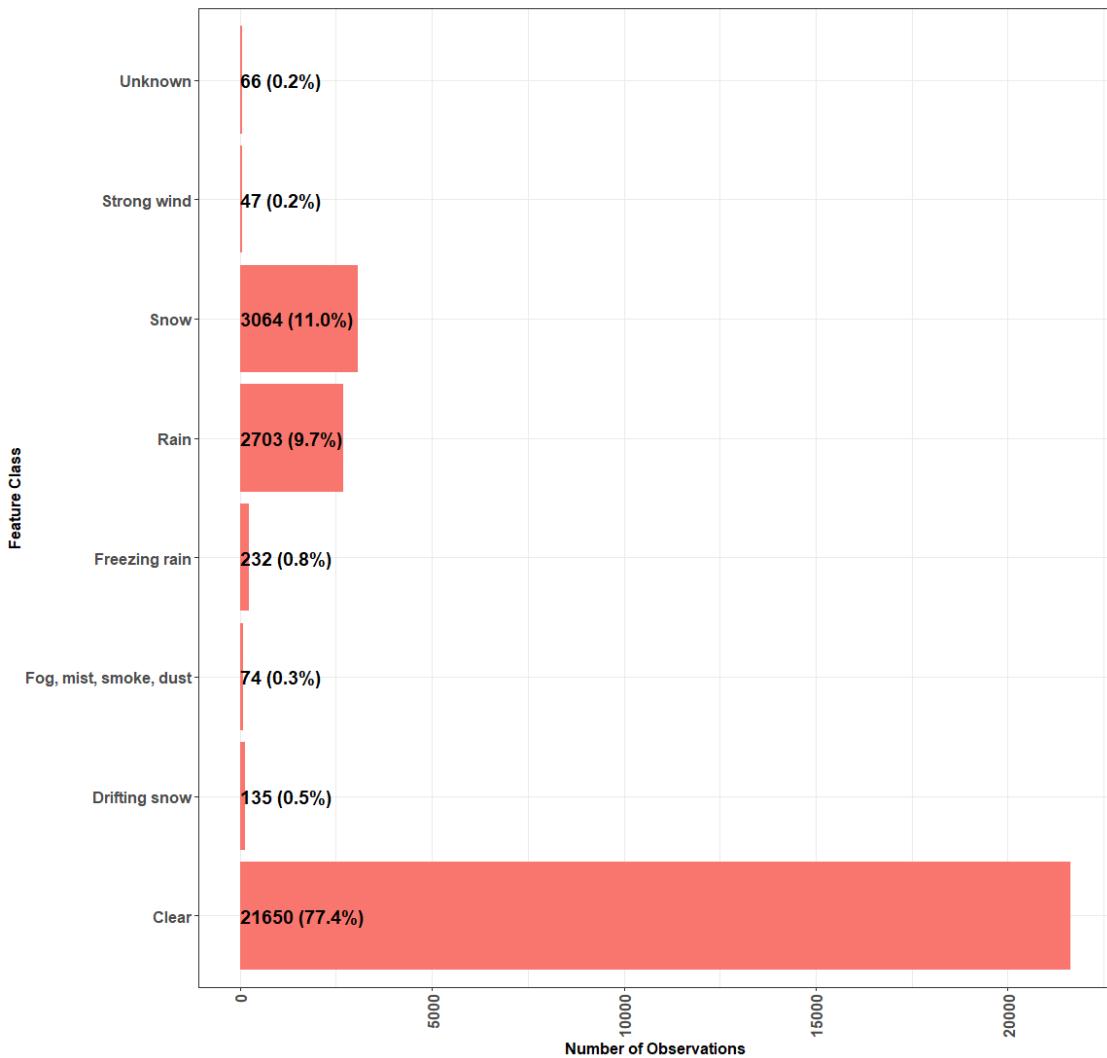
##  

## Feature Value Counter Percentage  

## -----
```

## Clear	21650	77.4016
## Drifting snow	135	0.4826
## Fog, mist, smoke, dust	74	0.2646
## Freezing rain	232	0.8294
## Rain	2703	9.6636
## Snow	3064	10.9542
## Strong wind	47	0.1680
## Unknown	66	0.2360

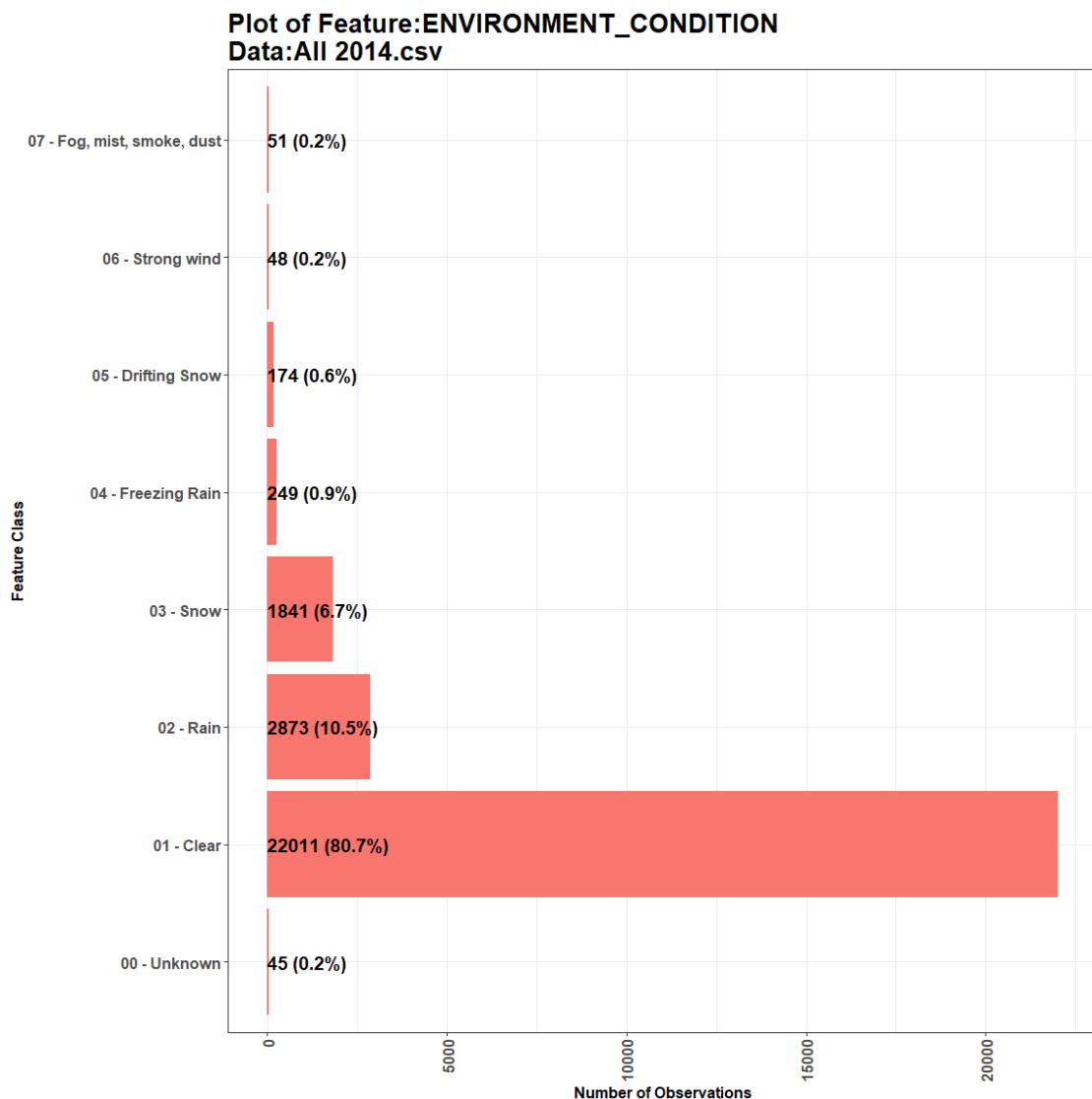
**Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2013.csv**



```
##
## -----
## CHECKING FEATURE:ENVIRONMENT_CONDITION
## DATA:All 2014.csv...
##
## Number of Blank Values:0
```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 45 0.1649  
## 01 - Clear 22011 80.6500  
## 02 - Rain 2873 10.5269  
## 03 - Snow 1841 6.7456  
## 04 - Freezing Rain 249 0.9124  
## 05 - Drifting Snow 174 0.6375  
## 06 - Strong wind 48 0.1759  
## 07 - Fog, mist, smoke, dust 51 0.1869
```



```
##  

## -----  

## CHECKING FEATURE:ENVIRONMENT_CONDITION  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  

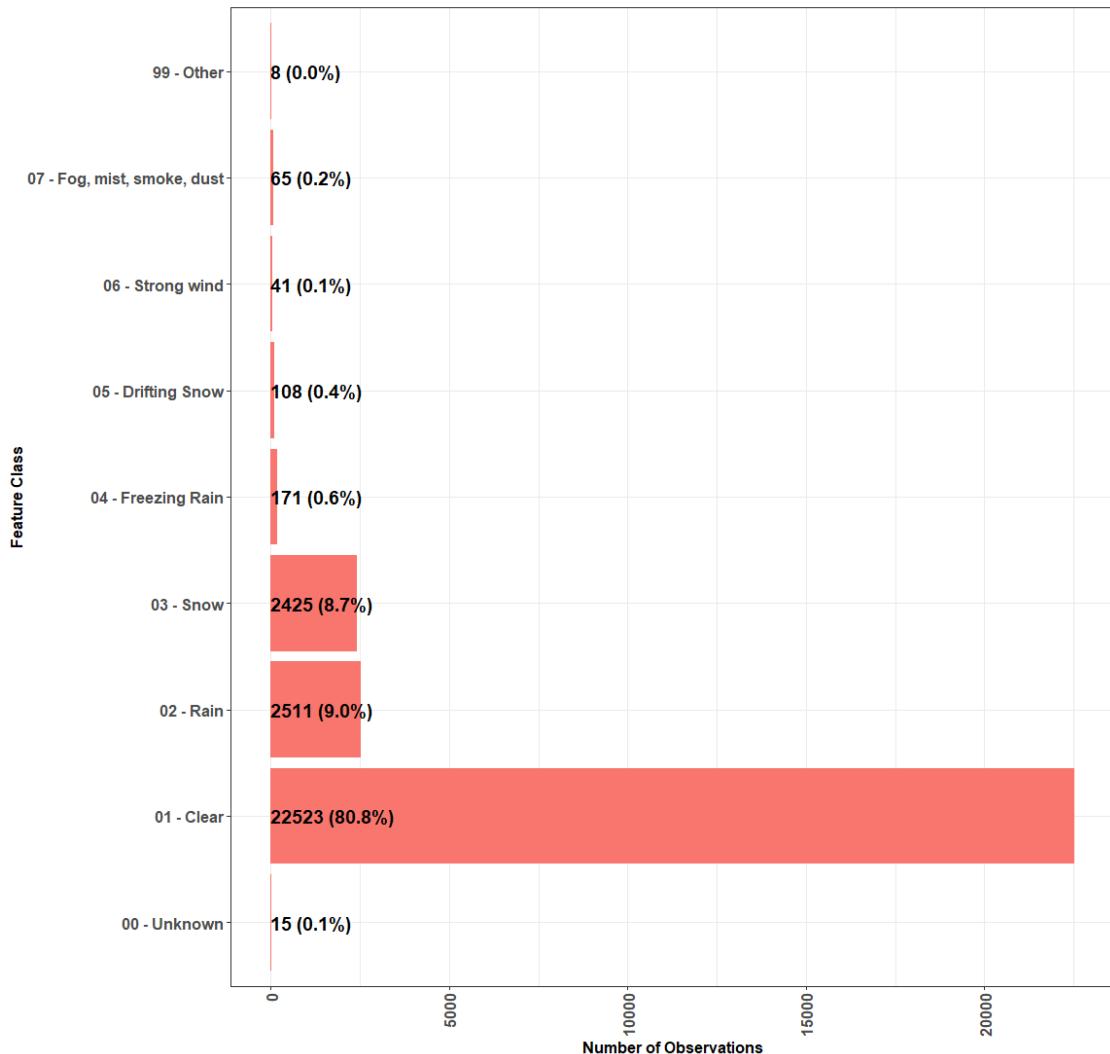
##  

## Feature Value Counter Percentage  

## -----
```

## 00 - Unknown	15	0.0538
## 01 - Clear	22523	80.8232
## 02 - Rain	2511	9.0107
## 03 - Snow	2425	8.7020
## 04 - Freezing Rain	171	0.6136
## 05 - Drifting Snow	108	0.3876
## 06 - Strong wind	41	0.1471
## 07 - Fog, mist, smoke, dust	65	0.2333
## 99 - Other	8	0.0287

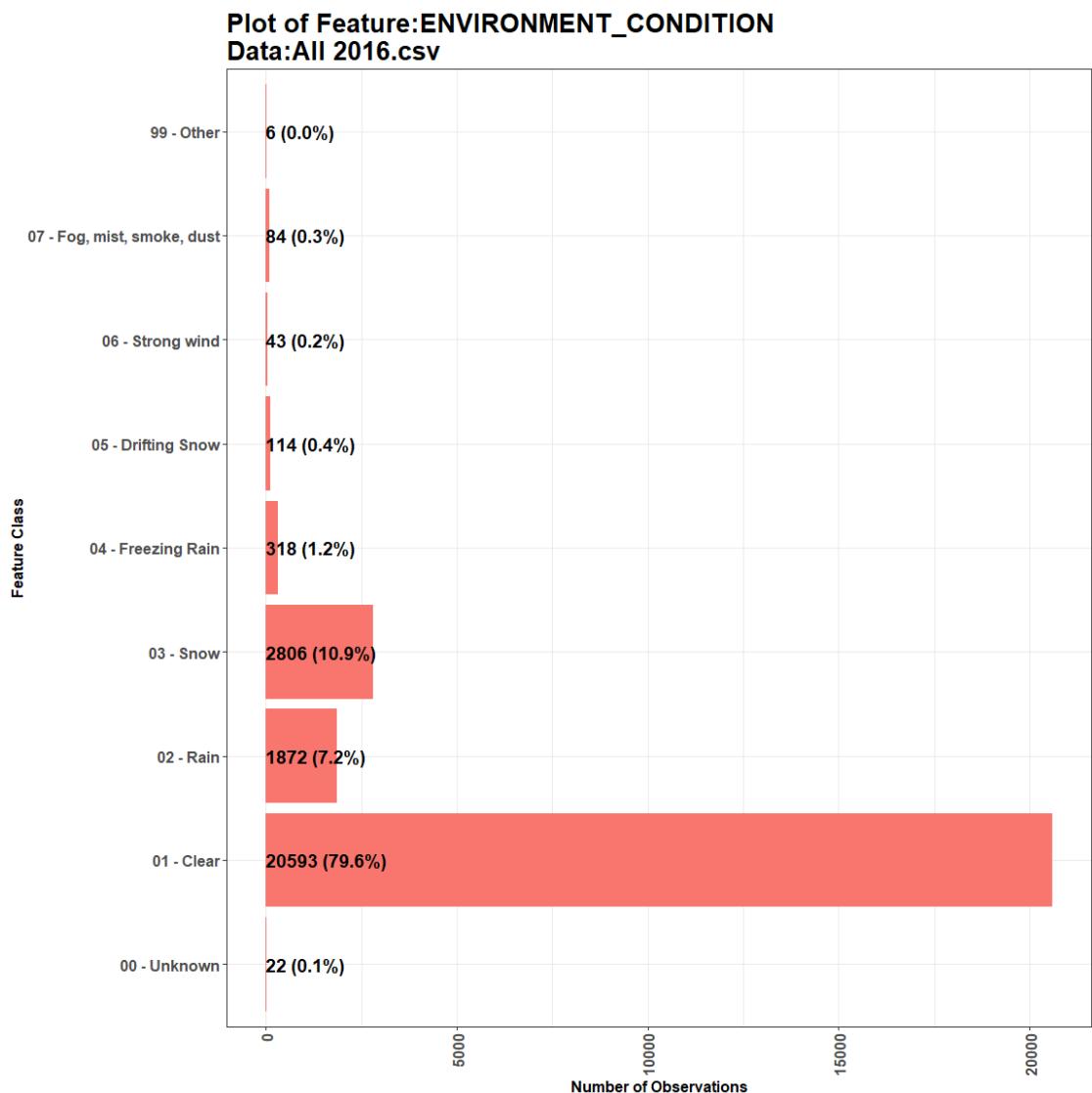
Plot of Feature:ENVIRONMENT_CONDITION
Data>All 2015.csv



```
##
## -----
## CHECKING FEATURE:ENVIRONMENT_CONDITION
## DATA>All 2016.csv...
##
```



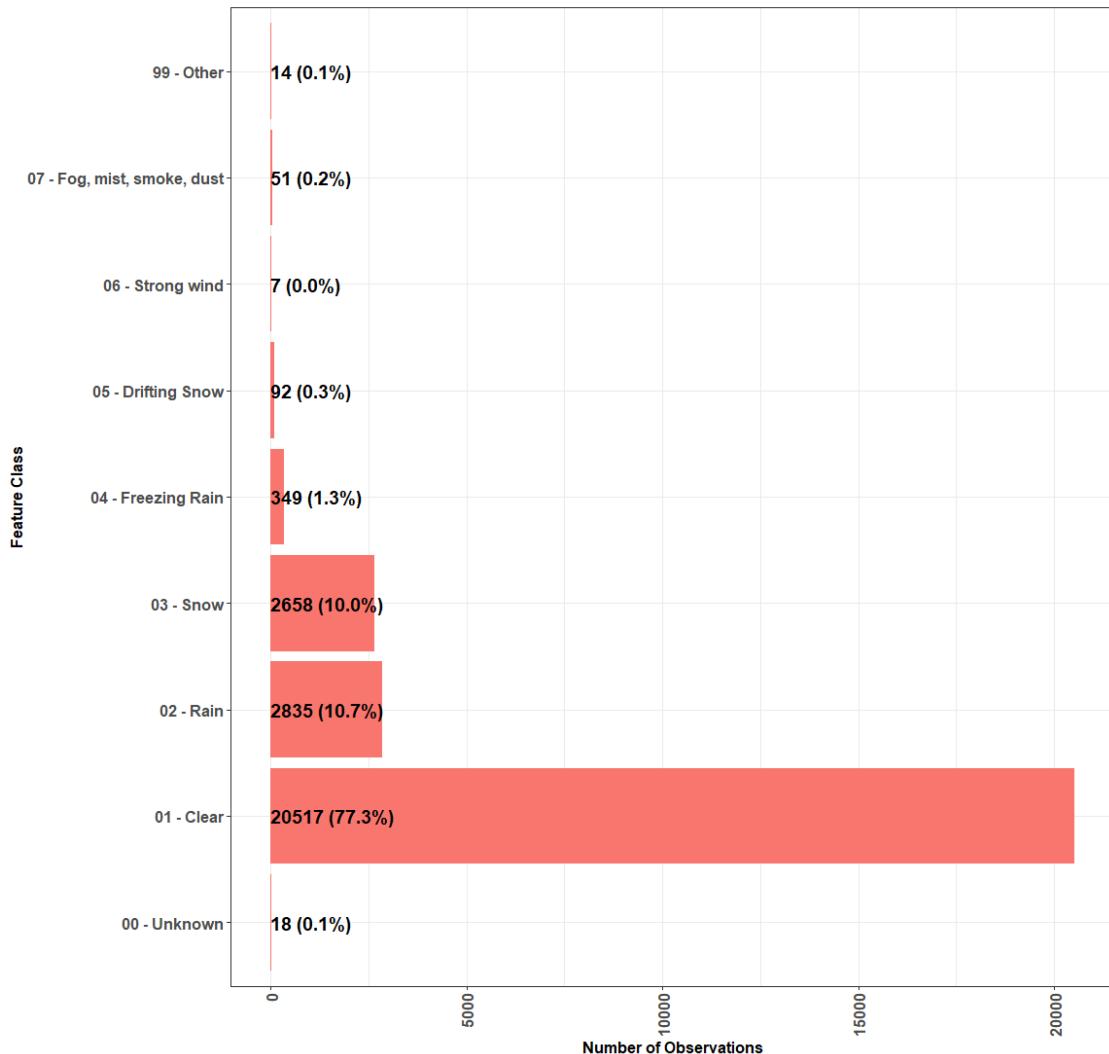
```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION
##
## Feature Value          Counter   Percentage
## ----- - -----
## 00 - Unknown           22        0.0851
## 01 - Clear              20593     79.6388
## 02 - Rain                1872      7.2395
## 03 - Snow                2806      10.8516
## 04 - Freezing Rain       318       1.2298
## 05 - Drifting Snow       114       0.4409
## 06 - Strong wind         43        0.1663
## 07 - Fog, mist, smoke, dust 84        0.3249
## 99 - Other               6         0.0232
```



```
##  
## -----  
## CHECKING FEATURE:ENVIRONMENT_CONDITION  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF ENVIRONMENT_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

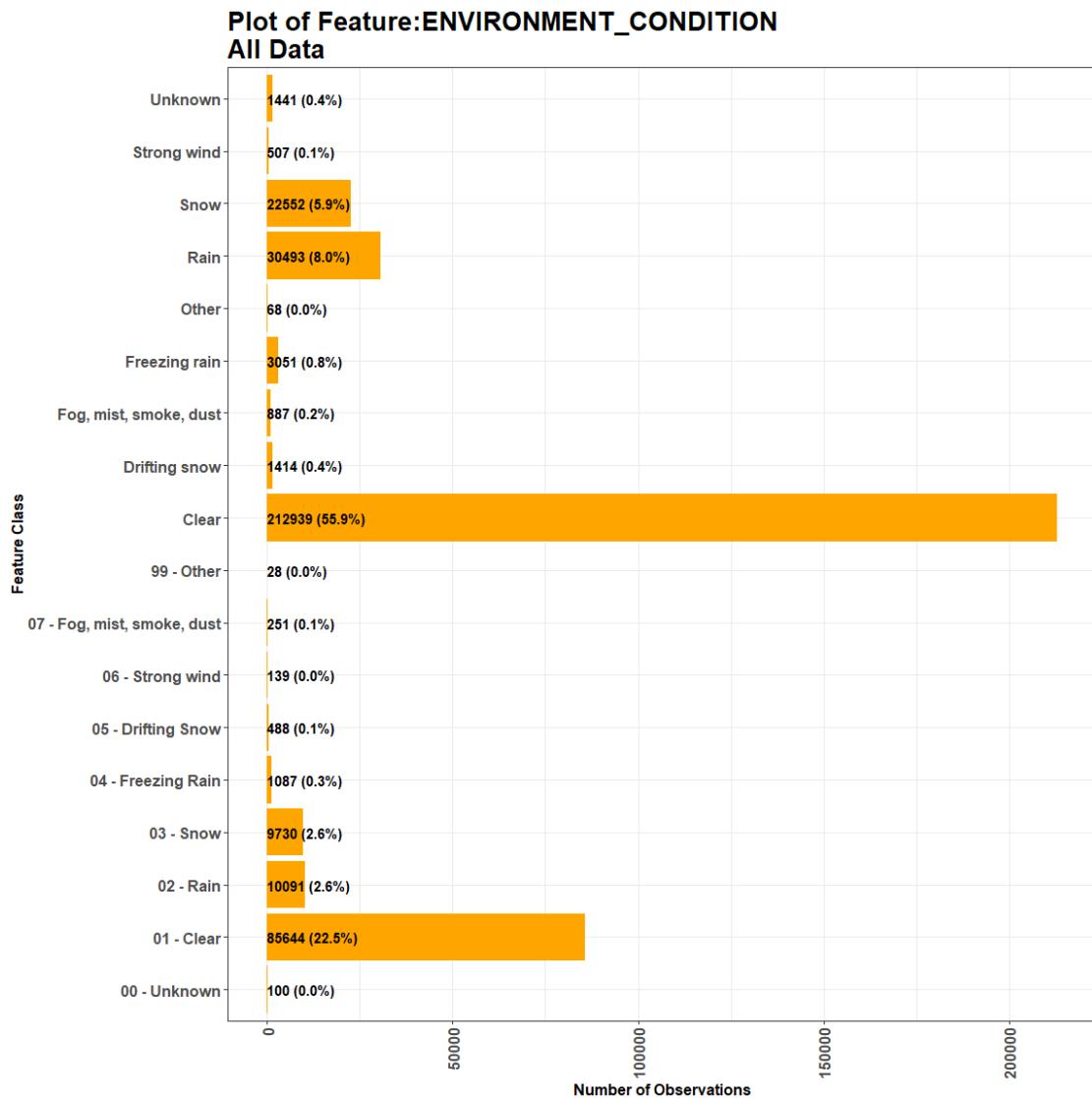
## 00 - Unknown	18	0.0678
## 01 - Clear	20517	77.3030
## 02 - Rain	2835	10.6816
## 03 - Snow	2658	10.0147
## 04 - Freezing Rain	349	1.3149
## 05 - Drifting Snow	92	0.3466
## 06 - Strong wind	7	0.0264
## 07 - Fog, mist, smoke, dust	51	0.1922
## 99 - Other	14	0.0527

Plot of Feature:ENVIRONMENT_CONDITION
Data:All 2017.csv



```
##
## =====
## FINAL INFO CHECKING FEATURE:ENVIRONMENT_CONDITION
## ALL DATA...
## =====
```

```
##  
## Number of Blank Values:0  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 25708 26632 26139 27829 28543  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 28515 27509 27929 26577 27971  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 27292 27867 25858 26541  
##  
##  
## Summary as Factor Feature:  
## Number of Features: 18
```

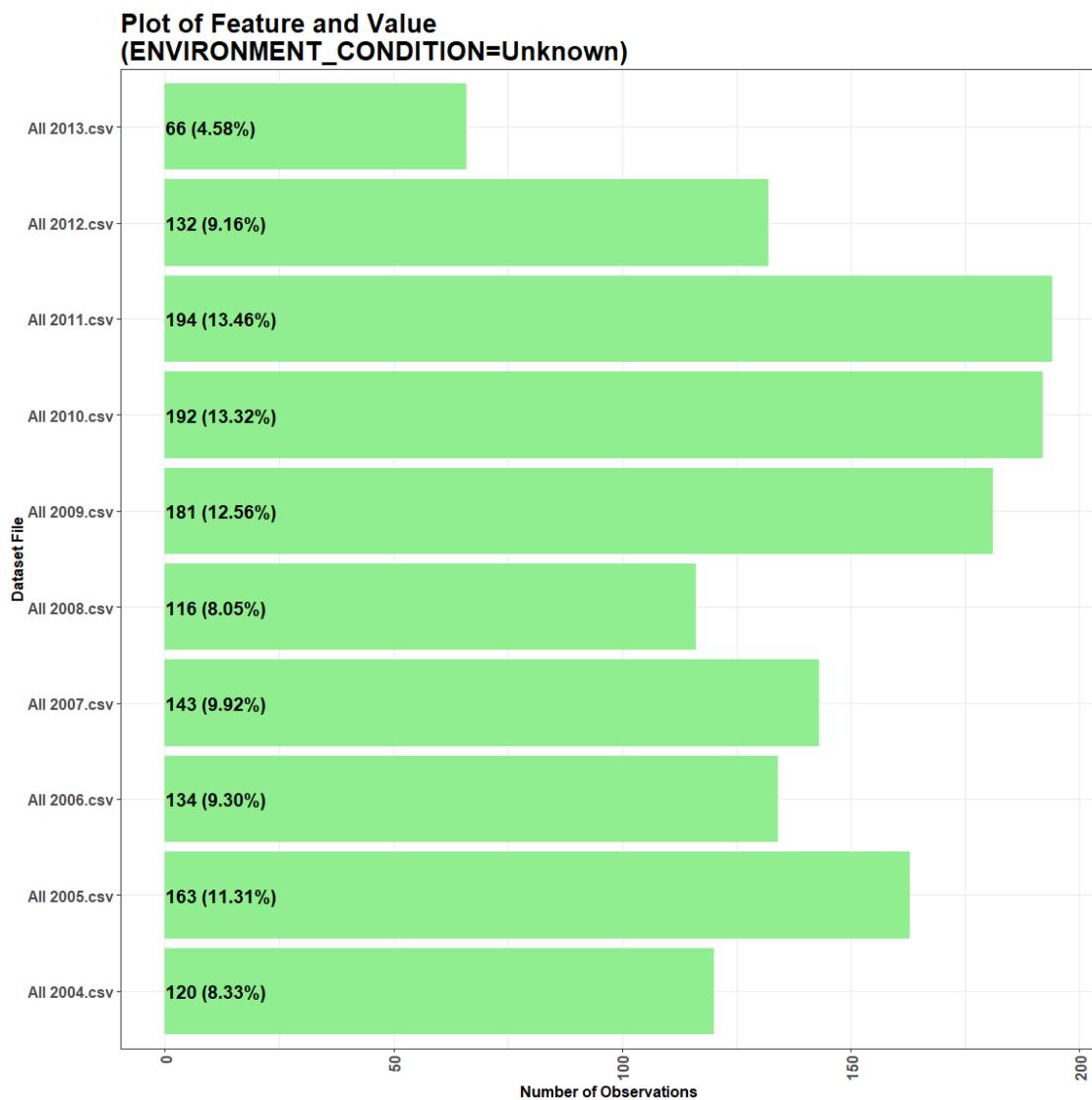


```
## [1] "TOP 100 FEATURES COUNTERS OF:ENVIRONMENT_CONDITION"
```

Feature Value	Counter	Percentage
00 - Unknown	100	0.0263
01 - Clear	85644	22.4841
02 - Rain	10091	2.6492
03 - Snow	9730	2.5544
04 - Freezing Rain	1087	0.2854
05 - Drifting Snow	488	0.1281
06 - Strong wind	139	0.0365
07 - Fog, mist, smoke, dust	251	0.0659
99 - Other	28	0.0074
Clear	212939	55.9027
Drifting snow	1414	0.3712
Fog, mist, smoke, dust	887	0.2329
Freezing rain	3051	0.8010
Other	68	0.0179
Rain	30493	8.0053
Snow	22552	5.9206
Strong wind	507	0.1331
Unknown	1441	0.3783

6.1 ENVIRONMENT_CONDITION = “Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ENVIRONMENT_CONDITION=Unknown)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##          120          163          134          143          116  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##          181          192          194          132           66
```

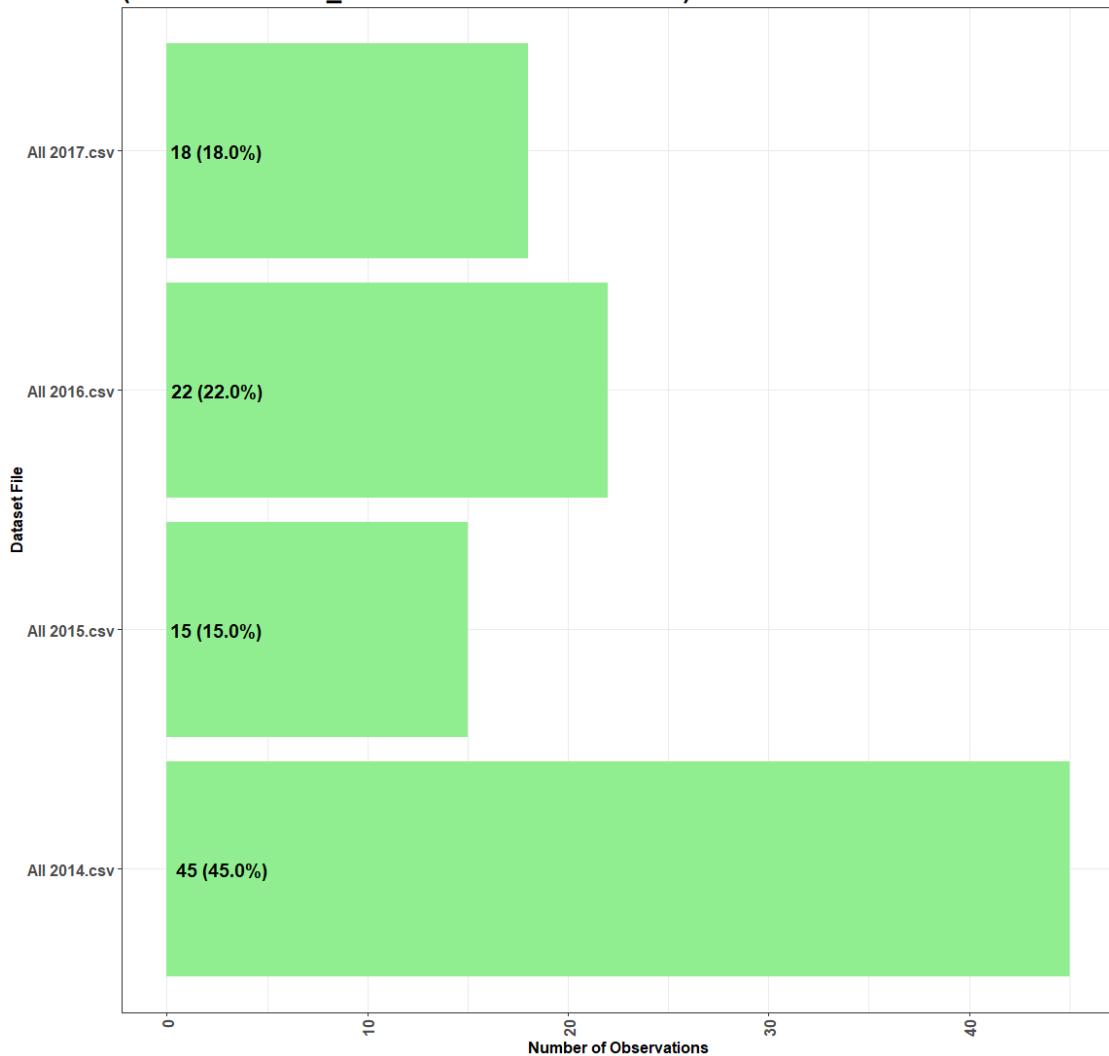


DATASET FILE	COUNTER OF (ENVIRONMENT_CONDITION=Unknown)	Percentage
All 2004.csv	120	8.328
All 2005.csv	163	11.312
All 2006.csv	134	9.299
All 2007.csv	143	9.924
All 2008.csv	116	8.050
All 2009.csv	181	12.561
All 2010.csv	192	13.324
All 2011.csv	194	13.463
All 2012.csv	132	9.160
All 2013.csv	66	4.580

6.2 ENVIRONMENT_CONDITION = “00 - Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ENVIRONMENT_CONDITION=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          45           15           22           18
```

**Plot of Feature and Value
(ENVIRONMENT_CONDITION=00 - Unknown)**



DATASET FILE	COUNTER OF (ENVIRONMENT_CONDITION=00 - Unknown)	Percentage
All 2014.csv	45	45
All 2015.csv	15	15
All 2016.csv	22	22

All 2017.csv

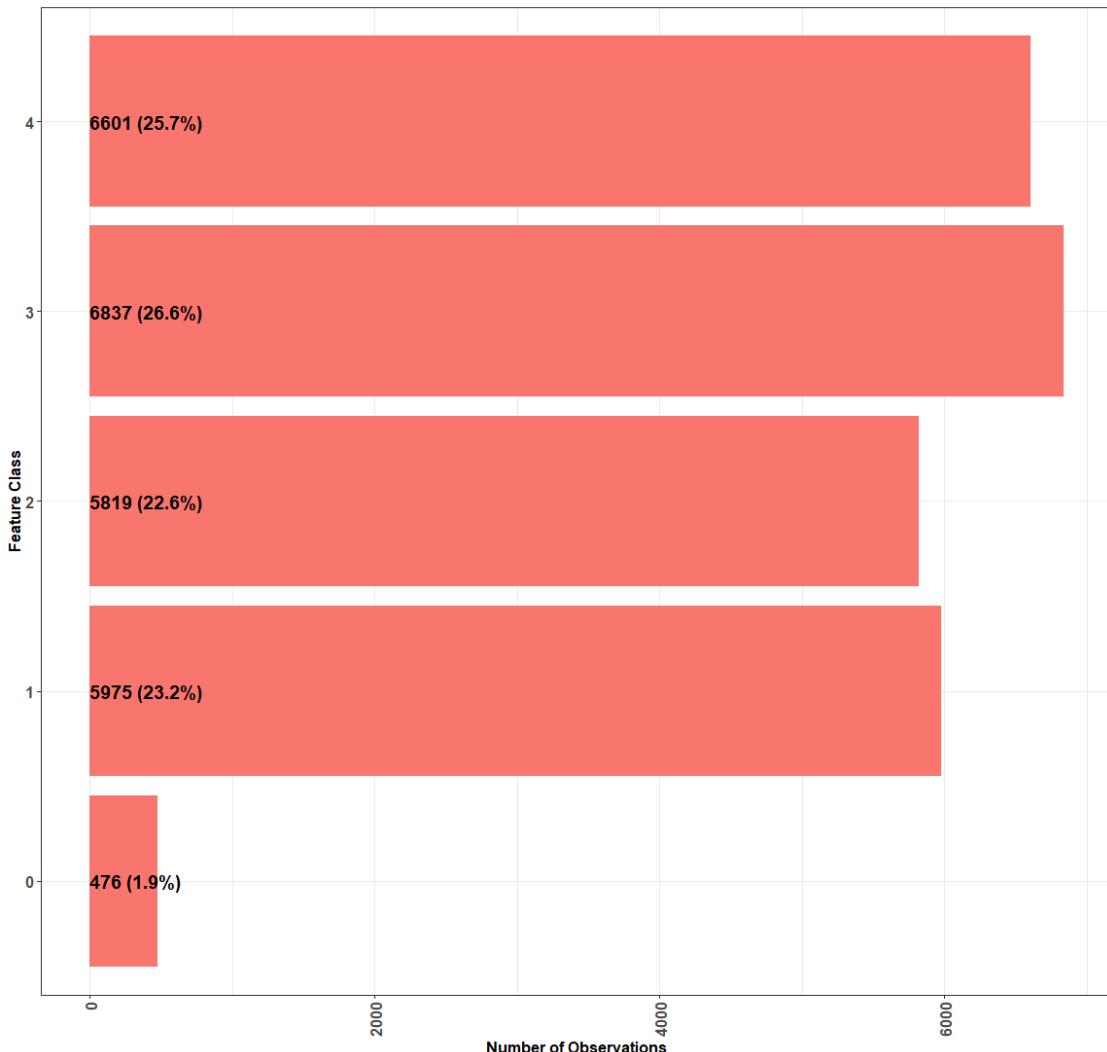
18

18

7. Initial Direction of Travel (INITIAL_DIRECTION_OF_TRAVEL)

```
##  
## -----  
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## 0 476 1.852  
## 1 5975 23.242  
## 2 5819 22.635  
## 3 6837 26.595  
## 4 6601 25.677
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  

## DATA>All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  

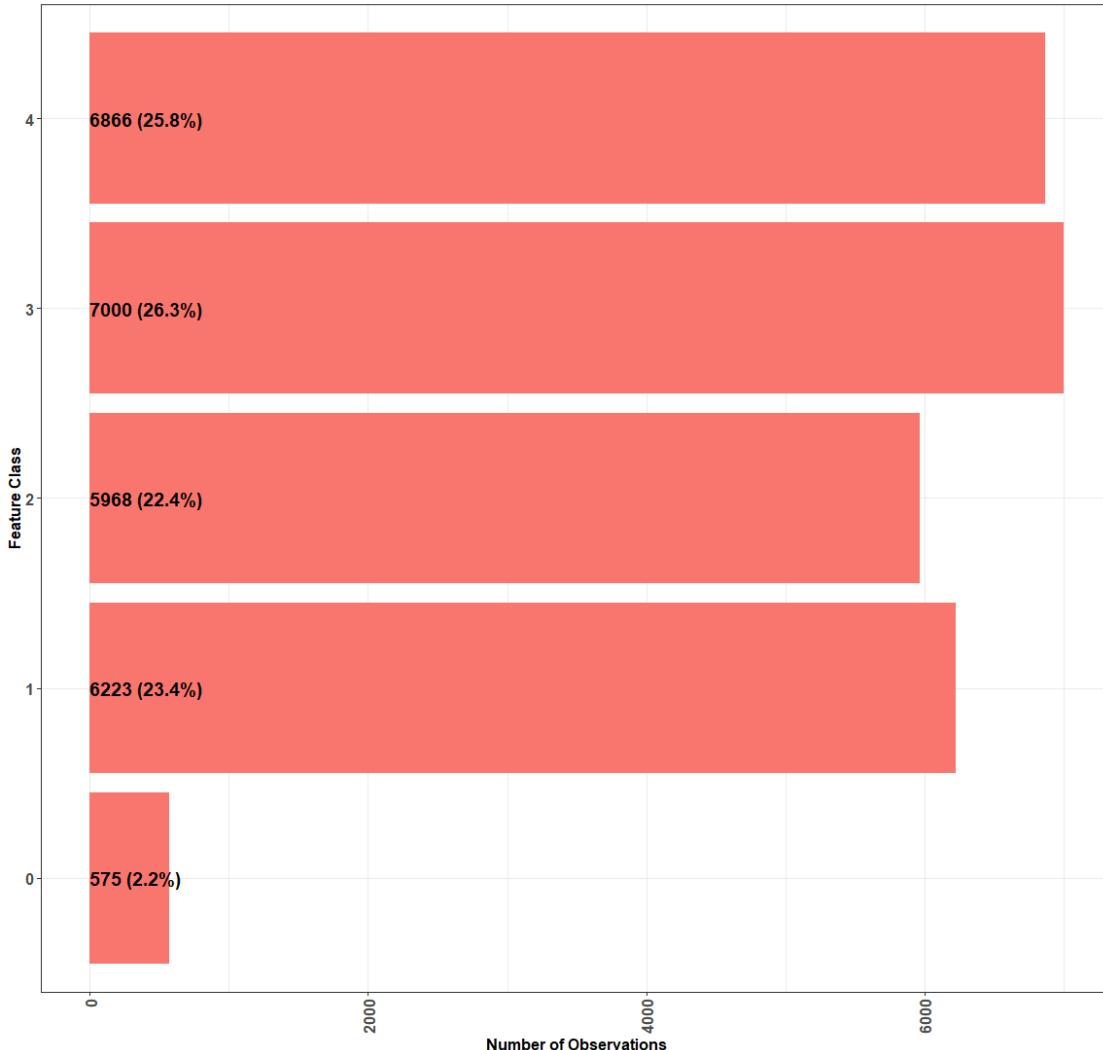
##  

## Feature Value Counter Percentage  

## -----
```

## 0	575	2.159
## 1	6223	23.367
## 2	5968	22.409
## 3	7000	26.284
## 4	6866	25.781

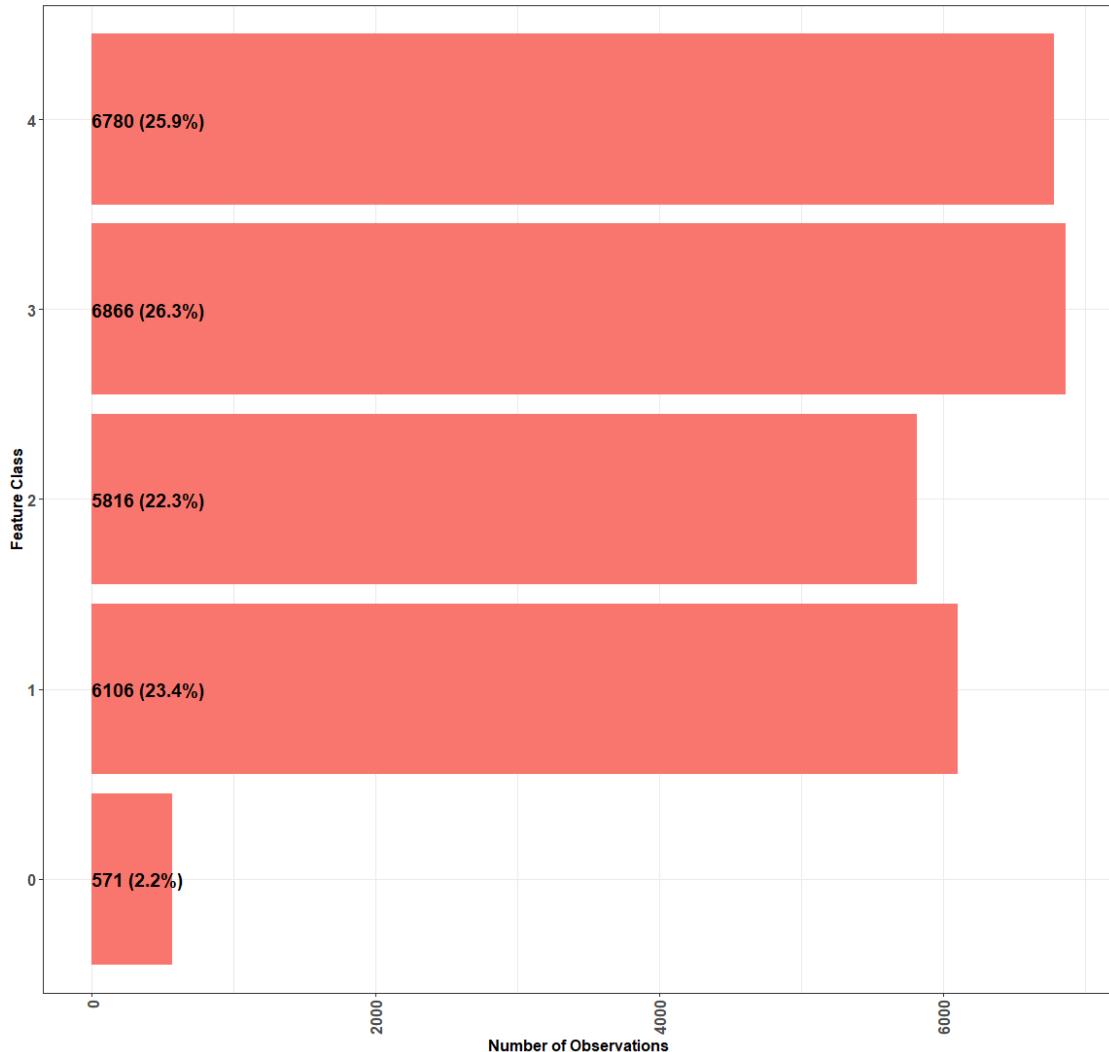
Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2005.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## DATA>All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 571 2.184
## 1 6106 23.360
## 2 5816 22.250
## 3 6866 26.267
## 4 6780 25.938
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data:All 2006.csv

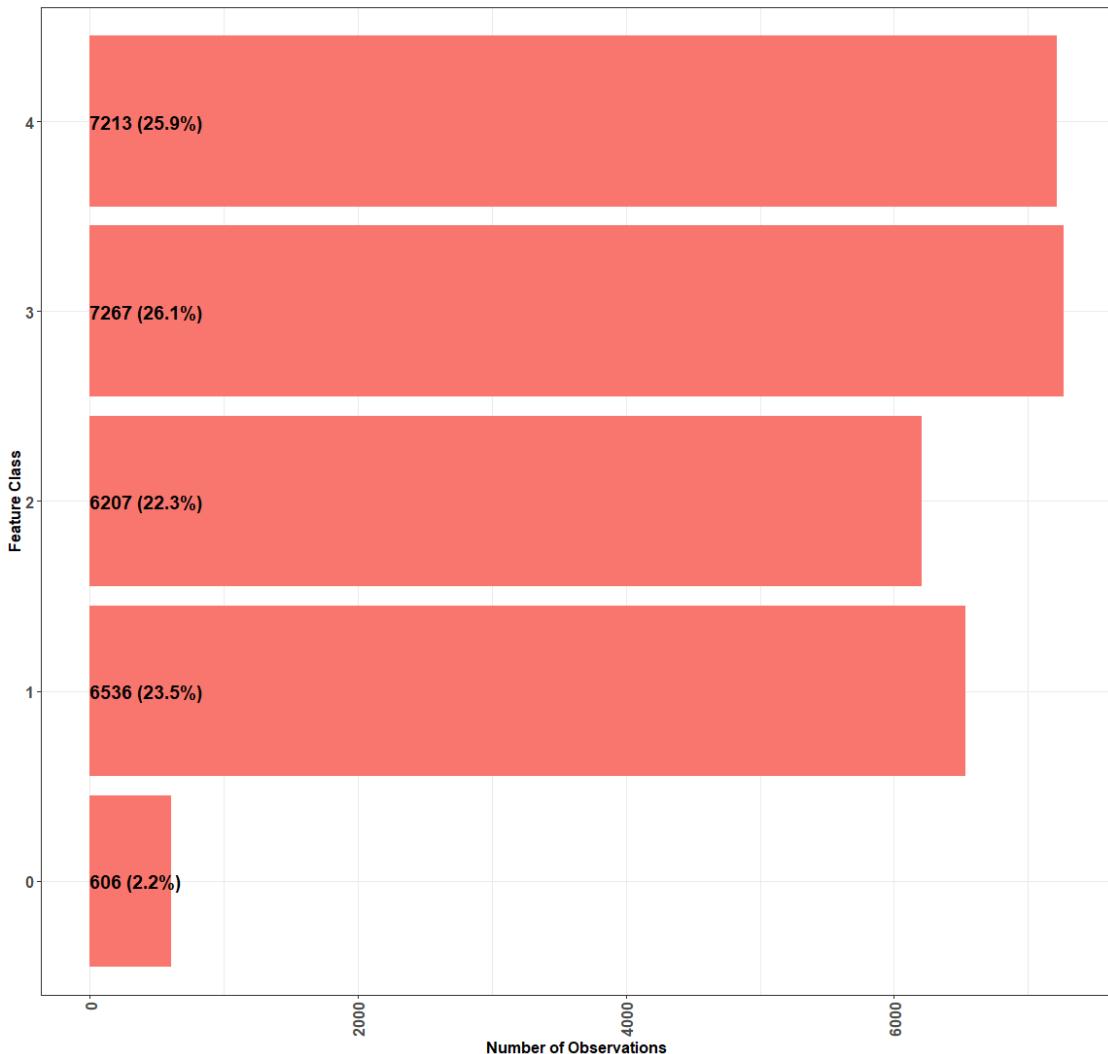


```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
```



```
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 606 2.178
## 1 6536 23.486
## 2 6207 22.304
## 3 7267 26.113
## 4 7213 25.919
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2007.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  

## DATA>All 2008.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  

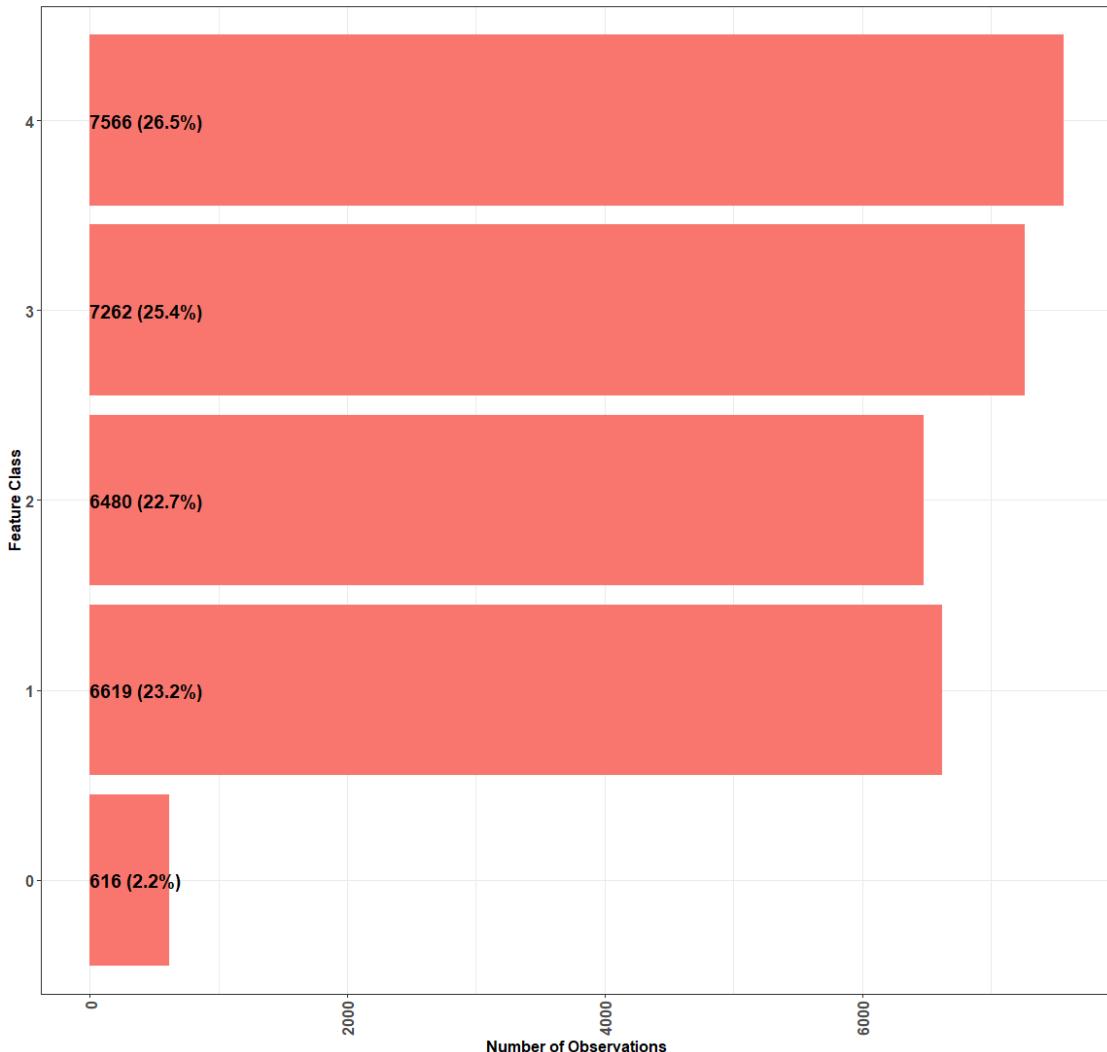
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           616    2.158
## 1           6619   23.190
## 2           6480   22.703
## 3           7262   25.442
## 4           7566   26.507
```

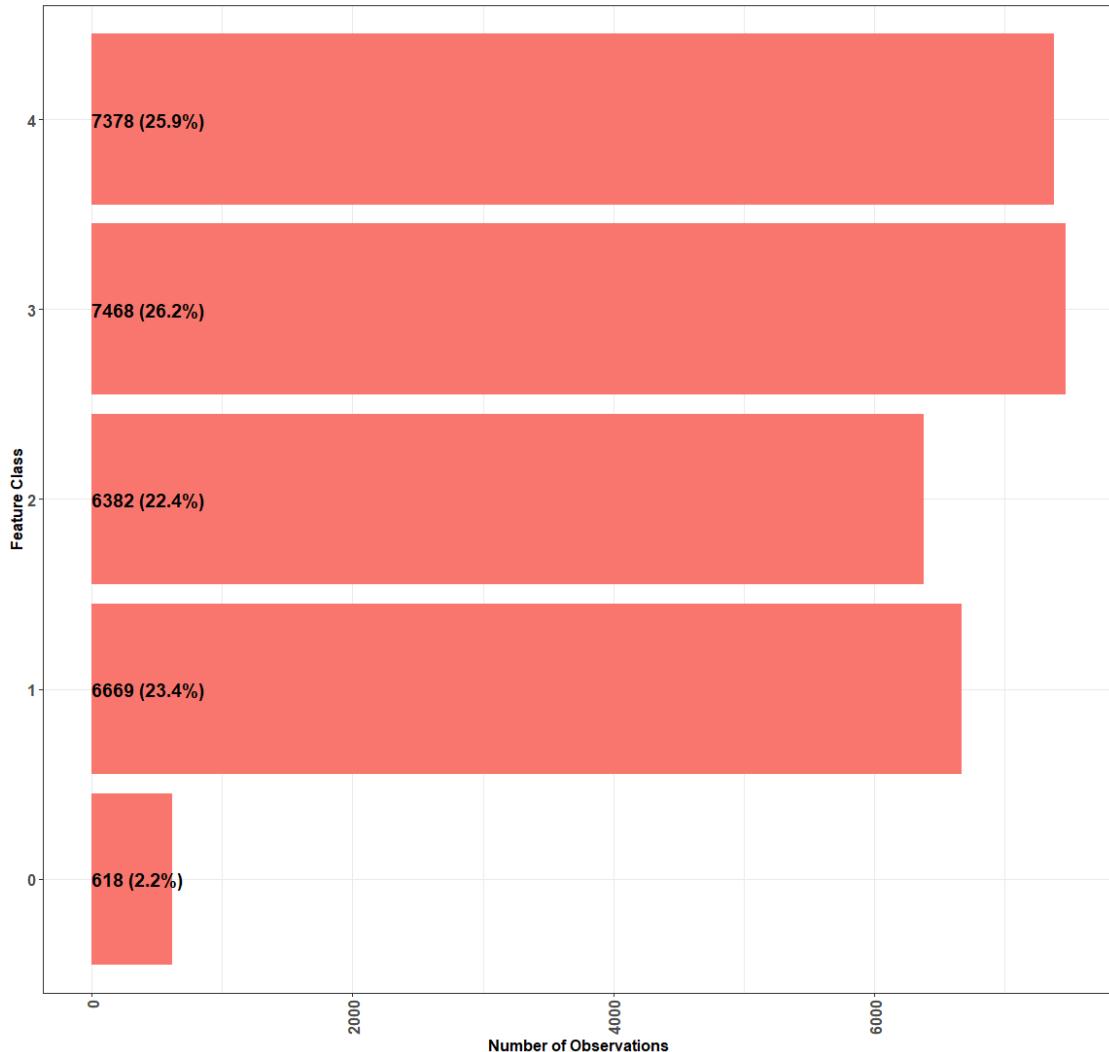
Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2008.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## DATA>All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 618 2.167
## 1 6669 23.388
## 2 6382 22.381
## 3 7468 26.190
## 4 7378 25.874
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data:All 2009.csv

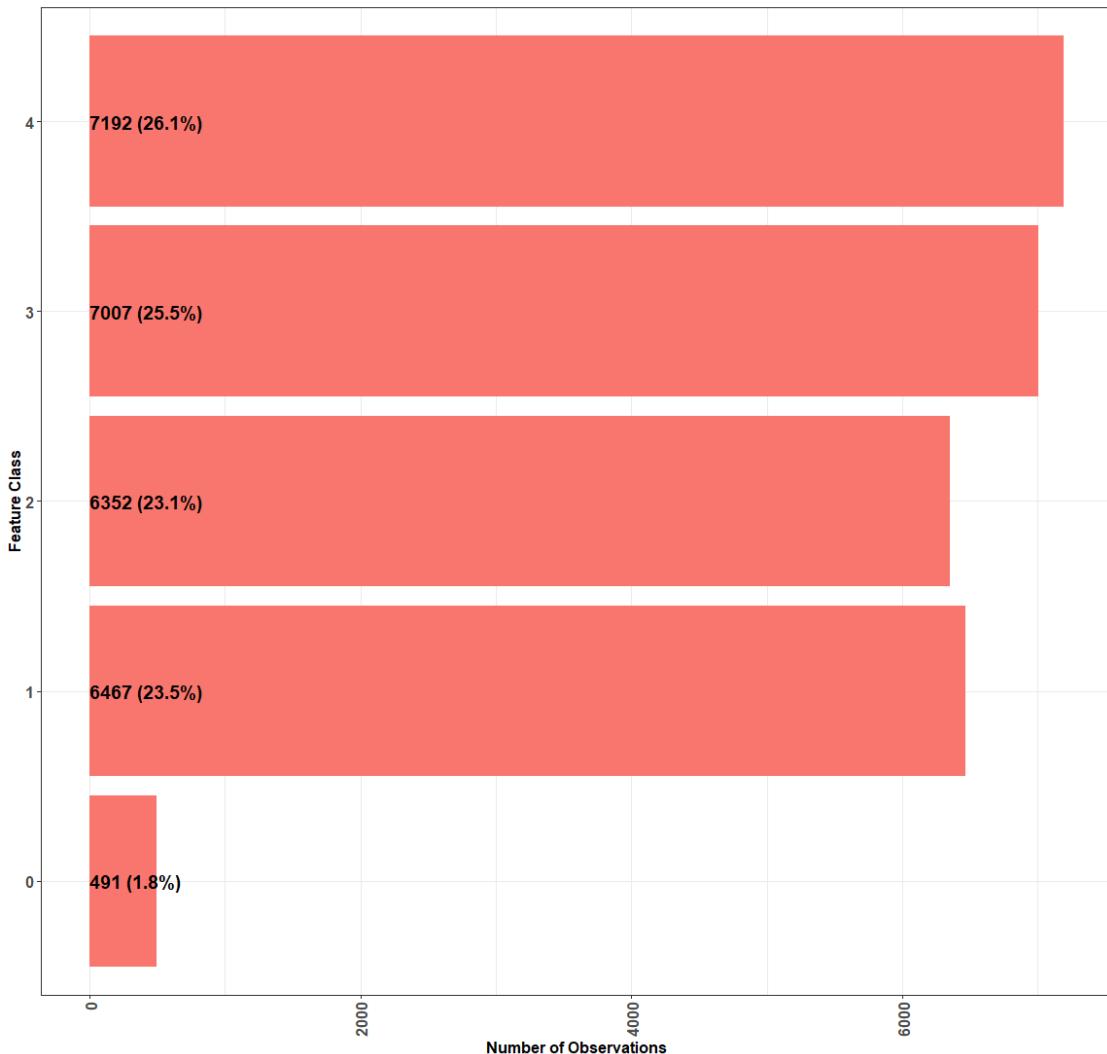


```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
```



```
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 491 1.785
## 1 6467 23.509
## 2 6352 23.091
## 3 7007 25.472
## 4 7192 26.144
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  

## DATA>All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  

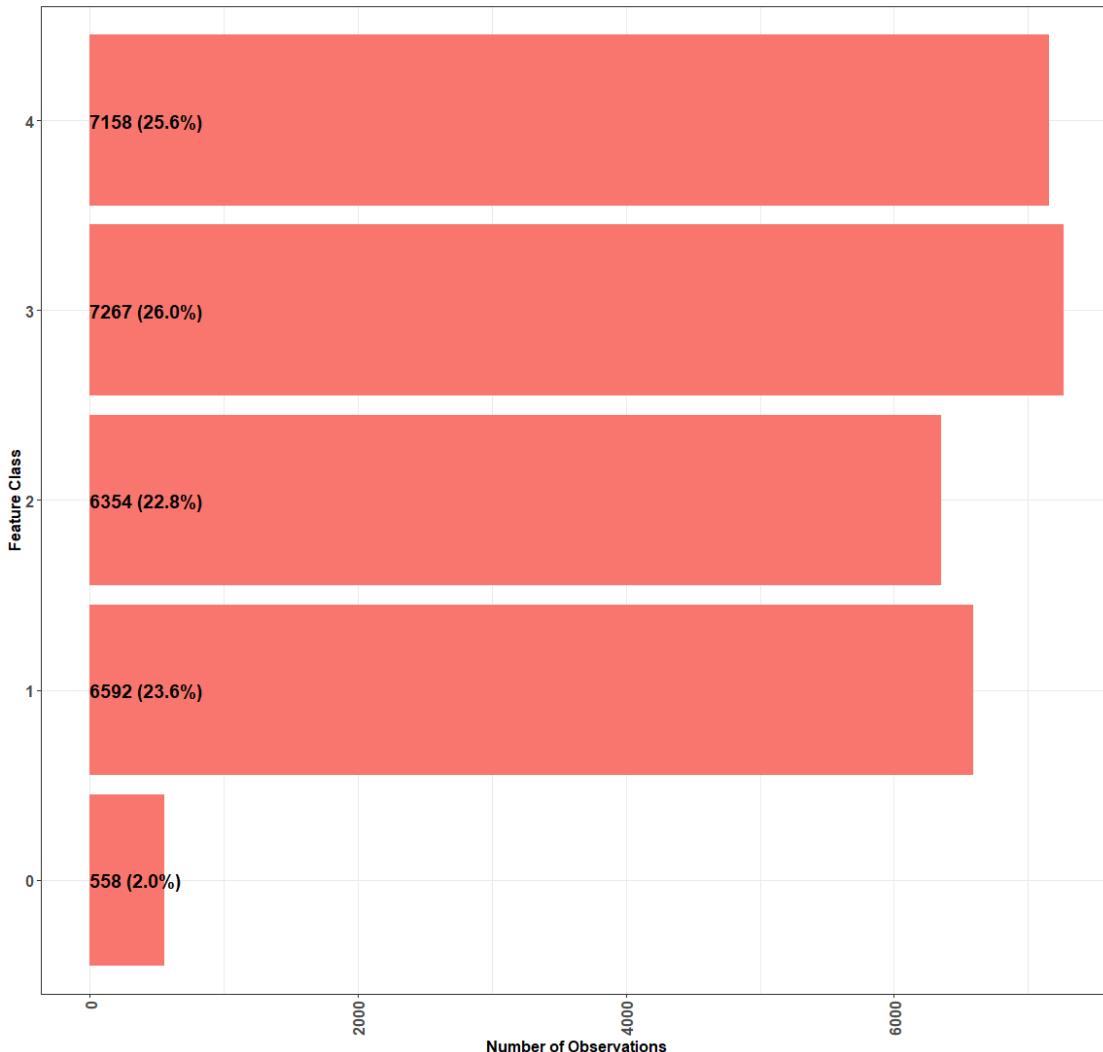
##  

## Feature Value Counter Percentage  

## -----
```

## 0	558	1.998
## 1	6592	23.603
## 2	6354	22.750
## 3	7267	26.020
## 4	7158	25.629

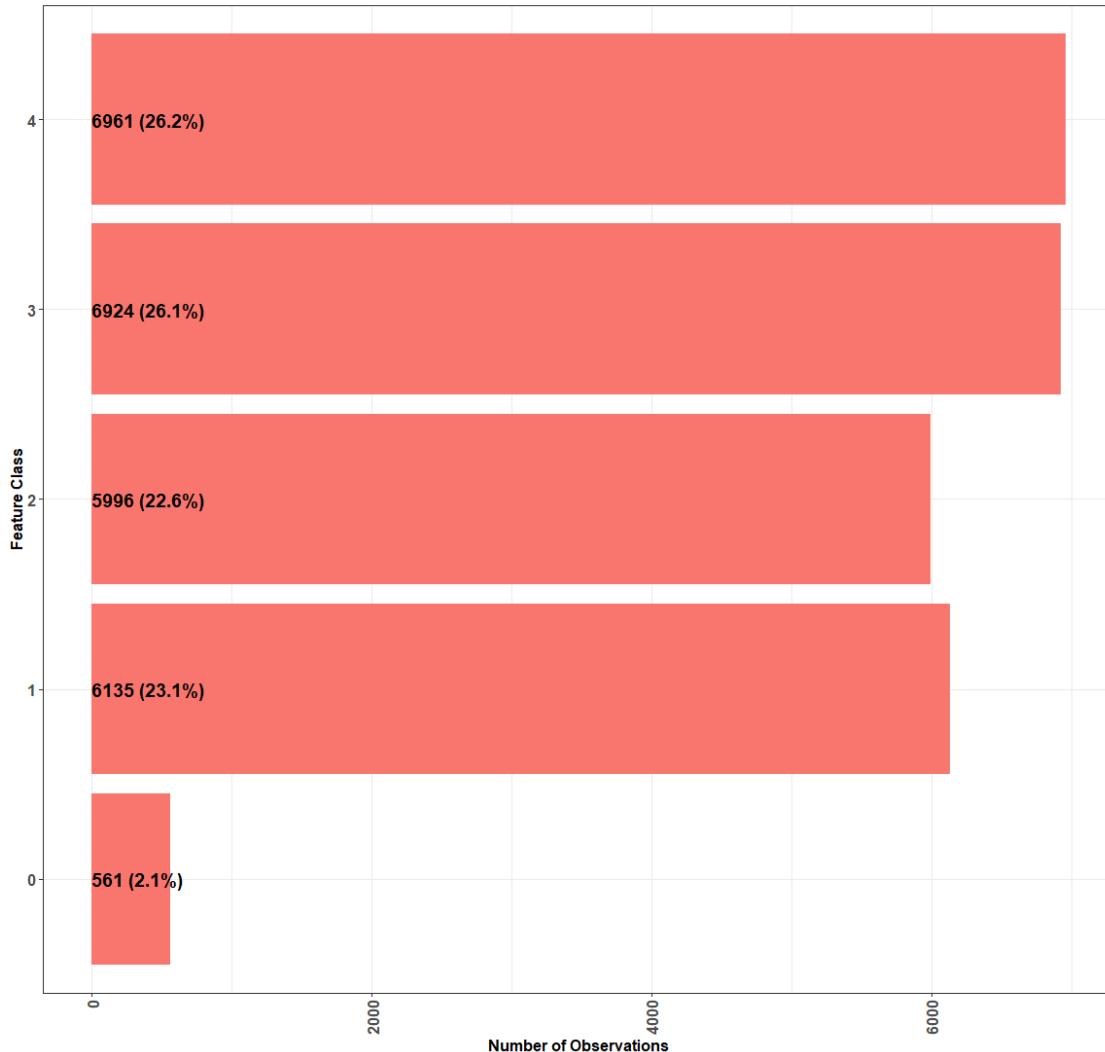
Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data:All 2011.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 561 2.111
## 1 6135 23.084
## 2 5996 22.561
## 3 6924 26.053
## 4 6961 26.192
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data:All 2012.csv

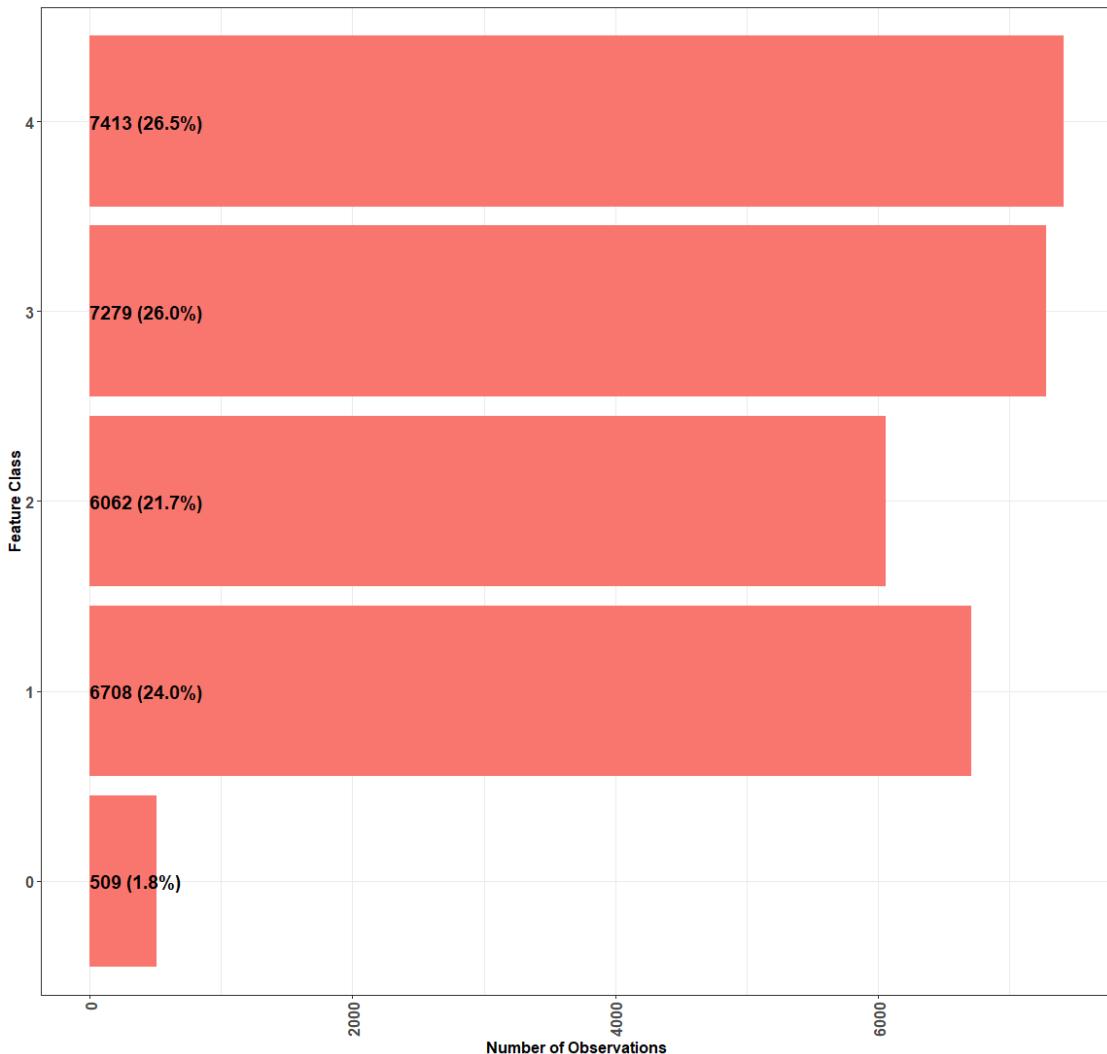


```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
```



```
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## -----
## 0 509 1.82
## 1 6708 23.98
## 2 6062 21.67
## 3 7279 26.02
## 4 7413 26.50
```

Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2013.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  

## DATA>All 2014.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  

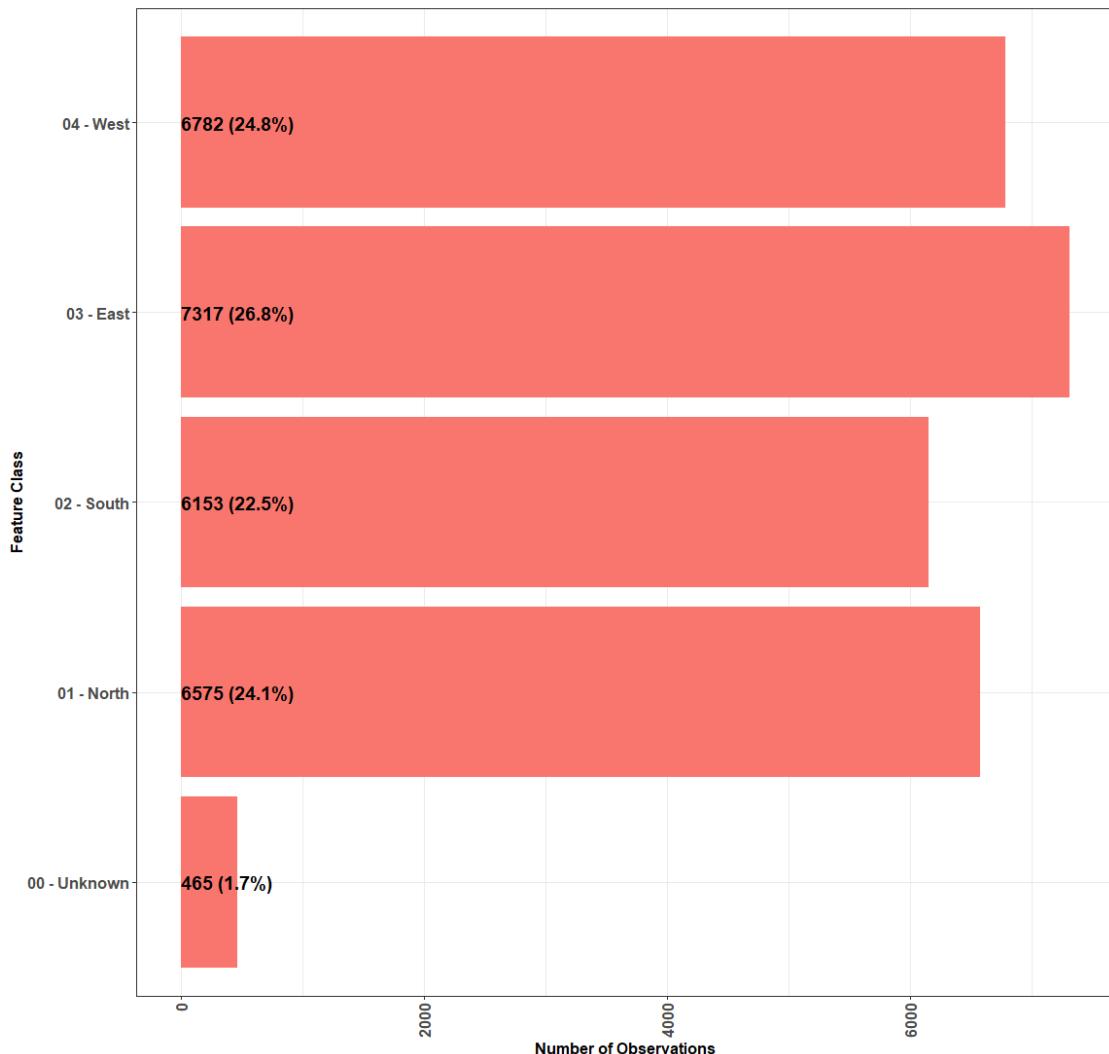
##  

## Feature Value Counter Percentage  

## -----
```

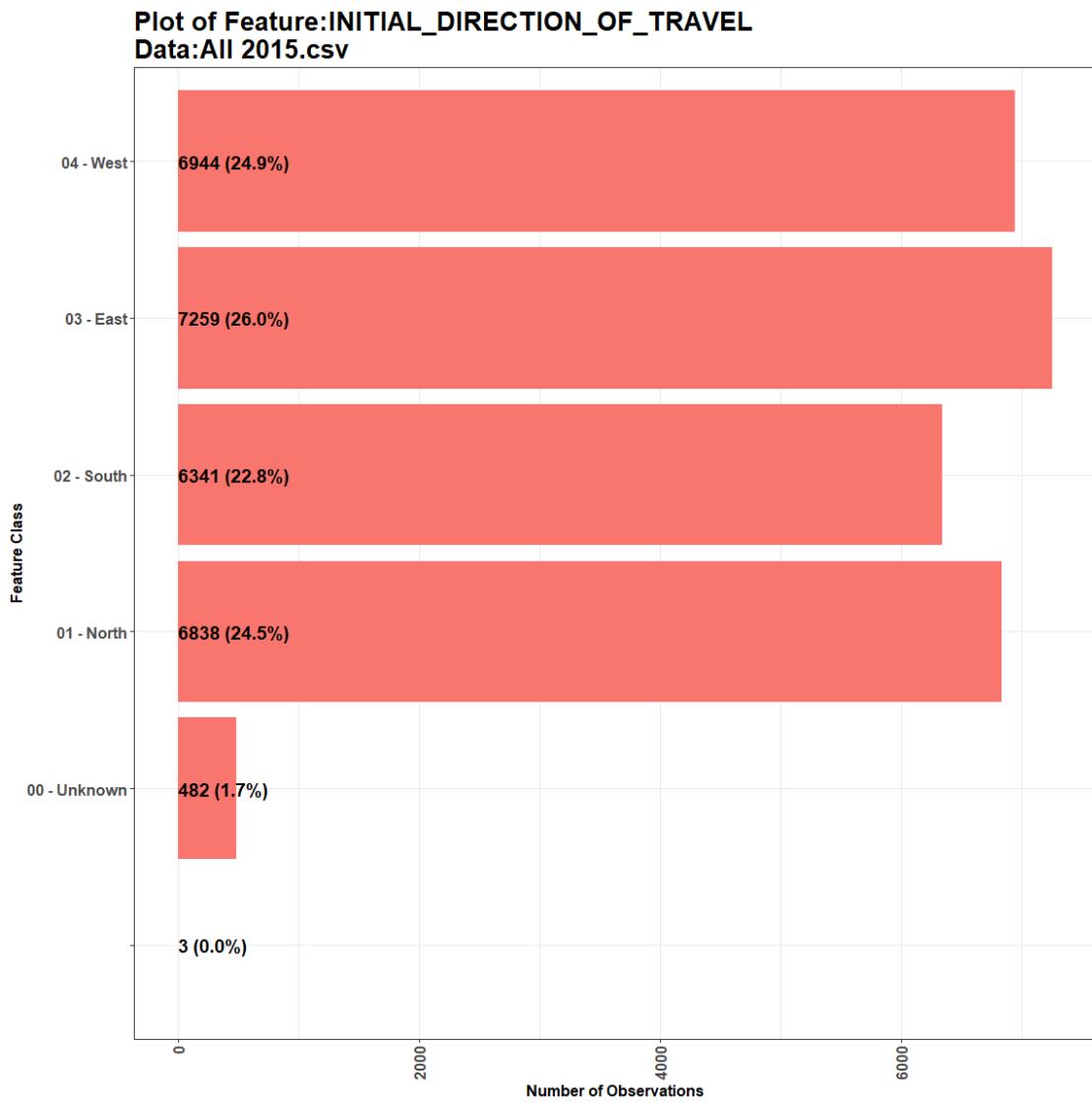
## 00 - Unknown	465	1.704
## 01 - North	6575	24.091
## 02 - South	6153	22.545
## 03 - East	7317	26.810
## 04 - West	6782	24.850

**Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2014.csv**



```
##
## -----
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## DATA>All 2015.csv...
##
## Number of Blank Values:3
##
## Summary as Factor Feature:
##
```

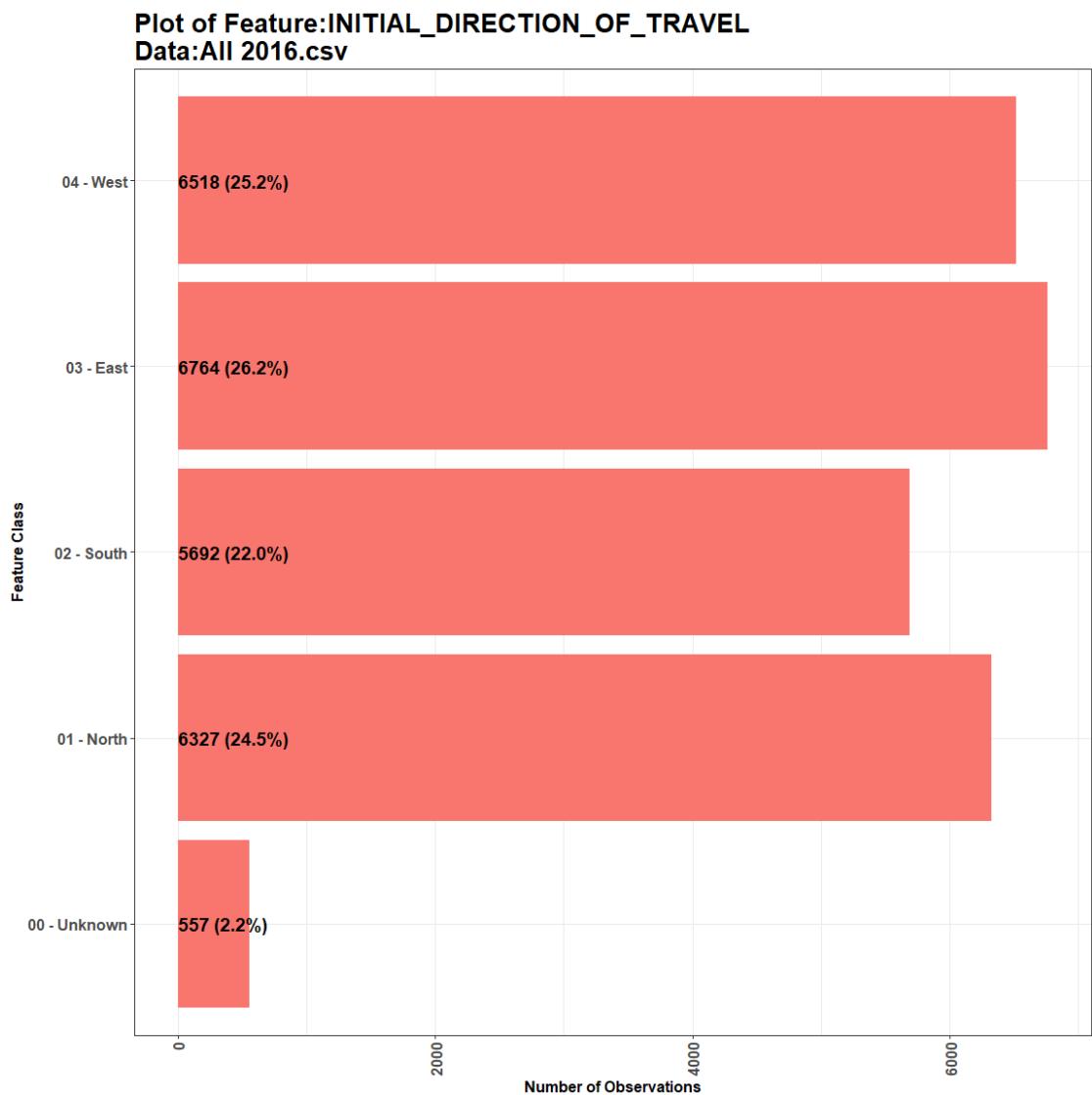
```
## Number of Features: 6
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value Counter Percentage
## ----- -----
## 3 0.0108
## 00 - Unknown 482 1.7296
## 01 - North 6838 24.5380
## 02 - South 6341 22.7545
## 03 - East 7259 26.0487
## 04 - West 6944 24.9184
```



```
##
## -----
```



```
## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## DATA:All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL
##
## Feature Value      Counter      Percentage
## ----- -----
## 00 - Unknown       557          2.154
## 01 - North          6327         24.468
## 02 - South           5692         22.012
## 03 - East            6764         26.158
## 04 - West            6518         25.207
```



```
##  

## -----  

## CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF INITIAL_DIRECTION_OF_TRAVEL  

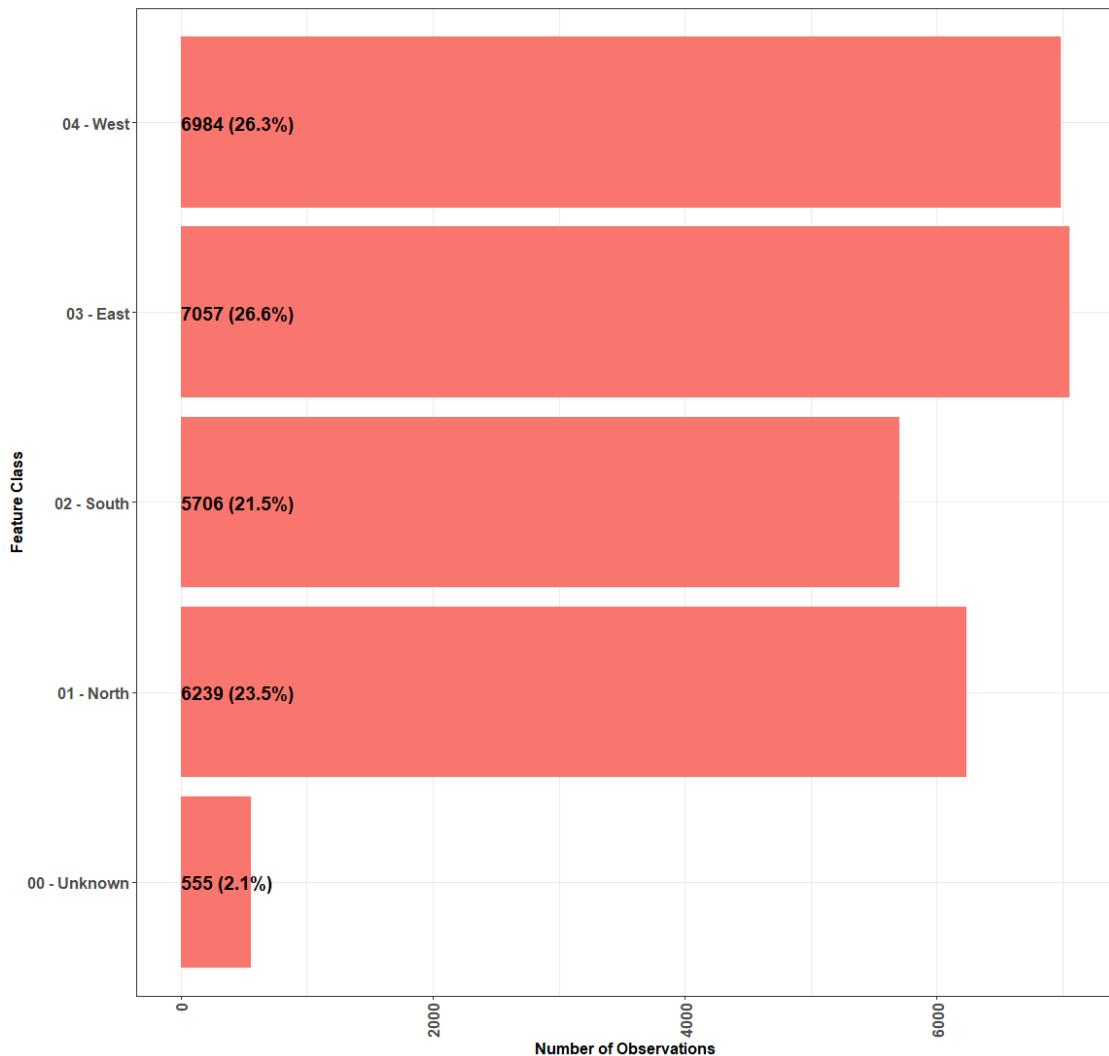
##  

## Feature Value   Counter   Percentage  

## -----
```

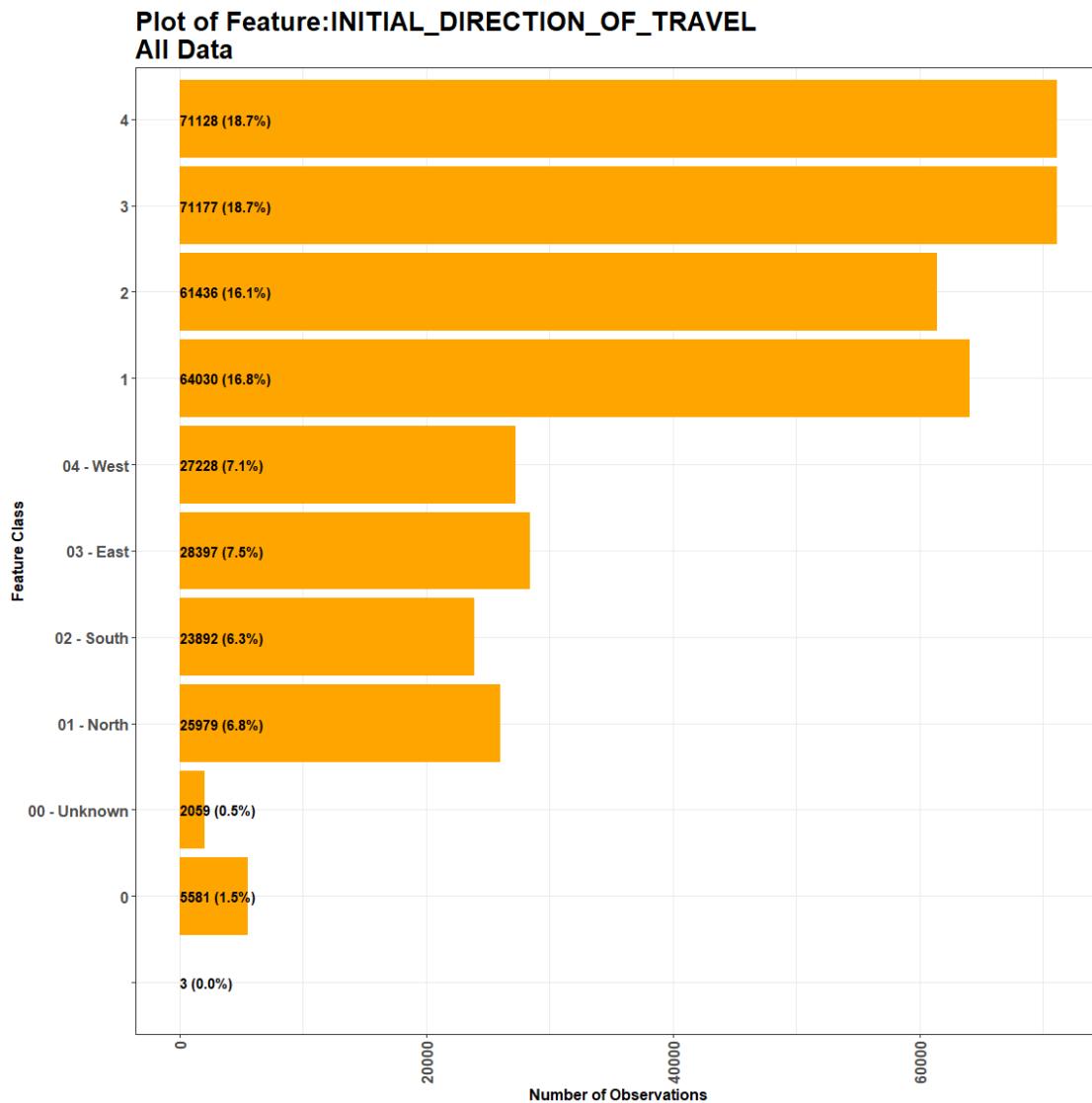
## 00 - Unknown	555	2.091
## 01 - North	6239	23.507
## 02 - South	5706	21.499
## 03 - East	7057	26.589
## 04 - West	6984	26.314

**Plot of Feature:INITIAL_DIRECTION_OF_TRAVEL
Data>All 2017.csv**



```
##
## =====
## FINAL INFO CHECKING FEATURE:INITIAL_DIRECTION_OF_TRAVEL
## ALL DATA...
## =====
## Number of Blank Values:3
##
## Summary per Data File:
```

```
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
##
## Summary as Factor Feature:
## Number of Features: 11
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:INITIAL_DIRECTION_OF_TRAVEL"
```

Feature Value	Counter	Percentage
3	0.0008	

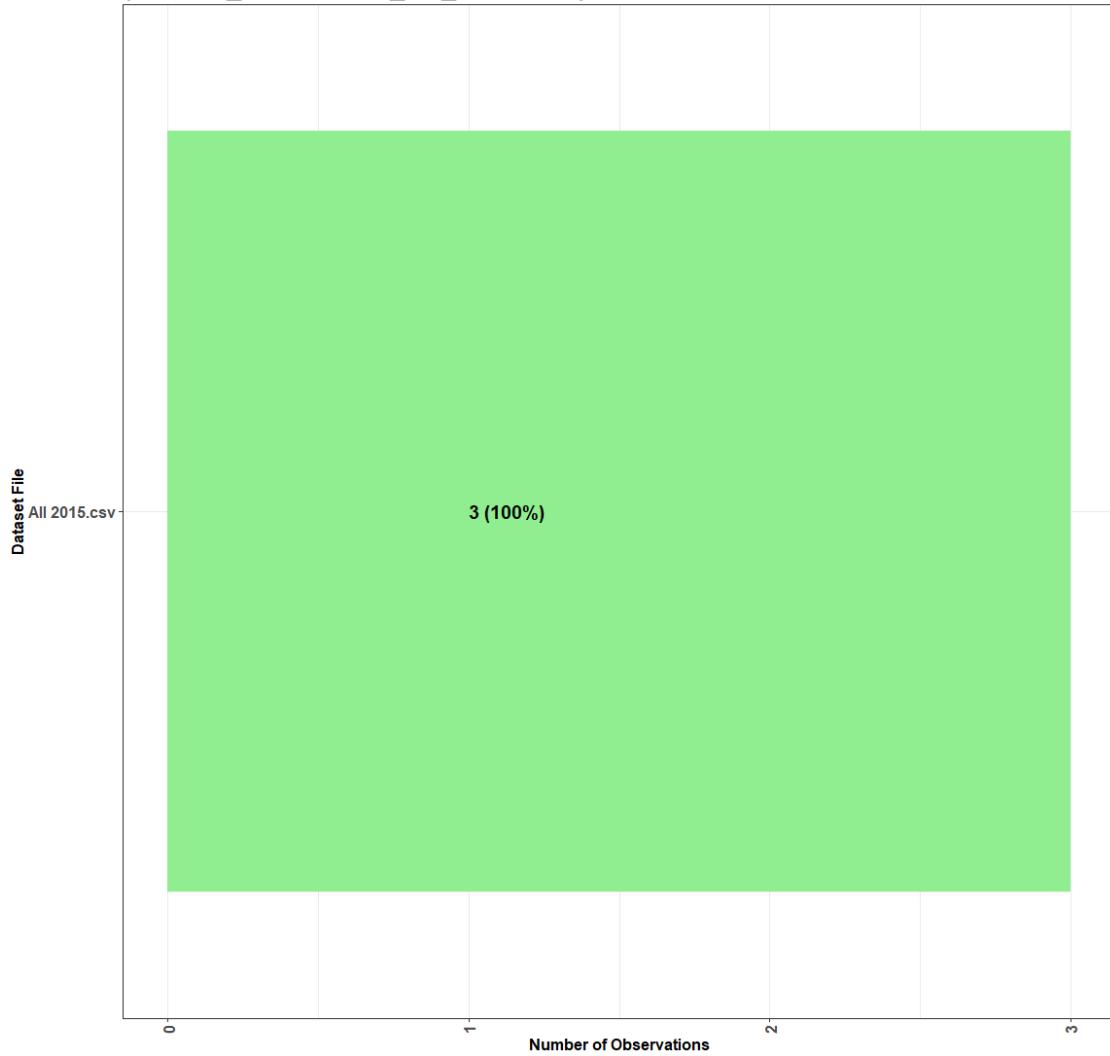


0	5581	1.4652
00 - Unknown	2059	0.5405
01 - North	25979	6.8202
02 - South	23892	6.2723
03 - East	28397	7.4550
04 - West	27228	7.1481
1	64030	16.8097
2	61436	16.1287
3	71177	18.6860
4	71128	18.6732

7.1 INITIAL_DIRECTION_OF_TRAVEL = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (INITIAL_DIRECTION_OF_TRAVEL=)  
##  
## Summary per Data File:  
## All 2015.csv  
##            3
```

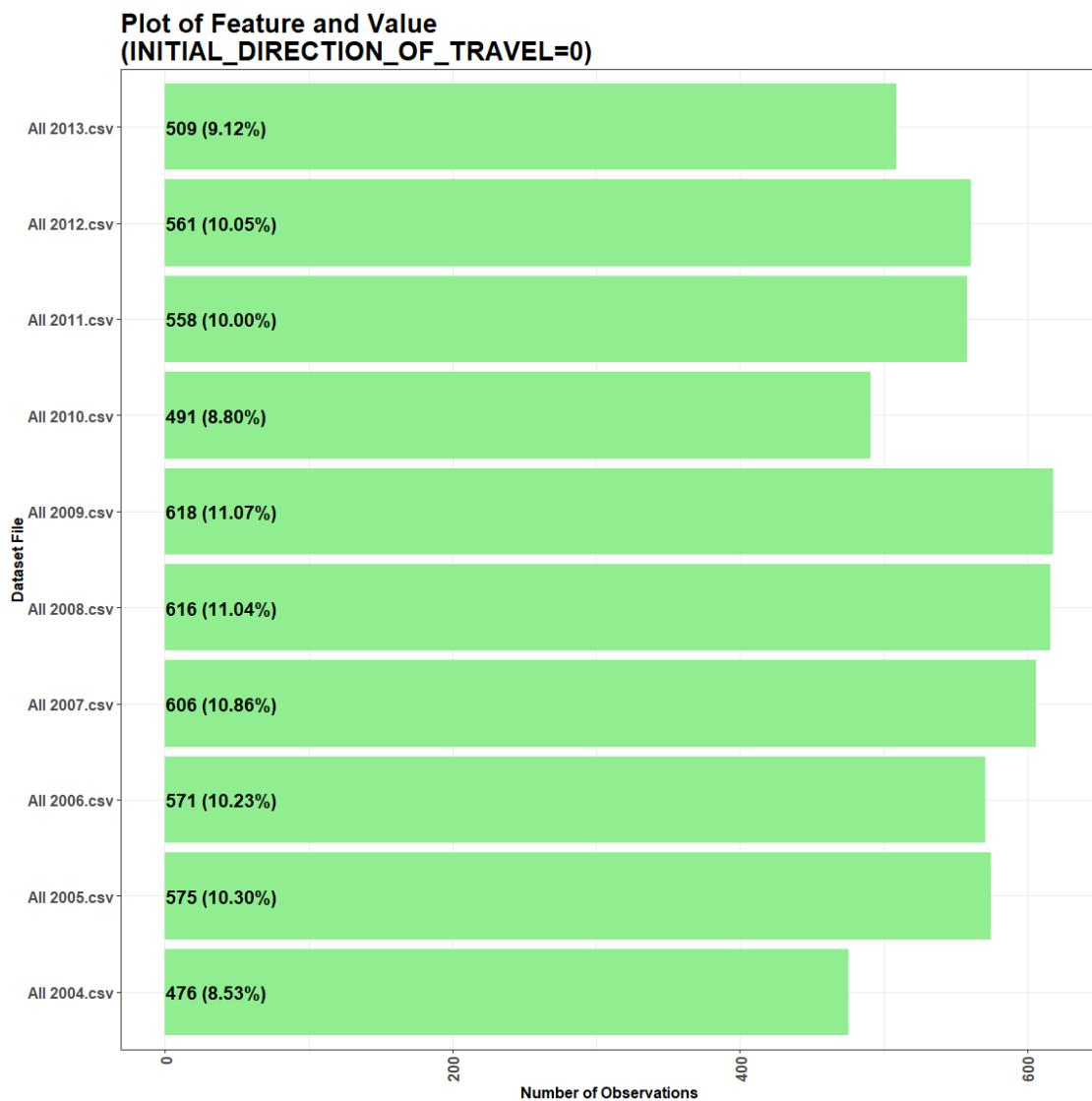
**Plot of Feature and Value
(INITIAL_DIRECTION_OF_TRAVEL=)**



DATASET FILE	COUNTER OF (INITIAL_DIRECTION_OF_TRAVEL=)	Percentage
All 2015.csv	3	100

7.2 INITIAL_DIRECTION_OF_TRAVEL = “0”

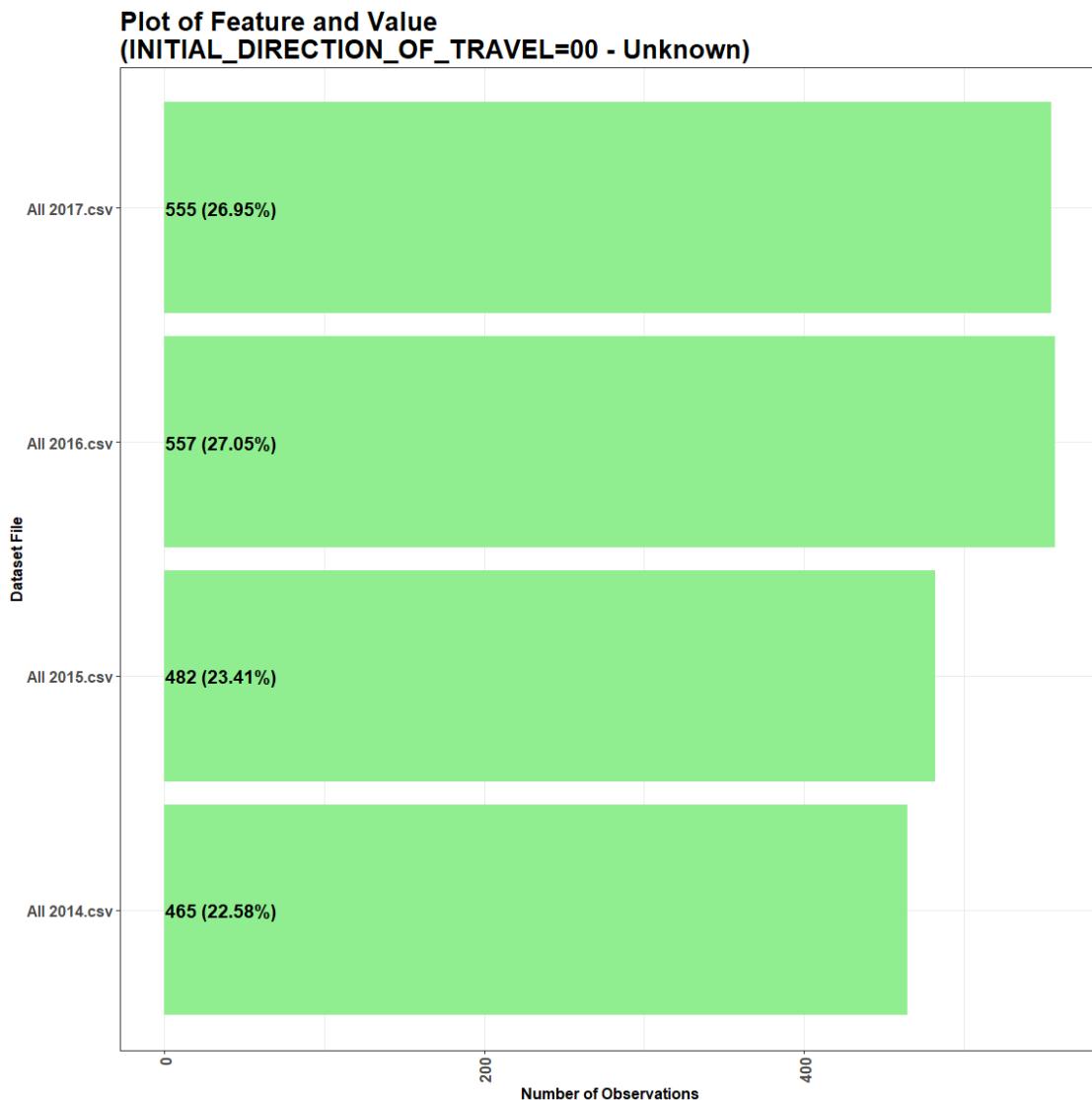
```
##  
## =====  
## CHECKING FEATURE AND VALUE (INITIAL_DIRECTION_OF_TRAVEL=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      476      575      571      606      616  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      618      491      558      561      509
```



DATASET FILE	COUNTER OF (INITIAL_DIRECTION_OF_TRAVEL=0)	Percentage
All 2004.csv	476	8.529
All 2005.csv	575	10.303
All 2006.csv	571	10.231
All 2007.csv	606	10.858
All 2008.csv	616	11.037
All 2009.csv	618	11.073
All 2010.csv	491	8.798
All 2011.csv	558	9.998
All 2012.csv	561	10.052
All 2013.csv	509	9.120

7.3 INITIAL_DIRECTION_OF_TRAVEL = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (INITIAL_DIRECTION_OF_TRAVEL=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          465        482        557        555
```



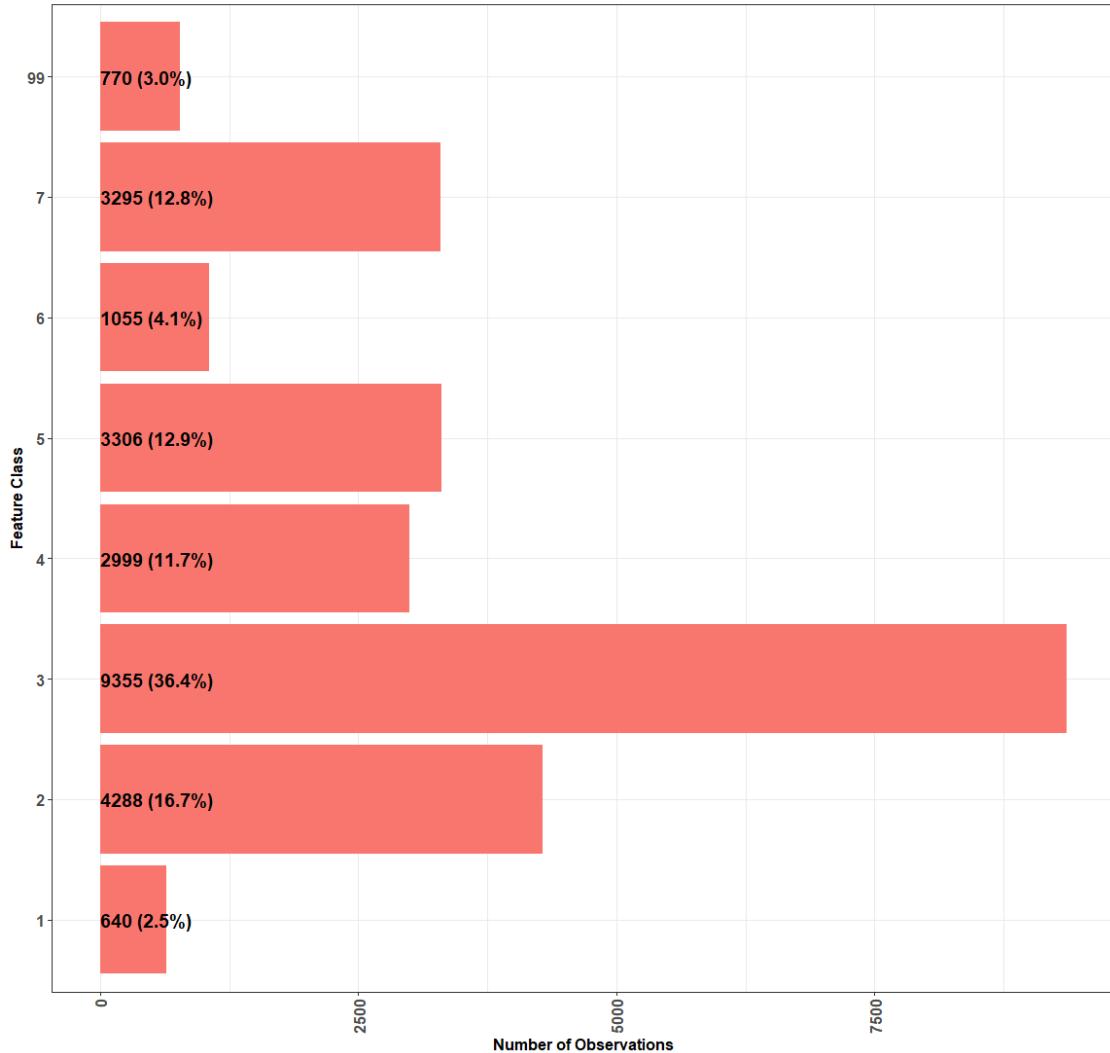
DATASET FILE	COUNTER OF (INITIAL_DIRECTION_OF_TRAVEL=00 - Unknown)	Percentage
All 2014.csv	465	22.58
All 2015.csv	482	23.41

All 2016.csv	557	27.05
All 2017.csv	555	26.95

8. Initial Impact Type (INITIAL_IMPACT_TYPE)

```
##  
## -----  
## CHECKING FEATURE:INITIAL_IMPACT_TYPE  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 1 640 2.490  
## 2 4288 16.680  
## 3 9355 36.389  
## 4 2999 11.666  
## 5 3306 12.860  
## 6 1055 4.104  
## 7 3295 12.817  
## 99 770 2.995
```

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

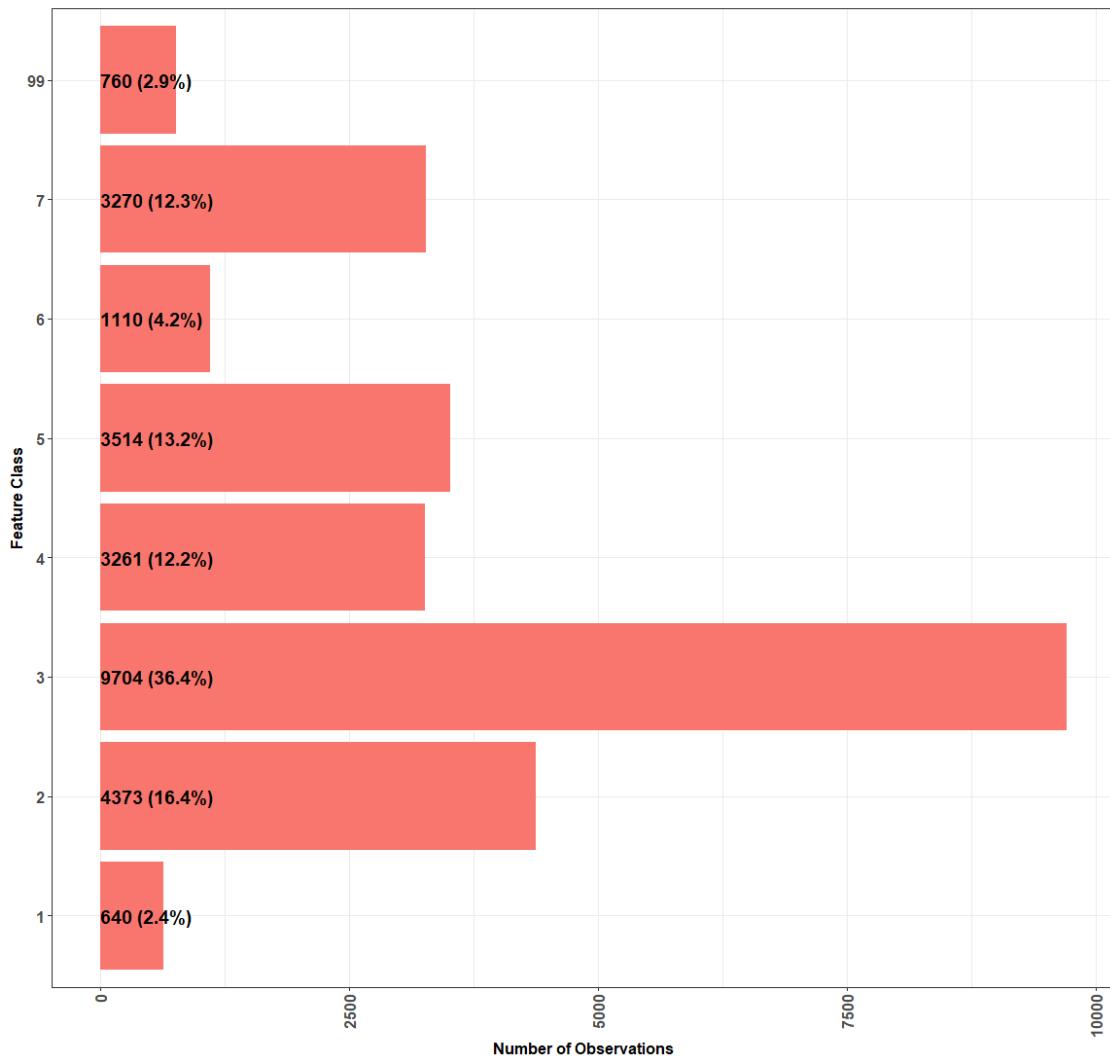
##  

## Feature Value Counter Percentage  

## -----
```

## 1	640	2.403
## 2	4373	16.420
## 3	9704	36.437
## 4	3261	12.245
## 5	3514	13.195
## 6	1110	4.168
## 7	3270	12.278
## 99	760	2.854

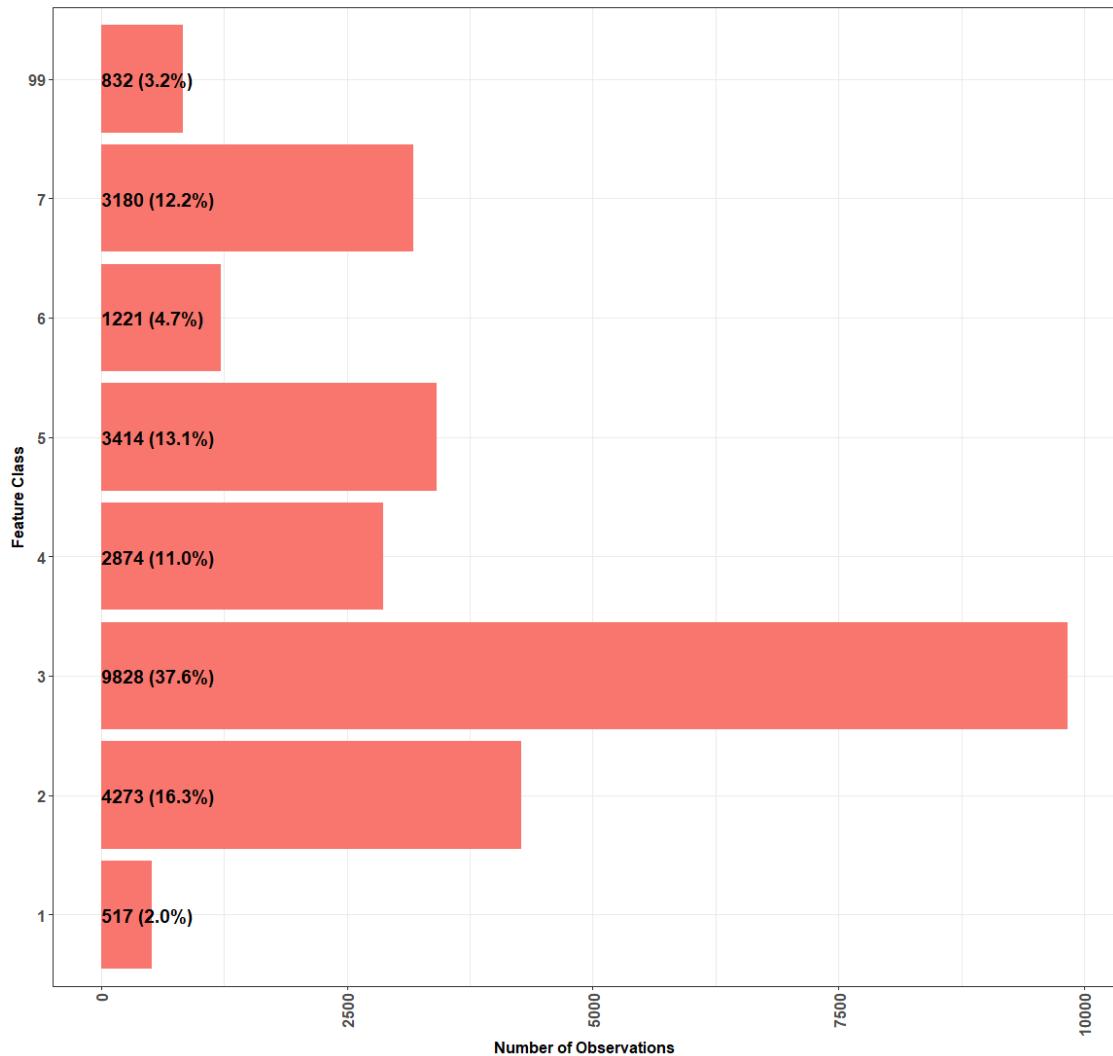
Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2005.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA:All 2006.csv...
##
## Number of Blank Values:0
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 1 517 1.978  
## 2 4273 16.347  
## 3 9828 37.599  
## 4 2874 10.995  
## 5 3414 13.061  
## 6 1221 4.671  
## 7 3180 12.166  
## 99 832 3.183
```

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2006.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2007.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

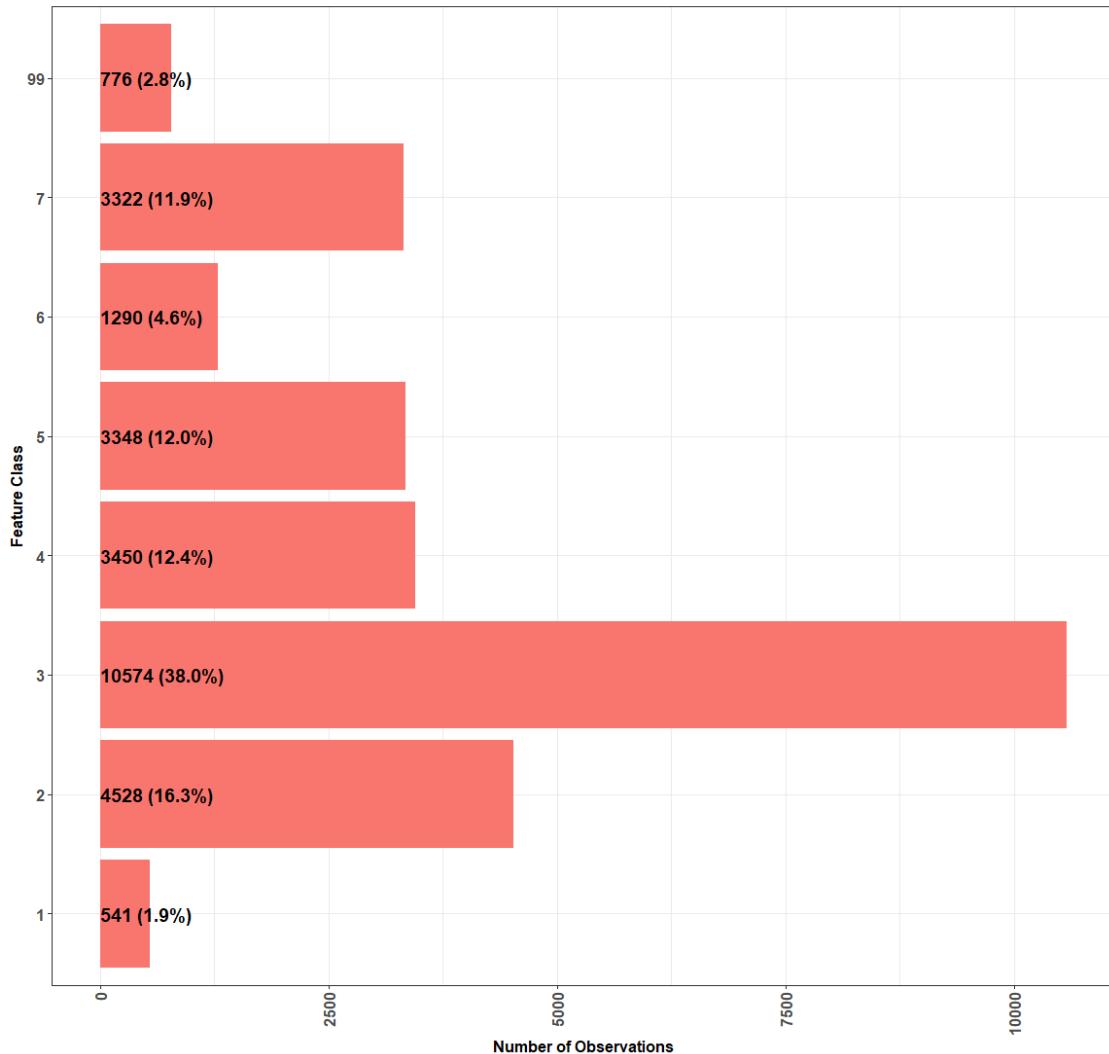
##  

## Feature Value Counter Percentage  

## -----
```

## 1	541	1.944
## 2	4528	16.271
## 3	10574	37.996
## 4	3450	12.397
## 5	3348	12.031
## 6	1290	4.636
## 7	3322	11.937
## 99	776	2.788

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2007.csv

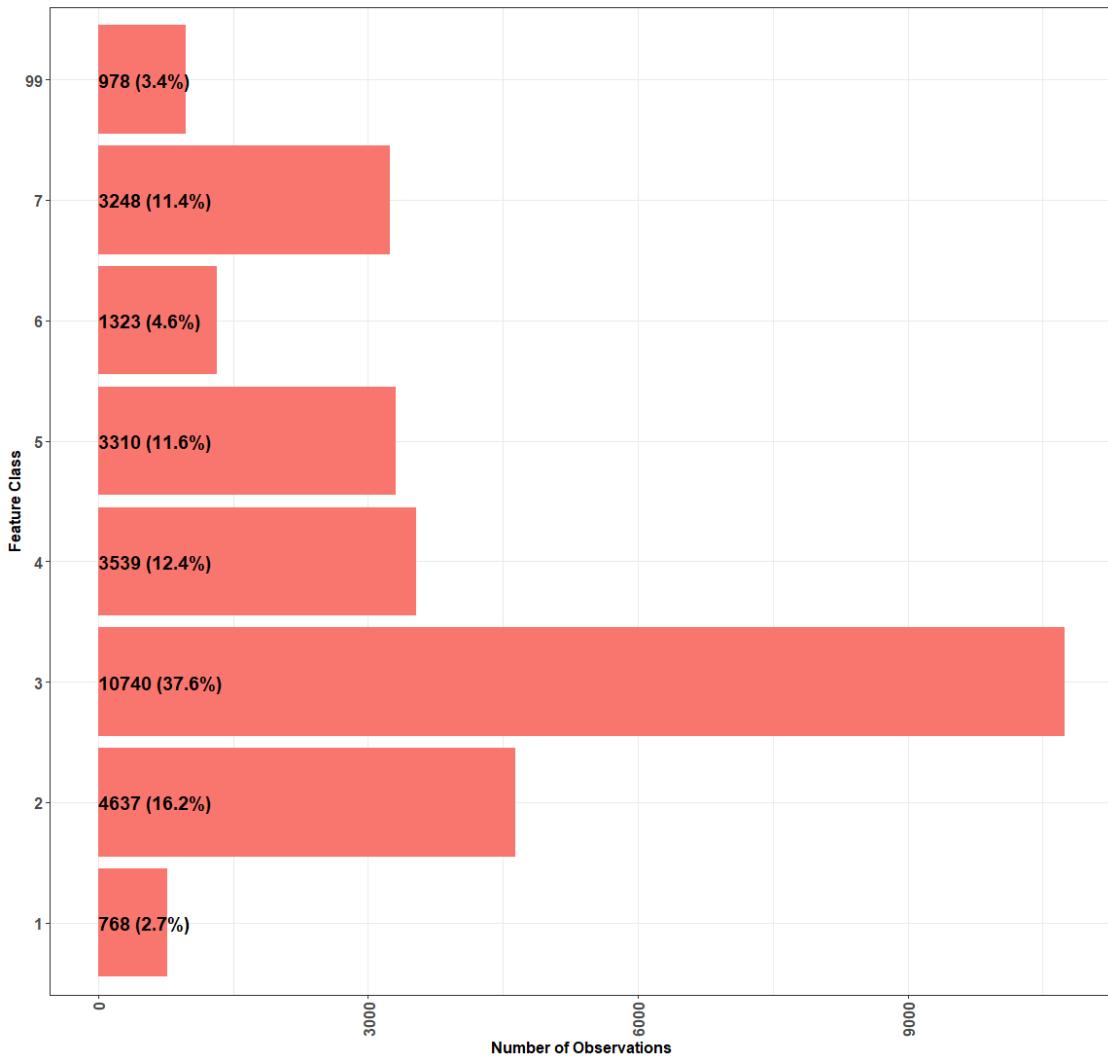


```
##
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA:All 2008.csv...
##
## Number of Blank Values:0
```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 1 768 2.691  
## 2 4637 16.246  
## 3 10740 37.627  
## 4 3539 12.399  
## 5 3310 11.597  
## 6 1323 4.635  
## 7 3248 11.379  
## 99 978 3.426
```

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2008.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2009.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

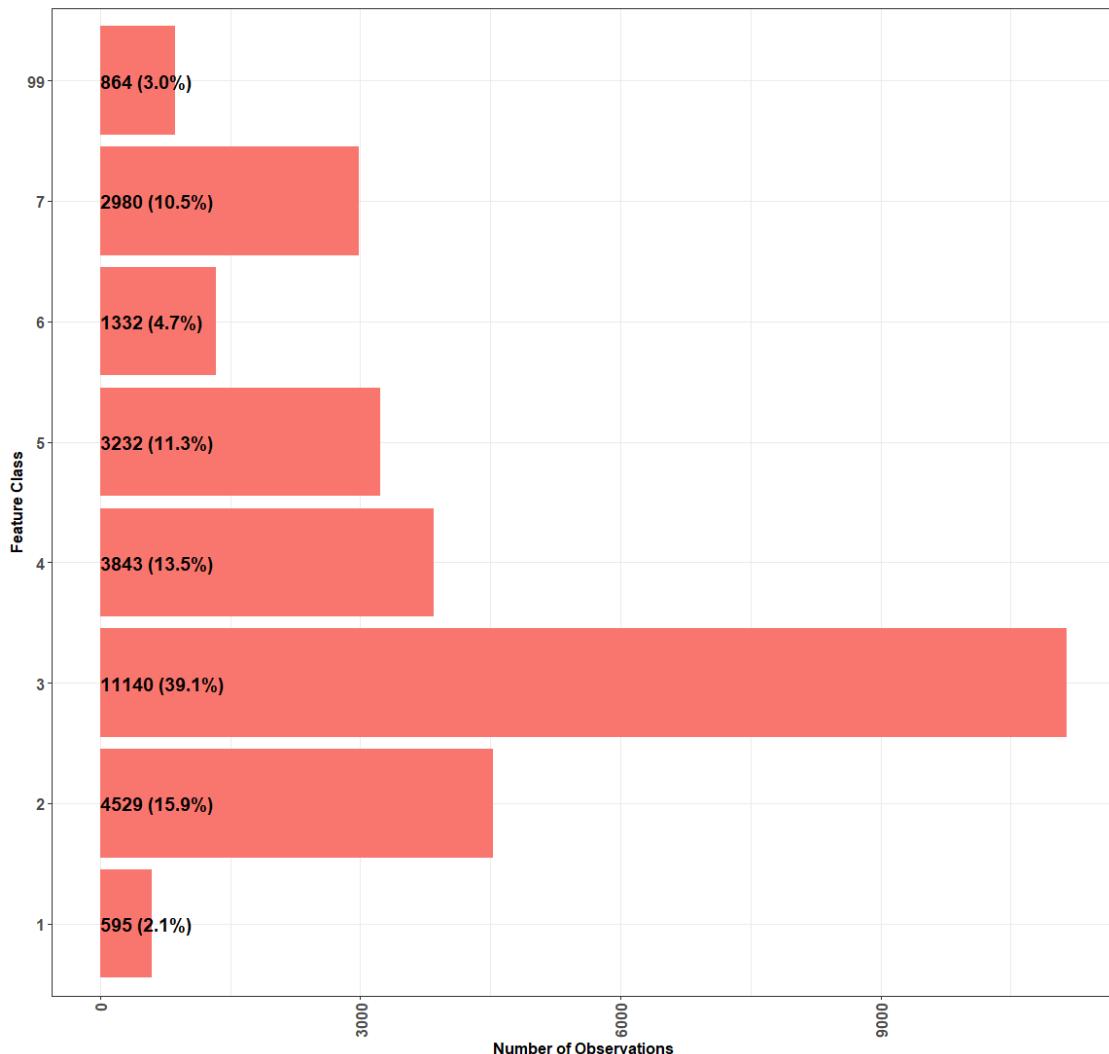
##  

## Feature Value Counter Percentage  

## -----
```

## 1	595	2.087
## 2	4529	15.883
## 3	11140	39.067
## 4	3843	13.477
## 5	3232	11.334
## 6	1332	4.671
## 7	2980	10.451
## 99	864	3.030

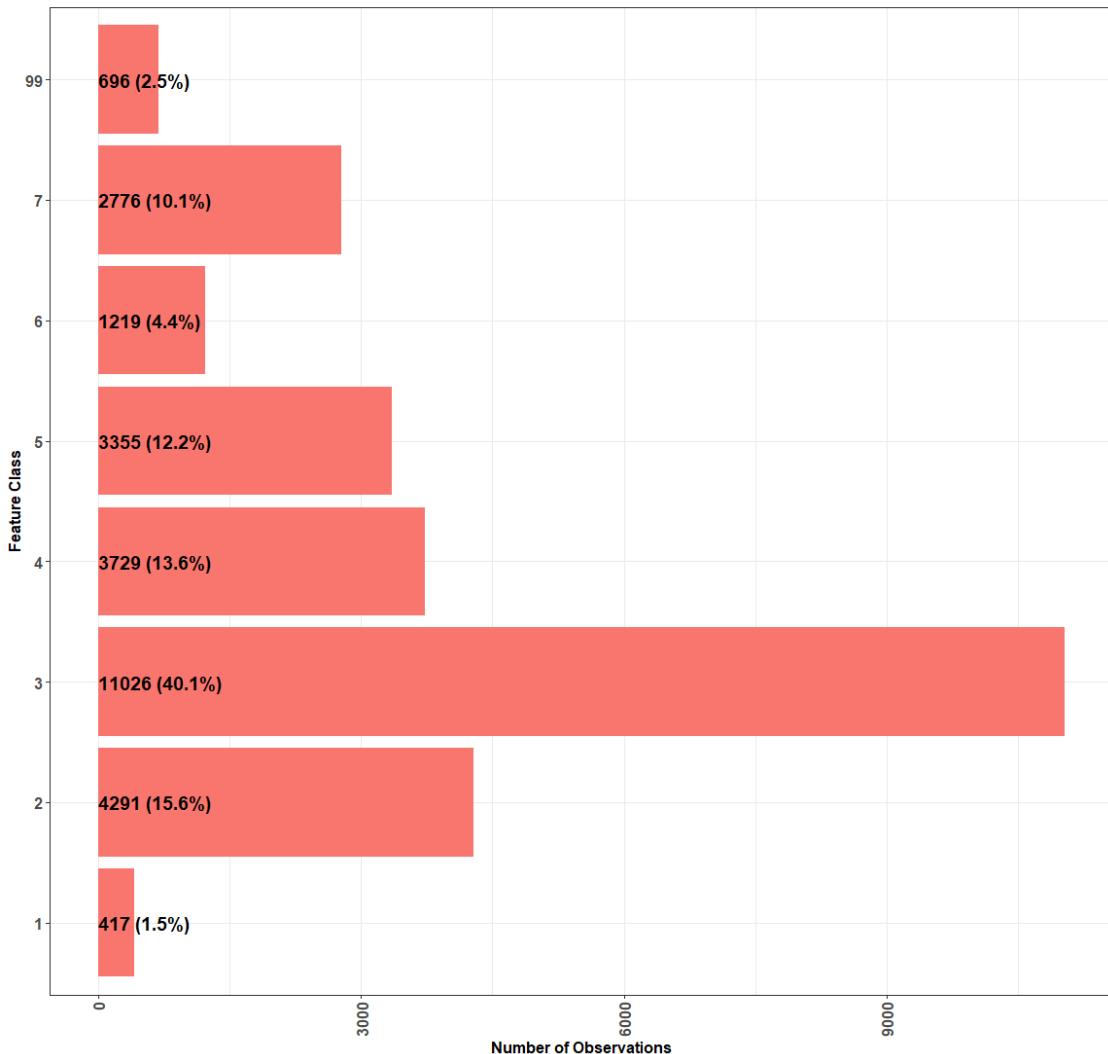
Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2009.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA:All 2010.csv...
##
## Number of Blank Values:0
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 1 417 1.516  
## 2 4291 15.598  
## 3 11026 40.081  
## 4 3729 13.556  
## 5 3355 12.196  
## 6 1219 4.431  
## 7 2776 10.091  
## 99 696 2.530
```

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

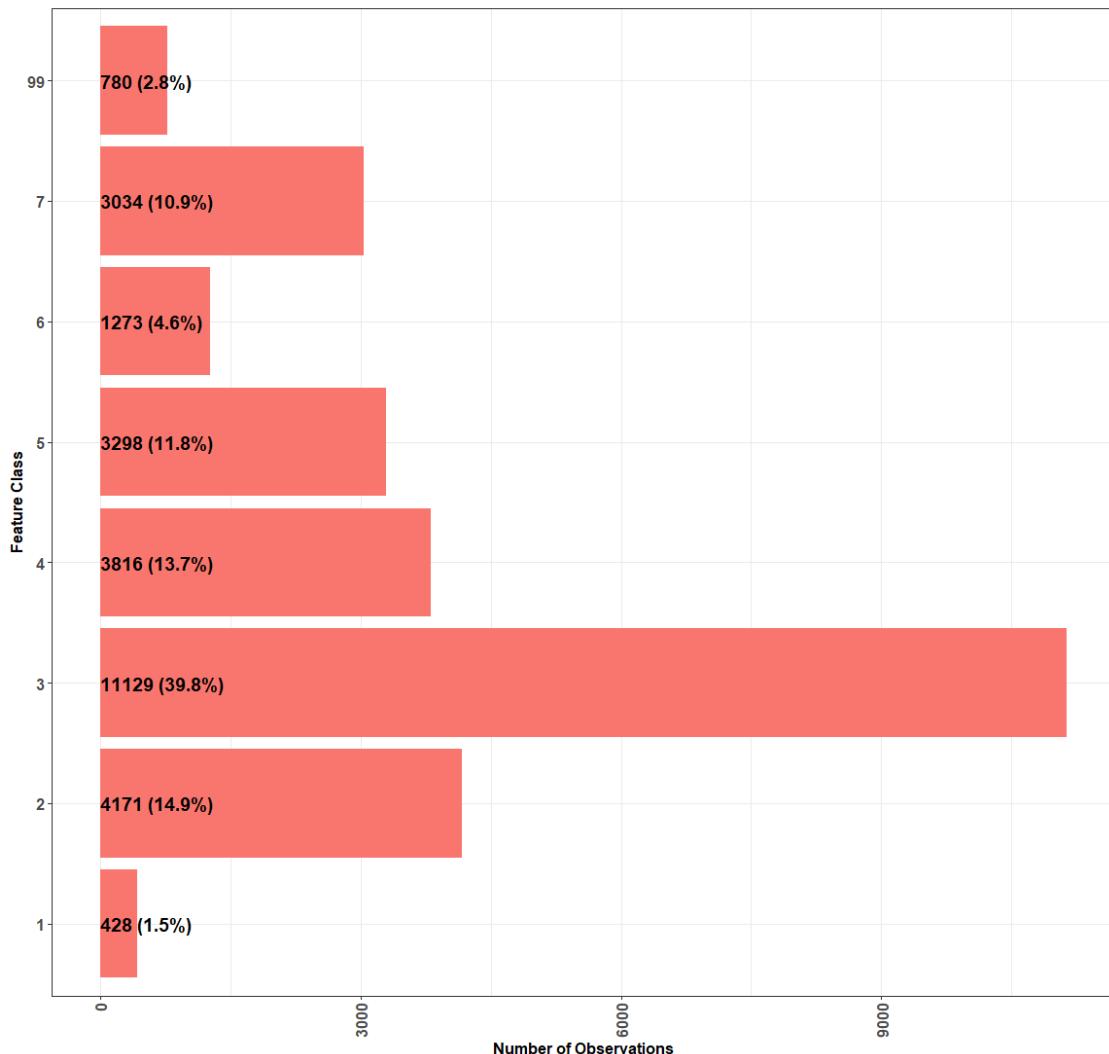
##  

## Feature Value Counter Percentage  

## -----
```

## 1	428	1.532
## 2	4171	14.934
## 3	11129	39.847
## 4	3816	13.663
## 5	3298	11.809
## 6	1273	4.558
## 7	3034	10.863
## 99	780	2.793

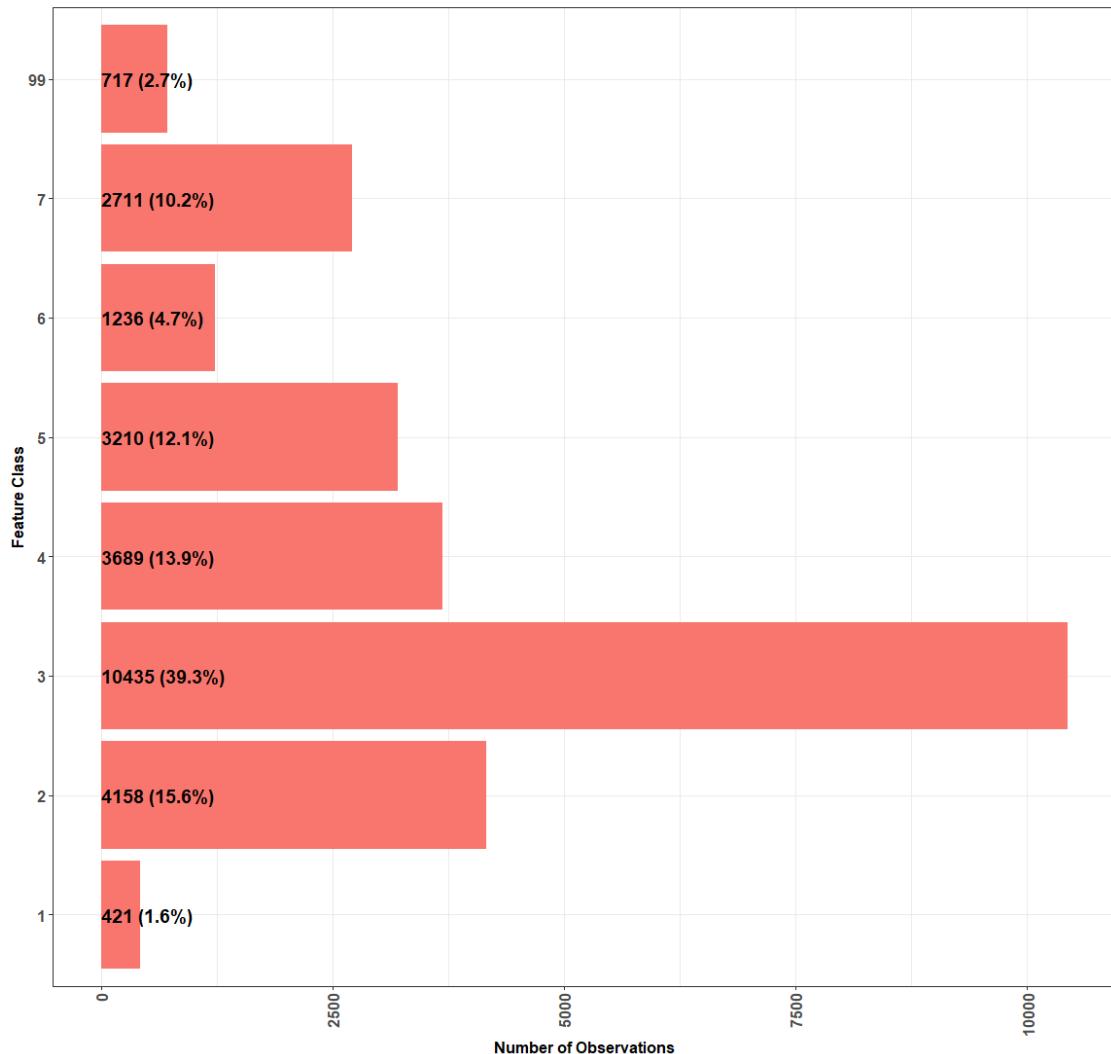
Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2011.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA:All 2012.csv...
##
## Number of Blank Values:0
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 1 421 1.584  
## 2 4158 15.645  
## 3 10435 39.263  
## 4 3689 13.880  
## 5 3210 12.078  
## 6 1236 4.651  
## 7 2711 10.200  
## 99 717 2.698
```

Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2012.csv



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2013.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

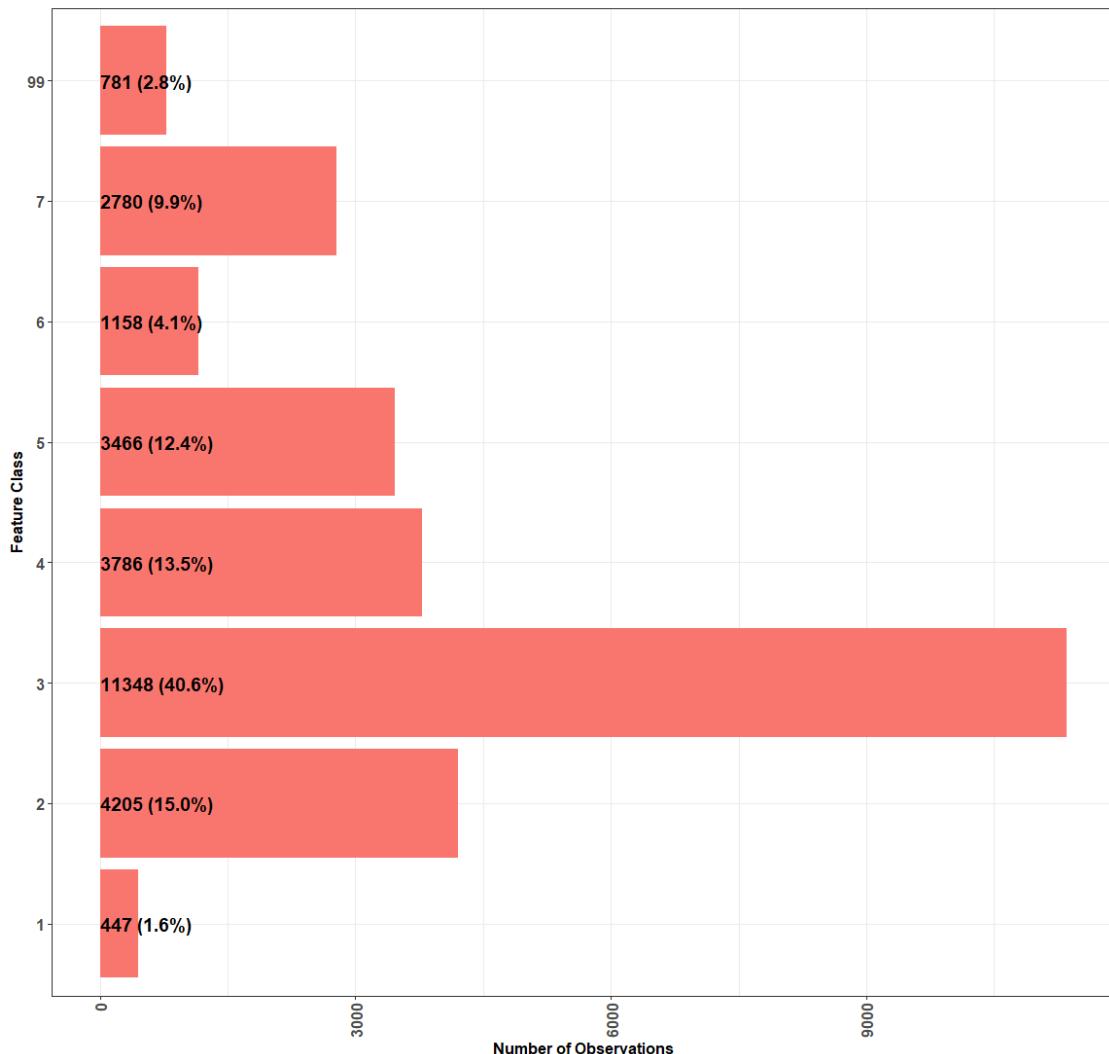
##  

## Feature Value Counter Percentage  

## -----
```

## 1	447	1.598
## 2	4205	15.033
## 3	11348	40.571
## 4	3786	13.535
## 5	3466	12.391
## 6	1158	4.140
## 7	2780	9.939
## 99	781	2.792

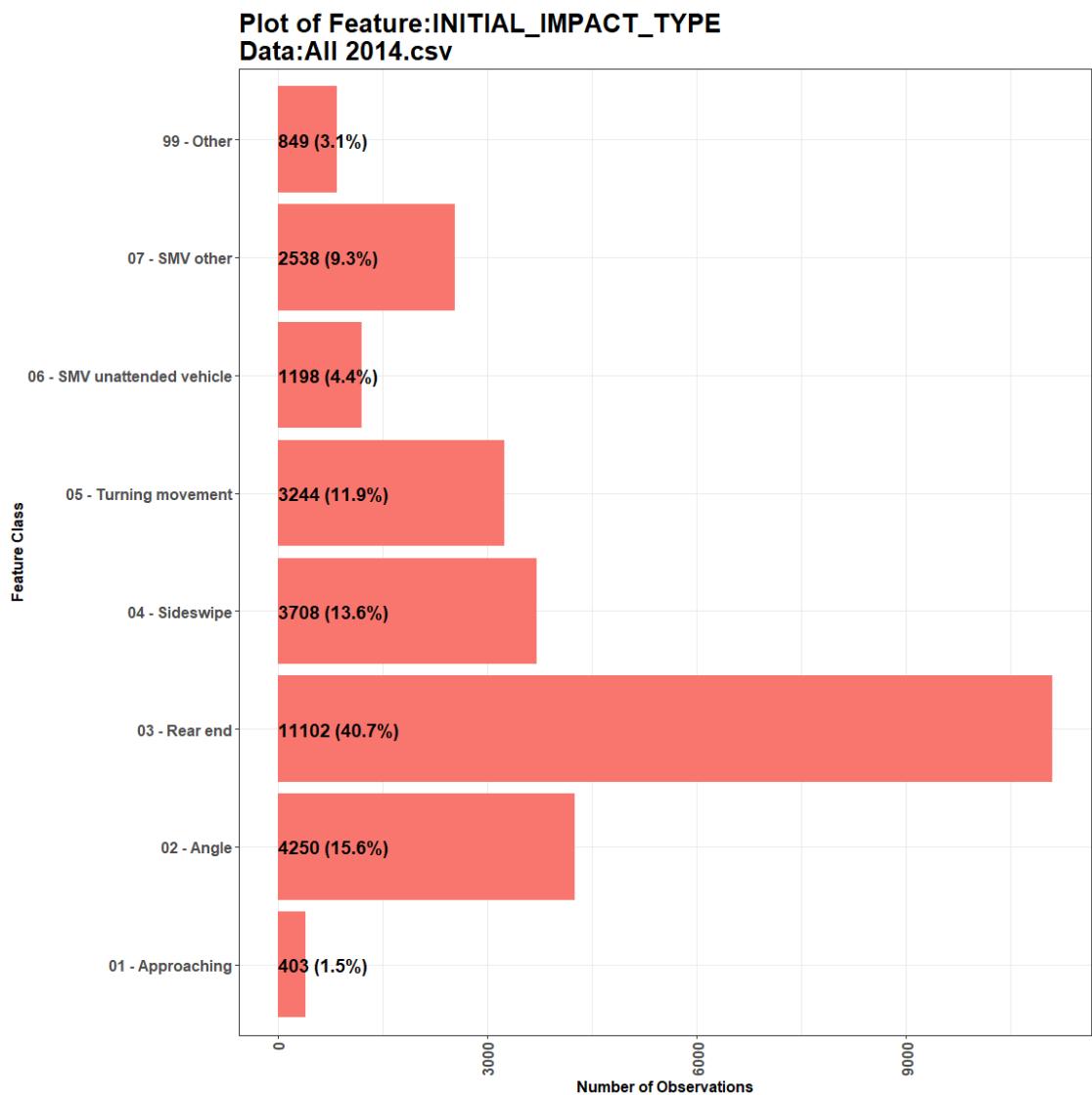
Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA:All 2014.csv...
##
## Number of Blank Values:0
```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Approaching 403 1.477  
## 02 - Angle 4250 15.572  
## 03 - Rear end 11102 40.679  
## 04 - Sideswipe 3708 13.586  
## 05 - Turning movement 3244 11.886  
## 06 - SMV unattended vehicle 1198 4.390  
## 07 - SMV other 2538 9.299  
## 99 - Other 849 3.111
```



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:1  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

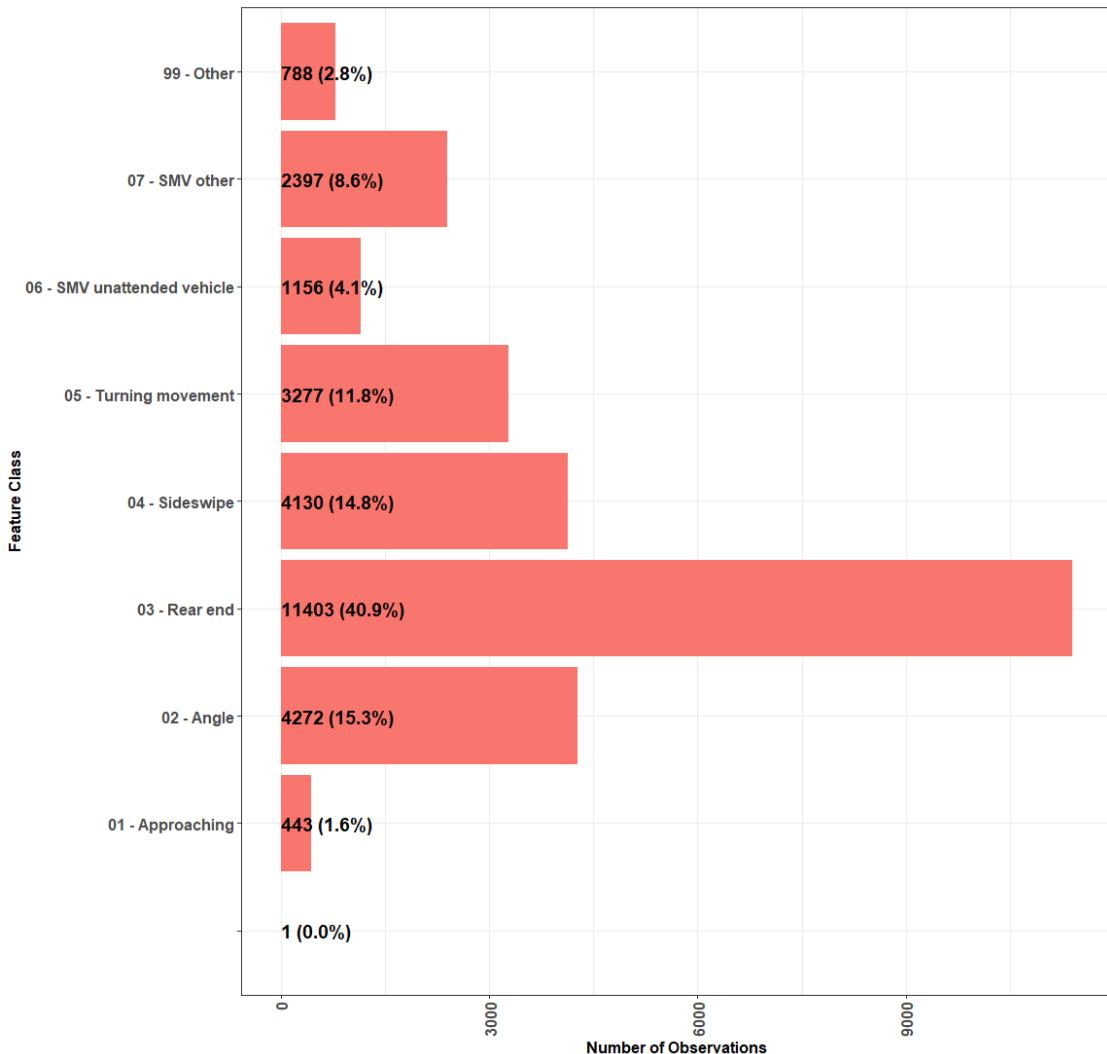
##  

## Feature Value Counter Percentage  

## -----
```

##	1	0.0036
## 01 - Approaching	443	1.5897
## 02 - Angle	4272	15.3300
## 03 - Rear end	11403	40.9194
## 04 - Sideswipe	4130	14.8204
## 05 - Turning movement	3277	11.7594
## 06 - SMV unattended vehicle	1156	4.1483
## 07 - SMV other	2397	8.6016
## 99 - Other	788	2.8277

Plot of Feature:INITIAL_IMPACT_TYPE
Data>All 2015.csv

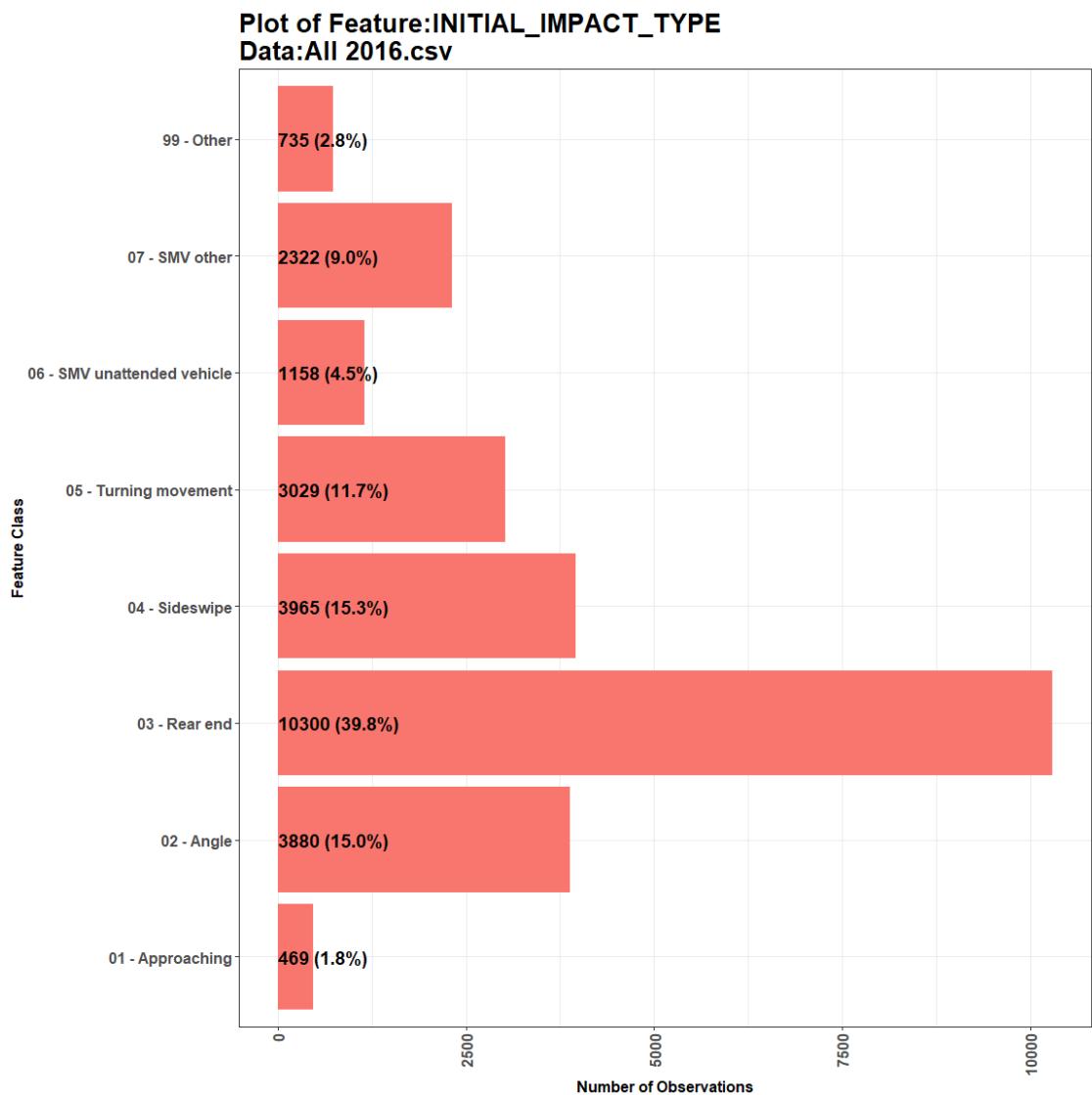


```

## 
## -----
## CHECKING FEATURE:INITIAL_IMPACT_TYPE
## DATA>All 2016.csv...
## 
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 8
##
## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE
##
## Feature Value          Counter   Percentage
## ----- - -----
## 01 - Approaching        469      1.814
## 02 - Angle               3880     15.005
## 03 - Rear end            10300    39.833
## 04 - Sideswipe           3965     15.334
## 05 - Turning movement    3029     11.714
## 06 - SMV unattended vehicle 1158     4.478
## 07 - SMV other            2322     8.980
## 99 - Other                735      2.842
```



```
##  

## -----  

## CHECKING FEATURE:INITIAL_IMPACT_TYPE  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF INITIAL_IMPACT_TYPE  

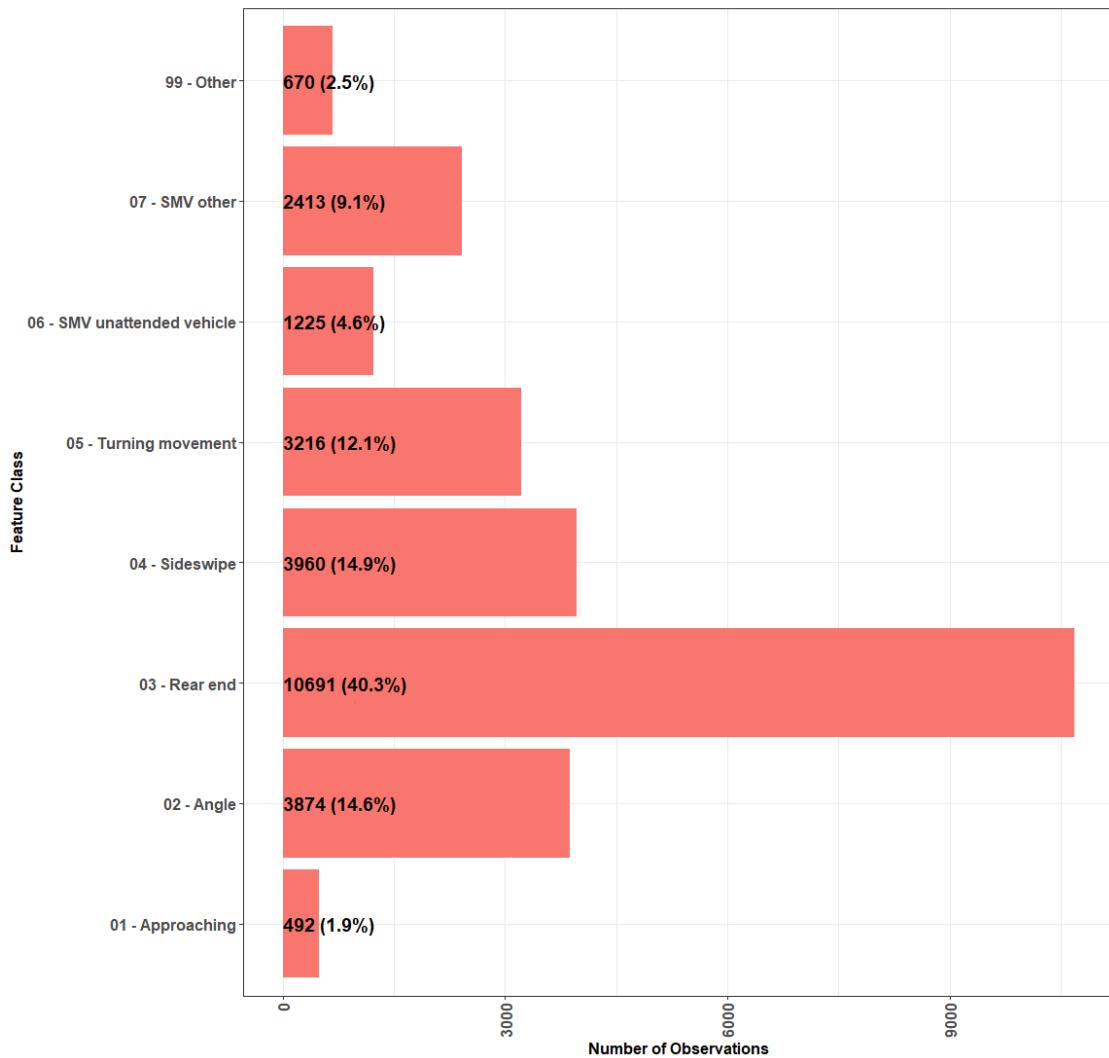
##  

## Feature Value Counter Percentage  

## -----
```

## 01 - Approaching	492	1.854
## 02 - Angle	3874	14.596
## 03 - Rear end	10691	40.281
## 04 - Sideswipe	3960	14.920
## 05 - Turning movement	3216	12.117
## 06 - SMV unattended vehicle	1225	4.615
## 07 - SMV other	2413	9.092
## 99 - Other	670	2.524

**Plot of Feature:INITIAL_IMPACT_TYPE
Data:All 2017.csv**

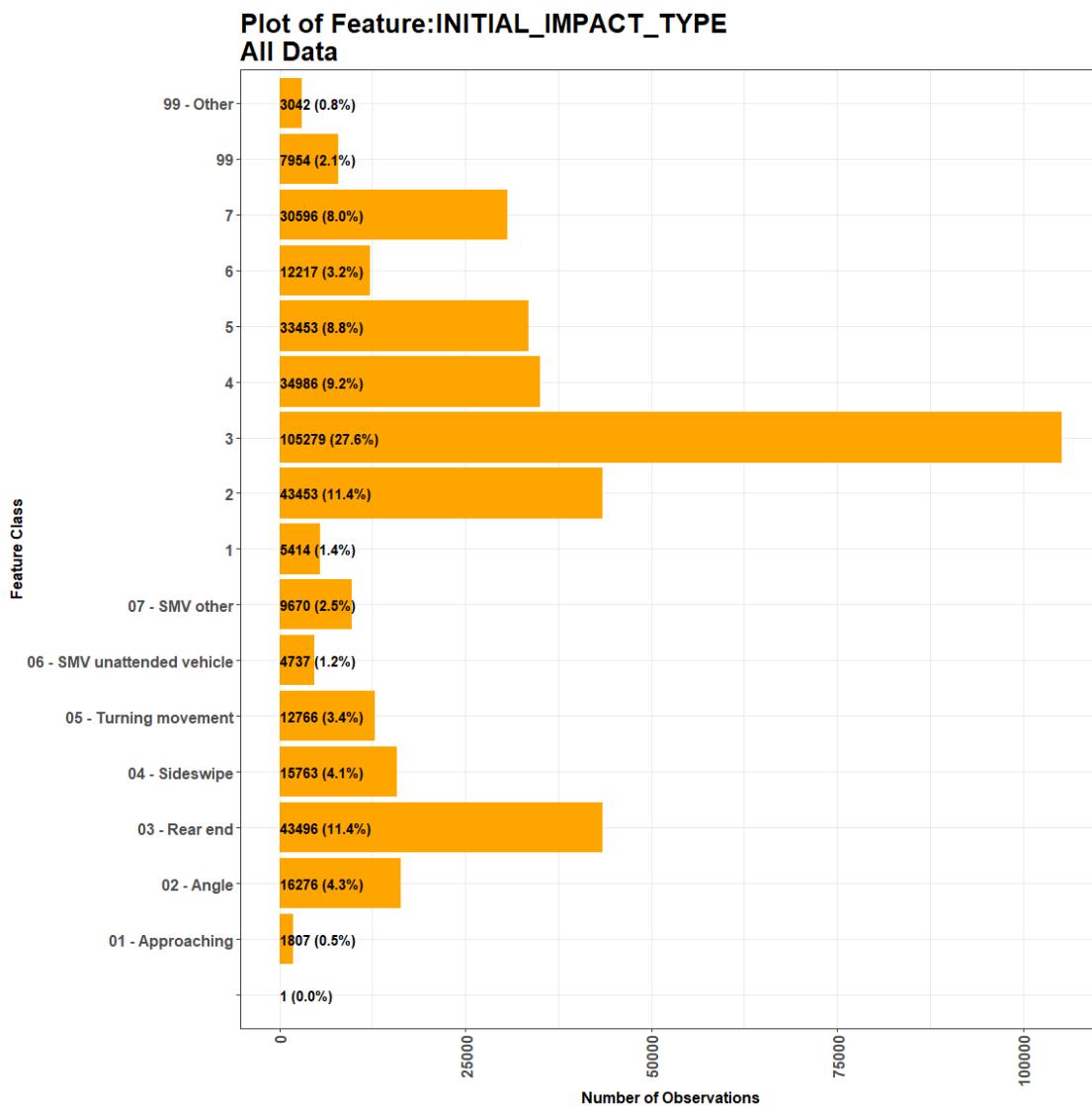


```
##
## =====
## FINAL INFO CHECKING FEATURE:INITIAL_IMPACT_TYPE
## ALL DATA...
## =====
##
```

```

## Number of Blank Values:1
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
## Summary as Factor Feature:
## Number of Features: 17

```



```

## [1] "TOP 100 FEATURES COUNTERS OF:INITIAL_IMPACT_TYPE"

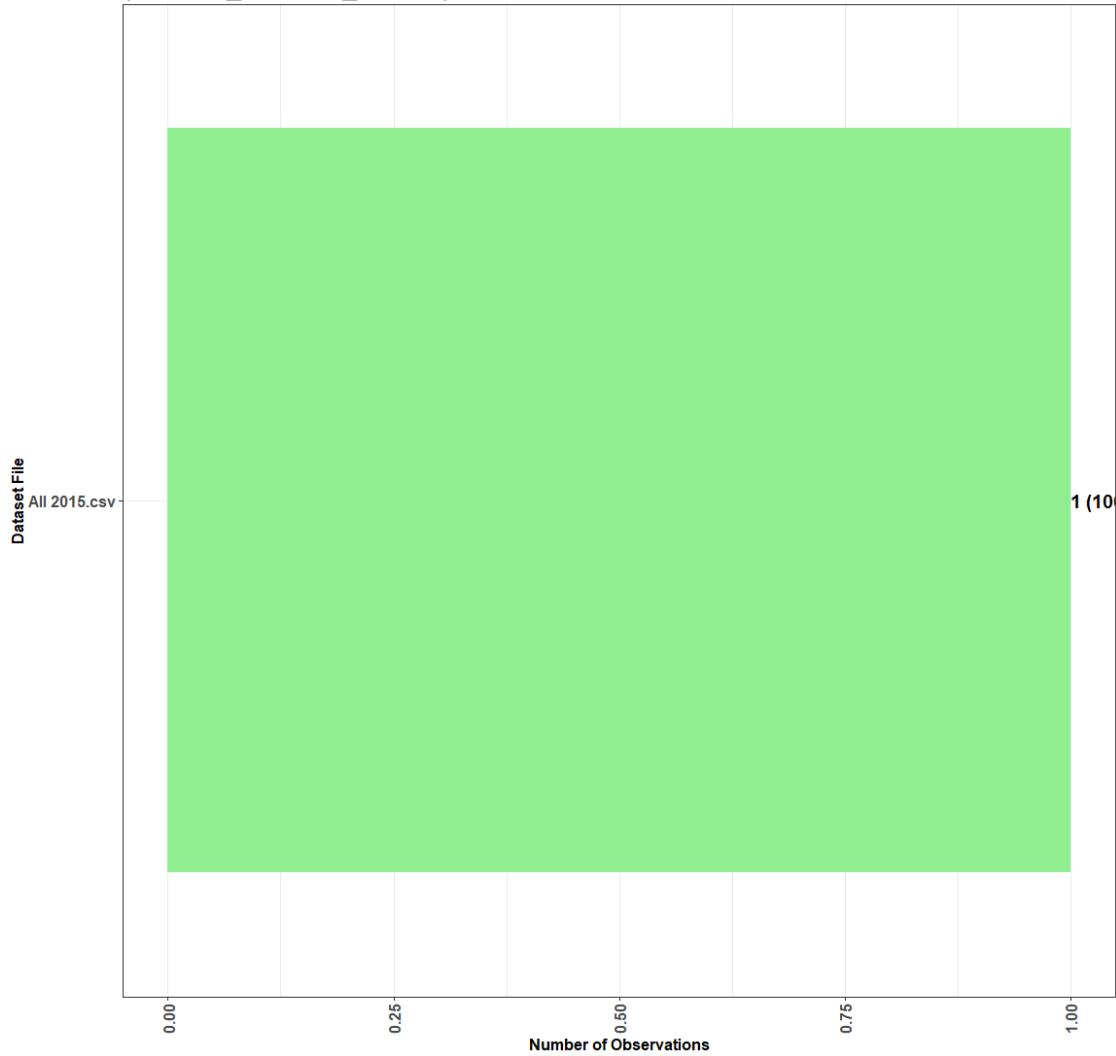
```

Feature Value	Counter	Percentage
	1	0.0003
01 - Approaching	1807	0.4744
02 - Angle	16276	4.2729
03 - Rear end	43496	11.4190
04 - Sideswipe	15763	4.1382
05 - Turning movement	12766	3.3514
06 - SMV unattended vehicle	4737	1.2436
07 - SMV other	9670	2.5387
1	5414	1.4213
2	43453	11.4077
3	105279	27.6388
4	34986	9.1848
5	33453	8.7824
6	12217	3.2073
7	30596	8.0323
99	7954	2.0882
99 - Other	3042	0.7986

8.1 INITIAL_IMPACT_TYPE = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (INITIAL_IMPACT_TYPE=)  
##  
## Summary per Data File:  
## All 2015.csv  
## 1
```

**Plot of Feature and Value
(INITIAL_IMPACT_TYPE=)**



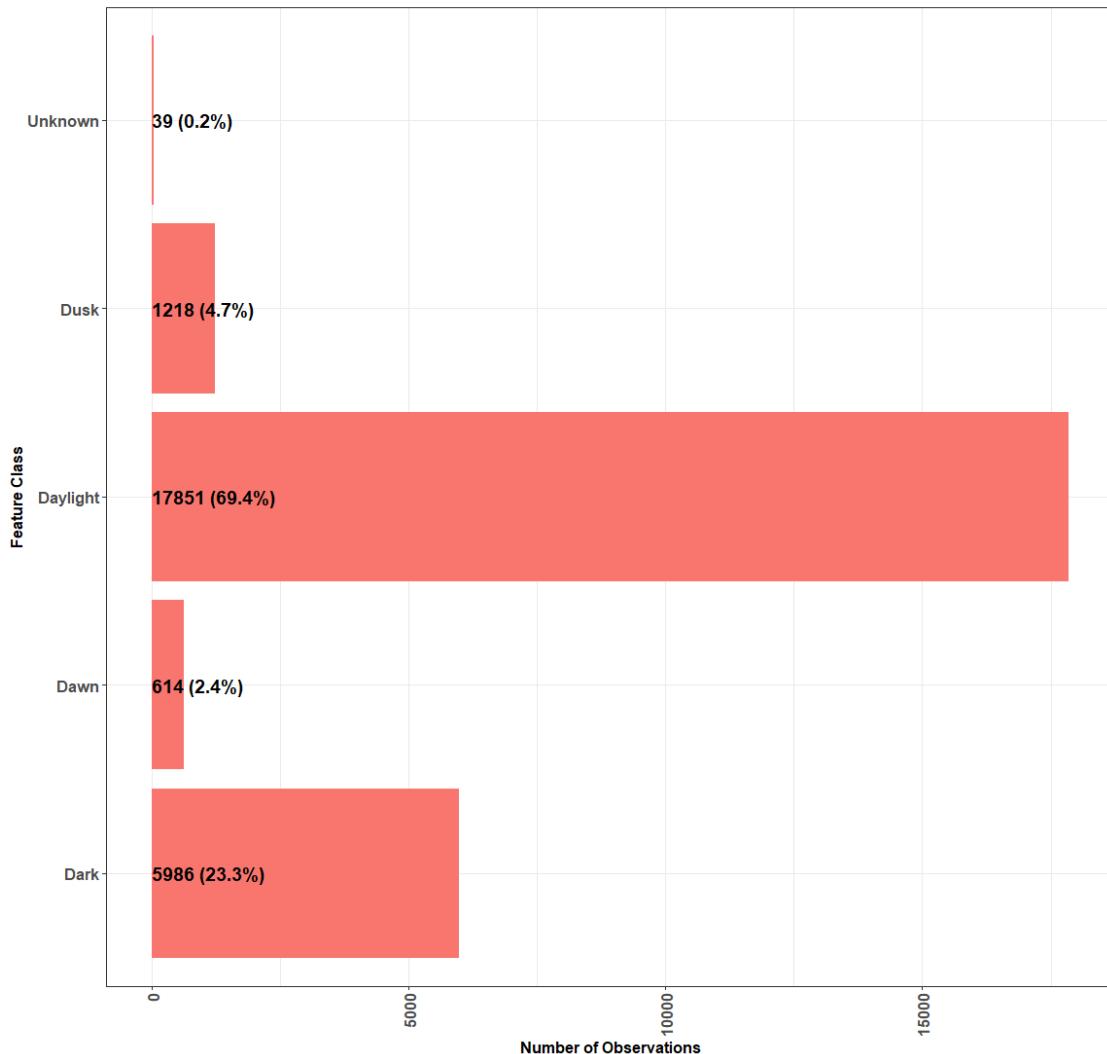
DATASET FILE	COUNTER OF (INITIAL_IMPACT_TYPE=)	Percentage
All 2015.csv	1	100

9. Light (LIGHT)

```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value Counter Percentage
## ----- -----
## Dark 5986 23.2846
## Dawn 614 2.3884
## Daylight 17851 69.4375
## Dusk 1218 4.7378
## Unknown 39 0.1517
```

**Plot of Feature:LIGHT
Data:All 2004.csv**

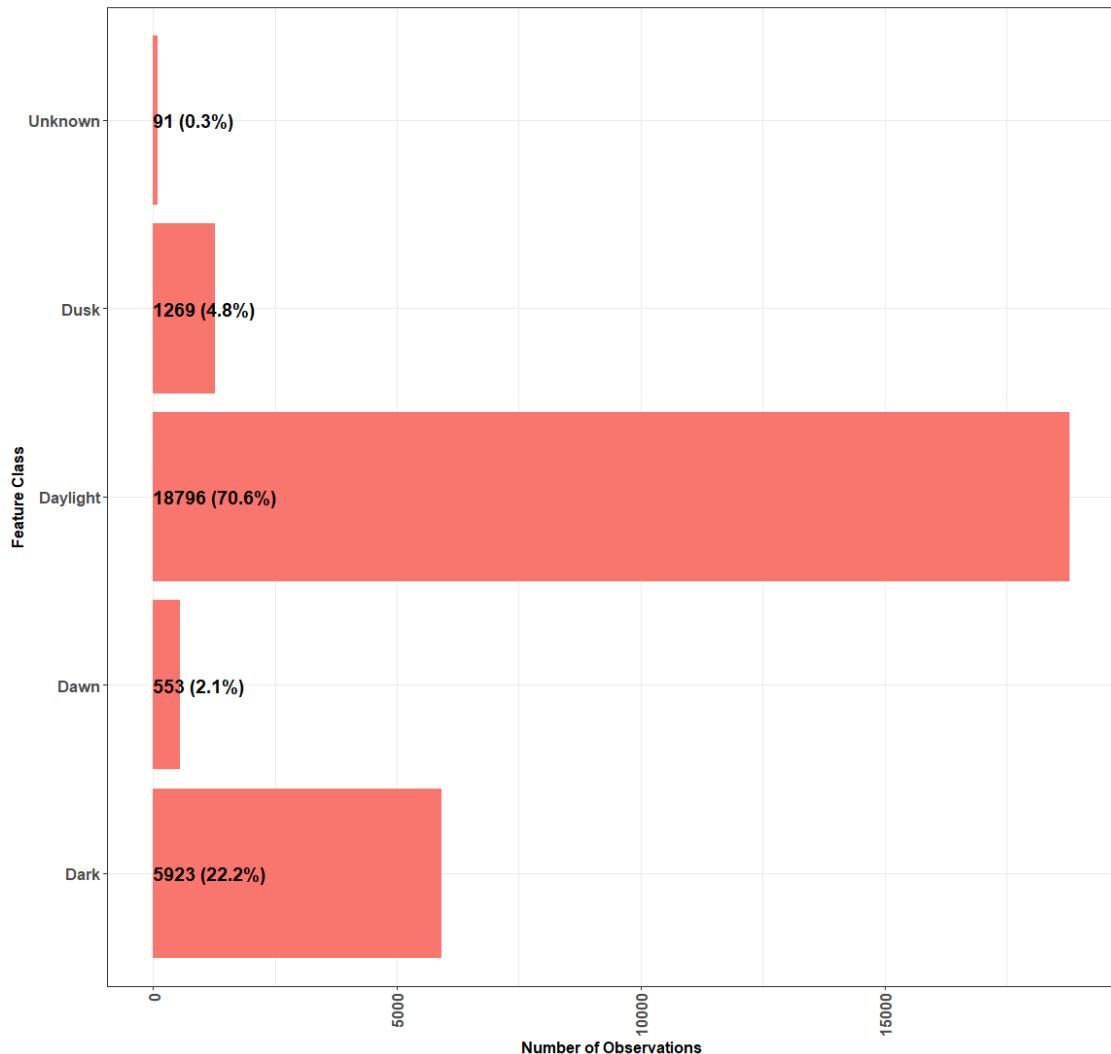


```
##
## -----
## CHECKING FEATURE:LIGHT
```



```
## DATA:All 2005.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value      Counter      Percentage
## ----- -----
## Dark              5923        22.2402
## Dawn              553         2.0764
## Daylight          18796       70.5767
## Dusk              1269        4.7649
## Unknown           91          0.3417
```

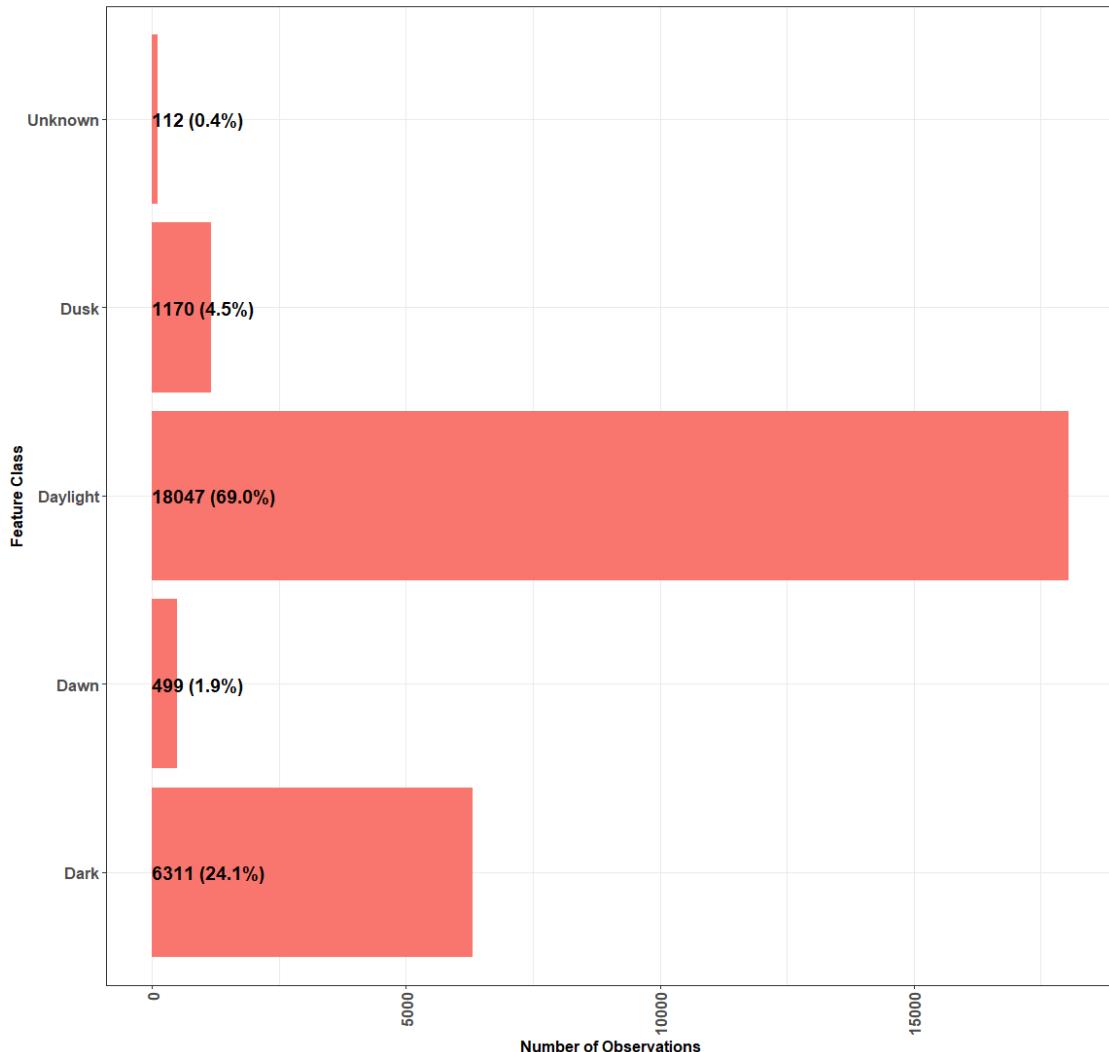
**Plot of Feature:LIGHT
Data:All 2005.csv**



```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----
```

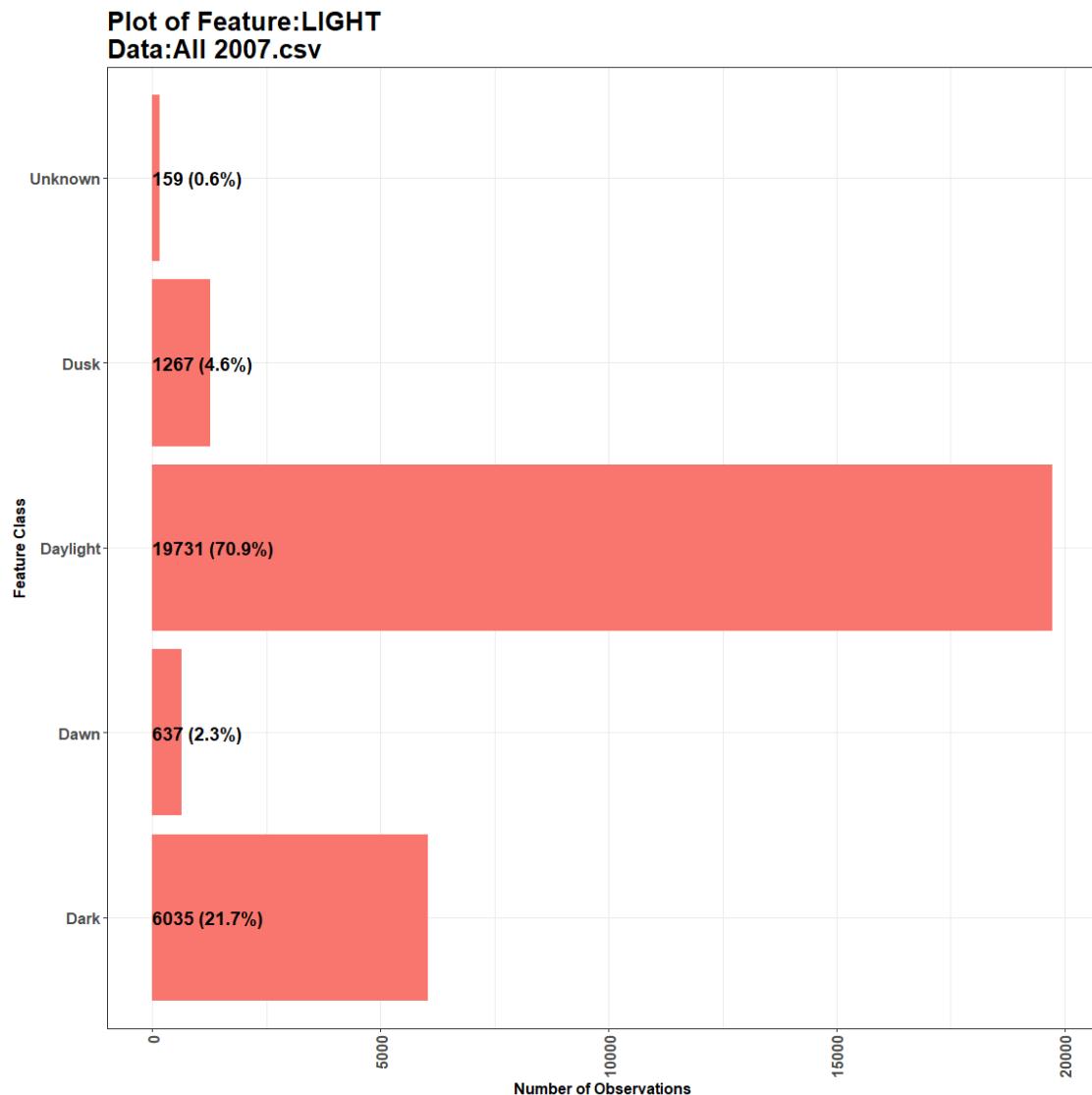
## Dark	6311	24.1440
## Dawn	499	1.9090
## Daylight	18047	69.0424
## Dusk	1170	4.4761
## Unknown	112	0.4285

**Plot of Feature:LIGHT
Data:All 2006.csv**



```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value Counter Percentage
## ----- -----
## Dark 6035 21.6860
## Dawn 637 2.2890
## Daylight 19731 70.9009
## Dusk 1267 4.5528
## Unknown 159 0.5713
```

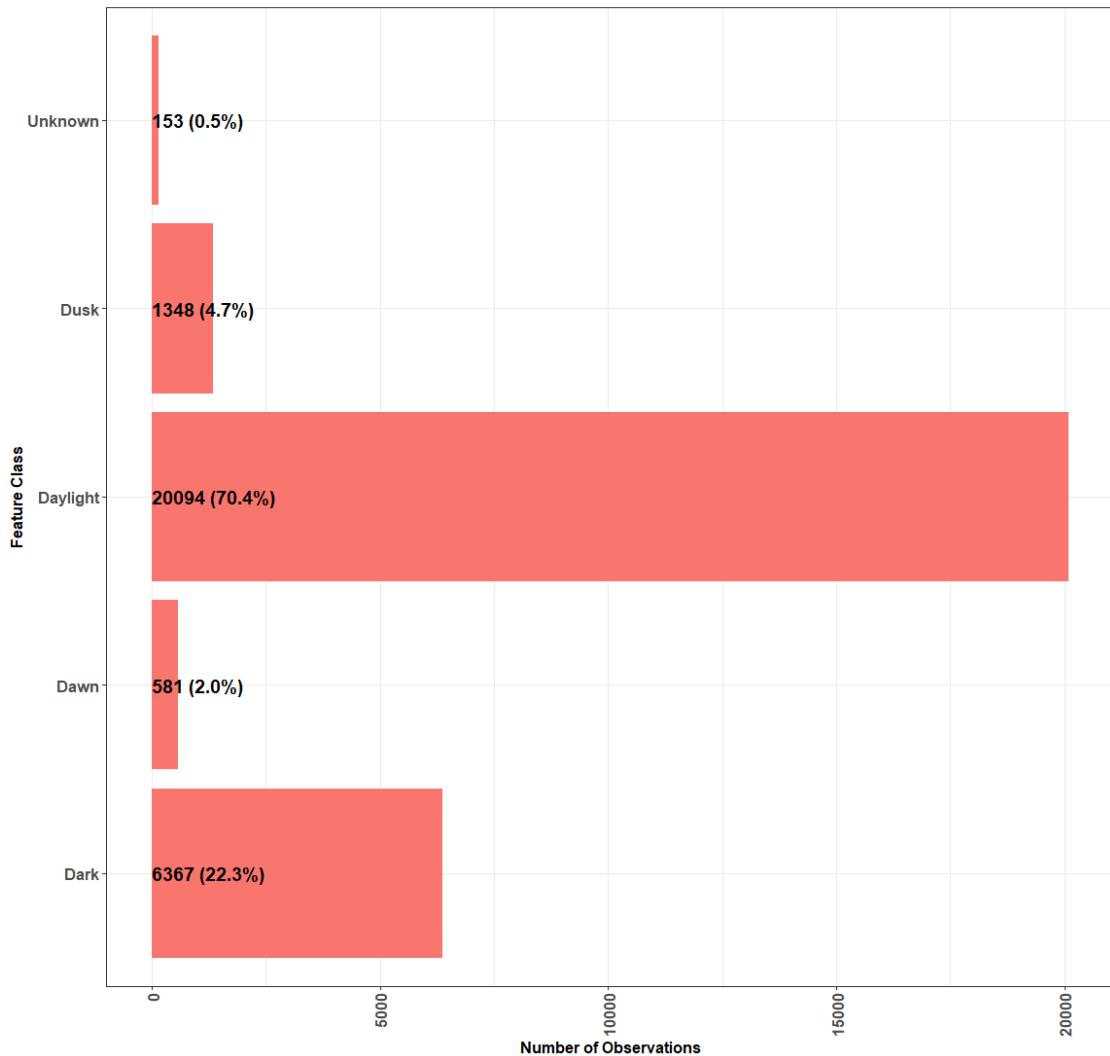


```
##
## -----
## CHECKING FEATURE:LIGHT
```



```
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value      Counter      Percentage
## ----- -----
## Dark              6367        22.307
## Dawn              581         2.035
## Daylight          20094       70.399
## Dusk              1348        4.723
## Unknown           153         0.536
```

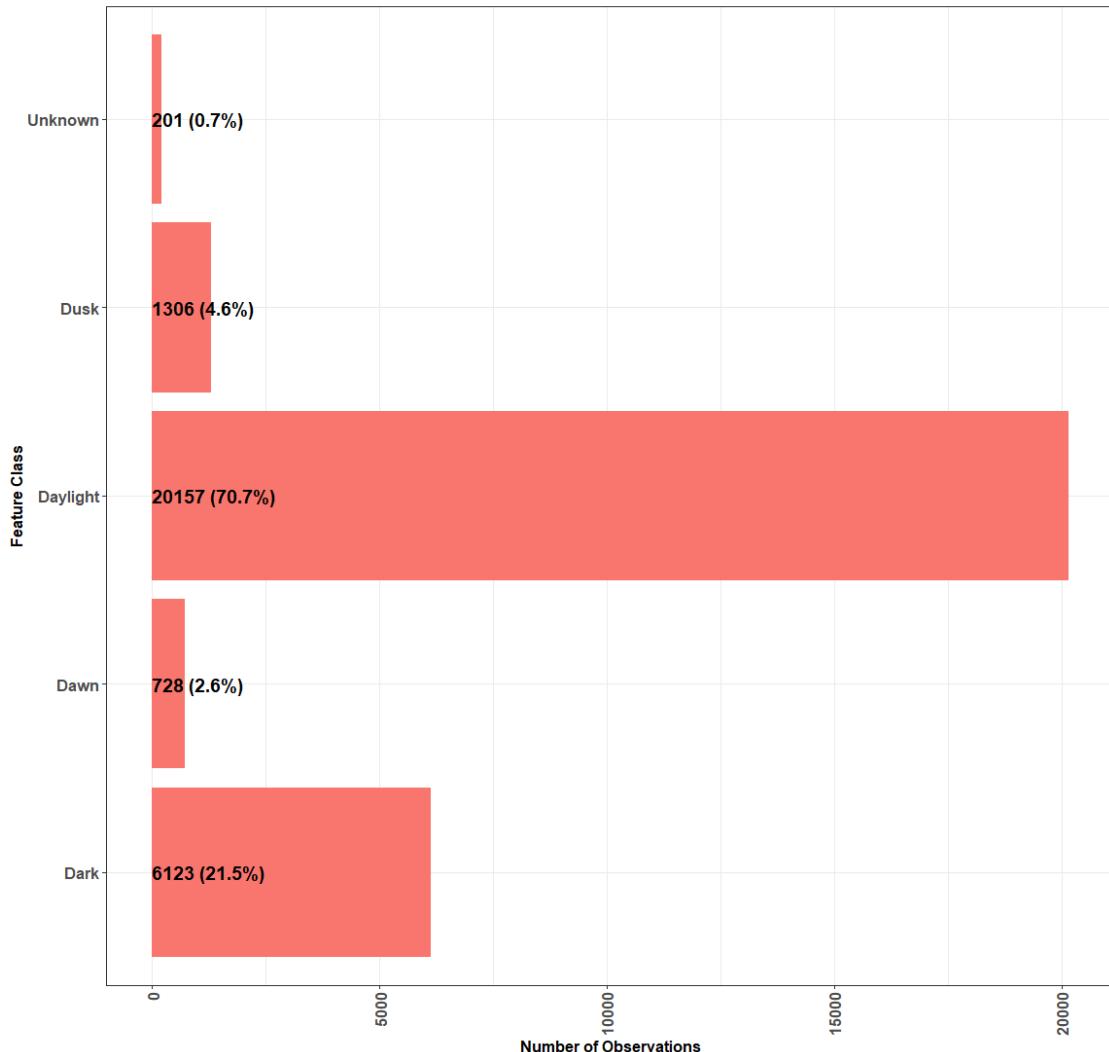
Plot of Feature:LIGHT
Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----
```

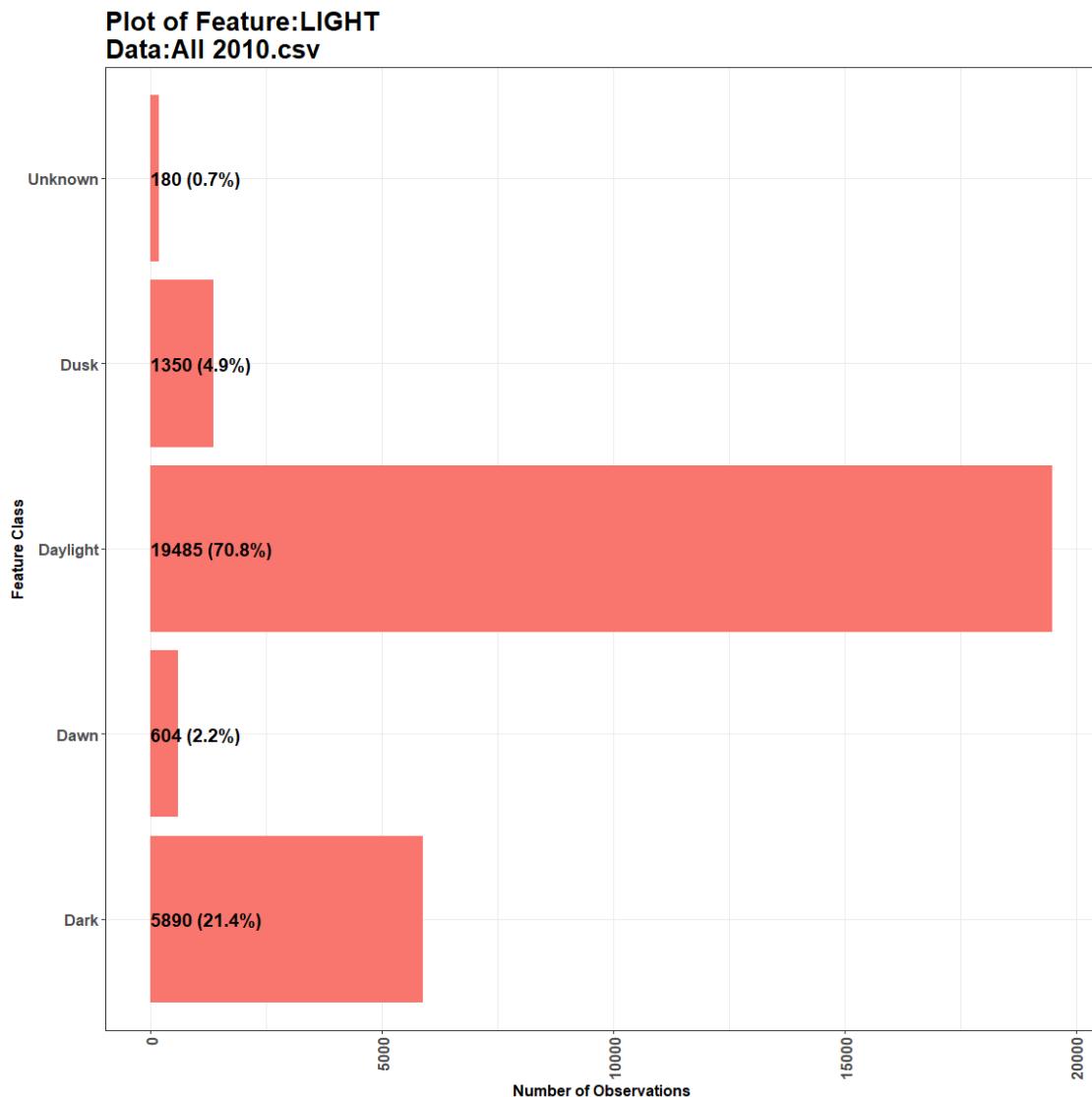
## Dark	6123	21.4729
## Dawn	728	2.5530
## Daylight	20157	70.6891
## Dusk	1306	4.5800
## Unknown	201	0.7049

**Plot of Feature:LIGHT
Data>All 2009.csv**



```
##
## -----
## CHECKING FEATURE:LIGHT
## DATA>All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value Counter Percentage
## ----- -----
## Dark 5890 21.4112
## Dawn 604 2.1956
## Daylight 19485 70.8314
## Dusk 1350 4.9075
## Unknown 180 0.6543
```

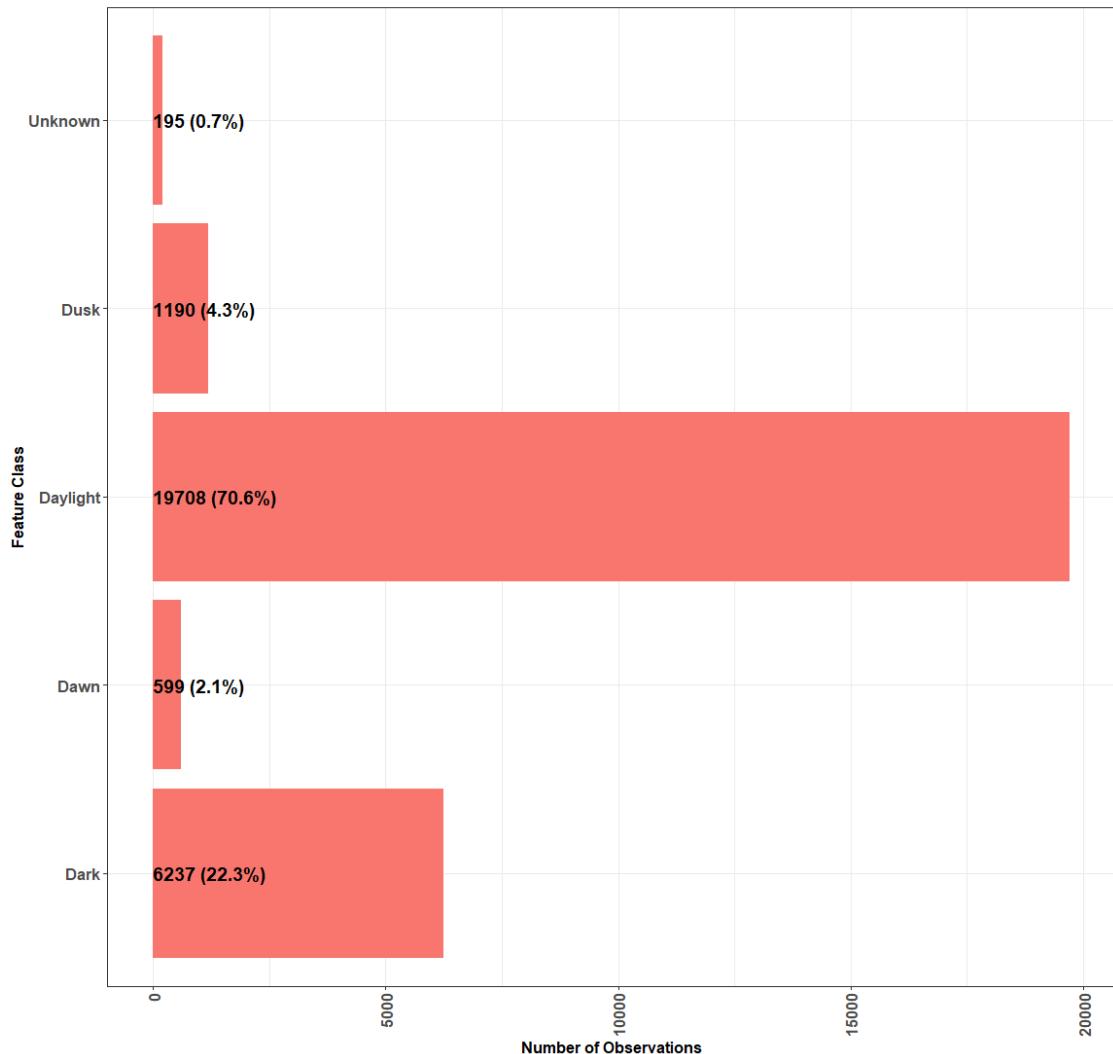


```
##
## -----
## CHECKING FEATURE:LIGHT
```



```
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value      Counter      Percentage
## ----- -----
## Dark              6237        22.3316
## Dawn              599         2.1447
## Daylight          19708       70.5646
## Dusk              1190         4.2608
## Unknown           195          0.6982
```

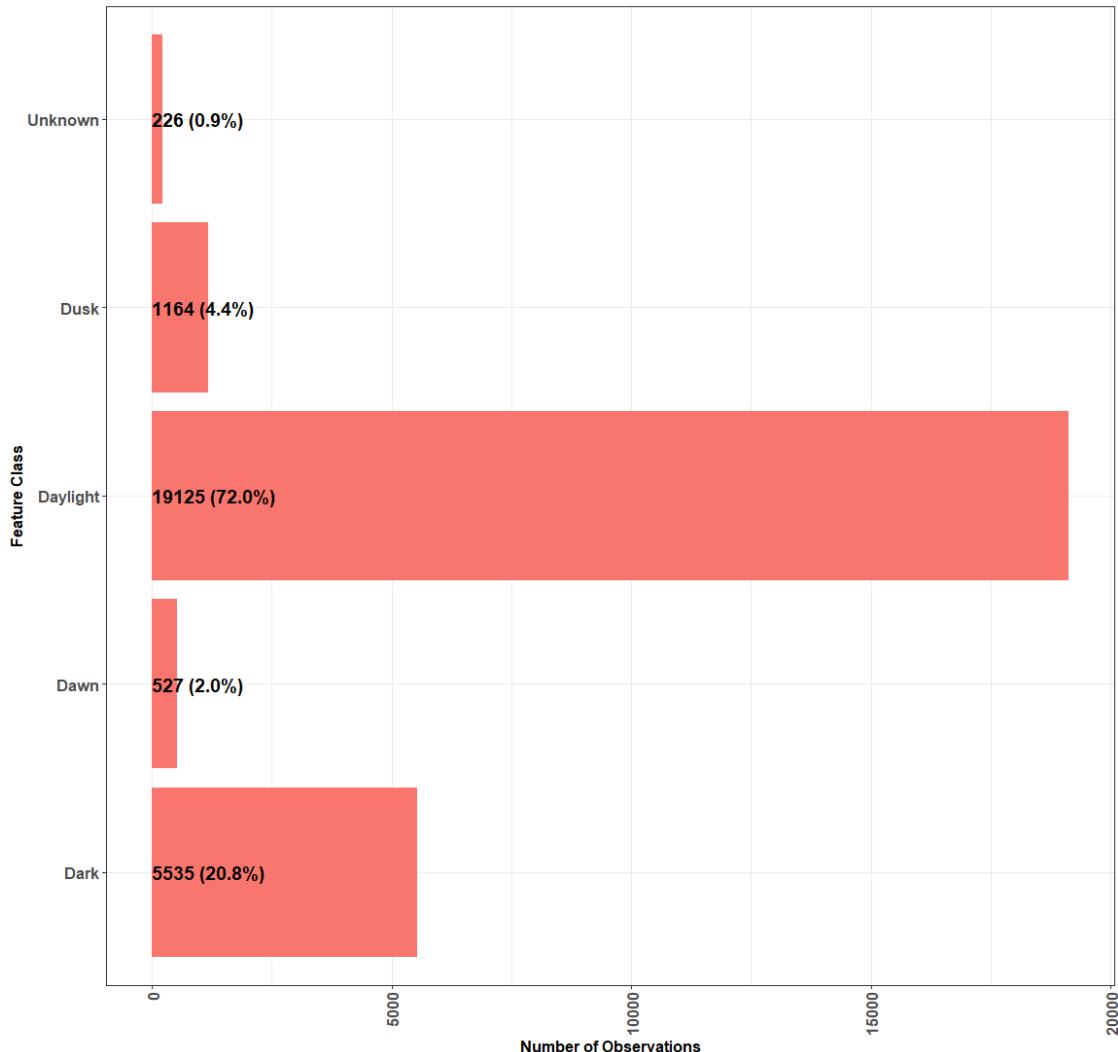
**Plot of Feature:LIGHT
Data:All 2011.csv**



```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## Dark           5535    20.8263
## Dawn          527     1.9829
## Daylight      19125   71.9607
## Dusk          1164    4.3797
## Unknown       226     0.8504
```

**Plot of Feature:LIGHT
Data:All 2012.csv**

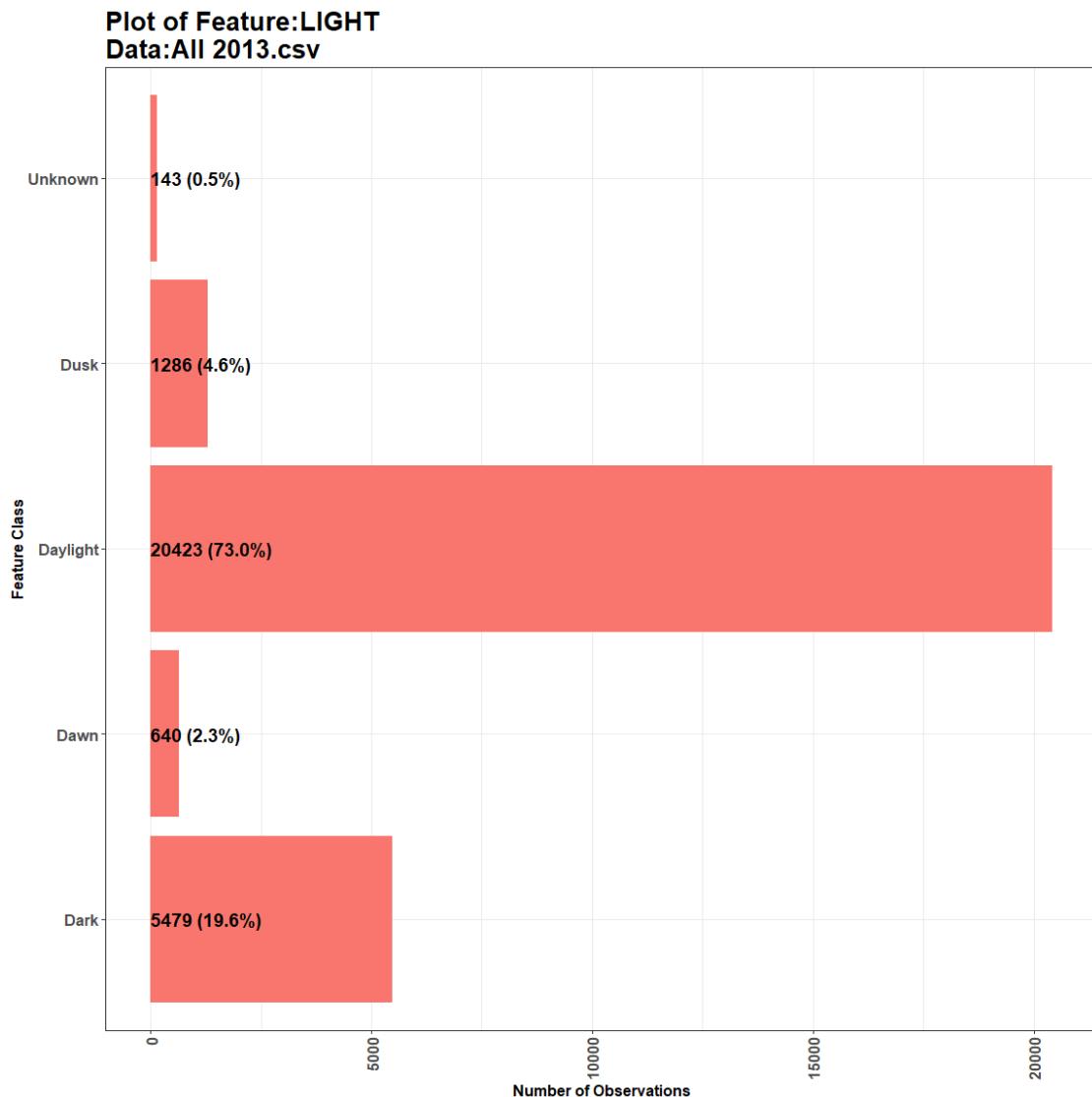


```
##
## -----
## CHECKING FEATURE:LIGHT
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```

## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value Counter Percentage
## ----- -----
## Dark 5479 19.5881
## Dawn 640 2.2881
## Daylight 20423 73.0149
## Dusk 1286 4.5976
## Unknown 143 0.5112

```



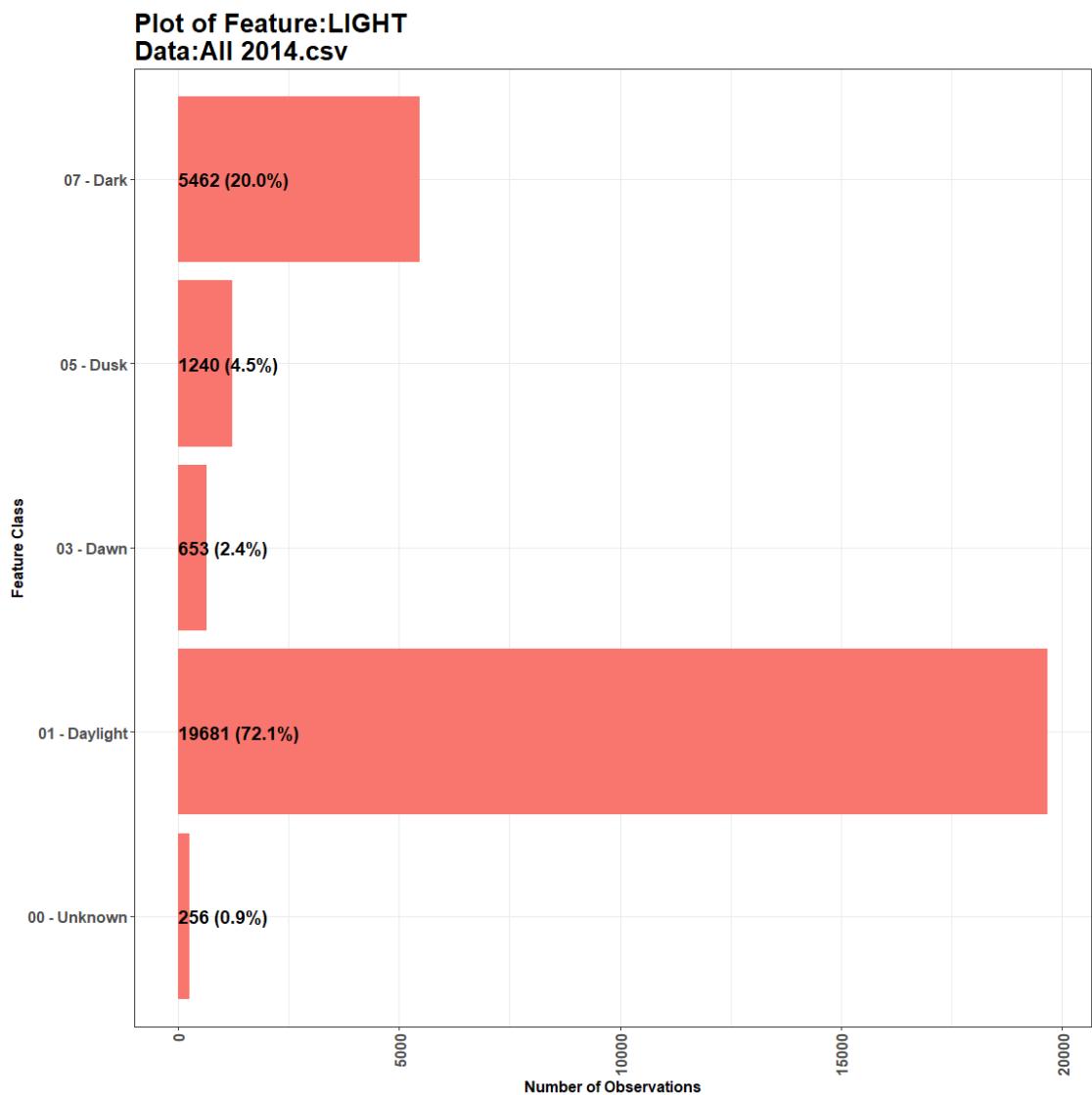
```

##
## -----
## CHECKING FEATURE:LIGHT

```

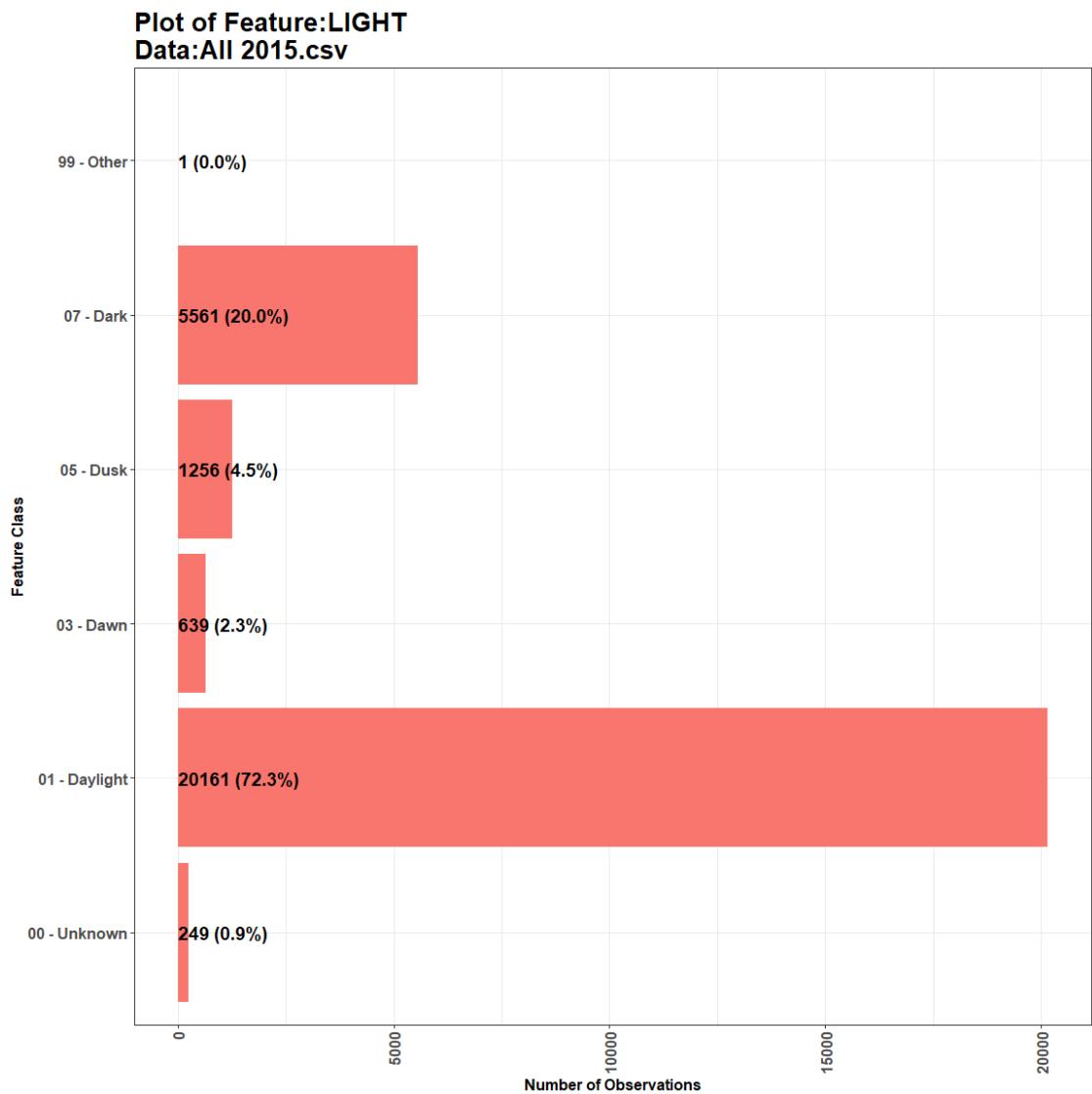


```
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF LIGHT
##
## Feature Value      Counter      Percentage
## ----- -----
## 00 - Unknown      256          0.938
## 01 - Daylight     19681         72.113
## 03 - Dawn          653          2.393
## 05 - Dusk          1240         4.543
## 07 - Dark          5462         20.013
```



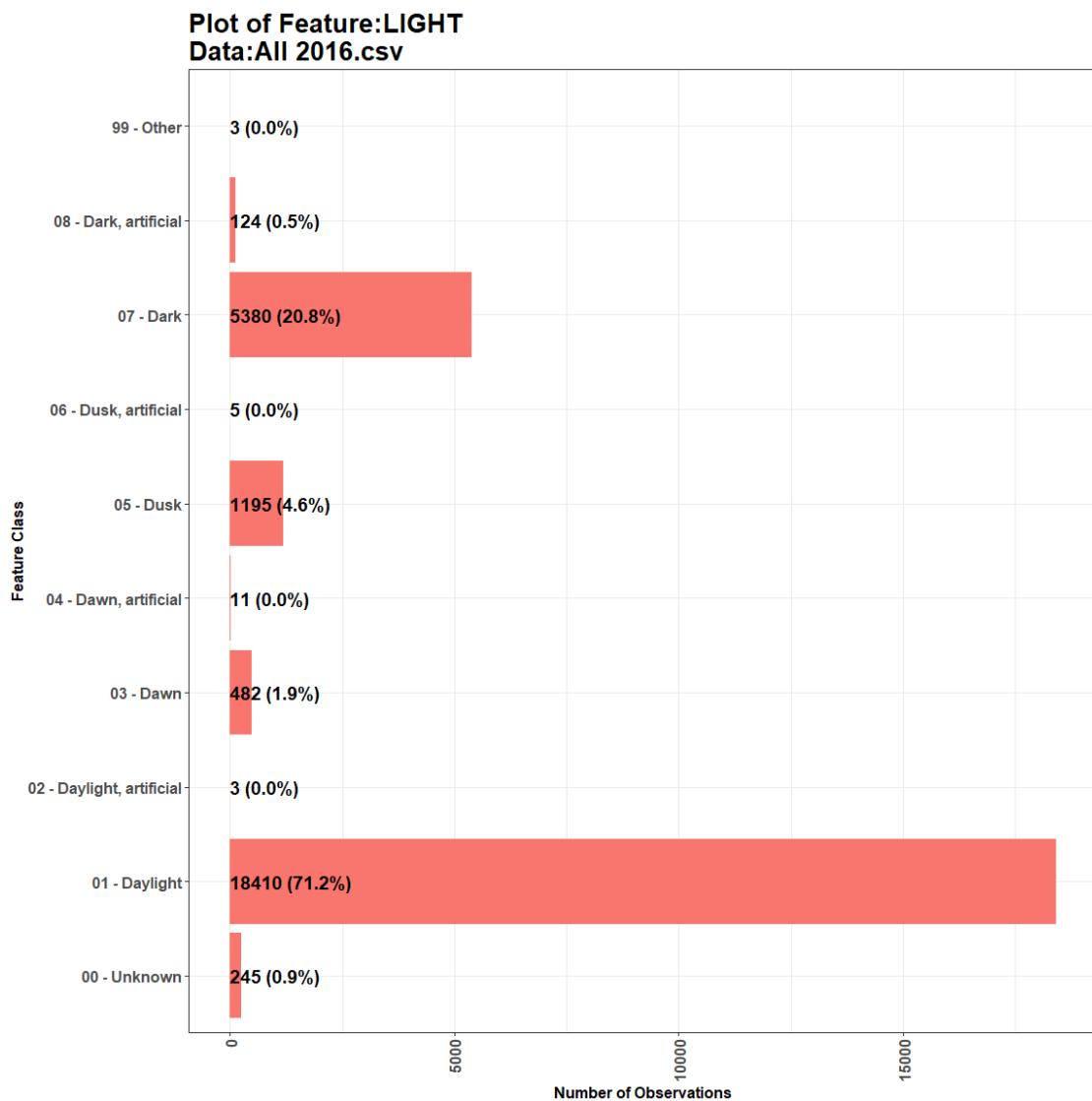
```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----
```

## 00 - Unknown	249	0.8935
## 01 - Daylight	20161	72.3472
## 03 - Dawn	639	2.2930
## 05 - Dusk	1256	4.5071
## 07 - Dark	5561	19.9555
## 99 - Other	1	0.0036



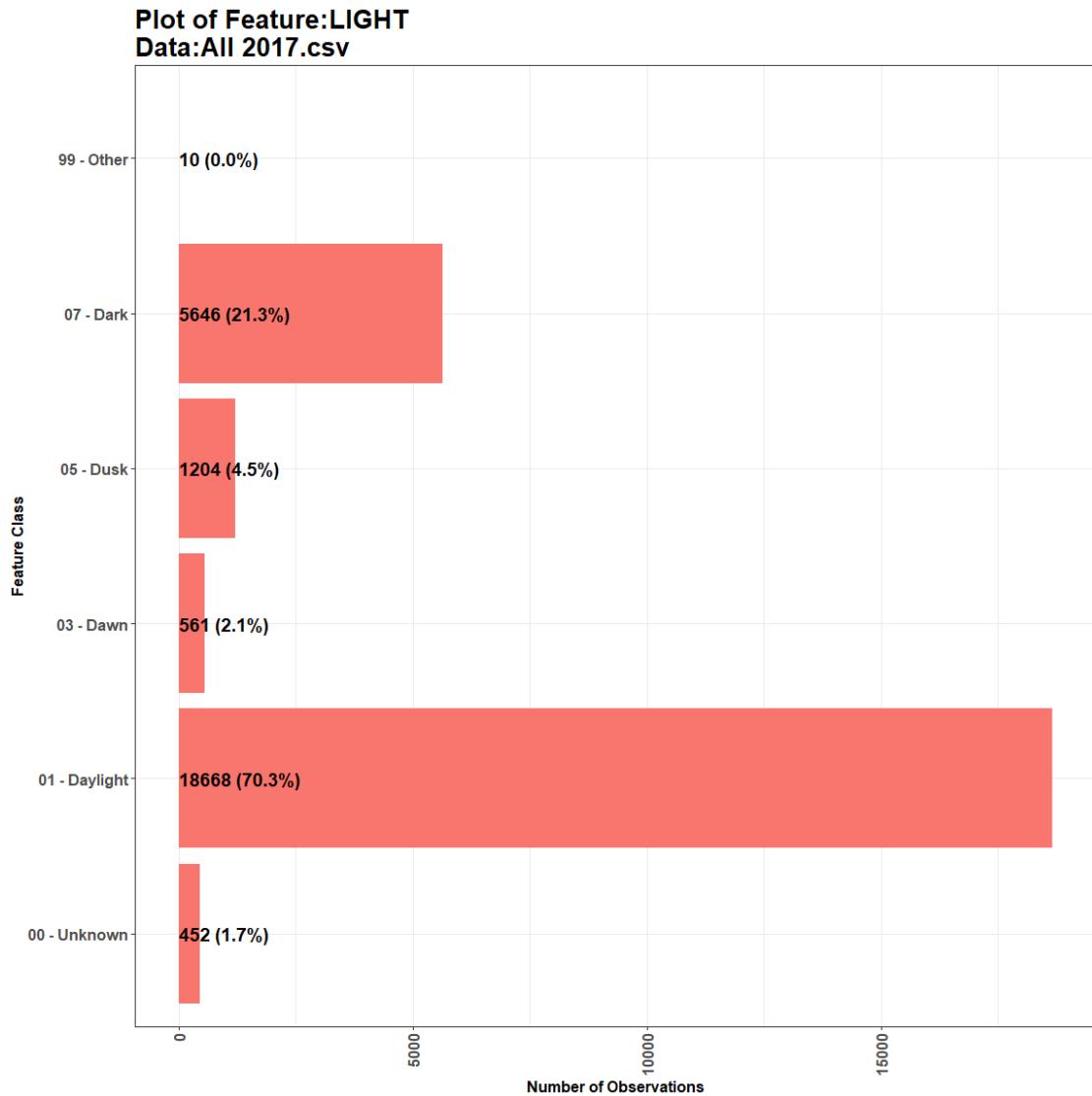
```
##
## -----
## CHECKING FEATURE:LIGHT
## DATA>All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 245 0.9475  
## 01 - Daylight 18410 71.1965  
## 02 - Daylight, artificial 3 0.0116  
## 03 - Dawn 482 1.8640  
## 04 - Dawn, artificial 11 0.0425  
## 05 - Dusk 1195 4.6214  
## 06 - Dusk, artificial 5 0.0193  
## 07 - Dark 5380 20.8059  
## 08 - Dark, artificial 124 0.4795  
## 99 - Other 3 0.0116
```



```
##  
## -----  
## CHECKING FEATURE:LIGHT  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF LIGHT  
##  
## Feature Value Counter Percentage  
## -----
```

## 00 - Unknown	452	1.7030
## 01 - Daylight	18668	70.3365
## 03 - Dawn	561	2.1137
## 05 - Dusk	1204	4.5364
## 07 - Dark	5646	21.2727
## 99 - Other	10	0.0377



```
##
## =====
## FINAL INFO CHECKING FEATURE:LIGHT
## ALL DATA...
## =====
## Number of Blank Values:0
##
```

```
## Summary per Data File:  

## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  

## 25708 26632 26139 27829 28543  

## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  

## 28515 27509 27929 26577 27971  

## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  

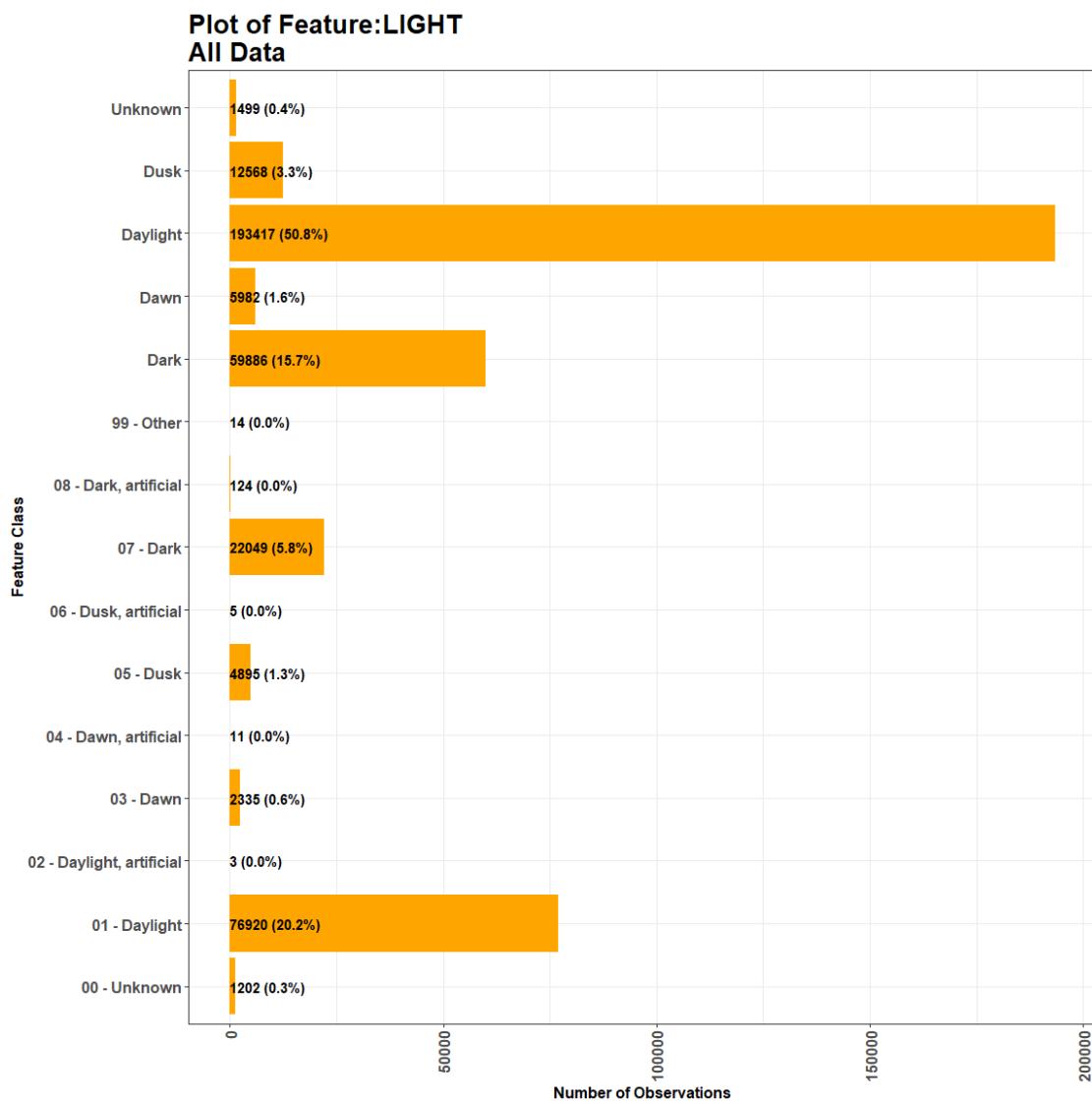
## 27292 27867 25858 26541  

##  

##  

## Summary as Factor Feature:  

## Number of Features: 15
```



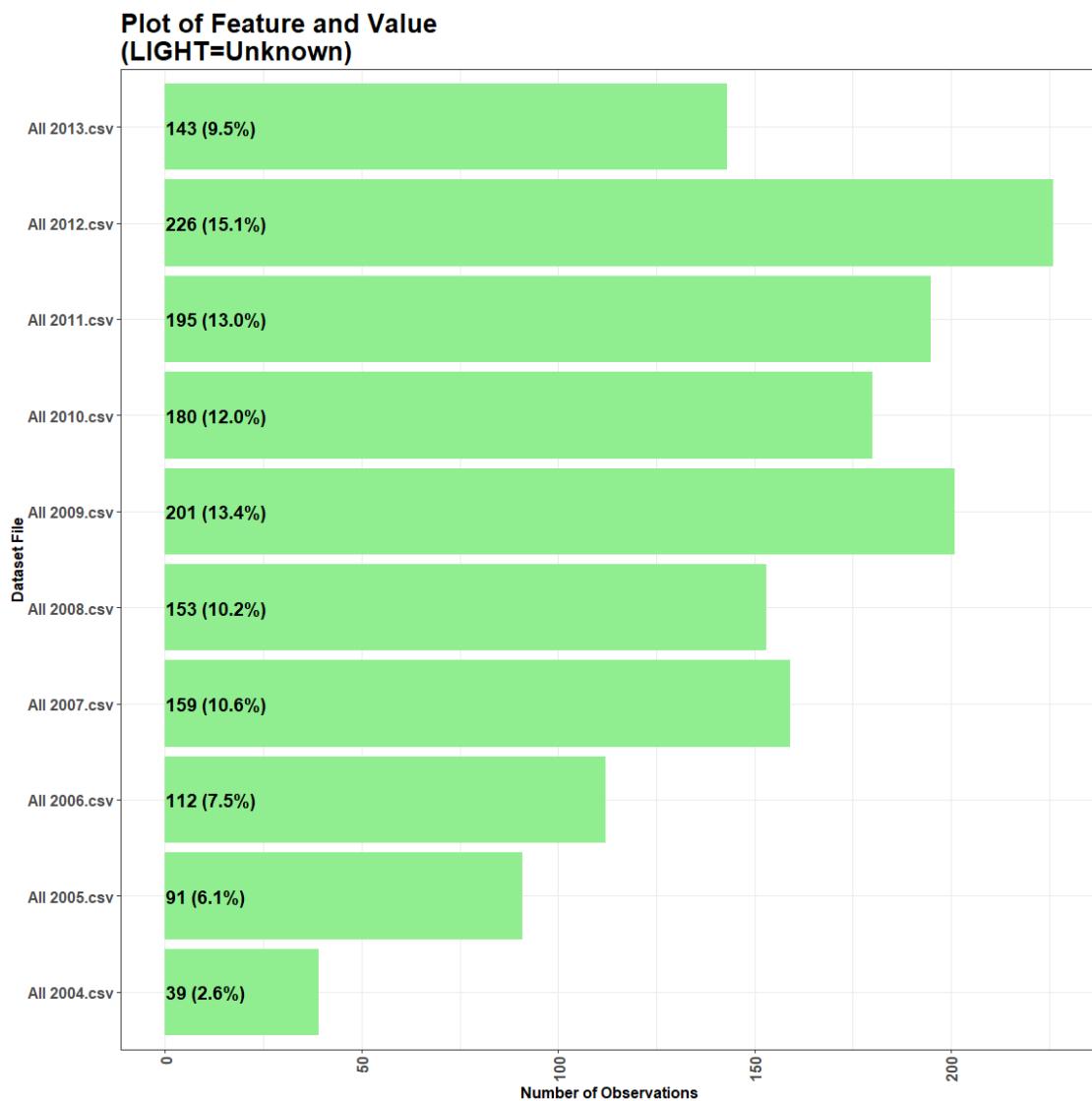
```
## [1] "TOP 100 FEATURES COUNTERS OF:LIGHT"
```

Feature Value	Counter	Percentage
---------------	---------	------------

00 - Unknown	1202	0.3156
01 - Daylight	76920	20.1937
02 - Daylight, artificial	3	0.0008
03 - Dawn	2335	0.6130
04 - Dawn, artificial	11	0.0029
05 - Dusk	4895	1.2851
06 - Dusk, artificial	5	0.0013
07 - Dark	22049	5.7885
08 - Dark, artificial	124	0.0326
99 - Other	14	0.0037
Dark	59886	15.7218
Dawn	5982	1.5704
Daylight	193417	50.7776
Dusk	12568	3.2995
Unknown	1499	0.3935

9.1 LIGHT = “Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (LIGHT=Unknown)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      39       91      112      159      153  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      201      180      195      226      143
```

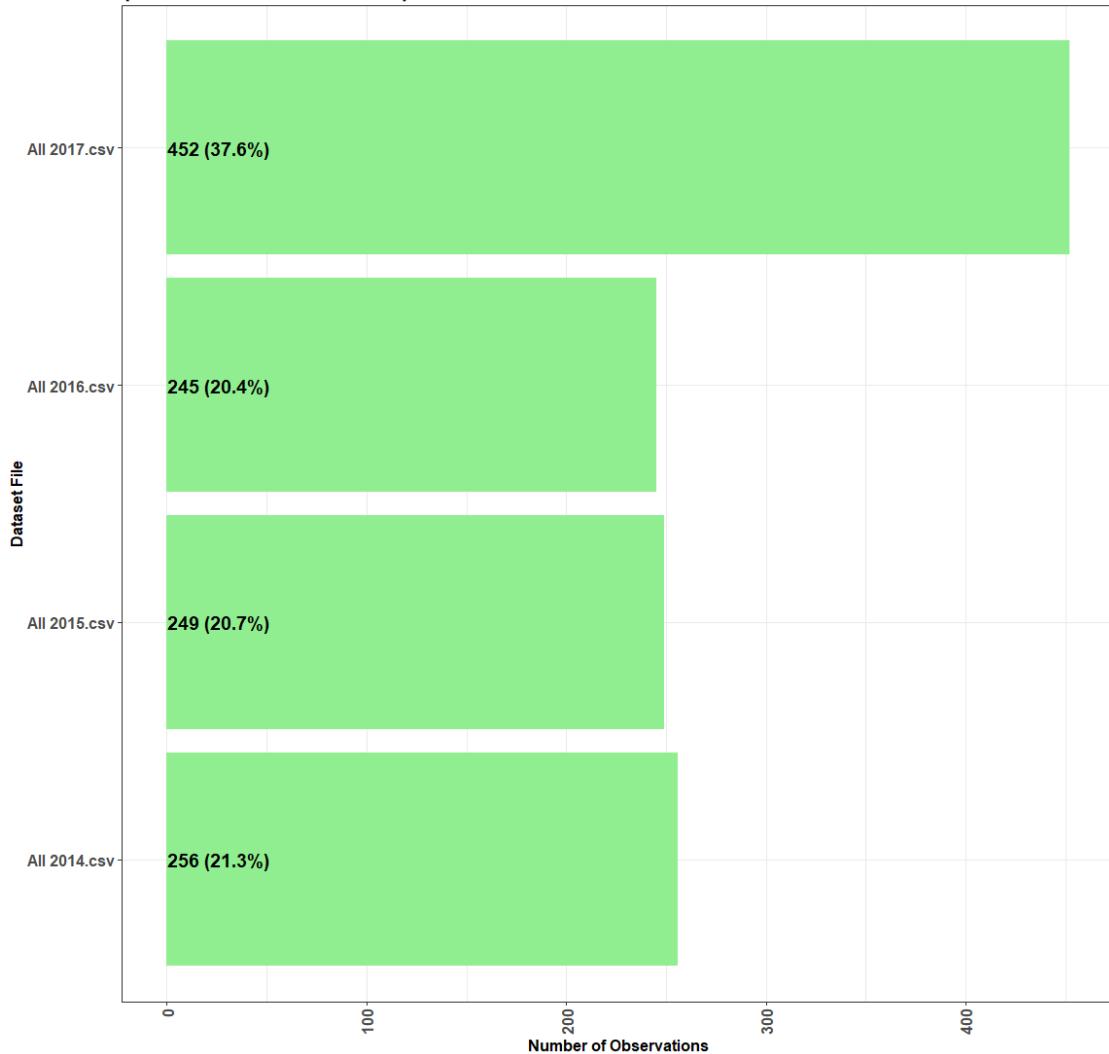


DATASET FILE	COUNTER OF (LIGHT=Unknown)	Percentage
All 2004.csv	39	2.602
All 2005.csv	91	6.071
All 2006.csv	112	7.472
All 2007.csv	159	10.607
All 2008.csv	153	10.207
All 2009.csv	201	13.409
All 2010.csv	180	12.008
All 2011.csv	195	13.009
All 2012.csv	226	15.077
All 2013.csv	143	9.540

9.2 LIGHT = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (LIGHT=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          256        249        245        452
```

**Plot of Feature and Value
(LIGHT=00 - Unknown)**



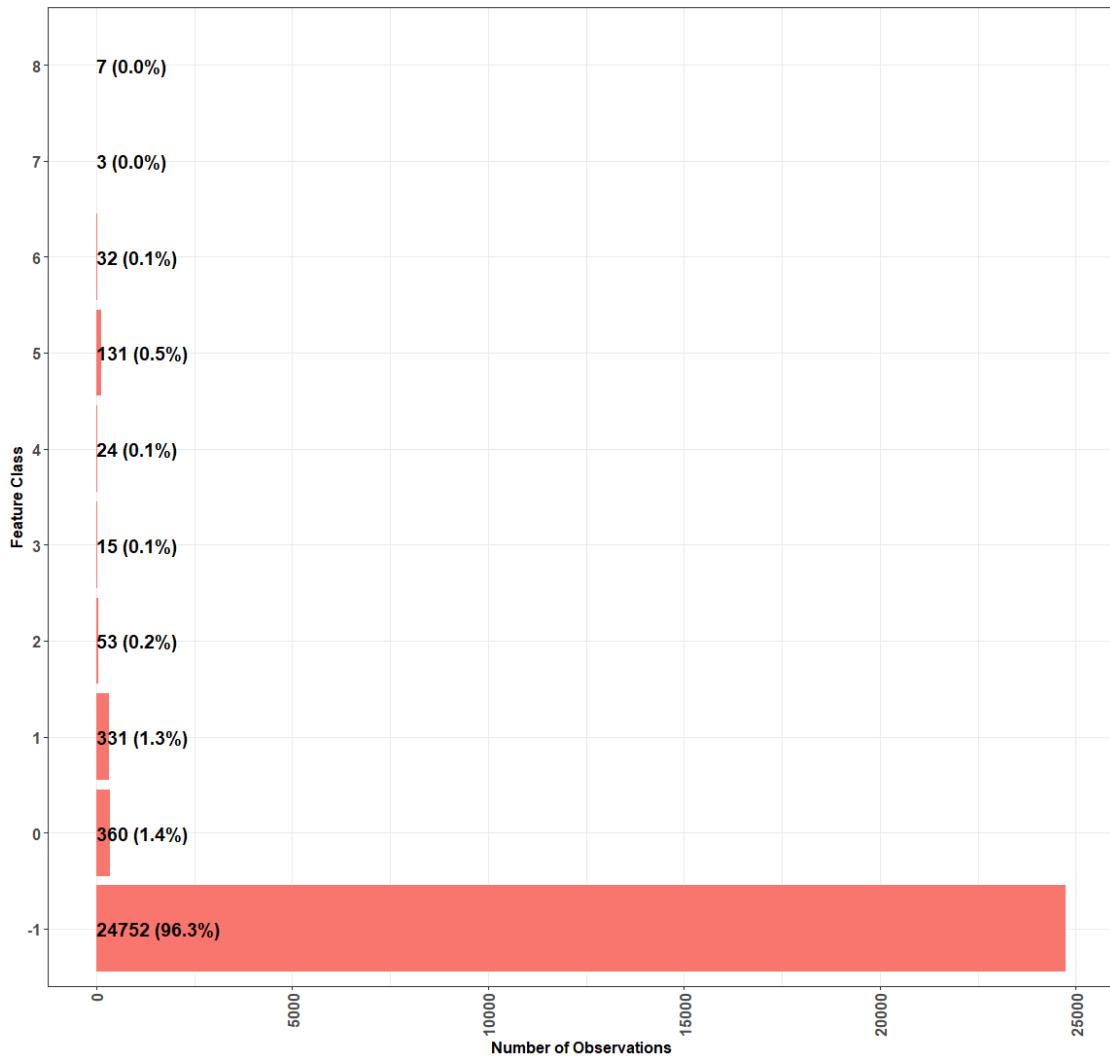
DATASET FILE	COUNTER OF (LIGHT=00 - Unknown)	Percentage
All 2014.csv	256	21.30
All 2015.csv	249	20.72
All 2016.csv	245	20.38

All 2017.csv	452	37.60
--------------	-----	-------

10. Offset1 (OFFSET1)

```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----  
## -1 24752 96.2813  
## 0 360 1.4003  
## 1 331 1.2875  
## 2 53 0.2062  
## 3 15 0.0583  
## 4 24 0.0934  
## 5 131 0.5096  
## 6 32 0.1245  
## 7 3 0.0117  
## 8 7 0.0272
```

Plot of Feature:OFFSET1
Data:All 2004.csv

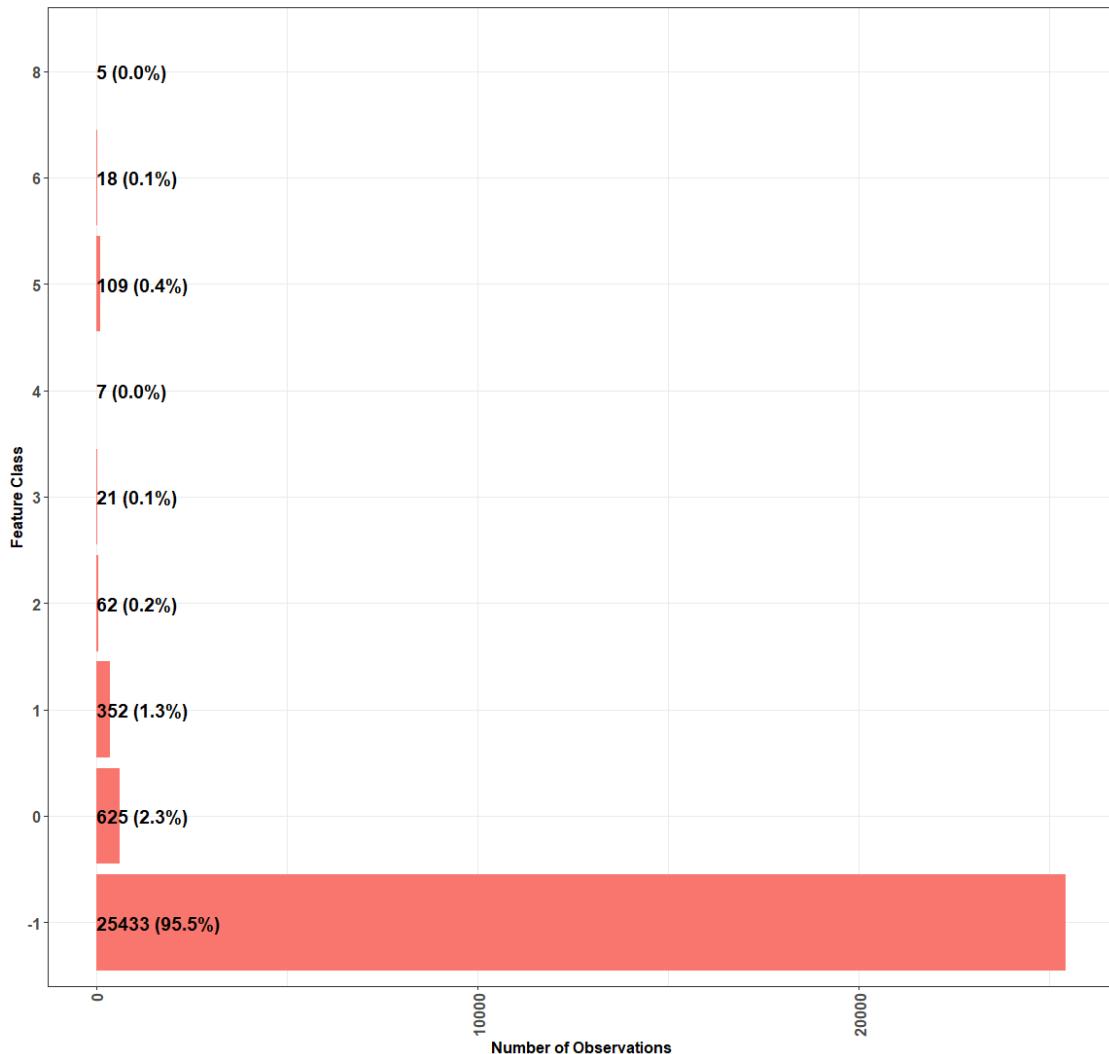


```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	25433	95.4979
## 0	625	2.3468
## 1	352	1.3217
## 2	62	0.2328
## 3	21	0.0789
## 4	7	0.0263
## 5	109	0.4093
## 6	18	0.0676
## 8	5	0.0188

Plot of Feature:OFFSET1

Data:All 2005.csv



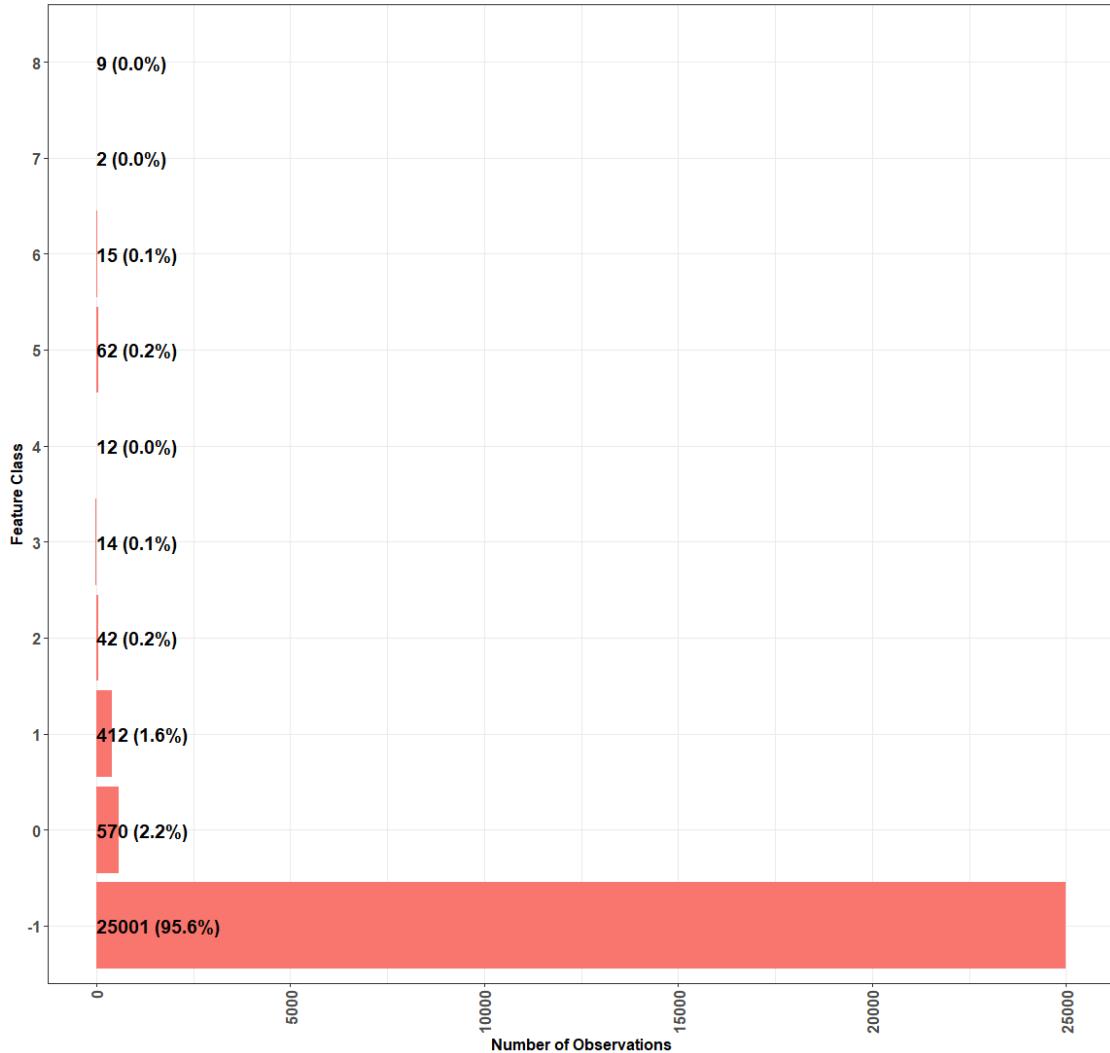
```

## 
## -----
## CHECKING FEATURE:OFFSET1
## DATA:All 2006.csv...
## 
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 10
##
## TOP 100 FEATURES OF OFFSET1
##
## Feature Value Counter Percentage
## ----- -----
## -1           25001   95.6464
## 0            570     2.1806
## 1            412     1.5762
## 2            42      0.1607
## 3            14      0.0536
## 4            12      0.0459
## 5            62      0.2372
## 6            15      0.0574
## 7            2       0.0077
## 8            9       0.0344
```

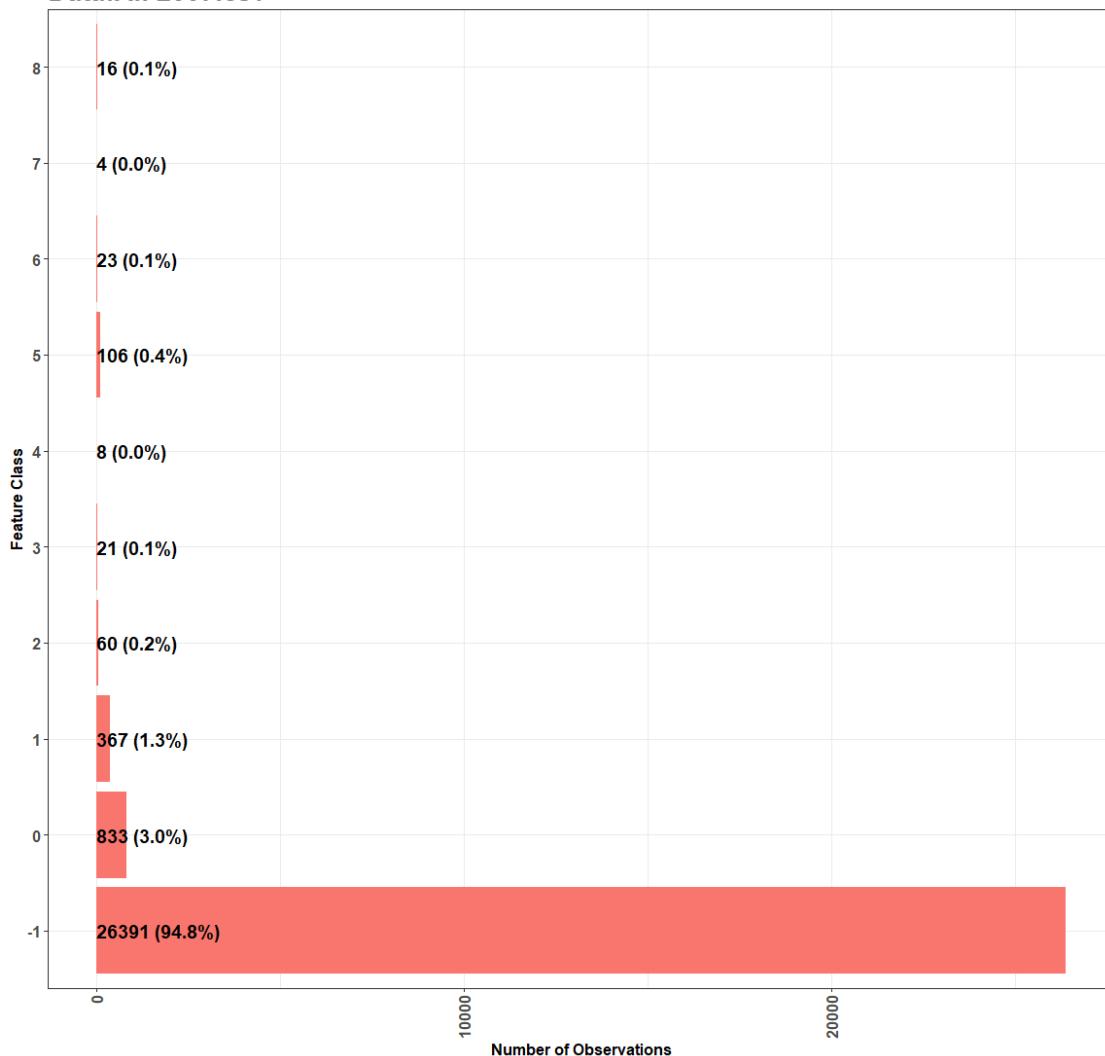
Plot of Feature:OFFSET1
Data>All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26391	94.8327
## 0	833	2.9933
## 1	367	1.3188
## 2	60	0.2156
## 3	21	0.0755
## 4	8	0.0287
## 5	106	0.3809
## 6	23	0.0826
## 7	4	0.0144
## 8	16	0.0575

Plot of Feature:OFFSET1
Data>All 2007.csv

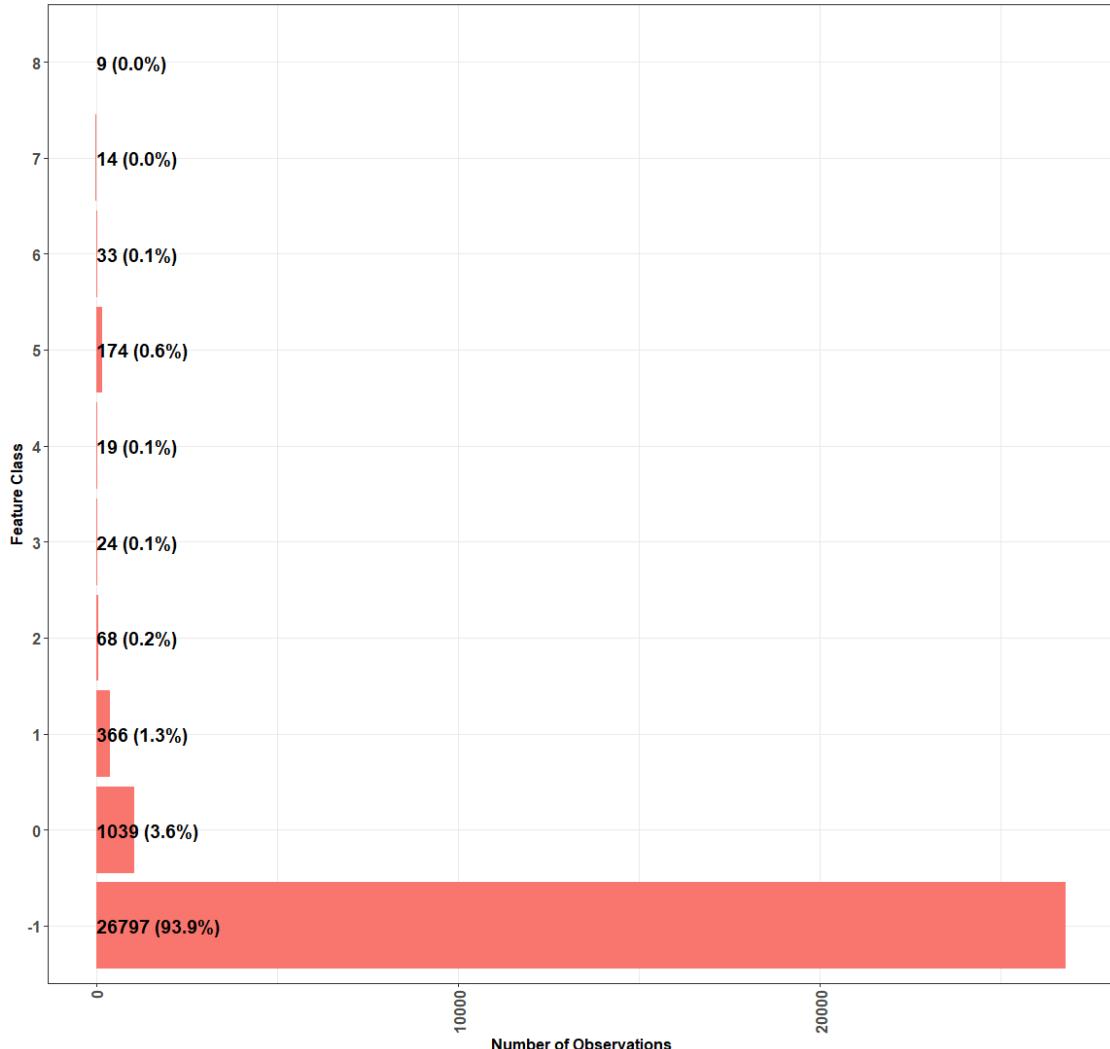


```
##
## -----
## CHECKING FEATURE:OFFSET1
## DATA:All 2008.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26797 93.8829  
## 0 1039 3.6401  
## 1 366 1.2823  
## 2 68 0.2382  
## 3 24 0.0841  
## 4 19 0.0666  
## 5 174 0.6096  
## 6 33 0.1156  
## 7 14 0.0490  
## 8 9 0.0315
```

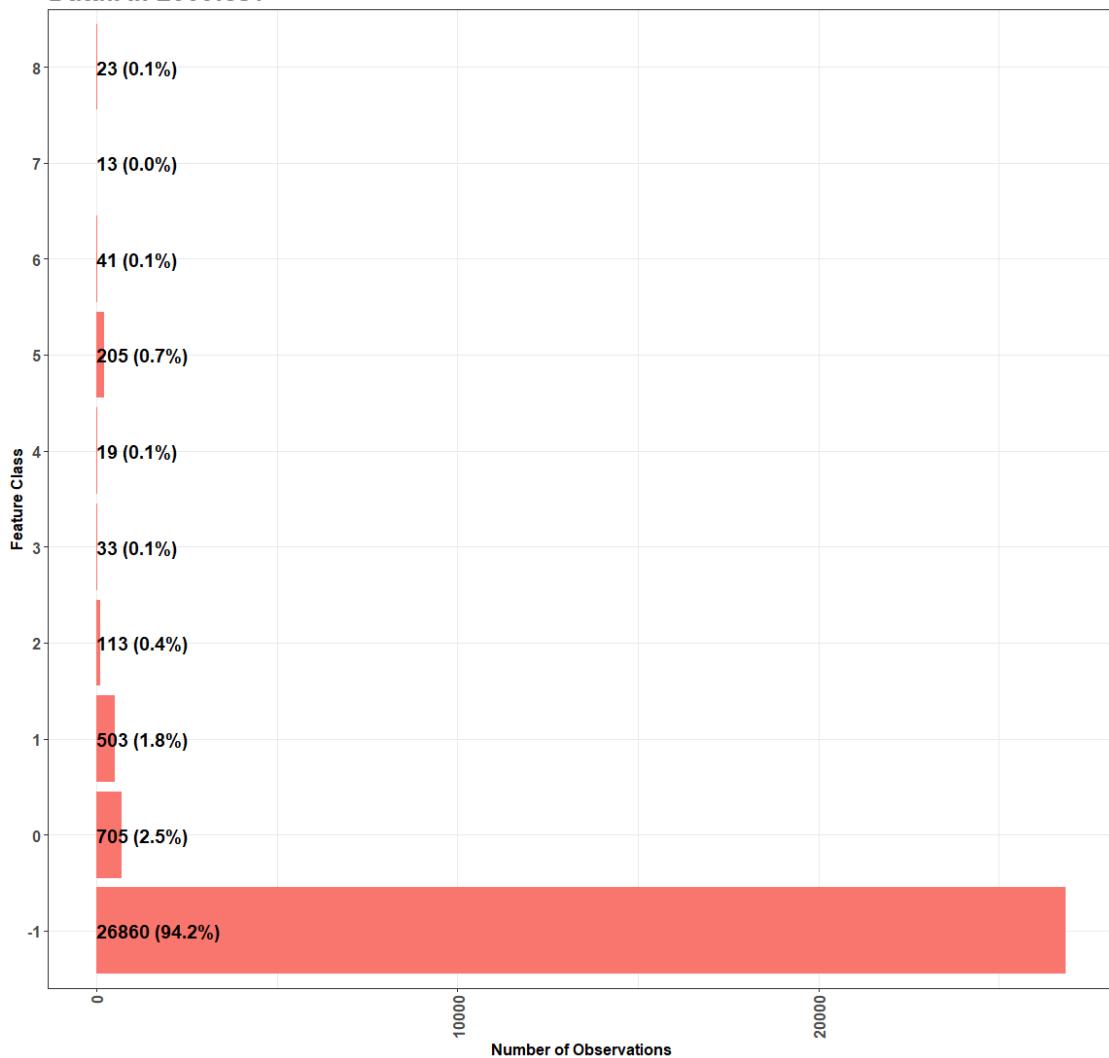
Plot of Feature:OFFSET1
Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26860	94.1960
## 0	705	2.4724
## 1	503	1.7640
## 2	113	0.3963
## 3	33	0.1157
## 4	19	0.0666
## 5	205	0.7189
## 6	41	0.1438
## 7	13	0.0456
## 8	23	0.0807

Plot of Feature:OFFSET1
Data:All 2009.csv

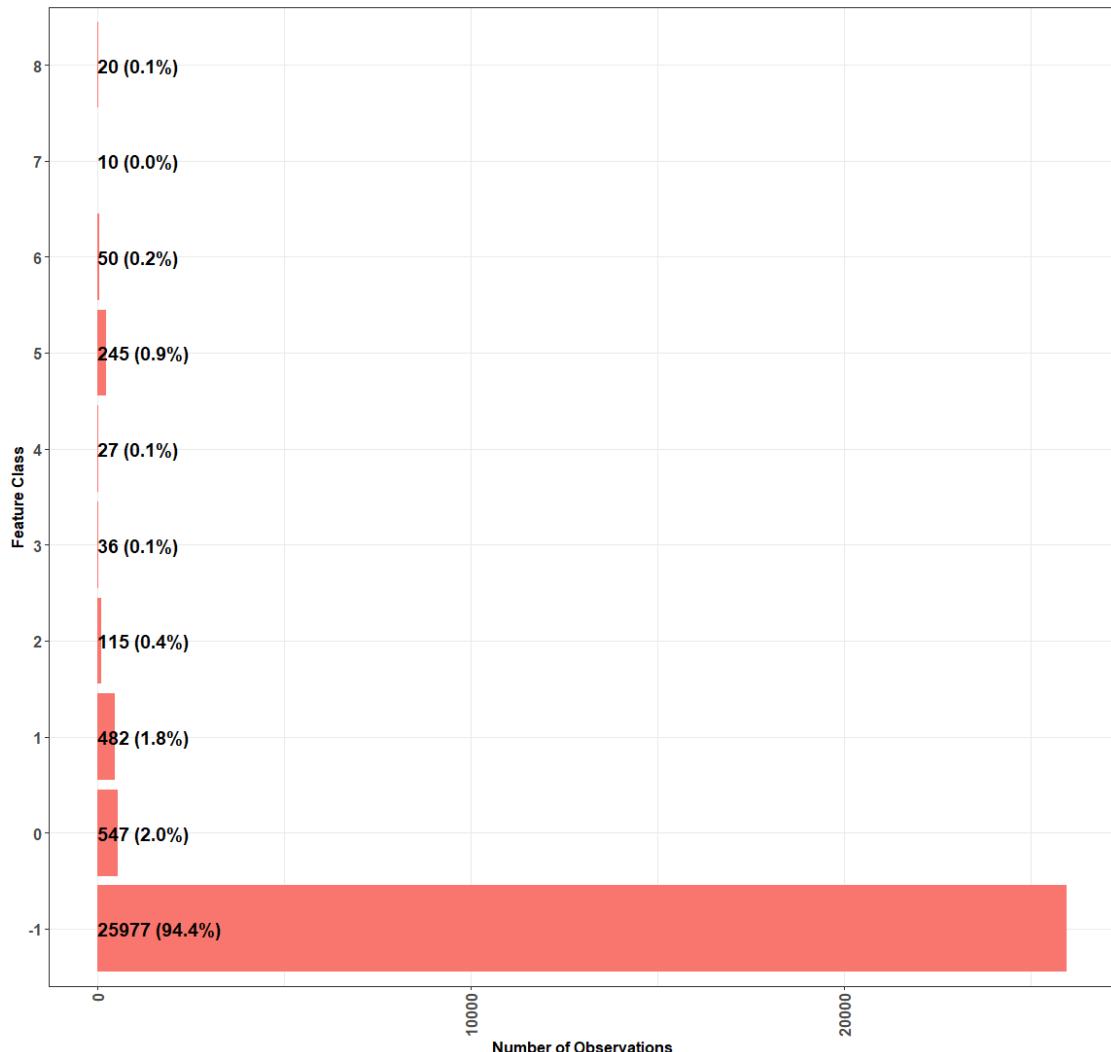


```
##
## -----
## CHECKING FEATURE:OFFSET1
## DATA:All 2010.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25977 94.4309  
## 0 547 1.9884  
## 1 482 1.7522  
## 2 115 0.4180  
## 3 36 0.1309  
## 4 27 0.0981  
## 5 245 0.8906  
## 6 50 0.1818  
## 7 10 0.0364  
## 8 20 0.0727
```

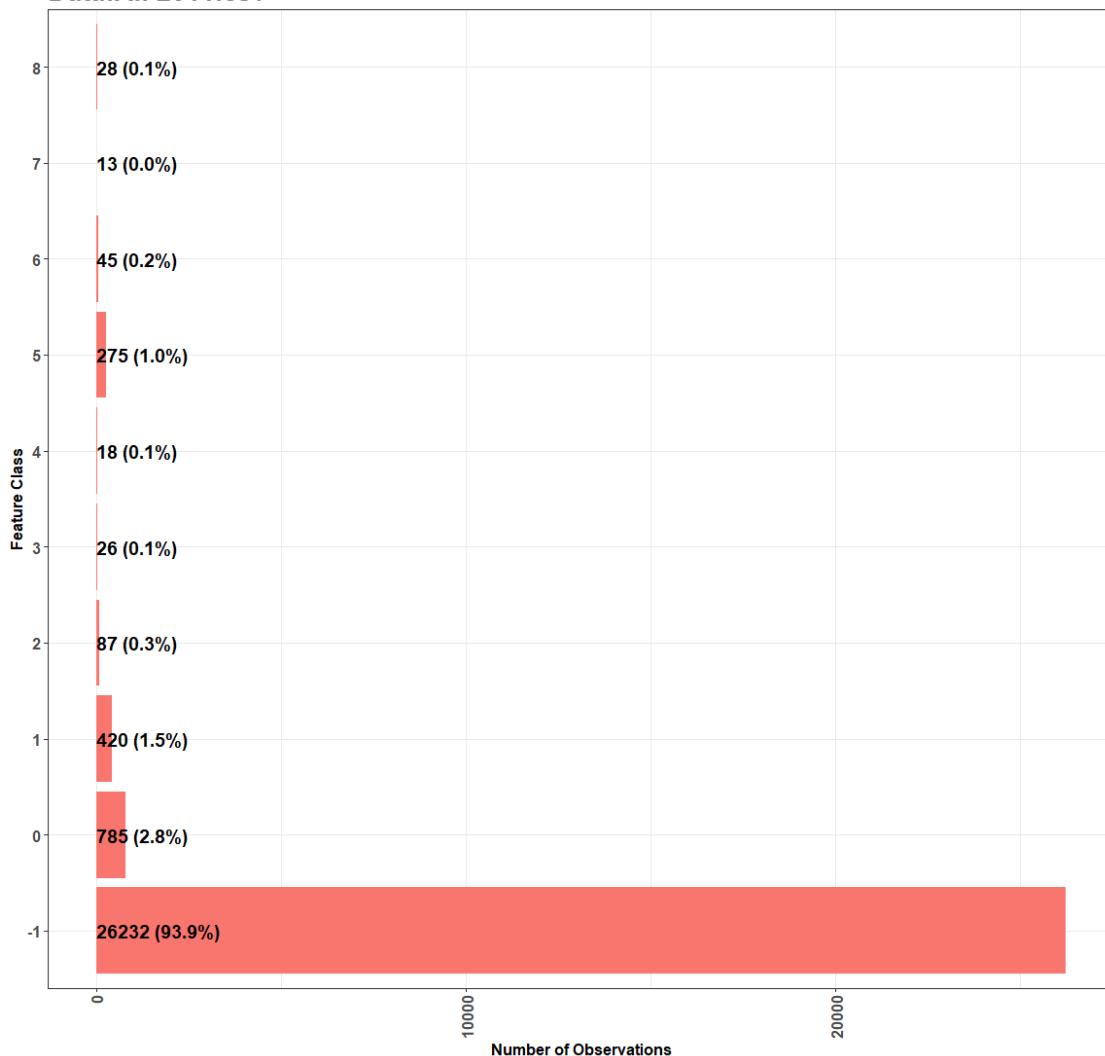
Plot of Feature:OFFSET1
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26232	93.9239
## 0	785	2.8107
## 1	420	1.5038
## 2	87	0.3115
## 3	26	0.0931
## 4	18	0.0644
## 5	275	0.9846
## 6	45	0.1611
## 7	13	0.0465
## 8	28	0.1003

Plot of Feature:OFFSET1
Data:All 2011.csv

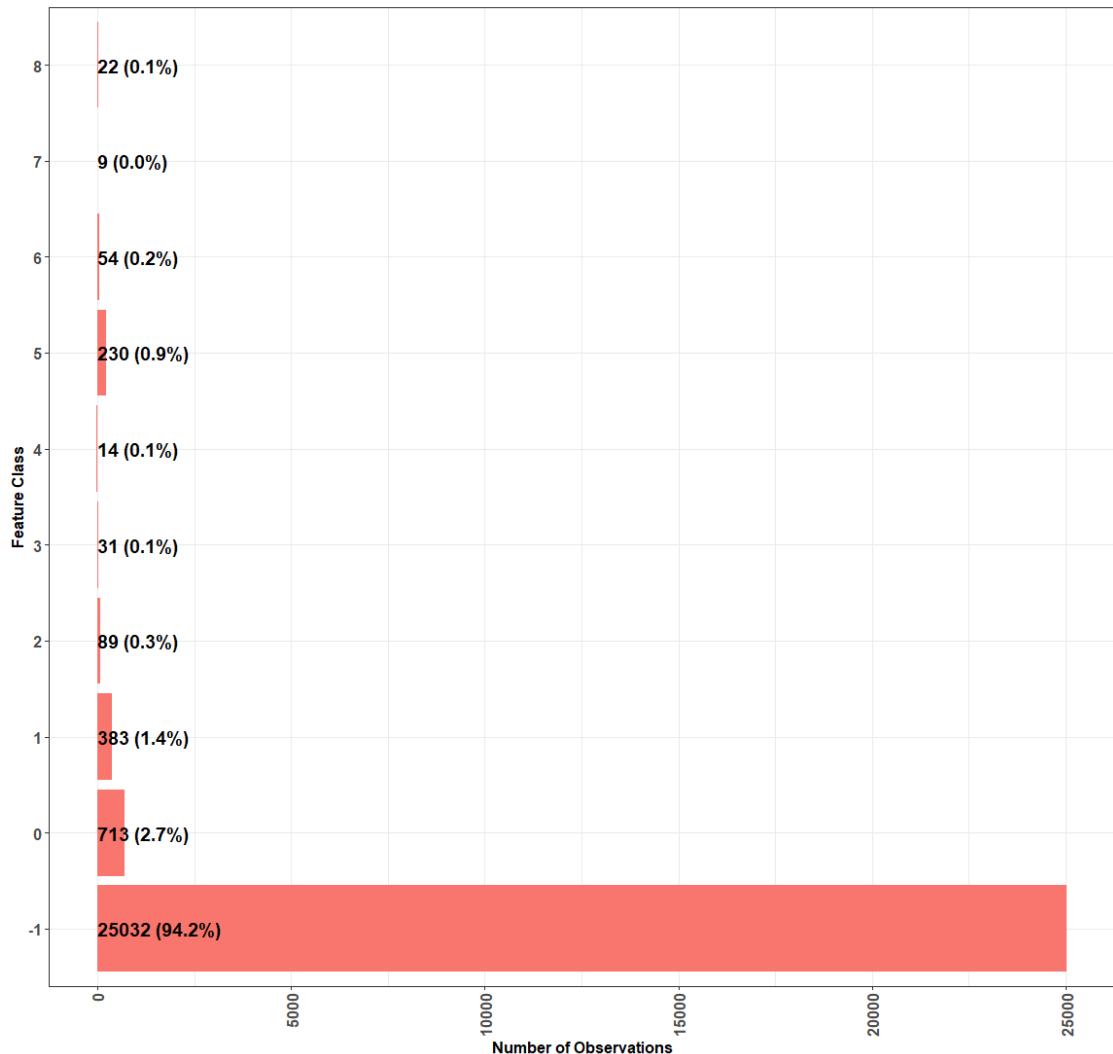


```
##
## -----
## CHECKING FEATURE:OFFSET1
## DATA:All 2012.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25032 94.1867  
## 0 713 2.6828  
## 1 383 1.4411  
## 2 89 0.3349  
## 3 31 0.1166  
## 4 14 0.0527  
## 5 230 0.8654  
## 6 54 0.2032  
## 7 9 0.0339  
## 8 22 0.0828
```

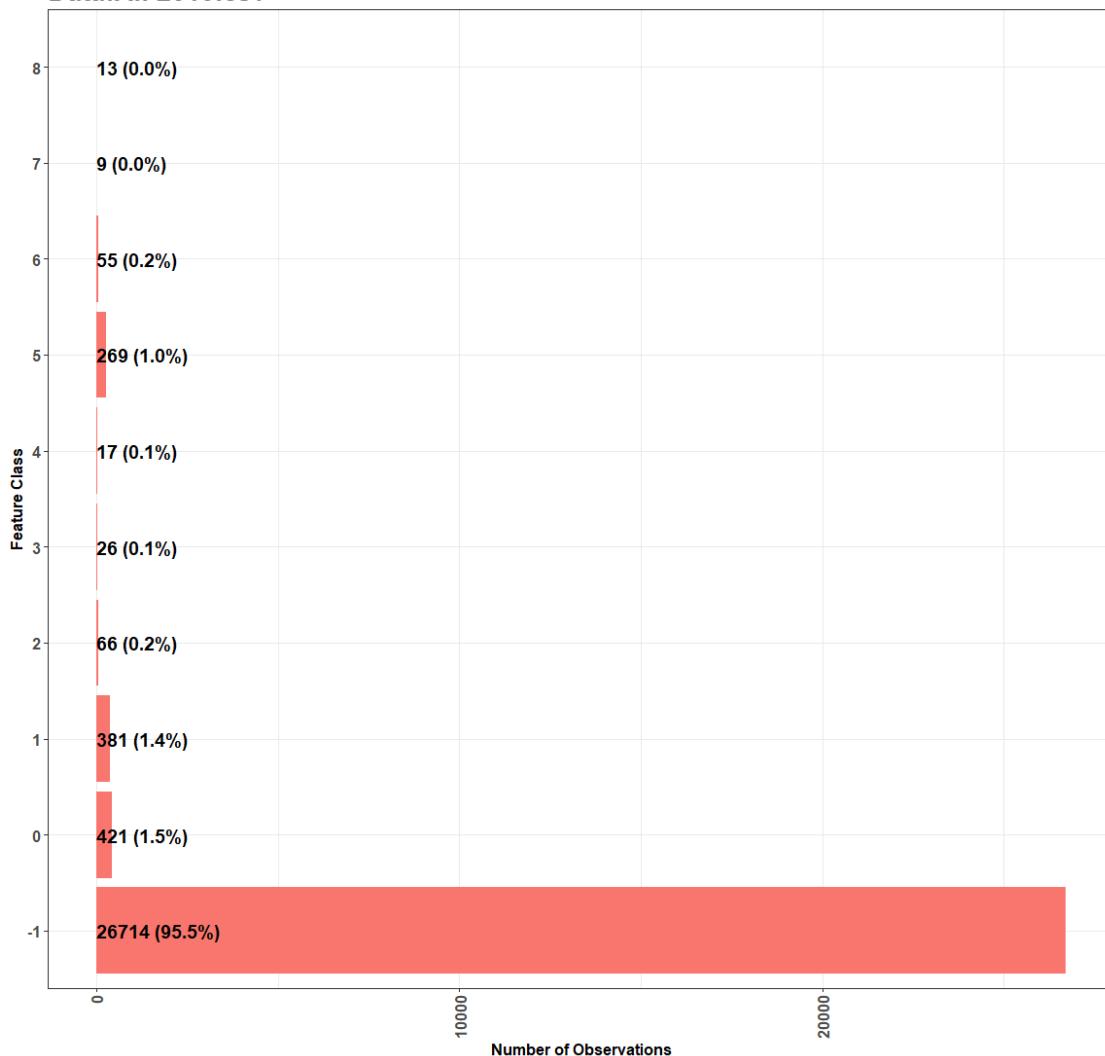
Plot of Feature:OFFSET1
Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26714	95.5061
## 0	421	1.5051
## 1	381	1.3621
## 2	66	0.2360
## 3	26	0.0930
## 4	17	0.0608
## 5	269	0.9617
## 6	55	0.1966
## 7	9	0.0322
## 8	13	0.0465

Plot of Feature:OFFSET1
Data>All 2013.csv

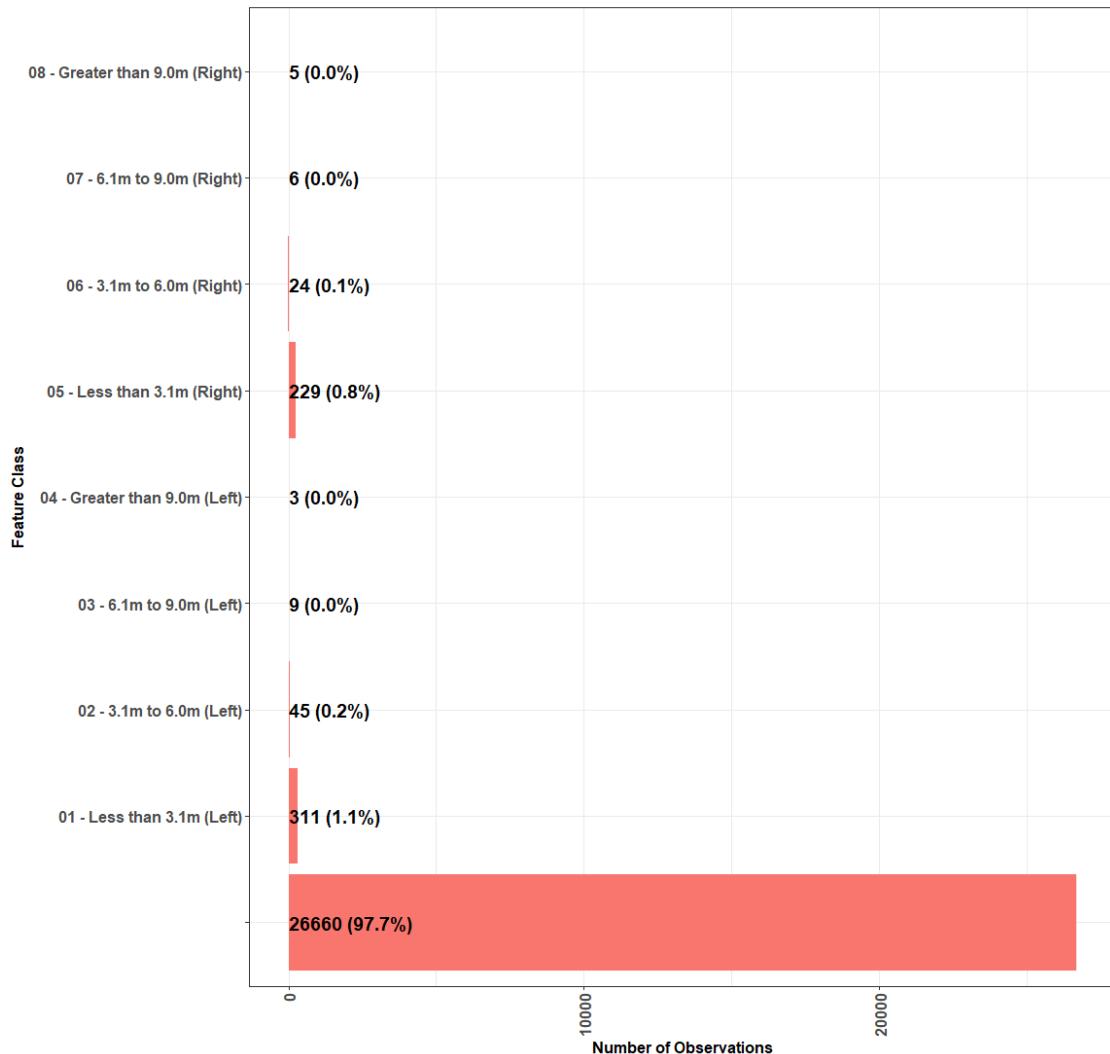


```
##
## -----
## CHECKING FEATURE:OFFSET1
## DATA:All 2014.csv...
```



```
##  
## Number of Blank Values:26660  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----  
## 26660 97.6843  
## 01 - Less than 3.1m (Left) 311 1.1395  
## 02 - 3.1m to 6.0m (Left) 45 0.1649  
## 03 - 6.1m to 9.0m (Left) 9 0.0330  
## 04 - Greater than 9.0m (Left) 3 0.0110  
## 05 - Less than 3.1m (Right) 229 0.8391  
## 06 - 3.1m to 6.0m (Right) 24 0.0879  
## 07 - 6.1m to 9.0m (Right) 6 0.0220  
## 08 - Greater than 9.0m (Right) 5 0.0183
```

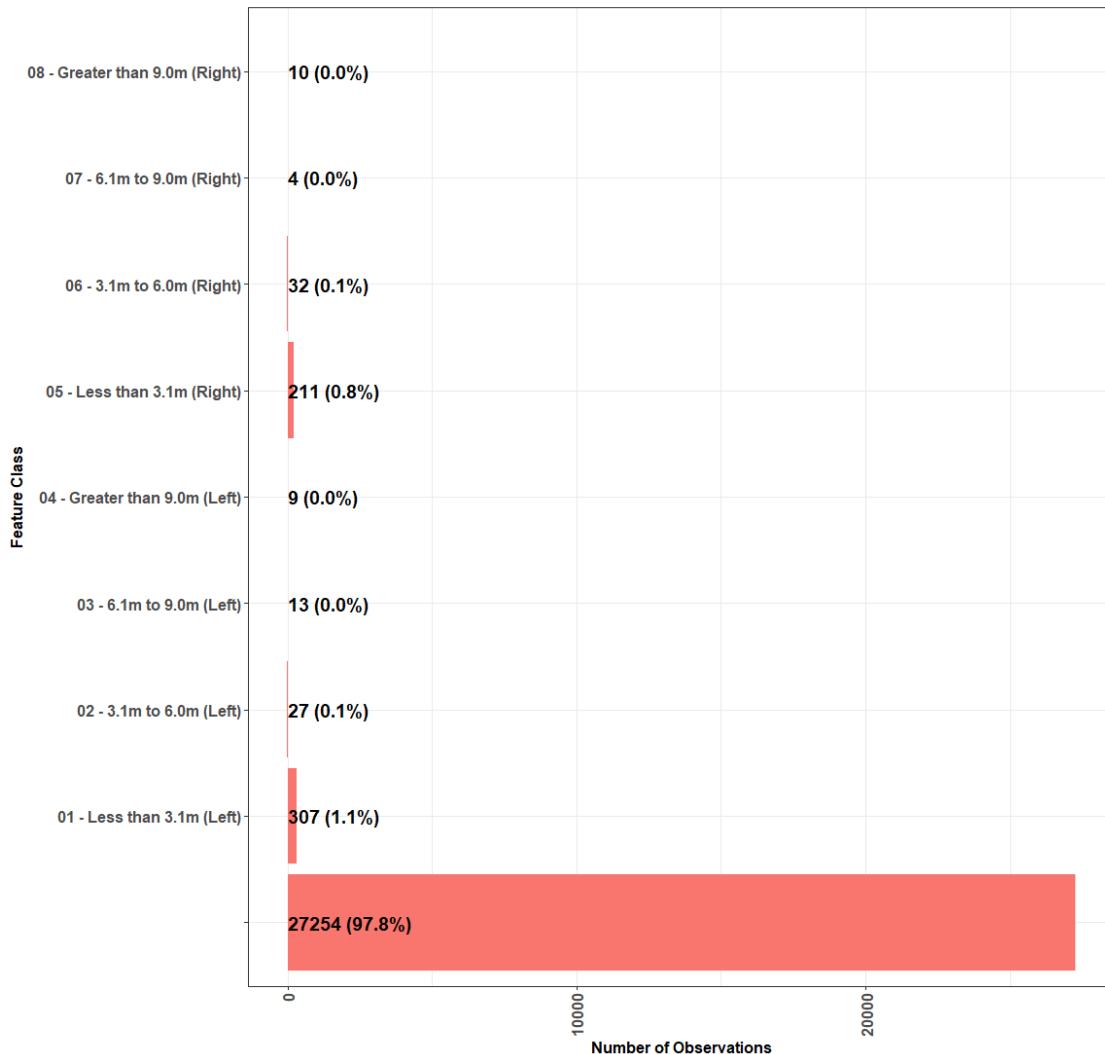
**Plot of Feature:OFFSET1
Data:All 2014.csv**



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:27254  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

##	27254	97.8003
## 01 - Less than 3.1m (Left)	307	1.1017
## 02 - 3.1m to 6.0m (Left)	27	0.0969
## 03 - 6.1m to 9.0m (Left)	13	0.0467
## 04 - Greater than 9.0m (Left)	9	0.0323
## 05 - Less than 3.1m (Right)	211	0.7572
## 06 - 3.1m to 6.0m (Right)	32	0.1148
## 07 - 6.1m to 9.0m (Right)	4	0.0144
## 08 - Greater than 9.0m (Right)	10	0.0359

**Plot of Feature:OFFSET1
Data>All 2015.csv**

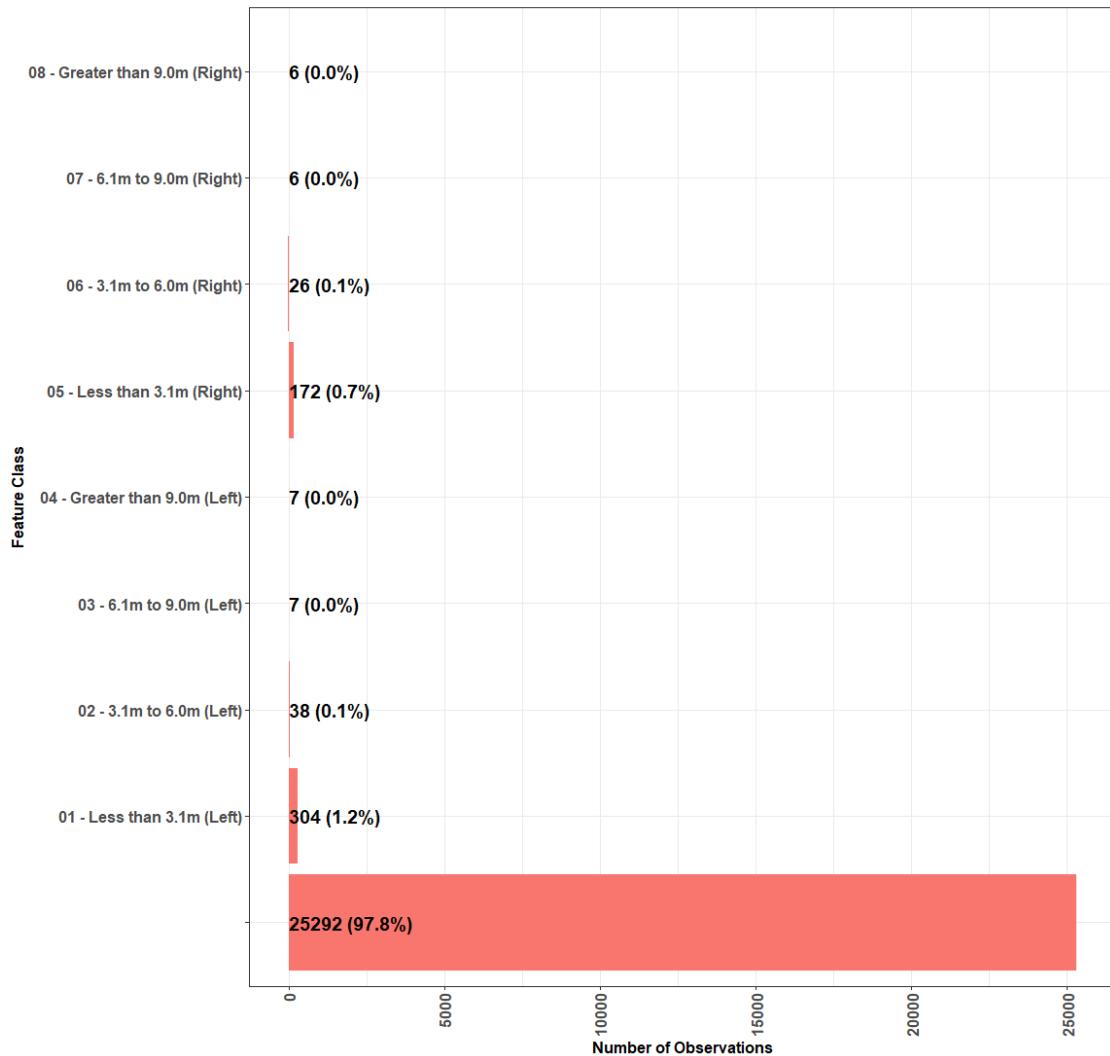


```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2016.csv...  
##
```



```
## Number of Blank Values:25292
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF OFFSET1
##
## Feature Value Counter Percentage
## -----
## 25292 97.8111
## 01 - Less than 3.1m (Left) 304 1.1757
## 02 - 3.1m to 6.0m (Left) 38 0.1470
## 03 - 6.1m to 9.0m (Left) 7 0.0271
## 04 - Greater than 9.0m (Left) 7 0.0271
## 05 - Less than 3.1m (Right) 172 0.6652
## 06 - 3.1m to 6.0m (Right) 26 0.1005
## 07 - 6.1m to 9.0m (Right) 6 0.0232
## 08 - Greater than 9.0m (Right) 6 0.0232
```

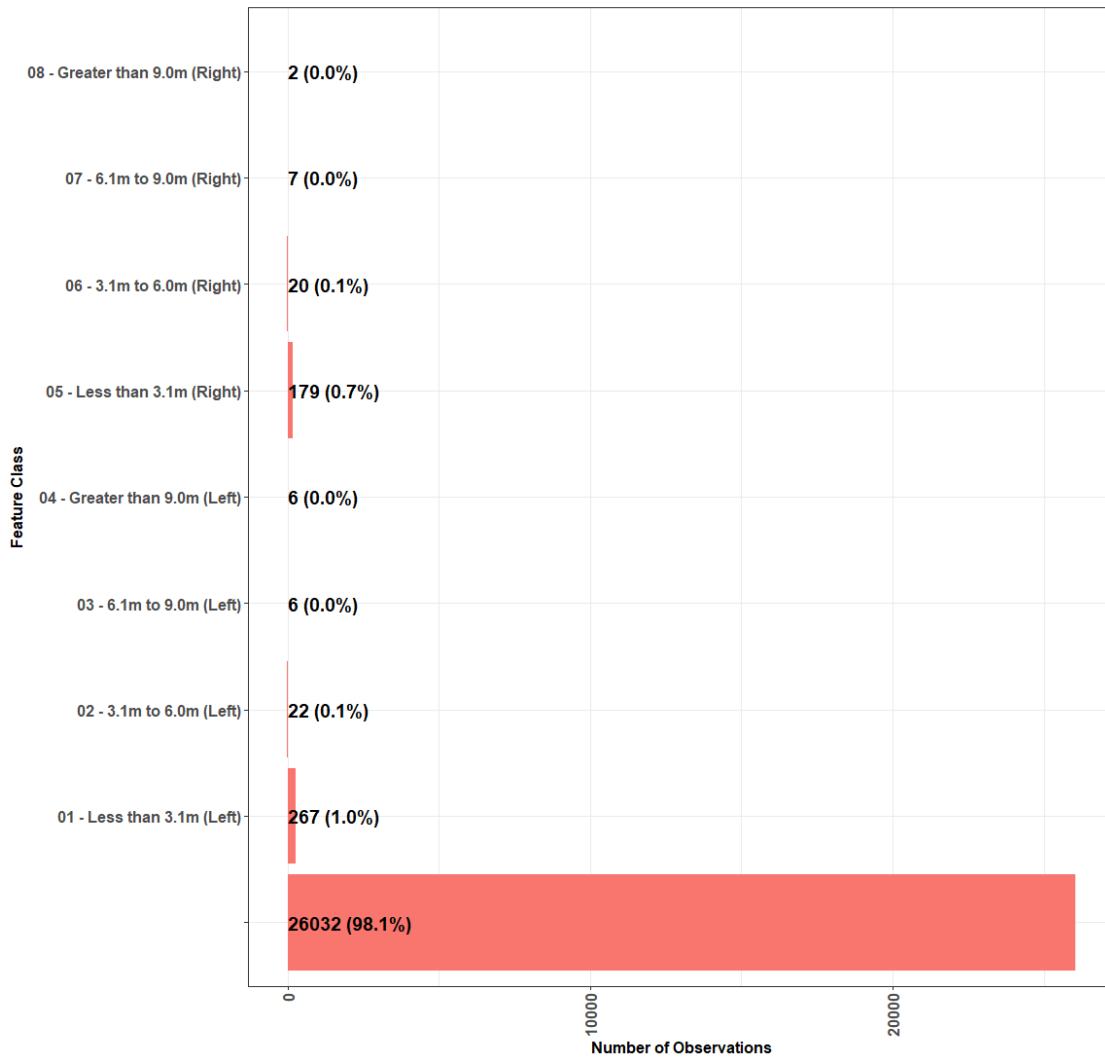
**Plot of Feature:OFFSET1
Data:All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:OFFSET1  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:26032  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET1  
##  
## Feature Value Counter Percentage  
## -----
```

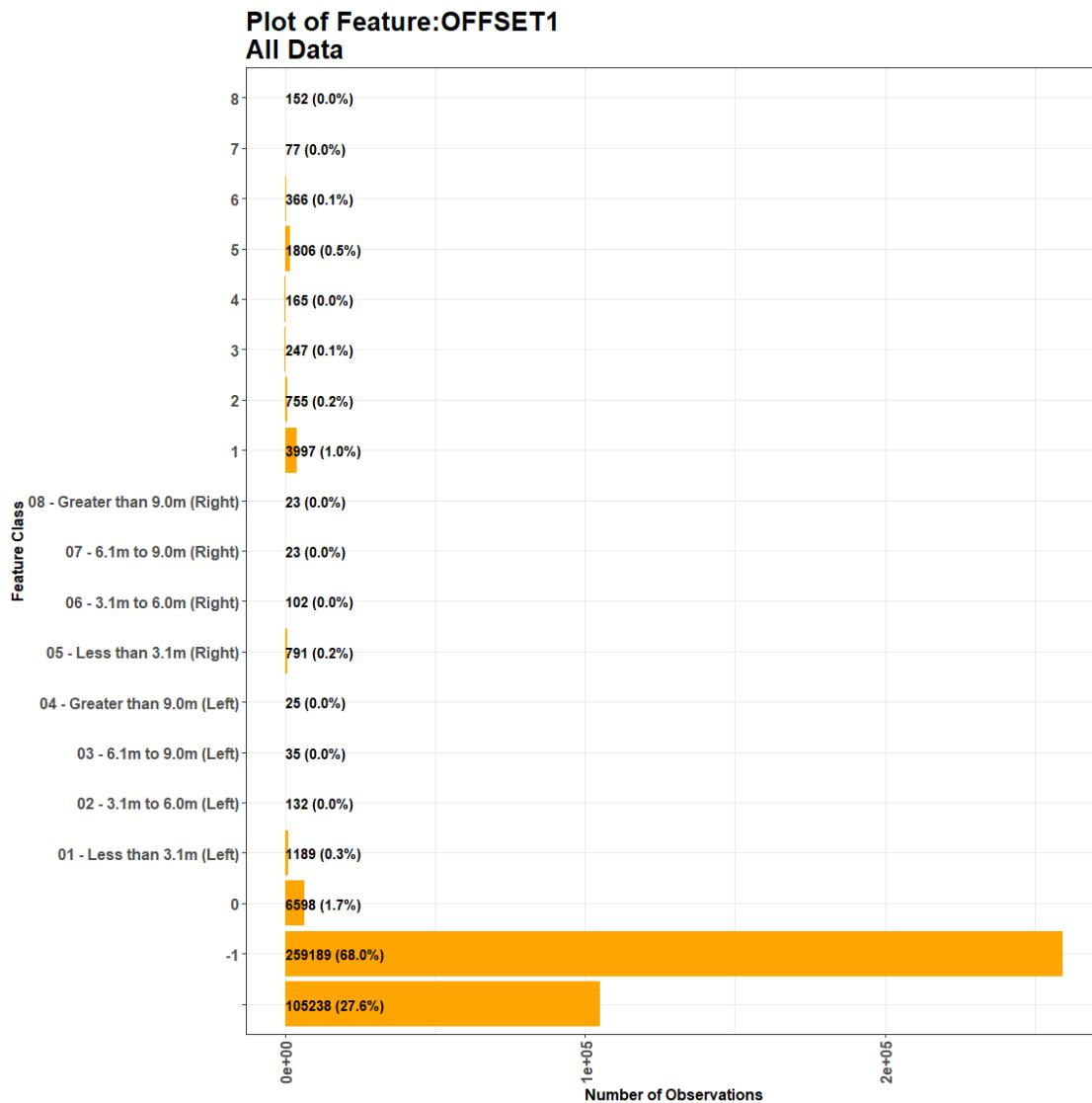
##		26032	98.0822
## 01 - Less than 3.1m (Left)		267	1.0060
## 02 - 3.1m to 6.0m (Left)		22	0.0829
## 03 - 6.1m to 9.0m (Left)		6	0.0226
## 04 - Greater than 9.0m (Left)		6	0.0226
## 05 - Less than 3.1m (Right)		179	0.6744
## 06 - 3.1m to 6.0m (Right)		20	0.0754
## 07 - 6.1m to 9.0m (Right)		7	0.0264
## 08 - Greater than 9.0m (Right)		2	0.0075

**Plot of Feature:OFFSET1
Data>All 2017.csv**



```
##  
## ======  
## FINAL INFO CHECKING FEATURE:OFFSET1  
## ALL DATA...  
## ======
```

```
##
## Number of Blank Values:105238
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
## Summary as Factor Feature:
## Number of Features: 19
```

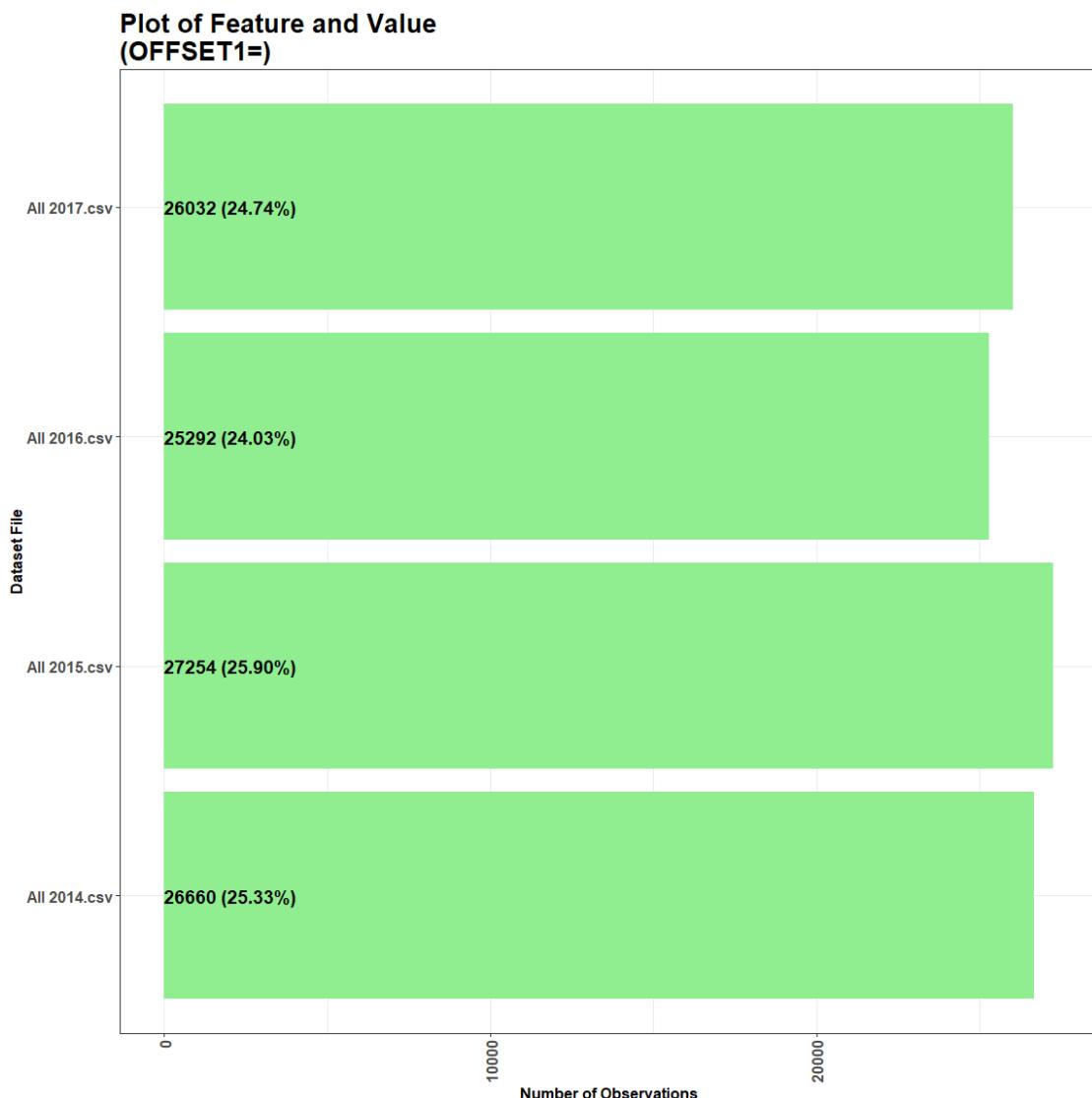


```
## [1] "TOP 100 FEATURES COUNTERS OF:OFFSET1"
```

Feature Value	Counter	Percentage
	105238	27.6280
-1	259189	68.0447
0	6598	1.7322
01 - Less than 3.1m (Left)	1189	0.3121
02 - 3.1m to 6.0m (Left)	132	0.0347
03 - 6.1m to 9.0m (Left)	35	0.0092
04 - Greater than 9.0m (Left)	25	0.0066
05 - Less than 3.1m (Right)	791	0.2077
06 - 3.1m to 6.0m (Right)	102	0.0268
07 - 6.1m to 9.0m (Right)	23	0.0060
08 - Greater than 9.0m (Right)	23	0.0060
1	3997	1.0493
2	755	0.1982
3	247	0.0648
4	165	0.0433
5	1806	0.4741
6	366	0.0961
7	77	0.0202
8	152	0.0399

10.1 OFFSET1 = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET1=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      26660      27254      25292      26032
```

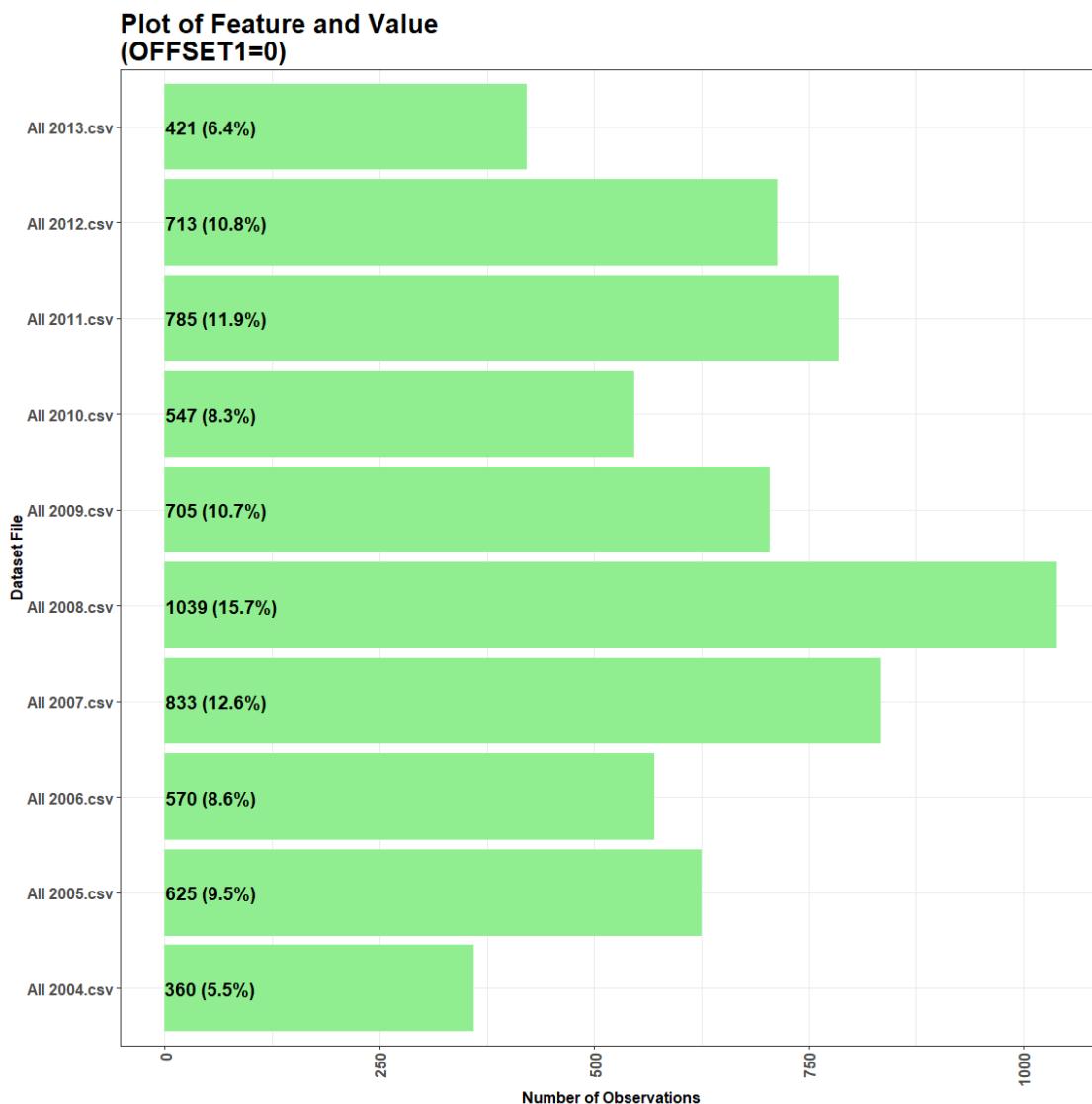


DATASET FILE	COUNTER OF (OFFSET1=)	Percentage
All 2014.csv	26660	25.33
All 2015.csv	27254	25.90
All 2016.csv	25292	24.03
All 2017.csv	26032	24.74

10.2 OFFSET1 = “0”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET1=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      360      625      570      833     1039
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      705      547      785      713      421
```



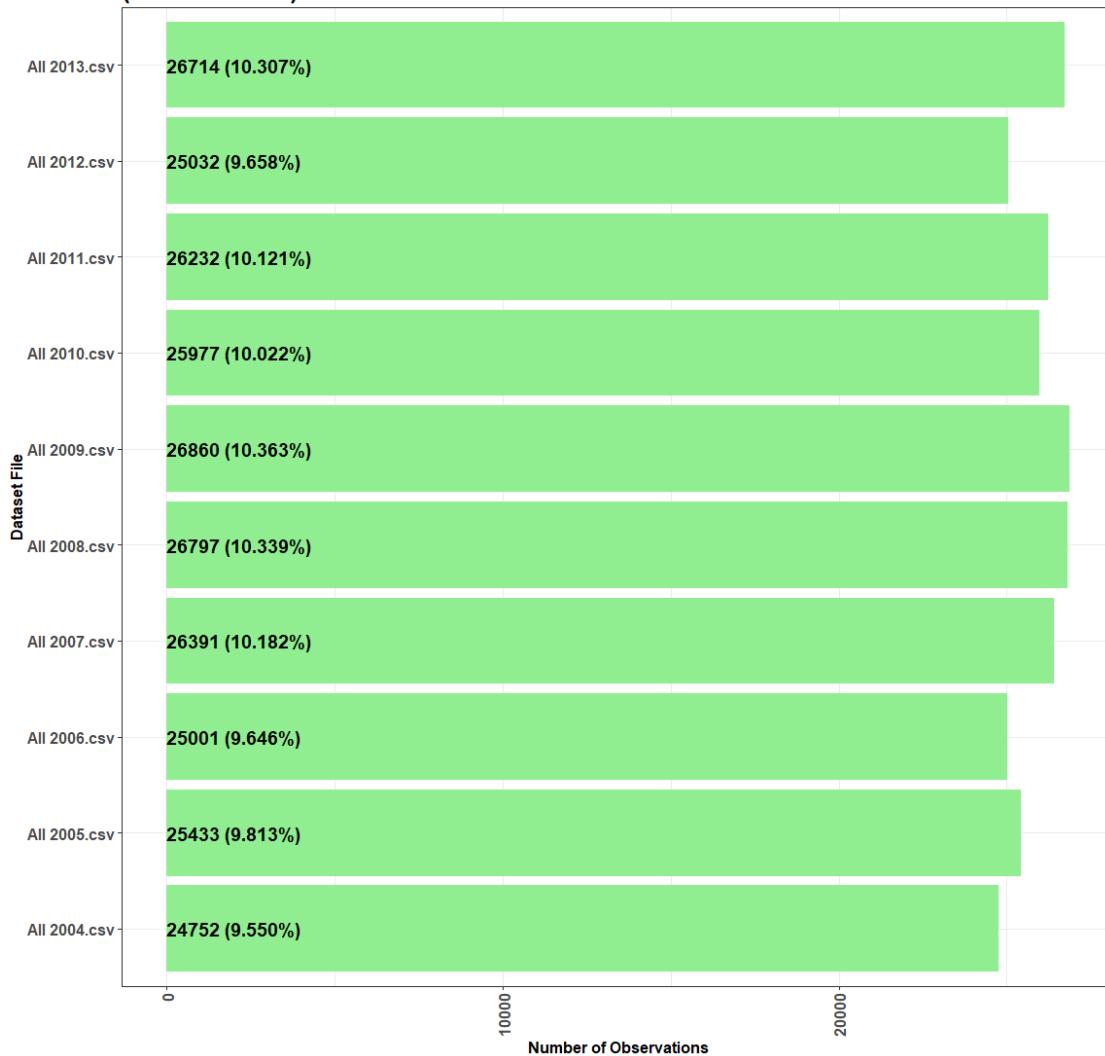
DATASET FILE	COUNTER OF (OFFSET1=0)	Percentage
All 2004.csv	360	5.456
All 2005.csv	625	9.473
All 2006.csv	570	8.639
All 2007.csv	833	12.625
All 2008.csv	1039	15.747
All 2009.csv	705	10.685
All 2010.csv	547	8.290

All 2011.csv	785	11.898
All 2012.csv	713	10.806
All 2013.csv	421	6.381

10.3 OFFSET1 = “-1”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (OFFSET1=-1)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 24752 25433 25001 26391 26797  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 26860 25977 26232 25032 26714
```

**Plot of Feature and Value
(OFFSET1=-1)**

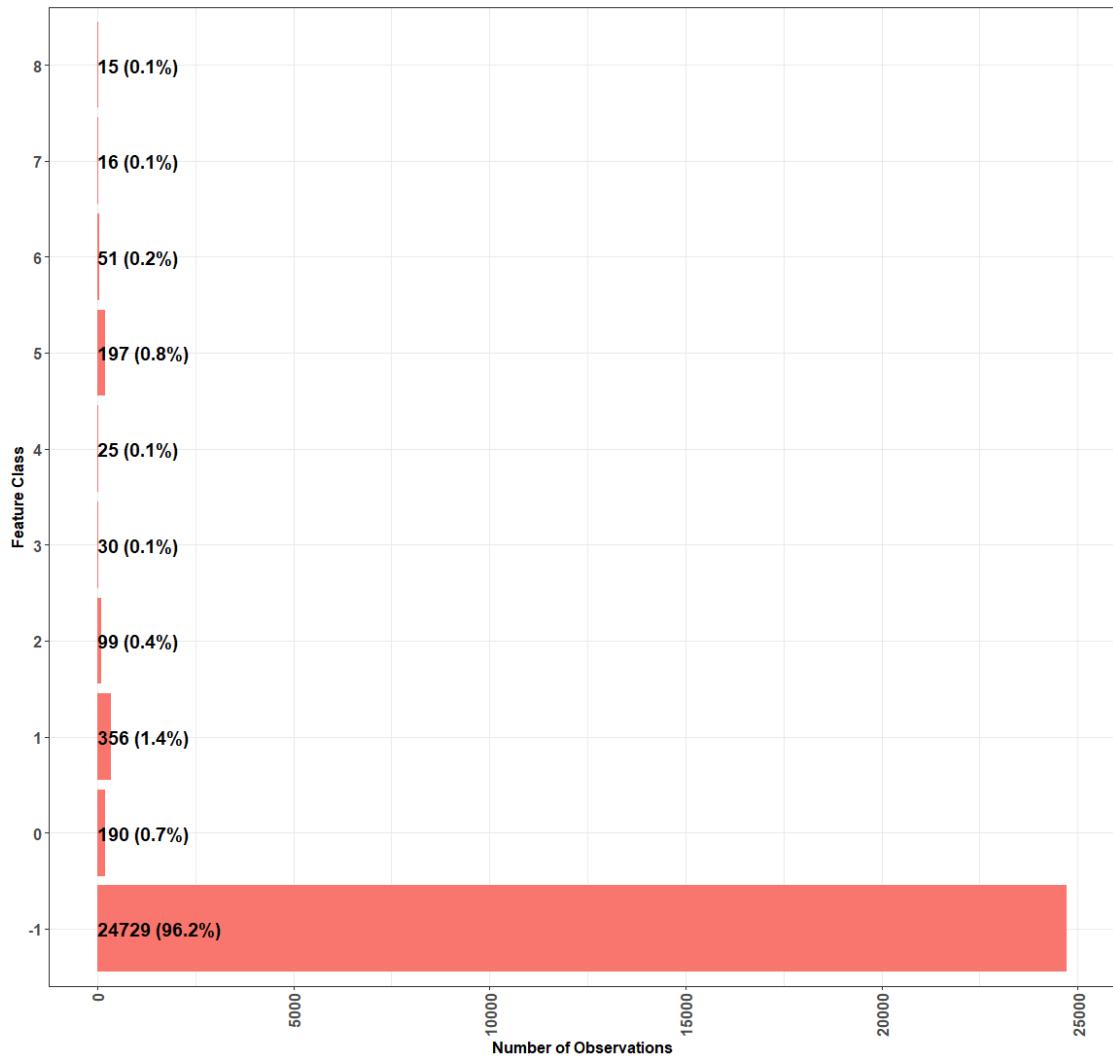


DATASET FILE	COUNTER OF (OFFSET1=-1)	Percentage
All 2004.csv	24752	9.550
All 2005.csv	25433	9.812
All 2006.csv	25001	9.646
All 2007.csv	26391	10.182
All 2008.csv	26797	10.339
All 2009.csv	26860	10.363
All 2010.csv	25977	10.022
All 2011.csv	26232	10.121
All 2012.csv	25032	9.658
All 2013.csv	26714	10.307

11. Offset2 (OFFSET2)

```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 24729 96.1918  
## 0 190 0.7391  
## 1 356 1.3848  
## 2 99 0.3851  
## 3 30 0.1167  
## 4 25 0.0972  
## 5 197 0.7663  
## 6 51 0.1984  
## 7 16 0.0622  
## 8 15 0.0583
```

Plot of Feature:OFFSET2
Data:All 2004.csv

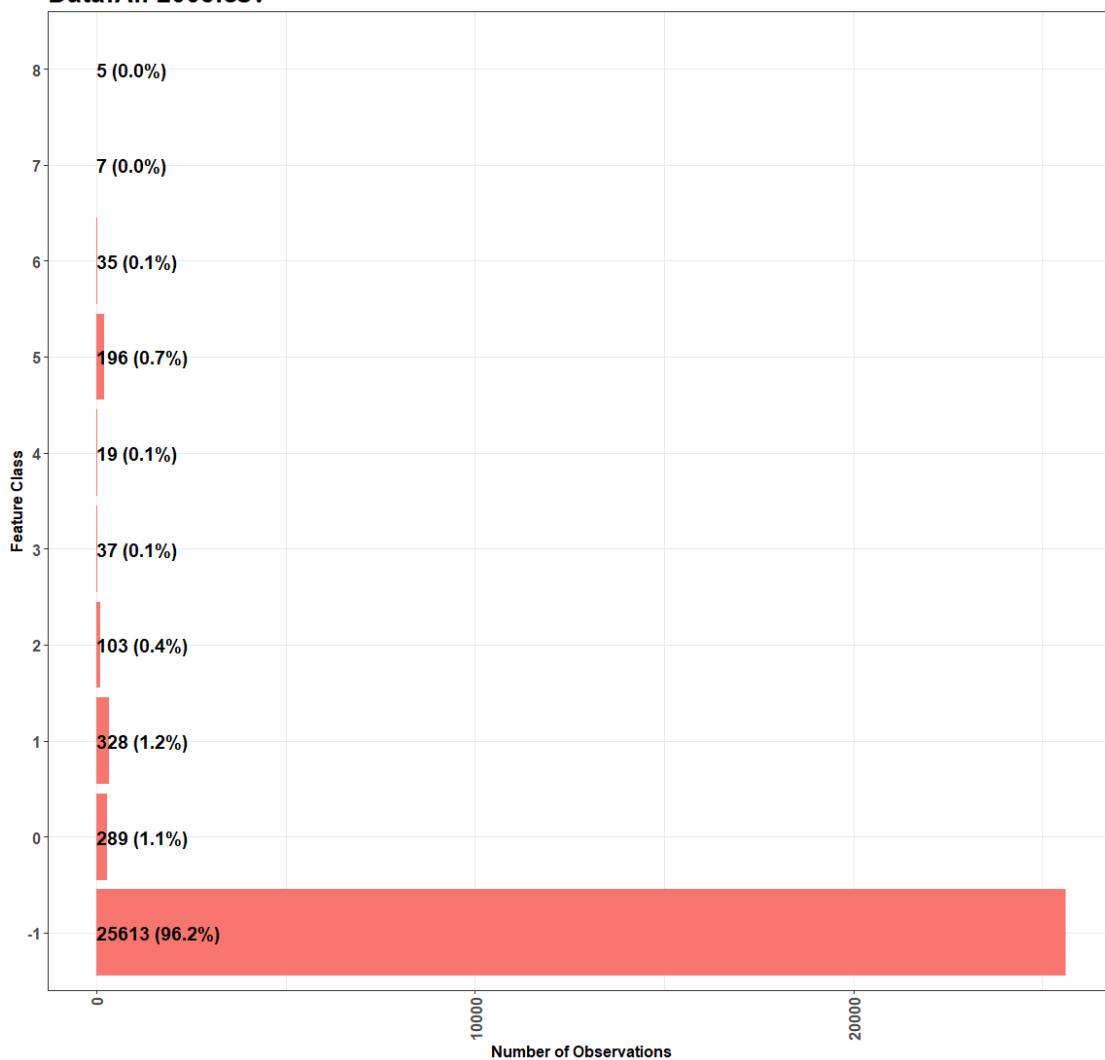


```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	25613	96.1738
## 0	289	1.0852
## 1	328	1.2316
## 2	103	0.3868
## 3	37	0.1389
## 4	19	0.0713
## 5	196	0.7360
## 6	35	0.1314
## 7	7	0.0263
## 8	5	0.0188

Plot of Feature:OFFSET2

Data:All 2005.csv

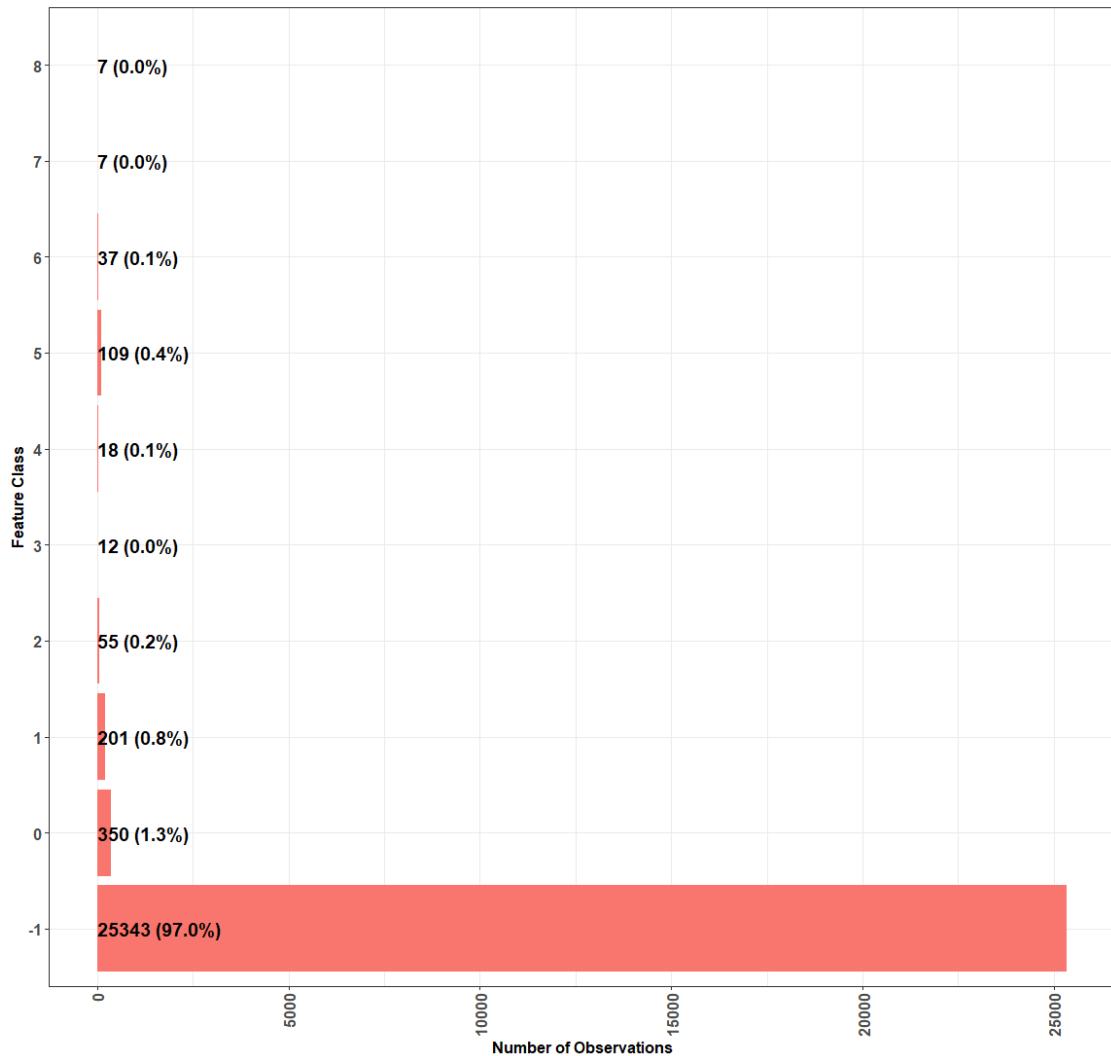


```
##
## -----
## CHECKING FEATURE:OFFSET2
## DATA:All 2006.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25343 96.9547  
## 0 350 1.3390  
## 1 201 0.7690  
## 2 55 0.2104  
## 3 12 0.0459  
## 4 18 0.0689  
## 5 109 0.4170  
## 6 37 0.1416  
## 7 7 0.0268  
## 8 7 0.0268
```

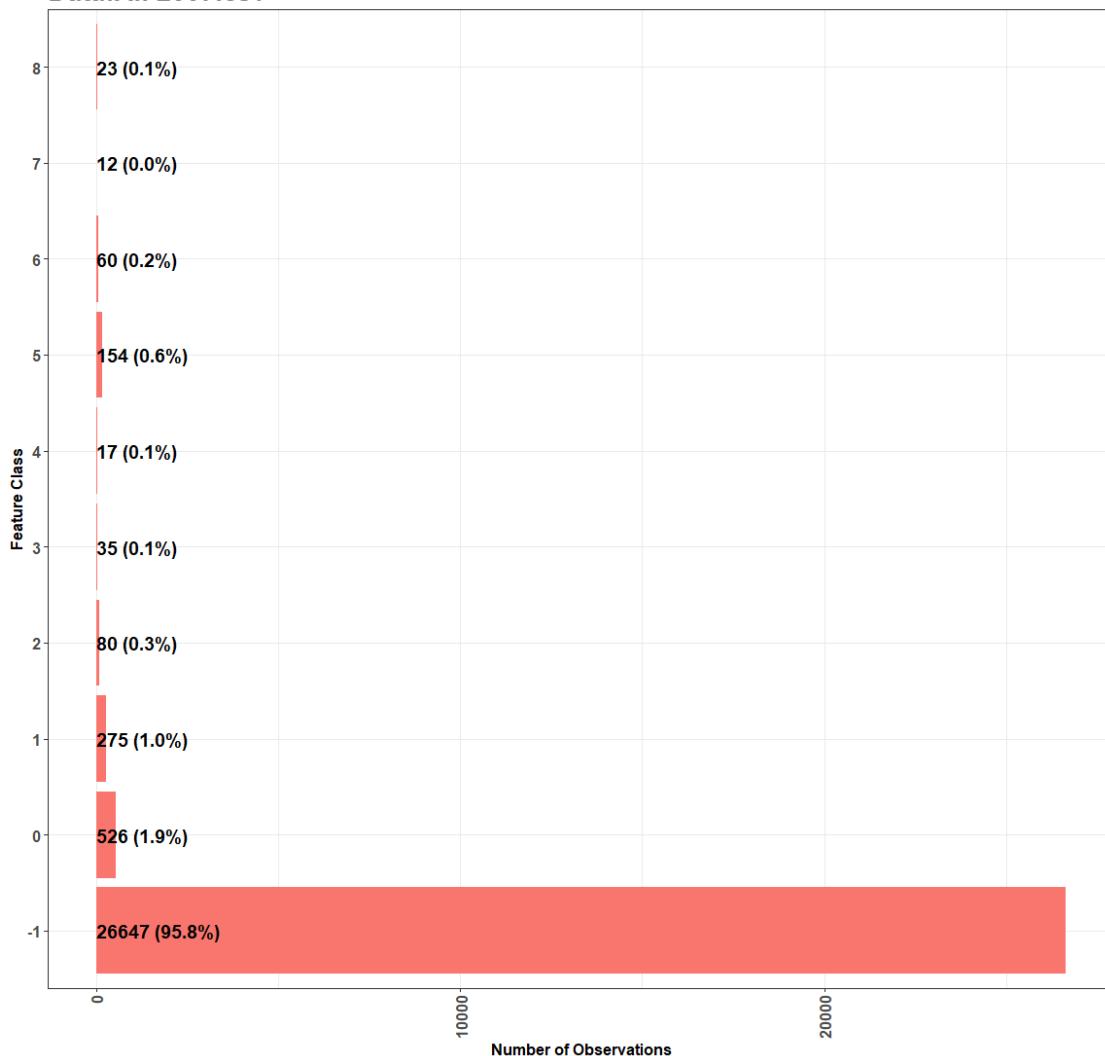
Plot of Feature:OFFSET2
Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26647	95.7526
## 0	526	1.8901
## 1	275	0.9882
## 2	80	0.2875
## 3	35	0.1258
## 4	17	0.0611
## 5	154	0.5534
## 6	60	0.2156
## 7	12	0.0431
## 8	23	0.0826

Plot of Feature:OFFSET2
Data>All 2007.csv

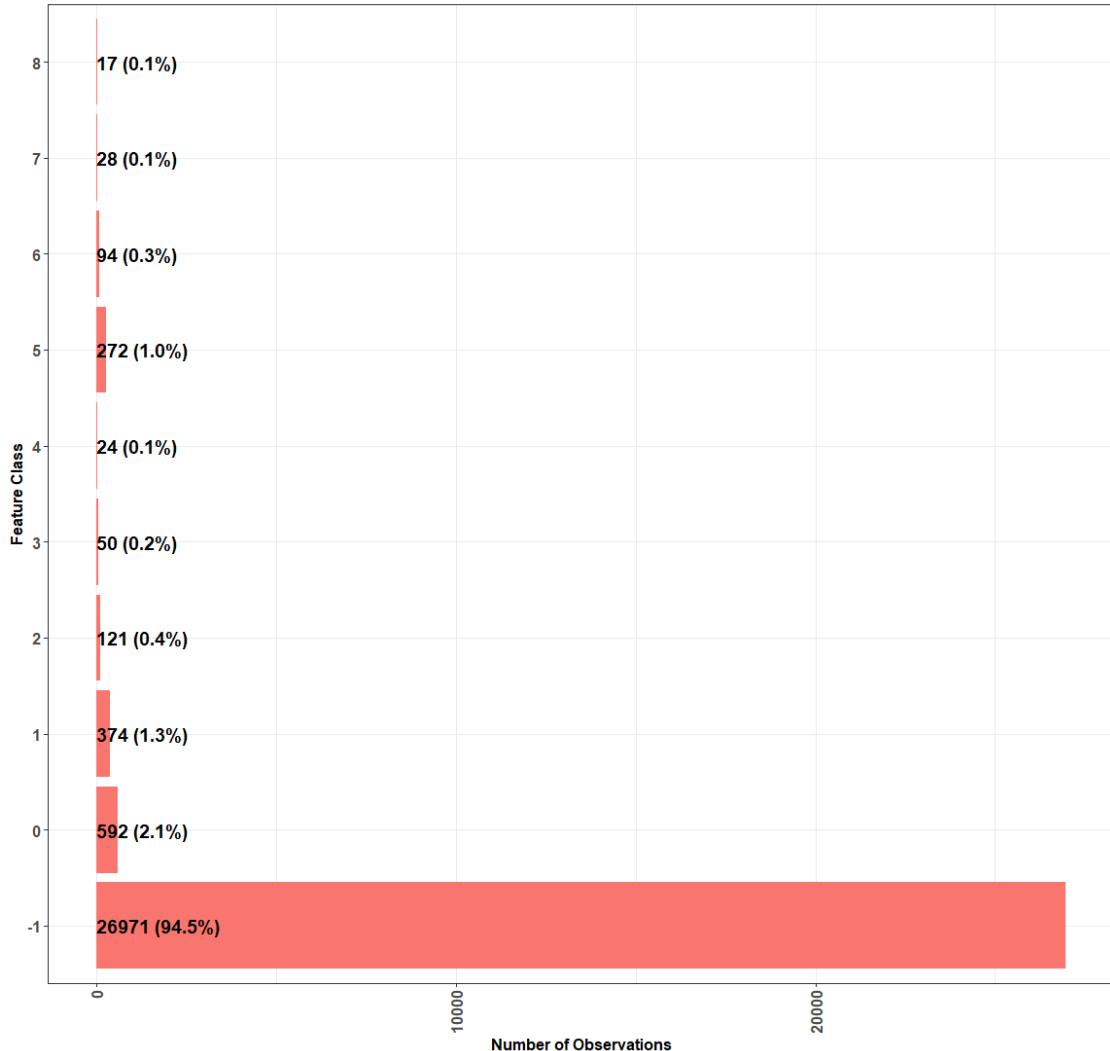


```
##
## -----
## CHECKING FEATURE:OFFSET2
## DATA:All 2008.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26971 94.4925  
## 0 592 2.0741  
## 1 374 1.3103  
## 2 121 0.4239  
## 3 50 0.1752  
## 4 24 0.0841  
## 5 272 0.9529  
## 6 94 0.3293  
## 7 28 0.0981  
## 8 17 0.0596
```

Plot of Feature:OFFSET2
Data:All 2008.csv

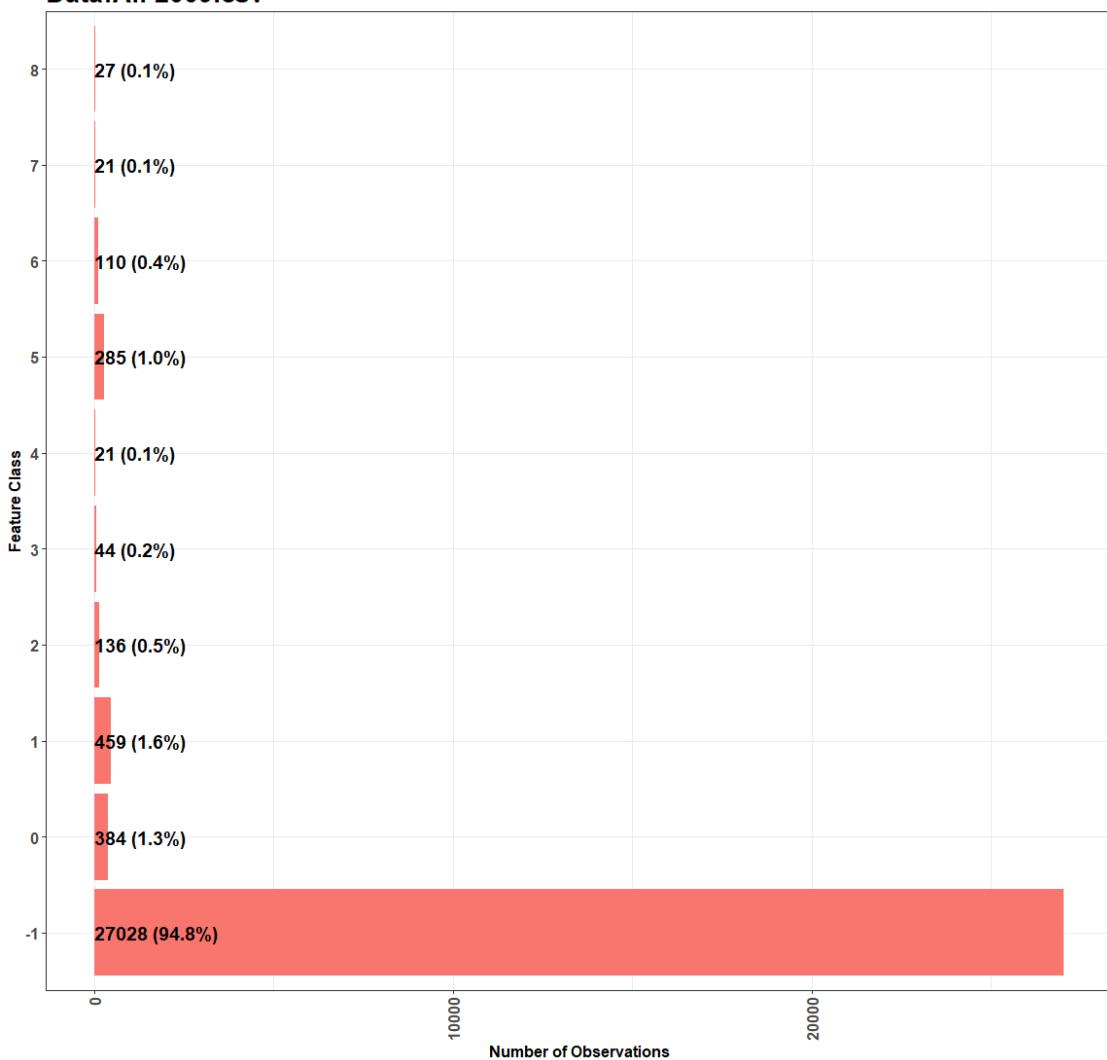


```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	27028	94.7852
## 0	384	1.3467
## 1	459	1.6097
## 2	136	0.4769
## 3	44	0.1543
## 4	21	0.0736
## 5	285	0.9995
## 6	110	0.3858
## 7	21	0.0736
## 8	27	0.0947

Plot of Feature:OFFSET2

Data:All 2009.csv

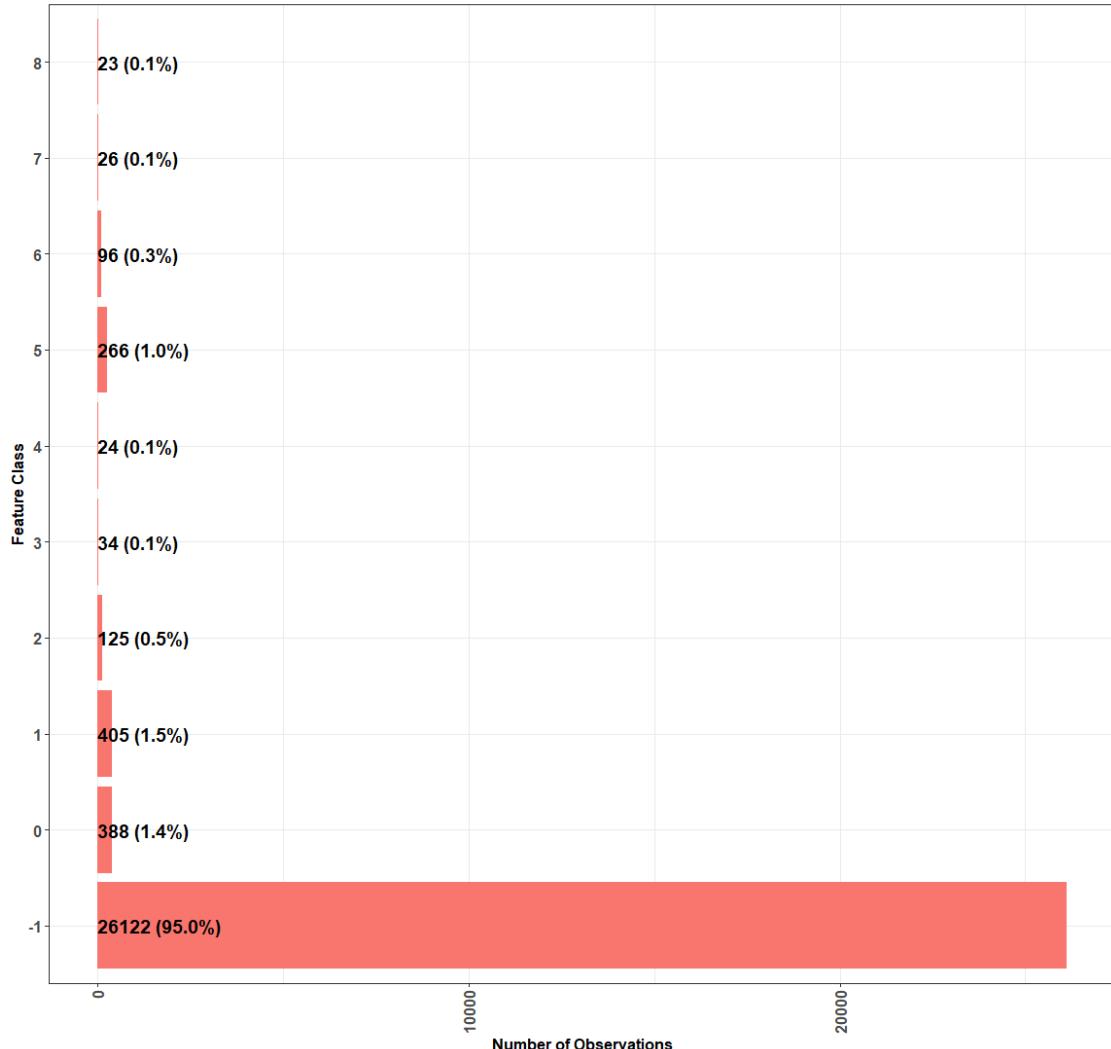


```
##
## -----
## CHECKING FEATURE:OFFSET2
## DATA:All 2010.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26122 94.9580  
## 0 388 1.4104  
## 1 405 1.4722  
## 2 125 0.4544  
## 3 34 0.1236  
## 4 24 0.0872  
## 5 266 0.9670  
## 6 96 0.3490  
## 7 26 0.0945  
## 8 23 0.0836
```

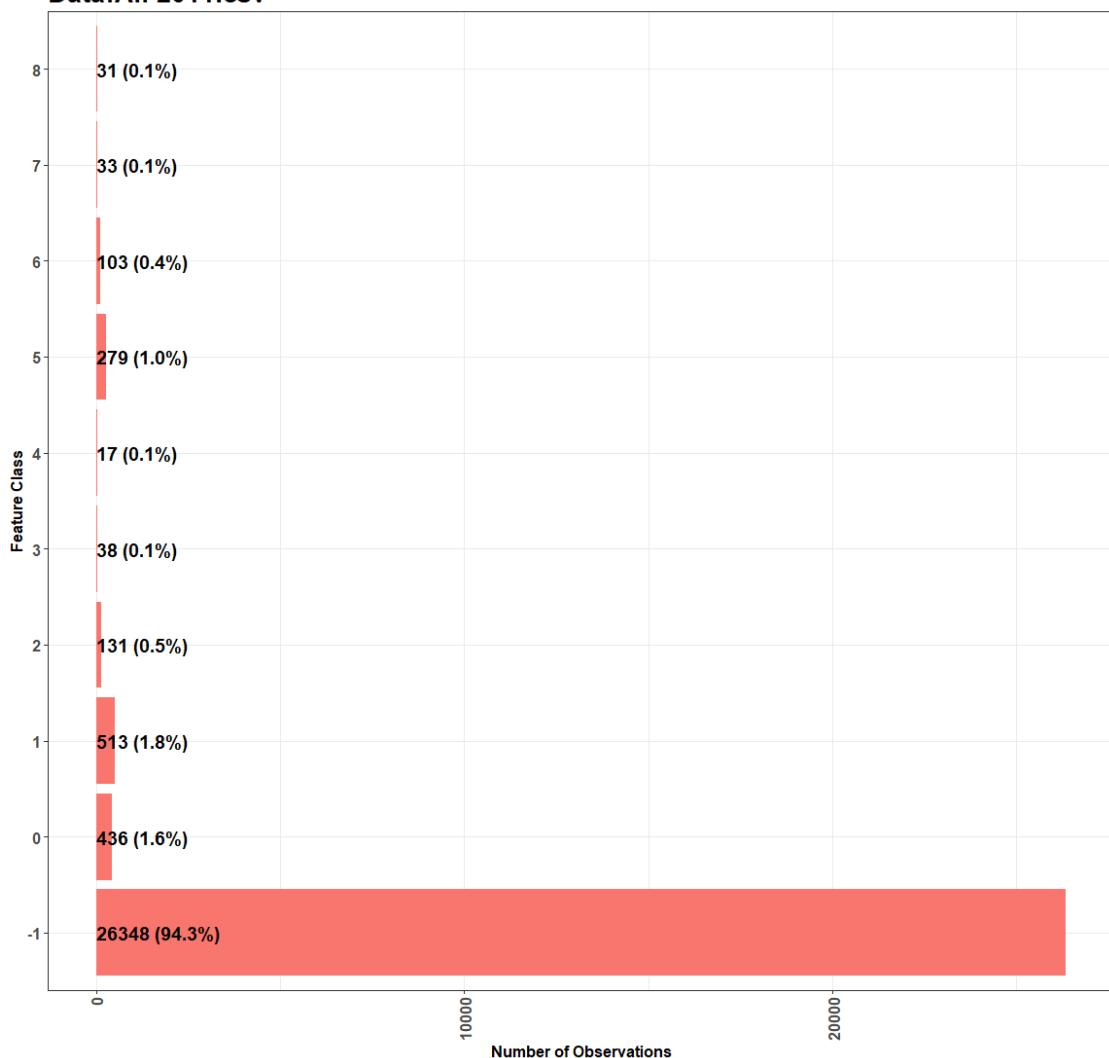
Plot of Feature:OFFSET2
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26348	94.3392
## 0	436	1.5611
## 1	513	1.8368
## 2	131	0.4690
## 3	38	0.1361
## 4	17	0.0609
## 5	279	0.9990
## 6	103	0.3688
## 7	33	0.1182
## 8	31	0.1110

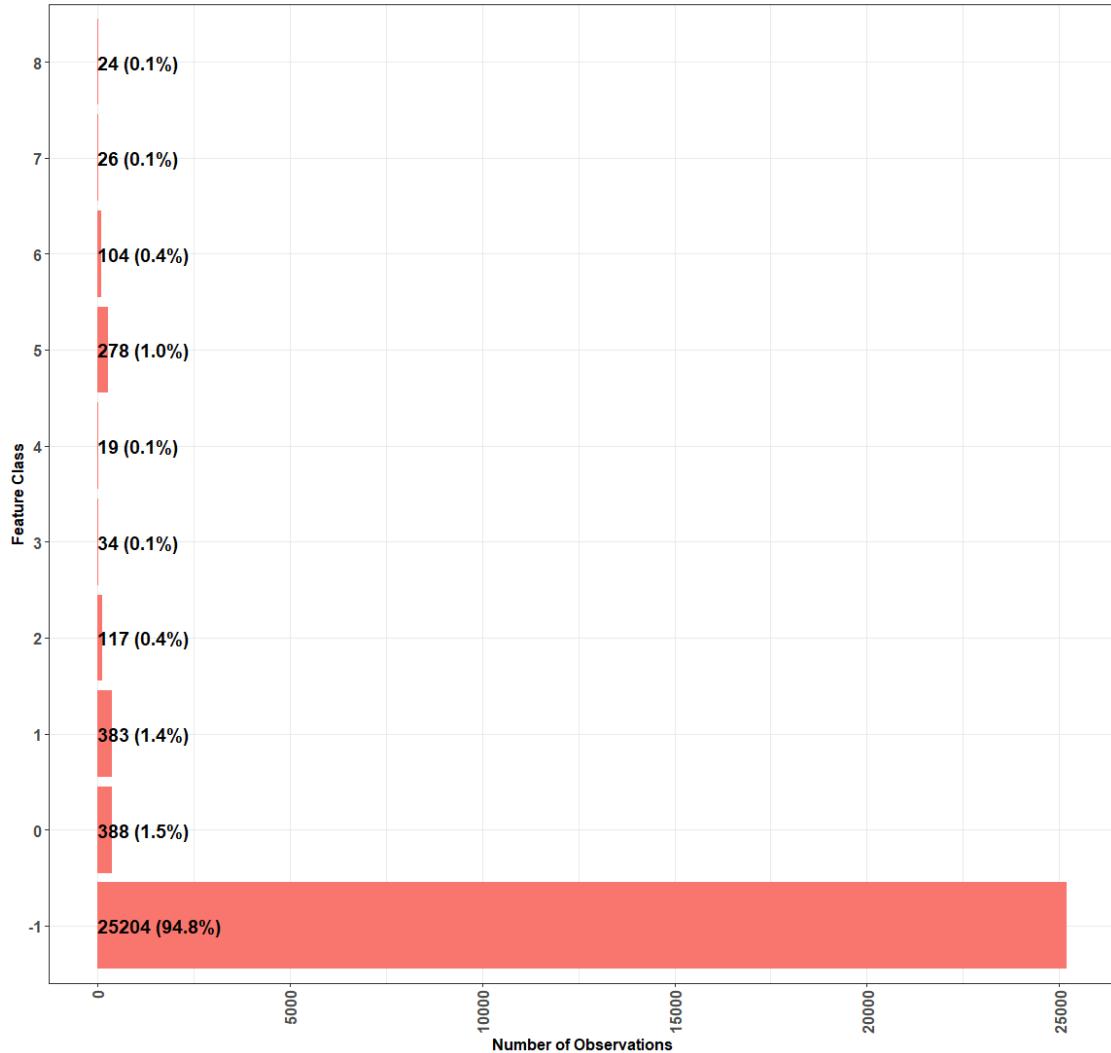
Plot of Feature:OFFSET2
Data>All 2011.csv



```
##
## -----
## CHECKING FEATURE:OFFSET2
## DATA:All 2012.csv...
```

```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25204 94.8339  
## 0 388 1.4599  
## 1 383 1.4411  
## 2 117 0.4402  
## 3 34 0.1279  
## 4 19 0.0715  
## 5 278 1.0460  
## 6 104 0.3913  
## 7 26 0.0978  
## 8 24 0.0903
```

Plot of Feature:OFFSET2
Data:All 2012.csv

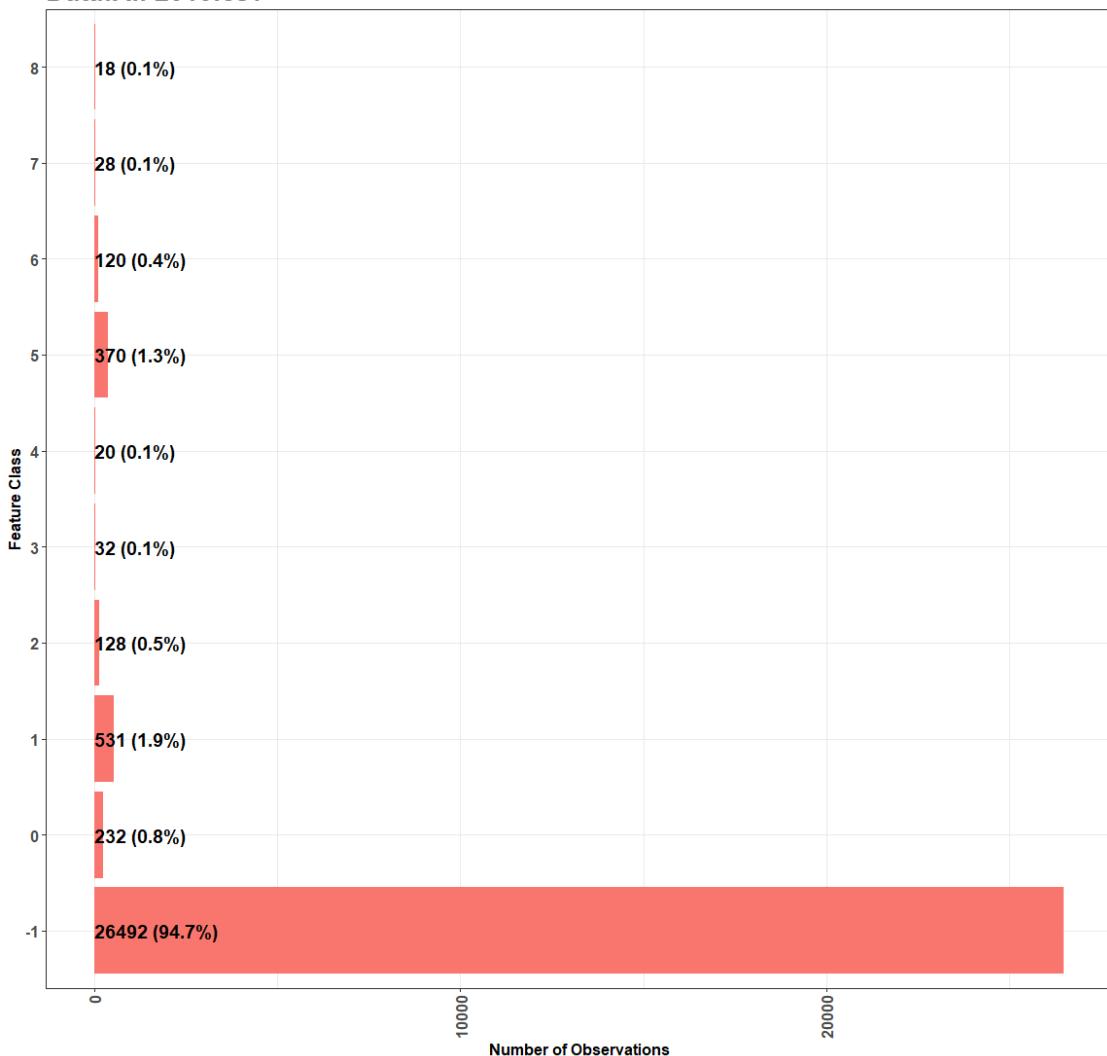


```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26492	94.7124
## 0	232	0.8294
## 1	531	1.8984
## 2	128	0.4576
## 3	32	0.1144
## 4	20	0.0715
## 5	370	1.3228
## 6	120	0.4290
## 7	28	0.1001
## 8	18	0.0644

Plot of Feature:OFFSET2

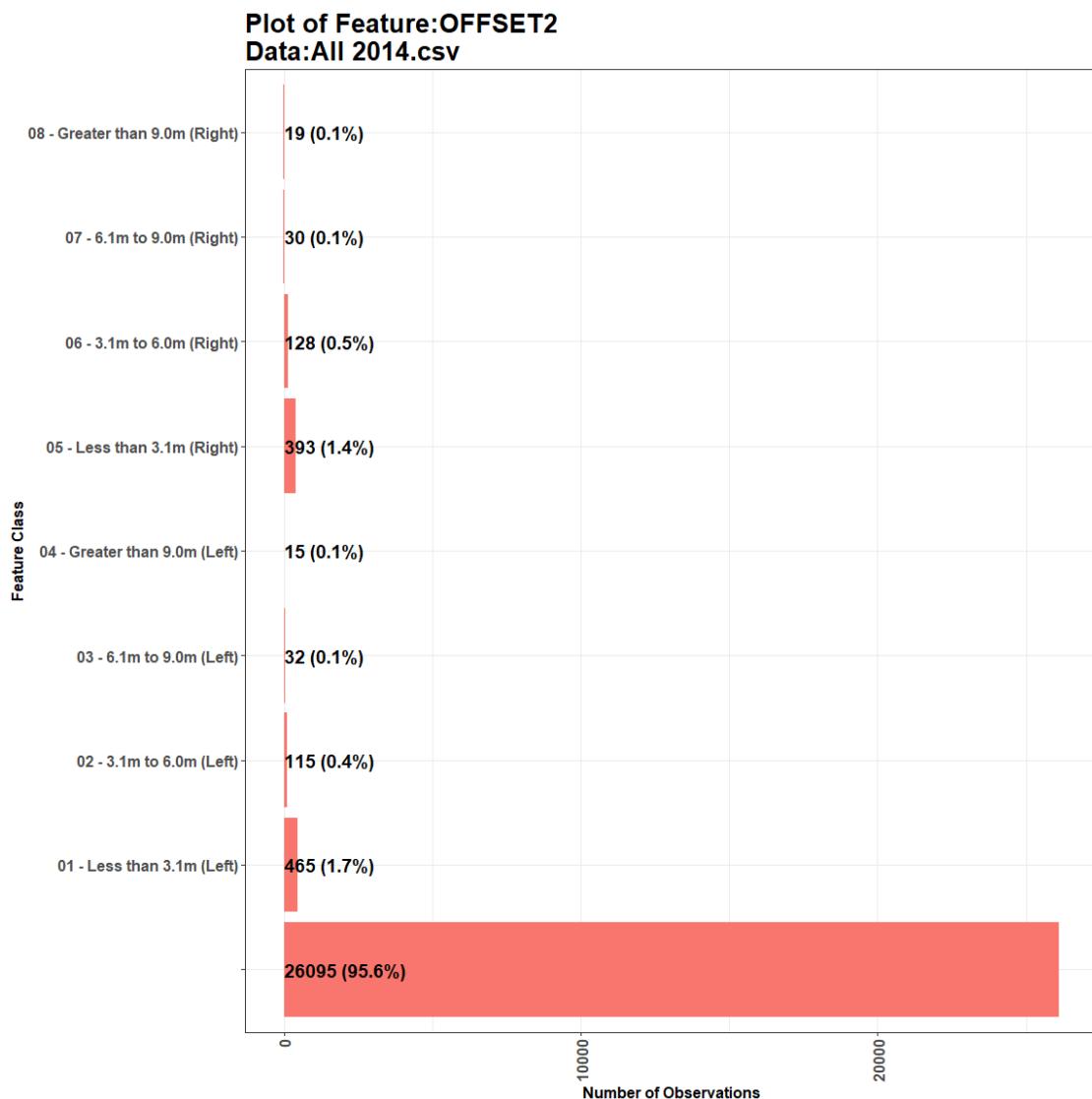
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:OFFSET2
## DATA:All 2014.csv...
```



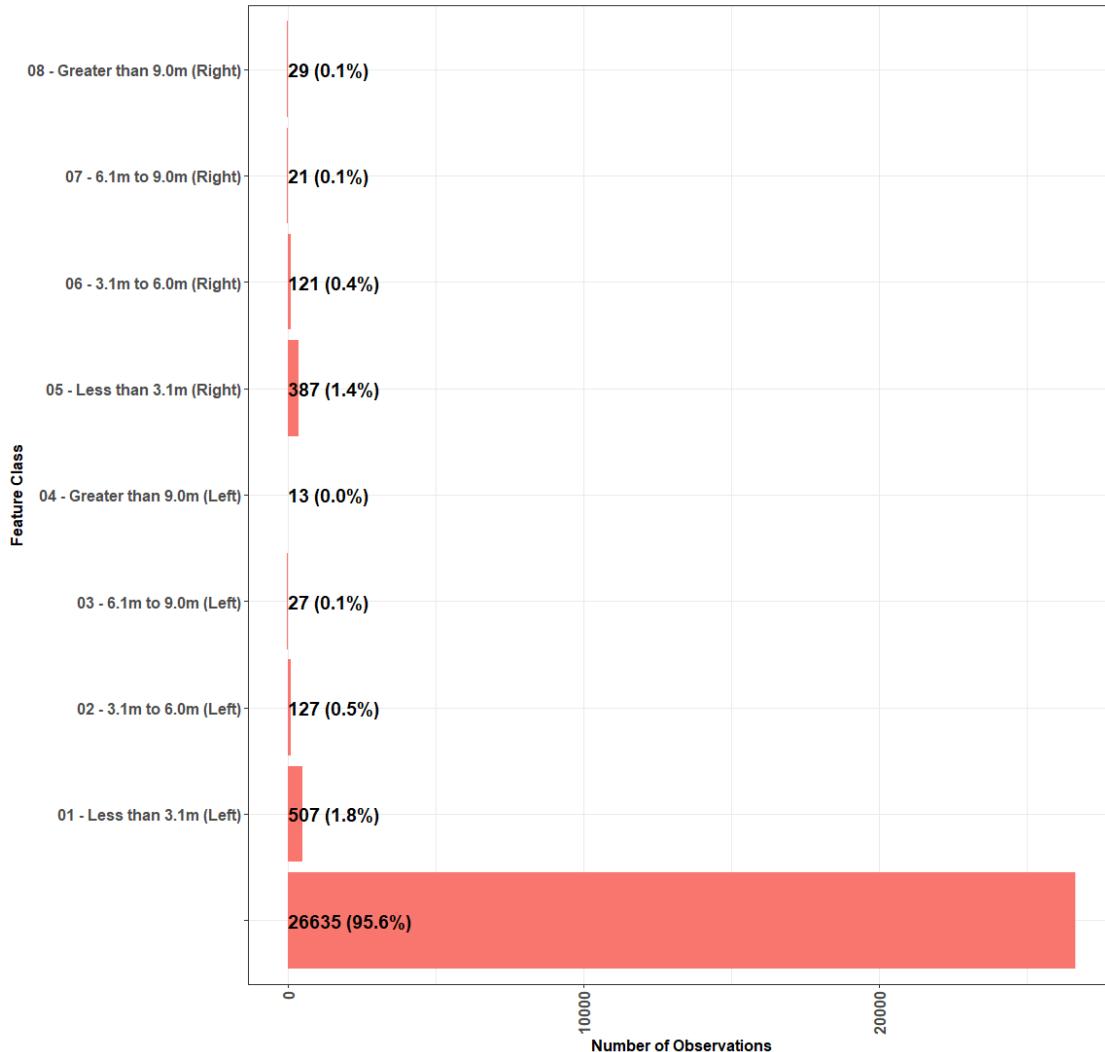
```
##  
## Number of Blank Values: 26095  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----  
## 26095 95.6141  
## 01 - Less than 3.1m (Left) 465 1.7038  
## 02 - 3.1m to 6.0m (Left) 115 0.4214  
## 03 - 6.1m to 9.0m (Left) 32 0.1173  
## 04 - Greater than 9.0m (Left) 15 0.0550  
## 05 - Less than 3.1m (Right) 393 1.4400  
## 06 - 3.1m to 6.0m (Right) 128 0.4690  
## 07 - 6.1m to 9.0m (Right) 30 0.1099  
## 08 - Greater than 9.0m (Right) 19 0.0696
```



```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:26635  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

##	26635	95.5790
## 01 - Less than 3.1m (Left)	507	1.8194
## 02 - 3.1m to 6.0m (Left)	127	0.4557
## 03 - 6.1m to 9.0m (Left)	27	0.0969
## 04 - Greater than 9.0m (Left)	13	0.0467
## 05 - Less than 3.1m (Right)	387	1.3887
## 06 - 3.1m to 6.0m (Right)	121	0.4342
## 07 - 6.1m to 9.0m (Right)	21	0.0754
## 08 - Greater than 9.0m (Right)	29	0.1041

**Plot of Feature:OFFSET2
Data>All 2015.csv**

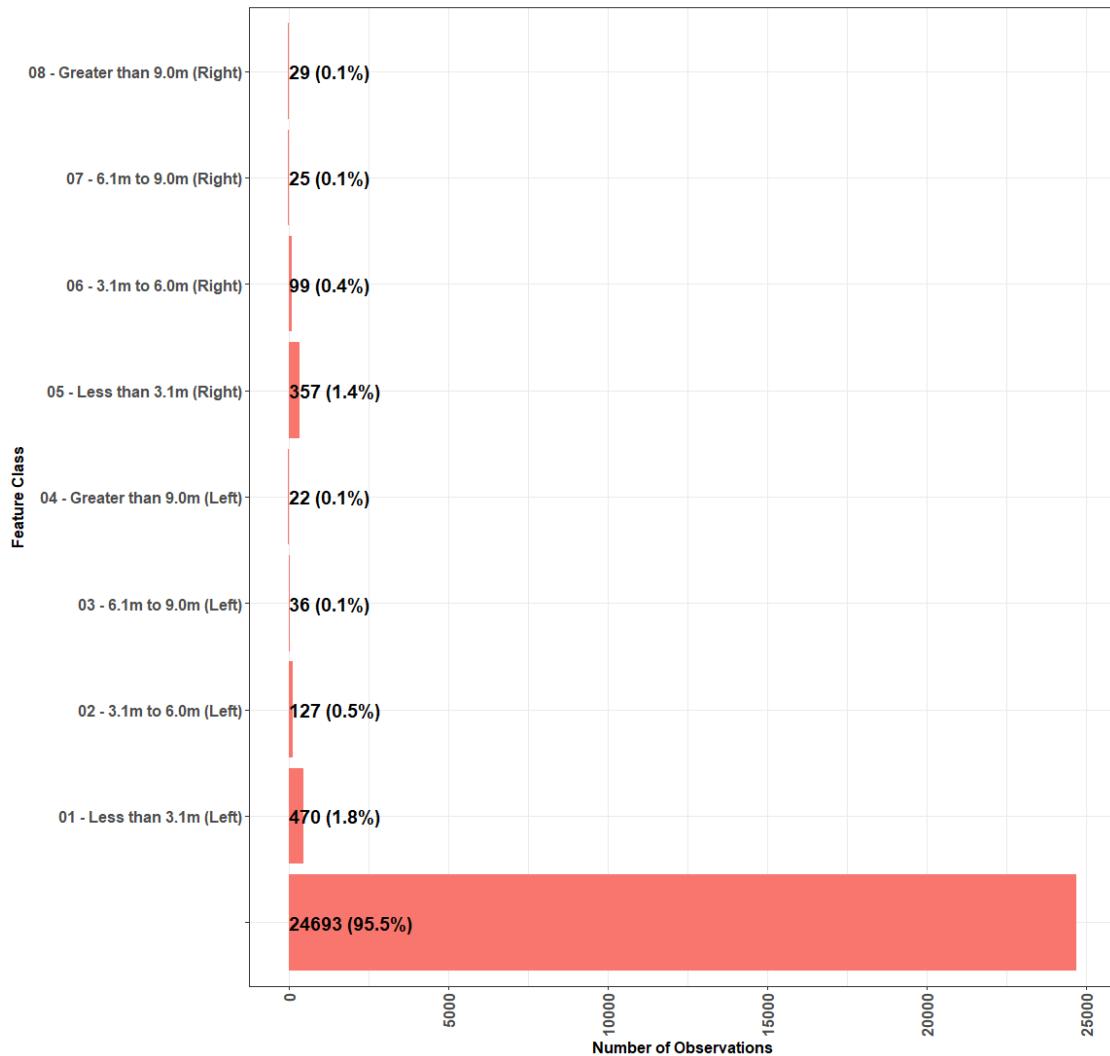


```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2016.csv...  
##
```



```
## Number of Blank Values:24693
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF OFFSET2
##
## Feature Value Counter Percentage
## -----
## 24693 95.4946
## 01 - Less than 3.1m (Left) 470 1.8176
## 02 - 3.1m to 6.0m (Left) 127 0.4911
## 03 - 6.1m to 9.0m (Left) 36 0.1392
## 04 - Greater than 9.0m (Left) 22 0.0851
## 05 - Less than 3.1m (Right) 357 1.3806
## 06 - 3.1m to 6.0m (Right) 99 0.3829
## 07 - 6.1m to 9.0m (Right) 25 0.0967
## 08 - Greater than 9.0m (Right) 29 0.1122
```

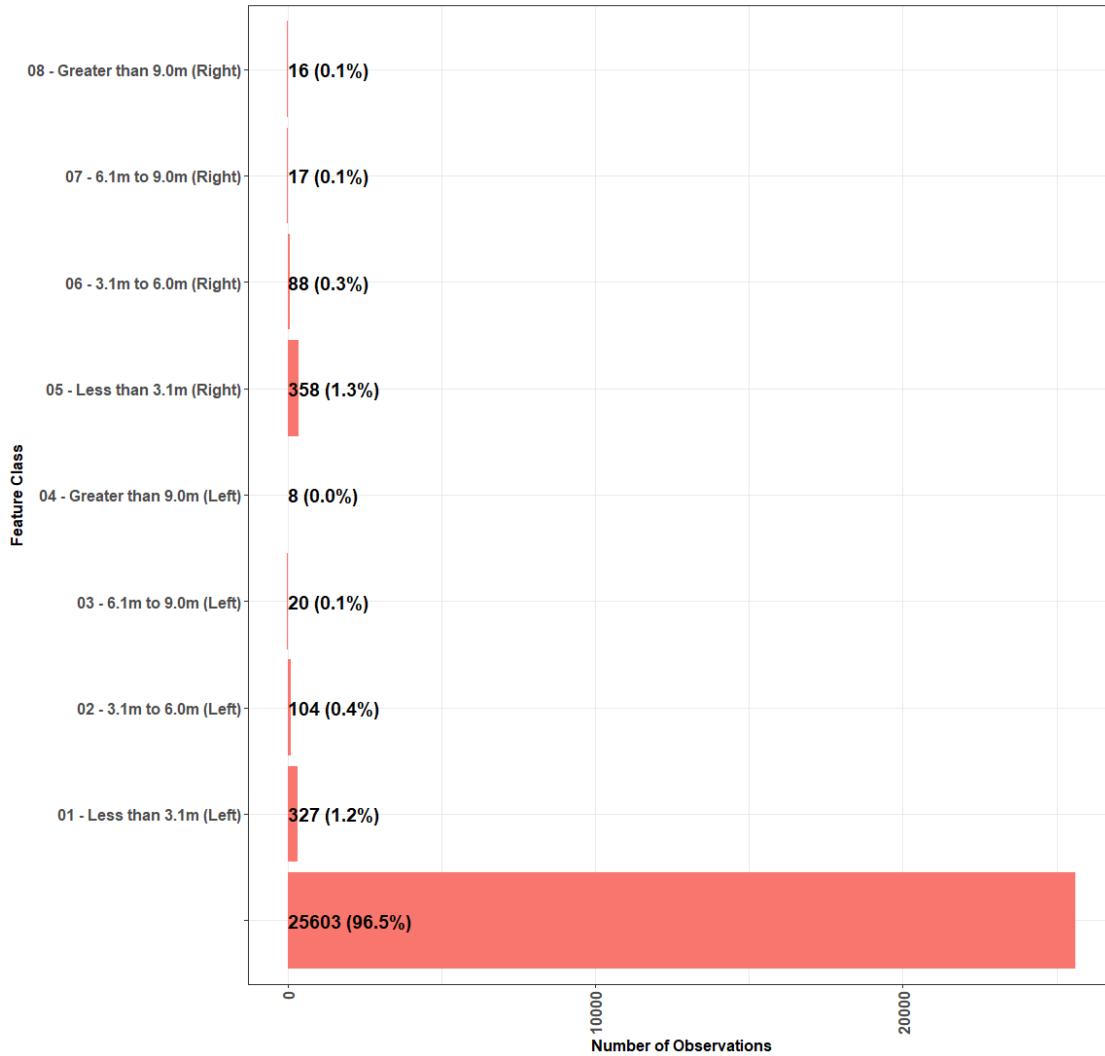
**Plot of Feature:OFFSET2
Data:All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:OFFSET2  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:25603  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET2  
##  
## Feature Value Counter Percentage  
## -----
```

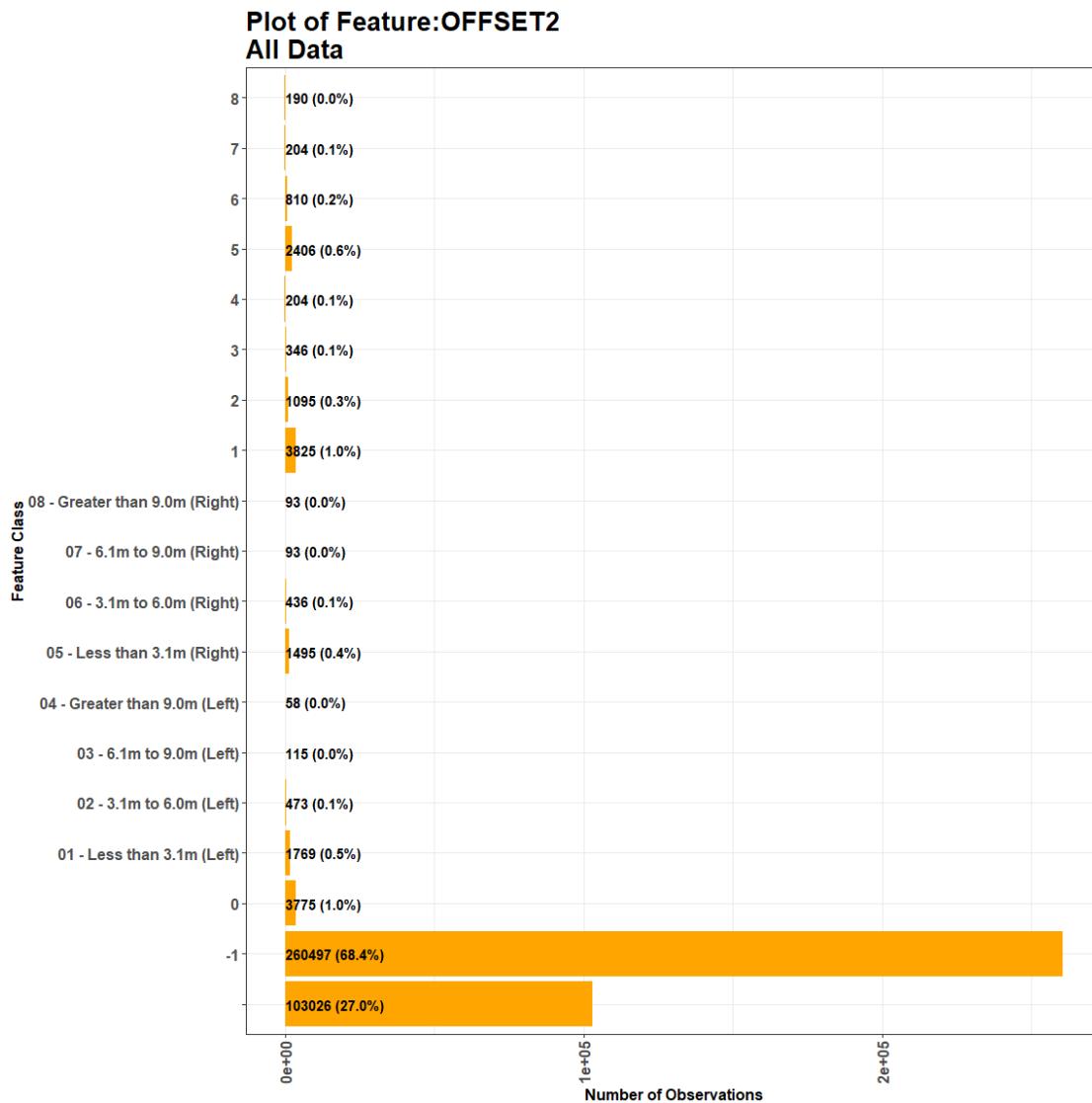
##		25603	96.4658
## 01 - Less than 3.1m (Left)		327	1.2321
## 02 - 3.1m to 6.0m (Left)		104	0.3918
## 03 - 6.1m to 9.0m (Left)		20	0.0754
## 04 - Greater than 9.0m (Left)		8	0.0301
## 05 - Less than 3.1m (Right)		358	1.3489
## 06 - 3.1m to 6.0m (Right)		88	0.3316
## 07 - 6.1m to 9.0m (Right)		17	0.0641
## 08 - Greater than 9.0m (Right)		16	0.0603

**Plot of Feature:OFFSET2
Data>All 2017.csv**



```
##  
## =====  
## FINAL INFO CHECKING FEATURE:OFFSET2  
## ALL DATA...  
## =====
```

```
##
## Number of Blank Values:103026
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
## Summary as Factor Feature:
## Number of Features: 19
```

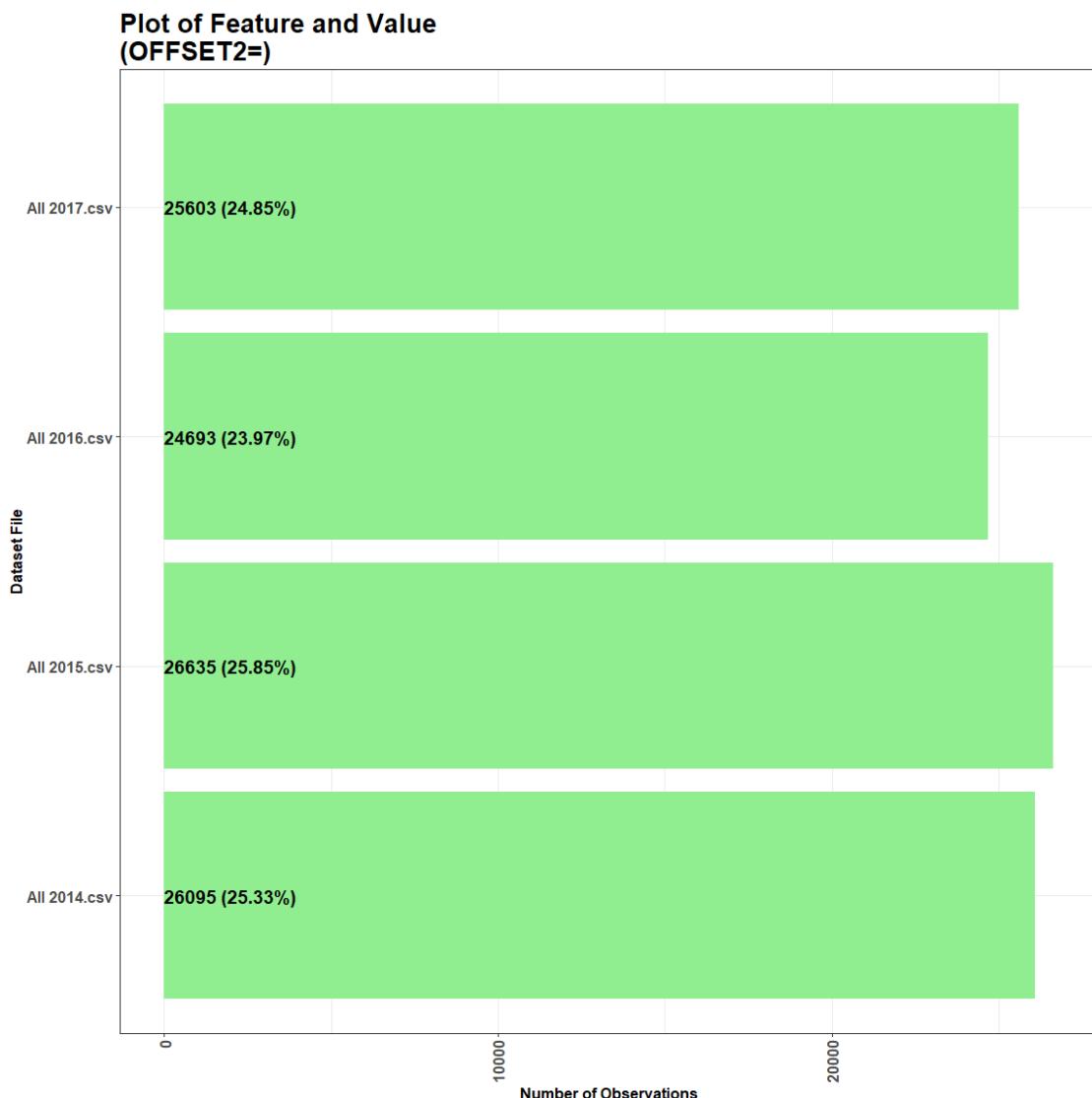


```
## [1] "TOP 100 FEATURES COUNTERS OF:OFFSET2"
```

Feature Value	Counter	Percentage
	103026	27.0473
-1	260497	68.3881
0	3775	0.9910
01 - Less than 3.1m (Left)	1769	0.4644
02 - 3.1m to 6.0m (Left)	473	0.1242
03 - 6.1m to 9.0m (Left)	115	0.0302
04 - Greater than 9.0m (Left)	58	0.0152
05 - Less than 3.1m (Right)	1495	0.3925
06 - 3.1m to 6.0m (Right)	436	0.1145
07 - 6.1m to 9.0m (Right)	93	0.0244
08 - Greater than 9.0m (Right)	93	0.0244
1	3825	1.0042
2	1095	0.2875
3	346	0.0908
4	204	0.0536
5	2406	0.6316
6	810	0.2126
7	204	0.0536
8	190	0.0499

11.1 OFFSET2 = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET2=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      26095      26635      24693      25603
```

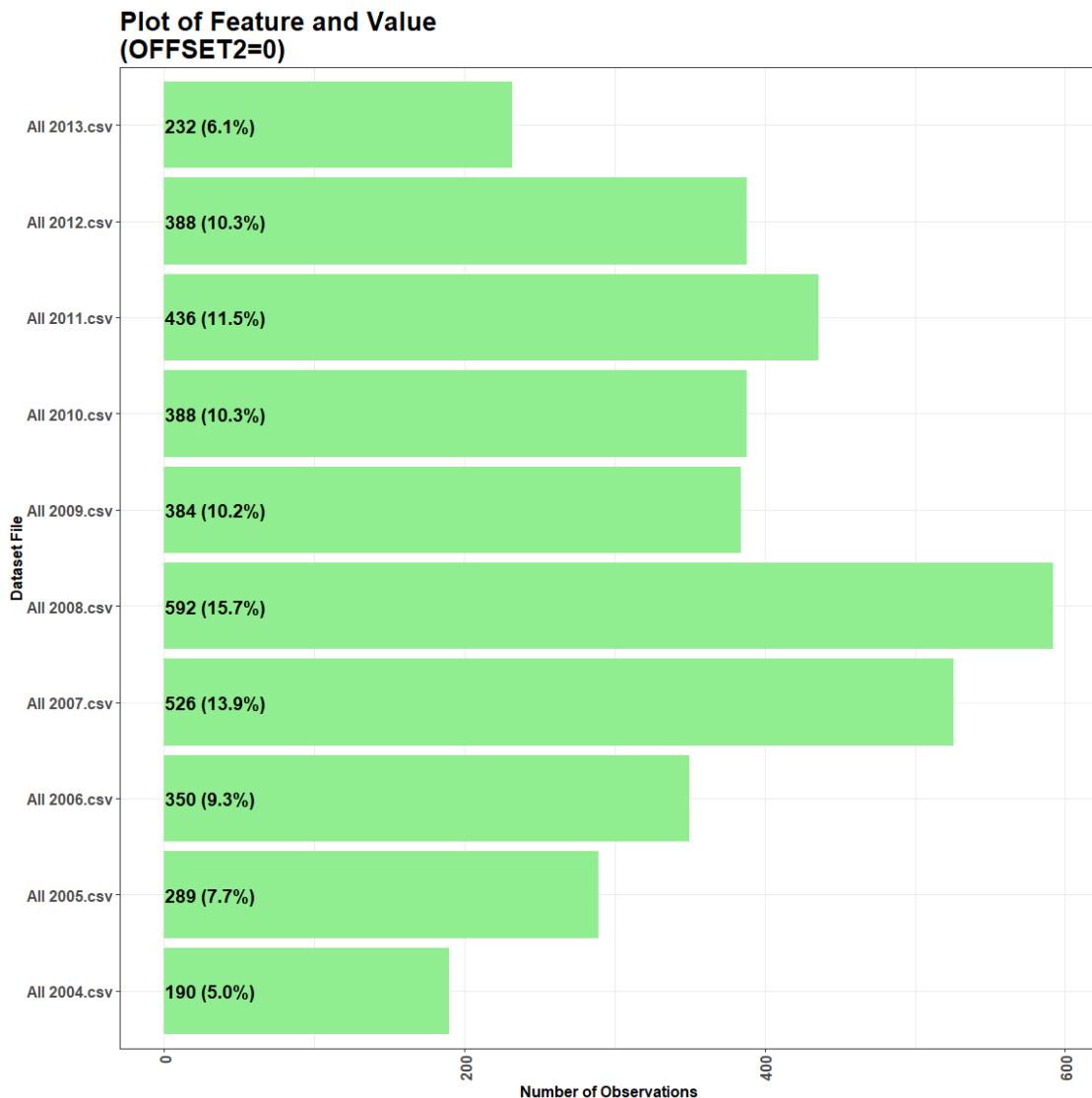


DATASET FILE	COUNTER OF (OFFSET2=)	Percentage
All 2014.csv	26095	25.33
All 2015.csv	26635	25.85
All 2016.csv	24693	23.97
All 2017.csv	25603	24.85

11.2 OFFSET2 = “0”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET2=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      190      289      350      526      592
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      384      388      436      388      232
```

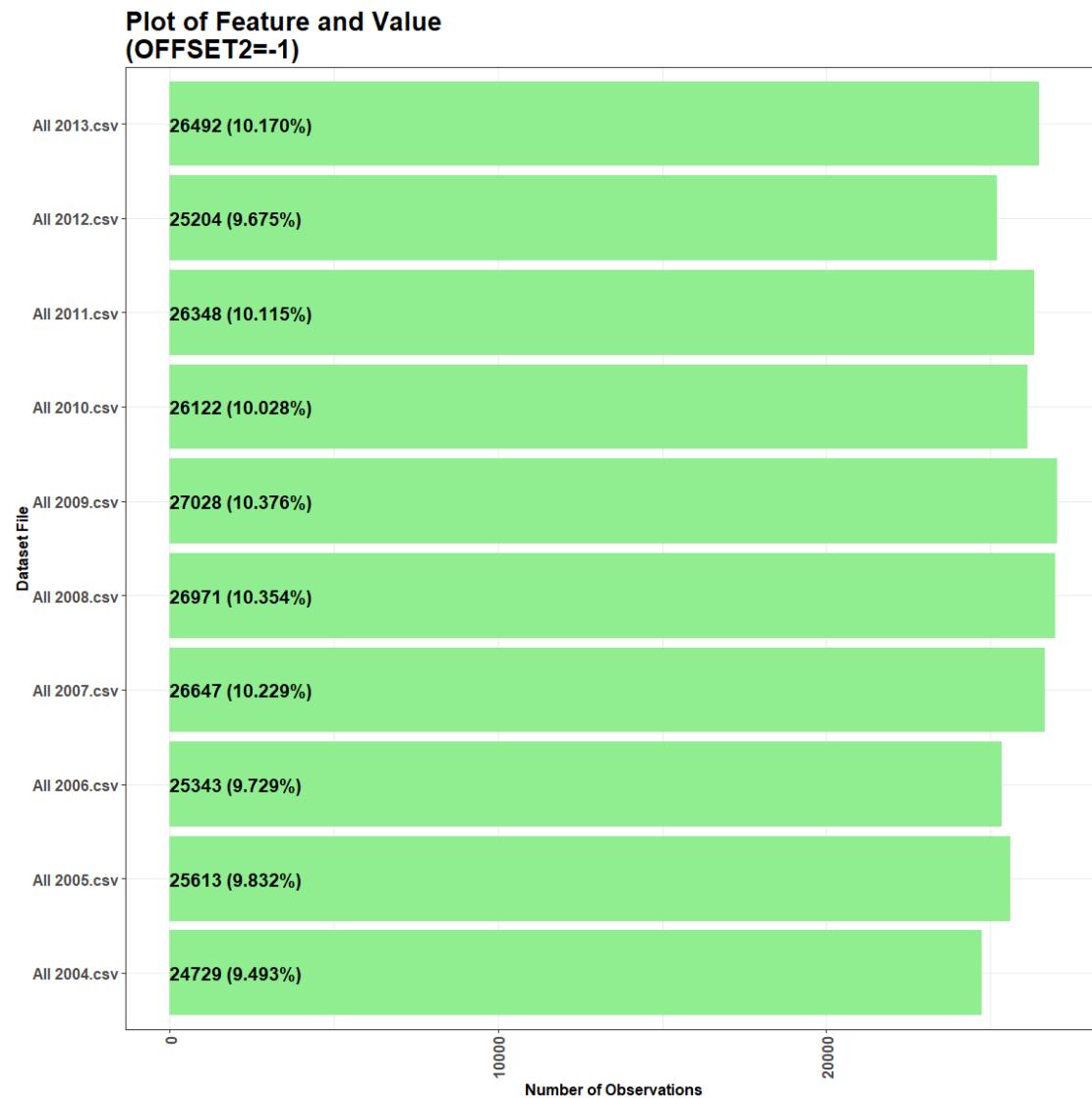


DATASET FILE	COUNTER OF (OFFSET2=0)	Percentage
All 2004.csv	190	5.033
All 2005.csv	289	7.656
All 2006.csv	350	9.271
All 2007.csv	526	13.934
All 2008.csv	592	15.682
All 2009.csv	384	10.172
All 2010.csv	388	10.278

All 2011.csv	436	11.550
All 2012.csv	388	10.278
All 2013.csv	232	6.146

11.3 OFFSET2 = “-1”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (OFFSET2=-1)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 24729 25613 25343 26647 26971  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 27028 26122 26348 25204 26492
```

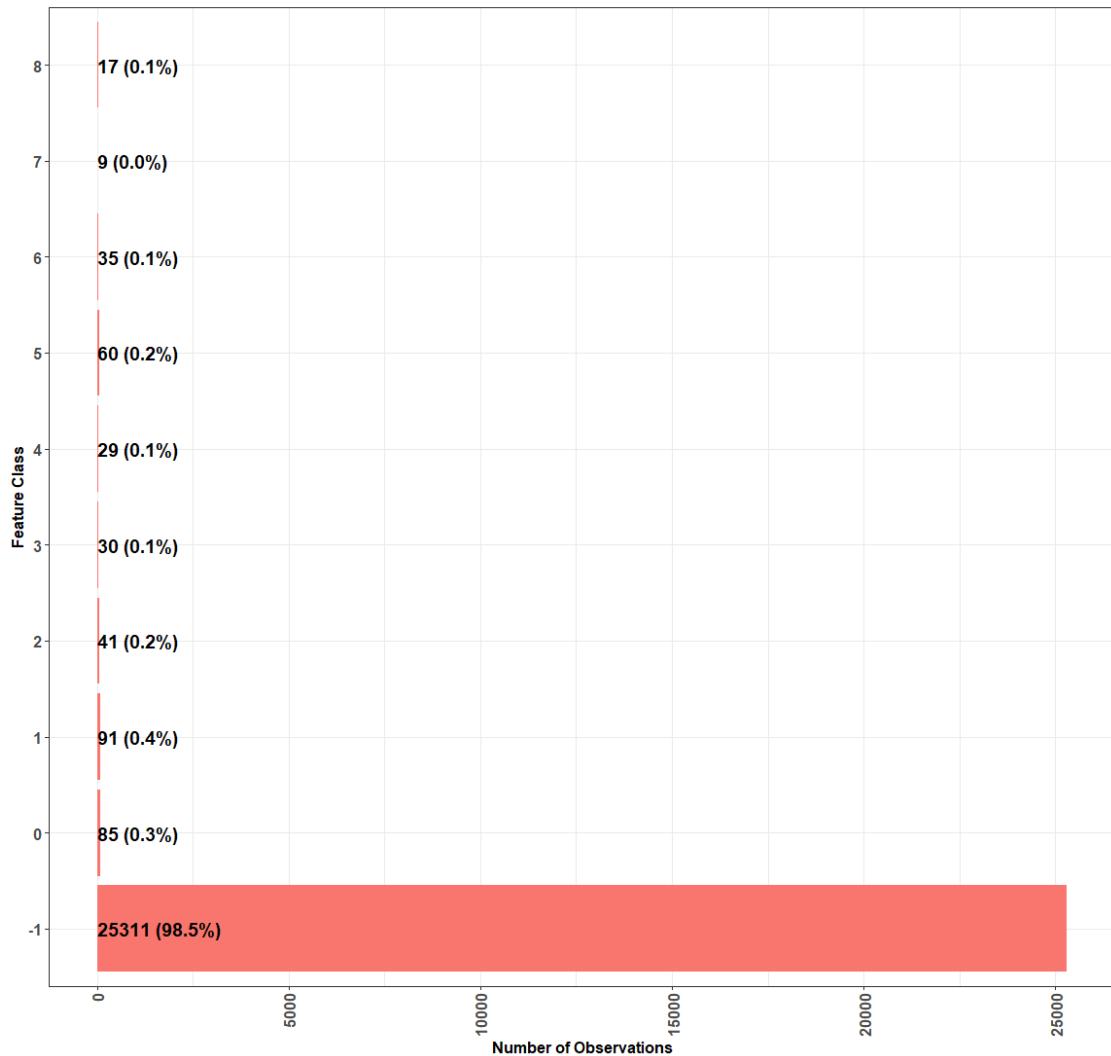


DATASET FILE	COUNTER OF (OFFSET2=-1)	Percentage
All 2004.csv	24729	9.493
All 2005.csv	25613	9.832
All 2006.csv	25343	9.729
All 2007.csv	26647	10.229
All 2008.csv	26971	10.354
All 2009.csv	27028	10.376
All 2010.csv	26122	10.028
All 2011.csv	26348	10.114
All 2012.csv	25204	9.675
All 2013.csv	26492	10.170

12. Offset3 (OFFSET3)

```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25311 98.4557  
## 0 85 0.3306  
## 1 91 0.3540  
## 2 41 0.1595  
## 3 30 0.1167  
## 4 29 0.1128  
## 5 60 0.2334  
## 6 35 0.1361  
## 7 9 0.0350  
## 8 17 0.0661
```

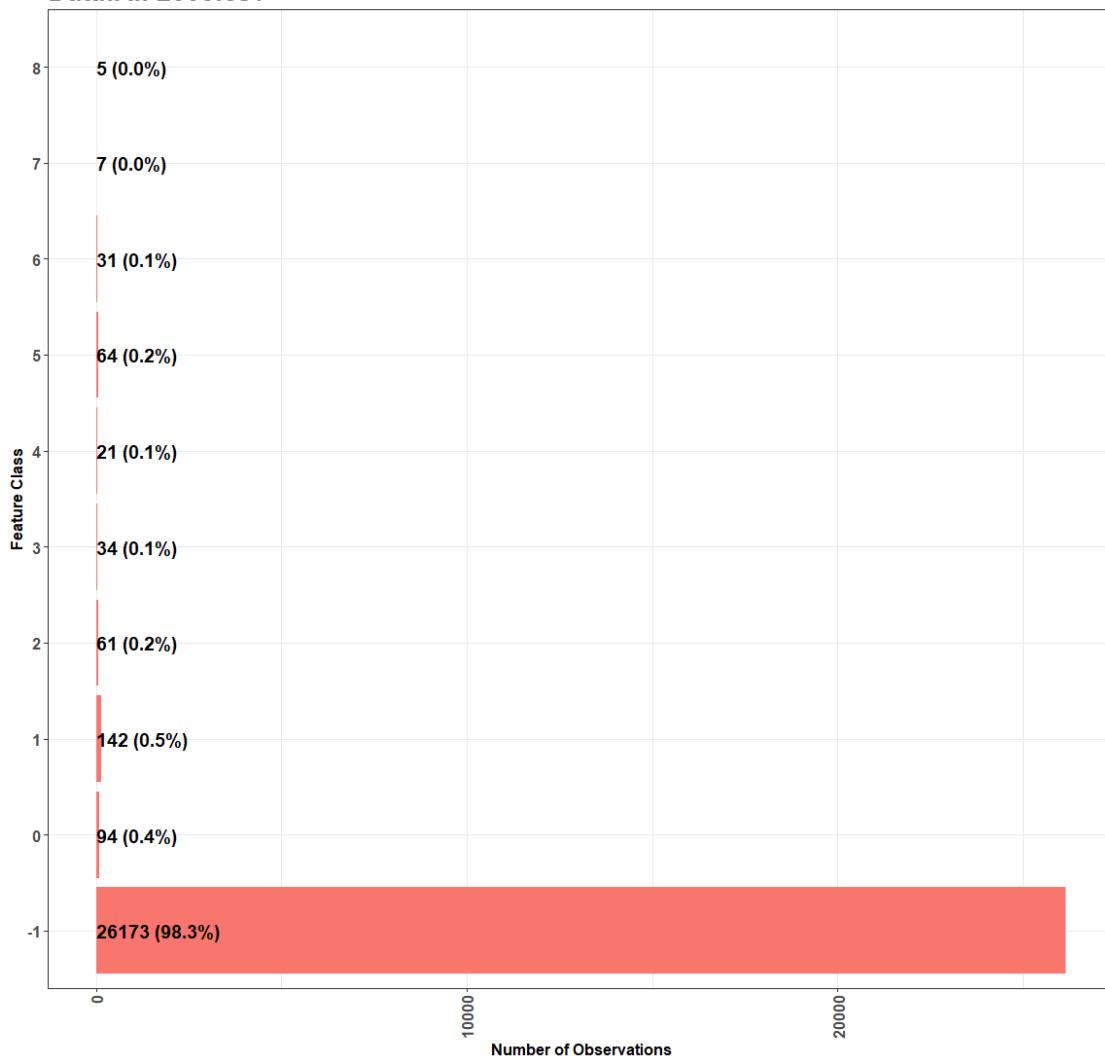
Plot of Feature:OFFSET3
Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	26173	98.2765
## 0	94	0.3530
## 1	142	0.5332
## 2	61	0.2290
## 3	34	0.1277
## 4	21	0.0789
## 5	64	0.2403
## 6	31	0.1164
## 7	7	0.0263
## 8	5	0.0188

Plot of Feature:OFFSET3
Data>All 2005.csv

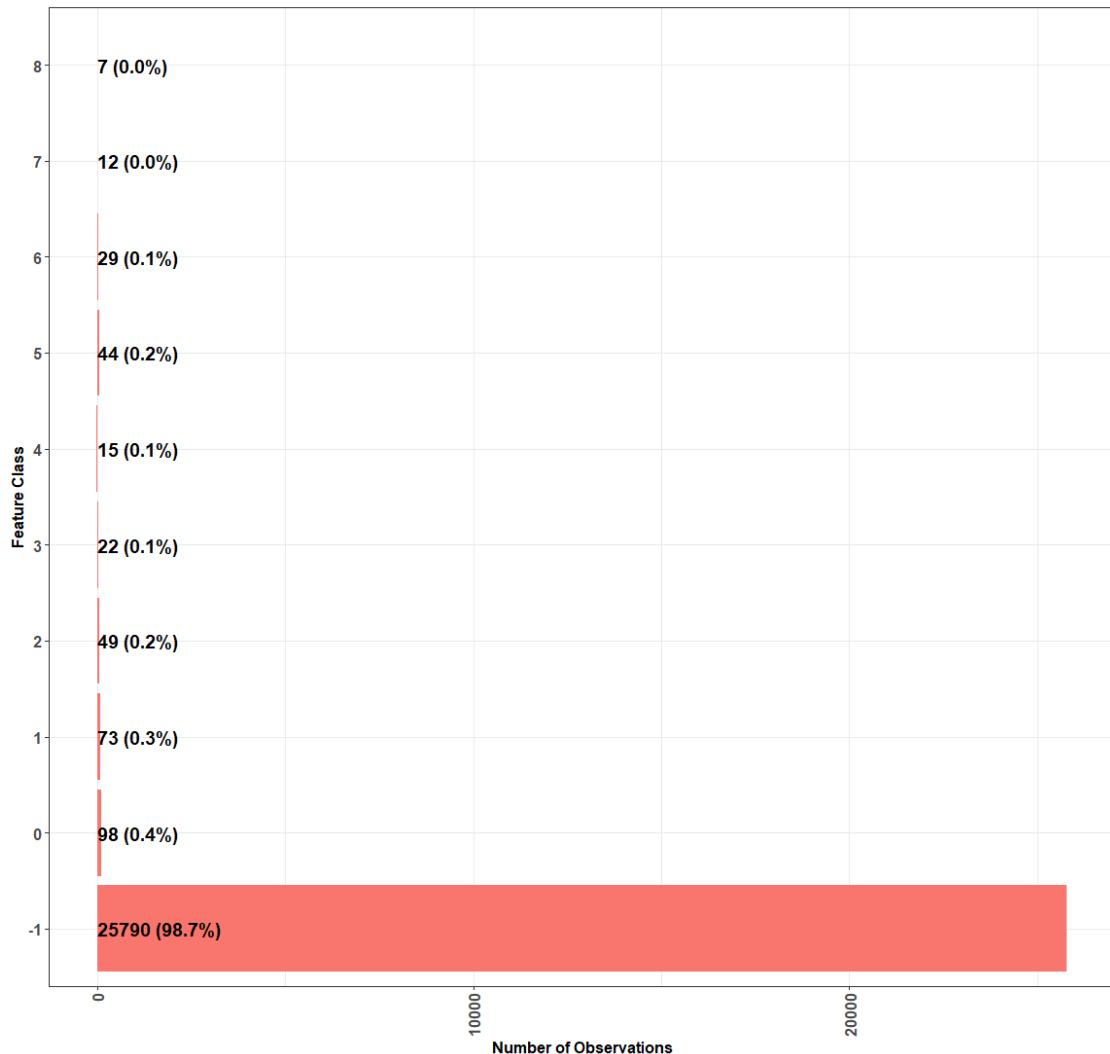


```
##
## -----
## CHECKING FEATURE:OFFSET3
## DATA:All 2006.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25790 98.6648  
## 0 98 0.3749  
## 1 73 0.2793  
## 2 49 0.1875  
## 3 22 0.0842  
## 4 15 0.0574  
## 5 44 0.1683  
## 6 29 0.1109  
## 7 12 0.0459  
## 8 7 0.0268
```

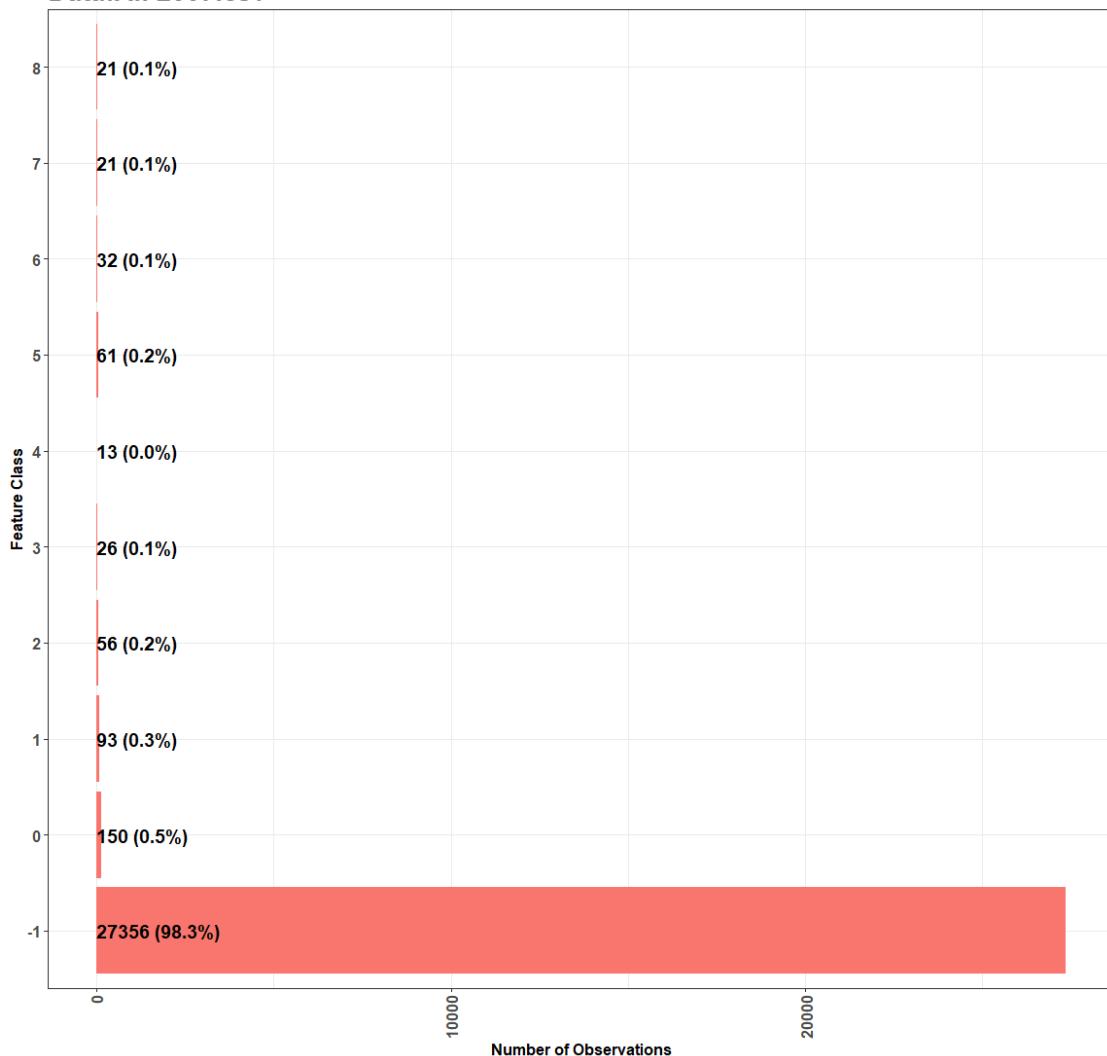
Plot of Feature:OFFSET3 Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	27356	98.3003
## 0	150	0.5390
## 1	93	0.3342
## 2	56	0.2012
## 3	26	0.0934
## 4	13	0.0467
## 5	61	0.2192
## 6	32	0.1150
## 7	21	0.0755
## 8	21	0.0755

Plot of Feature:OFFSET3
Data:All 2007.csv

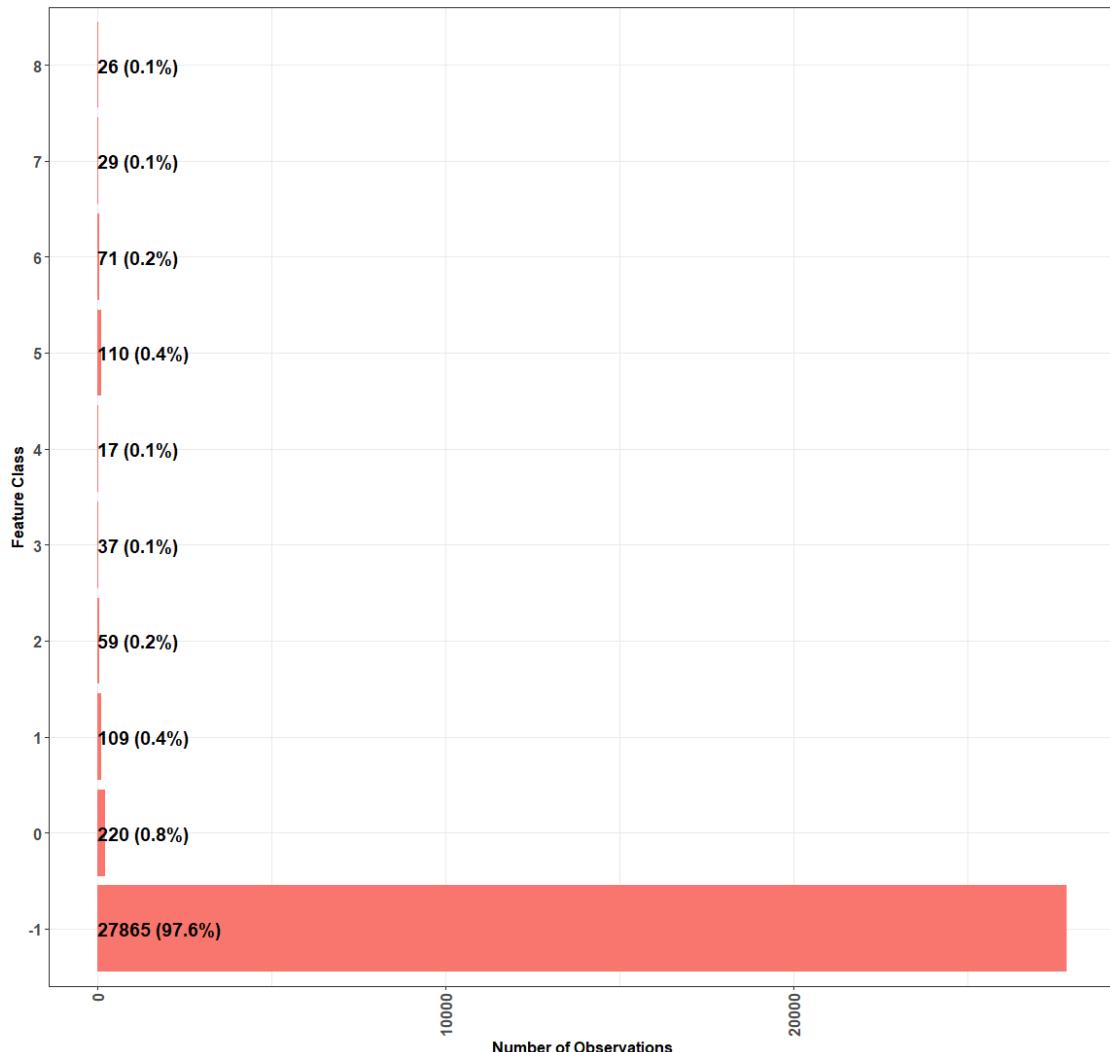


```
##
## -----
## CHECKING FEATURE:OFFSET3
## DATA:All 2008.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27865 97.6246  
## 0 220 0.7708  
## 1 109 0.3819  
## 2 59 0.2067  
## 3 37 0.1296  
## 4 17 0.0596  
## 5 110 0.3854  
## 6 71 0.2487  
## 7 29 0.1016  
## 8 26 0.0911
```

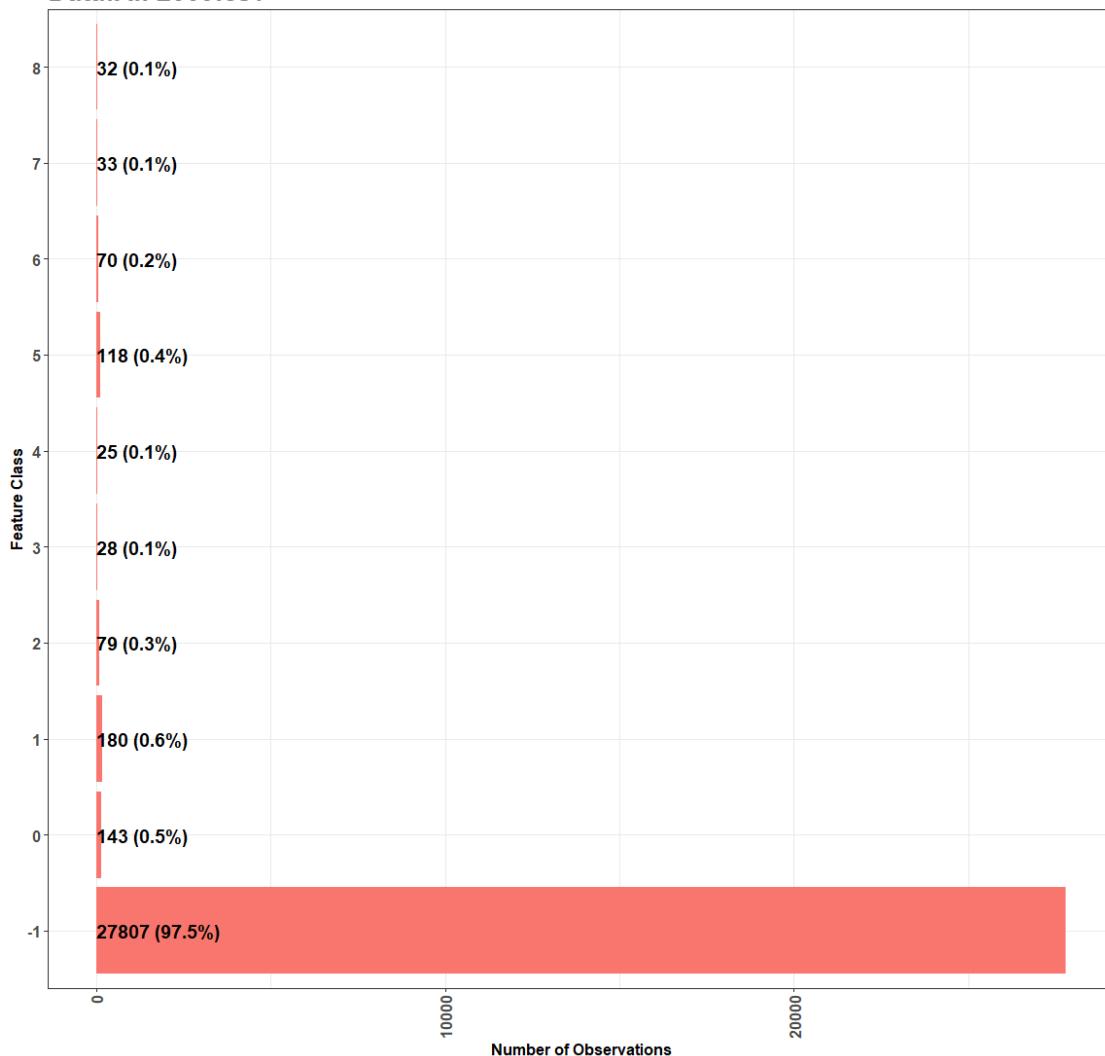
Plot of Feature:OFFSET3 Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

## -1	27807	97.5171
## 0	143	0.5015
## 1	180	0.6312
## 2	79	0.2770
## 3	28	0.0982
## 4	25	0.0877
## 5	118	0.4138
## 6	70	0.2455
## 7	33	0.1157
## 8	32	0.1122

Plot of Feature:OFFSET3
Data>All 2009.csv

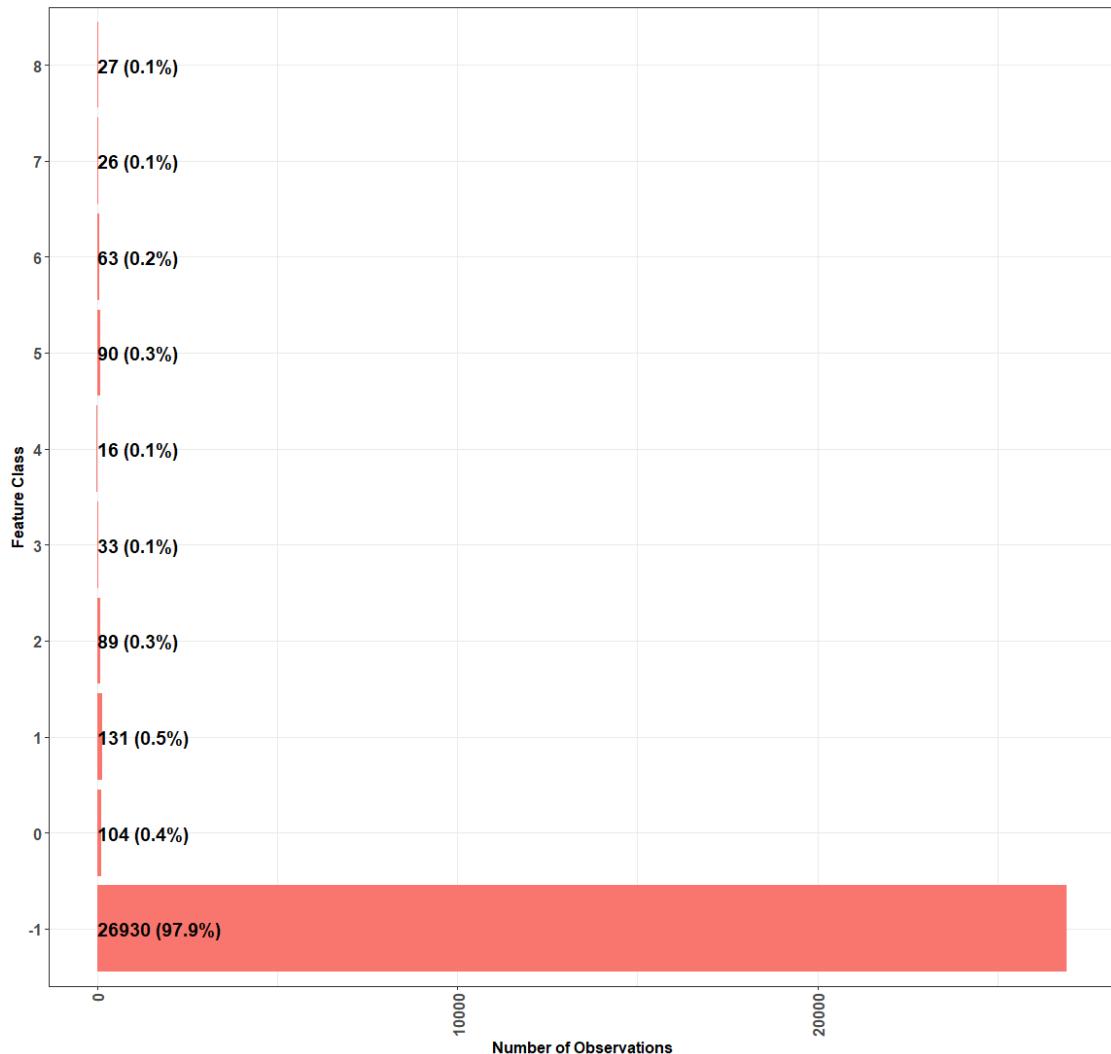


```
##
## -----
## CHECKING FEATURE:OFFSET3
## DATA:All 2010.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26930 97.8952  
## 0 104 0.3781  
## 1 131 0.4762  
## 2 89 0.3235  
## 3 33 0.1200  
## 4 16 0.0582  
## 5 90 0.3272  
## 6 63 0.2290  
## 7 26 0.0945  
## 8 27 0.0981
```

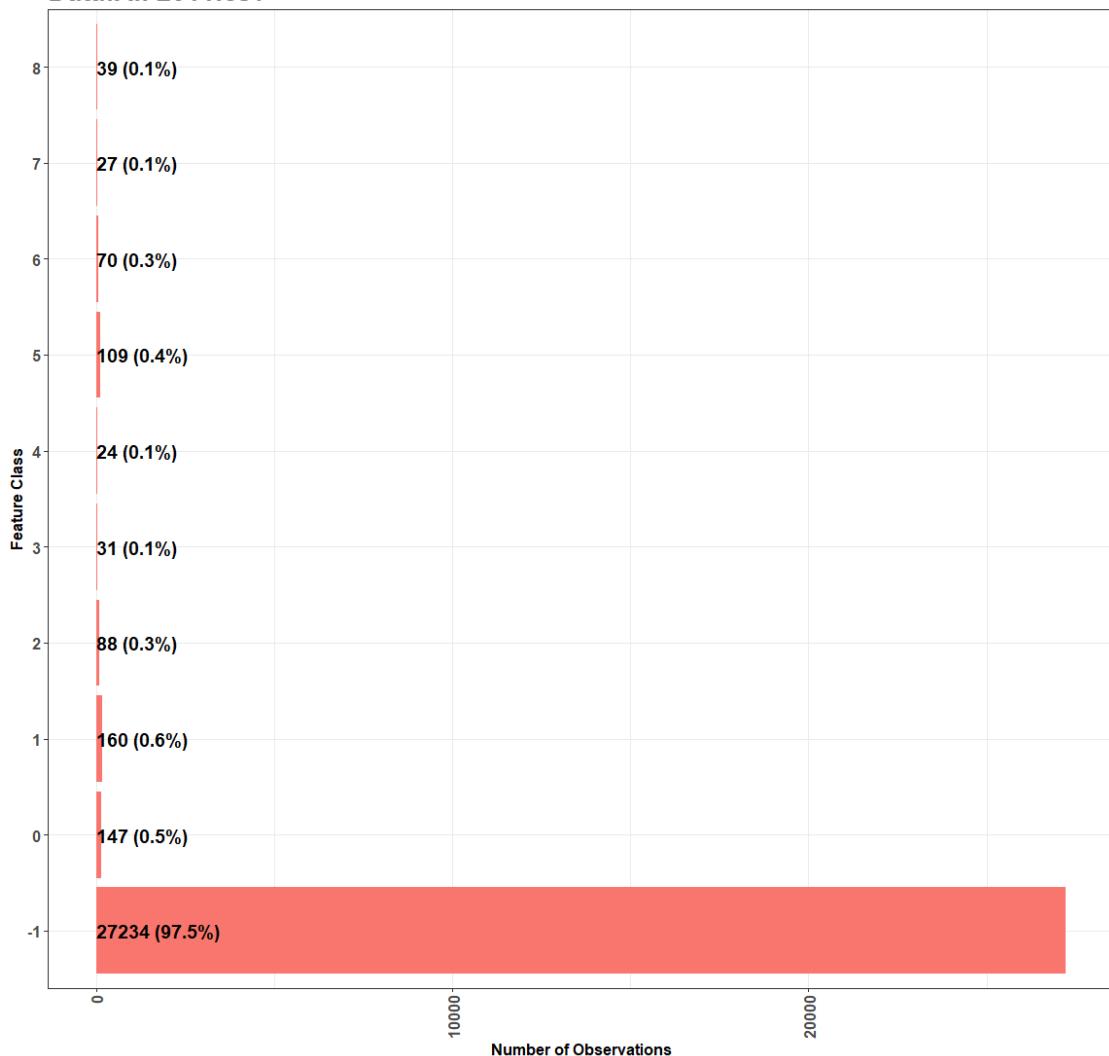
Plot of Feature:OFFSET3
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

```
## -1           27234    97.5115
## 0            147     0.5263
## 1            160     0.5729
## 2             88     0.3151
## 3              31     0.1110
## 4              24     0.0859
## 5            109     0.3903
## 6              70     0.2506
## 7              27     0.0967
## 8              39     0.1396
```

Plot of Feature:OFFSET3
Data:All 2011.csv

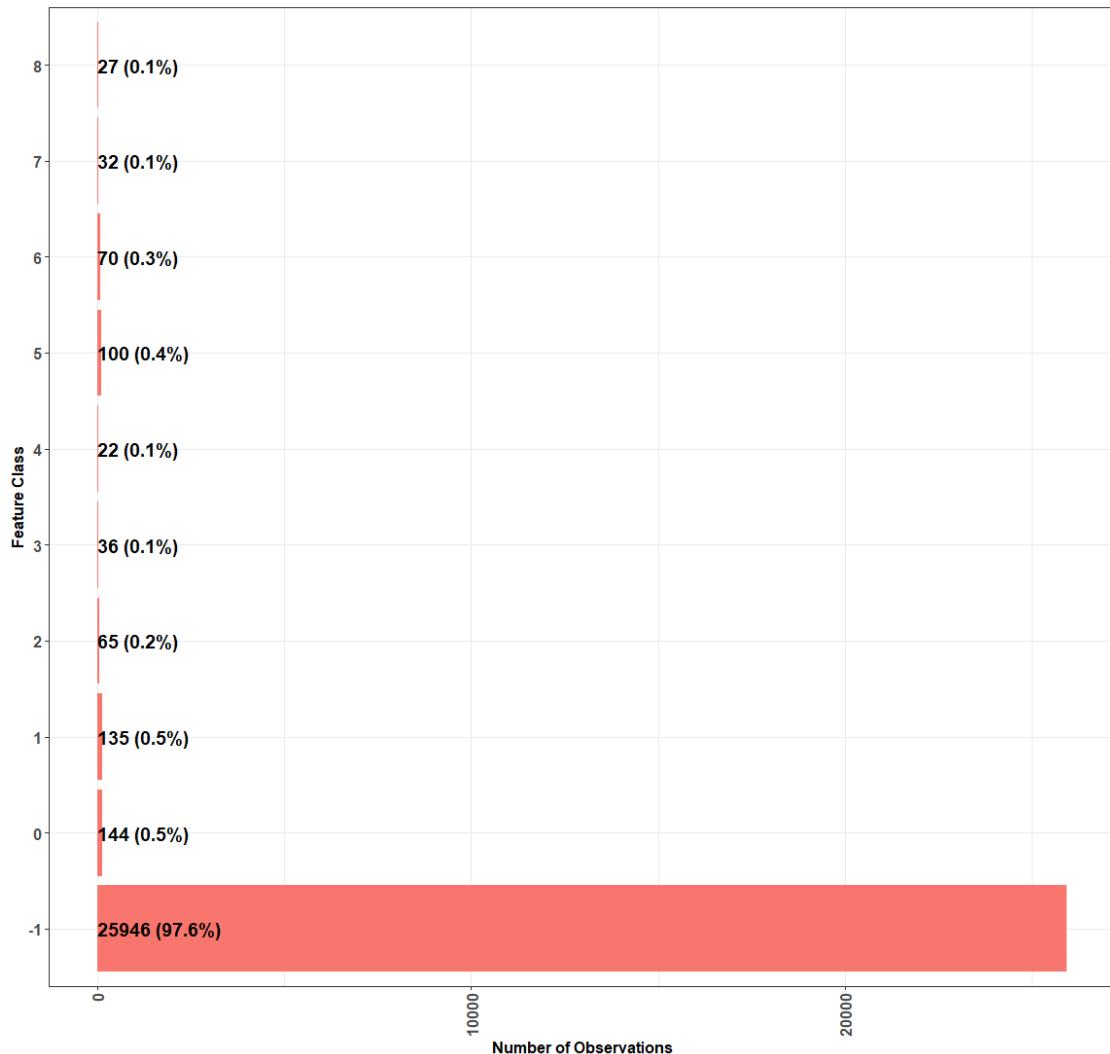


```
##
## -----
## CHECKING FEATURE:OFFSET3
## DATA:All 2012.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25946 97.6258  
## 0 144 0.5418  
## 1 135 0.5080  
## 2 65 0.2446  
## 3 36 0.1355  
## 4 22 0.0828  
## 5 100 0.3763  
## 6 70 0.2634  
## 7 32 0.1204  
## 8 27 0.1016
```

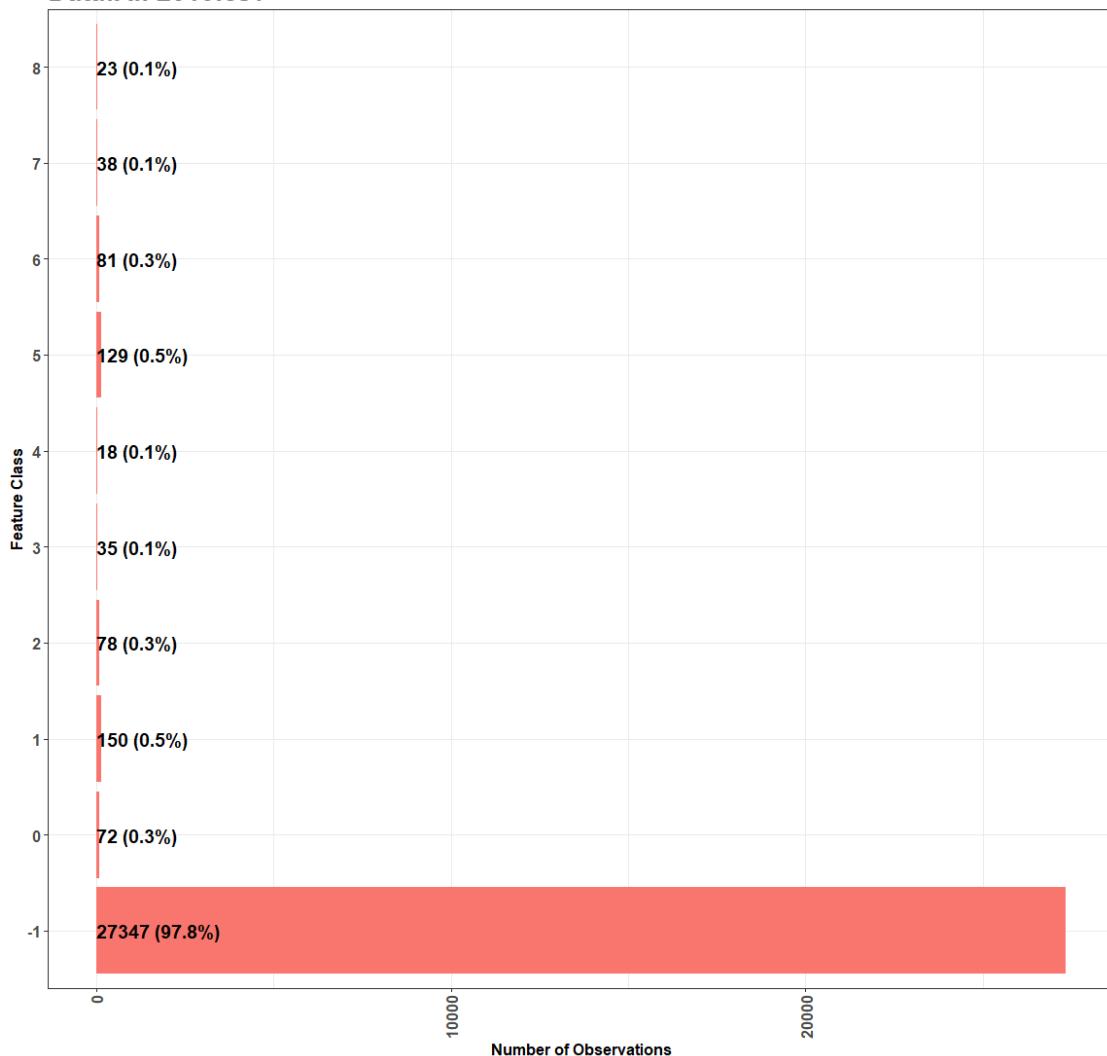
Plot of Feature:OFFSET3
Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

```
## -1           27347    97.7691
## 0            72      0.2574
## 1           150     0.5363
## 2            78      0.2789
## 3            35      0.1251
## 4            18      0.0644
## 5           129     0.4612
## 6            81      0.2896
## 7            38      0.1359
## 8            23      0.0822
```

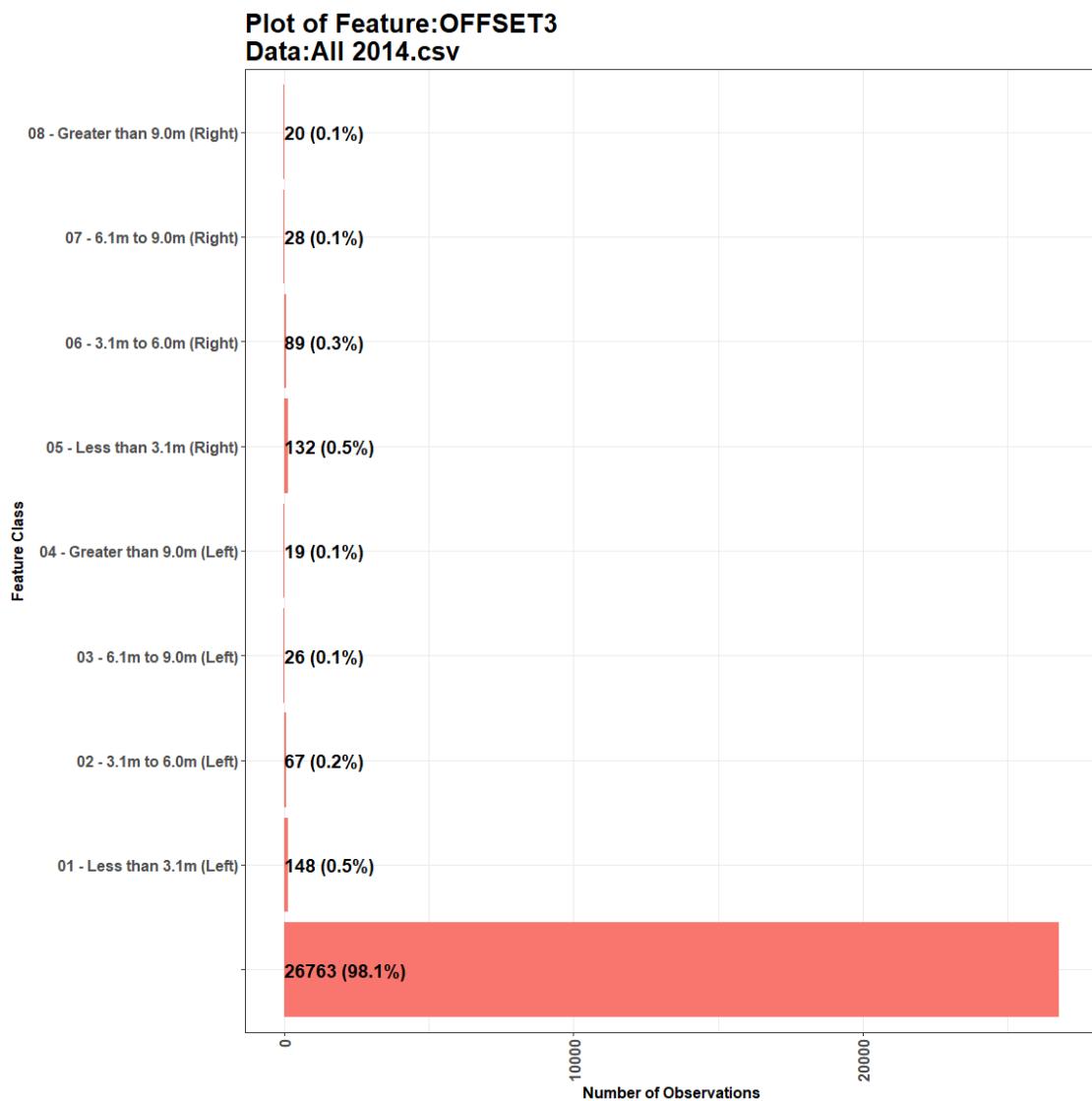
Plot of Feature:OFFSET3
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:OFFSET3
## DATA:All 2014.csv...
```



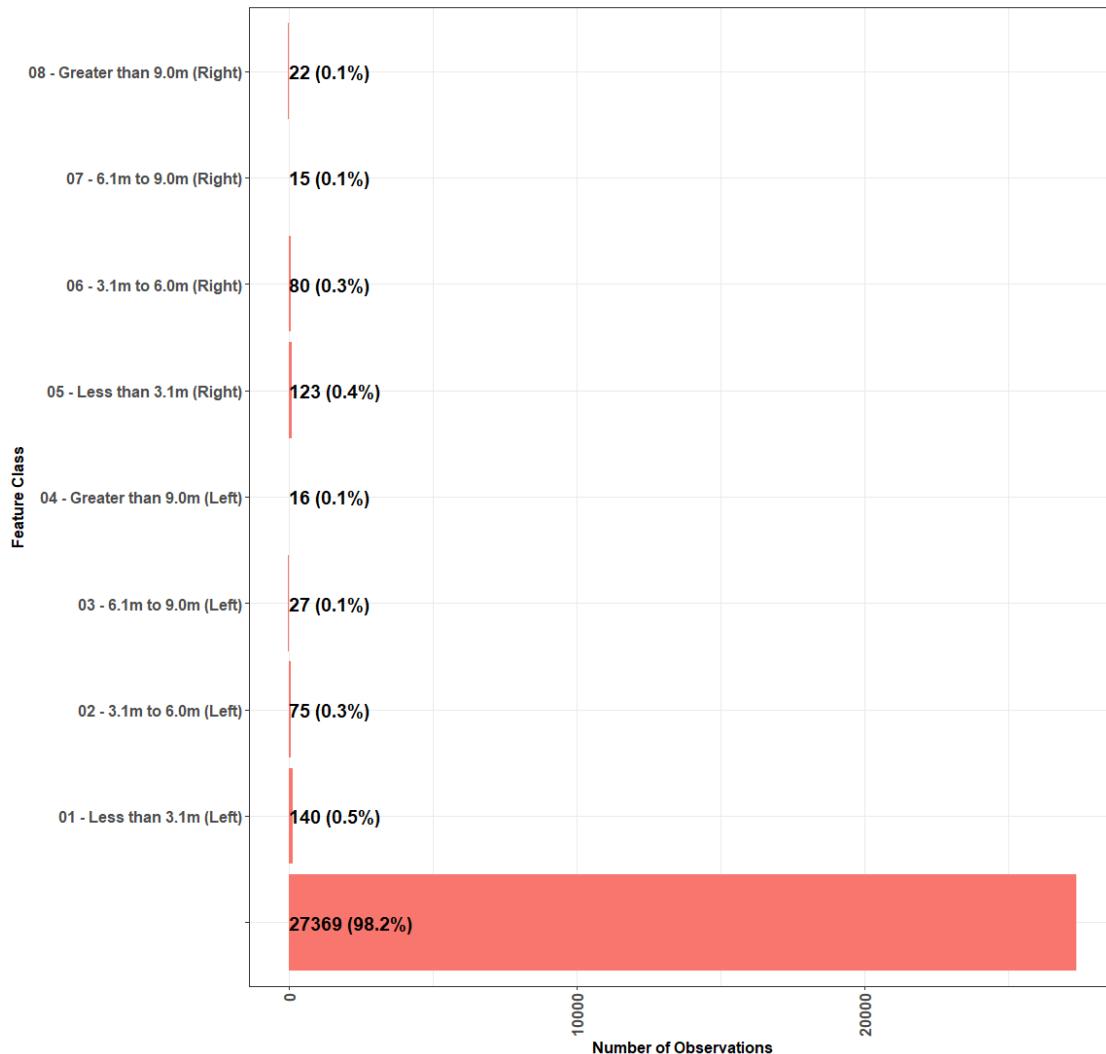
```
##  
## Number of Blank Values: 26763  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----  
## 26763 98.0617  
## 01 - Less than 3.1m (Left) 148 0.5423  
## 02 - 3.1m to 6.0m (Left) 67 0.2455  
## 03 - 6.1m to 9.0m (Left) 26 0.0953  
## 04 - Greater than 9.0m (Left) 19 0.0696  
## 05 - Less than 3.1m (Right) 132 0.4837  
## 06 - 3.1m to 6.0m (Right) 89 0.3261  
## 07 - 6.1m to 9.0m (Right) 28 0.1026  
## 08 - Greater than 9.0m (Right) 20 0.0733
```



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:27369  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

##	27369	98.2129
## 01 - Less than 3.1m (Left)	140	0.5024
## 02 - 3.1m to 6.0m (Left)	75	0.2691
## 03 - 6.1m to 9.0m (Left)	27	0.0969
## 04 - Greater than 9.0m (Left)	16	0.0574
## 05 - Less than 3.1m (Right)	123	0.4414
## 06 - 3.1m to 6.0m (Right)	80	0.2871
## 07 - 6.1m to 9.0m (Right)	15	0.0538
## 08 - Greater than 9.0m (Right)	22	0.0789

**Plot of Feature:OFFSET3
Data>All 2015.csv**

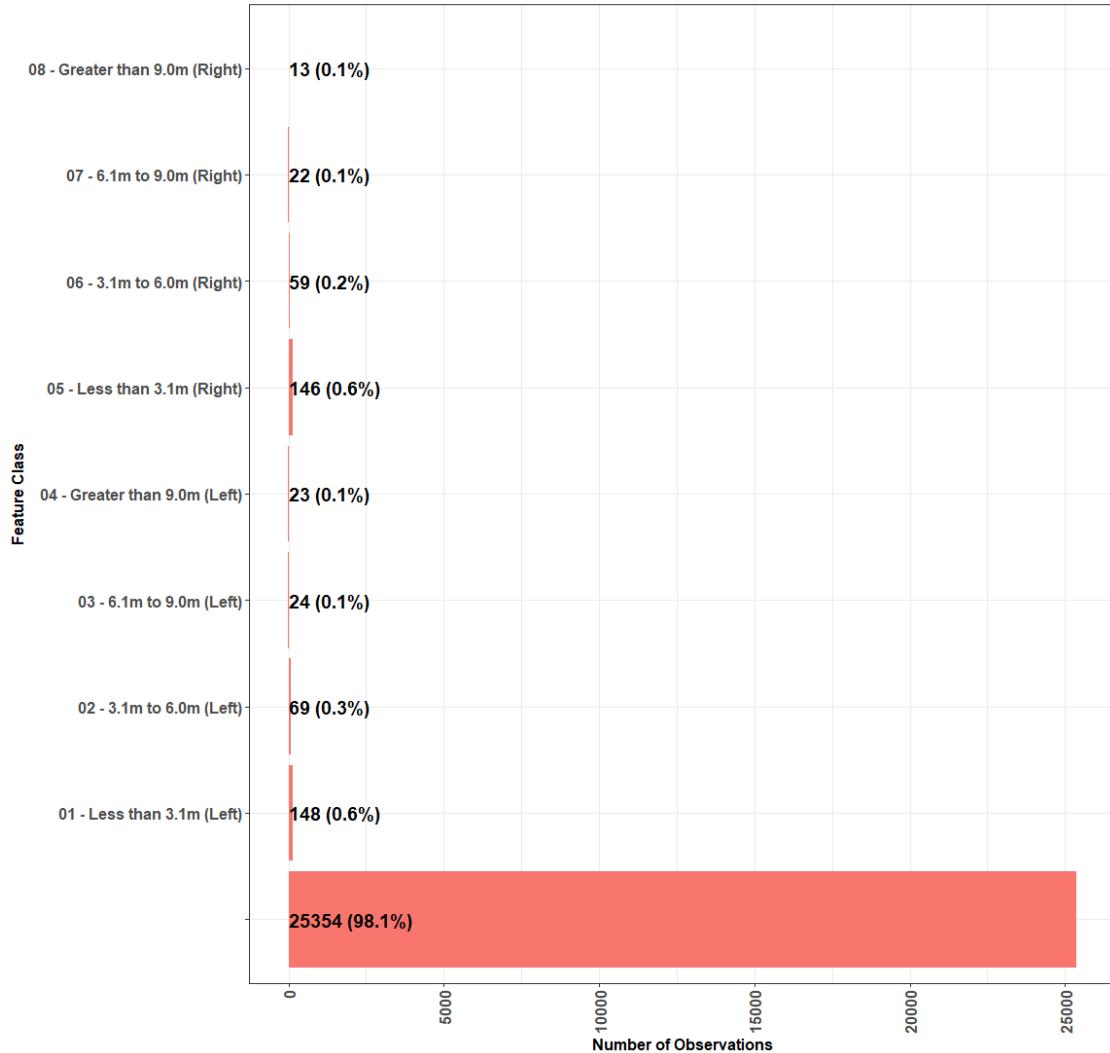


```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2016.csv...  
##
```



```
## Number of Blank Values:25354
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF OFFSET3
##
## Feature Value Counter Percentage
## -----
## 25354 98.0509
## 01 - Less than 3.1m (Left) 148 0.5724
## 02 - 3.1m to 6.0m (Left) 69 0.2668
## 03 - 6.1m to 9.0m (Left) 24 0.0928
## 04 - Greater than 9.0m (Left) 23 0.0889
## 05 - Less than 3.1m (Right) 146 0.5646
## 06 - 3.1m to 6.0m (Right) 59 0.2282
## 07 - 6.1m to 9.0m (Right) 22 0.0851
## 08 - Greater than 9.0m (Right) 13 0.0503
```

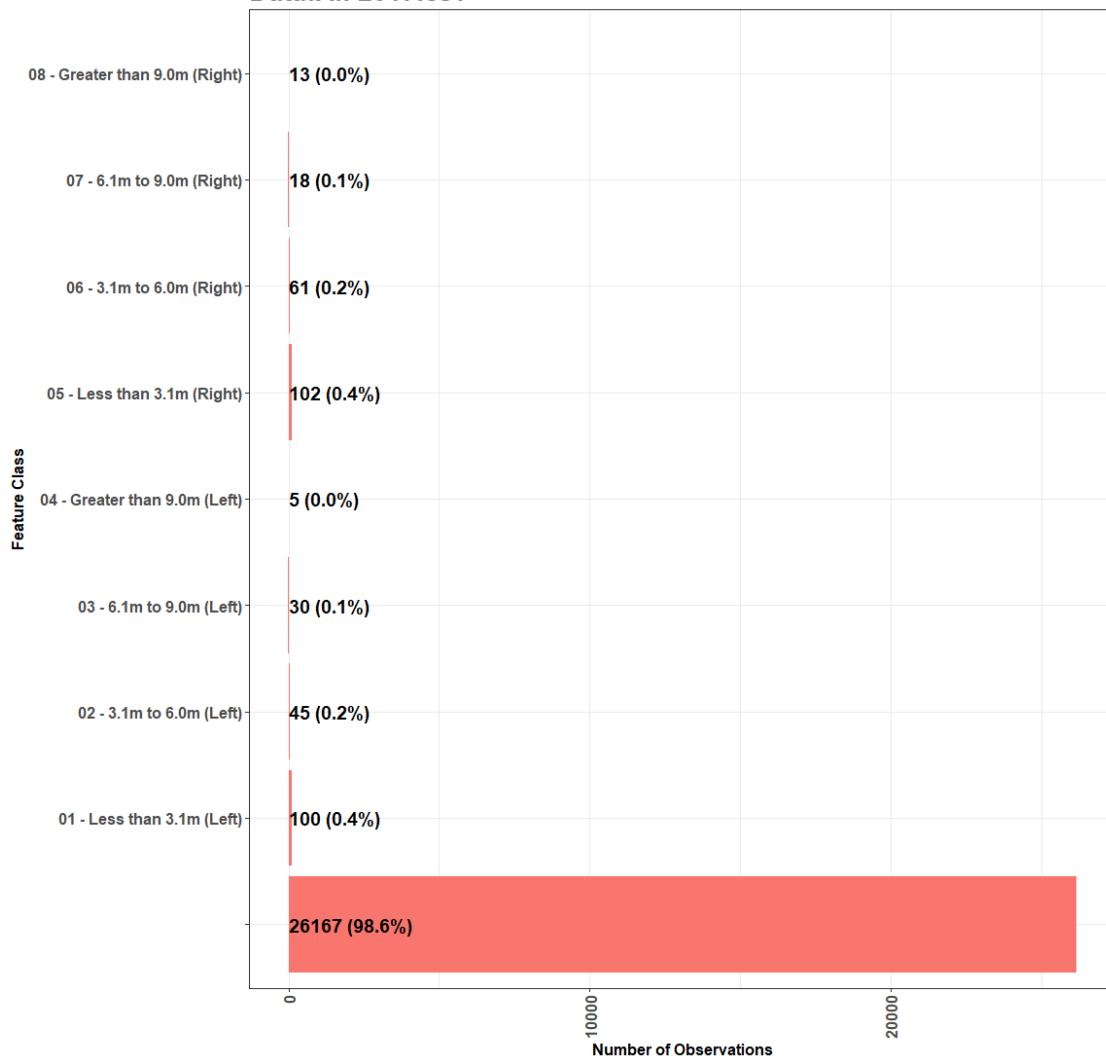
**Plot of Feature:OFFSET3
Data:All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:OFFSET3  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:26167  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF OFFSET3  
##  
## Feature Value Counter Percentage  
## -----
```

##	26167	98.5909
## 01 - Less than 3.1m (Left)	100	0.3768
## 02 - 3.1m to 6.0m (Left)	45	0.1695
## 03 - 6.1m to 9.0m (Left)	30	0.1130
## 04 - Greater than 9.0m (Left)	5	0.0188
## 05 - Less than 3.1m (Right)	102	0.3843
## 06 - 3.1m to 6.0m (Right)	61	0.2298
## 07 - 6.1m to 9.0m (Right)	18	0.0678
## 08 - Greater than 9.0m (Right)	13	0.0490

**Plot of Feature:OFFSET3
Data>All 2017.csv**

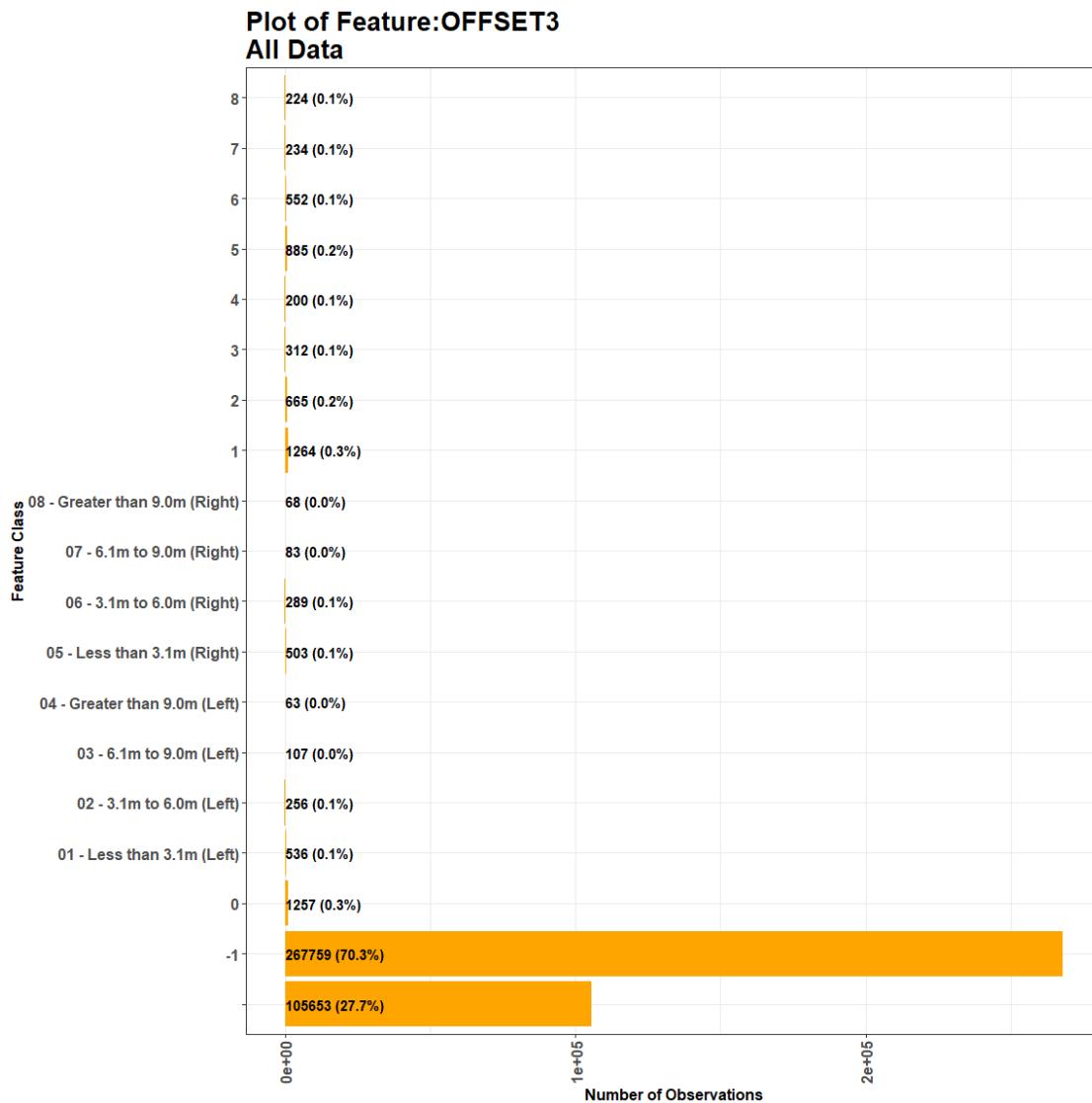


```

## 
## =====
## FINAL INFO CHECKING FEATURE:OFFSET3
## ALL DATA...
## =====

```

```
##
## Number of Blank Values:105653
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
## Summary as Factor Feature:
## Number of Features: 19
```

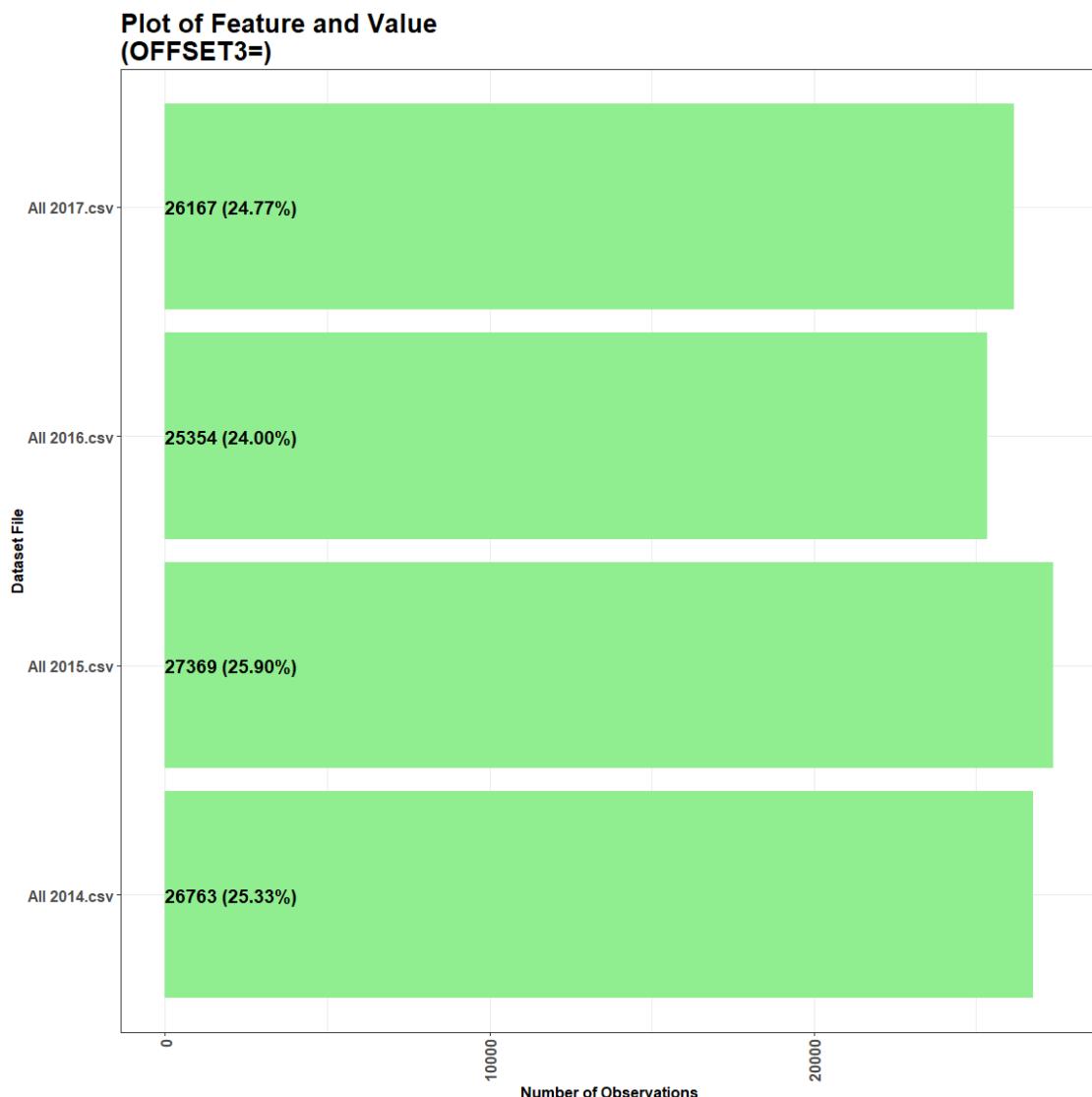


```
## [1] "TOP 100 FEATURES COUNTERS OF:OFFSET3"
```

Feature Value	Counter	Percentage
	105653	27.7370
-1	267759	70.2946
0	1257	0.3300
01 - Less than 3.1m (Left)	536	0.1407
02 - 3.1m to 6.0m (Left)	256	0.0672
03 - 6.1m to 9.0m (Left)	107	0.0281
04 - Greater than 9.0m (Left)	63	0.0165
05 - Less than 3.1m (Right)	503	0.1321
06 - 3.1m to 6.0m (Right)	289	0.0759
07 - 6.1m to 9.0m (Right)	83	0.0218
08 - Greater than 9.0m (Right)	68	0.0179
1	1264	0.3318
2	665	0.1746
3	312	0.0819
4	200	0.0525
5	885	0.2323
6	552	0.1449
7	234	0.0614
8	224	0.0588

12.1 OFFSET3 = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET3=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      26763      27369      25354      26167
```

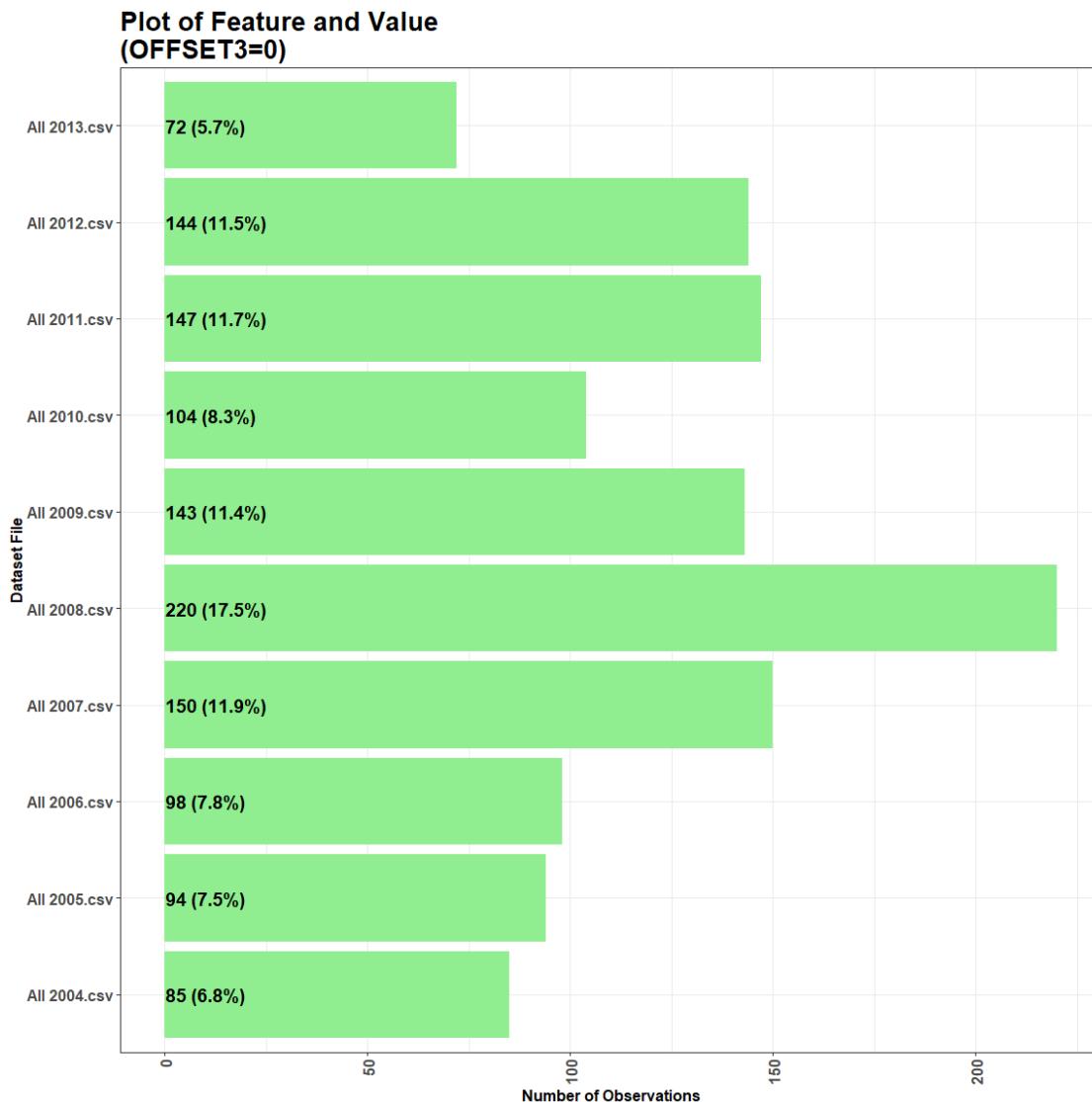


DATASET FILE	COUNTER OF (OFFSET3=)	Percentage
All 2014.csv	26763	25.33
All 2015.csv	27369	25.90
All 2016.csv	25354	24.00
All 2017.csv	26167	24.77

12.2 OFFSET3 = “0”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (OFFSET3=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      85      94      98     150     220
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##     143     104     147     144      72
```



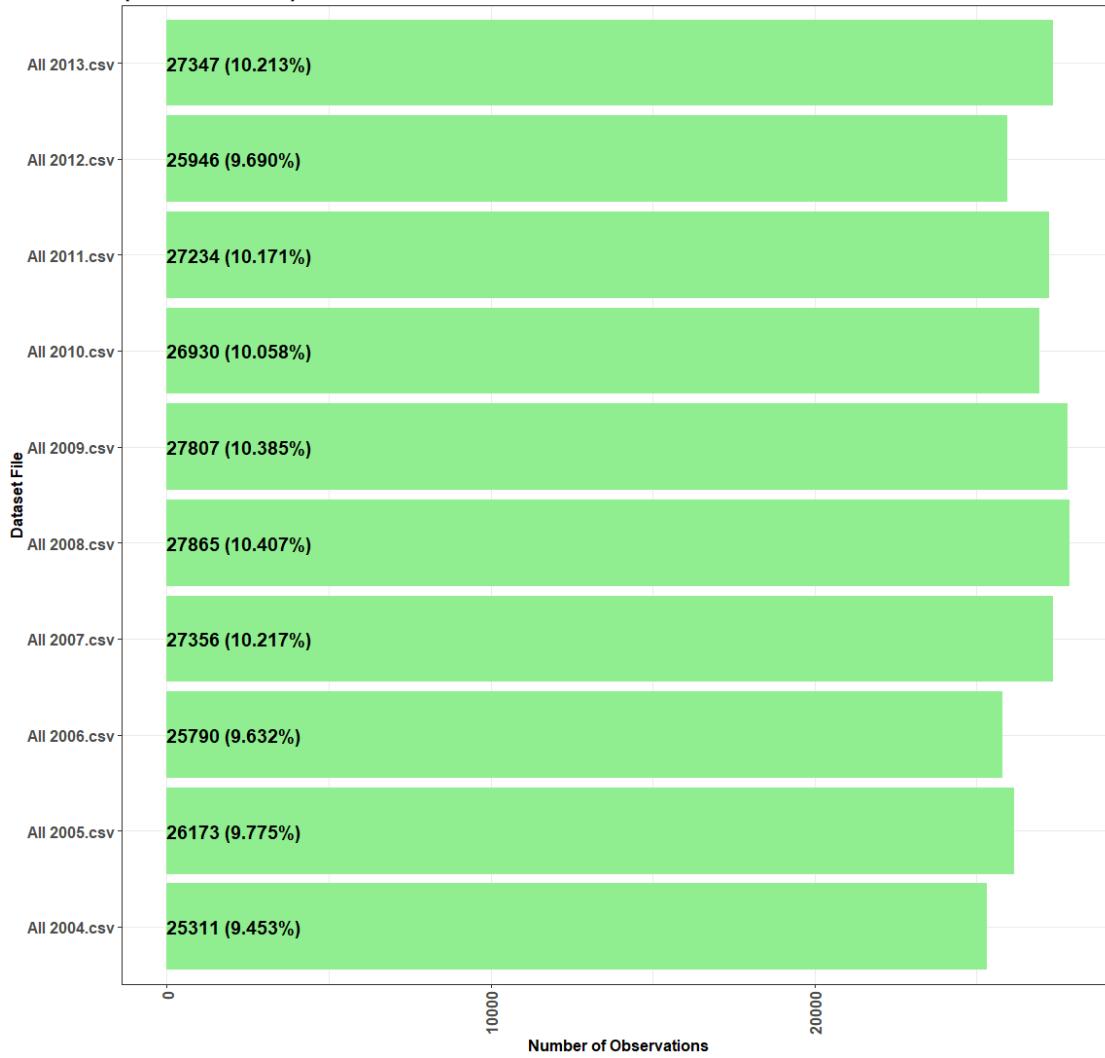
DATASET FILE	COUNTER OF (OFFSET3=0)	Percentage
All 2004.csv	85	6.762
All 2005.csv	94	7.478
All 2006.csv	98	7.796
All 2007.csv	150	11.933
All 2008.csv	220	17.502
All 2009.csv	143	11.376
All 2010.csv	104	8.274

All 2011.csv	147	11.694
All 2012.csv	144	11.456
All 2013.csv	72	5.728

12.3 OFFSET3 = “-1”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (OFFSET3=-1)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      25311      26173      25790      27356      27865  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      27807      26930      27234      25946      27347
```

**Plot of Feature and Value
(OFFSET3=-1)**



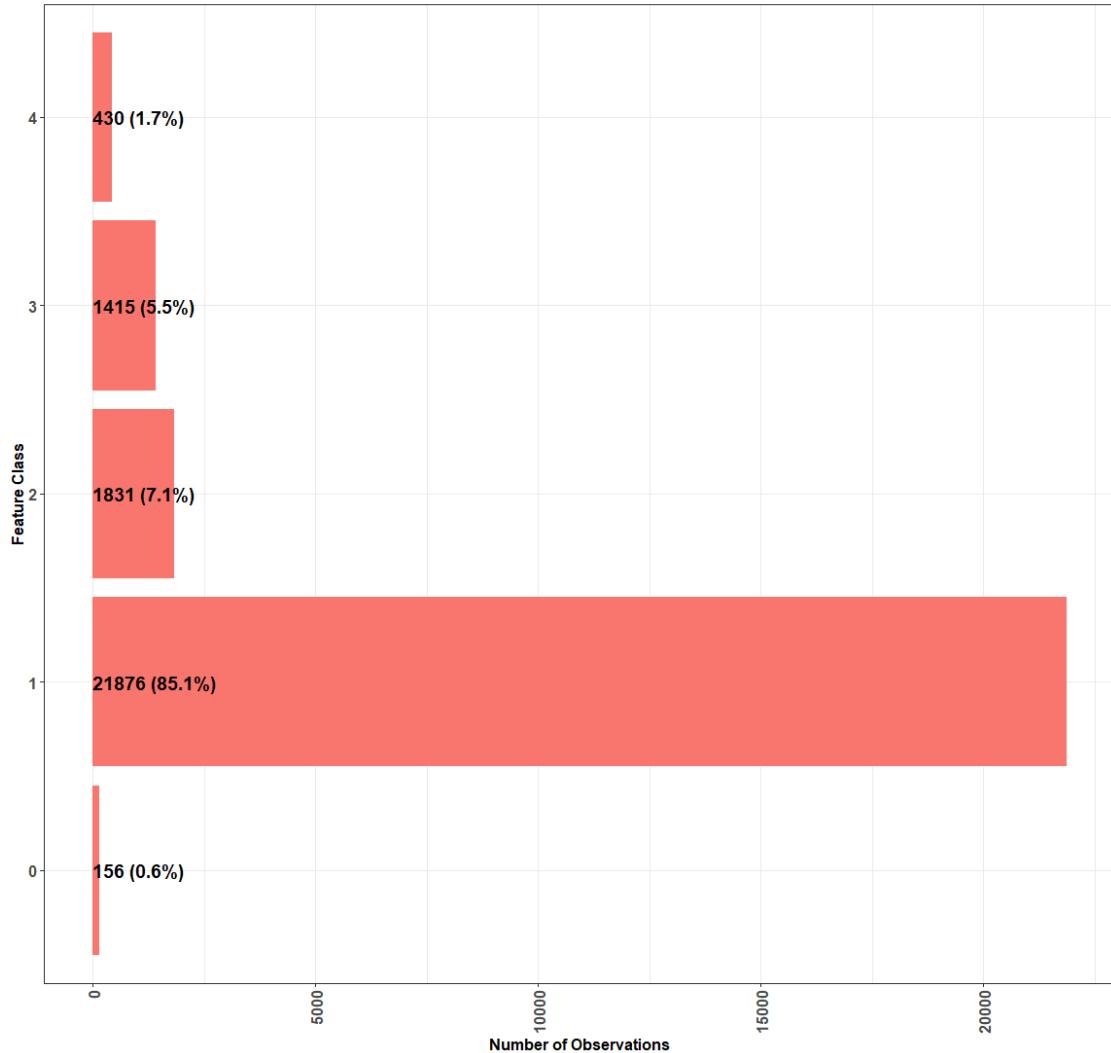
DATASET FILE	COUNTER OF (OFFSET3=-1)	Percentage
All 2004.csv	25311	9.453
All 2005.csv	26173	9.775
All 2006.csv	25790	9.632
All 2007.csv	27356	10.217
All 2008.csv	27865	10.407
All 2009.csv	27807	10.385
All 2010.csv	26930	10.058
All 2011.csv	27234	10.171
All 2012.csv	25946	9.690
All 2013.csv	27347	10.213

13. Road Alignment (ROAD_ALIGNMENT)

```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

Feature	Value	Counter	Percentage
## 0		156	0.6068
## 1		21876	85.0941
## 2		1831	7.1223
## 3		1415	5.5041
## 4		430	1.6726

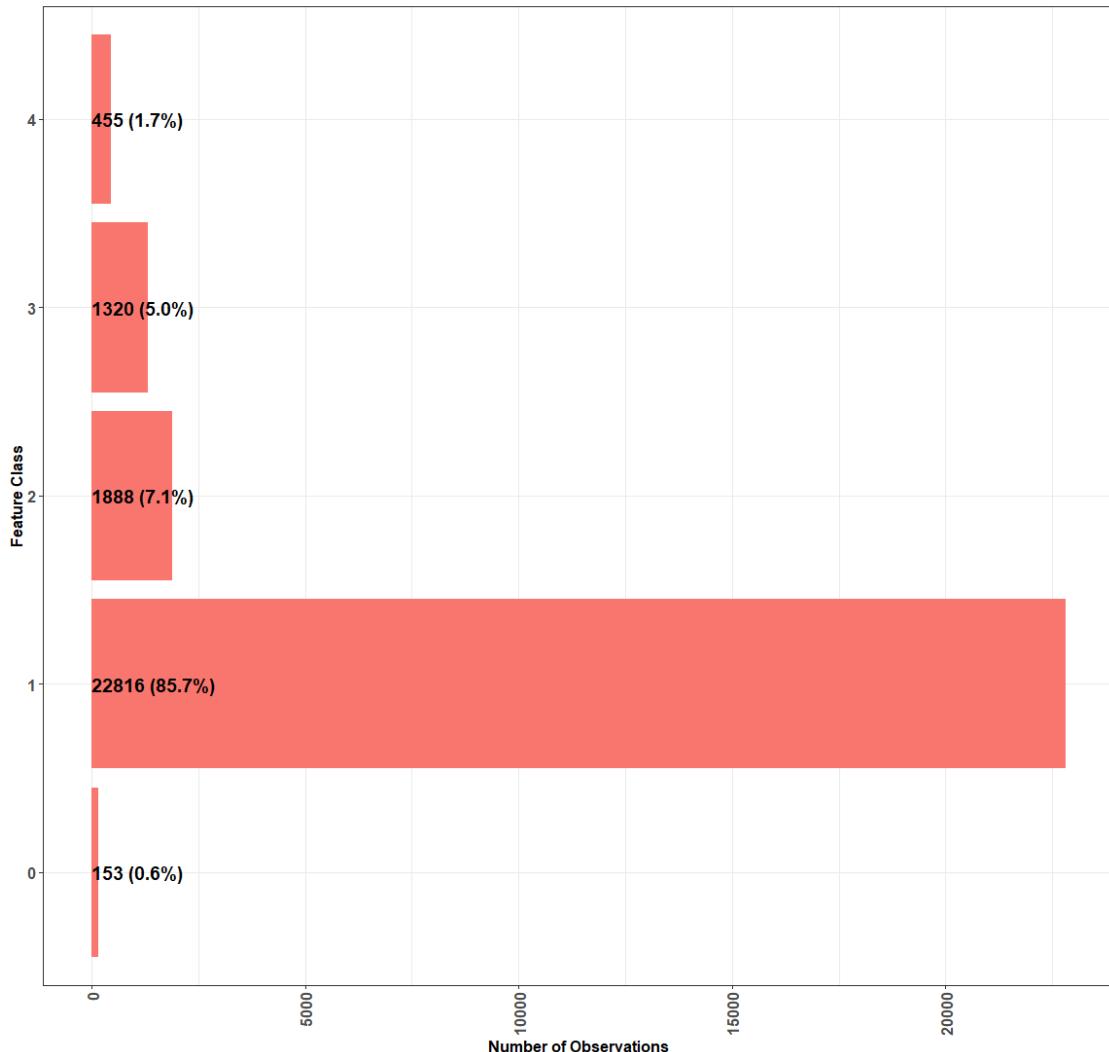
Plot of Feature:ROAD_ALIGNMENT Data>All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA>All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           153    0.5745
## 1          22816   85.6714
## 2          1888    7.0892
## 3          1320    4.9564
## 4           455    1.7085
```

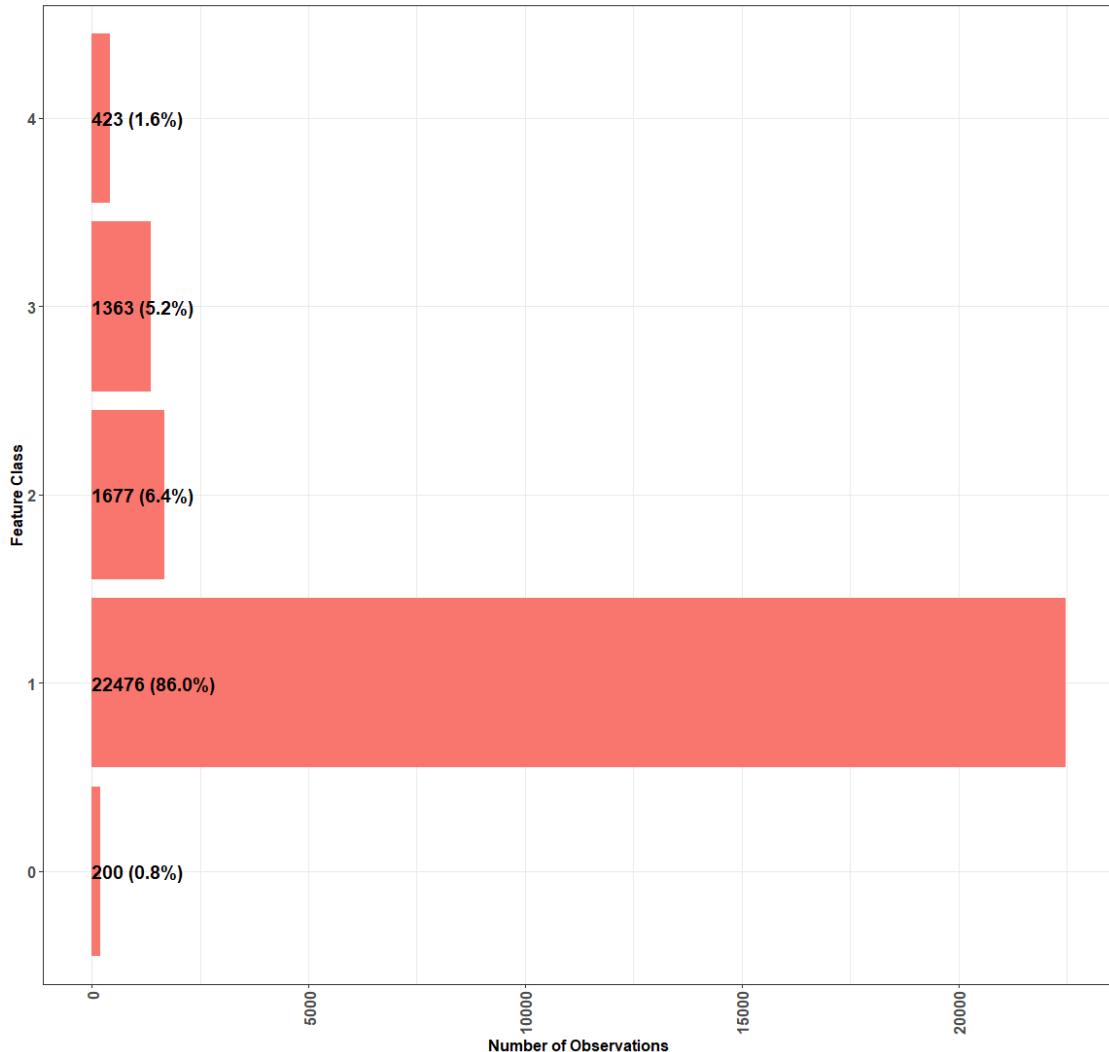
Plot of Feature:ROAD_ALIGNMENT
Data>All 2005.csv



```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
## DATA>All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value Counter Percentage
## ----- -----
## 0 200 0.7651
## 1 22476 85.9865
## 2 1677 6.4157
## 3 1363 5.2144
## 4 423 1.6183
```

Plot of Feature:ROAD_ALIGNMENT
Data:All 2006.csv

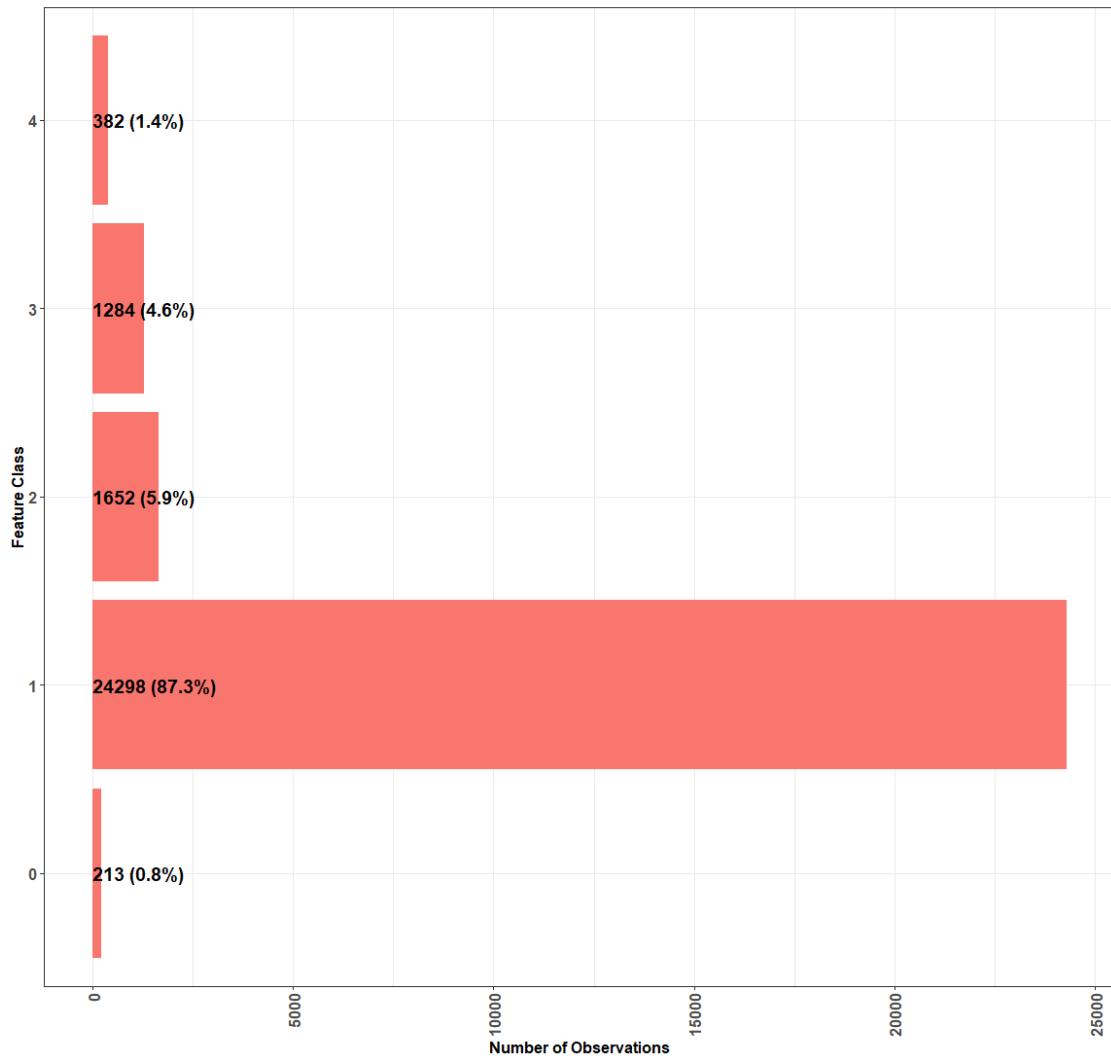


```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
```



```
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value      Counter      Percentage
## ----- -----
## 0                  213          0.7654
## 1                  24298         87.3118
## 2                  1652          5.9363
## 3                  1284          4.6139
## 4                  382          1.3727
```

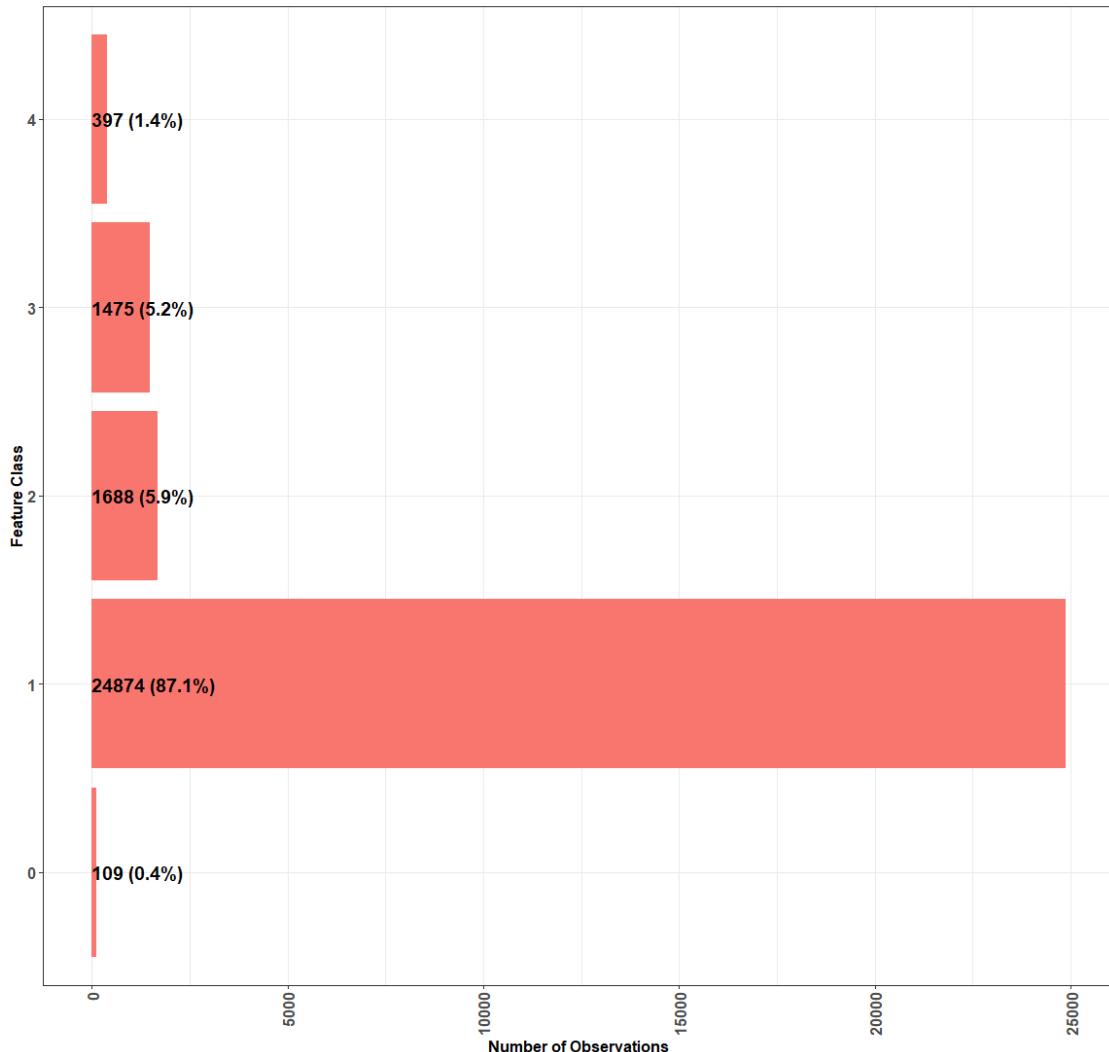
Plot of Feature:ROAD_ALIGNMENT Data>All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA>All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           109      0.3819
## 1          24874     87.1457
## 2          1688      5.9139
## 3          1475      5.1676
## 4           397      1.3909
```

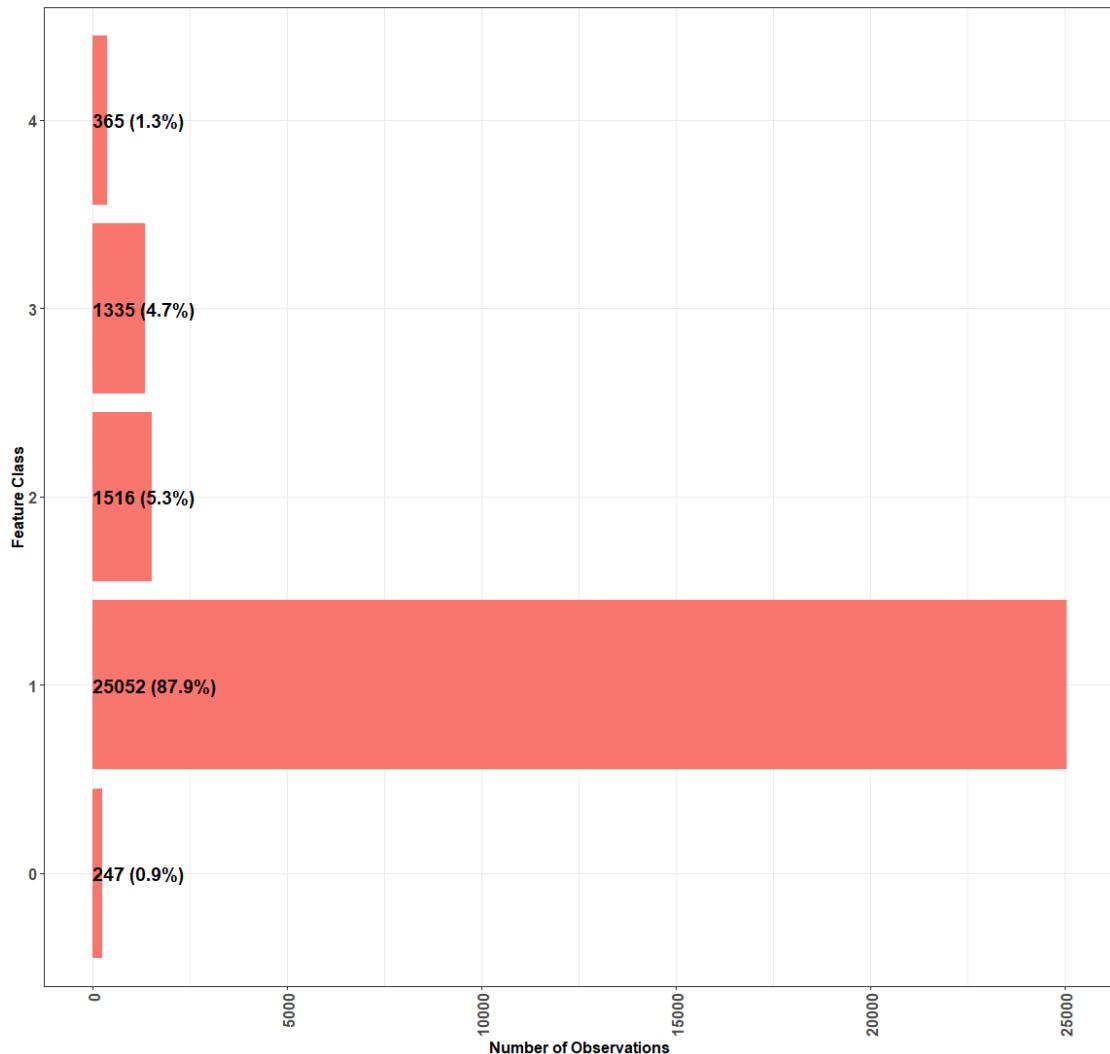
Plot of Feature:ROAD_ALIGNMENT
Data:All 2008.csv



```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
## DATA:All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value Counter Percentage
## ----- -----
## 0 247 0.8662
## 1 25052 87.8555
## 2 1516 5.3165
## 3 1335 4.6817
## 4 365 1.2800
```

Plot of Feature:ROAD_ALIGNMENT
Data:All 2009.csv

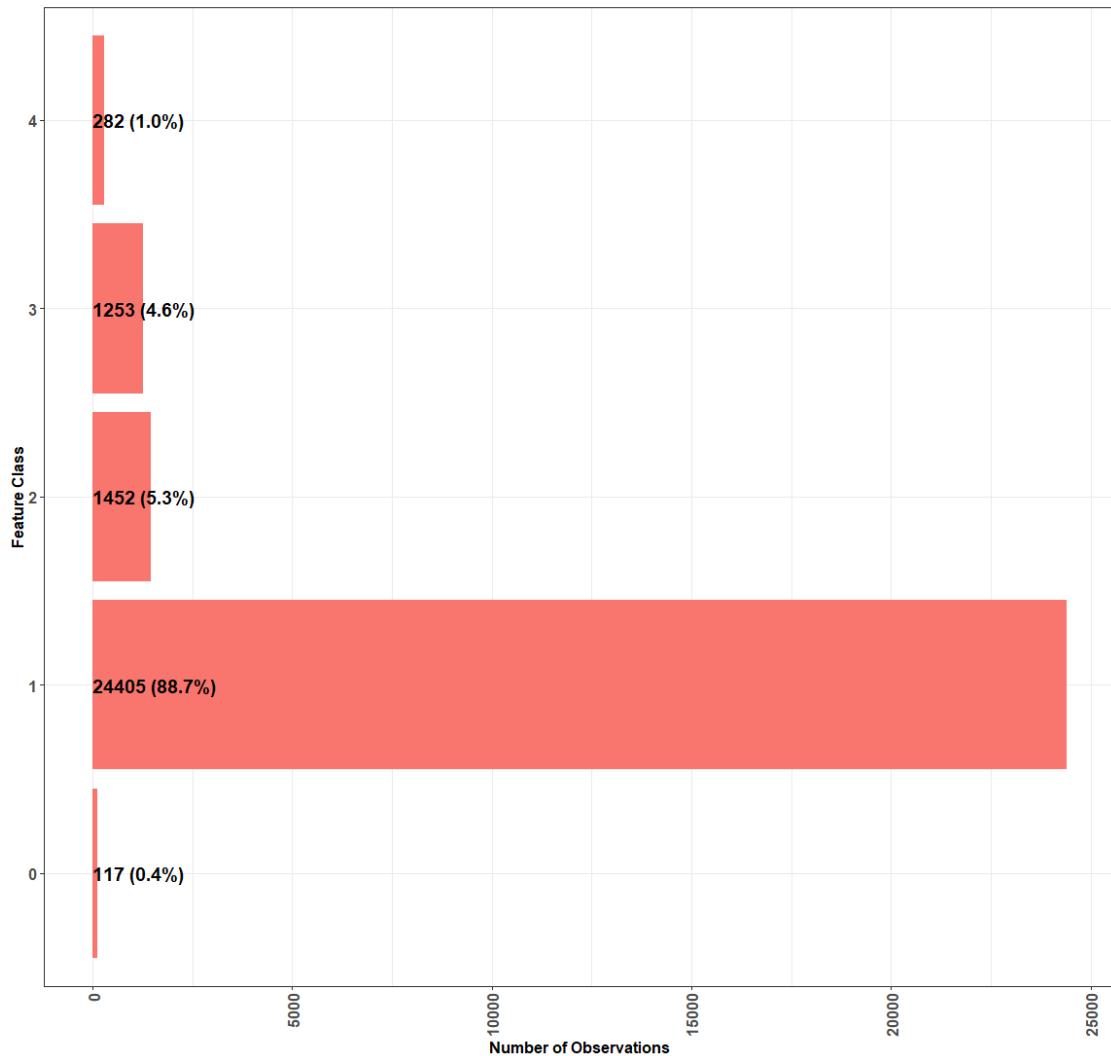


```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
```



```
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                117        0.4253
## 1                24405      88.7164
## 2                1452       5.2783
## 3                1253       4.5549
## 4                282        1.0251
```

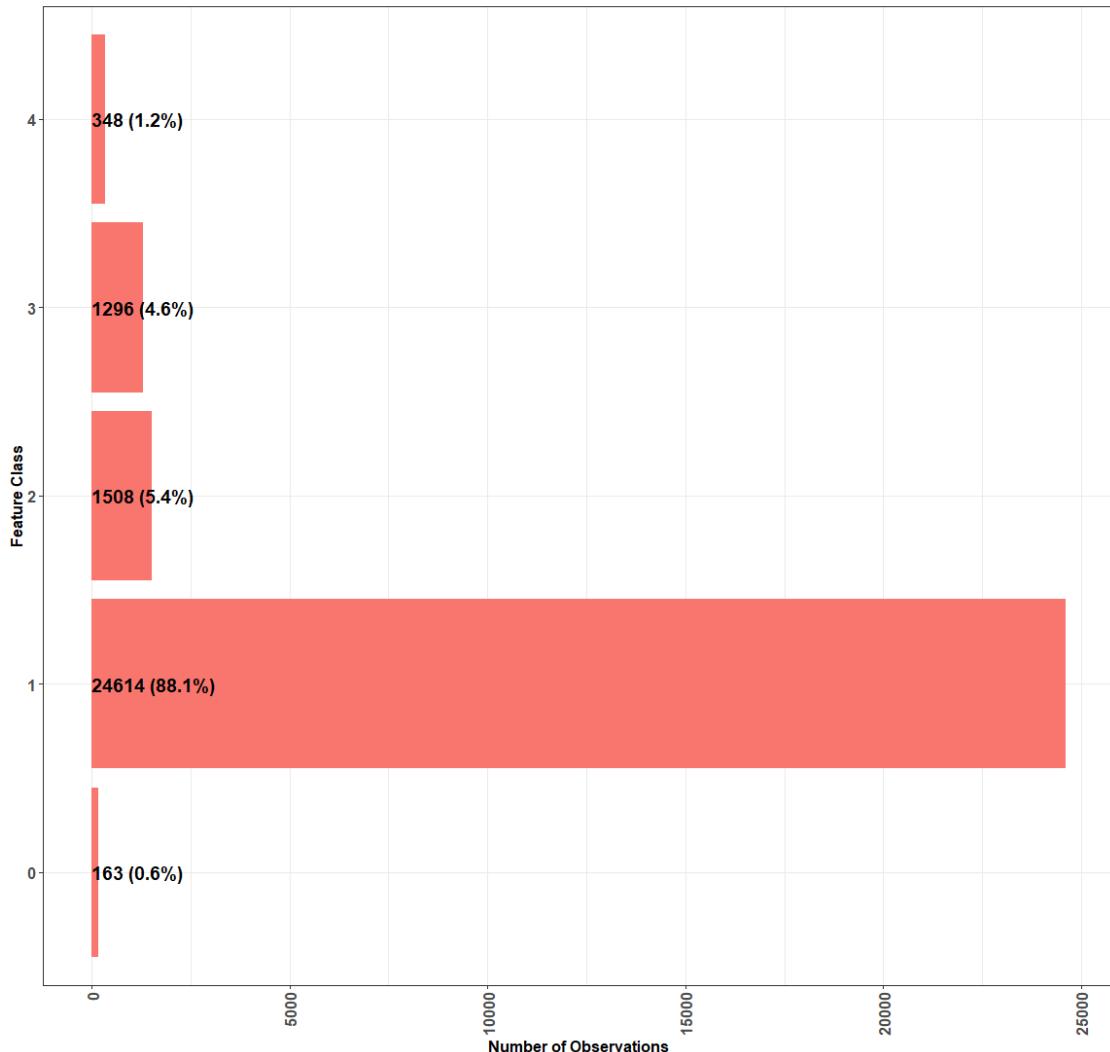
Plot of Feature:ROAD_ALIGNMENT Data>All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA>All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           163      0.5836
## 1          24614     88.1306
## 2          1508      5.3994
## 3          1296      4.6403
## 4           348      1.2460
```

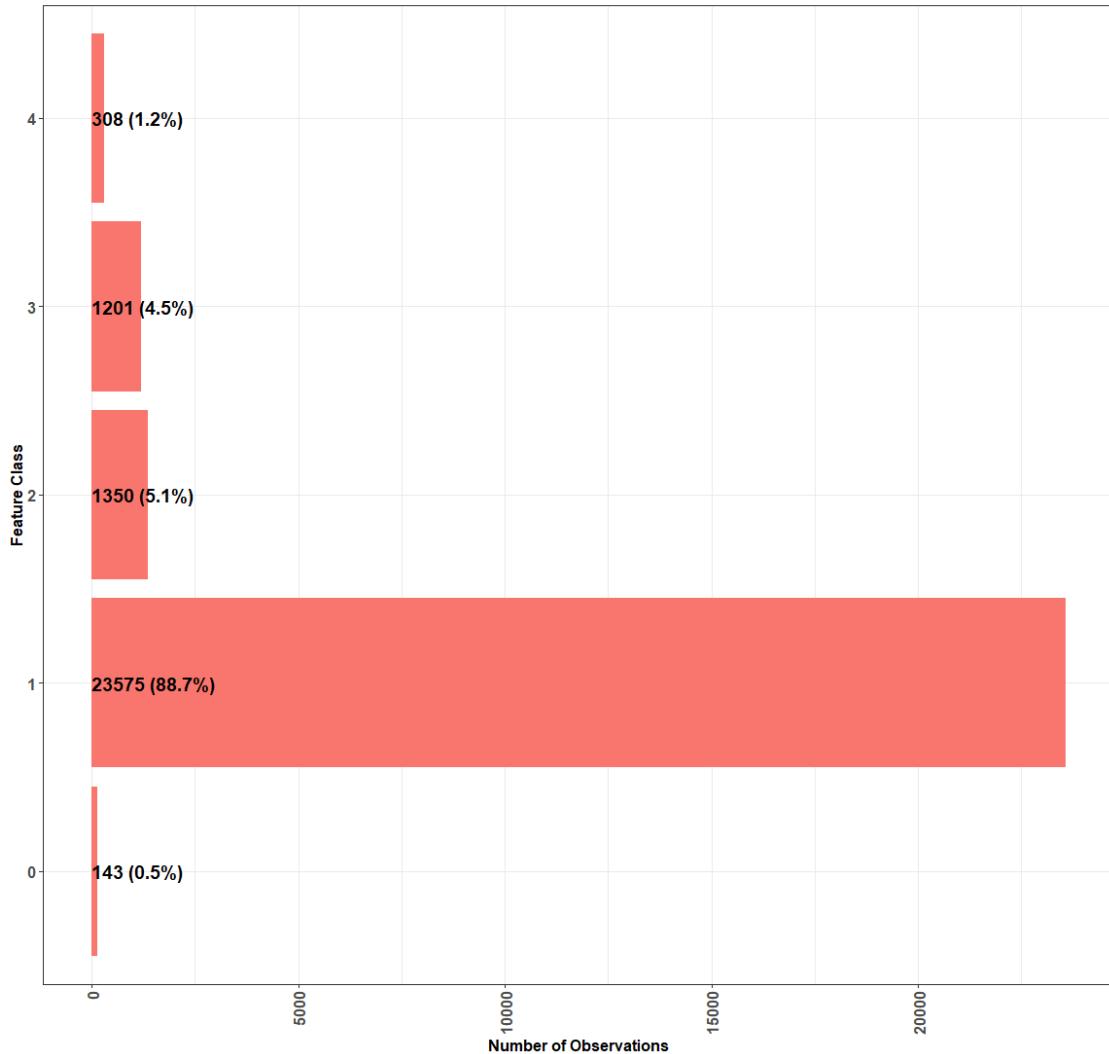
Plot of Feature:ROAD_ALIGNMENT
Data>All 2011.csv



```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
## DATA>All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value Counter Percentage
## ----- -----
## 0 143 0.5381
## 1 23575 88.7045
## 2 1350 5.0796
## 3 1201 4.5189
## 4 308 1.1589
```

Plot of Feature:ROAD_ALIGNMENT
Data:All 2012.csv

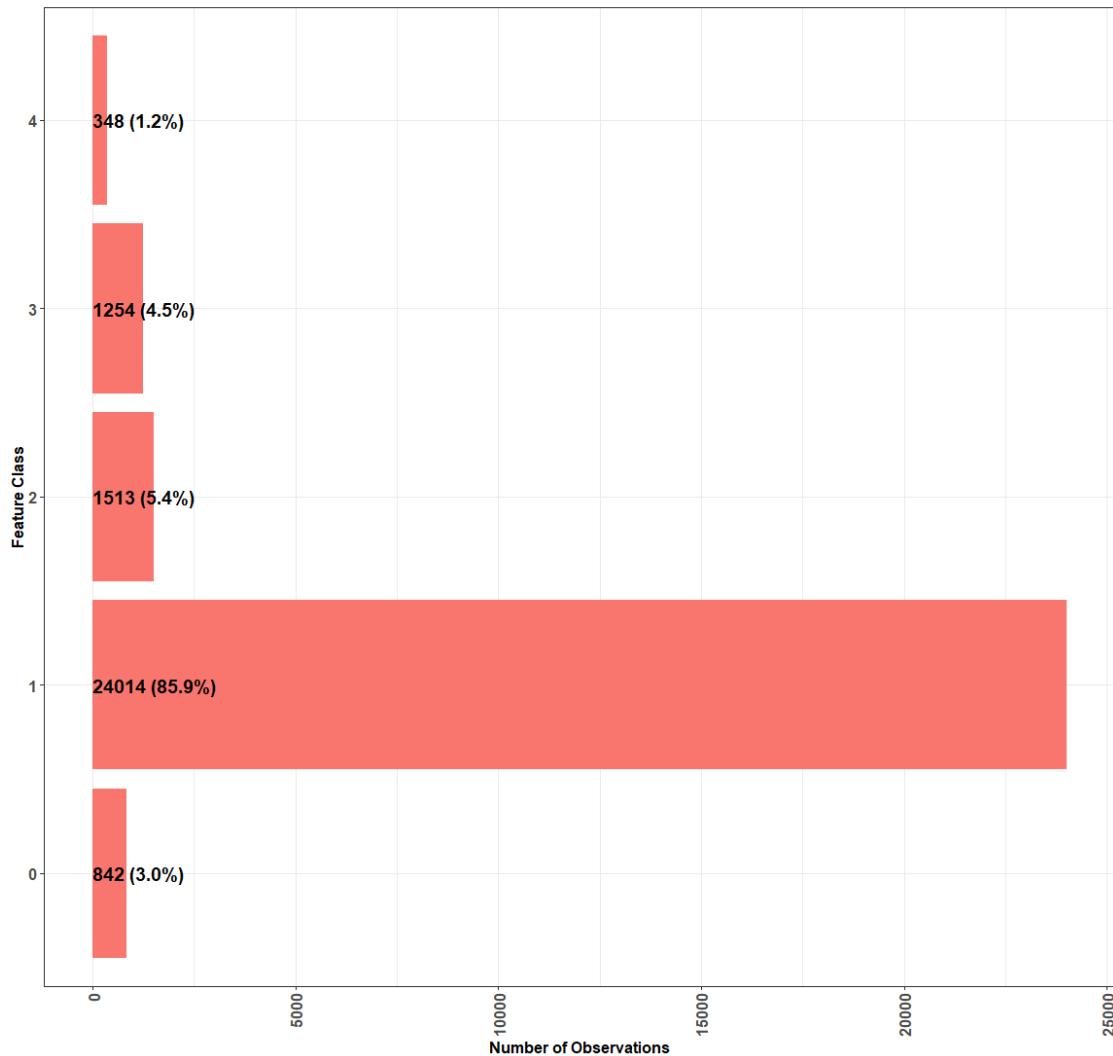


```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
```



```
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                842        3.010
## 1                24014       85.853
## 2                1513        5.409
## 3                1254        4.483
## 4                348        1.244
```

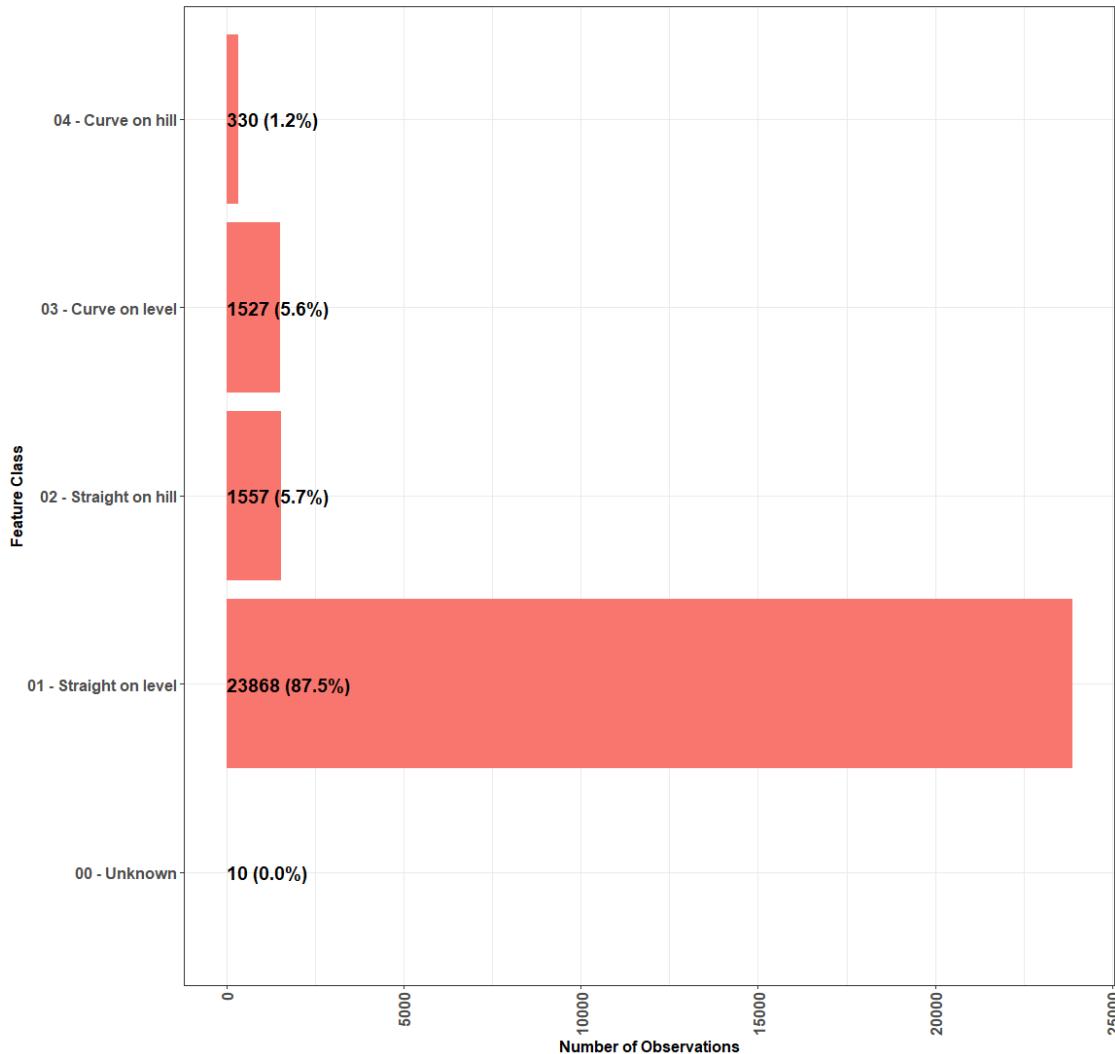
Plot of Feature:ROAD_ALIGNMENT Data>All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA>All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

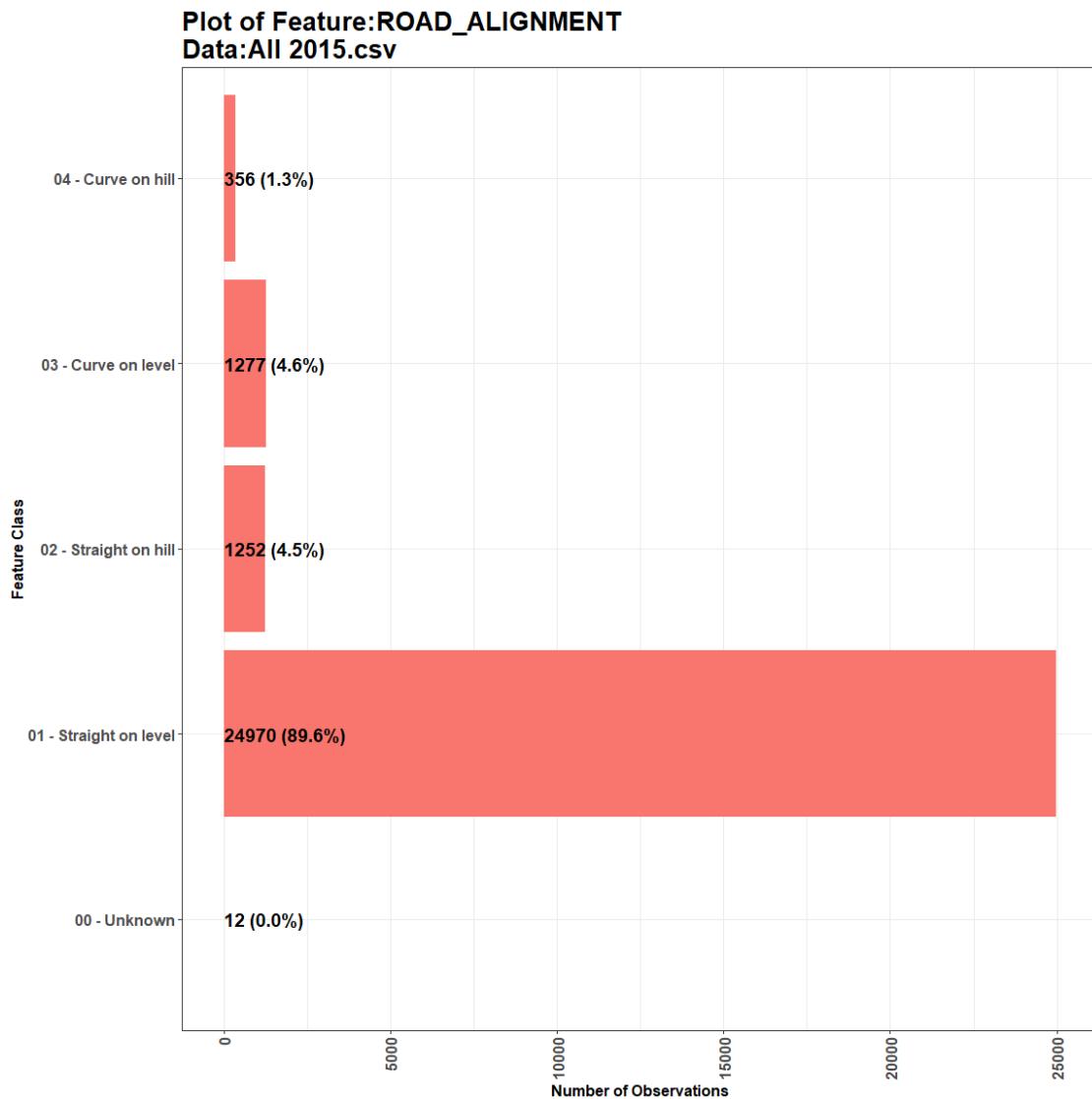
## 00 - Unknown	10	0.0366
## 01 - Straight on level	23868	87.4542
## 02 - Straight on hill	1557	5.7050
## 03 - Curve on level	1527	5.5950
## 04 - Curve on hill	330	1.2091

**Plot of Feature:ROAD_ALIGNMENT
Data>All 2014.csv**



```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
## DATA:All 2015.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 12 0.0431
## 01 - Straight on level 24970 89.6042
## 02 - Straight on hill 1252 4.4928
## 03 - Curve on level 1277 4.5825
## 04 - Curve on hill 356 1.2775
```

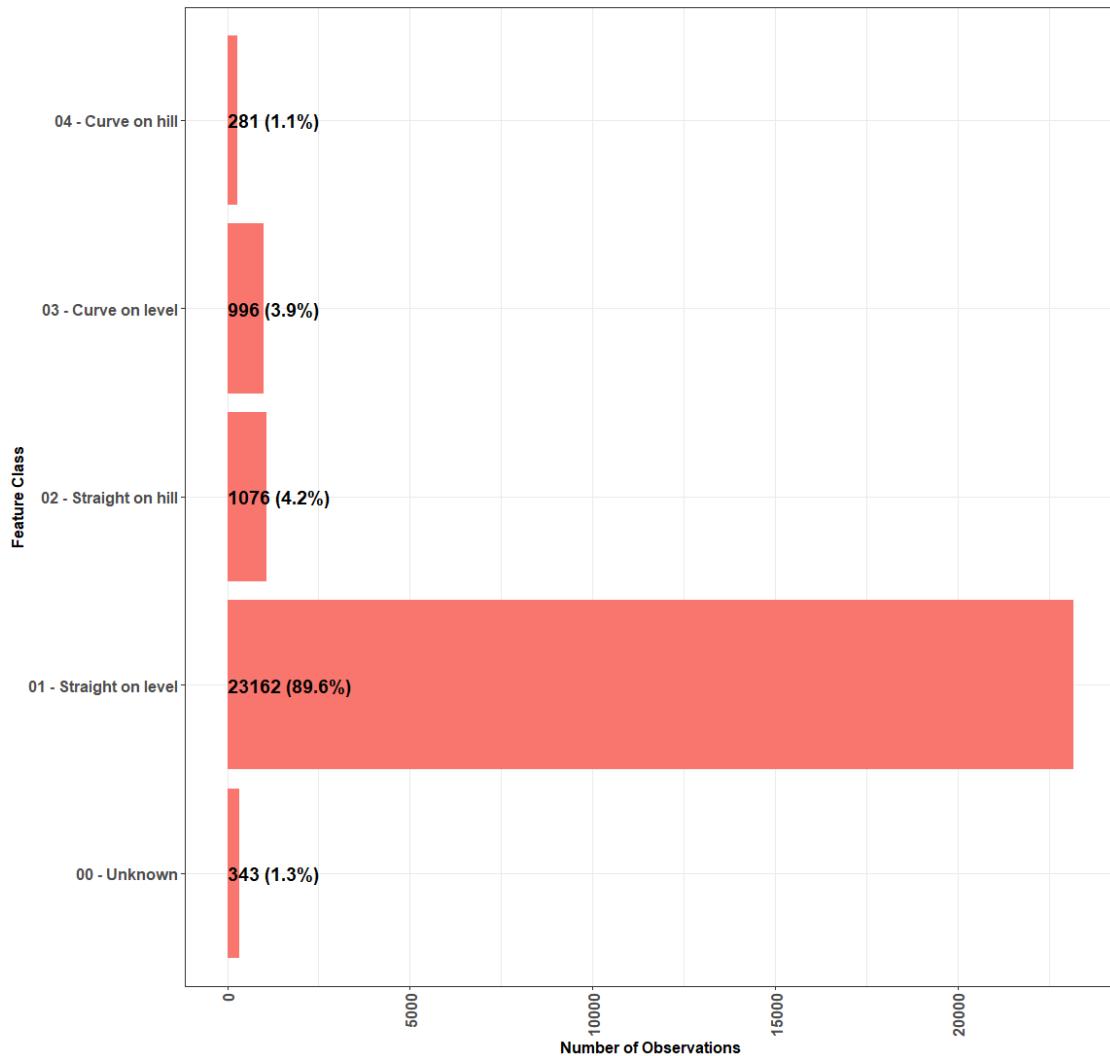


```
##
## -----
## CHECKING FEATURE:ROAD_ALIGNMENT
```



```
## DATA:All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_ALIGNMENT
##
## Feature Value          Counter   Percentage
## ----- - -----
## 00 - Unknown           343       1.327
## 01 - Straight on level 23162     89.574
## 02 - Straight on hill   1076      4.161
## 03 - Curve on level    996       3.852
## 04 - Curve on hill     281       1.087
```

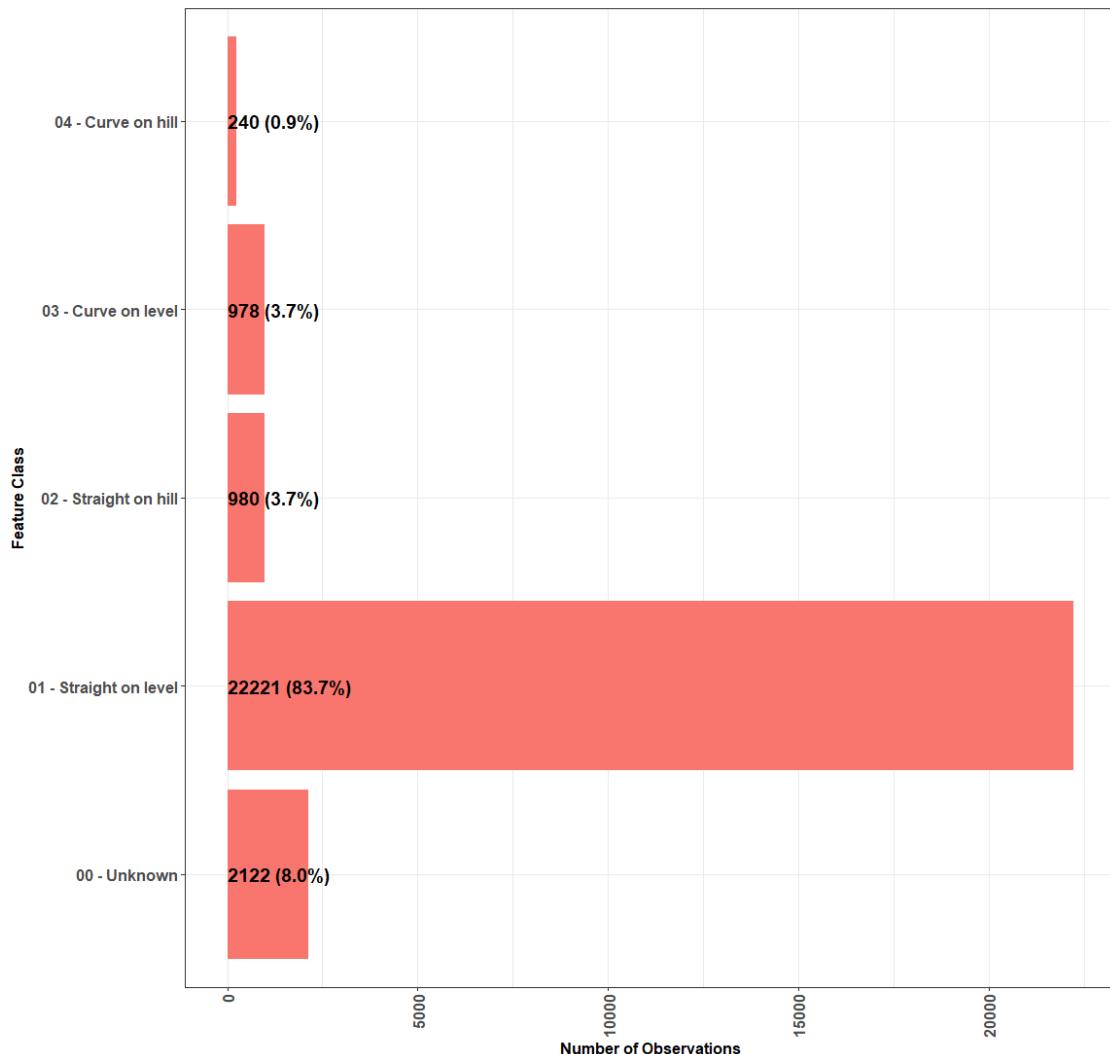
**Plot of Feature:ROAD_ALIGNMENT
Data>All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:ROAD_ALIGNMENT  
## DATA>All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_ALIGNMENT  
##  
## Feature Value Counter Percentage  
## -----
```

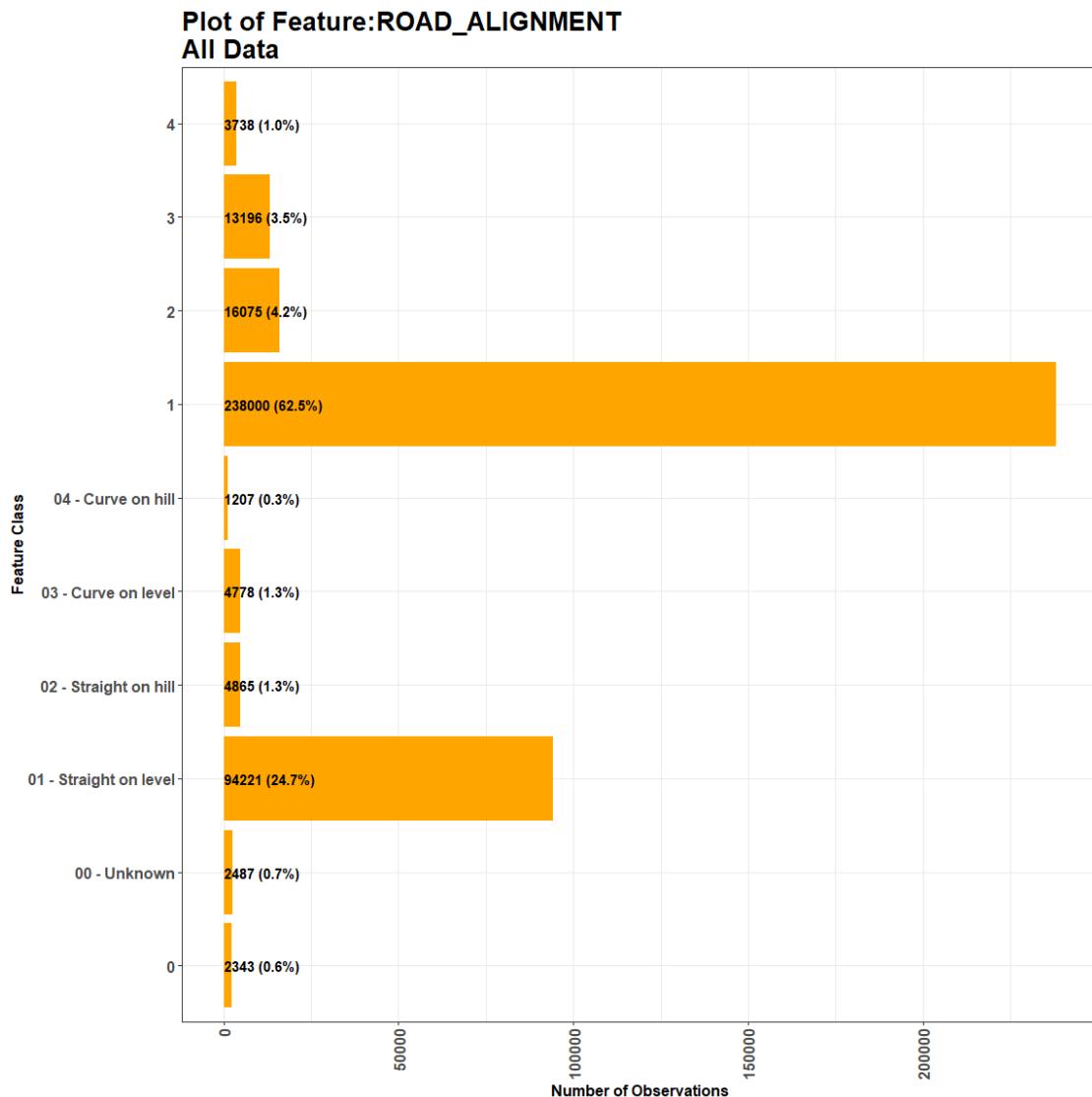
## 00 - Unknown	2122	7.9952
## 01 - Straight on level	22221	83.7233
## 02 - Straight on hill	980	3.6924
## 03 - Curve on level	978	3.6849
## 04 - Curve on hill	240	0.9043

**Plot of Feature:ROAD_ALIGNMENT
Data>All 2017.csv**



```
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_ALIGNMENT
## ALL DATA...
## =====
## Number of Blank Values:0
##
## Summary per Data File:
```

```
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
##
## Summary as Factor Feature:
## Number of Features: 10
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_ALIGNMENT"
```

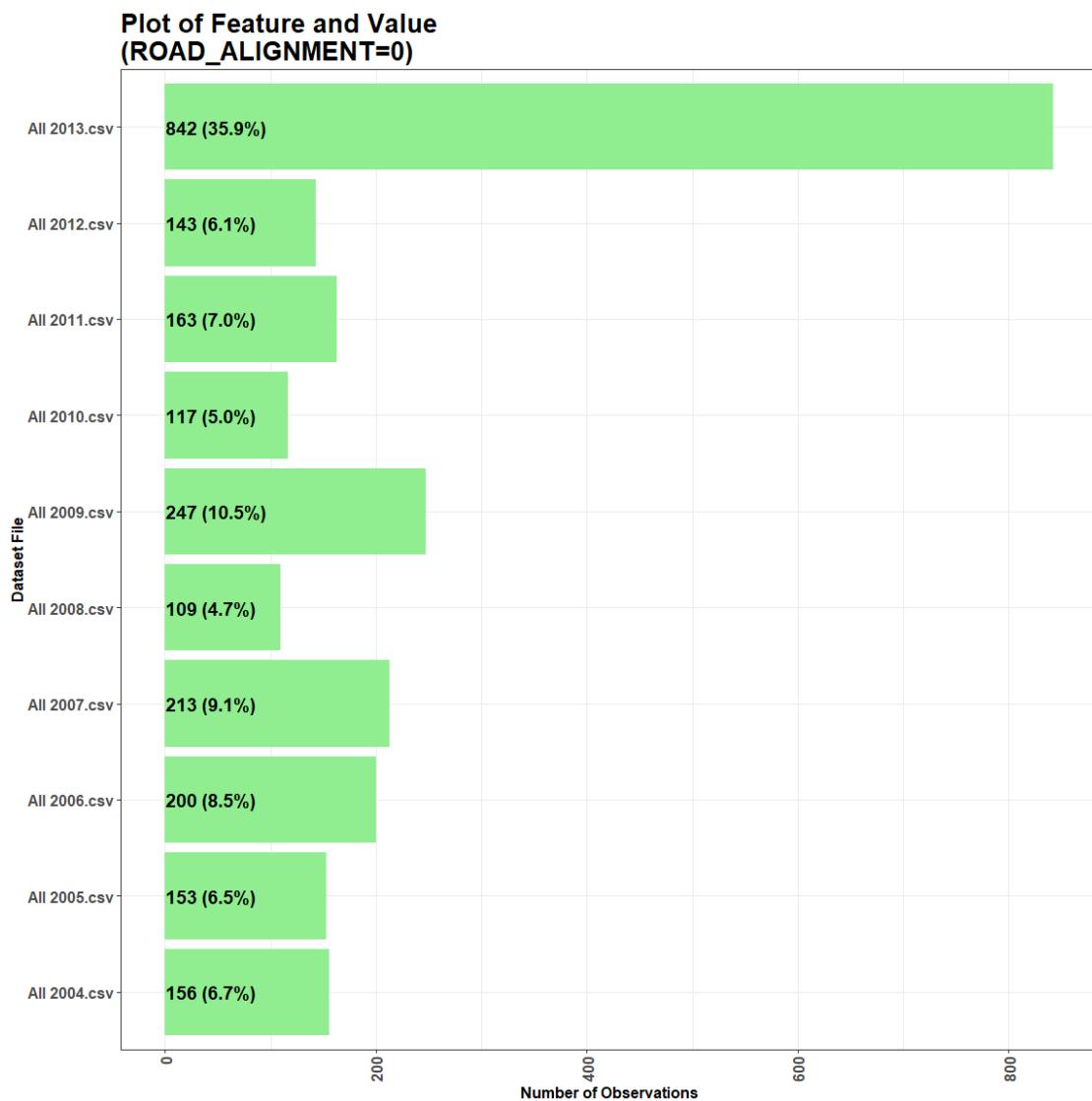
Feature Value	Counter	Percentage
0	2343	0.6151



00 - Unknown	2487	0.6529
01 - Straight on level	94221	24.7358
02 - Straight on hill	4865	1.2772
03 - Curve on level	4778	1.2544
04 - Curve on hill	1207	0.3169
1	238000	62.4820
2	16075	4.2202
3	13196	3.4643
4	3738	0.9813

13.1 ROAD_ALIGNMENT = “0”

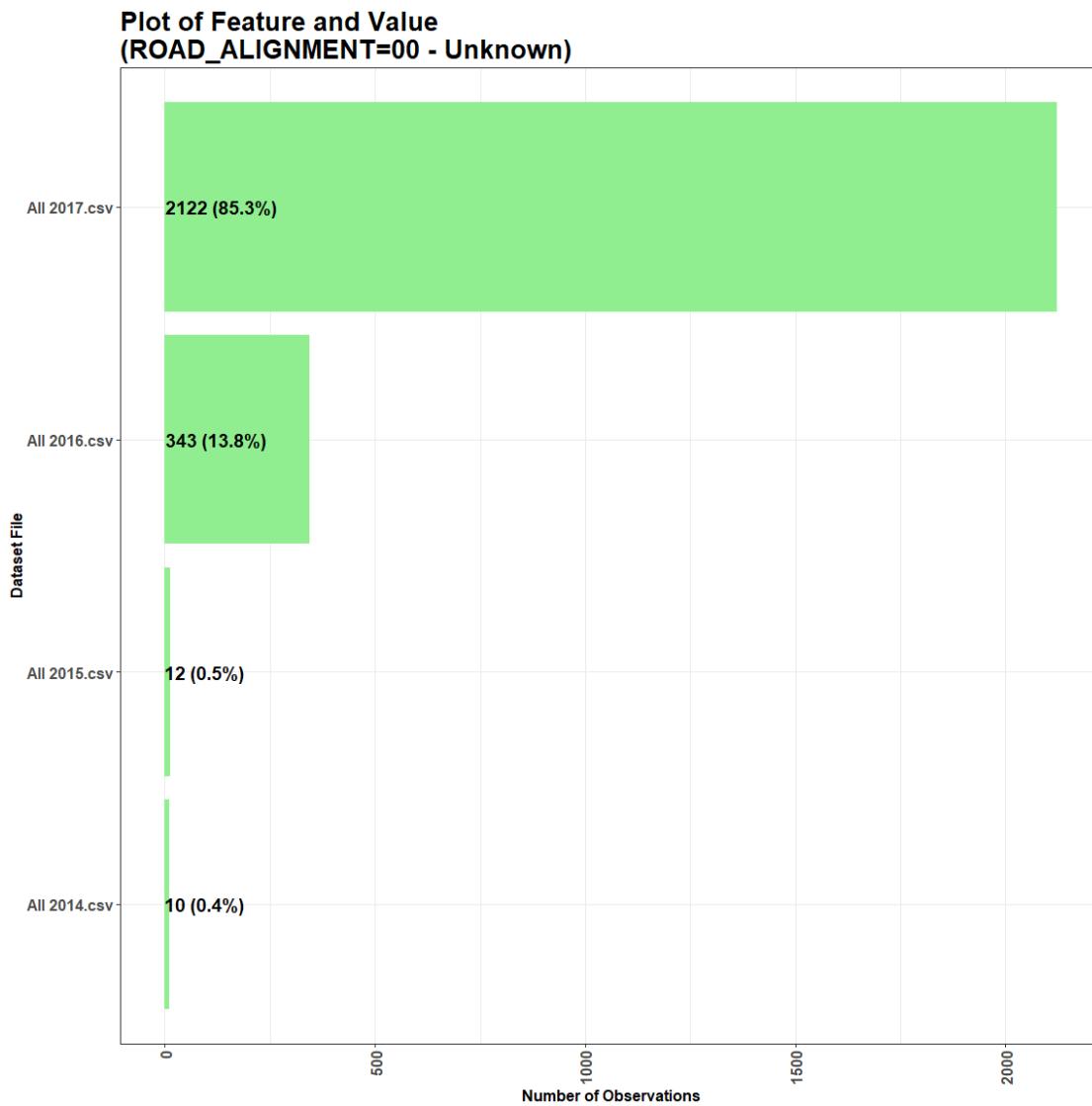
```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_ALIGNMENT=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      156      153      200      213      109  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      247      117      163      143      842
```



DATASET FILE	COUNTER OF (ROAD_ALIGNMENT=0)	Percentage
All 2004.csv	156	6.658
All 2005.csv	153	6.530
All 2006.csv	200	8.536
All 2007.csv	213	9.091
All 2008.csv	109	4.652
All 2009.csv	247	10.542
All 2010.csv	117	4.994
All 2011.csv	163	6.957
All 2012.csv	143	6.103
All 2013.csv	842	35.937

13.2 ROAD_ALIGNMENT = “00 - Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_ALIGNMENT=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          10           12          343         2122
```



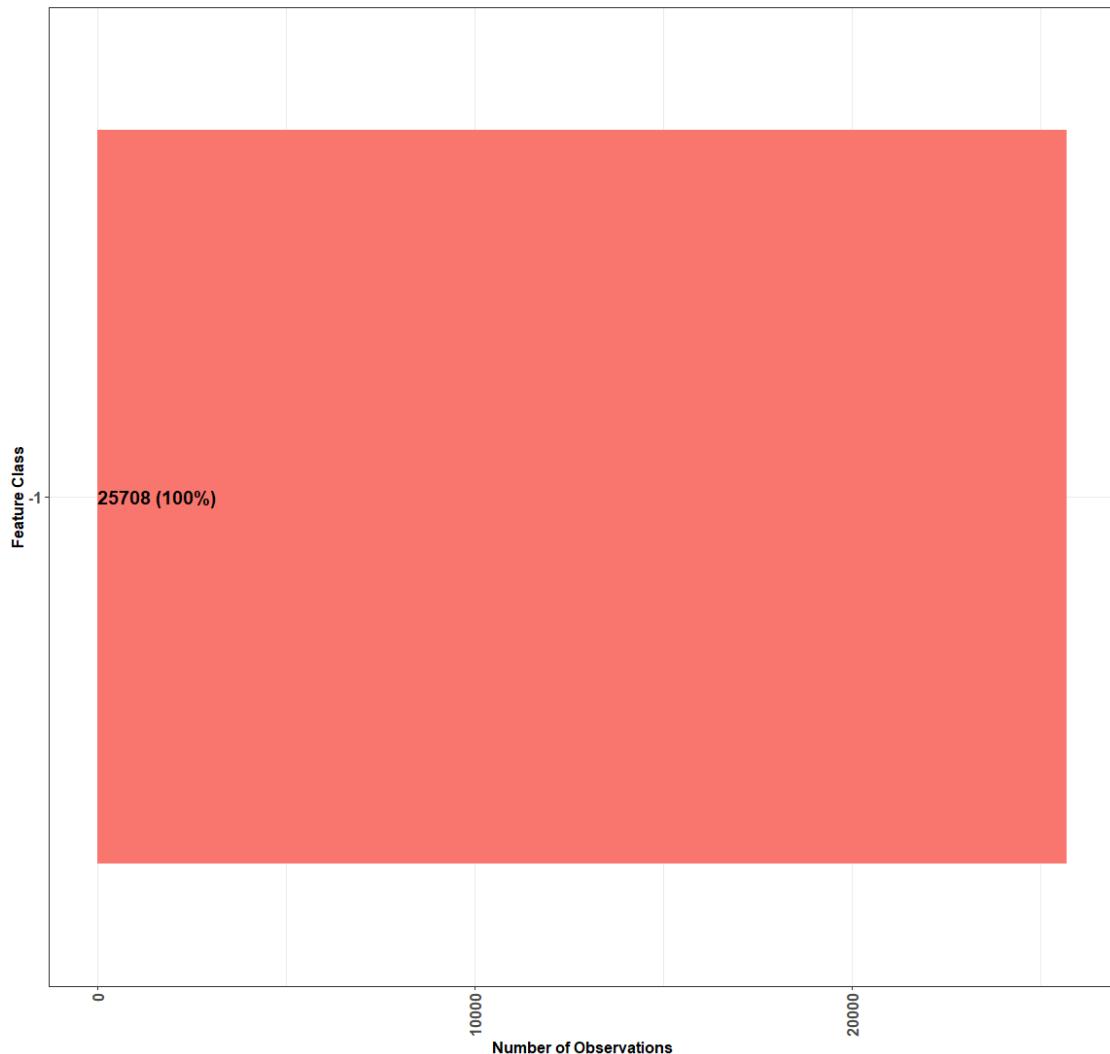
DATASET FILE	COUNTER OF (ROAD_ALIGNMENT=00 - Unknown)	Percentage
All 2014.csv	10	0.4021
All 2015.csv	12	0.4825
All 2016.csv	343	13.7917

All 2017.csv

2122 85.3237

14. Road Character (ROAD_CHARACTER)

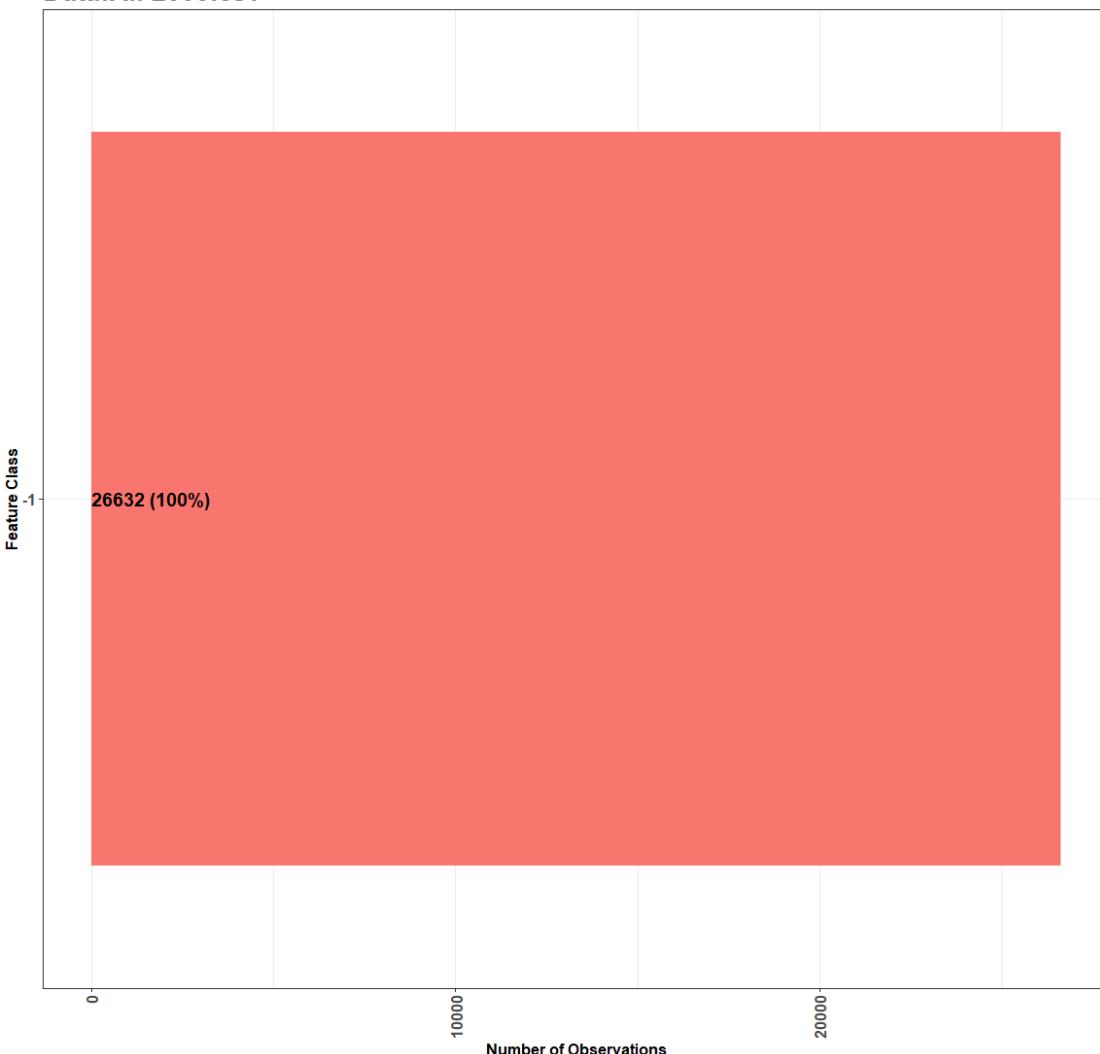
```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## -1 25708 100
```

Plot of Feature:ROAD_CHARACTER
Data:All 2004.csv

```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage
```

```
## -----  
## -1 26632 100
```

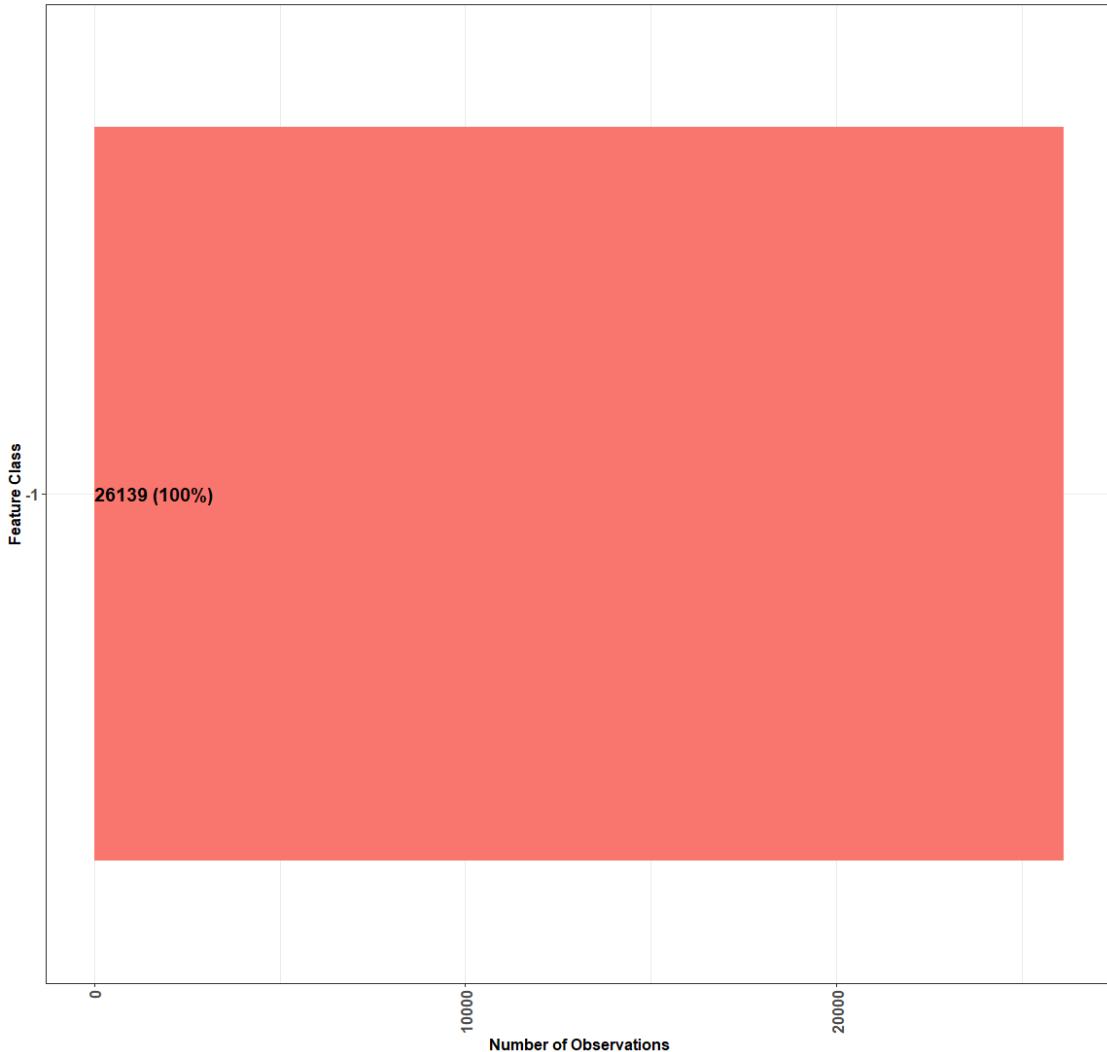
Plot of Feature:ROAD_CHARACTER
Data:All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER
```

```
##  
## Feature Value Counter Percentage  
## -----  
## -1 26139 100
```

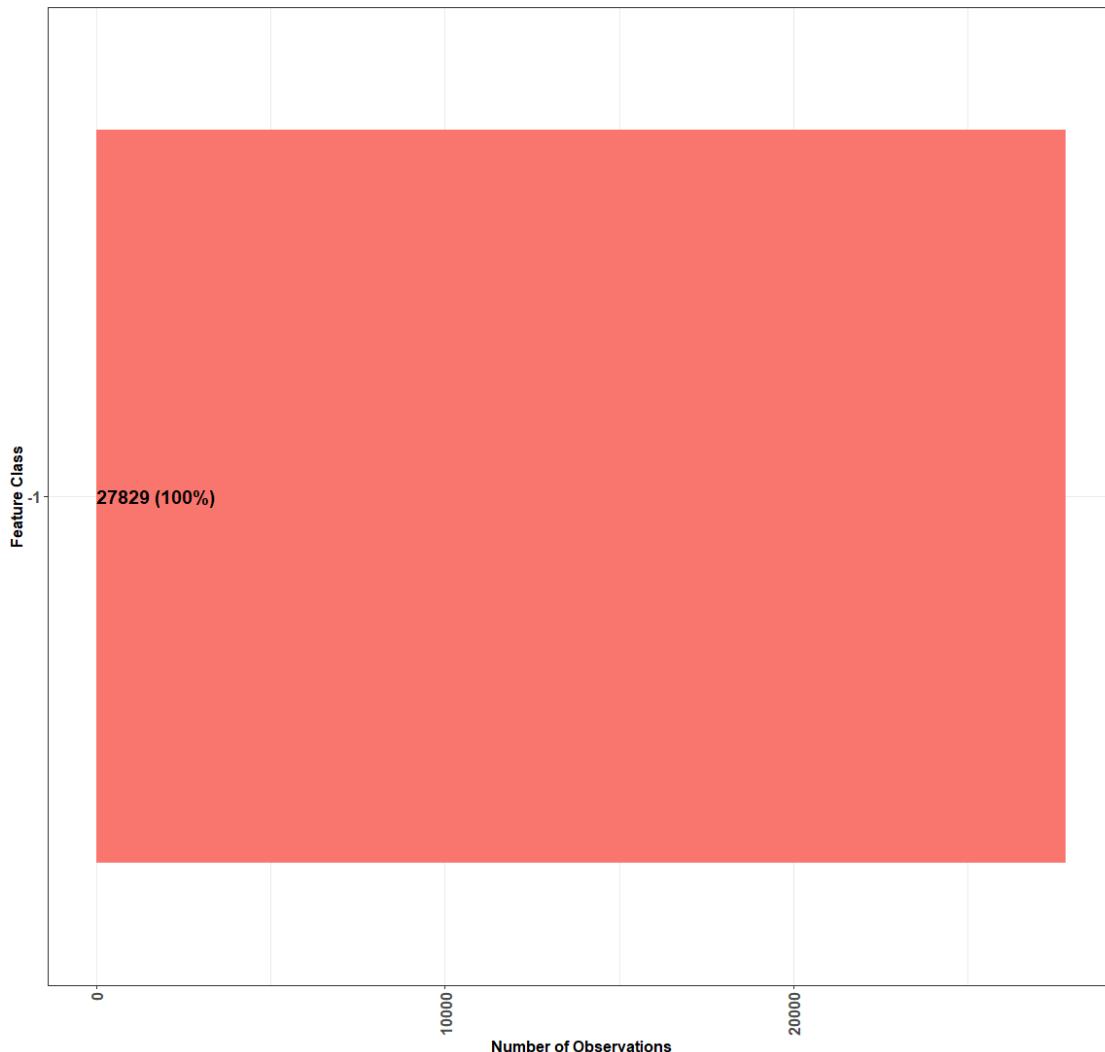
Plot of Feature:ROAD_CHARACTER
Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1
```

```
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27829 100
```

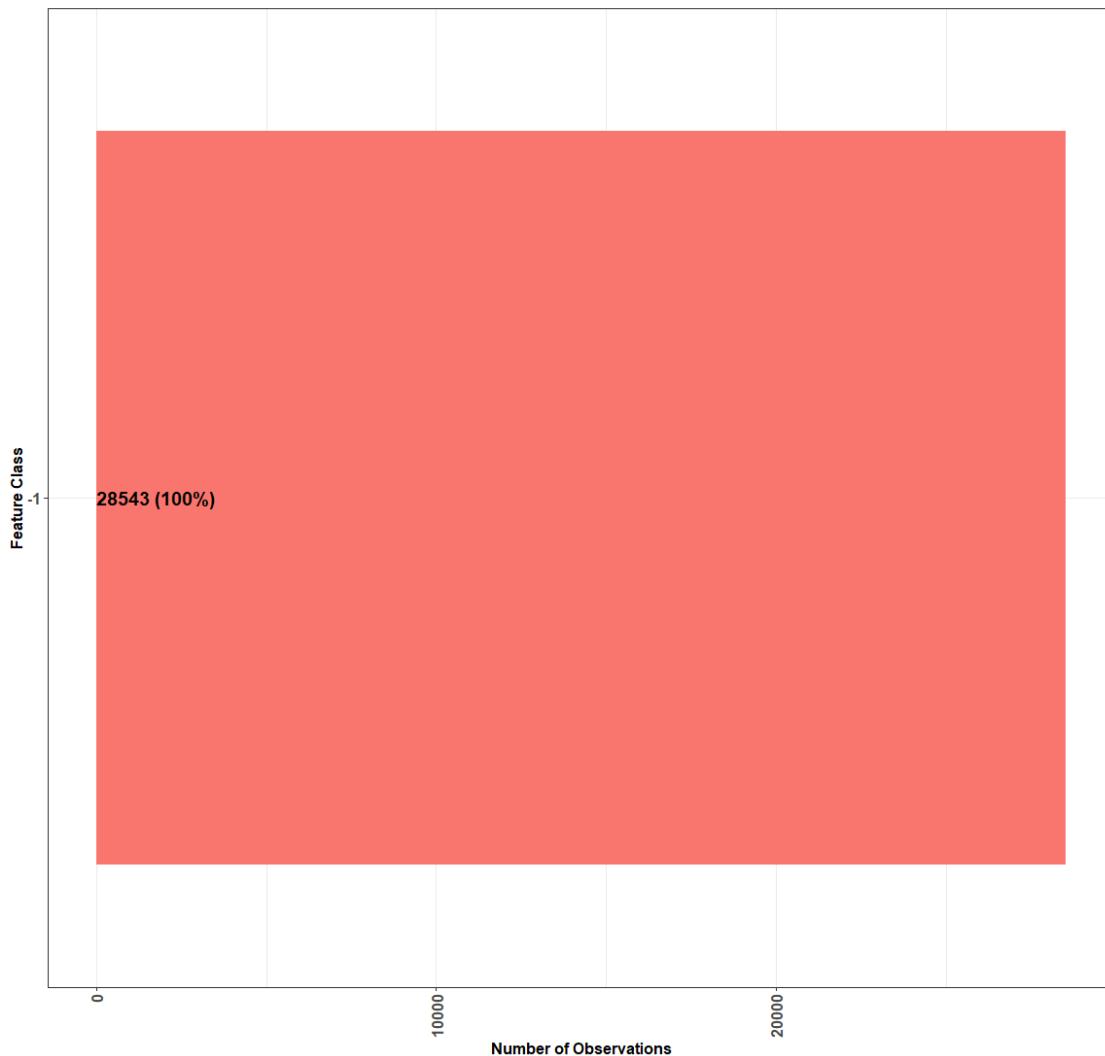
Plot of Feature:ROAD_CHARACTER
Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:
```

```
##  
##   Number of Features: 1  
##  
##   TOP 100 FEATURES OF ROAD_CHARACTER  
##  
##   Feature Value      Counter      Percentage  
##   -----  
##   -1                 28543          100
```

Plot of Feature:ROAD_CHARACTER
Data:All 2008.csv

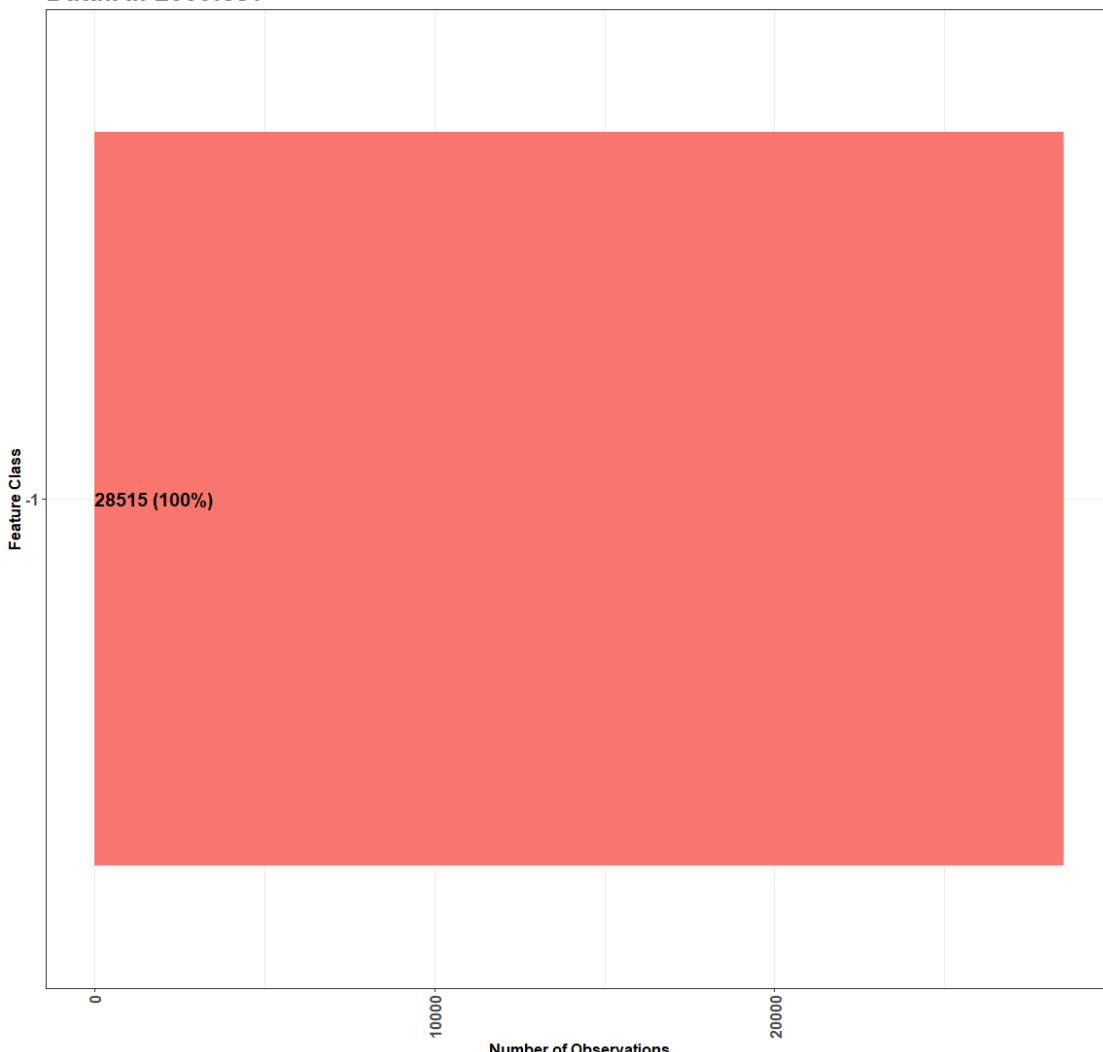


```
##  
##   -----  
##   CHECKING FEATURE:ROAD_CHARACTER  
##   DATA:All 2009.csv...  
##  
##   Number of Blank Values:0
```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## -----  
## -1 28515 100
```

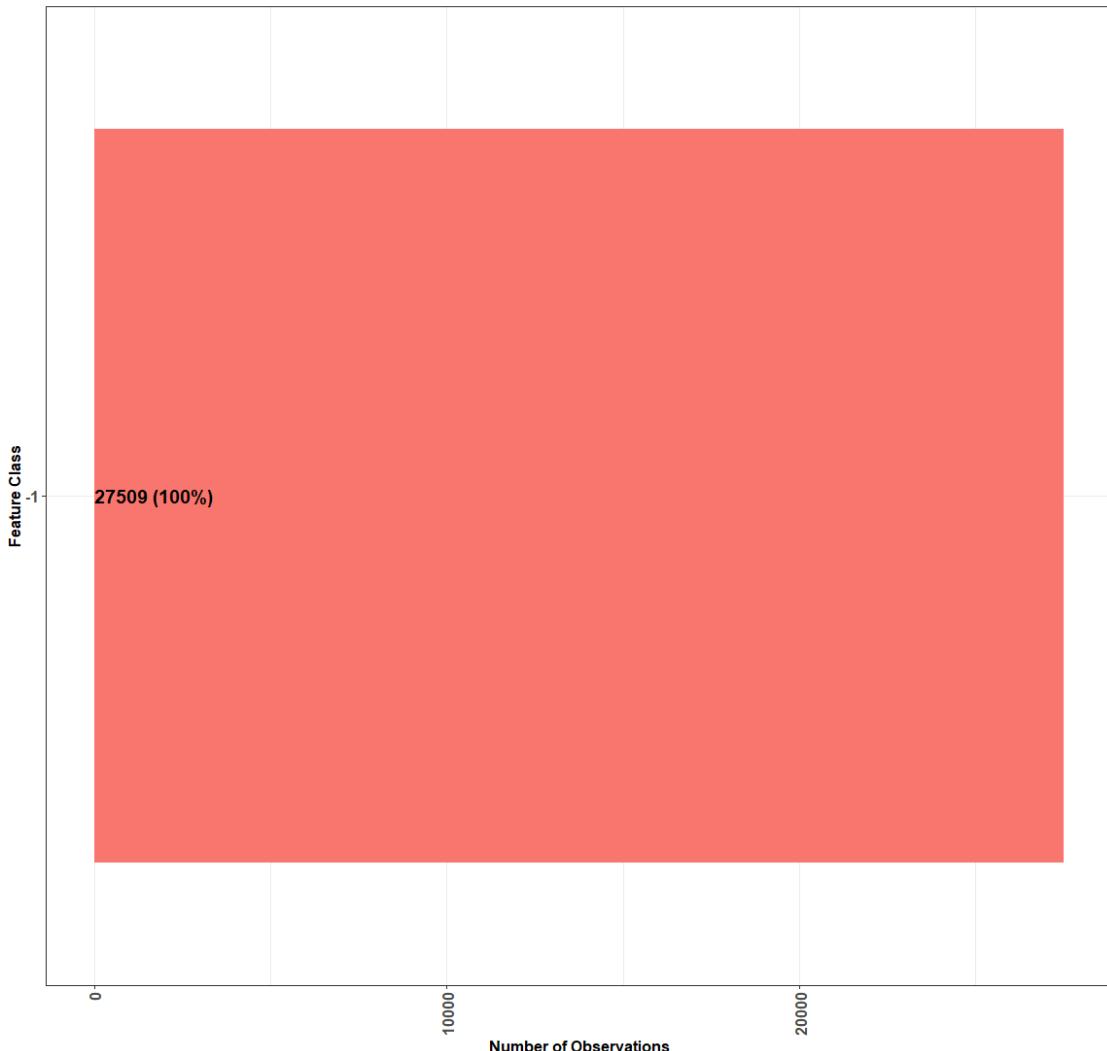
Plot of Feature:ROAD_CHARACTER
Data:All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2010.csv...
```

```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27509 100
```

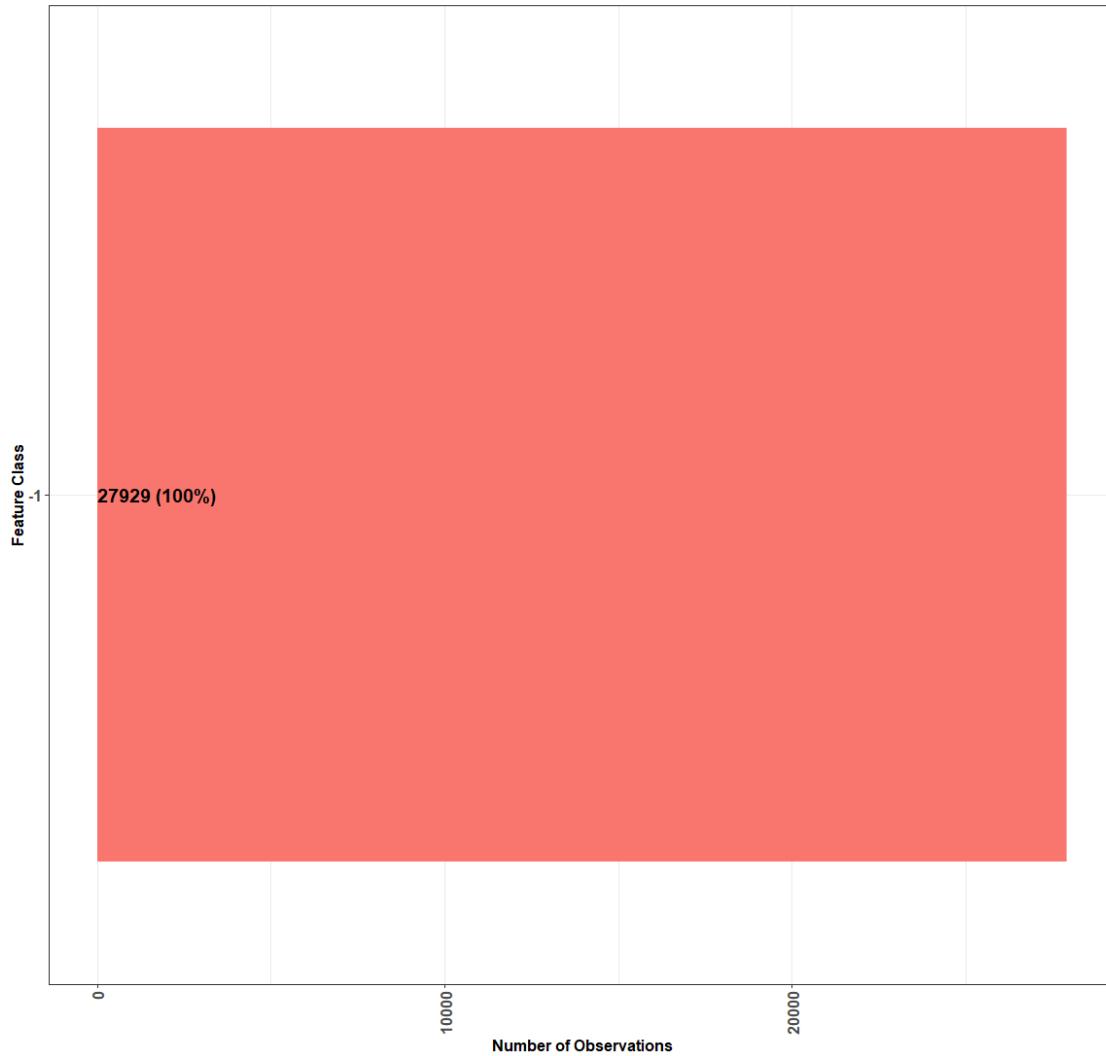
Plot of Feature:ROAD_CHARACTER
Data>All 2010.csv



```
##  
## -----
```

```
## CHECKING FEATURE:ROAD_CHARACTER
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF ROAD_CHARACTER
##
## Feature Value Counter Percentage
## ----- -----
## -1 27929 100
```

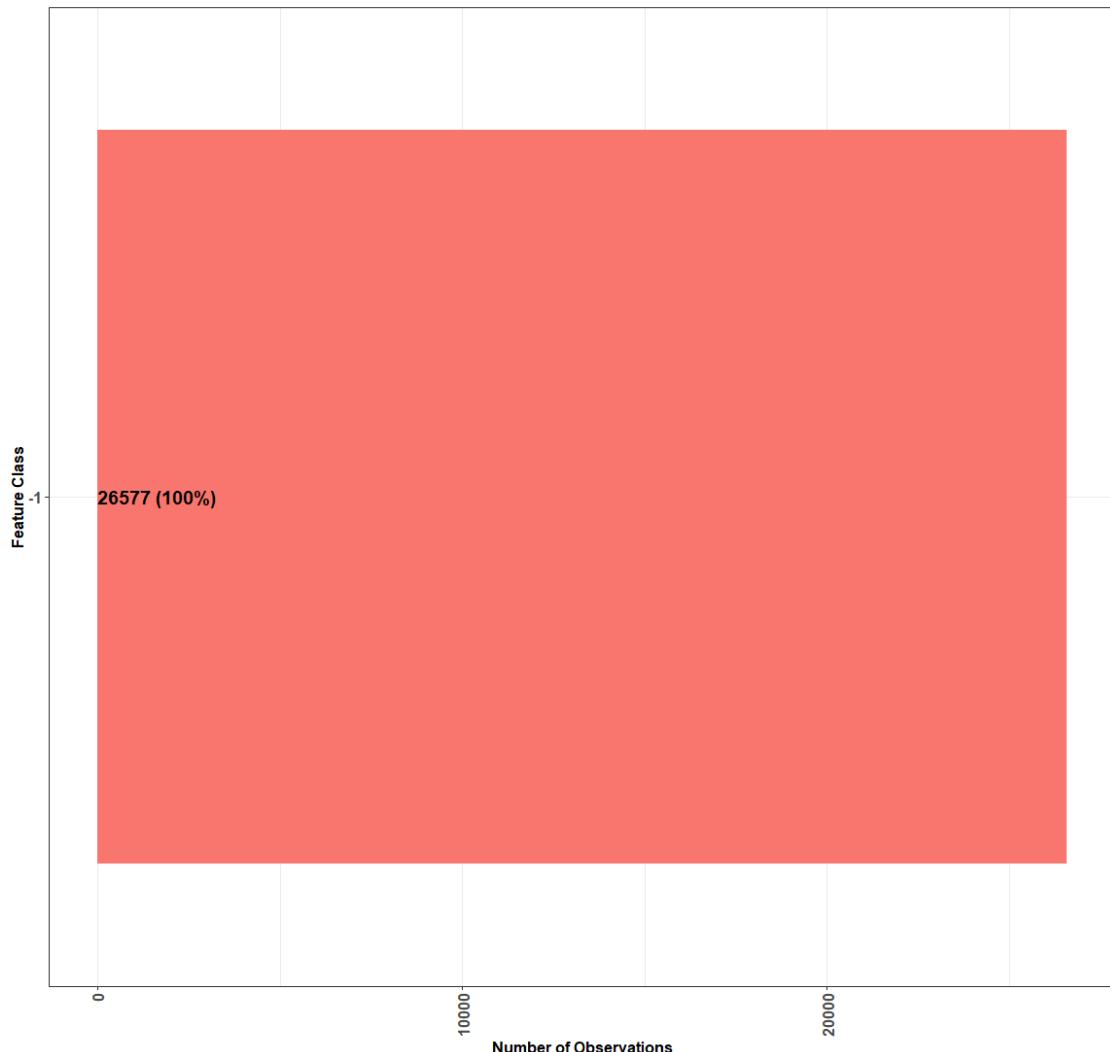
Plot of Feature:ROAD_CHARACTER
Data:All 2011.csv





```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26577 100
```

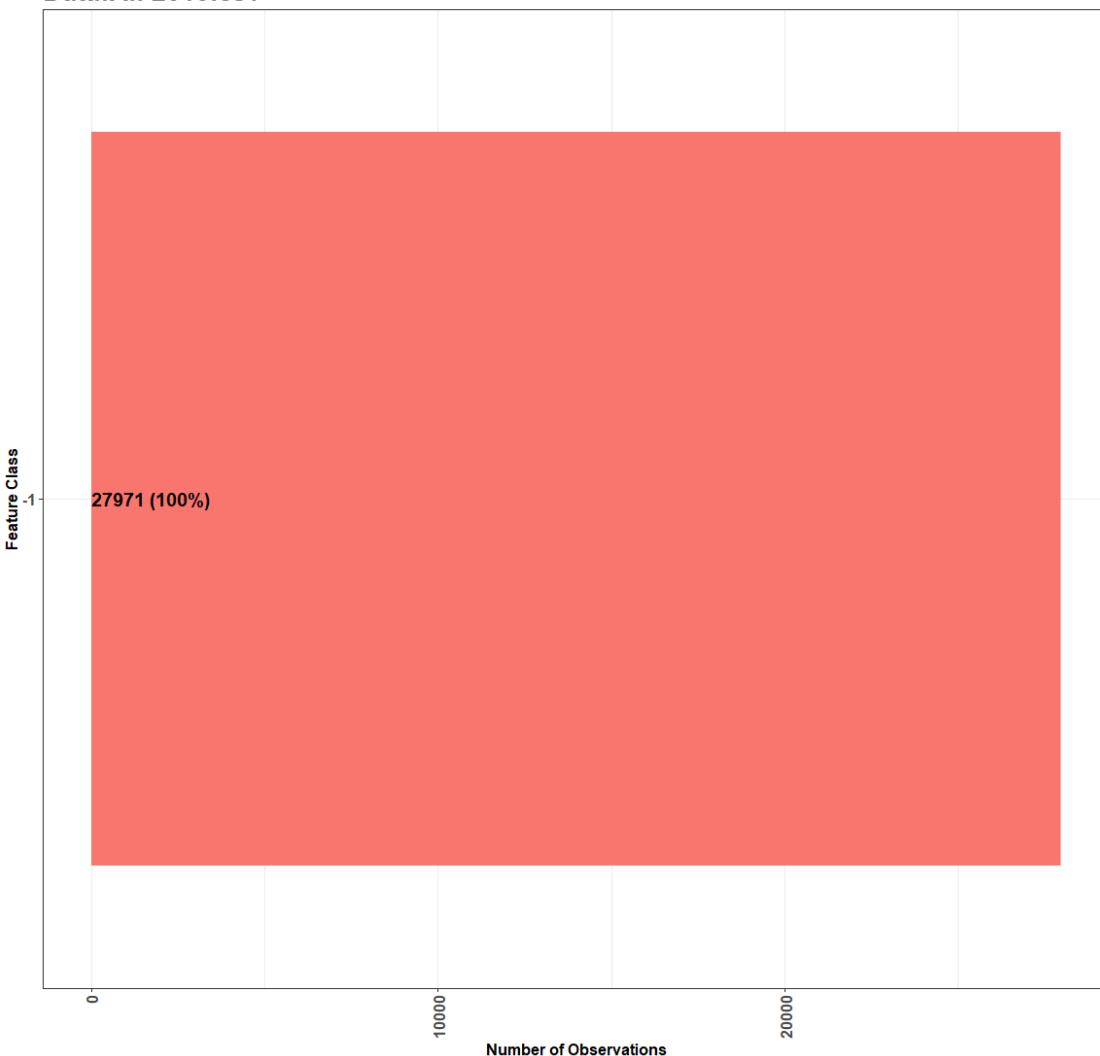
Plot of Feature:ROAD_CHARACTER
Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage
```

```
## -----  
## -1 27971 100
```

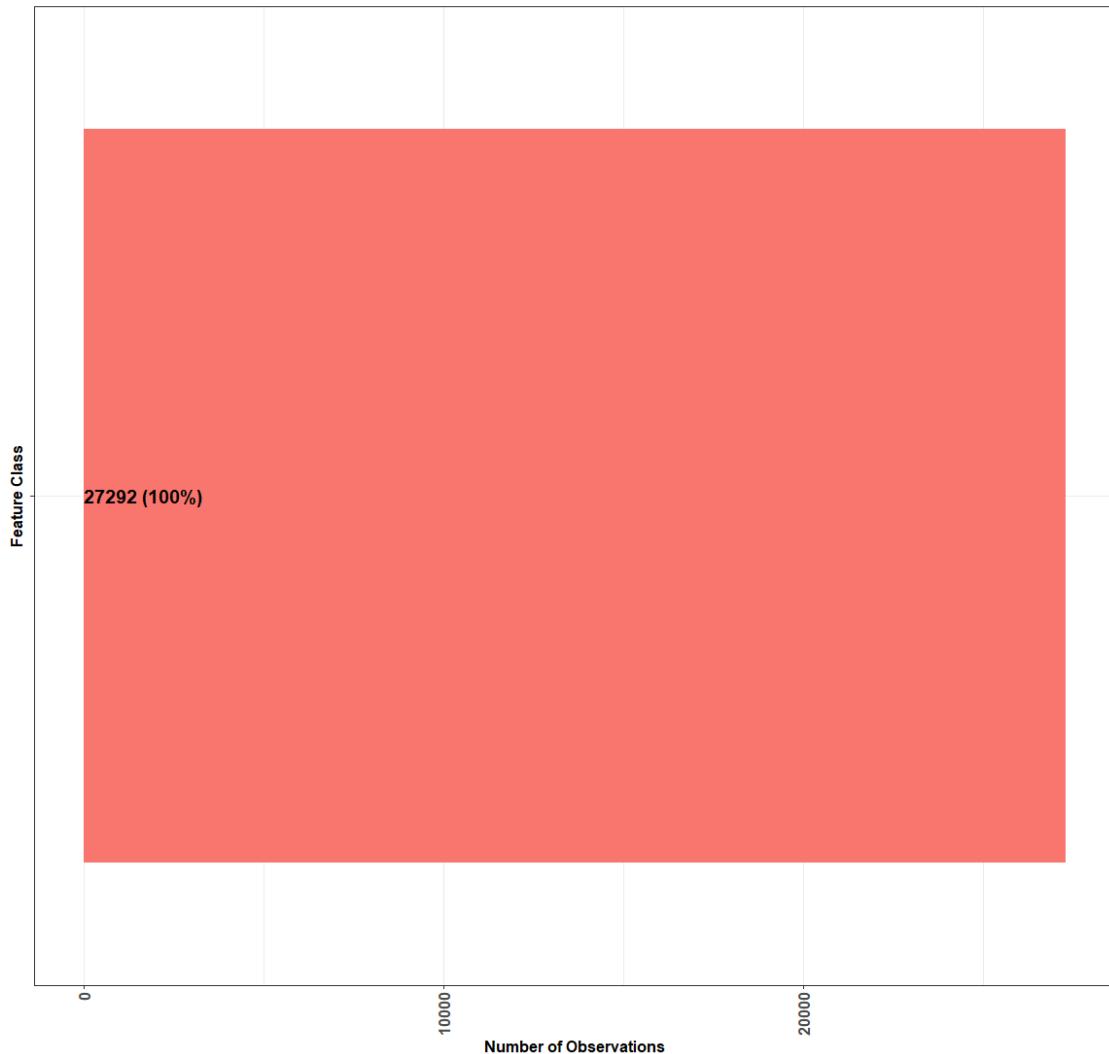
Plot of Feature:ROAD_CHARACTER
Data:All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:27292  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_CHARACTER
```

```
##  
## Feature Value Counter Percentage  
## -----  
## 27292 100
```

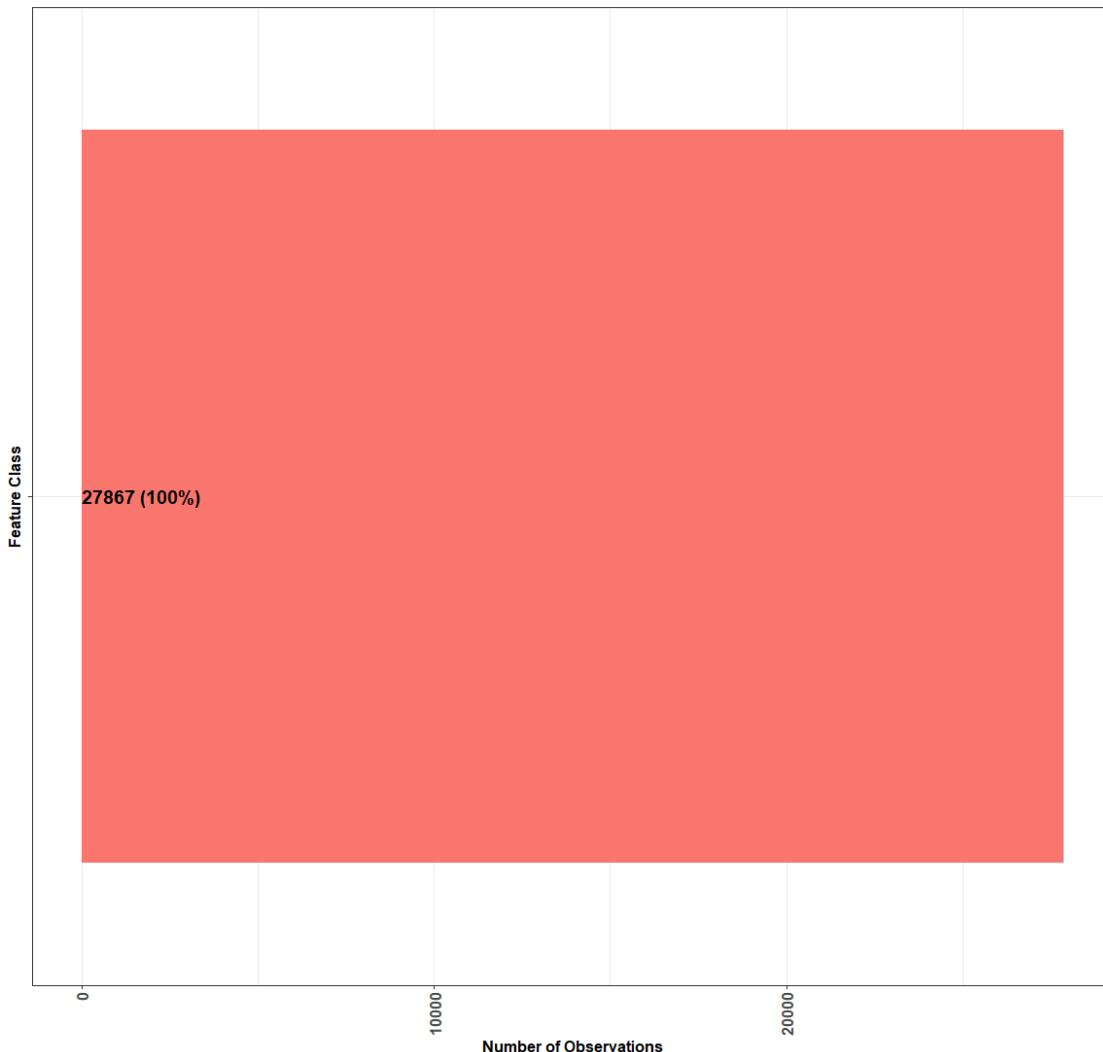
Plot of Feature:ROAD_CHARACTER
Data:All 2014.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:27867  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1
```

```
##  
## TOP 100 FEATURES OF ROAD_CHARACTER  
##  
## Feature Value Counter Percentage  
## -----  
## 27867 100
```

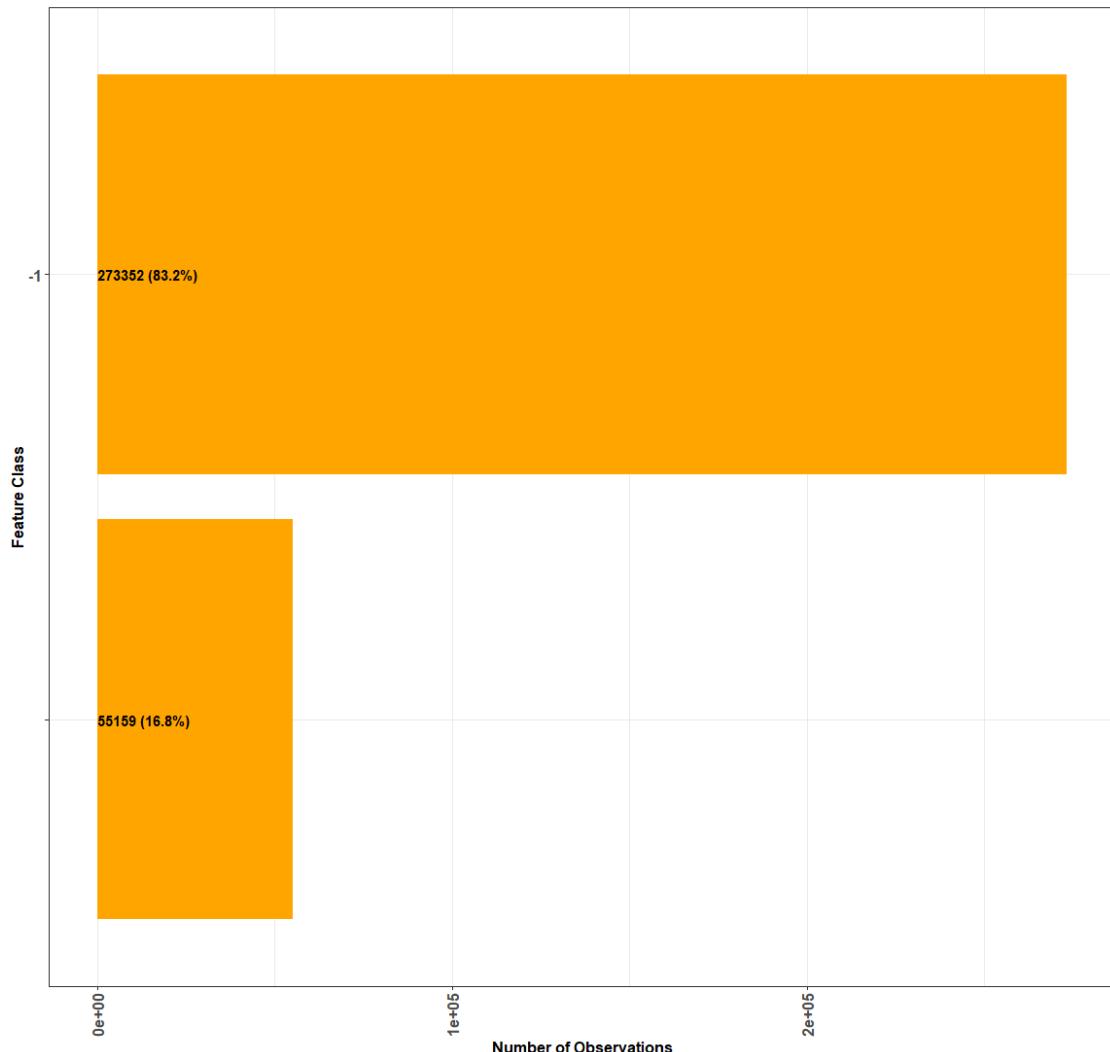
Plot of Feature:ROAD_CHARACTER
Data:All 2015.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER  
## DATA:All 2016.csv...  
## [1] "No Data in this Dataset"  
##  
## -----  
## CHECKING FEATURE:ROAD_CHARACTER
```

```
## DATA:All 2017.csv...
## [1] "No Data in this Dataset"
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_CHARACTER
## ALL DATA...
## =====
##
## Number of Blank Values:55159
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv
##      27292      27867
##
##
## Summary as Factor Feature:
## Number of Features: 2
```

Plot of Feature:ROAD_CHARACTER
All Data



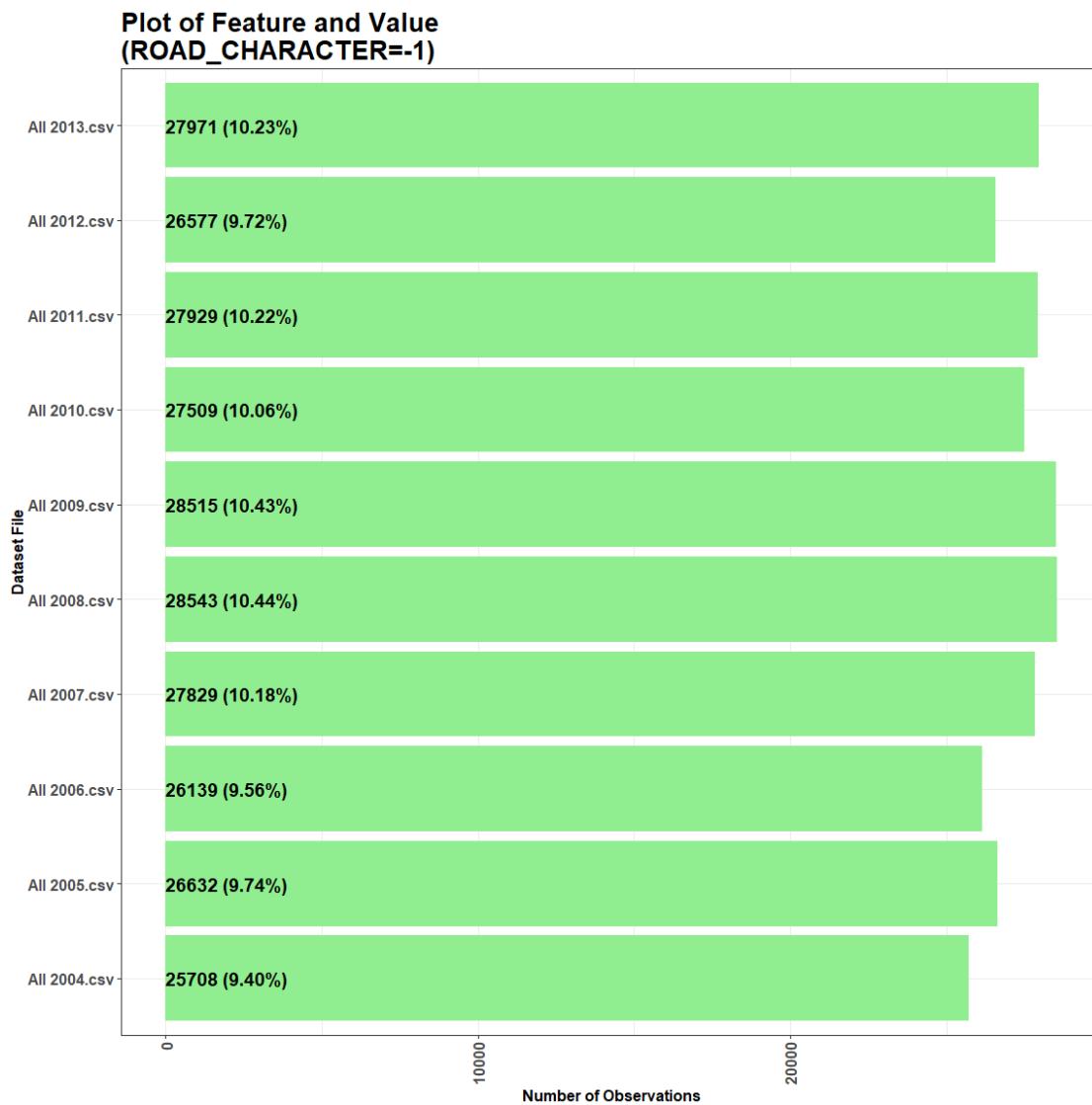
```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_CHARACTER"
```

Feature Value	Counter	Percentage
55159	16.79	
-1	273352	83.21

14.1 ROAD_CHARACTER = “-1”

```
## [1] "Feature Value not found Dataset:All 2016.csv"
## [1] "Feature Value not found Dataset:All 2017.csv"
##
## =====
## CHECKING FEATURE AND VALUE (ROAD_CHARACTER=-1)
##
## Summary per Data File:
```

```
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
```



DATASET FILE	COUNTER OF (ROAD_CHARACTER=-1)	Percentage
All 2004.csv	25708	9.405
All 2005.csv	26632	9.743
All 2006.csv	26139	9.562
All 2007.csv	27829	10.181
All 2008.csv	28543	10.442
All 2009.csv	28515	10.432

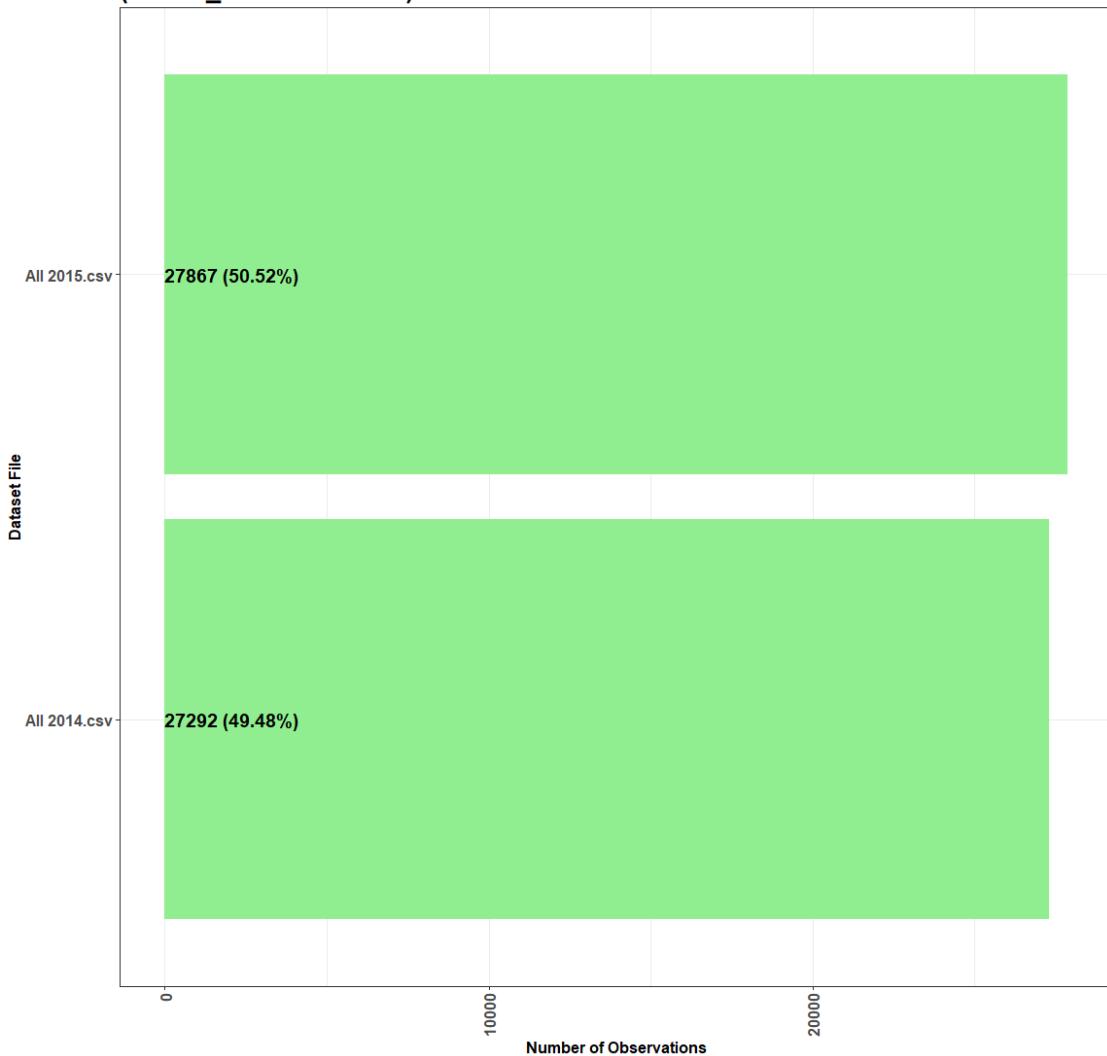


All 2010.csv	27509	10.064
All 2011.csv	27929	10.217
All 2012.csv	26577	9.723
All 2013.csv	27971	10.233

14.2 ROAD_CHARACTER = "" (Blank)

```
## [1] "Feature Value not found Dataset:All 2016.csv"
## [1] "Feature Value not found Dataset:All 2017.csv"
##
## =====
## CHECKING FEATURE AND VALUE (ROAD_CHARACTER=)
##
## Summary per Data File:
## All 2014.csv All 2015.csv
##      27292      27867
```

**Plot of Feature and Value
(ROAD_CHARACTER=)**



DATASET FILE	COUNTER OF (ROAD_CHARACTER=)	Percentage
All 2014.csv	27292	49.48
All 2015.csv	27867	50.52

14.3 ROAD_CHARACTER = “00 - Unknown”

```
## [1] "Feature Value not found Dataset:All 2016.csv"
## [1] "Feature Value not found Dataset:All 2017.csv"
##
## =====
## CHECKING FEATURE AND VALUE (ROAD_CHARACTER=00 - Unknown)
## [1] "No data Found"
```

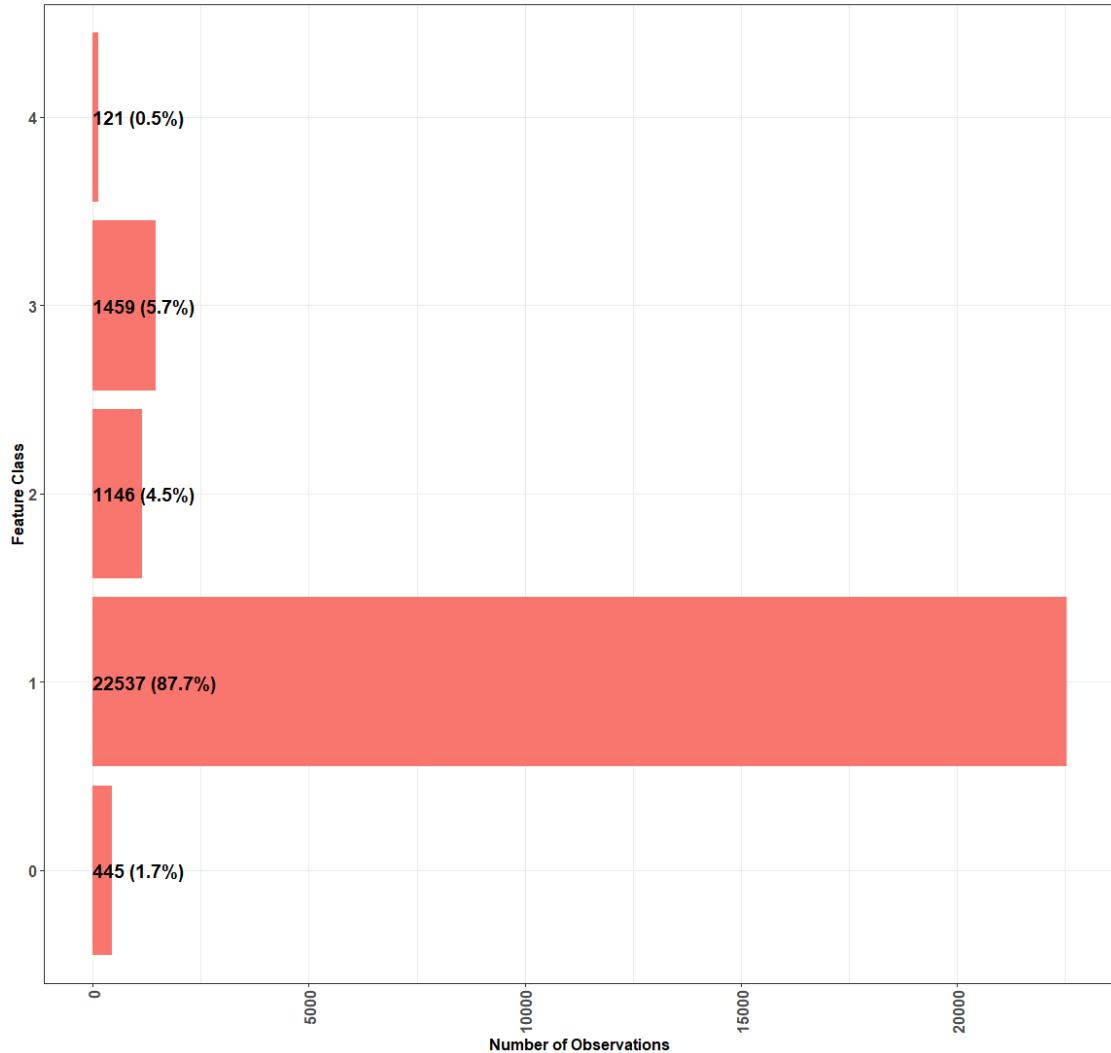
DATASET FILE COUNTER OF (ROAD_CHARACTER=00 - Unknown) Percentage -----

15. Road Pavement Markings (ROAD_PAVEMENT_MARKINGS)

```
##  
## -----  
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## 0 445 1.7310  
## 1 22537 87.6653  
## 2 1146 4.4578  
## 3 1459 5.6753  
## 4 121 0.4707
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS

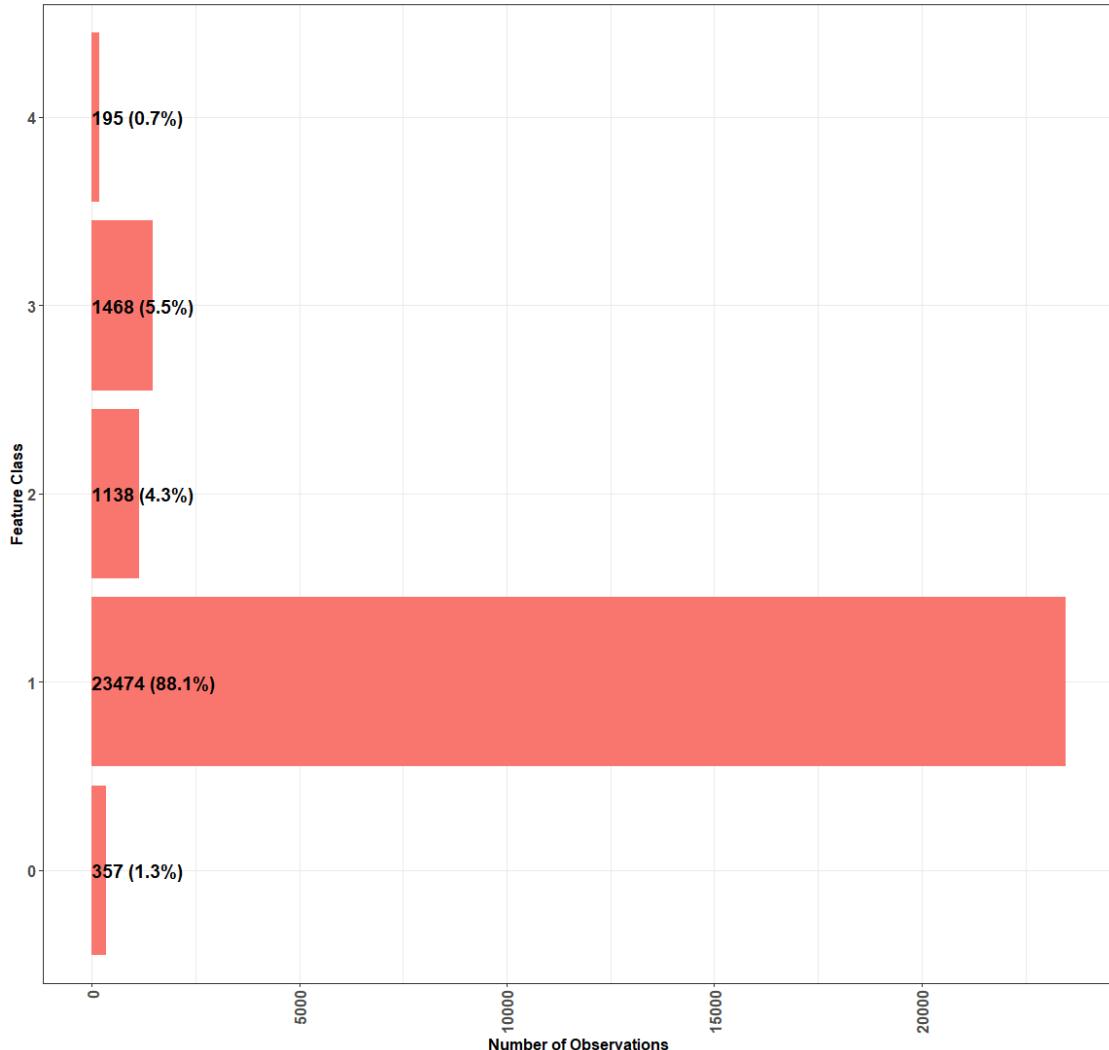
Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           357    1.3405
## 1          23474   88.1421
## 2          1138    4.2731
## 3          1468    5.5122
## 4           195    0.7322
```

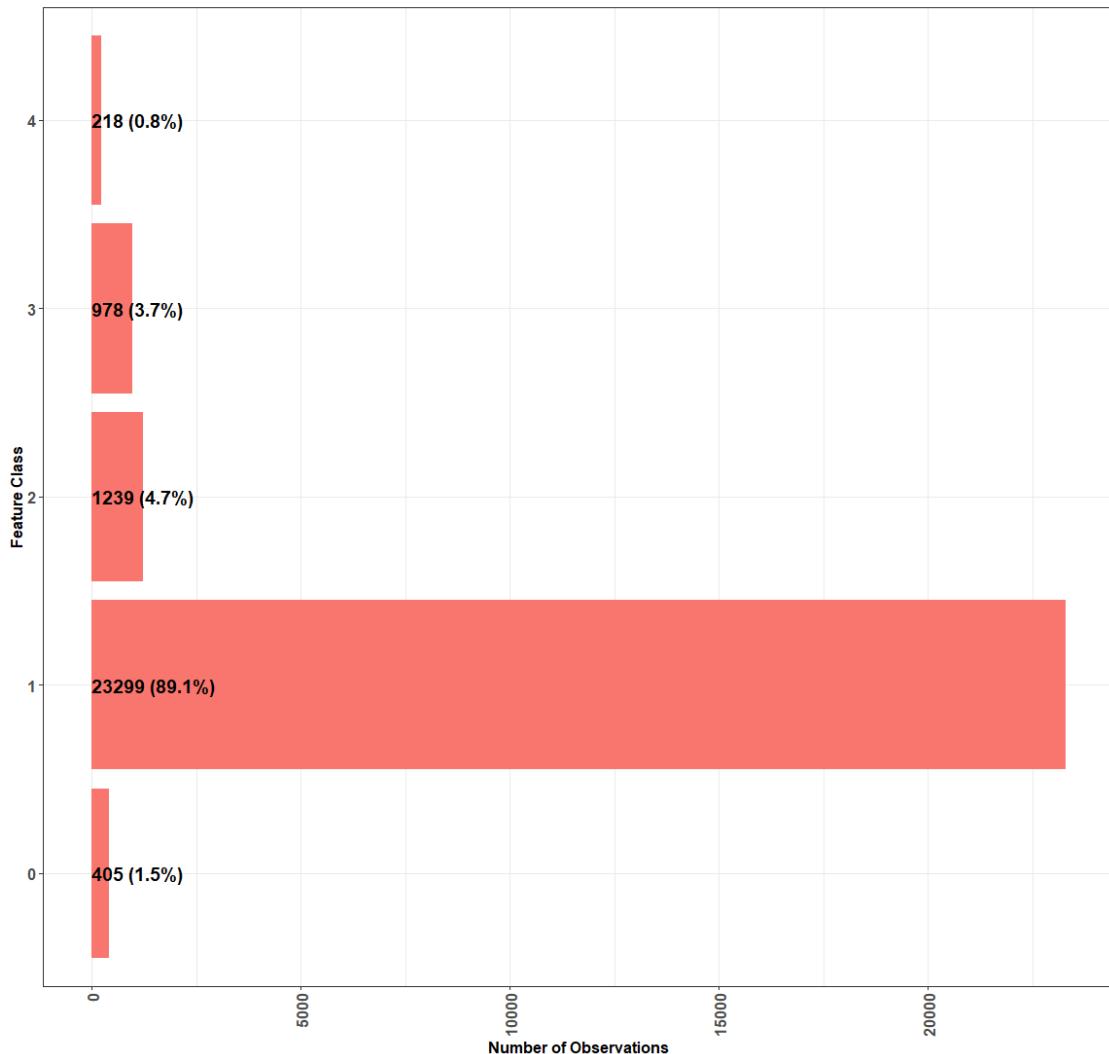
Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data>All 2005.csv



```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
## DATA>All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value Counter Percentage
## -----
## 0 405 1.549
## 1 23299 89.135
## 2 1239 4.740
## 3 978 3.741
## 4 218 0.834
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2006.csv



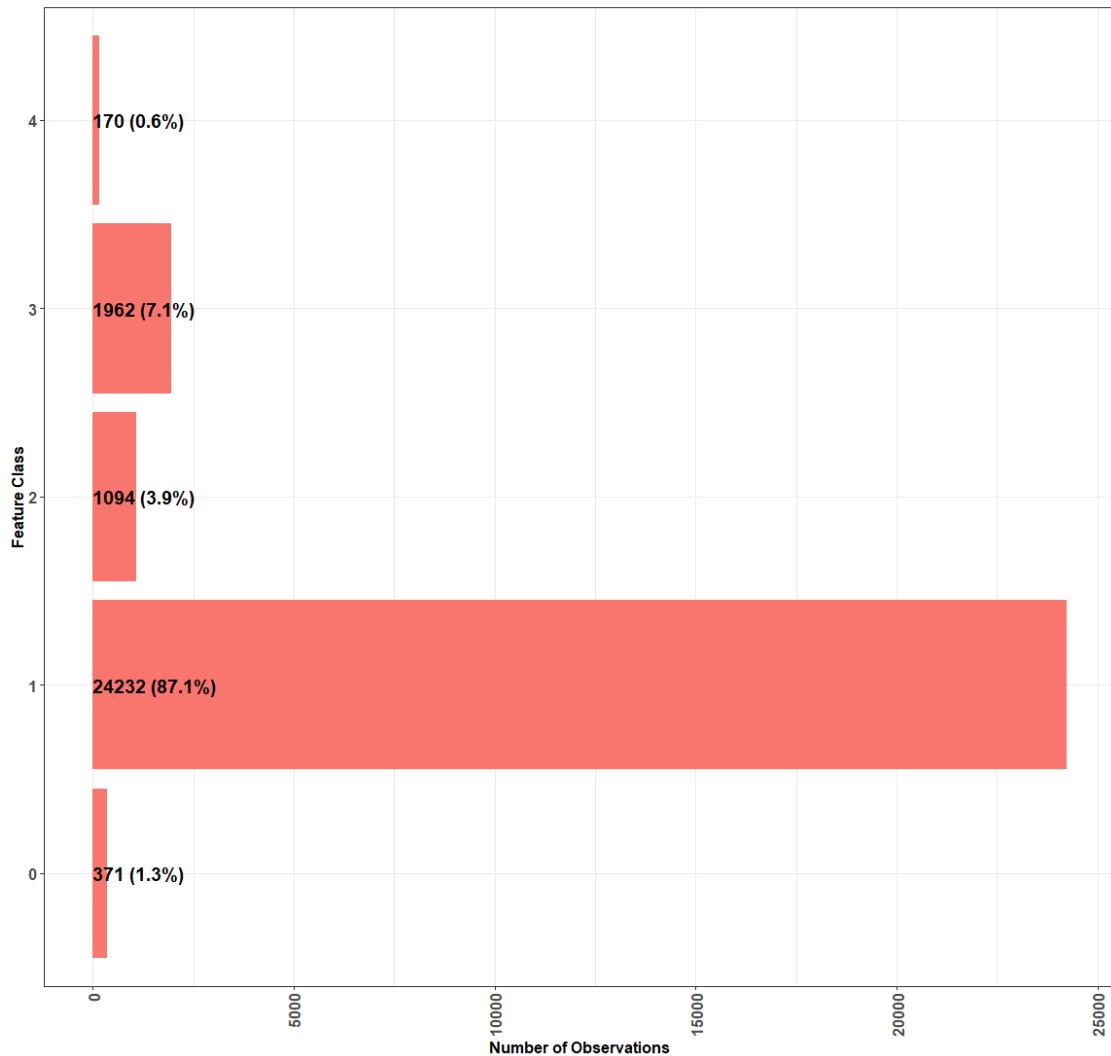
```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
```



```
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                371        1.3331
## 1                24232       87.0746
## 2                1094       3.9312
## 3                1962       7.0502
## 4                170        0.6109
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS

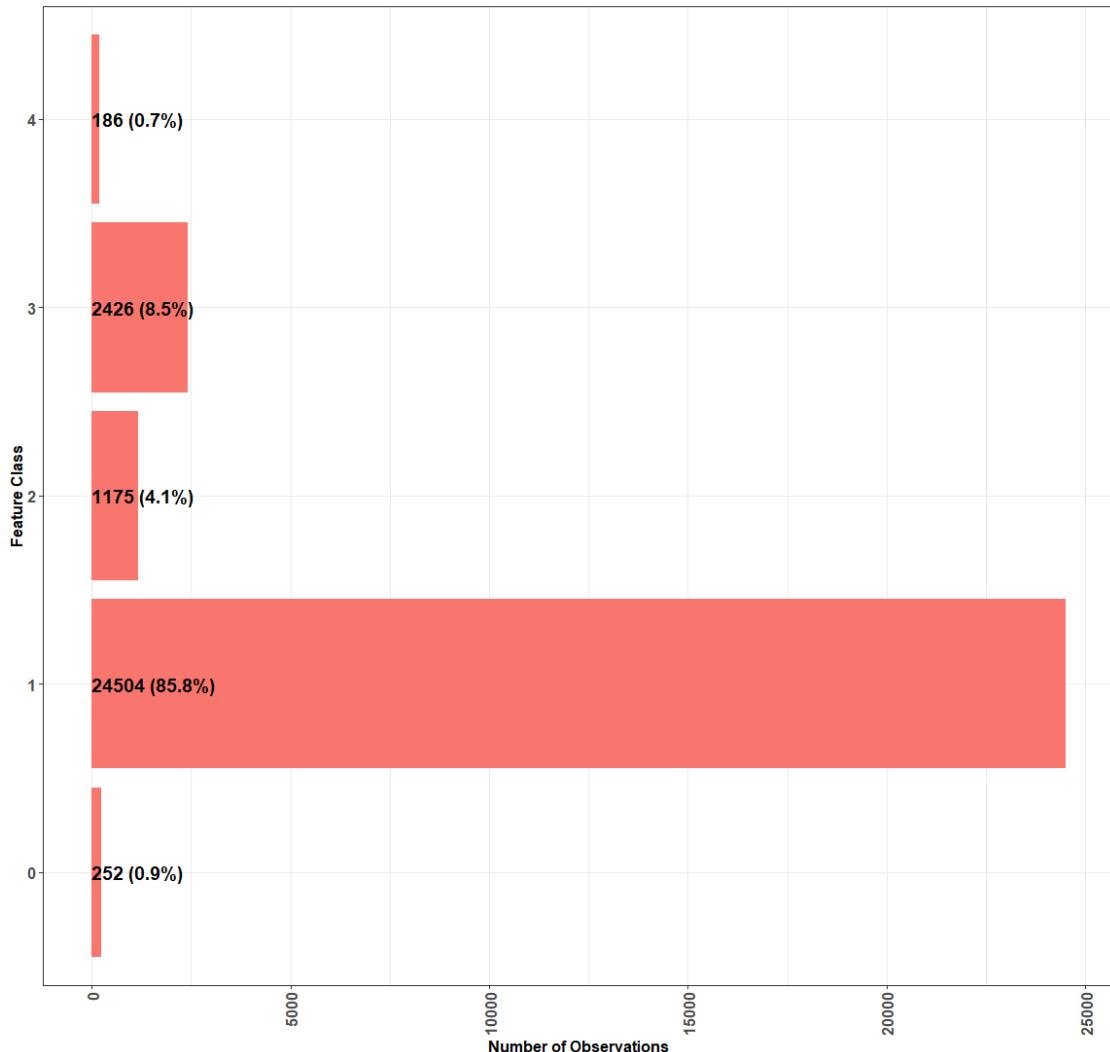
Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           252      0.8829
## 1          24504     85.8494
## 2          1175      4.1166
## 3          2426      8.4995
## 4           186      0.6516
```

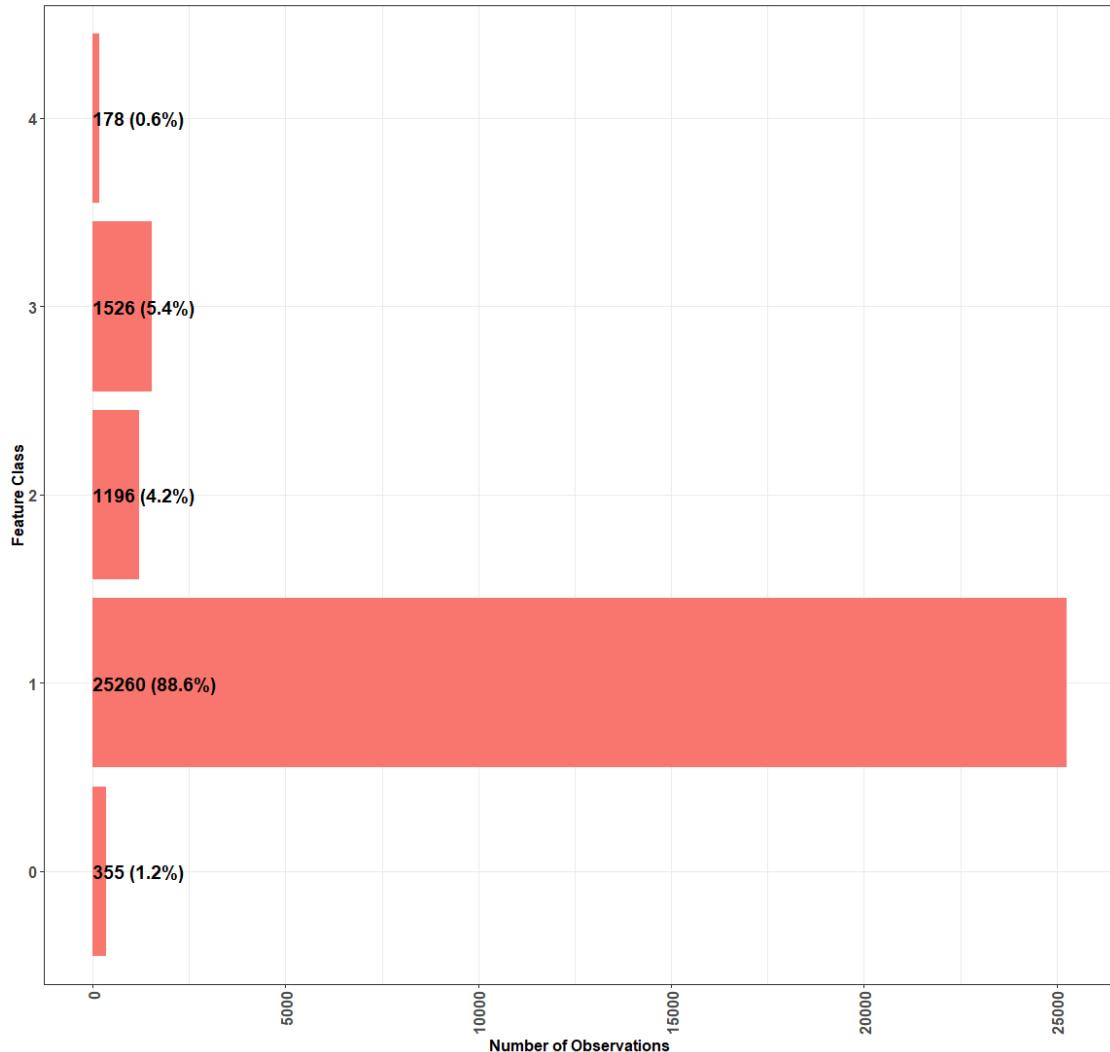
Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data>All 2008.csv



```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
## DATA>All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value Counter Percentage
## ----- -----
## 0 355 1.2450
## 1 25260 88.5850
## 2 1196 4.1943
## 3 1526 5.3516
## 4 178 0.6242
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2009.csv



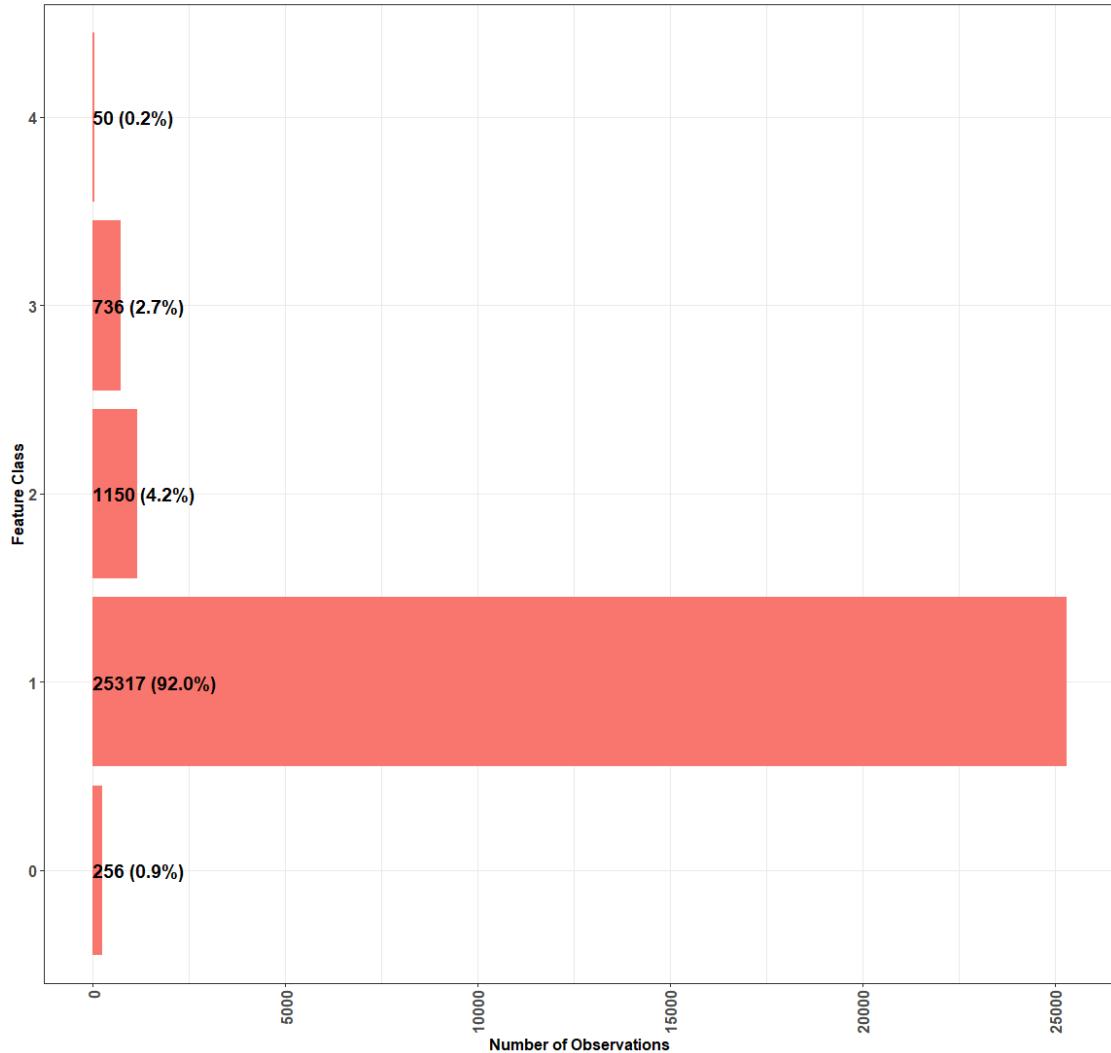
```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
```



```
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                256        0.9306
## 1                25317      92.0317
## 2                1150       4.1805
## 3                736        2.6755
## 4                50         0.1818
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS

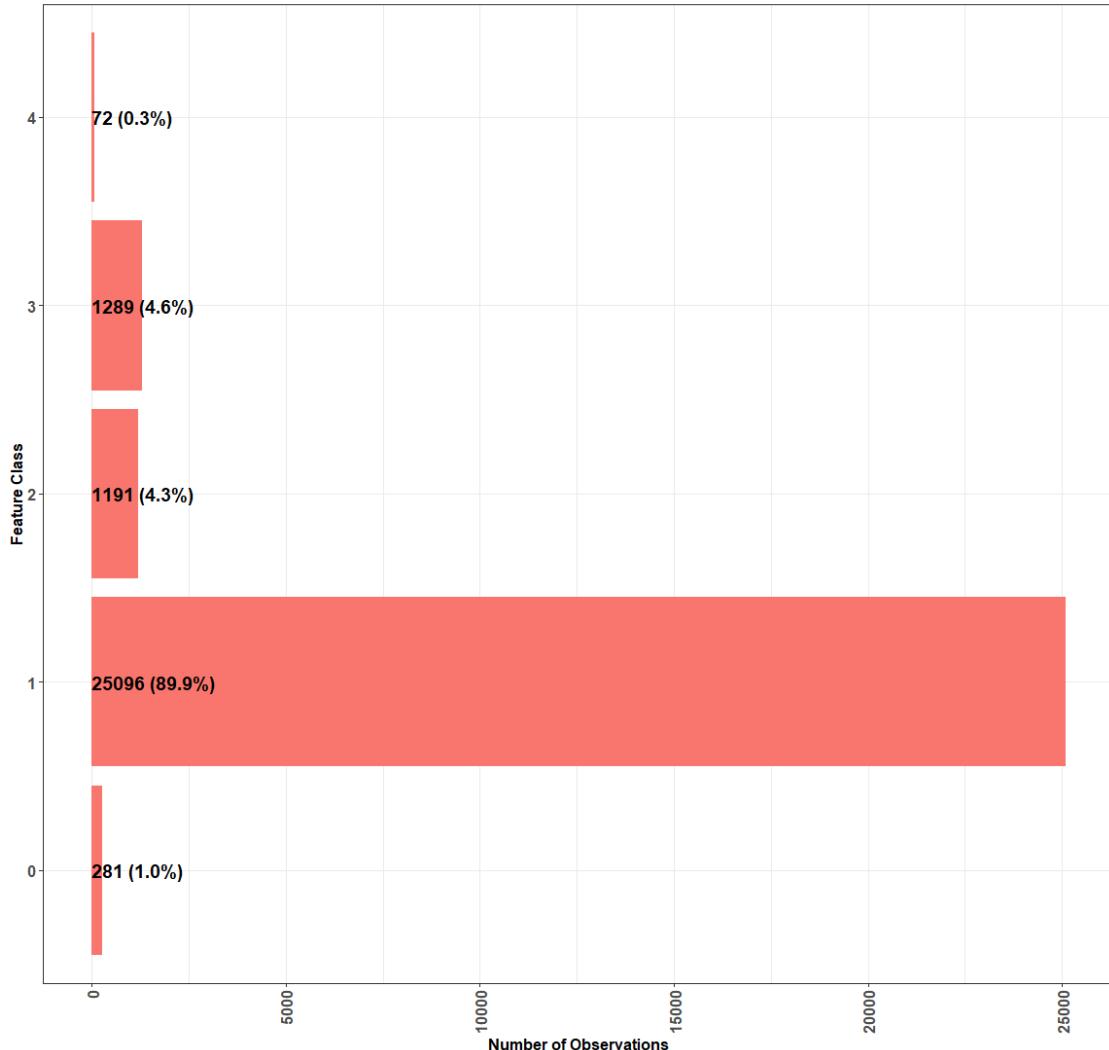
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           281      1.0061
## 1          25096     89.8564
## 2          1191      4.2644
## 3          1289      4.6153
## 4            72      0.2578
```

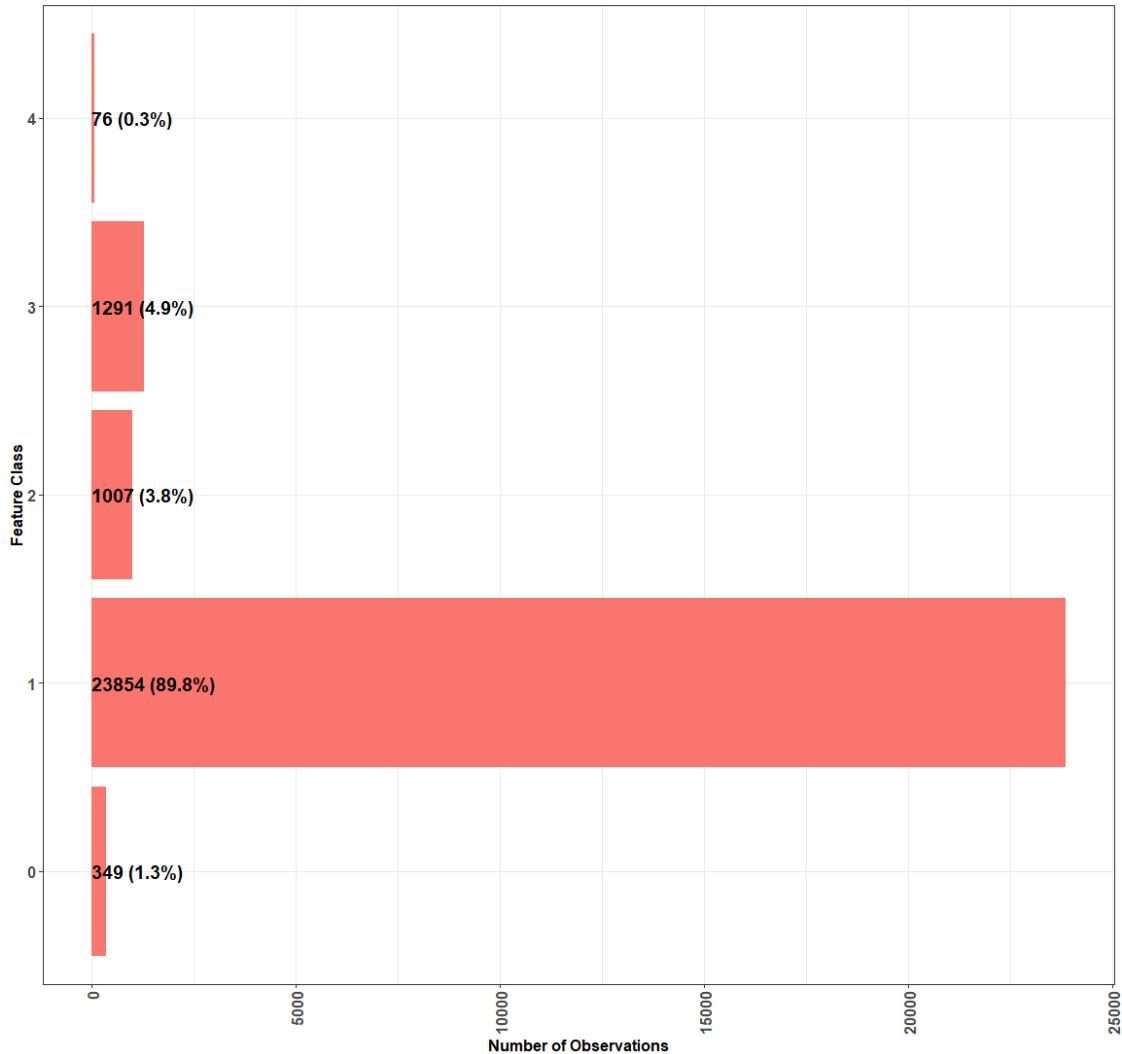
Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data>All 2011.csv



```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
## DATA>All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value Counter Percentage
## ----- -----
## 0 349 1.313
## 1 23854 89.754
## 2 1007 3.789
## 3 1291 4.858
## 4 76 0.286
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2012.csv



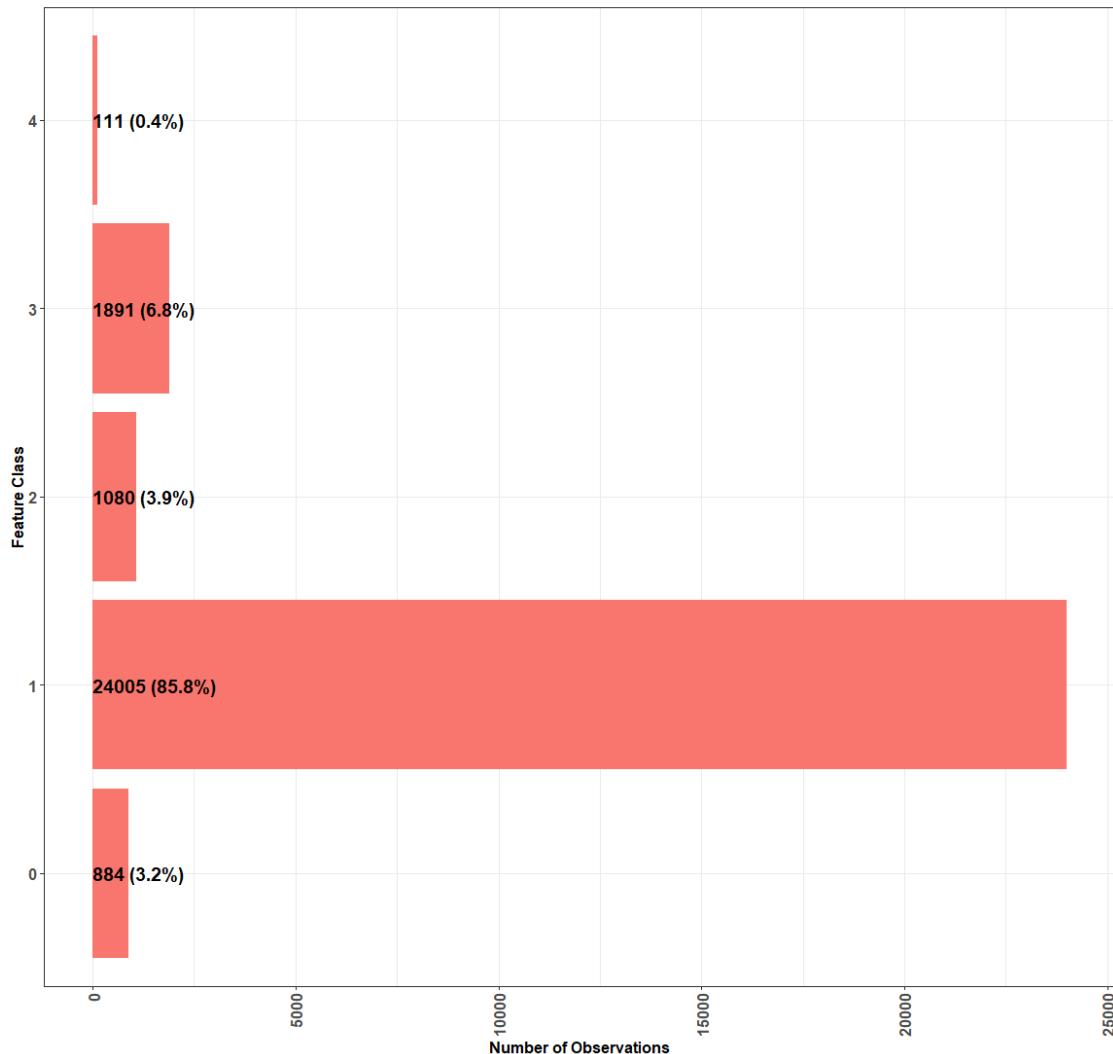
```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
```



```
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                884        3.1604
## 1                24005       85.8210
## 2                1080       3.8611
## 3                1891       6.7606
## 4                111        0.3968
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS

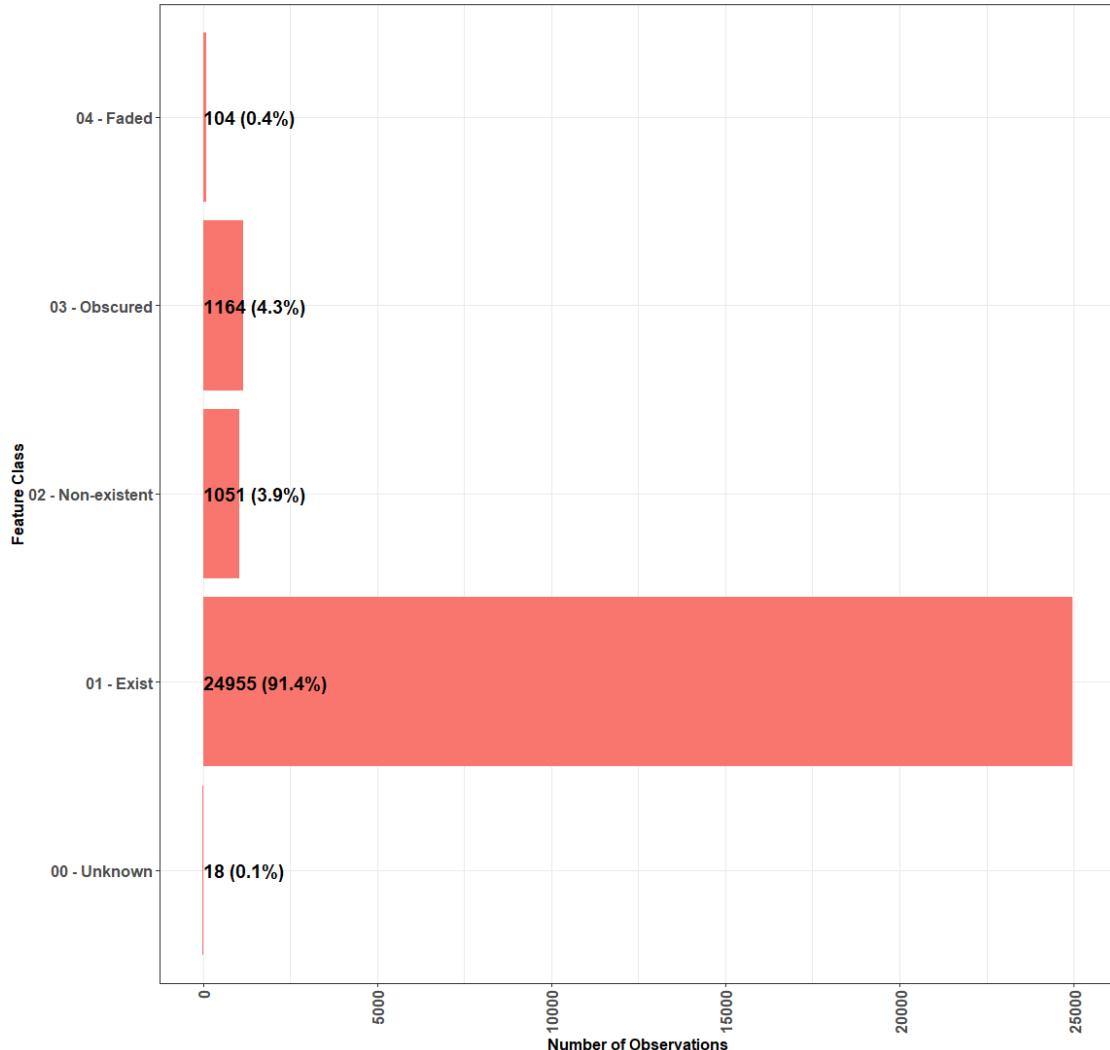
Data:All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  
##  
## Feature Value Counter Percentage  
## -----
```

## 00 - Unknown	18	0.0660
## 01 - Exist	24955	91.4371
## 02 - Non-existent	1051	3.8509
## 03 - Obscured	1164	4.2650
## 04 - Faded	104	0.3811

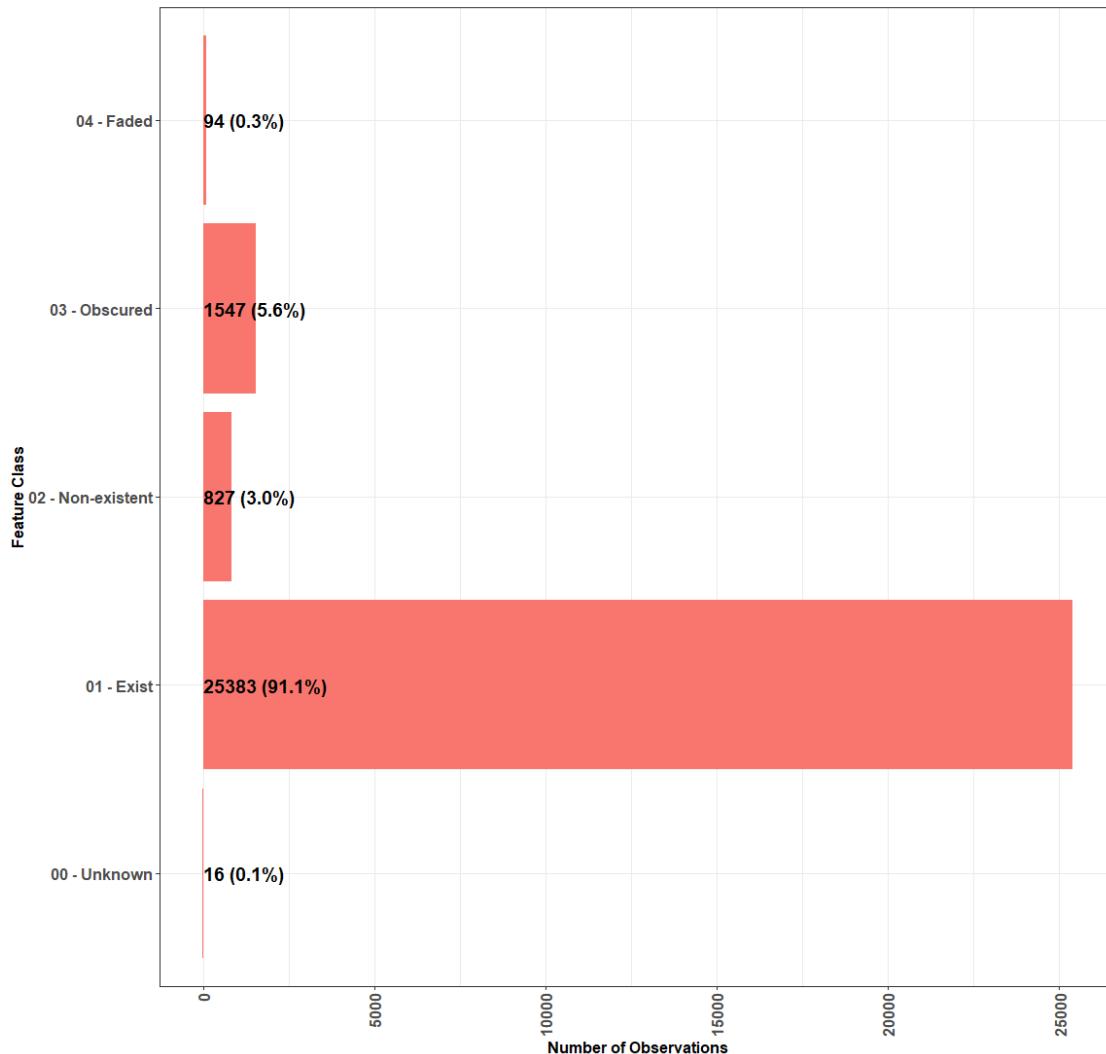
Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2014.csv



```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
## DATA:All 2015.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 16 0.0574
## 01 - Exist 25383 91.0862
## 02 - Non-existent 827 2.9677
## 03 - Obscured 1547 5.5514
## 04 - Faded 94 0.3373
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2015.csv

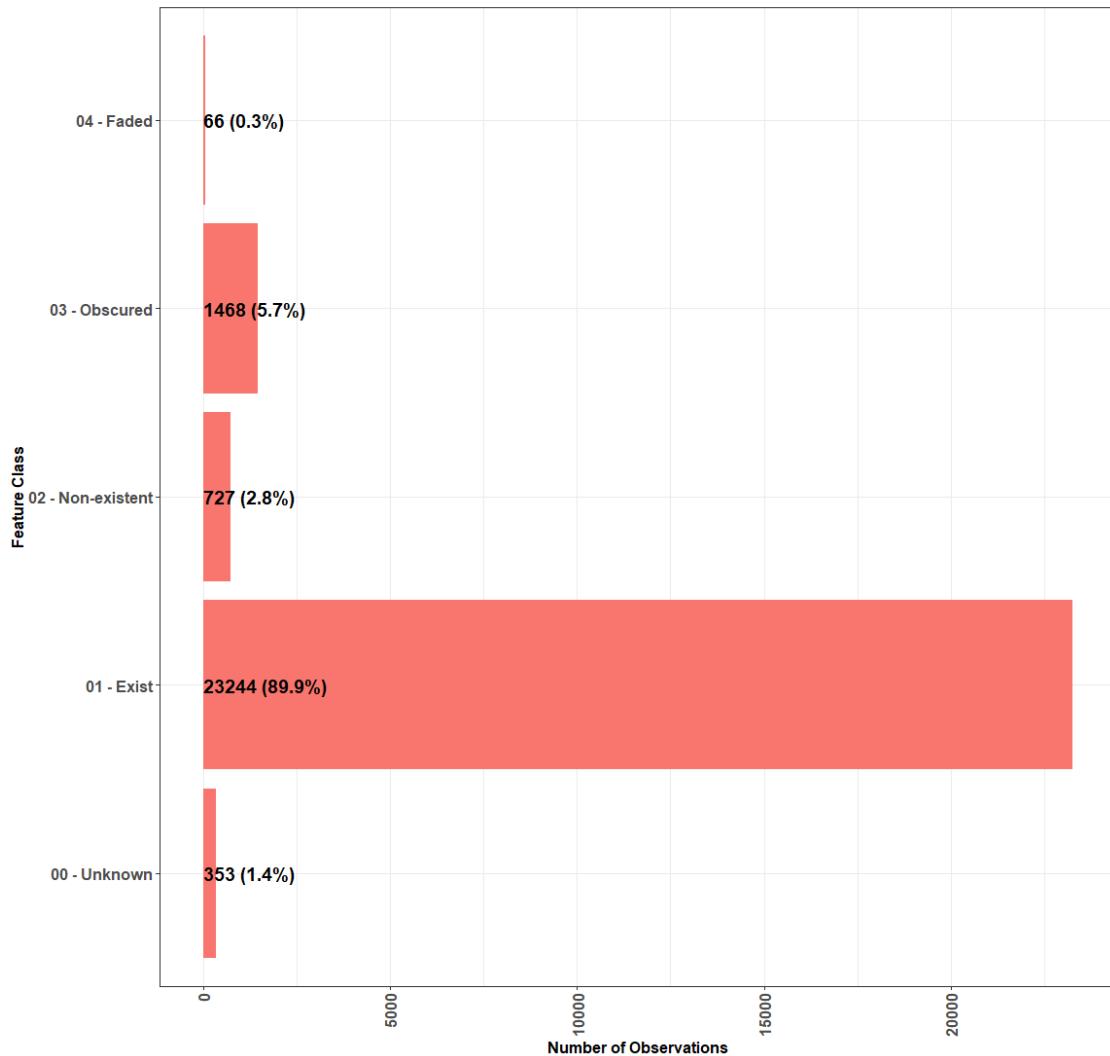


```
##
## -----
## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
```



```
## DATA:All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS
##
## Feature Value      Counter   Percentage
## ----- -----
## 00 - Unknown       353       1.3651
## 01 - Exist          23244     89.8909
## 02 - Non-existent   727       2.8115
## 03 - Obscured        1468      5.6772
## 04 - Faded           66        0.2552
```

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2016.csv



```
##  

## -----  

## CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 5  

##  

## TOP 100 FEATURES OF ROAD_PAVEMENT_MARKINGS  

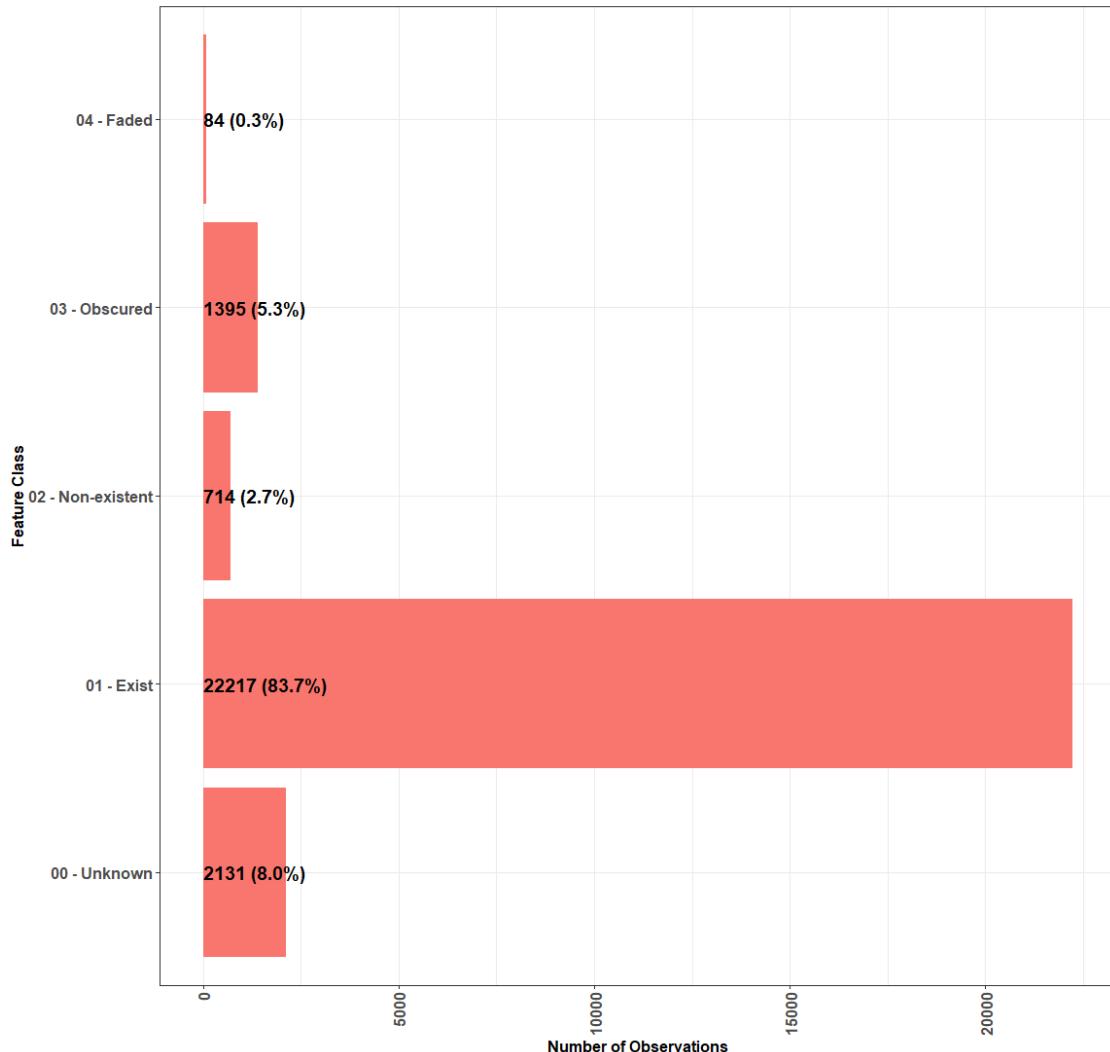
##  

## Feature Value Counter Percentage  

## -----
```

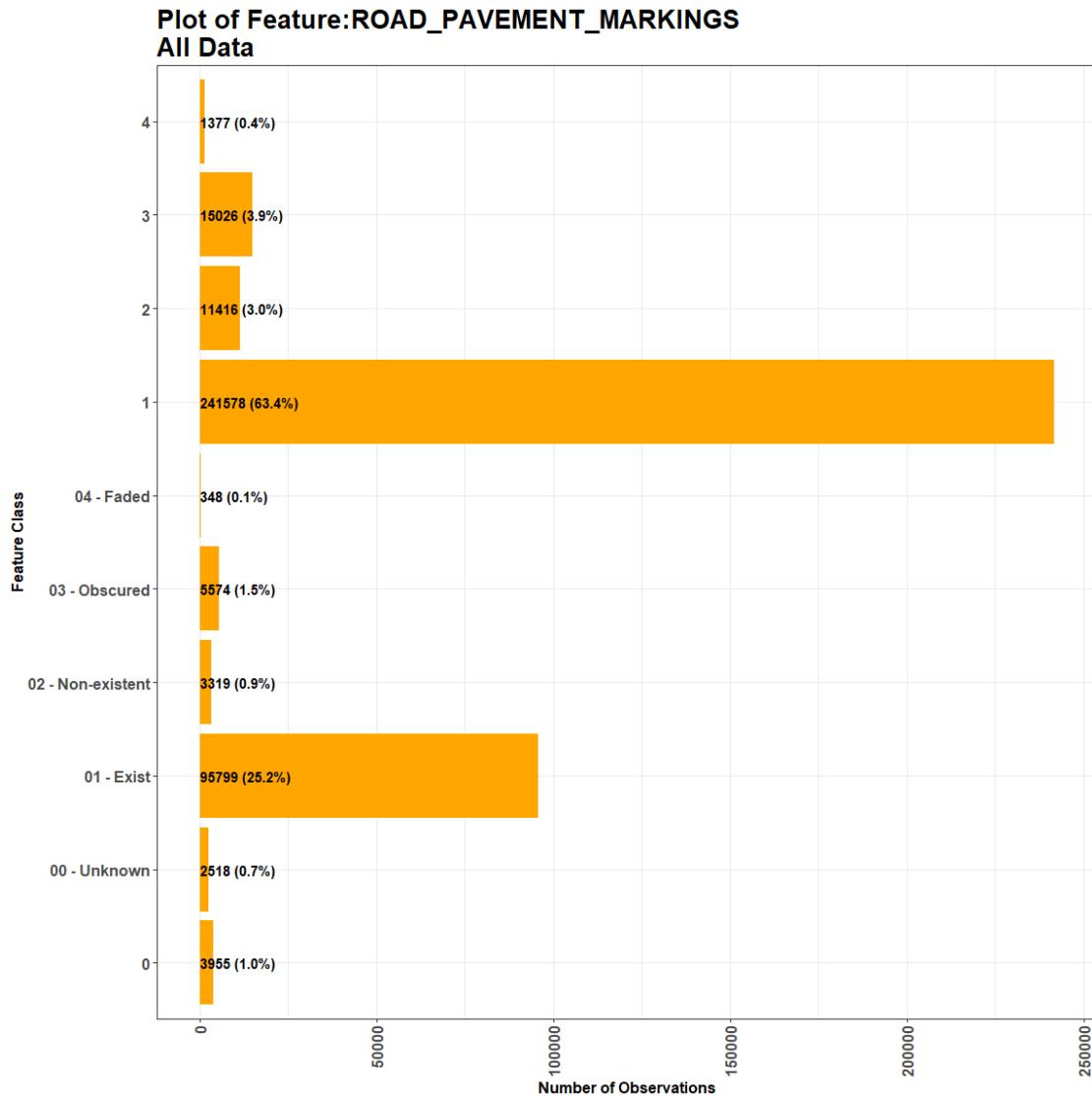
## 00 - Unknown	2131	8.0291
## 01 - Exist	22217	83.7082
## 02 - Non-existent	714	2.6902
## 03 - Obscured	1395	5.2560
## 04 - Faded	84	0.3165

Plot of Feature:ROAD_PAVEMENT_MARKINGS
Data:All 2017.csv



```
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_PAVEMENT_MARKINGS
## ALL DATA...
## =====
## Number of Blank Values:0
##
## Summary per Data File:
```

```
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
##
## Summary as Factor Feature:
## Number of Features: 10
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_PAVEMENT_MARKINGS"
```

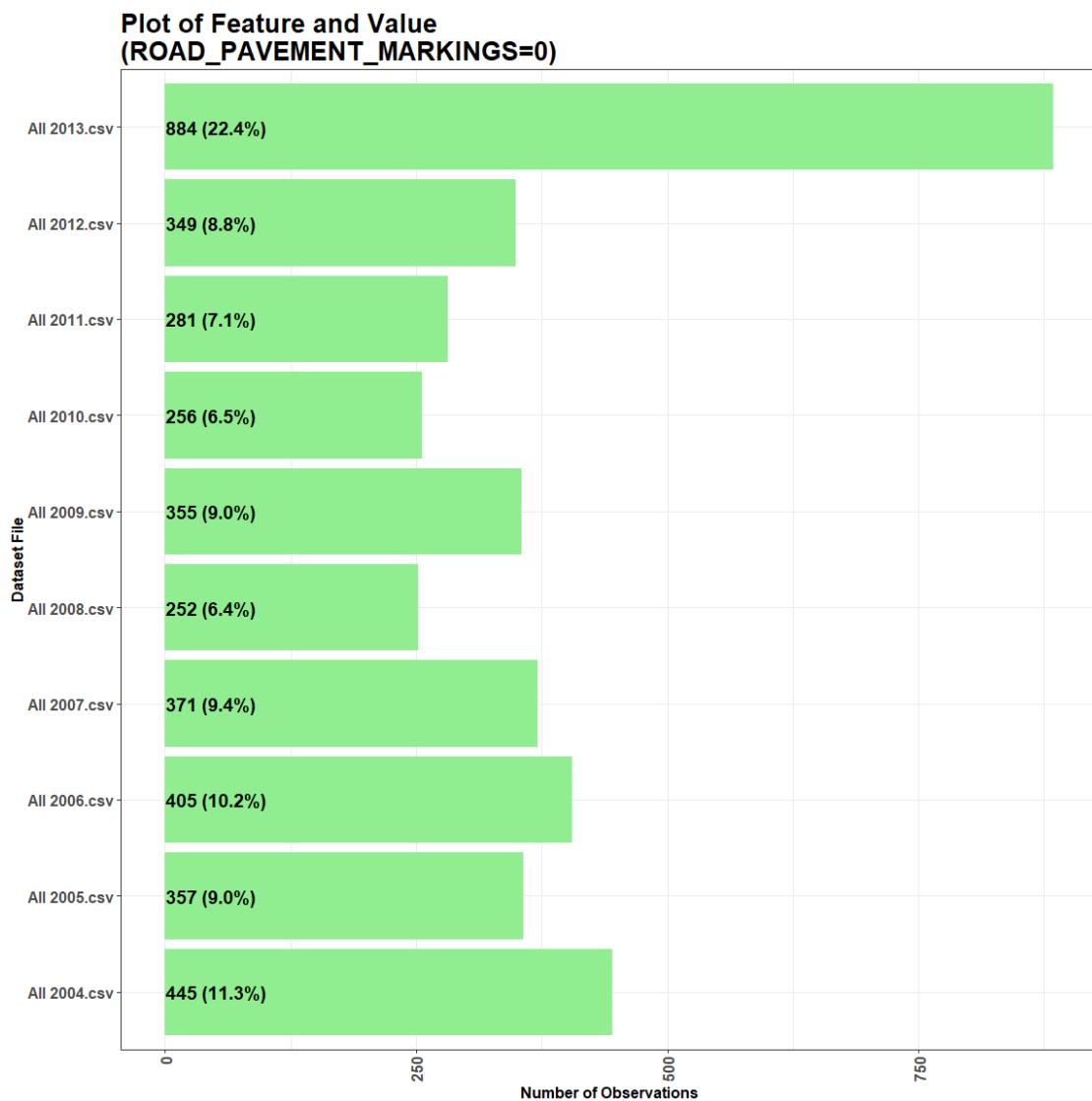
Feature Value	Counter	Percentage
0	3955	1.0383



00 - Unknown	2518	0.6610
01 - Exist	95799	25.1500
02 - Non-existent	3319	0.8713
03 - Obscured	5574	1.4633
04 - Faded	348	0.0914
1	241578	63.4213
2	11416	2.9970
3	15026	3.9448
4	1377	0.3615

15.1 ROAD_PAVEMENT_MARKINGS = “0”

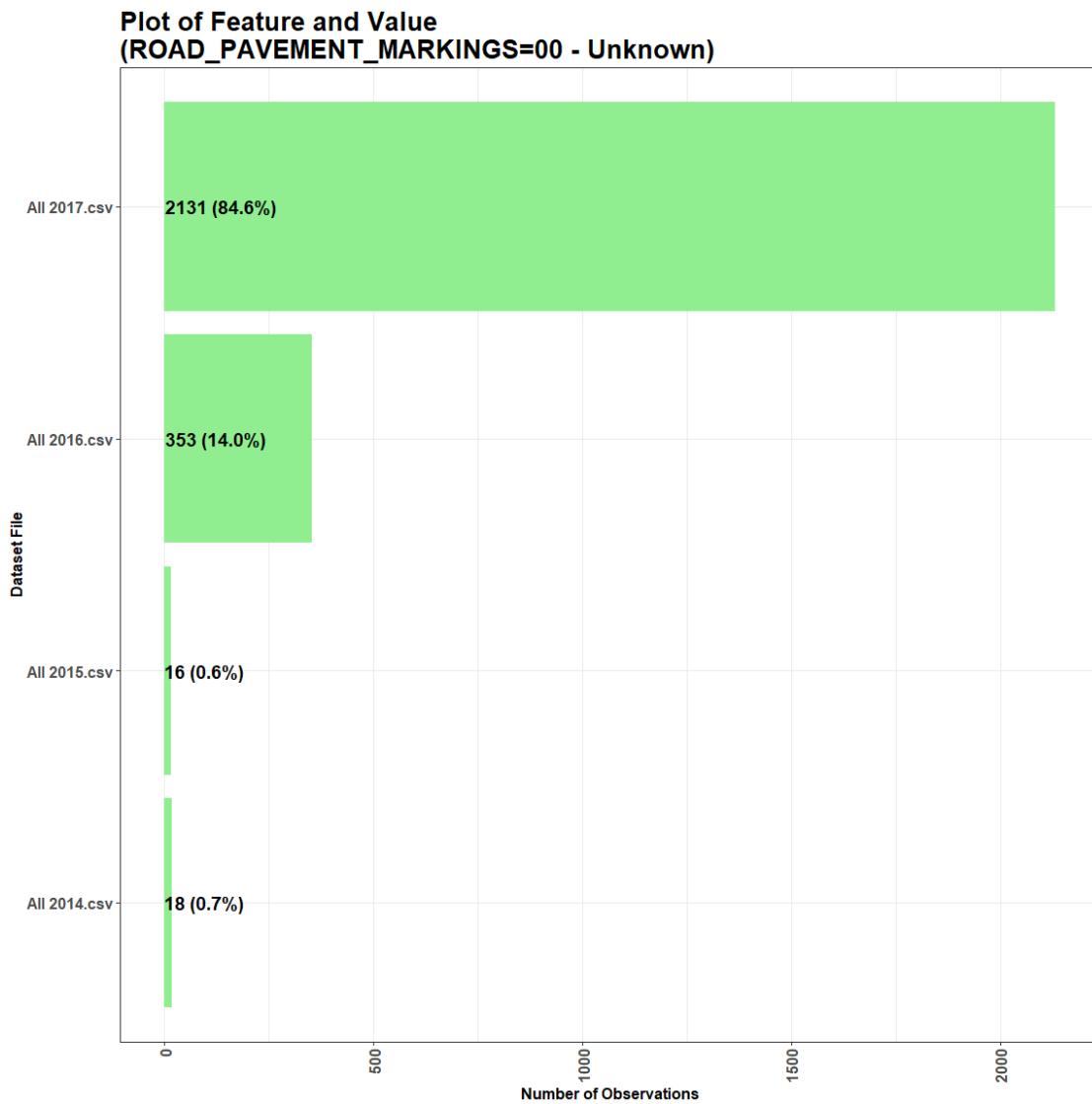
```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_PAVEMENT_MARKINGS=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      445      357      405      371      252  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      355      256      281      349      884
```



DATASET FILE	COUNTER OF (ROAD_PAVEMENT_MARKINGS=0)	Percentage
All 2004.csv	445	11.252
All 2005.csv	357	9.027
All 2006.csv	405	10.240
All 2007.csv	371	9.380
All 2008.csv	252	6.372
All 2009.csv	355	8.976
All 2010.csv	256	6.473
All 2011.csv	281	7.105
All 2012.csv	349	8.824
All 2013.csv	884	22.352

15.2 ROAD_PAVEMENT_MARKINGS = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_PAVEMENT_MARKINGS=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          18           16          353         2131
```



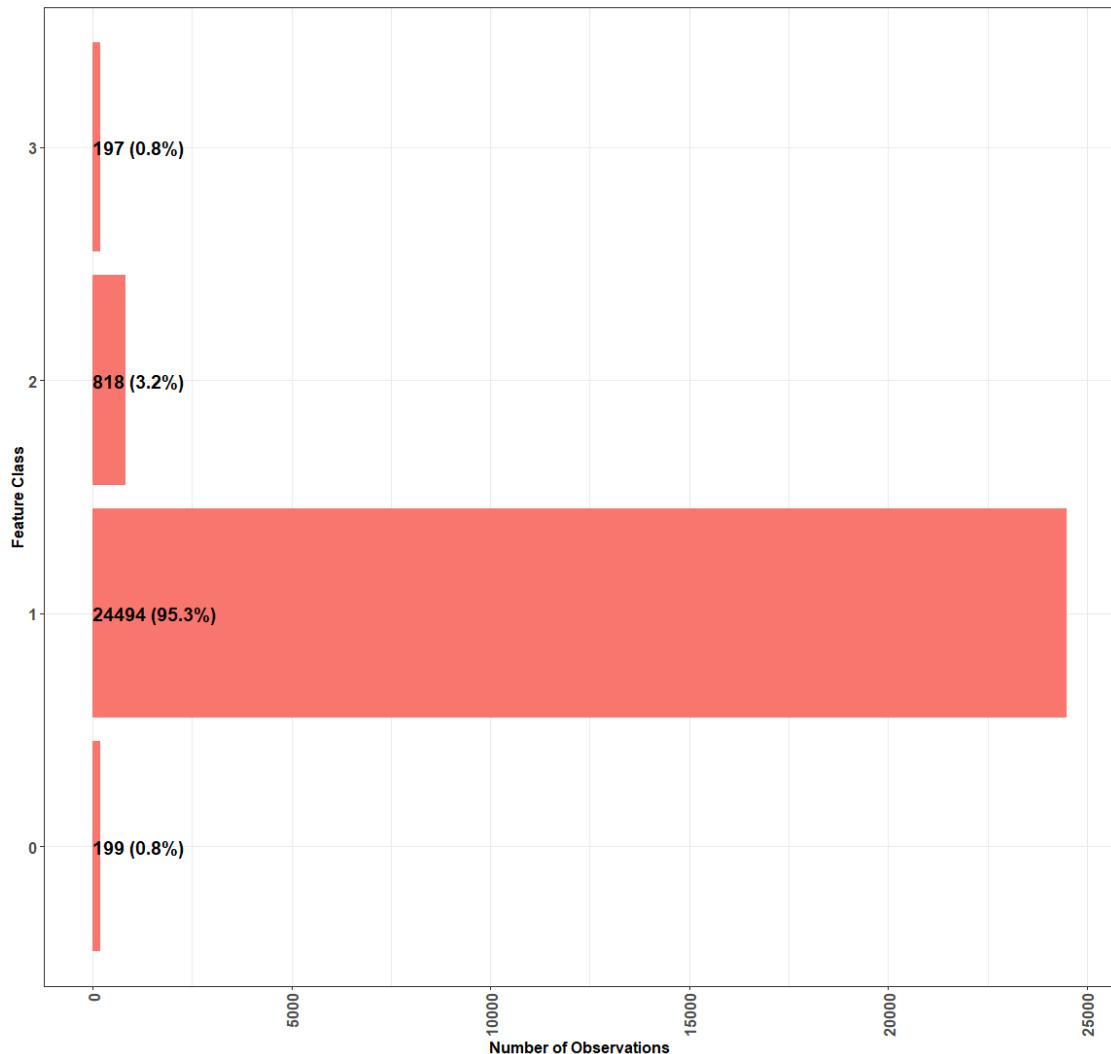
DATASET FILE	COUNTER OF (ROAD_PAVEMENT_MARKINGS=00 - Unknown)	Percentage
All 2014.csv	18	0.7149
All 2015.csv	16	0.6354

All 2016.csv	353	14.0191
All 2017.csv	2131	84.6307

16. Road Condition (ROAD_CONDITION)

```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 199 0.7741  
## 1 24494 95.2777  
## 2 818 3.1819  
## 3 197 0.7663
```

Plot of Feature:ROAD_CONDITION
Data>All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:ROAD_CONDITION  

## DATA>All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 4  

##  

## TOP 100 FEATURES OF ROAD_CONDITION  

##  

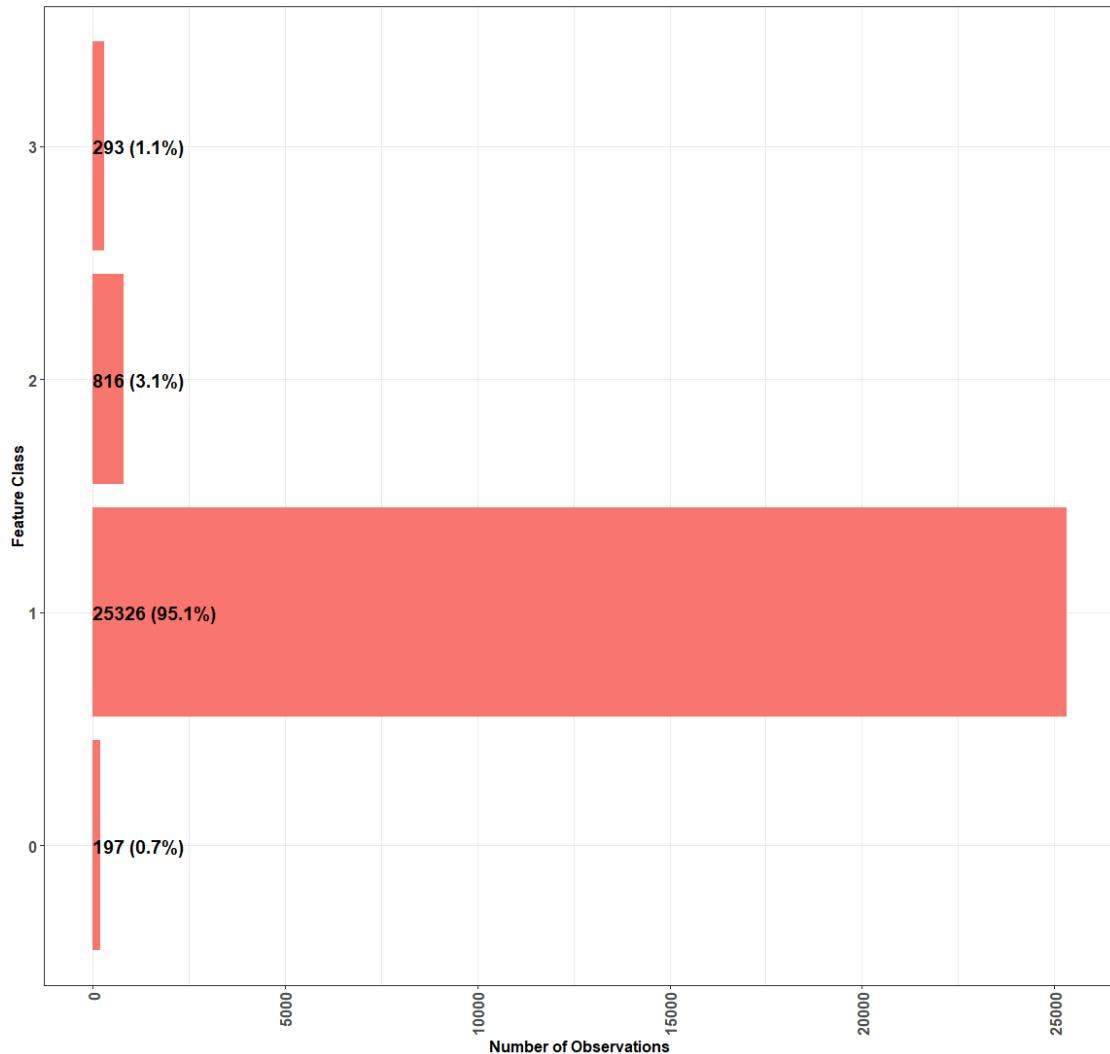
## Feature Value   Counter   Percentage  

## -----
```

```
## 0           197      0.7397
## 1          25326     95.0961
## 2            816      3.0640
## 3            293      1.1002
```

Plot of Feature:ROAD_CONDITION

Data:All 2005.csv

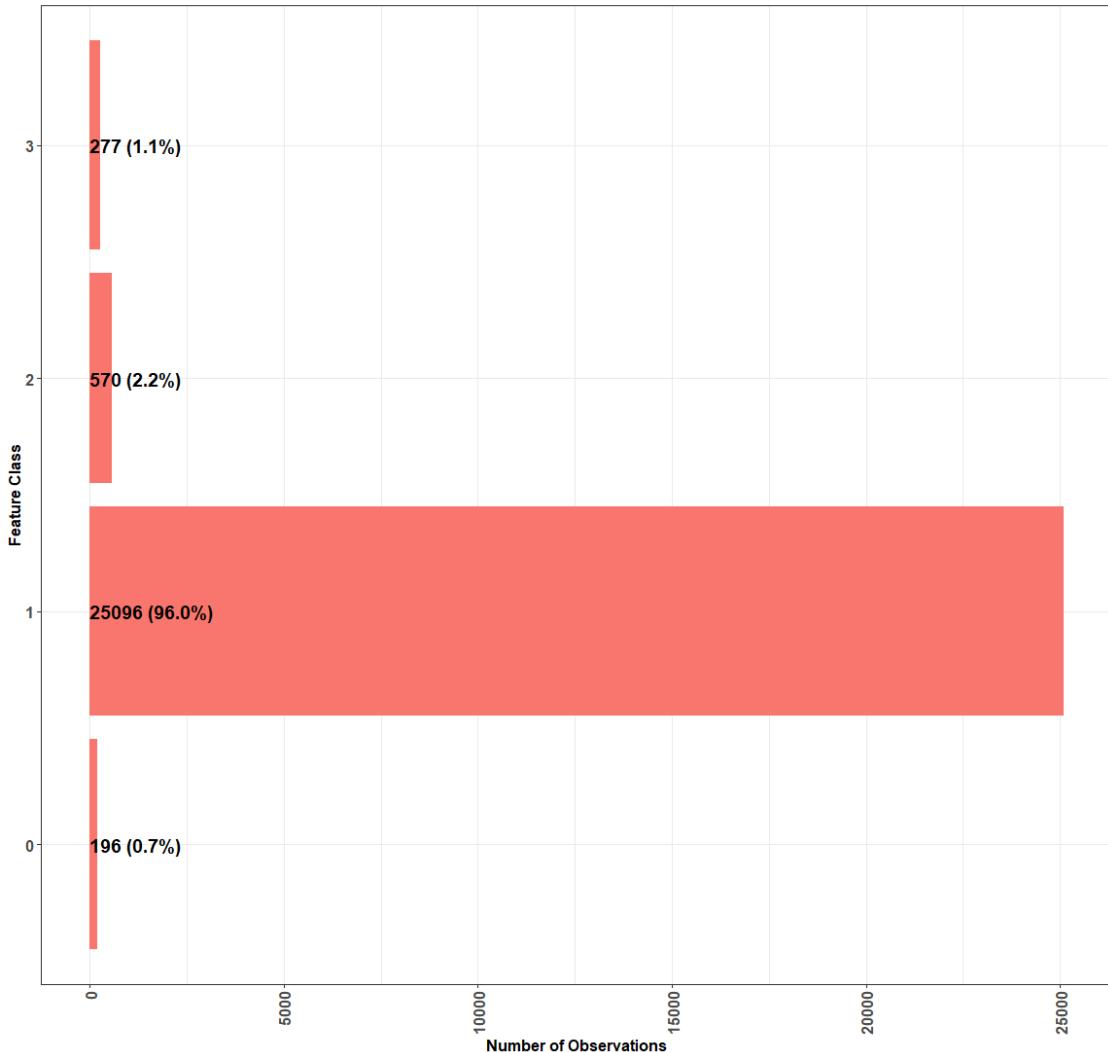


```
##
## -----
## CHECKING FEATURE:ROAD_CONDITION
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 196 0.7498  
## 1 25096 96.0098  
## 2 570 2.1806  
## 3 277 1.0597
```

Plot of Feature:ROAD_CONDITION

Data:All 2006.csv



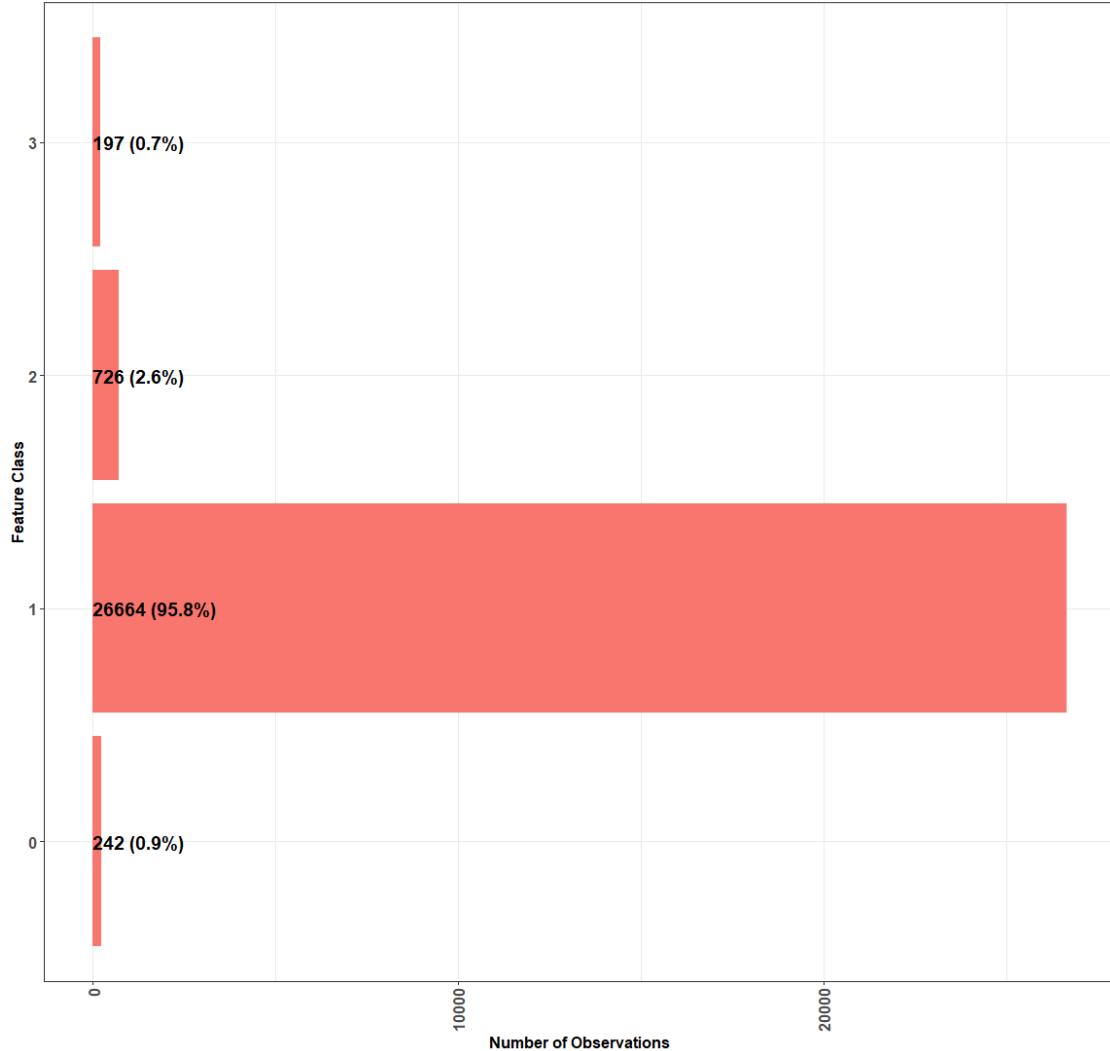
```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2007.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
##
## TOP 100 FEATURES OF ROAD_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 242 0.8696
## 1 26664 95.8137
## 2 726 2.6088
## 3 197 0.7079

```

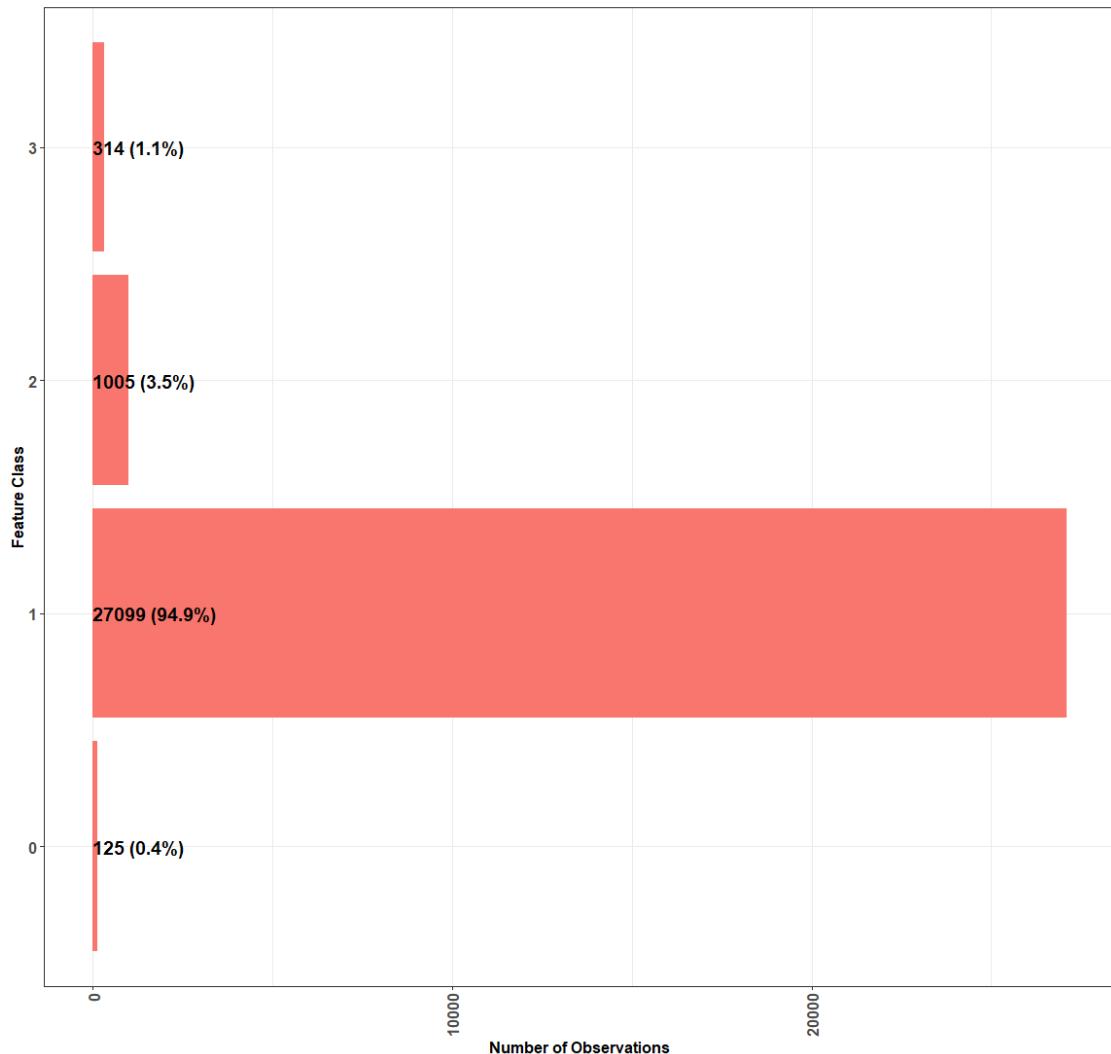
**Plot of Feature:ROAD_CONDITION
Data:All 2007.csv**





```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 125 0.4379  
## 1 27099 94.9410  
## 2 1005 3.5210  
## 3 314 1.1001
```

Plot of Feature:ROAD_CONDITION Data>All 2008.csv

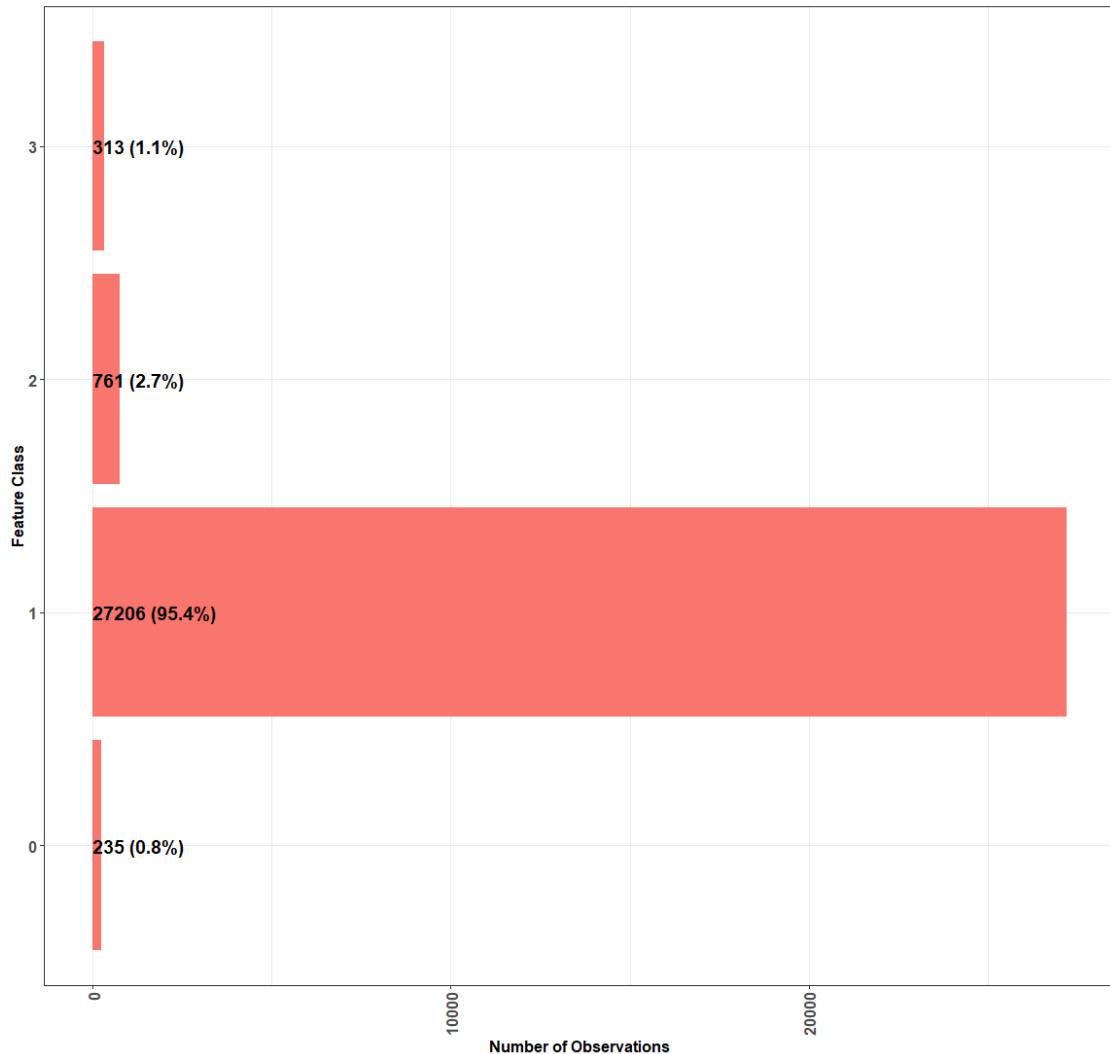


```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           235      0.8241
## 1          27206     95.4094
## 2            761      2.6688
## 3            313      1.0977
```

Plot of Feature:ROAD_CONDITION

Data:All 2009.csv

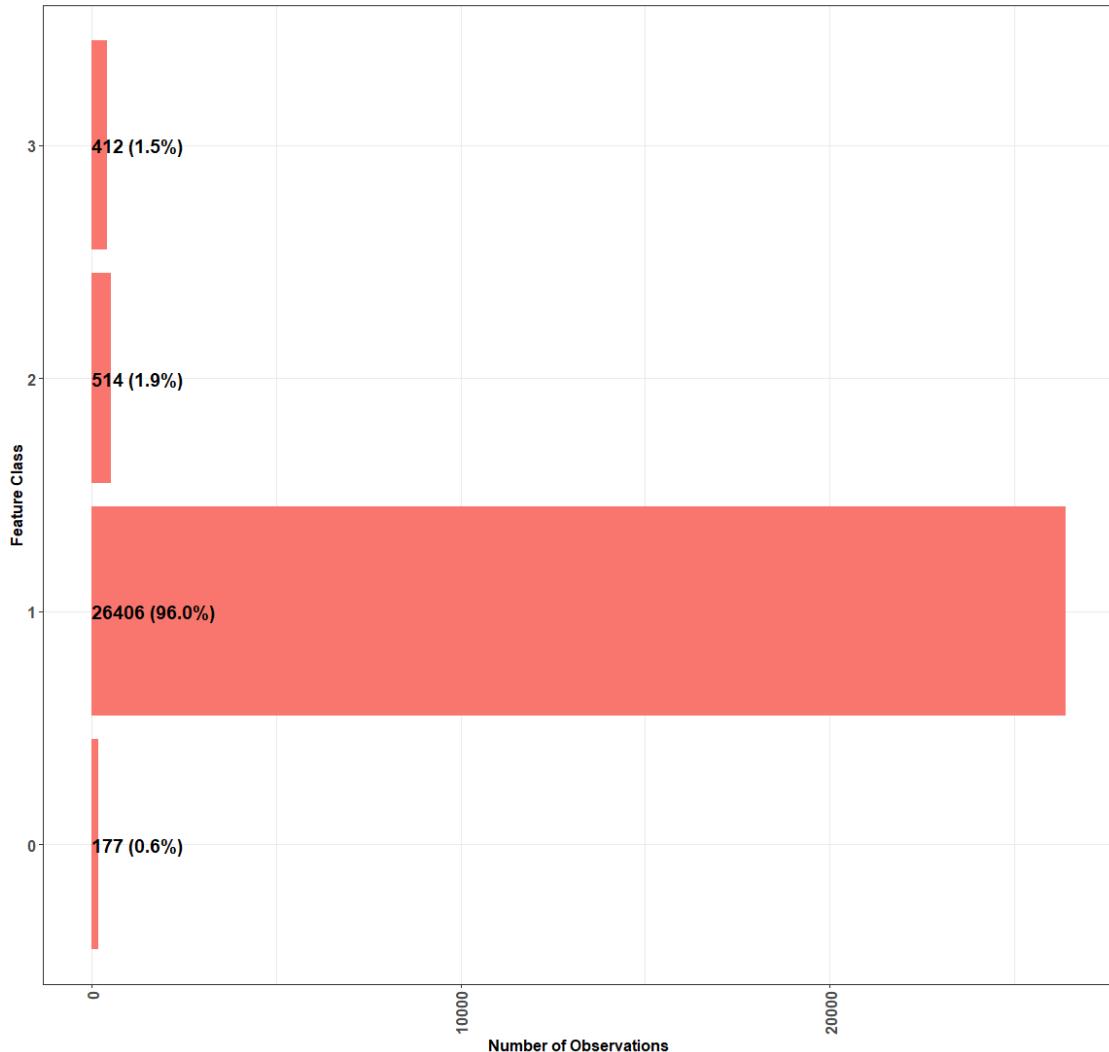


```
##
## -----
## CHECKING FEATURE:ROAD_CONDITION
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 177 0.6434  
## 1 26406 95.9904  
## 2 514 1.8685  
## 3 412 1.4977
```

Plot of Feature:ROAD_CONDITION

Data:All 2010.csv



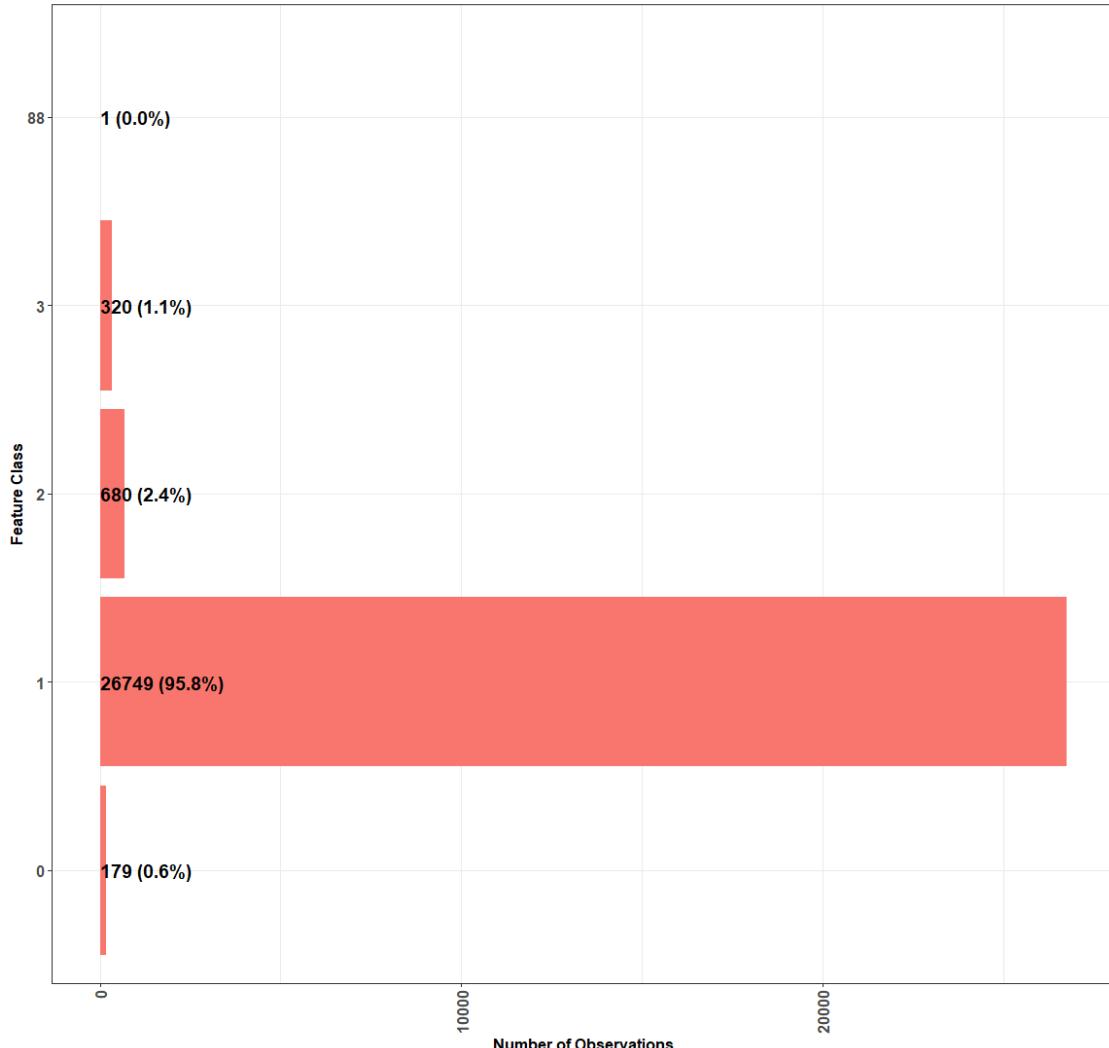
```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2011.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 5
##
## TOP 100 FEATURES OF ROAD_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 179 0.6409
## 1 26749 95.7750
## 2 680 2.4347
## 3 320 1.1458
## 88 1 0.0036

```

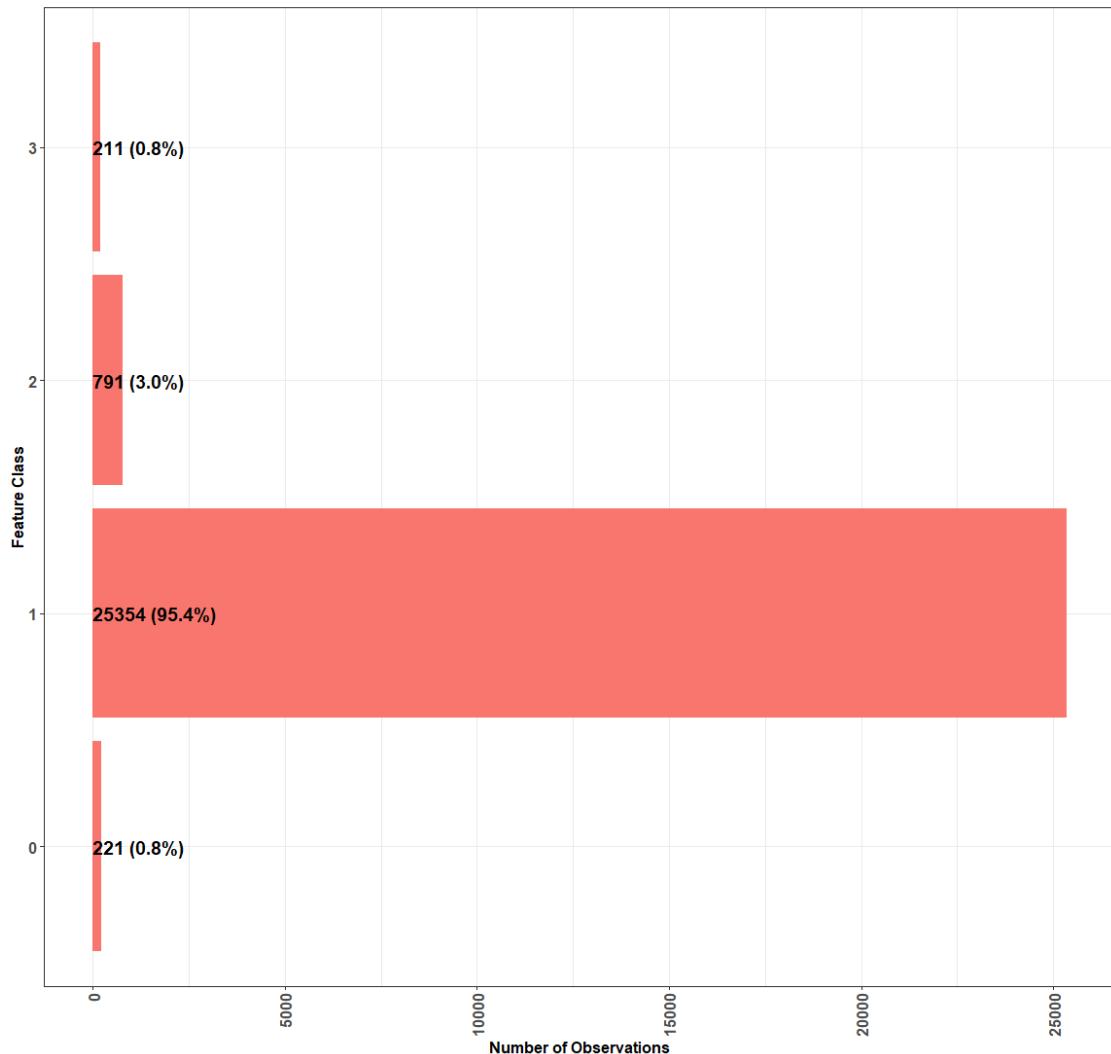
Plot of Feature:ROAD_CONDITION
Data:All 2011.csv





```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 221 0.8315  
## 1 25354 95.3983  
## 2 791 2.9763  
## 3 211 0.7939
```

Plot of Feature:ROAD_CONDITION Data>All 2012.csv

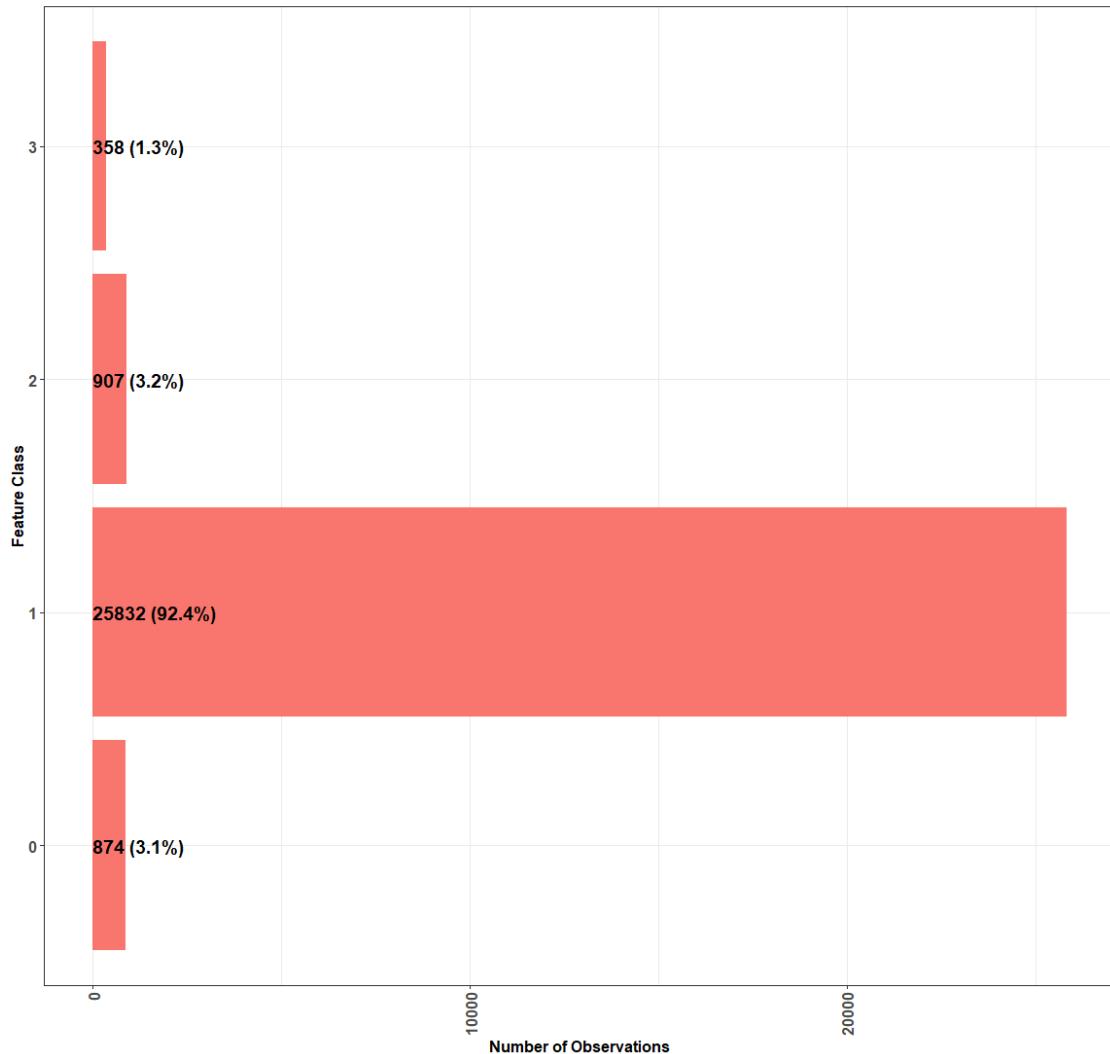


```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA>All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           874      3.125
## 1          25832     92.353
## 2           907      3.243
## 3           358      1.280
```

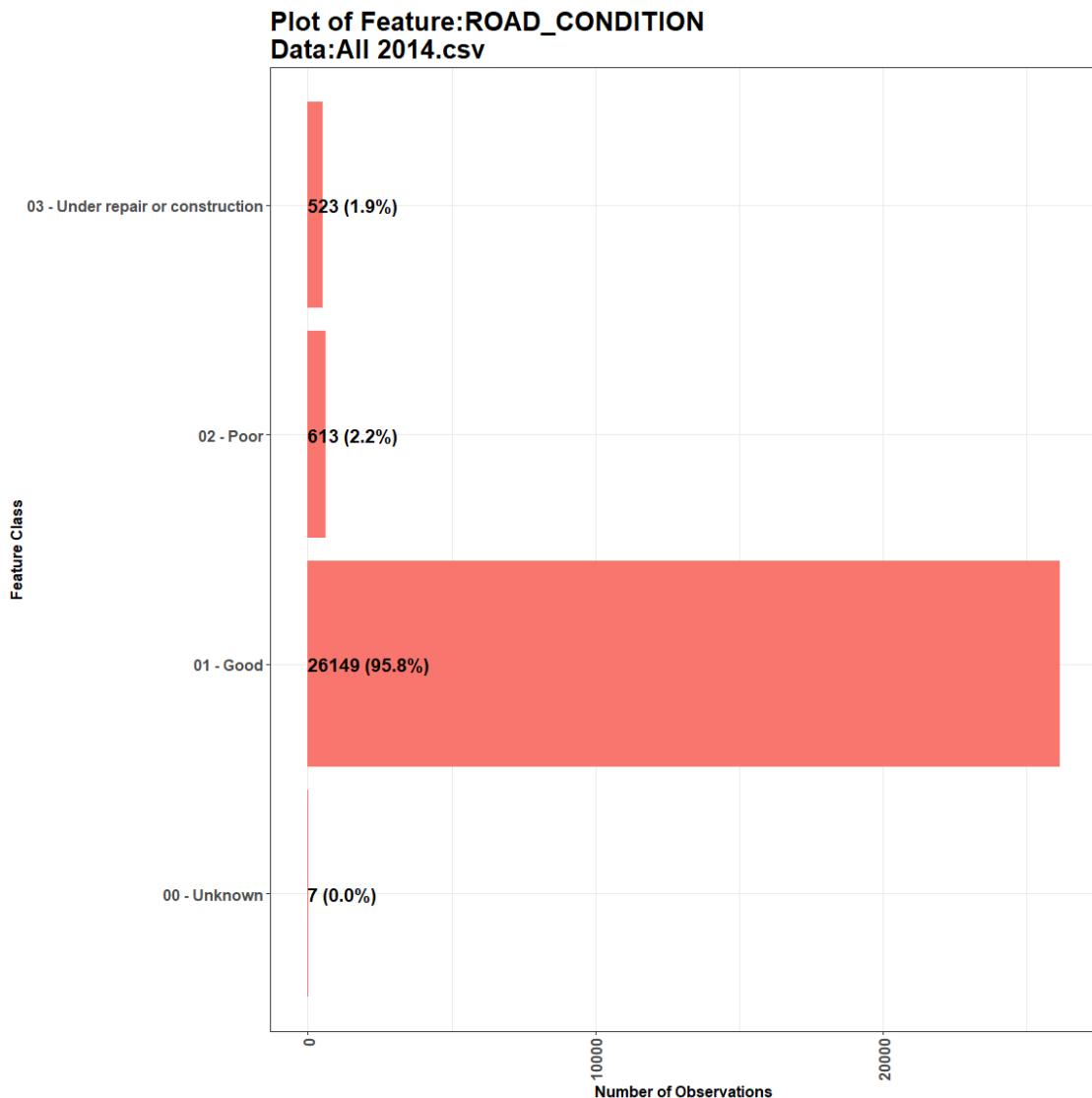
Plot of Feature:ROAD_CONDITION

Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:ROAD_CONDITION
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
```

```
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 7 0.0256  
## 01 - Good 26149 95.8120  
## 02 - Poor 613 2.2461  
## 03 - Under repair or construction 523 1.9163
```



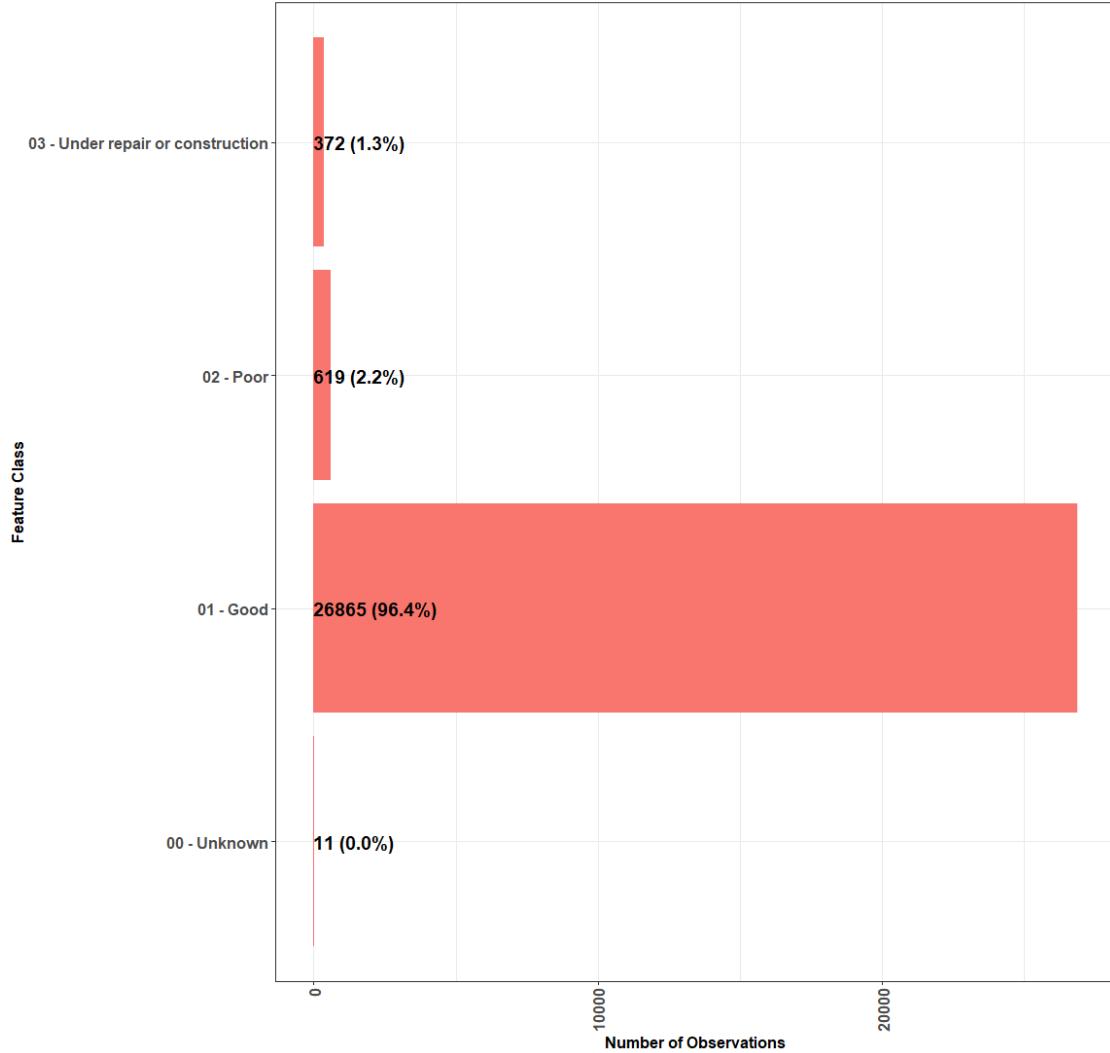
```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2015.csv...  
##
```

```

## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 4
##
## TOP 100 FEATURES OF ROAD_CONDITION
##
## Feature Value          Counter   Percentage
## -----                  -----   -----
## 00 - Unknown           11       0.0395
## 01 - Good              26865    96.4043
## 02 - Poor              619      2.2213
## 03 - Under repair or construction 372      1.3349

```

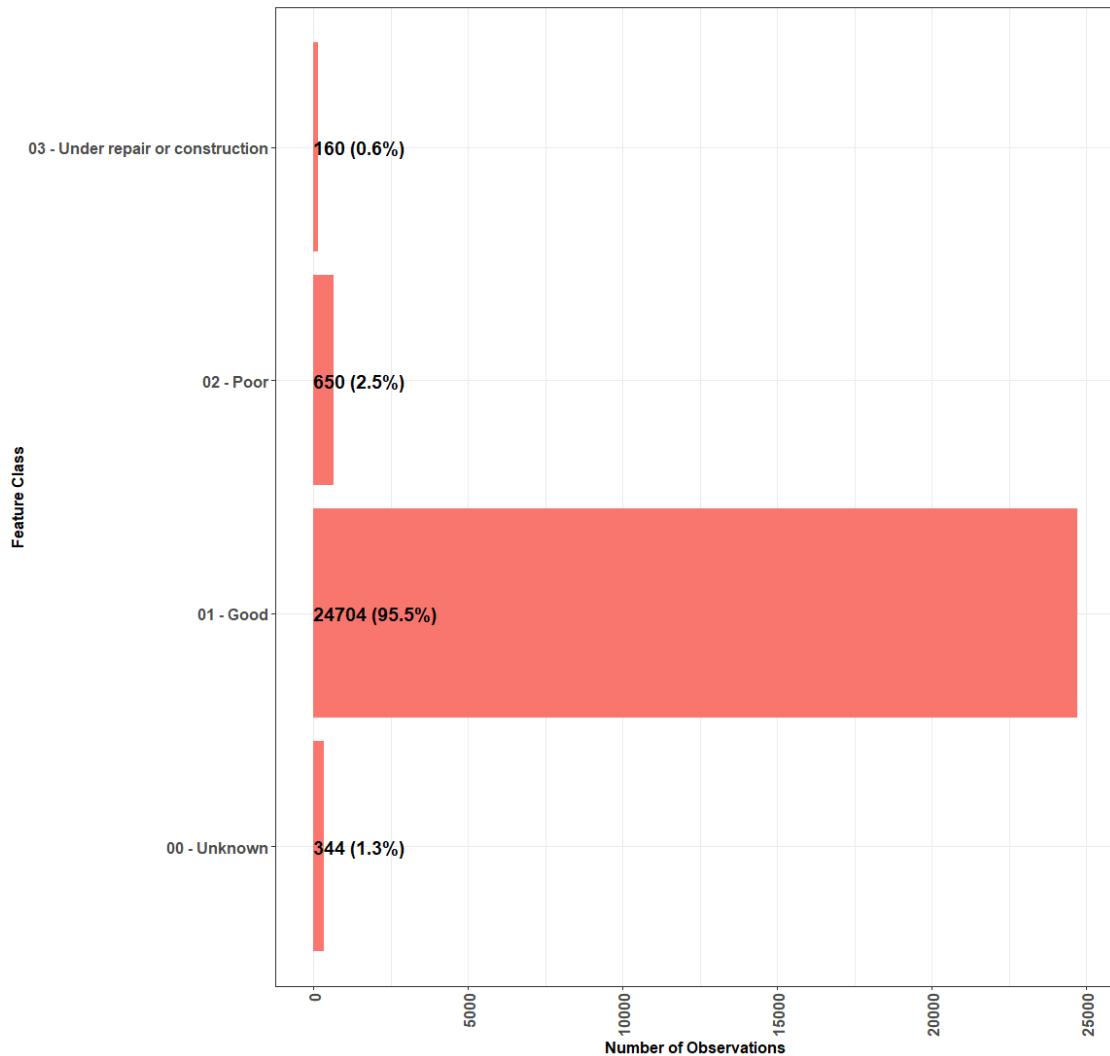
**Plot of Feature:ROAD_CONDITION
Data:All 2015.csv**





```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 344 1.3303  
## 01 - Good 24704 95.5372  
## 02 - Poor 650 2.5137  
## 03 - Under repair or construction 160 0.6188
```

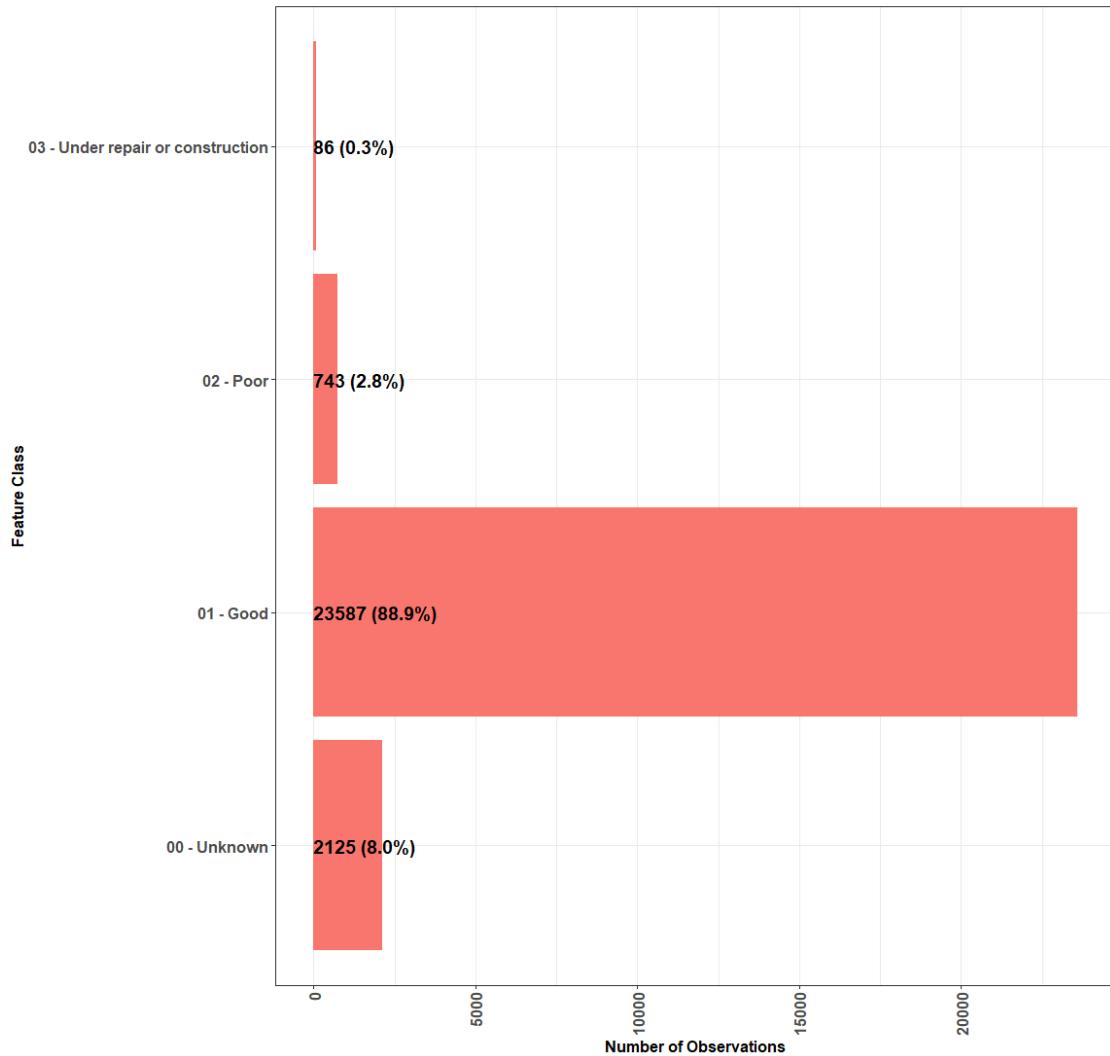
**Plot of Feature:ROAD_CONDITION
Data:All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:ROAD_CONDITION  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 4  
##  
## TOP 100 FEATURES OF ROAD_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

## 00 - Unknown	2125	8.007
## 01 - Good	23587	88.870
## 02 - Poor	743	2.799
## 03 - Under repair or construction	86	0.324

**Plot of Feature:ROAD_CONDITION
Data:All 2017.csv**



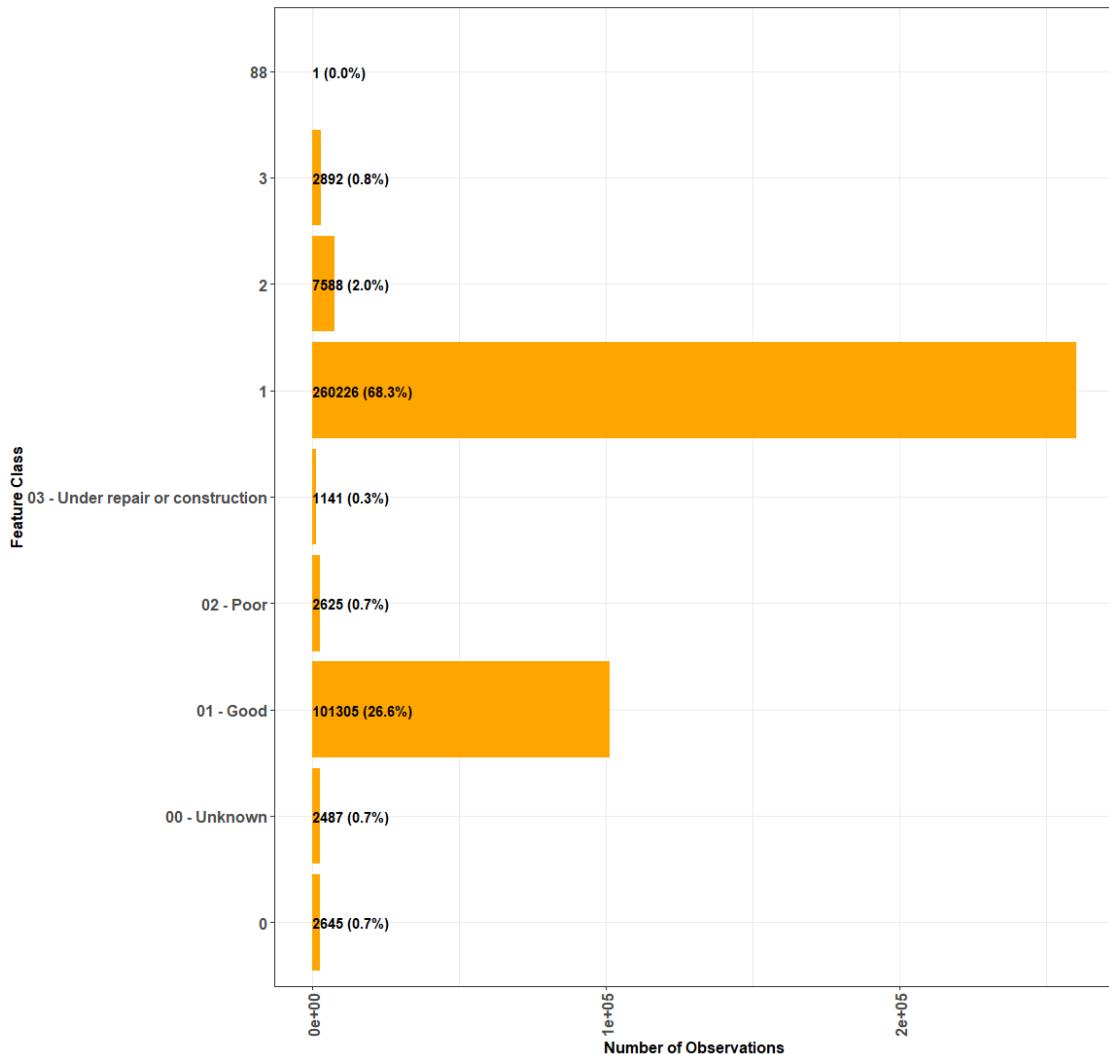
```
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_CONDITION
## ALL DATA...
## =====
## Number of Blank Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      25708     26632     26139     27829     28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515     27509     27929     26577     27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292     27867     25858     26541
##
##  

## Summary as Factor Feature:  

## Number of Features: 9
```

**Plot of Feature:ROAD_CONDITION
All Data**



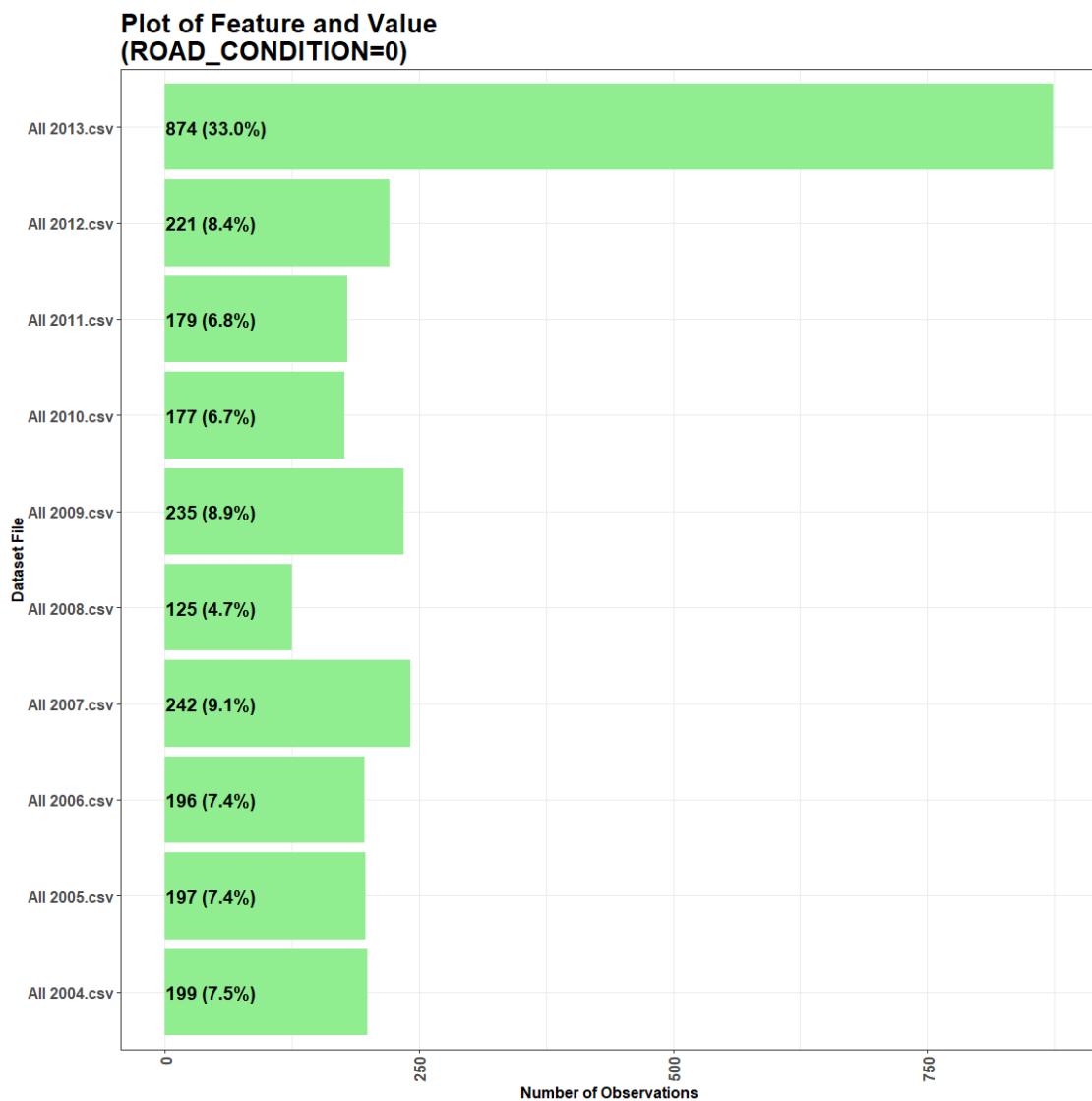
```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_CONDITION"
```

Feature Value	Counter	Percentage
0	2645	0.6944

00 - Unknown	2487	0.6529
01 - Good	101305	26.5955
02 - Poor	2625	0.6891
03 - Under repair or construction	1141	0.2995
1	260226	68.3169
2	7588	1.9921
3	2892	0.7592
88	1	0.0003

16.1 ROAD_CONDITION = "0"

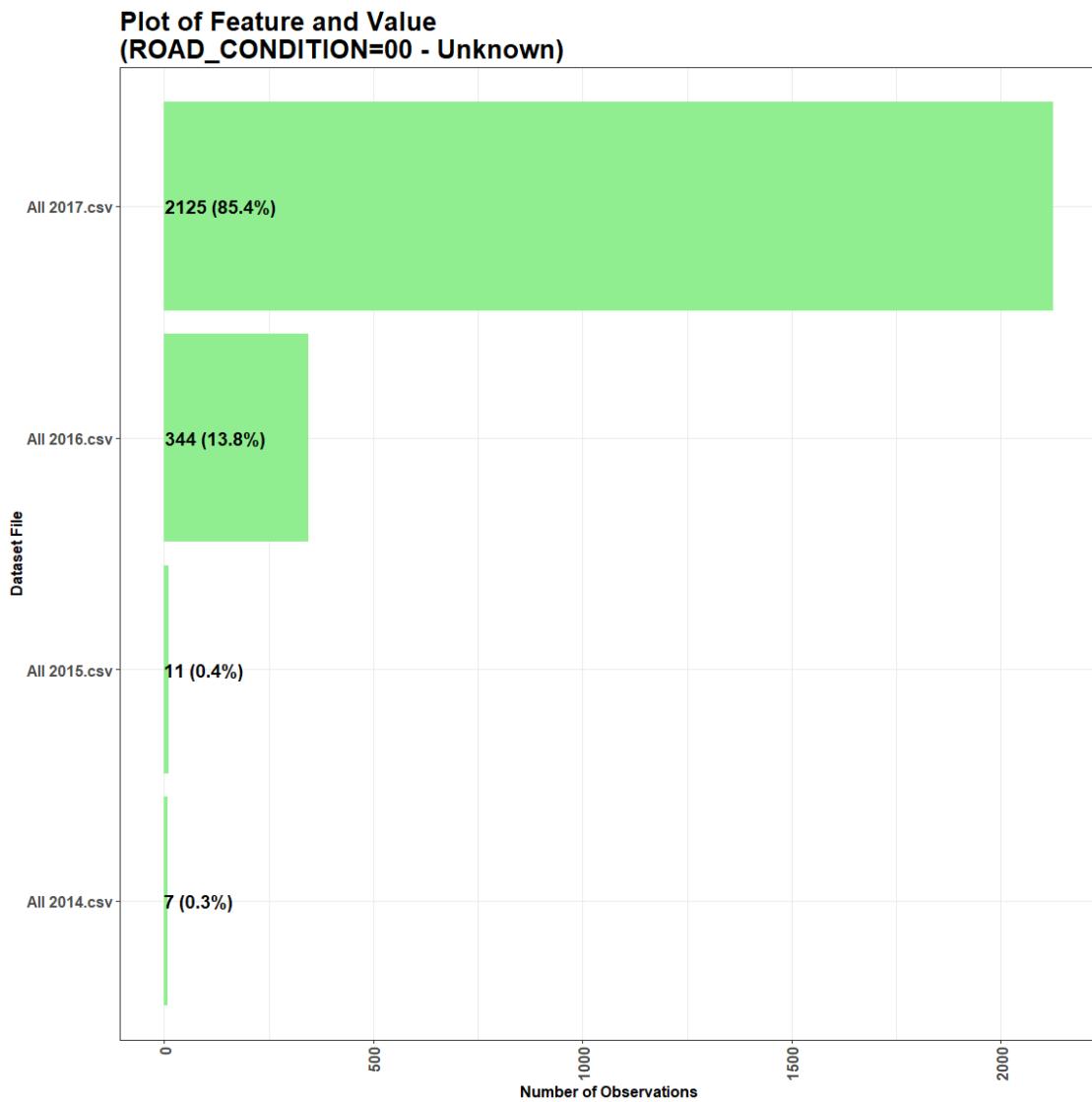
```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_CONDITION=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      199      197      196      242      125  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      235      177      179      221      874
```



DATASET FILE	COUNTER OF (ROAD_CONDITION=0)	Percentage
All 2004.csv	199	7.524
All 2005.csv	197	7.448
All 2006.csv	196	7.410
All 2007.csv	242	9.149
All 2008.csv	125	4.726
All 2009.csv	235	8.885
All 2010.csv	177	6.692
All 2011.csv	179	6.768
All 2012.csv	221	8.355
All 2013.csv	874	33.044

16.2 ROAD_CONDITION = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_CONDITION=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          7           11          344         2125
```



DATASET FILE	COUNTER OF (ROAD_CONDITION=00 - Unknown)	Percentage
All 2014.csv	7	0.2815
All 2015.csv	11	0.4423
All 2016.csv	344	13.8319

All 2017.csv

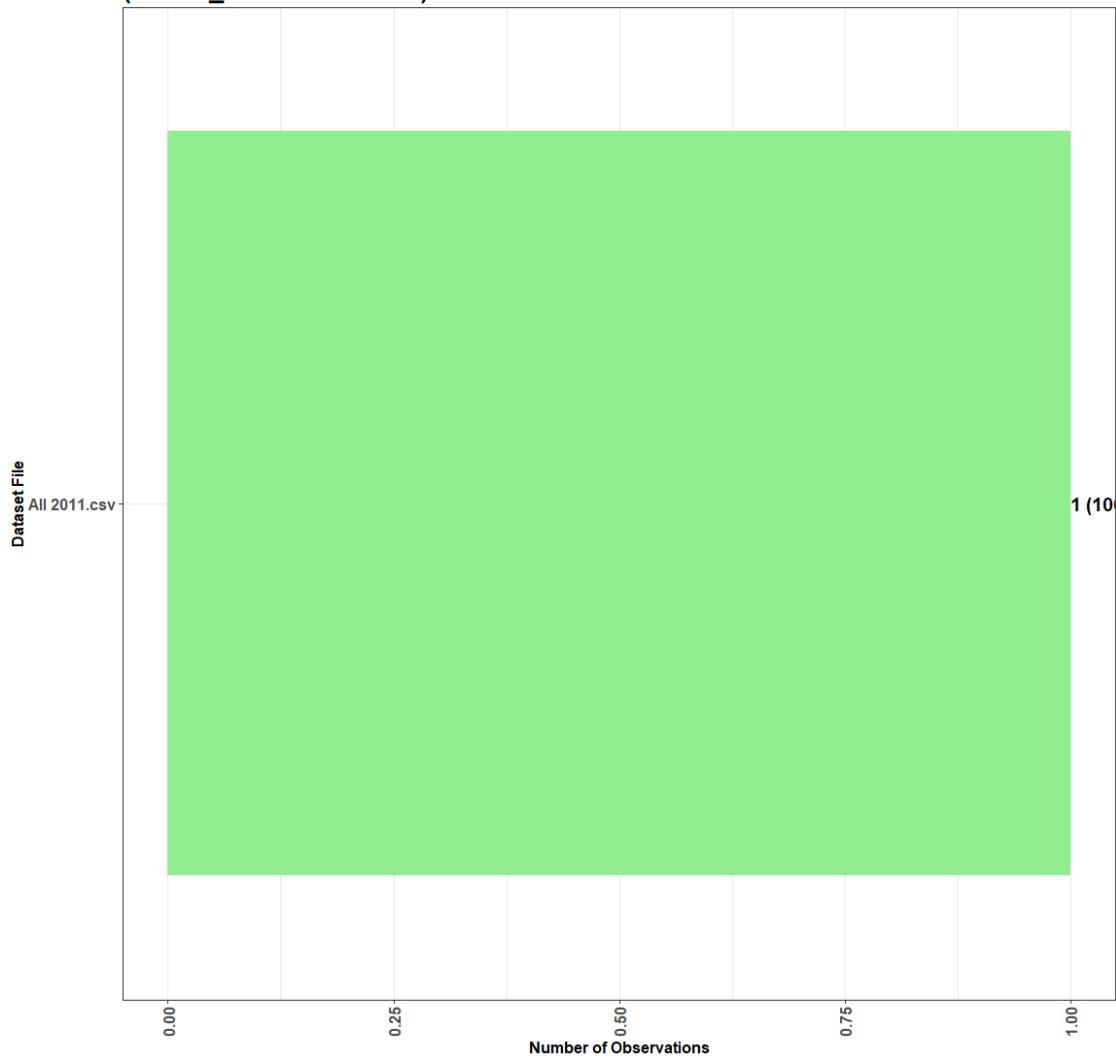
2125

85.4443

16.3 ROAD_CONDITION = "88"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_CONDITION=88)  
##  
## Summary per Data File:  
## All 2011.csv  
## 1
```

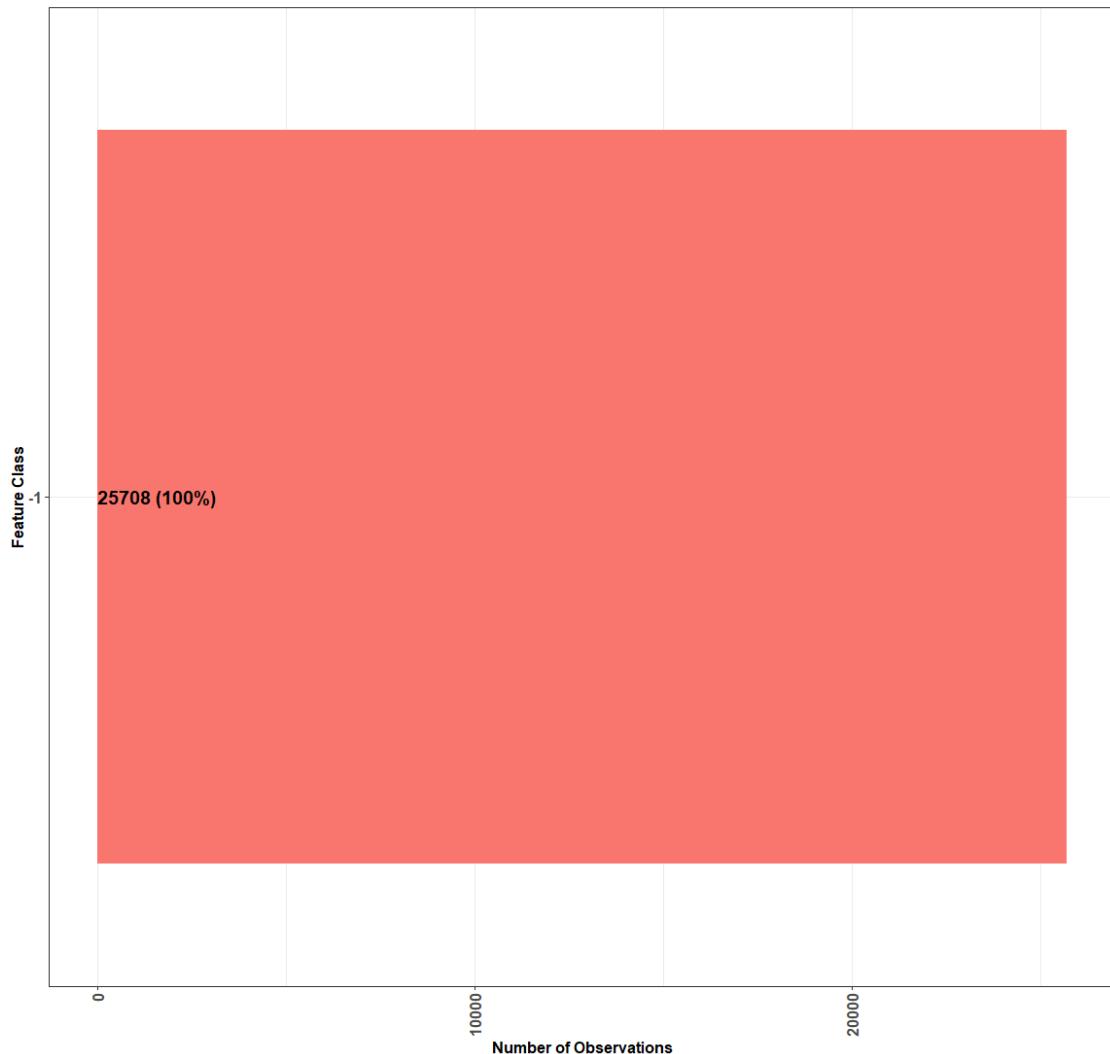
**Plot of Feature and Value
(ROAD_CONDITION=88)**



DATASET FILE	COUNTER OF (ROAD_CONDITION=88)	Percentage
All 2011.csv	1	100

17. Road Surface (ROAD_SURFACE)

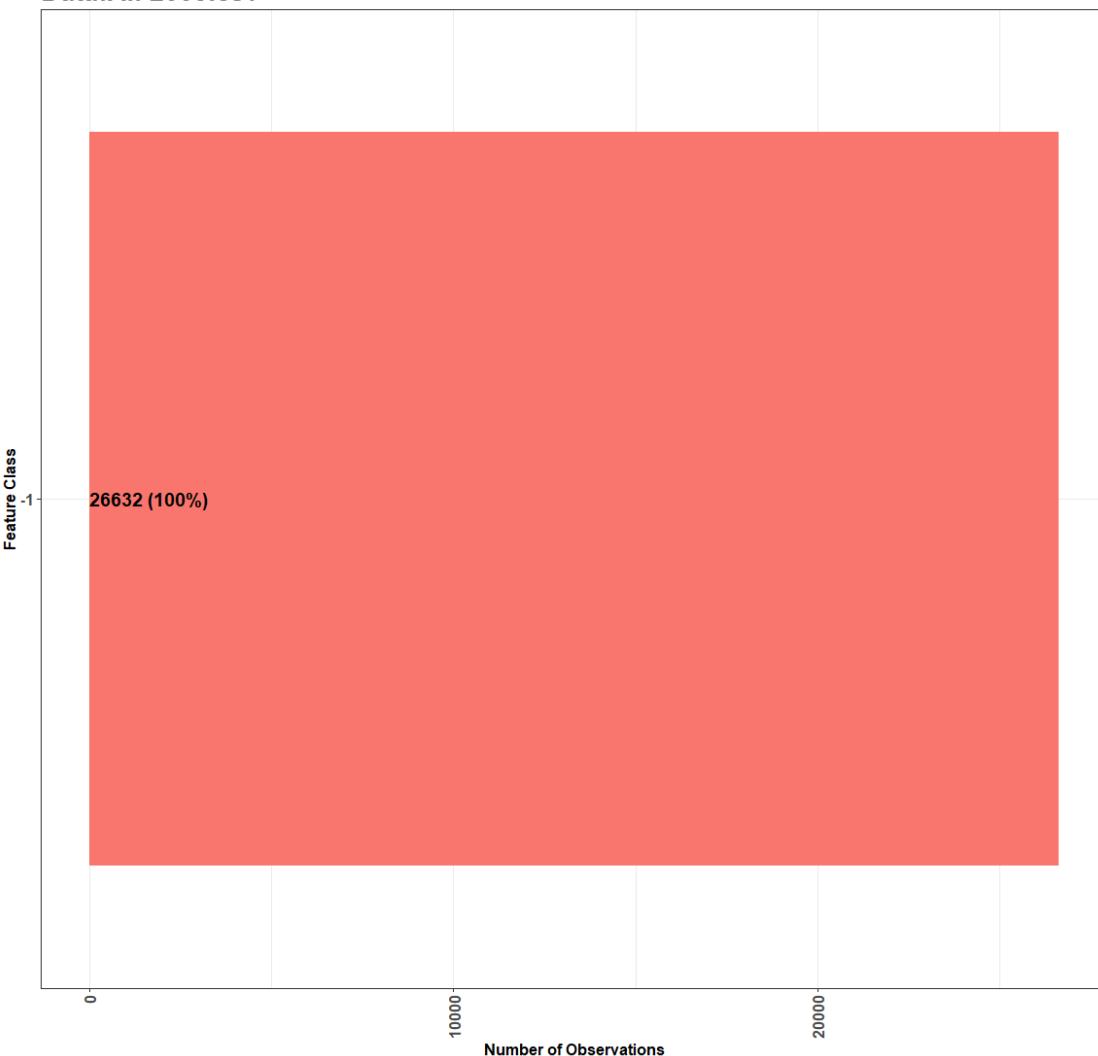
```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## -1 25708 100
```

Plot of Feature:ROAD_SURFACE
Data:All 2004.csv

```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage
```

```
## -----  
## -1 26632 100
```

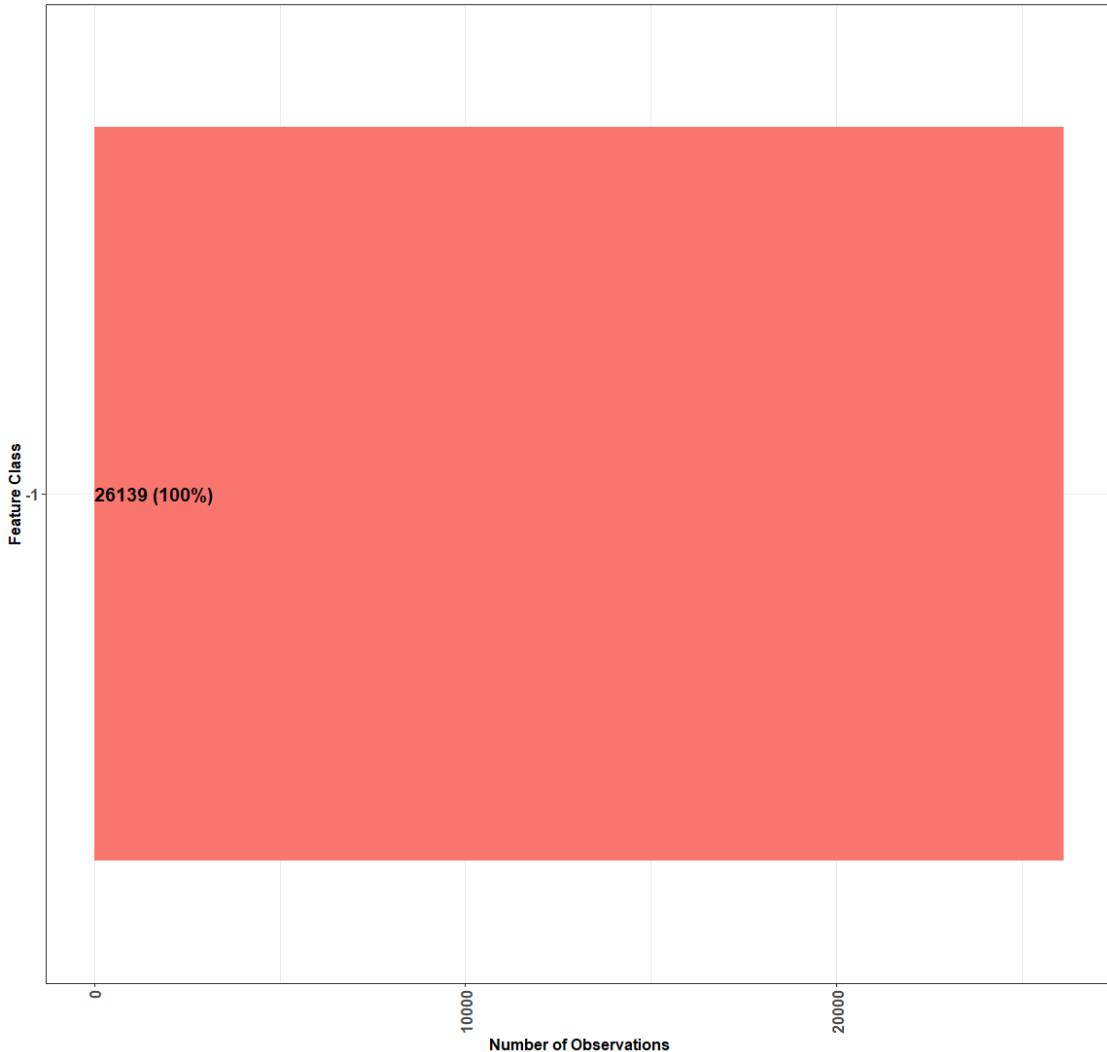
Plot of Feature:ROAD_SURFACE
Data:All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE
```

```
##  
## Feature Value Counter Percentage  
## -----  
## -1 26139 100
```

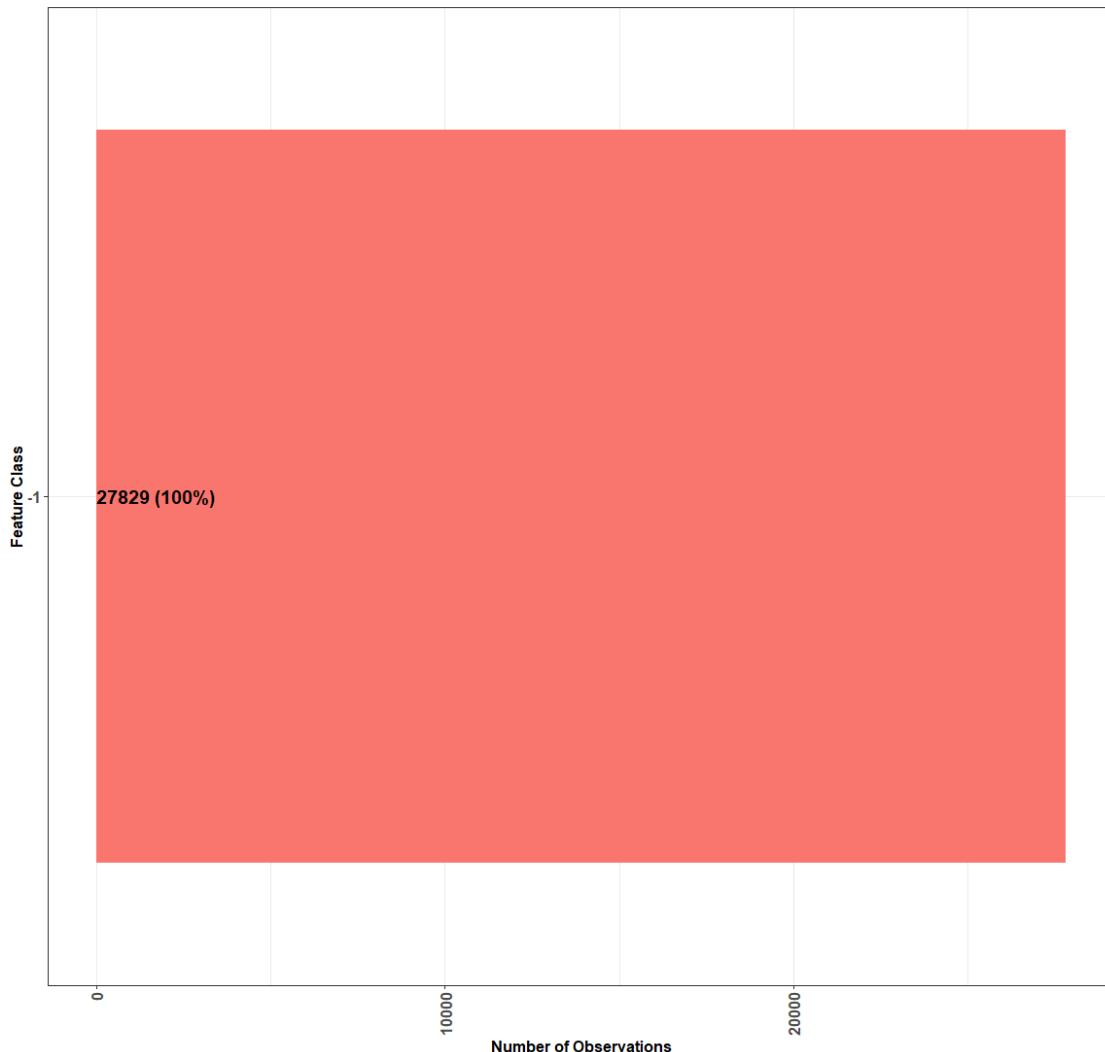
Plot of Feature:ROAD_SURFACE
Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1
```

```
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27829 100
```

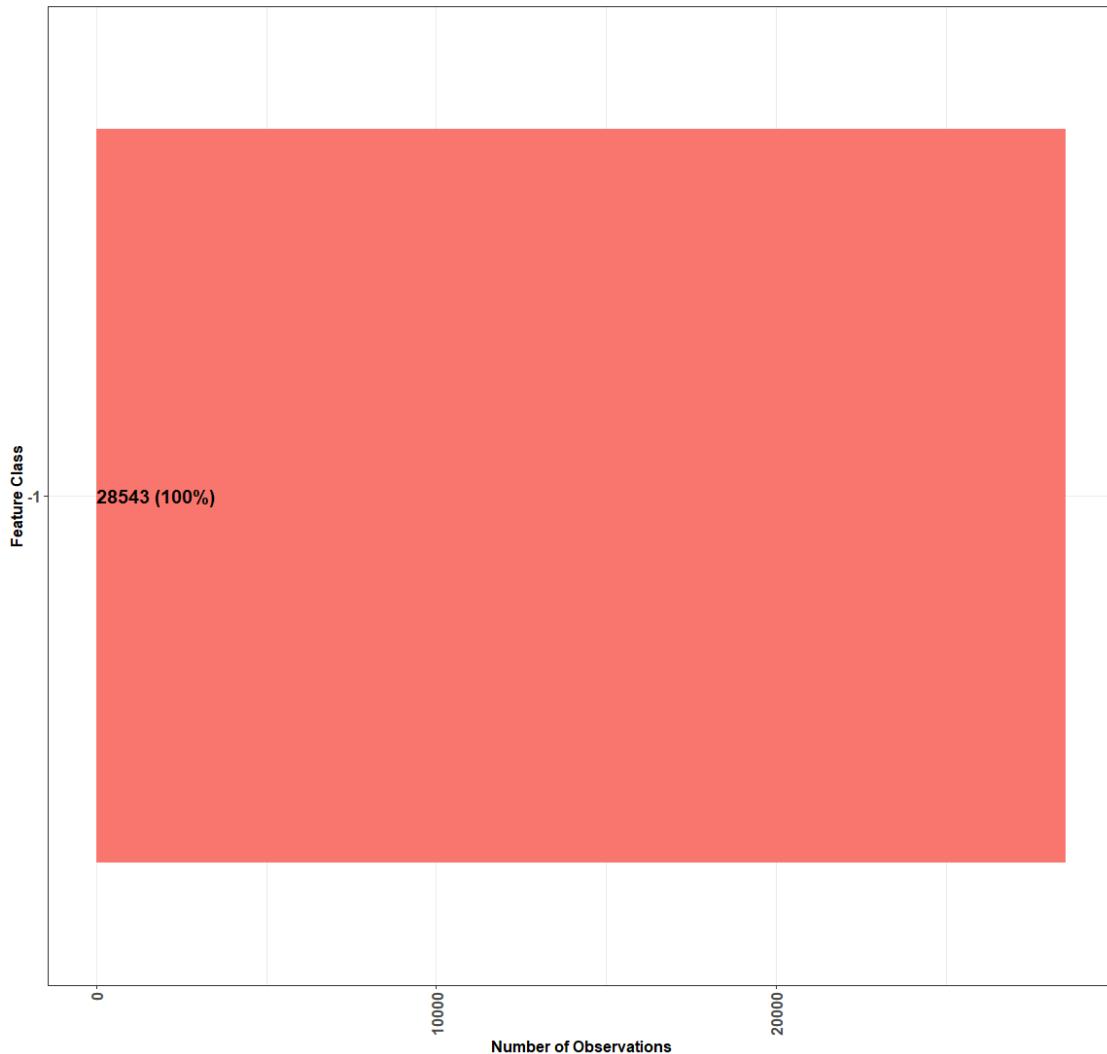
Plot of Feature:ROAD_SURFACE
Data>All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA>All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:
```

```
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## -1 28543 100
```

Plot of Feature:ROAD_SURFACE
Data>All 2008.csv

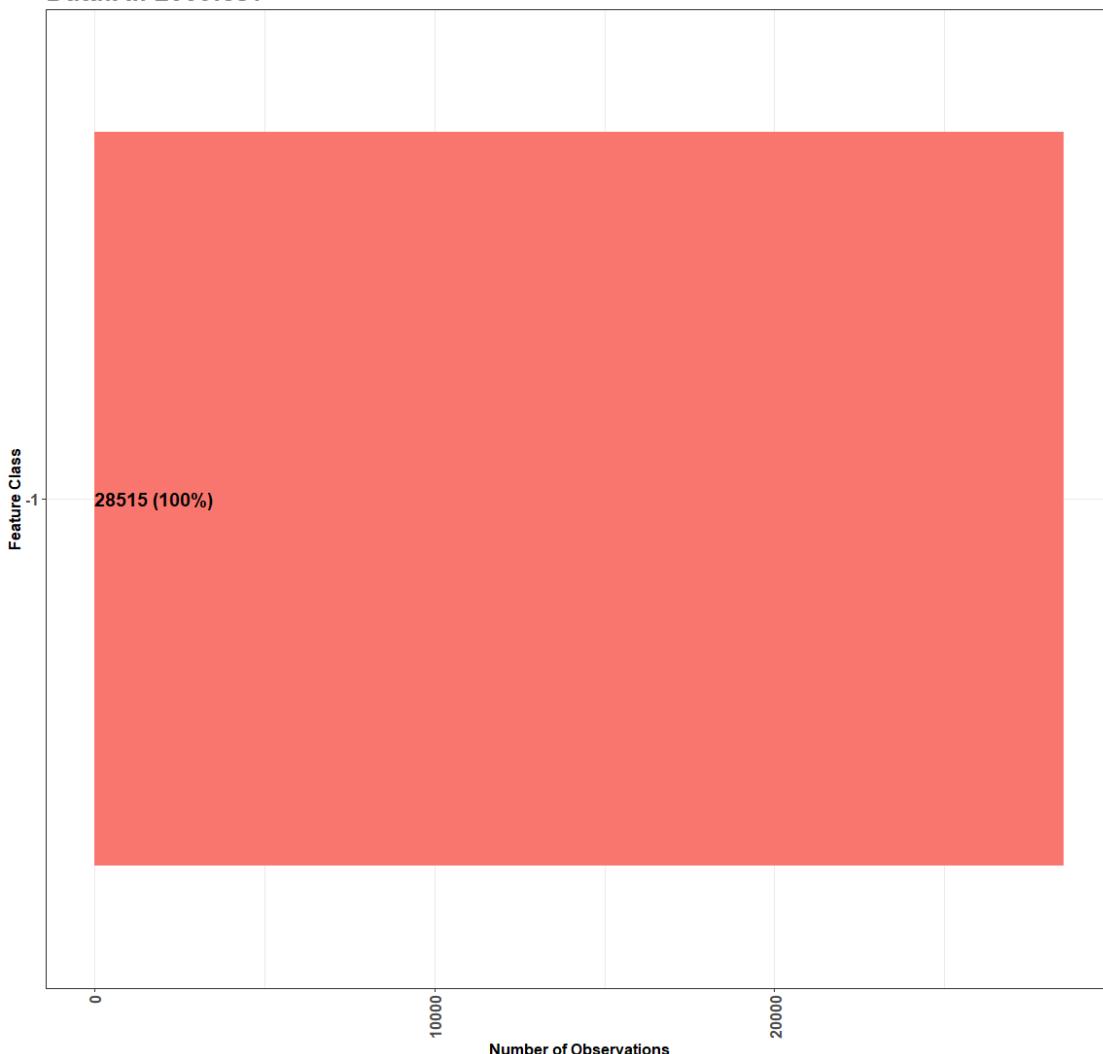


```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0
```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## -1 28515 100
```

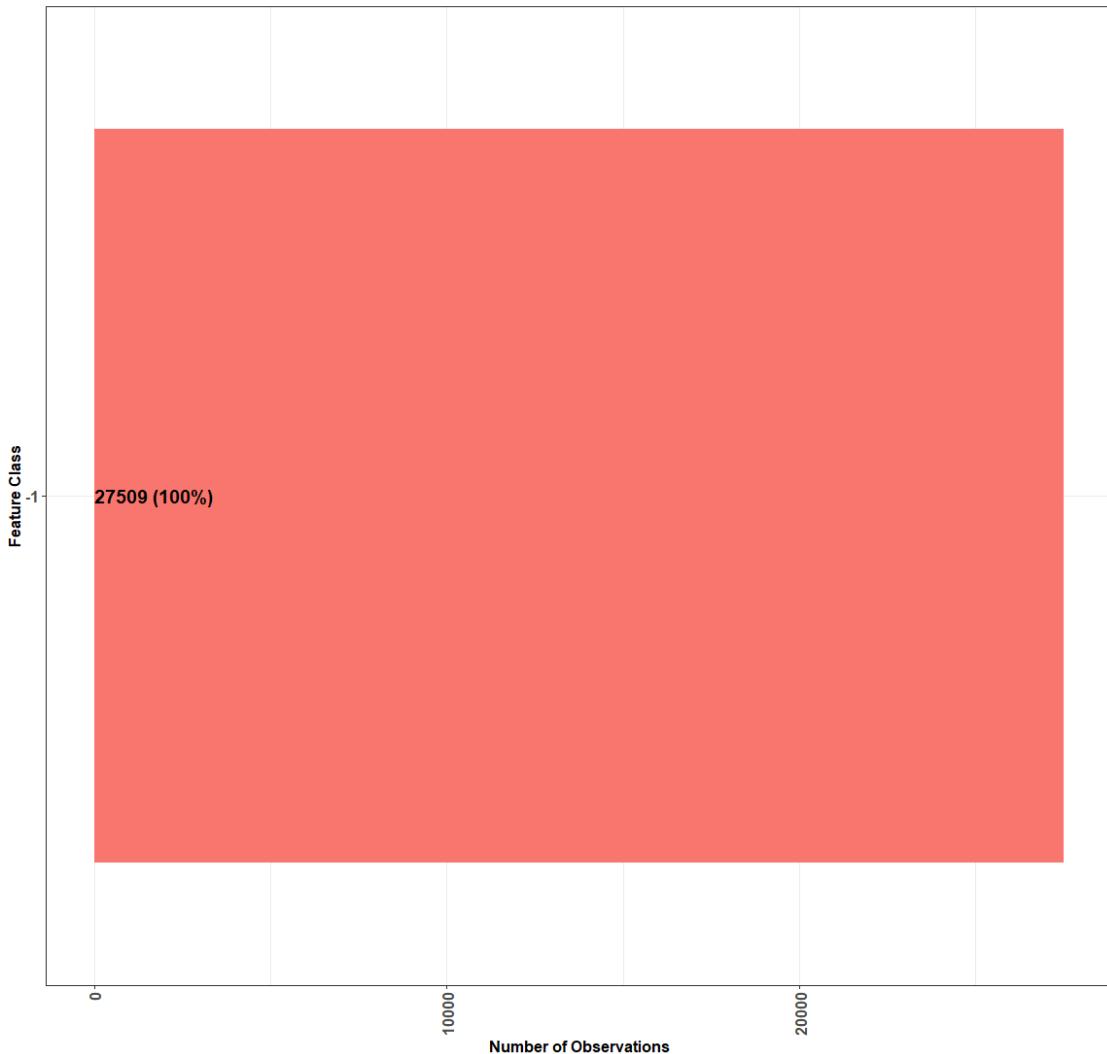
Plot of Feature:ROAD_SURFACE
Data>All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2010.csv...
```

```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27509 100
```

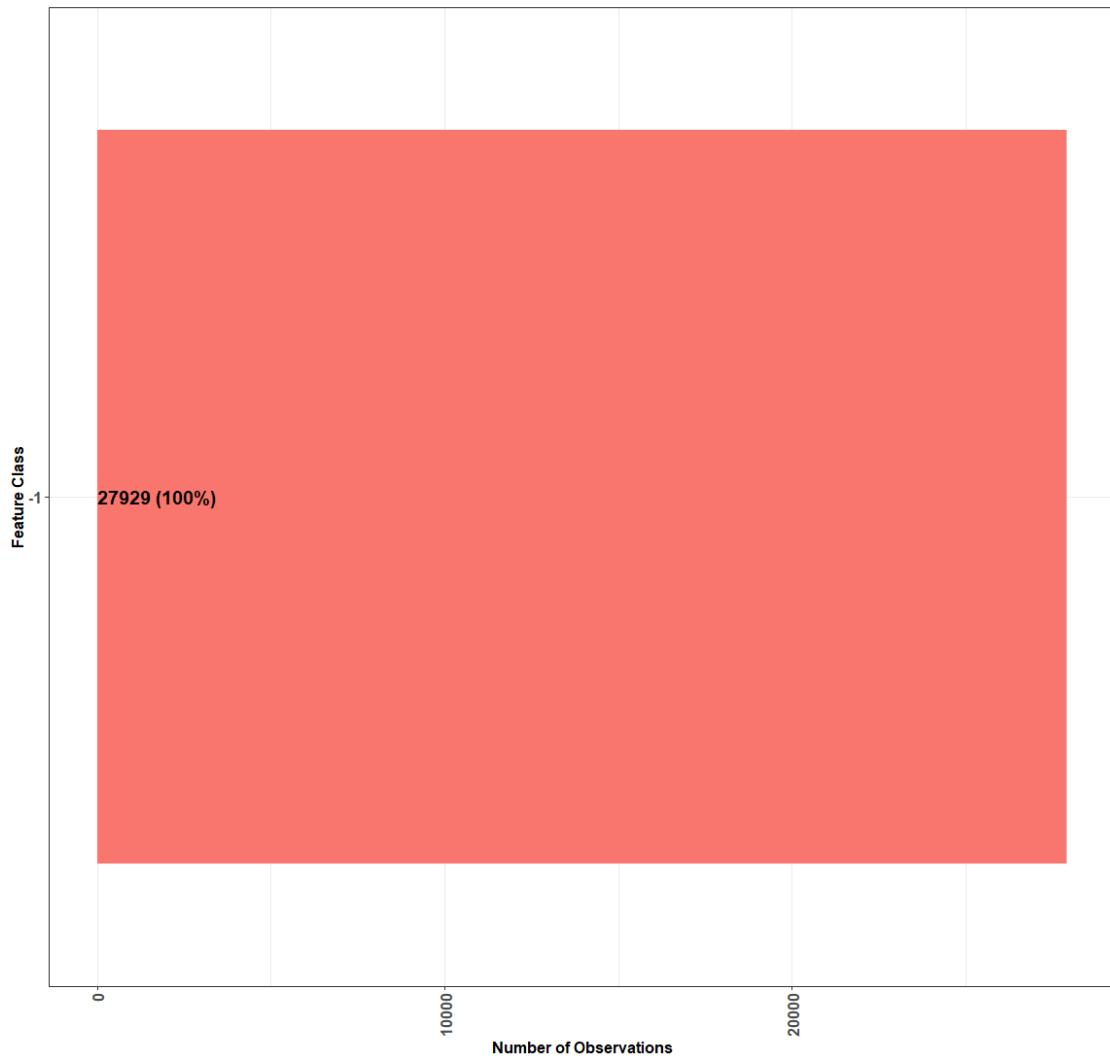
Plot of Feature:ROAD_SURFACE
Data>All 2010.csv



```
##  
## -----
```

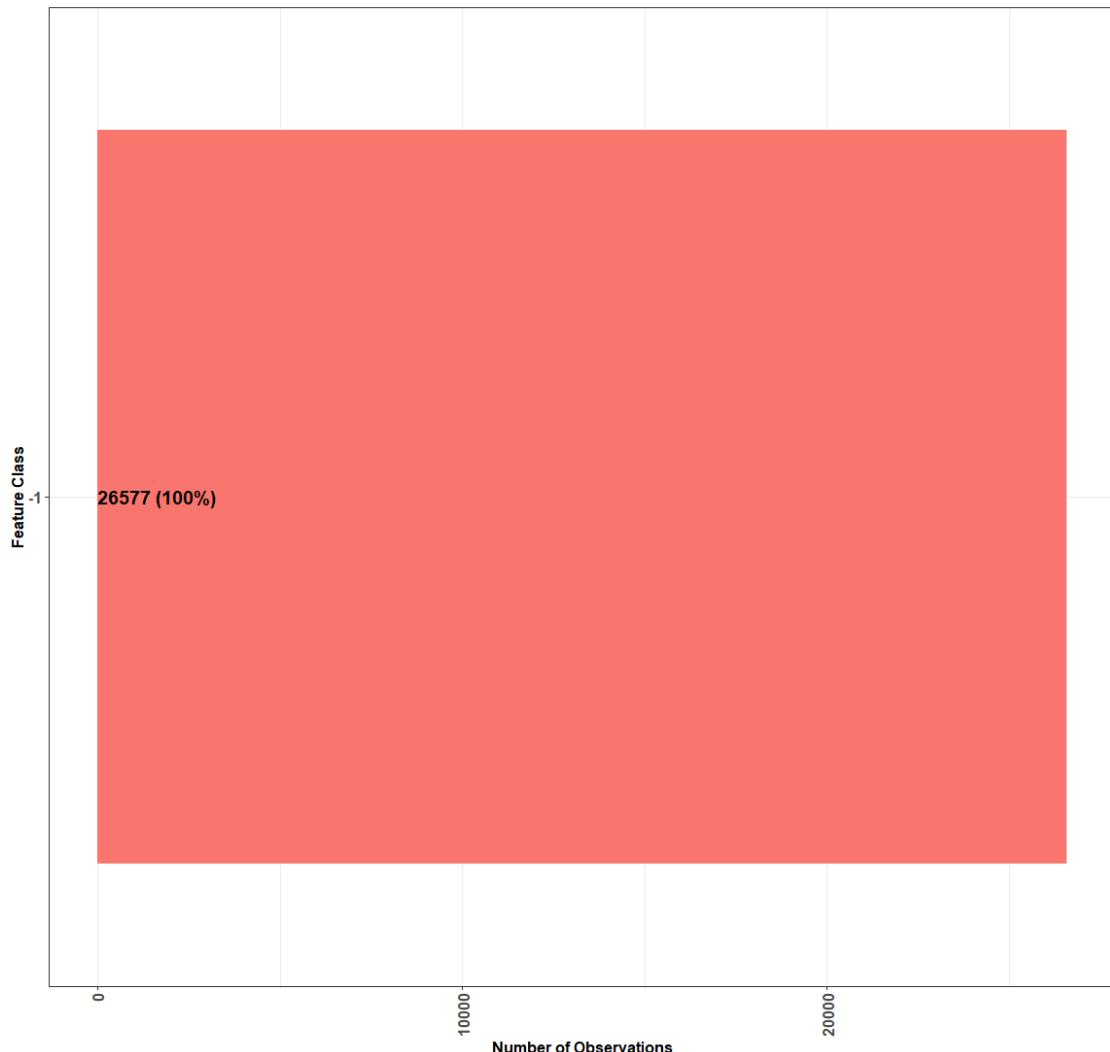
```
## CHECKING FEATURE:ROAD_SURFACE
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF ROAD_SURFACE
##
## Feature Value Counter Percentage
## ----- -----
## -1 27929 100
```

Plot of Feature:ROAD_SURFACE
Data:All 2011.csv





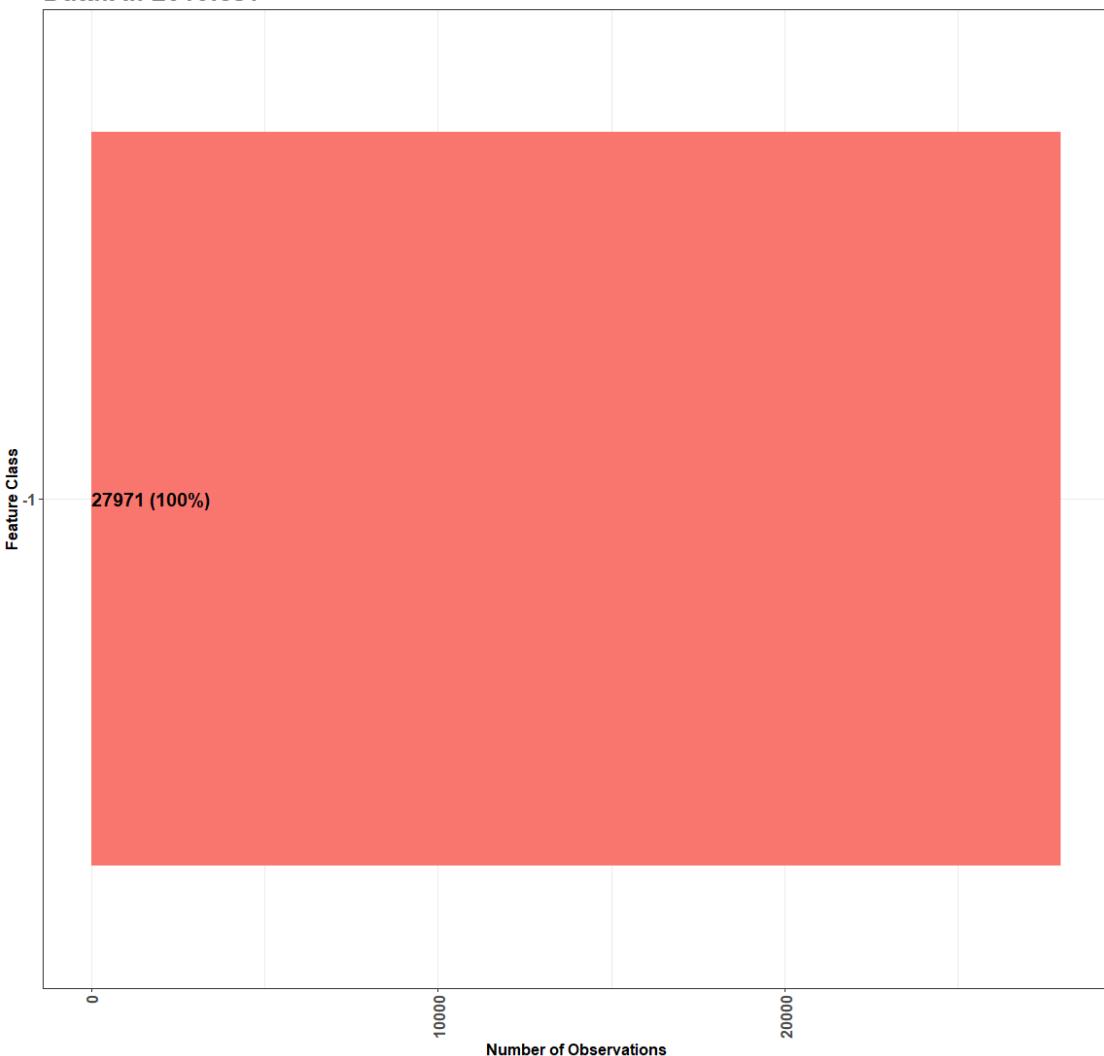
```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26577 100
```

Plot of Feature:ROAD_SURFACE
Data:All 2012.csv

```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage
```

```
## -----  
## -1 27971 100
```

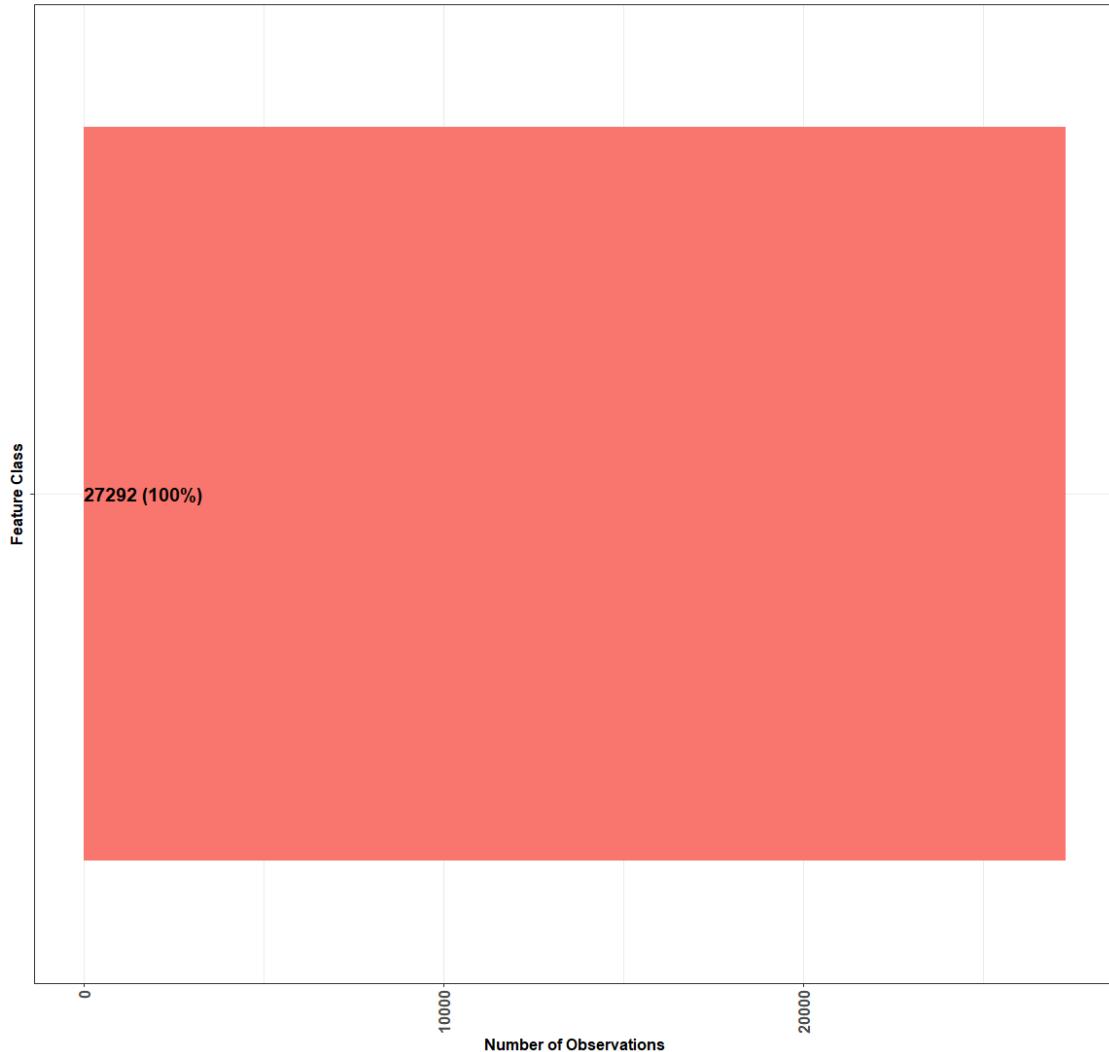
Plot of Feature:ROAD_SURFACE
Data:All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:27292  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1  
##  
## TOP 100 FEATURES OF ROAD_SURFACE
```

```
##  
## Feature Value Counter Percentage  
## -----  
## 27292 100
```

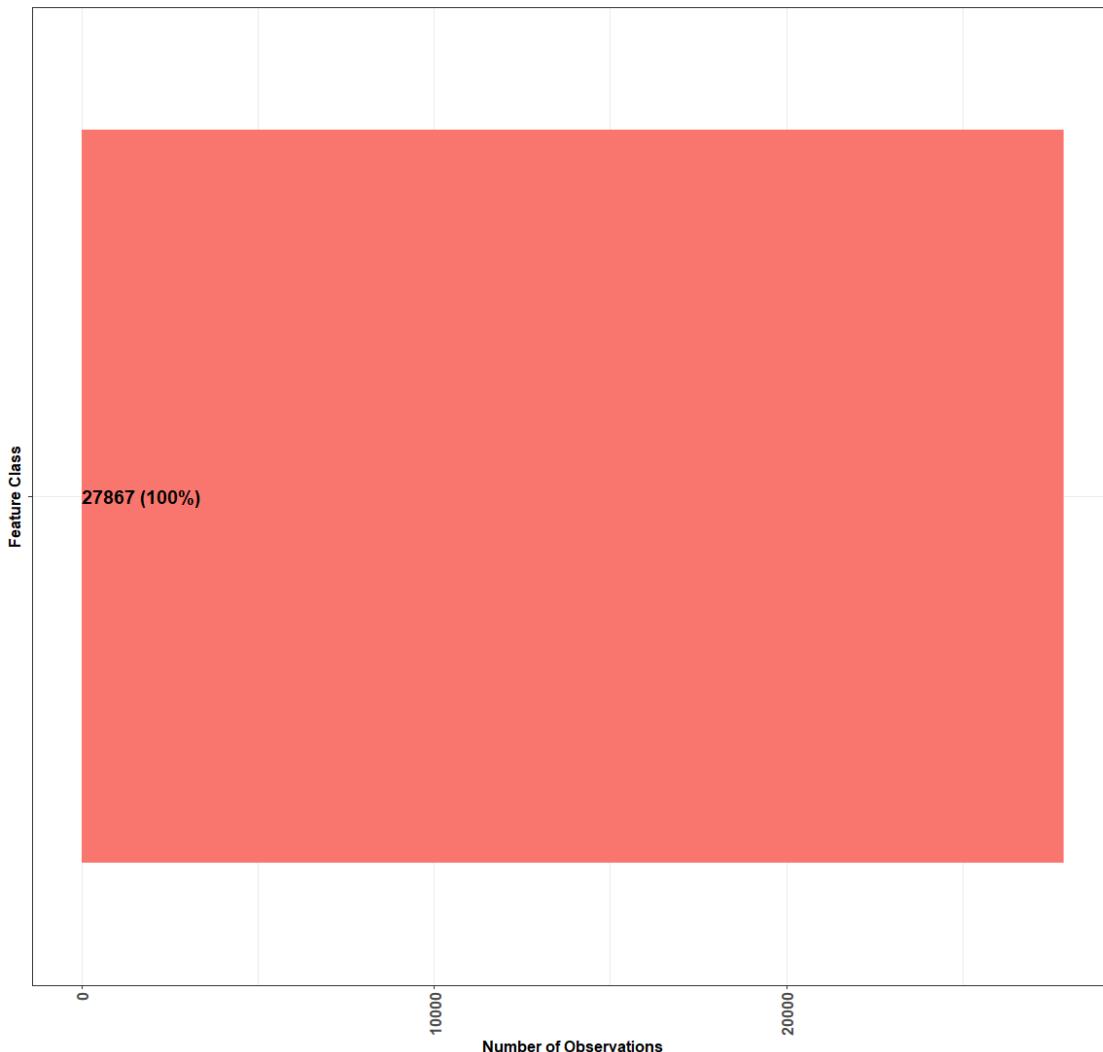
Plot of Feature:ROAD_SURFACE
Data:All 2014.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:27867  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 1
```

```
##  
## TOP 100 FEATURES OF ROAD_SURFACE  
##  
## Feature Value Counter Percentage  
## -----  
## 27867 100
```

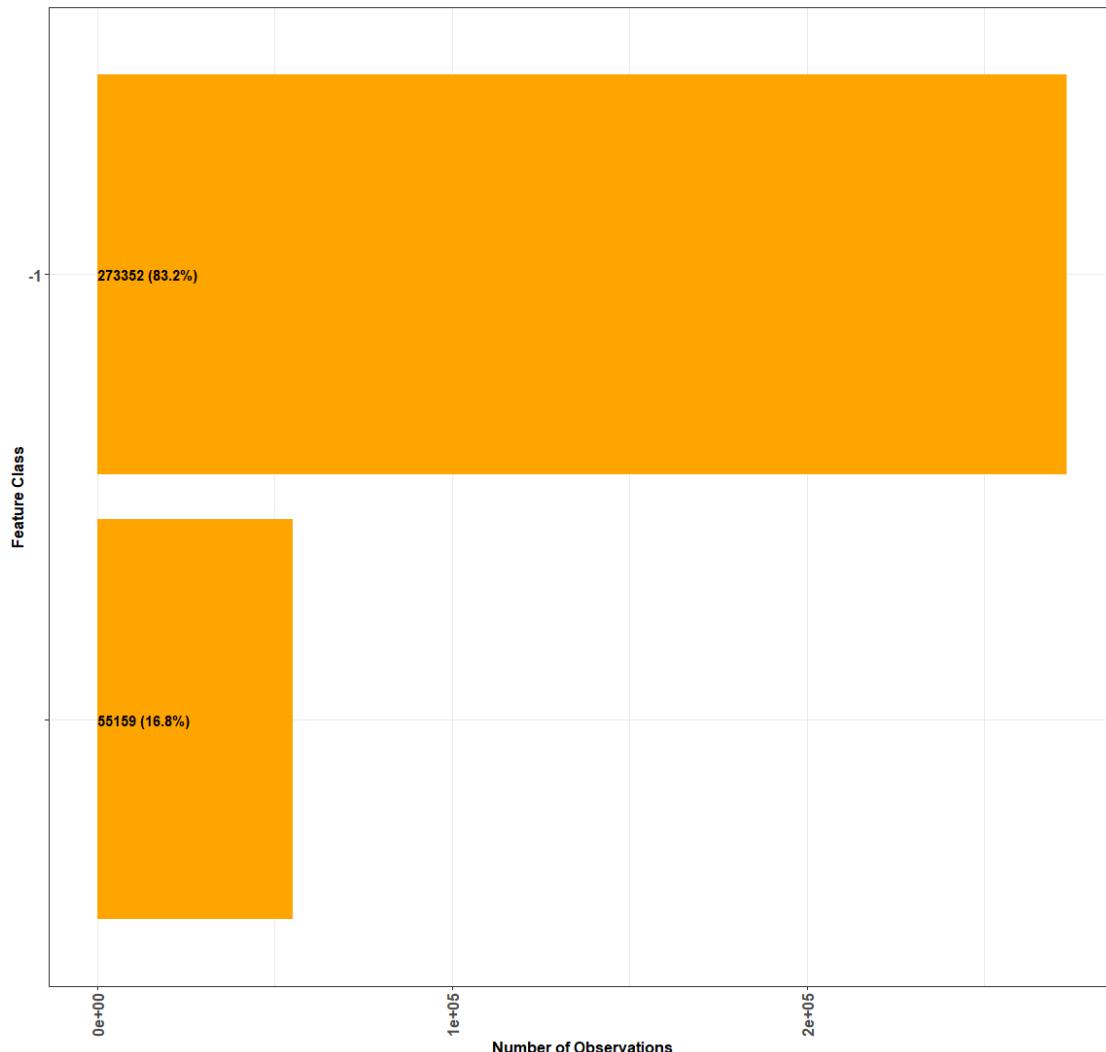
Plot of Feature:ROAD_SURFACE
Data:All 2015.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE  
## DATA:All 2016.csv...  
## [1] "No Data in this Dataset"  
## -----  
## CHECKING FEATURE:ROAD_SURFACE
```

```
## DATA:All 2017.csv...
## [1] "No Data in this Dataset"
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_SURFACE
## ALL DATA...
## =====
##
## Number of Blank Values:55159
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv
##      27292      27867
##
##
## Summary as Factor Feature:
## Number of Features: 2
```

Plot of Feature:ROAD_SURFACE All Data



```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_SURFACE"
```

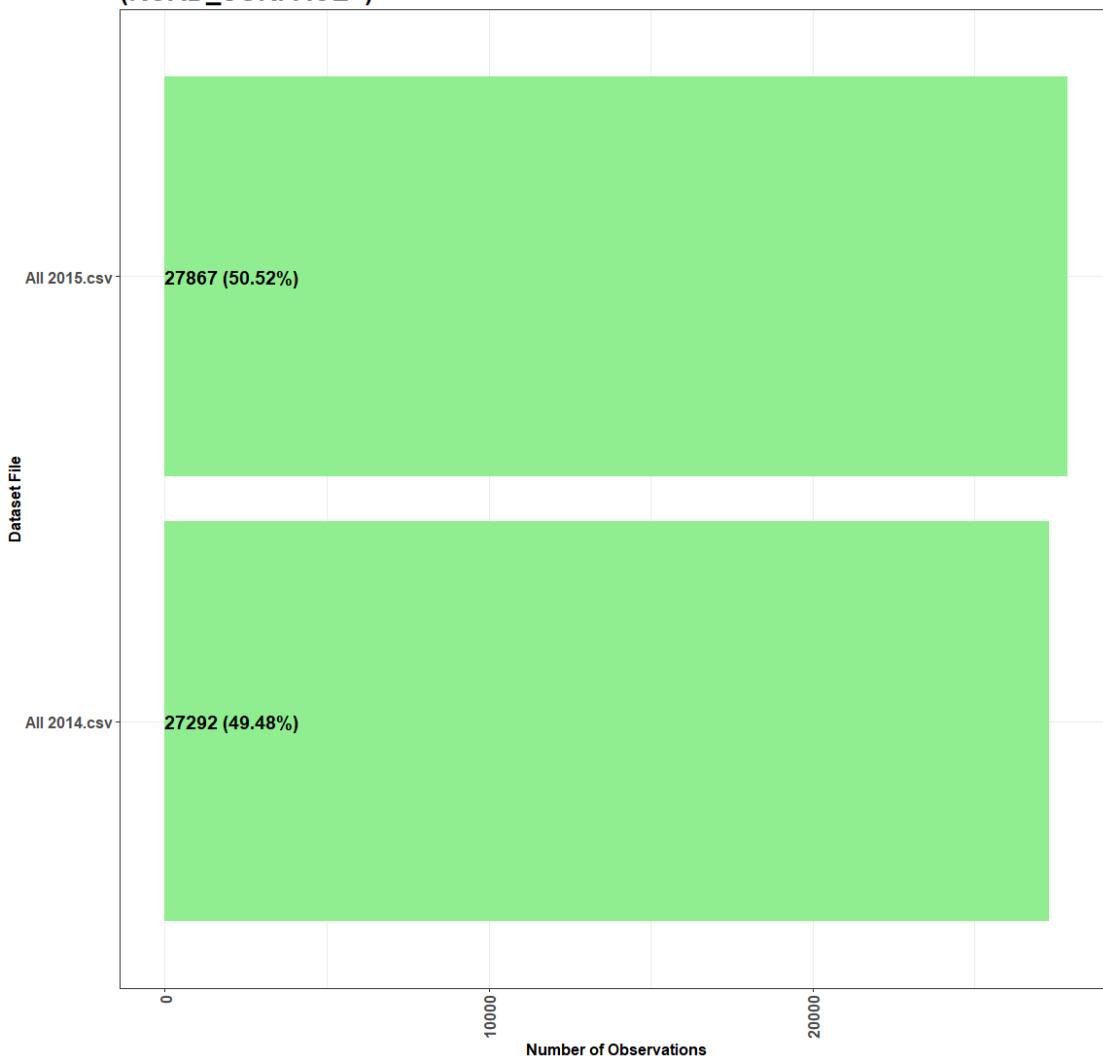
Feature Value	Counter	Percentage
	55159	16.79
-1	273352	83.21

17.1 ROAD_SURFACE = "" (Blank)

```
## [1] "Feature Value not found Dataset:All 2016.csv"
## [1] "Feature Value not found Dataset:All 2017.csv"
##
## =====
## CHECKING FEATURE AND VALUE (ROAD_SURFACE=)
##
## Summary per Data File:
```

```
## All 2014.csv All 2015.csv
##          27292      27867
```

**Plot of Feature and Value
(ROAD_SURFACE=)**



DATASET FILE	COUNTER OF (ROAD_SURFACE=)	Percentage
All 2014.csv	27292	49.48
All 2015.csv	27867	50.52

17.2 ROAD_SURFACE = “-1”

```
## [1] "Feature Value not found Dataset:All 2016.csv"
## [1] "Feature Value not found Dataset:All 2017.csv"
##
## =====
## CHECKING FEATURE AND VALUE (ROAD_SURFACE=-1)
##
```

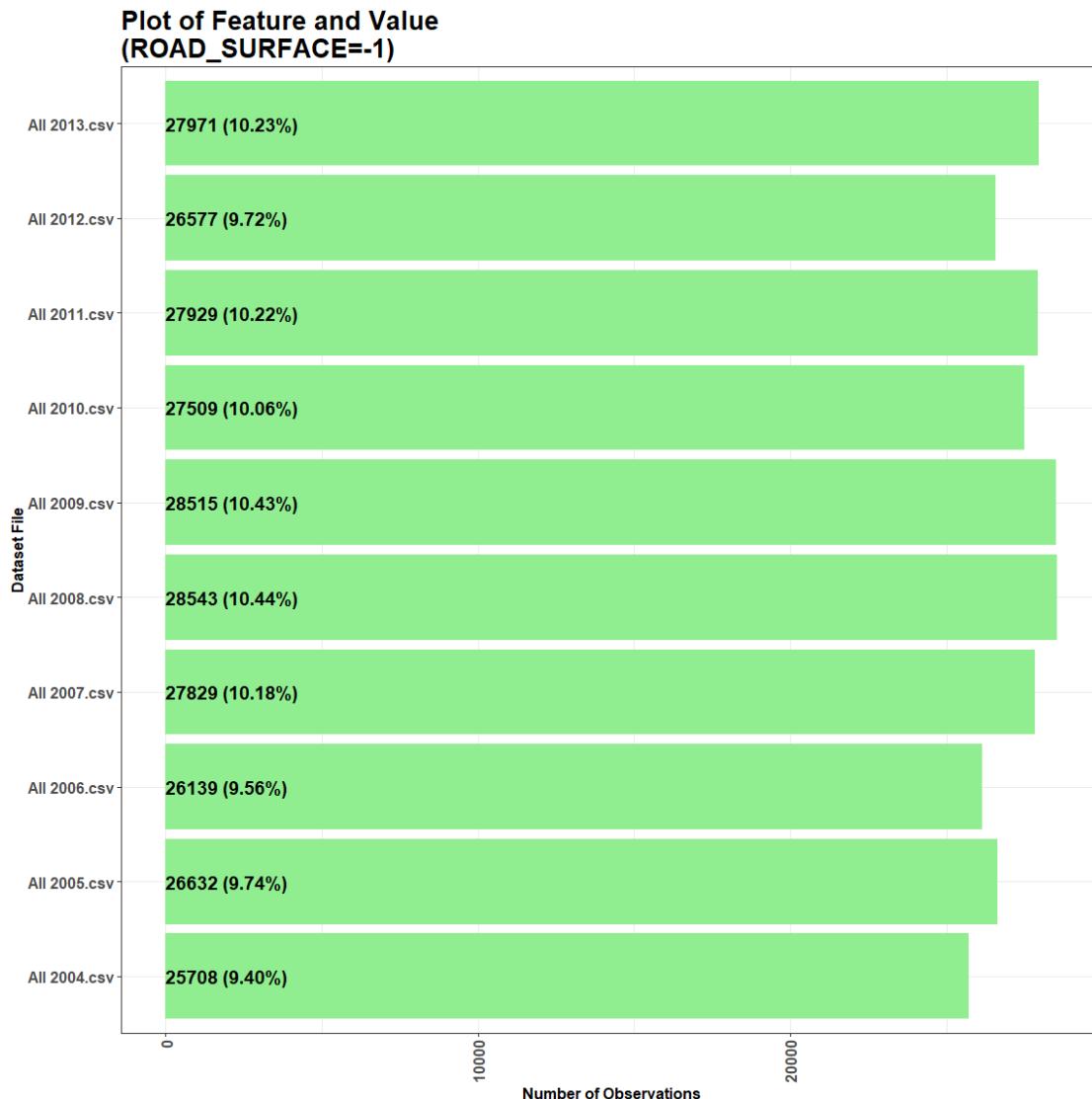
```
## Summary per Data File:  

## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  

## 25708 26632 26139 27829 28543  

## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  

## 28515 27509 27929 26577 27971
```



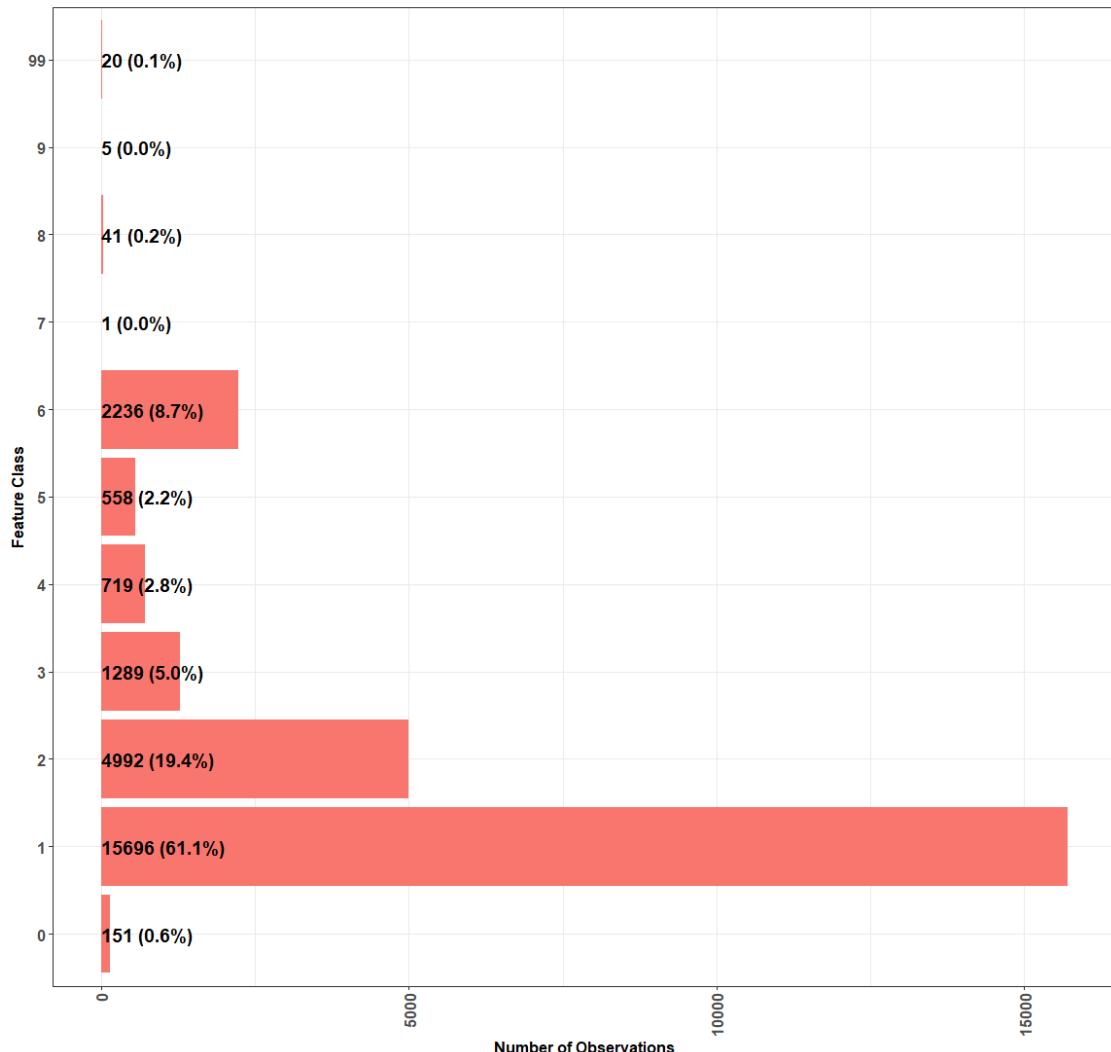
DATASET FILE	COUNTER OF (ROAD_SURFACE=-1)	Percentage
All 2004.csv	25708	9.405
All 2005.csv	26632	9.743
All 2006.csv	26139	9.562
All 2007.csv	27829	10.181
All 2008.csv	28543	10.442
All 2009.csv	28515	10.432

All 2010.csv	27509	10.064
All 2011.csv	27929	10.217
All 2012.csv	26577	9.723
All 2013.csv	27971	10.233

18. Road Surface Condition (ROAD_SURFACE_CONDITION)

```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE_CONDITION  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 11  
##  
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 151 0.5874  
## 1 15696 61.0549  
## 2 4992 19.4181  
## 3 1289 5.0140  
## 4 719 2.7968  
## 5 558 2.1705  
## 6 2236 8.6977  
## 7 1 0.0039  
## 8 41 0.1595  
## 9 5 0.0194  
## 99 20 0.0778
```

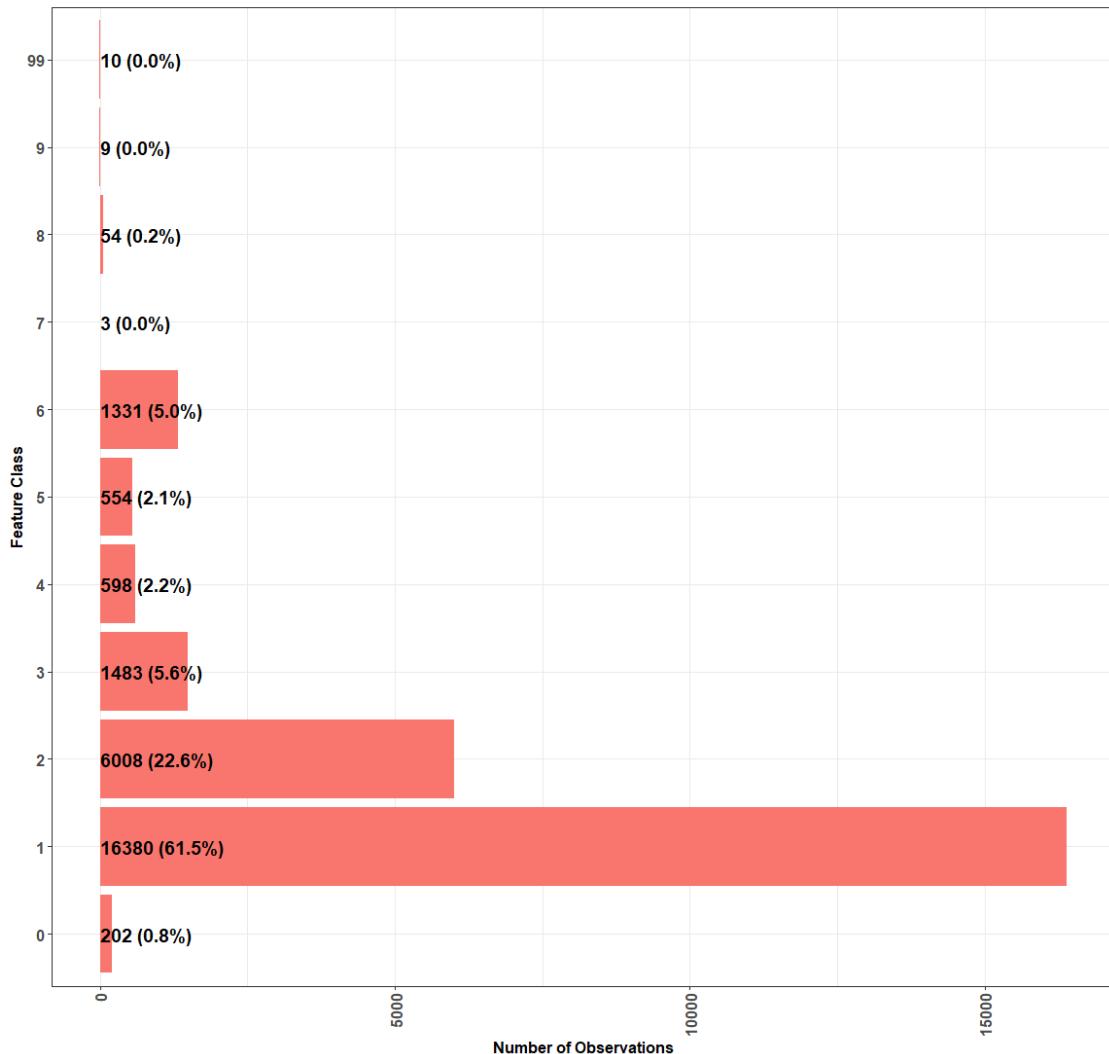
Plot of Feature:ROAD_SURFACE_CONDITION Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE_CONDITION  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 11  
##  
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	202	0.7585
## 1	16380	61.5050
## 2	6008	22.5593
## 3	1483	5.5685
## 4	598	2.2454
## 5	554	2.0802
## 6	1331	4.9977
## 7	3	0.0113
## 8	54	0.2028
## 9	9	0.0338
## 99	10	0.0375

Plot of Feature:ROAD_SURFACE_CONDITION
 Data:All 2005.csv

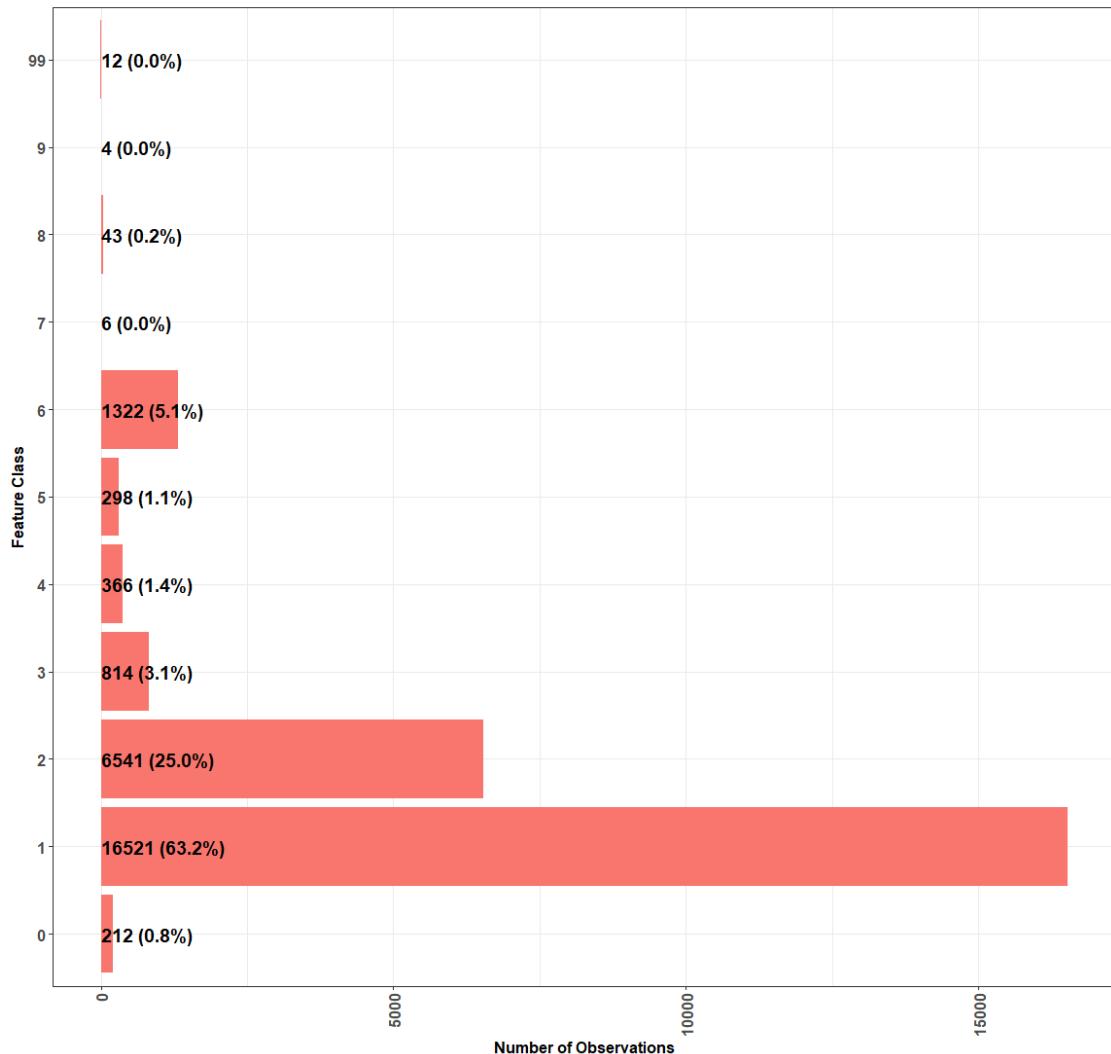


```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
```



```
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 212 0.8110
## 1 16521 63.2044
## 2 6541 25.0239
## 3 814 3.1141
## 4 366 1.4002
## 5 298 1.1401
## 6 1322 5.0576
## 7 6 0.0230
## 8 43 0.1645
## 9 4 0.0153
## 99 12 0.0459
```

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2006.csv



```
##  

## -----  

## CHECKING FEATURE:ROAD_SURFACE_CONDITION  

## DATA:All 2007.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 11  

##  

## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  

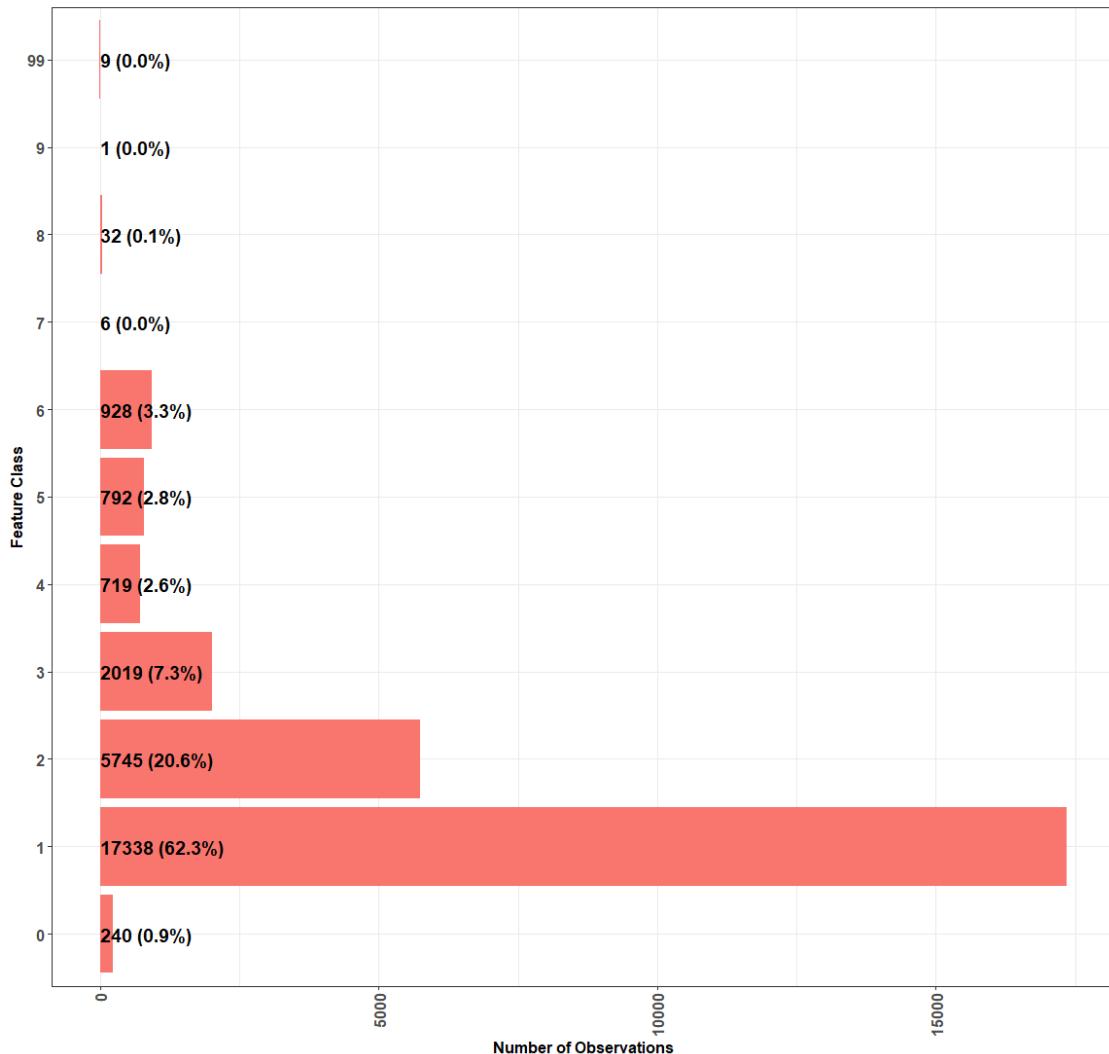
##  

## Feature Value      Counter      Percentage  

## -----
```

## 0	240	0.8624
## 1	17338	62.3019
## 2	5745	20.6439
## 3	2019	7.2550
## 4	719	2.5836
## 5	792	2.8460
## 6	928	3.3347
## 7	6	0.0216
## 8	32	0.1150
## 9	1	0.0036
## 99	9	0.0323

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2007.csv

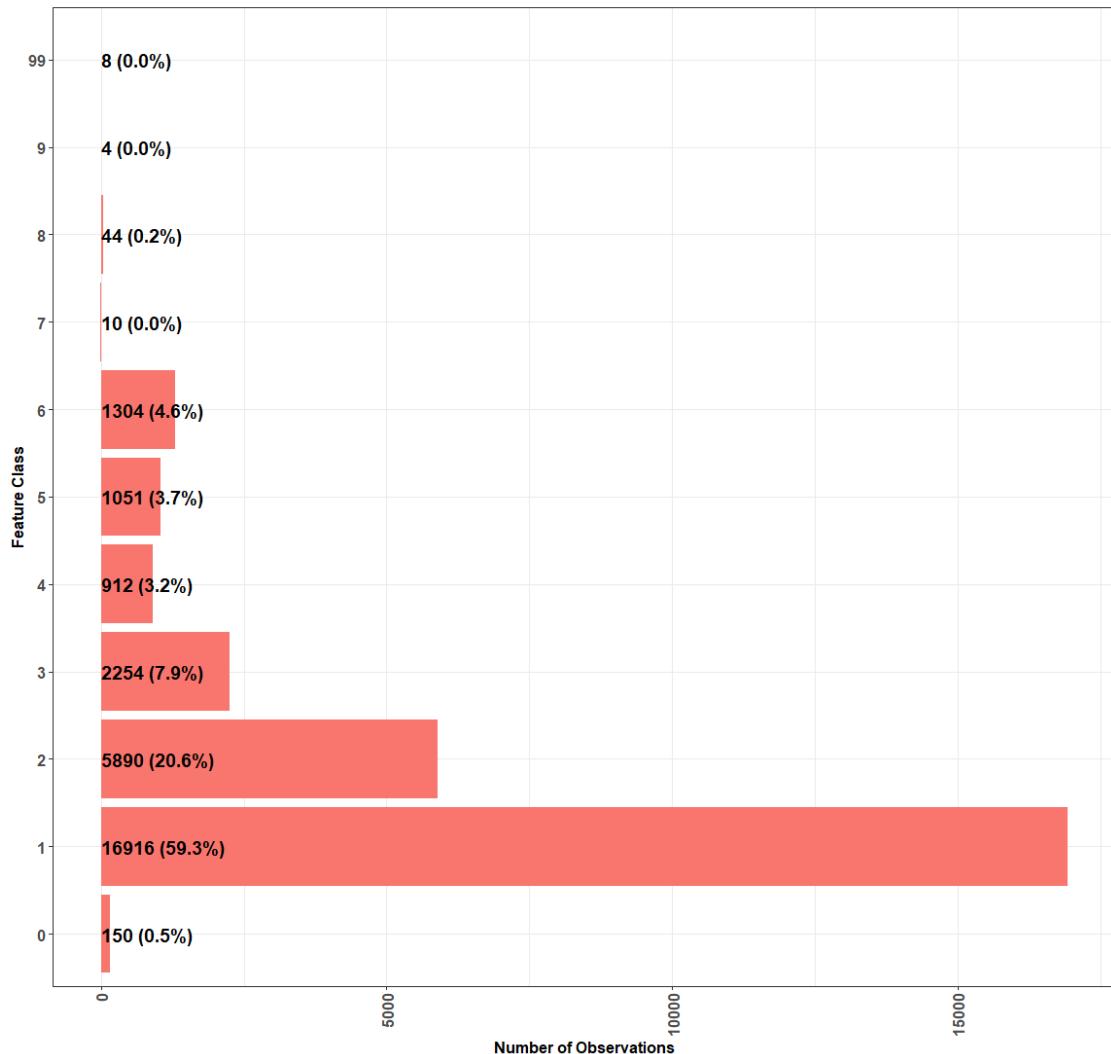


```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
```



```
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 150 0.5255
## 1 16916 59.2650
## 2 5890 20.6355
## 3 2254 7.8969
## 4 912 3.1952
## 5 1051 3.6822
## 6 1304 4.5685
## 7 10 0.0350
## 8 44 0.1542
## 9 4 0.0140
## 99 8 0.0280
```

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2008.csv



```
##  

## -----  

## CHECKING FEATURE:ROAD_SURFACE_CONDITION  

## DATA:All 2009.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 11  

##  

## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  

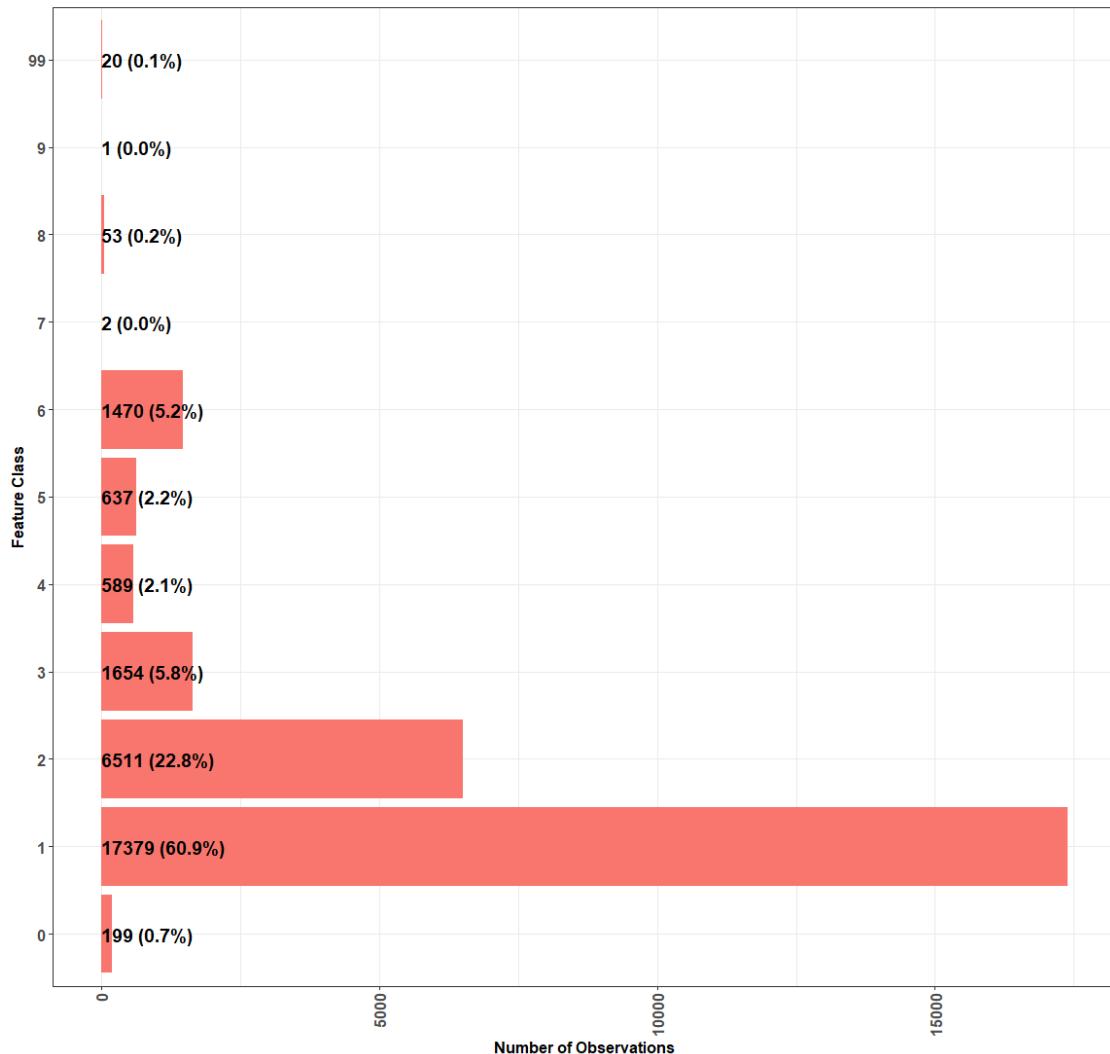
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           199      0.6979
## 1          17379     60.9469
## 2           6511     22.8336
## 3           1654      5.8005
## 4            589      2.0656
## 5            637      2.2339
## 6          1470      5.1552
## 7             2      0.0070
## 8            53      0.1859
## 9             1      0.0035
## 99           20      0.0701
```

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2009.csv

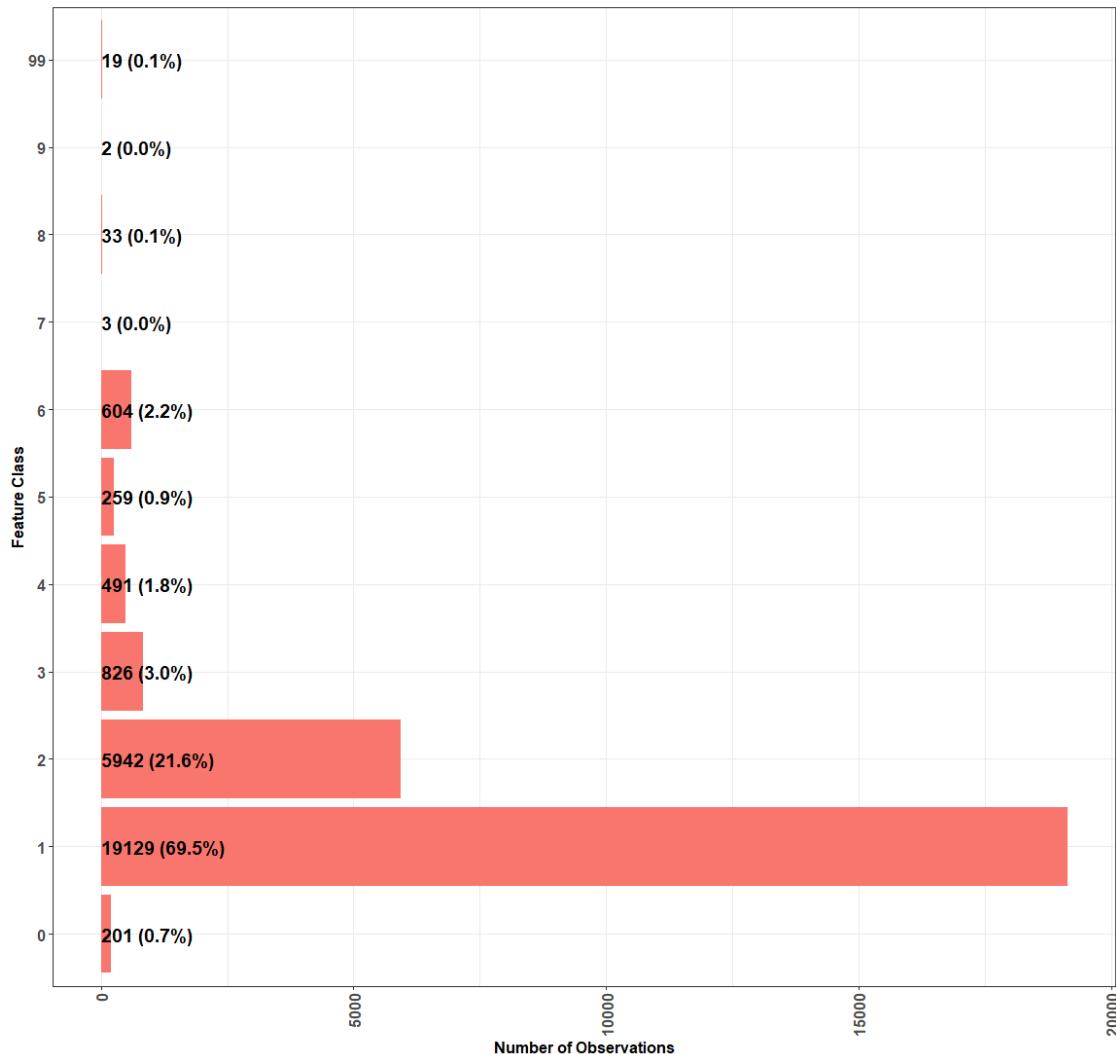


```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
```



```
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 201 0.7307
## 1 19129 69.5372
## 2 5942 21.6002
## 3 826 3.0027
## 4 491 1.7849
## 5 259 0.9415
## 6 604 2.1956
## 7 3 0.0109
## 8 33 0.1200
## 9 2 0.0073
## 99 19 0.0691
```

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:ROAD_SURFACE_CONDITION  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 11  

##  

## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  

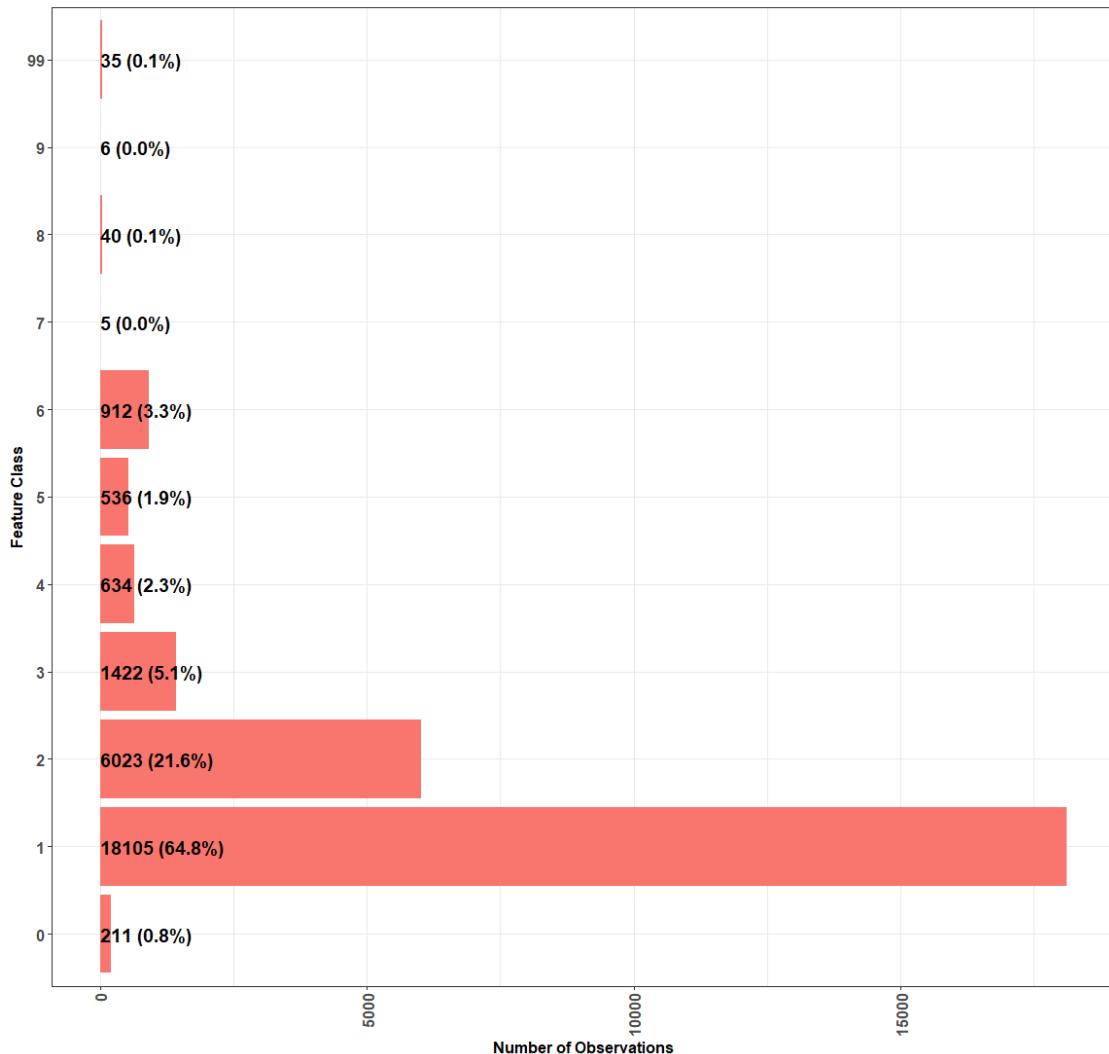
##  

## Feature Value      Counter      Percentage  

## -----
```

## 0	211	0.7555
## 1	18105	64.8251
## 2	6023	21.5654
## 3	1422	5.0915
## 4	634	2.2700
## 5	536	1.9192
## 6	912	3.2654
## 7	5	0.0179
## 8	40	0.1432
## 9	6	0.0215
## 99	35	0.1253

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2011.csv

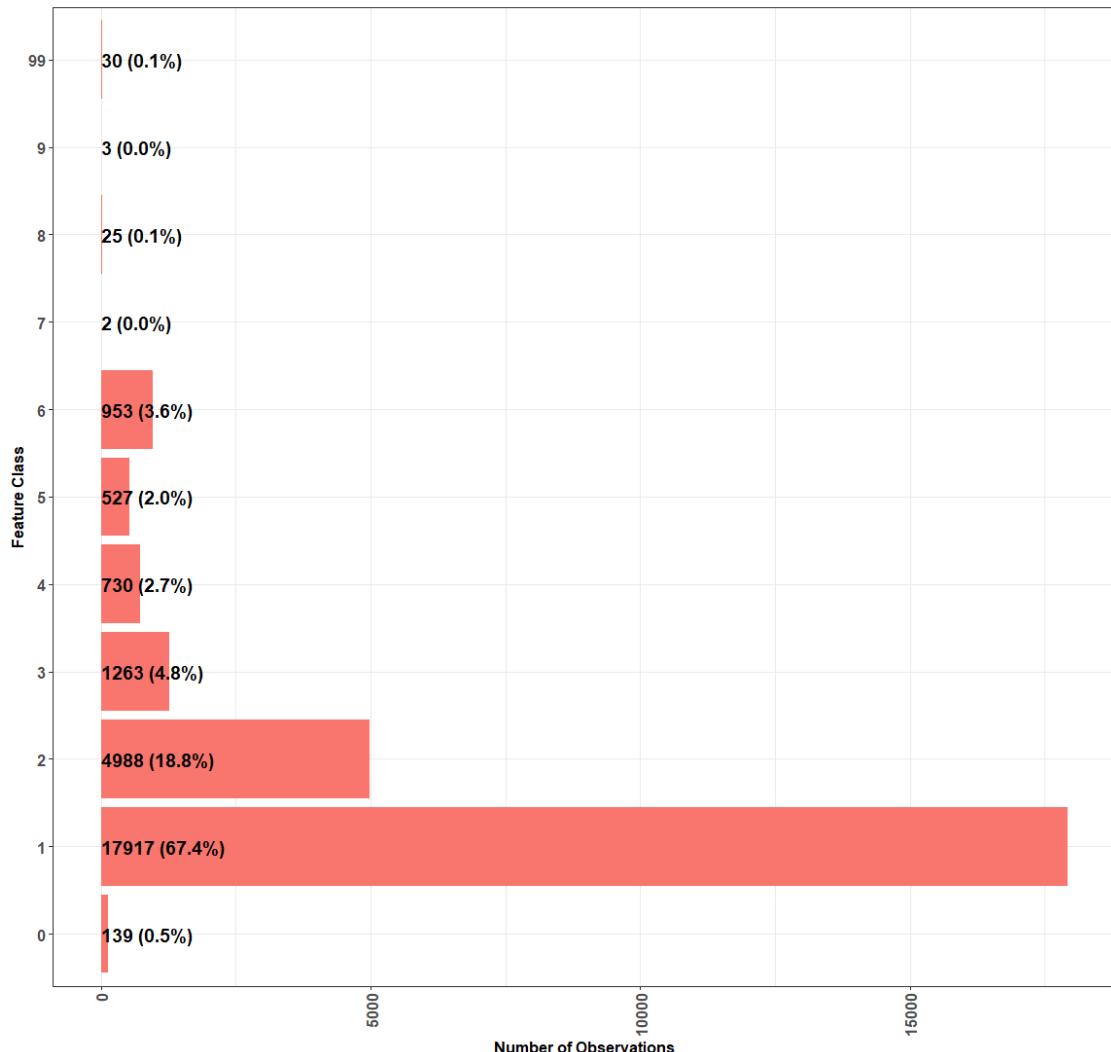


```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
```



```
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 139 0.5230
## 1 17917 67.4154
## 2 4988 18.7681
## 3 1263 4.7522
## 4 730 2.7467
## 5 527 1.9829
## 6 953 3.5858
## 7 2 0.0075
## 8 25 0.0941
## 9 3 0.0113
## 99 30 0.1129
```

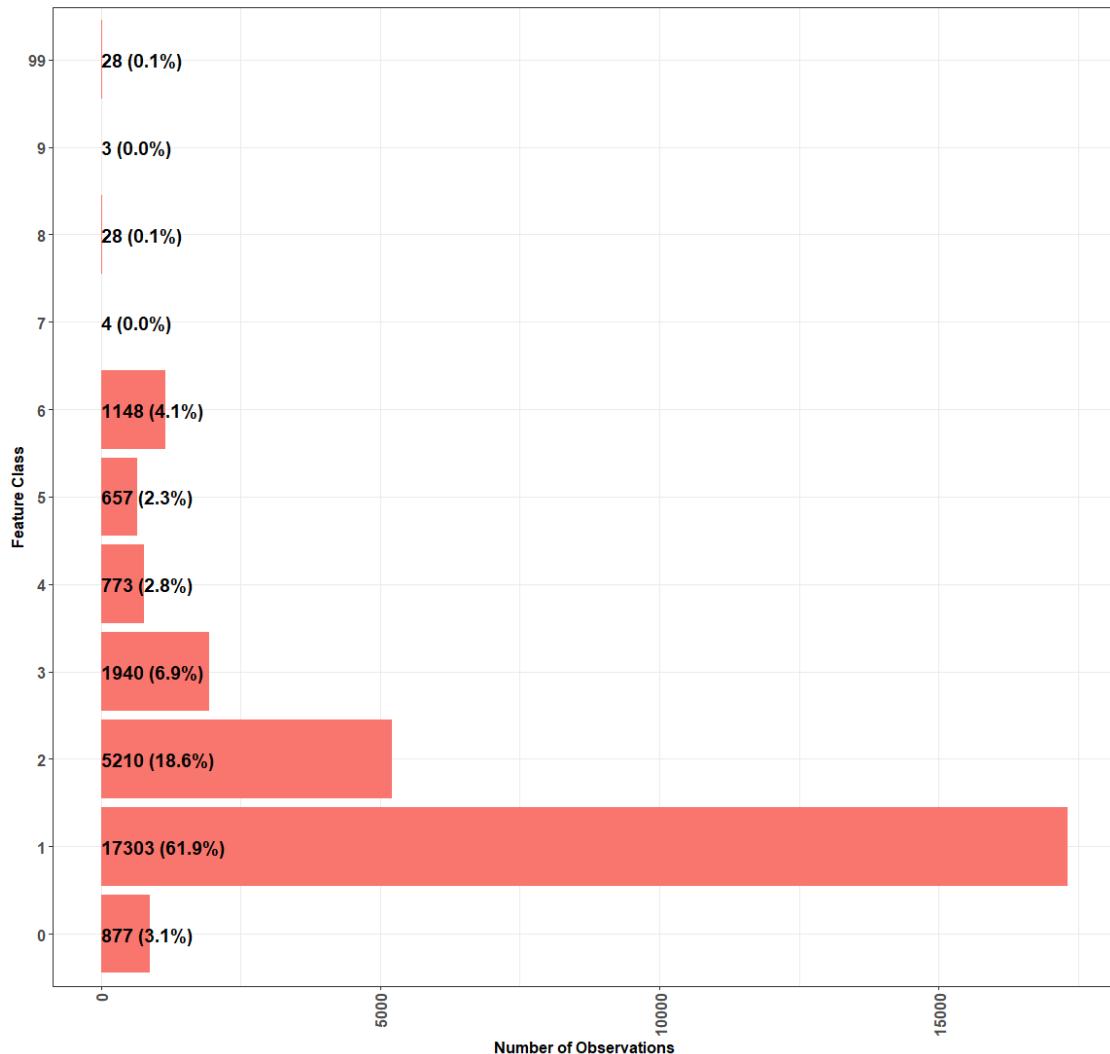
Plot of Feature:ROAD_SURFACE_CONDITION Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:ROAD_SURFACE_CONDITION  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 11  
##  
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

```
## 0           877    3.1354
## 1          17303   61.8605
## 2          5210    18.6264
## 3          1940    6.9358
## 4           773    2.7636
## 5           657    2.3489
## 6          1148    4.1043
## 7             4    0.0143
## 8            28    0.1001
## 9             3    0.0107
## 99           28    0.1001
```

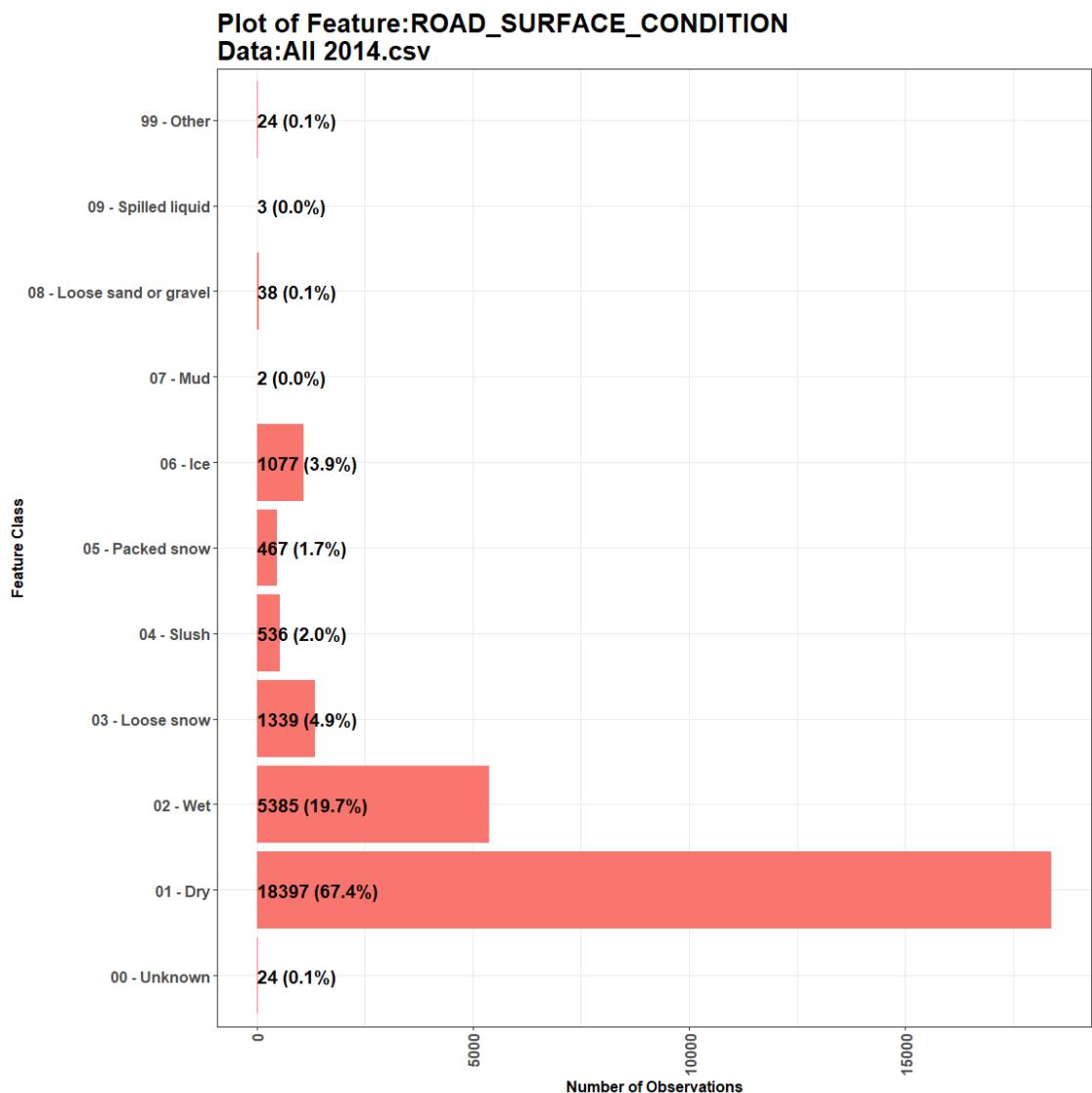
Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2013.csv



```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
```



```
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION
##
## Feature Value          Counter   Percentage
## -----  -----
## 00 - Unknown           24        0.0879
## 01 - Dry                18397     67.4080
## 02 - Wet                5385      19.7311
## 03 - Loose snow          1339      4.9062
## 04 - Slush               536       1.9639
## 05 - Packed snow          467       1.7111
## 06 - Ice                 1077      3.9462
## 07 - Mud                  2        0.0073
## 08 - Loose sand or gravel 38        0.1392
## 09 - Spilled liquid         3        0.0110
## 99 - Other                24        0.0879
```



```
##  

## -----  

## CHECKING FEATURE:ROAD_SURFACE_CONDITION  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  

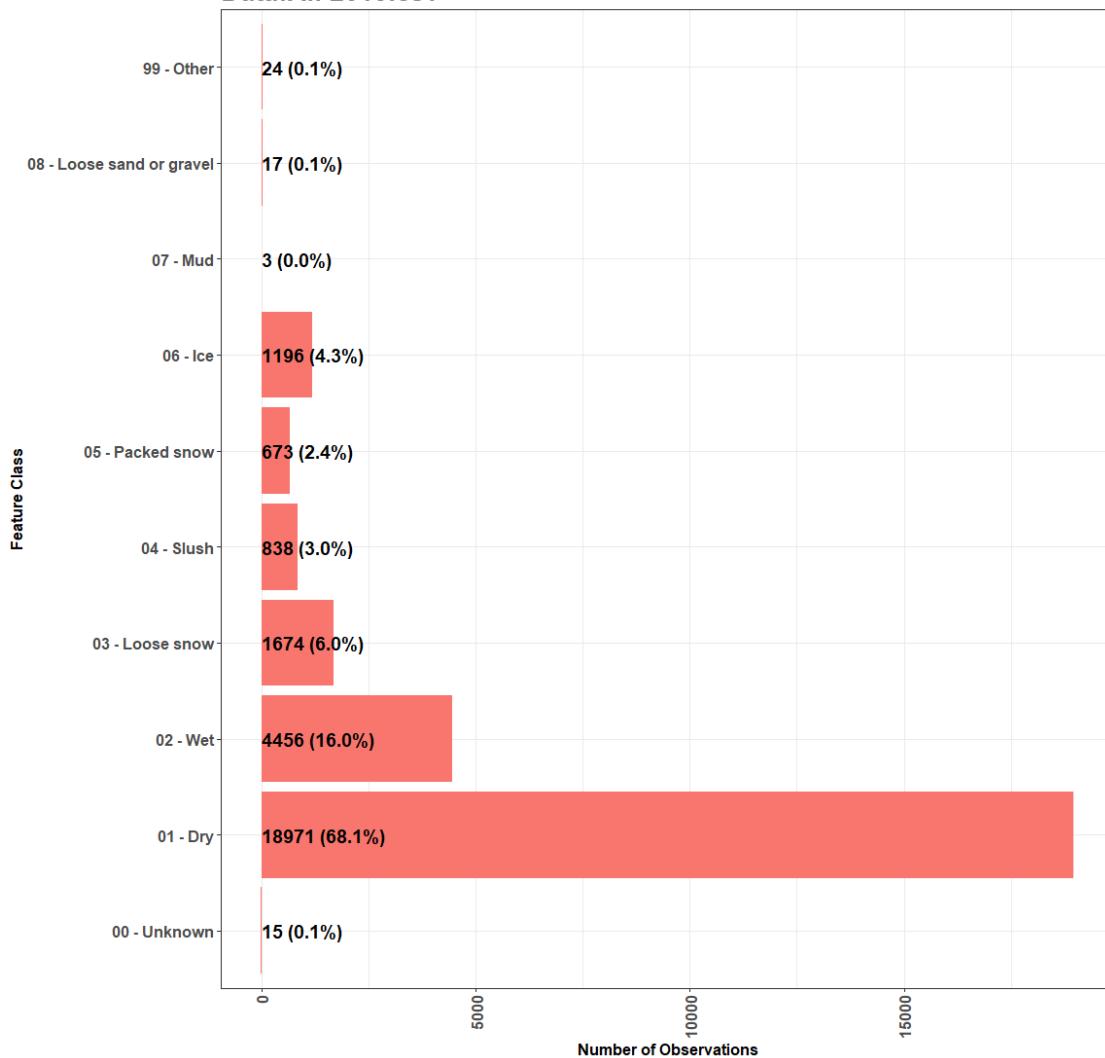
##  

## Feature Value Counter Percentage  

## -----
```

## 00 - Unknown	15	0.0538
## 01 - Dry	18971	68.0769
## 02 - Wet	4456	15.9902
## 03 - Loose snow	1674	6.0071
## 04 - Slush	838	3.0071
## 05 - Packed snow	673	2.4150
## 06 - Ice	1196	4.2918
## 07 - Mud	3	0.0108
## 08 - Loose sand or gravel	17	0.0610
## 99 - Other	24	0.0861

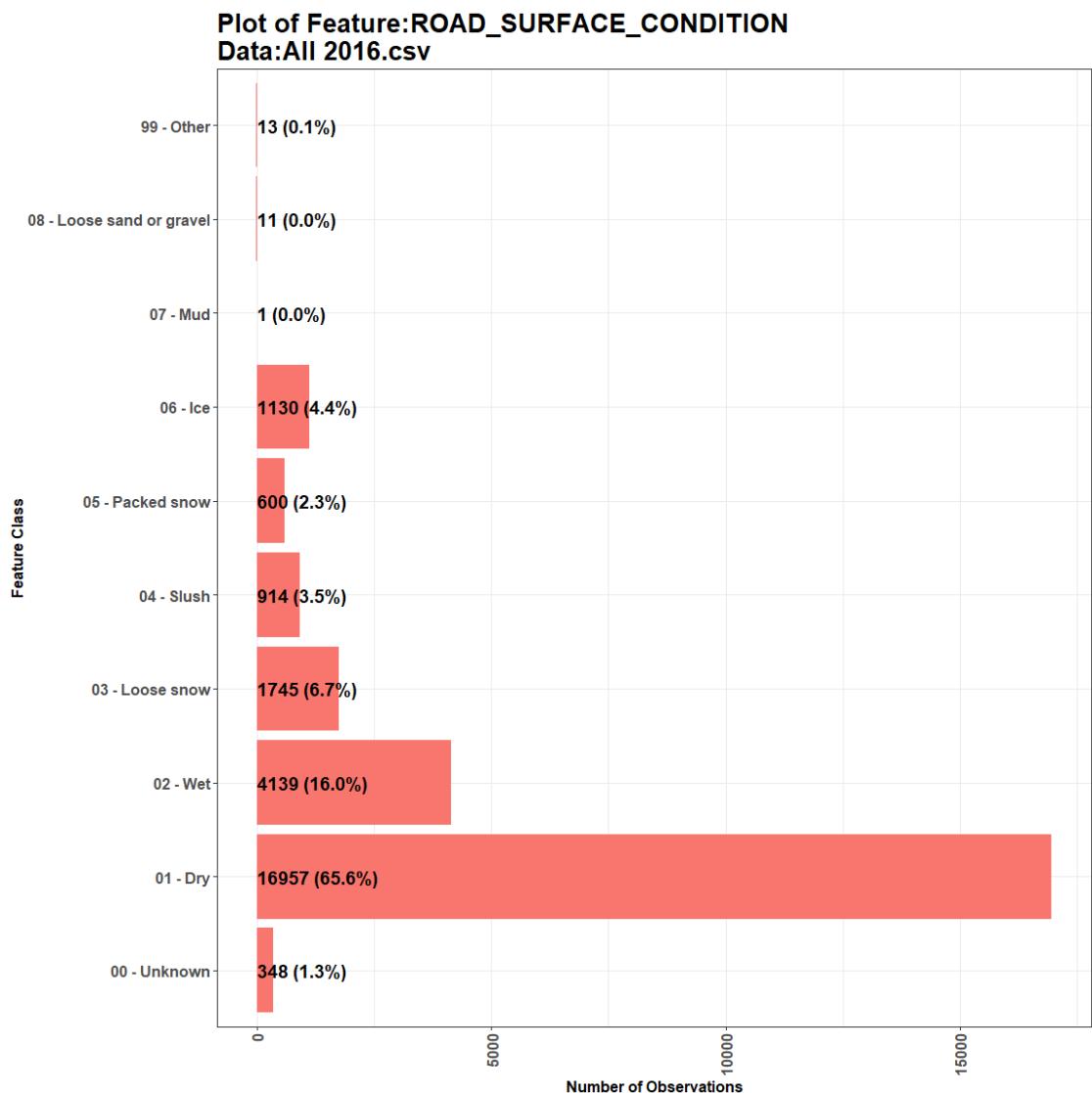
Plot of Feature:ROAD_SURFACE_CONDITION
Data>All 2015.csv



```
##
## -----
## CHECKING FEATURE:ROAD_SURFACE_CONDITION
## DATA:All 2016.csv...
```



```
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  
##  
## Feature Value Counter Percentage  
## ----- -----  
## 00 - Unknown 348 1.3458  
## 01 - Dry 16957 65.5774  
## 02 - Wet 4139 16.0067  
## 03 - Loose snow 1745 6.7484  
## 04 - Slush 914 3.5347  
## 05 - Packed snow 600 2.3204  
## 06 - Ice 1130 4.3700  
## 07 - Mud 1 0.0039  
## 08 - Loose sand or gravel 11 0.0425  
## 99 - Other 13 0.0503
```



```
##  

## -----  

## CHECKING FEATURE:ROAD_SURFACE_CONDITION  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 10  

##  

## TOP 100 FEATURES OF ROAD_SURFACE_CONDITION  

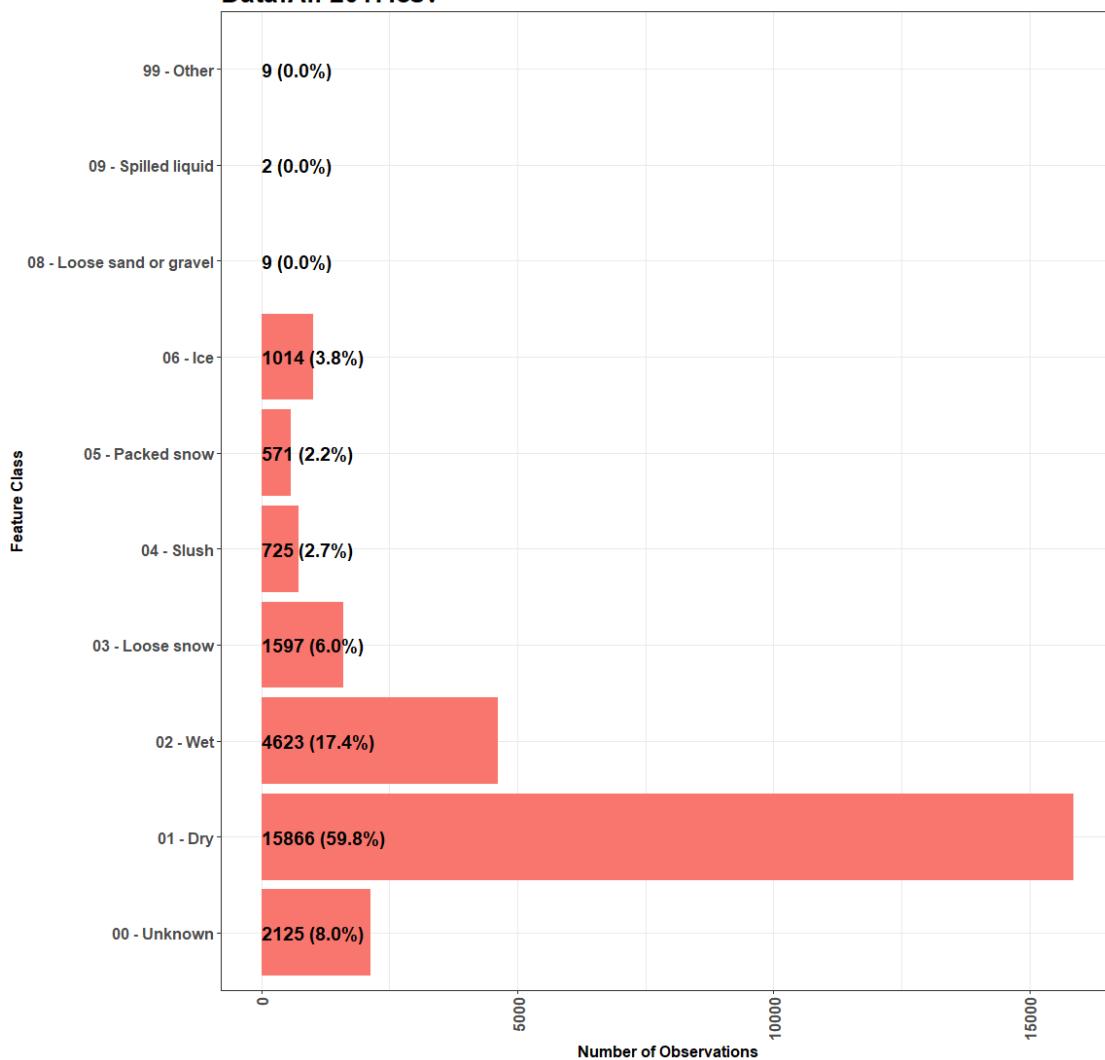
##  

## Feature Value Counter Percentage  

## -----
```

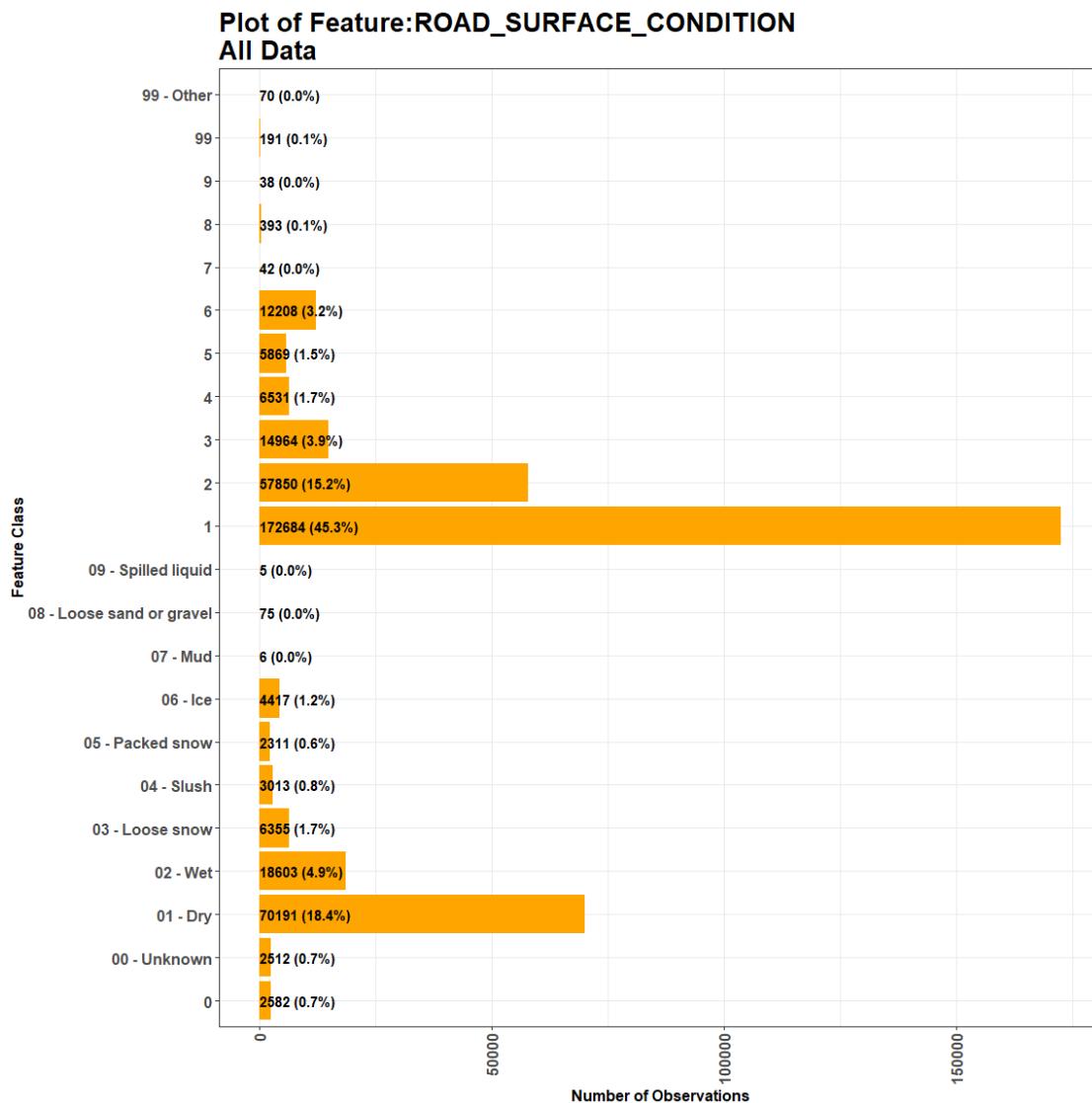
## 00 - Unknown	2125	8.0065
## 01 - Dry	15866	59.7792
## 02 - Wet	4623	17.4183
## 03 - Loose snow	1597	6.0171
## 04 - Slush	725	2.7316
## 05 - Packed snow	571	2.1514
## 06 - Ice	1014	3.8205
## 08 - Loose sand or gravel	9	0.0339
## 09 - Spilled liquid	2	0.0075
## 99 - Other	9	0.0339

Plot of Feature:ROAD_SURFACE_CONDITION
Data:All 2017.csv



```
##
## =====
## FINAL INFO CHECKING FEATURE:ROAD_SURFACE_CONDITION
## ALL DATA...
```

```
## =====
## 
## Number of Blank Values:0
## 
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
## 
## 
## Summary as Factor Feature:
## Number of Features: 22
```

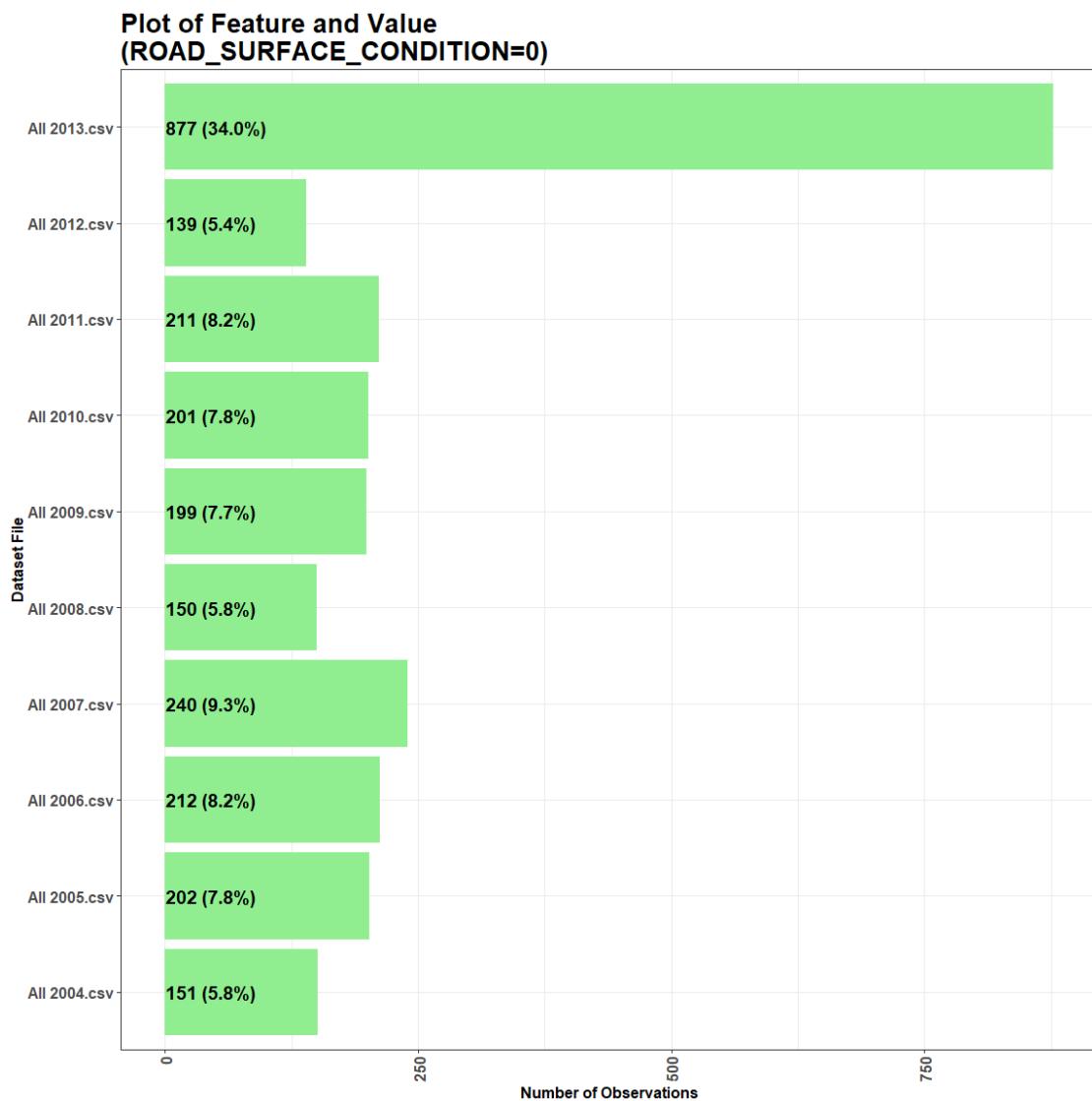


```
## [1] "TOP 100 FEATURES COUNTERS OF:ROAD_SURFACE_CONDITION"
```

Feature Value	Counter	Percentage
0	2582	0.6779
00 - Unknown	2512	0.6595
01 - Dry	70191	18.4272
02 - Wet	18603	4.8838
03 - Loose snow	6355	1.6684
04 - Slush	3013	0.7910
05 - Packed snow	2311	0.6067
06 - Ice	4417	1.1596
07 - Mud	6	0.0016
08 - Loose sand or gravel	75	0.0197
09 - Spilled liquid	5	0.0013
1	172684	45.3346
2	57850	15.1873
3	14964	3.9285
4	6531	1.7146
5	5869	1.5408
6	12208	3.2050
7	42	0.0110
8	393	0.1032
9	38	0.0100
99	191	0.0501
99 - Other	70	0.0184

18.1 ROAD_SURFACE_CONDITION = "0"

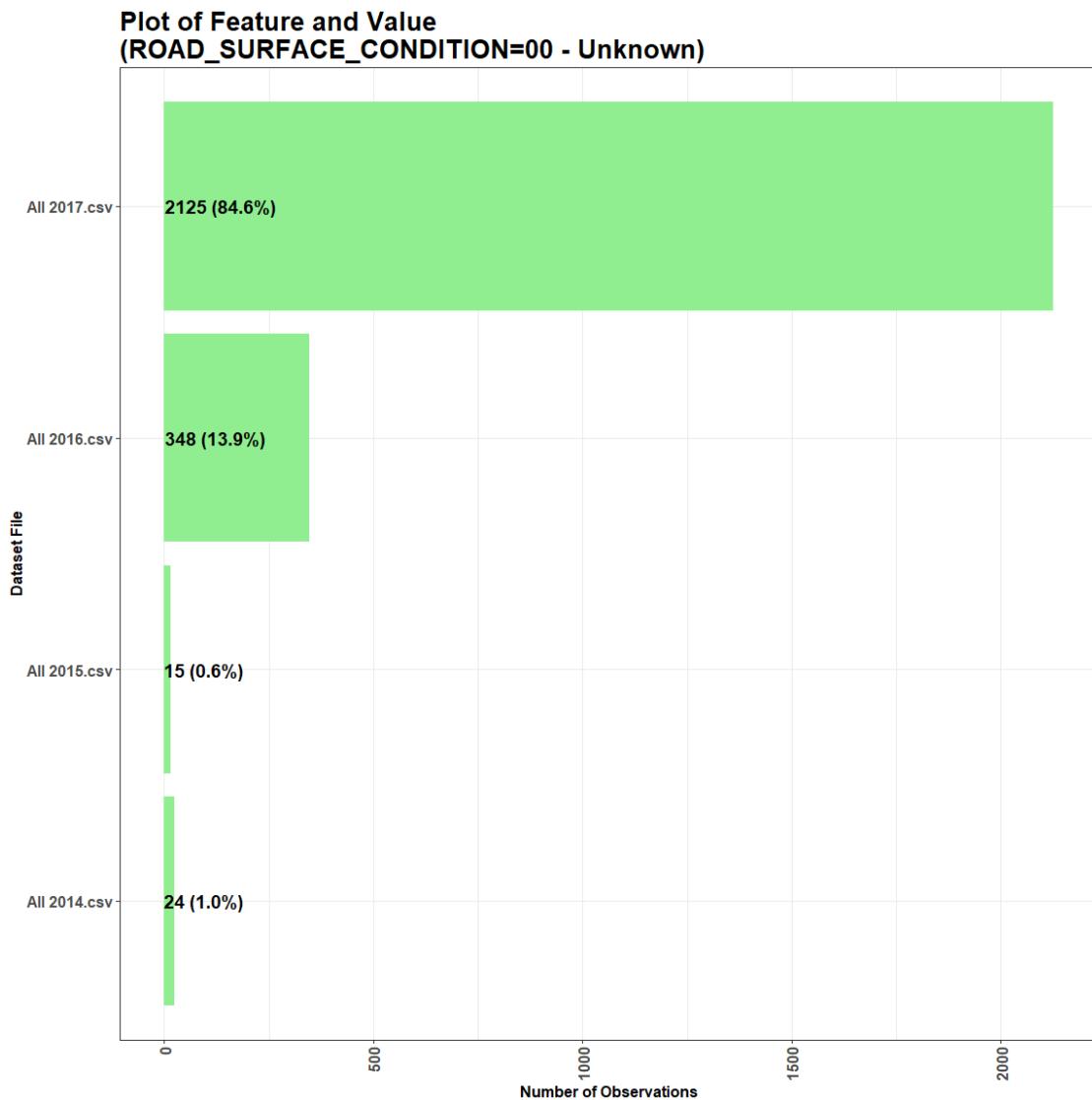
```
##  
## ======  
## CHECKING FEATURE AND VALUE (ROAD_SURFACE_CONDITION=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      151      202      212      240      150  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      199      201      211      139      877
```



DATASET FILE	COUNTER OF (ROAD_SURFACE_CONDITION=0)	Percentage
All 2004.csv	151	5.848
All 2005.csv	202	7.823
All 2006.csv	212	8.211
All 2007.csv	240	9.295
All 2008.csv	150	5.809
All 2009.csv	199	7.707
All 2010.csv	201	7.785
All 2011.csv	211	8.172
All 2012.csv	139	5.383
All 2013.csv	877	33.966

18.2 ROAD_SURFACE_CONDITION = “00 - Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ROAD_SURFACE_CONDITION=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 24 15 348 2125
```



DATASET FILE	COUNTER OF (ROAD_SURFACE_CONDITION=00 - Unknown)	Percentage
All 2014.csv	24	0.9554
All 2015.csv	15	0.5971
All 2016.csv	348	13.8535

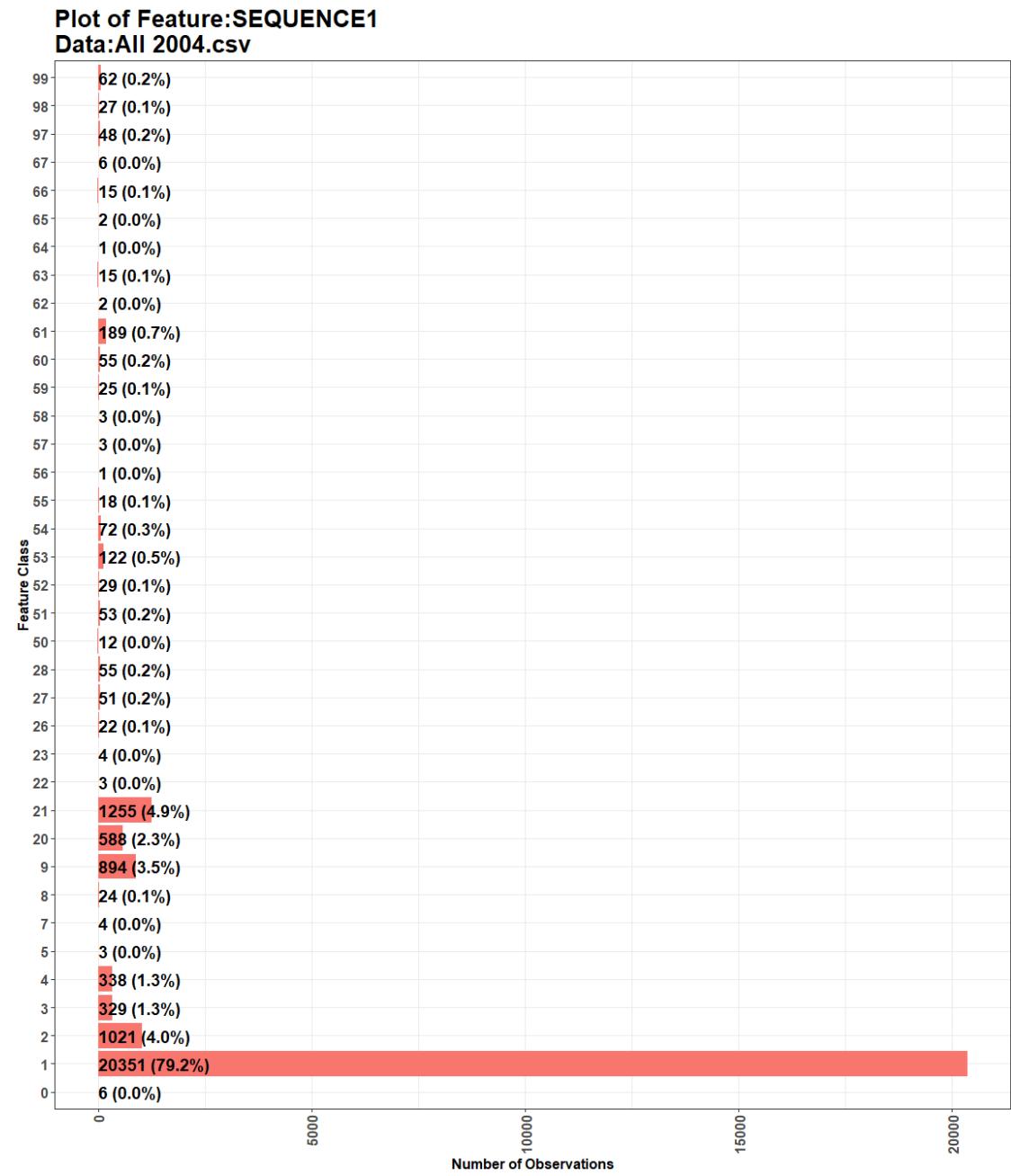
All 2017.csv

2125 84.5939

19. Sequence1 (SEQUENCE1)

```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 37  
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 6 0.0233  
## 1 20351 79.1621  
## 2 1021 3.9715  
## 3 329 1.2798  
## 4 338 1.3148  
## 5 3 0.0117  
## 7 4 0.0156  
## 8 24 0.0934  
## 9 894 3.4775  
## 20 588 2.2872  
## 21 1255 4.8817  
## 22 3 0.0117  
## 23 4 0.0156  
## 26 22 0.0856  
## 27 51 0.1984  
## 28 55 0.2139  
## 50 12 0.0467  
## 51 53 0.2062  
## 52 29 0.1128  
## 53 122 0.4746  
## 54 72 0.2801  
## 55 18 0.0700  
## 56 1 0.0039  
## 57 3 0.0117  
## 58 3 0.0117  
## 59 25 0.0972  
## 60 55 0.2139  
## 61 189 0.7352  
## 62 2 0.0078
```

## 63	15	0.0583
## 64	1	0.0039
## 65	2	0.0078
## 66	15	0.0583
## 67	6	0.0233
## 97	48	0.1867
## 98	27	0.1050
## 99	62	0.2412

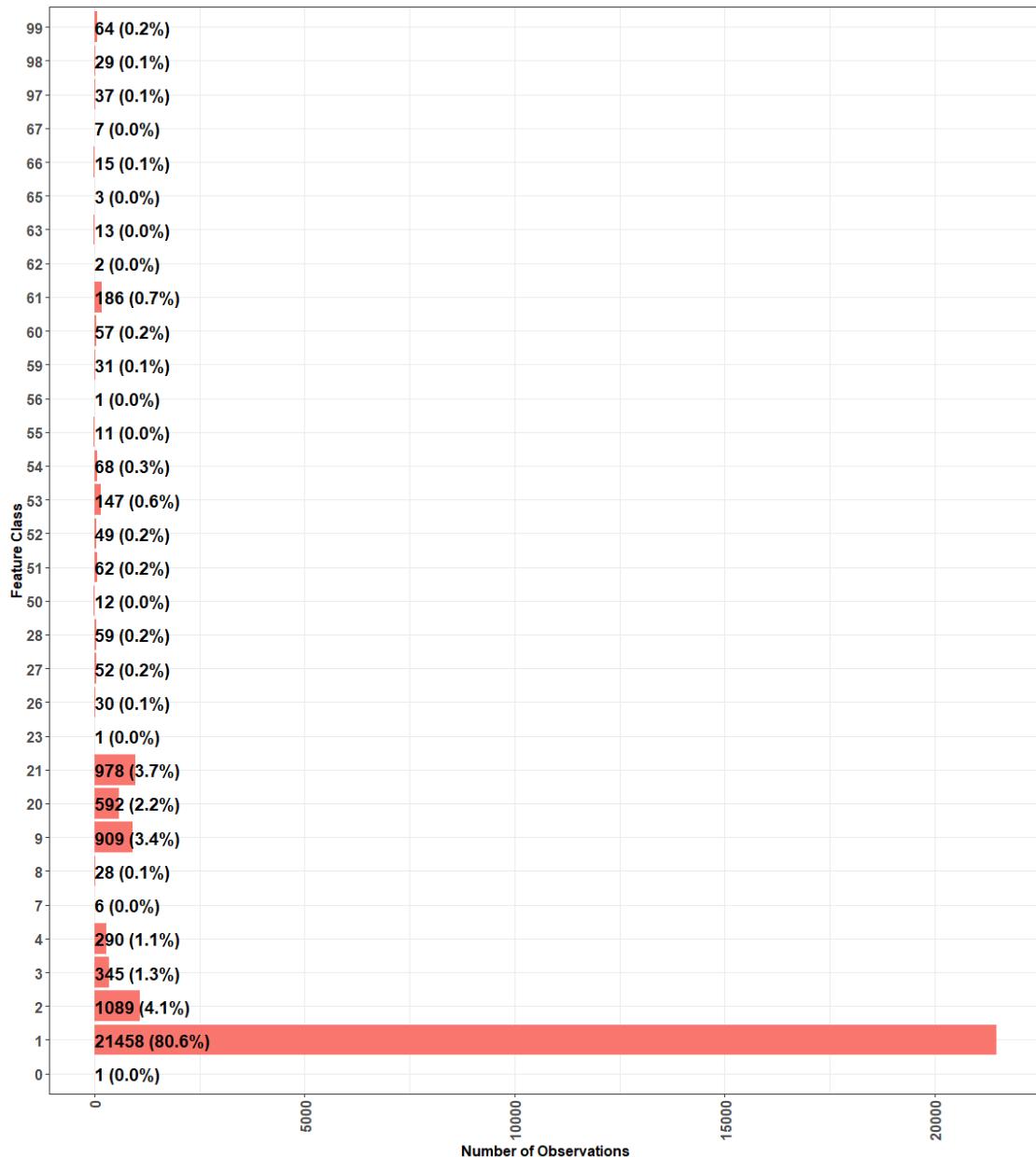


```

## 
## -----
## CHECKING FEATURE:SEQUENCE1
## DATA:All 2005.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 32
##
## TOP 100 FEATURES OF SEQUENCE1
##
## Feature Value Counter Percentage
## -----
## 0 1 0.0038
## 1 21458 80.5722
## 2 1089 4.0891
## 3 345 1.2954
## 4 290 1.0889
## 7 6 0.0225
## 8 28 0.1051
## 9 909 3.4132
## 20 592 2.2229
## 21 978 3.6723
## 23 1 0.0038
## 26 30 0.1126
## 27 52 0.1953
## 28 59 0.2215
## 50 12 0.0451
## 51 62 0.2328
## 52 49 0.1840
## 53 147 0.5520
## 54 68 0.2553
## 55 11 0.0413
## 56 1 0.0038
## 59 31 0.1164
## 60 57 0.2140
## 61 186 0.6984
## 62 2 0.0075
## 63 13 0.0488
## 65 3 0.0113
## 66 15 0.0563
## 67 7 0.0263
## 97 37 0.1389
## 98 29 0.1089
## 99 64 0.2403

```

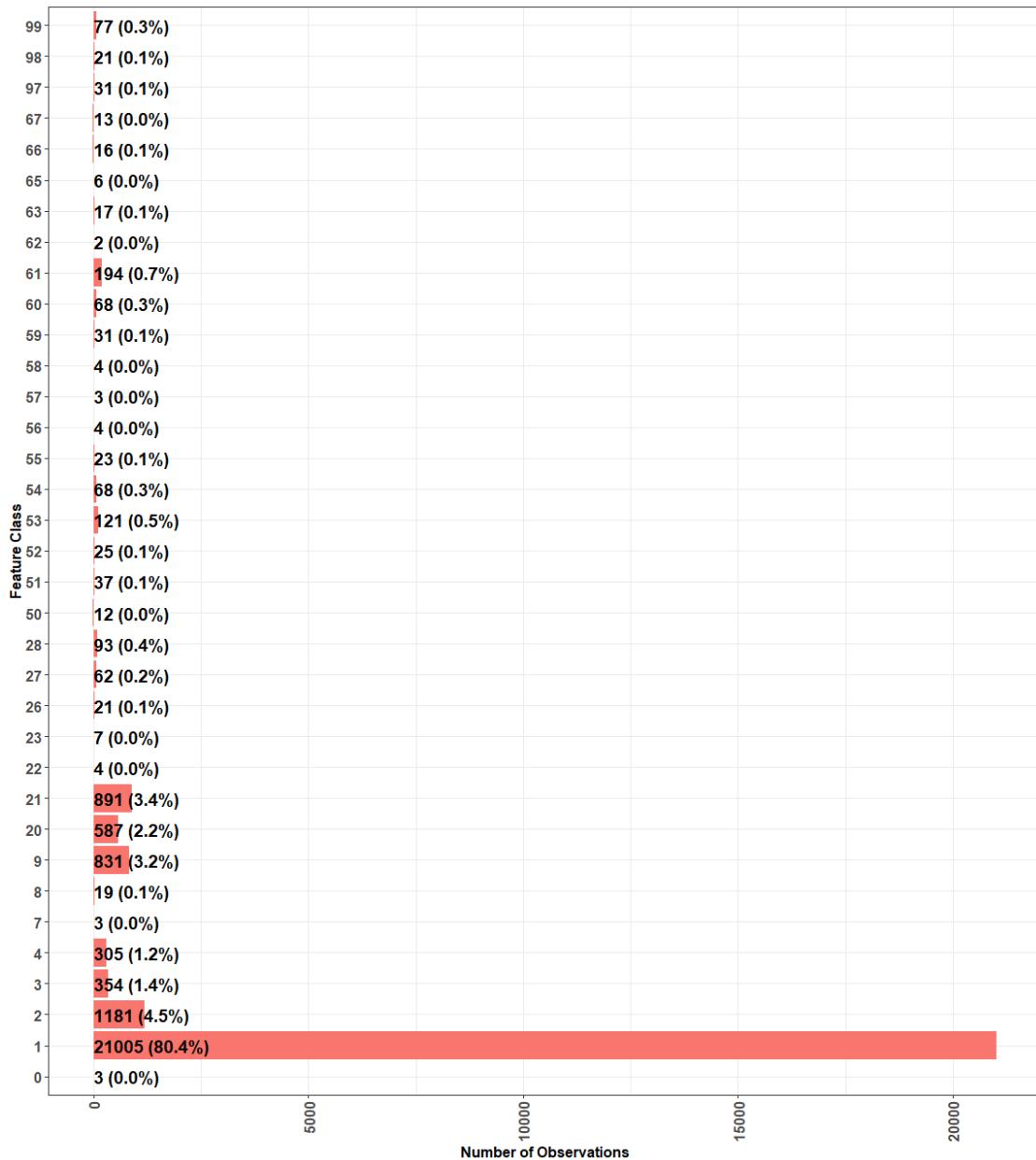
Plot of Feature:SEQUENCE1 Data>All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA>All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 3 0.0115  
## 1 21005 80.3589  
## 2 1181 4.5182  
## 3 354 1.3543  
## 4 305 1.1668  
## 7 3 0.0115  
## 8 19 0.0727  
## 9 831 3.1792  
## 20 587 2.2457  
## 21 891 3.4087  
## 22 4 0.0153  
## 23 7 0.0268  
## 26 21 0.0803  
## 27 62 0.2372  
## 28 93 0.3558  
## 50 12 0.0459  
## 51 37 0.1416  
## 52 25 0.0956  
## 53 121 0.4629  
## 54 68 0.2601  
## 55 23 0.0880  
## 56 4 0.0153  
## 57 3 0.0115  
## 58 4 0.0153  
## 59 31 0.1186  
## 60 68 0.2601  
## 61 194 0.7422  
## 62 2 0.0077  
## 63 17 0.0650  
## 65 6 0.0230  
## 66 16 0.0612  
## 67 13 0.0497  
## 97 31 0.1186  
## 98 21 0.0803  
## 99 77 0.2946
```

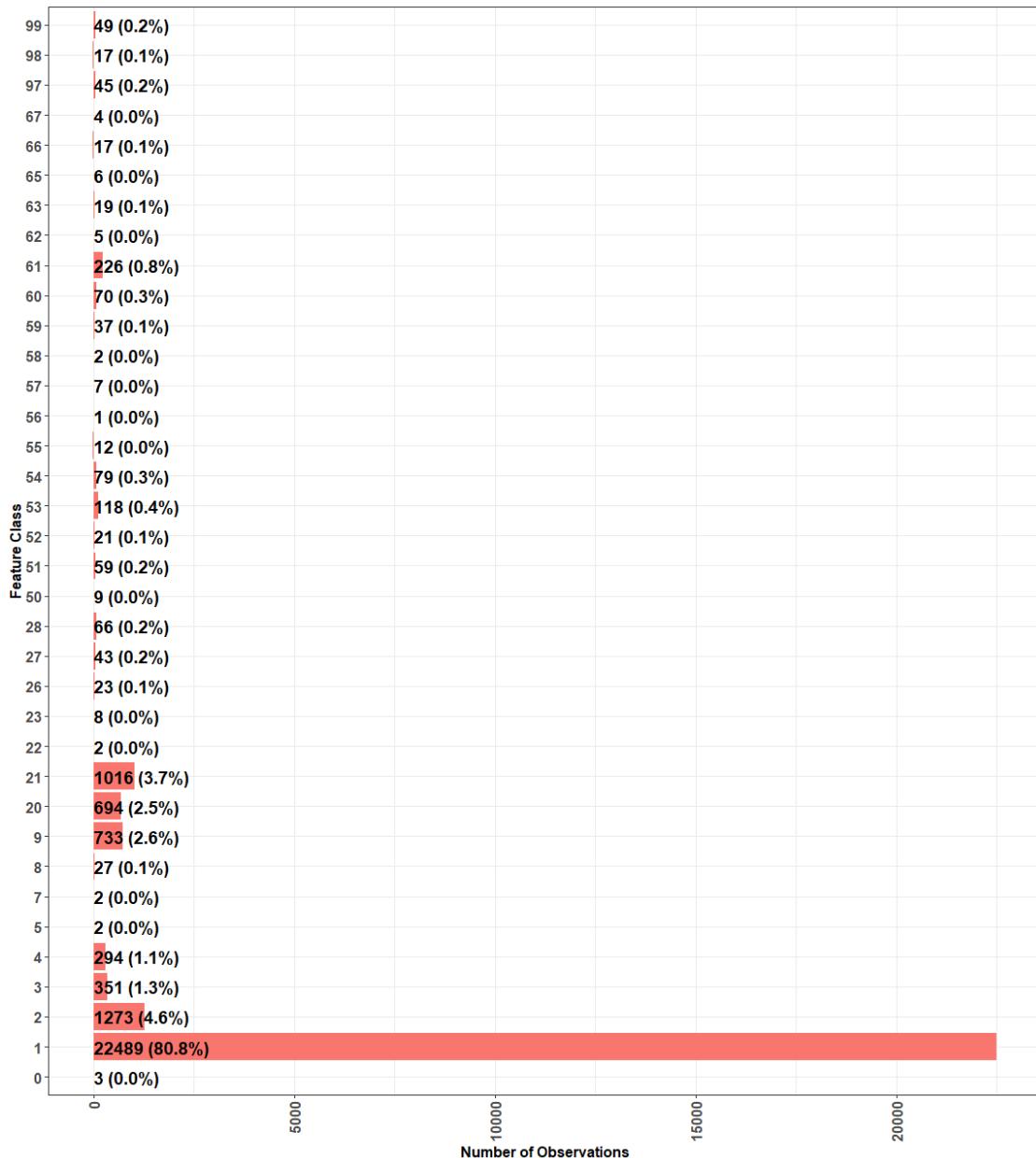
Plot of Feature:SEQUENCE1 Data>All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA>All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 36
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 3 0.0108  
## 1 22489 80.8114  
## 2 1273 4.5744  
## 3 351 1.2613  
## 4 294 1.0565  
## 5 2 0.0072  
## 7 2 0.0072  
## 8 27 0.0970  
## 9 733 2.6339  
## 20 694 2.4938  
## 21 1016 3.6509  
## 22 2 0.0072  
## 23 8 0.0287  
## 26 23 0.0826  
## 27 43 0.1545  
## 28 66 0.2372  
## 50 9 0.0323  
## 51 59 0.2120  
## 52 21 0.0755  
## 53 118 0.4240  
## 54 79 0.2839  
## 55 12 0.0431  
## 56 1 0.0036  
## 57 7 0.0252  
## 58 2 0.0072  
## 59 37 0.1330  
## 60 70 0.2515  
## 61 226 0.8121  
## 62 5 0.0180  
## 63 19 0.0683  
## 65 6 0.0216  
## 66 17 0.0611  
## 67 4 0.0144  
## 97 45 0.1617  
## 98 17 0.0611  
## 99 49 0.1761
```

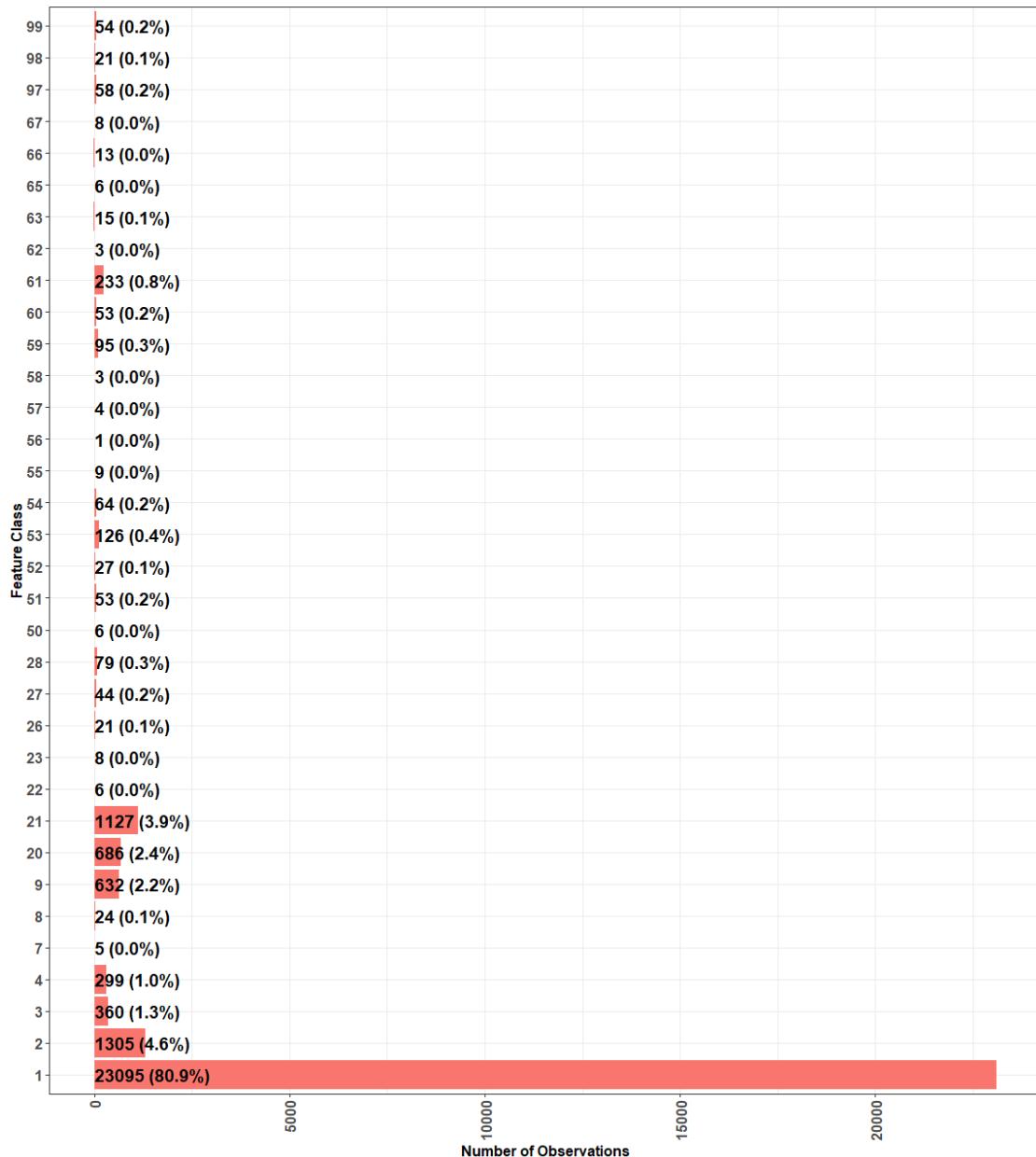
Plot of Feature:SEQUENCE1 Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 1 23095 80.9130  
## 2 1305 4.5720  
## 3 360 1.2613  
## 4 299 1.0475  
## 7 5 0.0175  
## 8 24 0.0841  
## 9 632 2.2142  
## 20 686 2.4034  
## 21 1127 3.9484  
## 22 6 0.0210  
## 23 8 0.0280  
## 26 21 0.0736  
## 27 44 0.1542  
## 28 79 0.2768  
## 50 6 0.0210  
## 51 53 0.1857  
## 52 27 0.0946  
## 53 126 0.4414  
## 54 64 0.2242  
## 55 9 0.0315  
## 56 1 0.0035  
## 57 4 0.0140  
## 58 3 0.0105  
## 59 95 0.3328  
## 60 53 0.1857  
## 61 233 0.8163  
## 62 3 0.0105  
## 63 15 0.0526  
## 65 6 0.0210  
## 66 13 0.0455  
## 67 8 0.0280  
## 97 58 0.2032  
## 98 21 0.0736  
## 99 54 0.1892
```

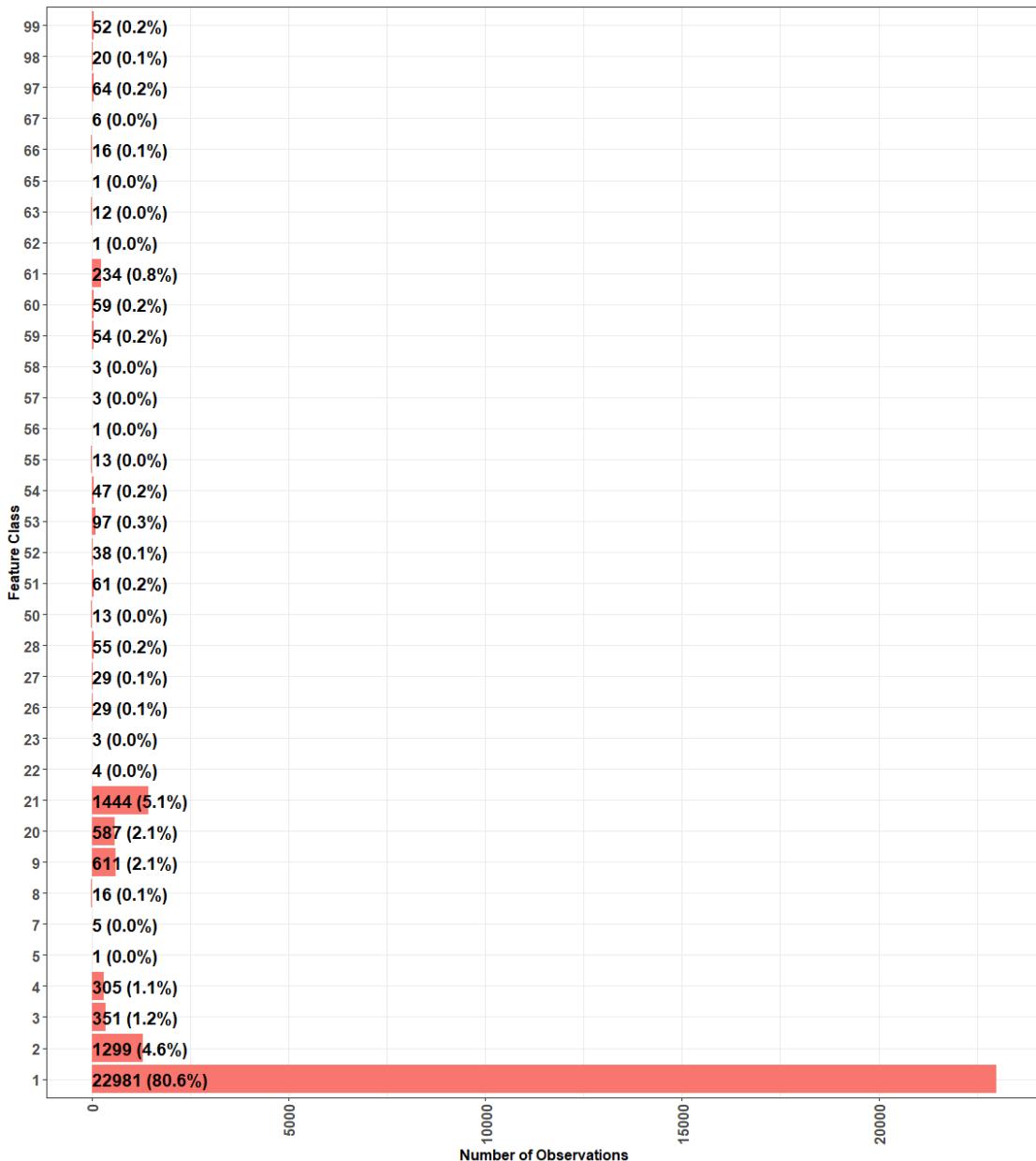
Plot of Feature:SEQUENCE1 Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 1 22981 80.5927  
## 2 1299 4.5555  
## 3 351 1.2309  
## 4 305 1.0696  
## 5 1 0.0035  
## 7 5 0.0175  
## 8 16 0.0561  
## 9 611 2.1427  
## 20 587 2.0586  
## 21 1444 5.0640  
## 22 4 0.0140  
## 23 3 0.0105  
## 26 29 0.1017  
## 27 29 0.1017  
## 28 55 0.1929  
## 50 13 0.0456  
## 51 61 0.2139  
## 52 38 0.1333  
## 53 97 0.3402  
## 54 47 0.1648  
## 55 13 0.0456  
## 56 1 0.0035  
## 57 3 0.0105  
## 58 3 0.0105  
## 59 54 0.1894  
## 60 59 0.2069  
## 61 234 0.8206  
## 62 1 0.0035  
## 63 12 0.0421  
## 65 1 0.0035  
## 66 16 0.0561  
## 67 6 0.0210  
## 97 64 0.2244  
## 98 20 0.0701  
## 99 52 0.1824
```

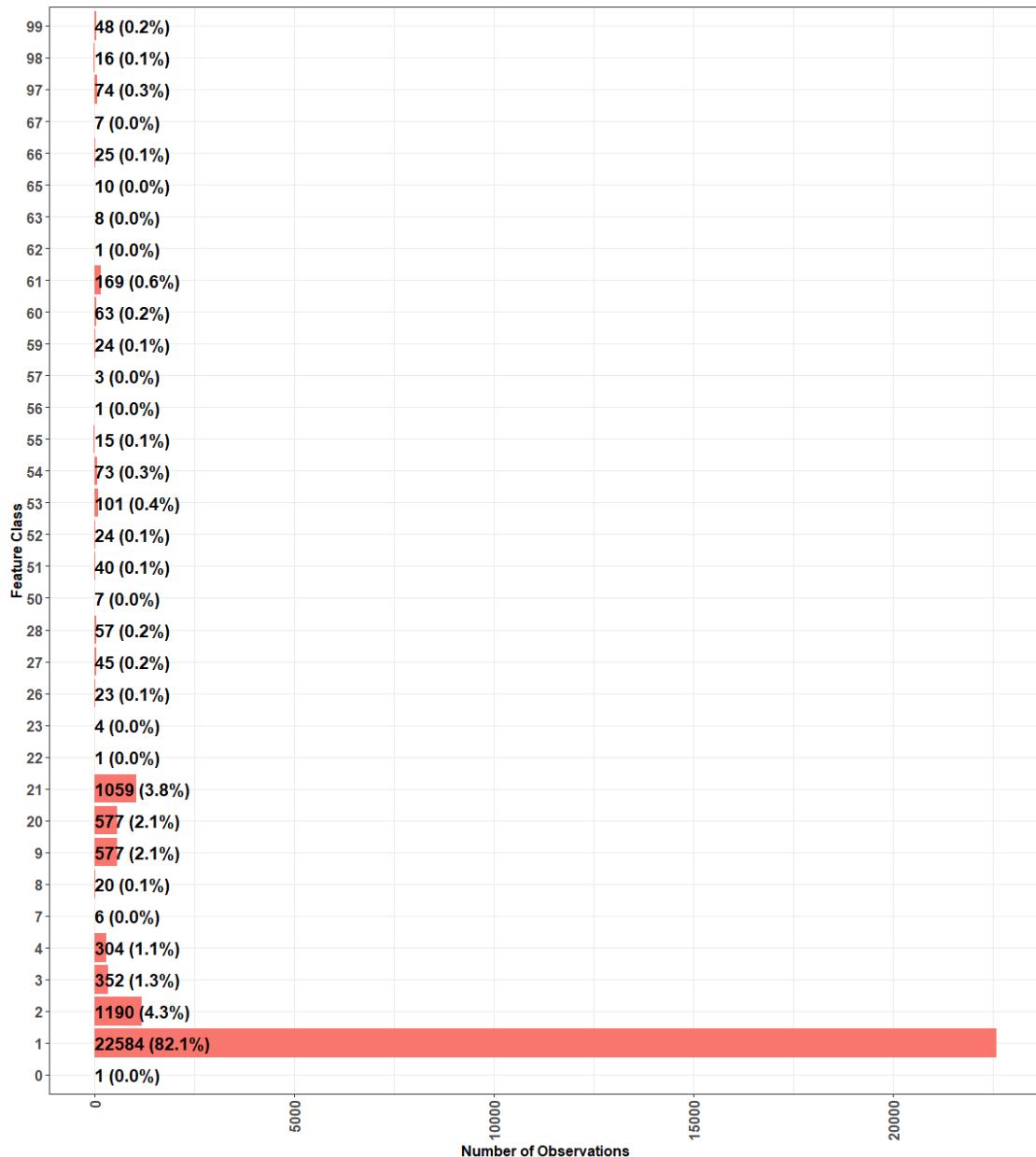
Plot of Feature:SEQUENCE1 Data:All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1 0.0036  
## 1 22584 82.0968  
## 2 1190 4.3259  
## 3 352 1.2796  
## 4 304 1.1051  
## 7 6 0.0218  
## 8 20 0.0727  
## 9 577 2.0975  
## 20 577 2.0975  
## 21 1059 3.8496  
## 22 1 0.0036  
## 23 4 0.0145  
## 26 23 0.0836  
## 27 45 0.1636  
## 28 57 0.2072  
## 50 7 0.0254  
## 51 40 0.1454  
## 52 24 0.0872  
## 53 101 0.3672  
## 54 73 0.2654  
## 55 15 0.0545  
## 56 1 0.0036  
## 57 3 0.0109  
## 59 24 0.0872  
## 60 63 0.2290  
## 61 169 0.6143  
## 62 1 0.0036  
## 63 8 0.0291  
## 65 10 0.0364  
## 66 25 0.0909  
## 67 7 0.0254  
## 97 74 0.2690  
## 98 16 0.0582  
## 99 48 0.1745
```

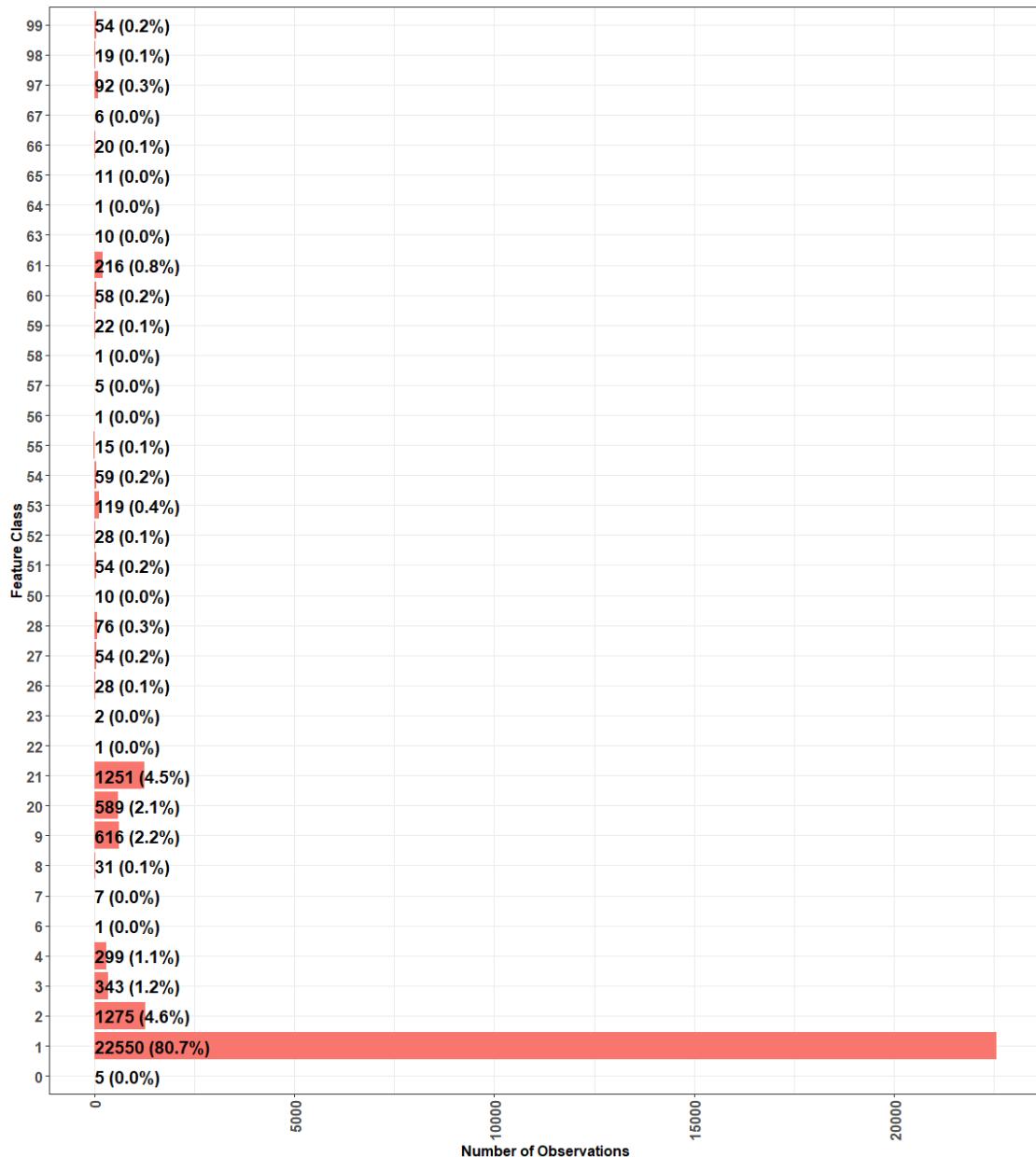
Plot of Feature:SEQUENCE1 Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 36
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 5 0.0179  
## 1 22550 80.7404  
## 2 1275 4.5651  
## 3 343 1.2281  
## 4 299 1.0706  
## 6 1 0.0036  
## 7 7 0.0251  
## 8 31 0.1110  
## 9 616 2.2056  
## 20 589 2.1089  
## 21 1251 4.4792  
## 22 1 0.0036  
## 23 2 0.0072  
## 26 28 0.1003  
## 27 54 0.1933  
## 28 76 0.2721  
## 50 10 0.0358  
## 51 54 0.1933  
## 52 28 0.1003  
## 53 119 0.4261  
## 54 59 0.2112  
## 55 15 0.0537  
## 56 1 0.0036  
## 57 5 0.0179  
## 58 1 0.0036  
## 59 22 0.0788  
## 60 58 0.2077  
## 61 216 0.7734  
## 63 10 0.0358  
## 64 1 0.0036  
## 65 11 0.0394  
## 66 20 0.0716  
## 67 6 0.0215  
## 97 92 0.3294  
## 98 19 0.0680  
## 99 54 0.1933
```

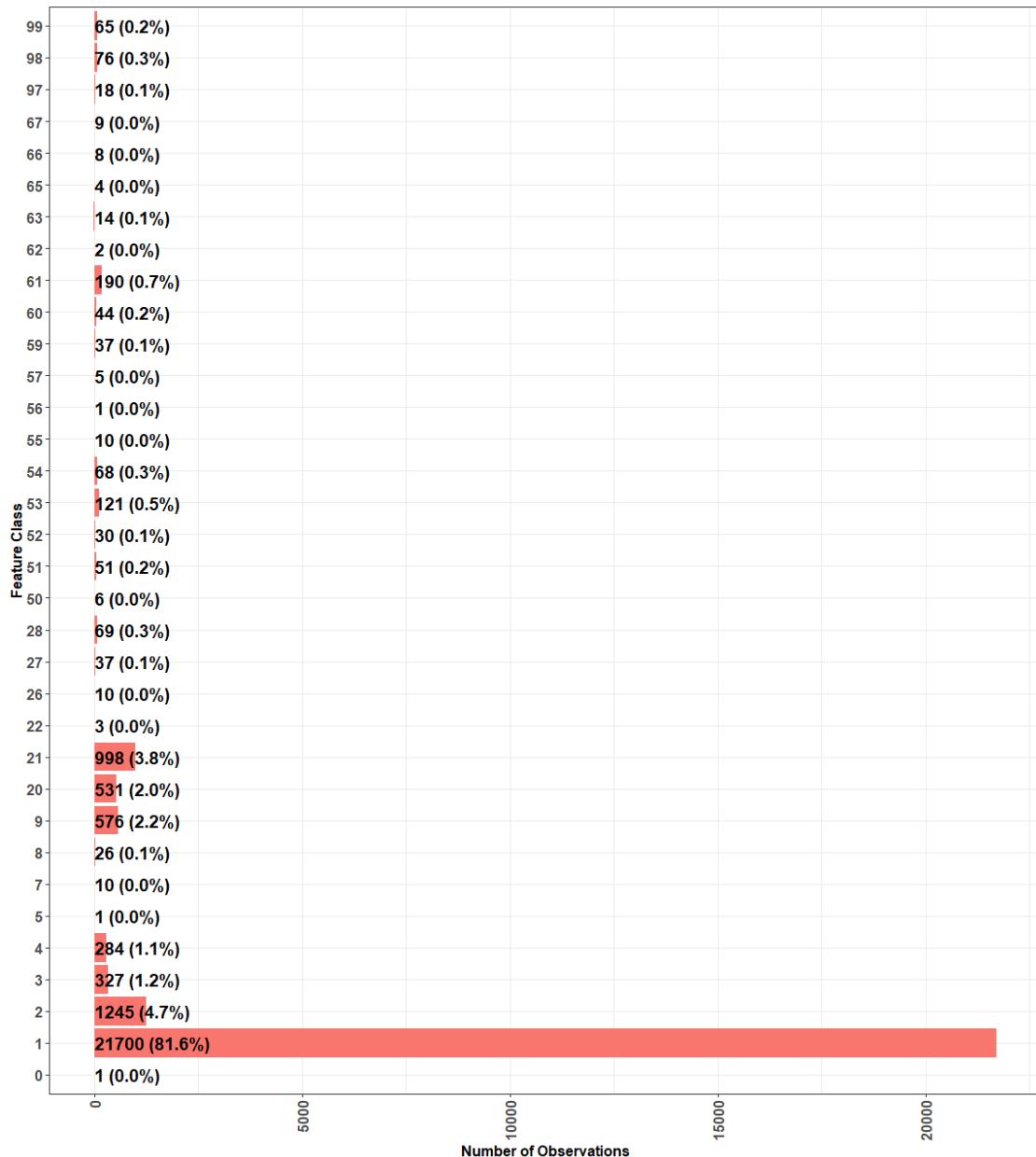
Plot of Feature:SEQUENCE1 Data:All 2011.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1 0.0038  
## 1 21700 81.6495  
## 2 1245 4.6845  
## 3 327 1.2304  
## 4 284 1.0686  
## 5 1 0.0038  
## 7 10 0.0376  
## 8 26 0.0978  
## 9 576 2.1673  
## 20 531 1.9980  
## 21 998 3.7551  
## 22 3 0.0113  
## 26 10 0.0376  
## 27 37 0.1392  
## 28 69 0.2596  
## 50 6 0.0226  
## 51 51 0.1919  
## 52 30 0.1129  
## 53 121 0.4553  
## 54 68 0.2559  
## 55 10 0.0376  
## 56 1 0.0038  
## 57 5 0.0188  
## 59 37 0.1392  
## 60 44 0.1656  
## 61 190 0.7149  
## 62 2 0.0075  
## 63 14 0.0527  
## 65 4 0.0151  
## 66 8 0.0301  
## 67 9 0.0339  
## 97 18 0.0677  
## 98 76 0.2860  
## 99 65 0.2446
```

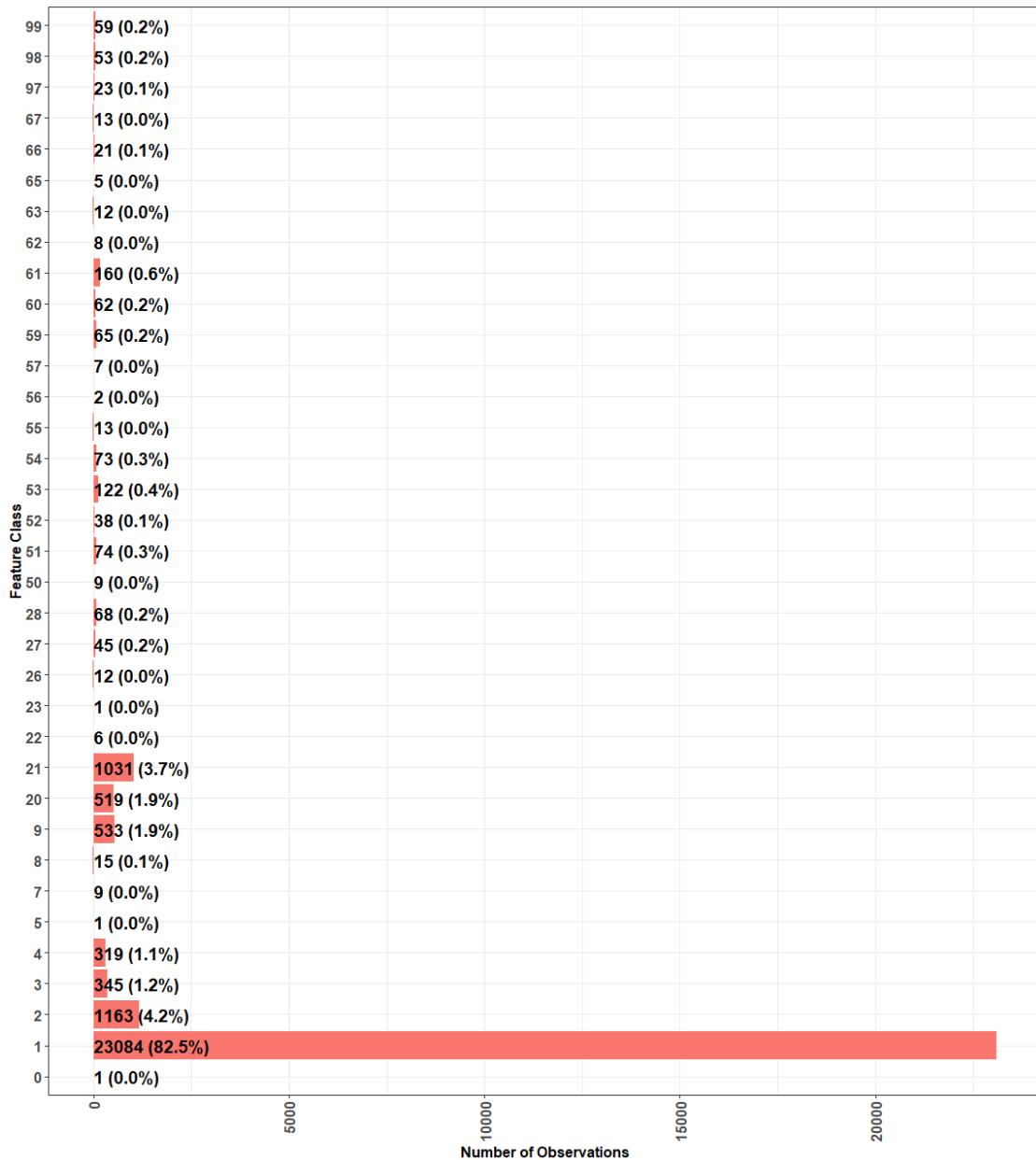
Plot of Feature:SEQUENCE1 Data>All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA>All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1 0.0036  
## 1 23084 82.5283  
## 2 1163 4.1579  
## 3 345 1.2334  
## 4 319 1.1405  
## 5 1 0.0036  
## 7 9 0.0322  
## 8 15 0.0536  
## 9 533 1.9055  
## 20 519 1.8555  
## 21 1031 3.6860  
## 22 6 0.0215  
## 23 1 0.0036  
## 26 12 0.0429  
## 27 45 0.1609  
## 28 68 0.2431  
## 50 9 0.0322  
## 51 74 0.2646  
## 52 38 0.1359  
## 53 122 0.4362  
## 54 73 0.2610  
## 55 13 0.0465  
## 56 2 0.0072  
## 57 7 0.0250  
## 59 65 0.2324  
## 60 62 0.2217  
## 61 160 0.5720  
## 62 8 0.0286  
## 63 12 0.0429  
## 65 5 0.0179  
## 66 21 0.0751  
## 67 13 0.0465  
## 97 23 0.0822  
## 98 53 0.1895  
## 99 59 0.2109
```

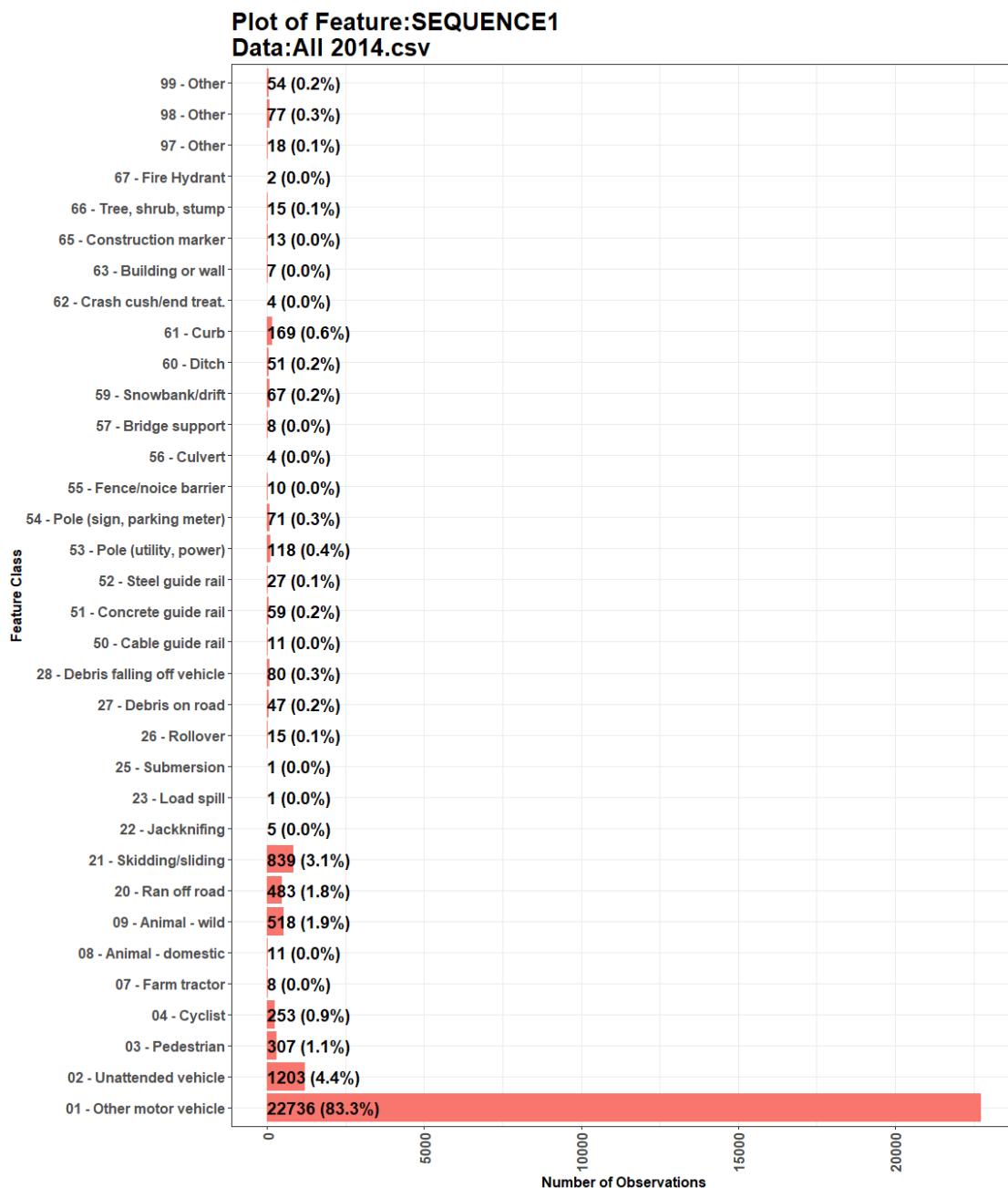
Plot of Feature:SEQUENCE1 Data:All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

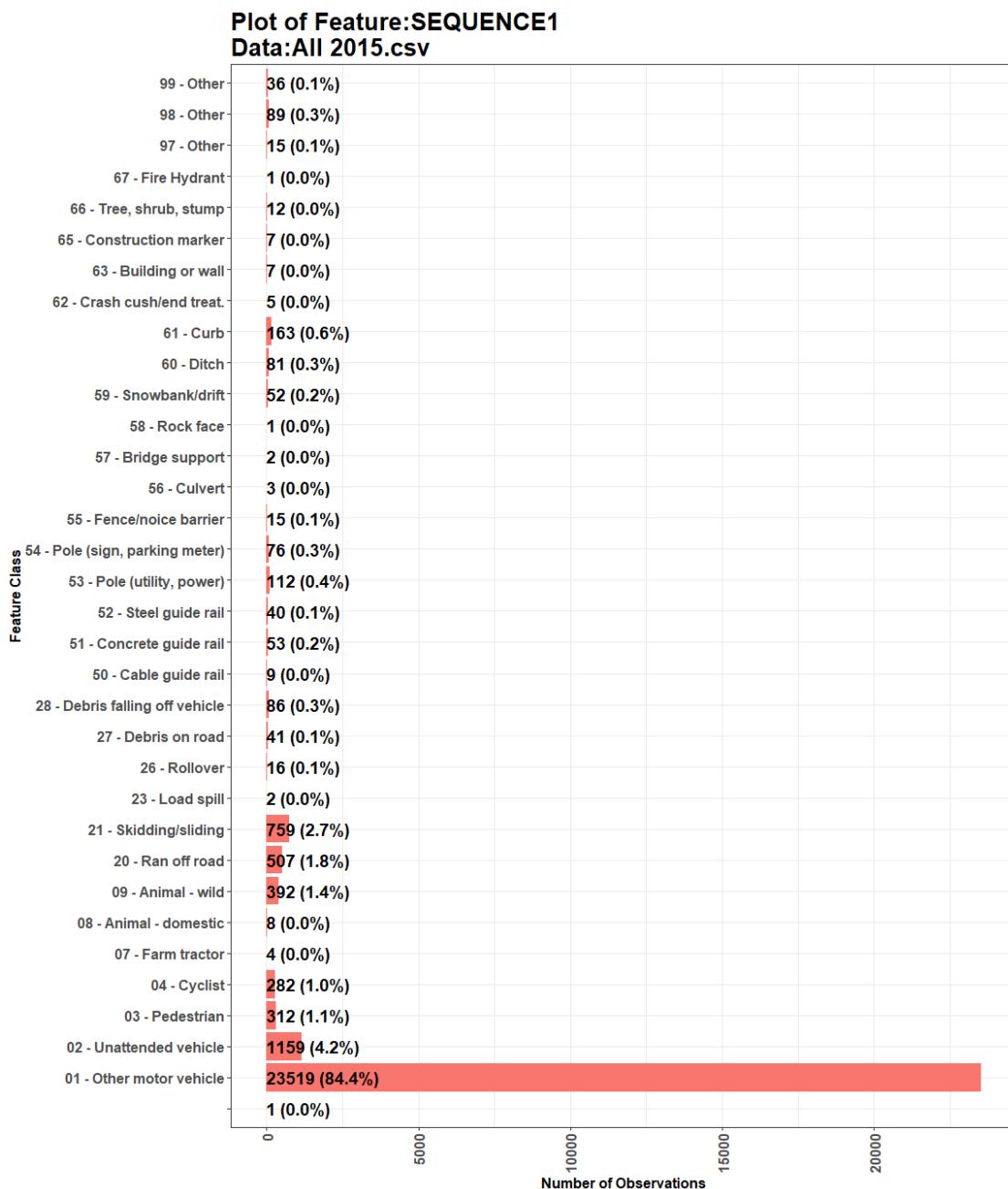


```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Other motor vehicle 22736 83.3065  
## 02 - Unattended vehicle 1203 4.4079  
## 03 - Pedestrian 307 1.1249  
## 04 - Cyclist 253 0.9270  
## 07 - Farm tractor 8 0.0293  
## 08 - Animal - domestic 11 0.0403  
## 09 - Animal - wild 518 1.8980  
## 20 - Ran off road 483 1.7697  
## 21 - Skidding/sliding 839 3.0742  
## 22 - Jackknifing 5 0.0183  
## 23 - Load spill 1 0.0037  
## 25 - Submersion 1 0.0037  
## 26 - Rollover 15 0.0550  
## 27 - Debris on road 47 0.1722  
## 28 - Debris falling off vehicle 80 0.2931  
## 50 - Cable guide rail 11 0.0403  
## 51 - Concrete guide rail 59 0.2162  
## 52 - Steel guide rail 27 0.0989  
## 53 - Pole (utility, power) 118 0.4324  
## 54 - Pole (sign, parking meter) 71 0.2601  
## 55 - Fence/noice barrier 10 0.0366  
## 56 - Culvert 4 0.0147  
## 57 - Bridge support 8 0.0293  
## 59 - Snowbank/drift 67 0.2455  
## 60 - Ditch 51 0.1869  
## 61 - Curb 169 0.6192  
## 62 - Crash cush/end treat. 4 0.0147  
## 63 - Building or wall 7 0.0256  
## 65 - Construction marker 13 0.0476  
## 66 - Tree, shrub, stump 15 0.0550  
## 67 - Fire Hydrant 2 0.0073  
## 97 - Other 18 0.0660  
## 98 - Other 77 0.2821  
## 99 - Other 54 0.1979
```



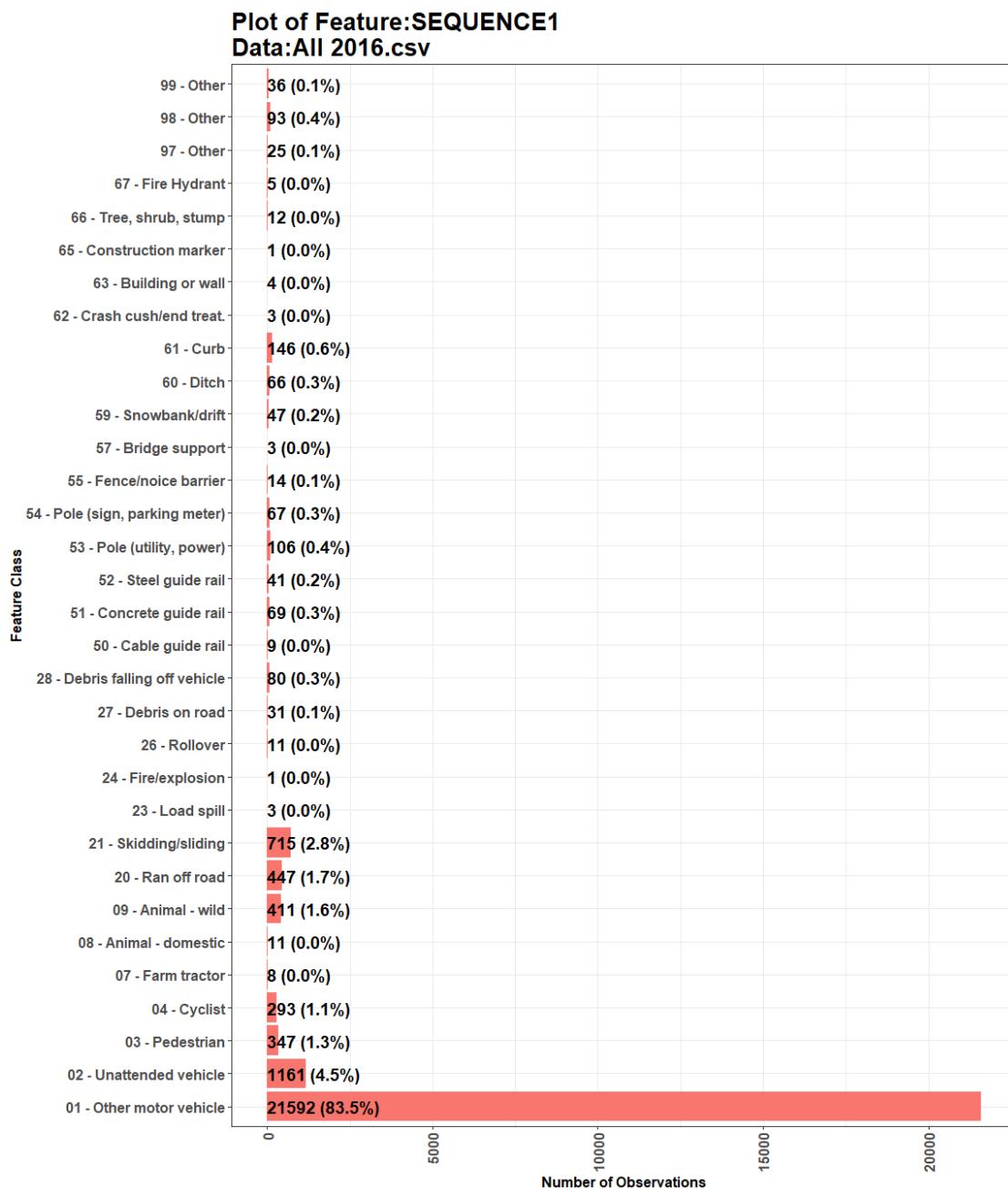
```
##
## -----
## CHECKING FEATURE:SEQUENCE1
## DATA:All 2015.csv...
##
## Number of Blank Values:1
##
## Summary as Factor Feature:
##
## Number of Features: 34
```

```
##
## TOP 100 FEATURES OF SEQUENCE1
##
## Feature Value Counter Percentage
## -----
## 1 0.0036
## 01 - Other motor vehicle 23519 84.3973
## 02 - Unattended vehicle 1159 4.1590
## 03 - Pedestrian 312 1.1196
## 04 - Cyclist 282 1.0119
## 07 - Farm tractor 4 0.0144
## 08 - Animal - domestic 8 0.0287
## 09 - Animal - wild 392 1.4067
## 20 - Ran off road 507 1.8194
## 21 - Skidding/sliding 759 2.7237
## 23 - Load spill 2 0.0072
## 26 - Rollover 16 0.0574
## 27 - Debris on road 41 0.1471
## 28 - Debris falling off vehicle 86 0.3086
## 50 - Cable guide rail 9 0.0323
## 51 - Concrete guide rail 53 0.1902
## 52 - Steel guide rail 40 0.1435
## 53 - Pole (utility, power) 112 0.4019
## 54 - Pole (sign, parking meter) 76 0.2727
## 55 - Fence/noice barrier 15 0.0538
## 56 - Culvert 3 0.0108
## 57 - Bridge support 2 0.0072
## 58 - Rock face 1 0.0036
## 59 - Snowbank/drift 52 0.1866
## 60 - Ditch 81 0.2907
## 61 - Curb 163 0.5849
## 62 - Crash cush/end treat. 5 0.0179
## 63 - Building or wall 7 0.0251
## 65 - Construction marker 7 0.0251
## 66 - Tree, shrub, stump 12 0.0431
## 67 - Fire Hydrant 1 0.0036
## 97 - Other 15 0.0538
## 98 - Other 89 0.3194
## 99 - Other 36 0.1292
```



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE1  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 32
```

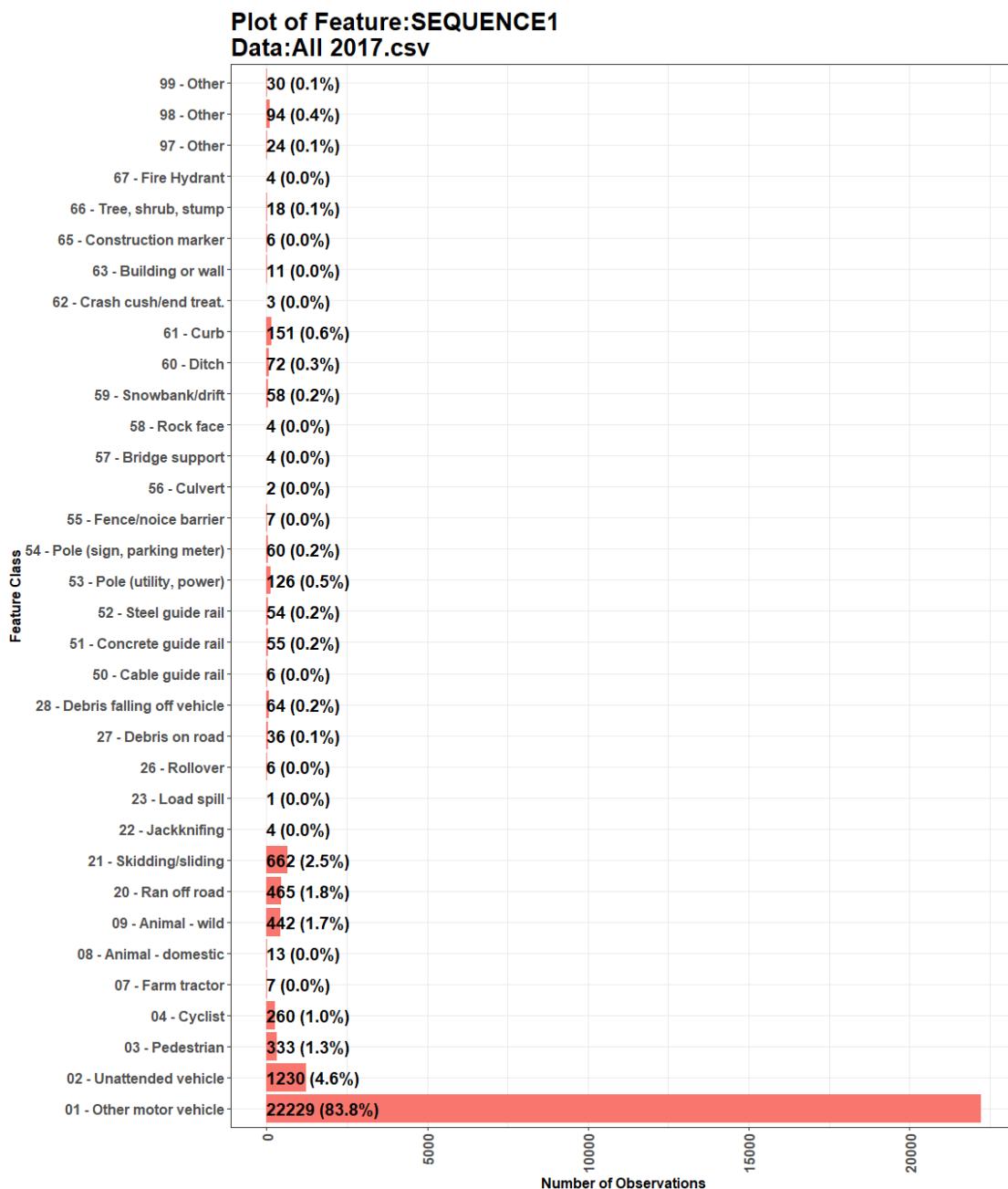
```
##
## TOP 100 FEATURES OF SEQUENCE1
##
## Feature Value          Counter   Percentage
## -----
## 01 - Other motor vehicle      21592    83.5022
## 02 - Unattended vehicle       1161     4.4899
## 03 - Pedestrian                347     1.3419
## 04 - Cyclist                  293     1.1331
## 07 - Farm tractor              8      0.0309
## 08 - Animal - domestic        11     0.0425
## 09 - Animal - wild            411     1.5895
## 20 - Ran off road             447     1.7287
## 21 - Skidding/sliding         715     2.7651
## 23 - Load spill                3      0.0116
## 24 - Fire/explosion            1      0.0039
## 26 - Rollover                 11     0.0425
## 27 - Debris on road            31     0.1199
## 28 - Debris falling off vehicle 80     0.3094
## 50 - Cable guide rail           9      0.0348
## 51 - Concrete guide rail        69     0.2668
## 52 - Steel guide rail           41     0.1586
## 53 - Pole (utility, power)      106    0.4099
## 54 - Pole (sign, parking meter) 67     0.2591
## 55 - Fence/noice barrier        14     0.0541
## 57 - Bridge support              3      0.0116
## 59 - Snowbank/drift             47     0.1818
## 60 - Ditch                      66     0.2552
## 61 - Curb                       146    0.5646
## 62 - Crash cush/end treat.       3      0.0116
## 63 - Building or wall            4      0.0155
## 65 - Construction marker         1      0.0039
## 66 - Tree, shrub, stump          12     0.0464
## 67 - Fire Hydrant                 5      0.0193
## 97 - Other                      25     0.0967
## 98 - Other                      93     0.3597
## 99 - Other                      36     0.1392
```



```
##
## -----
## CHECKING FEATURE:SEQUENCE1
## DATA:All 2017.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 34
```



```
##  
## TOP 100 FEATURES OF SEQUENCE1  
##  
## Feature Value Counter Percentage  
## -----  
## 01 - Other motor vehicle 22229 83.7534  
## 02 - Unattended vehicle 1230 4.6343  
## 03 - Pedestrian 333 1.2547  
## 04 - Cyclist 260 0.9796  
## 07 - Farm tractor 7 0.0264  
## 08 - Animal - domestic 13 0.0490  
## 09 - Animal - wild 442 1.6653  
## 20 - Ran off road 465 1.7520  
## 21 - Skidding/sliding 662 2.4943  
## 22 - Jackknifing 4 0.0151  
## 23 - Load spill 1 0.0038  
## 26 - Rollover 6 0.0226  
## 27 - Debris on road 36 0.1356  
## 28 - Debris falling off vehicle 64 0.2411  
## 50 - Cable guide rail 6 0.0226  
## 51 - Concrete guide rail 55 0.2072  
## 52 - Steel guide rail 54 0.2035  
## 53 - Pole (utility, power) 126 0.4747  
## 54 - Pole (sign, parking meter) 60 0.2261  
## 55 - Fence/noice barrier 7 0.0264  
## 56 - Culvert 2 0.0075  
## 57 - Bridge support 4 0.0151  
## 58 - Rock face 4 0.0151  
## 59 - Snowbank/drift 58 0.2185  
## 60 - Ditch 72 0.2713  
## 61 - Curb 151 0.5689  
## 62 - Crash cush/end treat. 3 0.0113  
## 63 - Building or wall 11 0.0414  
## 65 - Construction marker 6 0.0226  
## 66 - Tree, shrub, stump 18 0.0678  
## 67 - Fire Hydrant 4 0.0151  
## 97 - Other 24 0.0904  
## 98 - Other 94 0.3542  
## 99 - Other 30 0.1130
```

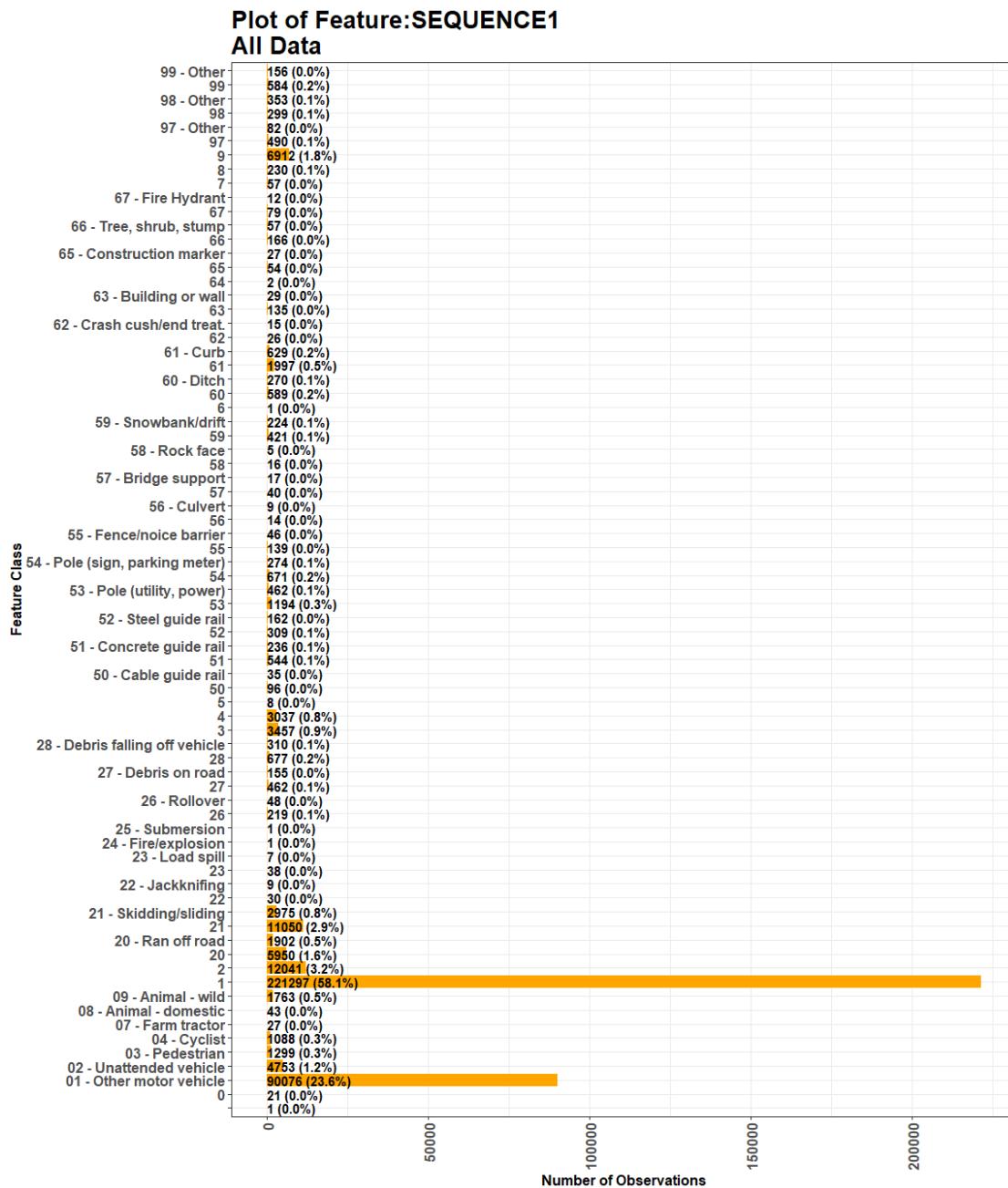


```
##  
## =====  
## FINAL INFO CHECKING FEATURE:SEQUENCE1  
## ALL DATA...  
## =====  
##  
## Number of Blank Values:1  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      25708     26632     26139     27829     28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515     27509     27929     26577     27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292     27867     25858     26541
##
##  

## Summary as Factor Feature:  

## Number of Features: 75
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:SEQUENCE1"
```

Feature Value	Counter	Percentage
	1	0.0003
0	21	0.0055
01 - Other motor vehicle	90076	23.6476
02 - Unattended vehicle	4753	1.2478
03 - Pedestrian	1299	0.3410
04 - Cyclist	1088	0.2856
07 - Farm tractor	27	0.0071
08 - Animal - domestic	43	0.0113
09 - Animal - wild	1763	0.4628
1	221297	58.0969
2	12041	3.1611
20	5950	1.5620
20 - Ran off road	1902	0.4993
21	11050	2.9009
21 - Skidding/sliding	2975	0.7810
22	30	0.0079
22 - Jackknifing	9	0.0024
23	38	0.0100
23 - Load spill	7	0.0018
24 - Fire/explosion	1	0.0003
25 - Submersion	1	0.0003
26	219	0.0575
26 - Rollover	48	0.0126
27	462	0.1213
27 - Debris on road	155	0.0407
28	677	0.1777
28 - Debris falling off vehicle	310	0.0814
3	3457	0.9076
4	3037	0.7973
5	8	0.0021
50	96	0.0252
50 - Cable guide rail	35	0.0092
51	544	0.1428



51 - Concrete guide rail	236	0.0620
52	309	0.0811
52 - Steel guide rail	162	0.0425
53	1194	0.3135
53 - Pole (utility, power)	462	0.1213
54	671	0.1762
54 - Pole (sign, parking meter)	274	0.0719
55	139	0.0365
55 - Fence/noice barrier	46	0.0121
56	14	0.0037
56 - Culvert	9	0.0024
57	40	0.0105
57 - Bridge support	17	0.0045
58	16	0.0042
58 - Rock face	5	0.0013
59	421	0.1105
59 - Snowbank/drift	224	0.0588
6	1	0.0003
60	589	0.1546
60 - Ditch	270	0.0709
61	1997	0.5243
61 - Curb	629	0.1651
62	26	0.0068
62 - Crash cush/end treat.	15	0.0039
63	135	0.0354
63 - Building or wall	29	0.0076
64	2	0.0005
65	54	0.0142
65 - Construction marker	27	0.0071
66	166	0.0436
66 - Tree, shrub, stump	57	0.0150
67	79	0.0207
67 - Fire Hydrant	12	0.0032
7	57	0.0150
8	230	0.0604

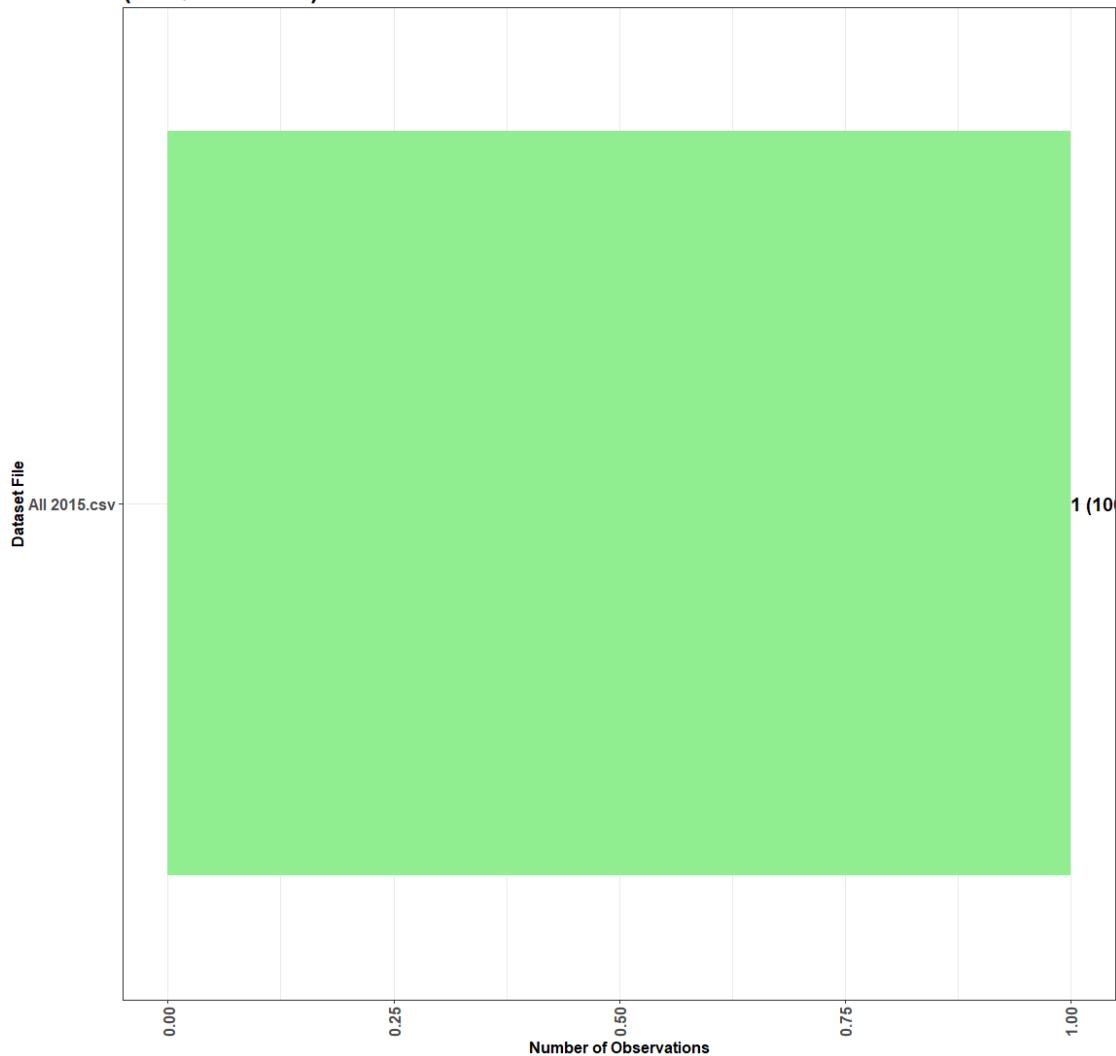


9	6912	1.8146
97	490	0.1286
97 - Other	82	0.0215
98	299	0.0785
98 - Other	353	0.0927
99	584	0.1533
99 - Other	156	0.0410

19.1 SEQUENCE1 = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (SEQUENCE1=)  
##  
## Summary per Data File:  
## All 2015.csv  
## 1
```

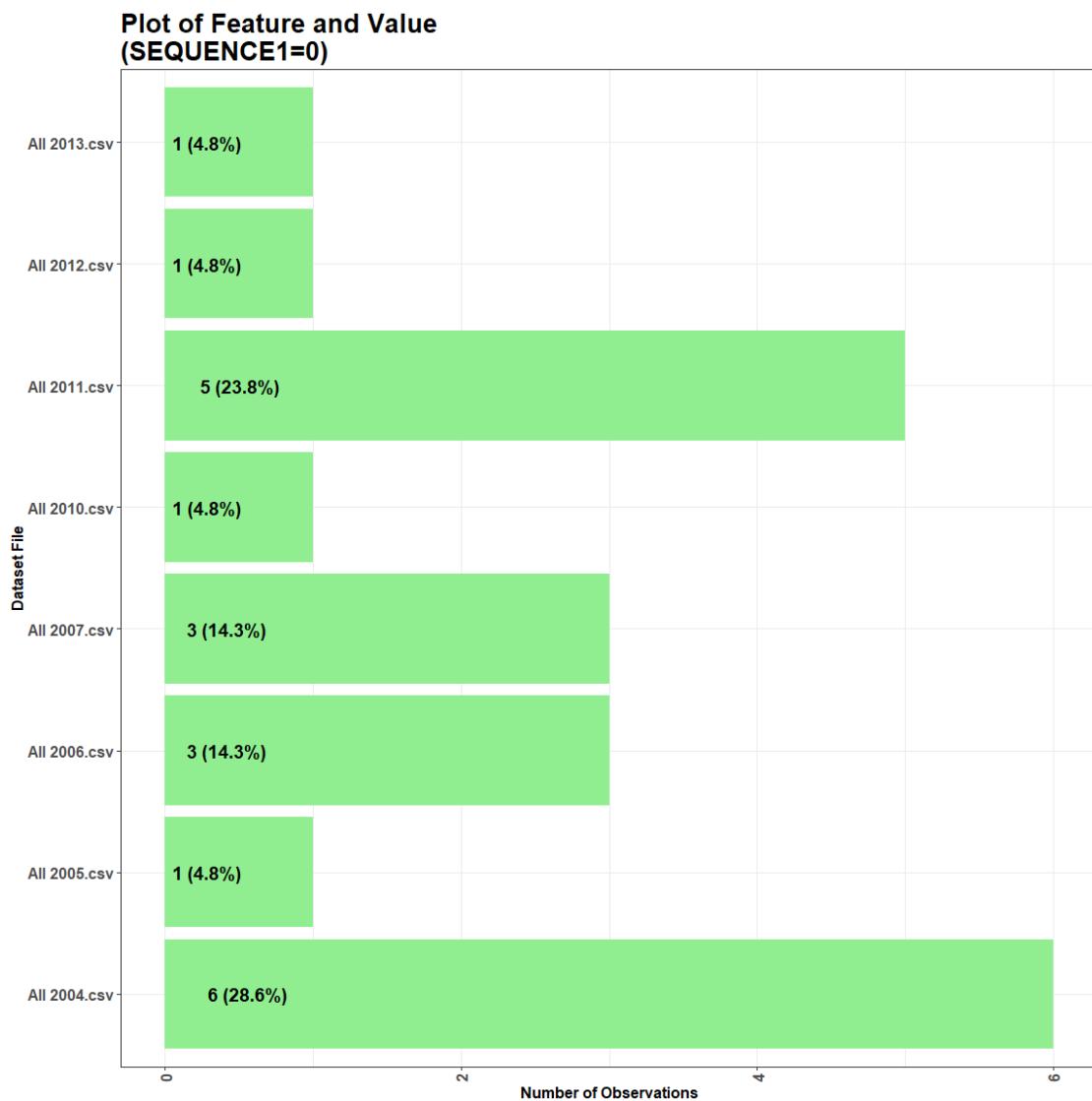
**Plot of Feature and Value
(SEQUENCE1=)**



DATASET FILE	COUNTER OF (SEQUENCE1=)	Percentage
All 2015.csv	1	100

19.2 SEQUENCE1 = “0”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE1=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2010.csv  
##       6          1          3          3          1  
## All 2011.csv All 2012.csv All 2013.csv  
##       5          1          1
```

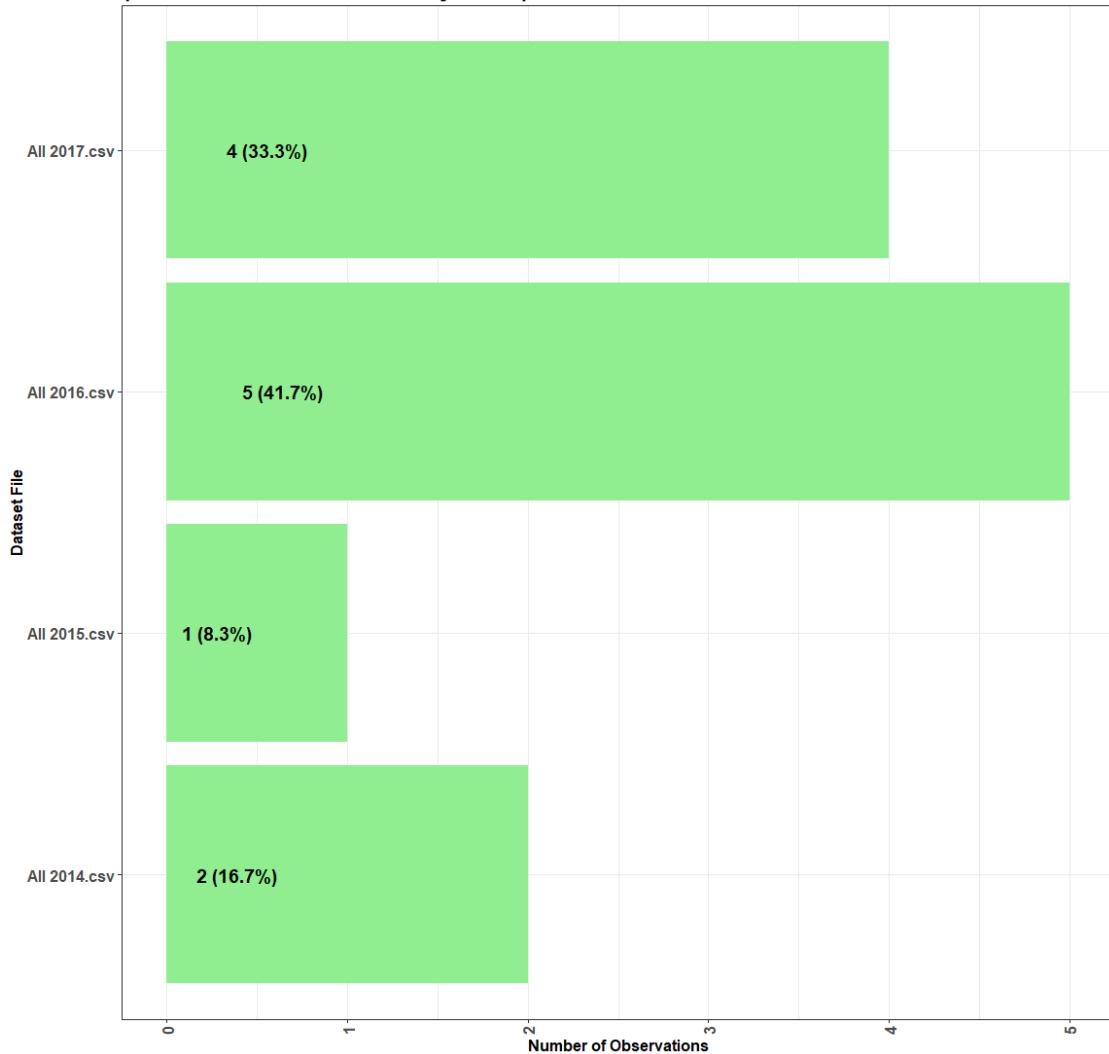


DATASET FILE	COUNTER OF (SEQUENCE1=0)	Percentage
All 2004.csv	6	28.571
All 2005.csv	1	4.762
All 2006.csv	3	14.286
All 2007.csv	3	14.286
All 2010.csv	1	4.762
All 2011.csv	5	23.809
All 2012.csv	1	4.762
All 2013.csv	1	4.762

19.3 SEQUENCE1 = “67 - Fire Hydrant”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE1=67 - Fire Hydrant)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          2           1           5           4
```

**Plot of Feature and Value
(SEQUENCE1=67 - Fire Hydrant)**

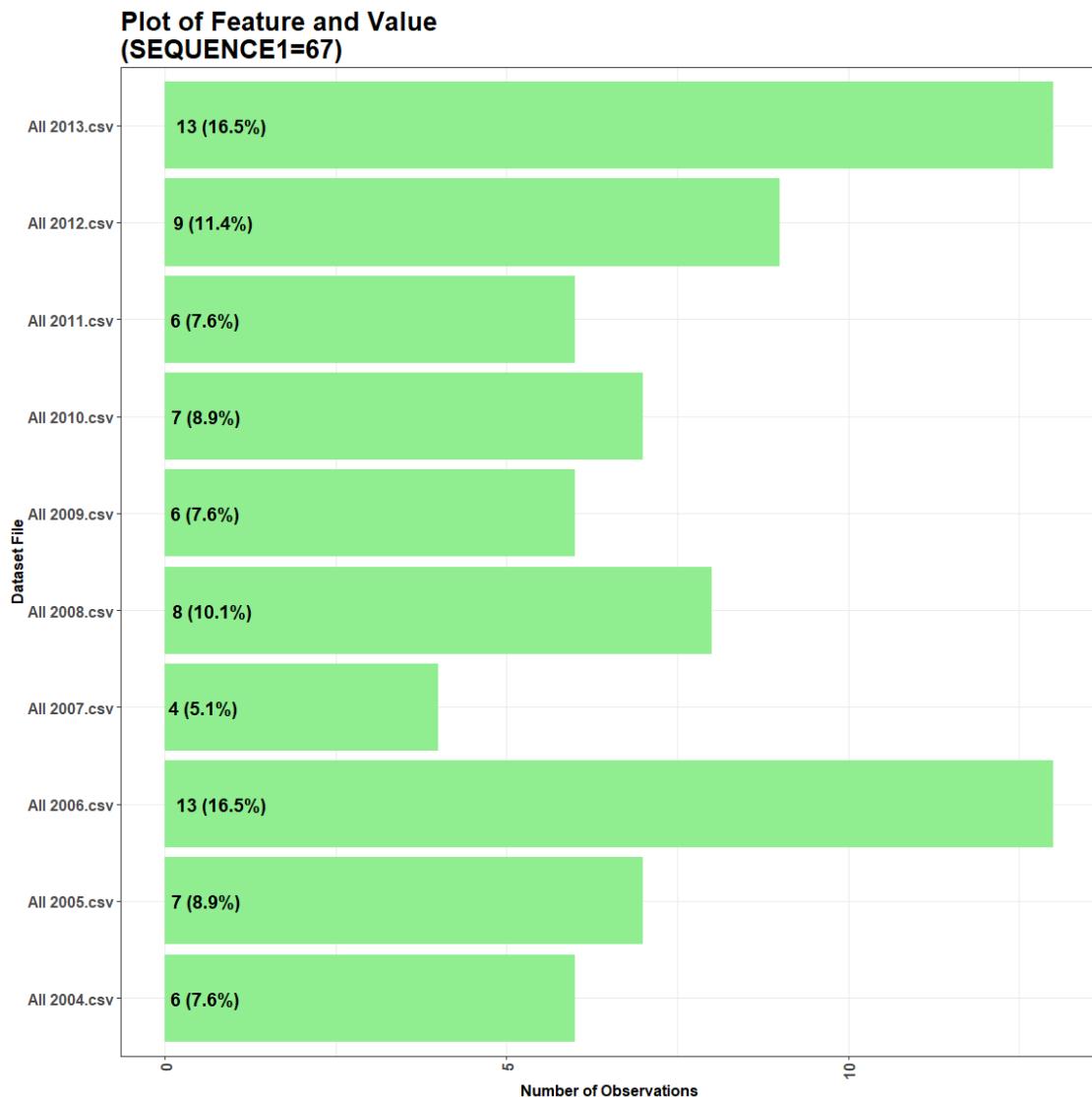


DATASET FILE	COUNTER OF (SEQUENCE1=67 - Fire Hydrant)	Percentage
All 2014.csv	2	16.667
All 2015.csv	1	8.333
All 2016.csv	5	41.667

All 2017.csv 4 33.333

19.4 SEQUENCE1 = "67"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE1=67)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##       6          7         13          4          8  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##       6          7          6          9         13
```



DATASET FILE COUNTER OF (SEQUENCE1=67) Percentage

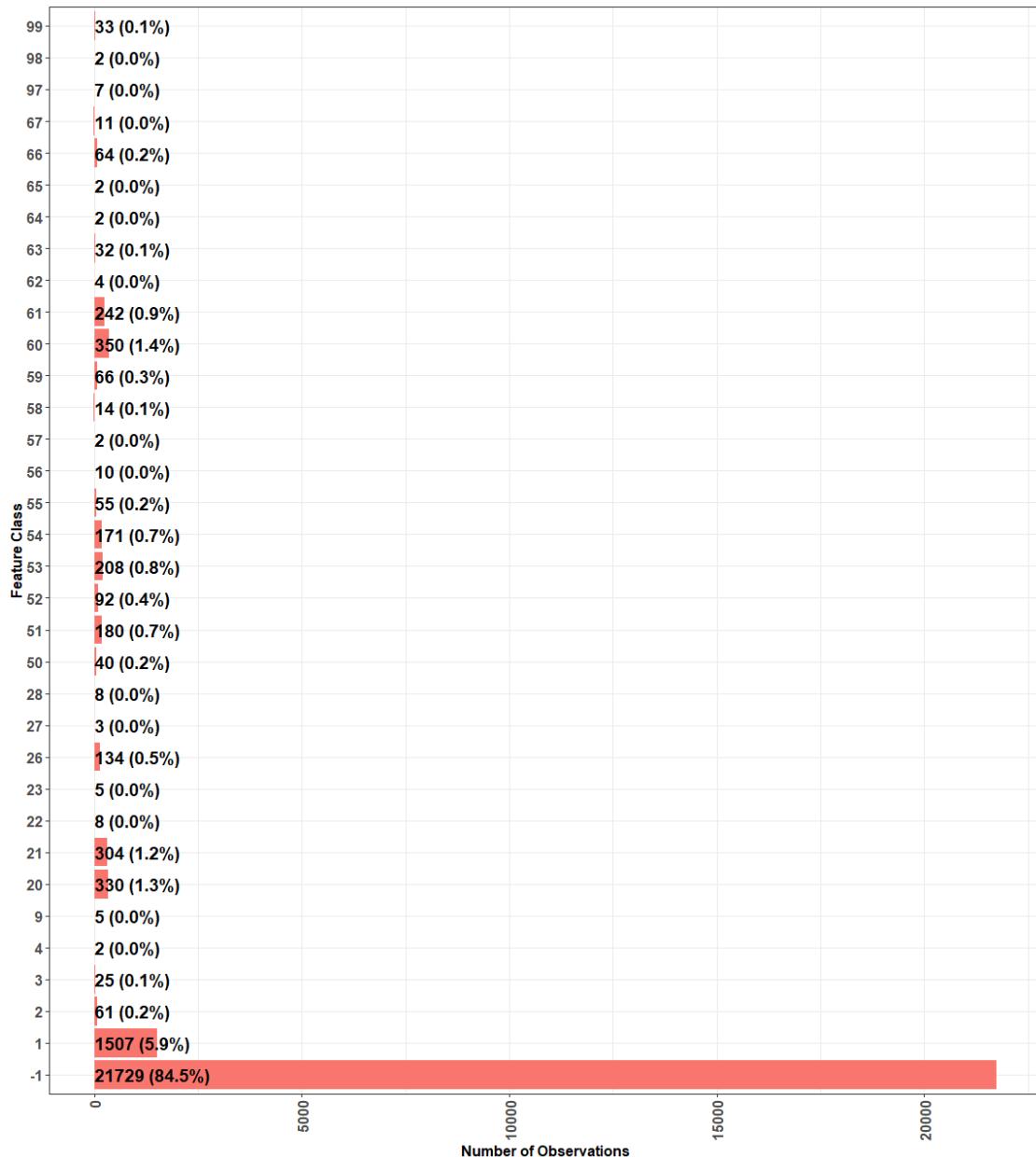
All 2004.csv	6	7.595
All 2005.csv	7	8.861
All 2006.csv	13	16.456
All 2007.csv	4	5.063
All 2008.csv	8	10.127
All 2009.csv	6	7.595
All 2010.csv	7	8.861
All 2011.csv	6	7.595
All 2012.csv	9	11.392
All 2013.csv	13	16.456

20. Sequence2 (SEQUENCE2)

```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34  
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 21729 84.5223  
## 1 1507 5.8620  
## 2 61 0.2373  
## 3 25 0.0972  
## 4 2 0.0078  
## 9 5 0.0194  
## 20 330 1.2836  
## 21 304 1.1825  
## 22 8 0.0311  
## 23 5 0.0194  
## 26 134 0.5212  
## 27 3 0.0117  
## 28 8 0.0311  
## 50 40 0.1556  
## 51 180 0.7002  
## 52 92 0.3579
```

## 53	208	0.8091
## 54	171	0.6652
## 55	55	0.2139
## 56	10	0.0389
## 57	2	0.0078
## 58	14	0.0545
## 59	66	0.2567
## 60	350	1.3614
## 61	242	0.9413
## 62	4	0.0156
## 63	32	0.1245
## 64	2	0.0078
## 65	2	0.0078
## 66	64	0.2489
## 67	11	0.0428
## 97	7	0.0272
## 98	2	0.0078
## 99	33	0.1284

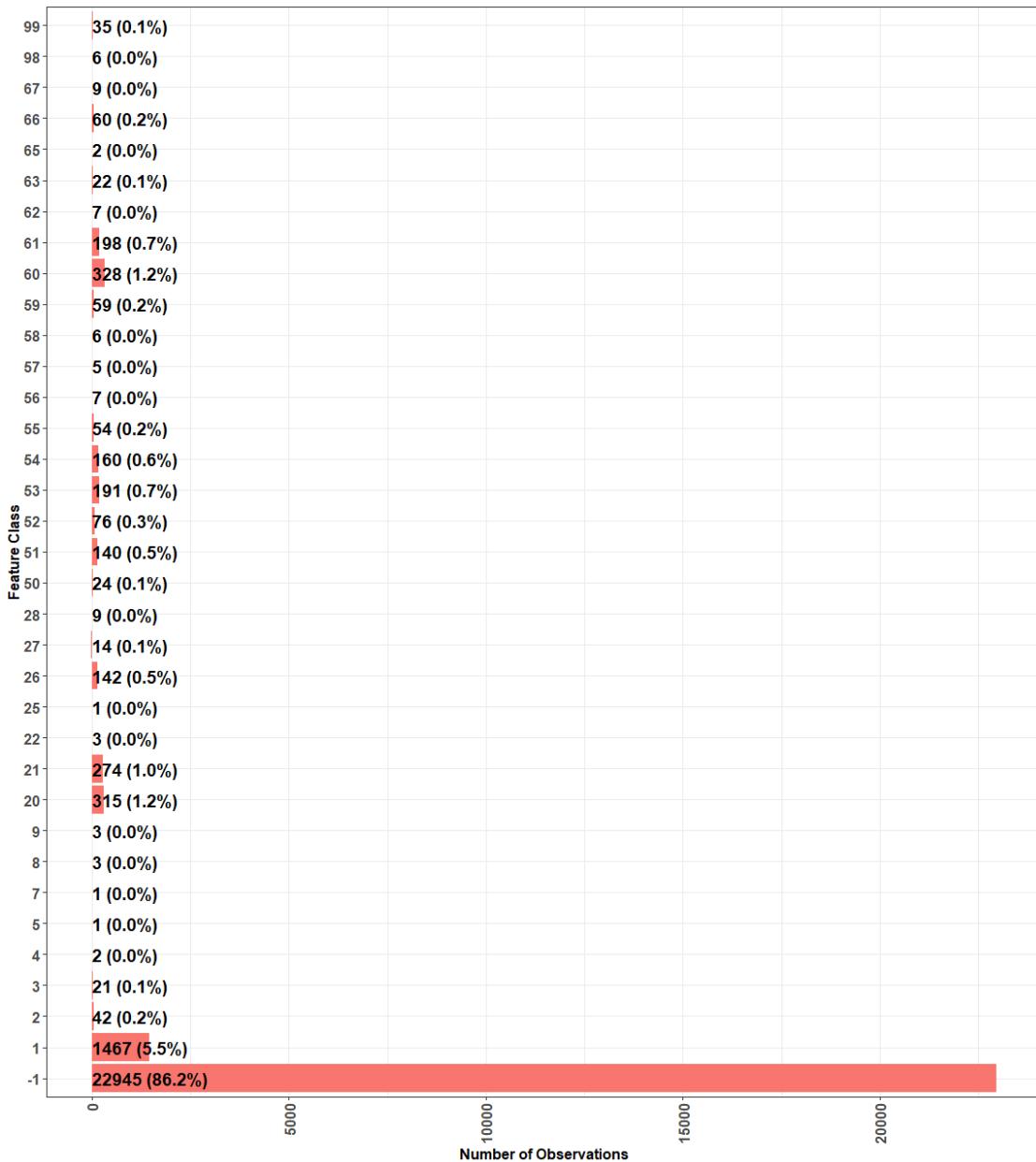
Plot of Feature:SEQUENCE2 Data>All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 22945 86.1558  
## 1 1467 5.5084  
## 2 42 0.1577  
## 3 21 0.0789  
## 4 2 0.0075  
## 5 1 0.0038  
## 7 1 0.0038  
## 8 3 0.0113  
## 9 3 0.0113  
## 20 315 1.1828  
## 21 274 1.0288  
## 22 3 0.0113  
## 25 1 0.0038  
## 26 142 0.5332  
## 27 14 0.0526  
## 28 9 0.0338  
## 50 24 0.0901  
## 51 140 0.5257  
## 52 76 0.2854  
## 53 191 0.7172  
## 54 160 0.6008  
## 55 54 0.2028  
## 56 7 0.0263  
## 57 5 0.0188  
## 58 6 0.0225  
## 59 59 0.2215  
## 60 328 1.2316  
## 61 198 0.7435  
## 62 7 0.0263  
## 63 22 0.0826  
## 65 2 0.0075  
## 66 60 0.2253  
## 67 9 0.0338  
## 98 6 0.0225  
## 99 35 0.1314
```

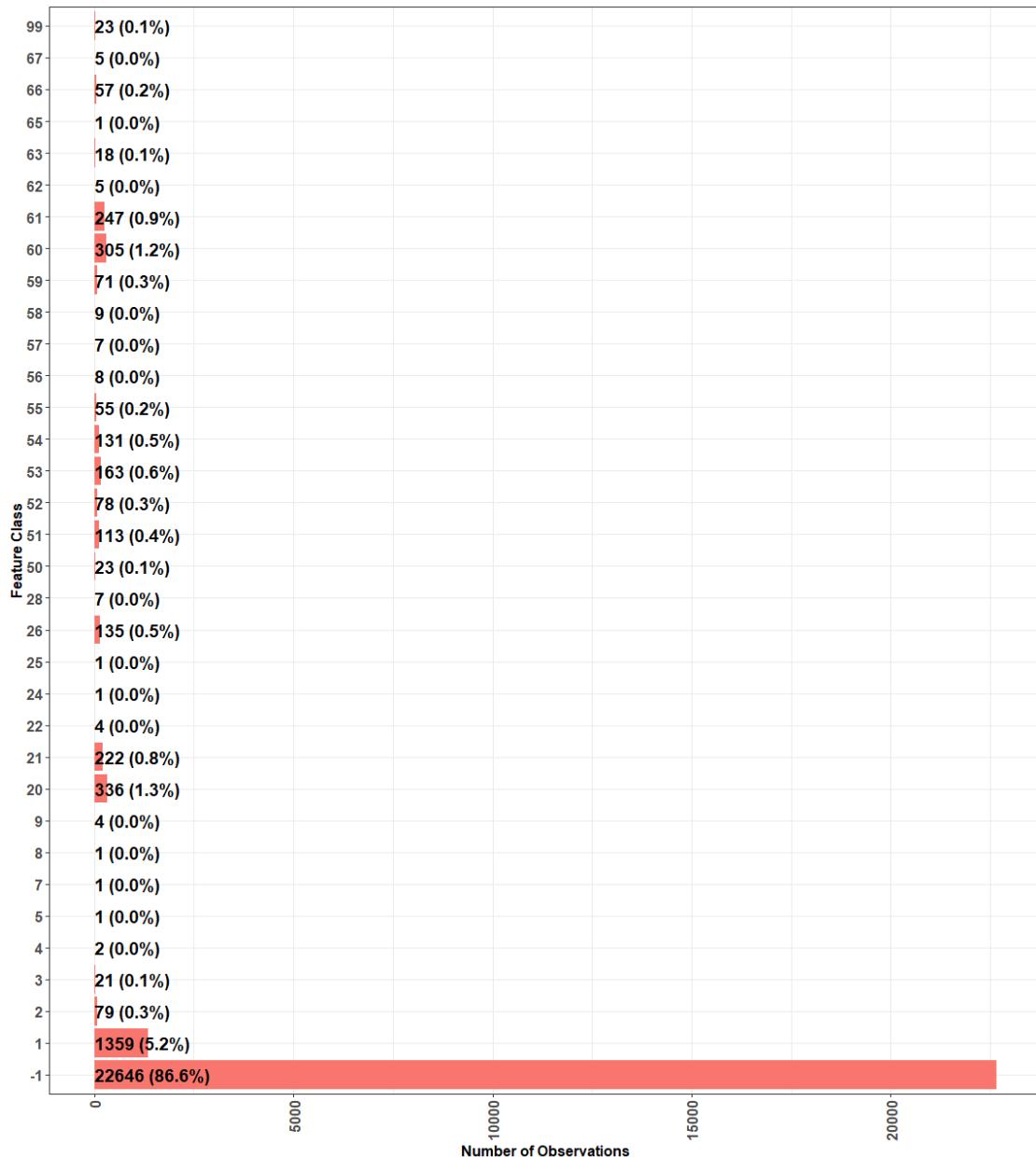
Plot of Feature:SEQUENCE2 Data>All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 22646 86.6368  
## 1 1359 5.1991  
## 2 79 0.3022  
## 3 21 0.0803  
## 4 2 0.0077  
## 5 1 0.0038  
## 7 1 0.0038  
## 8 1 0.0038  
## 9 4 0.0153  
## 20 336 1.2854  
## 21 222 0.8493  
## 22 4 0.0153  
## 24 1 0.0038  
## 25 1 0.0038  
## 26 135 0.5165  
## 28 7 0.0268  
## 50 23 0.0880  
## 51 113 0.4323  
## 52 78 0.2984  
## 53 163 0.6236  
## 54 131 0.5012  
## 55 55 0.2104  
## 56 8 0.0306  
## 57 7 0.0268  
## 58 9 0.0344  
## 59 71 0.2716  
## 60 305 1.1668  
## 61 247 0.9449  
## 62 5 0.0191  
## 63 18 0.0689  
## 65 1 0.0038  
## 66 57 0.2181  
## 67 5 0.0191  
## 99 23 0.0880
```

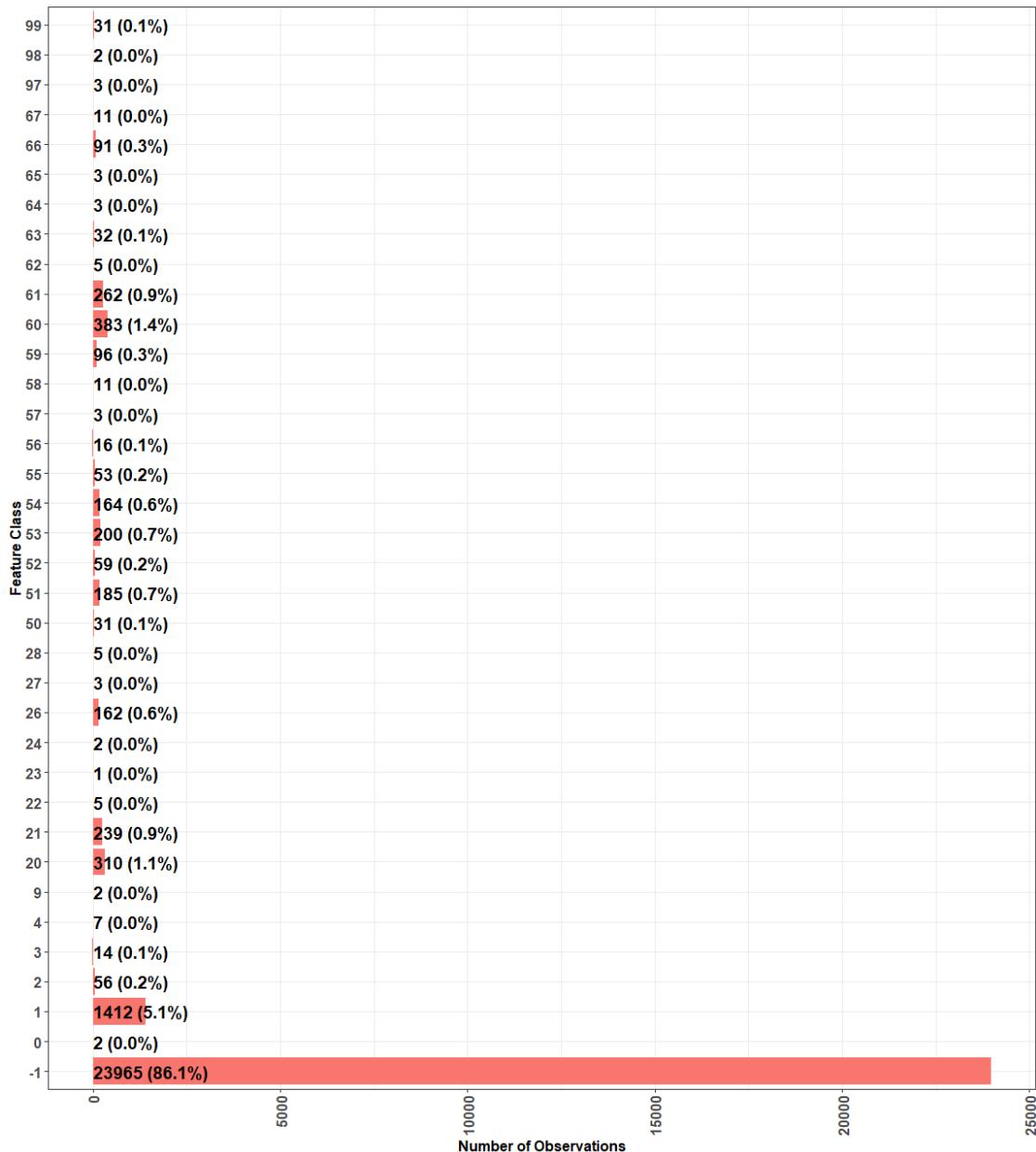
Plot of Feature:SEQUENCE2 Data>All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 36
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 23965 86.1152  
## 0 2 0.0072  
## 1 1412 5.0738  
## 2 56 0.2012  
## 3 14 0.0503  
## 4 7 0.0252  
## 9 2 0.0072  
## 20 310 1.1139  
## 21 239 0.8588  
## 22 5 0.0180  
## 23 1 0.0036  
## 24 2 0.0072  
## 26 162 0.5821  
## 27 3 0.0108  
## 28 5 0.0180  
## 50 31 0.1114  
## 51 185 0.6648  
## 52 59 0.2120  
## 53 200 0.7187  
## 54 164 0.5893  
## 55 53 0.1904  
## 56 16 0.0575  
## 57 3 0.0108  
## 58 11 0.0395  
## 59 96 0.3450  
## 60 383 1.3763  
## 61 262 0.9415  
## 62 5 0.0180  
## 63 32 0.1150  
## 64 3 0.0108  
## 65 3 0.0108  
## 66 91 0.3270  
## 67 11 0.0395  
## 97 3 0.0108  
## 98 2 0.0072  
## 99 31 0.1114
```

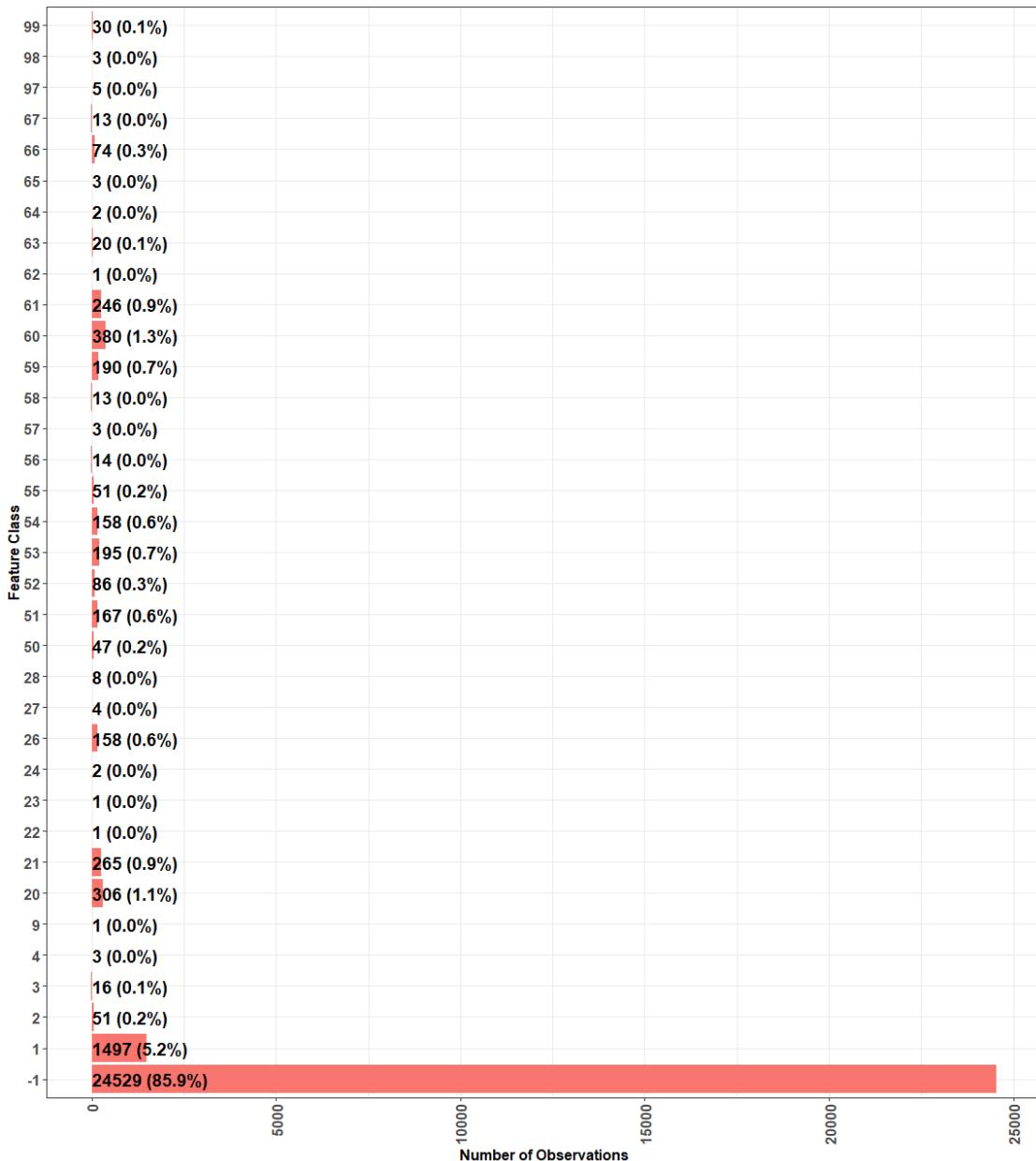
Plot of Feature:SEQUENCE2 Data>All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 24529 85.9370  
## 1 1497 5.2447  
## 2 51 0.1787  
## 3 16 0.0561  
## 4 3 0.0105  
## 9 1 0.0035  
## 20 306 1.0721  
## 21 265 0.9284  
## 22 1 0.0035  
## 23 1 0.0035  
## 24 2 0.0070  
## 26 158 0.5536  
## 27 4 0.0140  
## 28 8 0.0280  
## 50 47 0.1647  
## 51 167 0.5851  
## 52 86 0.3013  
## 53 195 0.6832  
## 54 158 0.5536  
## 55 51 0.1787  
## 56 14 0.0490  
## 57 3 0.0105  
## 58 13 0.0455  
## 59 190 0.6657  
## 60 380 1.3313  
## 61 246 0.8619  
## 62 1 0.0035  
## 63 20 0.0701  
## 64 2 0.0070  
## 65 3 0.0105  
## 66 74 0.2593  
## 67 13 0.0455  
## 97 5 0.0175  
## 98 3 0.0105  
## 99 30 0.1051
```

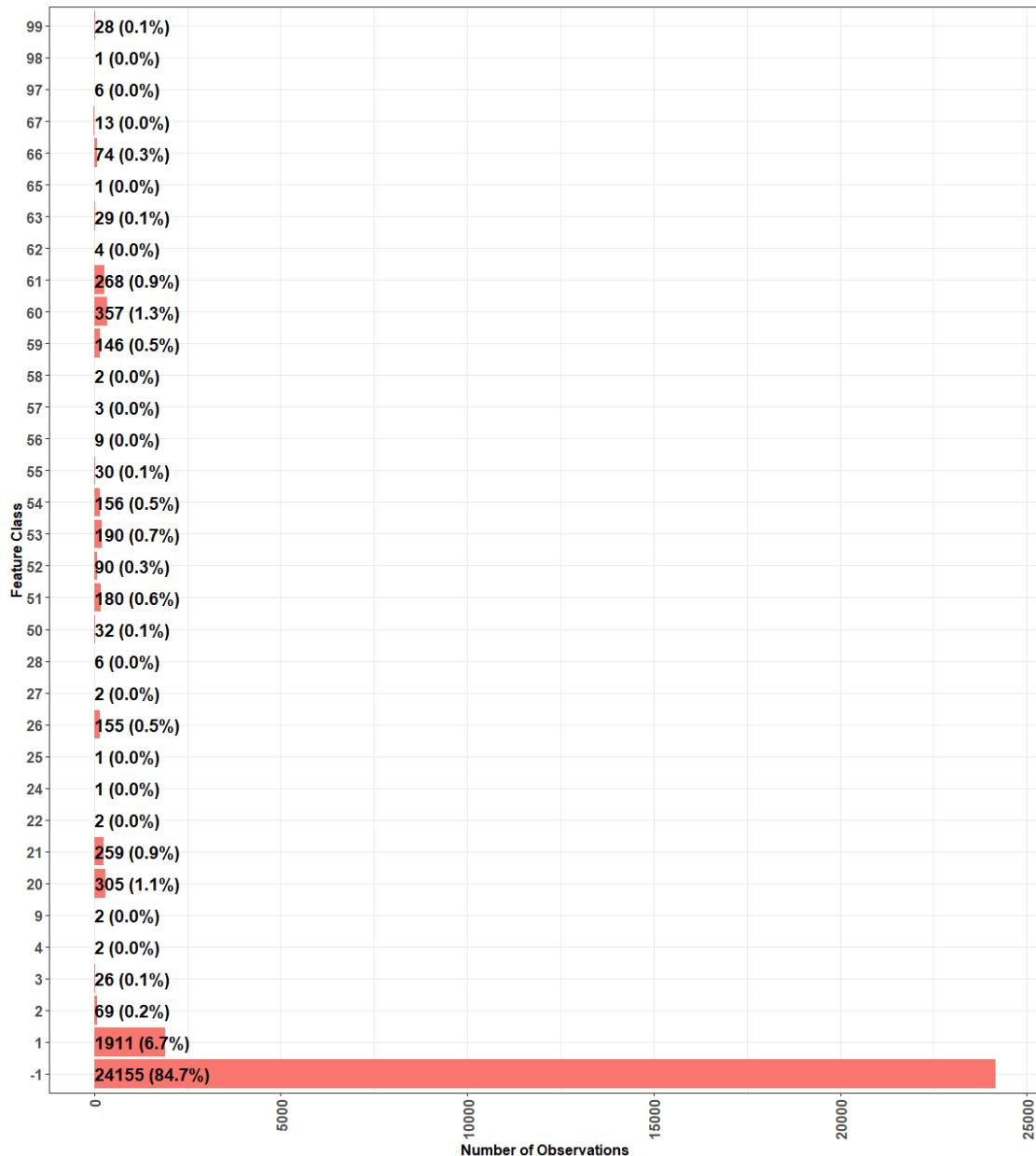
Plot of Feature:SEQUENCE2 Data>All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 24155 84.7098  
## 1 1911 6.7017  
## 2 69 0.2420  
## 3 26 0.0912  
## 4 2 0.0070  
## 9 2 0.0070  
## 20 305 1.0696  
## 21 259 0.9083  
## 22 2 0.0070  
## 24 1 0.0035  
## 25 1 0.0035  
## 26 155 0.5436  
## 27 2 0.0070  
## 28 6 0.0210  
## 50 32 0.1122  
## 51 180 0.6312  
## 52 90 0.3156  
## 53 190 0.6663  
## 54 156 0.5471  
## 55 30 0.1052  
## 56 9 0.0316  
## 57 3 0.0105  
## 58 2 0.0070  
## 59 146 0.5120  
## 60 357 1.2520  
## 61 268 0.9399  
## 62 4 0.0140  
## 63 29 0.1017  
## 65 1 0.0035  
## 66 74 0.2595  
## 67 13 0.0456  
## 97 6 0.0210  
## 98 1 0.0035  
## 99 28 0.0982
```

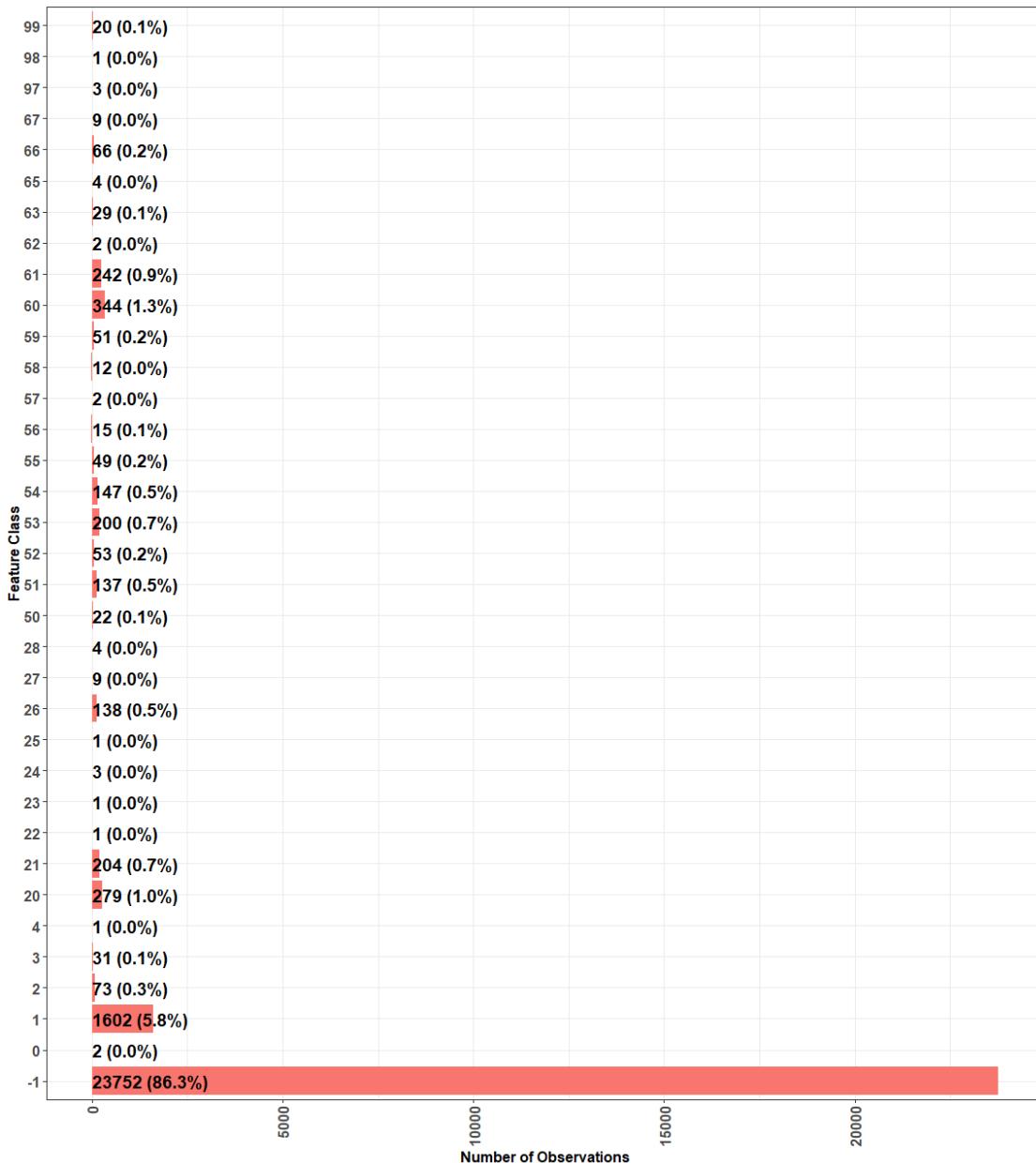
Plot of Feature:SEQUENCE2 Data>All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 23752 86.3427  
## 0 2 0.0073  
## 1 1602 5.8235  
## 2 73 0.2654  
## 3 31 0.1127  
## 4 1 0.0036  
## 20 279 1.0142  
## 21 204 0.7416  
## 22 1 0.0036  
## 23 1 0.0036  
## 24 3 0.0109  
## 25 1 0.0036  
## 26 138 0.5017  
## 27 9 0.0327  
## 28 4 0.0145  
## 50 22 0.0800  
## 51 137 0.4980  
## 52 53 0.1927  
## 53 200 0.7270  
## 54 147 0.5344  
## 55 49 0.1781  
## 56 15 0.0545  
## 57 2 0.0073  
## 58 12 0.0436  
## 59 51 0.1854  
## 60 344 1.2505  
## 61 242 0.8797  
## 62 2 0.0073  
## 63 29 0.1054  
## 65 4 0.0145  
## 66 66 0.2399  
## 67 9 0.0327  
## 97 3 0.0109  
## 98 1 0.0036  
## 99 20 0.0727
```

Plot of Feature:SEQUENCE2 Data>All 2010.csv



```
## 
## ----- 
## CHECKING FEATURE:SEQUENCE2
## DATA>All 2011.csv...
## 
## Number of Blank Values:0
## 
## Summary as Factor Feature:
## 
## Number of Features: 39
```

```
##
## TOP 100 FEATURES OF SEQUENCE2
##
## Feature Value Counter Percentage
## -----
## -1           23943   85.7281
## 0            1       0.0036
## 1            1660    5.9436
## 2            84     0.3008
## 3            27     0.0967
## 4            1       0.0036
## 5            1       0.0036
## 6            1       0.0036
## 8            1       0.0036
## 9            4       0.0143
## 20           334    1.1959
## 21           225    0.8056
## 22           2       0.0072
## 23           3       0.0107
## 24           1       0.0036
## 25           1       0.0036
## 26           134    0.4798
## 27           5       0.0179
## 28           13     0.0465
## 50           25     0.0895
## 51           196    0.7018
## 52           88     0.3151
## 53           202    0.7233
## 54           129    0.4619
## 55           59     0.2112
## 56           9      0.0322
## 57           3      0.0107
## 58           11     0.0394
## 59           38     0.1361
## 60           372    1.3319
## 61           209    0.7483
## 62           3      0.0107
## 63           20     0.0716
## 65           3      0.0107
## 66           79     0.2829
## 67           5      0.0179
## 97           8      0.0286
## 98           2      0.0072
## 99           27     0.0967
```

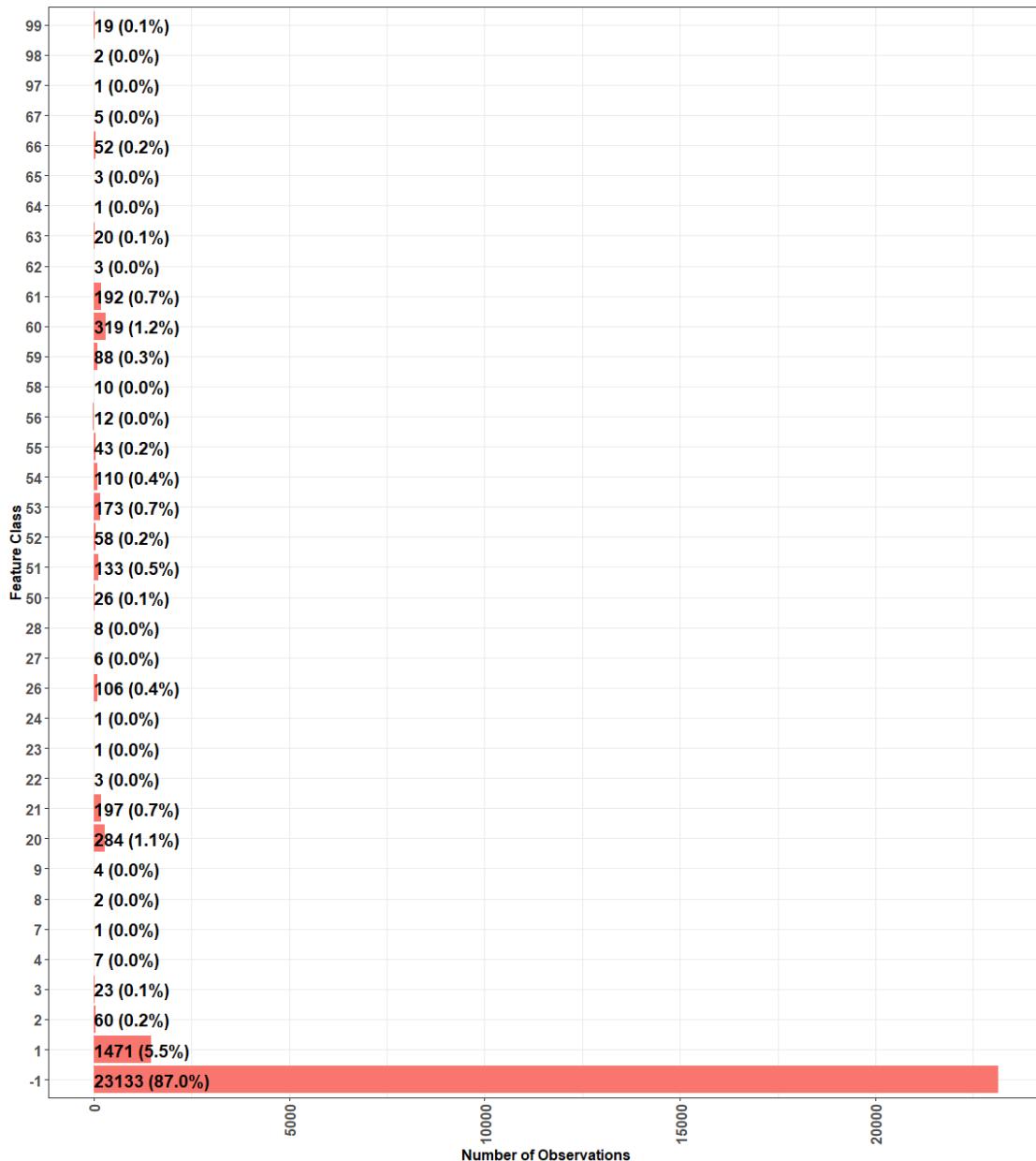
Plot of Feature:SEQUENCE2 Data>All 2011.csv



```
## 
## ----- 
## CHECKING FEATURE:SEQUENCE2
## DATA>All 2012.csv...
## 
## Number of Blank Values:0
## 
## Summary as Factor Feature:
## 
## Number of Features: 36
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 23133 87.0414  
## 1 1471 5.5349  
## 2 60 0.2258  
## 3 23 0.0865  
## 4 7 0.0263  
## 7 1 0.0038  
## 8 2 0.0075  
## 9 4 0.0151  
## 20 284 1.0686  
## 21 197 0.7412  
## 22 3 0.0113  
## 23 1 0.0038  
## 24 1 0.0038  
## 26 106 0.3988  
## 27 6 0.0226  
## 28 8 0.0301  
## 50 26 0.0978  
## 51 133 0.5004  
## 52 58 0.2182  
## 53 173 0.6509  
## 54 110 0.4139  
## 55 43 0.1618  
## 56 12 0.0452  
## 58 10 0.0376  
## 59 88 0.3311  
## 60 319 1.2003  
## 61 192 0.7224  
## 62 3 0.0113  
## 63 20 0.0753  
## 64 1 0.0038  
## 65 3 0.0113  
## 66 52 0.1957  
## 67 5 0.0188  
## 97 1 0.0038  
## 98 2 0.0075  
## 99 19 0.0715
```

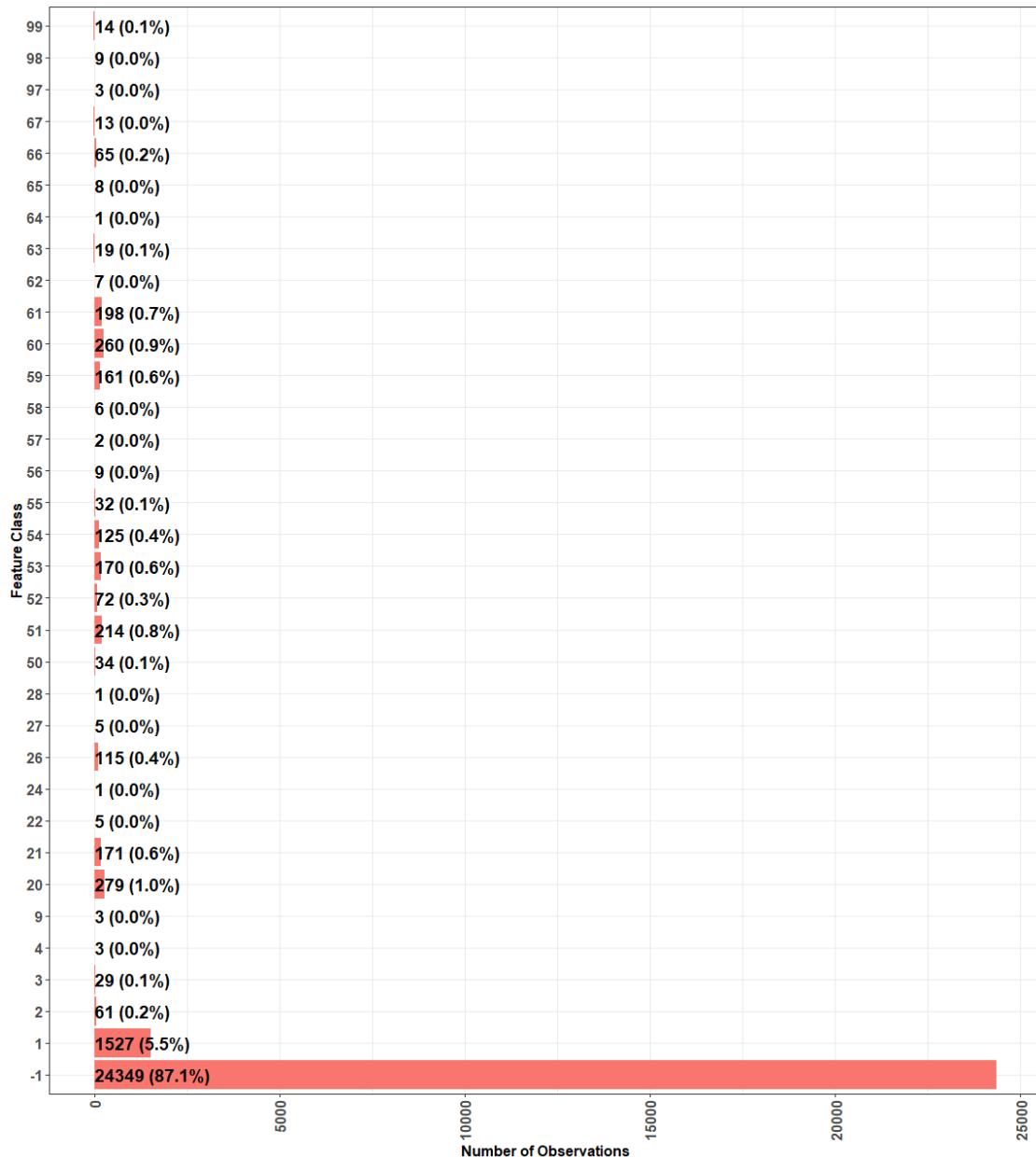
Plot of Feature:SEQUENCE2 Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## -1 24349 87.0509  
## 1 1527 5.4592  
## 2 61 0.2181  
## 3 29 0.1037  
## 4 3 0.0107  
## 9 3 0.0107  
## 20 279 0.9975  
## 21 171 0.6113  
## 22 5 0.0179  
## 24 1 0.0036  
## 26 115 0.4111  
## 27 5 0.0179  
## 28 1 0.0036  
## 50 34 0.1216  
## 51 214 0.7651  
## 52 72 0.2574  
## 53 170 0.6078  
## 54 125 0.4469  
## 55 32 0.1144  
## 56 9 0.0322  
## 57 2 0.0072  
## 58 6 0.0215  
## 59 161 0.5756  
## 60 260 0.9295  
## 61 198 0.7079  
## 62 7 0.0250  
## 63 19 0.0679  
## 64 1 0.0036  
## 65 8 0.0286  
## 66 65 0.2324  
## 67 13 0.0465  
## 97 3 0.0107  
## 98 9 0.0322  
## 99 14 0.0501
```

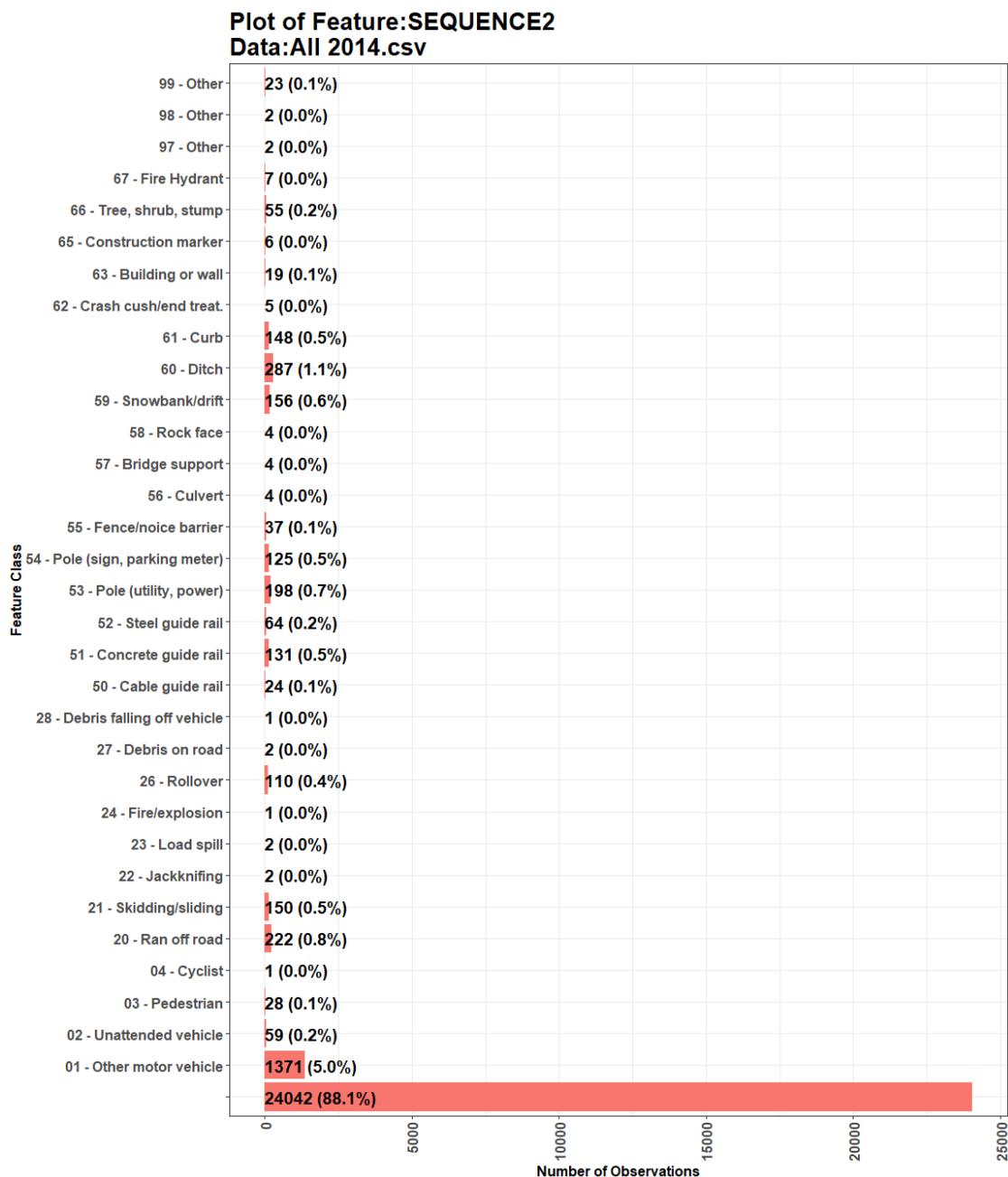
Plot of Feature:SEQUENCE2 Data>All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA>All 2014.csv...  
##  
## Number of Blank Values:24042  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 33
```



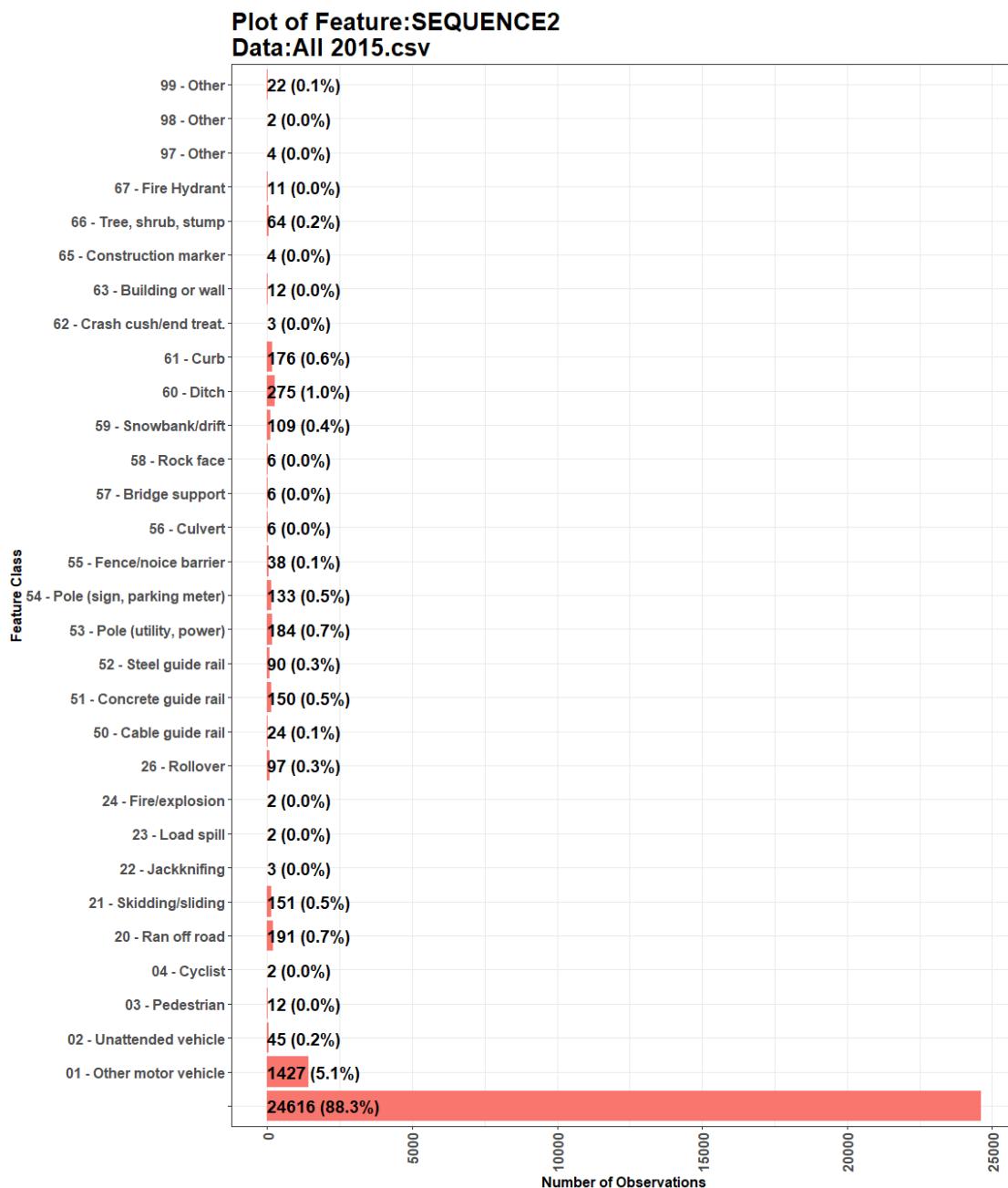
```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## 24042 88.0917  
## 01 - Other motor vehicle 1371 5.0235  
## 02 - Unattended vehicle 59 0.2162  
## 03 - Pedestrian 28 0.1026  
## 04 - Cyclist 1 0.0037  
## 20 - Ran off road 222 0.8134  
## 21 - Skidding/sliding 150 0.5496  
## 22 - Jackknifing 2 0.0073  
## 23 - Load spill 2 0.0073  
## 24 - Fire/explosion 1 0.0037  
## 26 - Rollover 110 0.4030  
## 27 - Debris on road 2 0.0073  
## 28 - Debris falling off vehicle 1 0.0037  
## 50 - Cable guide rail 24 0.0879  
## 51 - Concrete guide rail 131 0.4800  
## 52 - Steel guide rail 64 0.2345  
## 53 - Pole (utility, power) 198 0.7255  
## 54 - Pole (sign, parking meter) 125 0.4580  
## 55 - Fence/noice barrier 37 0.1356  
## 56 - Culvert 4 0.0147  
## 57 - Bridge support 4 0.0147  
## 58 - Rock face 4 0.0147  
## 59 - Snowbank/drift 156 0.5716  
## 60 - Ditch 287 1.0516  
## 61 - Curb 148 0.5423  
## 62 - Crash cush/end treat. 5 0.0183  
## 63 - Building or wall 19 0.0696  
## 65 - Construction marker 6 0.0220  
## 66 - Tree, shrub, stump 55 0.2015  
## 67 - Fire Hydrant 7 0.0256  
## 97 - Other 2 0.0073  
## 98 - Other 2 0.0073  
## 99 - Other 23 0.0843
```



```
##
## -----
## CHECKING FEATURE:SEQUENCE2
## DATA:All 2015.csv...
##
## Number of Blank Values:24616
##
## Summary as Factor Feature:
##
## Number of Features: 31
```

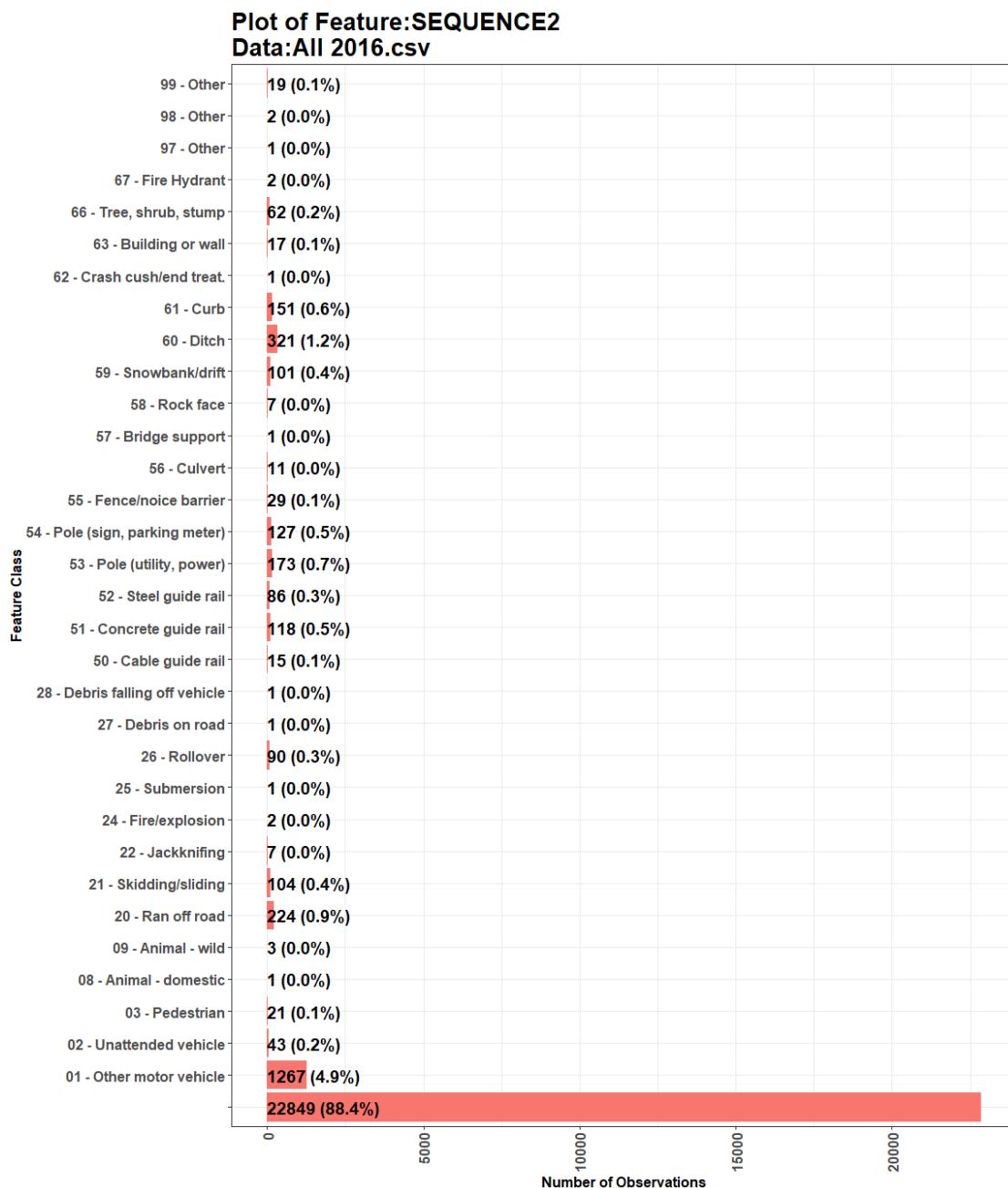


```
##  
## TOP 100 FEATURES OF SEQUENCE2  
##  
## Feature Value Counter Percentage  
## -----  
## 24616 88.3339  
## 01 - Other motor vehicle 1427 5.1208  
## 02 - Unattended vehicle 45 0.1615  
## 03 - Pedestrian 12 0.0431  
## 04 - Cyclist 2 0.0072  
## 20 - Ran off road 191 0.6854  
## 21 - Skidding/sliding 151 0.5419  
## 22 - Jackknifing 3 0.0108  
## 23 - Load spill 2 0.0072  
## 24 - Fire/explosion 2 0.0072  
## 26 - Rollover 97 0.3481  
## 50 - Cable guide rail 24 0.0861  
## 51 - Concrete guide rail 150 0.5383  
## 52 - Steel guide rail 90 0.3230  
## 53 - Pole (utility, power) 184 0.6603  
## 54 - Pole (sign, parking meter) 133 0.4773  
## 55 - Fence/noice barrier 38 0.1364  
## 56 - Culvert 6 0.0215  
## 57 - Bridge support 6 0.0215  
## 58 - Rock face 6 0.0215  
## 59 - Snowbank/drift 109 0.3911  
## 60 - Ditch 275 0.9868  
## 61 - Curb 176 0.6316  
## 62 - Crash cush/end treat. 3 0.0108  
## 63 - Building or wall 12 0.0431  
## 65 - Construction marker 4 0.0144  
## 66 - Tree, shrub, stump 64 0.2297  
## 67 - Fire Hydrant 11 0.0395  
## 97 - Other 4 0.0144  
## 98 - Other 2 0.0072  
## 99 - Other 22 0.0789
```



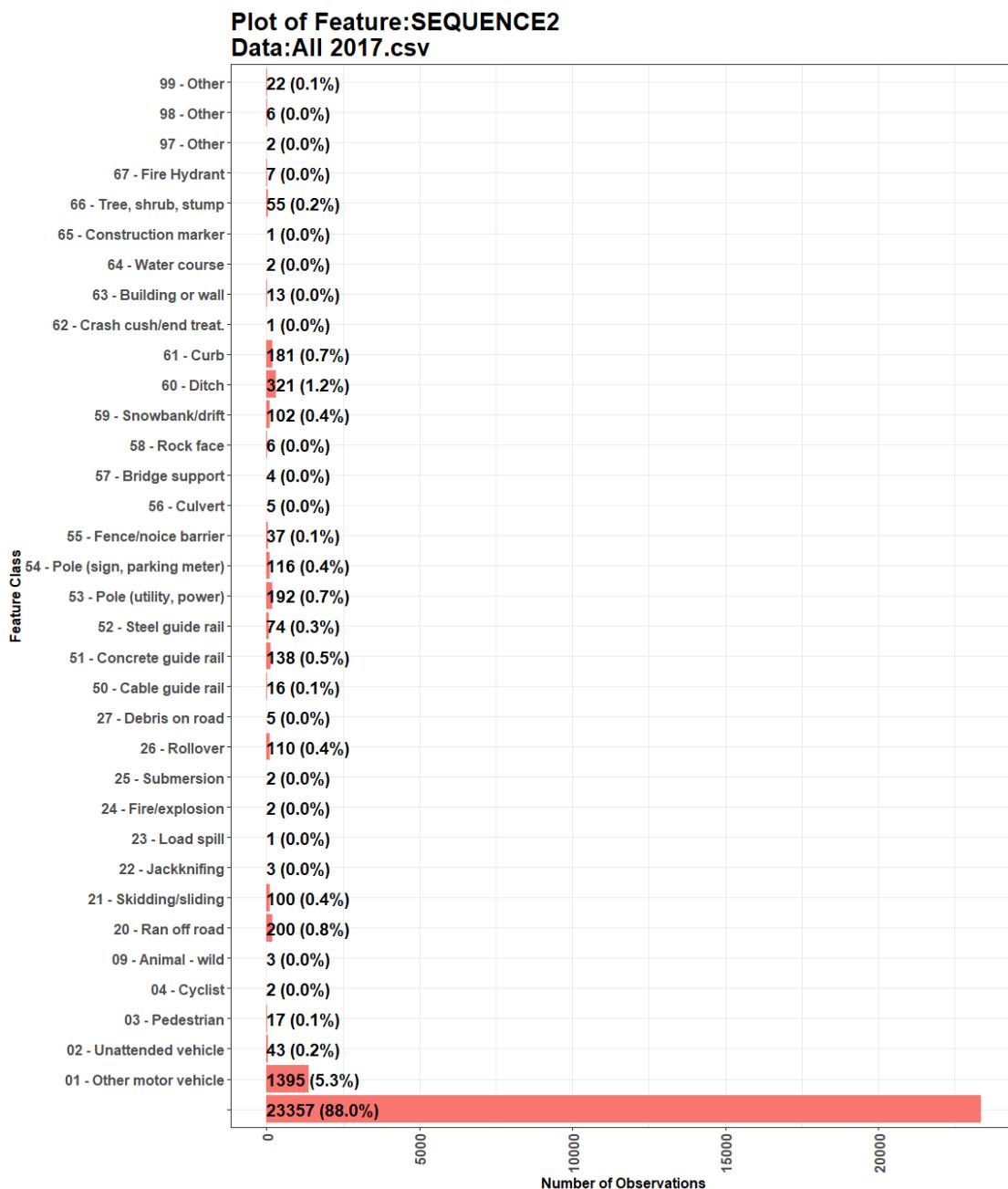
```
##  
## -----  
## CHECKING FEATURE:SEQUENCE2  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:22849  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 33
```

```
##
## TOP 100 FEATURES OF SEQUENCE2
##
## Feature Value Counter Percentage
## -----
##                                     22849  88.3634
## 01 - Other motor vehicle      1267   4.8998
## 02 - Unattended vehicle       43    0.1663
## 03 - Pedestrian                21    0.0812
## 08 - Animal - domestic        1     0.0039
## 09 - Animal - wild            3     0.0116
## 20 - Ran off road             224   0.8663
## 21 - Skidding/sliding         104   0.4022
## 22 - Jackknifing               7     0.0271
## 24 - Fire/explosion            2     0.0077
## 25 - Submersion                1     0.0039
## 26 - Rollover                  90    0.3481
## 27 - Debris on road             1     0.0039
## 28 - Debris falling off vehicle 1     0.0039
## 50 - Cable guide rail          15    0.0580
## 51 - Concrete guide rail        118   0.4563
## 52 - Steel guide rail           86    0.3326
## 53 - Pole (utility, power)     173   0.6690
## 54 - Pole (sign, parking meter) 127   0.4911
## 55 - Fence/noice barrier        29    0.1122
## 56 - Culvert                   11    0.0425
## 57 - Bridge support              1     0.0039
## 58 - Rock face                  7     0.0271
## 59 - Snowbank/drift             101   0.3906
## 60 - Ditch                      321   1.2414
## 61 - Curb                        151   0.5840
## 62 - Crash cush/end treat.       1     0.0039
## 63 - Building or wall            17    0.0657
## 66 - Tree, shrub, stump          62    0.2398
## 67 - Fire Hydrant                 2     0.0077
## 97 - Other                       1     0.0039
## 98 - Other                       2     0.0077
## 99 - Other                      19    0.0735
```



```
##
## ----- 
## CHECKING FEATURE:SEQUENCE2
## DATA:All 2017.csv...
##
## Number of Blank Values:23357
##
## Summary as Factor Feature:
##
## Number of Features: 35
```

```
##
## TOP 100 FEATURES OF SEQUENCE2
##
## Feature Value Counter Percentage
## -----
##                                     23357  88.0035
## 01 - Other motor vehicle      1395   5.2560
## 02 - Unattended vehicle       43     0.1620
## 03 - Pedestrian               17     0.0641
## 04 - Cyclist                 2      0.0075
## 09 - Animal - wild           3      0.0113
## 20 - Ran off road             200    0.7536
## 21 - Skidding/sliding        100    0.3768
## 22 - Jackknifing              3      0.0113
## 23 - Load spill               1      0.0038
## 24 - Fire/explosion           2      0.0075
## 25 - Submersion               2      0.0075
## 26 - Rollover                 110    0.4145
## 27 - Debris on road            5      0.0188
## 50 - Cable guide rail          16     0.0603
## 51 - Concrete guide rail       138    0.5200
## 52 - Steel guide rail           74     0.2788
## 53 - Pole (utility, power)     192    0.7234
## 54 - Pole (sign, parking meter) 116    0.4371
## 55 - Fence/noice barrier       37     0.1394
## 56 - Culvert                  5      0.0188
## 57 - Bridge support             4      0.0151
## 58 - Rock face                 6      0.0226
## 59 - Snowbank/drift            102    0.3843
## 60 - Ditch                      321    1.2094
## 61 - Curb                       181    0.6820
## 62 - Crash cush/end treat.      1      0.0038
## 63 - Building or wall           13     0.0490
## 64 - Water course                2      0.0075
## 65 - Construction marker        1      0.0038
## 66 - Tree, shrub, stump          55     0.2072
## 67 - Fire Hydrant                7      0.0264
## 97 - Other                      2      0.0075
## 98 - Other                      6      0.0226
## 99 - Other                      22     0.0829
```



```
##  
## =====  
## FINAL INFO CHECKING FEATURE:SEQUENCE2  
## ALL DATA...  
## =====  
##  
## Number of Blank Values:94864  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

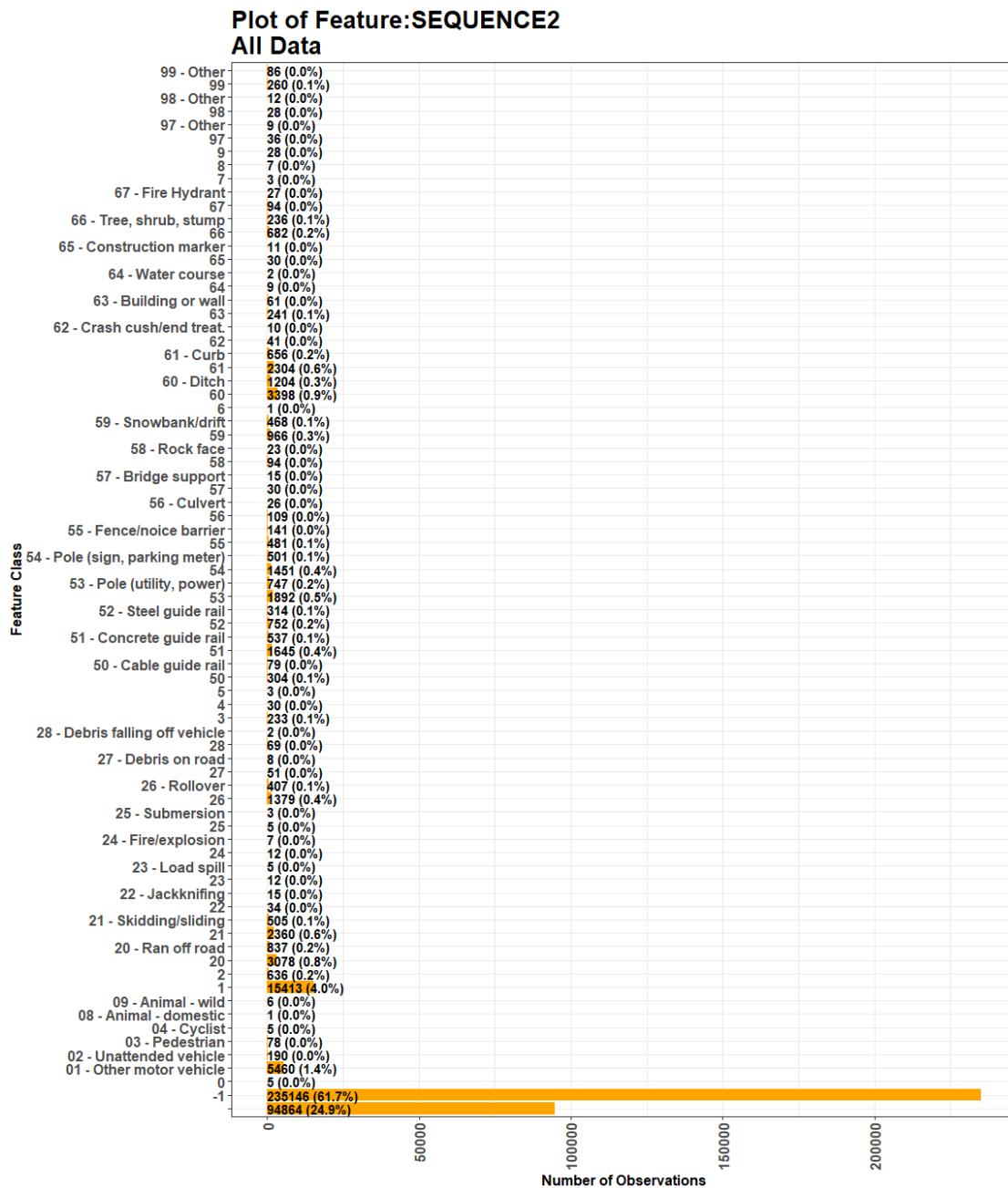
```

##      25708     26632     26139     27829     28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515     27509     27929     26577     27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292     27867     25858     26541
##
##  

## Summary as Factor Feature:  

## Number of Features: 78

```



```
## [1] "TOP 100 FEATURES COUNTERS OF:SEQUENCE2"
```

Feature Value	Counter	Percentage
	94864	24.9046
-1	235146	61.7327
0	5	0.0013
01 - Other motor vehicle	5460	1.4334
02 - Unattended vehicle	190	0.0499
03 - Pedestrian	78	0.0205
04 - Cyclist	5	0.0013
08 - Animal - domestic	1	0.0003
09 - Animal - wild	6	0.0016
1	15413	4.0464
2	636	0.1670
20	3078	0.8081
20 - Ran off road	837	0.2197
21	2360	0.6196
21 - Skidding/sliding	505	0.1326
22	34	0.0089
22 - Jackknifing	15	0.0039
23	12	0.0032
23 - Load spill	5	0.0013
24	12	0.0032
24 - Fire/explosion	7	0.0018
25	5	0.0013
25 - Submersion	3	0.0008
26	1379	0.3620
26 - Rollover	407	0.1068
27	51	0.0134
27 - Debris on road	8	0.0021
28	69	0.0181
28 - Debris falling off vehicle	2	0.0005
3	233	0.0612
4	30	0.0079
5	3	0.0008
50	304	0.0798

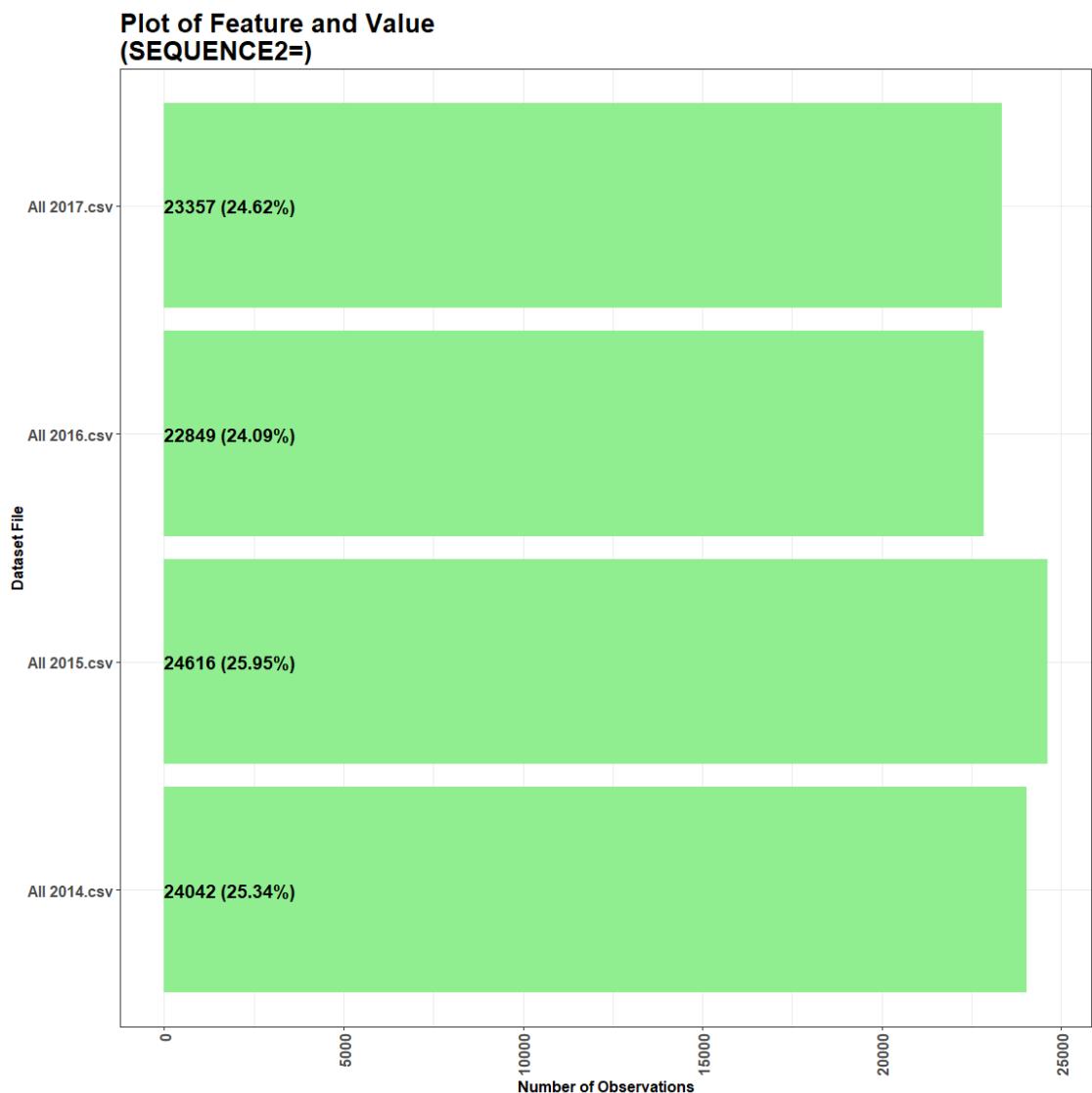
50 - Cable guide rail	79	0.0207
51	1645	0.4319
51 - Concrete guide rail	537	0.1410
52	752	0.1974
52 - Steel guide rail	314	0.0824
53	1892	0.4967
53 - Pole (utility, power)	747	0.1961
54	1451	0.3809
54 - Pole (sign, parking meter)	501	0.1315
55	481	0.1263
55 - Fence/noice barrier	141	0.0370
56	109	0.0286
56 - Culvert	26	0.0068
57	30	0.0079
57 - Bridge support	15	0.0039
58	94	0.0247
58 - Rock face	23	0.0060
59	966	0.2536
59 - Snowbank/drift	468	0.1229
6	1	0.0003
60	3398	0.8921
60 - Ditch	1204	0.3161
61	2304	0.6049
61 - Curb	656	0.1722
62	41	0.0108
62 - Crash cush/end treat.	10	0.0026
63	241	0.0633
63 - Building or wall	61	0.0160
64	9	0.0024
64 - Water course	2	0.0005
65	30	0.0079
65 - Construction marker	11	0.0029
66	682	0.1790
66 - Tree, shrub, stump	236	0.0620
67	94	0.0247



67 - Fire Hydrant	27	0.0071
7	3	0.0008
8	7	0.0018
9	28	0.0074
97	36	0.0095
97 - Other	9	0.0024
98	28	0.0074
98 - Other	12	0.0032
99	260	0.0683
99 - Other	86	0.0226

20.1 SEQUENCE2 = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (SEQUENCE2=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      24042       24616       22849       23357
```

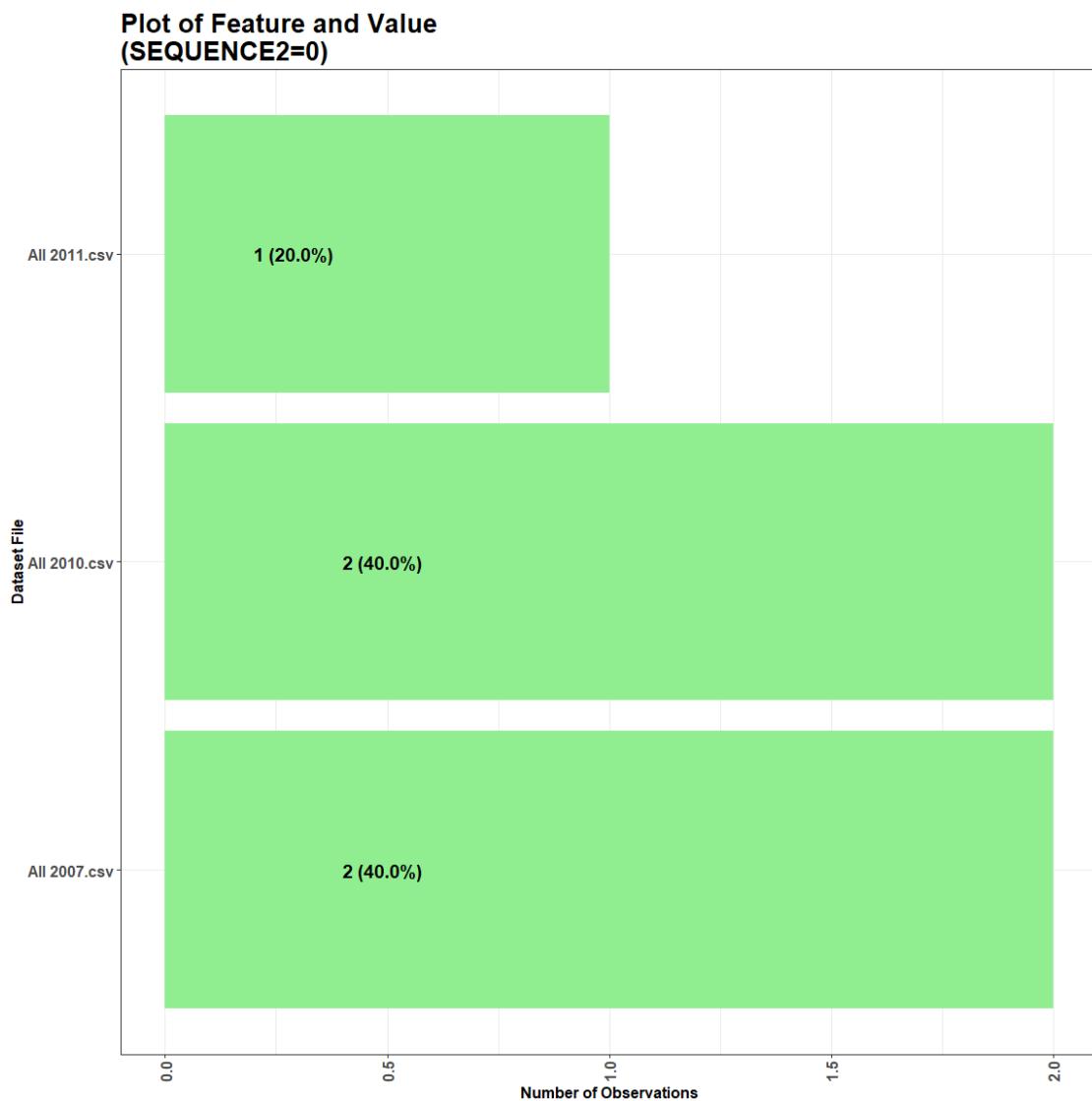


DATASET FILE	COUNTER OF (SEQUENCE2=)	Percentage
All 2014.csv	24042	25.34
All 2015.csv	24616	25.95
All 2016.csv	22849	24.09
All 2017.csv	23357	24.62

20.2 SEQUENCE2 = “0”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (SEQUENCE2=0)  
##  
## Summary per Data File:
```

```
## All 2007.csv All 2010.csv All 2011.csv
##          2          2          1
```



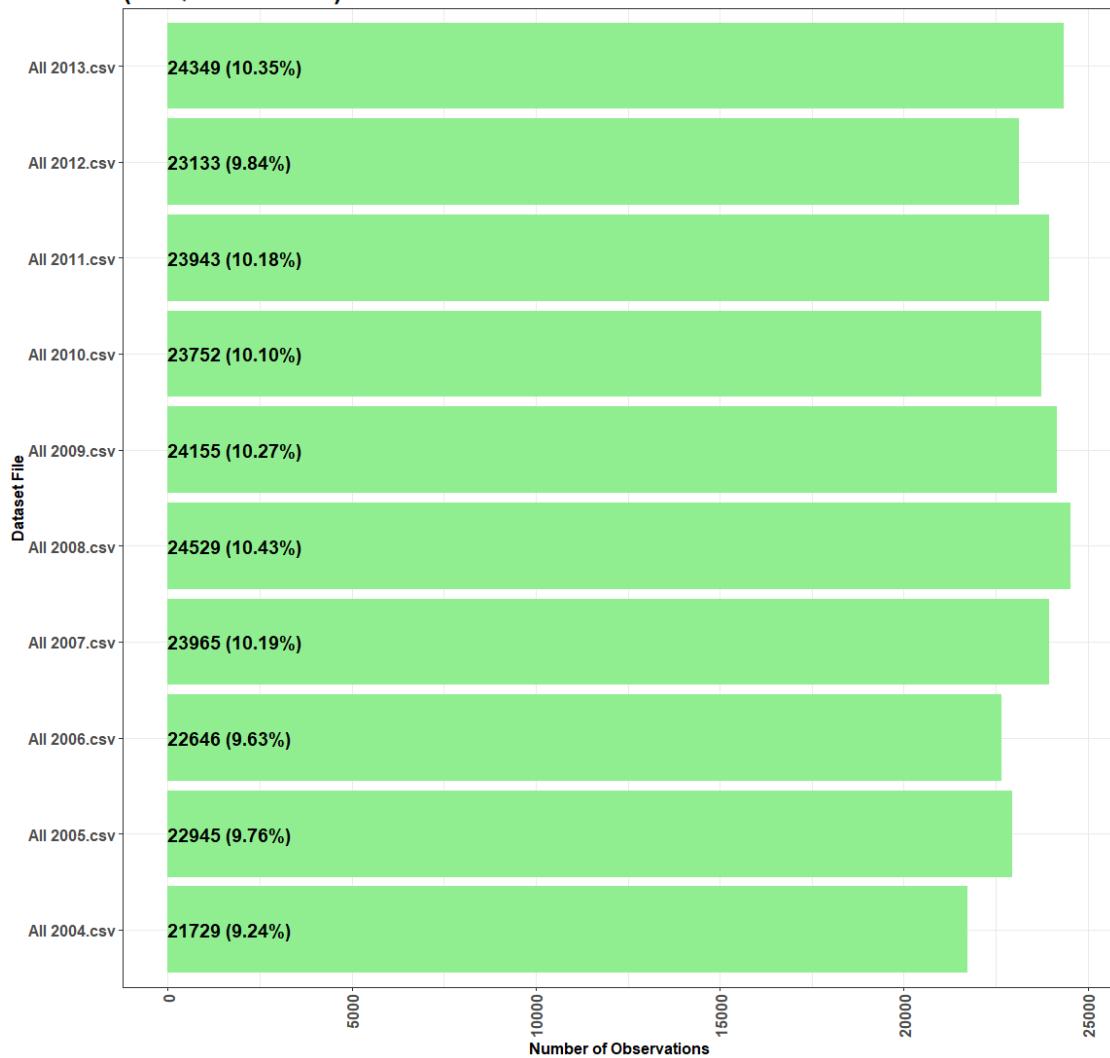
DATASET FILE	COUNTER OF (SEQUENCE2=0)	Percentage
All 2007.csv	2	40
All 2010.csv	2	40
All 2011.csv	1	20

20.3 SEQUENCE2 = “-1”

```
##
## =====
## CHECKING FEATURE AND VALUE (SEQUENCE2=-1)
##
## Summary per Data File:
```

```
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 21729 22945 22646 23965 24529
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 24155 23752 23943 23133 24349
```

**Plot of Feature and Value
(SEQUENCE2=-1)**

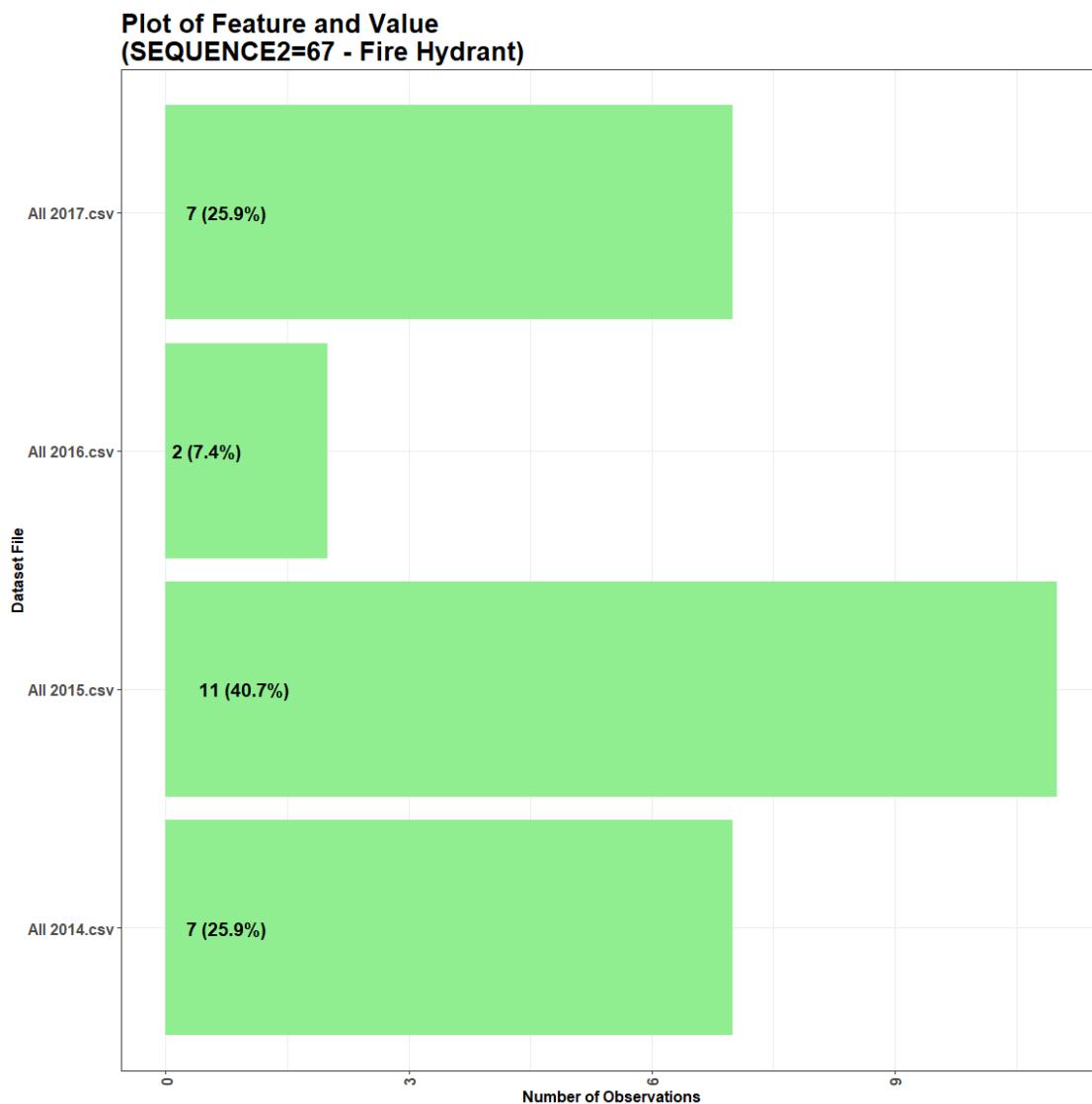


DATASET FILE	COUNTER OF (SEQUENCE2=-1)	Percentage
All 2004.csv	21729	9.241
All 2005.csv	22945	9.758
All 2006.csv	22646	9.631
All 2007.csv	23965	10.191
All 2008.csv	24529	10.431
All 2009.csv	24155	10.272

All 2010.csv	23752	10.101
All 2011.csv	23943	10.182
All 2012.csv	23133	9.838
All 2013.csv	24349	10.355

20.4 SEQUENCE2 = “67 - Fire Hydrant”

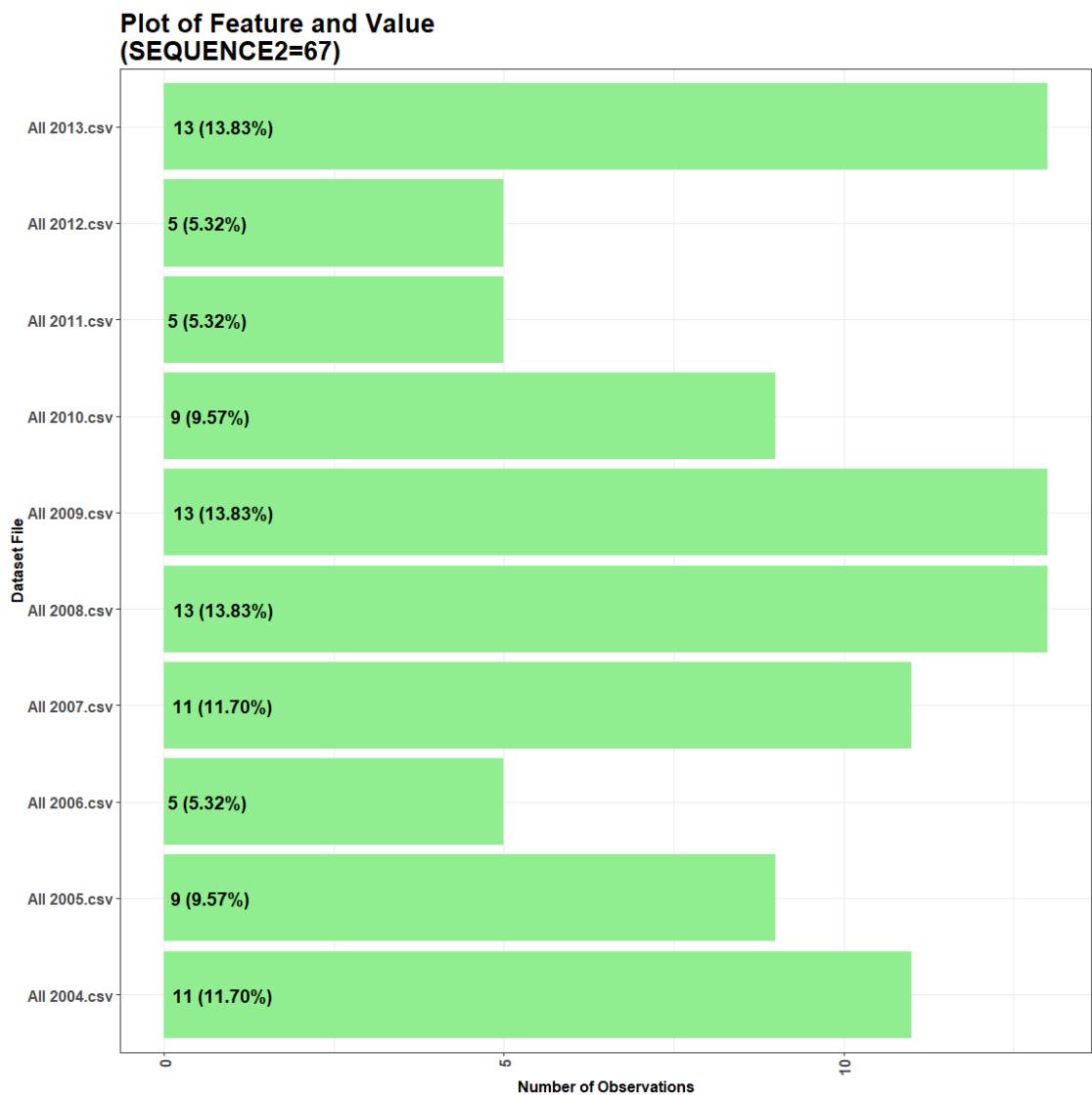
```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE2=67 - Fire Hydrant)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      7       11       2       7
```



DATASET FILE	COUNTER OF (SEQUENCE2=67 - Fire Hydrant)	Percentage
All 2014.csv	7	25.926
All 2015.csv	11	40.741
All 2016.csv	2	7.407
All 2017.csv	7	25.926

20.5 SEQUENCE2 = “67”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE2=67)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      11          9          5          11         13  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      13          9          5          5         13
```

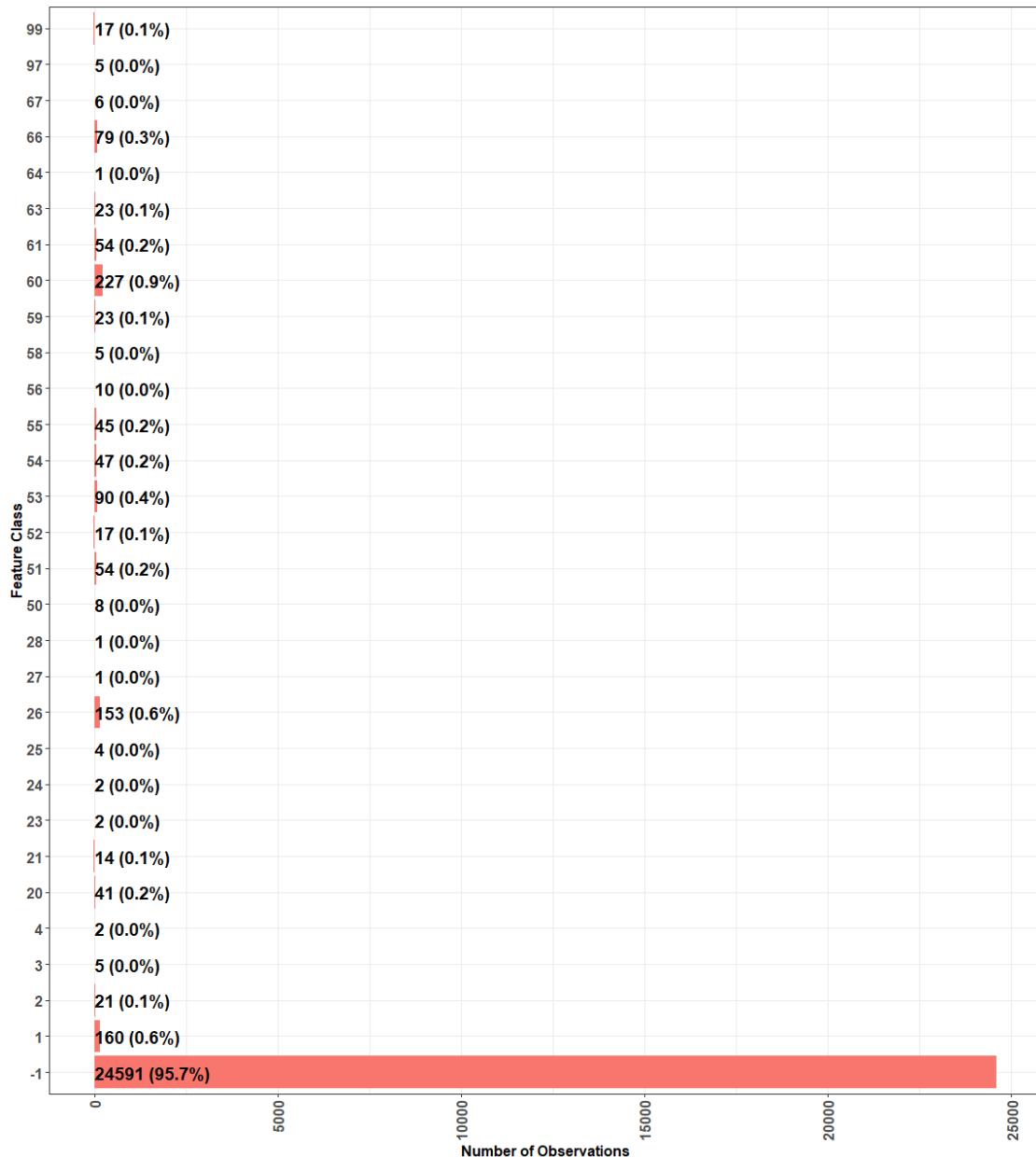


DATASET FILE	COUNTER OF (SEQUENCE2=67)	Percentage
All 2004.csv	11	11.702
All 2005.csv	9	9.575
All 2006.csv	5	5.319
All 2007.csv	11	11.702
All 2008.csv	13	13.830
All 2009.csv	13	13.830
All 2010.csv	9	9.575
All 2011.csv	5	5.319
All 2012.csv	5	5.319
All 2013.csv	13	13.830

21. Sequence3 (SEQUENCE3)

```
##
## -----
## CHECKING FEATURE:SEQUENCE3
## DATA:All 2004.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 30
##
## TOP 100 FEATURES OF SEQUENCE3
##
## Feature Value Counter Percentage
## -----
## -1 24591 95.6550
## 1 160 0.6224
## 2 21 0.0817
## 3 5 0.0194
## 4 2 0.0078
## 20 41 0.1595
## 21 14 0.0545
## 23 2 0.0078
## 24 2 0.0078
## 25 4 0.0156
## 26 153 0.5951
## 27 1 0.0039
## 28 1 0.0039
## 50 8 0.0311
## 51 54 0.2101
## 52 17 0.0661
## 53 90 0.3501
## 54 47 0.1828
## 55 45 0.1750
## 56 10 0.0389
## 58 5 0.0194
## 59 23 0.0895
## 60 227 0.8830
## 61 54 0.2101
## 63 23 0.0895
## 64 1 0.0039
## 66 79 0.3073
## 67 6 0.0233
## 97 5 0.0194
## 99 17 0.0661
```

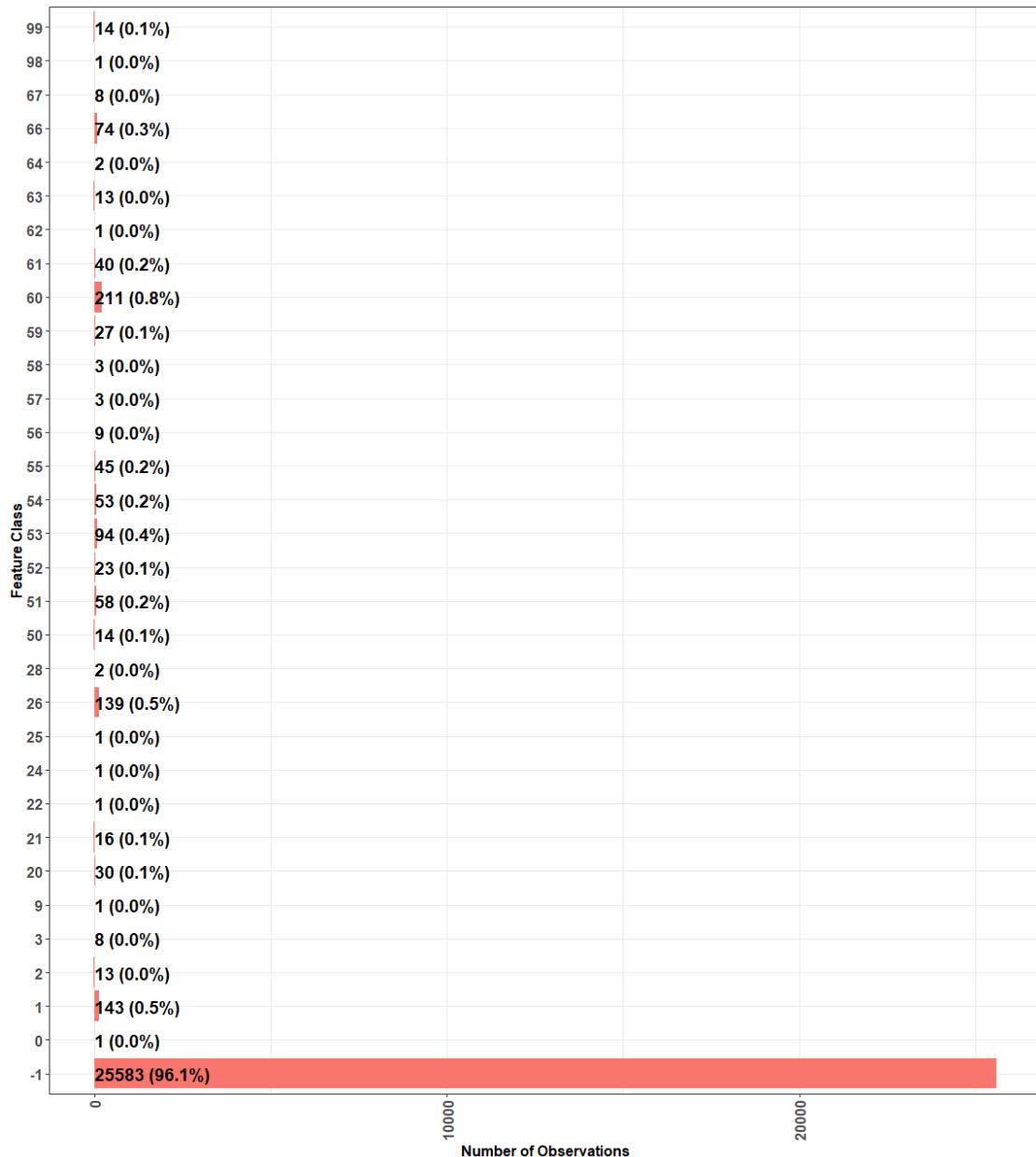
Plot of Feature:SEQUENCE3 Data>All 2004.csv



```
## 
## ----- 
## CHECKING FEATURE:SEQUENCE3
## DATA>All 2005.csv...
## 
## Number of Blank Values:0
## 
## Summary as Factor Feature:
## 
## Number of Features: 32
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25583 96.0611  
## 0 1 0.0038  
## 1 143 0.5369  
## 2 13 0.0488  
## 3 8 0.0300  
## 9 1 0.0038  
## 20 30 0.1126  
## 21 16 0.0601  
## 22 1 0.0038  
## 24 1 0.0038  
## 25 1 0.0038  
## 26 139 0.5219  
## 28 2 0.0075  
## 50 14 0.0526  
## 51 58 0.2178  
## 52 23 0.0864  
## 53 94 0.3530  
## 54 53 0.1990  
## 55 45 0.1690  
## 56 9 0.0338  
## 57 3 0.0113  
## 58 3 0.0113  
## 59 27 0.1014  
## 60 211 0.7923  
## 61 40 0.1502  
## 62 1 0.0038  
## 63 13 0.0488  
## 64 2 0.0075  
## 66 74 0.2779  
## 67 8 0.0300  
## 98 1 0.0038  
## 99 14 0.0526
```

Plot of Feature:SEQUENCE3 Data>All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 31
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25183 96.3426  
## 1 96 0.3673  
## 2 22 0.0842  
## 3 6 0.0230  
## 4 1 0.0038  
## 5 2 0.0077  
## 9 1 0.0038  
## 20 35 0.1339  
## 21 9 0.0344  
## 24 2 0.0077  
## 25 1 0.0038  
## 26 131 0.5012  
## 28 1 0.0038  
## 50 7 0.0268  
## 51 37 0.1416  
## 52 20 0.0765  
## 53 92 0.3520  
## 54 53 0.2028  
## 55 50 0.1913  
## 56 5 0.0191  
## 57 3 0.0115  
## 58 6 0.0230  
## 59 17 0.0650  
## 60 207 0.7919  
## 61 37 0.1416  
## 62 6 0.0230  
## 63 13 0.0497  
## 66 75 0.2869  
## 67 6 0.0230  
## 97 1 0.0038  
## 99 14 0.0536
```

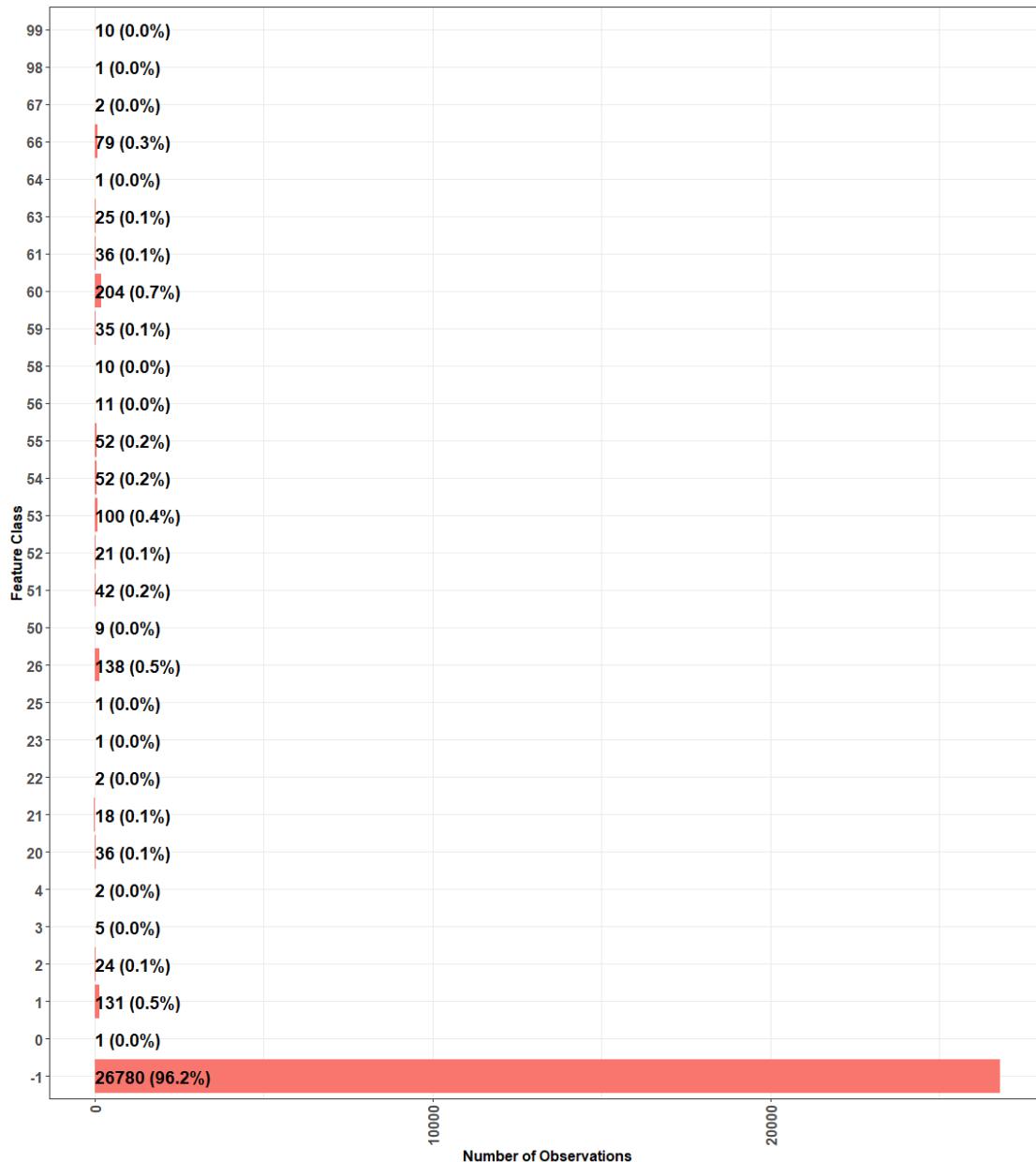
Plot of Feature:SEQUENCE3 Data>All 2006.csv



```
## 
## -----
## CHECKING FEATURE:SEQUENCE3
## DATA>All 2007.csv...
## 
## Number of Blank Values:0
## 
## Summary as Factor Feature:
## 
## Number of Features: 29
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26780 96.2306  
## 0 1 0.0036  
## 1 131 0.4707  
## 2 24 0.0862  
## 3 5 0.0180  
## 4 2 0.0072  
## 20 36 0.1294  
## 21 18 0.0647  
## 22 2 0.0072  
## 23 1 0.0036  
## 25 1 0.0036  
## 26 138 0.4959  
## 50 9 0.0323  
## 51 42 0.1509  
## 52 21 0.0755  
## 53 100 0.3593  
## 54 52 0.1869  
## 55 52 0.1869  
## 56 11 0.0395  
## 58 10 0.0359  
## 59 35 0.1258  
## 60 204 0.7330  
## 61 36 0.1294  
## 63 25 0.0898  
## 64 1 0.0036  
## 66 79 0.2839  
## 67 2 0.0072  
## 98 1 0.0036  
## 99 10 0.0359
```

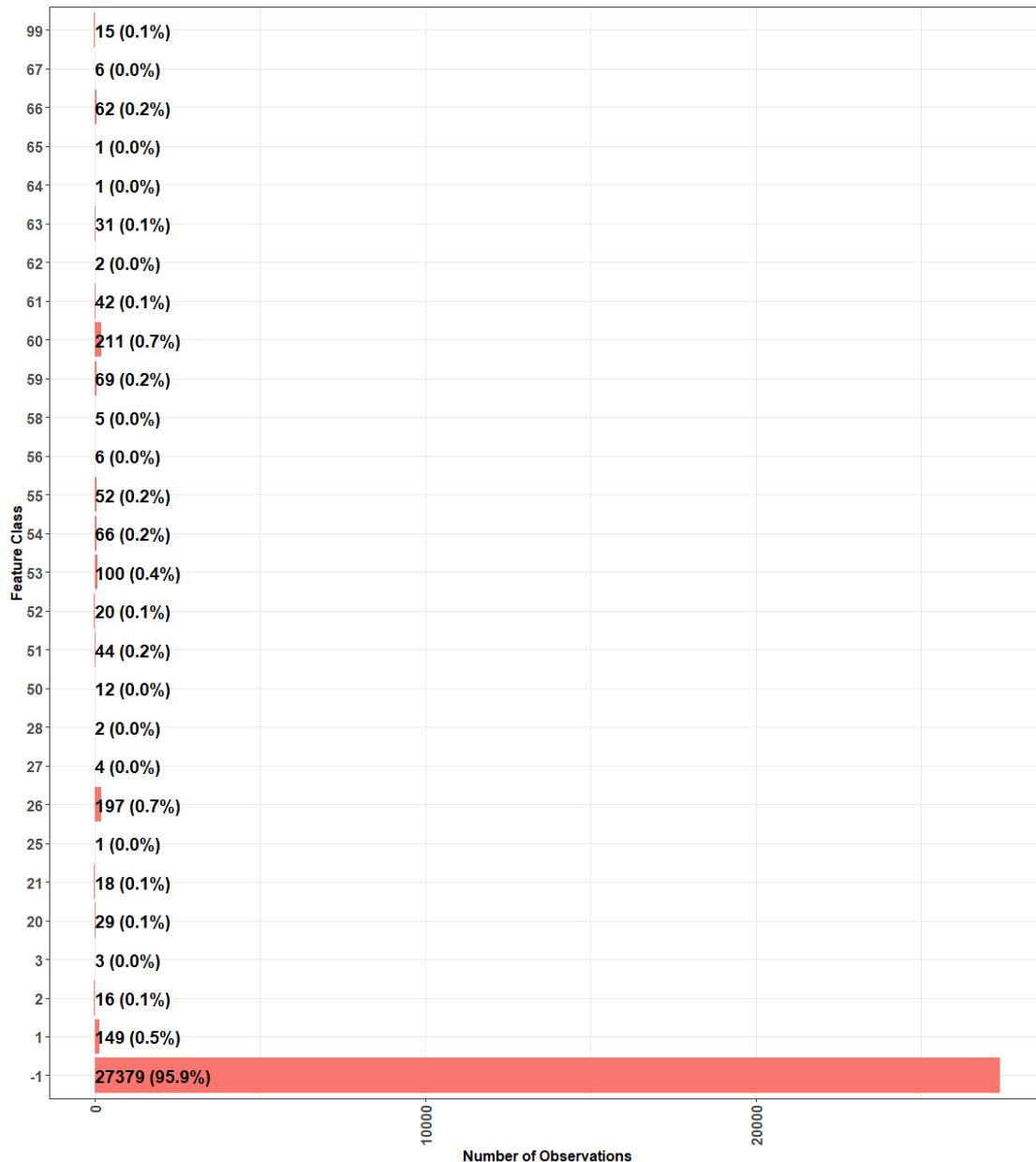
Plot of Feature:SEQUENCE3 Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 28
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27379 95.9219  
## 1 149 0.5220  
## 2 16 0.0561  
## 3 3 0.0105  
## 20 29 0.1016  
## 21 18 0.0631  
## 25 1 0.0035  
## 26 197 0.6902  
## 27 4 0.0140  
## 28 2 0.0070  
## 50 12 0.0420  
## 51 44 0.1542  
## 52 20 0.0701  
## 53 100 0.3503  
## 54 66 0.2312  
## 55 52 0.1822  
## 56 6 0.0210  
## 58 5 0.0175  
## 59 69 0.2417  
## 60 211 0.7392  
## 61 42 0.1471  
## 62 2 0.0070  
## 63 31 0.1086  
## 64 1 0.0035  
## 65 1 0.0035  
## 66 62 0.2172  
## 67 6 0.0210  
## 99 15 0.0526
```

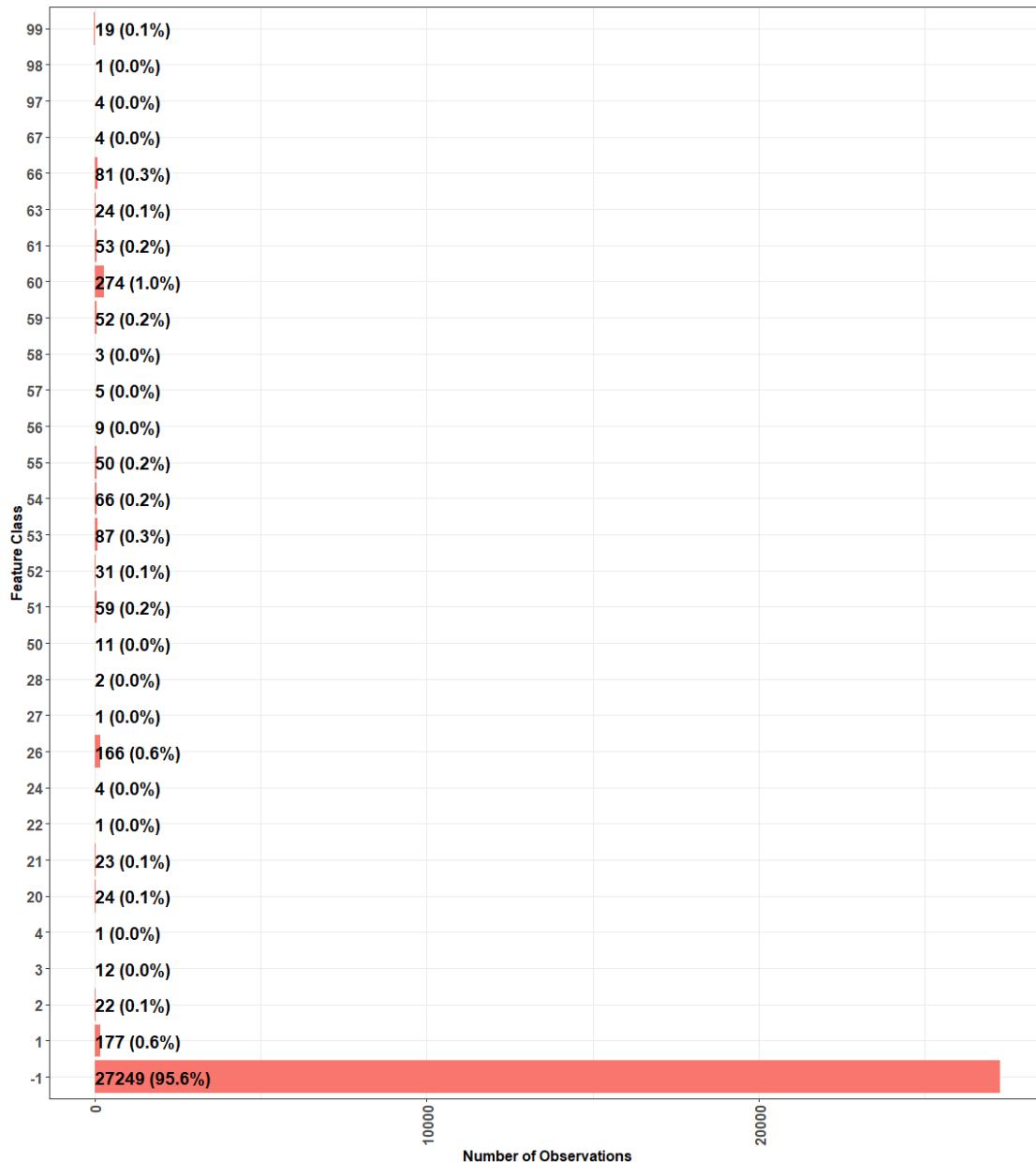
Plot of Feature:SEQUENCE3 Data>All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 30
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 27249 95.5602  
## 1 177 0.6207  
## 2 22 0.0772  
## 3 12 0.0421  
## 4 1 0.0035  
## 20 24 0.0842  
## 21 23 0.0807  
## 22 1 0.0035  
## 24 4 0.0140  
## 26 166 0.5821  
## 27 1 0.0035  
## 28 2 0.0070  
## 50 11 0.0386  
## 51 59 0.2069  
## 52 31 0.1087  
## 53 87 0.3051  
## 54 66 0.2315  
## 55 50 0.1753  
## 56 9 0.0316  
## 57 5 0.0175  
## 58 3 0.0105  
## 59 52 0.1824  
## 60 274 0.9609  
## 61 53 0.1859  
## 63 24 0.0842  
## 66 81 0.2841  
## 67 4 0.0140  
## 97 4 0.0140  
## 98 1 0.0035  
## 99 19 0.0666
```

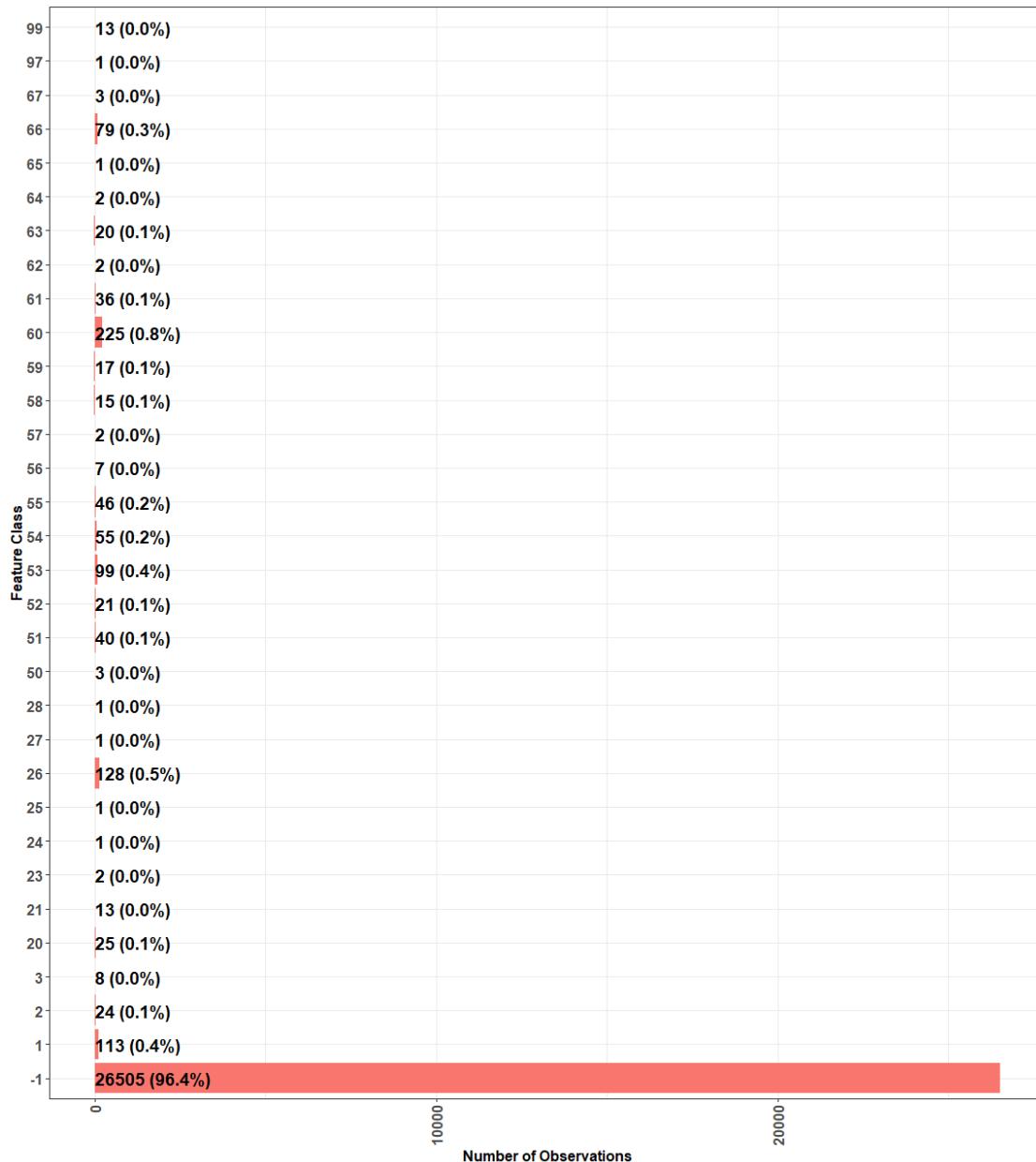
Plot of Feature:SEQUENCE3 Data:All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 32
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26505 96.3503  
## 1 113 0.4108  
## 2 24 0.0872  
## 3 8 0.0291  
## 20 25 0.0909  
## 21 13 0.0473  
## 23 2 0.0073  
## 24 1 0.0036  
## 25 1 0.0036  
## 26 128 0.4653  
## 27 1 0.0036  
## 28 1 0.0036  
## 50 3 0.0109  
## 51 40 0.1454  
## 52 21 0.0763  
## 53 99 0.3599  
## 54 55 0.1999  
## 55 46 0.1672  
## 56 7 0.0254  
## 57 2 0.0073  
## 58 15 0.0545  
## 59 17 0.0618  
## 60 225 0.8179  
## 61 36 0.1309  
## 62 2 0.0073  
## 63 20 0.0727  
## 64 2 0.0073  
## 65 1 0.0036  
## 66 79 0.2872  
## 67 3 0.0109  
## 97 1 0.0036  
## 99 13 0.0473
```

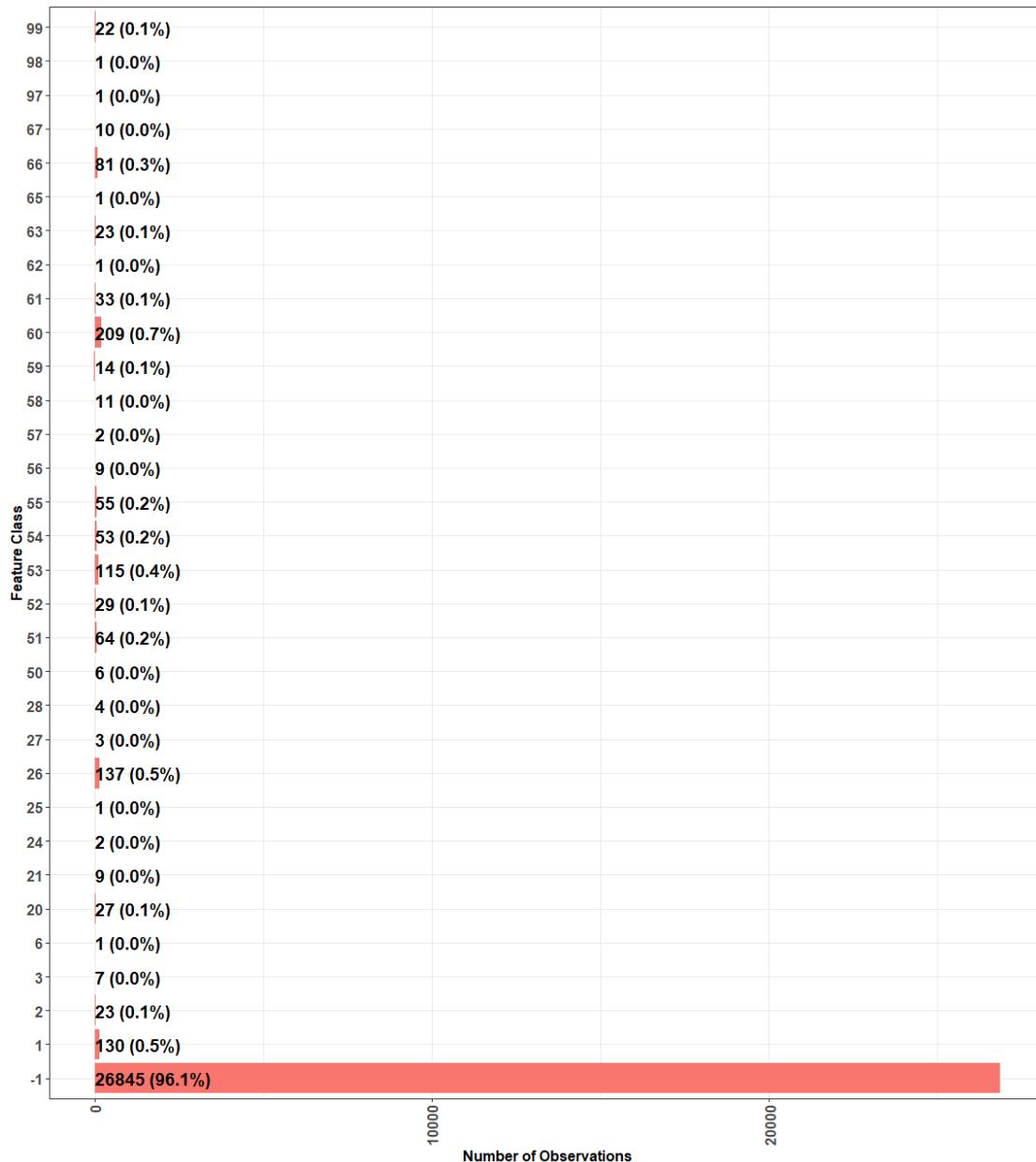
Plot of Feature:SEQUENCE3 Data>All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 32
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26845 96.1187  
## 1 130 0.4655  
## 2 23 0.0824  
## 3 7 0.0251  
## 6 1 0.0036  
## 20 27 0.0967  
## 21 9 0.0322  
## 24 2 0.0072  
## 25 1 0.0036  
## 26 137 0.4905  
## 27 3 0.0107  
## 28 4 0.0143  
## 50 6 0.0215  
## 51 64 0.2292  
## 52 29 0.1038  
## 53 115 0.4118  
## 54 53 0.1898  
## 55 55 0.1969  
## 56 9 0.0322  
## 57 2 0.0072  
## 58 11 0.0394  
## 59 14 0.0501  
## 60 209 0.7483  
## 61 33 0.1182  
## 62 1 0.0036  
## 63 23 0.0824  
## 65 1 0.0036  
## 66 81 0.2900  
## 67 10 0.0358  
## 97 1 0.0036  
## 98 1 0.0036  
## 99 22 0.0788
```

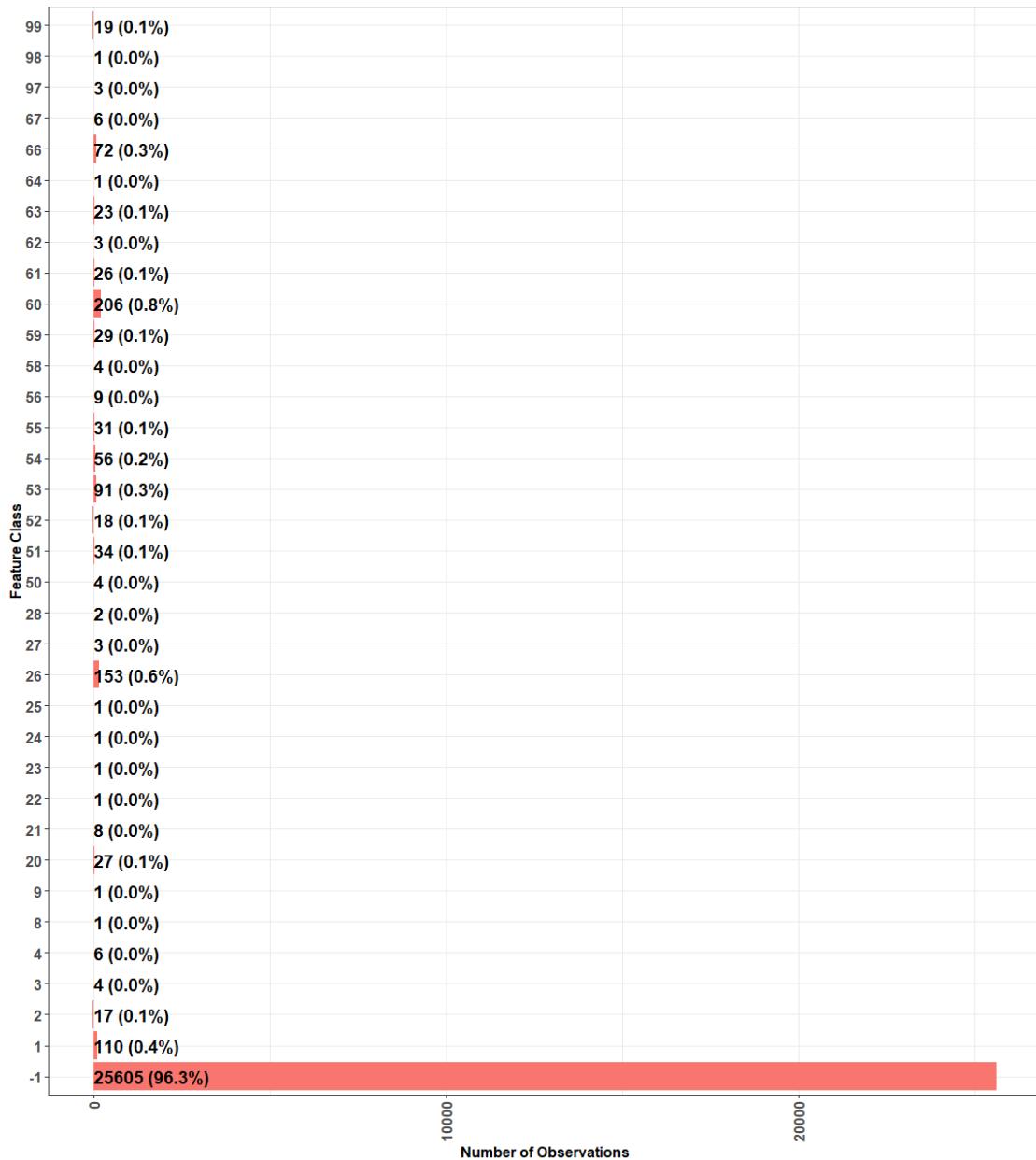
Plot of Feature:SEQUENCE3 Data>All 2011.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 25605 96.3427  
## 1 110 0.4139  
## 2 17 0.0640  
## 3 4 0.0151  
## 4 6 0.0226  
## 8 1 0.0038  
## 9 1 0.0038  
## 20 27 0.1016  
## 21 8 0.0301  
## 22 1 0.0038  
## 23 1 0.0038  
## 24 1 0.0038  
## 25 1 0.0038  
## 26 153 0.5757  
## 27 3 0.0113  
## 28 2 0.0075  
## 50 4 0.0151  
## 51 34 0.1279  
## 52 18 0.0677  
## 53 91 0.3424  
## 54 56 0.2107  
## 55 31 0.1166  
## 56 9 0.0339  
## 58 4 0.0151  
## 59 29 0.1091  
## 60 206 0.7751  
## 61 26 0.0978  
## 62 3 0.0113  
## 63 23 0.0865  
## 64 1 0.0038  
## 66 72 0.2709  
## 67 6 0.0226  
## 97 3 0.0113  
## 98 1 0.0038  
## 99 19 0.0715
```

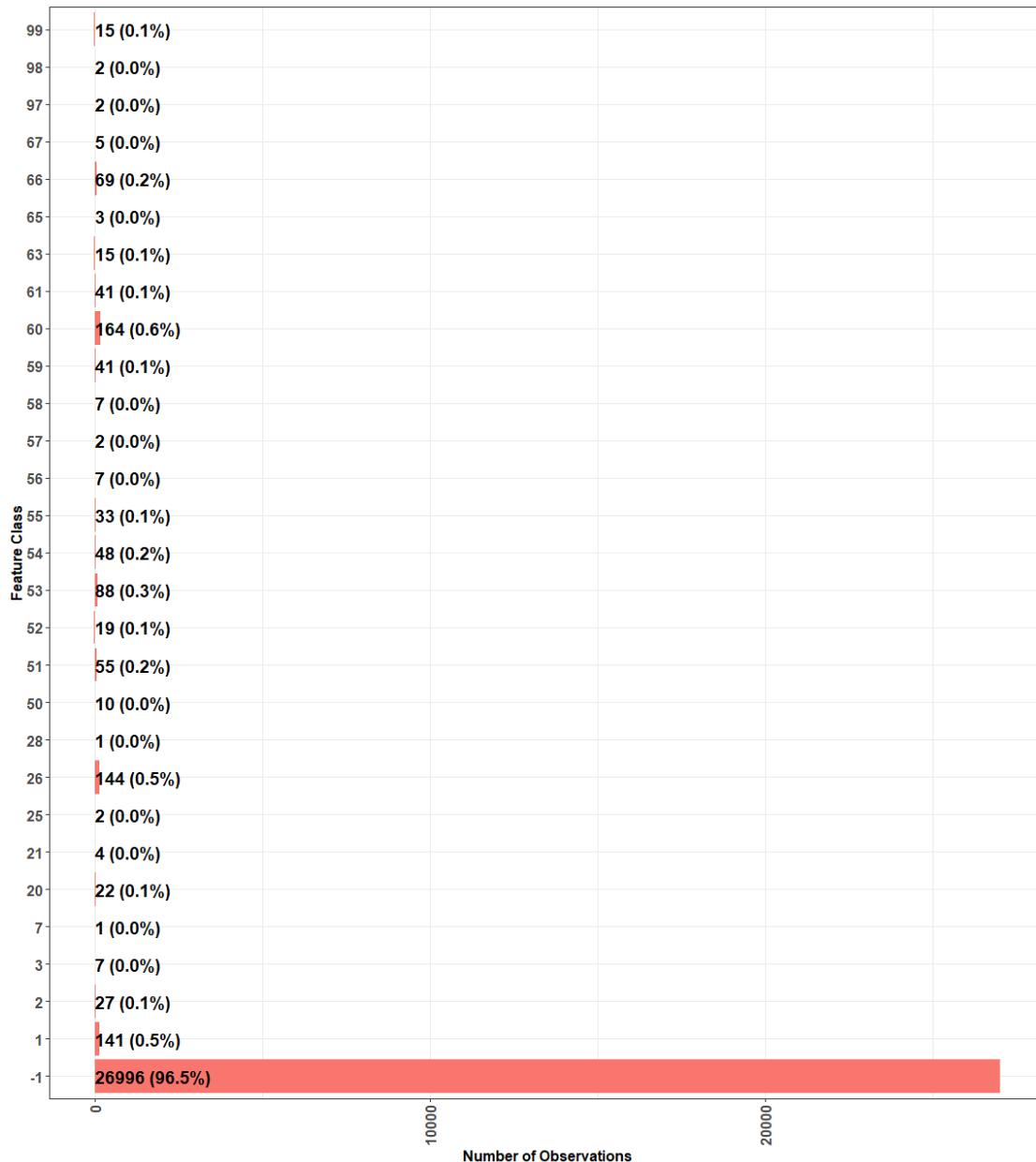
Plot of Feature:SEQUENCE3 Data>All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 29
```

```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## -1 26996 96.5142  
## 1 141 0.5041  
## 2 27 0.0965  
## 3 7 0.0250  
## 7 1 0.0036  
## 20 22 0.0787  
## 21 4 0.0143  
## 25 2 0.0072  
## 26 144 0.5148  
## 28 1 0.0036  
## 50 10 0.0358  
## 51 55 0.1966  
## 52 19 0.0679  
## 53 88 0.3146  
## 54 48 0.1716  
## 55 33 0.1180  
## 56 7 0.0250  
## 57 2 0.0072  
## 58 7 0.0250  
## 59 41 0.1466  
## 60 164 0.5863  
## 61 41 0.1466  
## 63 15 0.0536  
## 65 3 0.0107  
## 66 69 0.2467  
## 67 5 0.0179  
## 97 2 0.0072  
## 98 2 0.0072  
## 99 15 0.0536
```

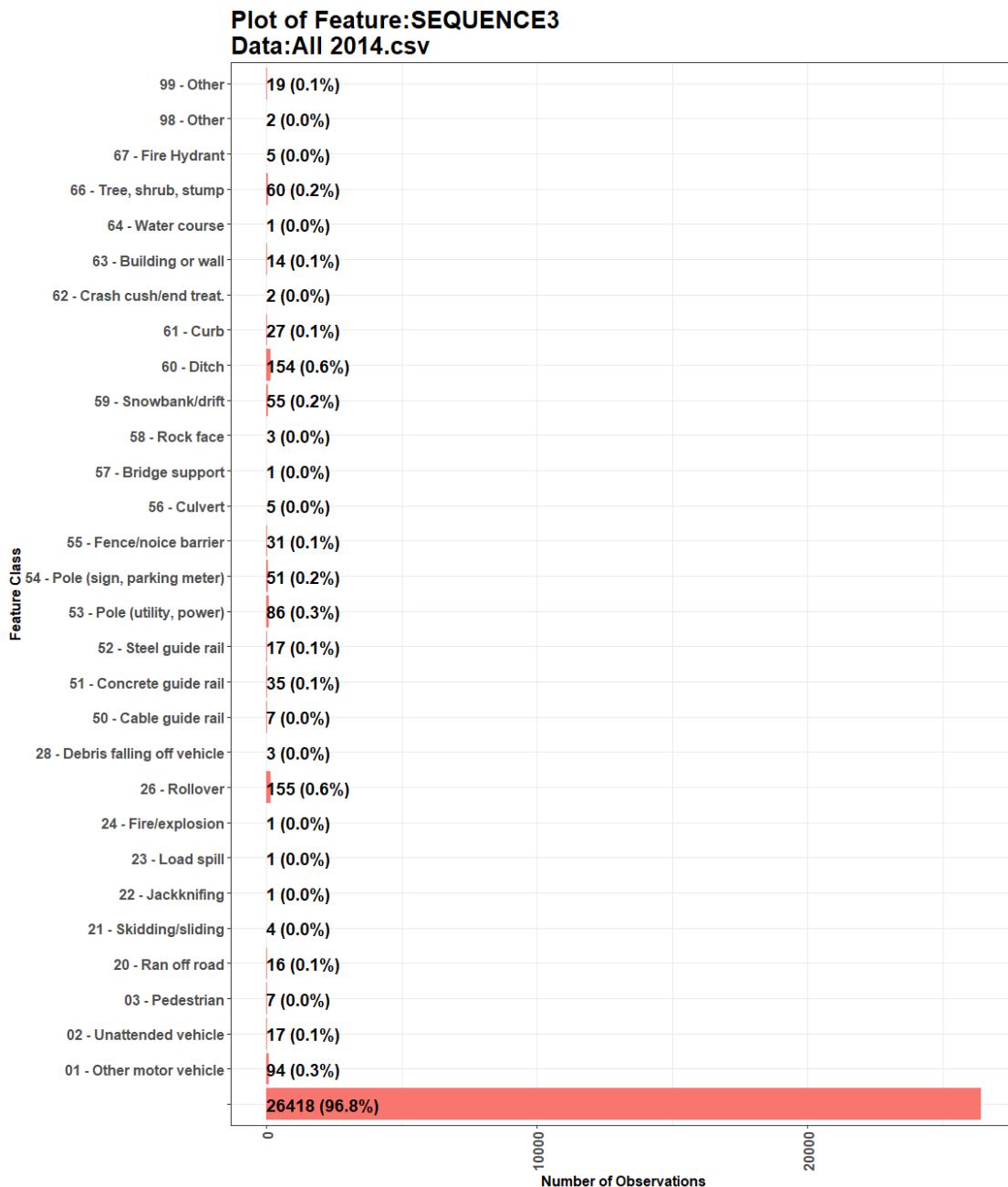
Plot of Feature:SEQUENCE3 Data>All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA>All 2014.csv...  
##  
## Number of Blank Values:26418  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 30
```



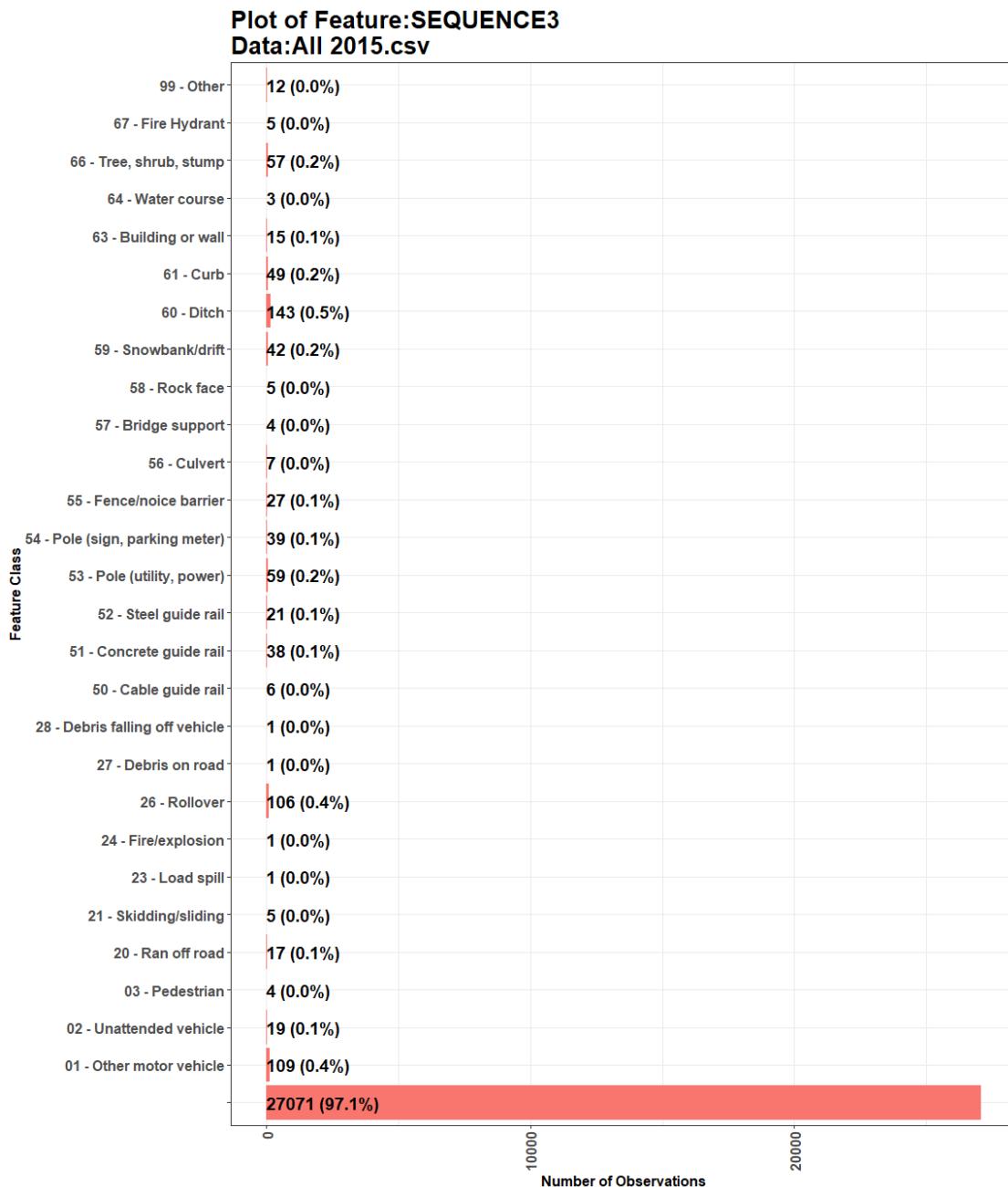
```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## 26418 96.7976  
## 01 - Other motor vehicle 94 0.3444  
## 02 - Unattended vehicle 17 0.0623  
## 03 - Pedestrian 7 0.0256  
## 20 - Ran off road 16 0.0586  
## 21 - Skidding/sliding 4 0.0147  
## 22 - Jackknifing 1 0.0037  
## 23 - Load spill 1 0.0037  
## 24 - Fire/explosion 1 0.0037  
## 26 - Rollover 155 0.5679  
## 28 - Debris falling off vehicle 3 0.0110  
## 50 - Cable guide rail 7 0.0256  
## 51 - Concrete guide rail 35 0.1282  
## 52 - Steel guide rail 17 0.0623  
## 53 - Pole (utility, power) 86 0.3151  
## 54 - Pole (sign, parking meter) 51 0.1869  
## 55 - Fence/noice barrier 31 0.1136  
## 56 - Culvert 5 0.0183  
## 57 - Bridge support 1 0.0037  
## 58 - Rock face 3 0.0110  
## 59 - Snowbank/drift 55 0.2015  
## 60 - Ditch 154 0.5643  
## 61 - Curb 27 0.0989  
## 62 - Crash cush/end treat. 2 0.0073  
## 63 - Building or wall 14 0.0513  
## 64 - Water course 1 0.0037  
## 66 - Tree, shrub, stump 60 0.2198  
## 67 - Fire Hydrant 5 0.0183  
## 98 - Other 2 0.0073  
## 99 - Other 19 0.0696
```



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:27071  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 28
```

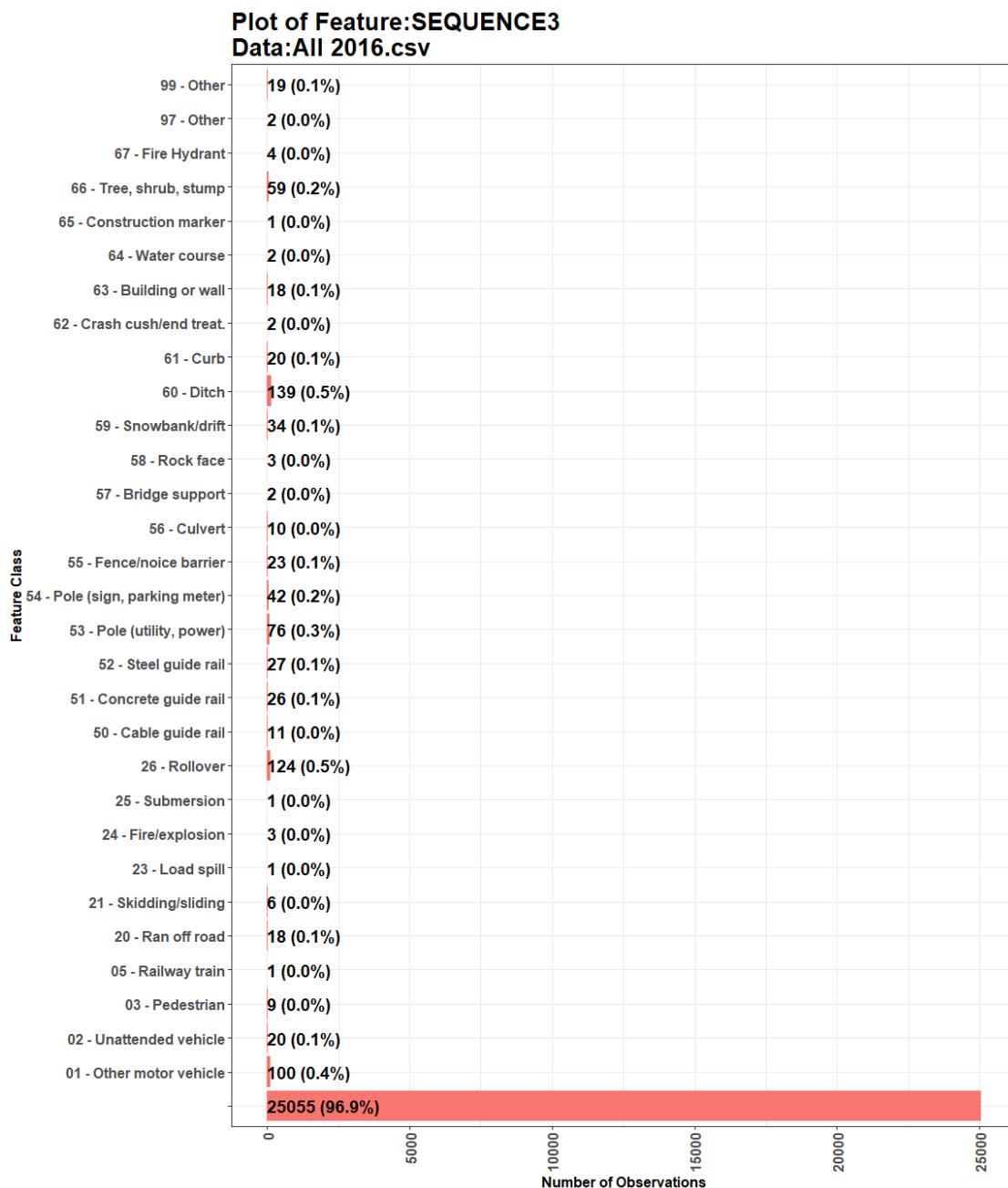


```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## 27071 97.1436  
## 01 - Other motor vehicle 109 0.3911  
## 02 - Unattended vehicle 19 0.0682  
## 03 - Pedestrian 4 0.0144  
## 20 - Ran off road 17 0.0610  
## 21 - Skidding/sliding 5 0.0179  
## 23 - Load spill 1 0.0036  
## 24 - Fire/explosion 1 0.0036  
## 26 - Rollover 106 0.3804  
## 27 - Debris on road 1 0.0036  
## 28 - Debris falling off vehicle 1 0.0036  
## 50 - Cable guide rail 6 0.0215  
## 51 - Concrete guide rail 38 0.1364  
## 52 - Steel guide rail 21 0.0754  
## 53 - Pole (utility, power) 59 0.2117  
## 54 - Pole (sign, parking meter) 39 0.1400  
## 55 - Fence/noice barrier 27 0.0969  
## 56 - Culvert 7 0.0251  
## 57 - Bridge support 4 0.0144  
## 58 - Rock face 5 0.0179  
## 59 - Snowbank/drift 42 0.1507  
## 60 - Ditch 143 0.5132  
## 61 - Curb 49 0.1758  
## 63 - Building or wall 15 0.0538  
## 64 - Water course 3 0.0108  
## 66 - Tree, shrub, stump 57 0.2045  
## 67 - Fire Hydrant 5 0.0179  
## 99 - Other 12 0.0431
```



```
##  
## -----  
## CHECKING FEATURE:SEQUENCE3  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:25055  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 31
```

```
##
## TOP 100 FEATURES OF SEQUENCE3
##
## Feature Value Counter Percentage
## -----
##                                     25055 96.8946
## 01 - Other motor vehicle      100   0.3867
## 02 - Unattended vehicle       20    0.0773
## 03 - Pedestrian                9    0.0348
## 05 - Railway train             1    0.0039
## 20 - Ran off road              18   0.0696
## 21 - Skidding/sliding          6    0.0232
## 23 - Load spill                 1    0.0039
## 24 - Fire/explosion             3    0.0116
## 25 - Submersion                 1    0.0039
## 26 - Rollover                   124   0.4795
## 50 - Cable guide rail           11   0.0425
## 51 - Concrete guide rail        26   0.1005
## 52 - Steel guide rail            27   0.1044
## 53 - Pole (utility, power)      76   0.2939
## 54 - Pole (sign, parking meter) 42   0.1624
## 55 - Fence/noice barrier         23   0.0889
## 56 - Culvert                     10   0.0387
## 57 - Bridge support               2    0.0077
## 58 - Rock face                   3    0.0116
## 59 - Snowbank/drift              34   0.1315
## 60 - Ditch                        139   0.5376
## 61 - Curb                          20   0.0773
## 62 - Crash cush/end treat.        2    0.0077
## 63 - Building or wall             18   0.0696
## 64 - Water course                  2    0.0077
## 65 - Construction marker          1    0.0039
## 66 - Tree, shrub, stump            59   0.2282
## 67 - Fire Hydrant                  4    0.0155
## 97 - Other                         2    0.0077
## 99 - Other                         19   0.0735
```



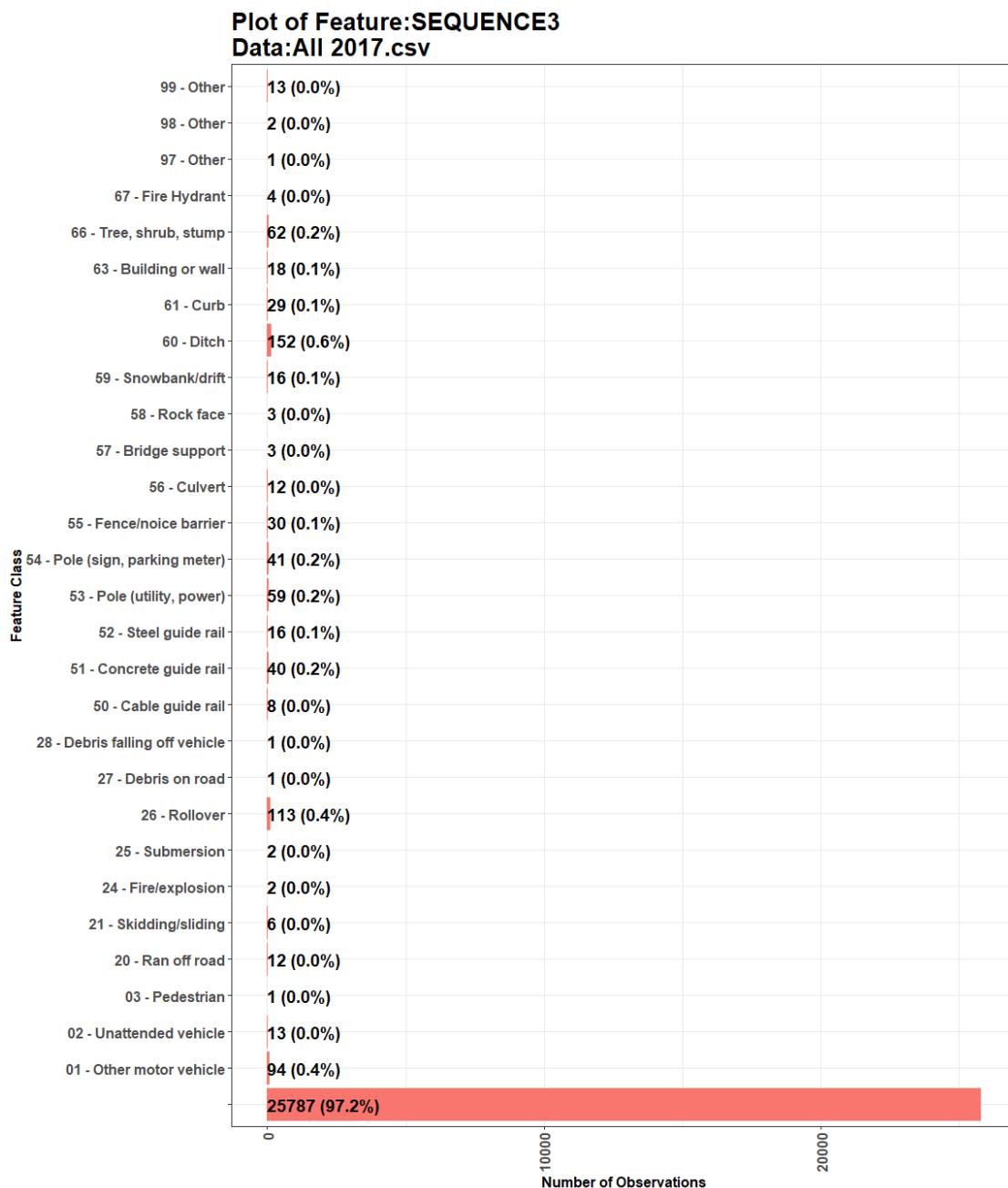
```

## 
## -----
## CHECKING FEATURE:SEQUENCE3
## DATA:All 2017.csv...
## 
## Number of Blank Values:25787
## 
## Summary as Factor Feature:
## 
## Number of Features: 29

```



```
##  
## TOP 100 FEATURES OF SEQUENCE3  
##  
## Feature Value Counter Percentage  
## -----  
## 25787 97.1591  
## 01 - Other motor vehicle 94 0.3542  
## 02 - Unattended vehicle 13 0.0490  
## 03 - Pedestrian 1 0.0038  
## 20 - Ran off road 12 0.0452  
## 21 - Skidding/sliding 6 0.0226  
## 24 - Fire/explosion 2 0.0075  
## 25 - Submersion 2 0.0075  
## 26 - Rollover 113 0.4258  
## 27 - Debris on road 1 0.0038  
## 28 - Debris falling off vehicle 1 0.0038  
## 50 - Cable guide rail 8 0.0301  
## 51 - Concrete guide rail 40 0.1507  
## 52 - Steel guide rail 16 0.0603  
## 53 - Pole (utility, power) 59 0.2223  
## 54 - Pole (sign, parking meter) 41 0.1545  
## 55 - Fence/noice barrier 30 0.1130  
## 56 - Culvert 12 0.0452  
## 57 - Bridge support 3 0.0113  
## 58 - Rock face 3 0.0113  
## 59 - Snowbank/drift 16 0.0603  
## 60 - Ditch 152 0.5727  
## 61 - Curb 29 0.1093  
## 63 - Building or wall 18 0.0678  
## 66 - Tree, shrub, stump 62 0.2336  
## 67 - Fire Hydrant 4 0.0151  
## 97 - Other 1 0.0038  
## 98 - Other 2 0.0075  
## 99 - Other 13 0.0490
```



```
##
## =====
## FINAL INFO CHECKING FEATURE:SEQUENCE3
## ALL DATA...
## =====
## Number of Blank Values:104331
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

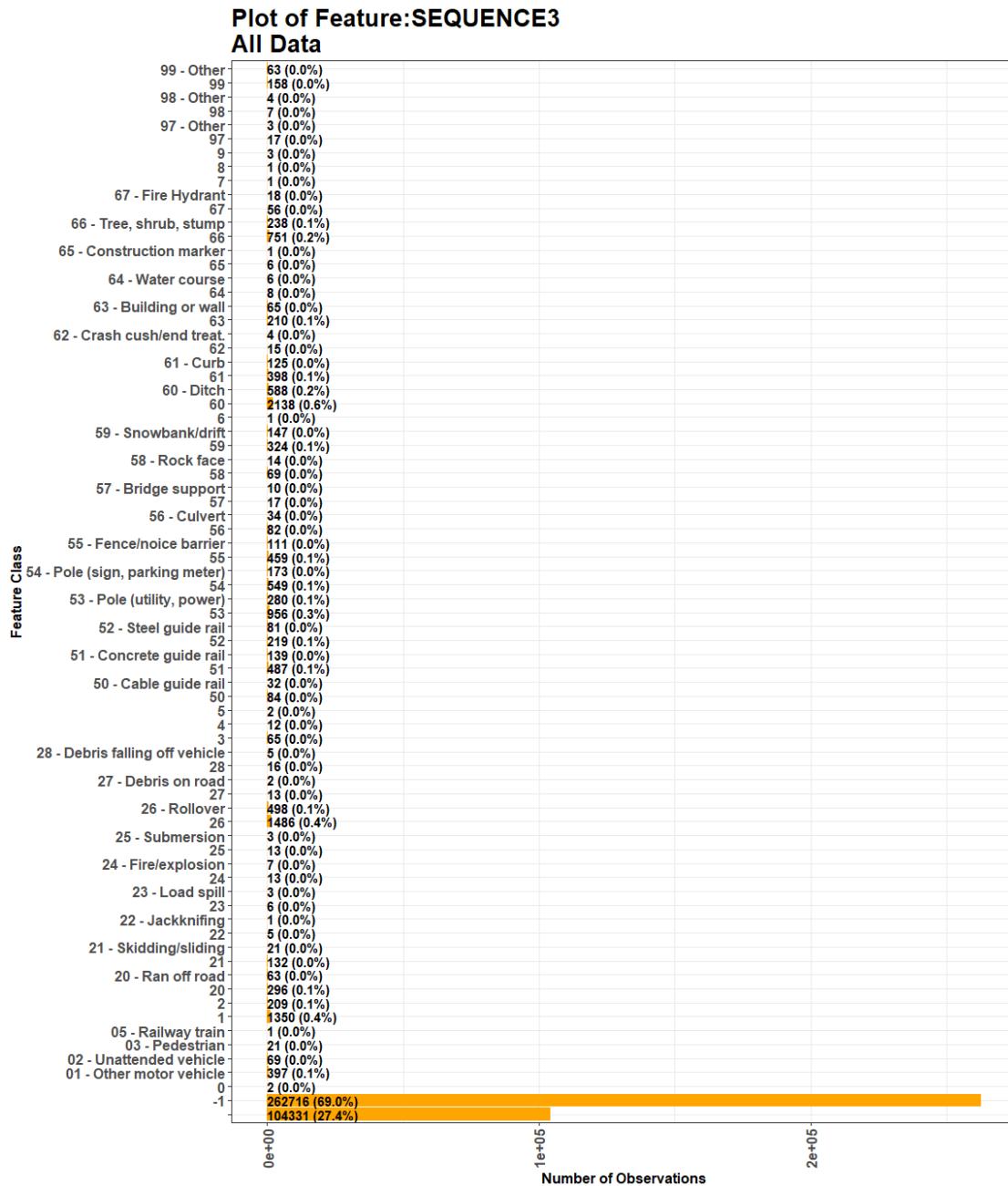
```

##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
##  

## Summary as Factor Feature:  

## Number of Features: 76

```



```
## [1] "TOP 100 FEATURES COUNTERS OF:SEQUENCE3"
```

Feature Value	Counter	Percentage
	104331	27.3899
-1	262716	68.9706
0	2	0.0005
01 - Other motor vehicle	397	0.1042
02 - Unattended vehicle	69	0.0181
03 - Pedestrian	21	0.0055
05 - Railway train	1	0.0003
1	1350	0.3544
2	209	0.0549
20	296	0.0777
20 - Ran off road	63	0.0165
21	132	0.0347
21 - Skidding/sliding	21	0.0055
22	5	0.0013
22 - Jackknifing	1	0.0003
23	6	0.0016
23 - Load spill	3	0.0008
24	13	0.0034
24 - Fire/explosion	7	0.0018
25	13	0.0034
25 - Submersion	3	0.0008
26	1486	0.3901
26 - Rollover	498	0.1307
27	13	0.0034
27 - Debris on road	2	0.0005
28	16	0.0042
28 - Debris falling off vehicle	5	0.0013
3	65	0.0171
4	12	0.0032
5	2	0.0005
50	84	0.0221
50 - Cable guide rail	32	0.0084
51	487	0.1279

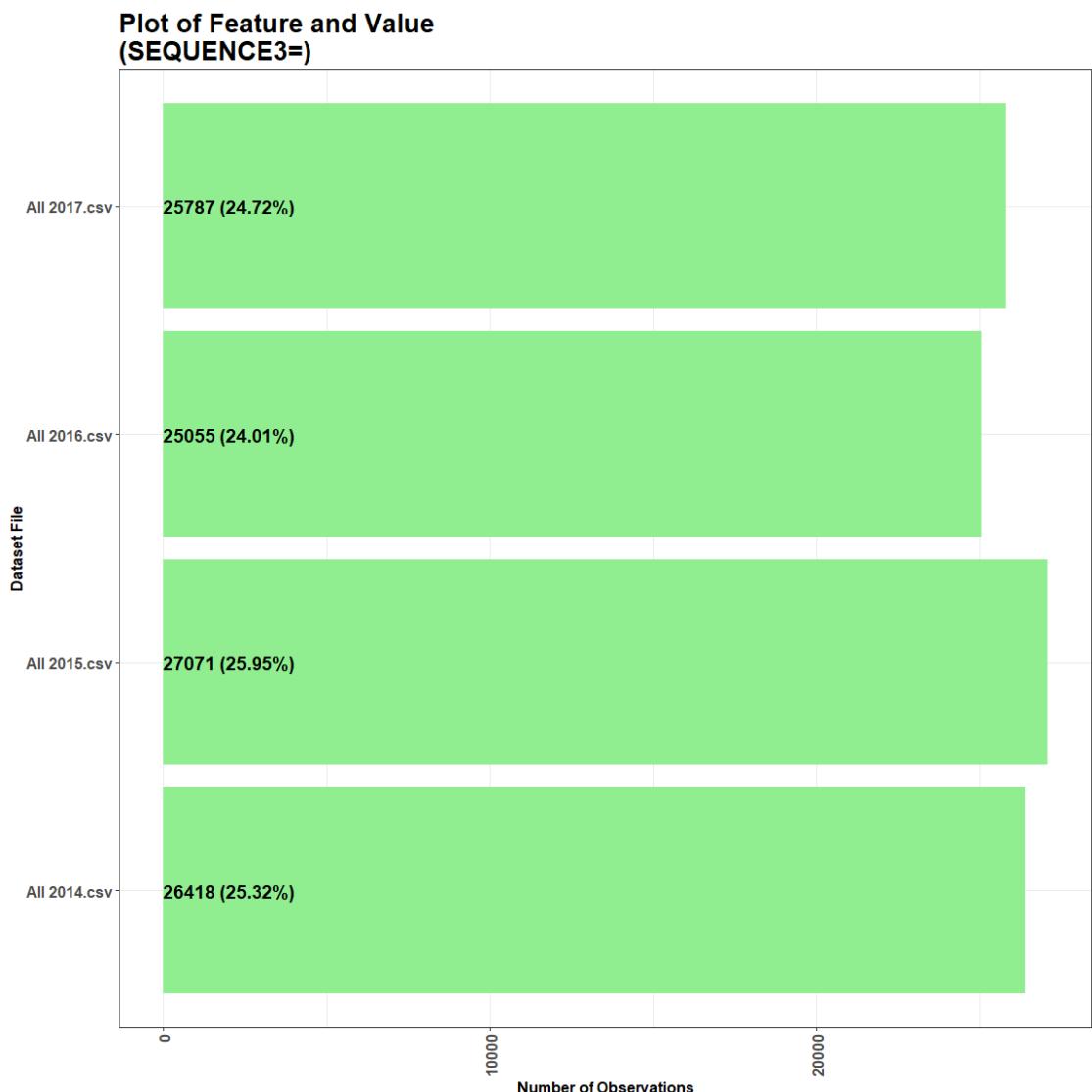
51 - Concrete guide rail	139	0.0365
52	219	0.0575
52 - Steel guide rail	81	0.0213
53	956	0.2510
53 - Pole (utility, power)	280	0.0735
54	549	0.1441
54 - Pole (sign, parking meter)	173	0.0454
55	459	0.1205
55 - Fence/noice barrier	111	0.0291
56	82	0.0215
56 - Culvert	34	0.0089
57	17	0.0045
57 - Bridge support	10	0.0026
58	69	0.0181
58 - Rock face	14	0.0037
59	324	0.0851
59 - Snowbank/drift	147	0.0386
6	1	0.0003
60	2138	0.5613
60 - Ditch	588	0.1544
61	398	0.1045
61 - Curb	125	0.0328
62	15	0.0039
62 - Crash cush/end treat.	4	0.0011
63	210	0.0551
63 - Building or wall	65	0.0171
64	8	0.0021
64 - Water course	6	0.0016
65	6	0.0016
65 - Construction marker	1	0.0003
66	751	0.1972
66 - Tree, shrub, stump	238	0.0625
67	56	0.0147
67 - Fire Hydrant	18	0.0047
7	1	0.0003



8	1	0.0003
9	3	0.0008
97	17	0.0045
97 - Other	3	0.0008
98	7	0.0018
98 - Other	4	0.0011
99	158	0.0415
99 - Other	63	0.0165

21.1 SEQUENCE3 = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE3=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      26418       27071       25055       25787
```



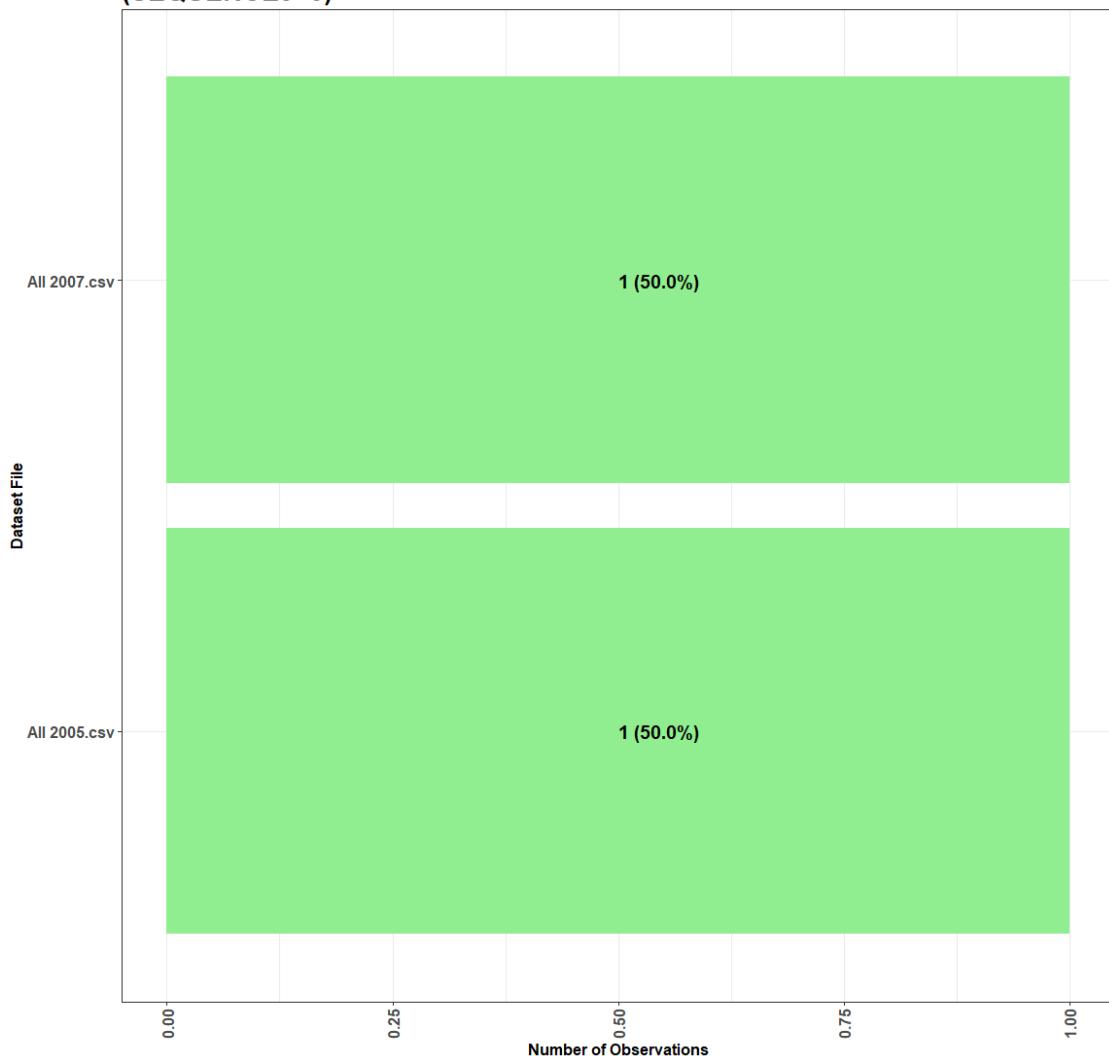
DATASET FILE	COUNTER OF (SEQUENCE3=)	Percentage
All 2014.csv	26418	25.32
All 2015.csv	27071	25.95
All 2016.csv	25055	24.01
All 2017.csv	25787	24.72

21.2 SEQUENCE3 = “0”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (SEQUENCE3=0)  
##  
## Summary per Data File:
```

```
## All 2005.csv All 2007.csv
##           1           1
```

**Plot of Feature and Value
(SEQUENCE3=0)**

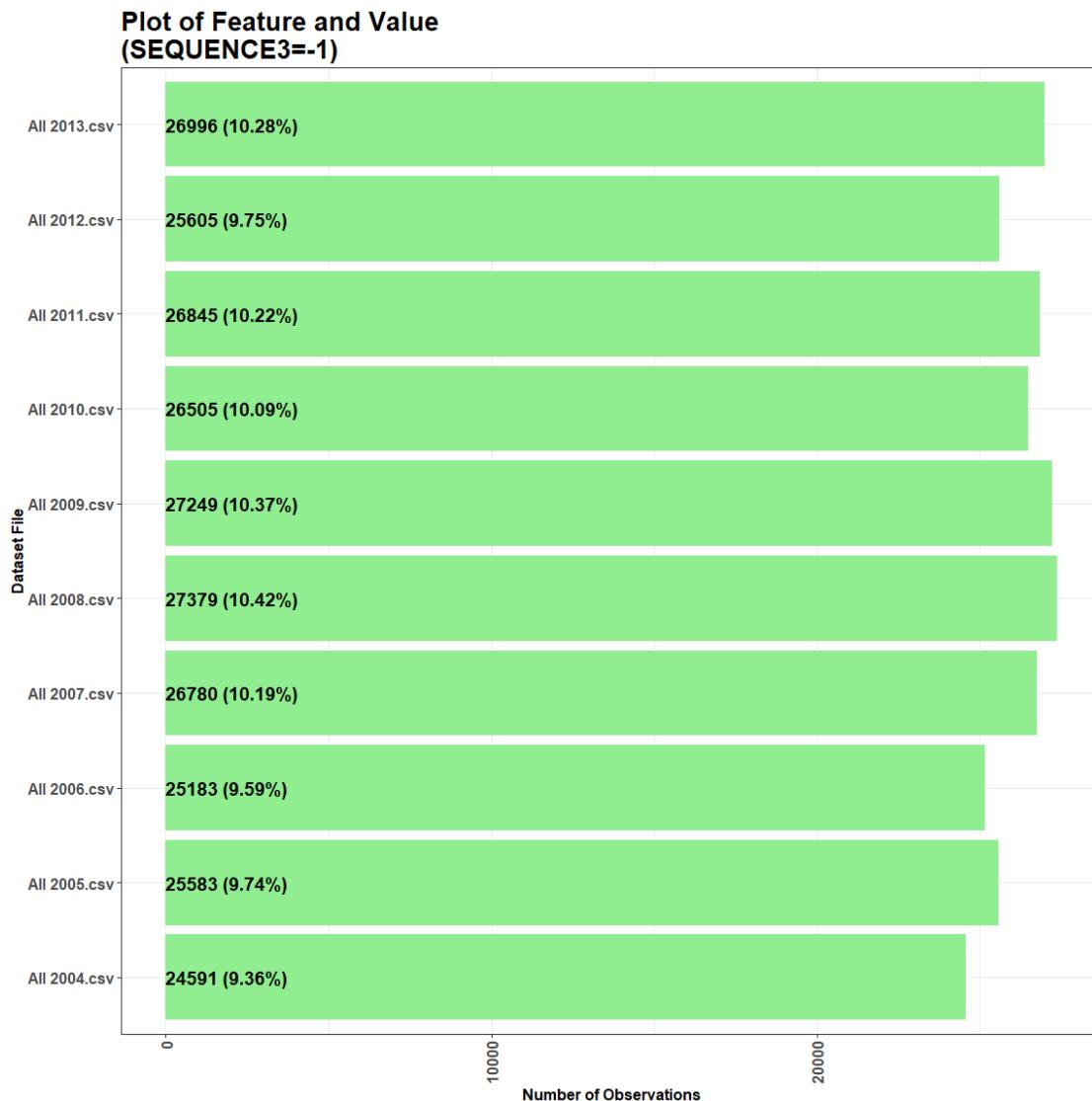


DATASET FILE	COUNTER OF (SEQUENCE3=0)	Percentage
All 2005.csv	1	50
All 2007.csv	1	50

21.3 SEQUENCE3 = “-1”

```
##
## =====
## CHECKING FEATURE AND VALUE (SEQUENCE3=-1)
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      24591      25583      25183      26780      27379
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      27249      26505      26845      25605      26996
```

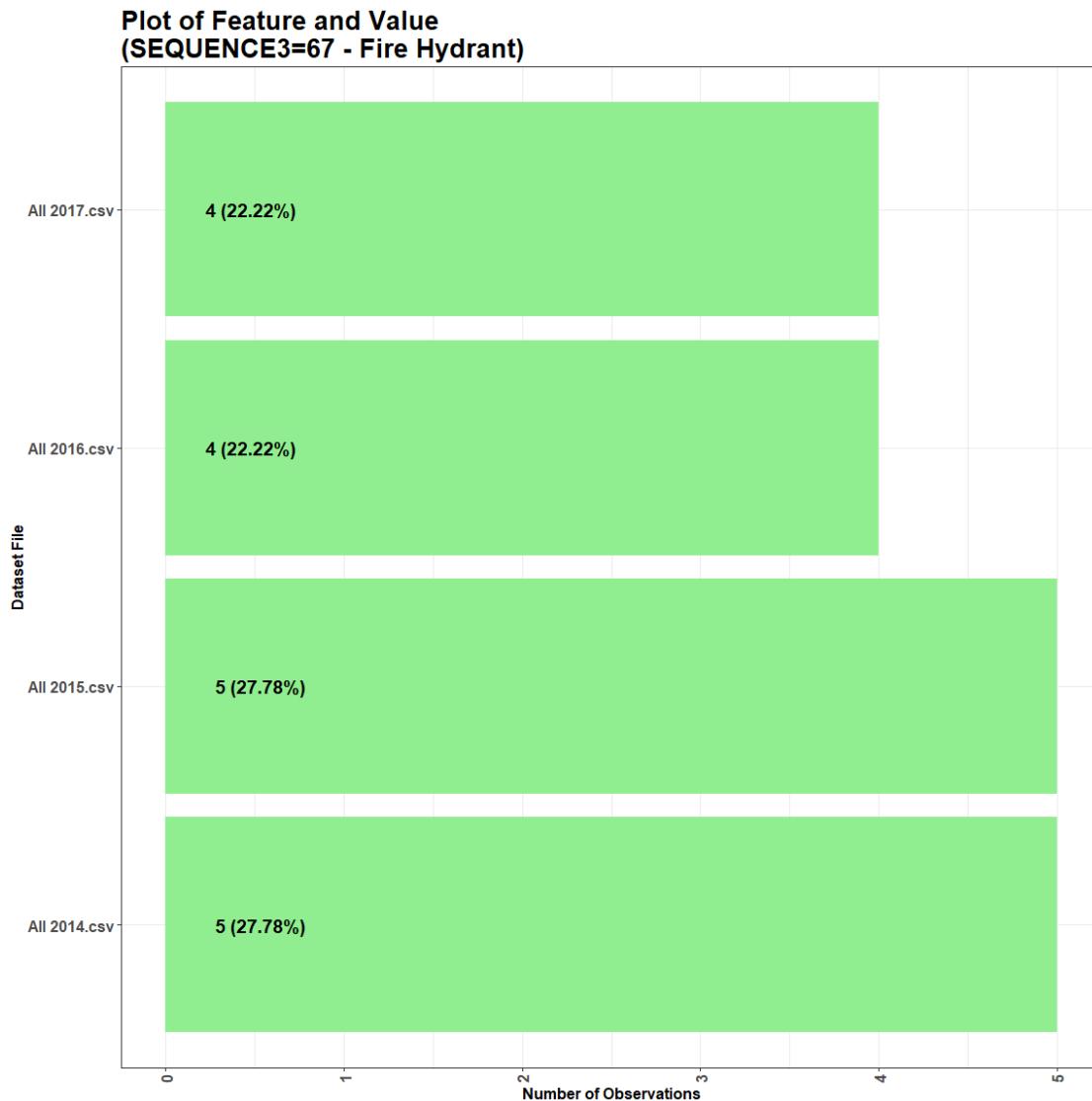


DATASET FILE	COUNTER OF (SEQUENCE3=-1)	Percentage
All 2004.csv	24591	9.360
All 2005.csv	25583	9.738
All 2006.csv	25183	9.586
All 2007.csv	26780	10.194
All 2008.csv	27379	10.421
All 2009.csv	27249	10.372
All 2010.csv	26505	10.089

All 2011.csv	26845	10.218
All 2012.csv	25605	9.746
All 2013.csv	26996	10.276

21.4 SEQUENCE3 = “67 - Fire Hydrant”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE3=67 - Fire Hydrant)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      5          5          4          4
```



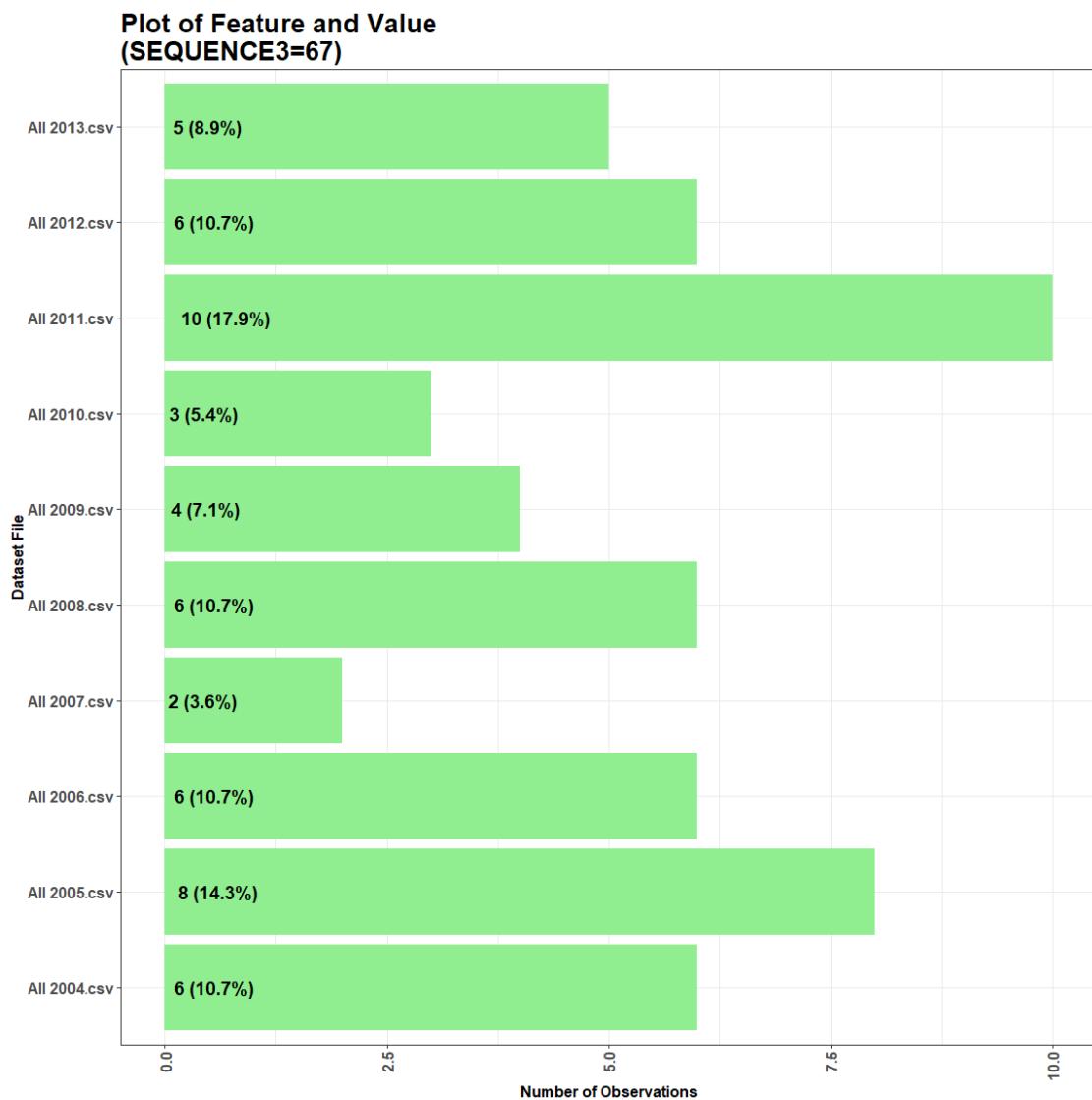
DATASET FILE COUNTER OF (SEQUENCE3=67 - Fire Hydrant) Percentage



All 2014.csv	5	27.78
All 2015.csv	5	27.78
All 2016.csv	4	22.22
All 2017.csv	4	22.22

21.5 SEQUENCE3 = "67"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (SEQUENCE3=67)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##       6        8        6        2        6  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##       4        3       10        6        5
```

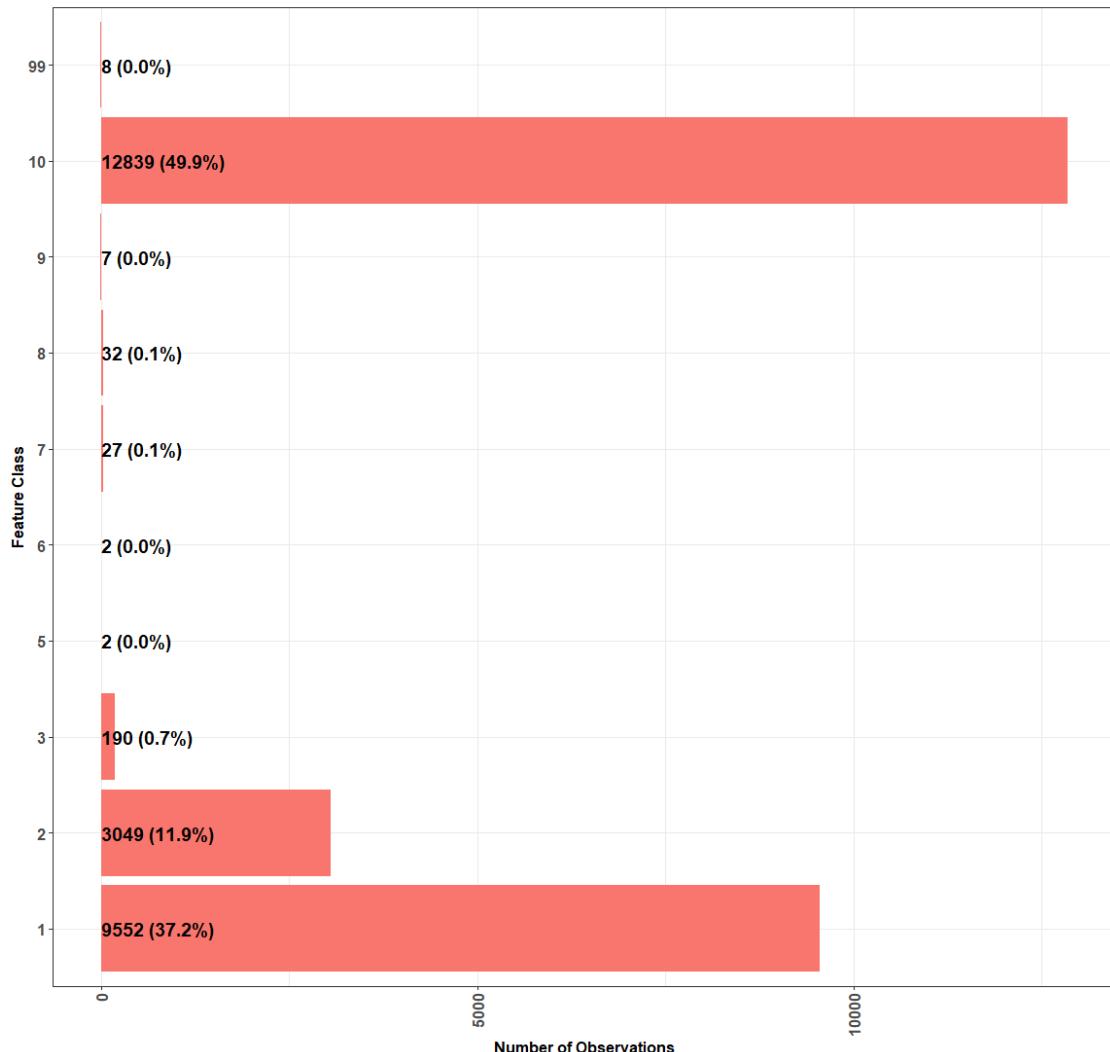


DATASET FILE	COUNTER OF (SEQUENCE3=67)	Percentage
All 2004.csv	6	10.714
All 2005.csv	8	14.286
All 2006.csv	6	10.714
All 2007.csv	2	3.571
All 2008.csv	6	10.714
All 2009.csv	4	7.143
All 2010.csv	3	5.357
All 2011.csv	10	17.857
All 2012.csv	6	10.714
All 2013.csv	5	8.929

22. Traffic Control (TRAFFIC_CONTROL)

```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 10  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## 1 9552 37.1557  
## 2 3049 11.8601  
## 3 190 0.7391  
## 5 2 0.0078  
## 6 2 0.0078  
## 7 27 0.1050  
## 8 32 0.1245  
## 9 7 0.0272  
## 10 12839 49.9417  
## 99 8 0.0311
```

Plot of Feature:TRAFFIC_CONTROL
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL  

## DATA:All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

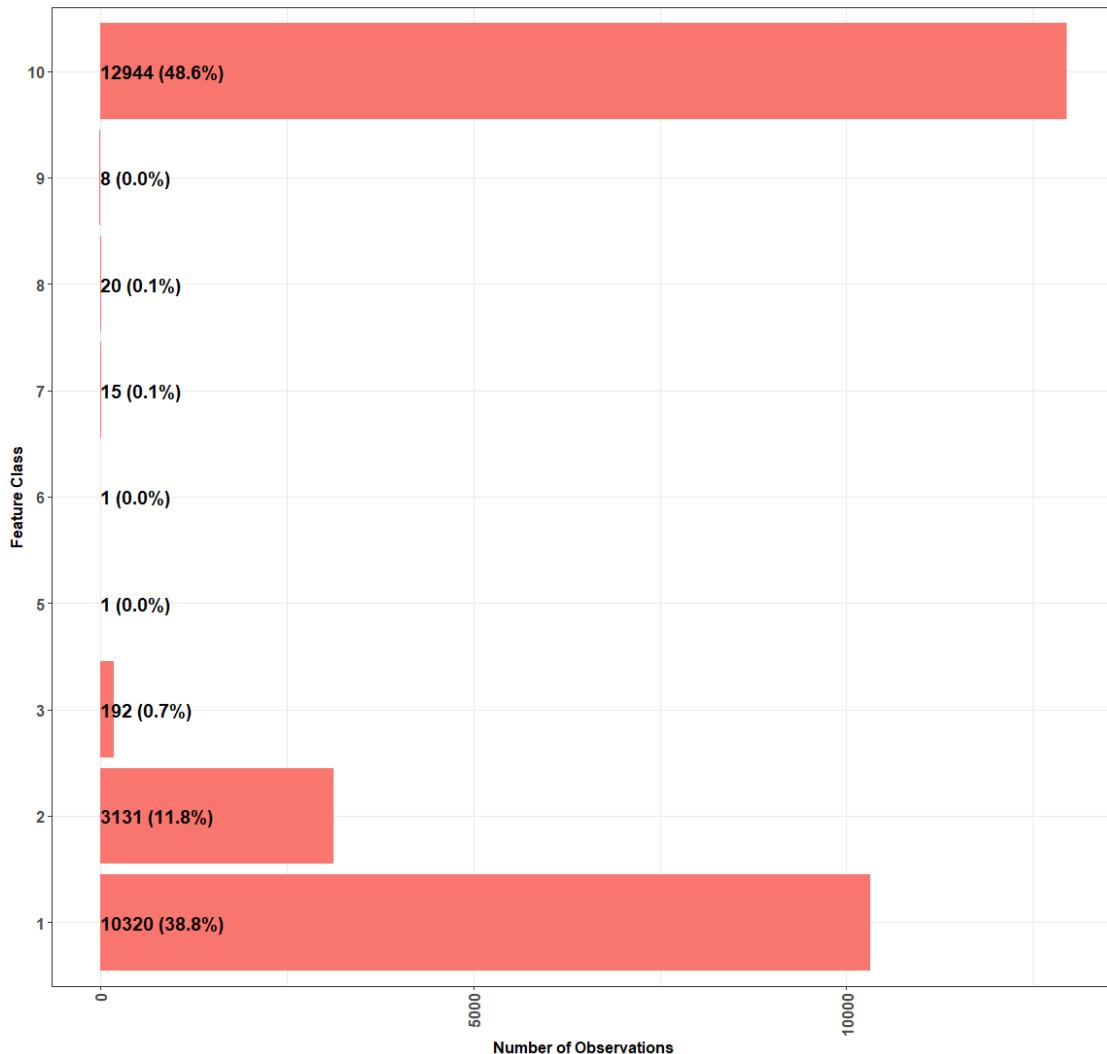
##  

## Feature Value Counter Percentage  

## -----
```

## 1	10320	38.7504
## 2	3131	11.7565
## 3	192	0.7209
## 5	1	0.0038
## 6	1	0.0038
## 7	15	0.0563
## 8	20	0.0751
## 9	8	0.0300
## 10	12944	48.6032

Plot of Feature:TRAFFIC_CONTROL
 Data:All 2005.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL  

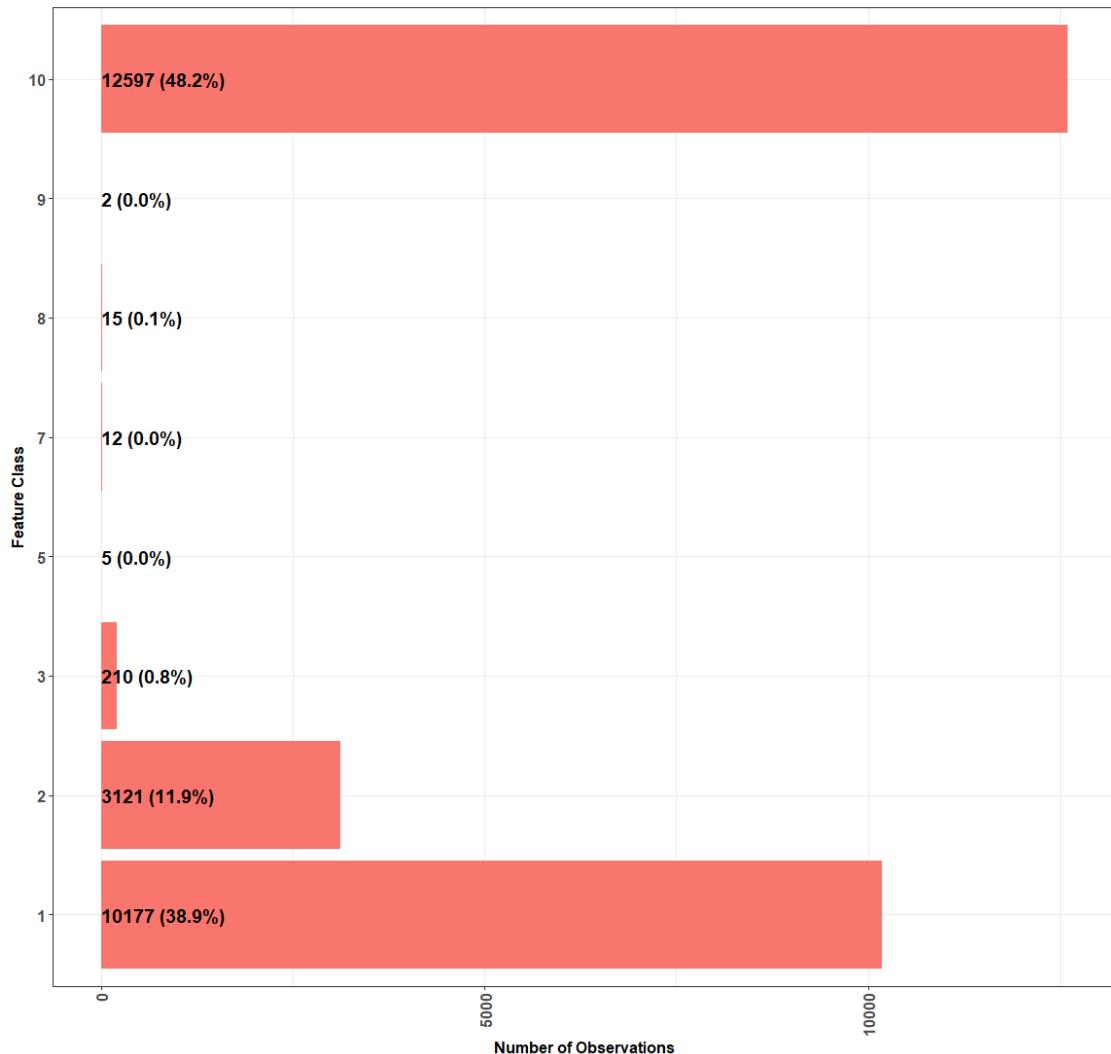
## DATA:All 2006.csv...  

##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 8
##
## TOP 100 FEATURES OF TRAFFIC_CONTROL
##
## Feature Value Counter Percentage
## -----
## 1 10177 38.9342
## 2 3121 11.9400
## 3 210 0.8034
## 5 5 0.0191
## 7 12 0.0459
## 8 15 0.0574
## 9 2 0.0077
## 10 12597 48.1924
```

Plot of Feature: TRAFFIC_CONTROL
Data:All 2006.csv



```
##  

## -----  

## CHECKING FEATURE: TRAFFIC_CONTROL  

## DATA: All 2007.csv...  

##  

## Number of Blank Values: 0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

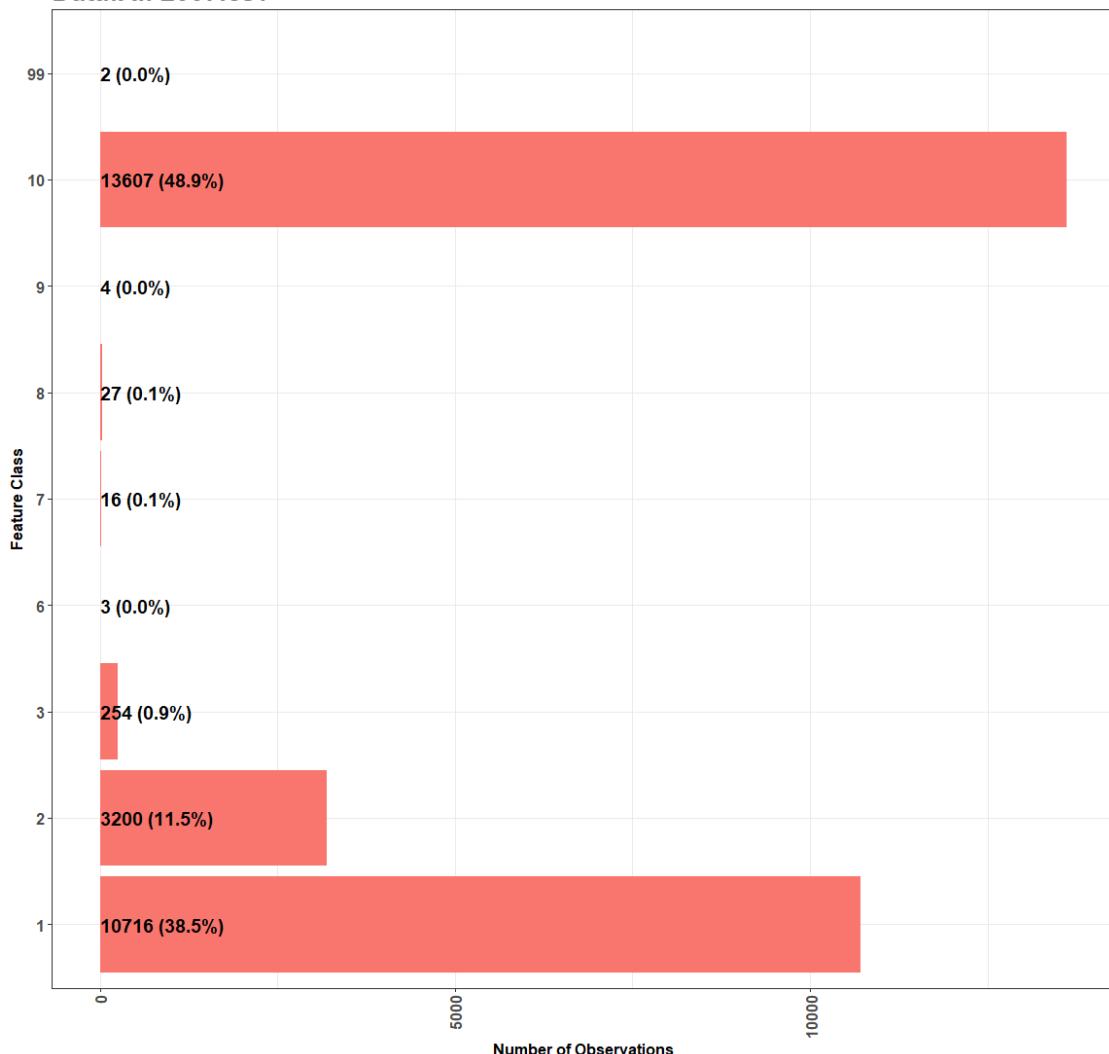
##  

## Feature Value Counter Percentage  

## -----
```

## 1	10716	38.5066
## 2	3200	11.4988
## 3	254	0.9127
## 6	3	0.0108
## 7	16	0.0575
## 8	27	0.0970
## 9	4	0.0144
## 10	13607	48.8950
## 99	2	0.0072

Plot of Feature:TRAFFIC_CONTROL
Data>All 2007.csv

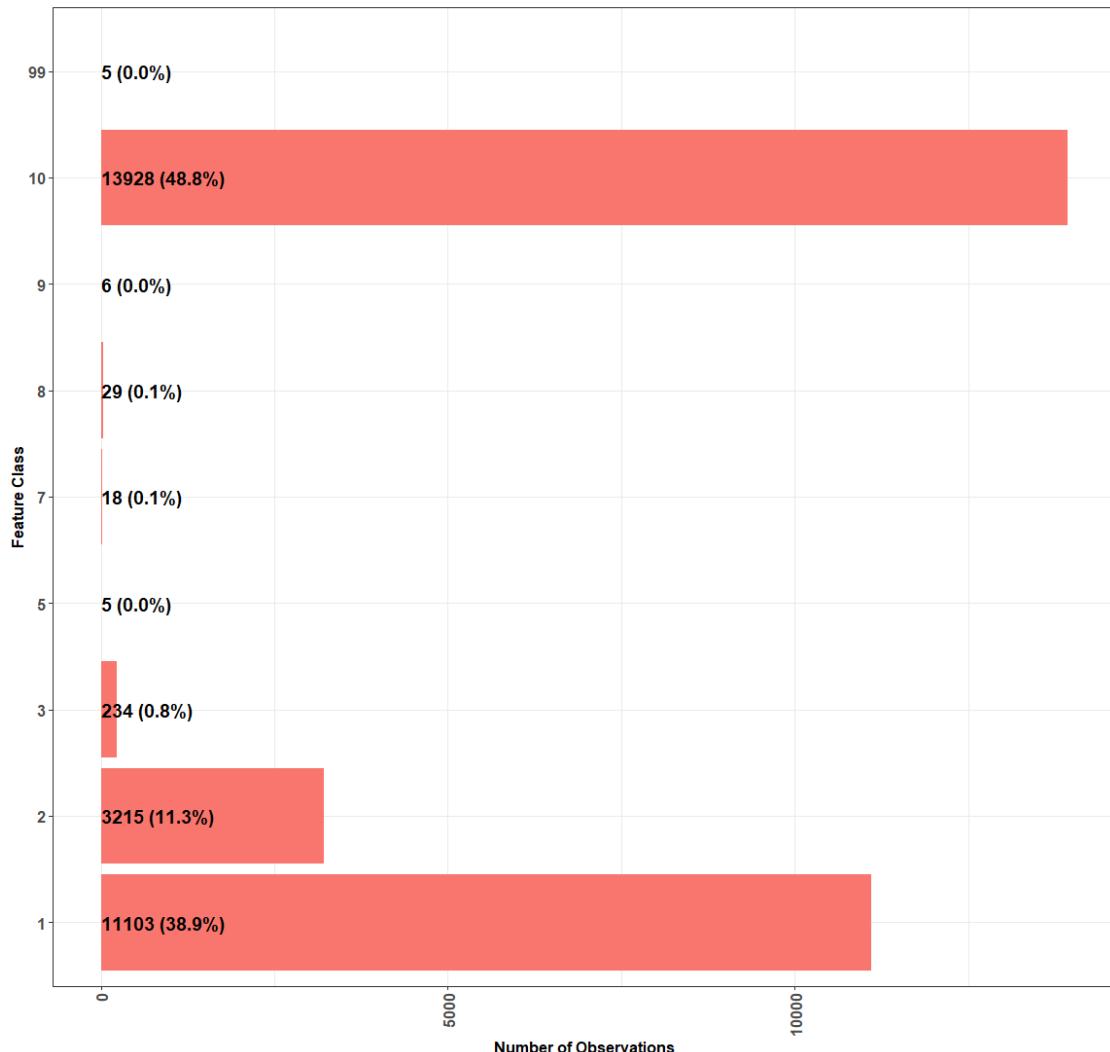


```
##
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL
## DATA>All 2008.csv...
##
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 9
##
## TOP 100 FEATURES OF TRAFFIC_CONTROL
##
## Feature Value Counter Percentage
## -----
## 1 11103 38.8992
## 2 3215 11.2637
## 3 234 0.8198
## 5 5 0.0175
## 7 18 0.0631
## 8 29 0.1016
## 9 6 0.0210
## 10 13928 48.7966
## 99 5 0.0175
```

Plot of Feature:TRAFFIC_CONTROL
Data:All 2008.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL  

## DATA:All 2009.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

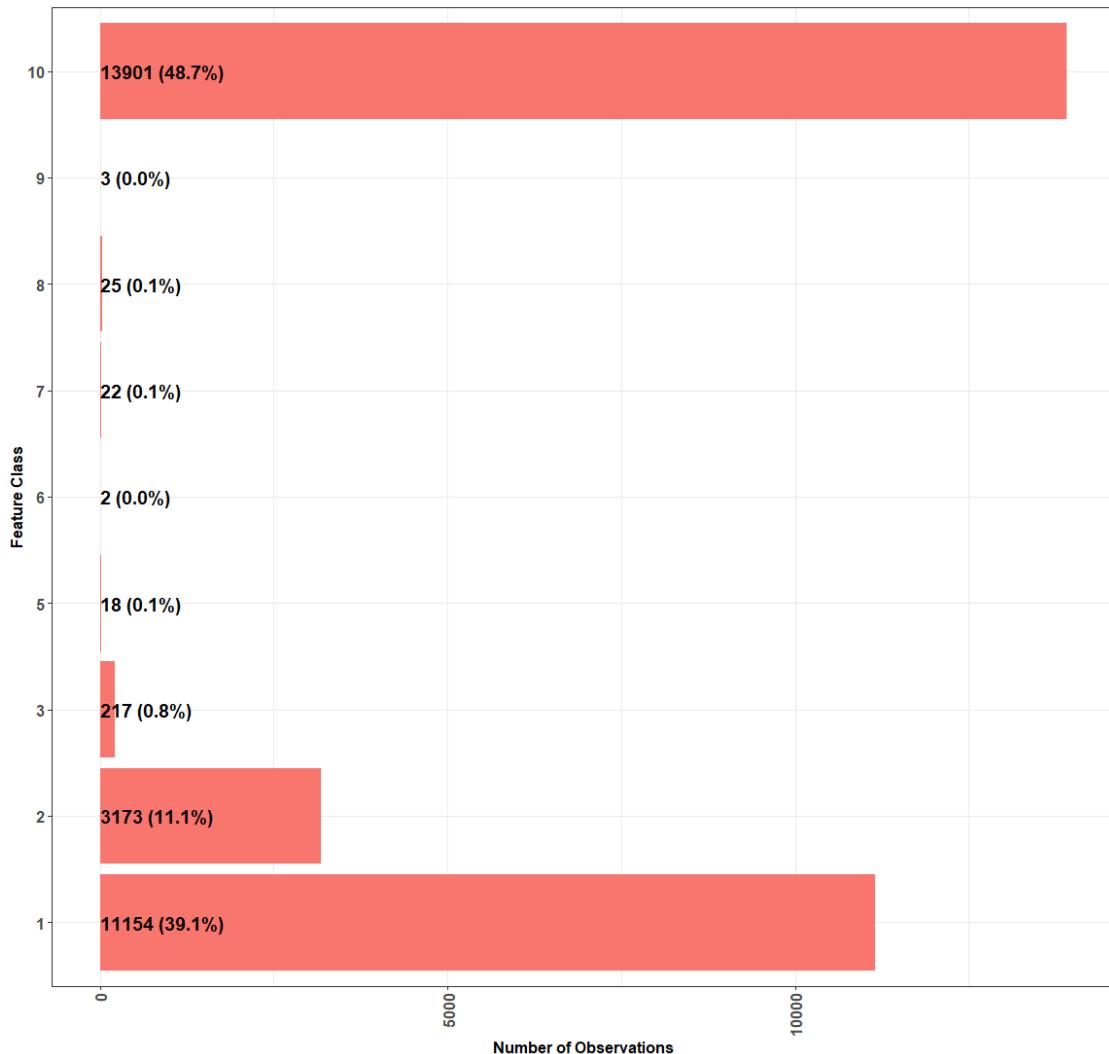
##  

## Feature Value Counter Percentage  

## -----
```

## 1	11154	39.1163
## 2	3173	11.1275
## 3	217	0.7610
## 5	18	0.0631
## 6	2	0.0070
## 7	22	0.0772
## 8	25	0.0877
## 9	3	0.0105
## 10	13901	48.7498

Plot of Feature:TRAFFIC_CONTROL
 Data:All 2009.csv



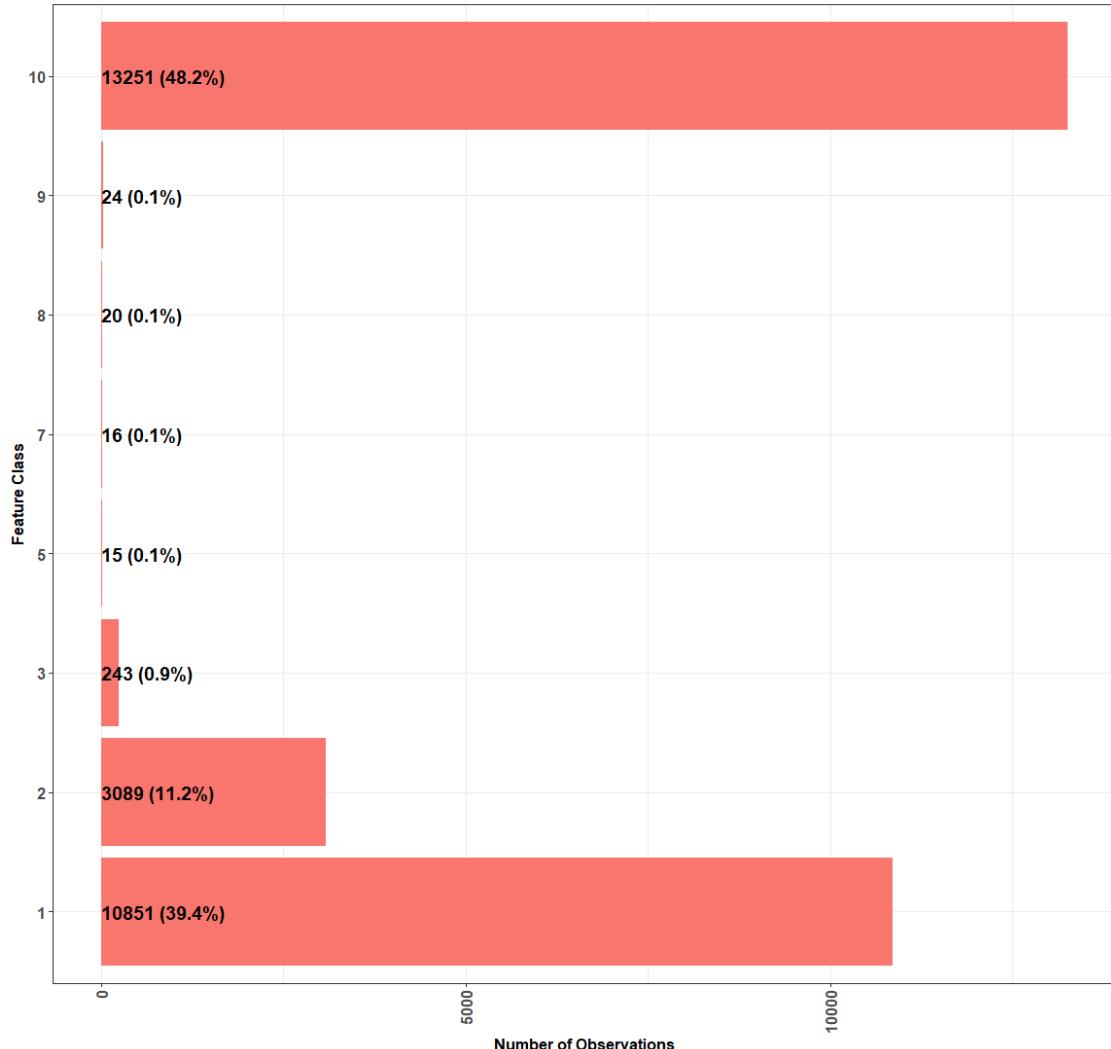
```

## 
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL
## DATA:All 2010.csv...
## 
```



```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 8
##
## TOP 100 FEATURES OF TRAFFIC_CONTROL
##
## Feature Value Counter Percentage
## -----
## 1 10851 39.4453
## 2 3089 11.2291
## 3 243 0.8833
## 5 15 0.0545
## 7 16 0.0582
## 8 20 0.0727
## 9 24 0.0872
## 10 13251 48.1697
```

Plot of Feature: TRAFFIC_CONTROL
Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE: TRAFFIC_CONTROL  

## DATA: All 2011.csv...  

##  

## Number of Blank Values: 0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 8  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

##  

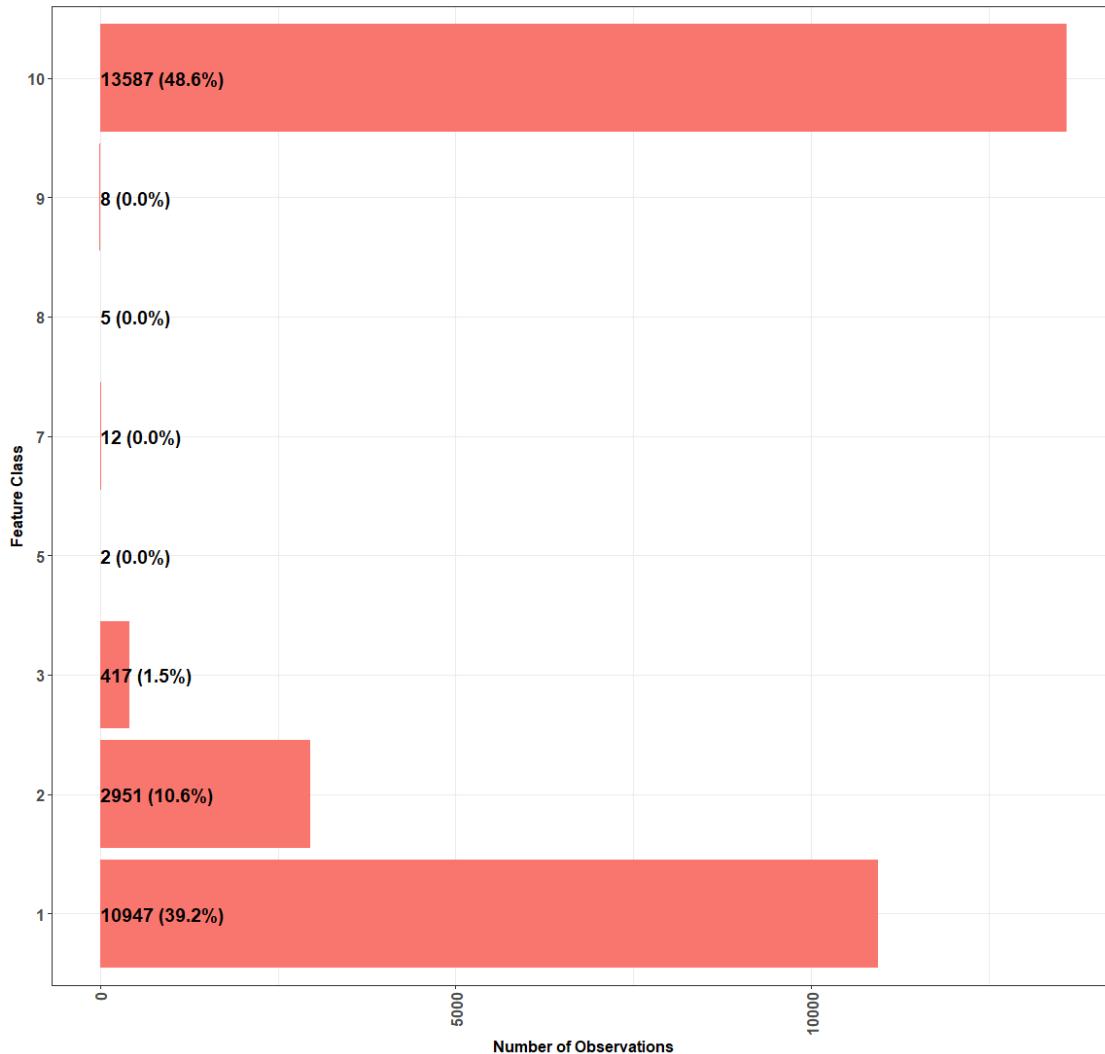
## Feature Value Counter Percentage  

## -----
```

## 1	10947	39.1958
## 2	2951	10.5661
## 3	417	1.4931
## 5	2	0.0072
## 7	12	0.0430
## 8	5	0.0179
## 9	8	0.0286
## 10	13587	48.6484

Plot of Feature:TRAFFIC_CONTROL

Data:All 2011.csv



```

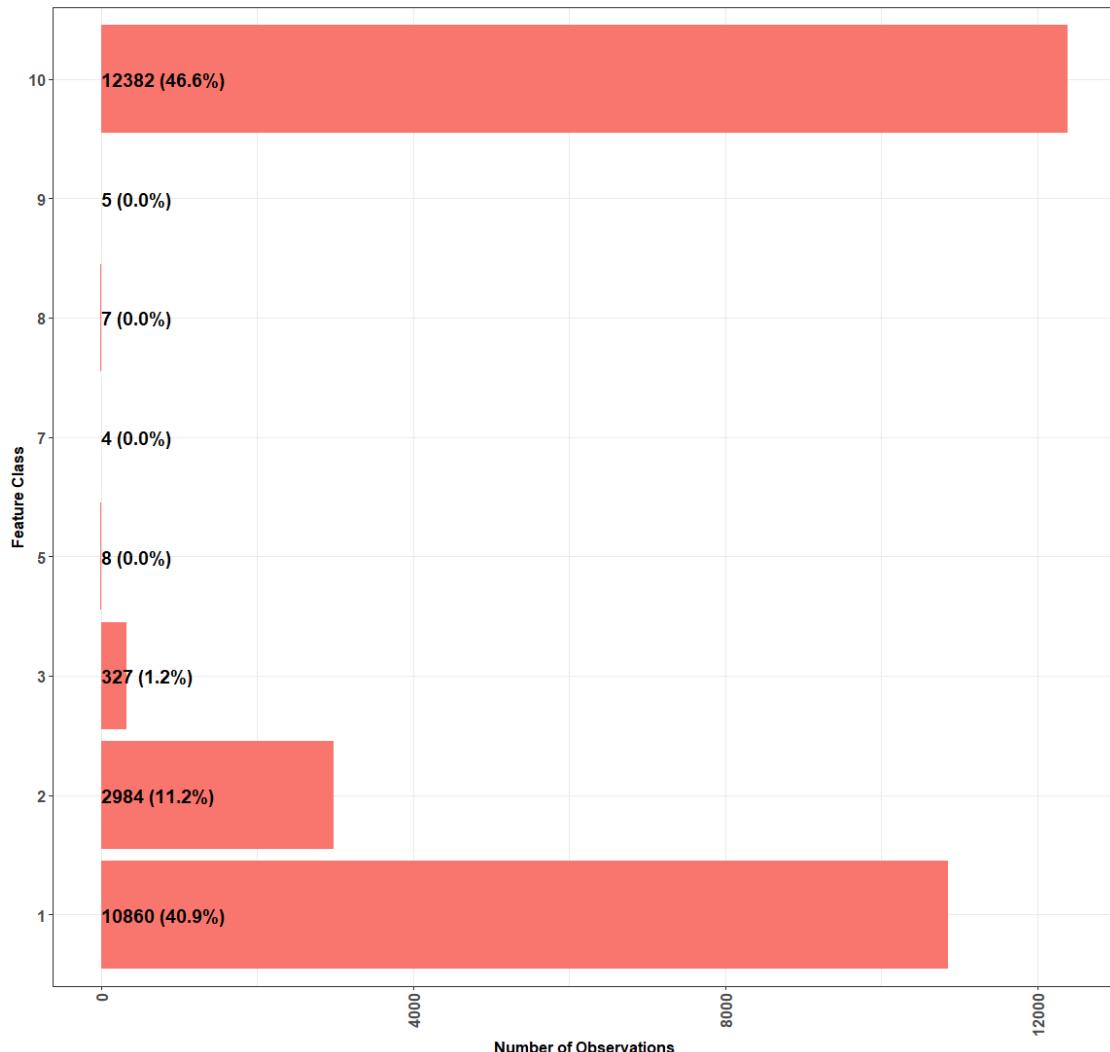
## 
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL
## DATA:All 2012.csv...
## 
## Number of Blank Values:0

```



```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL  
##  
## Feature Value Counter Percentage  
## -----  
## 1 10860 40.8624  
## 2 2984 11.2278  
## 3 327 1.2304  
## 5 8 0.0301  
## 7 4 0.0151  
## 8 7 0.0263  
## 9 5 0.0188  
## 10 12382 46.5892
```

Plot of Feature: TRAFFIC_CONTROL
Data:All 2012.csv



```
##  

## -----  

## CHECKING FEATURE: TRAFFIC_CONTROL  

## DATA: All 2013.csv...  

##  

## Number of Blank Values: 0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 7  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

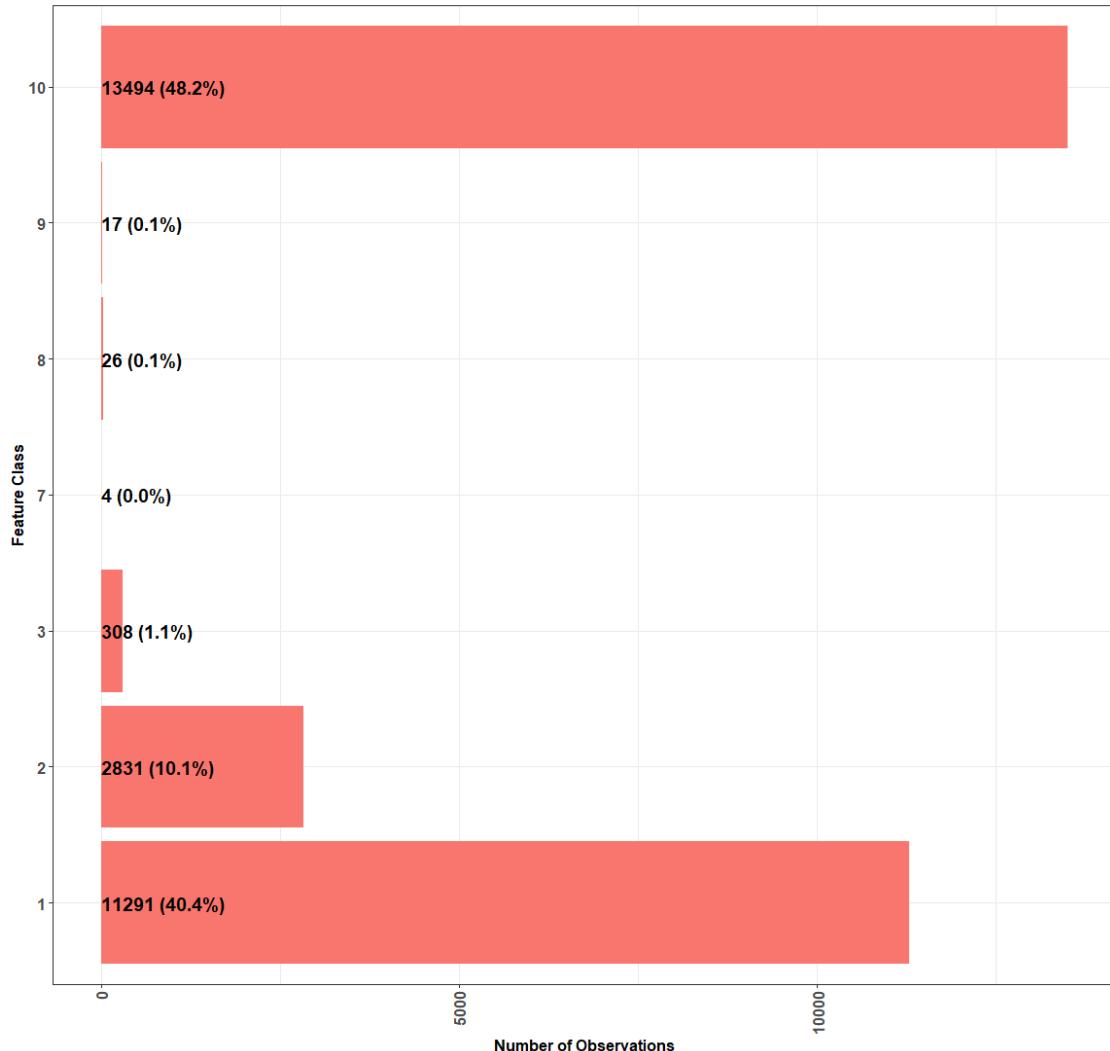
##  

## Feature Value Counter Percentage  

## -----
```

## 1	11291	40.3668
## 2	2831	10.1212
## 3	308	1.1011
## 7	4	0.0143
## 8	26	0.0930
## 9	17	0.0608
## 10	13494	48.2428

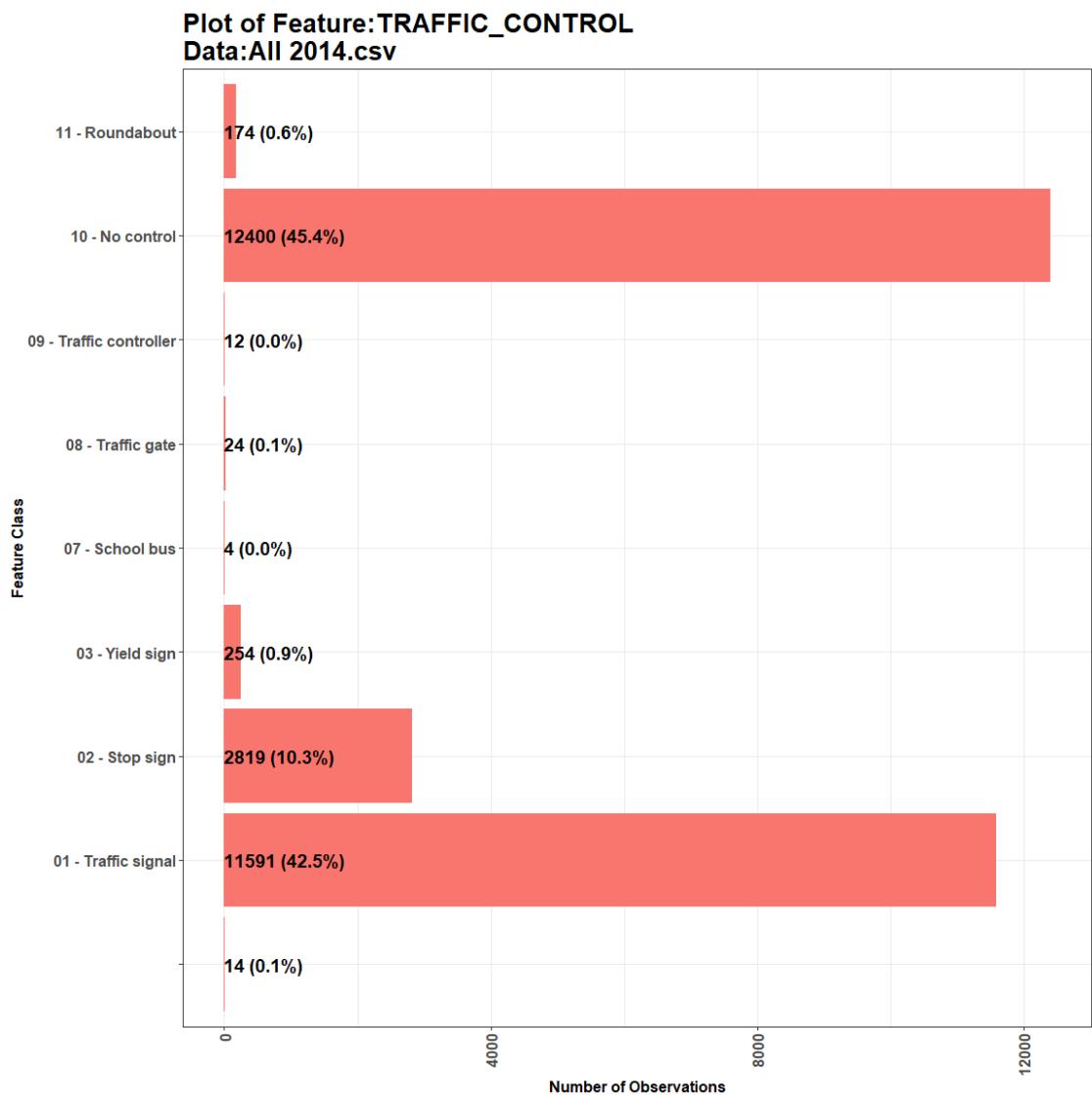
Plot of Feature:TRAFFIC_CONTROL
 Data:All 2013.csv



```

## 
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL
## DATA:All 2014.csv...
## 
## Number of Blank Values:14
## 
```

```
## Summary as Factor Feature:  
##  
## Number of Features: 9  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL  
##  
## Feature Value Counter Percentage  
## ----- -----  
## 14 0.0513  
## 01 - Traffic signal 11591 42.4703  
## 02 - Stop sign 2819 10.3290  
## 03 - Yield sign 254 0.9307  
## 07 - School bus 4 0.0147  
## 08 - Traffic gate 24 0.0879  
## 09 - Traffic controller 12 0.0440  
## 10 - No control 12400 45.4346  
## 11 - Roundabout 174 0.6375
```



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:11  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 7  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL  

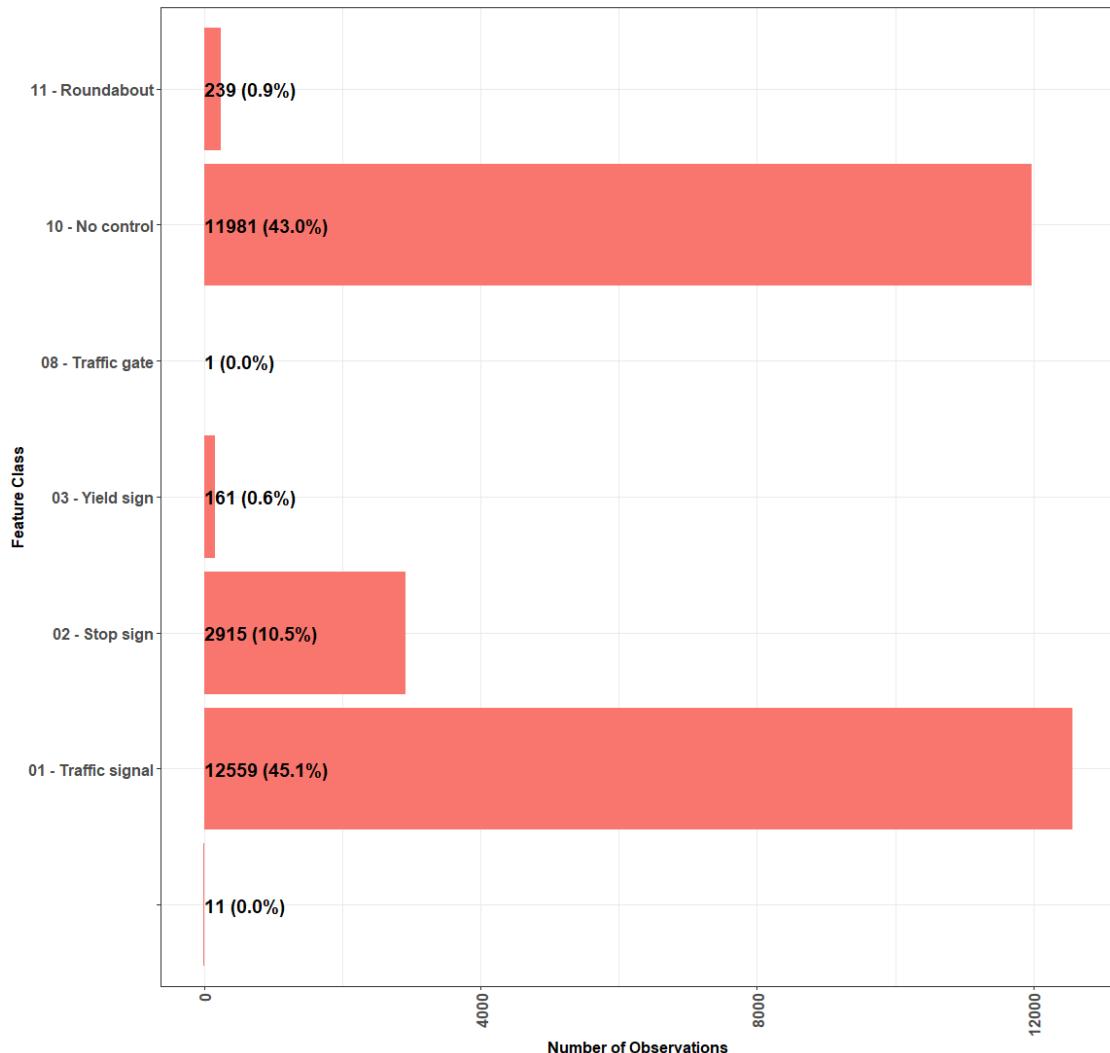
##  

## Feature Value          Counter    Percentage  

## -----
```

##	11	0.0395
## 01 - Traffic signal	12559	45.0676
## 02 - Stop sign	2915	10.4604
## 03 - Yield sign	161	0.5777
## 08 - Traffic gate	1	0.0036
## 10 - No control	11981	42.9935
## 11 - Roundabout	239	0.8576

Plot of Feature:TRAFFIC_CONTROL
Data:All 2015.csv



```

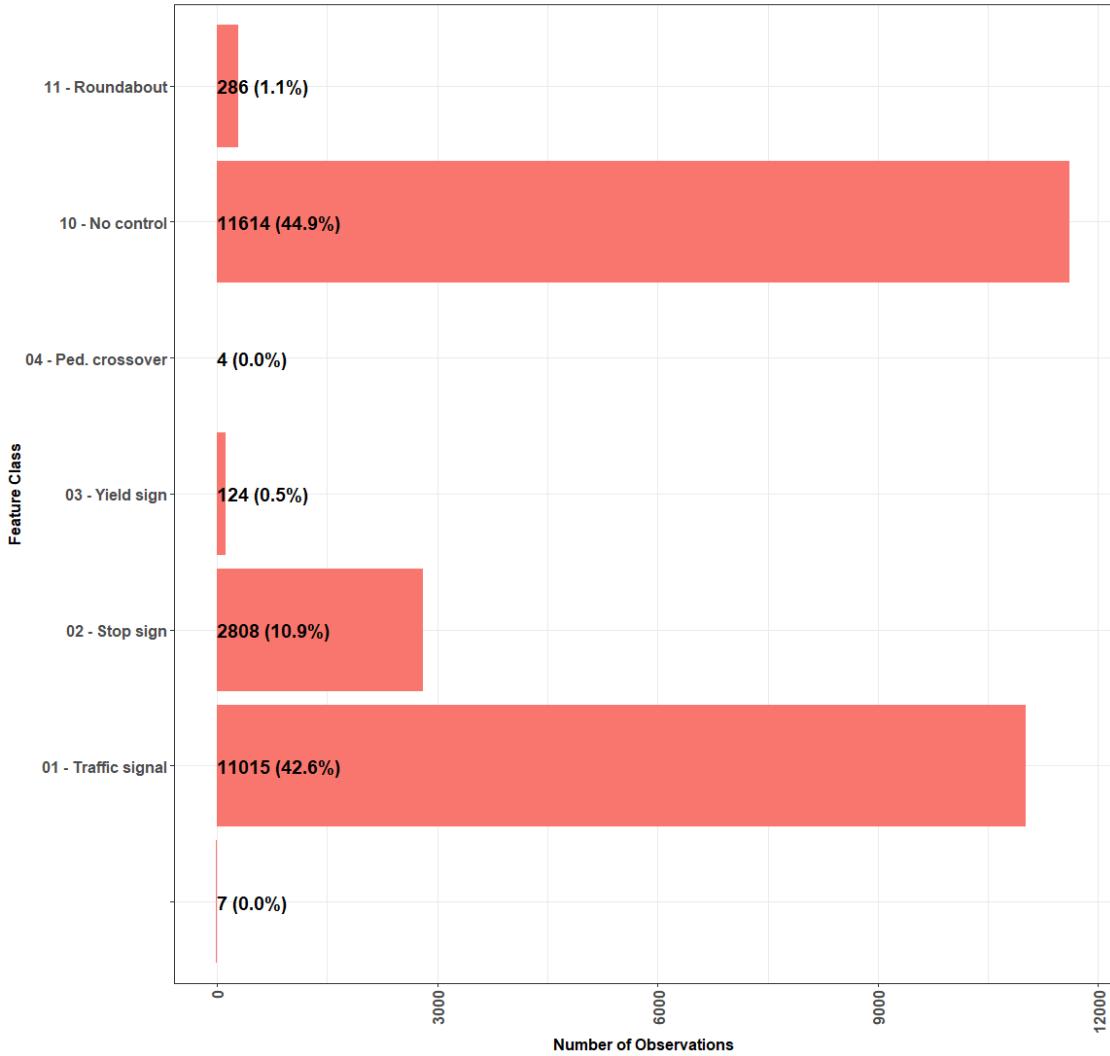
## 
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL
## DATA:All 2016.csv...
## 
## Number of Blank Values:7
## 
```

```

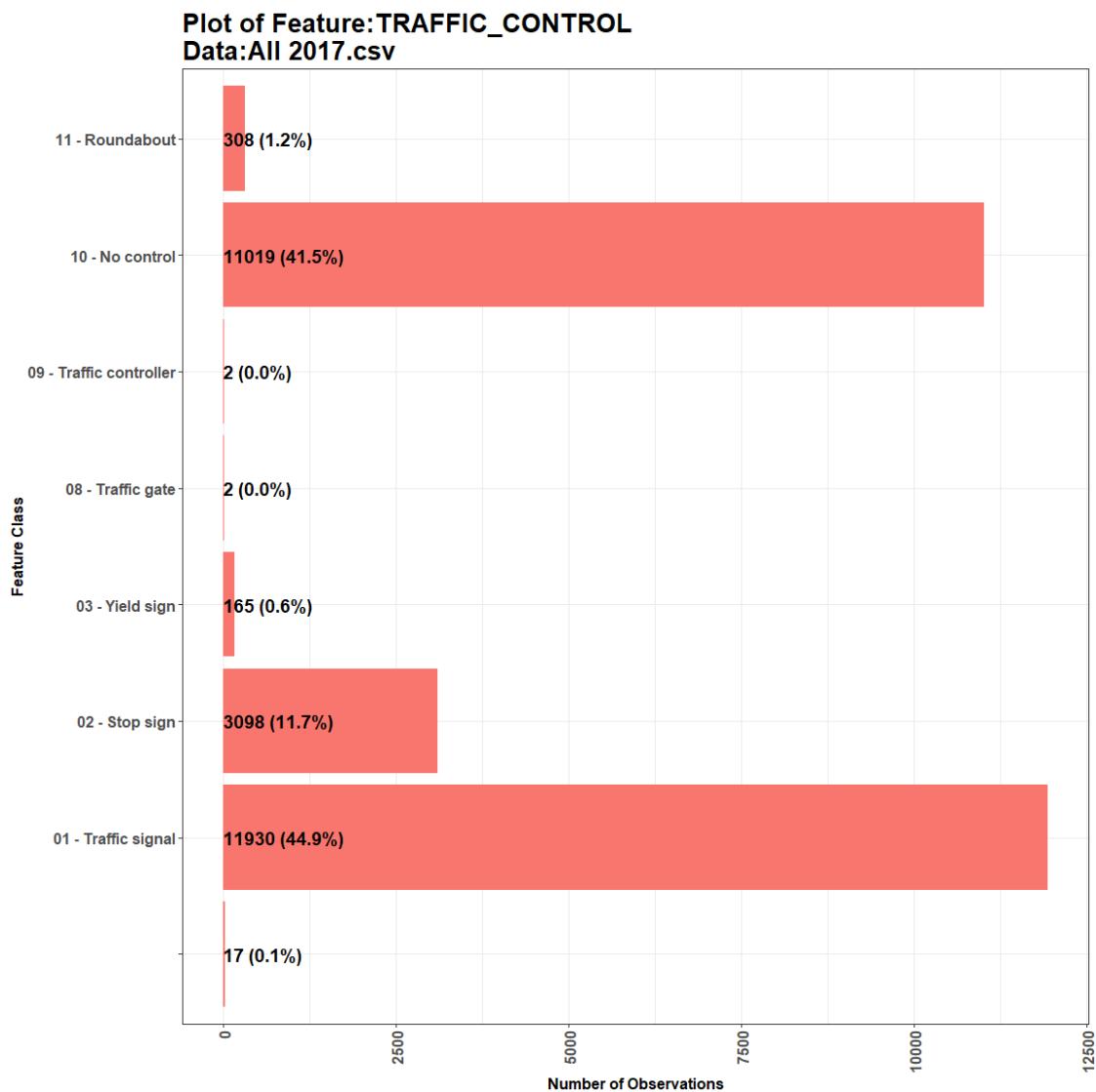
## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF TRAFFIC_CONTROL
## 
## Feature Value          Counter   Percentage
## -----                  -----      -----
## 01 - Traffic signal    11015     42.5980
## 02 - Stop sign          2808      10.8593
## 03 - Yield sign         124       0.4795
## 04 - Ped. crossover     4         0.0155
## 10 - No control         11614     44.9145
## 11 - Roundabout          286       1.1060

```

Plot of Feature:TRAFFIC_CONTROL
Data:All 2016.csv



```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:17  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 8  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL  
##  
## Feature Value Counter Percentage  
## -----  
## 17 0.0641  
## 01 - Traffic signal 11930 44.9493  
## 02 - Stop sign 3098 11.6725  
## 03 - Yield sign 165 0.6217  
## 08 - Traffic gate 2 0.0075  
## 09 - Traffic controller 2 0.0075  
## 10 - No control 11019 41.5169  
## 11 - Roundabout 308 1.1605
```



```
##  

## =====  

## FINAL INFO CHECKING FEATURE:TRAFFIC_CONTROL  

## ALL DATA...  

## =====  

##  

## Number of Blank Values:49  

##  

## Summary per Data File:  

## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  

##      25708      26632      26139      27829      28543  

## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  

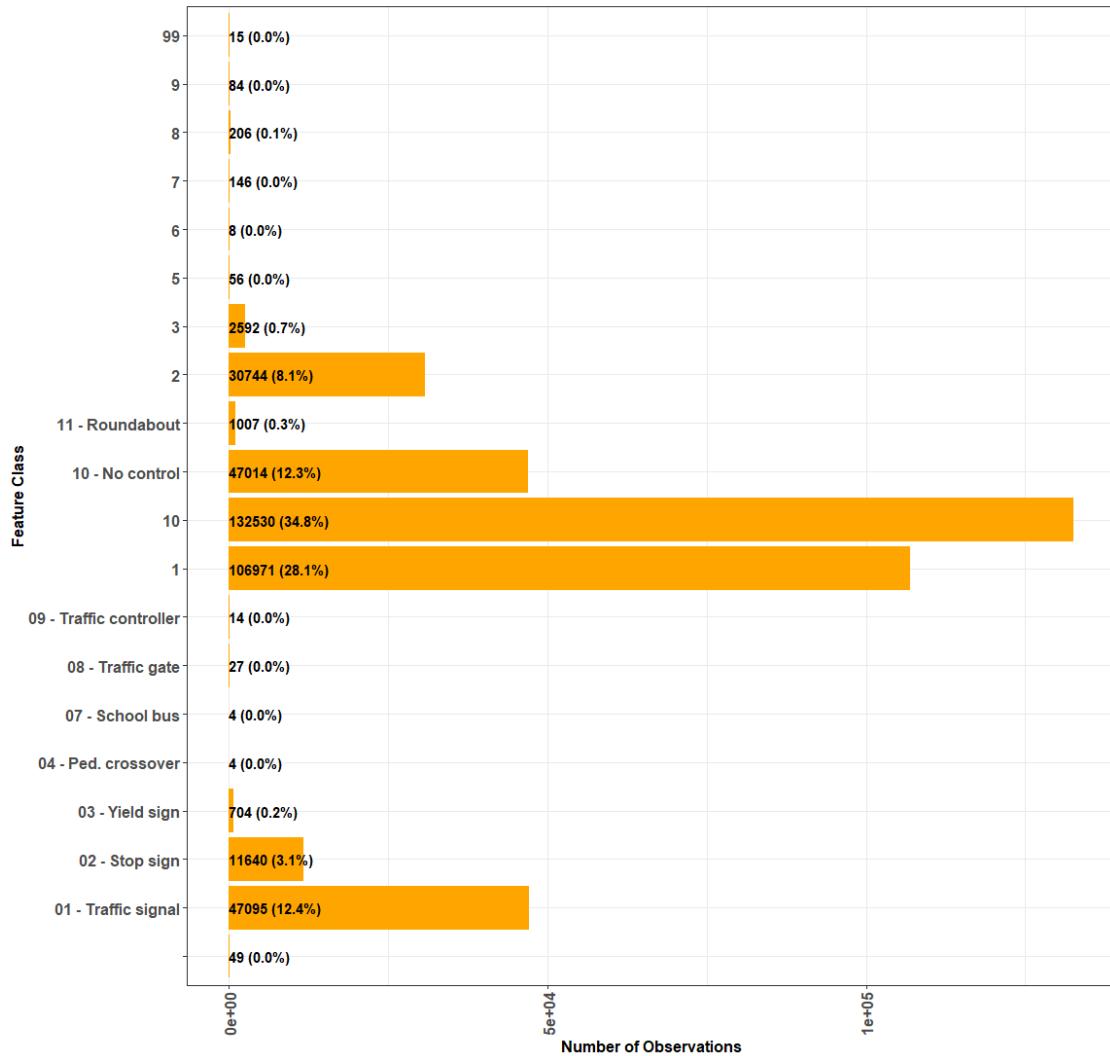
##      28515      27509      27929      26577      27971  

## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  

##      27292      27867      25858      26541
```

```
##  
##  
## Summary as Factor Feature:  
## Number of Features: 20
```

**Plot of Feature:TRAFFIC_CONTROL
All Data**



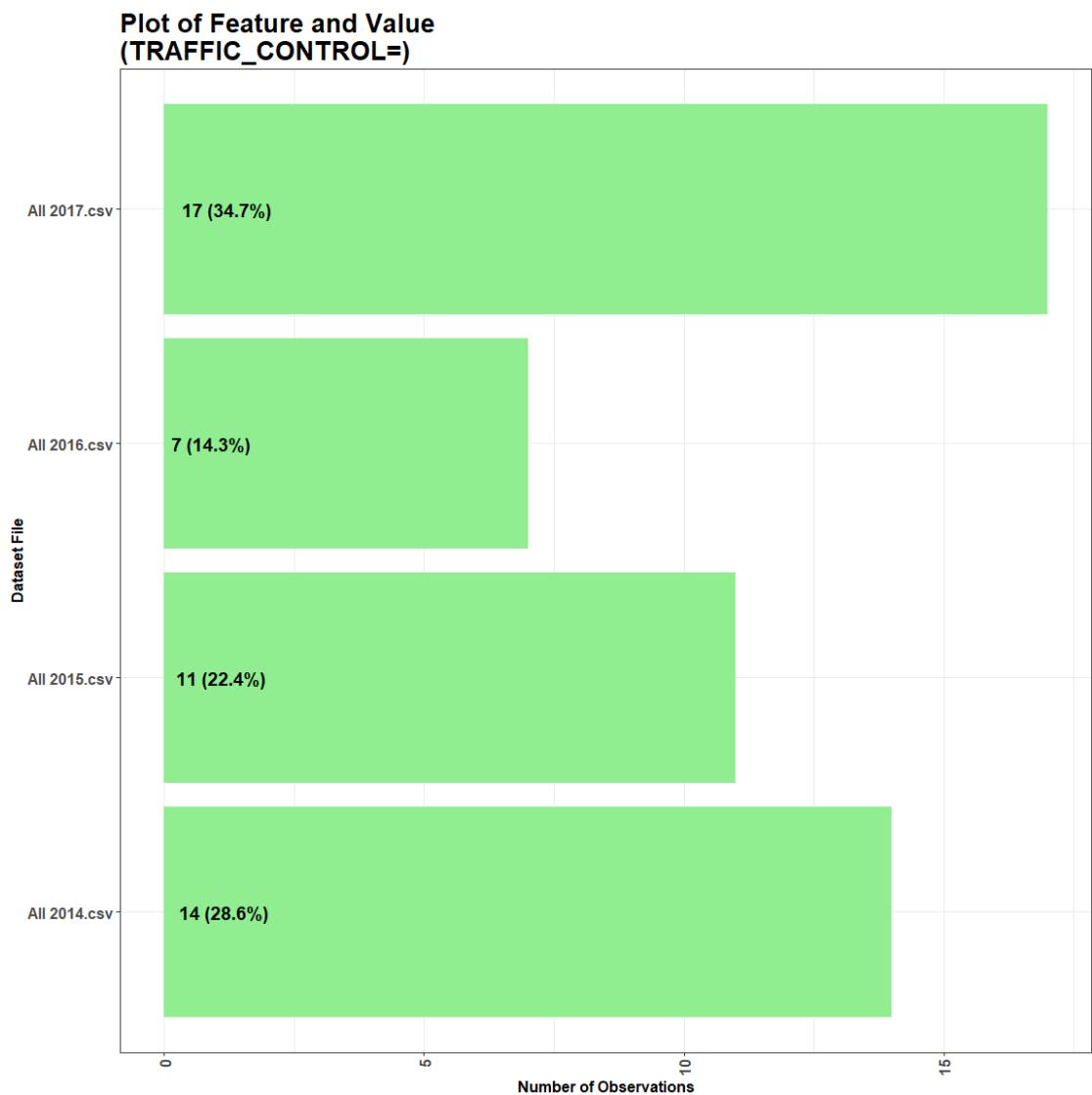
```
## [1] "TOP 100 FEATURES COUNTERS OF:TRAFFIC_CONTROL"
```

Feature Value	Counter	Percentage
	49	0.0129
01 - Traffic signal	47095	12.3638
02 - Stop sign	11640	3.0558
03 - Yield sign	704	0.1848
04 - Ped. crossover	4	0.0011

07 - School bus	4	0.0011
08 - Traffic gate	27	0.0071
09 - Traffic controller	14	0.0037
1	106971	28.0830
10	132530	34.7930
10 - No control	47014	12.3425
11 - Roundabout	1007	0.2644
2	30744	8.0712
3	2592	0.6805
5	56	0.0147
6	8	0.0021
7	146	0.0383
8	206	0.0541
9	84	0.0221
99	15	0.0039

22.1 TRAFFIC_CONTROL = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##           14          11          7         17
```

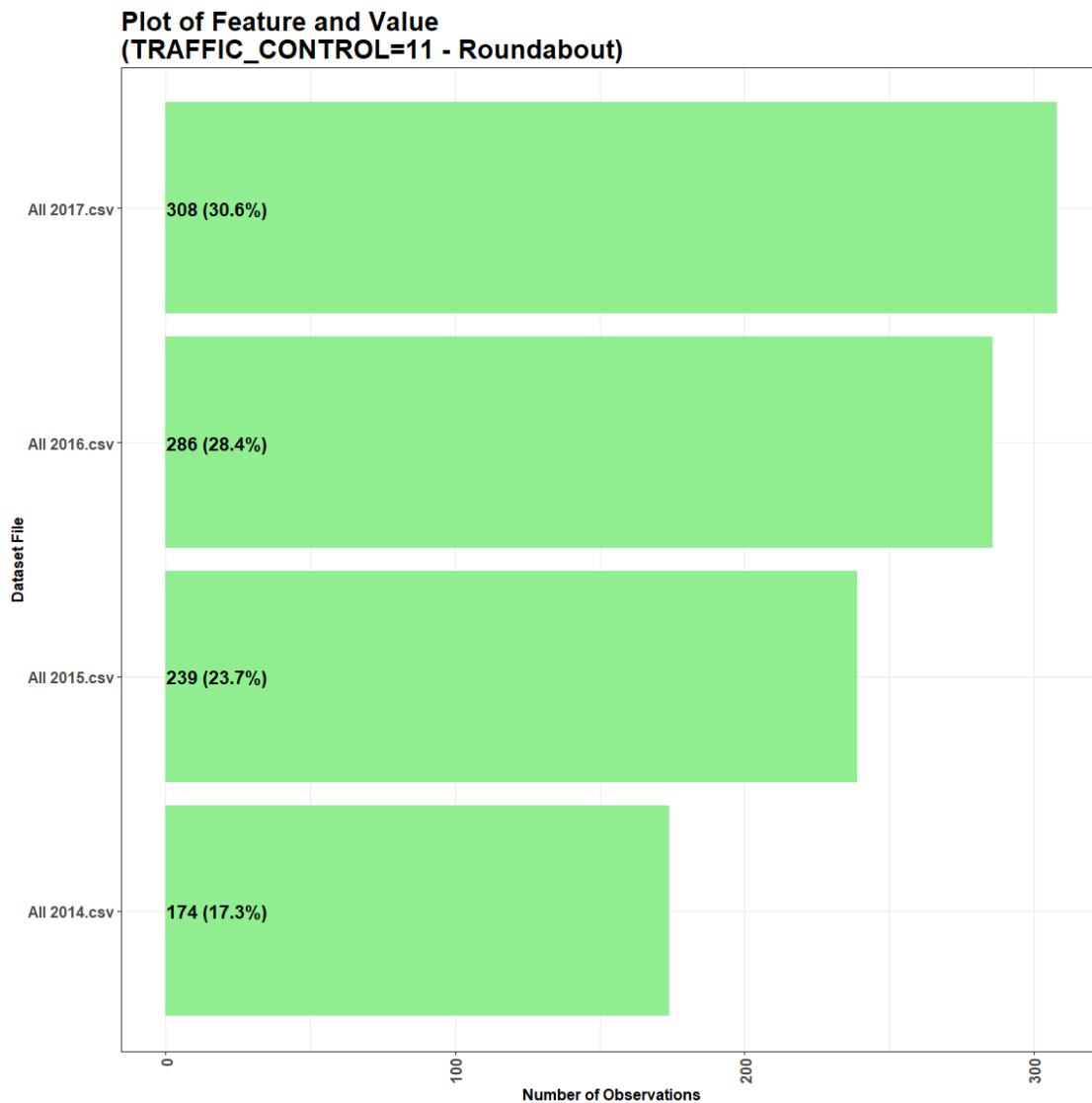


DATASET FILE	COUNTER OF (TRAFFIC_CONTROL=)	Percentage
All 2014.csv	14	28.57
All 2015.csv	11	22.45
All 2016.csv	7	14.29
All 2017.csv	17	34.69

22.2 TRAFFIC_CONTROL = “11 - Roundabout”

```
##  
## ======  
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL=11 - Roundabout)  
##  
## Summary per Data File:
```

```
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##          174         239         286         308
```



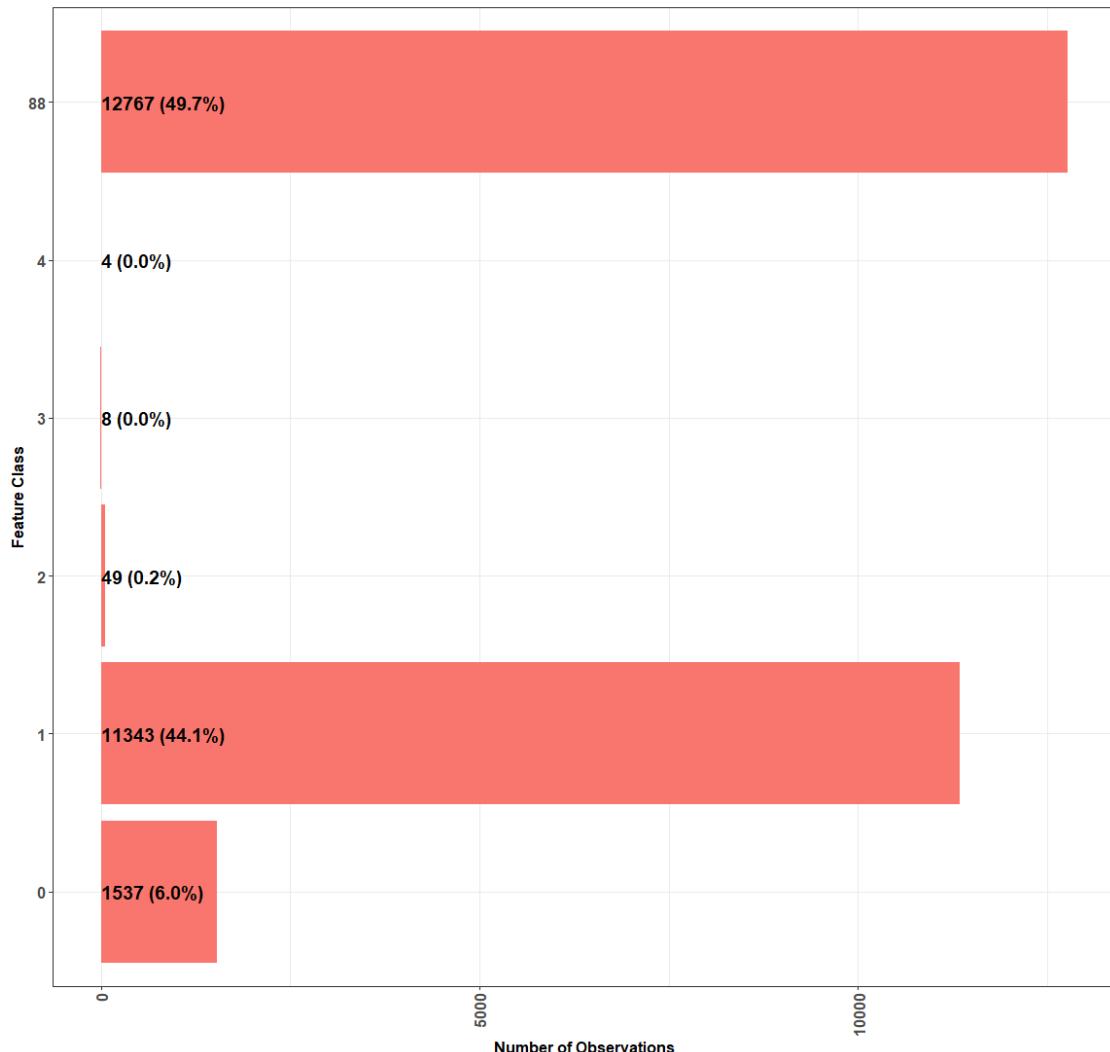
DATASET FILE	COUNTER OF (TRAFFIC_CONTROL=11 - Roundabout)	Percentage
All 2014.csv	174	17.28
All 2015.csv	239	23.73
All 2016.csv	286	28.40
All 2017.csv	308	30.59

23. Traffic Control Condition (TRAFFIC_CONTROL_CONDITION)

```
##  
## -----
```

```
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION
## DATA:All 2004.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 6
##
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION
##
## Feature Value      Counter      Percentage
## ----- -----
## 0                  1537       5.9787
## 1                  11343      44.1225
## 2                  49        0.1906
## 3                  8         0.0311
## 4                  4         0.0156
## 88                 12767      49.6616
```

Plot of Feature: TRAFFIC_CONTROL_CONDITION
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE: TRAFFIC_CONTROL_CONDITION  

## DATA: All 2005.csv...  

##  

## Number of Blank Values: 0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  

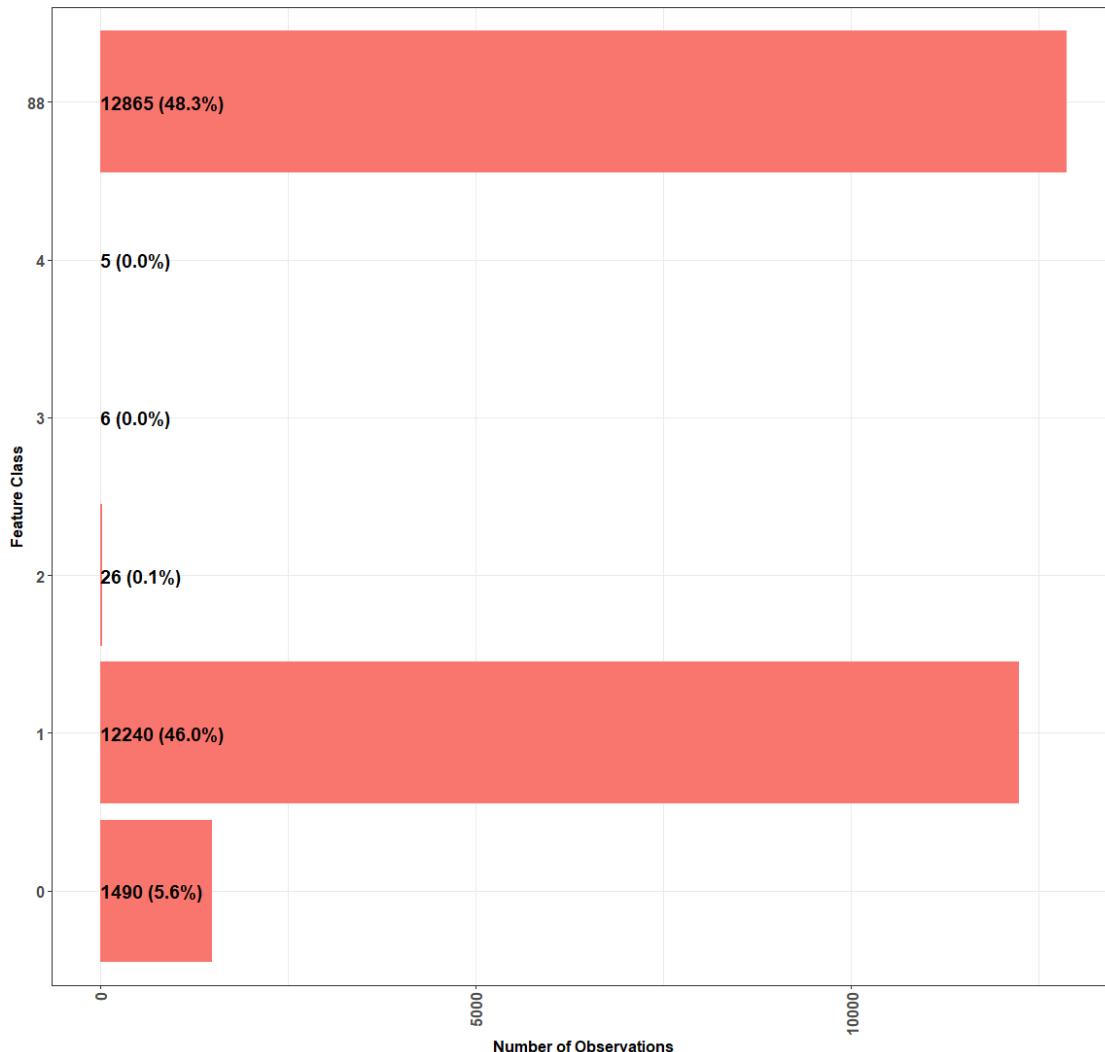
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           1490    5.5948
## 1          12240   45.9597
## 2            26    0.0976
## 3             6    0.0225
## 4             5    0.0188
## 88         12865   48.3065
```

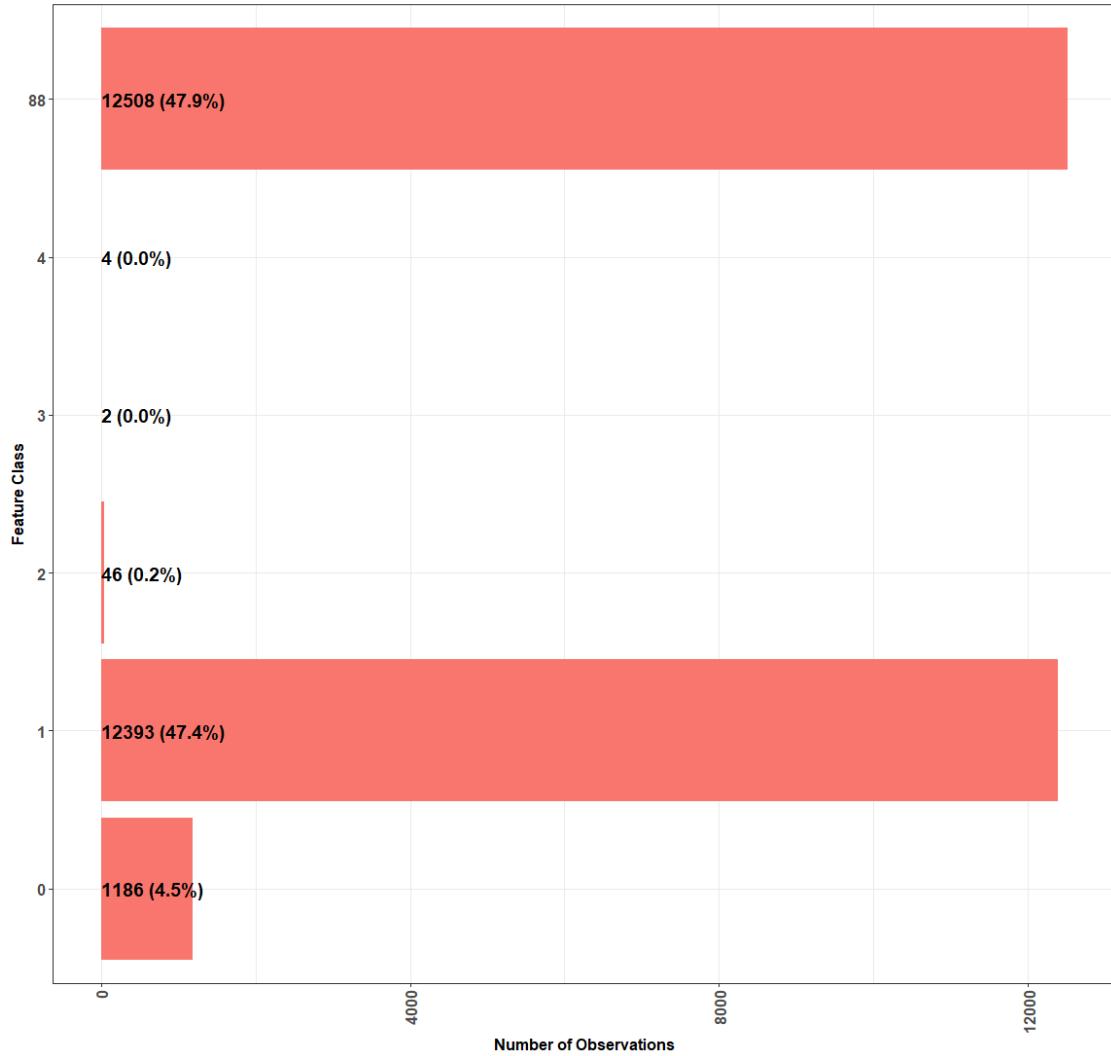
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2005.csv



```
##
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION
## Feature Value Counter Percentage
## -----
## 0 1186 4.5373
## 1 12393 47.4119
## 2 46 0.1760
## 3 2 0.0077
## 4 4 0.0153
## 88 12508 47.8519
```

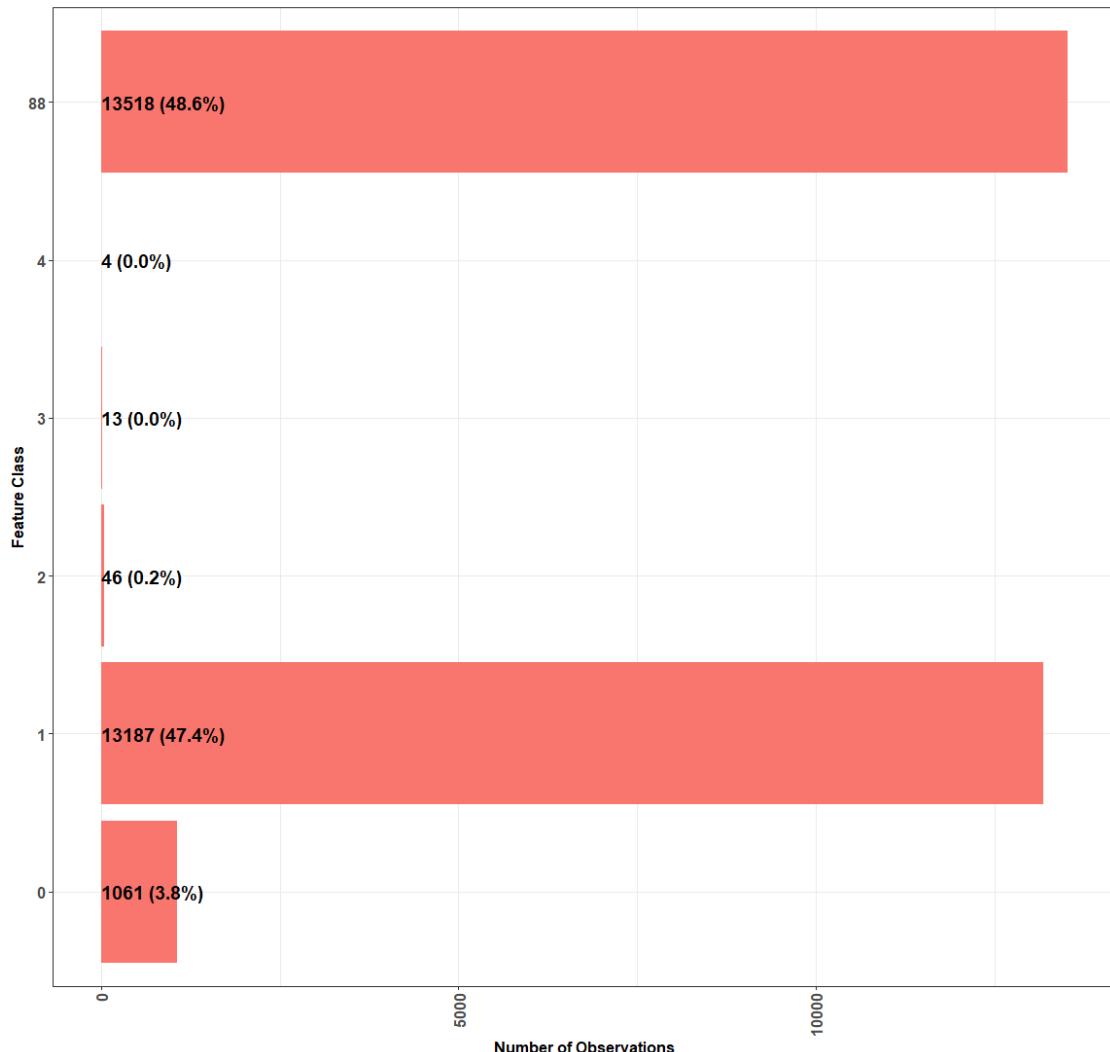
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2006.csv





```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1061 3.8126  
## 1 13187 47.3858  
## 2 46 0.1653  
## 3 13 0.0467  
## 4 4 0.0144  
## 88 13518 48.5752
```

Plot of Feature: TRAFFIC_CONTROL_CONDITION
Data:All 2007.csv



```
##  

## -----  

## CHECKING FEATURE: TRAFFIC_CONTROL_CONDITION  

## DATA: All 2008.csv...  

##  

## Number of Blank Values: 0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  

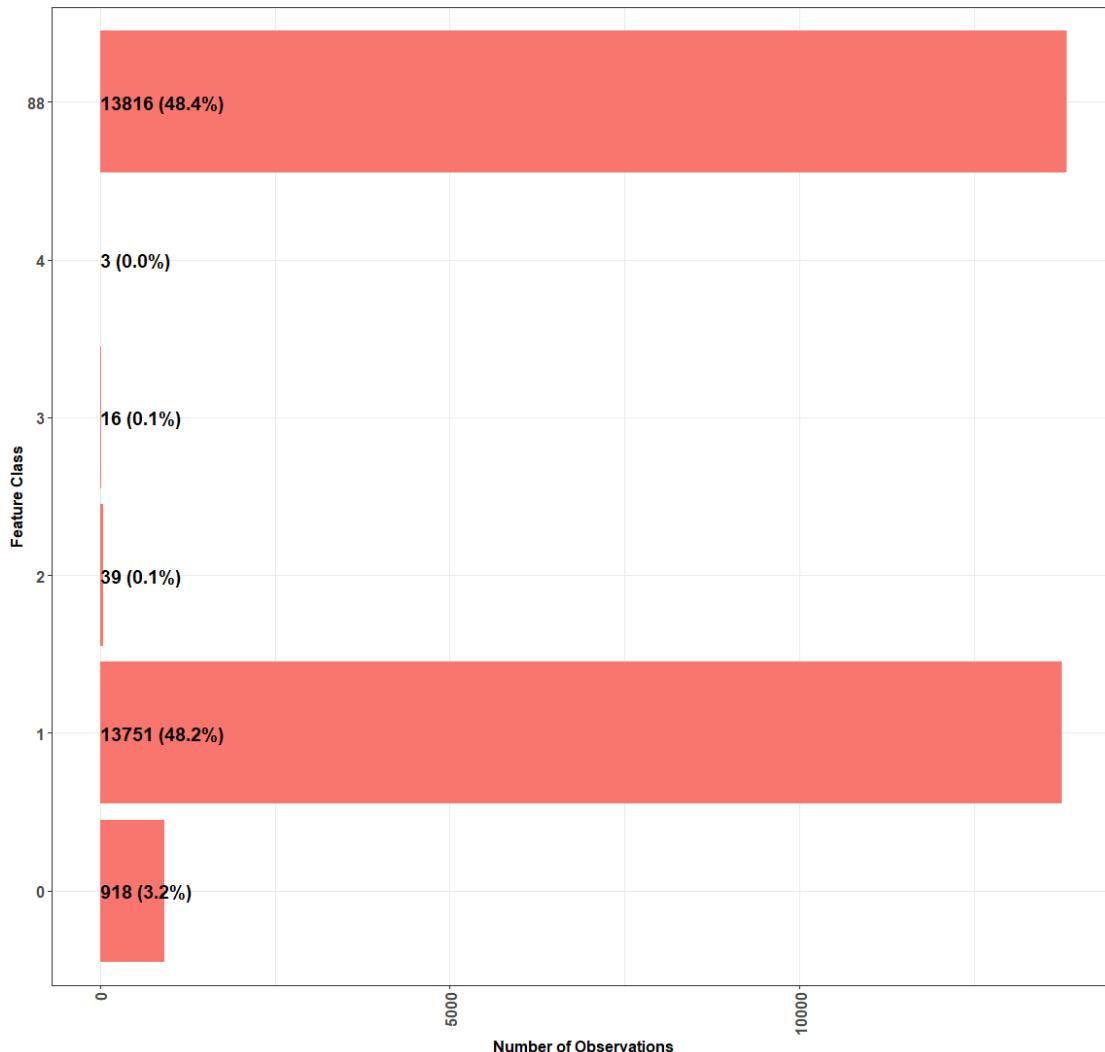
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           918      3.2162
## 1          13751     48.1764
## 2            39      0.1366
## 3            16      0.0561
## 4             3      0.0105
## 88         13816     48.4042
```

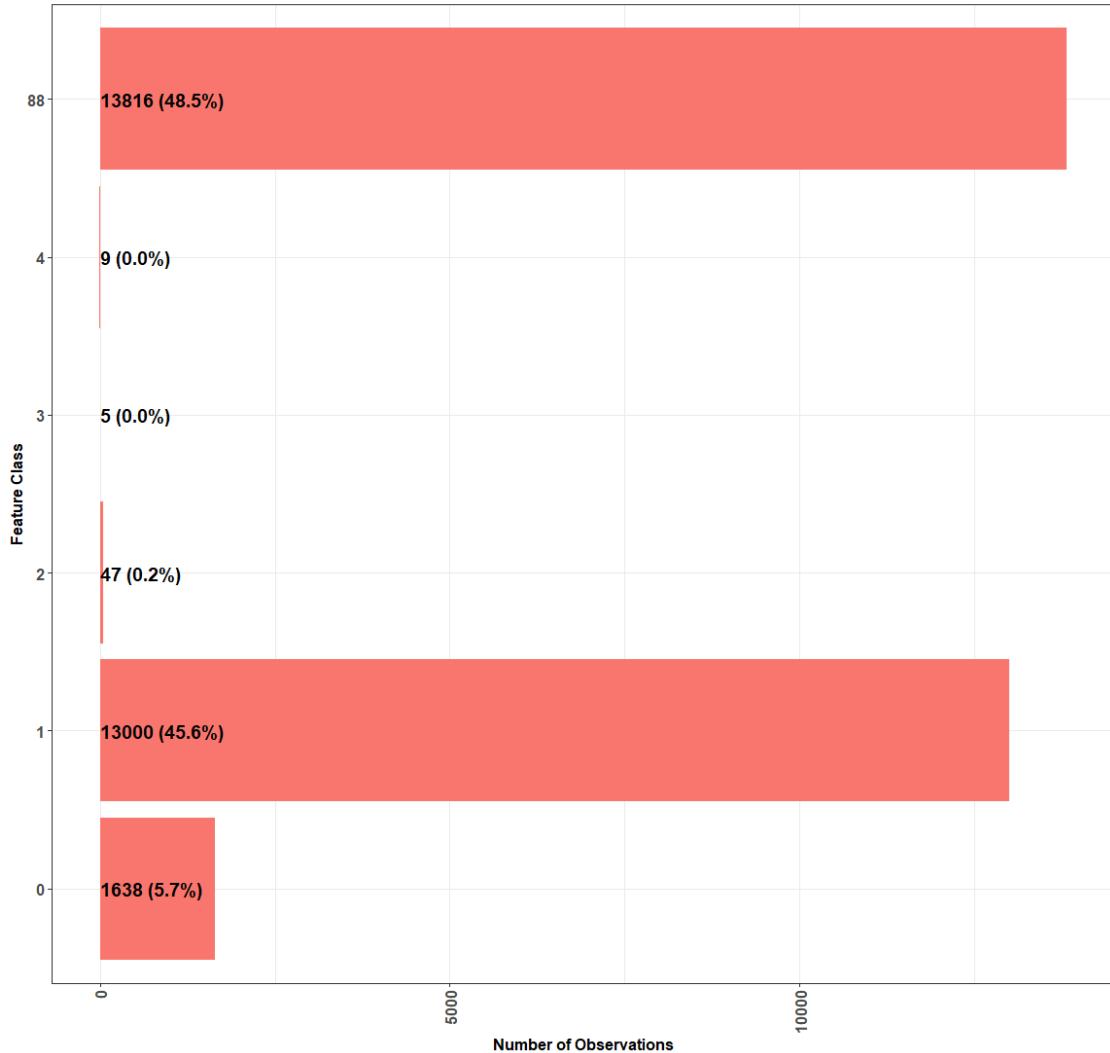
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2008.csv



```
##
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION
## DATA:All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION
## Feature Value Counter Percentage
## -----
## 0 1638 5.7443
## 1 13000 45.5900
## 2 47 0.1648
## 3 5 0.0175
## 4 9 0.0316
## 88 13816 48.4517
```

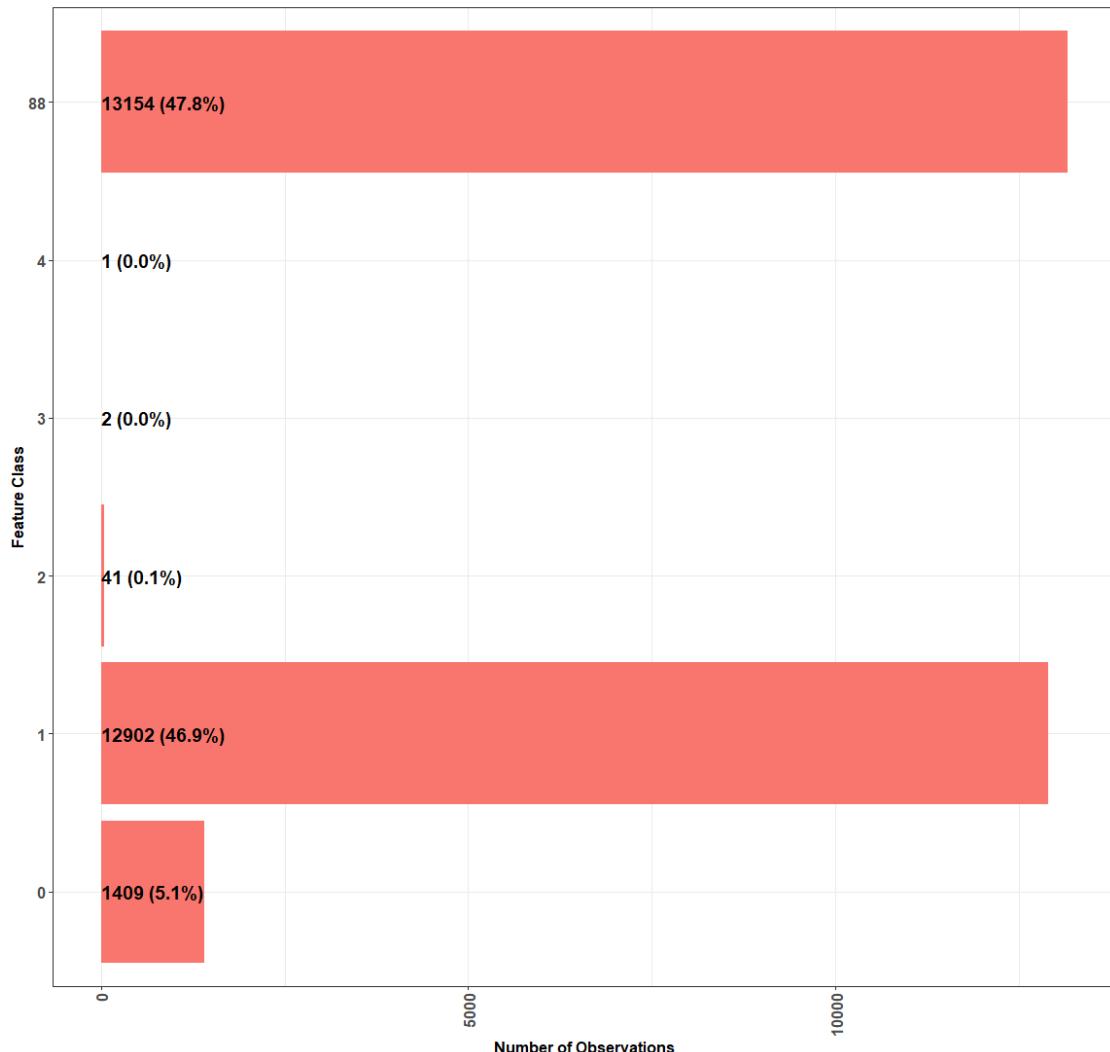
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2009.csv





```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1409 5.1220  
## 1 12902 46.9010  
## 2 41 0.1490  
## 3 2 0.0073  
## 4 1 0.0036  
## 88 13154 47.8171
```

Plot of Feature:TRAFFIC_CONTROL_CONDITION
 Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  

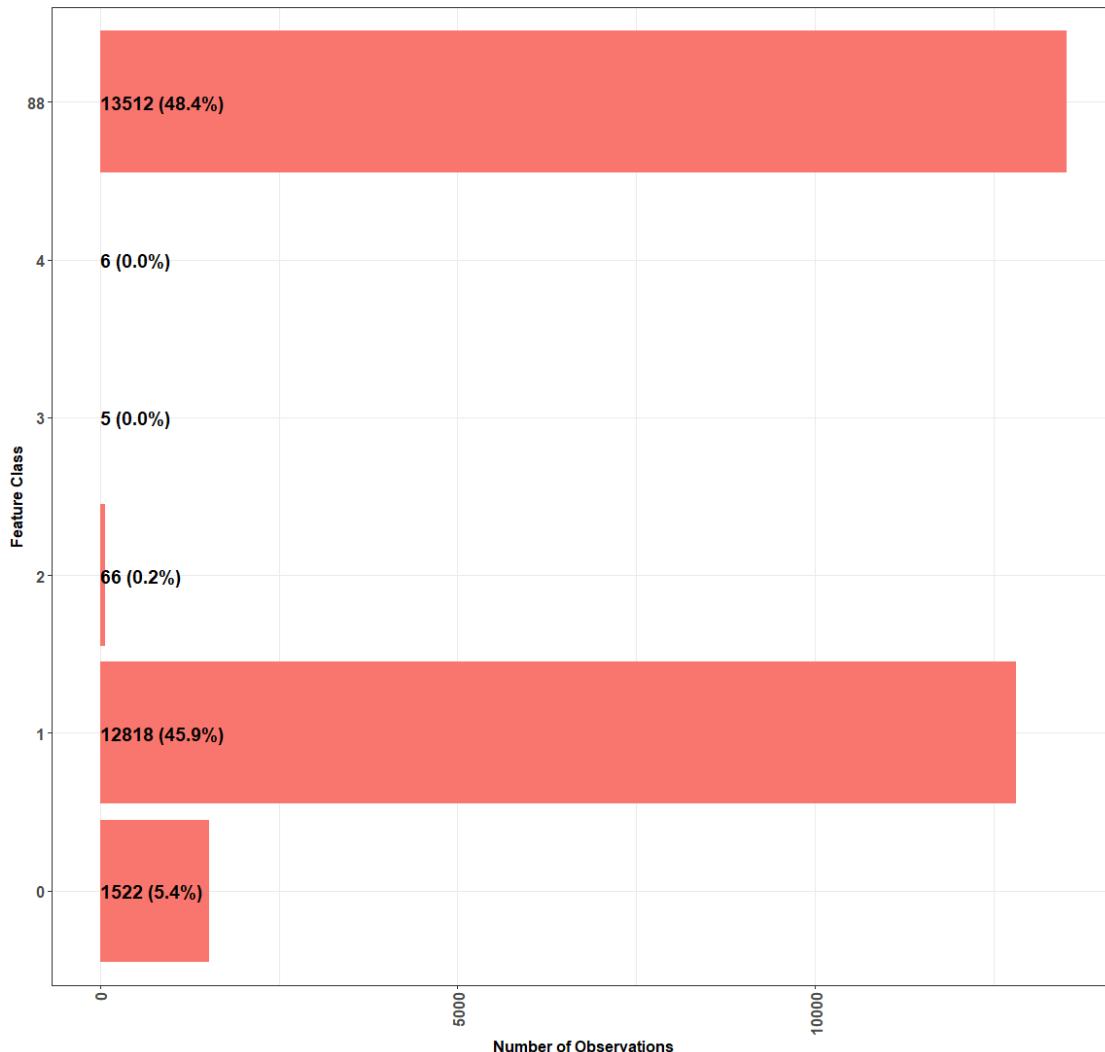
##  

## Feature Value Counter Percentage  

## -----
```

```
## 0           1522    5.4495
## 1          12818   45.8949
## 2            66     0.2363
## 3             5     0.0179
## 4             6     0.0215
## 88         13512   48.3798
```

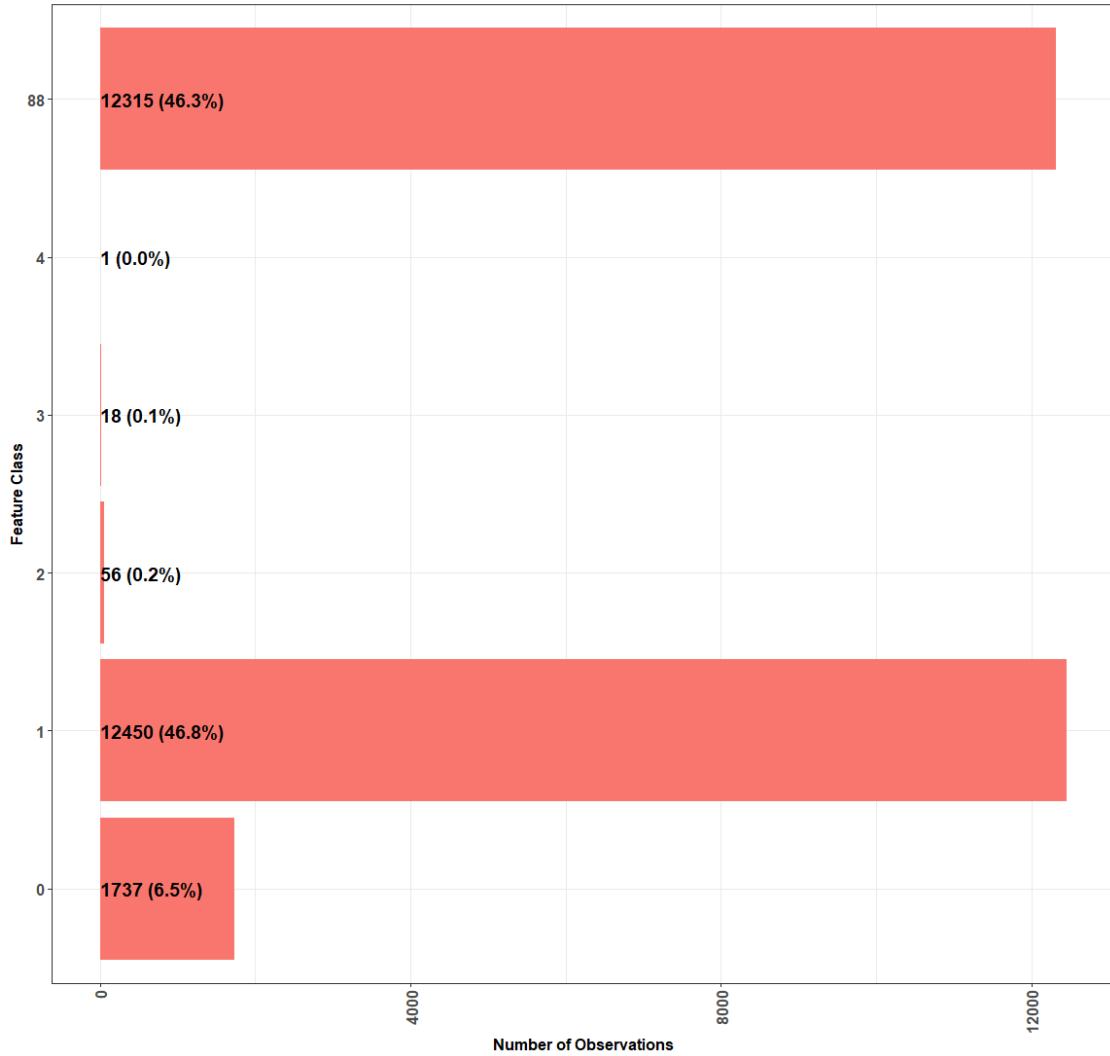
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2011.csv



```
##
## -----
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION
## Feature Value Counter Percentage
## -----
## 0 1737 6.5357
## 1 12450 46.8450
## 2 56 0.2107
## 3 18 0.0677
## 4 1 0.0038
## 88 12315 46.3371
```

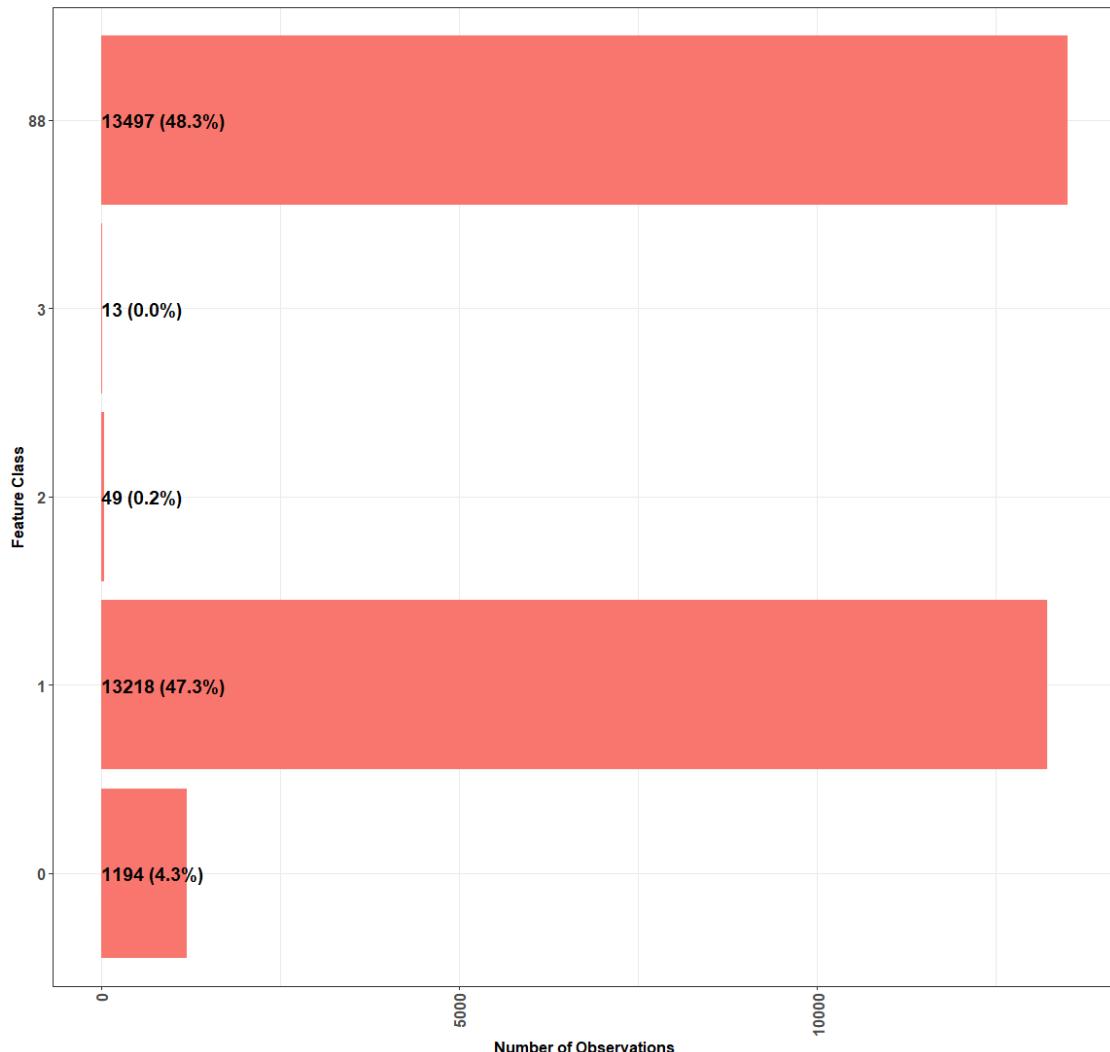
Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2012.csv





```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 5  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1194 4.2687  
## 1 13218 47.2561  
## 2 49 0.1752  
## 3 13 0.0465  
## 88 13497 48.2535
```

Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2013.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  

## DATA:All 2014.csv...  

##  

## Number of Blank Values:12426  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

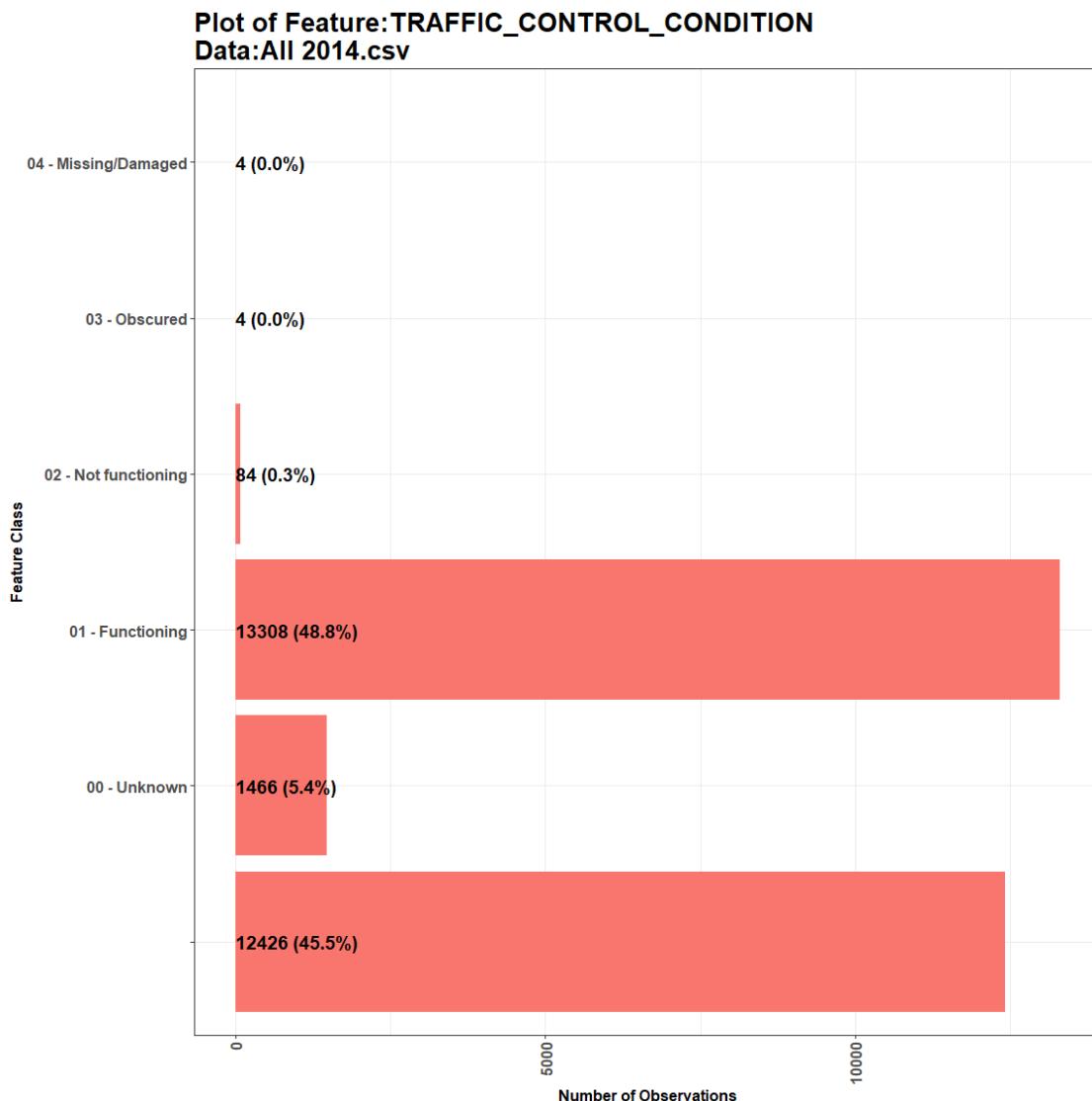
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  

##  

## Feature Value          Counter    Percentage  

## -----
```

```
##          12426    45.5298
## 00 - Unknown      1466     5.3715
## 01 - Functioning   13308    48.7615
## 02 - Not functioning      84     0.3078
## 03 - Obscured        4     0.0147
## 04 - Missing/Damaged      4     0.0147
```



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  

## DATA:All 2015.csv...  

##  

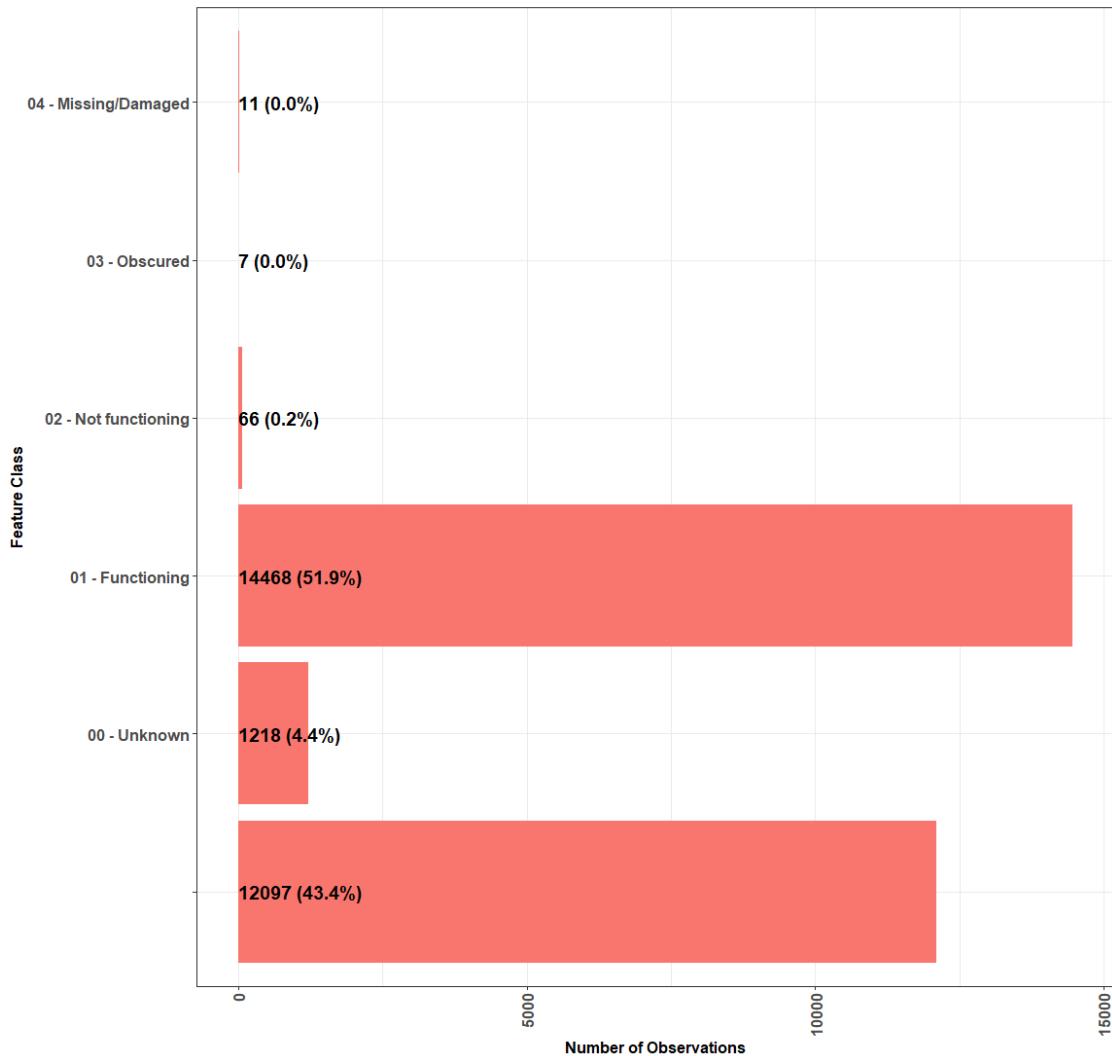
## Number of Blank Values:12097  

##  

## Summary as Factor Feature:
```

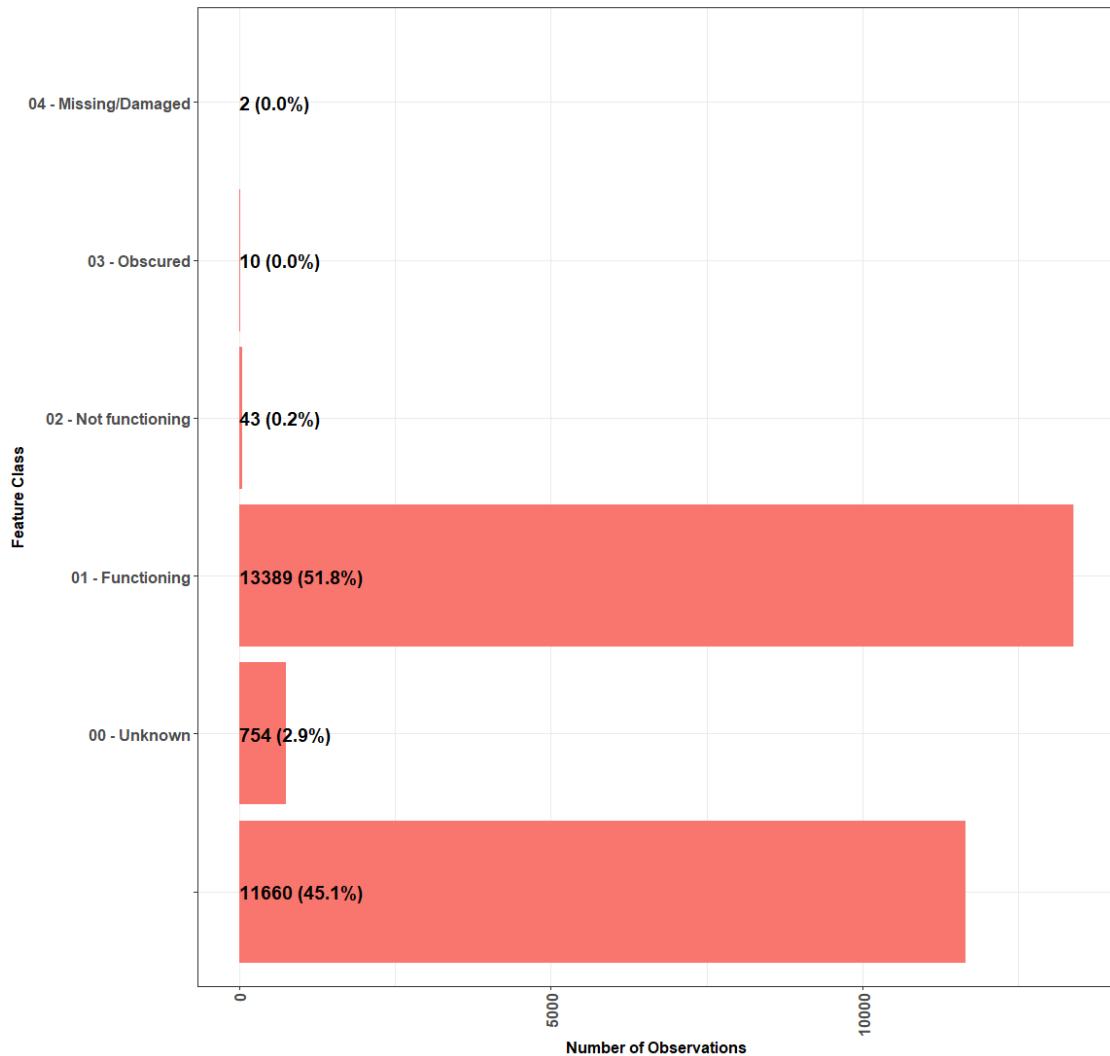
```
## Number of Features: 6
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION
## Feature Value Counter Percentage
## -----
## 00 - Unknown 12097 43.4098
## 01 - Functioning 1218 4.3708
## 02 - Not functioning 14468 51.9180
## 03 - Obscured 66 0.2368
## 04 - Missing/Damaged 7 0.0251
## 05 - Unknown 11 0.0395
```

**Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2015.csv**



```
##  
## -----  
## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:11660  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 11660 45.0924  
## 00 - Unknown 754 2.9159  
## 01 - Functioning 13389 51.7789  
## 02 - Not functioning 43 0.1663  
## 03 - Obscured 10 0.0387  
## 04 - Missing/Damaged 2 0.0077
```

Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data:All 2016.csv



```
##  

## -----  

## CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:10839  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

## TOP 100 FEATURES OF TRAFFIC_CONTROL_CONDITION  

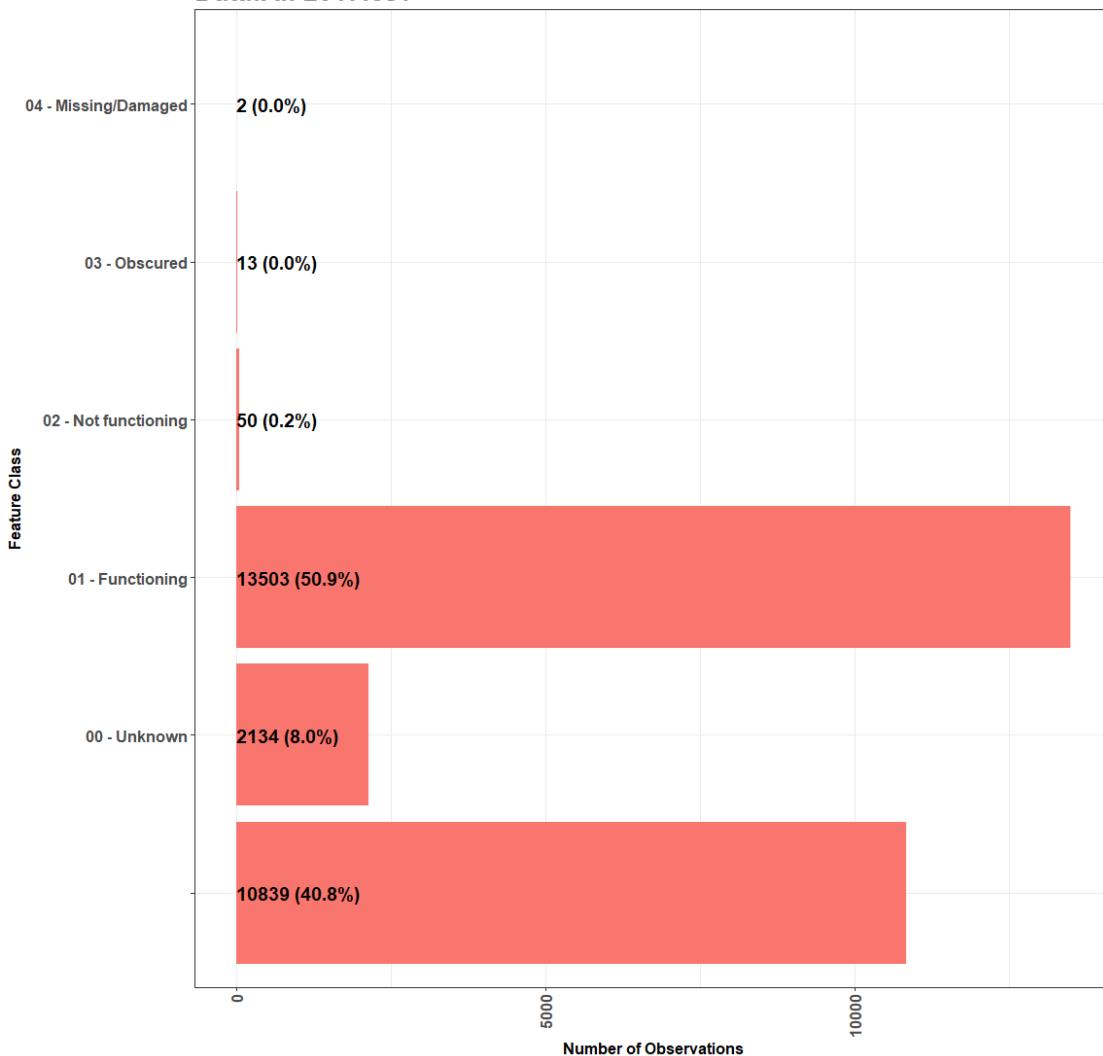
##  

## Feature Value          Counter    Percentage  

## -----
```

##	10839	40.8387
## 00 - Unknown	2134	8.0404
## 01 - Functioning	13503	50.8760
## 02 - Not functioning	50	0.1884
## 03 - Obscured	13	0.0490
## 04 - Missing/Damaged	2	0.0075

Plot of Feature:TRAFFIC_CONTROL_CONDITION
Data>All 2017.csv

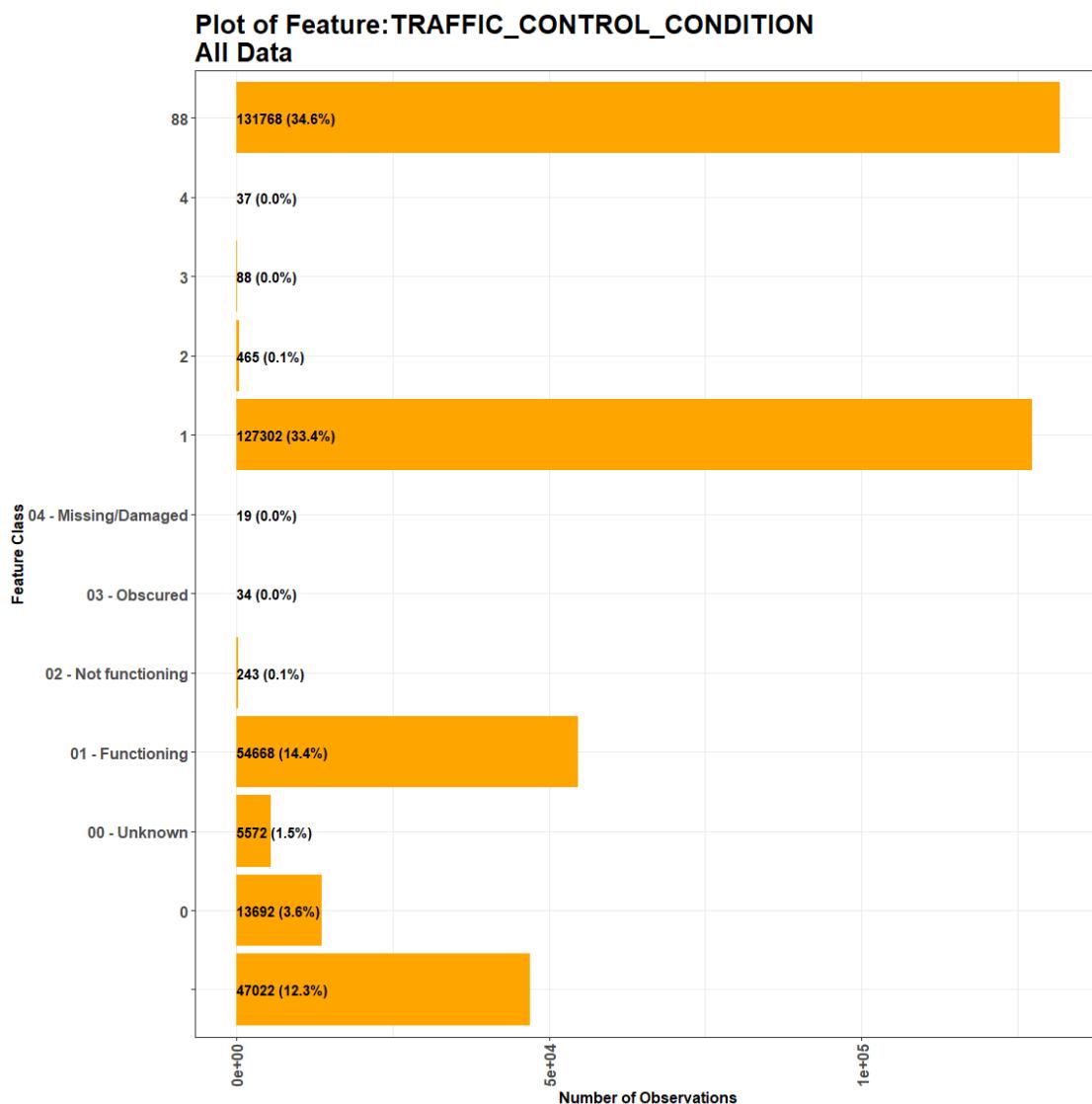


```
##
## =====
## FINAL INFO CHECKING FEATURE:TRAFFIC_CONTROL_CONDITION
## ALL DATA...
## =====
## Number of Blank Values:47022
##
```

```

## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
##
## Summary as Factor Feature:
## Number of Features: 12

```



```

## [1] "TOP 100 FEATURES COUNTERS OF: TRAFFIC_CONTROL_CONDITION"

```

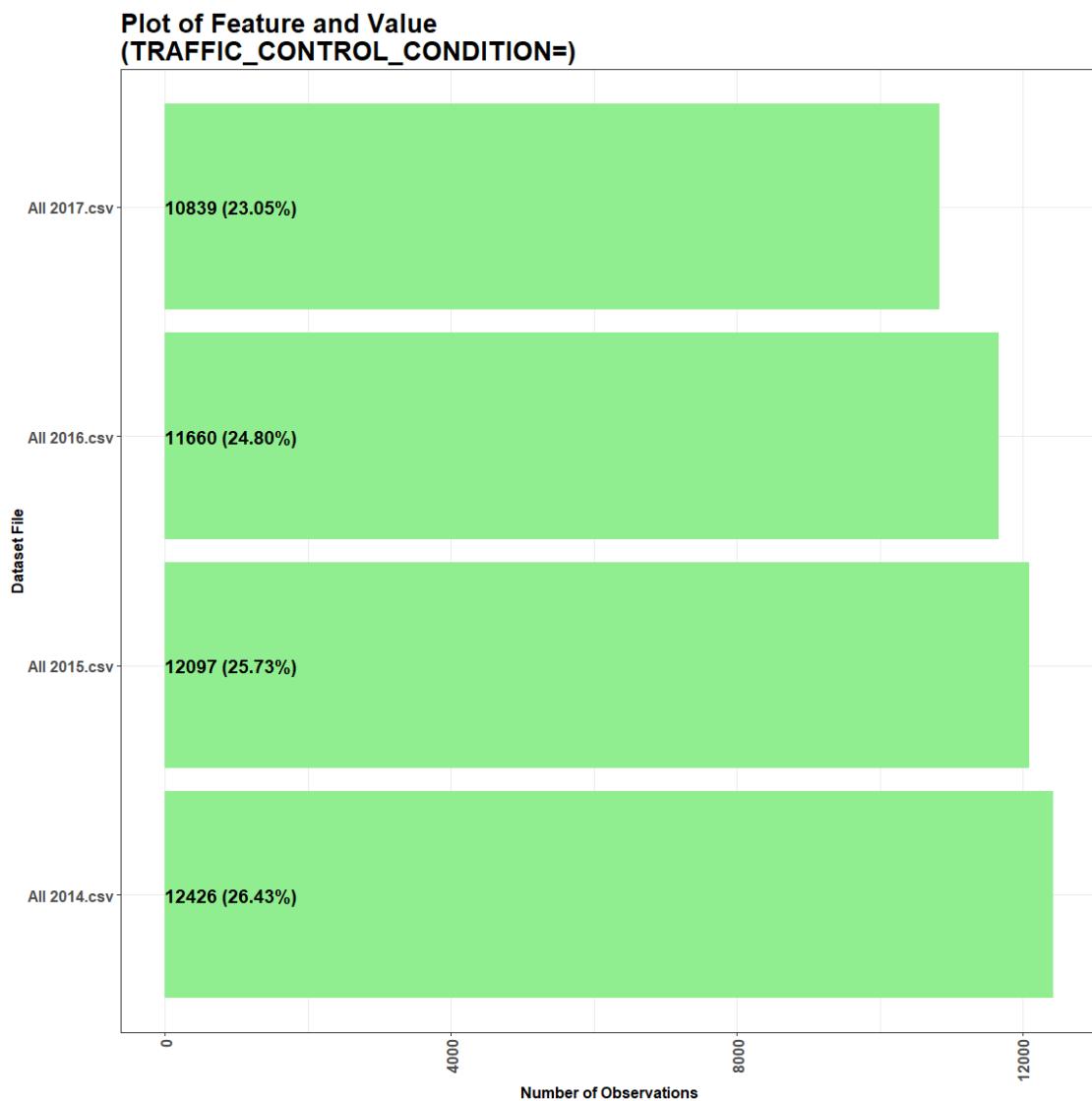
Feature Value	Counter	Percentage
---------------	---------	------------



	47022	12.3446
0	13692	3.5945
00 - Unknown	5572	1.4628
01 - Functioning	54668	14.3519
02 - Not functioning	243	0.0638
03 - Obscured	34	0.0089
04 - Missing/Damaged	19	0.0050
1	127302	33.4205
2	465	0.1221
3	88	0.0231
4	37	0.0097
88	131768	34.5929

23.1 TRAFFIC_CONTROL_CONDITION = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL_CONDITION=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      12426      12097      11660      10839
```

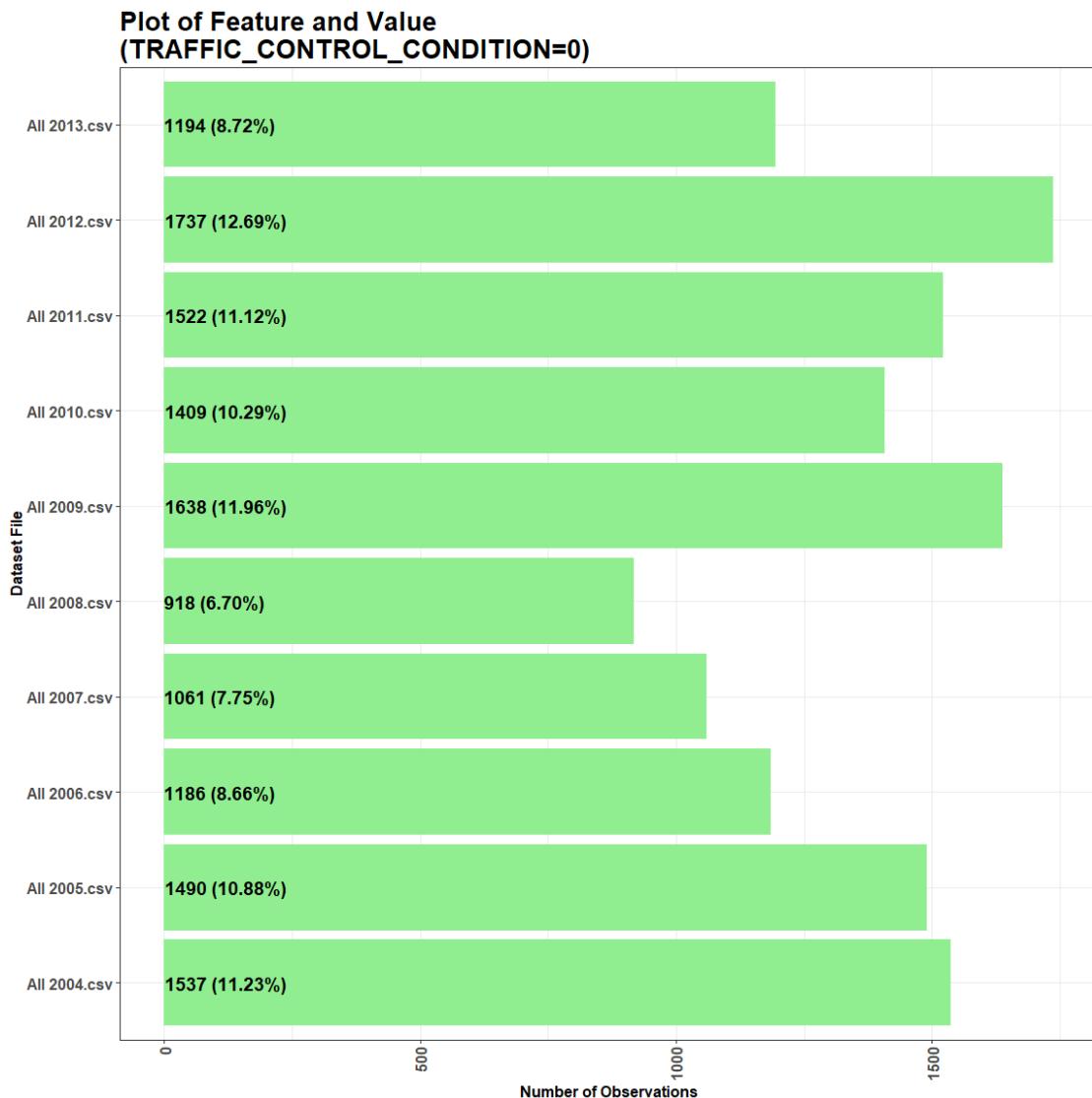


DATASET FILE	COUNTER OF (TRAFFIC_CONTROL_CONDITION=)	Percentage
All 2014.csv	12426	26.43
All 2015.csv	12097	25.73
All 2016.csv	11660	24.80
All 2017.csv	10839	23.05

23.2 TRAFFIC_CONTROL_CONDITION = "0"

```
##
## =====
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL_CONDITION=0)
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      1537     1490     1186     1061     918
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      1638     1409     1522     1737     1194
```

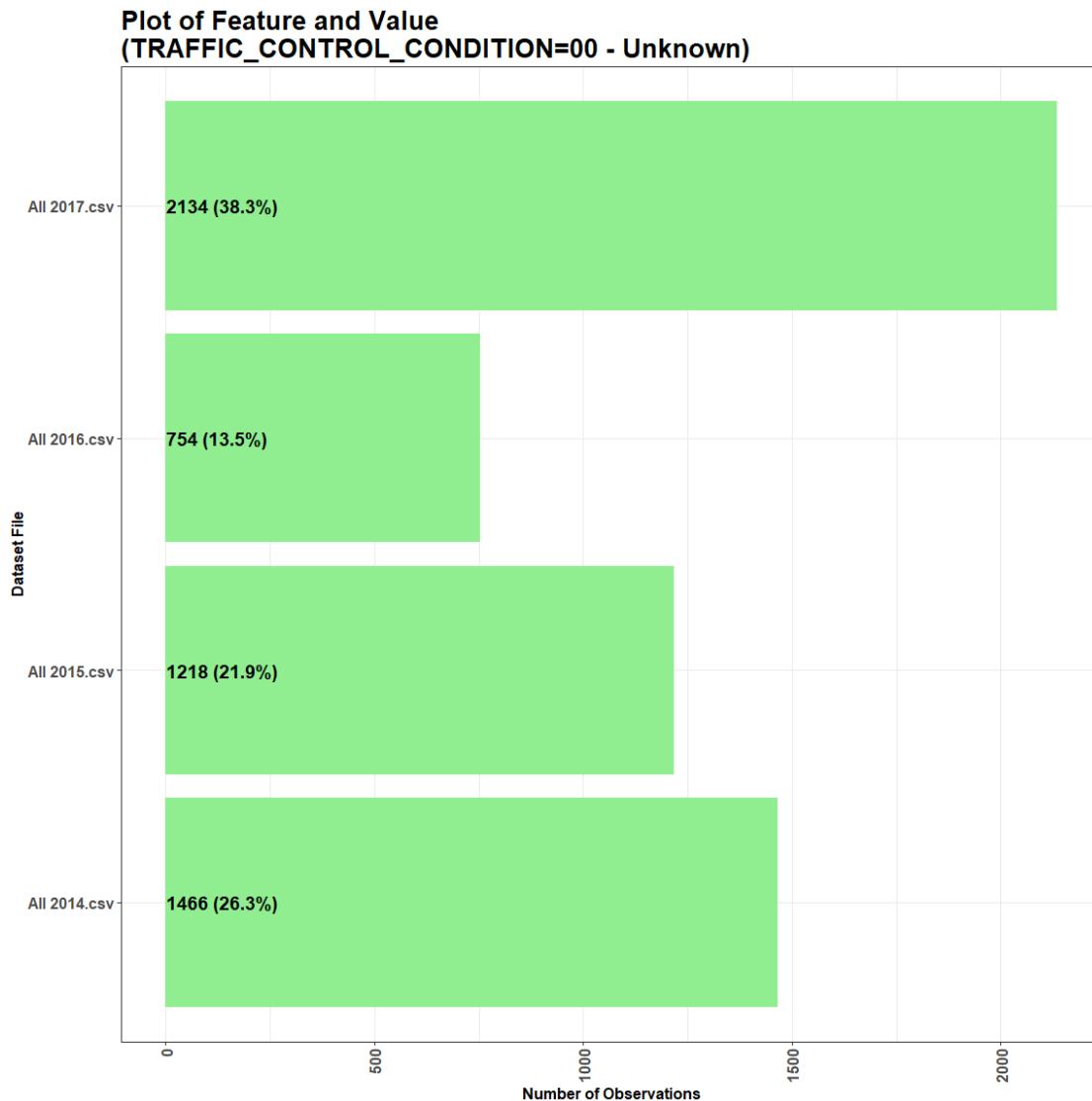


DATASET FILE	COUNTER OF (TRAFFIC_CONTROL_CONDITION=0)	Percentage
All 2004.csv	1537	11.226
All 2005.csv	1490	10.882
All 2006.csv	1186	8.662
All 2007.csv	1061	7.749
All 2008.csv	918	6.705
All 2009.csv	1638	11.963
All 2010.csv	1409	10.291

All 2011.csv	1522	11.116
All 2012.csv	1737	12.686
All 2013.csv	1194	8.720

23.3 TRAFFIC_CONTROL_CONDITION = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL_CONDITION=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 1466 1218 754 2134
```

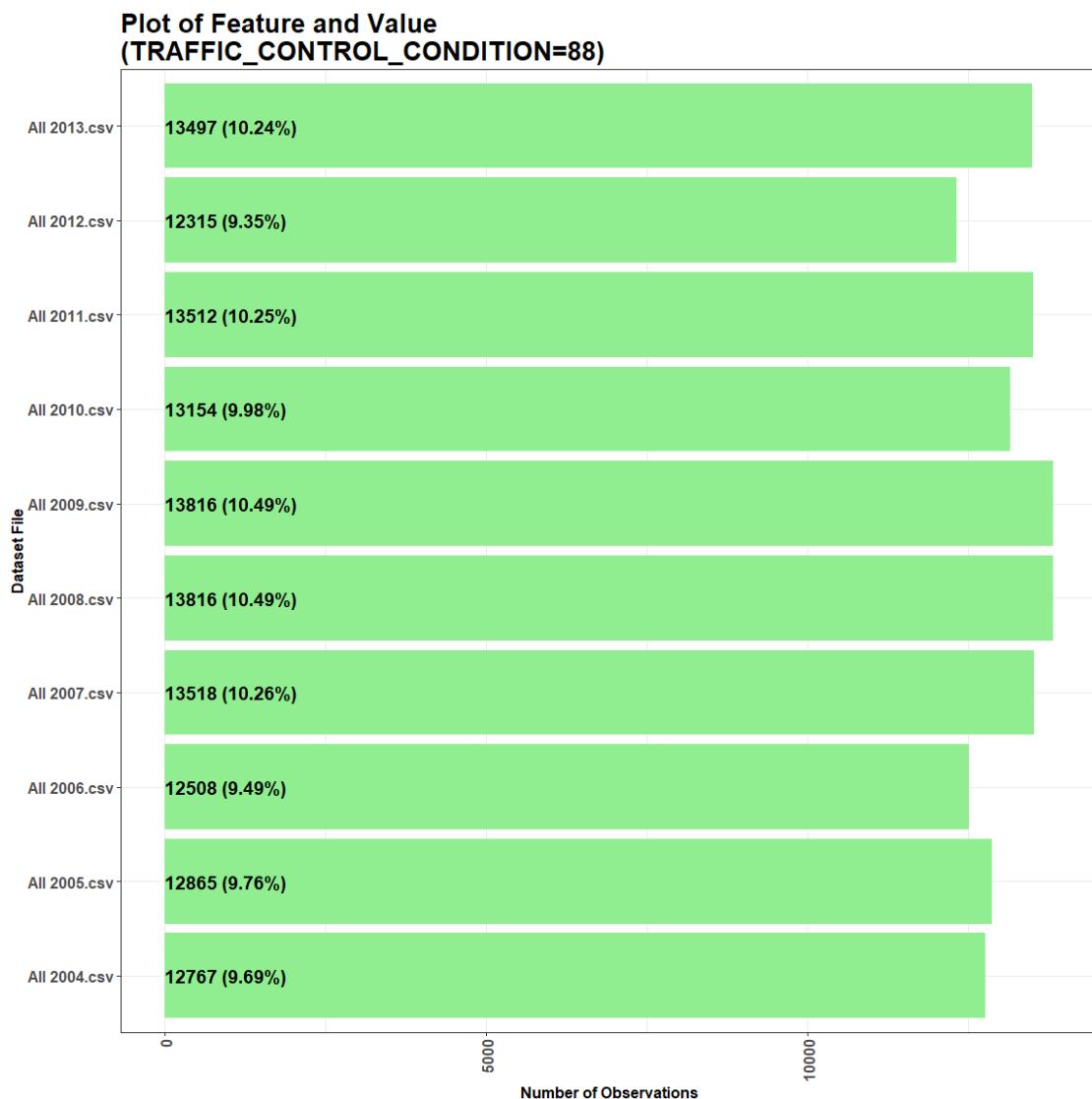


DATASET	COUNTER OF (TRAFFIC_CONTROL_CONDITION=00 - Percentage)
---------	--

FILE	Unknown)	
All 2014.csv	1466	26.31
All 2015.csv	1218	21.86
All 2016.csv	754	13.53
All 2017.csv	2134	38.30

23.4 TRAFFIC_CONTROL_CONDITION = "88"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (TRAFFIC_CONTROL_CONDITION=88)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      12767      12865      12508      13518      13816  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      13816      13154      13512      12315      13497
```

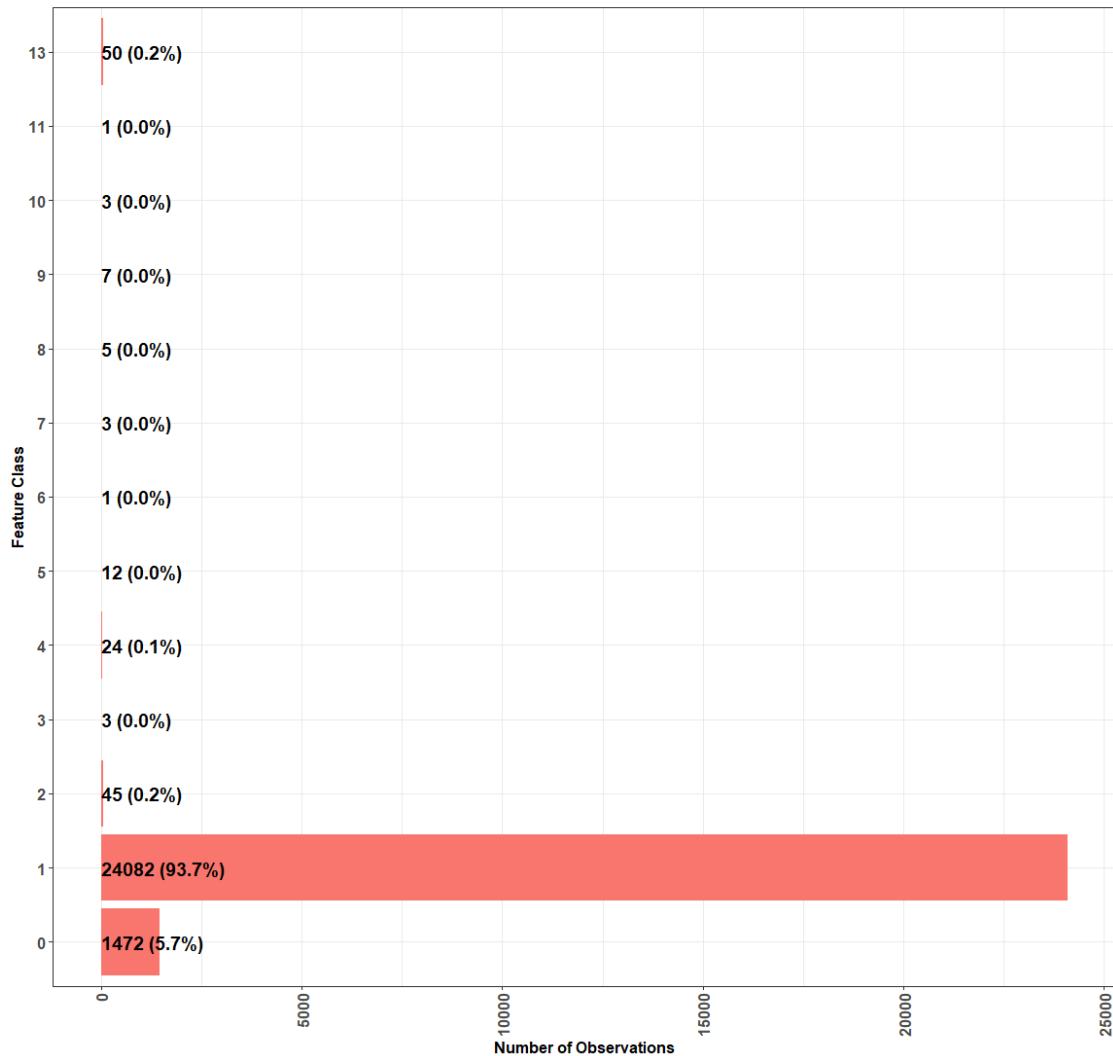


DATASET FILE	COUNTER OF (TRAFFIC_CONTROL_CONDITION=88)	Percentage
All 2004.csv	12767	9.689
All 2005.csv	12865	9.763
All 2006.csv	12508	9.492
All 2007.csv	13518	10.259
All 2008.csv	13816	10.485
All 2009.csv	13816	10.485
All 2010.csv	13154	9.983
All 2011.csv	13512	10.254
All 2012.csv	12315	9.346
All 2013.csv	13497	10.243

24. Vehicle Condition (VEHICLE_CONDITION)

```
##  
## -----  
## CHECKING FEATURE:VEHICLE_CONDITION  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 13  
##  
## TOP 100 FEATURES OF VEHICLE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1472 5.7258  
## 1 24082 93.6751  
## 2 45 0.1750  
## 3 3 0.0117  
## 4 24 0.0934  
## 5 12 0.0467  
## 6 1 0.0039  
## 7 3 0.0117  
## 8 5 0.0194  
## 9 7 0.0272  
## 10 3 0.0117  
## 11 1 0.0039  
## 13 50 0.1945
```

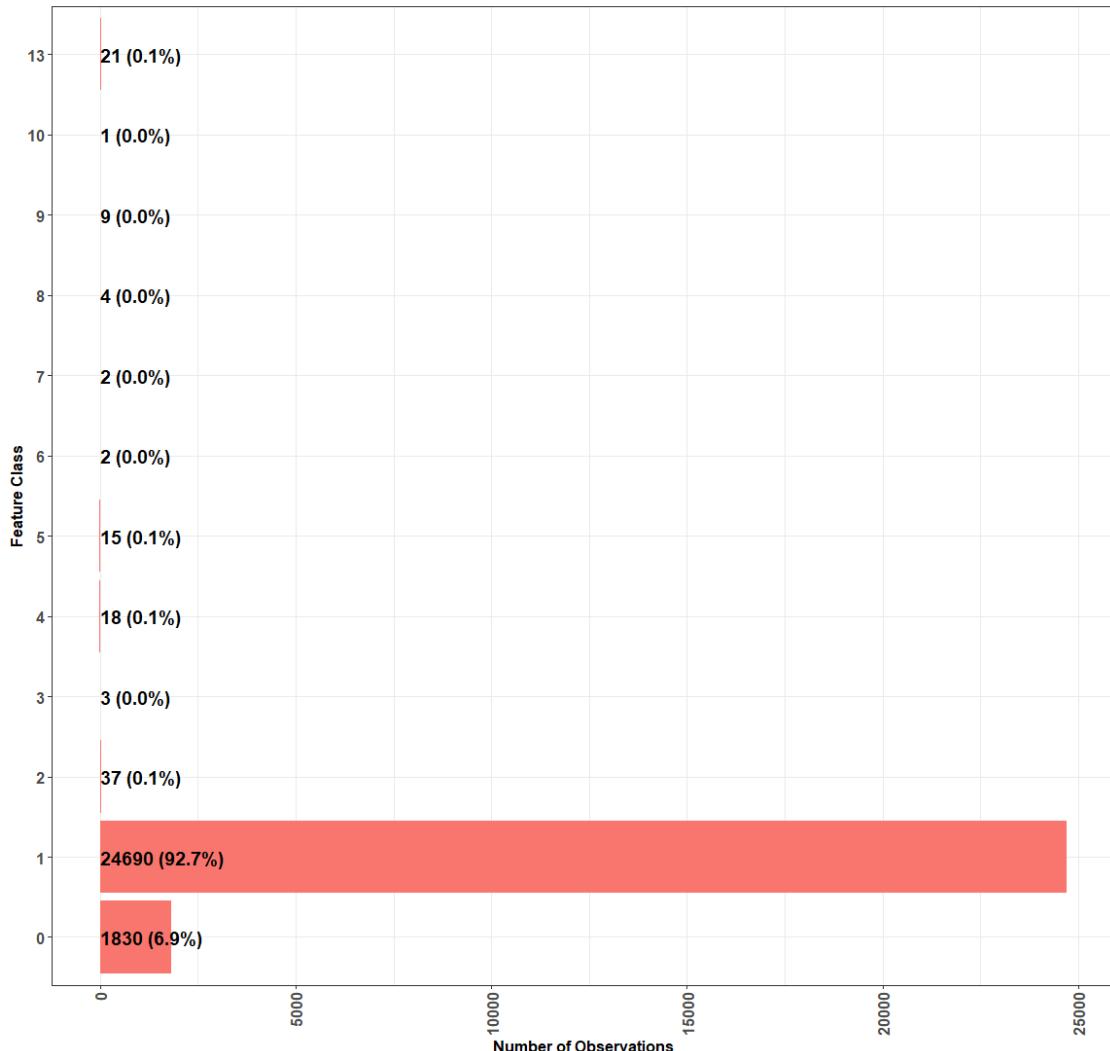
Plot of Feature:VEHICLE_CONDITION Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_CONDITION  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 12  
##  
## TOP 100 FEATURES OF VEHICLE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	1830	6.8714
## 1	24690	92.7080
## 2	37	0.1389
## 3	3	0.0113
## 4	18	0.0676
## 5	15	0.0563
## 6	2	0.0075
## 7	2	0.0075
## 8	4	0.0150
## 9	9	0.0338
## 10	1	0.0038
## 13	21	0.0789

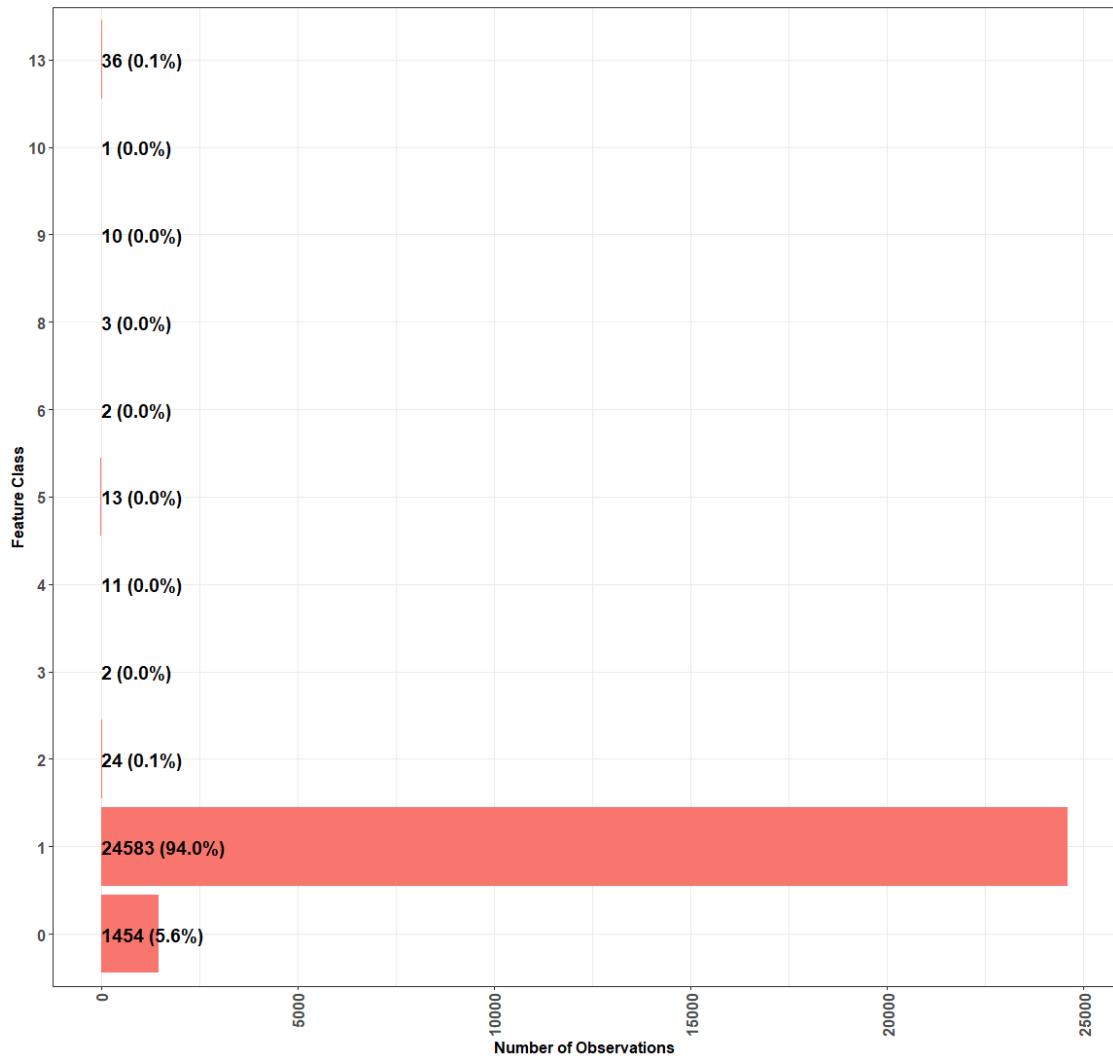
**Plot of Feature:VEHICLE_CONDITION
Data:All 2005.csv**



```
##  
## -----
```

```
## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value      Counter      Percentage
## ----- -----
## 0                  1454       5.5626
## 1                  24583      94.0472
## 2                  24         0.0918
## 3                  2          0.0077
## 4                  11         0.0421
## 5                  13         0.0497
## 6                  2          0.0077
## 8                  3          0.0115
## 9                  10         0.0383
## 10                 1          0.0038
## 13                 36         0.1377
```

Plot of Feature:VEHICLE_CONDITION
Data:All 2006.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_CONDITION  

## DATA:All 2007.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 9  

##  

## TOP 100 FEATURES OF VEHICLE_CONDITION  

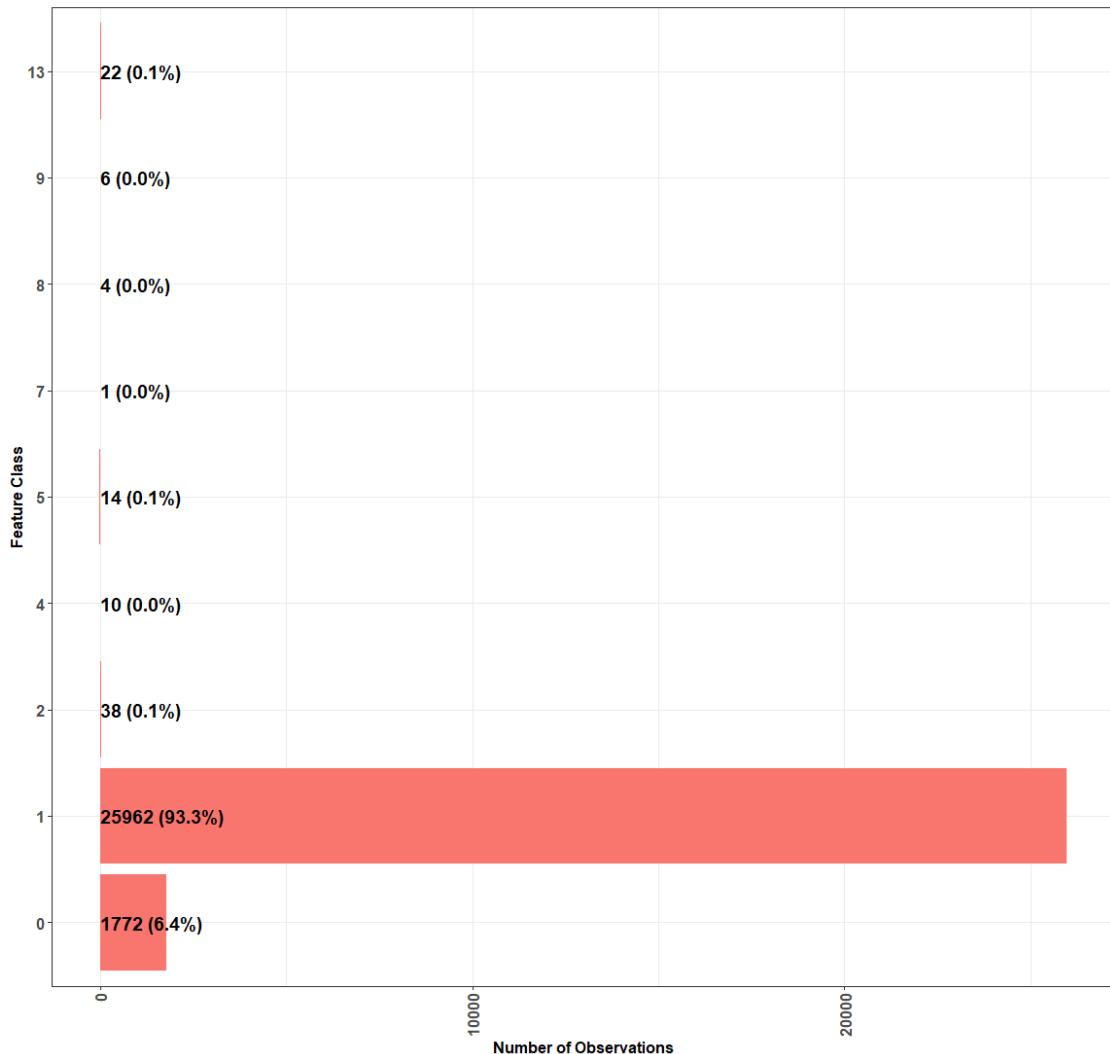
##  

## Feature Value      Counter      Percentage  

## -----
```

```
## 0           1772    6.3675
## 1          25962   93.2912
## 2            38    0.1365
## 4            10    0.0359
## 5            14    0.0503
## 7             1    0.0036
## 8             4    0.0144
## 9             6    0.0216
## 13            22    0.0791
```

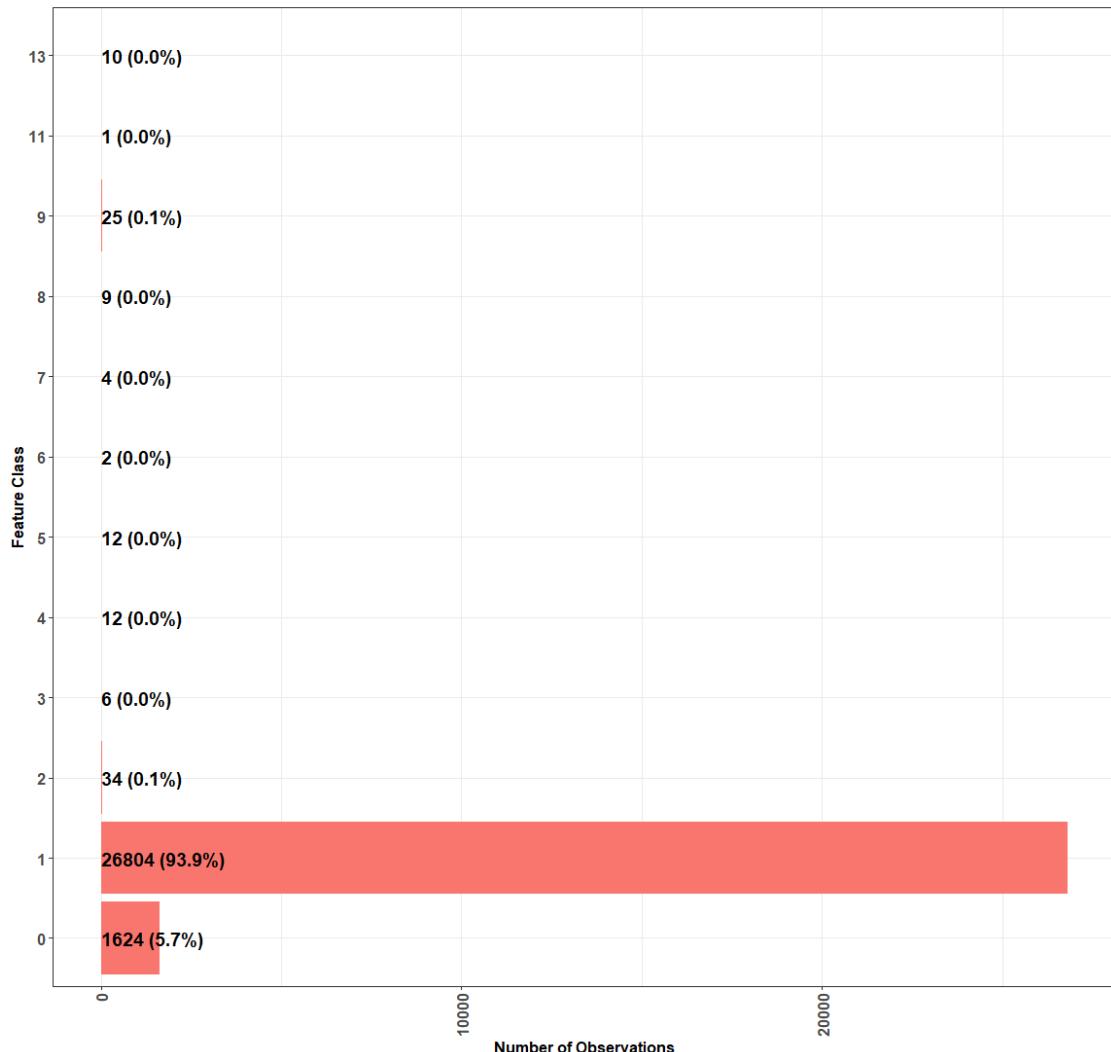
Plot of Feature:VEHICLE_CONDITION
Data:All 2007.csv



```
##
## -----
## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2008.csv...
##
```

```
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 12
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 0 1624 5.6897
## 1 26804 93.9074
## 2 34 0.1191
## 3 6 0.0210
## 4 12 0.0420
## 5 12 0.0420
## 6 2 0.0070
## 7 4 0.0140
## 8 9 0.0315
## 9 25 0.0876
## 11 1 0.0035
## 13 10 0.0350
```

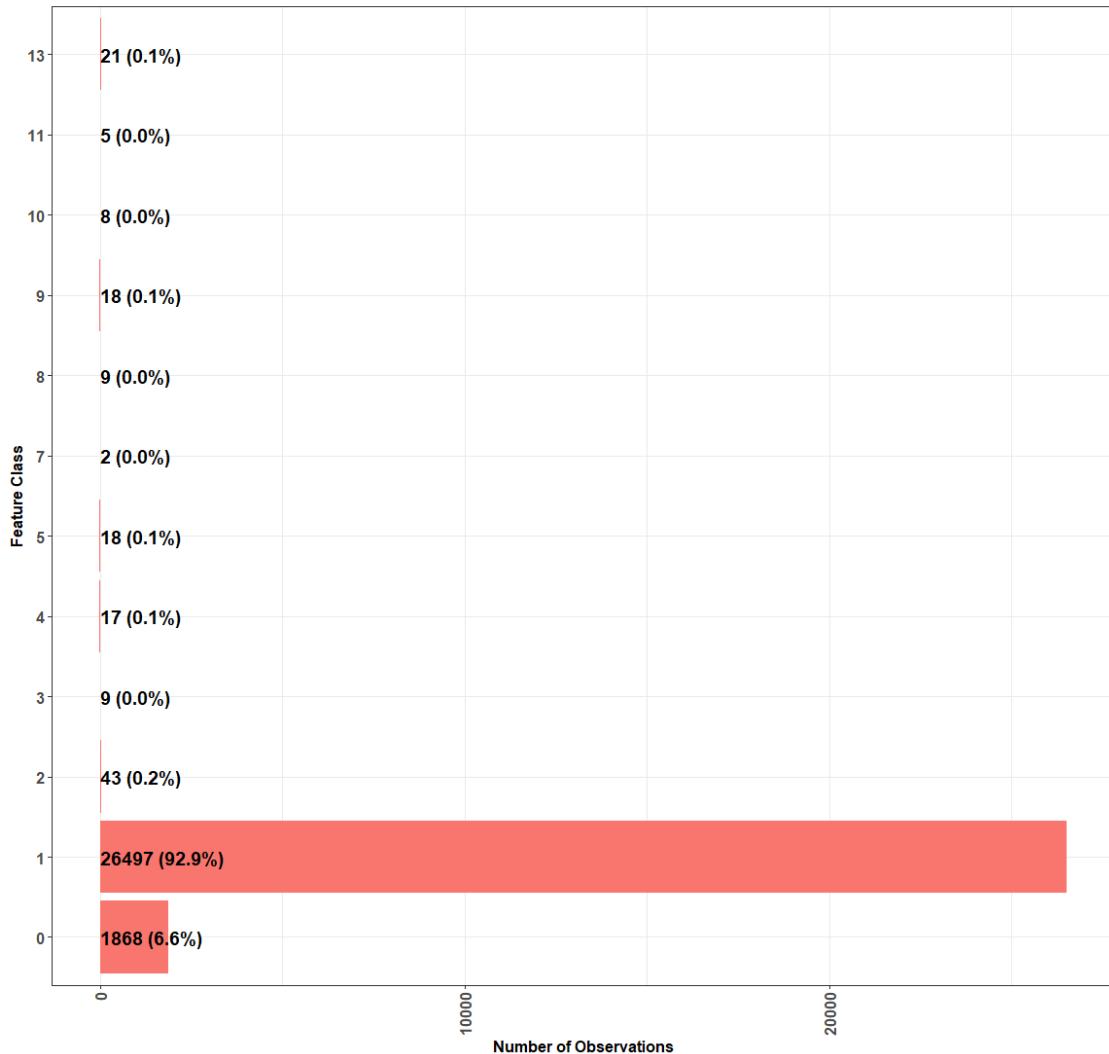
Plot of Feature:VEHICLE_CONDITION Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_CONDITION  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 12  
##  
## TOP 100 FEATURES OF VEHICLE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	1868	6.5509
## 1	26497	92.9230
## 2	43	0.1508
## 3	9	0.0316
## 4	17	0.0596
## 5	18	0.0631
## 7	2	0.0070
## 8	9	0.0316
## 9	18	0.0631
## 10	8	0.0281
## 11	5	0.0175
## 13	21	0.0736

**Plot of Feature:VEHICLE_CONDITION
Data:All 2009.csv**

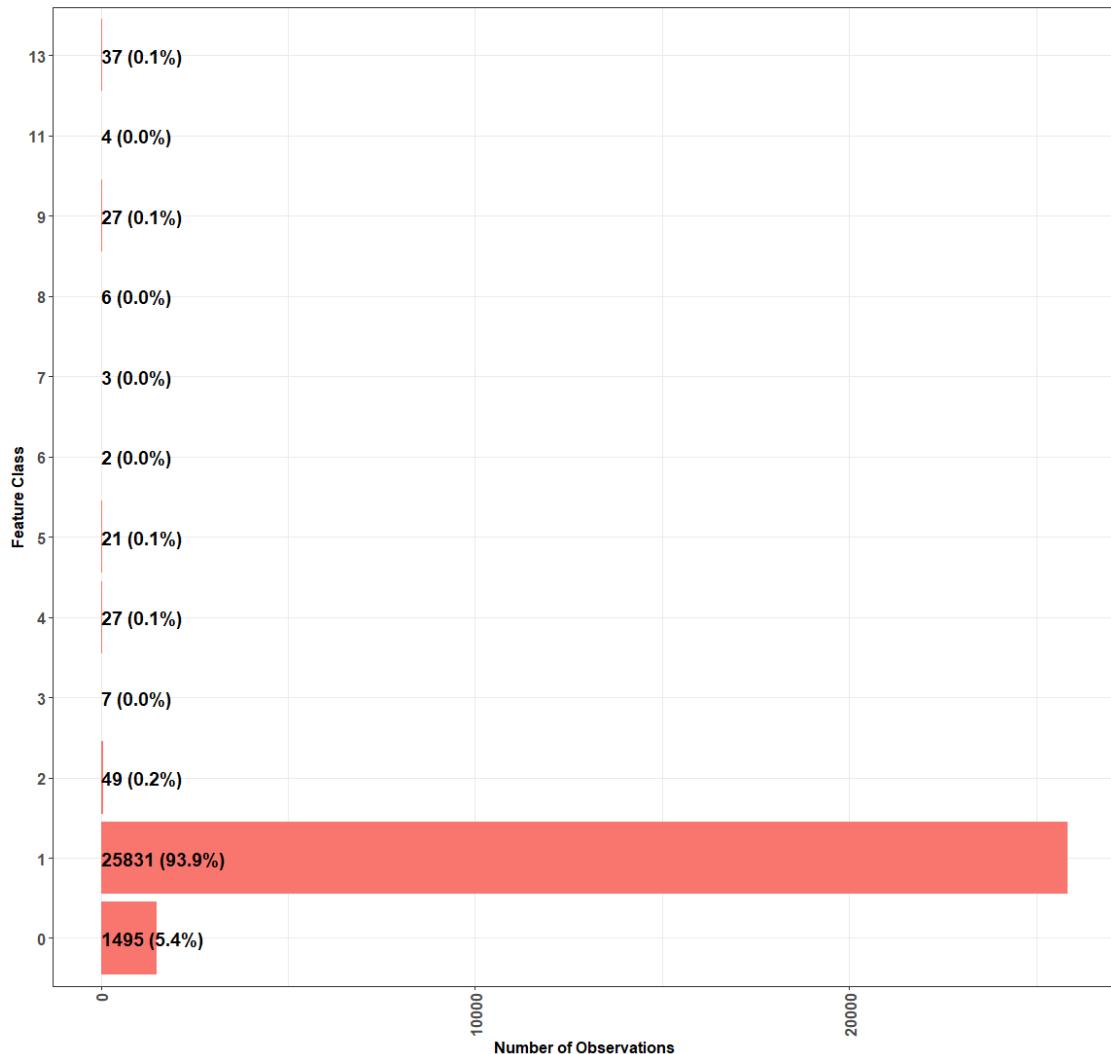


```
##
```

```
## - - - - -
```

```
## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 12
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                1495      5.4346
## 1                25831     93.9002
## 2                 49       0.1781
## 3                  7       0.0254
## 4                 27       0.0981
## 5                 21       0.0763
## 6                  2       0.0073
## 7                  3       0.0109
## 8                  6       0.0218
## 9                 27       0.0981
## 11                 4       0.0145
## 13                 37      0.1345
```

Plot of Feature:VEHICLE_CONDITION
Data:All 2010.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_CONDITION  

## DATA:All 2011.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 12  

##  

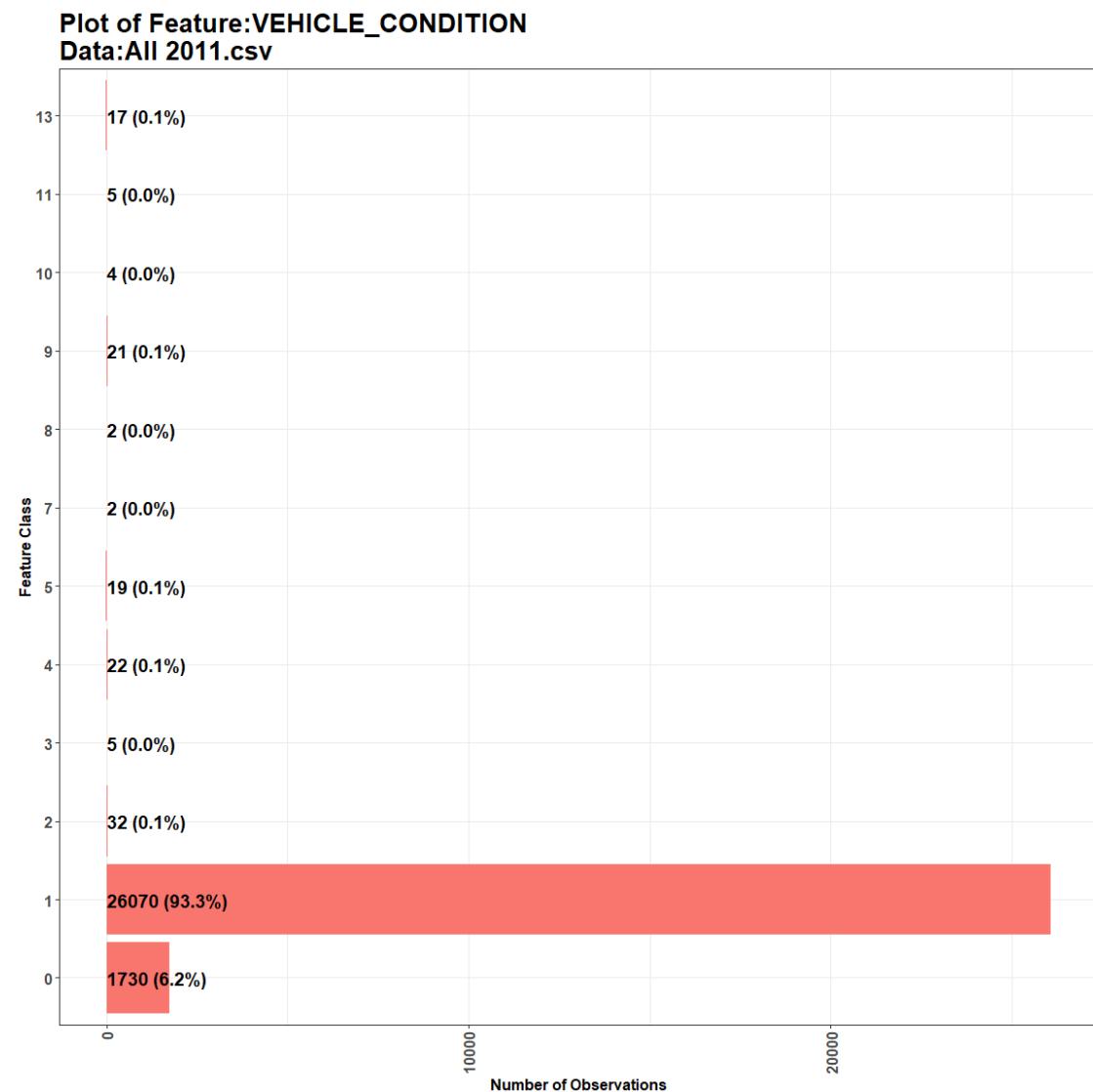
## TOP 100 FEATURES OF VEHICLE_CONDITION  

##  

## Feature Value Counter Percentage  

## -----
```

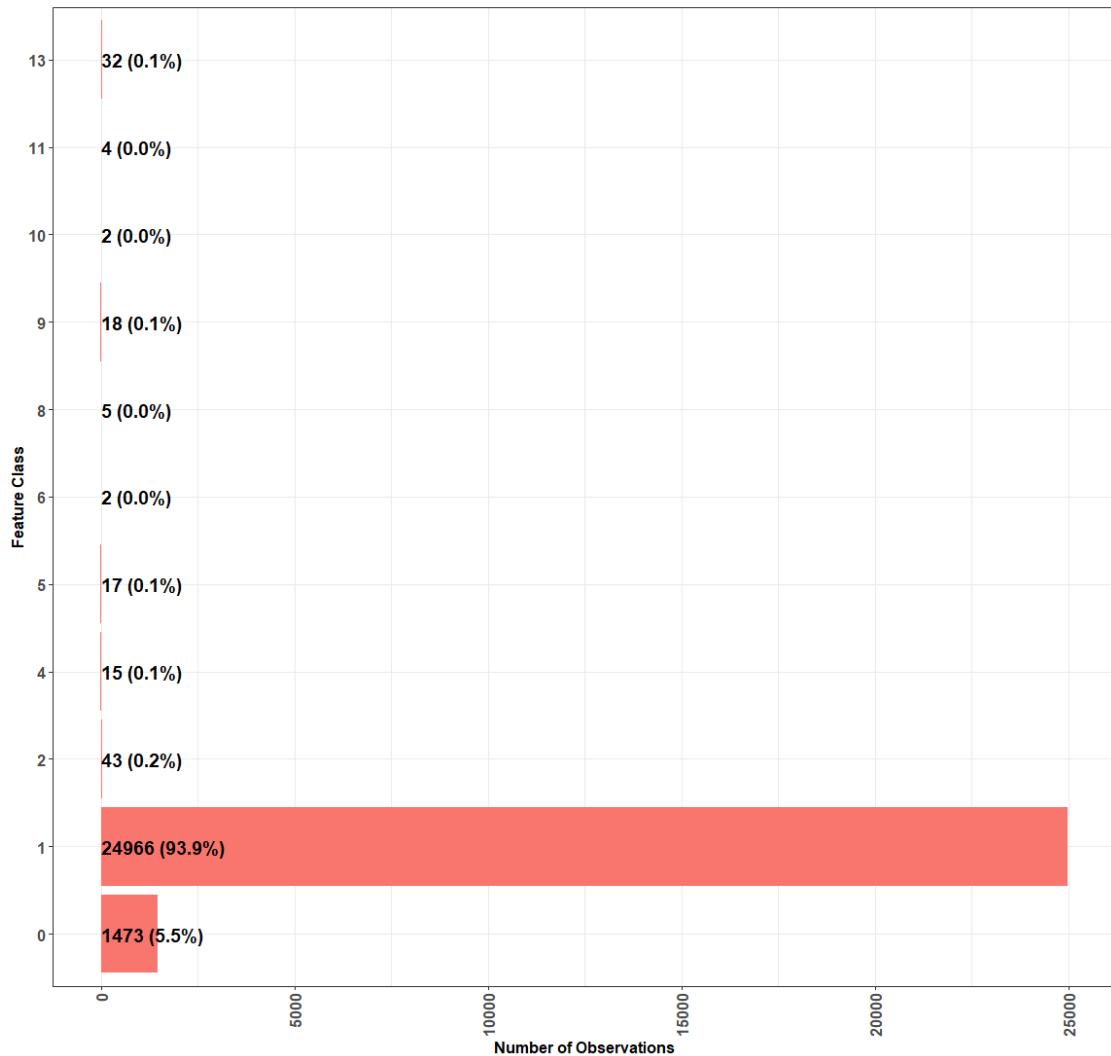
## 0	1730	6.1943
## 1	26070	93.3438
## 2	32	0.1146
## 3	5	0.0179
## 4	22	0.0788
## 5	19	0.0680
## 7	2	0.0072
## 8	2	0.0072
## 9	21	0.0752
## 10	4	0.0143
## 11	5	0.0179
## 13	17	0.0609



```
##  
## -----
```

```
## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 11
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value    Counter    Percentage
## ----- -----
## 0                1473      5.5424
## 1                24966     93.9384
## 2                 43       0.1618
## 4                 15       0.0564
## 5                 17       0.0640
## 6                  2       0.0075
## 8                  5       0.0188
## 9                 18       0.0677
## 10                2       0.0075
## 11                4       0.0151
## 13                32      0.1204
```

Plot of Feature:VEHICLE_CONDITION
Data:All 2012.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_CONDITION  

## DATA:All 2013.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 12  

##  

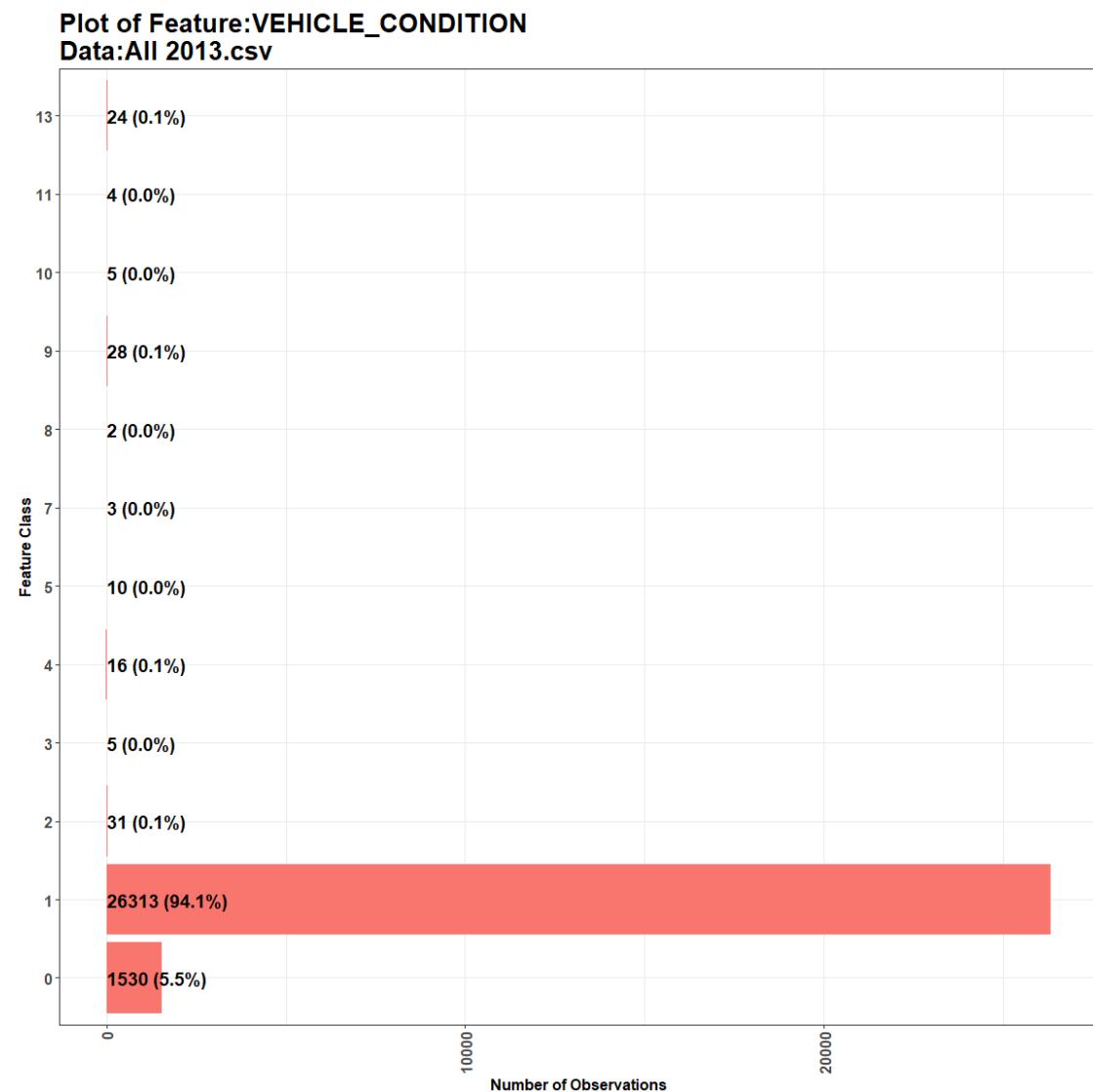
## TOP 100 FEATURES OF VEHICLE_CONDITION  

##  

## Feature Value      Counter      Percentage  

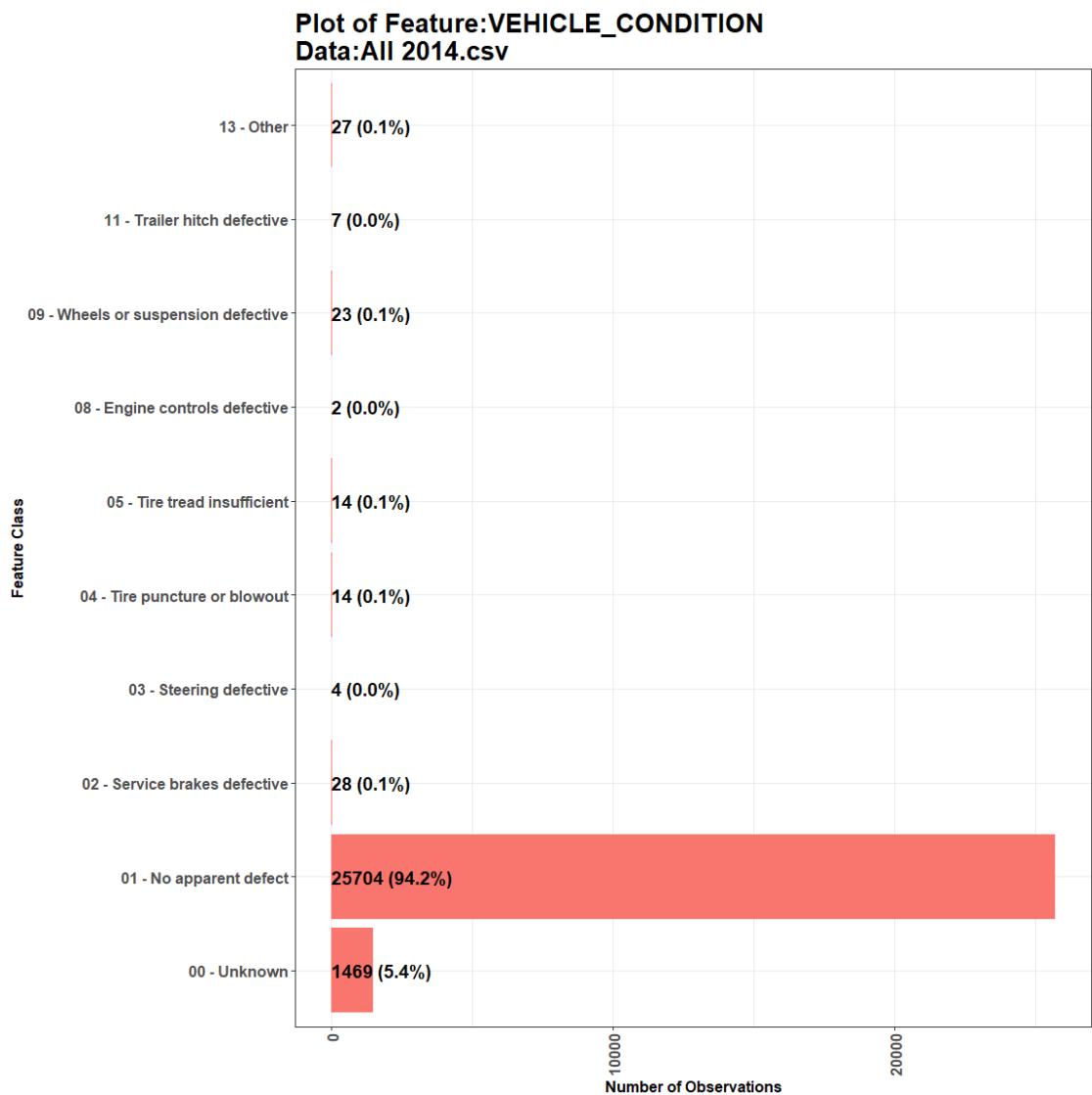
## -----
```

## 0	1530	5.4700
## 1	26313	94.0724
## 2	31	0.1108
## 3	5	0.0179
## 4	16	0.0572
## 5	10	0.0358
## 7	3	0.0107
## 8	2	0.0072
## 9	28	0.1001
## 10	5	0.0179
## 11	4	0.0143
## 13	24	0.0858



```
##  
## -----
```

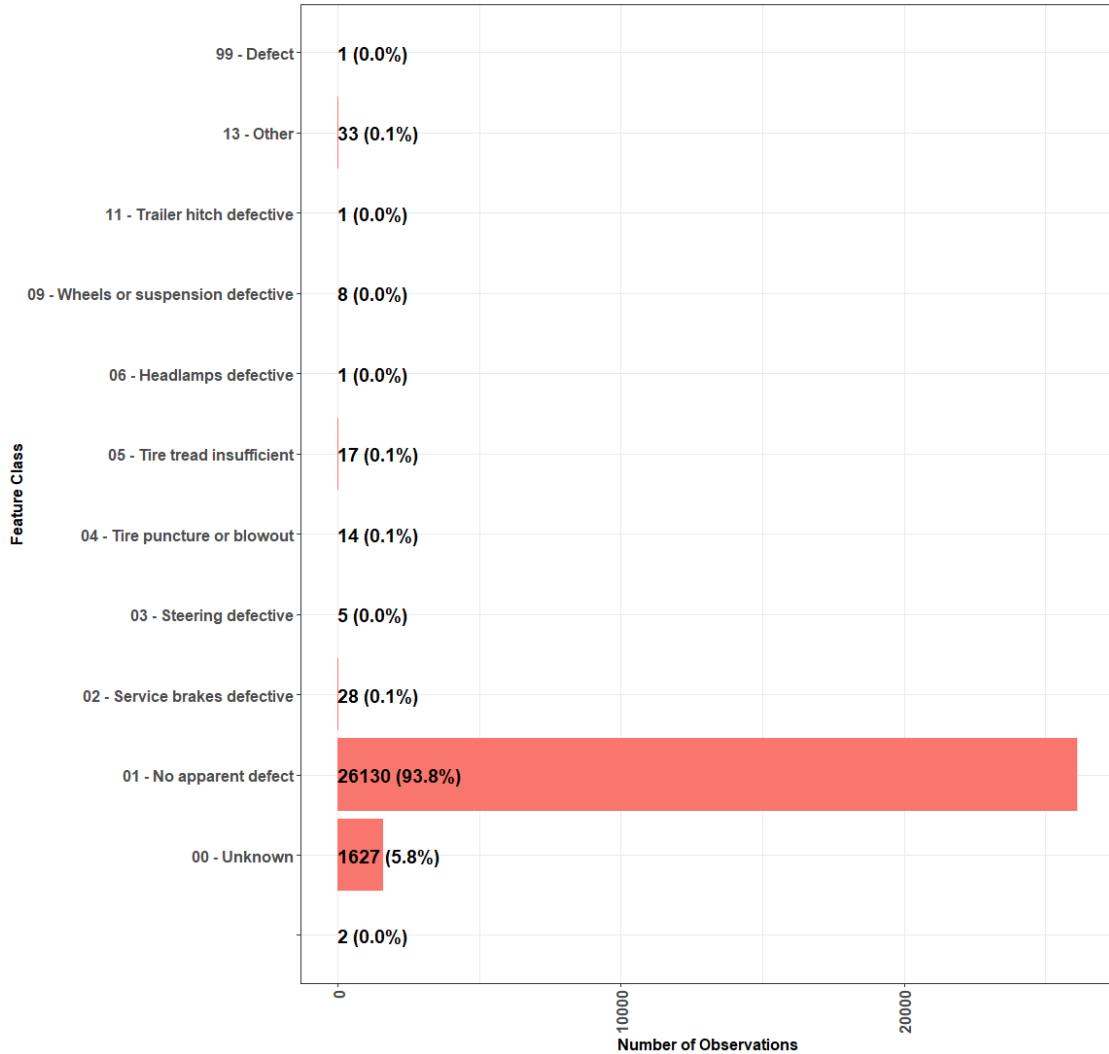
```
## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 10
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 1469 5.3825
## 01 - No apparent defect 25704 94.1814
## 02 - Service brakes defective 28 0.1026
## 03 - Steering defective 4 0.0147
## 04 - Tire puncture or blowout 14 0.0513
## 05 - Tire tread insufficient 14 0.0513
## 08 - Engine controls defective 2 0.0073
## 09 - Wheels or suspension defective 23 0.0843
## 11 - Trailer hitch defective 7 0.0256
## 13 - Other 27 0.0989
```



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_CONDITION  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:2  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 12  
##  
## TOP 100 FEATURES OF VEHICLE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

##		2	0.0072
## 00 - Unknown		1627	5.8384
## 01 - No apparent defect		26130	93.7668
## 02 - Service brakes defective		28	0.1005
## 03 - Steering defective		5	0.0179
## 04 - Tire puncture or blowout		14	0.0502
## 05 - Tire tread insufficient		17	0.0610
## 06 - Headlamps defective		1	0.0036
## 09 - Wheels or suspension defective		8	0.0287
## 11 - Trailer hitch defective		1	0.0036
## 13 - Other		33	0.1184
## 99 - Defect		1	0.0036

**Plot of Feature:VEHICLE_CONDITION
Data:All 2015.csv**



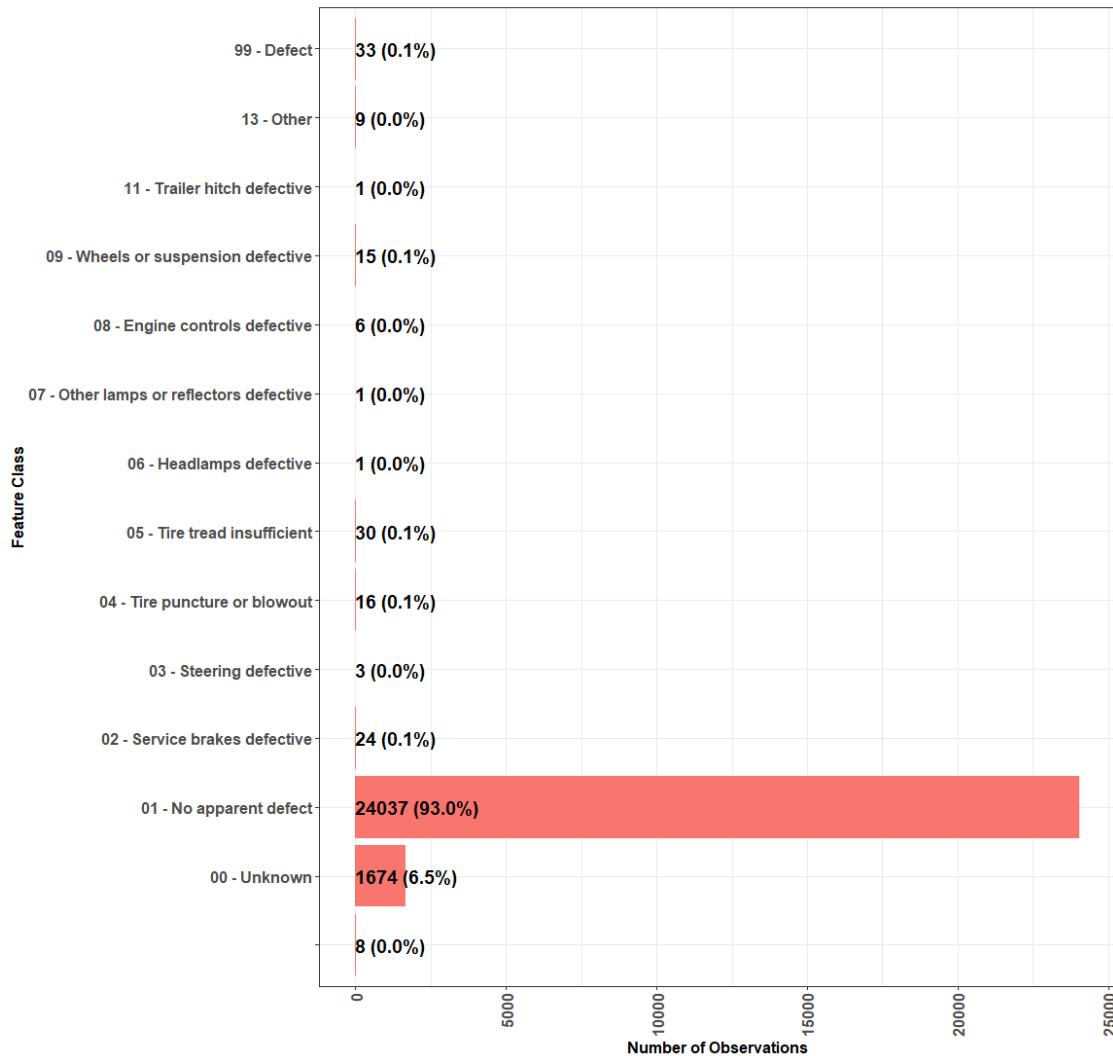
```
##  
## -----
```

```

## CHECKING FEATURE:VEHICLE_CONDITION
## DATA:All 2016.csv...
##
## Number of Blank Values:8
##
## Summary as Factor Feature:
##
## Number of Features: 14
##
## TOP 100 FEATURES OF VEHICLE_CONDITION
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 8 0.0309
## 01 - No apparent defect 1674 6.4738
## 01 - No apparent defect 24037 92.9577
## 02 - Service brakes defective 24 0.0928
## 03 - Steering defective 3 0.0116
## 04 - Tire puncture or blowout 16 0.0619
## 05 - Tire tread insufficient 30 0.1160
## 06 - Headlamps defective 1 0.0039
## 07 - Other lamps or reflectors defective 1 0.0039
## 08 - Engine controls defective 6 0.0232
## 09 - Wheels or suspension defective 15 0.0580
## 11 - Trailer hitch defective 1 0.0039
## 13 - Other 9 0.0348
## 99 - Defect 33 0.1276

```

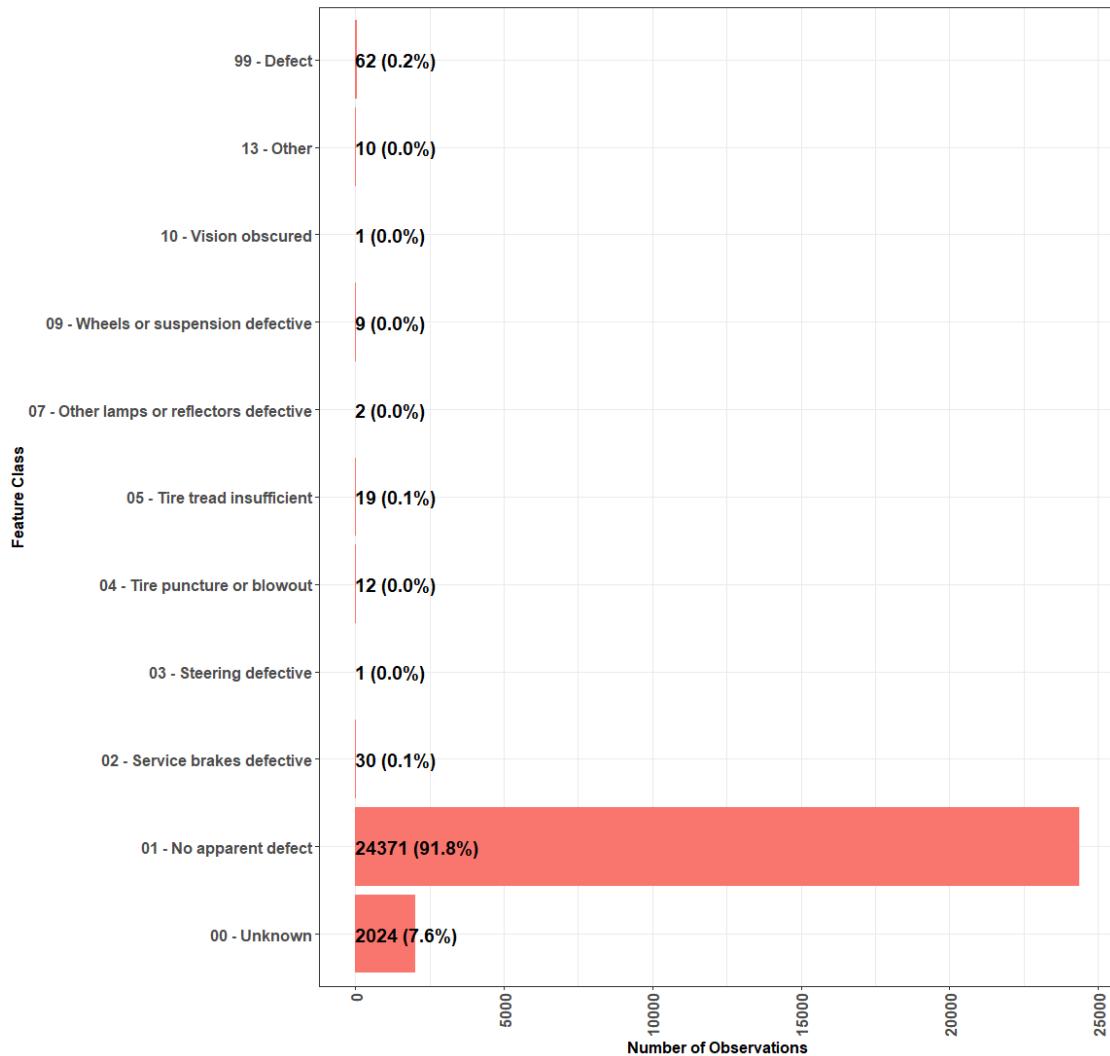
**Plot of Feature:VEHICLE_CONDITION
Data>All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_CONDITION  
## DATA>All 2017.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 11  
##  
## TOP 100 FEATURES OF VEHICLE_CONDITION  
##  
## Feature Value Counter Percentage  
## -----
```

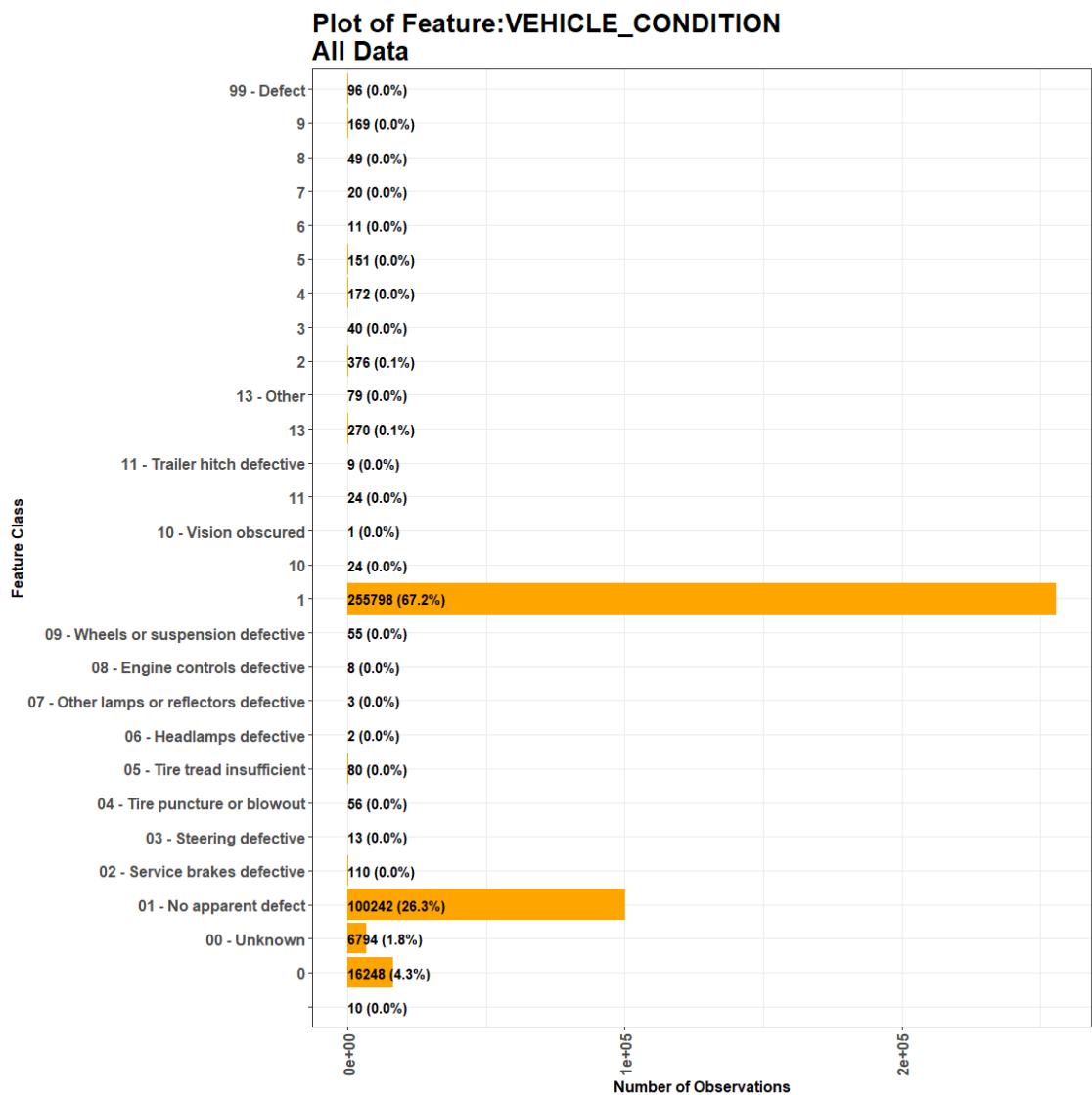
## 00 - Unknown	2024	7.6259
## 01 - No apparent defect	24371	91.8240
## 02 - Service brakes defective	30	0.1130
## 03 - Steering defective	1	0.0038
## 04 - Tire puncture or blowout	12	0.0452
## 05 - Tire tread insufficient	19	0.0716
## 07 - Other lamps or reflectors defective	2	0.0075
## 09 - Wheels or suspension defective	9	0.0339
## 10 - Vision obscured	1	0.0038
## 13 - Other	10	0.0377
## 99 - Defect	62	0.2336

**Plot of Feature:VEHICLE_CONDITION
Data>All 2017.csv**



```
##
## =====
## FINAL INFO CHECKING FEATURE:VEHICLE_CONDITION
```

```
## ALL DATA...
## =====
##
## Number of Blank Values:10
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## Summary as Factor Feature:
## Number of Features: 28
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:VEHICLE_CONDITION"
```

Feature Value	Counter	Percentage
10	10	0.0026
0	16248	4.2656
00 - Unknown	6794	1.7836
01 - No apparent defect	100242	26.3165
02 - Service brakes defective	110	0.0289
03 - Steering defective	13	0.0034
04 - Tire puncture or blowout	56	0.0147
05 - Tire tread insufficient	80	0.0210
06 - Headlamps defective	2	0.0005

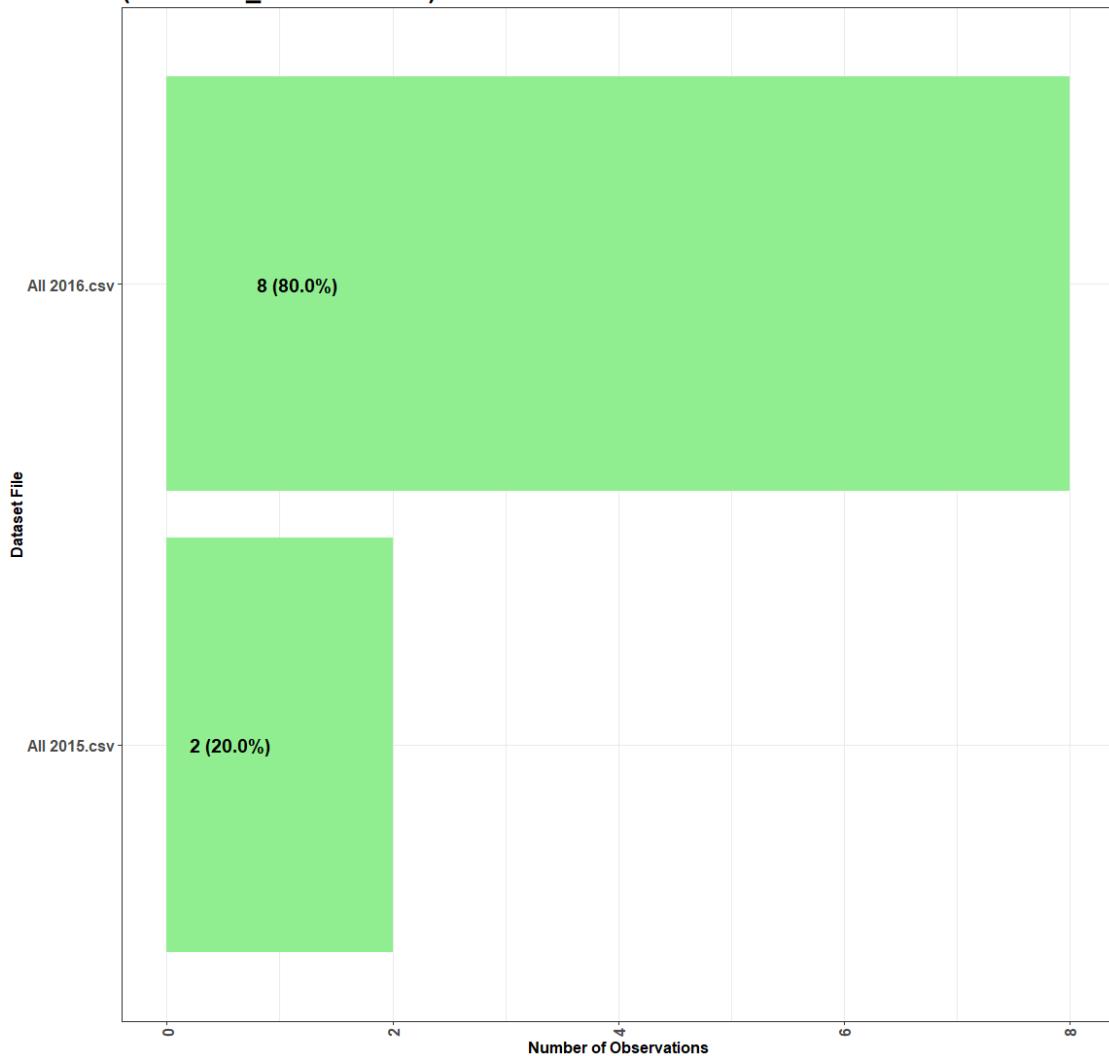


07 - Other lamps or reflectors defective	3	0.0008
08 - Engine controls defective	8	0.0021
09 - Wheels or suspension defective	55	0.0144
1	255798	67.1544
10	24	0.0063
10 - Vision obscured	1	0.0003
11	24	0.0063
11 - Trailer hitch defective	9	0.0024
13	270	0.0709
13 - Other	79	0.0207
2	376	0.0987
3	40	0.0105
4	172	0.0452
5	151	0.0396
6	11	0.0029
7	20	0.0053
8	49	0.0129
9	169	0.0444
99 - Defect	96	0.0252

24.1 VEHICLE_CONDITION = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=)  
##  
## Summary per Data File:  
## All 2015.csv All 2016.csv  
##          2          8
```

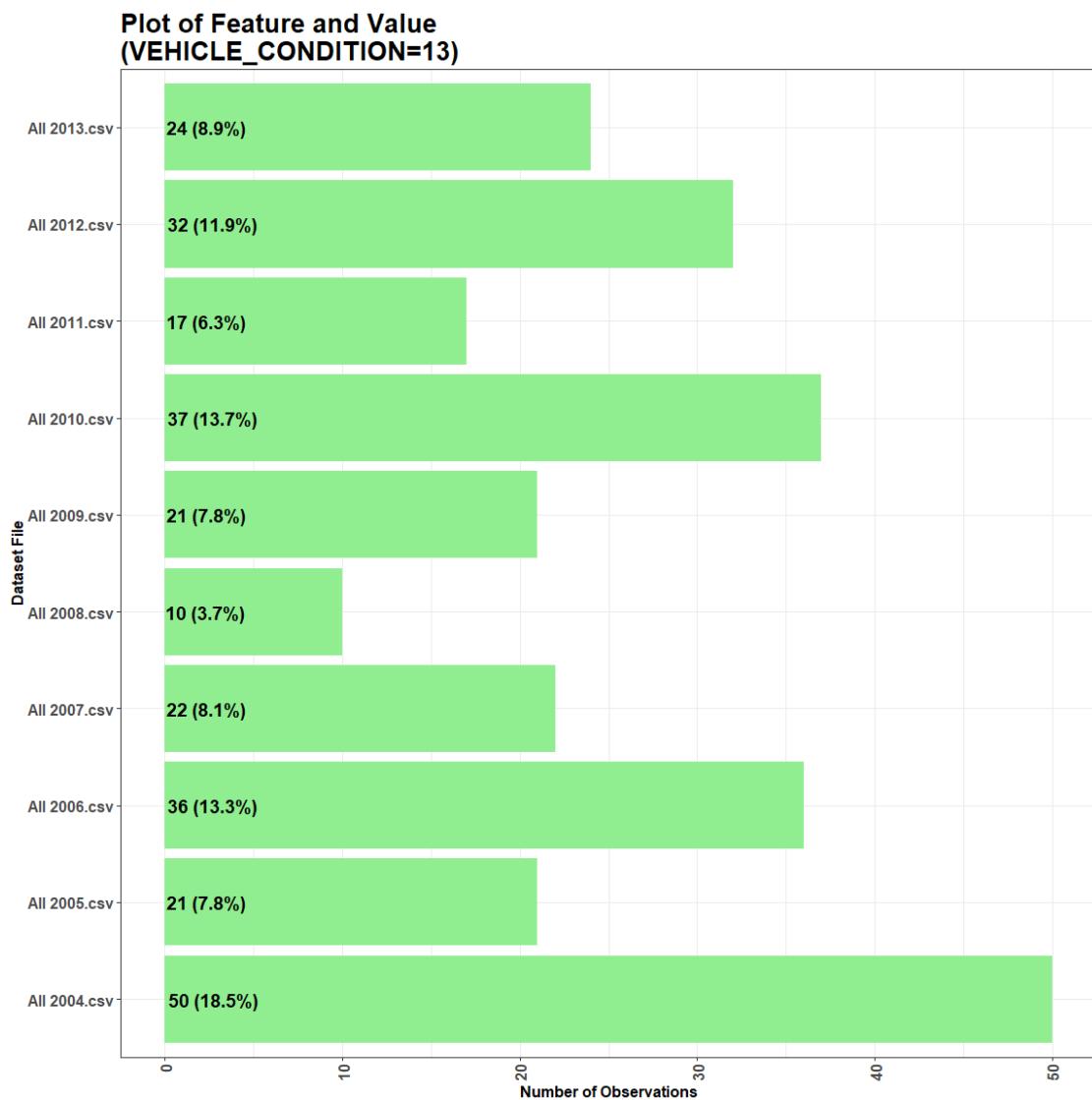
**Plot of Feature and Value
(VEHICLE_CONDITION=)**



DATASET FILE	COUNTER OF (VEHICLE_CONDITION=)	Percentage
All 2015.csv	2	20
All 2016.csv	8	80

24.2 VEHICLE_CONDITION = "13"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=13)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      50      21      36      22      10  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      21      37      17      32      24
```

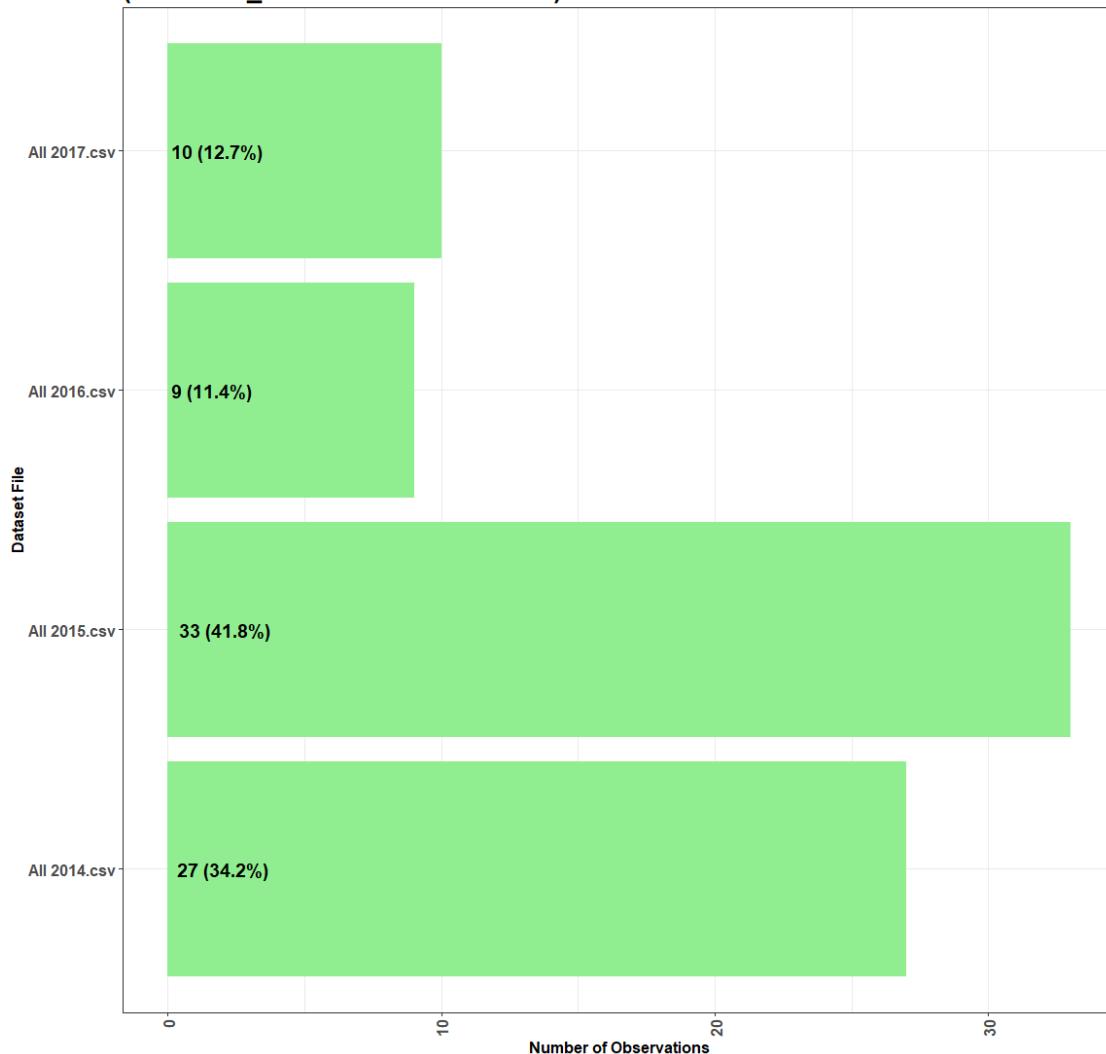


DATASET FILE	COUNTER OF (VEHICLE_CONDITION=13)	Percentage
All 2004.csv	50	18.518
All 2005.csv	21	7.778
All 2006.csv	36	13.333
All 2007.csv	22	8.148
All 2008.csv	10	3.704
All 2009.csv	21	7.778
All 2010.csv	37	13.704
All 2011.csv	17	6.296
All 2012.csv	32	11.852
All 2013.csv	24	8.889

24.3 VEHICLE_CONDITION = “13 - Other”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=13 - Other)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          27           33            9           10
```

**Plot of Feature and Value
(VEHICLE_CONDITION=13 - Other)**

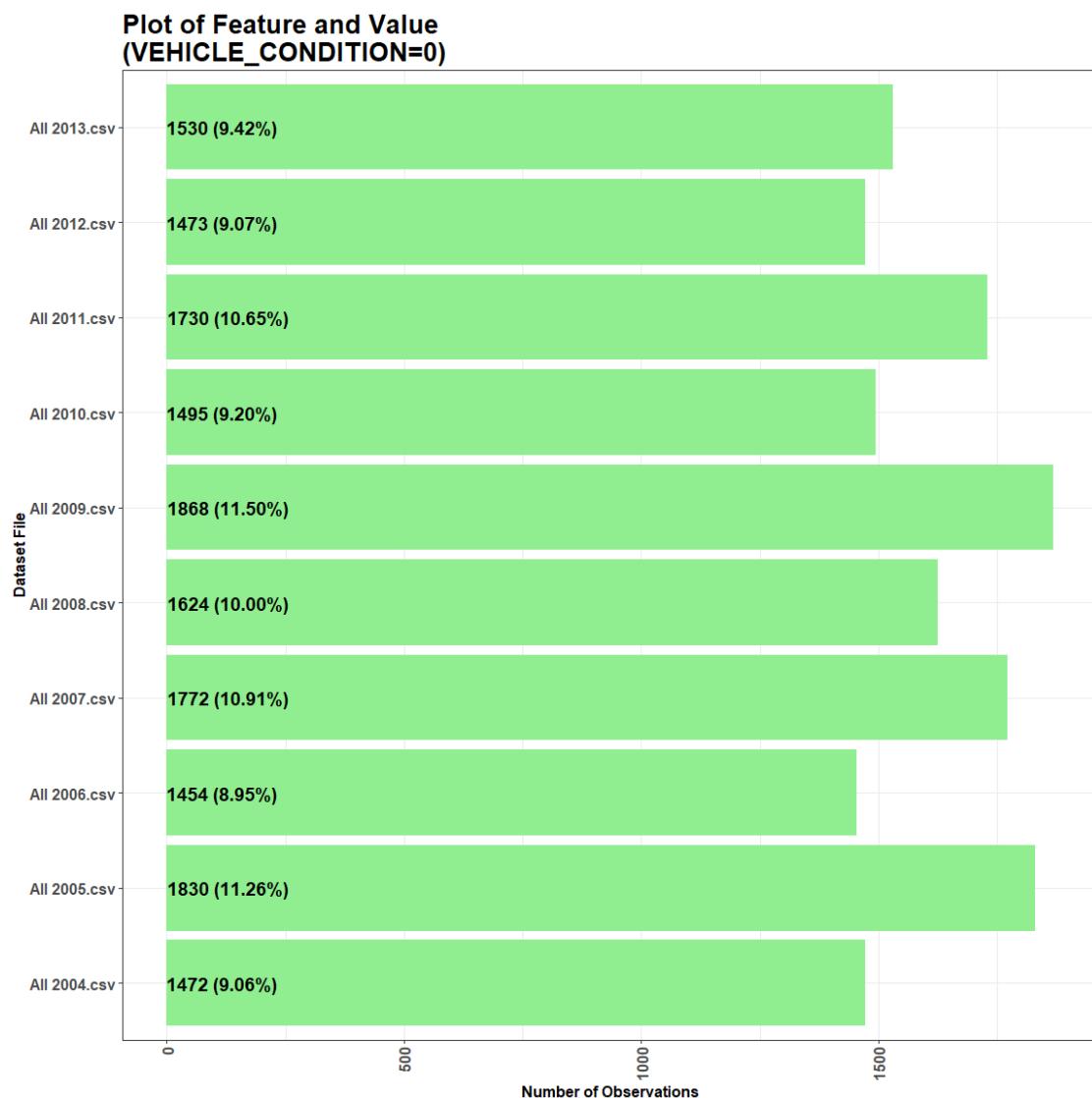


DATASET FILE	COUNTER OF (VEHICLE_CONDITION=13 - Other)	Percentage
All 2014.csv	27	34.18
All 2015.csv	33	41.77
All 2016.csv	9	11.39

All 2017.csv 10 12.66

24.4 VEHICLE_CONDITION = "0"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 1472 1830 1454 1772 1624  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 1868 1495 1730 1473 1530
```

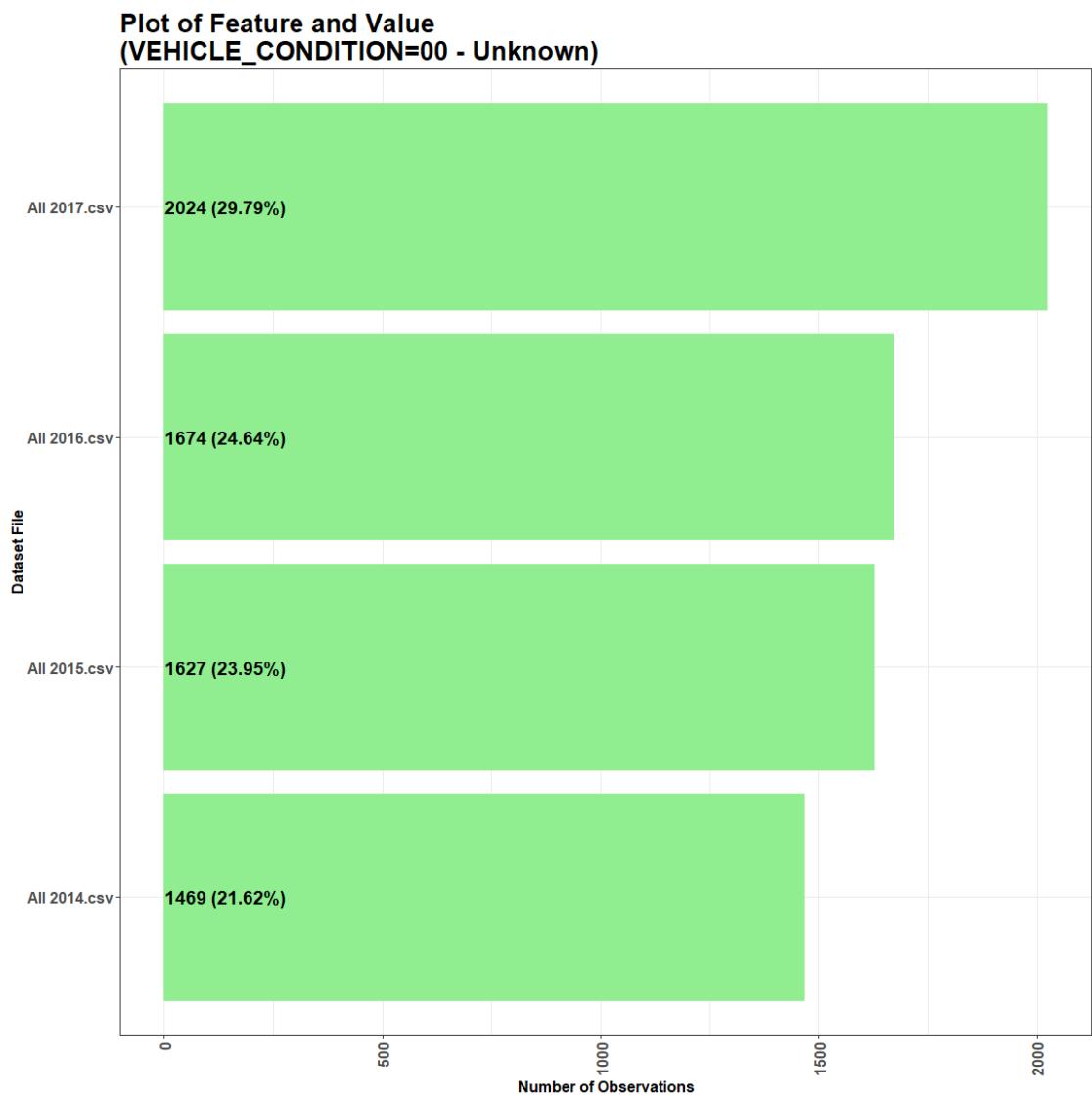


DATASET FILE COUNTER OF (VEHICLE_CONDITION=0) Percentage

All 2004.csv	1472	9.060
All 2005.csv	1830	11.263
All 2006.csv	1454	8.949
All 2007.csv	1772	10.906
All 2008.csv	1624	9.995
All 2009.csv	1868	11.497
All 2010.csv	1495	9.201
All 2011.csv	1730	10.648
All 2012.csv	1473	9.066
All 2013.csv	1530	9.416

24.5 VEHICLE_CONDITION = “00 - Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      1469      1627      1674      2024
```

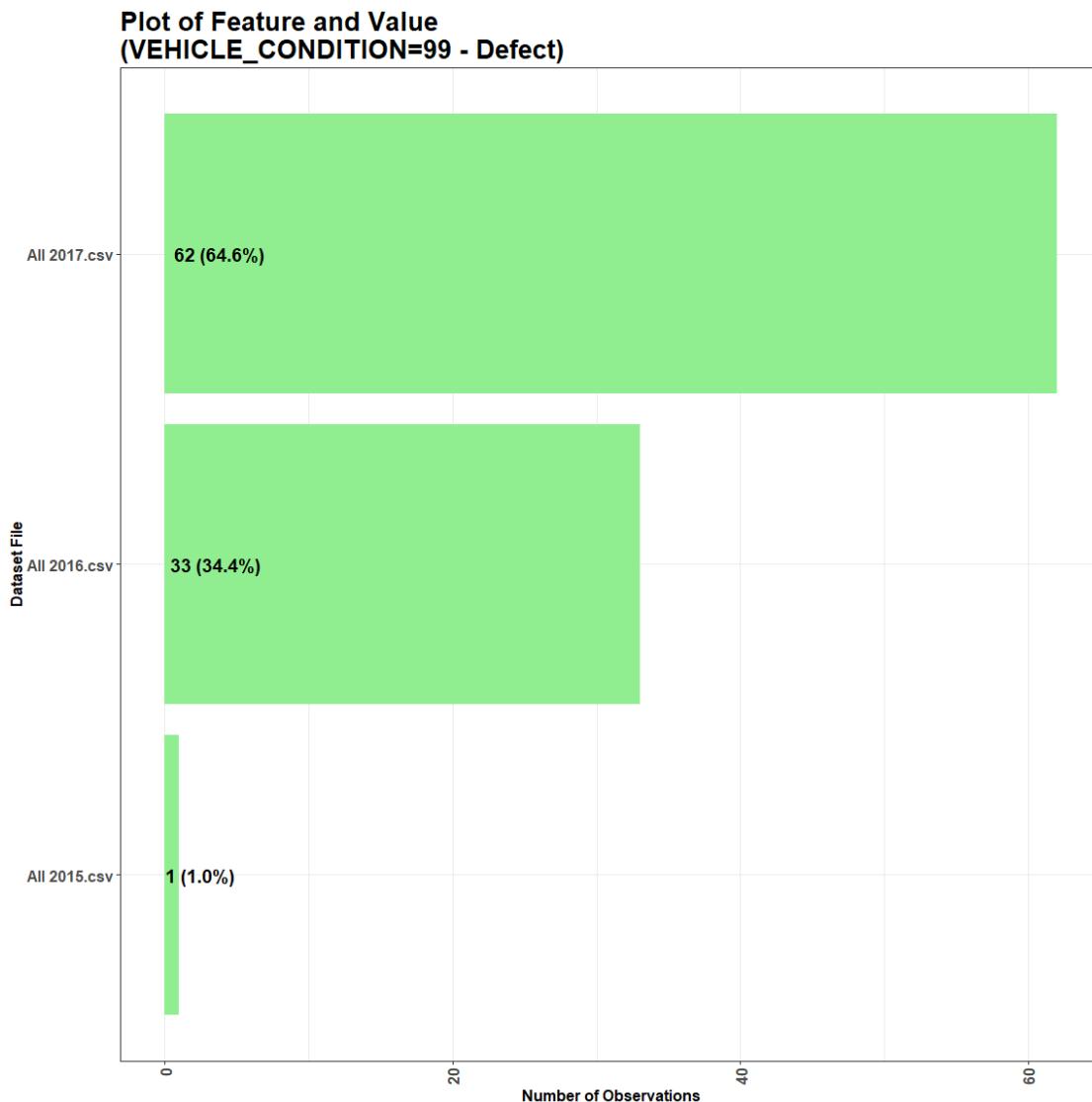


DATASET FILE	COUNTER OF (VEHICLE_CONDITION=00 - Unknown)	Percentage
All 2014.csv	1469	21.62
All 2015.csv	1627	23.95
All 2016.csv	1674	24.64
All 2017.csv	2024	29.79

24.6 VEHICLE_CONDITION = "99 - Defect"

```
##  
## ======  
## CHECKING FEATURE AND VALUE (VEHICLE_CONDITION=99 - Defect)  
##  
## Summary per Data File:
```

```
## All 2015.csv All 2016.csv All 2017.csv
##           1          33         62
```



DATASET FILE	COUNTER OF (VEHICLE_CONDITION=99 - Defect)	Percentage
All 2015.csv	1	1.042
All 2016.csv	33	34.375
All 2017.csv	62	64.583

25. Vehicle Damage (VEHICLE_DAMAGE)

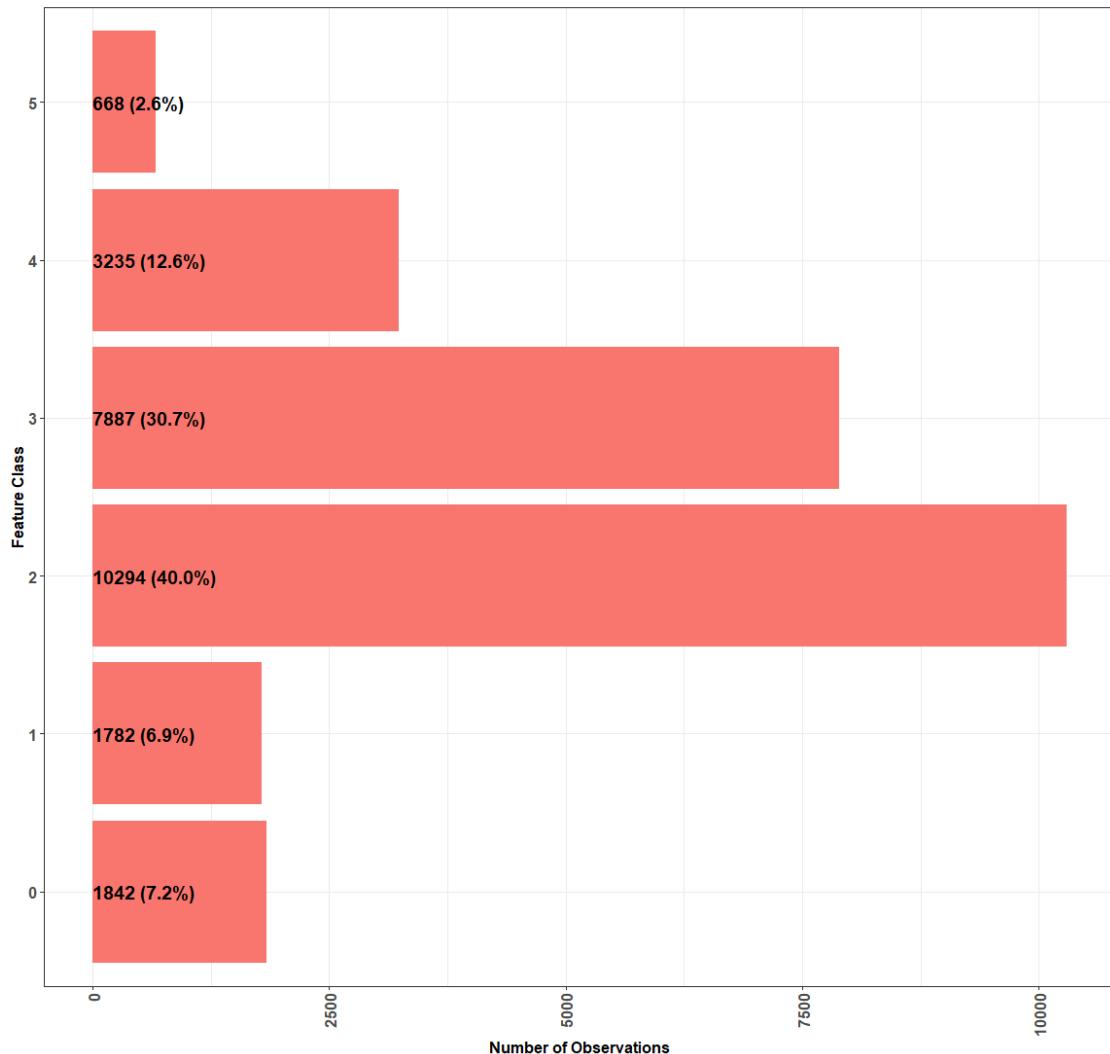
```
##
## -----
## CHECKING FEATURE: VEHICLE_DAMAGE
```



```
## DATA:All 2004.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 6
##
## TOP 100 FEATURES OF VEHICLE_DAMAGE
##
## Feature Value      Counter      Percentage
## ----- -----
## 0                  1842        7.165
## 1                  1782        6.932
## 2                  10294       40.042
## 3                  7887        30.679
## 4                  3235        12.584
## 5                  668         2.598
```

Plot of Feature:VEHICLE_DAMAGE

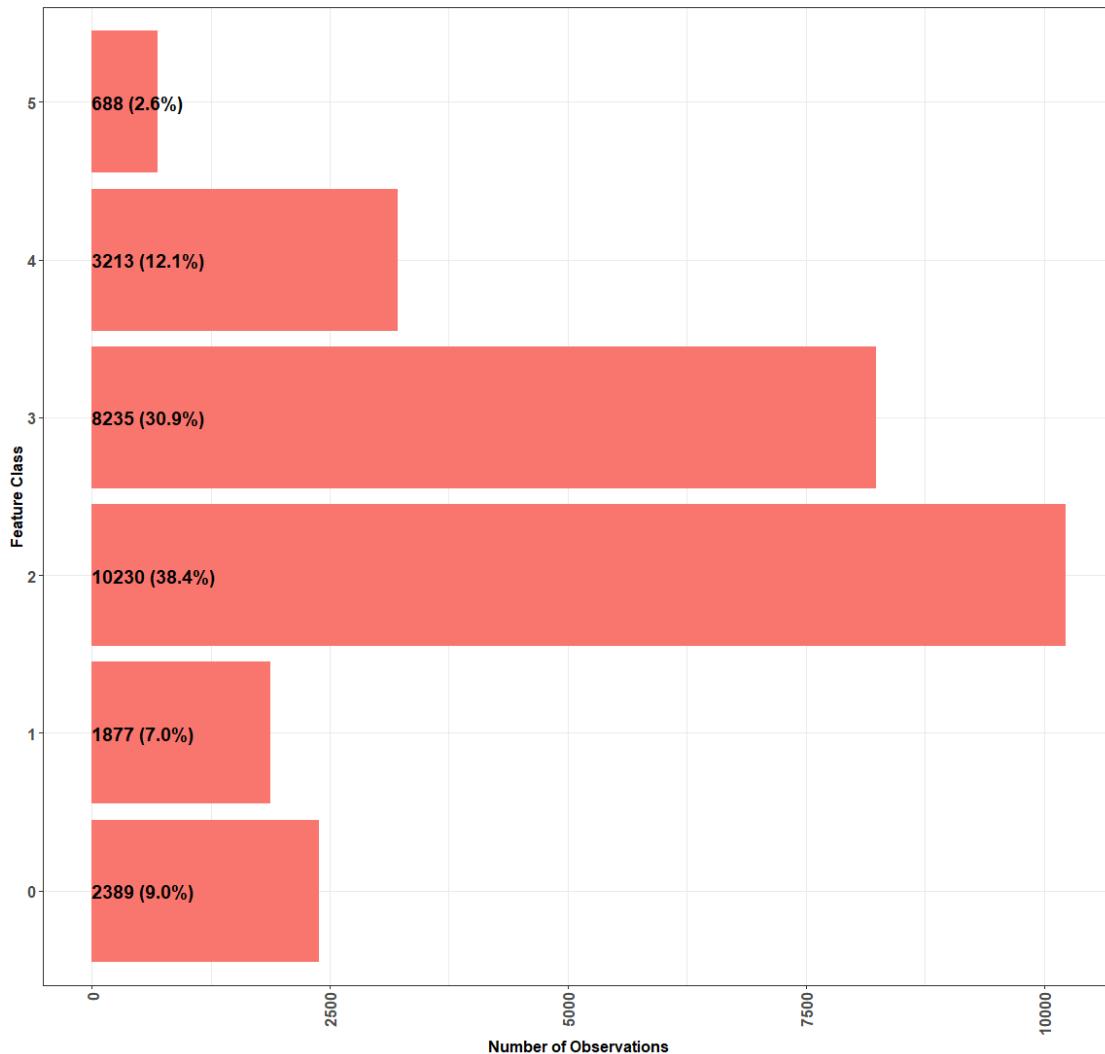
Data:All 2004.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	2389	8.970
## 1	1877	7.048
## 2	10230	38.412
## 3	8235	30.921
## 4	3213	12.064
## 5	688	2.583

Plot of Feature:VEHICLE_DAMAGE
 Data:All 2005.csv

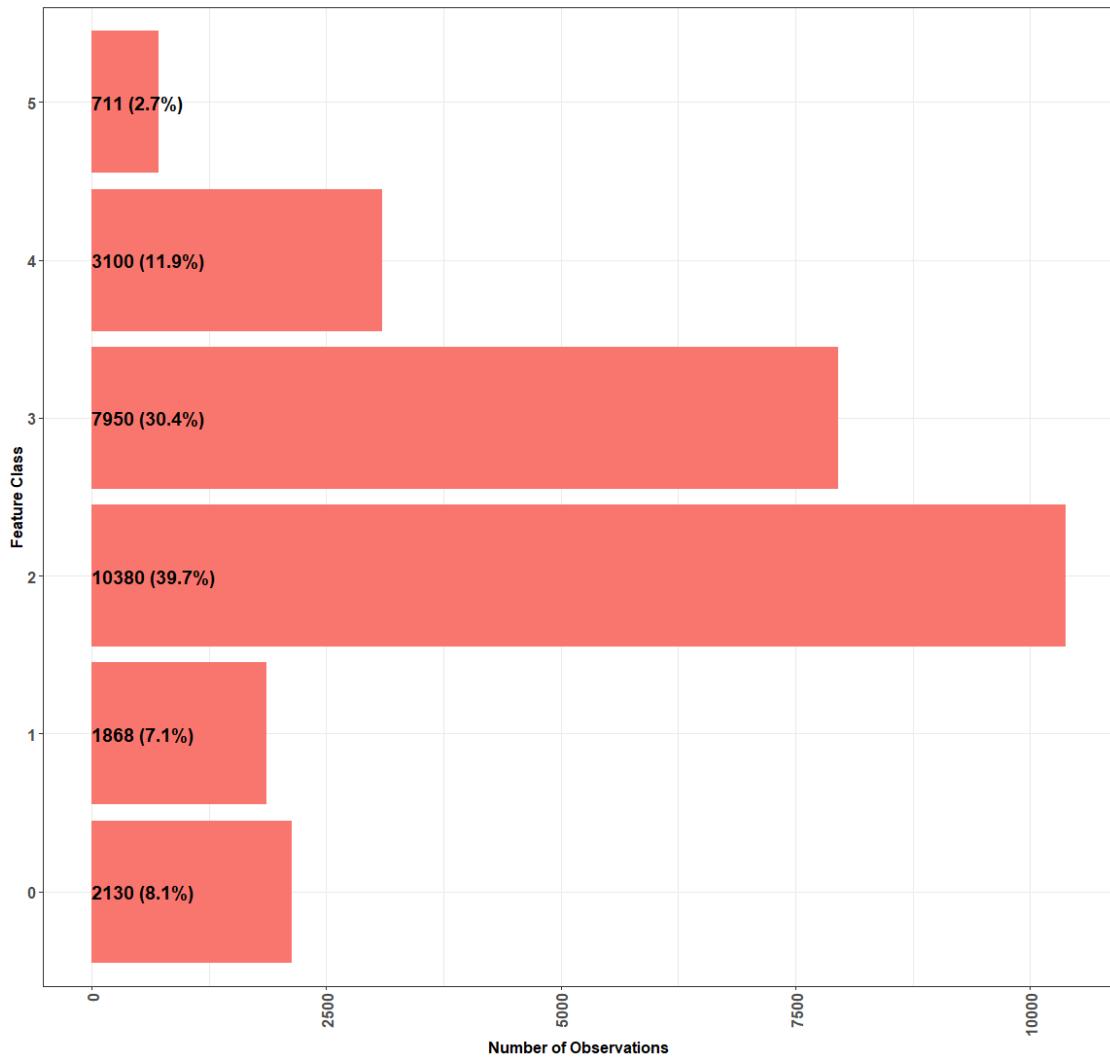


```
##
## -----
## CHECKING FEATURE:VEHICLE_DAMAGE
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF VEHICLE_DAMAGE
## Feature Value Counter Percentage
## -----
## 0 2130 8.149
## 1 1868 7.146
## 2 10380 39.711
## 3 7950 30.414
## 4 3100 11.860
## 5 711 2.720
```

Plot of Feature:VEHICLE_DAMAGE

Data:All 2006.csv

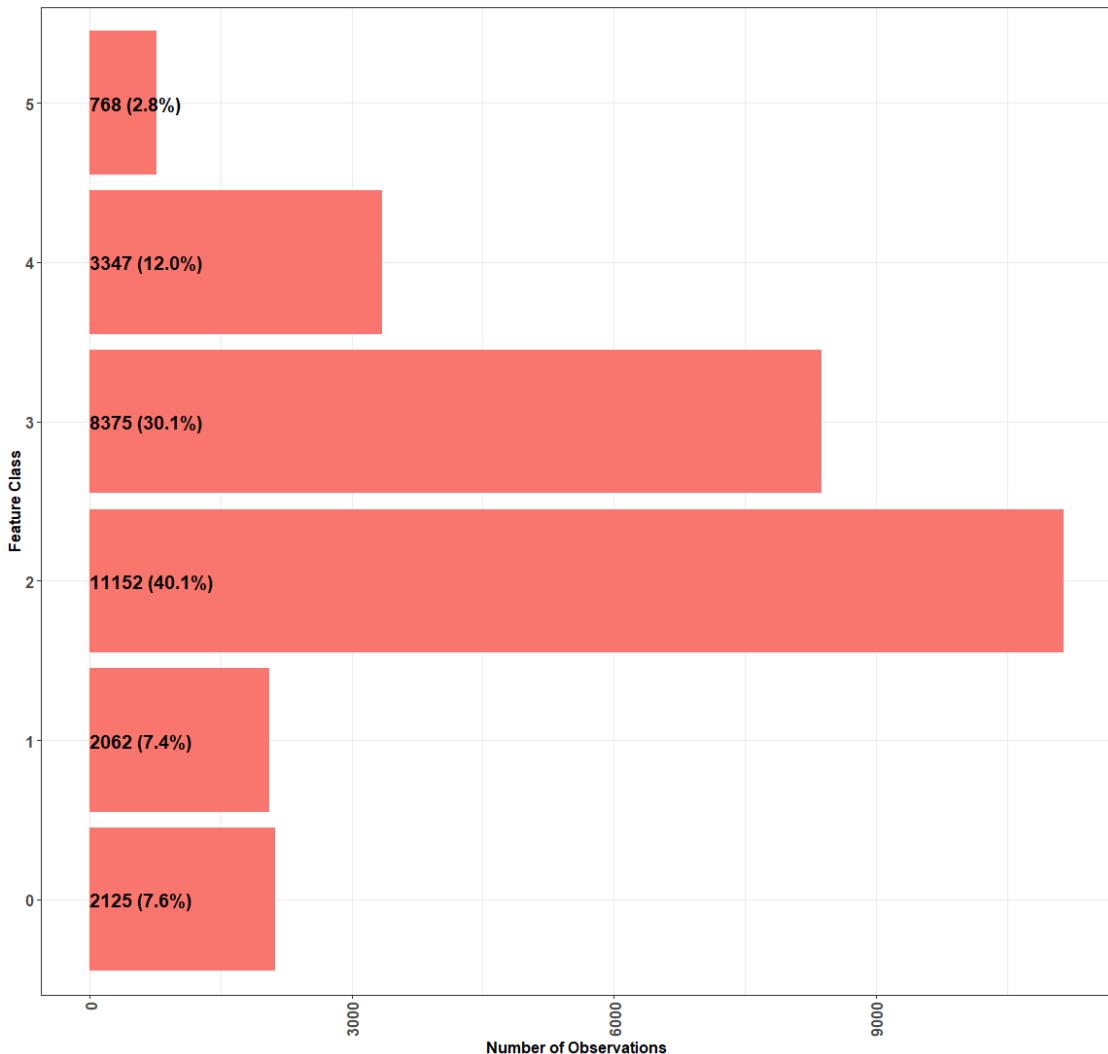




```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2125 7.636  
## 1 2062 7.410  
## 2 11152 40.073  
## 3 8375 30.095  
## 4 3347 12.027  
## 5 768 2.760
```

Plot of Feature:VEHICLE_DAMAGE

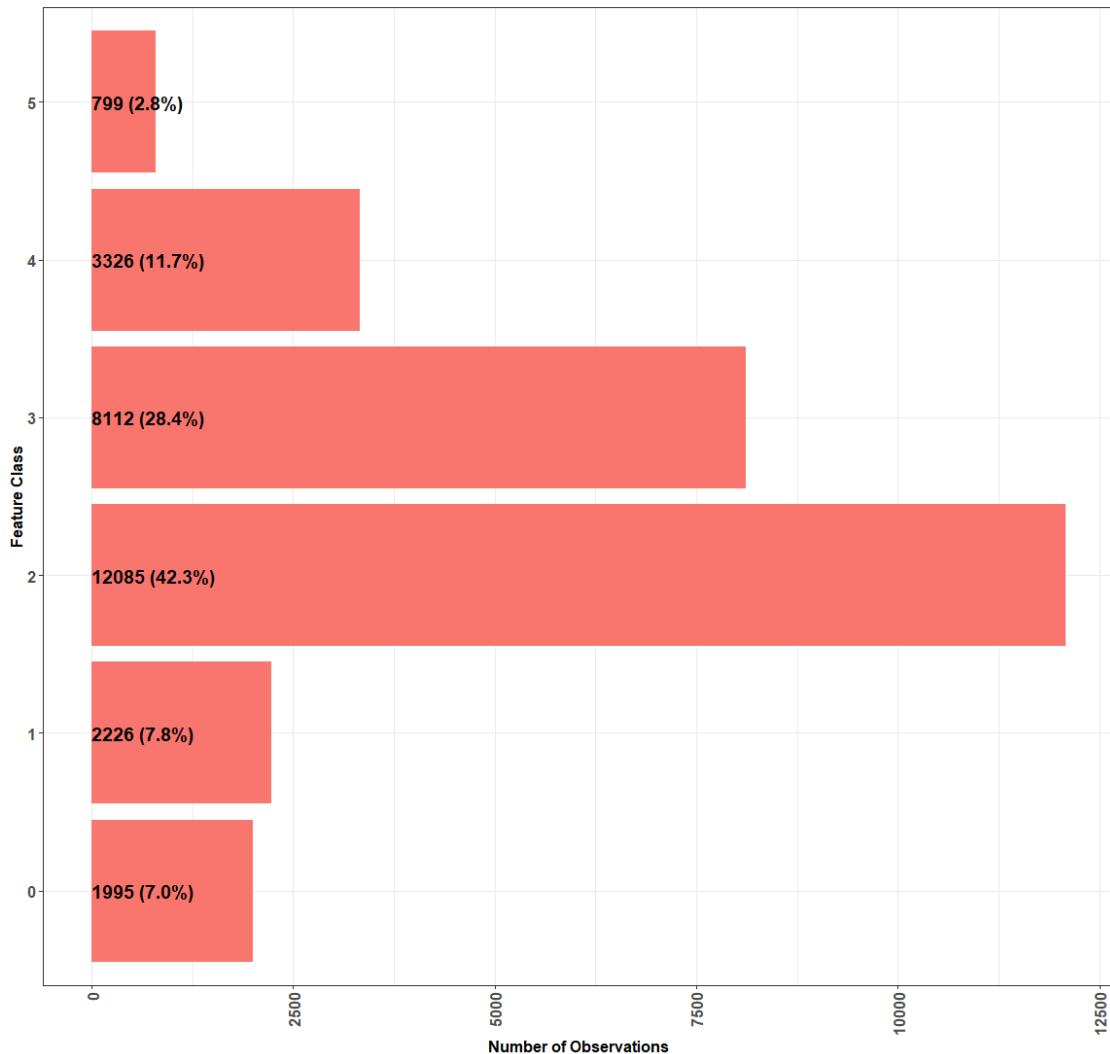
Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	1995	6.989
## 1	2226	7.799
## 2	12085	42.340
## 3	8112	28.420
## 4	3326	11.653
## 5	799	2.799

Plot of Feature:VEHICLE_DAMAGE
Data:All 2008.csv

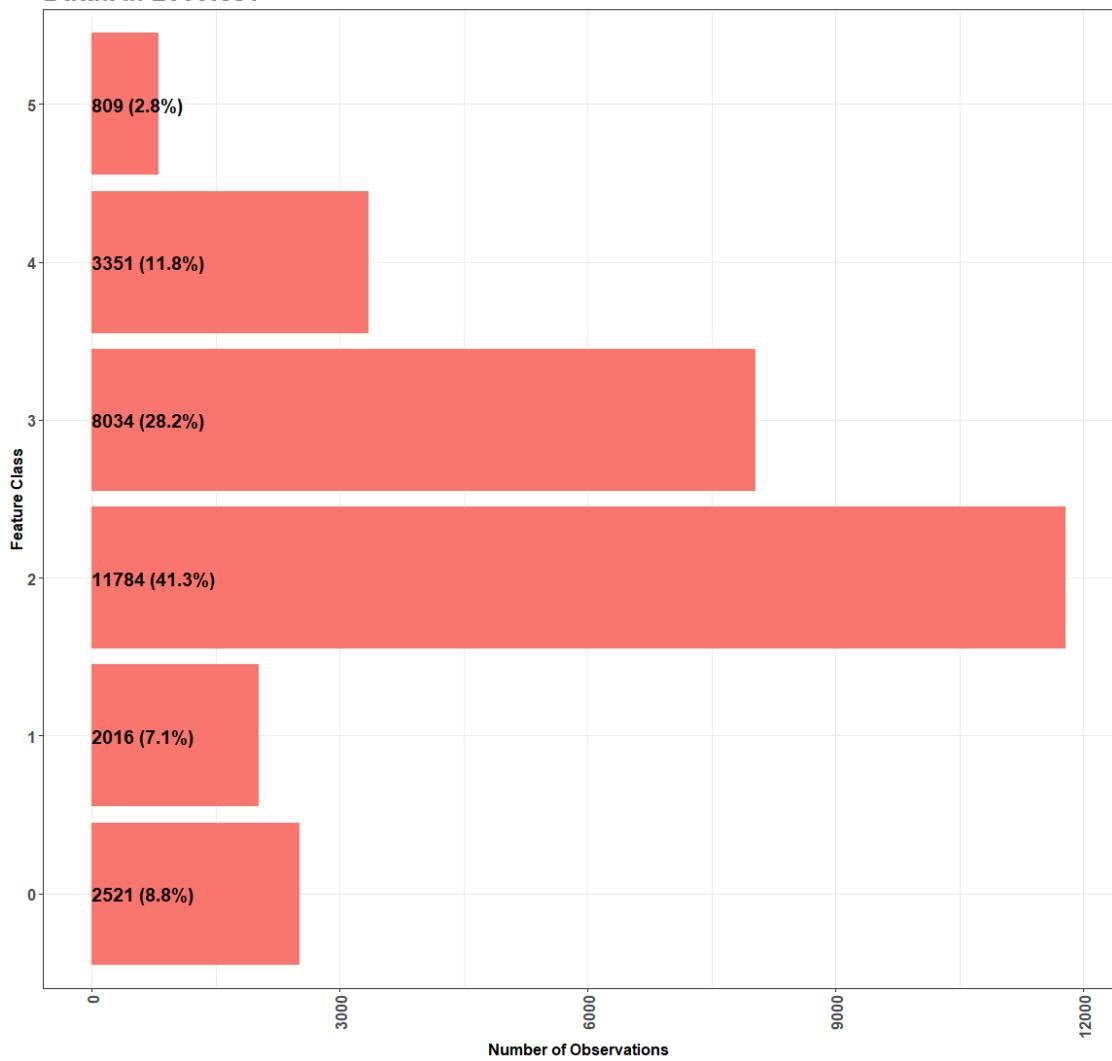


```
##
## -----
## CHECKING FEATURE:VEHICLE_DAMAGE
## DATA:All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF VEHICLE_DAMAGE
## Feature Value Counter Percentage
## -----
## 0 2521 8.841
## 1 2016 7.070
## 2 11784 41.326
## 3 8034 28.175
## 4 3351 11.752
## 5 809 2.837
```

Plot of Feature:VEHICLE_DAMAGE

Data:All 2009.csv

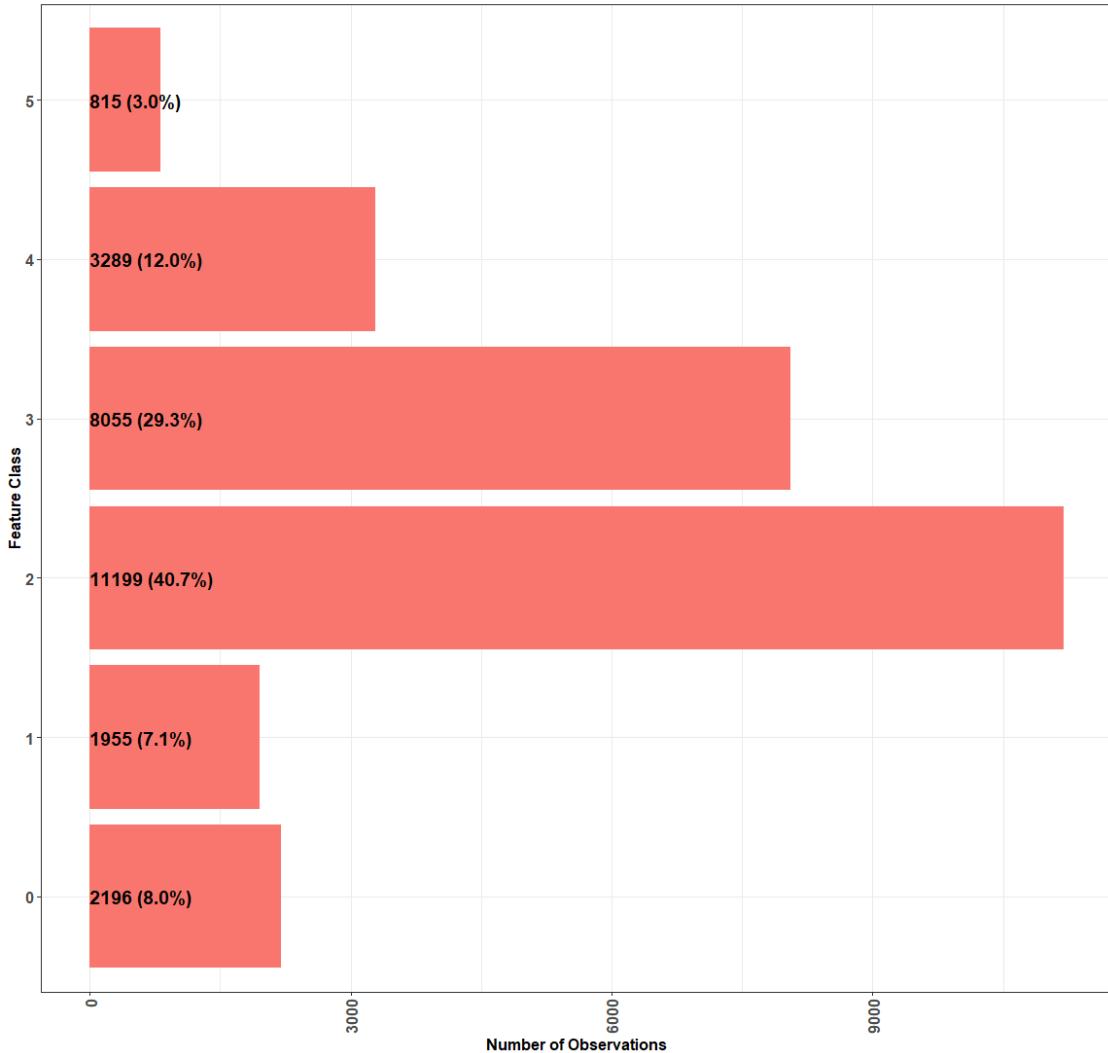




```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 2196 7.983  
## 1 1955 7.107  
## 2 11199 40.710  
## 3 8055 29.281  
## 4 3289 11.956  
## 5 815 2.963
```

Plot of Feature:VEHICLE_DAMAGE

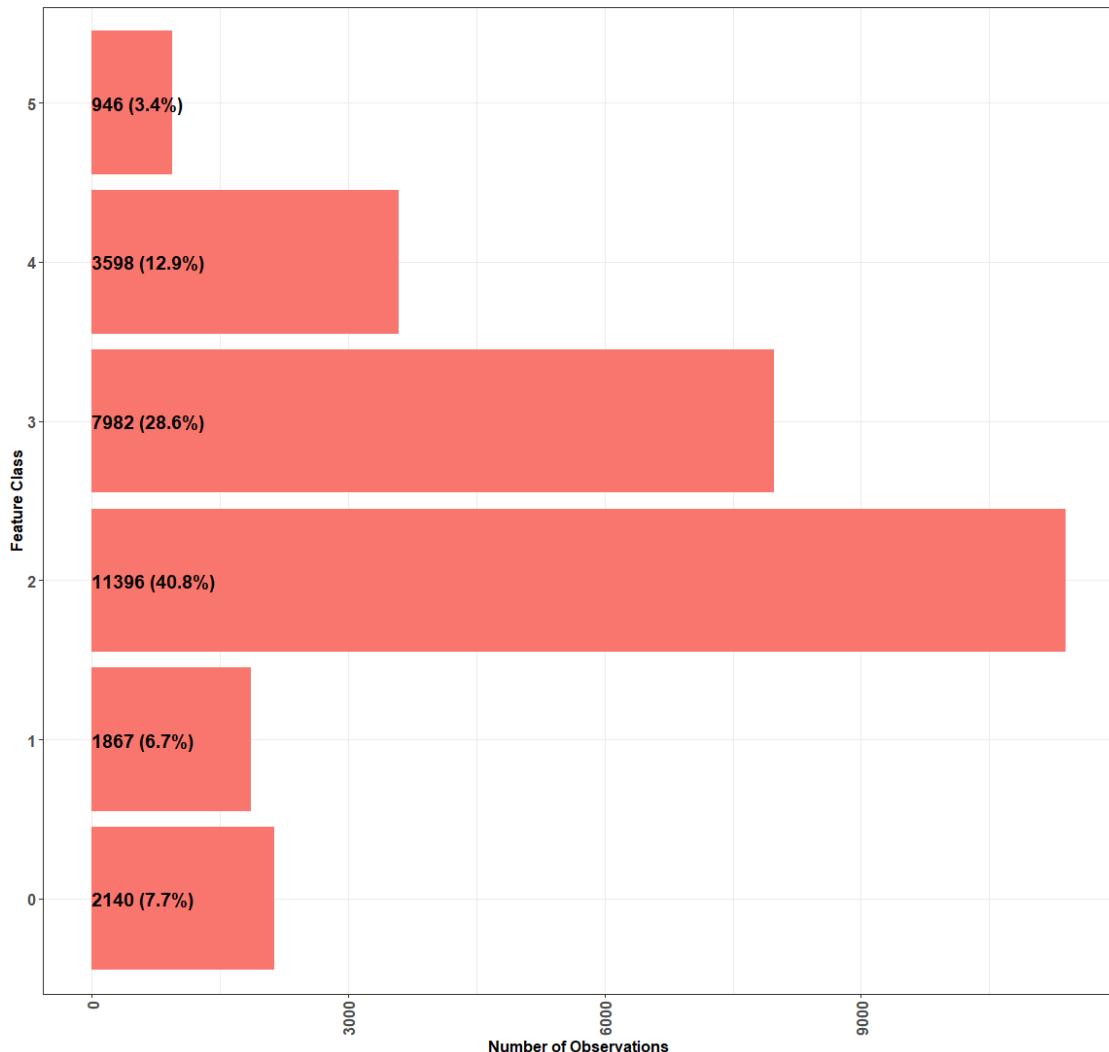
Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----
```

## 0	2140	7.662
## 1	1867	6.685
## 2	11396	40.803
## 3	7982	28.580
## 4	3598	12.883
## 5	946	3.387

Plot of Feature:VEHICLE_DAMAGE
Data:All 2011.csv

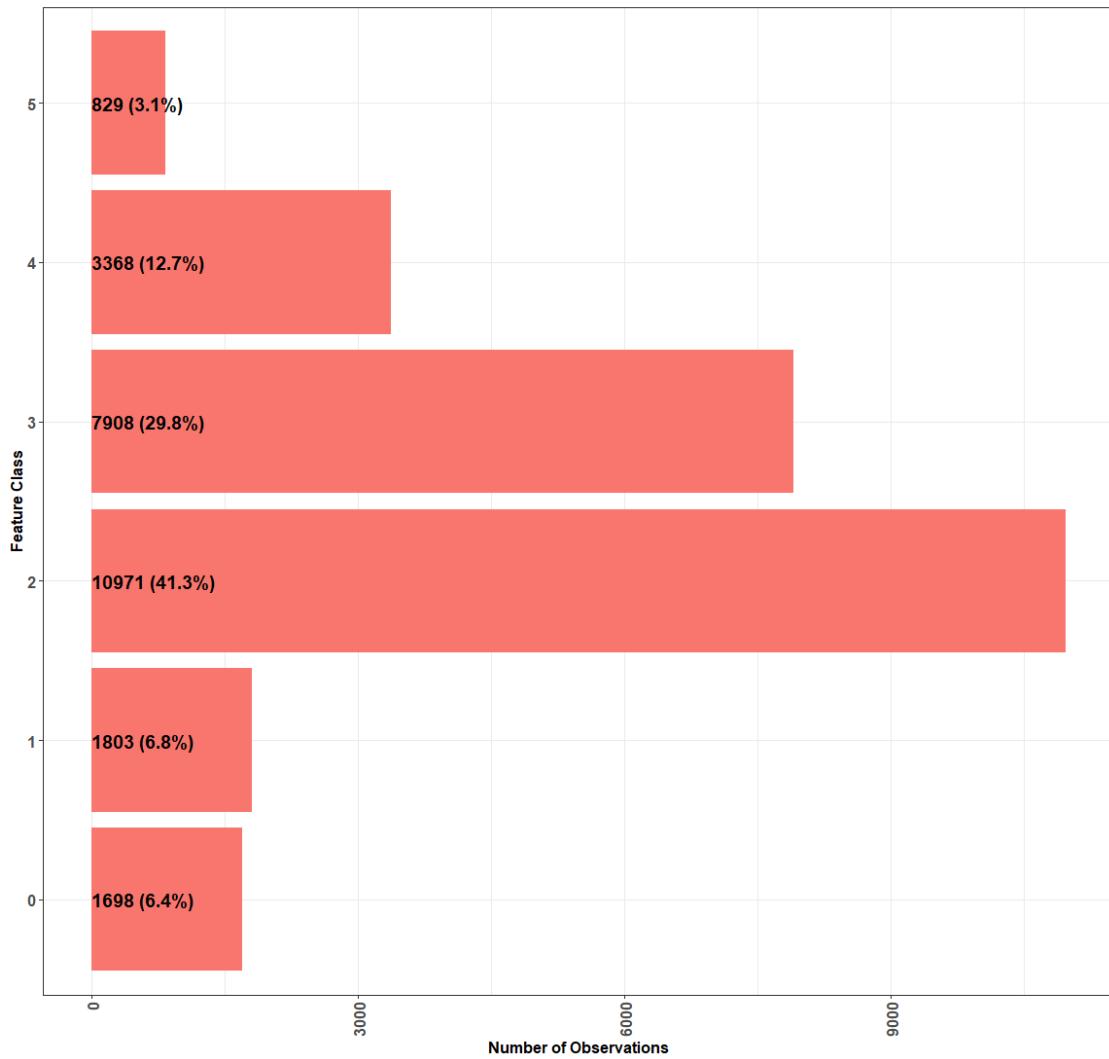


```
##
## -----
## CHECKING FEATURE:VEHICLE_DAMAGE
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
```

```
## Number of Features: 6
## TOP 100 FEATURES OF VEHICLE_DAMAGE
## Feature Value Counter Percentage
## -----
## 0 1698 6.389
## 1 1803 6.784
## 2 10971 41.280
## 3 7908 29.755
## 4 3368 12.673
## 5 829 3.119
```

Plot of Feature:VEHICLE_DAMAGE

Data:All 2012.csv

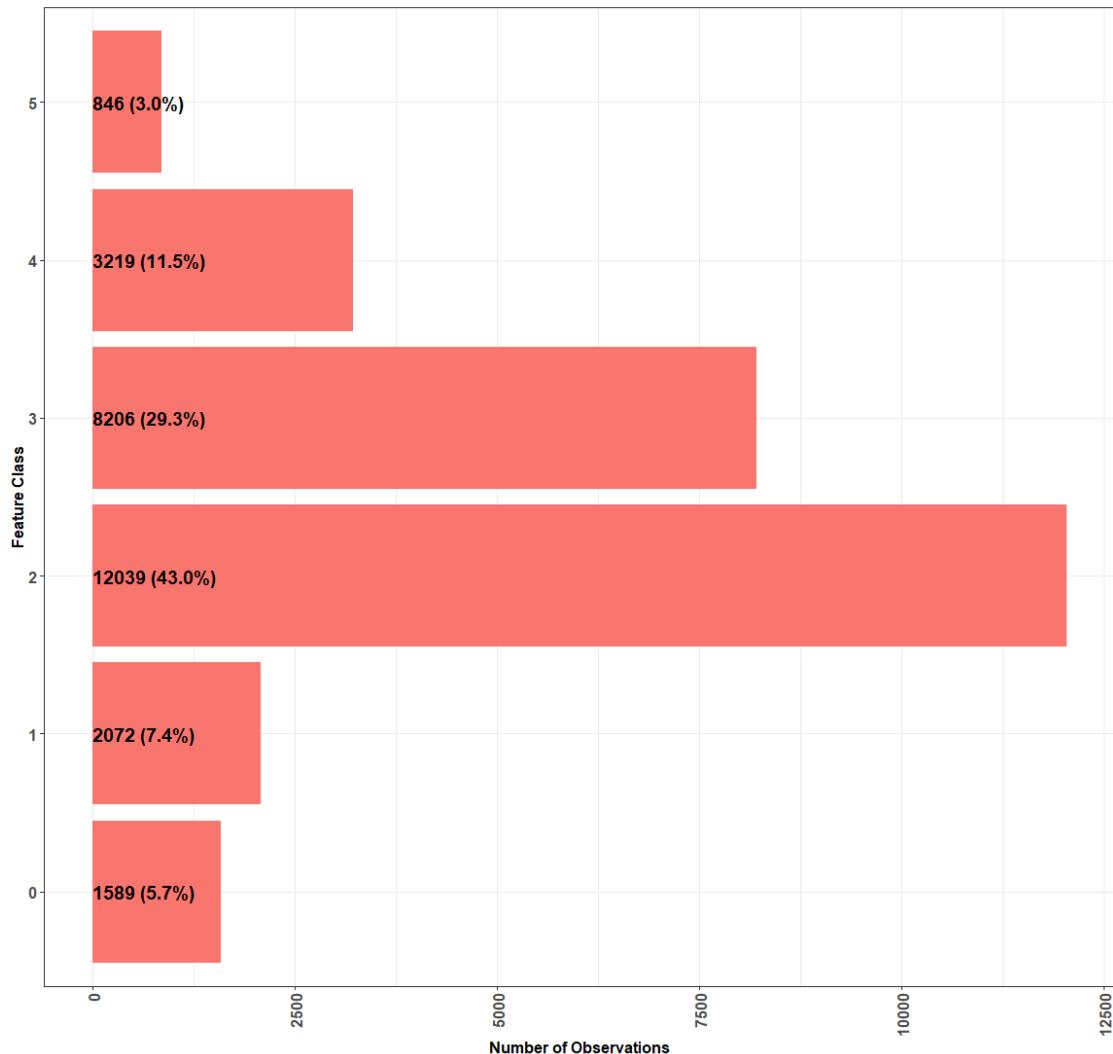




```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 1589 5.681  
## 1 2072 7.408  
## 2 12039 43.041  
## 3 8206 29.337  
## 4 3219 11.508  
## 5 846 3.025
```

Plot of Feature:VEHICLE_DAMAGE

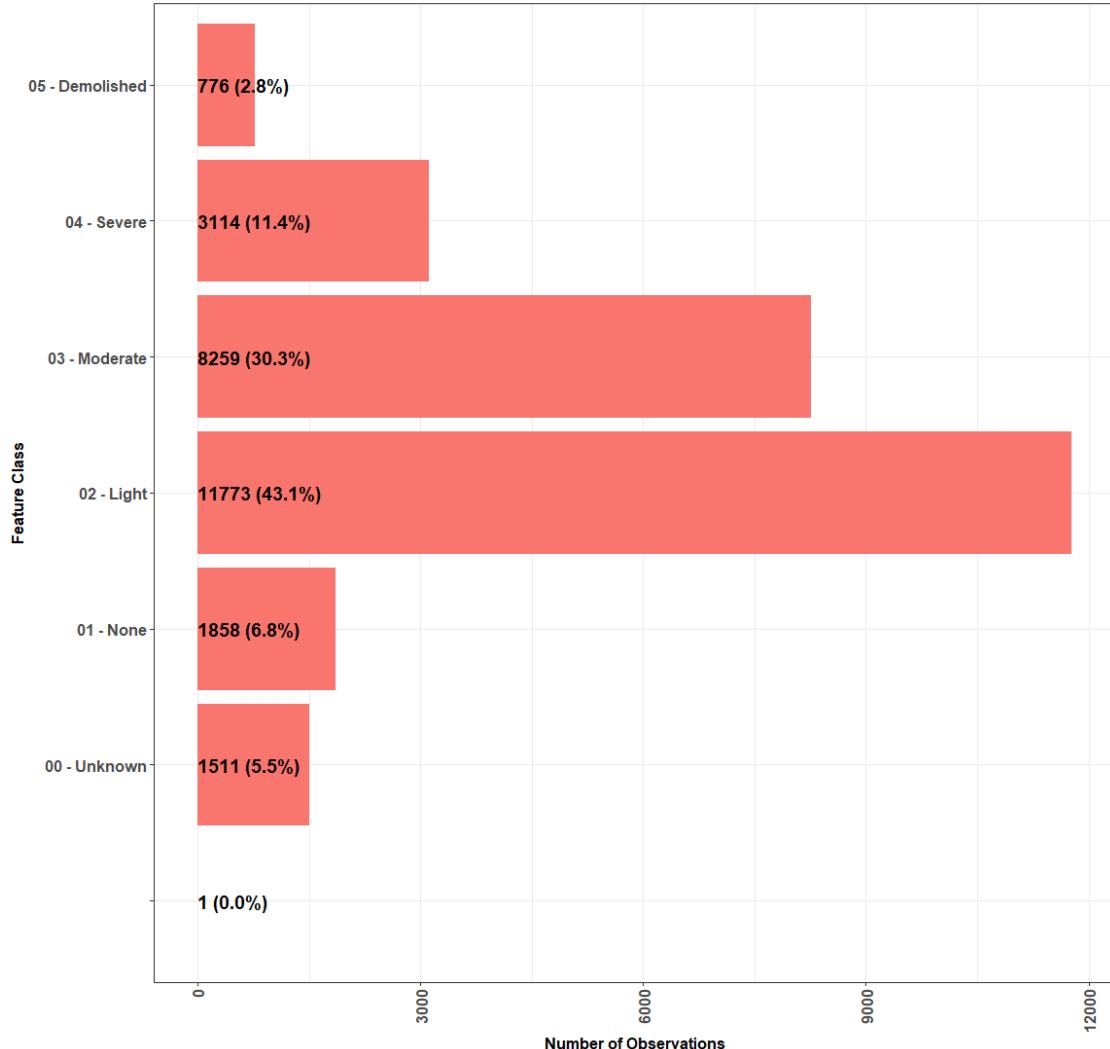
Data:All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:1  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 7  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value      Counter      Percentage  
## -----
```

```
## 1 0.0037
## 00 - Unknown 1511 5.5364
## 01 - None 1858 6.8079
## 02 - Light 11773 43.1372
## 03 - Moderate 8259 30.2616
## 04 - Severe 3114 11.4099
## 05 - Demolished 776 2.8433
```

Plot of Feature:VEHICLE_DAMAGE
Data>All 2014.csv



```
## 
## -----
## CHECKING FEATURE:VEHICLE_DAMAGE
## DATA>All 2015.csv...
## 
## Number of Blank Values:61
##
```

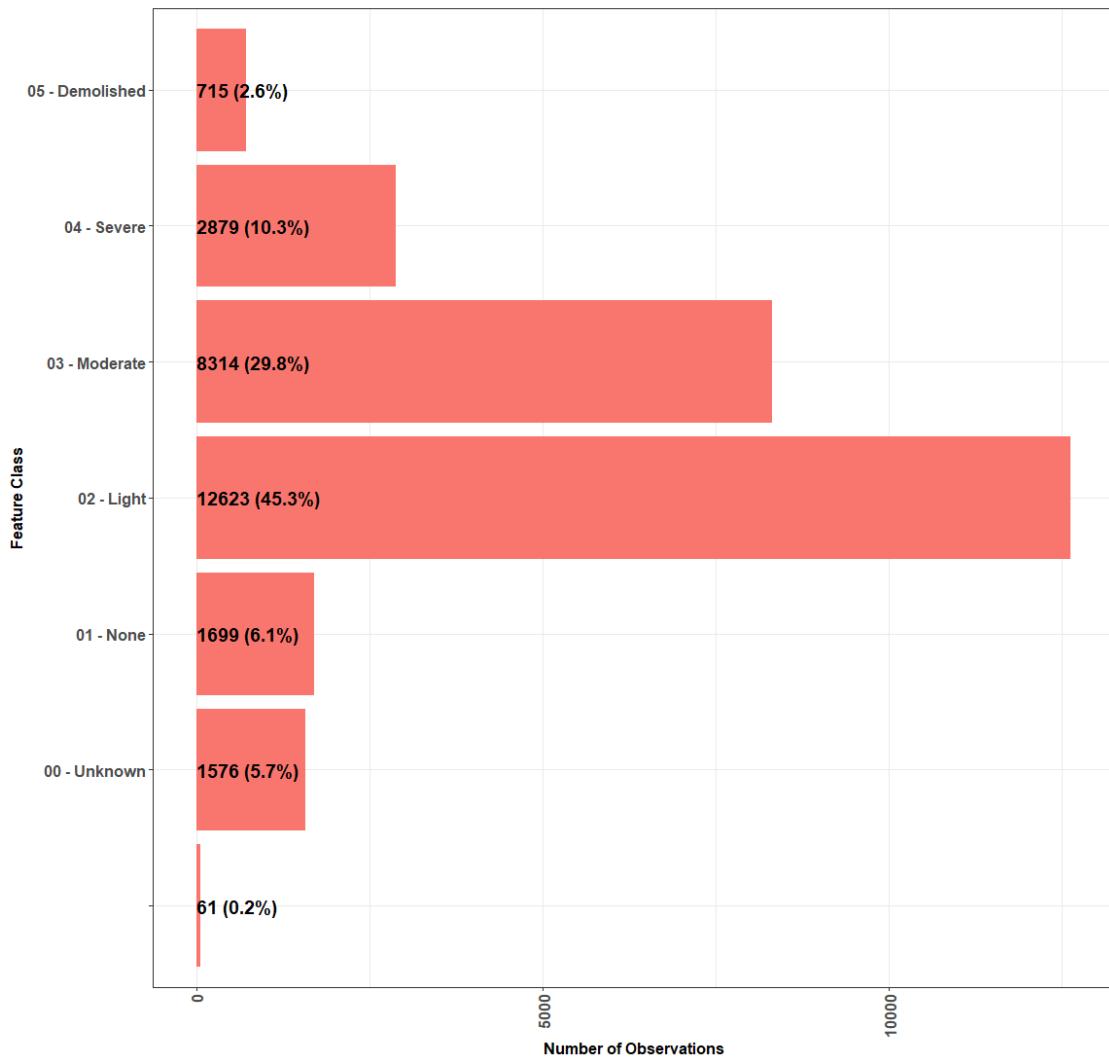
```

## Summary as Factor Feature:
## 
## Number of Features: 7
## 
## TOP 100 FEATURES OF VEHICLE_DAMAGE
## 
## Feature Value      Counter      Percentage
## -----            -----      -----
## 00 - Unknown          1576      5.6554
## 01 - None              1699      6.0968
## 02 - Light             12623     45.2973
## 03 - Moderate           8314      29.8346
## 04 - Severe              2879     10.3312
## 05 - Demolished           715      2.5658

```

Plot of Feature:VEHICLE_DAMAGE

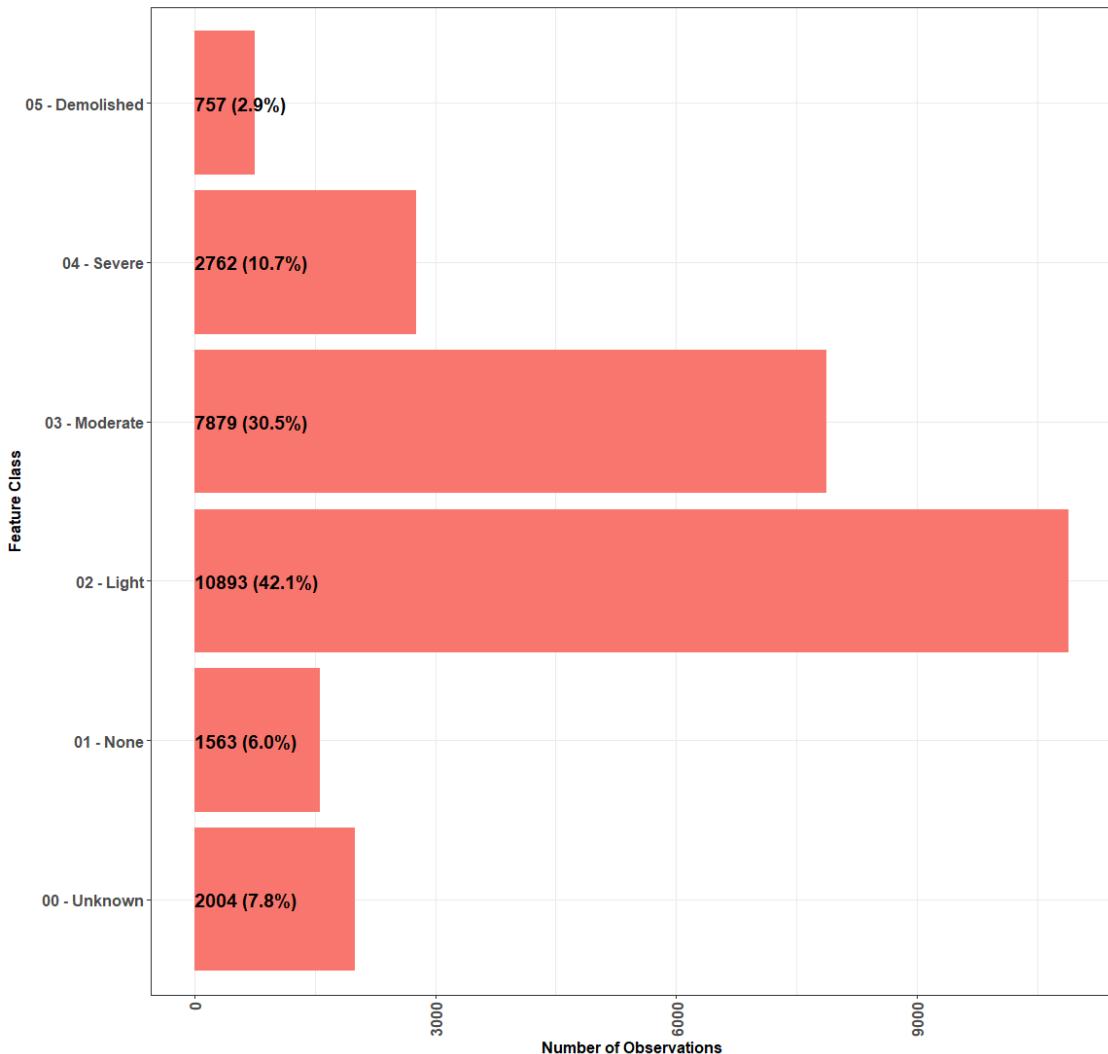
Data:All 2015.csv





```
##  
## -----  
## CHECKING FEATURE:VEHICLE_DAMAGE  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 6  
##  
## TOP 100 FEATURES OF VEHICLE_DAMAGE  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 2004 7.750  
## 01 - None 1563 6.045  
## 02 - Light 10893 42.126  
## 03 - Moderate 7879 30.470  
## 04 - Severe 2762 10.681  
## 05 - Demolished 757 2.928
```

Plot of Feature:VEHICLE_DAMAGE
Data:All 2016.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_DAMAGE  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 6  

##  

## TOP 100 FEATURES OF VEHICLE_DAMAGE  

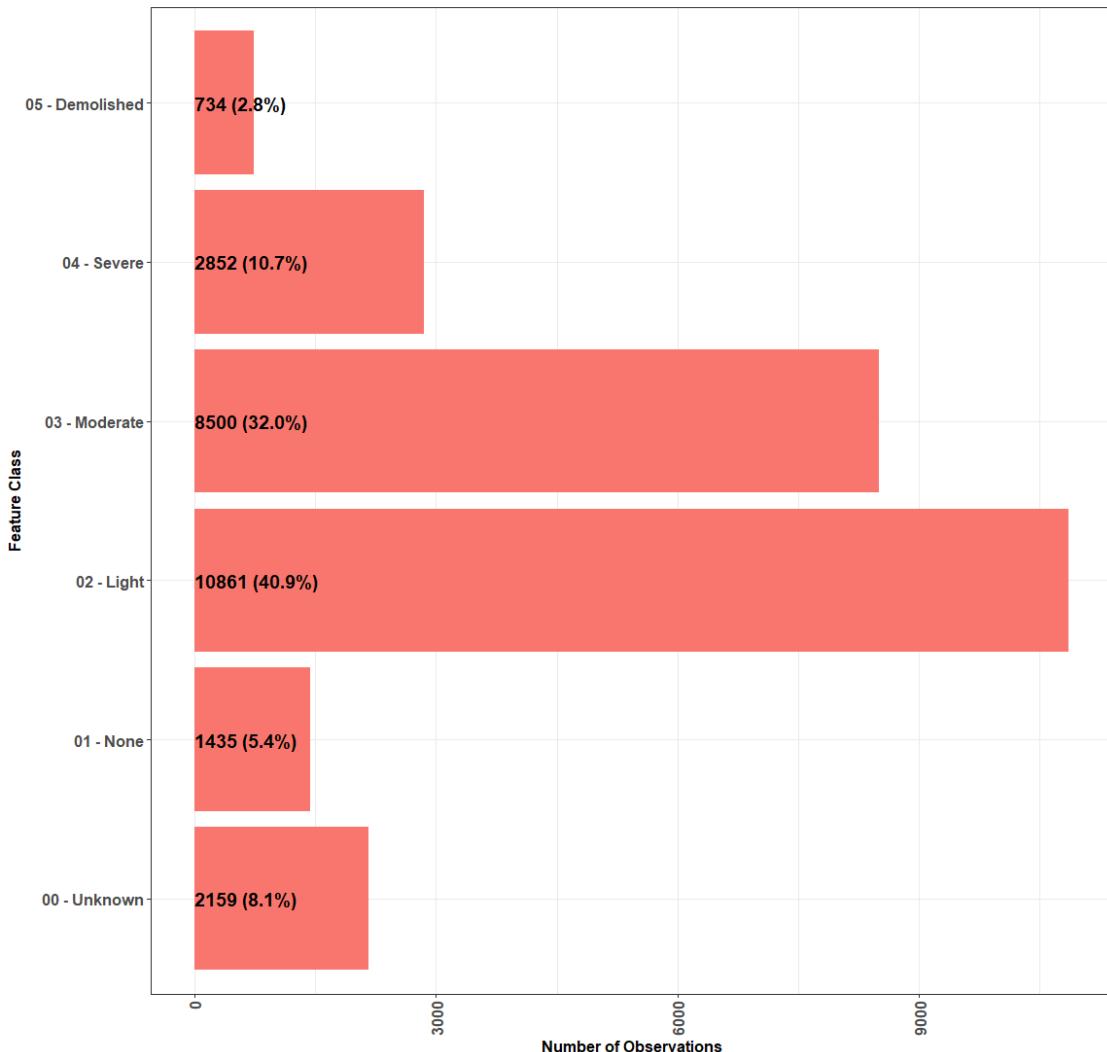
##  

## Feature Value      Counter      Percentage  

## -----
```

## 00 - Unknown	2159	8.135
## 01 - None	1435	5.407
## 02 - Light	10861	40.922
## 03 - Moderate	8500	32.026
## 04 - Severe	2852	10.746
## 05 - Demolished	734	2.765

Plot of Feature:VEHICLE_DAMAGE
Data>All 2017.csv

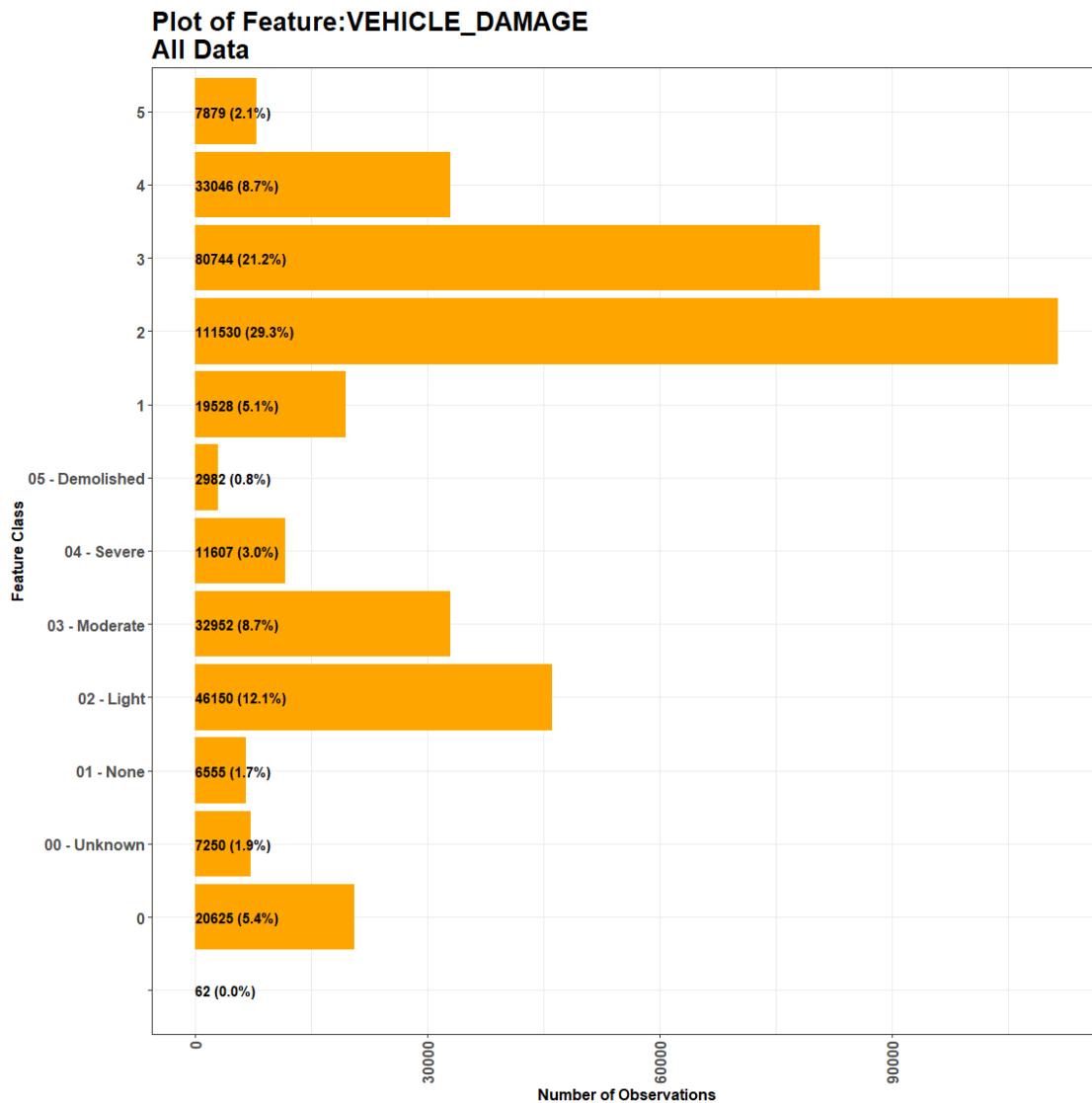


```
##
## =====
## FINAL INFO CHECKING FEATURE:VEHICLE_DAMAGE
## ALL DATA...
## =====
## Number of Blank Values:62
##
```

```

## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
##
##
## Summary as Factor Feature:
## Number of Features: 13

```



```

## [1] "TOP 100 FEATURES COUNTERS OF:VEHICLE_DAMAGE"

```

Feature Value	Counter	Percentage
---------------	---------	------------

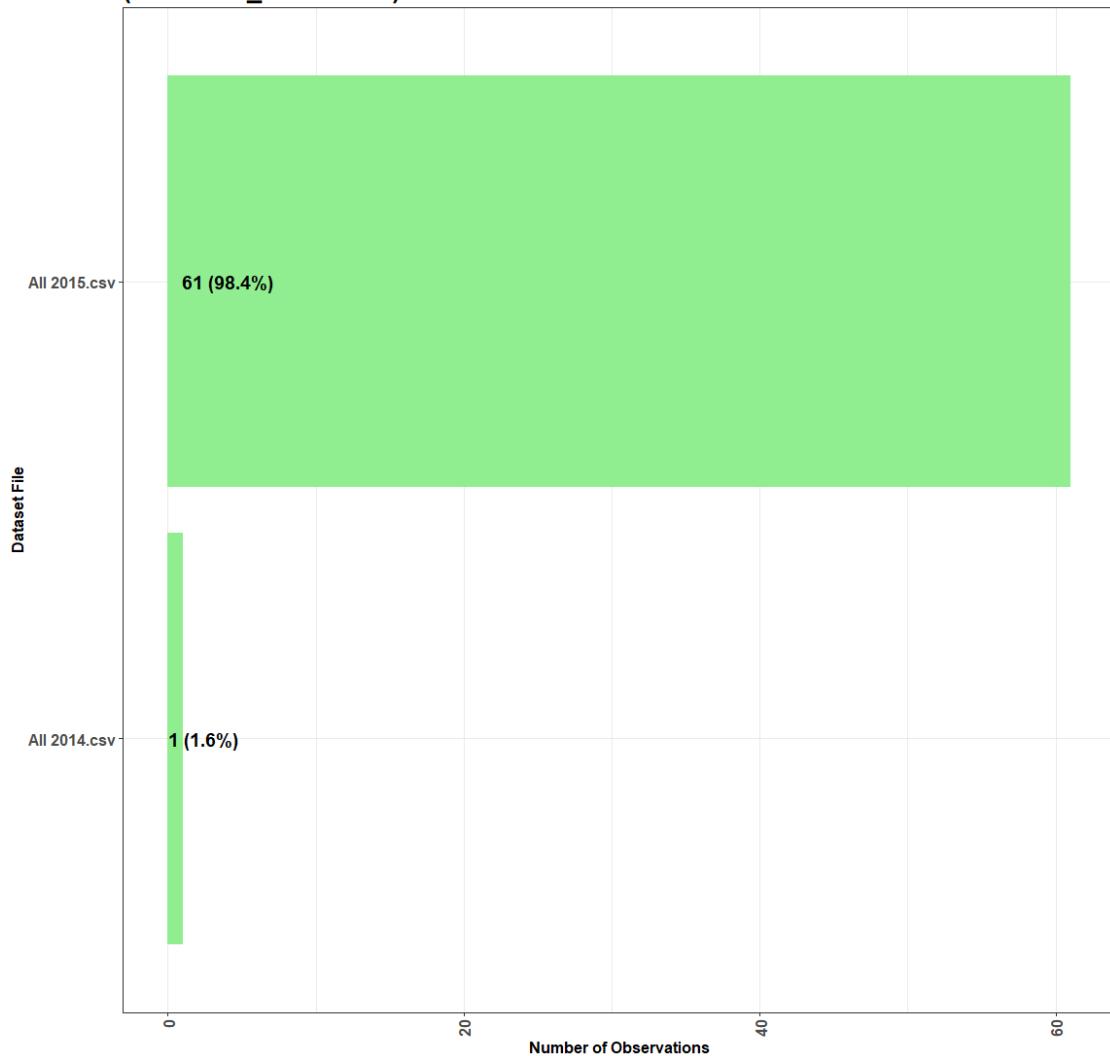


	62	0.0163
0	20625	5.4147
00 - Unknown	7250	1.9033
01 - None	6555	1.7209
02 - Light	46150	12.1157
03 - Moderate	32952	8.6509
04 - Severe	11607	3.0472
05 - Demolished	2982	0.7829
1	19528	5.1267
2	111530	29.2799
3	80744	21.1977
4	33046	8.6755
5	7879	2.0685

25.1 VEHICLE_DAMAGE = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (VEHICLE_DAMAGE=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv  
##           1          61
```

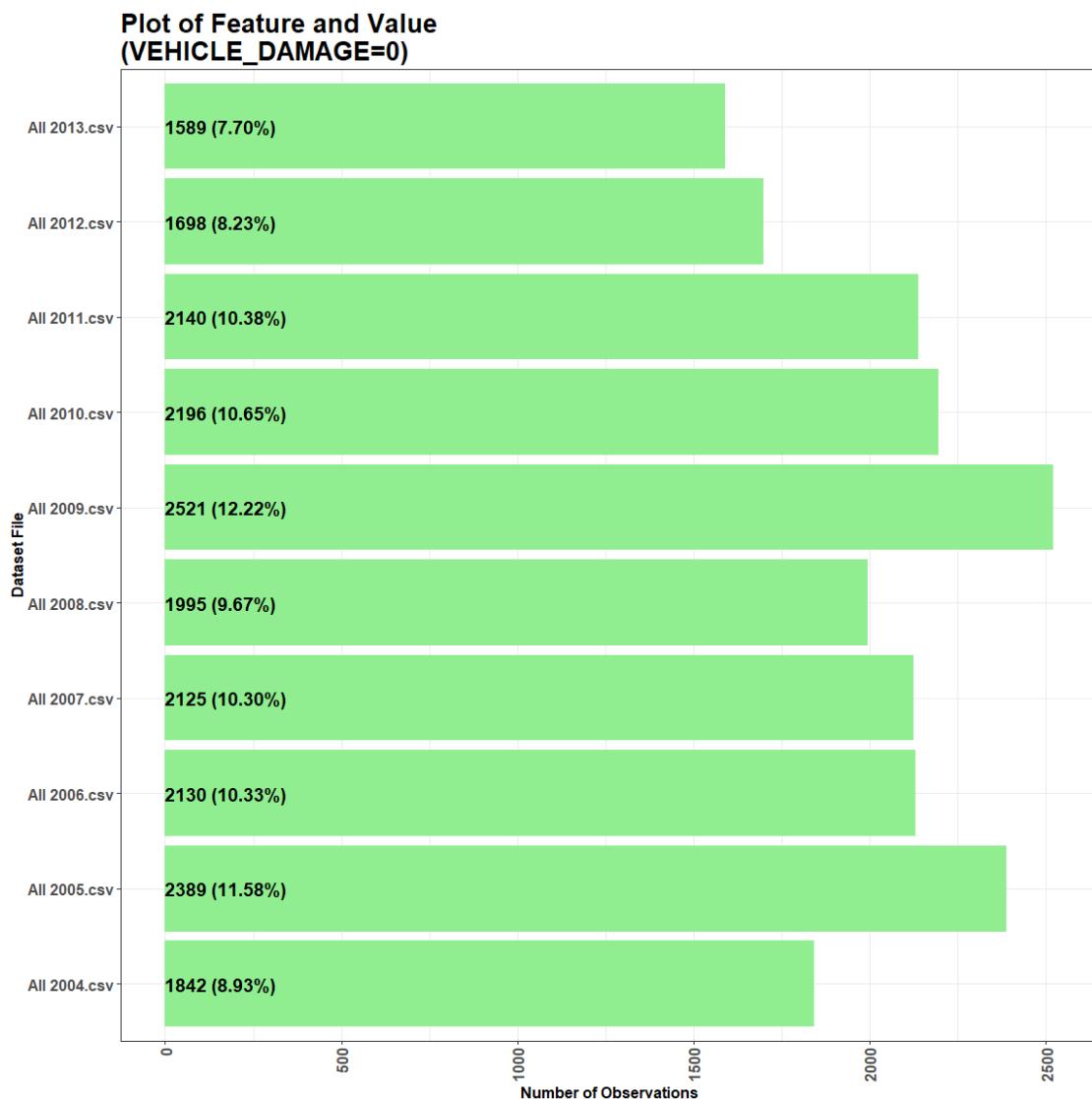
**Plot of Feature and Value
(VEHICLE_DAMAGE=)**



DATASET FILE	COUNTER OF (VEHICLE_DAMAGE=)	Percentage
All 2014.csv	1	1.613
All 2015.csv	61	98.387

25.2 VEHICLE_DAMAGE = “0”

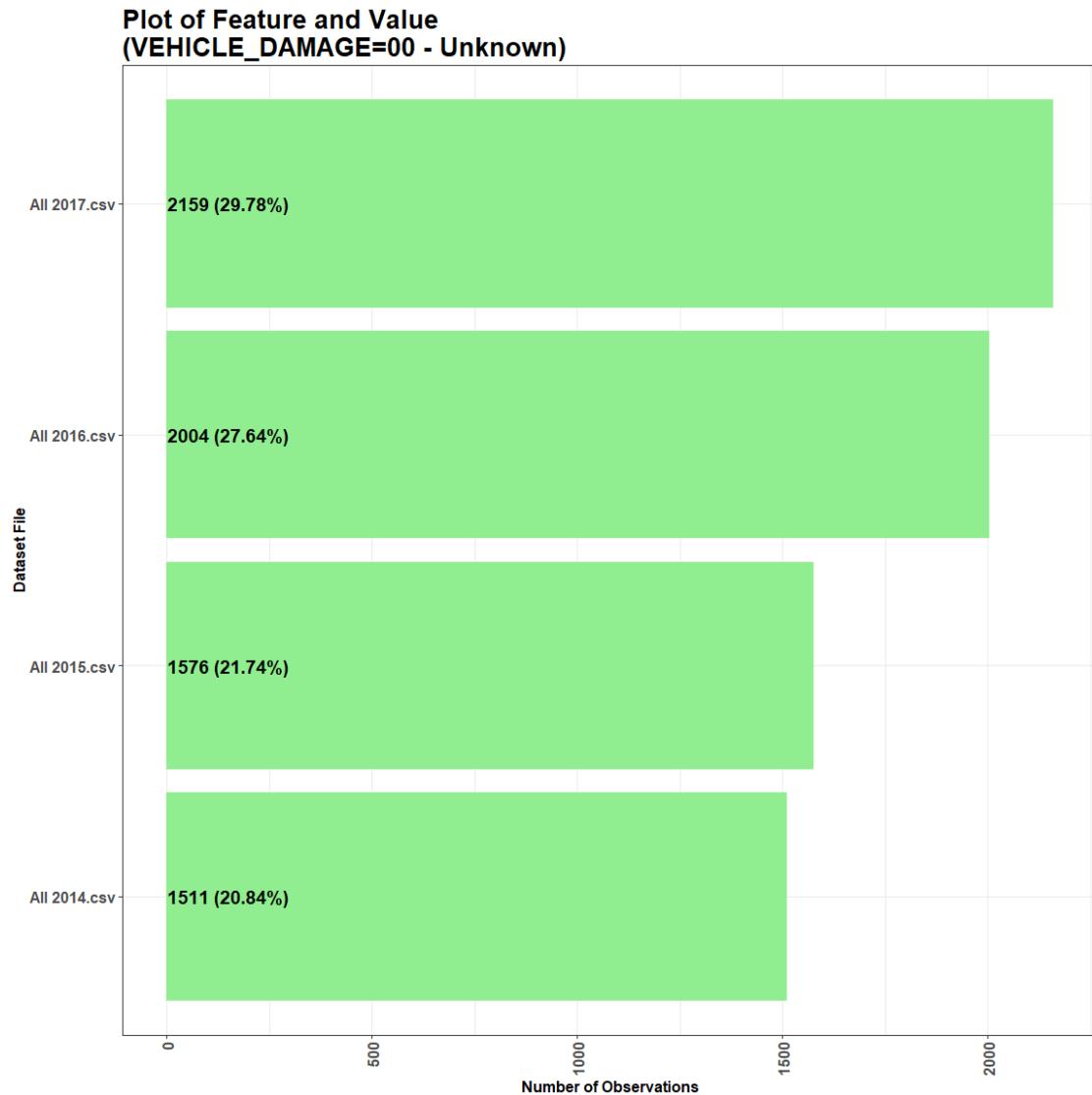
```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_DAMAGE=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##      1842      2389      2130      2125      1995  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##      2521      2196      2140      1698      1589
```



DATASET FILE	COUNTER OF (VEHICLE_DAMAGE=0)	Percentage
All 2004.csv	1842	8.931
All 2005.csv	2389	11.583
All 2006.csv	2130	10.327
All 2007.csv	2125	10.303
All 2008.csv	1995	9.673
All 2009.csv	2521	12.223
All 2010.csv	2196	10.647
All 2011.csv	2140	10.376
All 2012.csv	1698	8.233
All 2013.csv	1589	7.704

25.3 VEHICLE_DAMAGE = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_DAMAGE=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##      1511      1576      2004      2159
```



DATASET FILE	COUNTER OF (VEHICLE_DAMAGE=00 - Unknown)	Percentage
All 2014.csv	1511	20.84
All 2015.csv	1576	21.74
All 2016.csv	2004	27.64

All 2017.csv

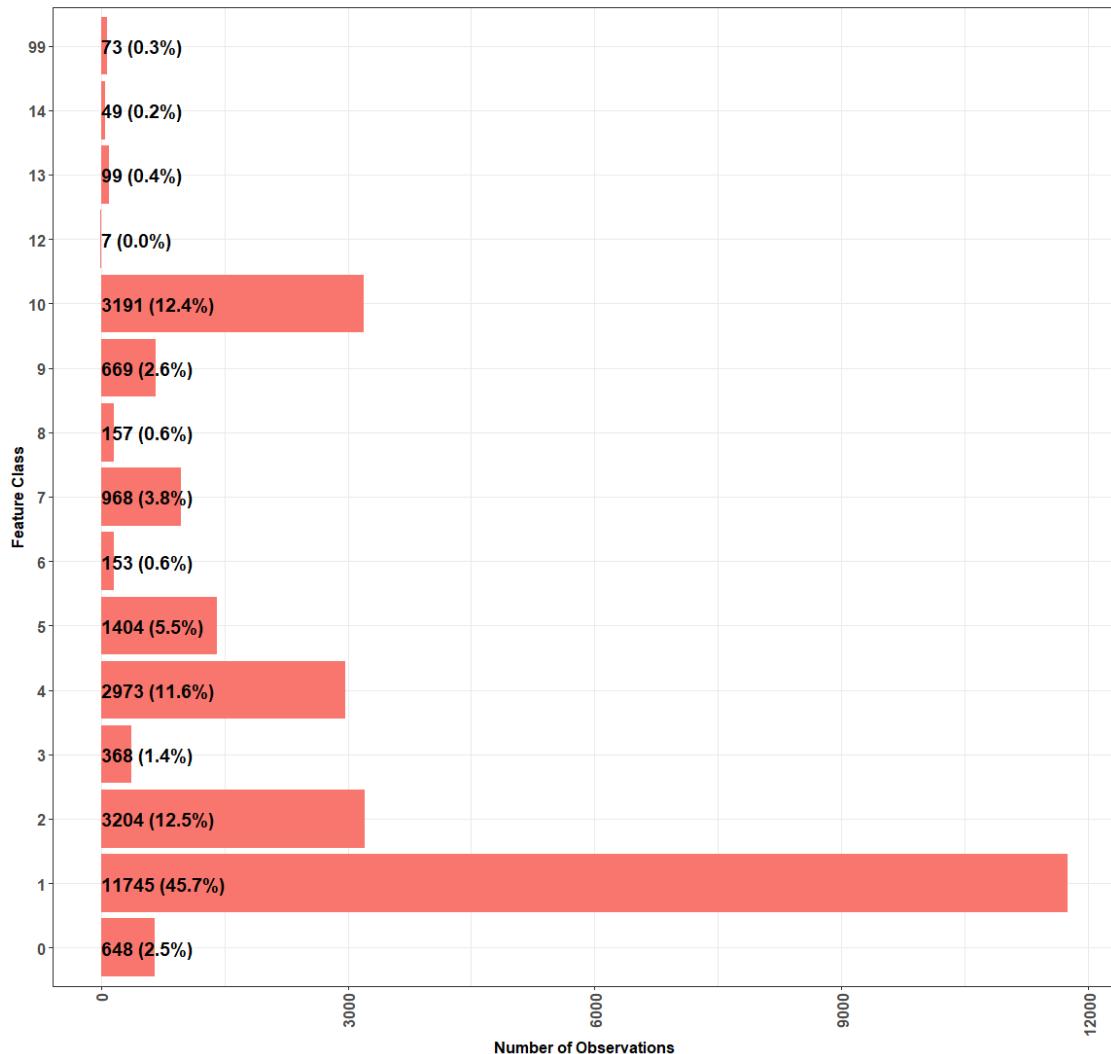
2159

29.78

26. Vehicle Maneuver (VEHICLE_MANEUVER)

```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 15  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## ----- ----- -----  
## 0 648 2.5206  
## 1 11745 45.6862  
## 2 3204 12.4630  
## 3 368 1.4315  
## 4 2973 11.5645  
## 5 1404 5.4613  
## 6 153 0.5951  
## 7 968 3.7654  
## 8 157 0.6107  
## 9 669 2.6023  
## 10 3191 12.4125  
## 12 7 0.0272  
## 13 99 0.3851  
## 14 49 0.1906  
## 99 73 0.2840
```

Plot of Feature:VEHICLE_MANEUVER
Data:All 2004.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_MANEUVER  

## DATA:All 2005.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 15  

##  

## TOP 100 FEATURES OF VEHICLE_MANEUVER  

##  

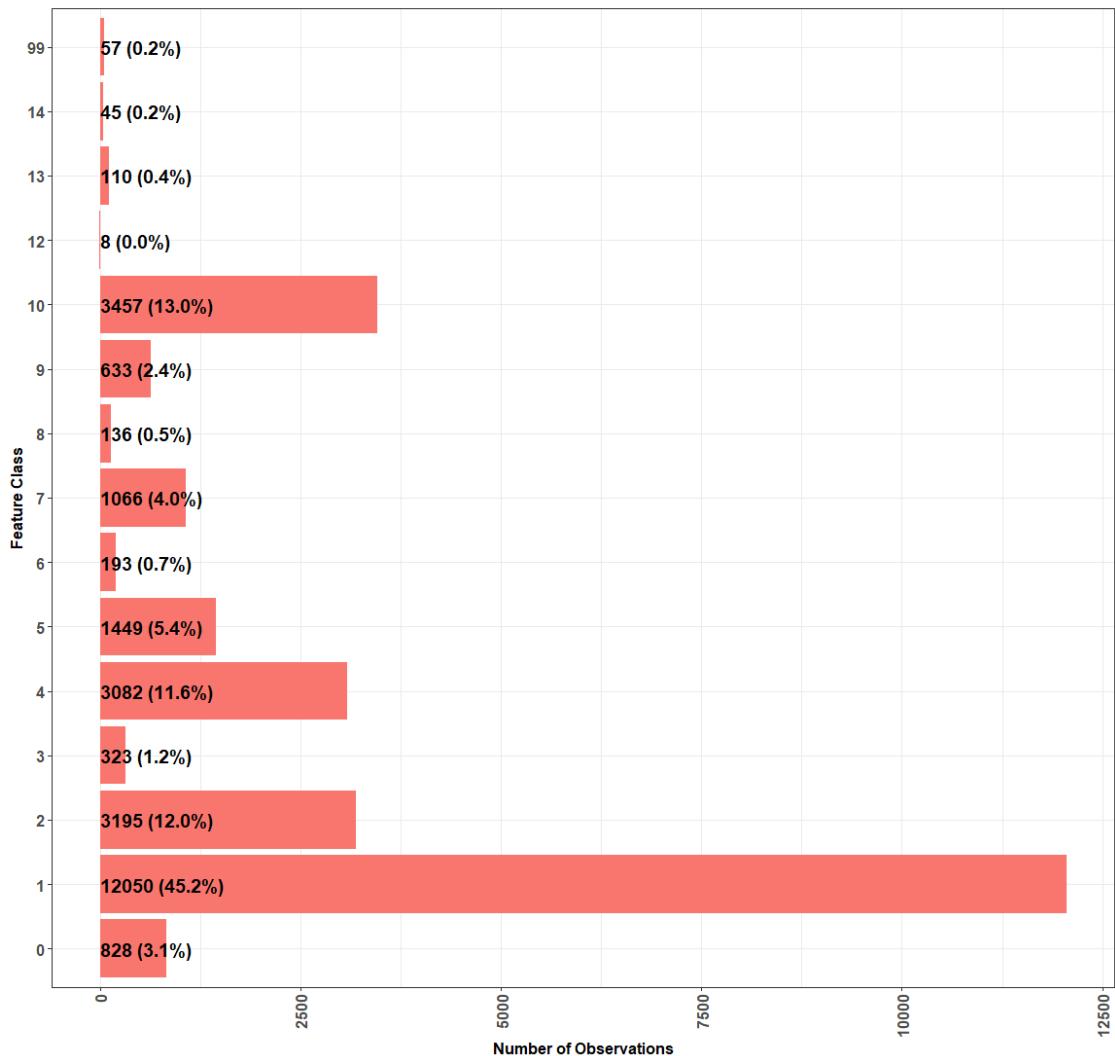
## Feature Value Counter Percentage  

## -----
```

## 0	828	3.1090
## 1	12050	45.2463
## 2	3195	11.9968
## 3	323	1.2128
## 4	3082	11.5725
## 5	1449	5.4408
## 6	193	0.7247
## 7	1066	4.0027
## 8	136	0.5107
## 9	633	2.3768
## 10	3457	12.9806
## 12	8	0.0300
## 13	110	0.4130
## 14	45	0.1690
## 99	57	0.2140

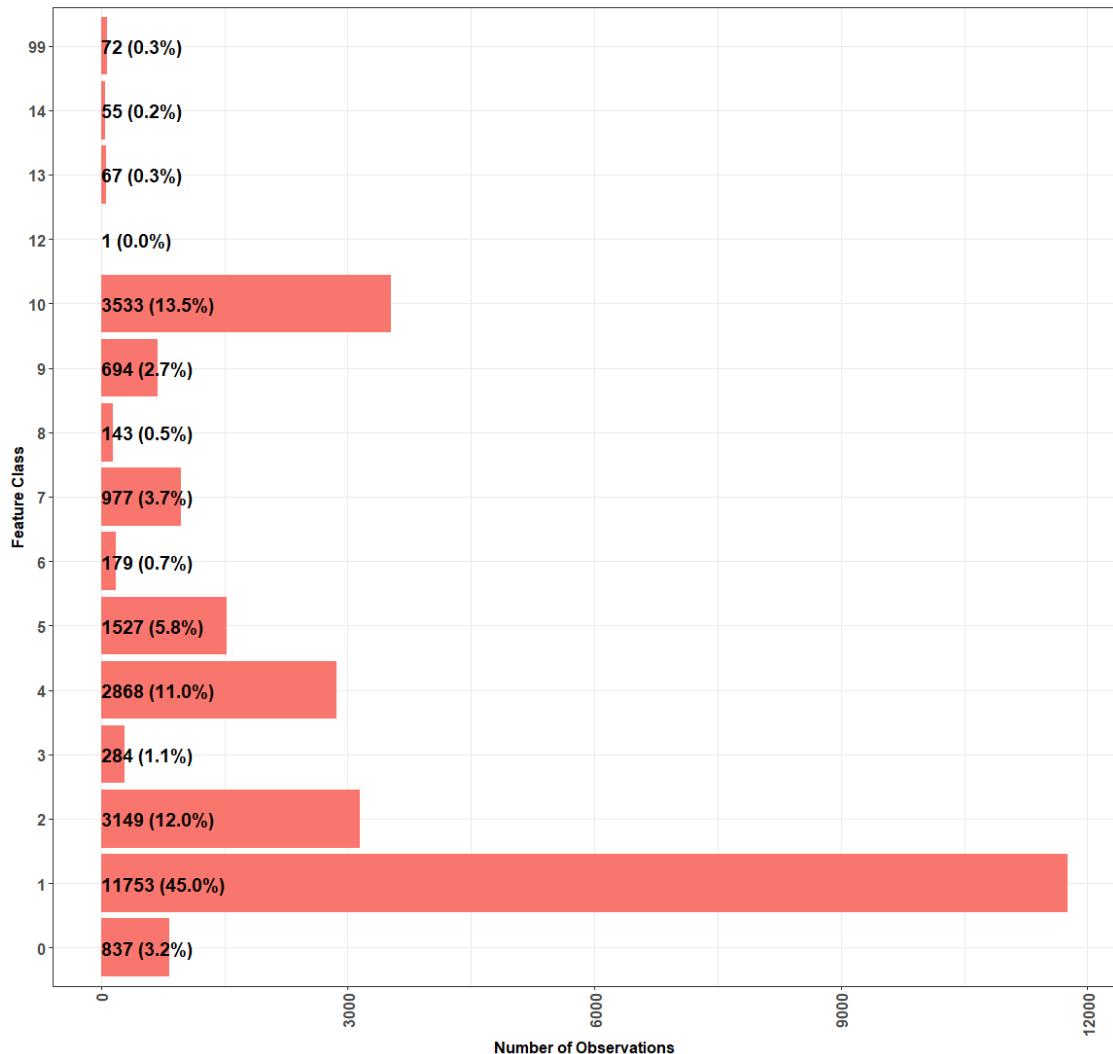
Plot of Feature:VEHICLE_MANEUVER

Data:All 2005.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2006.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 15  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----  
## 0 837 3.2021  
## 1 11753 44.9635  
## 2 3149 12.0471  
## 3 284 1.0865  
## 4 2868 10.9721  
## 5 1527 5.8418  
## 6 179 0.6848  
## 7 977 3.7377  
## 8 143 0.5471  
## 9 694 2.6550  
## 10 3533 13.5162  
## 12 1 0.0038  
## 13 67 0.2563  
## 14 55 0.2104  
## 99 72 0.2755
```

Plot of Feature:VEHICLE_MANEUVER
Data:All 2006.csv

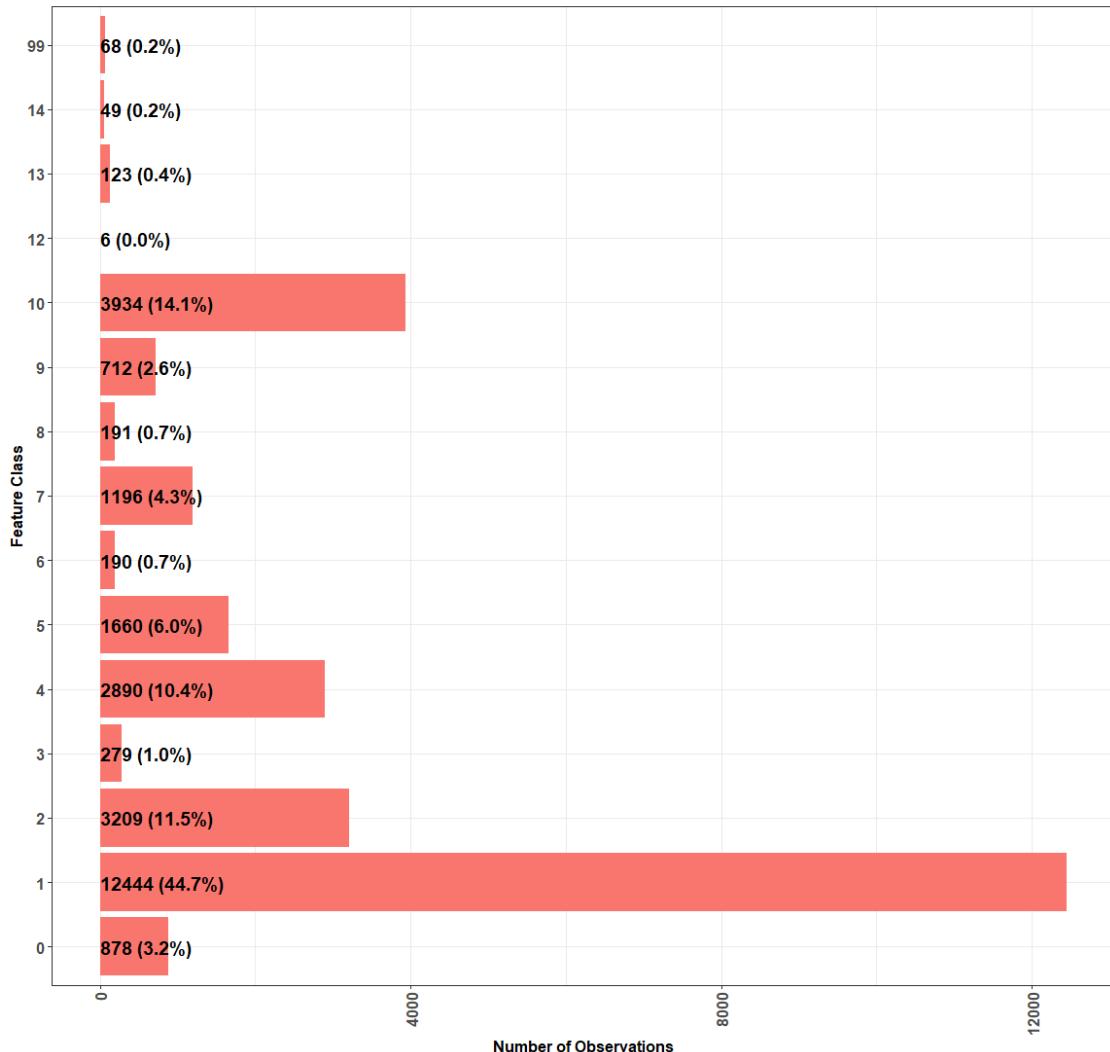


```
##
## -----
## CHECKING FEATURE:VEHICLE_MANEUVER
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 15
##
## TOP 100 FEATURES OF VEHICLE_MANEUVER
##
## Feature Value      Counter      Percentage
## -----
```

## 0	878	3.1550
## 1	12444	44.7159
## 2	3209	11.5311
## 3	279	1.0026
## 4	2890	10.3849
## 5	1660	5.9650
## 6	190	0.6827
## 7	1196	4.2977
## 8	191	0.6863
## 9	712	2.5585
## 10	3934	14.1363
## 12	6	0.0216
## 13	123	0.4420
## 14	49	0.1761
## 99	68	0.2443

Plot of Feature:VEHICLE_MANEUVER

Data:All 2007.csv

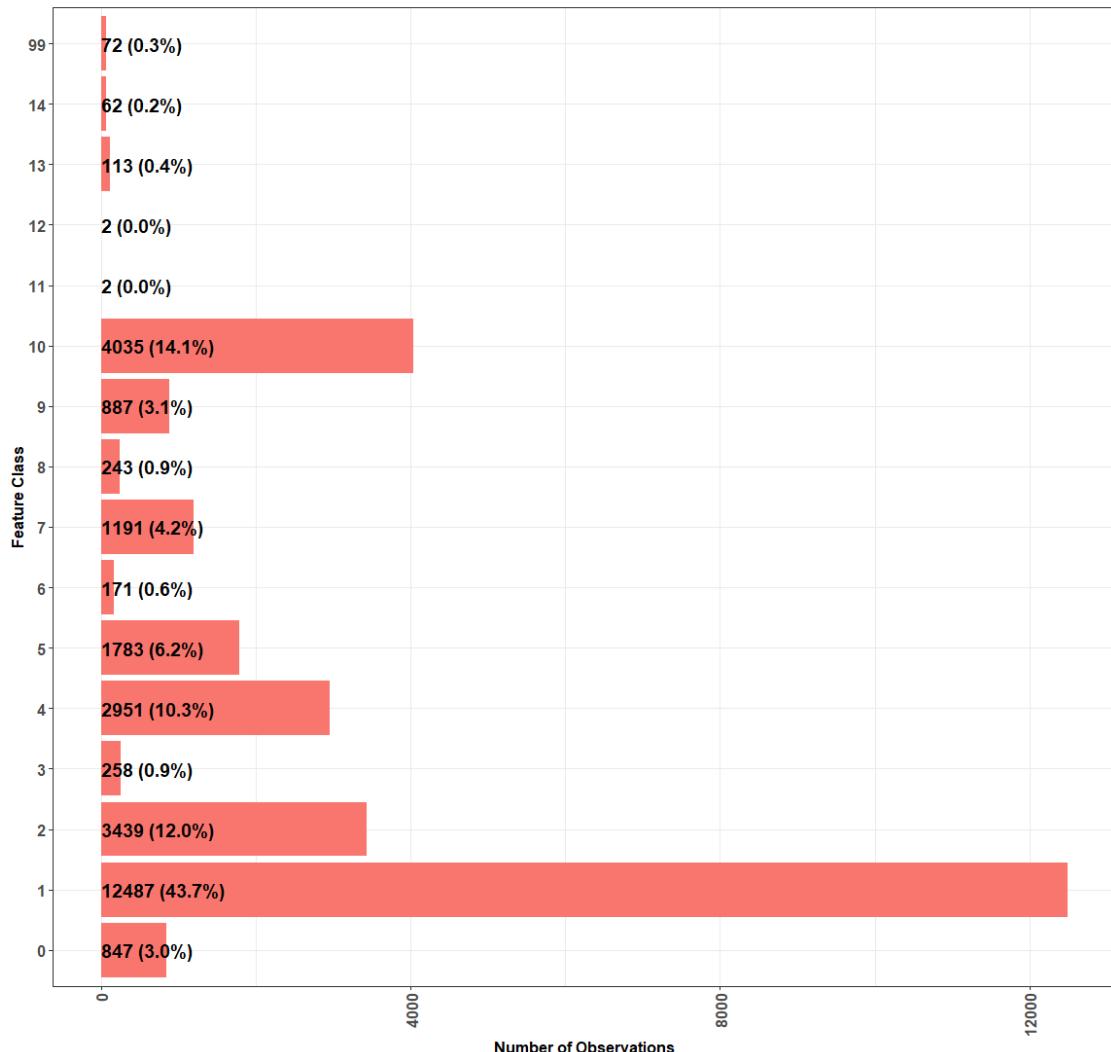


```

## 
## -----
## CHECKING FEATURE:VEHICLE_MANEUVER
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 16
##
## TOP 100 FEATURES OF VEHICLE_MANEUVER
##
## Feature Value      Counter      Percentage
## -----
## 0                  847          2.9675
## 1                 12487         43.7480
## 2                  3439         12.0485
## 3                  258          0.9039
## 4                 2951         10.3388
## 5                 1783         6.2467
## 6                  171          0.5991
## 7                 1191         4.1727
## 8                  243          0.8513
## 9                  887          3.1076
## 10                4035        14.1366
## 11                  2          0.0070
## 12                  2          0.0070
## 13                 113          0.3959
## 14                  62          0.2172
## 99                  72          0.2523

```

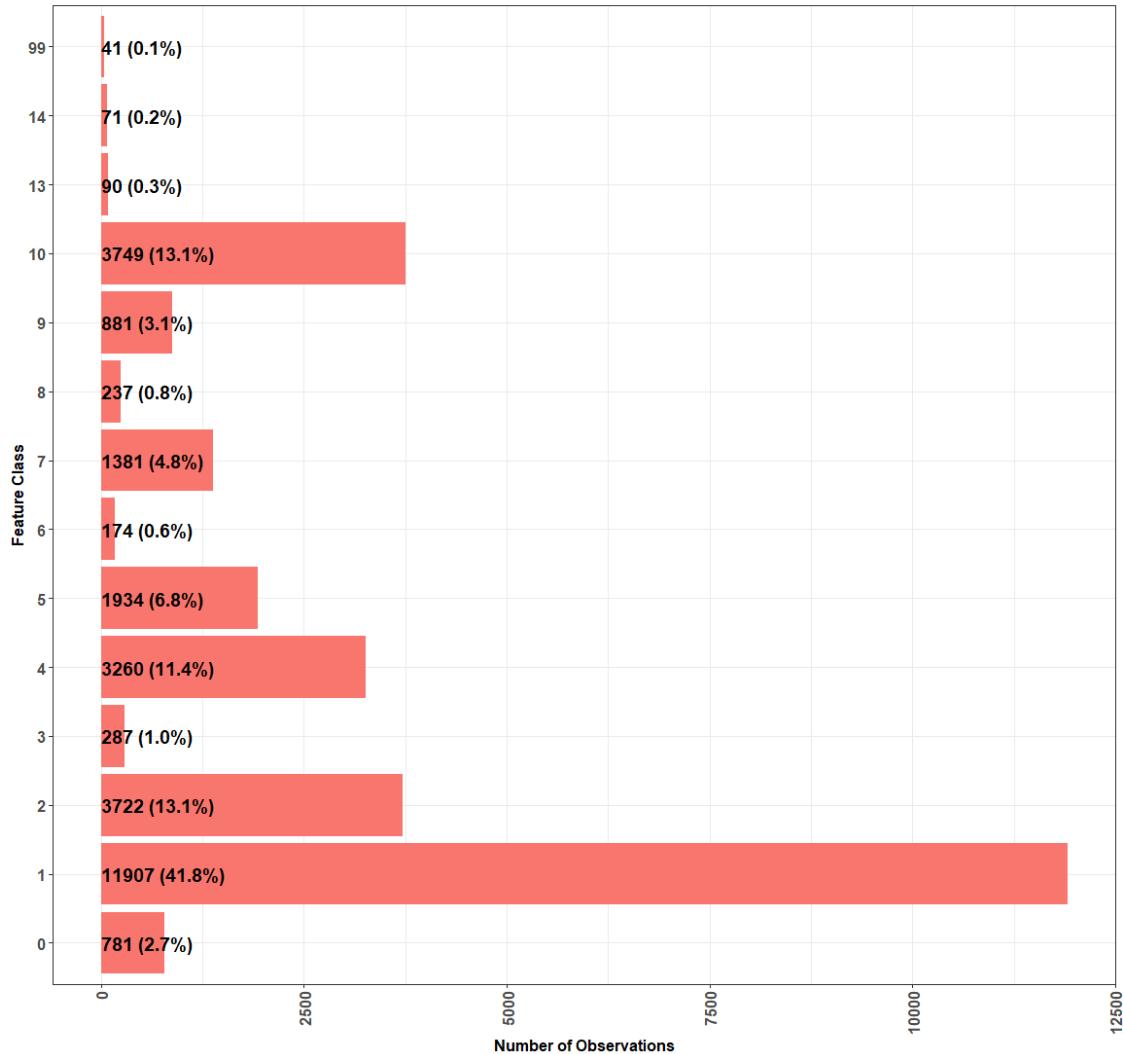
Plot of Feature:VEHICLE_MANEUVER Data>All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 14  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----
```

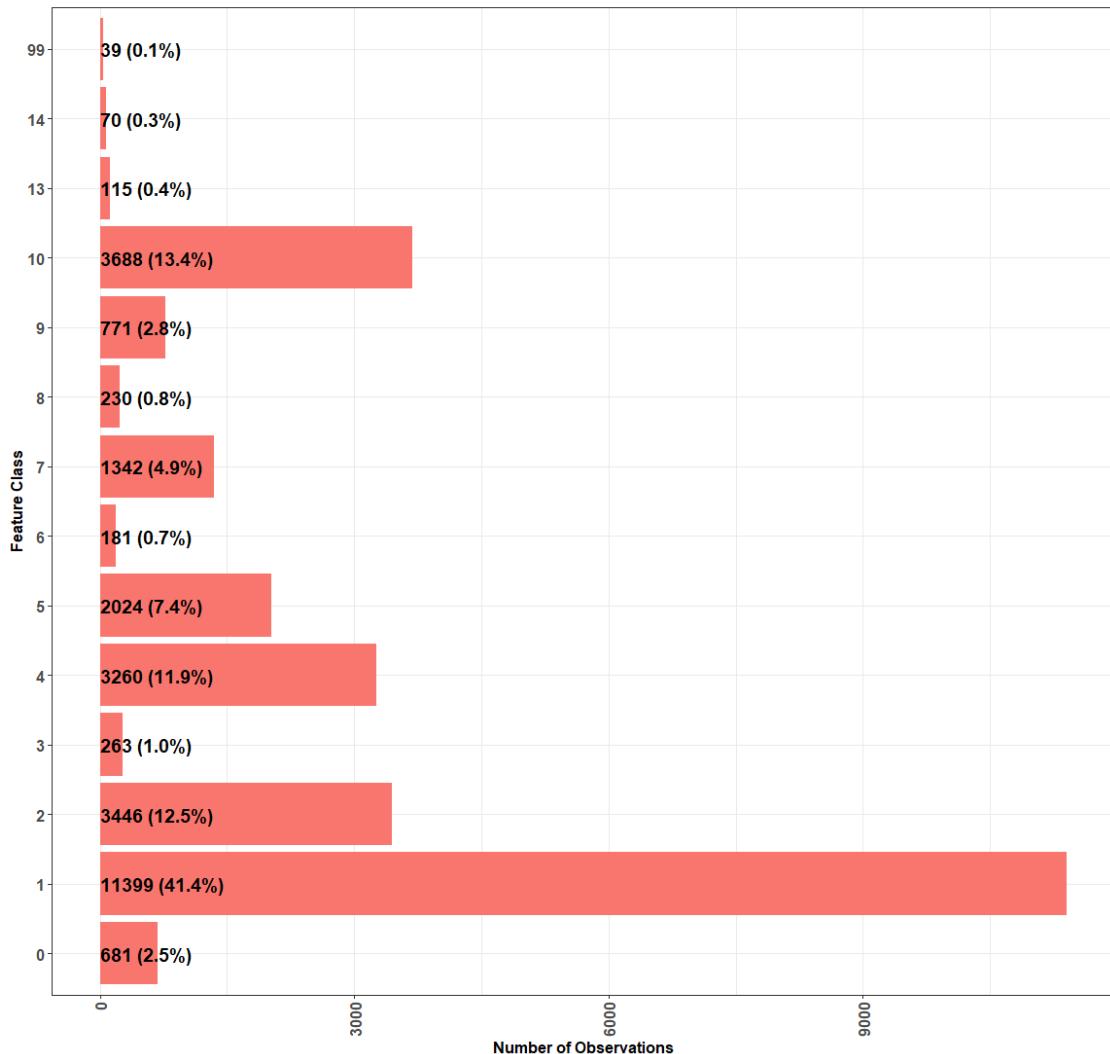
## 0	781	2.7389
## 1	11907	41.7570
## 2	3722	13.0528
## 3	287	1.0065
## 4	3260	11.4326
## 5	1934	6.7824
## 6	174	0.6102
## 7	1381	4.8431
## 8	237	0.8311
## 9	881	3.0896
## 10	3749	13.1475
## 13	90	0.3156
## 14	71	0.2490
## 99	41	0.1438

Plot of Feature:VEHICLE_MANEUVER
 Data:All 2009.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2010.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 14  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----  
## 0 681 2.4756  
## 1 11399 41.4373  
## 2 3446 12.5268  
## 3 263 0.9561  
## 4 3260 11.8507  
## 5 2024 7.3576  
## 6 181 0.6580  
## 7 1342 4.8784  
## 8 230 0.8361  
## 9 771 2.8027  
## 10 3688 13.4065  
## 13 115 0.4180  
## 14 70 0.2545  
## 99 39 0.1418
```

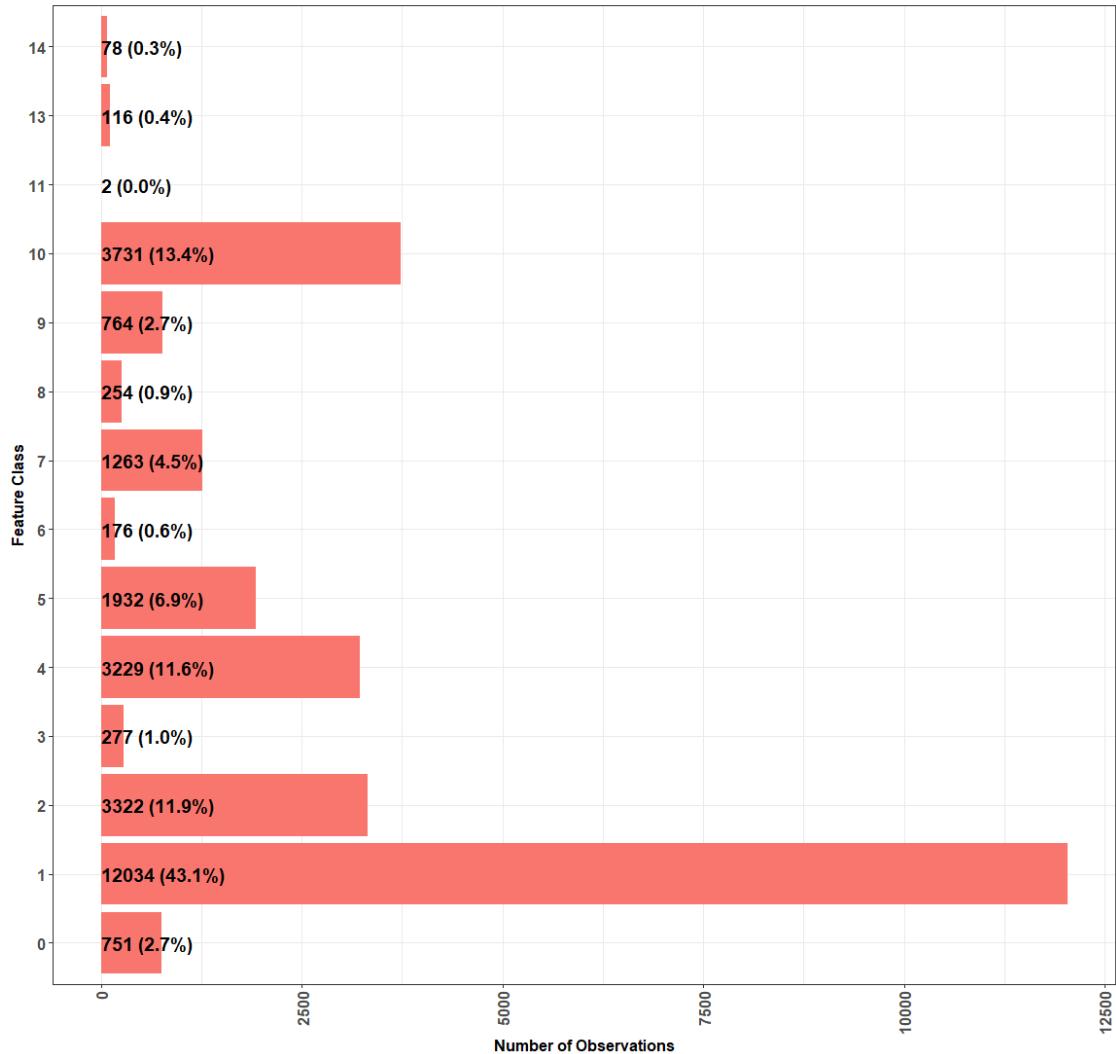
Plot of Feature:VEHICLE_MANEUVER
Data:All 2010.csv



```
##
## -----
## CHECKING FEATURE:VEHICLE_MANEUVER
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 14
##
## TOP 100 FEATURES OF VEHICLE_MANEUVER
##
## Feature Value      Counter      Percentage
## -----
```

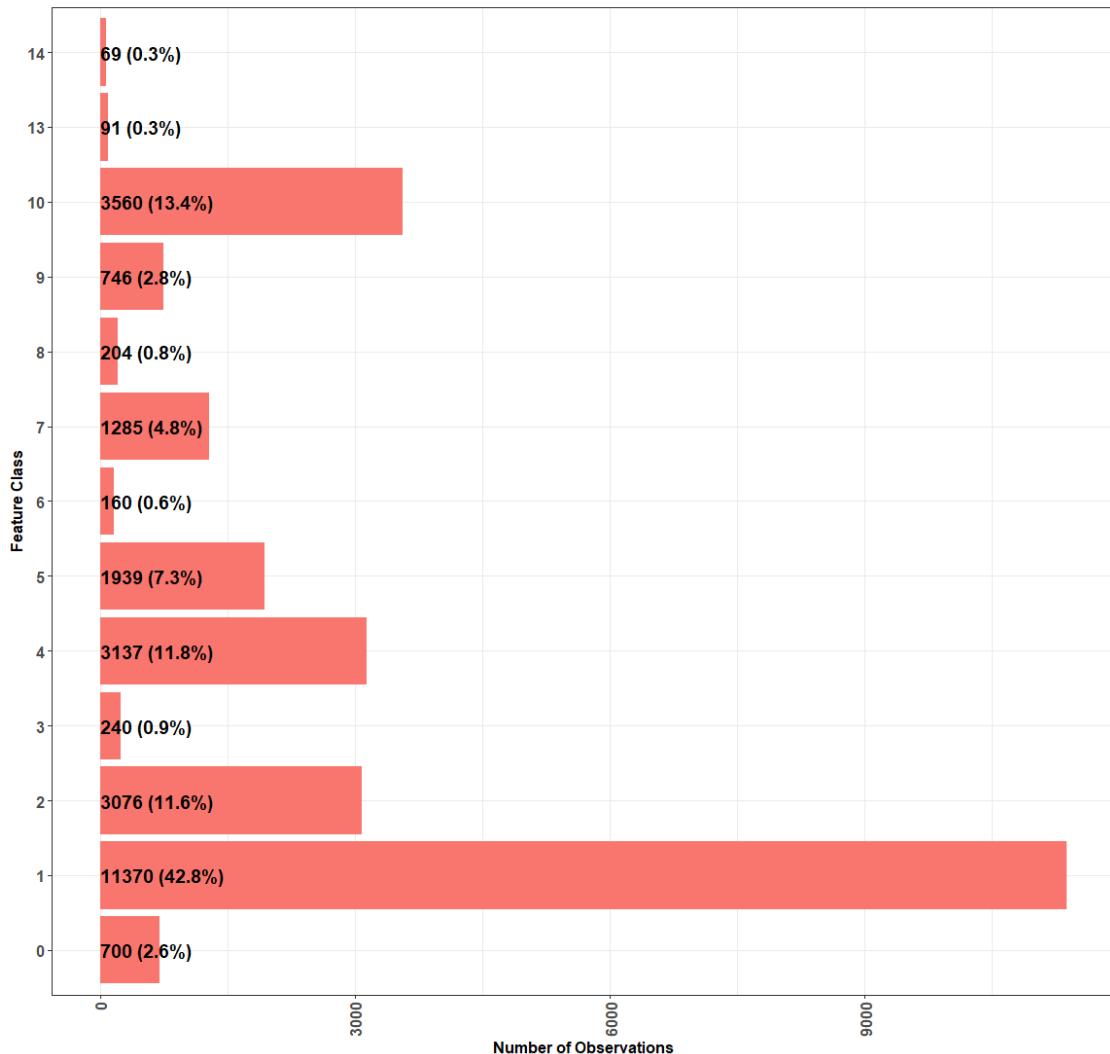
## 0	751	2.6890
## 1	12034	43.0878
## 2	3322	11.8944
## 3	277	0.9918
## 4	3229	11.5615
## 5	1932	6.9175
## 6	176	0.6302
## 7	1263	4.5222
## 8	254	0.9094
## 9	764	2.7355
## 10	3731	13.3589
## 11	2	0.0072
## 13	116	0.4153
## 14	78	0.2793

Plot of Feature:VEHICLE_MANEUVER
 Data:All 2011.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 13  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----  
## 0 700 2.6339  
## 1 11370 42.7814  
## 2 3076 11.5739  
## 3 240 0.9030  
## 4 3137 11.8034  
## 5 1939 7.2958  
## 6 160 0.6020  
## 7 1285 4.8350  
## 8 204 0.7676  
## 9 746 2.8069  
## 10 3560 13.3950  
## 13 91 0.3424  
## 14 69 0.2596
```

Plot of Feature:VEHICLE_MANEUVER
Data:All 2012.csv



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_MANEUVER  

## DATA:All 2013.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 14  

##  

## TOP 100 FEATURES OF VEHICLE_MANEUVER  

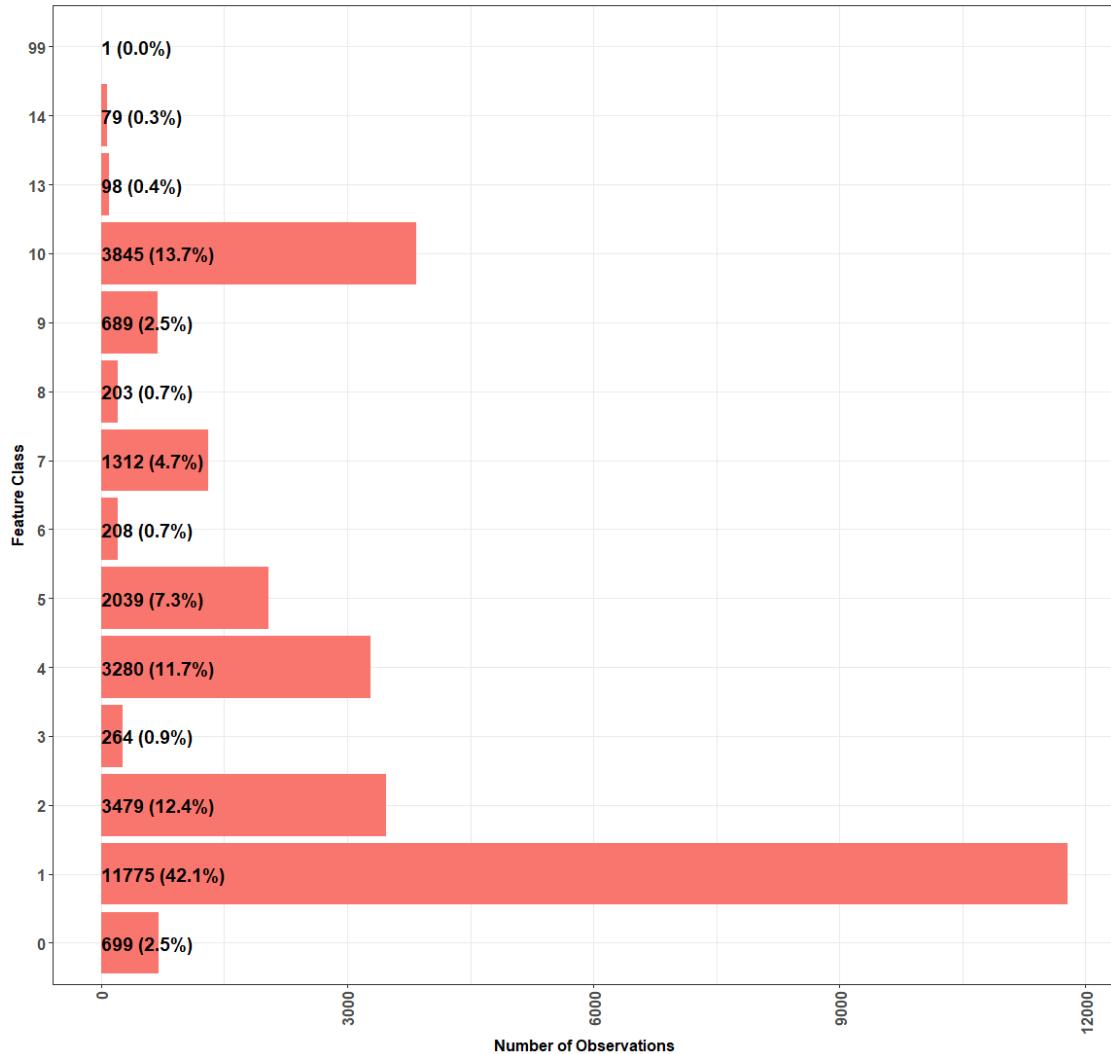
##  

## Feature Value Counter Percentage  

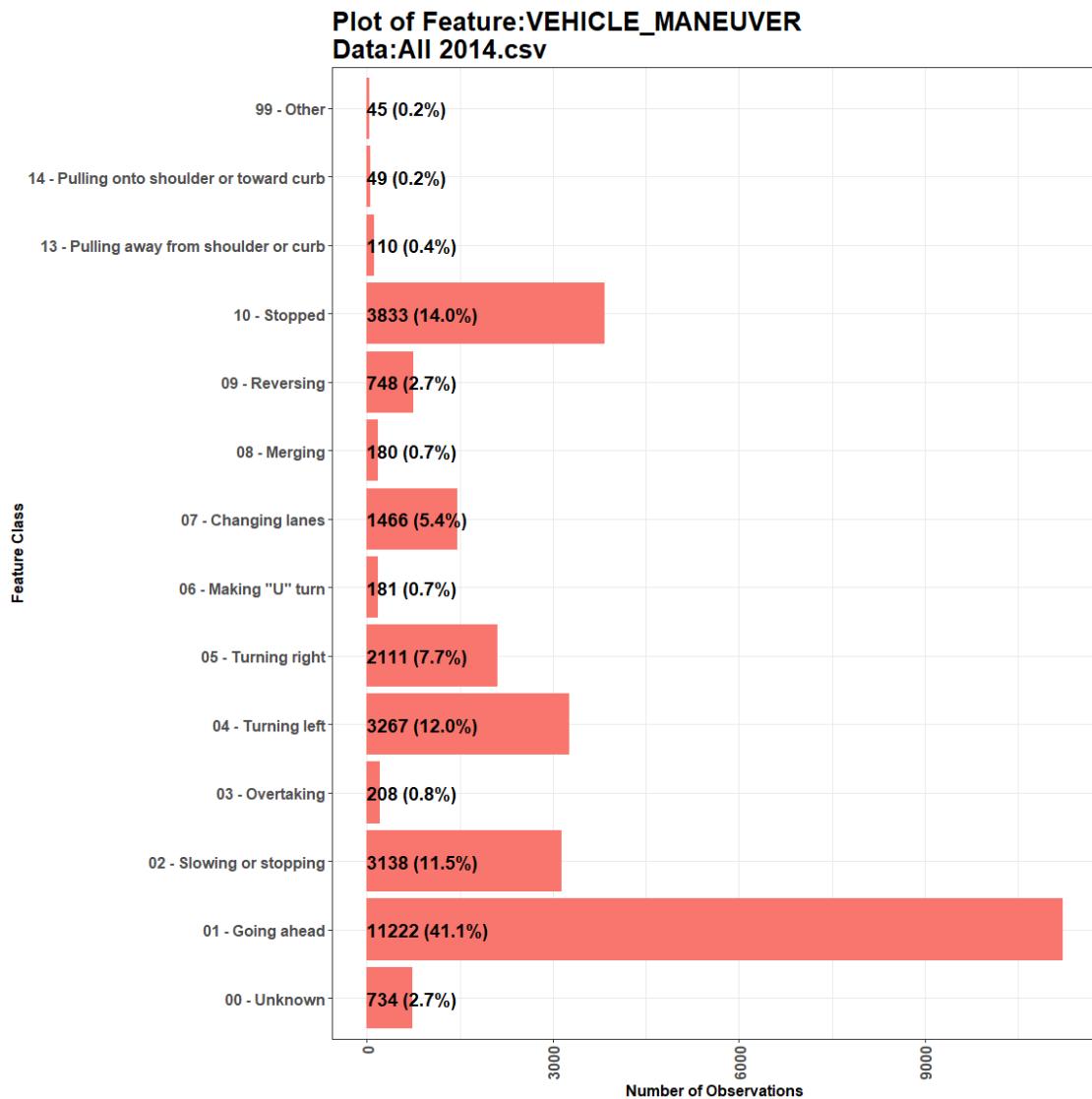
## -----
```

## 0	699	2.4990
## 1	11775	42.0972
## 2	3479	12.4379
## 3	264	0.9438
## 4	3280	11.7264
## 5	2039	7.2897
## 6	208	0.7436
## 7	1312	4.6906
## 8	203	0.7258
## 9	689	2.4633
## 10	3845	13.7464
## 13	98	0.3504
## 14	79	0.2824
## 99	1	0.0036

Plot of Feature:VEHICLE_MANEUVER
Data>All 2013.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 14  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 734 2.6894  
## 01 - Going ahead 11222 41.1183  
## 02 - Slowing or stopping 3138 11.4979  
## 03 - Overtaking 208 0.7621  
## 04 - Turning left 3267 11.9705  
## 05 - Turning right 2111 7.7349  
## 06 - Making "U" turn 181 0.6632  
## 07 - Changing lanes 1466 5.3715  
## 08 - Merging 180 0.6595  
## 09 - Reversing 748 2.7407  
## 10 - Stopped 3833 14.0444  
## 13 - Pulling away from shoulder or curb 110 0.4030  
## 14 - Pulling onto shoulder or toward curb 49 0.1795  
## 99 - Other 45 0.1649
```



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_MANEUVER  

## DATA:All 2015.csv...  

##  

## Number of Blank Values:13  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 15  

##  

## TOP 100 FEATURES OF VEHICLE_MANEUVER  

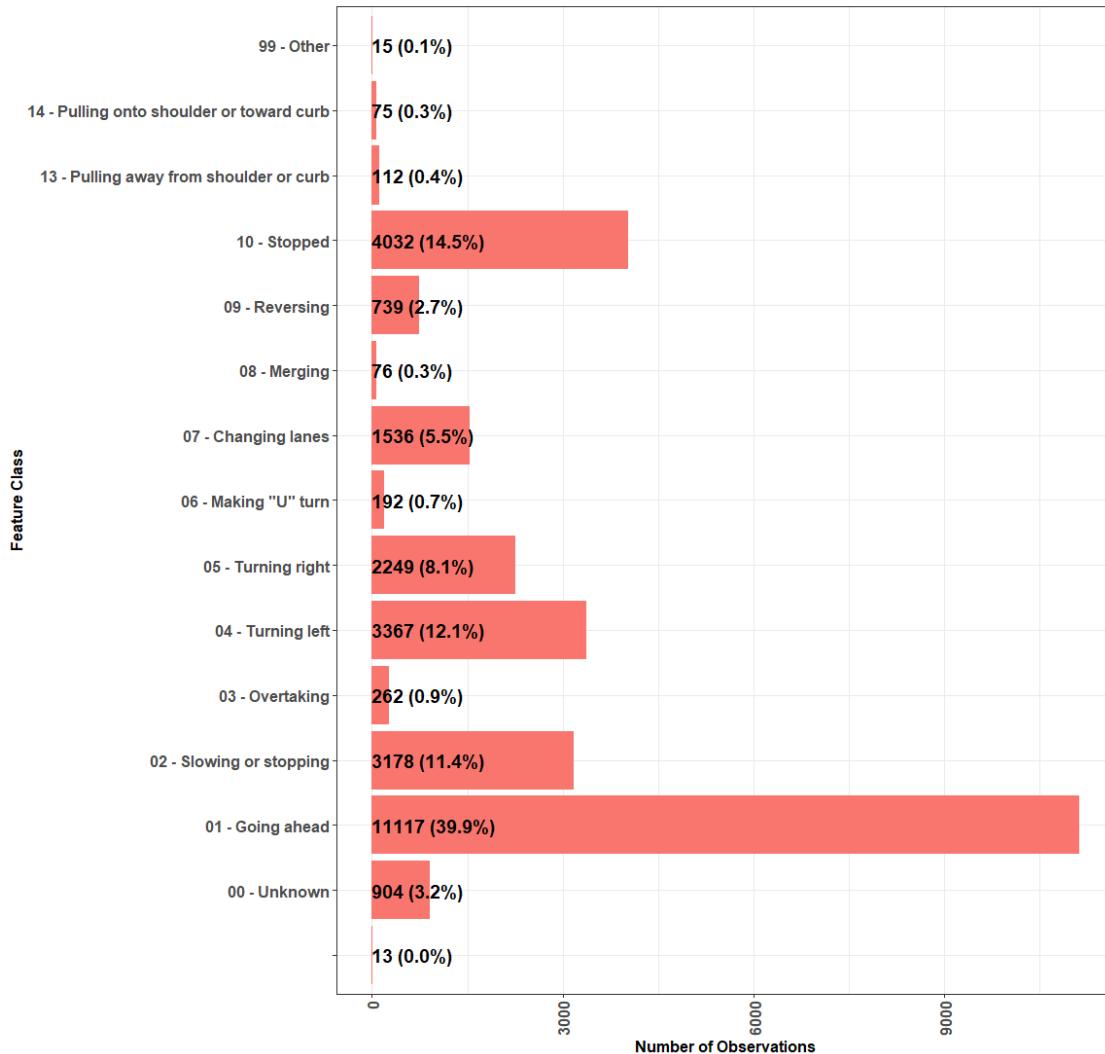
##  

## Feature Value Counter Percentage  

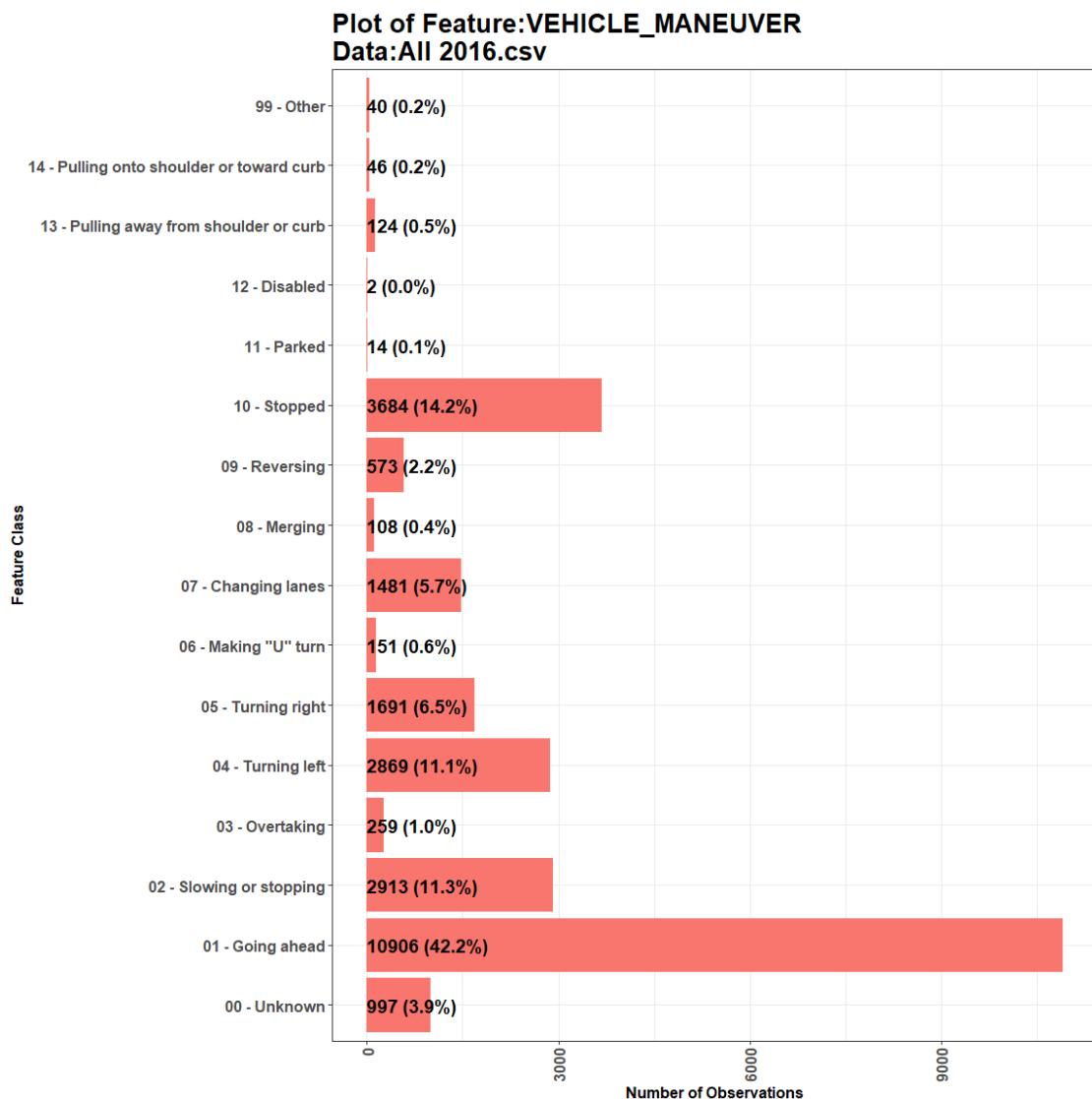
## -----
```

##		13	0.0467
## 00 - Unknown		904	3.2440
## 01 - Going ahead		11117	39.8931
## 02 - Slowing or stopping		3178	11.4042
## 03 - Overtaking		262	0.9402
## 04 - Turning left		3367	12.0824
## 05 - Turning right		2249	8.0705
## 06 - Making "U" turn		192	0.6890
## 07 - Changing lanes		1536	5.5119
## 08 - Merging		76	0.2727
## 09 - Reversing		739	2.6519
## 10 - Stopped		4032	14.4687
## 13 - Pulling away from shoulder or curb		112	0.4019
## 14 - Pulling onto shoulder or toward curb		75	0.2691
## 99 - Other		15	0.0538

Plot of Feature:VEHICLE_MANEUVER
Data>All 2015.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_MANEUVER  
## DATA:All 2016.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 16  
##  
## TOP 100 FEATURES OF VEHICLE_MANEUVER  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 997 3.8557  
## 01 - Going ahead 10906 42.1765  
## 02 - Slowing or stopping 2913 11.2654  
## 03 - Overtaking 259 1.0016  
## 04 - Turning left 2869 11.0952  
## 05 - Turning right 1691 6.5396  
## 06 - Making "U" turn 151 0.5840  
## 07 - Changing lanes 1481 5.7274  
## 08 - Merging 108 0.4177  
## 09 - Reversing 573 2.2159  
## 10 - Stopped 3684 14.2470  
## 11 - Parked 14 0.0541  
## 12 - Disabled 2 0.0077  
## 13 - Pulling away from shoulder or curb 124 0.4795  
## 14 - Pulling onto shoulder or toward curb 46 0.1779  
## 99 - Other 40 0.1547
```



```
##  

## -----  

## CHECKING FEATURE:VEHICLE_MANEUVER  

## DATA:All 2017.csv...  

##  

## Number of Blank Values:0  

##  

## Summary as Factor Feature:  

##  

## Number of Features: 16  

##  

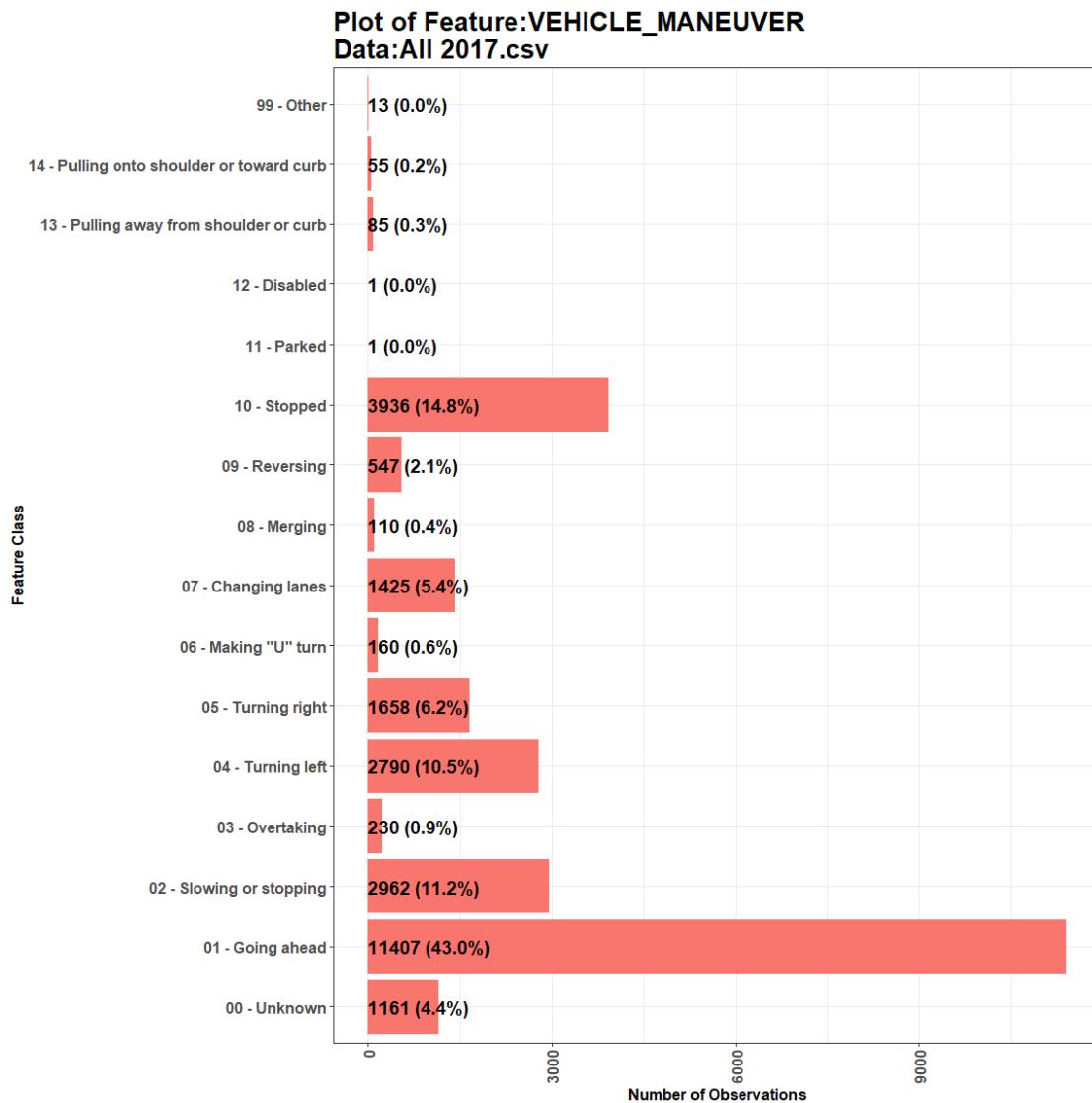
## TOP 100 FEATURES OF VEHICLE_MANEUVER  

##  

## Feature Value Counter Percentage  

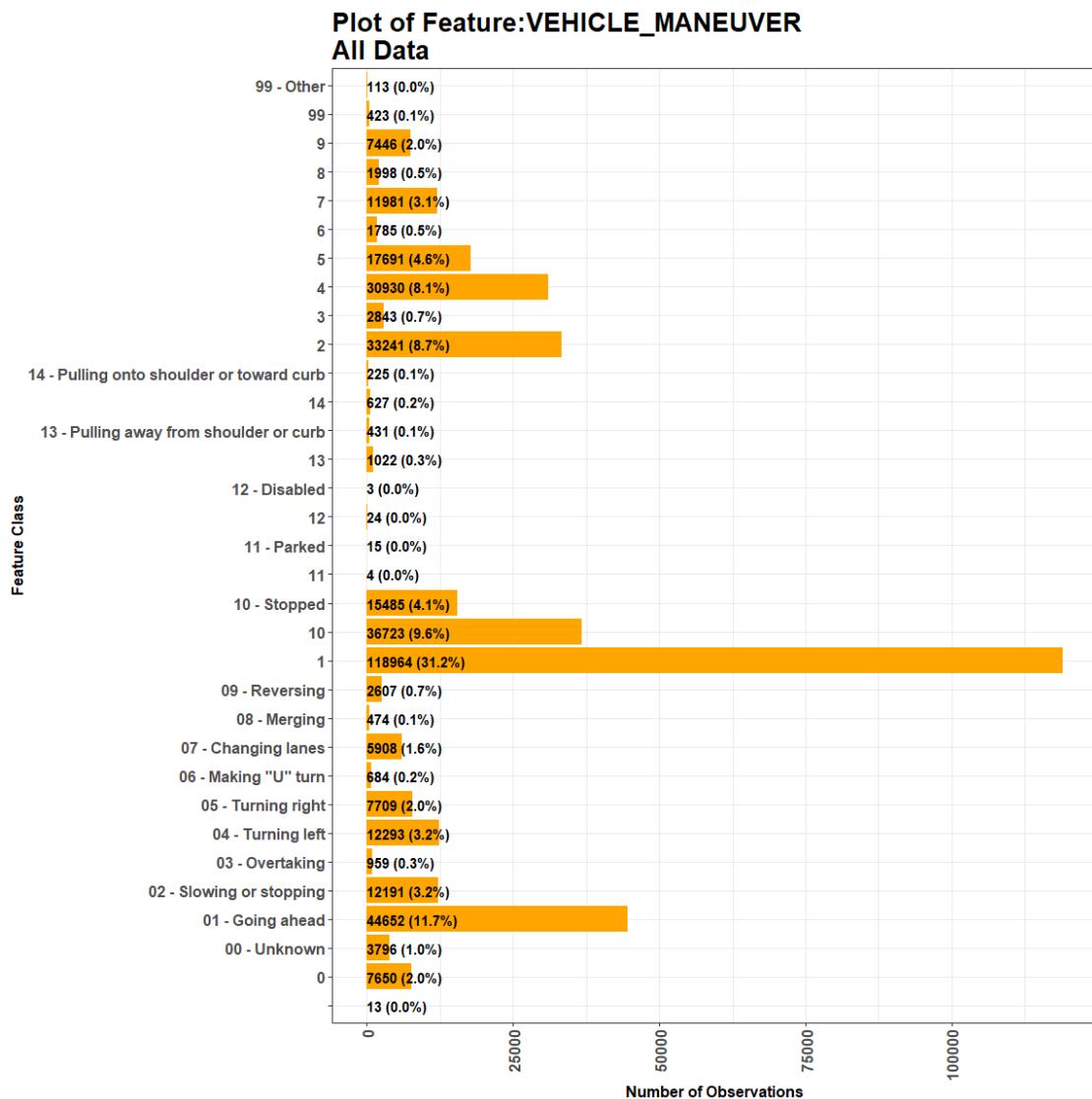
## -----
```

## 00 - Unknown	1161	4.3744
## 01 - Going ahead	11407	42.9788
## 02 - Slowing or stopping	2962	11.1601
## 03 - Overtaking	230	0.8666
## 04 - Turning left	2790	10.5120
## 05 - Turning right	1658	6.2469
## 06 - Making "U" turn	160	0.6028
## 07 - Changing lanes	1425	5.3691
## 08 - Merging	110	0.4145
## 09 - Reversing	547	2.0610
## 10 - Stopped	3936	14.8299
## 11 - Parked	1	0.0038
## 12 - Disabled	1	0.0038
## 13 - Pulling away from shoulder or curb	85	0.3203
## 14 - Pulling onto shoulder or toward curb	55	0.2072
## 99 - Other	13	0.0490



```
##
## =====
## FINAL INFO CHECKING FEATURE:VEHICLE_MANEUVER
## ALL DATA...
## =====
## Number of Blank Values:13
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
```

```
##  
##  
## Summary as Factor Feature:  
## Number of Features: 33
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:VEHICLE_MANEUVER"
```

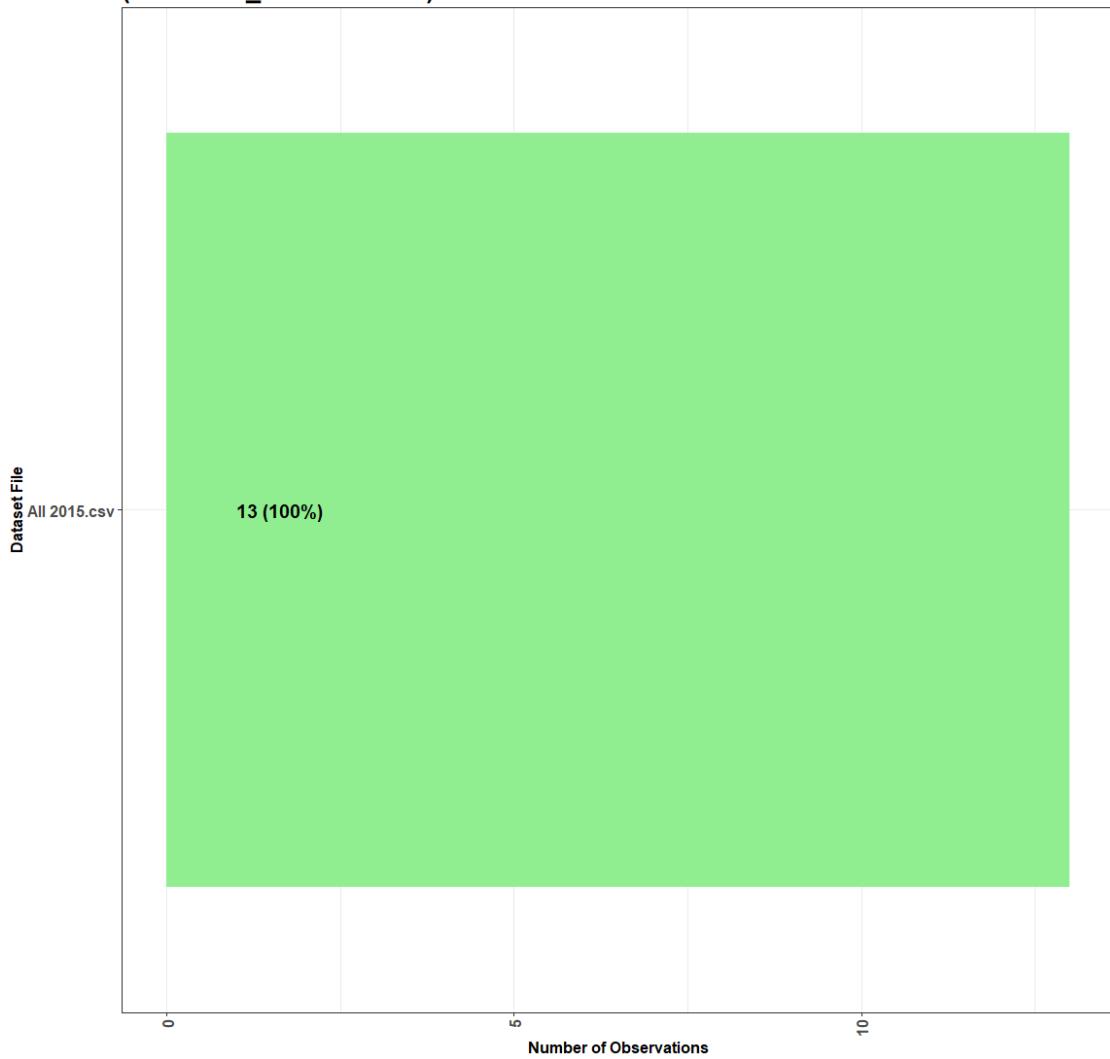
Feature Value	Counter	Percentage
13	13	0.0034
0	7650	2.0083
00 - Unknown	3796	0.9966
01 - Going ahead	44652	11.7225
02 - Slowing or stopping	12191	3.2005

03 - Overtaking	959	0.2518
04 - Turning left	12293	3.2273
05 - Turning right	7709	2.0238
06 - Making "U" turn	684	0.1796
07 - Changing lanes	5908	1.5510
08 - Merging	474	0.1244
09 - Reversing	2607	0.6844
1	118964	31.2315
10	36723	9.6409
10 - Stopped	15485	4.0653
11	4	0.0011
11 - Parked	15	0.0039
12	24	0.0063
12 - Disabled	3	0.0008
13	1022	0.2683
13 - Pulling away from shoulder or curb	431	0.1132
14	627	0.1646
14 - Pulling onto shoulder or toward curb	225	0.0591
2	33241	8.7267
3	2843	0.7464
4	30930	8.1200
5	17691	4.6444
6	1785	0.4686
7	11981	3.1454
8	1998	0.5245
9	7446	1.9548
99	423	0.1110
99 - Other	113	0.0297

26.1 VEHICLE_MANEUVER = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (VEHICLE_MANEUVER=)  
##  
## Summary per Data File:  
## All 2015.csv  
##      13
```

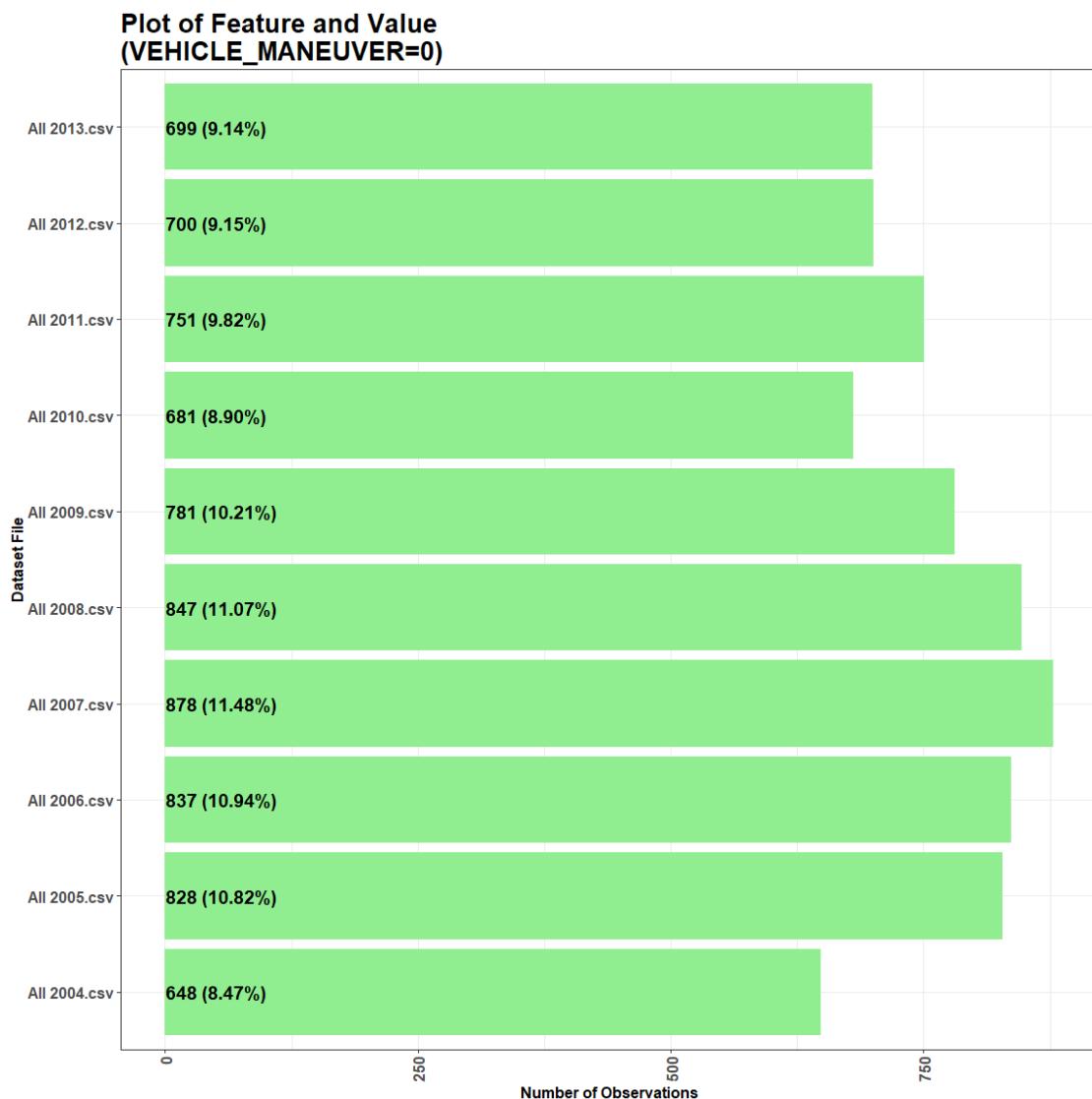
**Plot of Feature and Value
(VEHICLE_MANEUVER=)**



DATASET FILE	COUNTER OF (VEHICLE_MANEUVER=)	Percentage
All 2015.csv	13	100

26.2 VEHICLE_MANEUVER = “0”

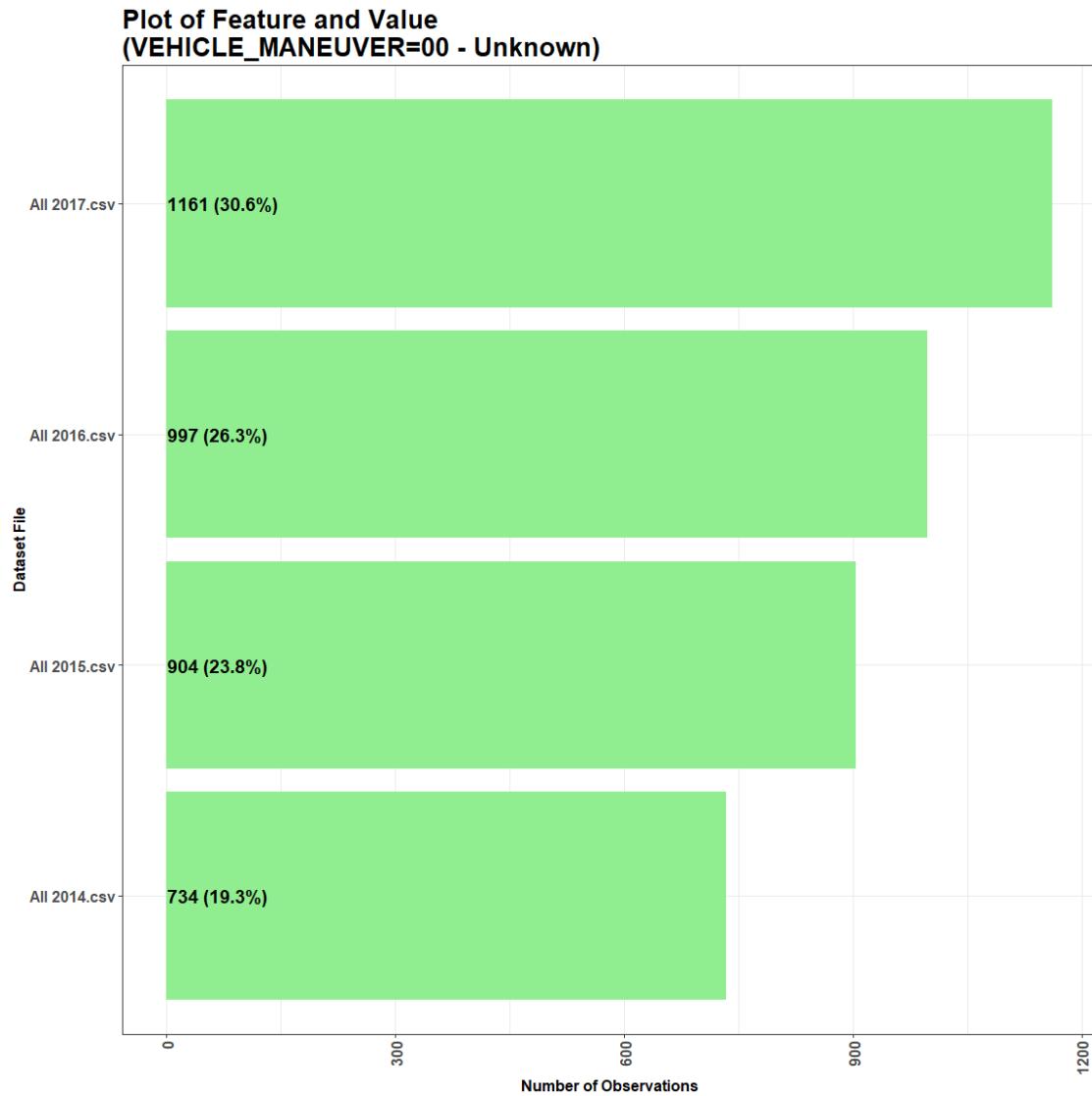
```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_MANEUVER=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##       648      828      837      878      847  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##       781      681      751      700      699
```



DATASET FILE	COUNTER OF (VEHICLE_MANEUVER=0)	Percentage
All 2004.csv	648	8.471
All 2005.csv	828	10.823
All 2006.csv	837	10.941
All 2007.csv	878	11.477
All 2008.csv	847	11.072
All 2009.csv	781	10.209
All 2010.csv	681	8.902
All 2011.csv	751	9.817
All 2012.csv	700	9.150
All 2013.csv	699	9.137

26.3 VEHICLE_MANEUVER = “00 - Unknown”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_MANEUVER=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
##          734         904         997        1161
```



DATASET FILE	COUNTER OF (VEHICLE_MANEUVER=00 - Unknown)	Percentage
All 2014.csv	734	19.34
All 2015.csv	904	23.81
All 2016.csv	997	26.26

All 2017.csv

1161

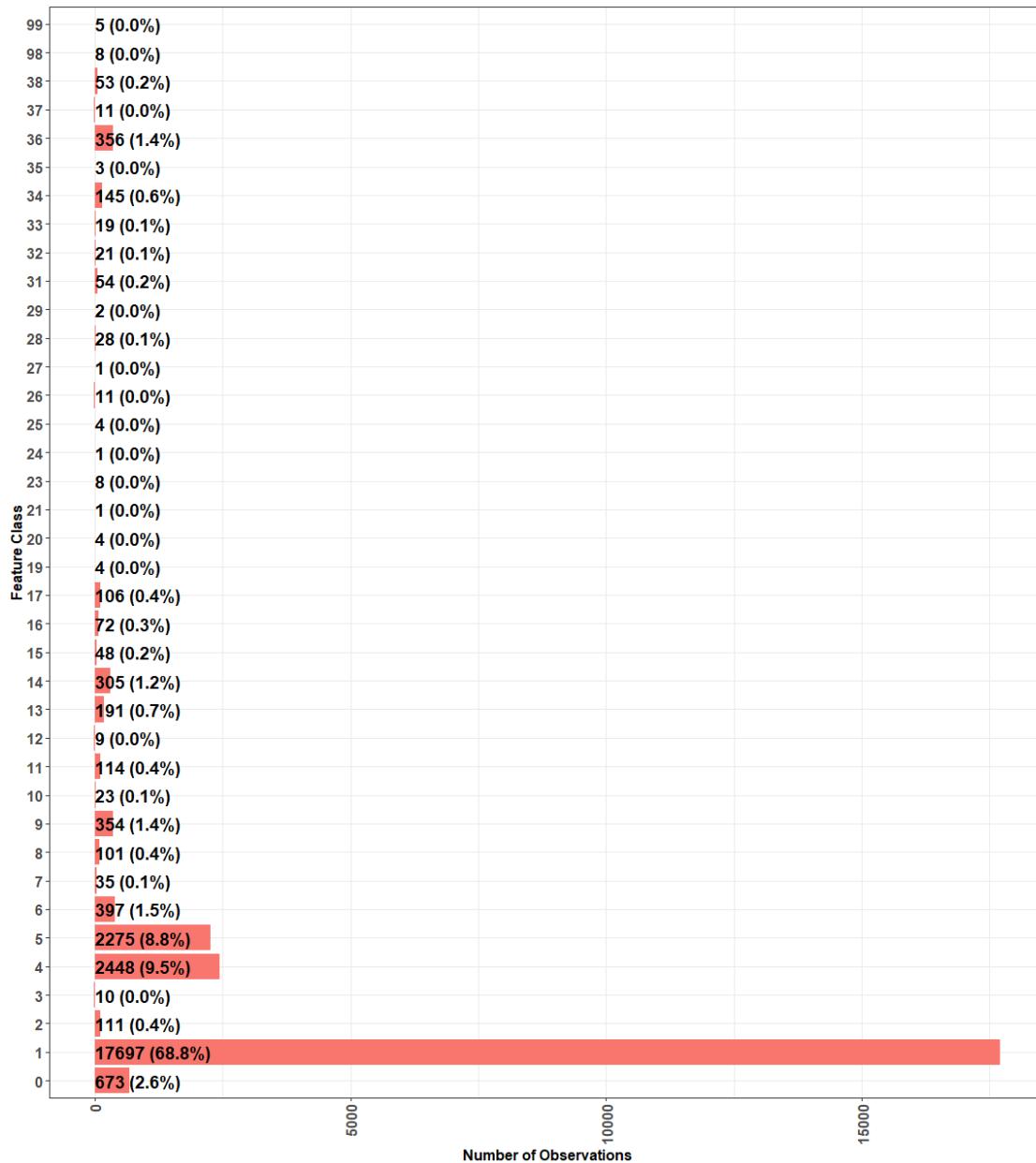
30.58

27. Vehicle Type (VEHICLE_TYPE)

```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 38  
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 673 2.6179  
## 1 17697 68.8385  
## 2 111 0.4318  
## 3 10 0.0389  
## 4 2448 9.5223  
## 5 2275 8.8494  
## 6 397 1.5443  
## 7 35 0.1361  
## 8 101 0.3929  
## 9 354 1.3770  
## 10 23 0.0895  
## 11 114 0.4434  
## 12 9 0.0350  
## 13 191 0.7430  
## 14 305 1.1864  
## 15 48 0.1867  
## 16 72 0.2801  
## 17 106 0.4123  
## 19 4 0.0156  
## 20 4 0.0156  
## 21 1 0.0039  
## 23 8 0.0311  
## 24 1 0.0039  
## 25 4 0.0156  
## 26 11 0.0428  
## 27 1 0.0039  
## 28 28 0.1089  
## 29 2 0.0078  
## 31 54 0.2101
```

## 32	21	0.0817
## 33	19	0.0739
## 34	145	0.5640
## 35	3	0.0117
## 36	356	1.3848
## 37	11	0.0428
## 38	53	0.2062
## 98	8	0.0311
## 99	5	0.0194

**Plot of Feature:VEHICLE_TYPE
Data:All 2004.csv**



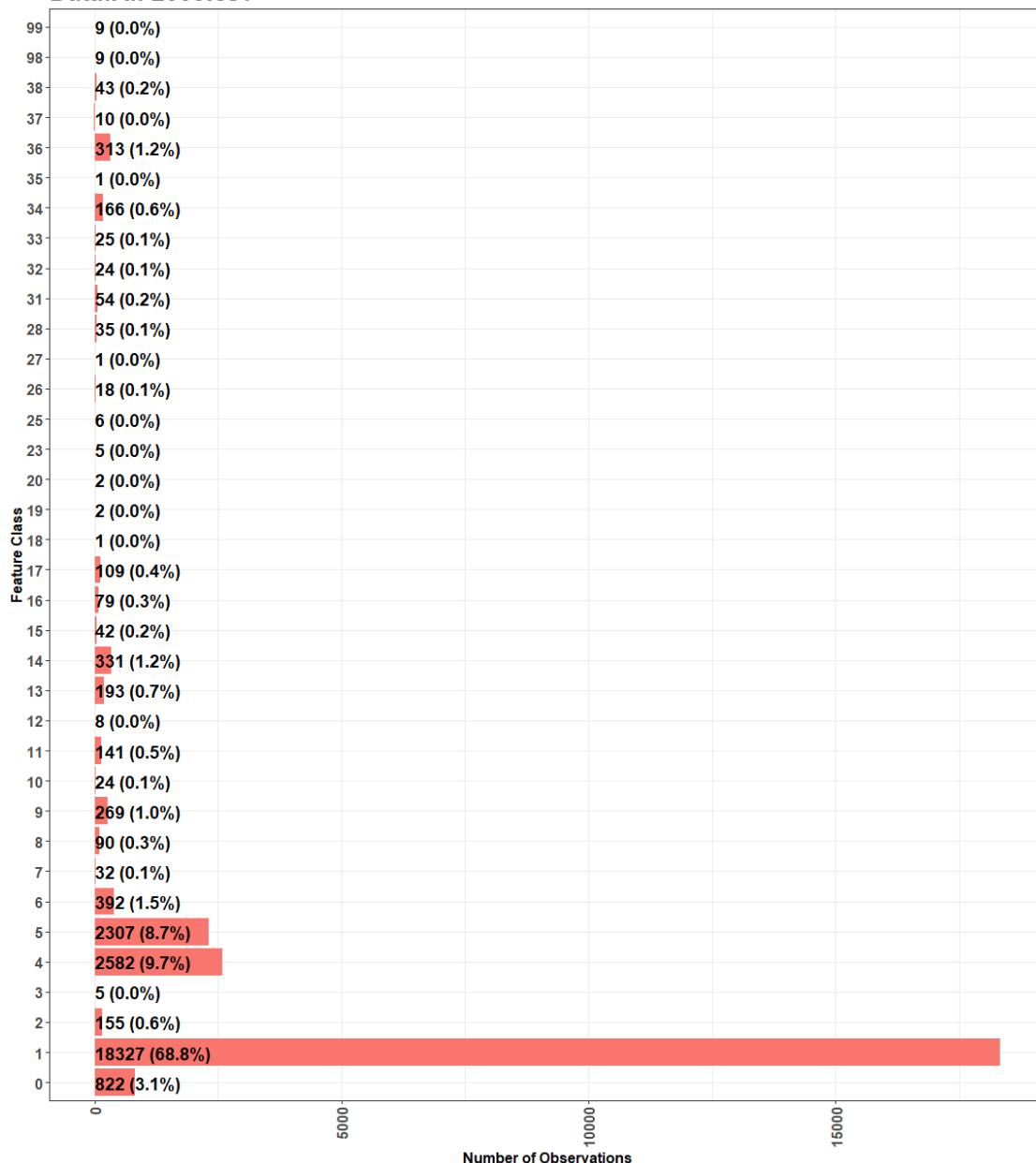
```

## 
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2005.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 36
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value      Counter   Percentage
## -----
## 0                  822       3.0865
## 1                 18327      68.8157
## 2                  155       0.5820
## 3                   5        0.0188
## 4                 2582      9.6951
## 5                 2307      8.6625
## 6                  392       1.4719
## 7                   32       0.1202
## 8                   90       0.3379
## 9                  269       1.0101
## 10                 24        0.0901
## 11                 141       0.5294
## 12                  8        0.0300
## 13                 193       0.7247
## 14                 331      1.2429
## 15                  42       0.1577
## 16                  79       0.2966
## 17                 109      0.4093
## 18                  1        0.0038
## 19                  2        0.0075
## 20                  2        0.0075
## 23                  5        0.0188
## 25                  6        0.0225
## 26                 18       0.0676
## 27                  1        0.0038
## 28                 35       0.1314
## 31                 54       0.2028
## 32                 24       0.0901
## 33                 25       0.0939
## 34                 166      0.6233
## 35                  1        0.0038
## 36                 313      1.1753
## 37                  10      0.0375

```

```
## 38           43    0.1615
## 98           9    0.0338
## 99           9    0.0338
```

Plot of Feature:VEHICLE_TYPE
Data:All 2005.csv



```
##
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2006.csv...
##
## Number of Blank Values:0
```

```

##  

## Summary as Factor Feature:  

##  

## Number of Features: 37  

##  

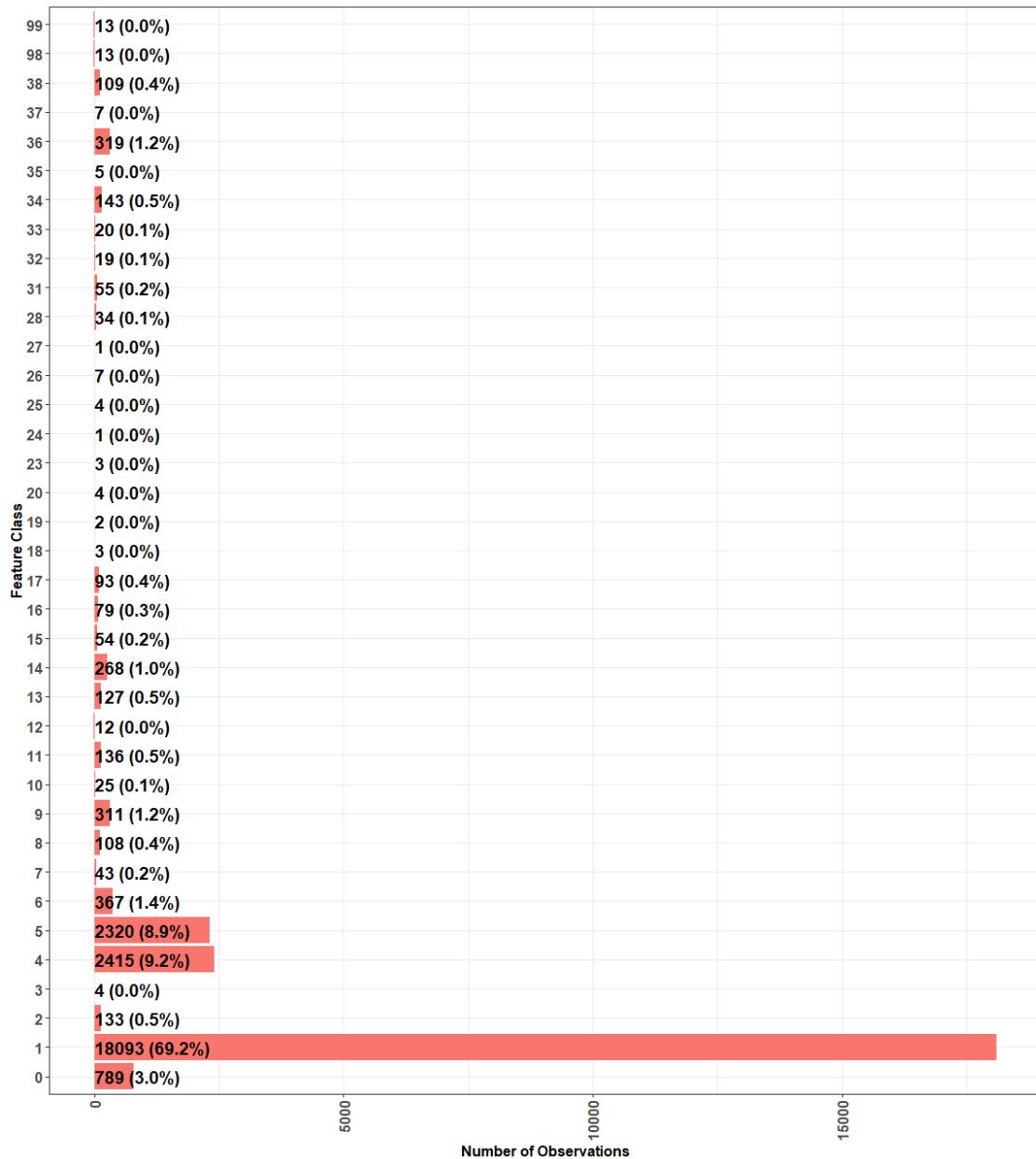
## TOP 100 FEATURES OF VEHICLE_TYPE  

##  

## Feature Value Counter Percentage
## -----
## 0 789 3.0185
## 1 18093 69.2184
## 2 133 0.5088
## 3 4 0.0153
## 4 2415 9.2391
## 5 2320 8.8756
## 6 367 1.4040
## 7 43 0.1645
## 8 108 0.4132
## 9 311 1.1898
## 10 25 0.0956
## 11 136 0.5203
## 12 12 0.0459
## 13 127 0.4859
## 14 268 1.0253
## 15 54 0.2066
## 16 79 0.3022
## 17 93 0.3558
## 18 3 0.0115
## 19 2 0.0077
## 20 4 0.0153
## 23 3 0.0115
## 24 1 0.0038
## 25 4 0.0153
## 26 7 0.0268
## 27 1 0.0038
## 28 34 0.1301
## 31 55 0.2104
## 32 19 0.0727
## 33 20 0.0765
## 34 143 0.5471
## 35 5 0.0191
## 36 319 1.2204
## 37 7 0.0268
## 38 109 0.4170
## 98 13 0.0497
## 99 13 0.0497

```

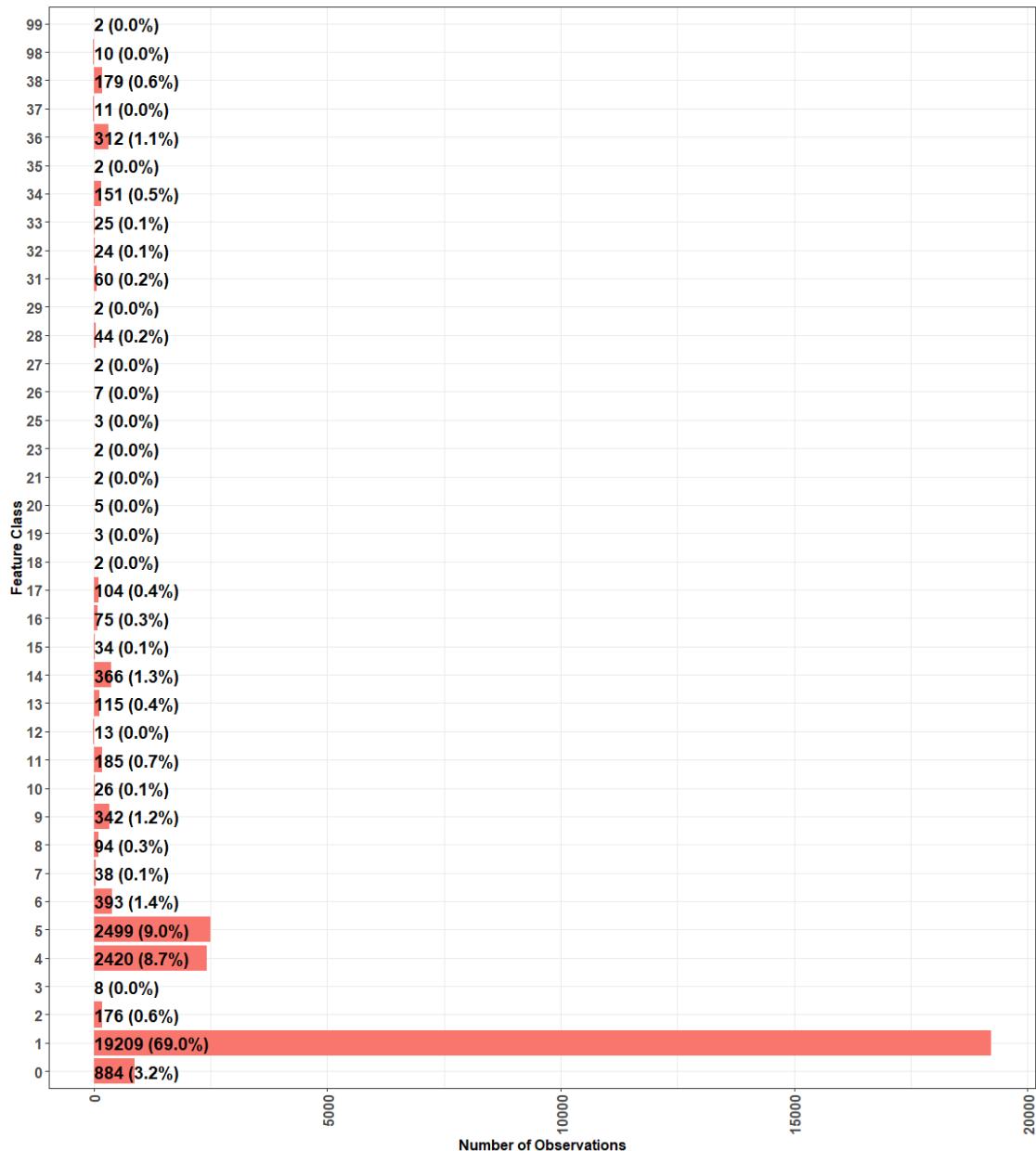
Plot of Feature:VEHICLE_TYPE Data:All 2006.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 38
```

```
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 884 3.1765  
## 1 19209 69.0251  
## 2 176 0.6324  
## 3 8 0.0287  
## 4 2420 8.6960  
## 5 2499 8.9798  
## 6 393 1.4122  
## 7 38 0.1365  
## 8 94 0.3378  
## 9 342 1.2289  
## 10 26 0.0934  
## 11 185 0.6648  
## 12 13 0.0467  
## 13 115 0.4132  
## 14 366 1.3152  
## 15 34 0.1222  
## 16 75 0.2695  
## 17 104 0.3737  
## 18 2 0.0072  
## 19 3 0.0108  
## 20 5 0.0180  
## 21 2 0.0072  
## 23 2 0.0072  
## 25 3 0.0108  
## 26 7 0.0252  
## 27 2 0.0072  
## 28 44 0.1581  
## 29 2 0.0072  
## 31 60 0.2156  
## 32 24 0.0862  
## 33 25 0.0898  
## 34 151 0.5426  
## 35 2 0.0072  
## 36 312 1.1211  
## 37 11 0.0395  
## 38 179 0.6432  
## 98 10 0.0359  
## 99 2 0.0072
```

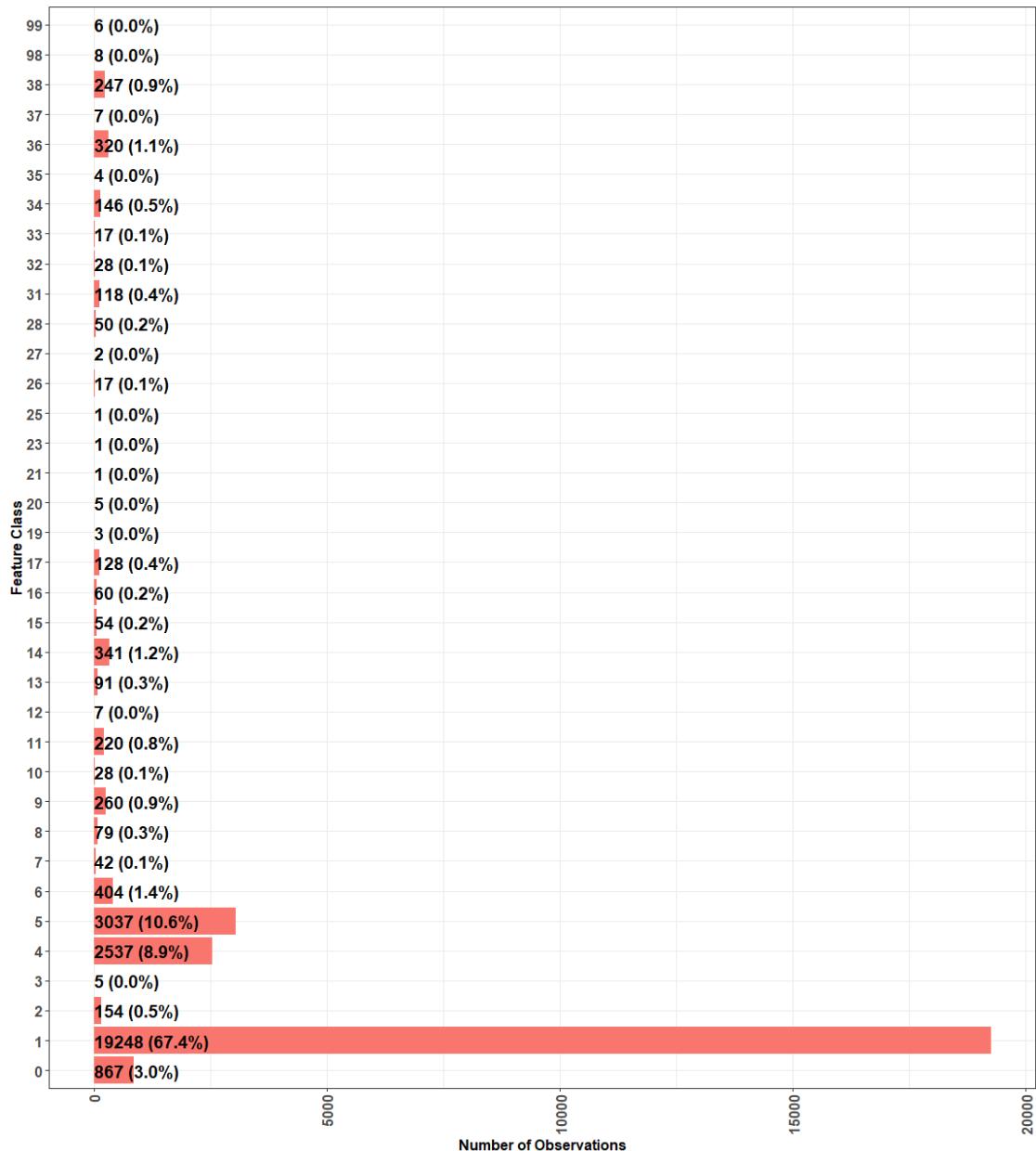
Plot of Feature:VEHICLE_TYPE Data:All 2007.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2008.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 36
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value   Counter   Percentage
## -----
## 0               867       3.0375
## 1              19248      67.4351
## 2               154       0.5395
## 3                 5       0.0175
## 4              2537      8.8883
## 5              3037     10.6401
## 6               404       1.4154
## 7               42        0.1471
## 8                79       0.2768
## 9               260       0.9109
## 10              28        0.0981
## 11              220       0.7708
## 12               7        0.0245
## 13               91       0.3188
## 14              341      1.1947
## 15               54       0.1892
## 16               60       0.2102
## 17              128      0.4484
## 19                 3       0.0105
## 20                 5       0.0175
## 21                 1       0.0035
## 23                 1       0.0035
## 25                 1       0.0035
## 26               17       0.0596
## 27                 2       0.0070
## 28               50       0.1752
## 31              118      0.4134
## 32               28       0.0981
## 33               17       0.0596
## 34              146      0.5115
## 35                 4       0.0140
## 36              320      1.1211
## 37                 7       0.0245
## 38              247      0.8654
## 98                 8       0.0280
## 99                 6       0.0210
```

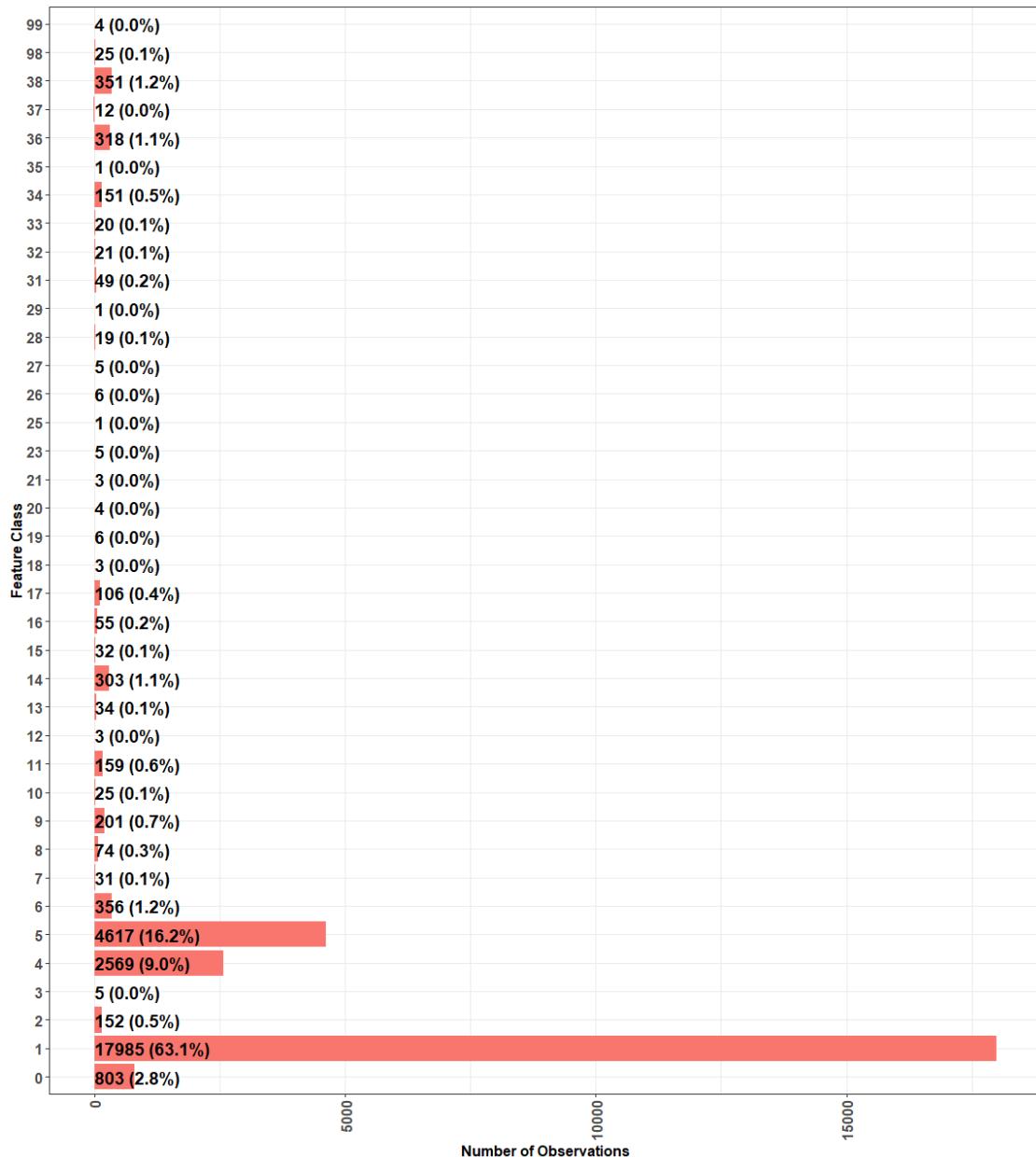
Plot of Feature:VEHICLE_TYPE Data>All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA>All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 38
```

```
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 803 2.8161  
## 1 17985 63.0721  
## 2 152 0.5331  
## 3 5 0.0175  
## 4 2569 9.0093  
## 5 4617 16.1915  
## 6 356 1.2485  
## 7 31 0.1087  
## 8 74 0.2595  
## 9 201 0.7049  
## 10 25 0.0877  
## 11 159 0.5576  
## 12 3 0.0105  
## 13 34 0.1192  
## 14 303 1.0626  
## 15 32 0.1122  
## 16 55 0.1929  
## 17 106 0.3717  
## 18 3 0.0105  
## 19 6 0.0210  
## 20 4 0.0140  
## 21 3 0.0105  
## 23 5 0.0175  
## 25 1 0.0035  
## 26 6 0.0210  
## 27 5 0.0175  
## 28 19 0.0666  
## 29 1 0.0035  
## 31 49 0.1718  
## 32 21 0.0736  
## 33 20 0.0701  
## 34 151 0.5295  
## 35 1 0.0035  
## 36 318 1.1152  
## 37 12 0.0421  
## 38 351 1.2309  
## 98 25 0.0877  
## 99 4 0.0140
```

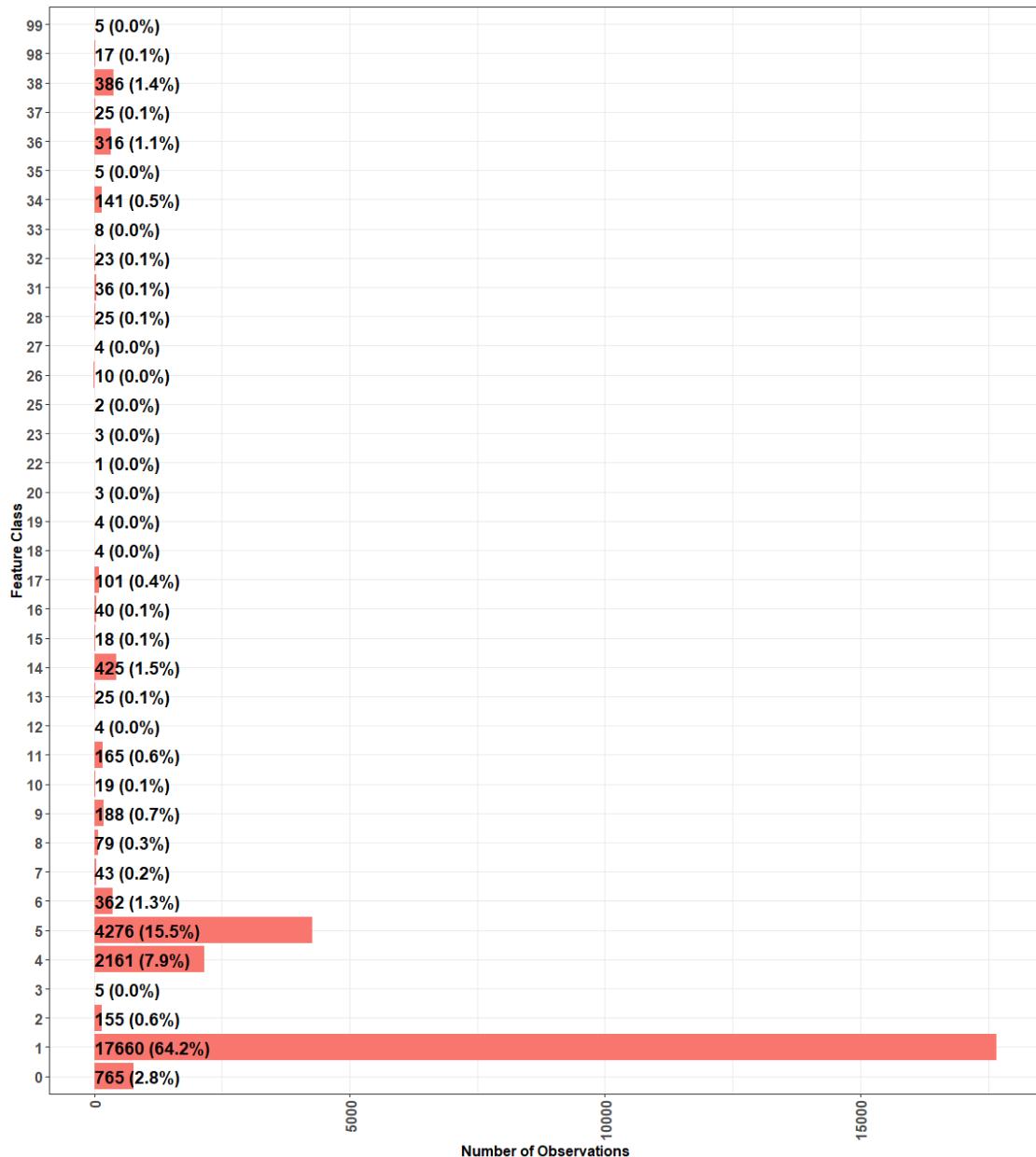
Plot of Feature:VEHICLE_TYPE Data:All 2009.csv



```
##
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 37
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value   Counter   Percentage
## -----
## 0               765       2.7809
## 1               17660      64.1972
## 2               155       0.5635
## 3                  5       0.0182
## 4               2161      7.8556
## 5               4276      15.5440
## 6               362       1.3159
## 7                  43      0.1563
## 8                  79      0.2872
## 9               188       0.6834
## 10              19        0.0691
## 11              165       0.5998
## 12                 4       0.0145
## 13                 25      0.0909
## 14              425       1.5449
## 15                 18      0.0654
## 16                 40      0.1454
## 17              101       0.3672
## 18                 4       0.0145
## 19                 4       0.0145
## 20                 3       0.0109
## 22                 1       0.0036
## 23                 3       0.0109
## 25                 2       0.0073
## 26                 10      0.0364
## 27                 4       0.0145
## 28                 25      0.0909
## 31                 36      0.1309
## 32                 23      0.0836
## 33                 8       0.0291
## 34              141       0.5126
## 35                 5       0.0182
## 36              316       1.1487
## 37                 25      0.0909
## 38              386       1.4032
## 98                 17      0.0618
## 99                  5       0.0182
```

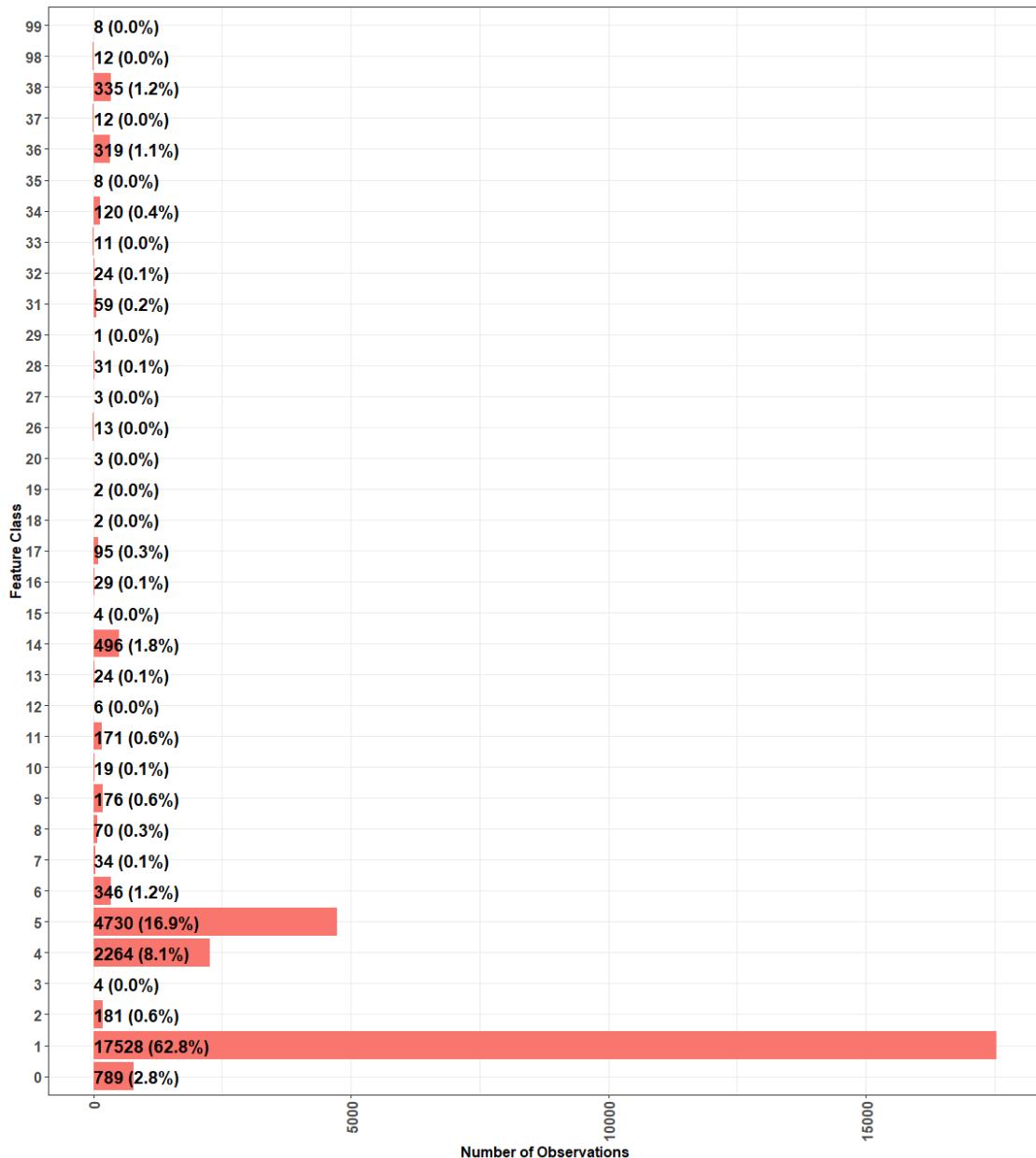
Plot of Feature:VEHICLE_TYPE Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 789 2.8250  
## 1 17528 62.7591  
## 2 181 0.6481  
## 3 4 0.0143  
## 4 2264 8.1063  
## 5 4730 16.9358  
## 6 346 1.2389  
## 7 34 0.1217  
## 8 70 0.2506  
## 9 176 0.6302  
## 10 19 0.0680  
## 11 171 0.6123  
## 12 6 0.0215  
## 13 24 0.0859  
## 14 496 1.7759  
## 15 4 0.0143  
## 16 29 0.1038  
## 17 95 0.3401  
## 18 2 0.0072  
## 19 2 0.0072  
## 20 3 0.0107  
## 26 13 0.0465  
## 27 3 0.0107  
## 28 31 0.1110  
## 29 1 0.0036  
## 31 59 0.2112  
## 32 24 0.0859  
## 33 11 0.0394  
## 34 120 0.4297  
## 35 8 0.0286  
## 36 319 1.1422  
## 37 12 0.0430  
## 38 335 1.1995  
## 98 12 0.0430  
## 99 8 0.0286
```

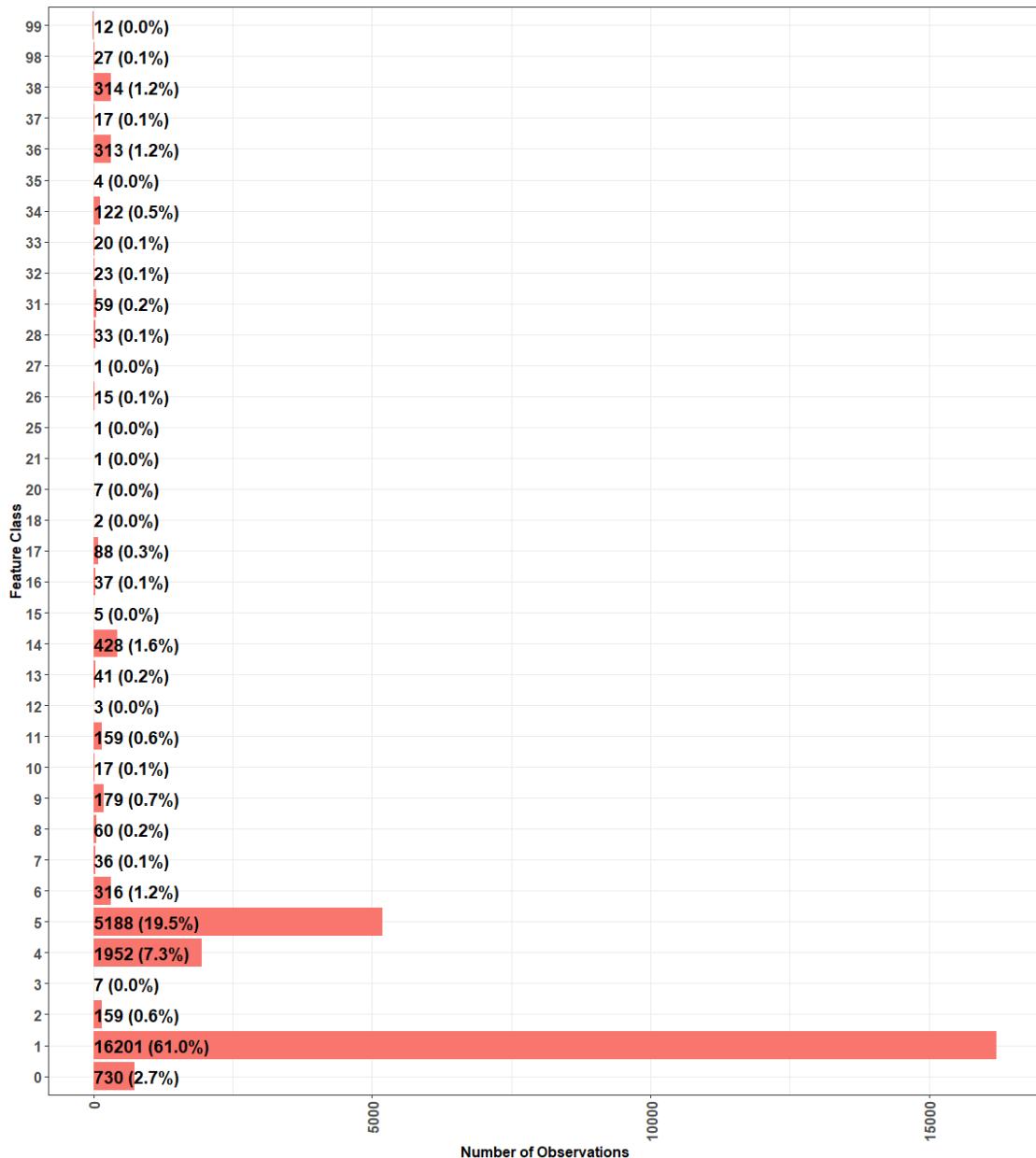
Plot of Feature:VEHICLE_TYPE Data:All 2011.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2012.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 35
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value   Counter   Percentage
## -----
## 0               730       2.7467
## 1               16201      60.9587
## 2               159       0.5983
## 3               7         0.0263
## 4               1952      7.3447
## 5               5188      19.5206
## 6               316       1.1890
## 7               36        0.1355
## 8               60        0.2258
## 9               179       0.6735
## 10              17        0.0640
## 11              159       0.5983
## 12              3         0.0113
## 13              41        0.1543
## 14              428       1.6104
## 15              5         0.0188
## 16              37        0.1392
## 17              88        0.3311
## 18              2         0.0075
## 20              7         0.0263
## 21              1         0.0038
## 25              1         0.0038
## 26              15        0.0564
## 27              1         0.0038
## 28              33        0.1242
## 31              59        0.2220
## 32              23        0.0865
## 33              20        0.0753
## 34              122       0.4590
## 35              4         0.0151
## 36              313       1.1777
## 37              17        0.0640
## 38              314       1.1815
## 98              27        0.1016
## 99              12        0.0452
```

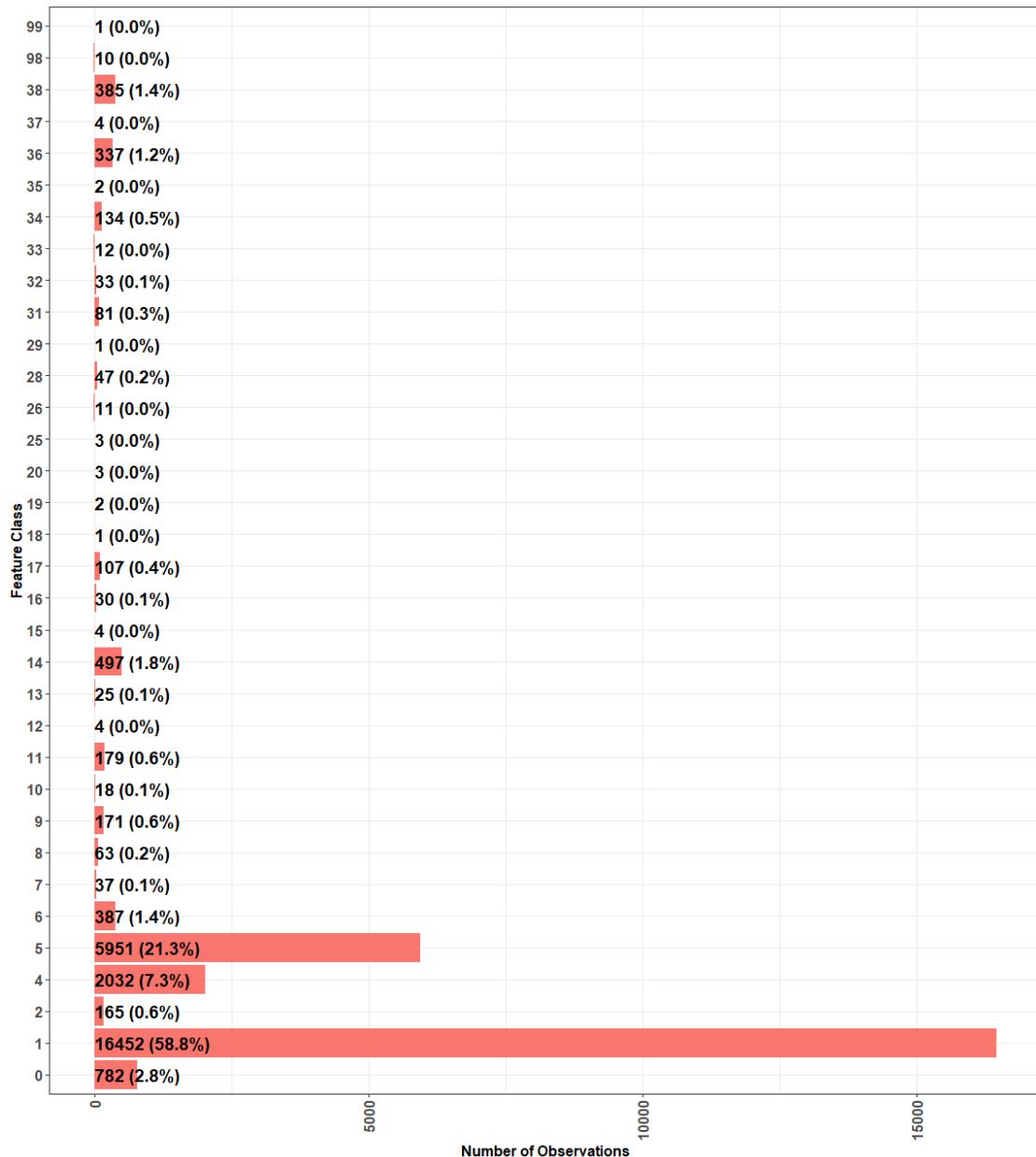
Plot of Feature:VEHICLE_TYPE Data:All 2012.csv



```
##
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 34
```

```
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 0 782 2.7958  
## 1 16452 58.8181  
## 2 165 0.5899  
## 4 2032 7.2647  
## 5 5951 21.2756  
## 6 387 1.3836  
## 7 37 0.1323  
## 8 63 0.2252  
## 9 171 0.6113  
## 10 18 0.0644  
## 11 179 0.6399  
## 12 4 0.0143  
## 13 25 0.0894  
## 14 497 1.7768  
## 15 4 0.0143  
## 16 30 0.1073  
## 17 107 0.3825  
## 18 1 0.0036  
## 19 2 0.0072  
## 20 3 0.0107  
## 25 3 0.0107  
## 26 11 0.0393  
## 28 47 0.1680  
## 29 1 0.0036  
## 31 81 0.2896  
## 32 33 0.1180  
## 33 12 0.0429  
## 34 134 0.4791  
## 35 2 0.0072  
## 36 337 1.2048  
## 37 4 0.0143  
## 38 385 1.3764  
## 98 10 0.0358  
## 99 1 0.0036
```

Plot of Feature:VEHICLE_TYPE Data:All 2013.csv

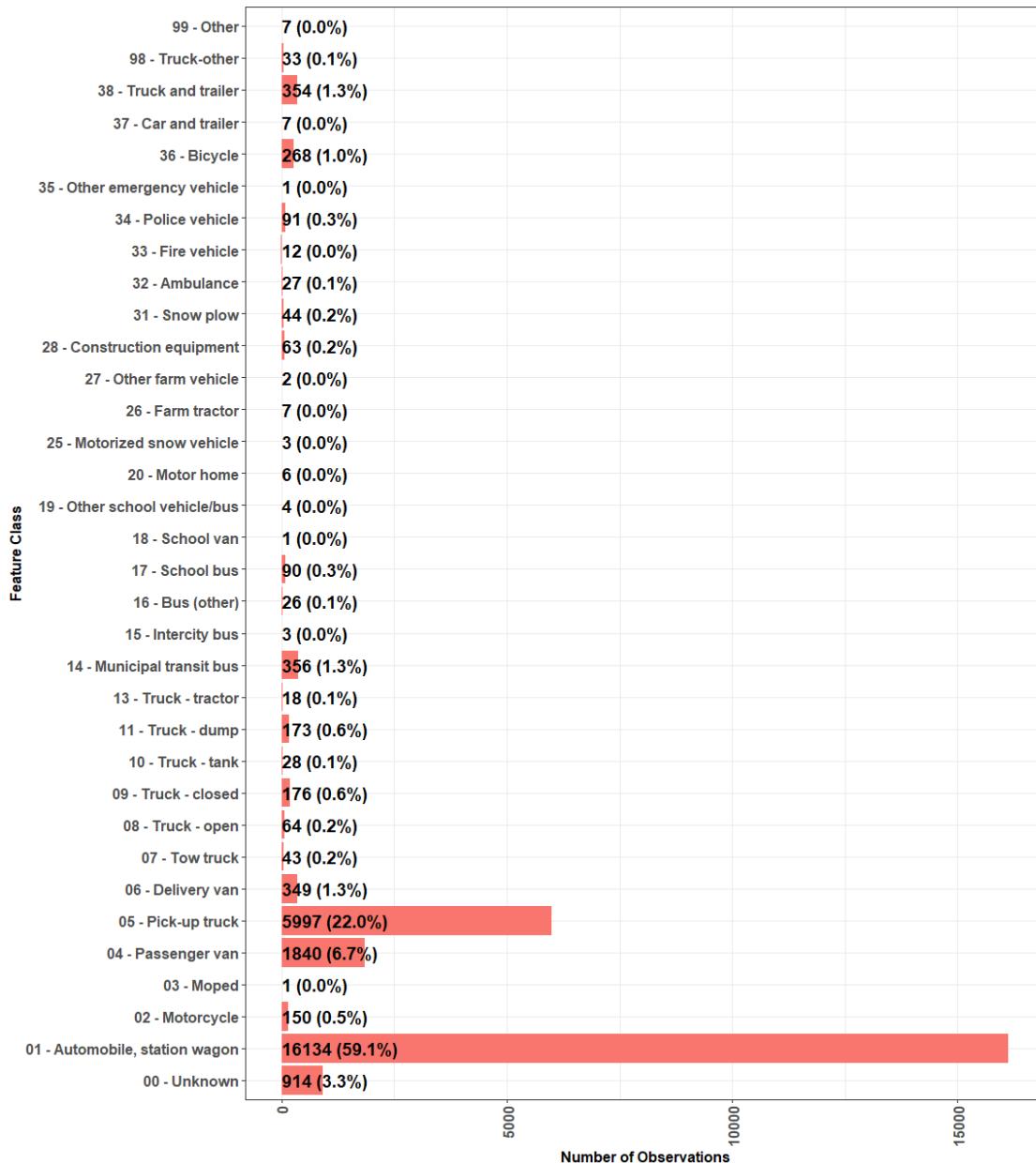


```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA:All 2014.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 34
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 914 3.3490
## 01 - Automobile, station wagon 16134 59.1162
## 02 - Motorcycle 150 0.5496
## 03 - Moped 1 0.0037
## 04 - Passenger van 1840 6.7419
## 05 - Pick-up truck 5997 21.9735
## 06 - Delivery van 349 1.2788
## 07 - Tow truck 43 0.1576
## 08 - Truck - open 64 0.2345
## 09 - Truck - closed 176 0.6449
## 10 - Truck - tank 28 0.1026
## 11 - Truck - dump 173 0.6339
## 13 - Truck - tractor 18 0.0660
## 14 - Municipal transit bus 356 1.3044
## 15 - Intercity bus 3 0.0110
## 16 - Bus (other) 26 0.0953
## 17 - School bus 90 0.3298
## 18 - School van 1 0.0037
## 19 - Other school vehicle/bus 4 0.0147
## 20 - Motor home 6 0.0220
## 25 - Motorized snow vehicle 3 0.0110
## 26 - Farm tractor 7 0.0256
## 27 - Other farm vehicle 2 0.0073
## 28 - Construction equipment 63 0.2308
## 31 - Snow plow 44 0.1612
## 32 - Ambulance 27 0.0989
## 33 - Fire vehicle 12 0.0440
## 34 - Police vehicle 91 0.3334
## 35 - Other emergency vehicle 1 0.0037
## 36 - Bicycle 268 0.9820
## 37 - Car and trailer 7 0.0256
## 38 - Truck and trailer 354 1.2971
## 98 - Truck-other 33 0.1209
## 99 - Other 7 0.0256
```



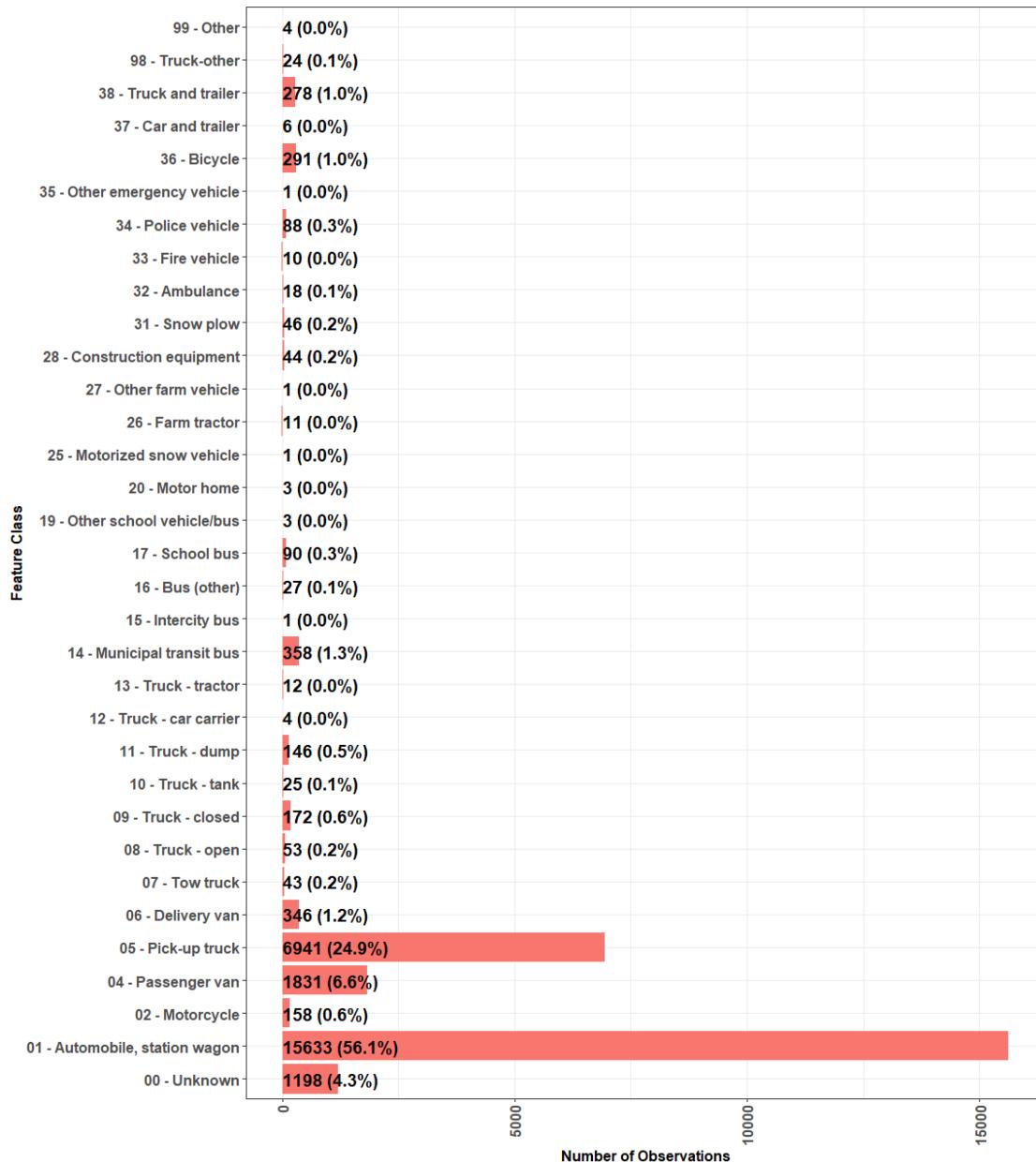
Plot of Feature:VEHICLE_TYPE
Data>All 2014.csv



```
##  
## -----  
## CHECKING FEATURE:VEHICLE_TYPE  
## DATA>All 2015.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 33
```

```
##  
## TOP 100 FEATURES OF VEHICLE_TYPE  
##  
## Feature Value Counter Percentage  
## -----  
## 00 - Unknown 1198 4.2990  
## 01 - Automobile, station wagon 15633 56.0986  
## 02 - Motorcycle 158 0.5670  
## 04 - Passenger van 1831 6.5705  
## 05 - Pick-up truck 6941 24.9076  
## 06 - Delivery van 346 1.2416  
## 07 - Tow truck 43 0.1543  
## 08 - Truck - open 53 0.1902  
## 09 - Truck - closed 172 0.6172  
## 10 - Truck - tank 25 0.0897  
## 11 - Truck - dump 146 0.5239  
## 12 - Truck - car carrier 4 0.0144  
## 13 - Truck - tractor 12 0.0431  
## 14 - Municipal transit bus 358 1.2847  
## 15 - Intercity bus 1 0.0036  
## 16 - Bus (other) 27 0.0969  
## 17 - School bus 90 0.3230  
## 19 - Other school vehicle/bus 3 0.0108  
## 20 - Motor home 3 0.0108  
## 25 - Motorized snow vehicle 1 0.0036  
## 26 - Farm tractor 11 0.0395  
## 27 - Other farm vehicle 1 0.0036  
## 28 - Construction equipment 44 0.1579  
## 31 - Snow plow 46 0.1651  
## 32 - Ambulance 18 0.0646  
## 33 - Fire vehicle 10 0.0359  
## 34 - Police vehicle 88 0.3158  
## 35 - Other emergency vehicle 1 0.0036  
## 36 - Bicycle 291 1.0442  
## 37 - Car and trailer 6 0.0215  
## 38 - Truck and trailer 278 0.9976  
## 98 - Truck-other 24 0.0861  
## 99 - Other 4 0.0144
```

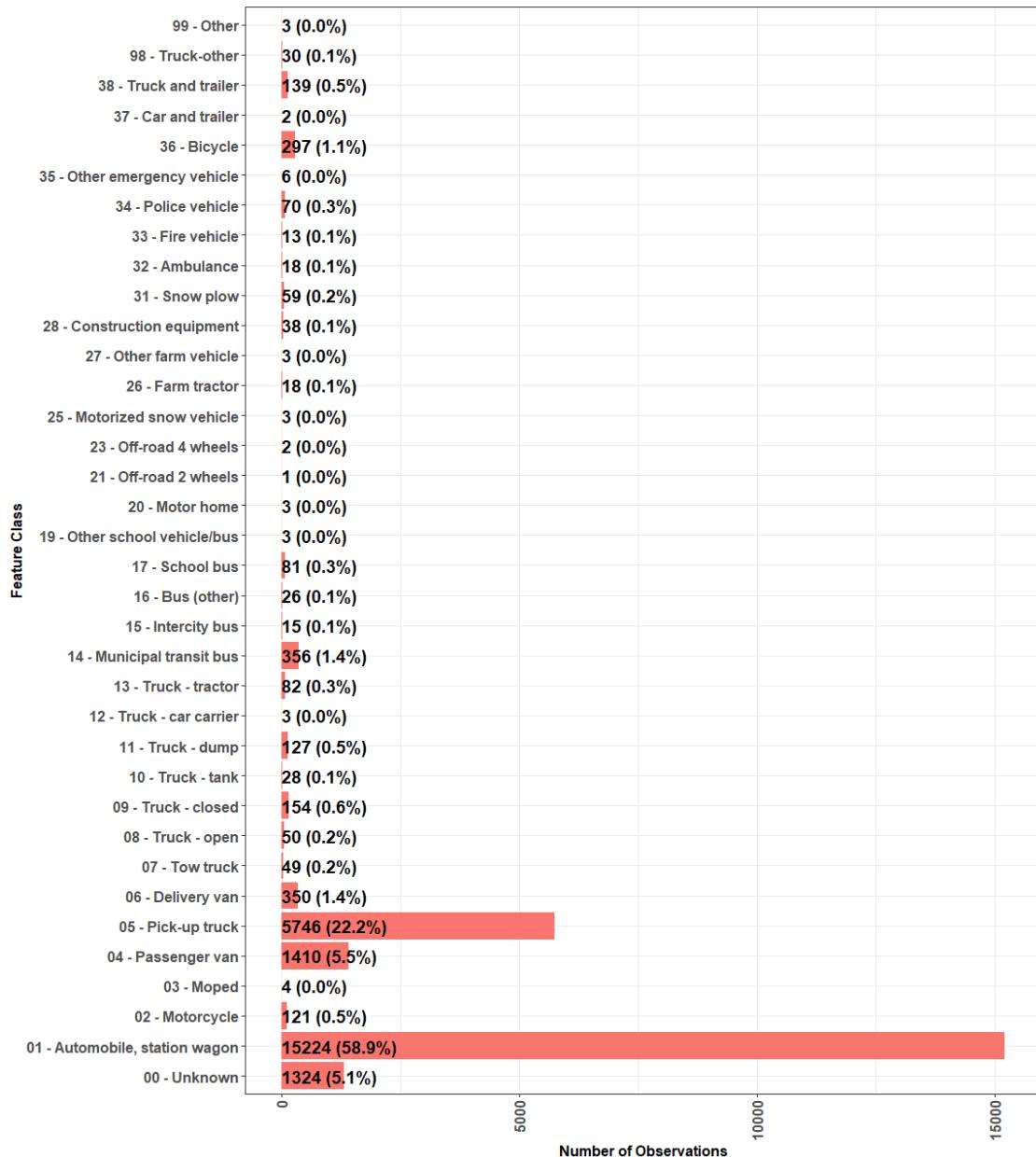
**Plot of Feature:VEHICLE_TYPE
Data:All 2015.csv**



```
##
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 36
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 1324 5.1203
## 01 - Automobile, station wagon 15224 58.8754
## 02 - Motorcycle 121 0.4679
## 03 - Moped 4 0.0155
## 04 - Passenger van 1410 5.4529
## 05 - Pick-up truck 5746 22.2214
## 06 - Delivery van 350 1.3535
## 07 - Tow truck 49 0.1895
## 08 - Truck - open 50 0.1934
## 09 - Truck - closed 154 0.5956
## 10 - Truck - tank 28 0.1083
## 11 - Truck - dump 127 0.4911
## 12 - Truck - car carrier 3 0.0116
## 13 - Truck - tractor 82 0.3171
## 14 - Municipal transit bus 356 1.3767
## 15 - Intercity bus 15 0.0580
## 16 - Bus (other) 26 0.1005
## 17 - School bus 81 0.3132
## 19 - Other school vehicle/bus 3 0.0116
## 20 - Motor home 3 0.0116
## 21 - Off-road 2 wheels 1 0.0039
## 23 - Off-road 4 wheels 2 0.0077
## 25 - Motorized snow vehicle 3 0.0116
## 26 - Farm tractor 18 0.0696
## 27 - Other farm vehicle 3 0.0116
## 28 - Construction equipment 38 0.1470
## 31 - Snow plow 59 0.2282
## 32 - Ambulance 18 0.0696
## 33 - Fire vehicle 13 0.0503
## 34 - Police vehicle 70 0.2707
## 35 - Other emergency vehicle 6 0.0232
## 36 - Bicycle 297 1.1486
## 37 - Car and trailer 2 0.0077
## 38 - Truck and trailer 139 0.5376
## 98 - Truck-other 30 0.1160
## 99 - Other 3 0.0116
```

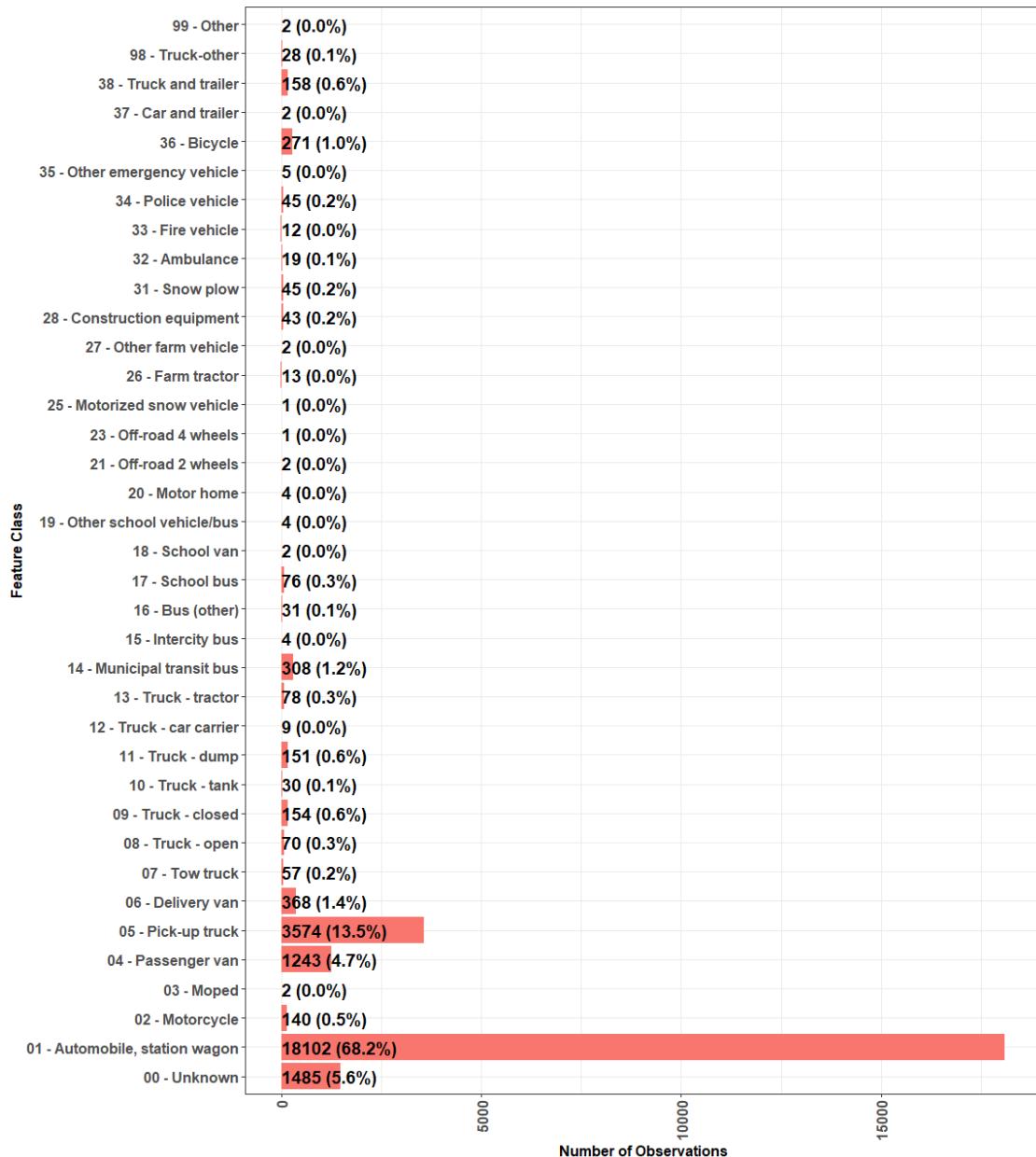
**Plot of Feature:VEHICLE_TYPE
Data:All 2016.csv**



```
##
## -----
## CHECKING FEATURE:VEHICLE_TYPE
## DATA:All 2017.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 37
```

```
##
## TOP 100 FEATURES OF VEHICLE_TYPE
##
## Feature Value Counter Percentage
## -----
## 00 - Unknown 1485 5.5951
## 01 - Automobile, station wagon 18102 68.2039
## 02 - Motorcycle 140 0.5275
## 03 - Moped 2 0.0075
## 04 - Passenger van 1243 4.6833
## 05 - Pick-up truck 3574 13.4660
## 06 - Delivery van 368 1.3865
## 07 - Tow truck 57 0.2148
## 08 - Truck - open 70 0.2637
## 09 - Truck - closed 154 0.5802
## 10 - Truck - tank 30 0.1130
## 11 - Truck - dump 151 0.5689
## 12 - Truck - car carrier 9 0.0339
## 13 - Truck - tractor 78 0.2939
## 14 - Municipal transit bus 308 1.1605
## 15 - Intercity bus 4 0.0151
## 16 - Bus (other) 31 0.1168
## 17 - School bus 76 0.2863
## 18 - School van 2 0.0075
## 19 - Other school vehicle/bus 4 0.0151
## 20 - Motor home 4 0.0151
## 21 - Off-road 2 wheels 2 0.0075
## 23 - Off-road 4 wheels 1 0.0038
## 25 - Motorized snow vehicle 1 0.0038
## 26 - Farm tractor 13 0.0490
## 27 - Other farm vehicle 2 0.0075
## 28 - Construction equipment 43 0.1620
## 31 - Snow plow 45 0.1695
## 32 - Ambulance 19 0.0716
## 33 - Fire vehicle 12 0.0452
## 34 - Police vehicle 45 0.1695
## 35 - Other emergency vehicle 5 0.0188
## 36 - Bicycle 271 1.0211
## 37 - Car and trailer 2 0.0075
## 38 - Truck and trailer 158 0.5953
## 98 - Truck-other 28 0.1055
## 99 - Other 2 0.0075
```

**Plot of Feature:VEHICLE_TYPE
Data>All 2017.csv**

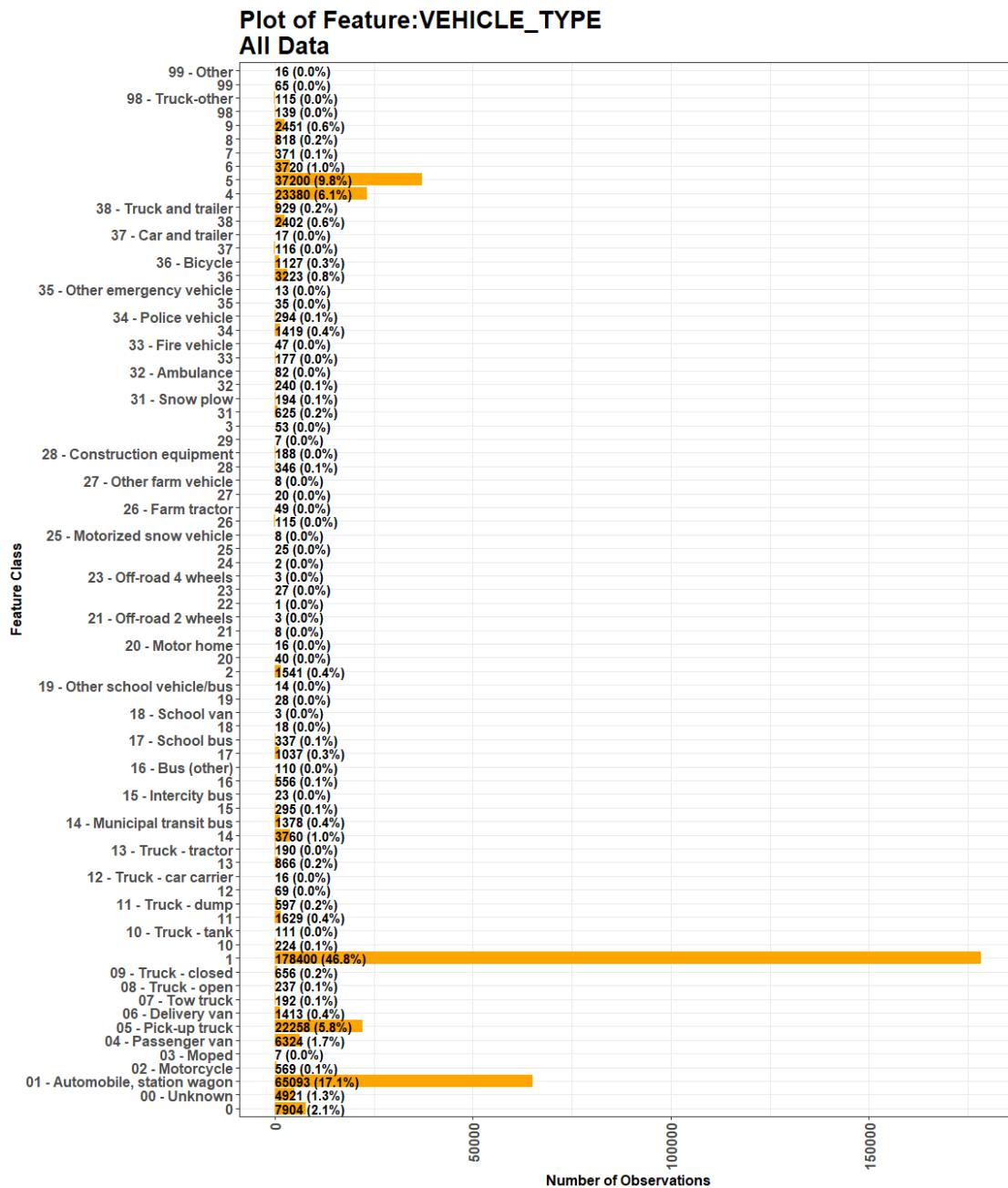


```
##
## =====
## FINAL INFO CHECKING FEATURE:VEHICLE_TYPE
## ALL DATA...
## =====
## Number of Blank Values:0
## 
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
```

```
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
##  

## Summary as Factor Feature:  

## Number of Features: 77
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:VEHICLE_TYPE"
```

Feature Value	Counter	Percentage
0	7904	2.0750
00 - Unknown	4921	1.2919
01 - Automobile, station wagon	65093	17.0888
02 - Motorcycle	569	0.1494
03 - Moped	7	0.0018
04 - Passenger van	6324	1.6602
05 - Pick-up truck	22258	5.8434
06 - Delivery van	1413	0.3710
07 - Tow truck	192	0.0504
08 - Truck - open	237	0.0622
09 - Truck - closed	656	0.1722
1	178400	46.8352
10	224	0.0588
10 - Truck - tank	111	0.0291
11	1629	0.4277
11 - Truck - dump	597	0.1567
12	69	0.0181
12 - Truck - car carrier	16	0.0042
13	866	0.2274
13 - Truck - tractor	190	0.0499
14	3760	0.9871
14 - Municipal transit bus	1378	0.3618
15	295	0.0774
15 - Intercity bus	23	0.0060
16	556	0.1460
16 - Bus (other)	110	0.0289
17	1037	0.2722
17 - School bus	337	0.0885
18	18	0.0047
18 - School van	3	0.0008
19	28	0.0074
19 - Other school vehicle/bus	14	0.0037
2	1541	0.4046

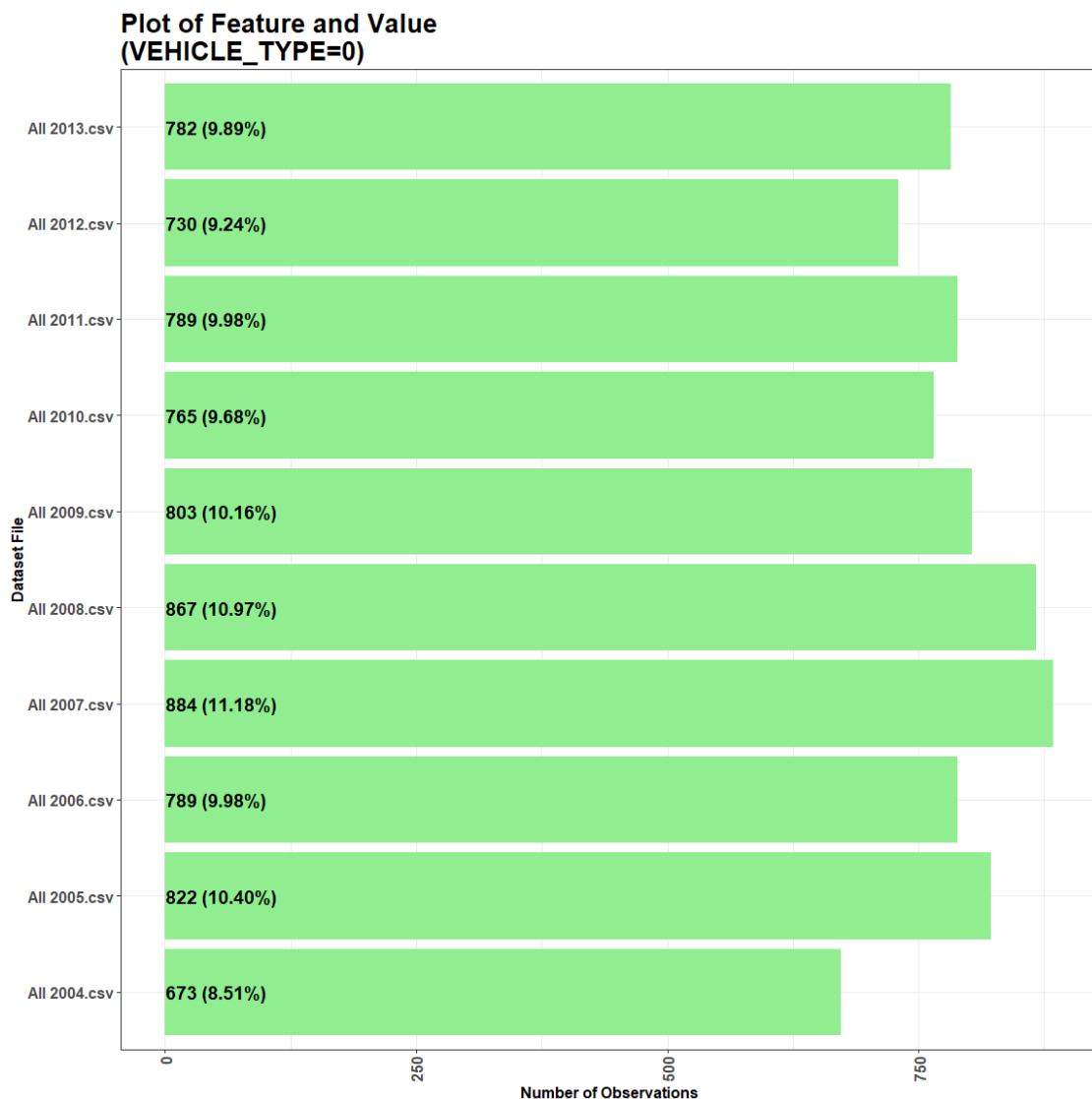
20	40	0.0105
20 - Motor home	16	0.0042
21	8	0.0021
21 - Off-road 2 wheels	3	0.0008
22	1	0.0003
23	27	0.0071
23 - Off-road 4 wheels	3	0.0008
24	2	0.0005
25	25	0.0066
25 - Motorized snow vehicle	8	0.0021
26	115	0.0302
26 - Farm tractor	49	0.0129
27	20	0.0053
27 - Other farm vehicle	8	0.0021
28	346	0.0908
28 - Construction equipment	188	0.0494
29	7	0.0018
3	53	0.0139
31	625	0.1641
31 - Snow plow	194	0.0509
32	240	0.0630
32 - Ambulance	82	0.0215
33	177	0.0465
33 - Fire vehicle	47	0.0123
34	1419	0.3725
34 - Police vehicle	294	0.0772
35	35	0.0092
35 - Other emergency vehicle	13	0.0034
36	3223	0.8461
36 - Bicycle	1127	0.2959
37	116	0.0305
37 - Car and trailer	17	0.0045
38	2402	0.6306
38 - Truck and trailer	929	0.2439
4	23380	6.1379



5	37200	9.7661
6	3720	0.9766
7	371	0.0974
8	818	0.2147
9	2451	0.6435
98	139	0.0365
98 - Truck-other	115	0.0302
99	65	0.0171
99 - Other	16	0.0042

27.1 VEHICLE_TYPE = "0"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_TYPE=0)  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
##       673      822      789      884      867  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
##       803      765      789      730      782
```

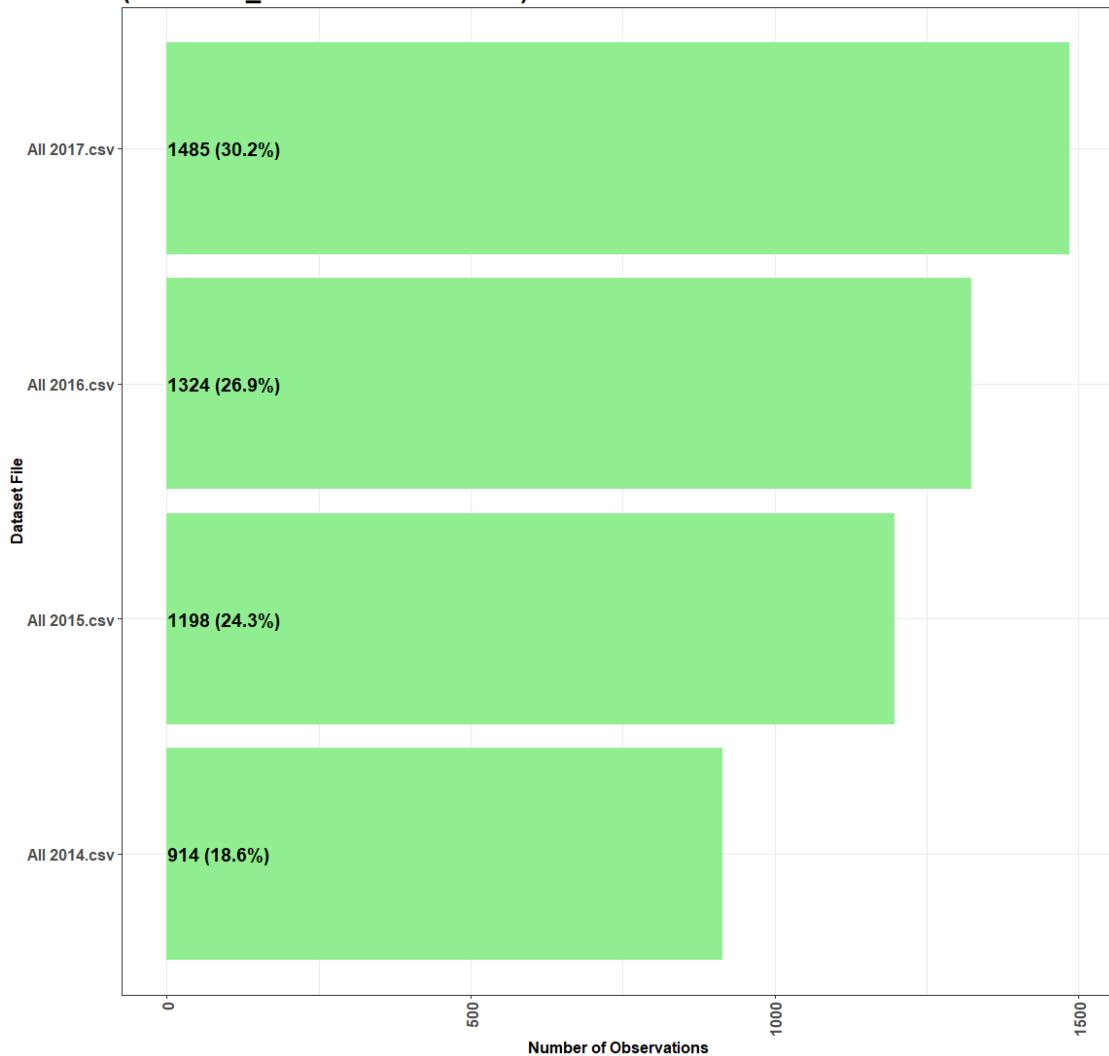


DATASET FILE	COUNTER OF (VEHICLE_TYPE=0)	Percentage
All 2004.csv	673	8.515
All 2005.csv	822	10.400
All 2006.csv	789	9.982
All 2007.csv	884	11.184
All 2008.csv	867	10.969
All 2009.csv	803	10.159
All 2010.csv	765	9.679
All 2011.csv	789	9.982
All 2012.csv	730	9.236
All 2013.csv	782	9.894

27.2 VEHICLE_TYPE = "00 - Unknown"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (VEHICLE_TYPE=00 - Unknown)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 914 1198 1324 1485
```

**Plot of Feature and Value
(VEHICLE_TYPE=00 - Unknown)**



DATASET FILE	COUNTER OF (VEHICLE_TYPE=00 - Unknown)	Percentage
All 2014.csv	914	18.57
All 2015.csv	1198	24.34
All 2016.csv	1324	26.91

All 2017.csv

1485

30.18

28. X Coord (XCOORD)

```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
## 317336 363405 367886 367082 371749 401233  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF XCOORD  
##  
## Feature Value Counter Percentage  
## -----  
## 366264.5929          68     0.2645  
## 379860.7426          29     0.1128  
## 370432.7159          27     0.1050  
## 362061.6866          25     0.0972  
## 358329.3058          24     0.0934  
## 365097.2825          19     0.0739  
## 362702.6883          17     0.0661  
## 368124.6138          15     0.0583  
## 363086.59             14     0.0545  
## 368038.5015          14     0.0545  
## 368040.3001          14     0.0545  
## 352842.5241          12     0.0467  
## 359720.3956          12     0.0467  
## 362547.8917          12     0.0467  
## 363671.5855          12     0.0467  
## 363724.581           12     0.0467  
## 368035.8037          12     0.0467  
## 372148.5152          12     0.0467  
## 373762.8425          12     0.0467  
## 353216.4206          11     0.0428  
## 360556.4843          11     0.0428  
## 364521.6983          11     0.0428  
## 364858.6999          11     0.0428
```

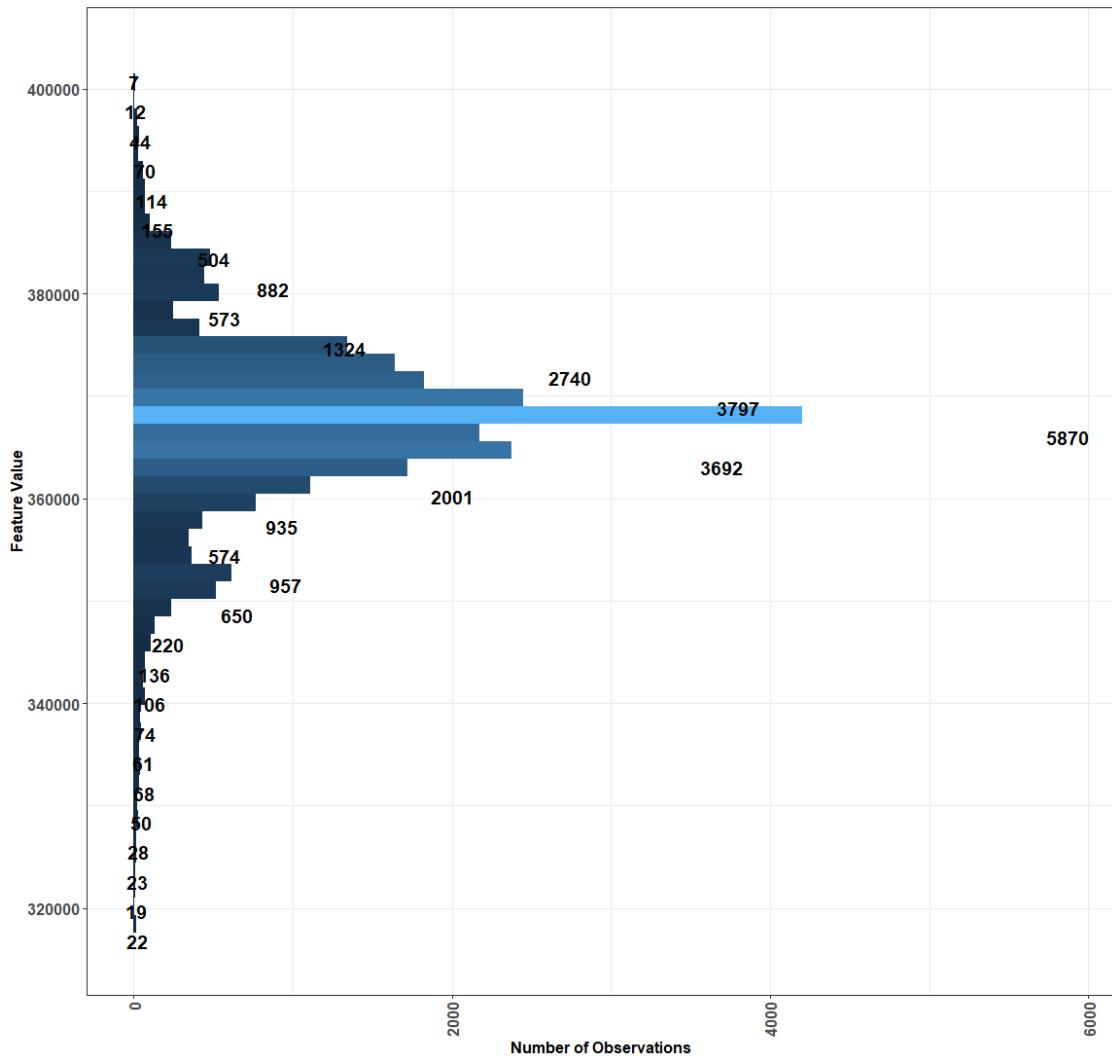
## 370075.4076	11	0.0428
## 373113.412	11	0.0428
## 362551.4887	10	0.0389
## 364276.5915	10	0.0389
## 364522.5976	10	0.0389
## 366171.1899	10	0.0389
## 366934.5958	10	0.0389
## 367802.7064	10	0.0389
## 368165.9125	10	0.0389
## 370076.3069	10	0.0389
## 361478.7777	9	0.0350
## 363418.7906	9	0.0350
## 363545.79	9	0.0350
## 363667.9884	9	0.0350
## 363936.3817	9	0.0350
## 364361.4011	9	0.0350
## 365055.5957	9	0.0350
## 367463.2066	9	0.0350
## 367920.7974	9	0.0350
## 368248.7013	9	0.0350
## 370217.8058	9	0.0350
## 372091.9144	9	0.0350
## 372096.4108	9	0.0350
## 372307.518	9	0.0350
## 372452.8198	9	0.0350
## 372858.0263	9	0.0350
## 373099.7274	9	0.0350
## 375257.7351	9	0.0350
## 318895.5442	8	0.0311
## 352841.6249	8	0.0311
## 359719.4963	8	0.0311
## 362553.2873	8	0.0311
## 363082.4743	8	0.0311
## 363087.4892	8	0.0311
## 363672.4848	8	0.0311
## 363673.3841	8	0.0311
## 364357.804	8	0.0311
## 365052.8979	8	0.0311
## 365056.495	8	0.0311
## 366870.1094	8	0.0311
## 366932.7972	8	0.0311
## 367449.5056	8	0.0311
## 368039.4008	8	0.0311
## 368122.8152	8	0.0311
## 368125.513	8	0.0311
## 368245.5096	8	0.0311
## 368247.3081	8	0.0311
## 368277.6036	8	0.0311



```
## 369993.9214      8    0.0311
## 371033.7297      8    0.0311
## 372861.6234      8    0.0311
## 373238.5305      8    0.0311
## 373764.6411      8    0.0311
## 374506.8244      8    0.0311
## 374510.4216      8    0.0311
## 374677.4418      8    0.0311
## 374912.3376      8    0.0311
## 380637.1334      8    0.0311
## 353674.5238      7    0.0272
## 360599.4828      7    0.0272
## 361026.1689      7    0.0272
## 362549.6902      7    0.0272
## 364360.5018      7    0.0272
## 364861.3977      7    0.0272
## 365365.4935      7    0.0272
## 365615.393       7    0.0272
## 366874.6058      7    0.0272
## 366892.6118      7    0.0272
## 367254.507       7    0.0272
## 367459.6095      7    0.0272
## 367605.4072      7    0.0272
## 367808.2996      7    0.0272
## 368111.3099      7    0.0272
## 368247.802       7    0.0272
## 368315.034       7    0.0272
## 368448.7065      7    0.0272
## (Other)           24672 95.9701

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

**Plot of Feature:XCOORD
Data:All 2004.csv**



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median   Mean 3rd Qu.    Max.  
## 317669 363282 367839 367110 371702 402732  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 362702.6883      29    0.1089
## 370432.7159      29    0.1089
## 379860.7426      27    0.1014
## 365097.2825      21    0.0789
## 362061.6866      20    0.0751
## 358329.3058      17    0.0638
## 370339.6506      16    0.0601
## 361479.677       15    0.0563
## 362943.5971      14    0.0526
## 366264.5929      14    0.0526
## 367906.8082      14    0.0526
## 360599.4828      13    0.0488
## 368371.7085      13    0.0488
## 360247.4775      12    0.0451
## 362548.7909      12    0.0451
## 364276.5915      12    0.0451
## 368036.703       12    0.0451
## 375259.5337      12    0.0451
## 357067.5524      11    0.0413
## 363059.3874      11    0.0413
## 365055.5957      11    0.0413
## 365616.2923      11    0.0413
## 369133.5071      11    0.0413
## 374151.323       11    0.0413
## 353672.7253      10    0.0375
## 363673.3841      10    0.0375
## 364362.3004      10    0.0375
## 366578.3103      10    0.0375
## 366578.4996      10    0.0375
## 367604.508       10    0.0375
## 367909.5061      10    0.0375
## 367911.3046      10    0.0375
## 368038.5015      10    0.0375
## 368039.4008      10    0.0375
## 368107.7128      10    0.0375
## 368513.5057      10    0.0375
## 370814.7203      10    0.0375
## 370815.6196      10    0.0375
## 371610.5351      10    0.0375
## 371611.4344      10    0.0375
## 372092.8136      10    0.0375
## 372304.8202      10    0.0375
```

## 372861.6234	10	0.0375
## 373115.2106	10	0.0375
## 352840.7256	9	0.0338
## 353214.6221	9	0.0338
## 353673.6246	9	0.0338
## 359722.1941	9	0.0338
## 363087.4892	9	0.0338
## 363667.0892	9	0.0338
## 364361.4011	9	0.0338
## 364523.4969	9	0.0338
## 364856.9013	9	0.0338
## 365004.9591	9	0.0338
## 366968.5954	9	0.0338
## 367135.5003	9	0.0338
## 368249.6005	9	0.0338
## 368373.507	9	0.0338
## 368738.3058	9	0.0338
## 370224.1007	9	0.0338
## 370853.5291	9	0.0338
## 372097.31	9	0.0338
## 374674.7439	9	0.0338
## 352673.0202	8	0.0300
## 353420.3193	8	0.0300
## 353676.3224	8	0.0300
## 356351.0466	8	0.0300
## 357070.2502	8	0.0300
## 360249.276	8	0.0300
## 360595.8857	8	0.0300
## 362282.6921	8	0.0300
## 362549.6902	8	0.0300
## 362551.4887	8	0.0300
## 362940.8993	8	0.0300
## 363671.5855	8	0.0300
## 363773.897	8	0.0300
## 363937.281	8	0.0300
## 365195.4957	8	0.0300
## 365364.5942	8	0.0300
## 366800.7006	8	0.0300
## 366936.3943	8	0.0300
## 367368.8116	8	0.0300
## 367449.5056	8	0.0300
## 367910.4053	8	0.0300
## 368040.3001	8	0.0300
## 368742.405	8	0.0300
## 369132.6078	8	0.0300
## 369226.7178	8	0.0300
## 369999.3171	8	0.0300
## 370314.4109	8	0.0300

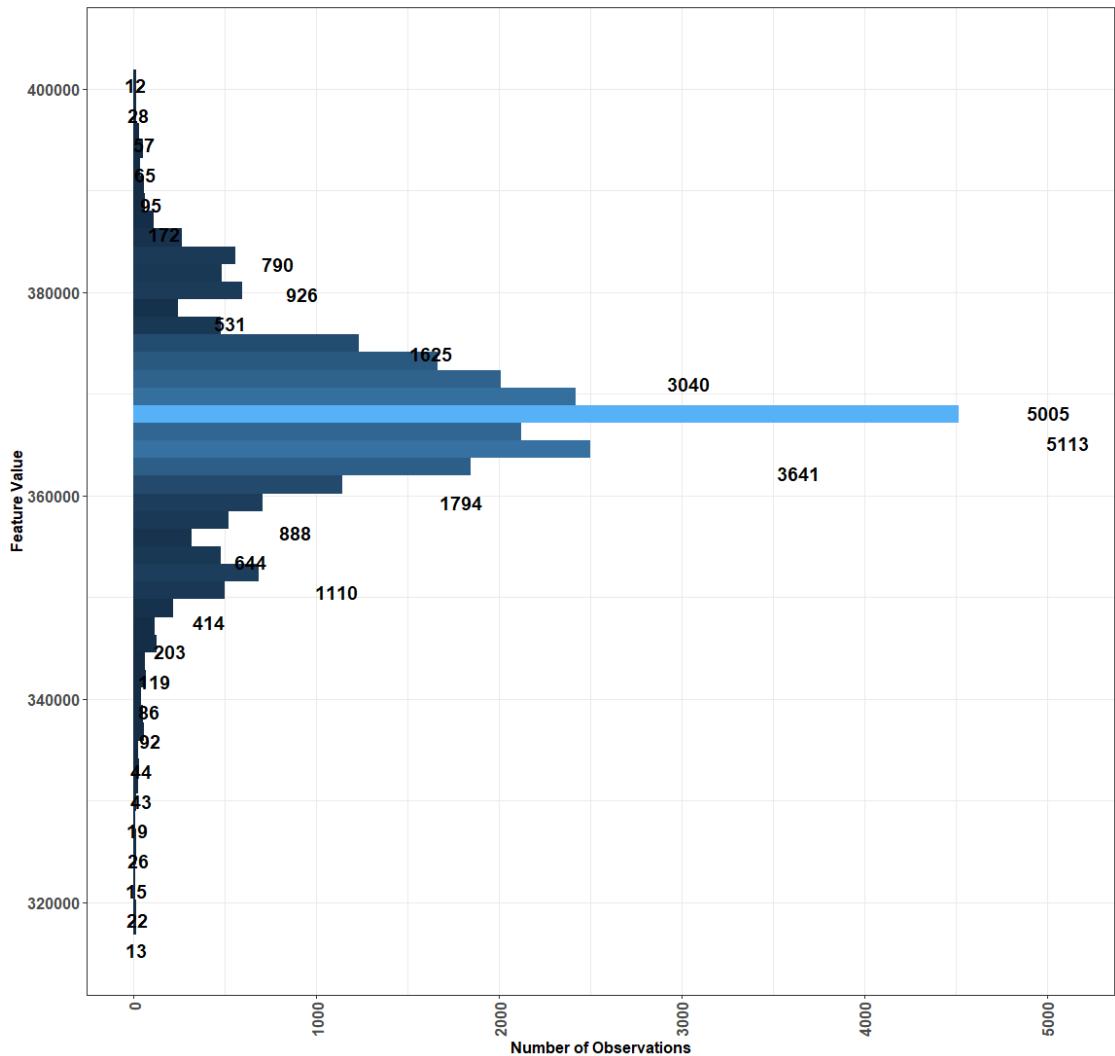
```

## 370338.7513      8    0.0300
## 371673.725       8    0.0300
## 371914.5104      8    0.0300
## 372147.6159      8    0.0300
## 372858.9255      8    0.0300
## 372865.2205      8    0.0300
## 373367.4273      8    0.0300
## 373767.339        8    0.0300
## 373901.6374      8    0.0300
## (Other)           25605 96.1437

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:XCOORD
Data:All 2005.csv**



```

## DATA:All 2006.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.     Max.
## 317410 363456 367871 367223 371728 401799
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value      Counter   Percentage
## ----- -----
## 379860.7426        43       0.1645
## 366264.5929        40       0.1530
## 362702.6883        30       0.1148
## 370432.7159        30       0.1148
## 371608.7365        21       0.0803
## 362061.6866        19       0.0727
## 368125.513         16       0.0612
## 363671.5855        13       0.0497
## 364858.6999        13       0.0497
## 367802.7064        13       0.0497
## 373898.9396        13       0.0497
## 360555.585         12       0.0459
## 360600.3821        12       0.0459
## 361480.5763        12       0.0459
## 363672.4848        12       0.0459
## 371609.6358        12       0.0459
## 375581.4328        12       0.0459
## 375582.3321        12       0.0459
## 380460.7995        12       0.0459
## 363083.8922        11       0.0421
## 363933.6839        11       0.0421
## 364856.9013        11       0.0421
## 365237.4961        11       0.0421
## 367107.7113        11       0.0421
## 367924.5098        11       0.0421
## 368108.612          11       0.0421
## 368121.9159        11       0.0421
## 370074.5083        11       0.0421
## 358329.3058          10      0.0383
## 360243.8804          10      0.0383

```

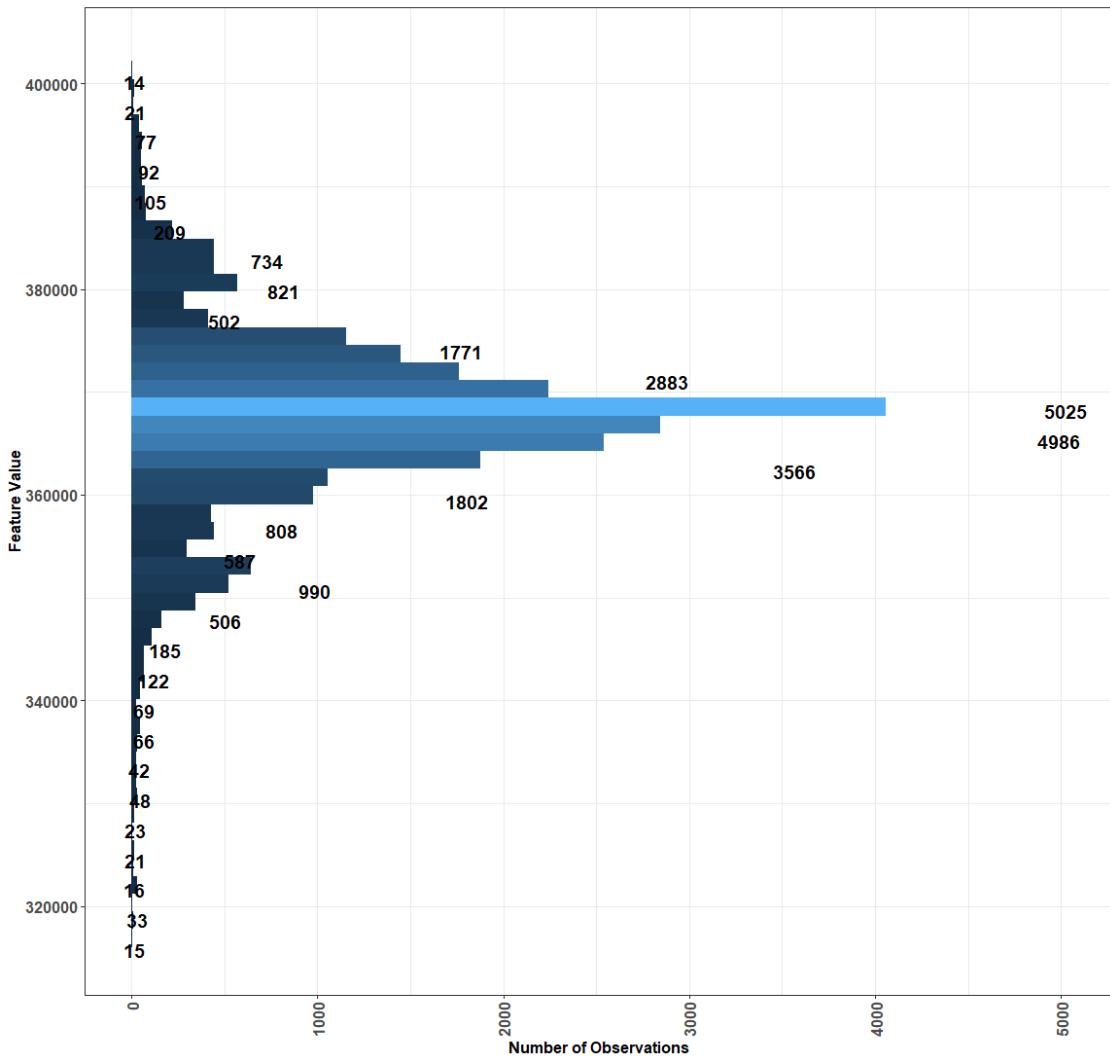
## 360247.4775	10	0.0383
## 360498.4739	10	0.0383
## 364278.39	10	0.0383
## 364857.2985	10	0.0383
## 367370.6102	10	0.0383
## 367908.6068	10	0.0383
## 368039.4008	10	0.0383
## 368244.6103	10	0.0383
## 368246.0034	10	0.0383
## 368372.6077	10	0.0383
## 369994.8207	10	0.0383
## 371546.6021	10	0.0383
## 371673.725	10	0.0383
## 372091.9144	10	0.0383
## 373098.8281	10	0.0383
## 374674.7439	10	0.0383
## 349864.6086	9	0.0344
## 361937.3768	9	0.0344
## 362548.7909	9	0.0344
## 362550.5895	9	0.0344
## 364524.3961	9	0.0344
## 365082.9958	9	0.0344
## 365612.6952	9	0.0344
## 367368.8116	9	0.0344
## 368248.7013	9	0.0344
## 368249.6005	9	0.0344
## 368396.4045	9	0.0344
## 368511.7072	9	0.0344
## 369225.8186	9	0.0344
## 370342.3484	9	0.0344
## 372308.4173	9	0.0344
## 372539.9218	9	0.0344
## 351808.6054	8	0.0306
## 360599.4828	8	0.0306
## 361481.4755	8	0.0306
## 362551.4887	8	0.0306
## 362554.1865	8	0.0306
## 363055.7904	8	0.0306
## 363518.892	8	0.0306
## 364520.799	8	0.0306
## 364896.5023	8	0.0306
## 365149.7006	8	0.0306
## 365418.4972	8	0.0306
## 365460.0017	8	0.0306
## 365613.5945	8	0.0306
## 365615.393	8	0.0306
## 366167.5928	8	0.0306
## 366770.5039	8	0.0306



```
## 367445.9084      8    0.0306
## 367460.5088      8    0.0306
## 367922.7112      8    0.0306
## 368034.9044      8    0.0306
## 368037.9068      8    0.0306
## 368106.8135      8    0.0306
## 368124.6138      8    0.0306
## 368167.711       8    0.0306
## 368205.8098      8    0.0306
## 368250.4998      8    0.0306
## 368370.8092      8    0.0306
## 370218.705       8    0.0306
## 371290.8296      8    0.0306
## 372304.8202      8    0.0306
## 373363.8301      8    0.0306
## 383951.7603      8    0.0306
## 348596.3471      7    0.0268
## 353215.5214      7    0.0268
## 359372.6852      7    0.0268
## 360598.5835      7    0.0268
## 360658.6806      7    0.0268
## (Other)           25078  95.9409

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

**Plot of Feature:XCOORD
Data:All 2006.csv**



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
## 317792 363374 367843 367147 371696 401173  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 363673.3841      15    0.0539
## 363672.4848      14    0.0503
## 365087.4922      14    0.0503
## 367220.7955      14    0.0503
## 367457.811       14    0.0503
## 368035.8037      14    0.0503
## 372541.7204      14    0.0503
## 368124.6138      13    0.0467
## 372864.3212      13    0.0467
## 354382.6336      12    0.0431
## 359719.4963      12    0.0431
## 368033.1059      12    0.0431
## 371609.6358      12    0.0431
## 372303.9209      12    0.0431
## 363670.6862      11    0.0395
## 367395.6108      11    0.0395
## 368123.7145      11    0.0395
## 368510.8079      11    0.0395
## 370311.7131      11    0.0395
## 350908.516       10    0.0359
## 360599.4828      10    0.0359
## 363083.3735      10    0.0359
## 363084.2728      10    0.0359
## 364521.6983      10    0.0359
## 367458.7103      10    0.0359
## 368336.4228      10    0.0359
## 369131.7086      10    0.0359
## 379863.4404      10    0.0359
## 383953.5589      10    0.0359
## 350942.5979      9     0.0323
## 354385.3314      9     0.0323
## 362548.7909      9     0.0323
## 362941.7986      9     0.0323
## 364857.8006      9     0.0323
## 364858.6999      9     0.0323
## 366830.6092      9     0.0323
## 367251.8092      9     0.0323
## 368036.703       9     0.0323
## 368247.802       9     0.0323
## 368248.7013      9     0.0323
## 370434.5145      9     0.0323
## 372308.4173      9     0.0323
```

## 373902.5367	9	0.0323
## 375581.4328	9	0.0323
## 359718.5971	8	0.0287
## 362544.2946	8	0.0287
## 363418.7906	8	0.0287
## 363419.6899	8	0.0287
## 363669.787	8	0.0287
## 364279.2893	8	0.0287
## 364359.6025	8	0.0287
## 365051.9986	8	0.0287
## 366022.3981	8	0.0287
## 366574.7132	8	0.0287
## 366770.5039	8	0.0287
## 366935.4951	8	0.0287
## 367134.601	8	0.0287
## 367455.1132	8	0.0287
## 367456.0124	8	0.0287
## 367456.9117	8	0.0287
## 367459.6095	8	0.0287
## 367909.5061	8	0.0287
## 368037.6022	8	0.0287
## 368125.513	8	0.0287
## 368372.6077	8	0.0287
## 369226.7178	8	0.0287
## 370430.9174	8	0.0287
## 370670.6142	8	0.0287
## 370687.4164	8	0.0287
## 370883.8245	8	0.0287
## 371605.1394	8	0.0287
## 371872.2301	8	0.0287
## 372310.2159	8	0.0287
## 373367.4273	8	0.0287
## 374508.623	8	0.0287
## 374679.2404	8	0.0287
## 375578.7349	8	0.0287
## 379859.8433	8	0.0287
## 383542.5617	8	0.0287
## 352674.8188	7	0.0252
## 353417.6215	7	0.0252
## 358138.5636	7	0.0252
## 360070.872	7	0.0252
## 360245.679	7	0.0252
## 360598.5835	7	0.0252
## 361023.4711	7	0.0252
## 361481.4755	7	0.0252
## 362546.9924	7	0.0252
## 363298.6953	7	0.0252
## 364272.9944	7	0.0252

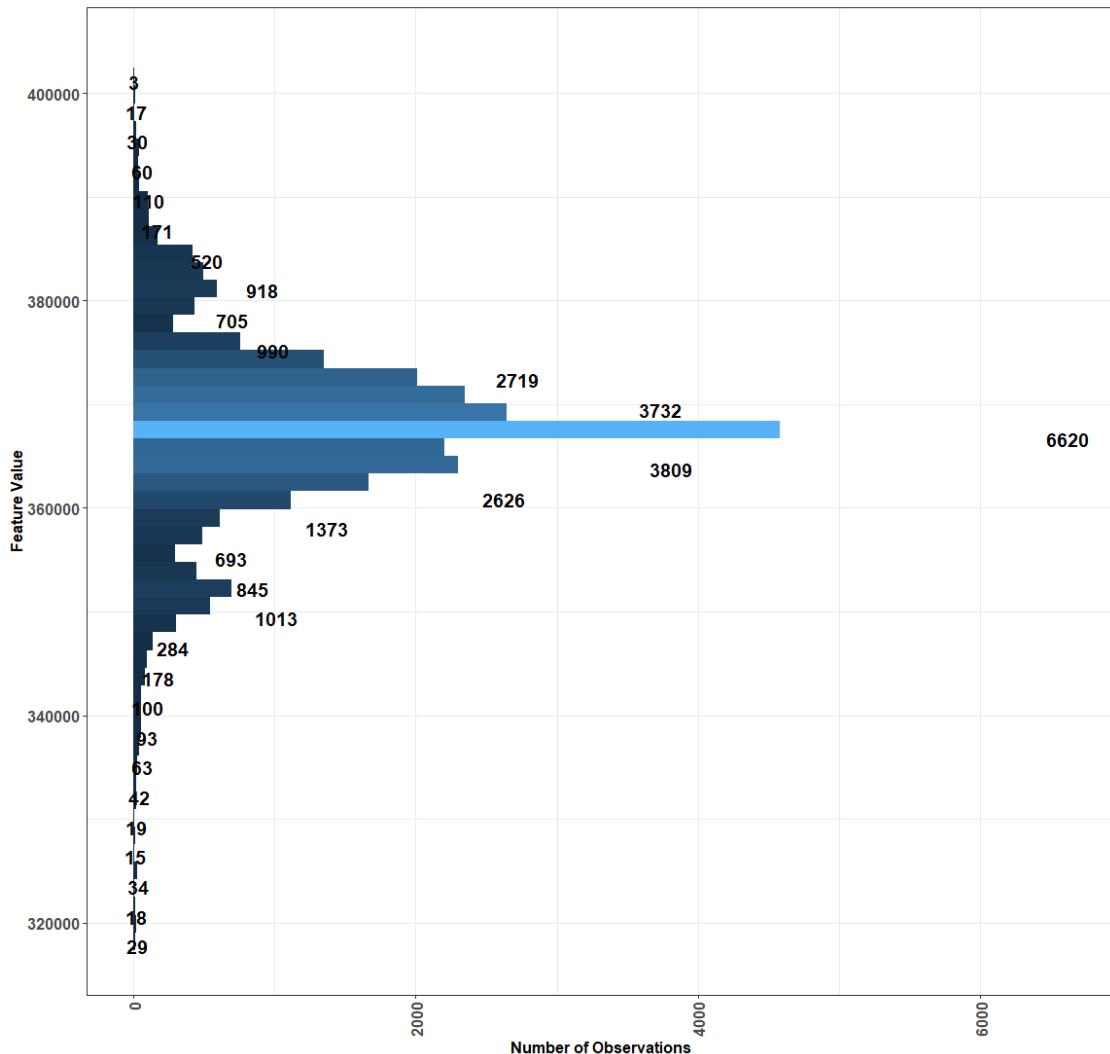
```

## 364523.4969      7    0.0252
## 365054.3919      7    0.0252
## 365192.7978      7    0.0252
## 365237.4961      7    0.0252
## 366430.4917      7    0.0252
## 367226.1912      7    0.0252
## 367921.8119      7    0.0252
## 368039.4008      7    0.0252
## 369993.9214      7    0.0252
## (Other)          26934  96.7839

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:XCOORD
Data:All 2007.csv**



```

##
## -----
## CHECKING FEATURE:XCOORD

```

```

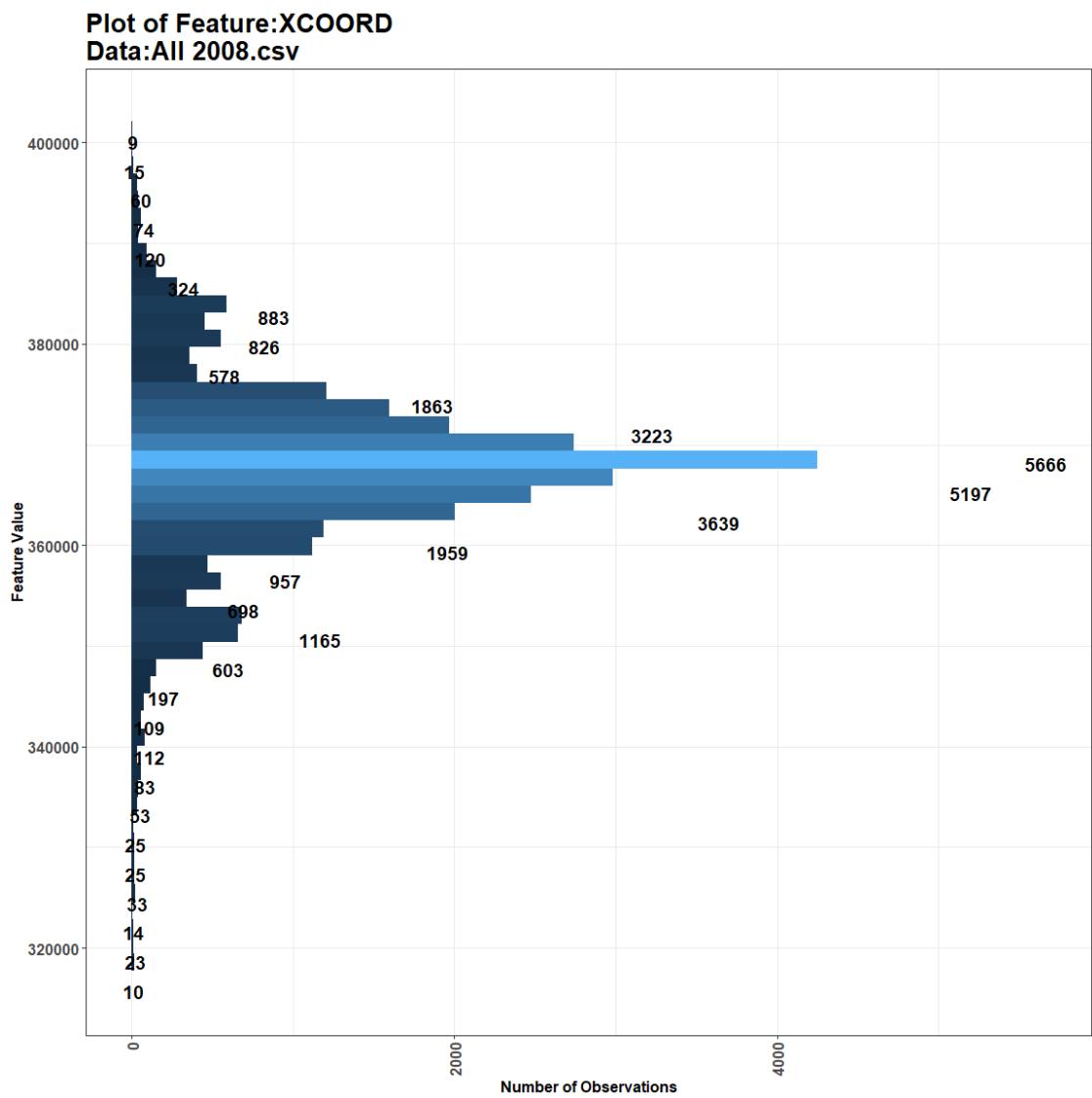
## DATA:All 2008.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.      Max.
## 317421   363273   367875   367127   371728   401795
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value    Counter    Percentage
## -----
## 372095.5115        19    0.0666
## 362548.7909        16    0.0561
## 368123.7145        16    0.0561
## 363672.4848        15    0.0526
## 370218.705         15    0.0526
## 372305.7195        14    0.0490
## 368036.703         13    0.0455
## 374673.8446        13    0.0455
## 363422.3877        12    0.0420
## 370336.9527        12    0.0420
## 370685.6179        12    0.0420
## 372304.8202        12    0.0420
## 360071.7712        11    0.0385
## 363670.6862        11    0.0385
## 372859.8248        11    0.0385
## 373097.9288        11    0.0385
## 374675.6432        11    0.0385
## 360006.6757        10    0.0350
## 366167.5928        10    0.0350
## 366873.7065        10    0.0350
## 366933.6965        10    0.0350
## 367456.9117        10    0.0350
## 367920.0134        10    0.0350
## 368038.5015        10    0.0350
## 368126.4123        10    0.0350
## 374507.7237        10    0.0350
## 374674.7439        10    0.0350
## 375050.4225        10    0.0350
## 382635.0557        10    0.0350
## 383188.6508        10    0.0350

```

## 383953.5589	10	0.0350
## 352845.2219	9	0.0315
## 362947.1942	9	0.0315
## 363668.8877	9	0.0315
## 367105.0135	9	0.0315
## 368111.3099	9	0.0315
## 369997.5185	9	0.0315
## 372864.3212	9	0.0315
## 350944.3964	8	0.0280
## 362546.0931	8	0.0280
## 362546.9924	8	0.0280
## 362552.388	8	0.0280
## 363056.6896	8	0.0280
## 363671.5855	8	0.0280
## 363725.4802	8	0.0280
## 364894.7038	8	0.0280
## 365084.7943	8	0.0280
## 366768.7054	8	0.0280
## 367106.812	8	0.0280
## 367136.3996	8	0.0280
## 367138.1981	8	0.0280
## 367225.2919	8	0.0280
## 367460.5088	8	0.0280
## 367612.8134	8	0.0280
## 367925.409	8	0.0280
## 367946.0121	8	0.0280
## 368039.4008	8	0.0280
## 368122.8152	8	0.0280
## 368249.6005	8	0.0280
## 368509.0093	8	0.0280
## 368515.3043	8	0.0280
## 369995.72	8	0.0280
## 370157.6264	8	0.0280
## 370669.7149	8	0.0280
## 370882.026	8	0.0280
## 372092.8136	8	0.0280
## 372309.3166	8	0.0280
## 372858.9255	8	0.0280
## 373108.0163	8	0.0280
## 373364.7294	8	0.0280
## 373761.9433	8	0.0280
## 373900.7382	8	0.0280
## 374672.9453	8	0.0280
## 374676.5425	8	0.0280
## 375576.9364	8	0.0280
## 375653.8357	8	0.0280
## 376126.6298	8	0.0280
## 383185.0536	8	0.0280



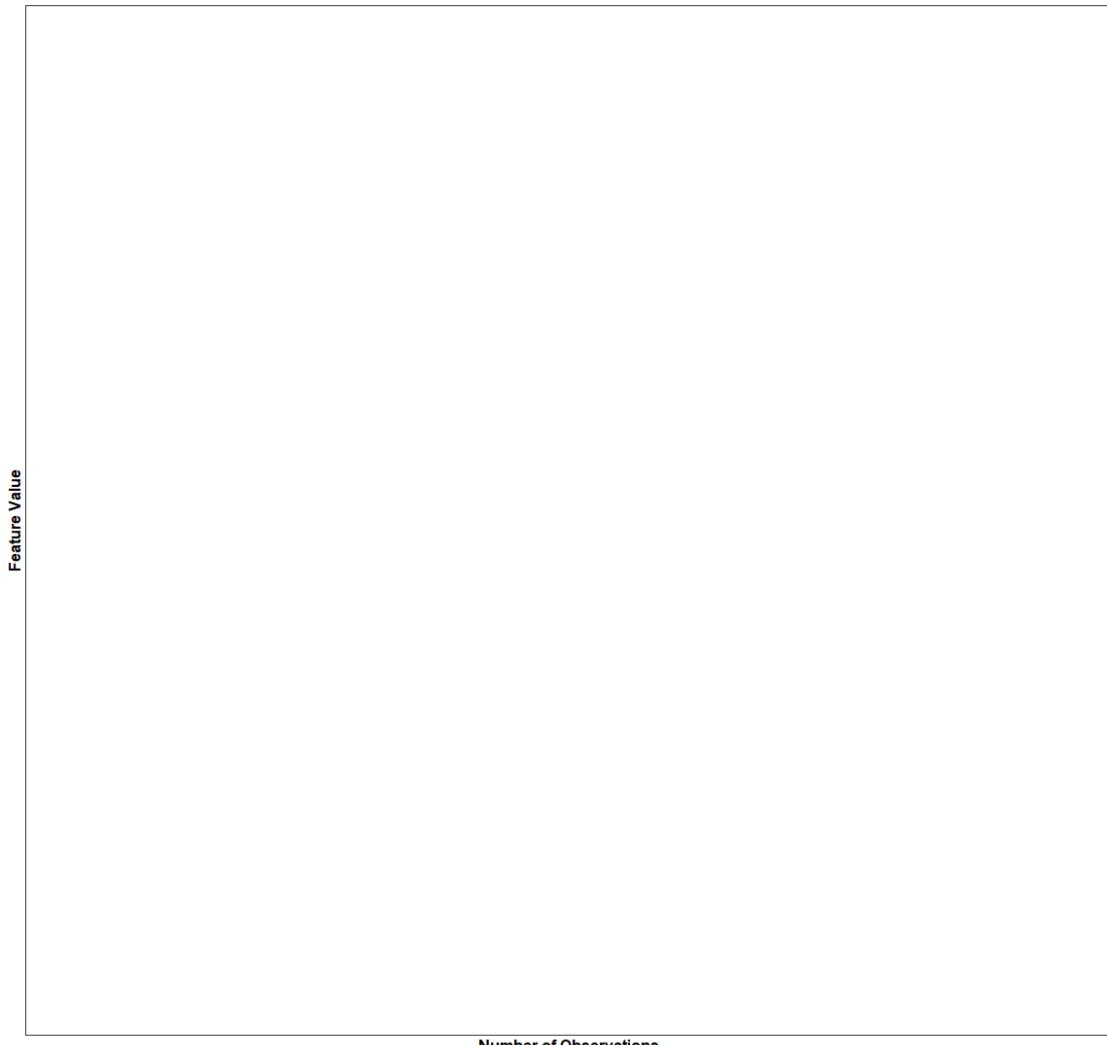
```
## 383190.4494      8    0.0280
## 383948.1631      8    0.0280
## 349661.0804      7    0.0245
## 349862.8101      7    0.0245
## 353674.5238      7    0.0245
## 354382.6336      7    0.0245
## 359005.1658      7    0.0245
## 359719.4963      7    0.0245
## 360352.9745      7    0.0245
## 360598.5835      7    0.0245
## 360752.2248      7    0.0245
## 361477.8785      7    0.0245
## 363420.5892      7    0.0245
## 363674.2833      7    0.0245
## 364351.7005      7    0.0245
## 364892.006       7    0.0245
## 365052.8979      7    0.0245
## 365054.6964      7    0.0245
## 366166.6936      7    0.0245
## 367218.997       7    0.0245
## 367458.7103      7    0.0245
## (Other)           27647 96.8609
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.    NA's  
##        NA       NA       NA      NaN       NA       NA  28515  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 1
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## ----- -----
## 28515 100
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:XCOORD
Data:All 2009.csv



```
##
## -----
## CHECKING FEATURE:XCOORD
## DATA:All 2010.csv...
##
## Number of Blank Values:0
```

```

## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median Mean 3rd Qu. Max.
## 317290 363499 367901 367372 372045 401917
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 368037.6022      22    0.0800
## 372305.7195      19    0.0691
## 383951.7603      19    0.0691
## 371608.7365      18    0.0654
## 369995.72         17    0.0618
## 371609.6358      17    0.0618
## 368370.8092      16    0.0582
## 374672.9453      15    0.0545
## 354382.6336      14    0.0509
## 362550.5895      14    0.0509
## 363934.5832      14    0.0509
## 364858.6999      14    0.0509
## 364859.5992      14    0.0509
## 368038.5015      14    0.0509
## 372306.6188      14    0.0509
## 357909.4502      13    0.0473
## 368513.5057      13    0.0473
## 370851.7305      13    0.0473
## 372092.8136      13    0.0473
## 372861.6234      13    0.0473
## 360598.5835      12    0.0436
## 362548.7909      12    0.0436
## 362943.5971      12    0.0436
## 364273.8936      12    0.0436
## 367253.6078      12    0.0436
## 367457.811       12    0.0436
## 368037.9068      12    0.0436
## 369131.7086      12    0.0436
## 369499.7073      12    0.0436
## 370339.6506      12    0.0436
## 371292.6281      12    0.0436
## 372091.9144      12    0.0436
## 373099.7274      12    0.0436

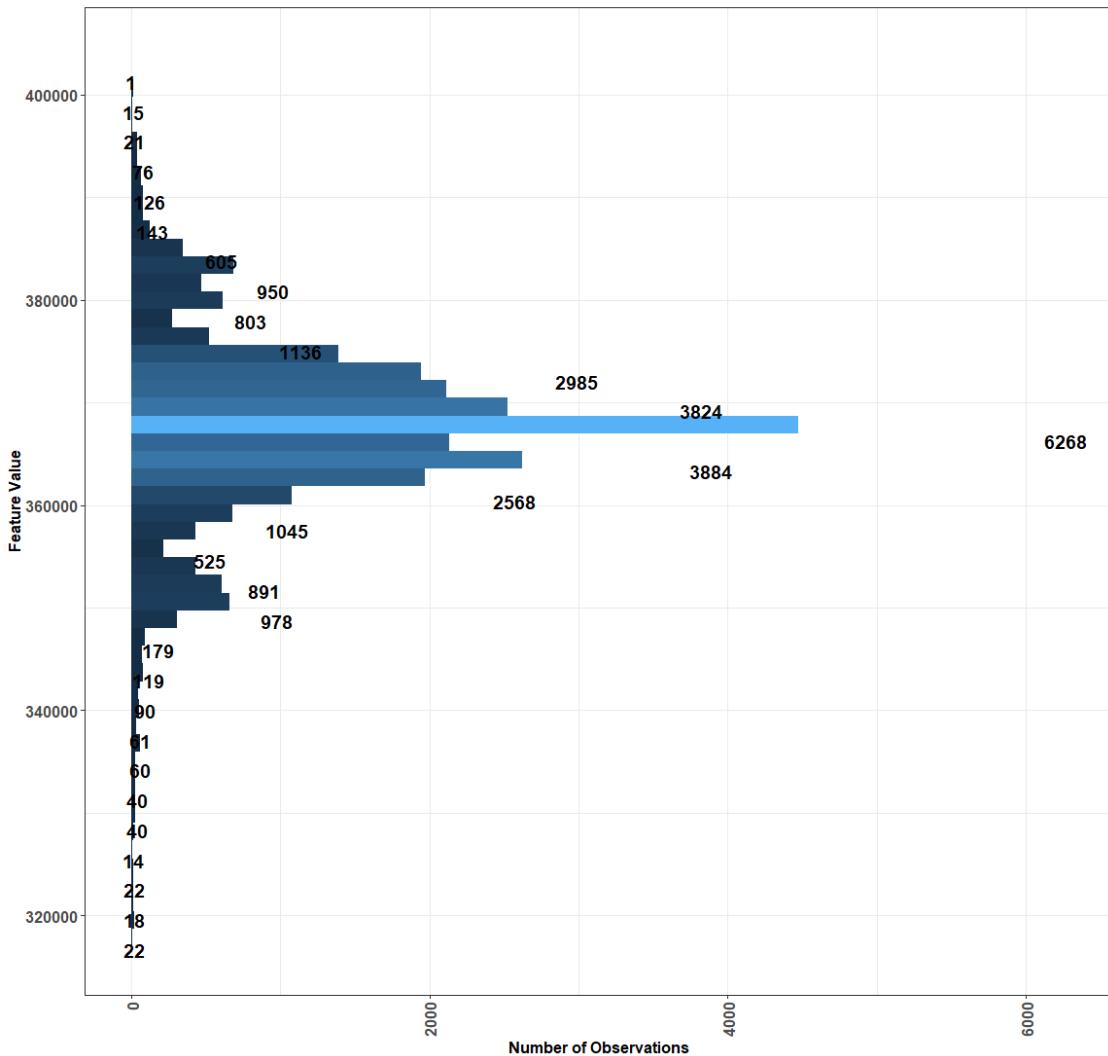
```

## 374147.7258	12	0.0436
## 382890.8038	12	0.0436
## 383950.861	12	0.0436
## 363078.8772	11	0.0400
## 363079.7765	11	0.0400
## 363669.787	11	0.0400
## 363935.4824	11	0.0400
## 367400.6093	11	0.0400
## 368667.5101	11	0.0400
## 368970.7096	11	0.0400
## 371546.6021	11	0.0400
## 372859.8248	11	0.0400
## 373365.6287	11	0.0400
## 354380.8351	10	0.0364
## 354383.5328	10	0.0364
## 361021.6726	10	0.0364
## 362282.6921	10	0.0364
## 363087.4892	10	0.0364
## 363420.5892	10	0.0364
## 364548.8105	10	0.0364
## 367368.8116	10	0.0364
## 367908.6068	10	0.0364
## 368039.4008	10	0.0364
## 368126.4123	10	0.0364
## 368768.6095	10	0.0364
## 369994.8207	10	0.0364
## 370670.6142	10	0.0364
## 370884.7238	10	0.0364
## 372095.5115	10	0.0364
## 372147.6159	10	0.0364
## 372541.7204	10	0.0364
## 373237.6313	10	0.0364
## 375136.7405	10	0.0364
## 375258.6344	10	0.0364
## 375576.9364	10	0.0364
## 375577.8357	10	0.0364
## 379860.7426	10	0.0364
## 379861.6418	10	0.0364
## 382639.5522	10	0.0364
## 383952.6596	10	0.0364
## 383953.5589	10	0.0364
## 351269.718	9	0.0327
## 359057.7724	9	0.0327
## 360597.6843	9	0.0327
## 361935.5783	9	0.0327
## 363080.6757	9	0.0327
## 363084.7914	9	0.0327
## 363676.0819	9	0.0327



```
## 364860.4984      9    0.0327
## 366573.8139      9    0.0327
## 367096.7986      9    0.0327
## 367387.61        9    0.0327
## 368106.8135      9    0.0327
## 368246.9027      9    0.0327
## 368511.7072      9    0.0327
## 370157.6264      9    0.0327
## 370367.5216      9    0.0327
## 370491.8232      9    0.0327
## 371922.6183      9    0.0327
## 372094.6122      9    0.0327
## 372906.4205      9    0.0327
## 373097.9288      9    0.0327
## 373235.8327      9    0.0327
## 373898.9396      9    0.0327
## 380461.6988      9    0.0327
## 380939.8452      9    0.0327
## (Other)           26396 95.9541
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

**Plot of Feature:XCOORD
Data:All 2010.csv**



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 317505 363457 367828 367249 371908 401582  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 368036.703      26    0.0931
## 367907.7075     24    0.0859
## 379858.944      20    0.0716
## 368037.6022     19    0.0680
## 379861.6418     19    0.0680
## 373099.7274     18    0.0644
## 379859.8433     18    0.0644
## 374674.7439     17    0.0609
## 363079.7765     15    0.0537
## 367458.7103     15    0.0537
## 367459.6095     15    0.0537
## 368168.6103     15    0.0537
## 372093.7129     15    0.0537
## 360525.7752     14    0.0501
## 362549.6902     14    0.0501
## 363419.6899     14    0.0501
## 366264.5929     14    0.0501
## 368035.8037     14    0.0501
## 369132.6078     14    0.0501
## 369995.72       14    0.0501
## 379862.5411     14    0.0501
## 382638.6529     14    0.0501
## 350906.7175     13    0.0465
## 364276.5915     13    0.0465
## 364357.804      13    0.0465
## 365085.6936     13    0.0465
## 365235.6976     13    0.0465
## 366982.7985     13    0.0465
## 369130.8093     13    0.0465
## 371920.8197     13    0.0465
## 372859.8248     13    0.0465
## 374675.6432     13    0.0465
## 379863.4404     13    0.0465
## 351269.718      12    0.0430
## 354380.8351     12    0.0430
## 360073.5698     12    0.0430
## 363080.6757     12    0.0430
## 363086.59       12    0.0430
## 365363.695      12    0.0430
## 366166.6936     12    0.0430
## 367613.7127     12    0.0430
## 367906.8082     12    0.0430

```

## 367922.7112	12	0.0430
## 368039.4008	12	0.0430
## 368122.8152	12	0.0430
## 368371.7085	12	0.0430
## 372306.6188	12	0.0430
## 382122.8521	12	0.0430
## 352207.6096	11	0.0394
## 353672.7253	11	0.0394
## 364274.7929	11	0.0394
## 364523.4969	11	0.0394
## 367792.7094	11	0.0394
## 368106.8135	11	0.0394
## 368109.5113	11	0.0394
## 370311.7131	11	0.0394
## 370432.7159	11	0.0394
## 370814.7203	11	0.0394
## 371608.7365	11	0.0394
## 372094.6122	11	0.0394
## 373367.4273	11	0.0394
## 379864.3397	11	0.0394
## 382635.955	11	0.0394
## 351267.9195	10	0.0358
## 354383.5328	10	0.0358
## 360246.5782	10	0.0358
## 361480.5763	10	0.0358
## 362550.5895	10	0.0358
## 363671.5855	10	0.0358
## 363932.7846	10	0.0358
## 364351.7005	10	0.0358
## 367868.8	10	0.0358
## 367923.6105	10	0.0358
## 368073.8119	10	0.0358
## 368107.7128	10	0.0358
## 368124.6138	10	0.0358
## 368204.9105	10	0.0358
## 370507.7344	10	0.0358
## 370826.7134	10	0.0358
## 371609.6358	10	0.0358
## 372146.7166	10	0.0358
## 372305.7195	10	0.0358
## 372595.7139	10	0.0358
## 372860.7241	10	0.0358
## 375576.9364	10	0.0358
## 375655.6342	10	0.0358
## 379860.7426	10	0.0358
## 379865.239	10	0.0358
## 379866.1383	10	0.0358
## 379867.0376	10	0.0358

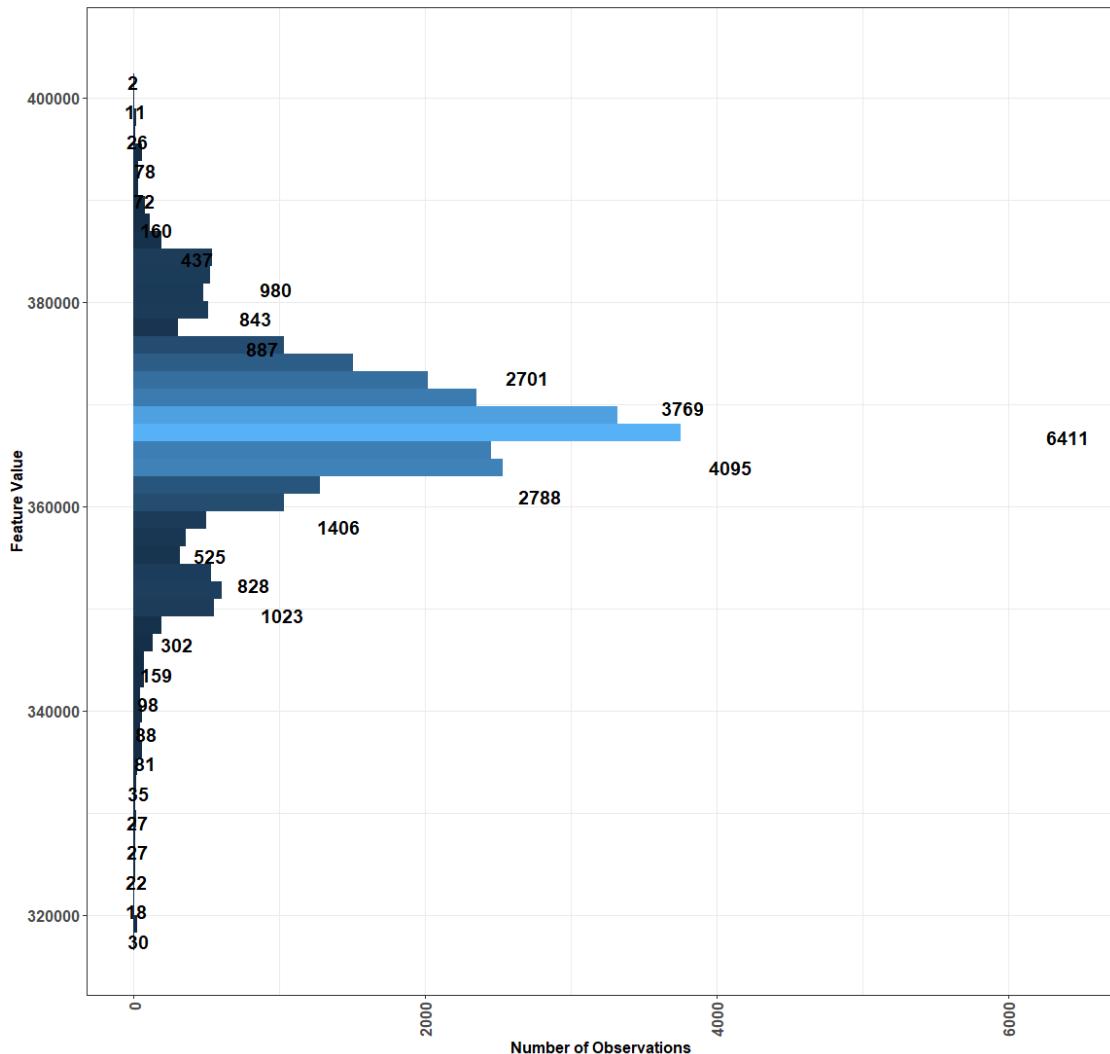
```

## 379868.8362      10    0.0358
## 382890.8038      10    0.0358
## 383952.6596      10    0.0358
## 352675.718       9     0.0322
## 352840.7256      9     0.0322
## 360526.6745      9     0.0322
## 363081.575       9     0.0322
## 363226.7945      9     0.0322
## 364521.6983      9     0.0322
## (Other)          26725  95.6891

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:XCOORD
Data:All 2011.csv**



```

## 
## -----
## CHECKING FEATURE:XCOORD

```

```

## DATA:All 2012.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.     Max.
## 317367   363596  367949   367521  372095  401821
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value      Counter      Percentage
## -----
## 383950.861          26      0.0978
## 368035.8037         24      0.0903
## 379858.944          24      0.0903
## 363669.787          23      0.0865
## 363080.6757         22      0.0828
## 362549.6902         19      0.0715
## 366932.7972         18      0.0677
## 360597.6843         15      0.0564
## 363670.6862         15      0.0564
## 367947.8106         15      0.0564
## 351269.718          14      0.0527
## 367391.6104         14      0.0527
## 367458.7103         14      0.0527
## 361479.677          13      0.0489
## 363083.8922         13      0.0489
## 363933.6839         13      0.0489
## 368123.7145         13      0.0489
## 370336.9527         13      0.0489
## 371608.7365         13      0.0489
## 375579.6342         13      0.0489
## 353673.6246         12      0.0452
## 361477.8785         12      0.0452
## 363934.5832         12      0.0452
## 364275.6922         12      0.0452
## 366109.9946         12      0.0452
## 367399.71           12      0.0452
## 368037.6022         12      0.0452
## 371607.8372         12      0.0452
## 373098.8281         12      0.0452
## 374672.9453         12      0.0452

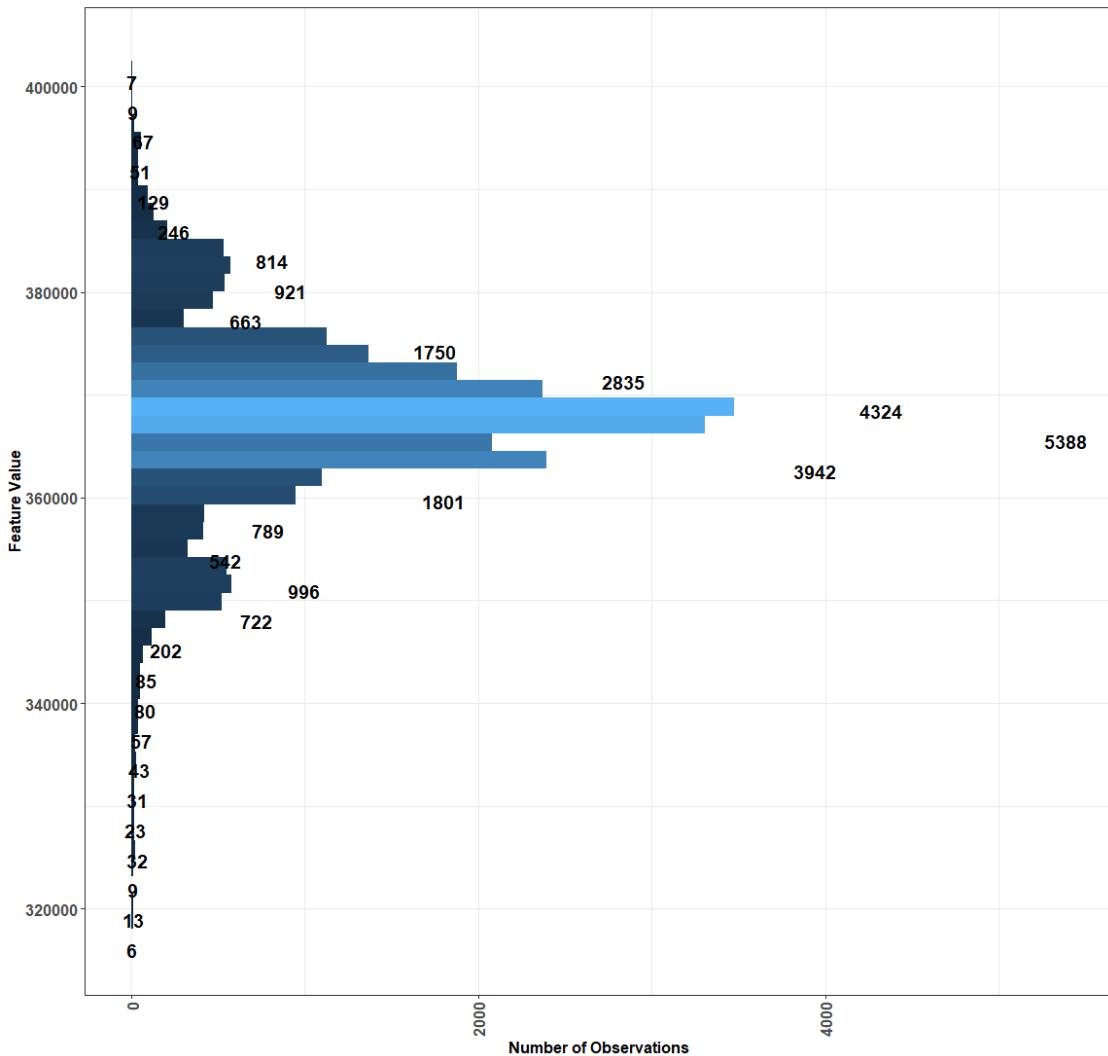
```

## 379860.7426	12	0.0452
## 379864.3397	12	0.0452
## 380632.637	12	0.0452
## 352838.9271	11	0.0414
## 362062.5859	11	0.0414
## 363723.6817	11	0.0414
## 364359.6025	11	0.0414
## 364520.799	11	0.0414
## 367368.8116	11	0.0414
## 367390.7111	11	0.0414
## 371921.719	11	0.0414
## 373899.8389	11	0.0414
## 374506.8244	11	0.0414
## 382637.7536	11	0.0414
## 382638.6529	11	0.0414
## 382889.9045	11	0.0414
## 384845.6639	11	0.0414
## 353672.7253	10	0.0376
## 354381.7343	10	0.0376
## 354382.6336	10	0.0376
## 360497.5746	10	0.0376
## 360596.785	10	0.0376
## 362546.9924	10	0.0376
## 364276.5915	10	0.0376
## 364357.804	10	0.0376
## 364522.5976	10	0.0376
## 365613.5945	10	0.0376
## 366165.7943	10	0.0376
## 366768.7054	10	0.0376
## 367369.7109	10	0.0376
## 367447.707	10	0.0376
## 368107.7128	10	0.0376
## 368511.7072	10	0.0376
## 368635.6136	10	0.0376
## 369996.6193	10	0.0376
## 370216.9065	10	0.0376
## 370433.6152	10	0.0376
## 370507.7344	10	0.0376
## 370882.9252	10	0.0376
## 371544.8036	10	0.0376
## 372147.6159	10	0.0376
## 372306.6188	10	0.0376
## 372861.6234	10	0.0376
## 373099.7274	10	0.0376
## 374676.5425	10	0.0376
## 375577.8357	10	0.0376
## 379857.1454	10	0.0376
## 379859.8433	10	0.0376

```
## 389860.7736      10    0.0376
## 354380.8351      9     0.0339
## 357144.748       9     0.0339
## 360528.473       9     0.0339
## 363593.6882      9     0.0339
## 364643.3282      9     0.0339
## 368415.8038      9     0.0339
## 369133.5071      9     0.0339
## 370073.6091      9     0.0339
## 370431.8166      9     0.0339
## 370814.7203      9     0.0339
## 372304.8202      9     0.0339
## 372860.7241      9     0.0339
## 374505.9251      9     0.0339
## 375576.9364      9     0.0339
## 375849.272       9     0.0339
## 350907.6168      8     0.0301
## 351270.6172      8     0.0301
## 352677.5165      8     0.0301
## 357065.7538      8     0.0301
## 360527.5737      8     0.0301
## (Other)           25438  95.7143

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

**Plot of Feature:XCOORD
Data:All 2012.csv**



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 317703 363509 367820 367172 371884 401040  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 363669.787      25    0.0894
## 379858.944      21    0.0751
## 365612.6952     20    0.0715
## 367457.811      20    0.0715
## 363668.8877     18    0.0644
## 369129.91       18    0.0644
## 370431.8166     18    0.0644
## 371289.9303     17    0.0608
## 371544.8036     17    0.0608
## 352840.7256     16    0.0572
## 364358.7033     16    0.0572
## 374506.8244     16    0.0572
## 382890.8038     16    0.0572
## 361478.7777     15    0.0536
## 363055.7904     15    0.0536
## 363085.6907     15    0.0536
## 364858.6999     15    0.0536
## 351269.718      14    0.0501
## 360596.785      14    0.0501
## 366932.7972     14    0.0501
## 368034.9044     14    0.0501
## 368037.6022     14    0.0501
## 368242.8118     14    0.0501
## 368511.7072     14    0.0501
## 369995.72       14    0.0501
## 371607.8372     14    0.0501
## 374673.8446     14    0.0501
## 379861.6418     14    0.0501
## 363933.6839     13    0.0465
## 365234.7983     13    0.0465
## 373099.7274     13    0.0465
## 373762.8425     13    0.0465
## 383949.9617     13    0.0465
## 351268.8187     12    0.0429
## 362548.7909     12    0.0429
## 365053.7972     12    0.0429
## 367600.9109     12    0.0429
## 367611.9141     12    0.0429
## 367612.8134     12    0.0429
## 370337.852      12    0.0429
## 370668.8156     12    0.0429
## 370882.9252     12    0.0429
```

## 372091.9144	12	0.0429
## 372092.8136	12	0.0429
## 372858.9255	12	0.0429
## 379858.0447	12	0.0429
## 379859.8433	12	0.0429
## 384351.8533	12	0.0429
## 352676.6173	11	0.0393
## 361480.5763	11	0.0393
## 361933.7798	11	0.0393
## 363419.6899	11	0.0393
## 363671.5855	11	0.0393
## 364357.804	11	0.0393
## 365192.7978	11	0.0393
## 365610.8967	11	0.0393
## 365611.7959	11	0.0393
## 368732.9102	11	0.0393
## 369133.5071	11	0.0393
## 370683.8193	11	0.0393
## 372146.7166	11	0.0393
## 372859.8248	11	0.0393
## 373097.9288	11	0.0393
## 373704.8239	11	0.0393
## 374507.7237	11	0.0393
## 354381.7343	10	0.0358
## 363179.7873	10	0.0358
## 363932.7846	10	0.0358
## 364275.6922	10	0.0358
## 364892.9052	10	0.0358
## 365083.8951	10	0.0358
## 366427.7939	10	0.0358
## 366428.6932	10	0.0358
## 367390.7111	10	0.0358
## 367459.6095	10	0.0358
## 368123.7145	10	0.0358
## 370432.7159	10	0.0358
## 371606.9379	10	0.0358
## 371866.8344	10	0.0358
## 372303.9209	10	0.0358
## 373898.9396	10	0.0358
## 374508.623	10	0.0358
## 375047.7247	10	0.0358
## 375361.9439	10	0.0358
## 379860.7426	10	0.0358
## 382122.8521	10	0.0358
## 382636.8543	10	0.0358
## 349290.6246	9	0.0322
## 349559.6845	9	0.0322
## 351049.8092	9	0.0322

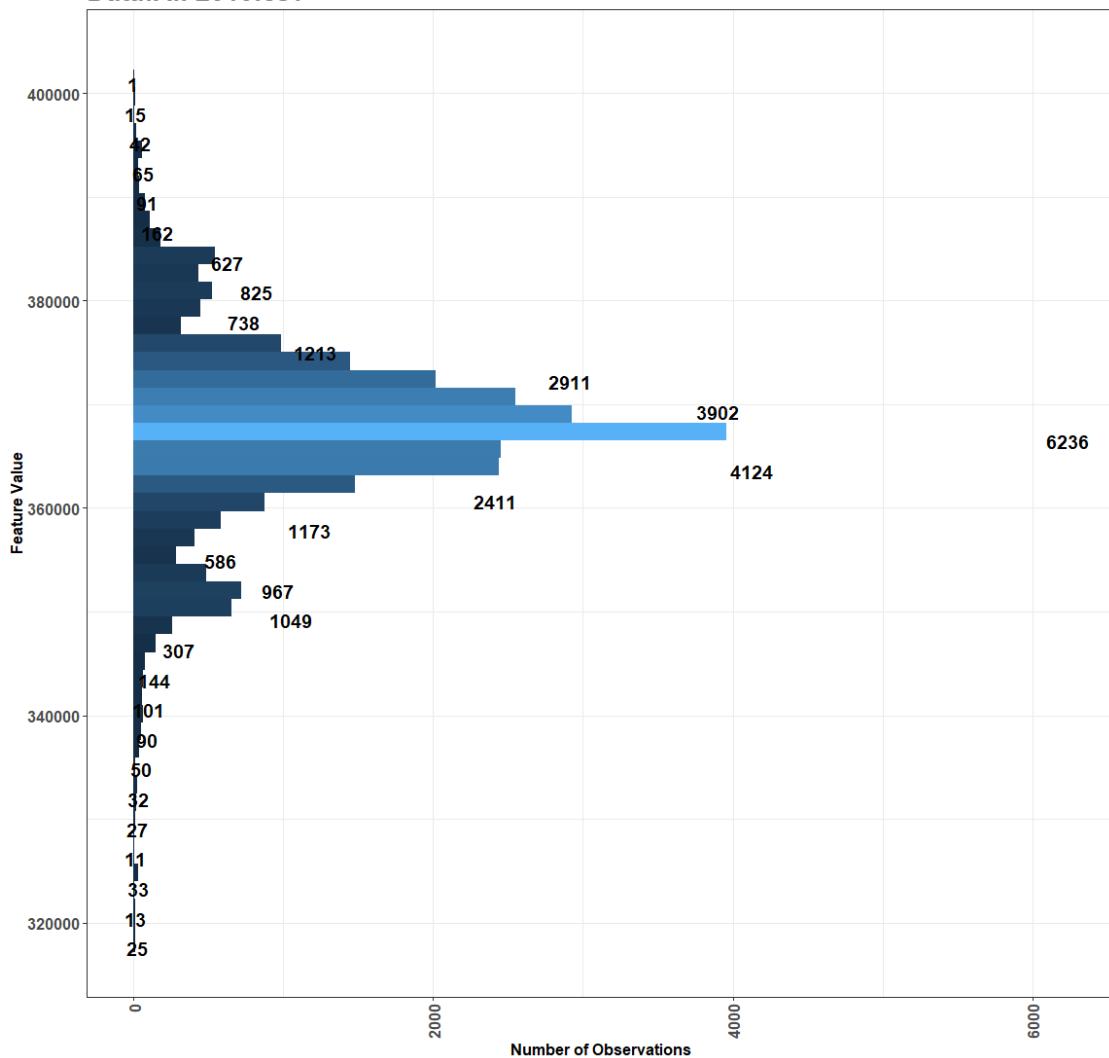
```

## 351267.9195      9    0.0322
## 360554.6858      9    0.0322
## 362282.6921      9    0.0322
## 363078.8772      9    0.0322
## 363079.7765      9    0.0322
## 363592.7889      9    0.0322
## 363856.7929      9    0.0322
## 364522.5976      9    0.0322
## 364640.6304      9    0.0322
## (Other)          26759  95.6669

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:XCOORD
Data:All 2013.csv**



```

## 
## -----
## CHECKING FEATURE:XCOORD

```

```

## DATA:All 2014.csv...
##
## Number of Blank Values:0
## Number of Zero Values:348
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##      Min. 1st Qu. Median   Mean 3rd Qu.   Max.
##      0     363334 367844 362513 371546 401482
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value      Counter Percentage
## -----
## 0                  348      1.2751
## 379861.2164        44       0.1612
## 379860.2686        32       0.1173
## 362549.2163        24       0.0879
## 367459.1842        19       0.0696
## 351269.2441        18       0.0660
## 361480.1509        18       0.0660
## 367458.7103        18       0.0660
## 370338.3259        18       0.0660
## 373100.2013        18       0.0660
## 367458.2364        17       0.0623
## 364351.2266        16       0.0586
## 368121.1049        16       0.0586
## 351270.1919        15       0.0550
## 363080.2018        15       0.0550
## 363934.1578        15       0.0550
## 368036.703         15       0.0550
## 362550.1641        14       0.0513
## 363724.1556        14       0.0513
## 366935.7449        14       0.0513
## 368037.1769        14       0.0513
## 368120.631         14       0.0513
## 379862.1643         14       0.0513
## 383640.9751         14       0.0513
## 363670.2171         13       0.0476
## 363933.6839         13       0.0476
## 365085.15          13       0.0476
## 369129.2188         13       0.0476
## 370073.1837         13       0.0476
## 373110.2403         13       0.0476

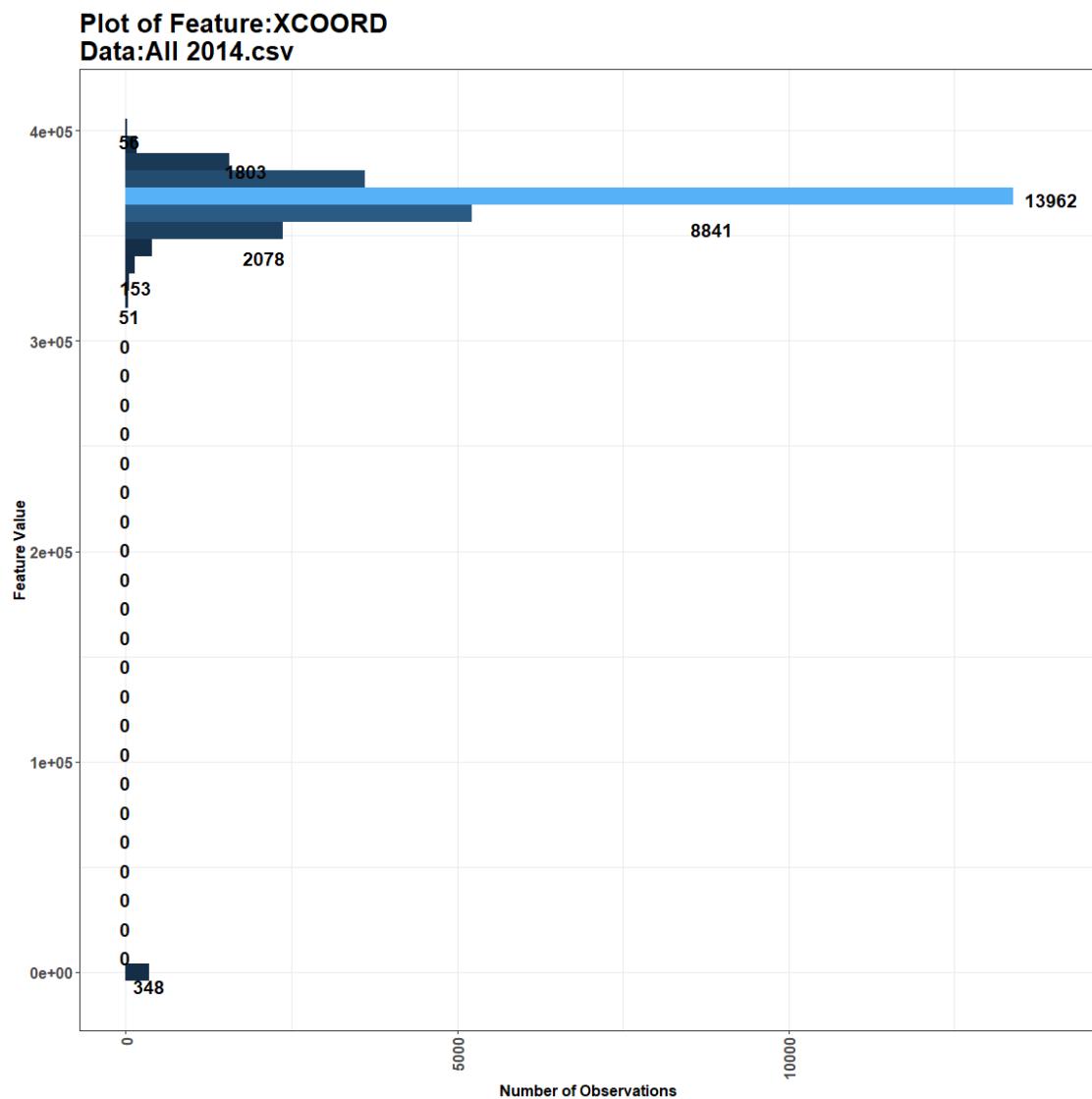
```

## 363080.6757	12	0.0440
## 363297.7452	12	0.0440
## 363672.1128	12	0.0440
## 363933.21	12	0.0440
## 364359.1772	12	0.0440
## 365613.1691	12	0.0440
## 367460.1321	12	0.0440
## 368036.2291	12	0.0440
## 368373.1631	12	0.0440
## 370218.705	12	0.0440
## 370432.242	12	0.0440
## 370433.1898	12	0.0440
## 372305.2456	12	0.0440
## 372306.1934	12	0.0440
## 372542.1943	12	0.0440
## 373098.3056	12	0.0440
## 383952.2342	12	0.0440
## 361022.1465	11	0.0403
## 361479.677	11	0.0403
## 362551.112	11	0.0403
## 362942.6979	11	0.0403
## 363298.6953	11	0.0403
## 363419.6899	11	0.0403
## 363670.691	11	0.0403
## 367922.2362	11	0.0403
## 367923.184	11	0.0403
## 368107.6253	11	0.0403
## 370337.345	11	0.0403
## 370683.2968	11	0.0403
## 371545.229	11	0.0403
## 373707.145	11	0.0403
## 383950.3385	11	0.0403
## 353674.0988	10	0.0366
## 360598.1582	10	0.0366
## 363057.1635	10	0.0366
## 363311.6864	10	0.0366
## 363671.1649	10	0.0366
## 363673.0607	10	0.0366
## 363932.2621	10	0.0366
## 364263.2714	10	0.0366
## 364276.3451	10	0.0366
## 365055.1703	10	0.0366
## 366814.2241	10	0.0366
## 367908.1814	10	0.0366
## 369306.1389	10	0.0366
## 371019.0019	10	0.0366
## 371547.1247	10	0.0366
## 371608.7365	10	0.0366



```
## 372390.3029      10    0.0366
## 375507.276       10    0.0366
## 380887.749       10    0.0366
## 382638.7037      10    0.0366
## 382639.1754      10    0.0366
## 383184.4038      10    0.0366
## 383951.2864      10    0.0366
## 350489.6085       9    0.0330
## 354620.1484       9    0.0330
## 360246.1529       9    0.0330
## 360597.6843       9    0.0330
## 361490.4382       9    0.0330
## 363594.1621       9    0.0330
## 364358.7033       9    0.0330
## 364854.1753       9    0.0330
## 365417.1726       9    0.0330
## 365832.6142       9    0.0330
## 367583.7135       9    0.0330
## 367743.2824       9    0.0330
## 370434.1377       9    0.0330
## 370684.7186       9    0.0330
## (Other)           25725  94.2584

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA>All 2015.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:368  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median     Mean 3rd Qu.    Max.  
##      0 363723 368004 362765 372012 401809  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 0 368 1.3206
## 368036.703 47 0.1687
## 372093.7129 30 0.1077
## 372305.7195 30 0.1077
## 383951.7603 30 0.1077
## 375578.7349 29 0.1041
## 367458.7103 28 0.1005
## 372860.7241 27 0.0969
## 369225.7159 26 0.0933
## 379860.7425 26 0.0933
## 372903.7226 25 0.0897
## 364858.6999 24 0.0861
## 369995.72 24 0.0861
## 371545.7029 24 0.0861
## 365085.15 23 0.0825
## 370432.7159 23 0.0825
## 373099.7274 23 0.0825
## 363670.691 22 0.0789
## 367948.7099 22 0.0789
## 371608.7365 22 0.0789
## 353673.6249 21 0.0754
## 365612.6952 21 0.0754
## 368511.7072 21 0.0754
## 370684.7186 21 0.0754
## 366935.271 20 0.0718
## 368315.9333 20 0.0718
## 370802.0781 20 0.0718
## 374147.7258 20 0.0718
## 374507.7237 20 0.0718
## 383183.9299 20 0.0718
## 360597.6843 19 0.0682
## 362550.6541 19 0.0682
## 370072.7098 19 0.0682
## 379861.7064 19 0.0682
## 362549.6902 18 0.0646
## 363419.6899 18 0.0646
## 368037.6669 18 0.0646
## 368373.637 18 0.0646
## 370337.852 18 0.0646
## 375047.7247 18 0.0646
## 376125.7305 18 0.0646
## 362942.6979 17 0.0610

```

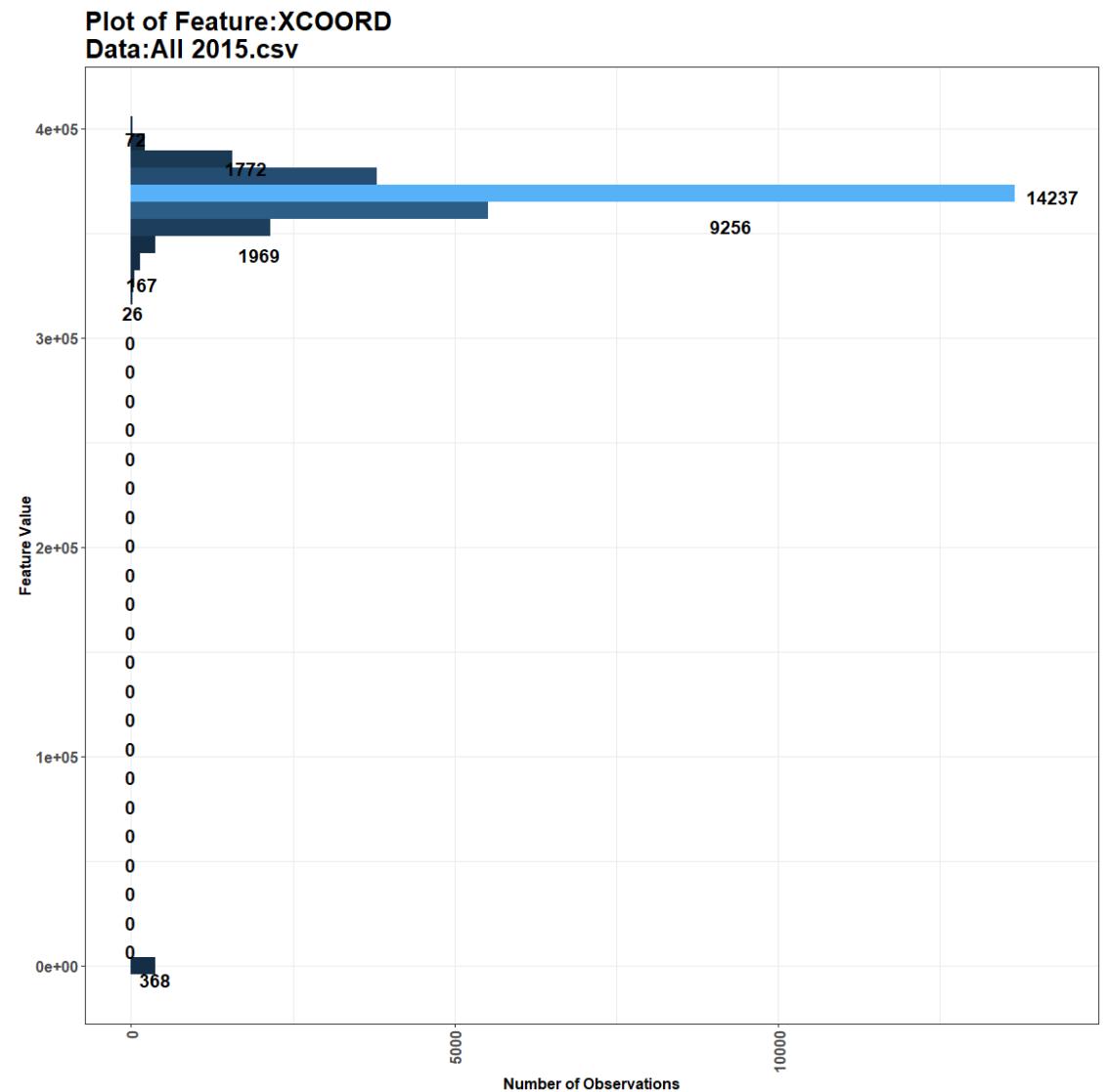
## 364358.7033	17	0.0610
## 365235.7	17	0.0610
## 366166.6936	17	0.0610
## 367371.9189	17	0.0610
## 367572.7185	17	0.0610
## 368035.9823	17	0.0610
## 368037.4237	17	0.0610
## 368121.1049	17	0.0610
## 368248.7013	17	0.0610
## 380631.7377	17	0.0610
## 364351.7005	16	0.0574
## 367252.7085	16	0.0574
## 367457.9896	16	0.0574
## 367922.7101	16	0.0574
## 383952.7242	16	0.0574
## 352206.8903	15	0.0538
## 352841.6249	15	0.0538
## 360245.679	15	0.0538
## 363080.6757	15	0.0538
## 365973.7076	15	0.0538
## 368109.0471	15	0.0538
## 370118.7151	15	0.0538
## 370884.7238	15	0.0538
## 373705.7232	15	0.0538
## 373763.74	15	0.0538
## 351269.718	14	0.0502
## 352207.611	14	0.0502
## 364642.429	14	0.0502
## 366829.71	14	0.0502
## 370218.705	14	0.0502
## 370676.3849	14	0.0502
## 370685.4393	14	0.0502
## 372860.0034	14	0.0502
## 374188.7282	14	0.0502
## 374674.7439	14	0.0502
## 375507.7499	14	0.0502
## 382889.8399	14	0.0502
## 382890.8038	14	0.0502
## 383951.0396	14	0.0502
## 348804.5759	13	0.0467
## 351553.6086	13	0.0467
## 366891.7126	13	0.0467
## 368038.7415	13	0.0467
## 370311.7131	13	0.0467
## 370683.9979	13	0.0467
## 372391.7247	13	0.0467
## 372823.7387	13	0.0467
## 383182.966	13	0.0467

```

## 355961.6341      12    0.0431
## 363739.6834      12    0.0431
## 363933.6839      12    0.0431
## 367370.955       12    0.0431
## 368767.7102      12    0.0431
## 369226.4366      12    0.0431
## 370677.1056      12    0.0431
## 371609.4572      12    0.0431
## 373903.4708      12    0.0431
## (Other)          25750  92.4032

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```



```

##
## -----
## CHECKING FEATURE:XCOORD

```

```

## DATA:All 2016.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median     Mean 3rd Qu.      Max.
## 318617   363670  367913  367481  372120  401606
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value    Counter    Percentage
## -----
## 383640.9751        32    0.1238
## 353455.2261        21    0.0812
## 375578.7349        19    0.0735
## 379860.7425        14    0.0541
## 384682.4877        14    0.0541
## 348803.086         12    0.0464
## 371608.956         11    0.0425
## 372093.7129        11    0.0425
## 384428.3389        11    0.0425
## 351269.718          10    0.0387
## 361934.6841        10    0.0387
## 364859.5281        10    0.0387
## 368036.703          10    0.0387
## 372093.4934        10    0.0387
## 379860.4762        10    0.0387
## 348795.2            9    0.0348
## 363670.0324        9    0.0348
## 364858.0413        9    0.0348
## 368167.711          9    0.0348
## 380460.1365        9    0.0348
## 350455.6007        8    0.0309
## 361767.4641        8    0.0309
## 362549.0316        8    0.0309
## 363080.0171        8    0.0309
## 364357.8751        8    0.0309
## 365085.15           8    0.0309
## 365250.7012        8    0.0309
## 365461.8729        8    0.0309
## 367458.7103        8    0.0309
## 368036.4785        8    0.0309

```

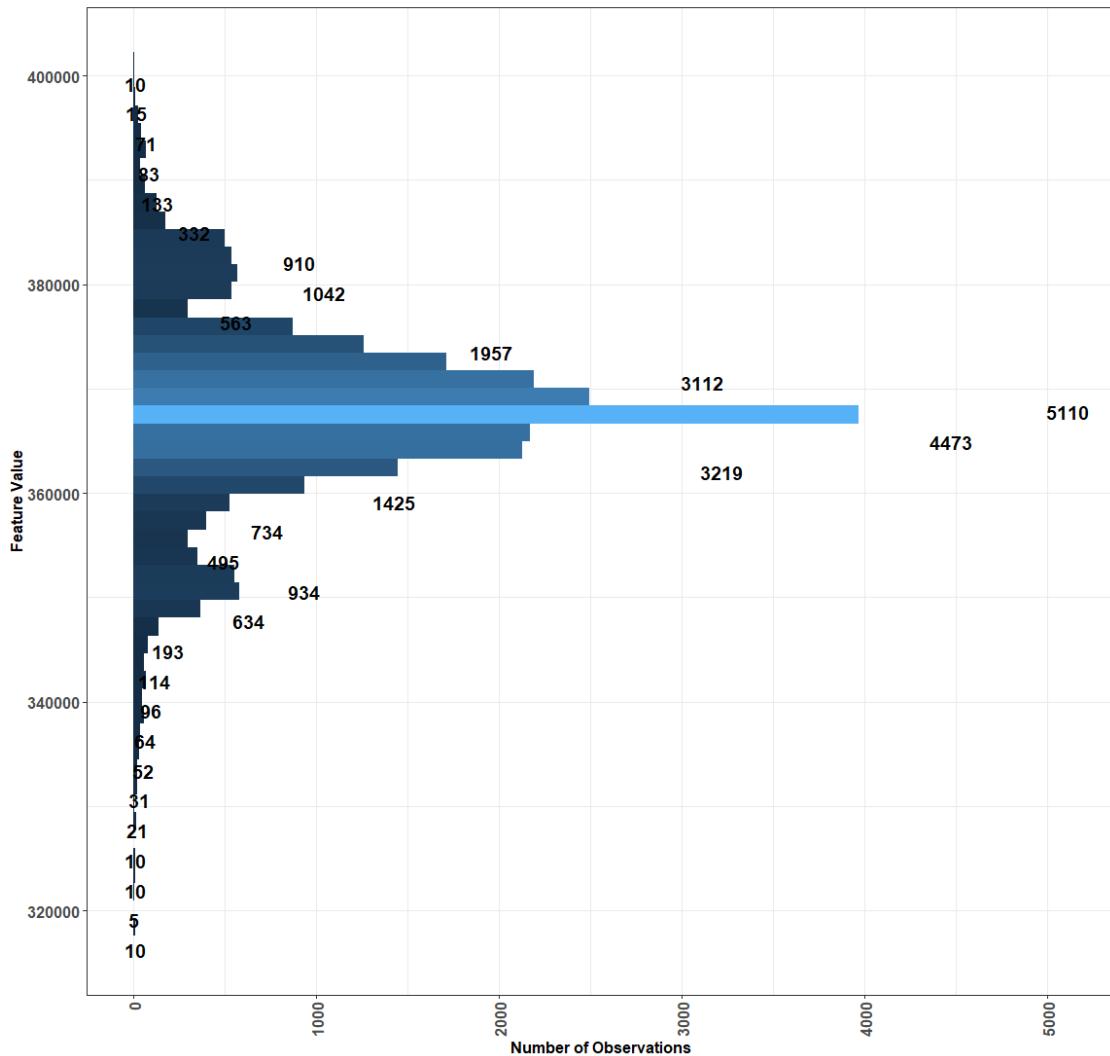
## 368248.0427	8	0.0309
## 369487.473	8	0.0309
## 370218.5349	8	0.0309
## 370884.5043	8	0.0309
## 378961.9816	8	0.0309
## 384683.5529	8	0.0309
## 351001.4707	7	0.0271
## 359720.3337	7	0.0271
## 360597.4648	7	0.0271
## 362942.0393	7	0.0271
## 363670.4715	7	0.0271
## 365192.8689	7	0.0271
## 365193.4776	7	0.0271
## 365611.867	7	0.0271
## 366071.9713	7	0.0271
## 367398.8818	7	0.0271
## 368109.8753	7	0.0271
## 371094.3439	7	0.0271
## 383951.7603	7	0.0271
## 350455.3812	6	0.0232
## 352207.3915	6	0.0232
## 357579.3114	6	0.0232
## 357720.5379	6	0.0232
## 360006.8952	6	0.0232
## 360072.0119	6	0.0232
## 361479.4575	6	0.0232
## 361479.677	6	0.0232
## 362549.6902	6	0.0232
## 362706.4614	6	0.0232
## 363187.0869	6	0.0232
## 363196.3403	6	0.0232
## 363560.4805	6	0.0232
## 363670.691	6	0.0232
## 364351.7005	6	0.0232
## 364359.5315	6	0.0232
## 364829.2929	6	0.0232
## 364857.0436	6	0.0232
## 365054.4769	6	0.0232
## 365130.385	6	0.0232
## 365149.4811	6	0.0232
## 365329.062	6	0.0232
## 365567.3359	6	0.0232
## 365626.6926	6	0.0232
## 366106.9822	6	0.0232
## 366161.0597	6	0.0232
## 366166.6936	6	0.0232
## 366422.8171	6	0.0232
## 366574.4063	6	0.0232



```
## 367371.2603      6    0.0232
## 367390.0525      6    0.0232
## 367446.6093      6    0.0232
## 367458.0517      6    0.0232
## 367459.5385      6    0.0232
## 368035.0467      6    0.0232
## 368035.6053      6    0.0232
## 368036.0444      6    0.0232
## 368036.4835      6    0.0232
## 368082.4926      6    0.0232
## 368121.1049      6    0.0232
## 368121.9331      6    0.0232
## 368235.6976      6    0.0232
## 368426.5965      6    0.0232
## 368958.3921      6    0.0232
## 370072.7098      6    0.0232
## 370676.3849      6    0.0232
## 370676.6044      6    0.0232
## 370851.7305      6    0.0232
## 371120.7247      6    0.0232
## 371421.9501      6    0.0232
## (Other)           25089  97.0261

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

**Plot of Feature:XCOORD
Data:All 2016.csv**



```
##  
## -----  
## CHECKING FEATURE:XCOORD  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median     Mean 3rd Qu.    Max.  
## 317874 363234 367649 367169 371867 400271  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF XCOORD
##
## Feature Value Counter Percentage
## -----
## 383640.9751      39     0.1469
## 361934.6841      37     0.1394
## 363298.6953      25     0.0942
## 363671.6943      21     0.0791
## 379860.7425      20     0.0754
## 384428.3389      20     0.0754
## 353455.2261      17     0.0641
## 361288.4381      16     0.0603
## 368037.0375      15     0.0565
## 383951.7603      15     0.0565
## 362549.6902      14     0.0527
## 363671.0255      14     0.0527
## 379861.7458      14     0.0527
## 361479.677       13     0.0490
## 363934.0184      13     0.0490
## 365055.0309      13     0.0490
## 370218.3706      13     0.0490
## 348803.086       12     0.0452
## 362550.0247      12     0.0452
## 363833.6895      12     0.0452
## 367459.0448      12     0.0452
## 368511.7072      12     0.0452
## 375047.7247      12     0.0452
## 379859.7392      12     0.0452
## 379861.077       12     0.0452
## 383951.4259      12     0.0452
## 369995.3856      11     0.0414
## 370801.7437      11     0.0414
## 372861.0586      11     0.0414
## 375046.7214      11     0.0414
## 375047.3903      11     0.0414
## 348804.9104      10     0.0377
## 360531.6435      10     0.0377
## 360597.6843      10     0.0377
## 362550.1636      10     0.0377
## 363080.3413      10     0.0377
## 364173.2121      10     0.0377
## 364352.035       10     0.0377
## 365193.3627      10     0.0377
## 365527.377       10     0.0377
## 365613.0297      10     0.0377
## 367458.7103      10     0.0377

```

## 367459.7136	10	0.0377
## 368036.3686	10	0.0377
## 368036.703	10	0.0377
## 368373.637	10	0.0377
## 370677.3882	10	0.0377
## 371947.0624	10	0.0377
## 372093.7129	10	0.0377
## 373706.7265	10	0.0377
## 379860.4081	10	0.0377
## 363527.6934	9	0.0339
## 363933.6839	9	0.0339
## 364255.69	9	0.0339
## 366892.0471	9	0.0339
## 367922.3757	9	0.0339
## 368372.6337	9	0.0339
## 368550.7052	9	0.0339
## 369654.8152	9	0.0339
## 370218.705	9	0.0339
## 372093.2395	9	0.0339
## 372094.7162	9	0.0339
## 372748.7202	9	0.0339
## 373705.7232	9	0.0339
## 373829.0566	9	0.0339
## 349262.971	8	0.0301
## 349525.1206	8	0.0301
## 349676.08	8	0.0301
## 352207.2766	8	0.0301
## 352207.611	8	0.0301
## 352678.8814	8	0.0301
## 353673.6249	8	0.0301
## 357066.6521	8	0.0301
## 359718.343	8	0.0301
## 362062.0211	8	0.0301
## 363080.6757	8	0.0301
## 363670.691	8	0.0301
## 364275.3578	8	0.0301
## 364351.7005	8	0.0301
## 364357.7	8	0.0301
## 364858.6999	8	0.0301
## 364949.019	8	0.0301
## 365054.6964	8	0.0301
## 365085.15	8	0.0301
## 366379.3555	8	0.0301
## 366900.7115	8	0.0301
## 367447.707	8	0.0301
## 367572.3841	8	0.0301
## 367949.0444	8	0.0301
## 368248.7013	8	0.0301

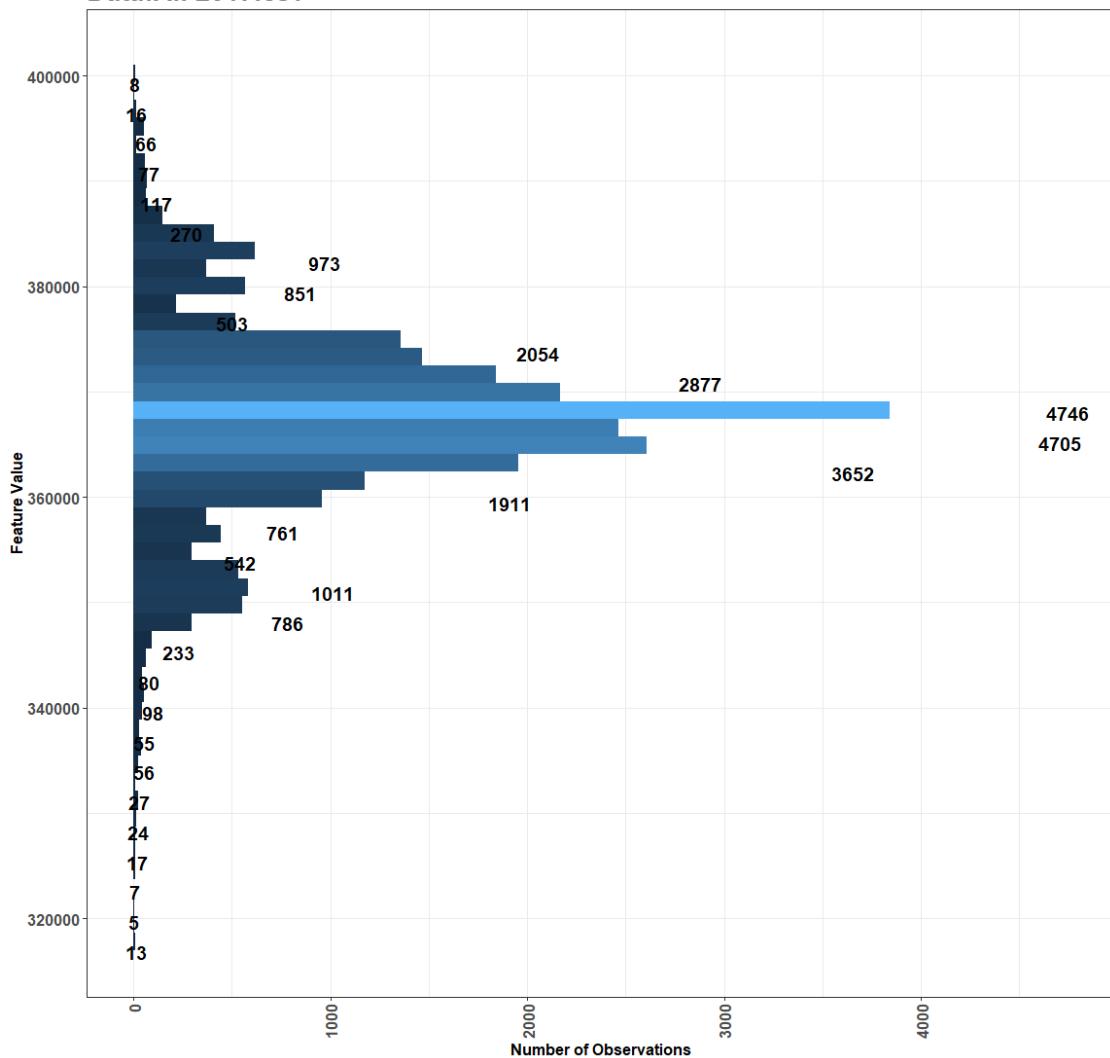
```

## 368316.2678      8     0.0301
## 368374.6403      8     0.0301
## 368739.7072      8     0.0301
## 369225.3815      8     0.0301
## 370072.7098      8     0.0301
## 371019.5313      8     0.0301
## 371608.7365      8     0.0301
## 372147.0511      8     0.0301
## 372304.7162      8     0.0301
## (Other)          25461   95.9308

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:XCOORD
Data:All 2017.csv**



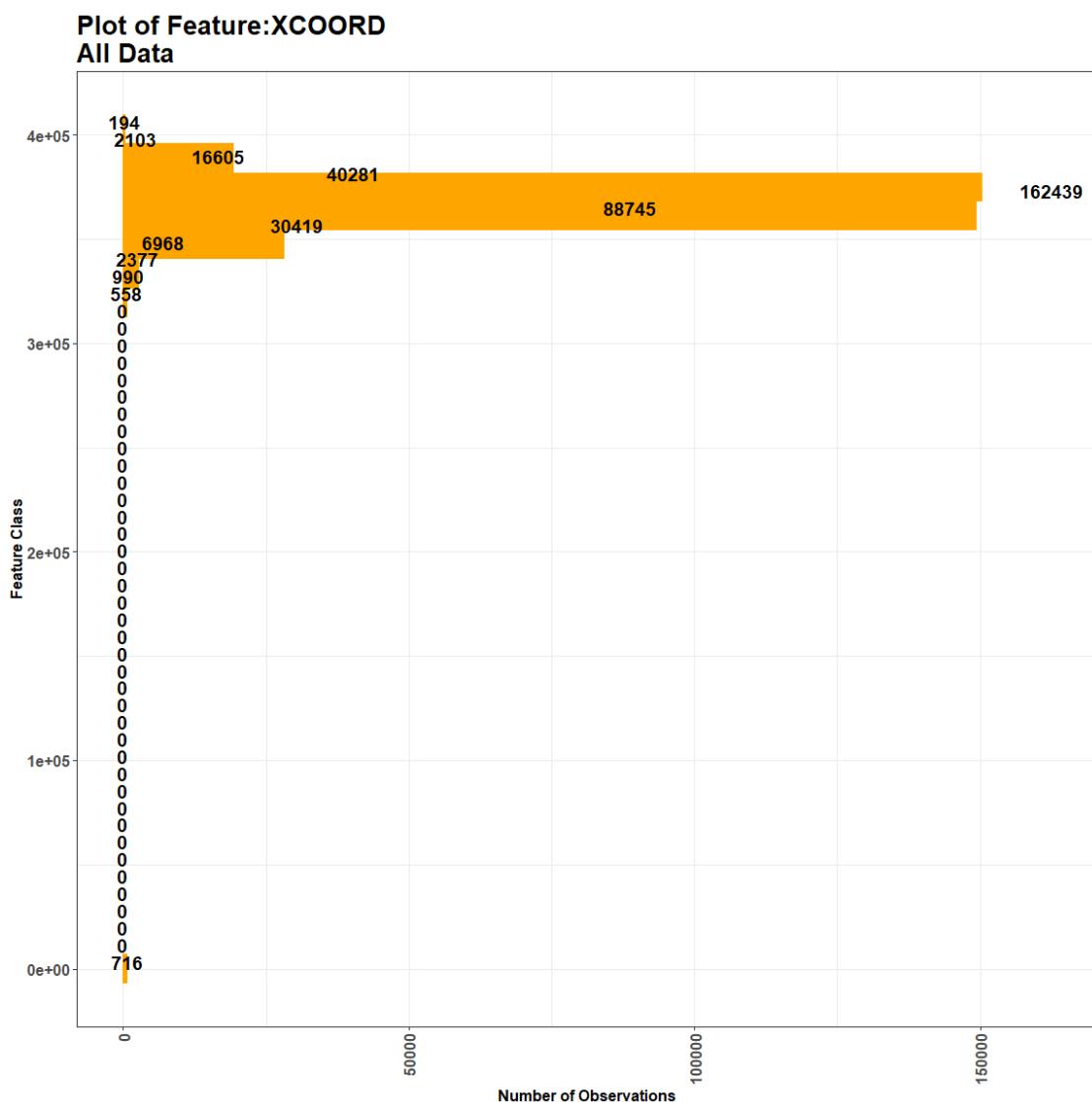
```

##
## =====
## FINAL INFO CHECKING FEATURE:XCOORD

```

```
## ALL DATA...
## =====
##
## Number of Blank Values:0
## Number of Zero Values:716
## Number of Negative Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median   Mean 3rd Qu.   Max.   NA's
##      0  363427  367871  366520  371869  402732  28515
##
## Summary as Factor Feature:
## Number of Features: 100

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
## [1] "TOP 100 FEATURES COUNTERS OF :XCOORD"
```

Feature Value	Counter	Percentage
0	716	0.1880
368036.703	169	0.0444
370432.7159	160	0.0420
379860.7426	153	0.0402
366264.5929	143	0.0375
367458.7103	134	0.0352
383951.7603	122	0.0320
371608.7365	121	0.0318
373099.7274	119	0.0312

362549.6902	117	0.0307
364858.6999	113	0.0297
363080.6757	112	0.0294
372093.7129	111	0.0291
368511.7072	104	0.0273
369995.72	103	0.0270
362702.6883	102	0.0268
375578.7349	102	0.0268
363933.6839	99	0.0260
365612.6952	99	0.0260
368037.6022	99	0.0260
361479.677	98	0.0257
368035.8037	95	0.0249
372305.7195	95	0.0249
374674.7439	95	0.0249
363669.787	91	0.0239
383640.9751	89	0.0234
351269.718	87	0.0228
370218.705	87	0.0228
360597.6843	86	0.0226
372860.7241	85	0.0223
362548.7909	84	0.0221
364358.7033	84	0.0221
363419.6899	82	0.0215
362061.6866	80	0.0210
367457.811	79	0.0207
366166.6936	78	0.0205
363671.5855	77	0.0202
362942.6979	76	0.0200
368124.6138	75	0.0197
368248.7013	75	0.0197
370072.7098	75	0.0197
370337.852	74	0.0194
382890.8038	74	0.0194
364351.7005	73	0.0192

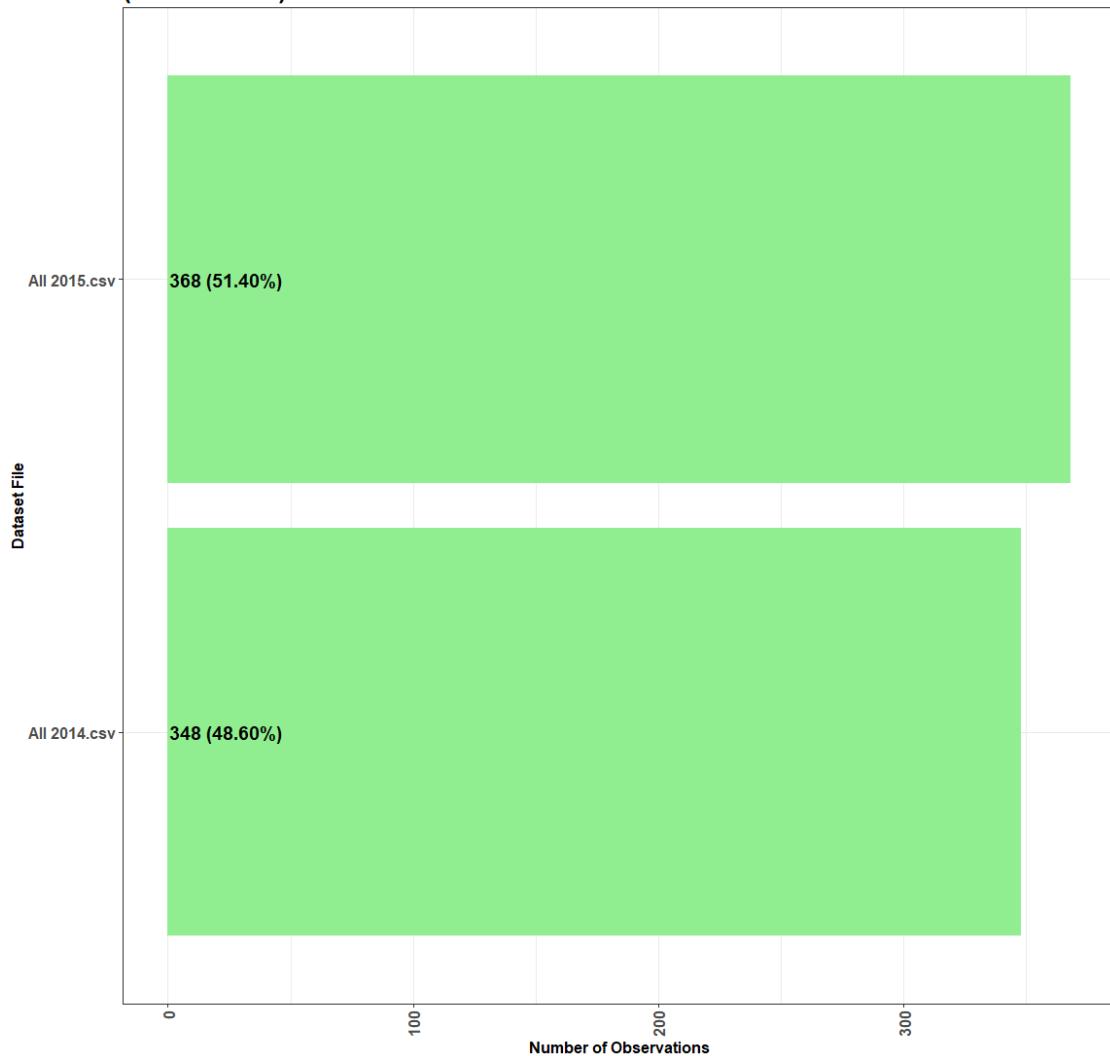
373110.7142	73	0.0192
375047.7247	73	0.0192
364521.6983	72	0.0189
368038.5015	72	0.0189
368039.4008	71	0.0186
379858.944	71	0.0186
363298.6953	70	0.0184
363672.4848	70	0.0184
367907.7075	69	0.0181
371609.6358	69	0.0181
372859.8248	69	0.0181
374147.7258	69	0.0181
374507.7237	69	0.0181
370684.7186	68	0.0179
371545.7029	67	0.0176
363670.6862	65	0.0171
370311.7131	65	0.0171
370507.7344	65	0.0171
372091.9144	65	0.0171
383950.861	65	0.0171
352841.6249	64	0.0168
363673.3841	64	0.0168
364276.5915	64	0.0168
367459.6095	64	0.0168
368123.7145	64	0.0168
370884.7238	64	0.0168
372306.6188	64	0.0168
372903.7226	64	0.0168
373705.7232	64	0.0168
379860.7425	64	0.0168
354382.6336	63	0.0165
368125.513	63	0.0165
372092.8136	63	0.0165
372304.8202	63	0.0165
365054.6964	62	0.0163

367948.7099	62	0.0163
374673.8446	62	0.0163
366167.5928	61	0.0160
379859.8433	61	0.0160
363079.7765	60	0.0158
367906.8082	60	0.0158
368034.9044	60	0.0158
368739.7072	60	0.0158
369131.7086	60	0.0158
373098.8281	60	0.0158
349864.6086	59	0.0155
362282.6921	59	0.0155
364357.804	59	0.0155
368122.8152	59	0.0155
374506.8244	59	0.0155
354380.8351	58	0.0152
368370.8092	58	0.0152
361480.5763	57	0.0150
362550.5895	57	0.0150
(Other)	343941	90.2946
NA's	28515	7.4860

28.1 XCOORD = "0"

```
##  
## ======  
## CHECKING FEATURE AND VALUE (XCOORD=0)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv  
##      348      368
```

**Plot of Feature and Value
(XCOORD=0)**



DATASET FILE	COUNTER OF (XCOORD=0)	Percentage
All 2014.csv	348	48.6
All 2015.csv	368	51.4

28.2 XCOORD = "402732"

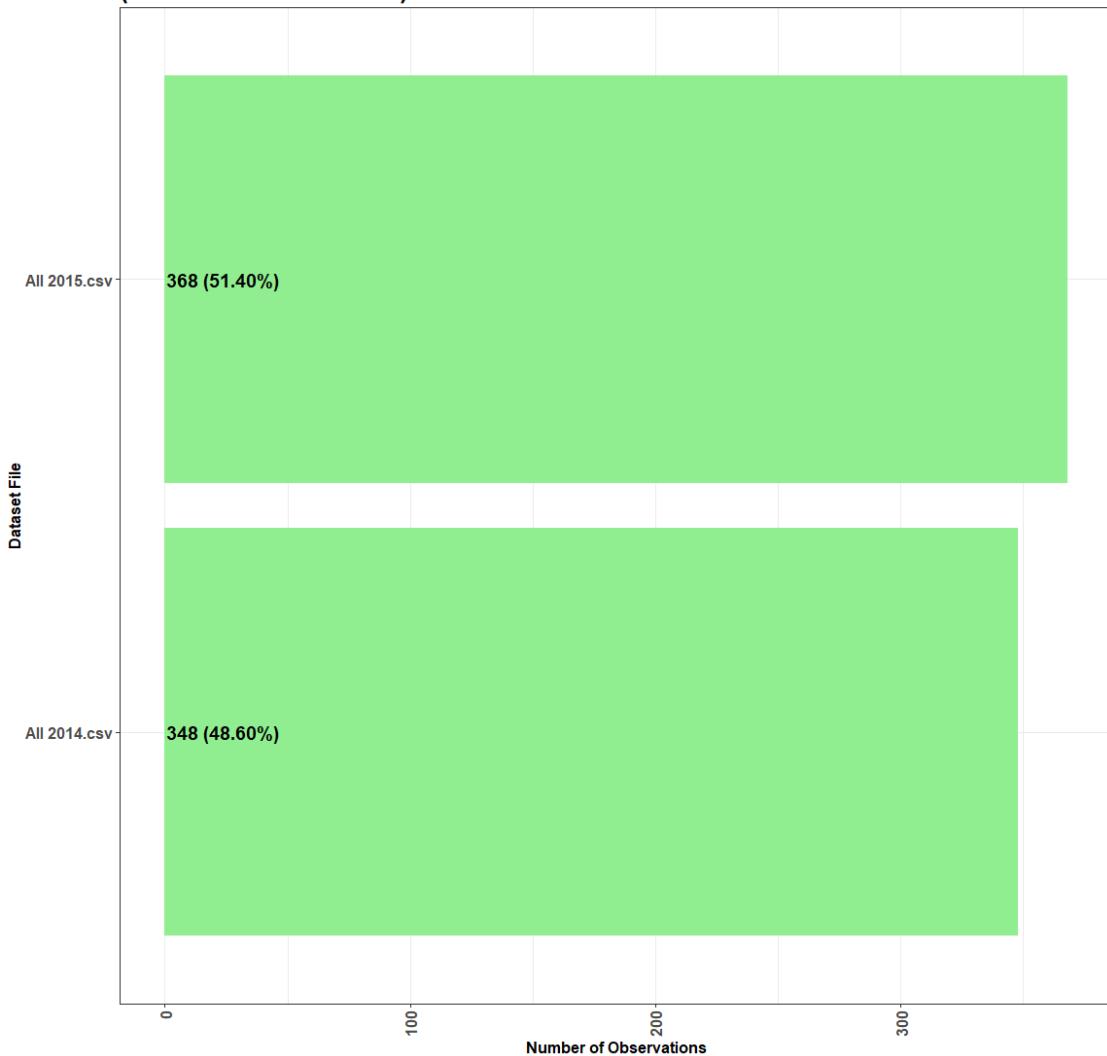
```
##  
## =====  
## CHECKING FEATURE AND VALUE (XCOORD=402732)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (XCOORD=402732) Percentage -----

28.3 XCOORD < “316082.007”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (XCOORD<316082.007)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv  
##          348          368
```

**Plot of Feature and Value
(XCOORD<316082.007)**



DATASET FILE	COUNTER OF (XCOORD<316082.007)	Percentage
All 2014.csv	348	48.6
All 2015.csv	368	51.4

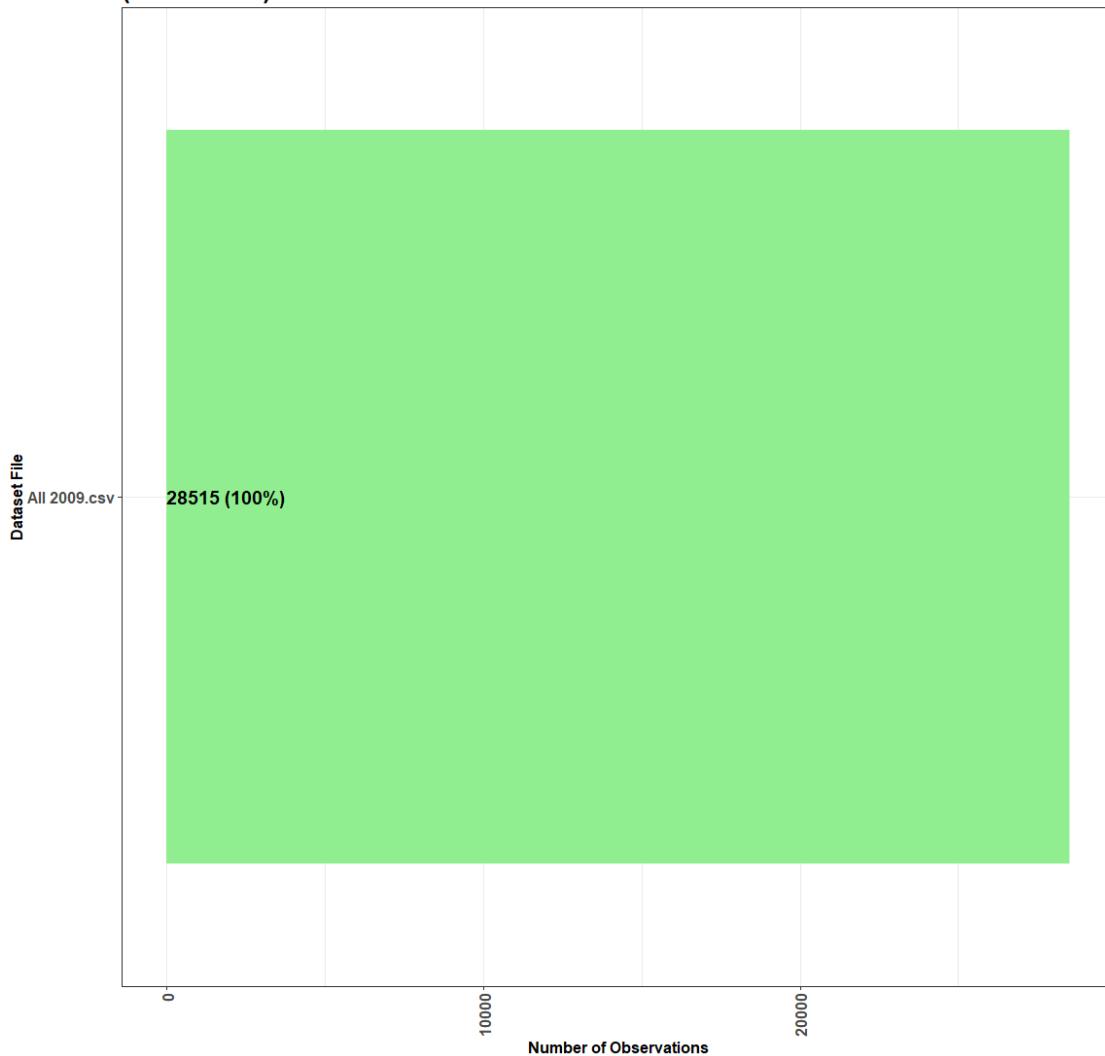
28.4 XCOORD > “402774.195”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (XCOORD>402774.195)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (XCOORD>402774.195) Percentage ----- -----

28.5 XCOORD = “” (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (XCOORD=)  
##  
## Summary per Data File:  
## All 2009.csv  
## 28515
```

**Plot of Feature and Value
(XCOORD=)**

DATASET FILE	COUNTER OF (XCOORD=)	Percentage
All 2009.csv	28515	100

29. Y Coord (YCOORD)

```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##
```

```

## Summary as Numeric Feature:
##   Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4982834 5023064 5028056 5026608 5031486 5043380
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5031016.344      68     0.2645
## 5029081.557      33     0.1284
## 5036471.581      29     0.1128
## 5023465.505      25     0.0972
## 5021226.529      24     0.0934
## 5023171.237      19     0.0739
## 5021946.714      17     0.0661
## 5023490.538      17     0.0661
## 5021948.334      15     0.0583
## 5026851.138      14     0.0545
## 5023770.91       13     0.0506
## 5026631.186      13     0.0506
## 5028433.58       13     0.0506
## 5029337.587      13     0.0506
## 5032828.044      13     0.0506
## 5019557.645      12     0.0467
## 5026441.367      12     0.0467
## 5030394.589      12     0.0467
## 5030579.777      12     0.0467
## 5030668.586      12     0.0467
## 5032413.994      12     0.0467
## 5024101.961      11     0.0428
## 5026222.117      11     0.0428
## 5031120.779      11     0.0428
## 5031952.79       11     0.0428
## 5021245.276      10     0.0389
## 5021248.516       10     0.0389
## 5021945.094       10     0.0389
## 5024889.298       10     0.0389
## 5031688.165       10     0.0389
## 5031964.586       10     0.0389
## 5021945.333        9     0.0350
## 5024474.347        9     0.0350
## 5024507.931        9     0.0350
## 5025948.95         9     0.0350
## 5030005.162         9     0.0350

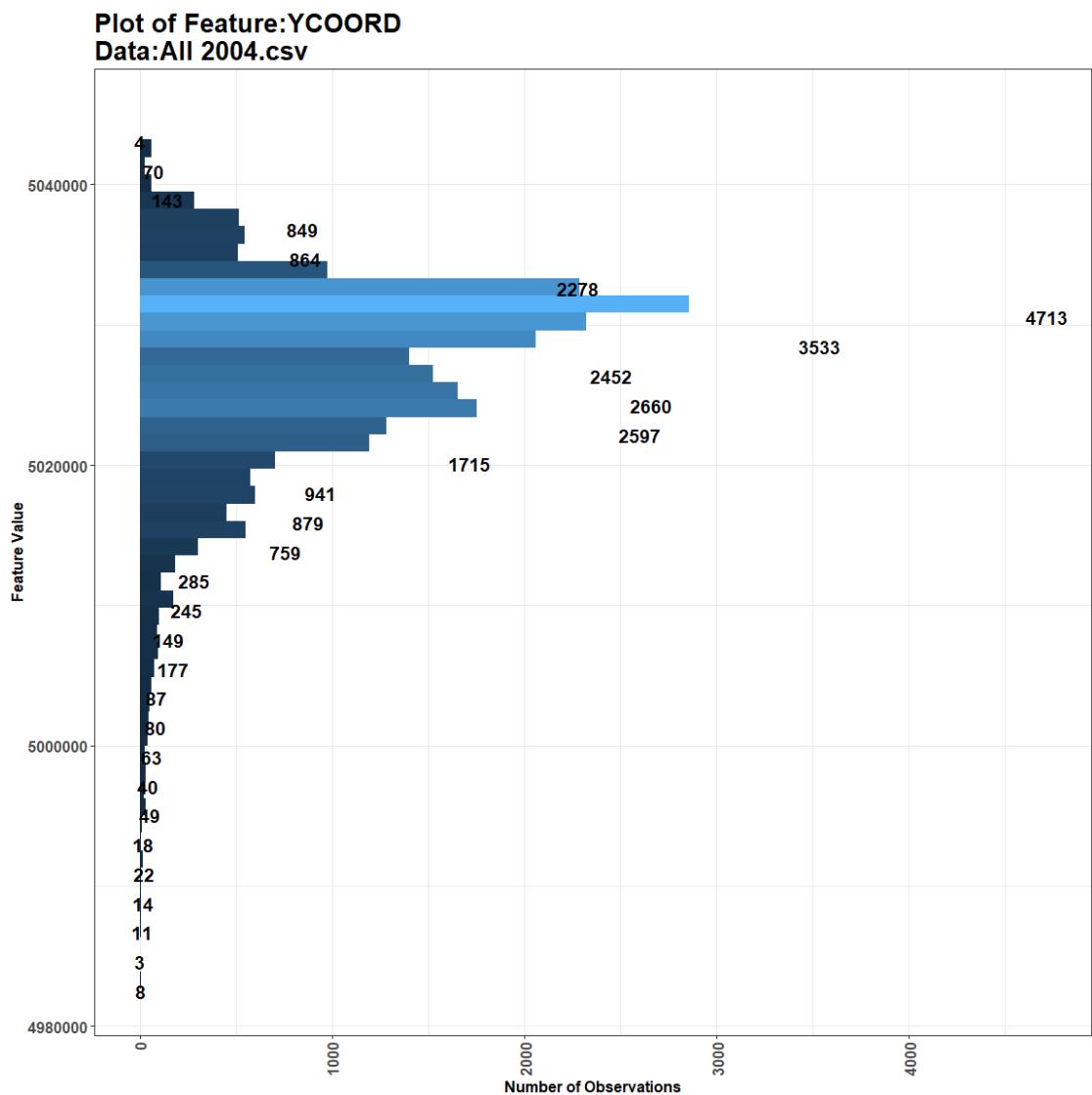
```

## 5031019.409	9	0.0350
## 5031118.35	9	0.0350
## 5032378.611	9	0.0350
## 5032472.18	9	0.0350
## 5034516.188	9	0.0350
## 5016197.278	8	0.0311
## 5018424.064	8	0.0311
## 5018498.871	8	0.0311
## 5019555.215	8	0.0311
## 5021891.909	8	0.0311
## 5023773.34	8	0.0311
## 5023864.919	8	0.0311
## 5023865.729	8	0.0311
## 5024511.981	8	0.0311
## 5024839.933	8	0.0311
## 5024888.488	8	0.0311
## 5025045.303	8	0.0311
## 5025326.73	8	0.0311
## 5025500.377	8	0.0311
## 5026354.534	8	0.0311
## 5026852.757	8	0.0311
## 5027493.939	8	0.0311
## 5027700.139	8	0.0311
## 5028001.198	8	0.0311
## 5028052.373	8	0.0311
## 5028497.517	8	0.0311
## 5029798.592	8	0.0311
## 5030010.832	8	0.0311
## 5030392.969	8	0.0311
## 5030395.399	8	0.0311
## 5030407.771	8	0.0311
## 5031428.409	8	0.0311
## 5031715.602	8	0.0311
## 5031800.365	8	0.0311
## 5031949.55	8	0.0311
## 5033500.668	8	0.0311
## 5036156.726	8	0.0311
## 5019553.595	7	0.0272
## 5019558.455	7	0.0272
## 5020505.314	7	0.0272
## 5021250.136	7	0.0272
## 5021830.132	7	0.0272
## 5021891.099	7	0.0272
## 5021892.719	7	0.0272
## 5021893.528	7	0.0272
## 5021941.284	7	0.0272
## 5023988.101	7	0.0272
## 5024097.102	7	0.0272



```
## 5025120.35          7    0.0272
## 5026442.987         7    0.0272
## 5027284.139         7    0.0272
## 5029693.962         7    0.0272
## 5029696.392         7    0.0272
## 5030436.753         7    0.0272
## 5030576.537         7    0.0272
## 5032033.368         7    0.0272
## 5032412.375         7    0.0272
## 5034108.188         7    0.0272
## 5036159.966         7    0.0272
## 5036980.185         7    0.0272
## 5014562.766         6    0.0233
## 5016626.28          6    0.0233
## 5016733.67          6    0.0233
## (Other)              24681 96.0051

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2005.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 4981549 5022784 5027960 5026586 5031486 5043051  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5029081.557      35     0.1314
## 5023490.538      29     0.1089
## 5036471.581      27     0.1014
## 5023171.237      21     0.0789
## 5023465.505      20     0.0751
## 5021226.529      17     0.0638
## 5025699.176      14     0.0526
## 5031016.344      14     0.0526
## 5020502.884      13     0.0488
## 5021245.276      13     0.0488
## 5022585.715      13     0.0488
## 5023771.72       13     0.0488
## 5030666.156      13     0.0488
## 5021946.714      12     0.0451
## 5023725.106      12     0.0451
## 5025949.76       12     0.0451
## 5038666.858      12     0.0451
## 5020501.265      11     0.0413
## 5021945.904      11     0.0413
## 5023865.729      11     0.0413
## 5024097.721      11     0.0413
## 5024891.728      11     0.0413
## 5028091.147      11     0.0413
## 5030193.019      11     0.0413
## 5030577.347      11     0.0413
## 5032475.42       11     0.0413
## 5037978.362      11     0.0413
## 5017676.042      10     0.0375
## 5021944.284      10     0.0375
## 5022548.141      10     0.0375
## 5022729.28       10     0.0375
## 5024781.928      10     0.0375
## 5024842.363      10     0.0375
## 5025946.52       10     0.0375
## 5028092.767      10     0.0375
## 5030476.168      10     0.0375
## 5018426.494       9     0.0338
## 5021247.706       9     0.0338
## 5023385.668       9     0.0338
## 5023767.67       9     0.0338
## 5023770.91       9     0.0338
## 5025697.556       9     0.0338

```

## 5027494.749	9	0.0338
## 5027985.415	9	0.0338
## 5028603.147	9	0.0338
## 5030576.537	9	0.0338
## 5030669.396	9	0.0338
## 5032046.609	9	0.0338
## 5032821.564	9	0.0338
## 5012108.419	8	0.0300
## 5014046.426	8	0.0300
## 5016621.42	8	0.0300
## 5016730.431	8	0.0300
## 5018421.634	8	0.0300
## 5020455.07	8	0.0300
## 5020457.5	8	0.0300
## 5022587.335	8	0.0300
## 5023724.296	8	0.0300
## 5024096.102	8	0.0300
## 5024101.151	8	0.0300
## 5024229.794	8	0.0300
## 5024785.977	8	0.0300
## 5024807.11	8	0.0300
## 5026488.122	8	0.0300
## 5026489.742	8	0.0300
## 5026490.552	8	0.0300
## 5026627.946	8	0.0300
## 5026630.376	8	0.0300
## 5026850.328	8	0.0300
## 5026851.138	8	0.0300
## 5027012.323	8	0.0300
## 5027465.556	8	0.0300
## 5027491.51	8	0.0300
## 5027493.13	8	0.0300
## 5027986.225	8	0.0300
## 5028431.96	8	0.0300
## 5028501.566	8	0.0300
## 5029692.342	8	0.0300
## 5030188.16	8	0.0300
## 5030575.728	8	0.0300
## 5030918.41	8	0.0300
## 5031441.58	8	0.0300
## 5031554.841	8	0.0300
## 5031797.936	8	0.0300
## 5031802.795	8	0.0300
## 5032005.975	8	0.0300
## 5032006.785	8	0.0300
## 5032009.985	8	0.0300
## 5032268.561	8	0.0300
## 5032474.61	8	0.0300

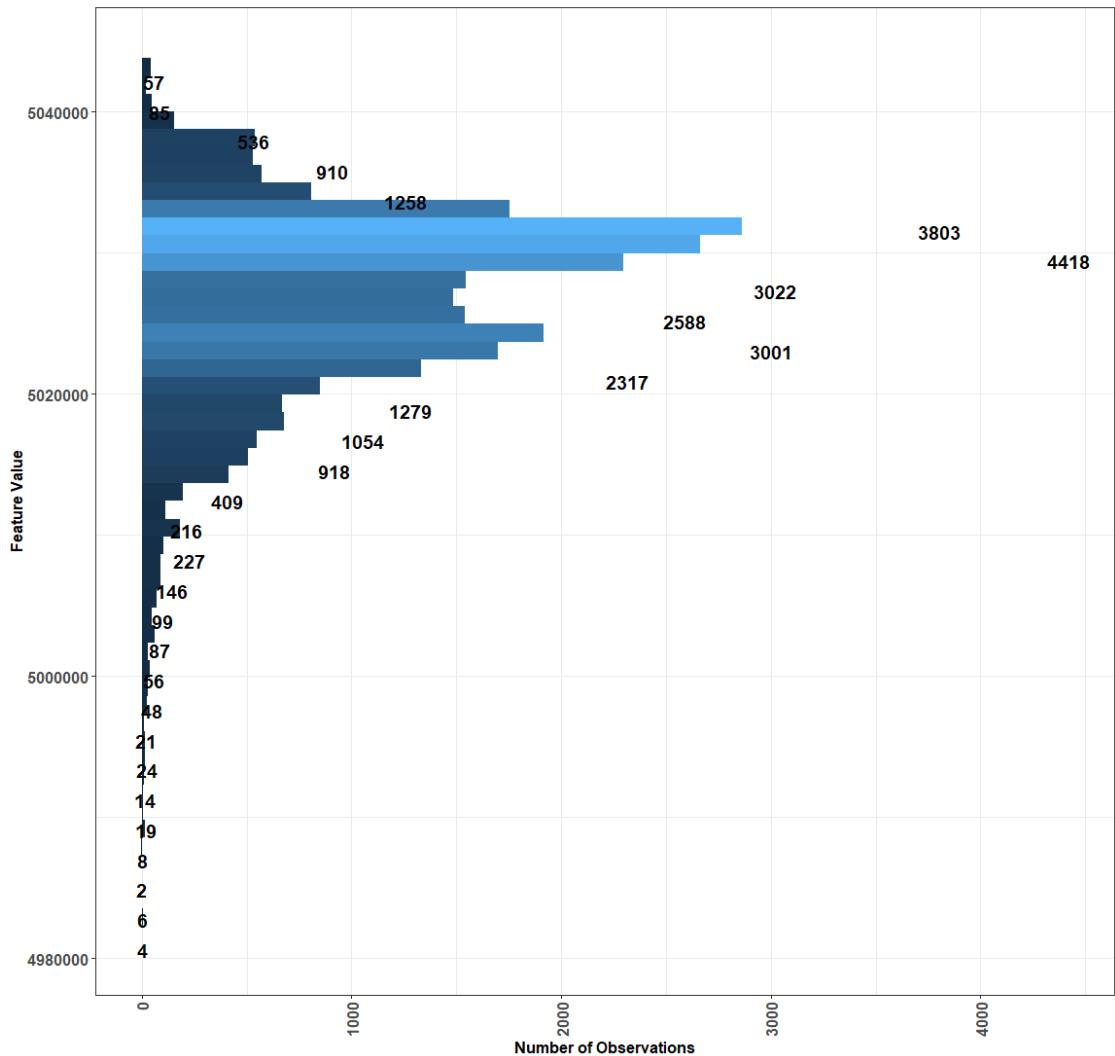
```

## 5032477.85      8    0.0300
## 5032692.611     8    0.0300
## 5032823.994     8    0.0300
## 5033491.759     8    0.0300
## 5008975.792     7    0.0263
## 5015277.65      7    0.0263
## 5016729.621      7    0.0263
## 5016733.67      7    0.0263
## 5017901.434      7    0.0263
## (Other)          25630 96.2376

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:YCOORD
Data:All 2005.csv**



```

## 
## -----
## CHECKING FEATURE:YCOORD

```

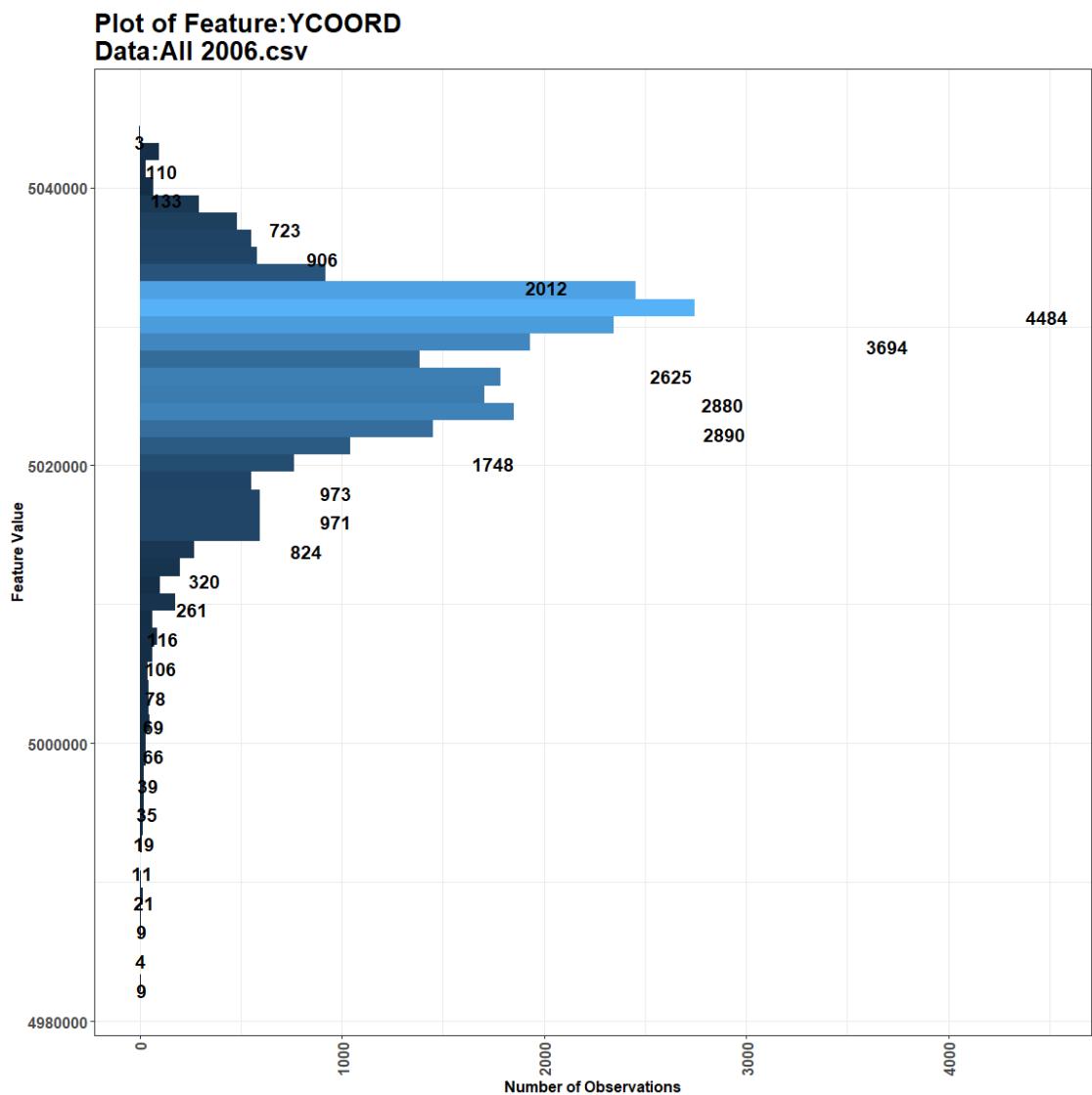
```

## DATA:All 2006.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4982388 5022899 5027763 5026576 5031439 5043442
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036471.581      43    0.1645
## 5031016.344      40    0.1530
## 5029081.557      32    0.1224
## 5023490.538      30    0.1148
## 5023465.505      19    0.0727
## 5026627.136      17    0.0650
## 5030188.97       16    0.0612
## 5023769.29       14    0.0536
## 5030625.352      14    0.0536
## 5031439.96       14    0.0536
## 5014783.213      13    0.0497
## 5031964.586      13    0.0497
## 5038667.668      12    0.0459
## 5021246.896      11    0.0421
## 5022733.329      11    0.0421
## 5023768.48       11    0.0421
## 5023770.1        11    0.0421
## 5030952.213      11    0.0421
## 5032753.987      11    0.0421
## 5032824.804      11    0.0421
## 5012108.419      10    0.0383
## 5017243.66       10    0.0383
## 5018845.684      10    0.0383
## 5021226.529      10    0.0383
## 5021945.094      10    0.0383
## 5023725.916      10    0.0383
## 5023868.159      10    0.0383
## 5026631.186      10    0.0383
## 5026852.757      10    0.0383
## 5028091.147      10    0.0383

```

## 5031439.15	10	0.0383
## 5036159.156	10	0.0383
## 5015277.65	9	0.0344
## 5021733.703	9	0.0344
## 5021890.289	9	0.0344
## 5021941.284	9	0.0344
## 5024097.721	9	0.0344
## 5024099.341	9	0.0344
## 5030006.782	9	0.0344
## 5031006.359	9	0.0344
## 5031691.404	9	0.0344
## 5032037.418	9	0.0344
## 5032823.994	9	0.0344
## 5034296.806	9	0.0344
## 5036159.966	9	0.0344
## 5038666.048	9	0.0344
## 5014785.642	8	0.0306
## 5017904.673	8	0.0306
## 5017905.483	8	0.0306
## 5018844.064	8	0.0306
## 5019065.47	8	0.0306
## 5020477.692	8	0.0306
## 5021891.099	8	0.0306
## 5021902.977	8	0.0306
## 5021943.713	8	0.0306
## 5022078.667	8	0.0306
## 5022304.577	8	0.0306
## 5022585.715	8	0.0306
## 5022588.145	8	0.0306
## 5022896.906	8	0.0306
## 5024005.595	8	0.0306
## 5024096.292	8	0.0306
## 5024227.364	8	0.0306
## 5024317.683	8	0.0306
## 5024781.118	8	0.0306
## 5025405.738	8	0.0306
## 5026489.742	8	0.0306
## 5026629.566	8	0.0306
## 5026630.376	8	0.0306
## 5028090.337	8	0.0306
## 5028310.837	8	0.0306
## 5028499.137	8	0.0306
## 5029454.779	8	0.0306
## 5030391.349	8	0.0306
## 5030558.785	8	0.0306
## 5030577.347	8	0.0306
## 5031800.365	8	0.0306
## 5032009.176	8	0.0306

```
## 5032472.99          8    0.0306
## 5032695.041         8    0.0306
## 5032823.184         8    0.0306
## 5037982.412         8    0.0306
## 5038348.177         8    0.0306
## 5014562.766         7    0.0268
## 5016194.849         7    0.0268
## 5017676.042         7    0.0268
## 5018179.751         7    0.0268
## 5020456.69          7    0.0268
## 5020504.504         7    0.0268
## 5020506.124         7    0.0268
## 5021245.276         7    0.0268
## 5021246.086         7    0.0268
## 5021250.136         7    0.0268
## 5021731.273         7    0.0268
## 5021942.904         7    0.0268
## 5021944.284         7    0.0268
## 5022082.717         7    0.0268
## 5022270.895         7    0.0268
## 5022581.666         7    0.0268
## (Other)              25131 96.1437
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.  
## 4981669 5022752 5027675 5026515 5031439 5043416  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5023725.916      18    0.0647
## 5021946.714      15    0.0539
## 5024098.531      13    0.0467
## 5025948.14       12    0.0431
## 5026628.756      12    0.0431
## 5031610.406      12    0.0431
## 5032044.989      12    0.0431
## 5032416.424      12    0.0431
## 5019556.835      11    0.0395
## 5021246.086      11    0.0395
## 5021246.896      11    0.0395
## 5021891.909      11    0.0395
## 5023772.53       11    0.0395
## 5023865.729      11    0.0395
## 5024093.672      11    0.0395
## 5033200.6        11    0.0395
## 5016732.861      10    0.0359
## 5016735.29       10    0.0359
## 5020485.703      10    0.0359
## 5021826.082      10    0.0359
## 5021893.528      10    0.0359
## 5022895.286      10    0.0359
## 5023774.15       10    0.0359
## 5024839.933      10    0.0359
## 5025045.303      10    0.0359
## 5026626.326      10    0.0359
## 5026852.757      10    0.0359
## 5030950.593      10    0.0359
## 5032475.42       10    0.0359
## 5033067.617      10    0.0359
## 5036162.396      10    0.0359
## 5016622.23       9     0.0323
## 5018034.866      9     0.0323
## 5021732.893      9     0.0323
## 5021945.904      9     0.0323
## 5023727.536      9     0.0323
## 5023773.34       9     0.0323
## 5025948.95       9     0.0323
## 5026629.566      9     0.0323
## 5029480.781      9     0.0323
## 5030005.972      9     0.0323
## 5030409.39       9     0.0323
```

## 5031118.35	9	0.0323
## 5031322.409	9	0.0323
## 5031690.594	9	0.0323
## 5031723.798	9	0.0323
## 5031953.6	9	0.0323
## 5032691.801	9	0.0323
## 5008977.411	8	0.0287
## 5016731.241	8	0.0287
## 5020476.072	8	0.0287
## 5021247.706	8	0.0287
## 5021250.136	8	0.0287
## 5021732.083	8	0.0287
## 5021896.768	8	0.0287
## 5021947.524	8	0.0287
## 5021949.953	8	0.0287
## 5022751.331	8	0.0287
## 5022752.141	8	0.0287
## 5022899.335	8	0.0287
## 5023620.345	8	0.0287
## 5023725.106	8	0.0287
## 5024096.911	8	0.0287
## 5024101.151	8	0.0287
## 5024510.361	8	0.0287
## 5024890.918	8	0.0287
## 5025118.73	8	0.0287
## 5025693.506	8	0.0287
## 5026627.946	8	0.0287
## 5027703.379	8	0.0287
## 5028049.943	8	0.0287
## 5029081.963	8	0.0287
## 5029424.956	8	0.0287
## 5029425.766	8	0.0287
## 5030009.212	8	0.0287
## 5030010.022	8	0.0287
## 5030084.399	8	0.0287
## 5030627.782	8	0.0287
## 5030948.973	8	0.0287
## 5031319.979	8	0.0287
## 5031425.169	8	0.0287
## 5031428.409	8	0.0287
## 5031688.974	8	0.0287
## 5031950.36	8	0.0287
## 5032471.37	8	0.0287
## 5032477.04	8	0.0287
## 5032823.994	8	0.0287
## 5032825.614	8	0.0287
## 5032887.98	8	0.0287
## 5033199.79	8	0.0287

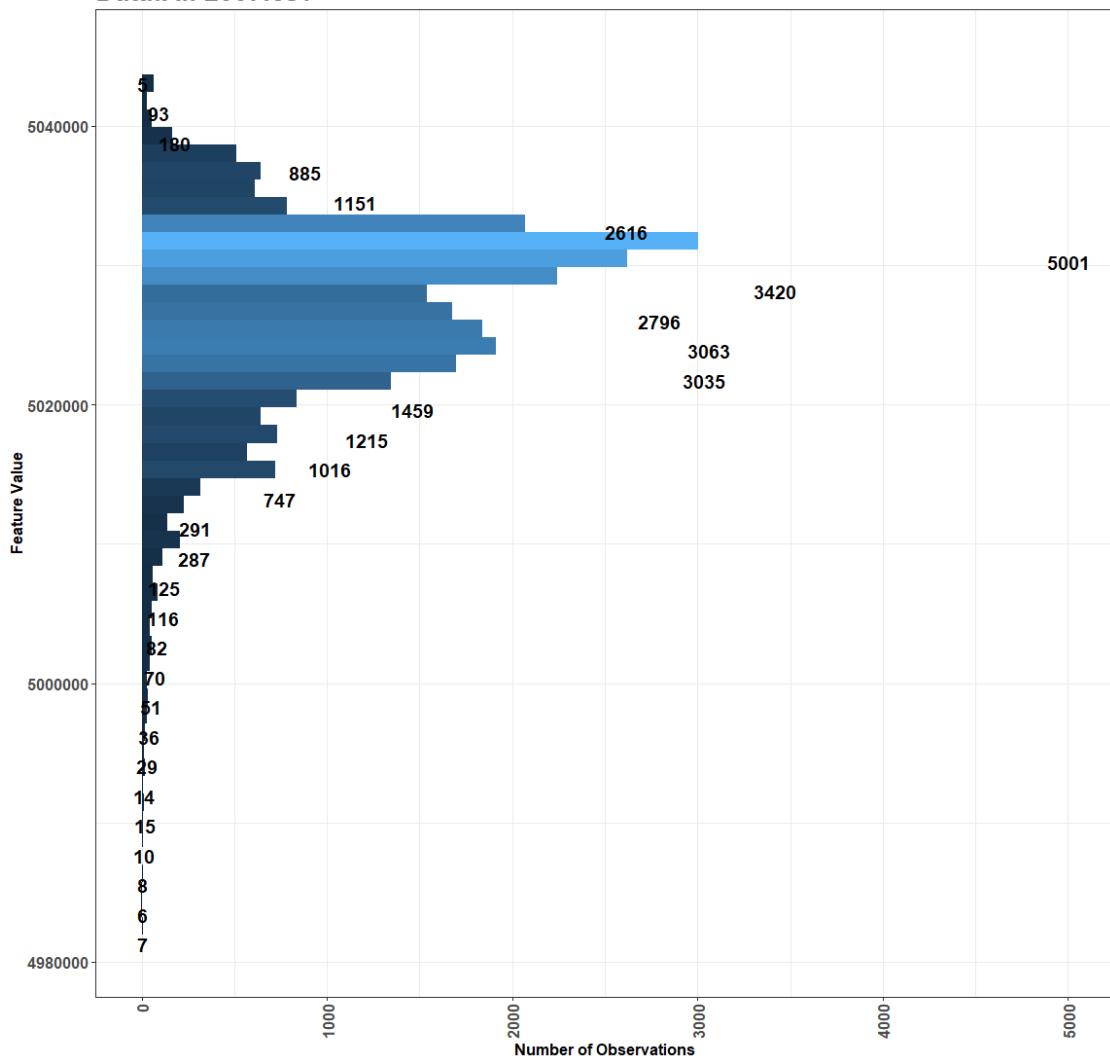
```

## 5034557.801      8    0.0287
## 5036160.776      8    0.0287
## 5037998.613      8    0.0287
## 5018038.106      7    0.0252
## 5020502.075      7    0.0252
## 5021245.276      7    0.0252
## 5021248.516      7    0.0252
## 5021250.946      7    0.0252
## 5021827.702      7    0.0252
## (Other)          26930 96.7696

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:YCOORD
Data:All 2007.csv**



```

##
## -----
## CHECKING FEATURE:YCOORD

```

```

## DATA:All 2008.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4982659 5022552 5027703 5026517 5031444 5043472
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5030580.587      17   0.0596
## 5021891.909      16   0.0561
## 5026852.757      16   0.0561
## 5030592.969      16   0.0561
## 5021247.706      14   0.0490
## 5032691.801      14   0.0490
## 5033198.98       14   0.0490
## 5026625.516      13   0.0455
## 5021948.334      12   0.0420
## 5024474.347      12   0.0420
## 5026853.377      12   0.0420
## 5028499.947      12   0.0420
## 5030192.209      12   0.0420
## 5036161.586      12   0.0420
## 5020502.884      11   0.0385
## 5021947.524      11   0.0385
## 5023769.29       11   0.0385
## 5023774.15       11   0.0385
## 5030003.542      11   0.0385
## 5032476.23       11   0.0385
## 5020478.502      10   0.0350
## 5021945.904      10   0.0350
## 5026488.122      10   0.0350
## 5026853.567      10   0.0350
## 5028051.563      10   0.0350
## 5030081.969      10   0.0350
## 5031007.979      10   0.0350
## 5031955.22       10   0.0350
## 5033200.6        10   0.0350
## 5016627.9        9    0.0315

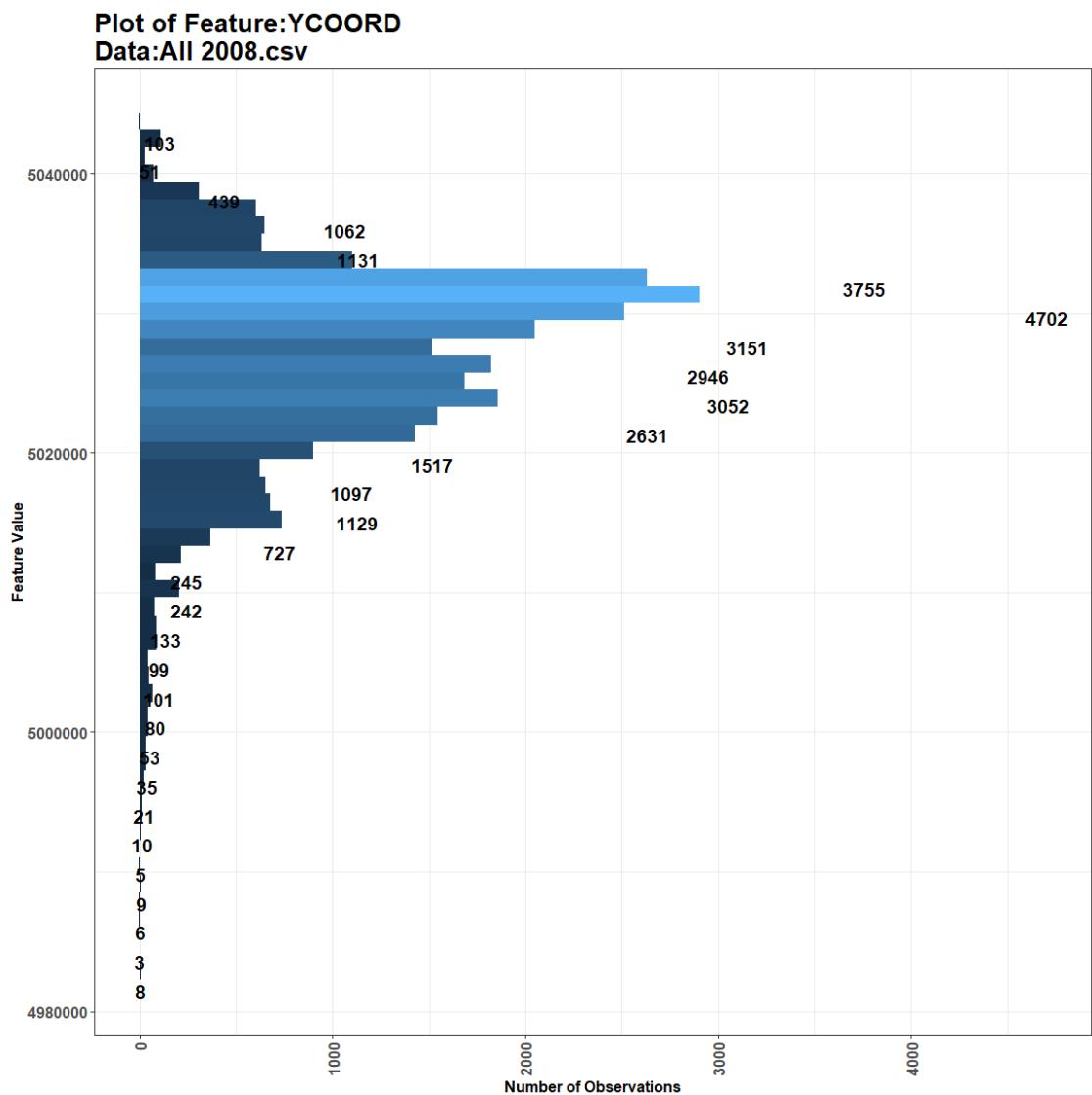
```

## 5019554.405	9	0.0315
## 5021246.086	9	0.0315
## 5021248.516	9	0.0315
## 5021249.326	9	0.0315
## 5021253.376	9	0.0315
## 5022081.097	9	0.0315
## 5023989.721	9	0.0315
## 5024471.108	9	0.0315
## 5024634.553	9	0.0315
## 5029790.401	9	0.0315
## 5031607.977	9	0.0315
## 5031801.985	9	0.0315
## 5032970.618	9	0.0315
## 5014787.262	8	0.0280
## 5017678.471	8	0.0280
## 5020505.314	8	0.0280
## 5021943.713	8	0.0280
## 5021951.573	8	0.0280
## 5023399.914	8	0.0280
## 5023402.534	8	0.0280
## 5023772.53	8	0.0280
## 5023773.34	8	0.0280
## 5025404.928	8	0.0280
## 5025406.548	8	0.0280
## 5026487.313	8	0.0280
## 5026630.376	8	0.0280
## 5026855.187	8	0.0280
## 5026855.997	8	0.0280
## 5027467.986	8	0.0280
## 5027704.189	8	0.0280
## 5028053.183	8	0.0280
## 5028092.767	8	0.0280
## 5028499.137	8	0.0280
## 5028502.376	8	0.0280
## 5028503.996	8	0.0280
## 5029482.401	8	0.0280
## 5030009.212	8	0.0280
## 5030406.961	8	0.0280
## 5030581.397	8	0.0280
## 5030583.017	8	0.0280
## 5030953.833	8	0.0280
## 5031444.01	8	0.0280
## 5031688.974	8	0.0280
## 5031951.17	8	0.0280
## 5031954.41	8	0.0280
## 5031957.649	8	0.0280
## 5032113.605	8	0.0280
## 5032475.42	8	0.0280



```
## 5032823.184          8    0.0280
## 5032824.804          8    0.0280
## 5033499.858          8    0.0280
## 5037981.602          8    0.0280
## 5012594.811          7    0.0245
## 5014783.213          7    0.0245
## 5014855.429          7    0.0245
## 5018426.494          7    0.0245
## 5018845.684          7    0.0245
## 5019567.494          7    0.0245
## 5020504.504          7    0.0245
## 5021251.756          7    0.0245
## 5021252.566          7    0.0245
## 5021895.148          7    0.0245
## 5021949.144          7    0.0245
## 5022155.094          7    0.0245
## 5022188.527          7    0.0245
## 5022586.525          7    0.0245
## 5022738.189          7    0.0245
## 5023865.729          7    0.0245
## 5023868.159          7    0.0245
## (Other)                27638 96.8293

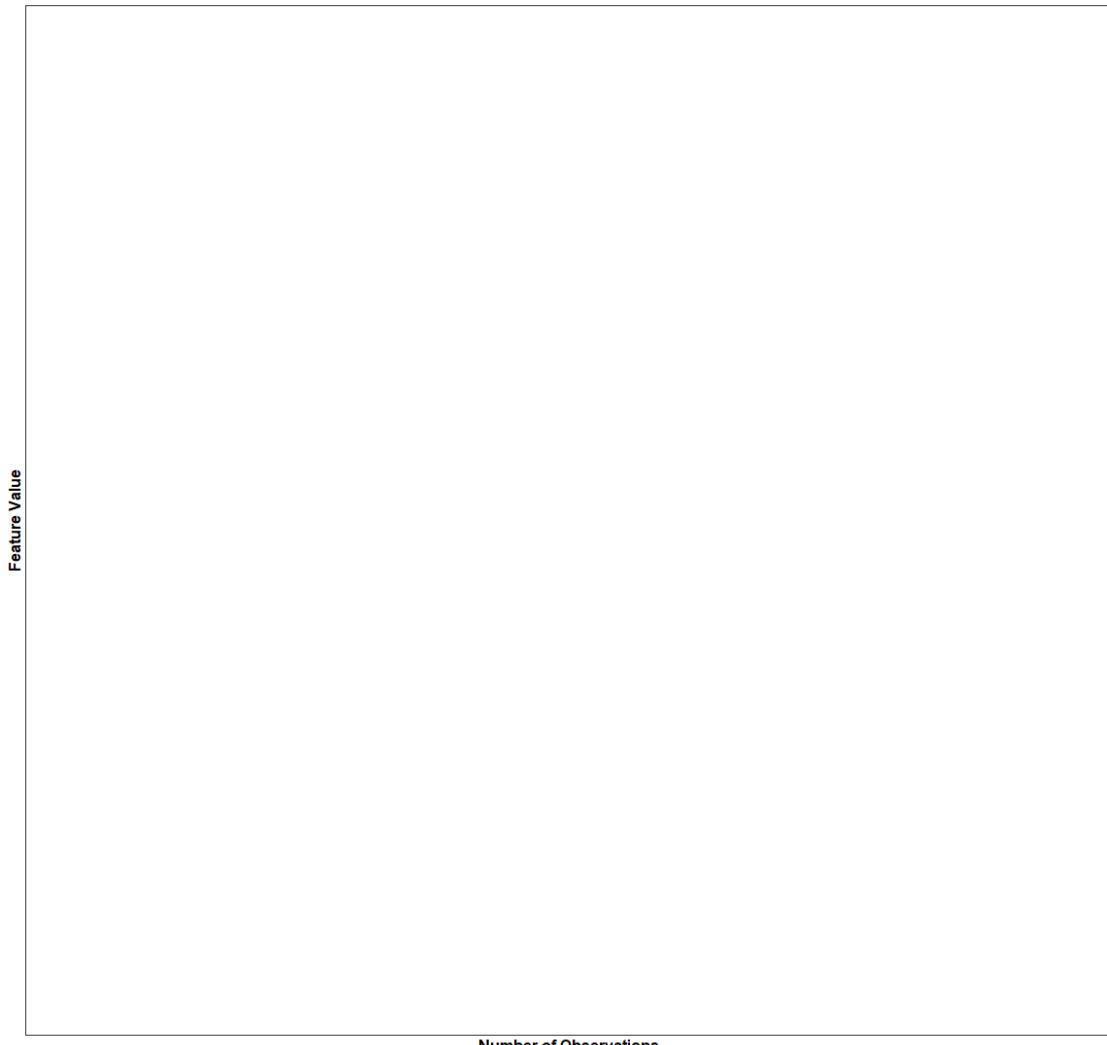
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median      Mean 3rd Qu.      Max.    NA's  
##       NA       NA       NA      NaN       NA       NA 28515  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 1
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## ----- -----
## 28515 100
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:YCOORD
Data:All 2009.csv



```
##
## -----
## CHECKING FEATURE:YCOORD
## DATA:All 2010.csv...
##
## Number of Blank Values:0
```

```

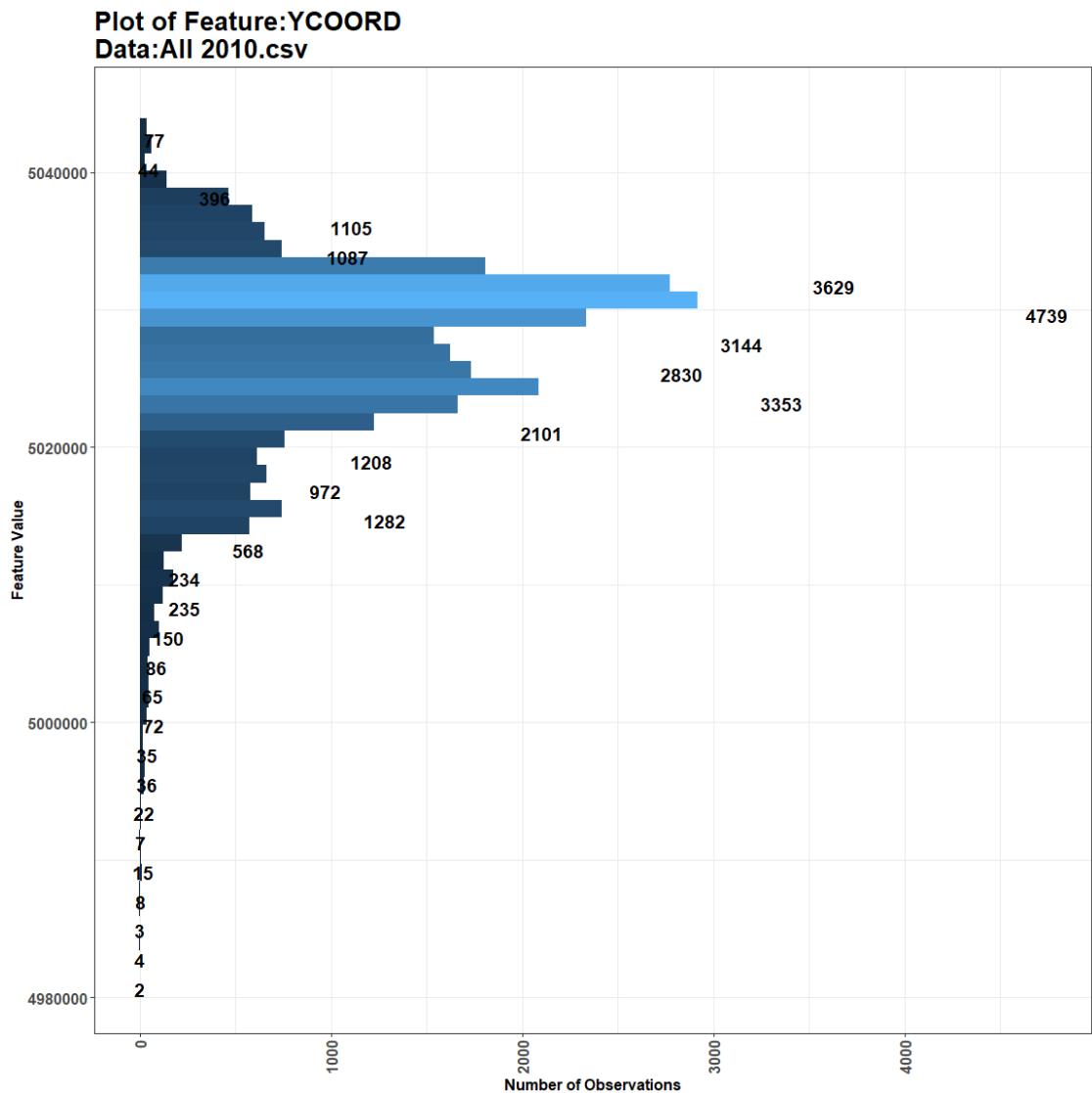
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4981674 5022951 5027851 5026560 5031446 5043438
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5032477.85      22    0.0800
## 5023774.15      19    0.0691
## 5021949.953     18    0.0654
## 5024100.961     18    0.0654
## 5029699.631     18    0.0654
## 5024102.581     17    0.0618
## 5033499.858     17    0.0618
## 5014789.692     16    0.0582
## 5030584.637     16    0.0582
## 5023729.155     15    0.0545
## 5032478.66      15    0.0545
## 5036164.016     15    0.0545
## 5036164.826     15    0.0545
## 5016738.53      14    0.0509
## 5021947.524     14    0.0509
## 5028504.806     14    0.0509
## 5036165.636     14    0.0509
## 5016736.91      13    0.0473
## 5018186.23      13    0.0473
## 5022589.765     13    0.0473
## 5022590.575     13    0.0473
## 5023775.77      13    0.0473
## 5023868.969     13    0.0473
## 5026493.792     13    0.0473
## 5027988.655     13    0.0473
## 5033203.84      13    0.0473
## 5038670.098     13    0.0473
## 5039290.838     13    0.0473
## 5025428.979     12    0.0436
## 5026858.427     12    0.0436
## 5027499.609     12    0.0436
## 5029086.012     12    0.0436
## 5030010.832     12    0.0436

```

## 5030481.027	12	0.0436
## 5031807.655	12	0.0436
## 5031956.839	12	0.0436
## 5034112.238	12	0.0436
## 5008980.651	11	0.0400
## 5016627.9	11	0.0400
## 5016629.519	11	0.0400
## 5020508.554	11	0.0400
## 5023731.585	11	0.0400
## 5024101.771	11	0.0400
## 5029428.196	11	0.0400
## 5030582.207	11	0.0400
## 5030637.022	11	0.0400
## 5030669.396	11	0.0400
## 5031693.834	11	0.0400
## 5031957.649	11	0.0400
## 5037984.842	11	0.0400
## 5018503.731	10	0.0364
## 5021250.946	10	0.0364
## 5021897.578	10	0.0364
## 5021952.383	10	0.0364
## 5023730.775	10	0.0364
## 5024101.961	10	0.0364
## 5024786.787	10	0.0364
## 5026494.602	10	0.0364
## 5027497.989	10	0.0364
## 5028053.183	10	0.0364
## 5028503.996	10	0.0364
## 5029429.816	10	0.0364
## 5029697.202	10	0.0364
## 5030481.837	10	0.0364
## 5031324.028	10	0.0364
## 5031806.845	10	0.0364
## 5032014.845	10	0.0364
## 5032476.23	10	0.0364
## 5033822.05	10	0.0364
## 5036476.036	10	0.0364
## 5037984.032	10	0.0364
## 5018156.917	9	0.0327
## 5020480.122	9	0.0327
## 5023470.77	9	0.0327
## 5024414.791	9	0.0327
## 5024512.791	9	0.0327
## 5024843.983	9	0.0327
## 5025329.16	9	0.0327
## 5025952.19	9	0.0327
## 5025953	9	0.0327
## 5028505.616	9	0.0327

```
## 5028606.186      9    0.0327
## 5030397.829      9    0.0327
## 5030671.015      9    0.0327
## 5031554.031      9    0.0327
## 5032419.664      9    0.0327
## 5033497.429      9    0.0327
## 5033498.239      9    0.0327
## 5034301.666      9    0.0327
## 5010775.665      8    0.0291
## 5014363.271      8    0.0291
## 5016627.09       8    0.0291
## 5017908.723       8    0.0291
## 5019016.54       8    0.0291
## 5021092.55       8    0.0291
## 5021895.958       8    0.0291
## 5021946.953       8    0.0291
## 5021949.144       8    0.0291
## 5021950.763       8    0.0291
## (Other)           26386 95.9177

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 4981012 5022713 5027590 5026435 5031371 5043448  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036474.416      23   0.0824
## 5014788.072      20   0.0716
## 5021950.763      18   0.0644
## 5033497.429      18   0.0644
## 5025952.19       17   0.0609
## 5036471.986      17   0.0609
## 5021947.524      16   0.0573
## 5035571.209      16   0.0573
## 5016737.72       15   0.0537
## 5021949.953      15   0.0537
## 5030583.017      15   0.0537
## 5036476.036      15   0.0537
## 5021949.144      14   0.0501
## 5024895.778      14   0.0501
## 5036472.796      14   0.0501
## 5036473.606      14   0.0501
## 5036475.226      14   0.0501
## 5023772.53       13   0.0465
## 5029458.018       13   0.0465
## 5030581.397       13   0.0465
## 5033499.858       13   0.0465
## 5016626.28        12   0.0430
## 5021894.338       12   0.0430
## 5021948.334       12   0.0430
## 5024785.977       12   0.0430
## 5030192.209       12   0.0430
## 5031806.845       12   0.0430
## 5031954.41        12   0.0430
## 5031956.03        12   0.0430
## 5032477.04        12   0.0430
## 5036477.656       12   0.0430
## 5021892.719       11   0.0394
## 5022548.951       11   0.0394
## 5025951.38        11   0.0394
## 5026224.547       11   0.0394
## 5026628.756       11   0.0394
## 5027769.195       11   0.0394
## 5030006.782       11   0.0394
## 5030010.022       11   0.0394
## 5030629.402       11   0.0394
## 5031806.035       11   0.0394
## 5036470.366       11   0.0394

```

## 5014789.692	10	0.0358
## 5021737.753	10	0.0358
## 5024100.961	10	0.0358
## 5025699.176	10	0.0358
## 5026032.178	10	0.0358
## 5026225.357	10	0.0358
## 5028053.993	10	0.0358
## 5028095.197	10	0.0358
## 5029087.632	10	0.0358
## 5029483.211	10	0.0358
## 5030191.399	10	0.0358
## 5030597.018	10	0.0358
## 5031443.2	10	0.0358
## 5032232.036	10	0.0358
## 5036163.206	10	0.0358
## 5036471.176	10	0.0358
## 5036476.846	10	0.0358
## 5016733.67	9	0.0322
## 5016734.48	9	0.0322
## 5021250.136	9	0.0322
## 5021893.528	9	0.0322
## 5022952.95	9	0.0322
## 5023310.335	9	0.0322
## 5023311.145	9	0.0322
## 5023404.154	9	0.0322
## 5024101.961	9	0.0322
## 5024509.551	9	0.0322
## 5024512.791	9	0.0322
## 5027989.465	9	0.0322
## 5028503.186	9	0.0322
## 5028504.806	9	0.0322
## 5029697.202	9	0.0322
## 5030578.967	9	0.0322
## 5031007.979	9	0.0322
## 5032416.424	9	0.0322
## 5033819.62	9	0.0322
## 5015388.28	8	0.0286
## 5016627.9	8	0.0286
## 5016895.106	8	0.0286
## 5017681.711	8	0.0286
## 5017848.118	8	0.0286
## 5018185.42	8	0.0286
## 5020506.124	8	0.0286
## 5021246.896	8	0.0286
## 5021736.133	8	0.0286
## 5021830.942	8	0.0286
## 5021895.148	8	0.0286
## 5022086.767	8	0.0286

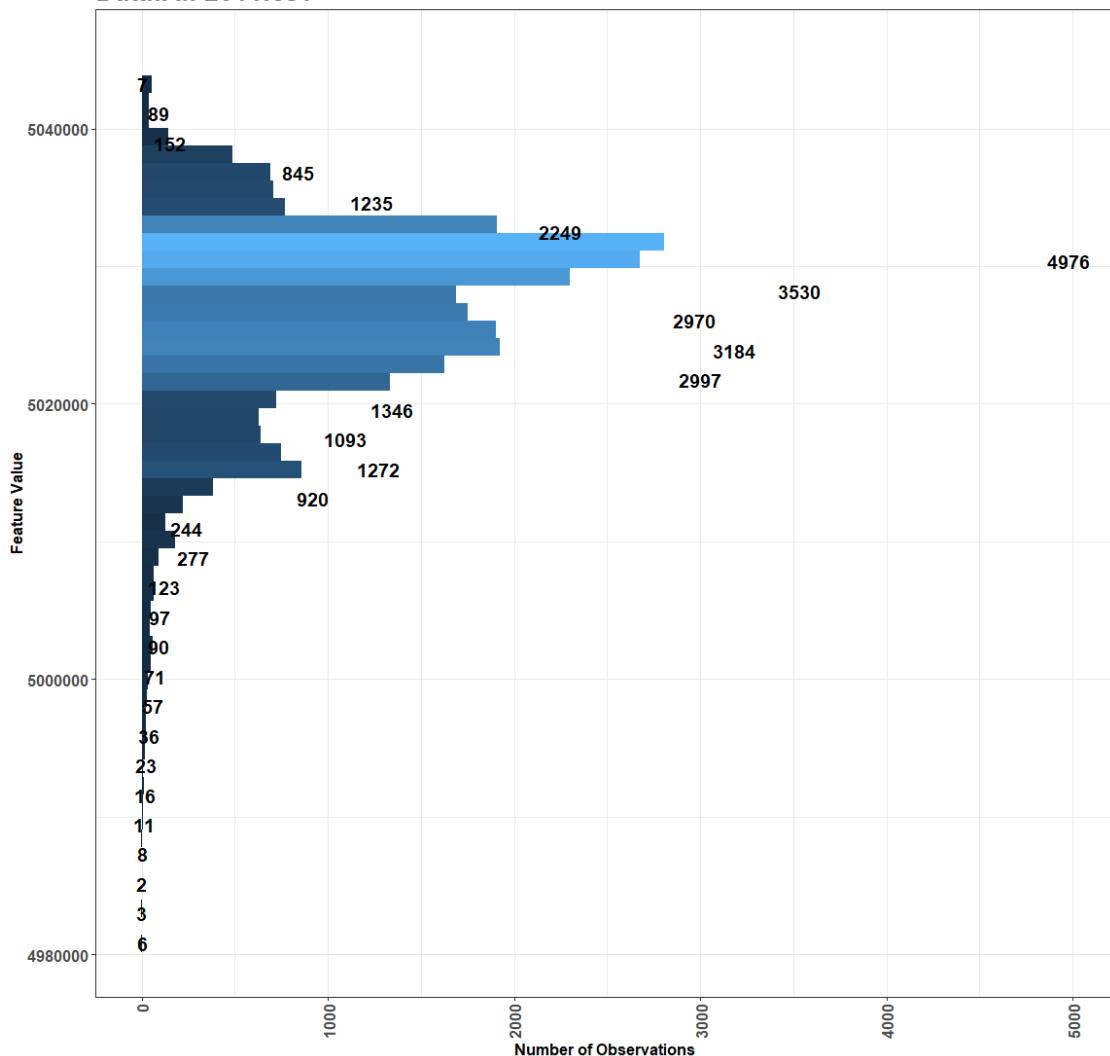
```

## 5022588.145      8    0.0286
## 5022588.955      8    0.0286
## 5022590.575      8    0.0286
## 5023771.72       8    0.0286
## 5024100.151      8    0.0286
## 5024101.771      8    0.0286
## 5024102.581      8    0.0286
## 5024445.974      8    0.0286
## 5024511.981      8    0.0286
## (Other)          26852 96.1438

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:YCOORD
Data:All 2011.csv**



```

##
## -----
## CHECKING FEATURE:YCOORD

```

```

## DATA:All 2012.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4982408 5022482 5027694 5026464 5031573 5043416
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036472.796      26   0.0978
## 5036471.986      23   0.0865
## 5036471.176      18   0.0677
## 5016735.29       17   0.0640
## 5021247.706      17   0.0640
## 5035571.209      16   0.0602
## 5026631.186      15   0.0564
## 5031011.218      14   0.0527
## 5018424.874      13   0.0489
## 5021943.713      13   0.0489
## 5024100.151      13   0.0489
## 5024946.973      13   0.0489
## 5028499.947      13   0.0489
## 5029697.202      13   0.0489
## 5030005.972      13   0.0489
## 5036470.366      13   0.0489
## 5014788.072      12   0.0452
## 5017677.662      12   0.0452
## 5021895.148      12   0.0452
## 5021949.144      12   0.0452
## 5024413.981      12   0.0452
## 5028788.184      12   0.0452
## 5030582.207      12   0.0452
## 5036476.846      12   0.0452
## 5038670.098      12   0.0452
## 5020476.072      11   0.0414
## 5021526.323      11   0.0414
## 5023770.1        11   0.0414
## 5024511.171      11   0.0414
## 5031553.221      11   0.0414

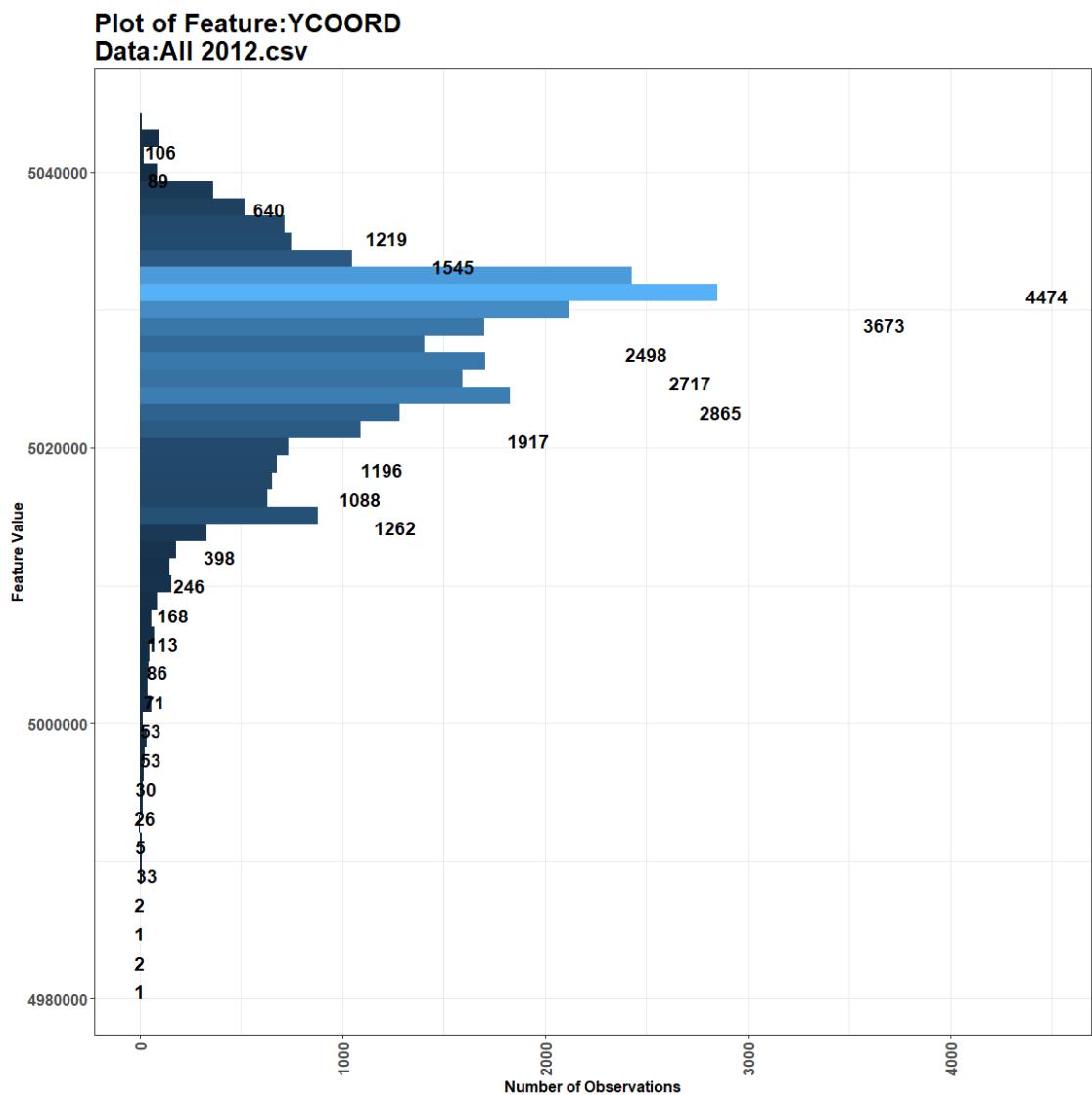
```

## 5016734.48	10	0.0376
## 5019169.305	10	0.0376
## 5019557.645	10	0.0376
## 5020479.312	10	0.0376
## 5021895.958	10	0.0376
## 5021946.714	10	0.0376
## 5021948.334	10	0.0376
## 5023726.726	10	0.0376
## 5023774.15	10	0.0376
## 5024904.919	10	0.0376
## 5025697.556	10	0.0376
## 5026206.004	10	0.0376
## 5027493.939	10	0.0376
## 5028053.183	10	0.0376
## 5031956.03	10	0.0376
## 5032412.375	10	0.0376
## 5032475.42	10	0.0376
## 5033198.98	10	0.0376
## 5034113.048	10	0.0376
## 5036163.206	10	0.0376
## 5036473.606	10	0.0376
## 5014787.262	9	0.0339
## 5015118.625	9	0.0339
## 5021525.513	9	0.0339
## 5022951.33	9	0.0339
## 5023467.53	9	0.0339
## 5025046.162	9	0.0339
## 5025329.16	9	0.0339
## 5025665.362	9	0.0339
## 5025949.76	9	0.0339
## 5026225.357	9	0.0339
## 5026631.995	9	0.0339
## 5030578.967	9	0.0339
## 5030592.969	9	0.0339
## 5032771.759	9	0.0339
## 5032890.41	9	0.0339
## 5014783.213	8	0.0301
## 5015279.27	8	0.0301
## 5017907.103	8	0.0301
## 5018185.42	8	0.0301
## 5020422.906	8	0.0301
## 5020455.88	8	0.0301
## 5020506.124	8	0.0301
## 5021246.896	8	0.0301
## 5021623.142	8	0.0301
## 5022588.145	8	0.0301
## 5023400.724	8	0.0301
## 5023729.155	8	0.0301



```
## 5024097.102          8    0.0301
## 5024098.531          8    0.0301
## 5024099.341          8    0.0301
## 5024101.771          8    0.0301
## 5024410.742          8    0.0301
## 5024508.741          8    0.0301
## 5024811.97           8    0.0301
## 5024886.868          8    0.0301
## 5024893.348          8    0.0301
## 5024894.158          8    0.0301
## 5025699.176          8    0.0301
## 5025699.986          8    0.0301
## 5025952.19           8    0.0301
## 5026031.368          8    0.0301
## 5026649.377          8    0.0301
## 5027704.999          8    0.0301
## 5027987.035          8    0.0301
## 5029083.583          8    0.0301
## 5029336.777          8    0.0301
## 5030010.022          8    0.0301
## 5030010.832          8    0.0301
## (Other)                25555  96.1546

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 4981259 5022403 5027652 5026421 5031319 5043416  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036471.986      24    0.0858
## 5021246.896      17    0.0608
## 5021942.904      17    0.0608
## 5020502.884      16    0.0572
## 5025325.92       16    0.0572
## 5031425.979      16    0.0572
## 5036477.656      16    0.0572
## 5021891.099      15    0.0536
## 5021894.338      15    0.0536
## 5031439.96       15    0.0536
## 5021945.094      14    0.0501
## 5036474.416      14    0.0501
## 5027493.939      13    0.0465
## 5030558.785      13    0.0465
## 5031335.96       13    0.0465
## 5032475.42       13    0.0465
## 5033198.98       13    0.0465
## 5017242.85       12    0.0429
## 5021247.706      12    0.0429
## 5021892.719      12    0.0429
## 5023725.916      12    0.0429
## 5023865.729      12    0.0429
## 5025404.118      12    0.0429
## 5027493.13       12    0.0429
## 5030005.972      12    0.0429
## 5033818          12    0.0429
## 5036471.176      12    0.0429
## 5014786.452      11    0.0393
## 5018183.8        11    0.0393
## 5021250.136      11    0.0393
## 5021946.714      11    0.0393
## 5024890.918      11    0.0393
## 5029081.963      11    0.0393
## 5029082.773      11    0.0393
## 5030458.356      11    0.0393
## 5036473.606      11    0.0393
## 5016734.48       10    0.0358
## 5020455.88       10    0.0358
## 5021248.516      10    0.0358
## 5021250.946      10    0.0358
## 5021945.904      10    0.0358
## 5021947.524      10    0.0358

```

## 5022299.718	10	0.0358
## 5023509.925	10	0.0358
## 5023863.299	10	0.0358
## 5024228.174	10	0.0358
## 5025874.753	10	0.0358
## 5026033.798	10	0.0358
## 5026630.376	10	0.0358
## 5028499.137	10	0.0358
## 5030478.597	10	0.0358
## 5030579.777	10	0.0358
## 5030632.972	10	0.0358
## 5032274.181	10	0.0358
## 5032476.23	10	0.0358
## 5033498.239	10	0.0358
## 5033820.43	10	0.0358
## 5036472.796	10	0.0358
## 5020477.692	9	0.0322
## 5020506.124	9	0.0322
## 5021732.083	9	0.0322
## 5022732.519	9	0.0322
## 5027765.956	9	0.0322
## 5030005.162	9	0.0322
## 5030395.399	9	0.0322
## 5030593.779	9	0.0322
## 5031691.404	9	0.0322
## 5031745.409	9	0.0322
## 5031801.175	9	0.0322
## 5032381.041	9	0.0322
## 5033496.619	9	0.0322
## 5036160.776	9	0.0322
## 5036162.396	9	0.0322
## 5014880.022	8	0.0286
## 5017243.66	8	0.0286
## 5017506.865	8	0.0286
## 5017904.673	8	0.0286
## 5018184.61	8	0.0286
## 5019555.215	8	0.0286
## 5020469.561	8	0.0286
## 5020476.072	8	0.0286
## 5020503.694	8	0.0286
## 5020504.504	8	0.0286
## 5021251.756	8	0.0286
## 5021252.566	8	0.0286
## 5021946.143	8	0.0286
## 5021948.334	8	0.0286
## 5022588.145	8	0.0286
## 5023492.563	8	0.0286
## 5023725.106	8	0.0286

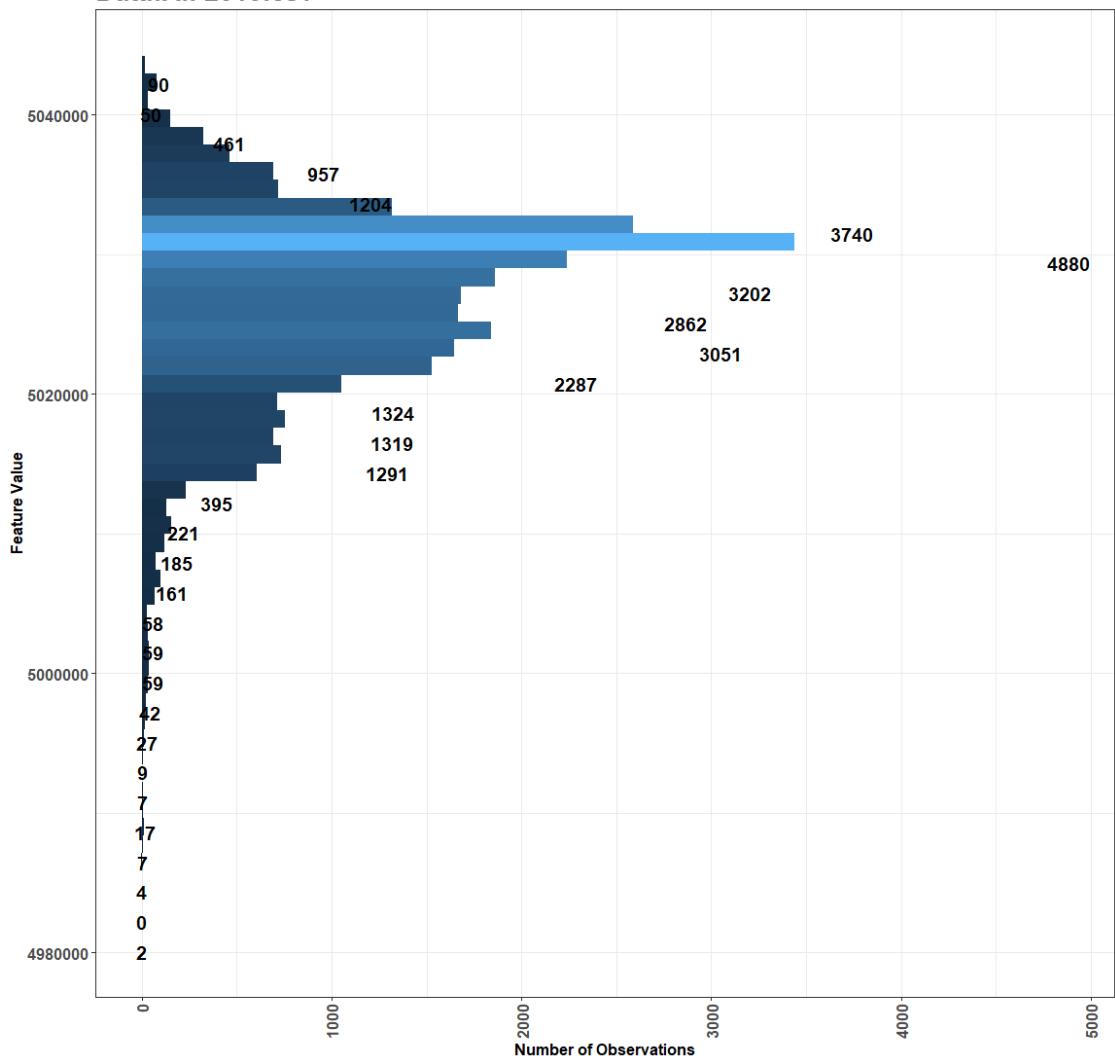
```

## 5023727.536      8    0.0286
## 5023772.53      8    0.0286
## 5023773.34      8    0.0286
## 5023774.96      8    0.0286
## 5024097.721     8    0.0286
## 5024409.932     8    0.0286
## 5024891.728     8    0.0286
## 5025046.113     8    0.0286
## 5025948.95      8    0.0286
## (Other)          26929 96.2747

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:YCOORD
Data:All 2013.csv**



```

## 
## -----
## CHECKING FEATURE:YCOORD

```

```

## DATA:All 2014.csv...
##
## Number of Blank Values:0
## Number of Zero Values:348
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##      Min. 1st Qu. Median Mean 3rd Qu. Max.
##      0 5022151 5027606 4962342 5031370 5043363
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 0 348 1.2751
## 5021890.555 28 0.1026
## 5036471.581 28 0.1026
## 5036469.685 27 0.0989
## 5036470.633 24 0.0879
## 5014783.469 22 0.0806
## 5018181.775 19 0.0696
## 5021244.593 19 0.0696
## 5021944.551 18 0.0660
## 5021945.499 18 0.0660
## 5014784.417 17 0.0623
## 5023769.557 17 0.0623
## 5033486.186 17 0.0623
## 5031951.575 16 0.0586
## 5020476.467 15 0.0550
## 5020502.479 15 0.0550
## 5021941.55 15 0.0550
## 5023724.563 15 0.0550
## 5027763.592 15 0.0550
## 5021246.489 14 0.0513
## 5030005.567 14 0.0513
## 5031426.166 14 0.0513
## 5036159.561 14 0.0513
## 5020500.583 13 0.0476
## 5022748.496 13 0.0476
## 5024890.513 13 0.0476
## 5026851.542 13 0.0476
## 5029454.038 13 0.0476
## 5033065.592 13 0.0476
## 5036901.216 13 0.0476

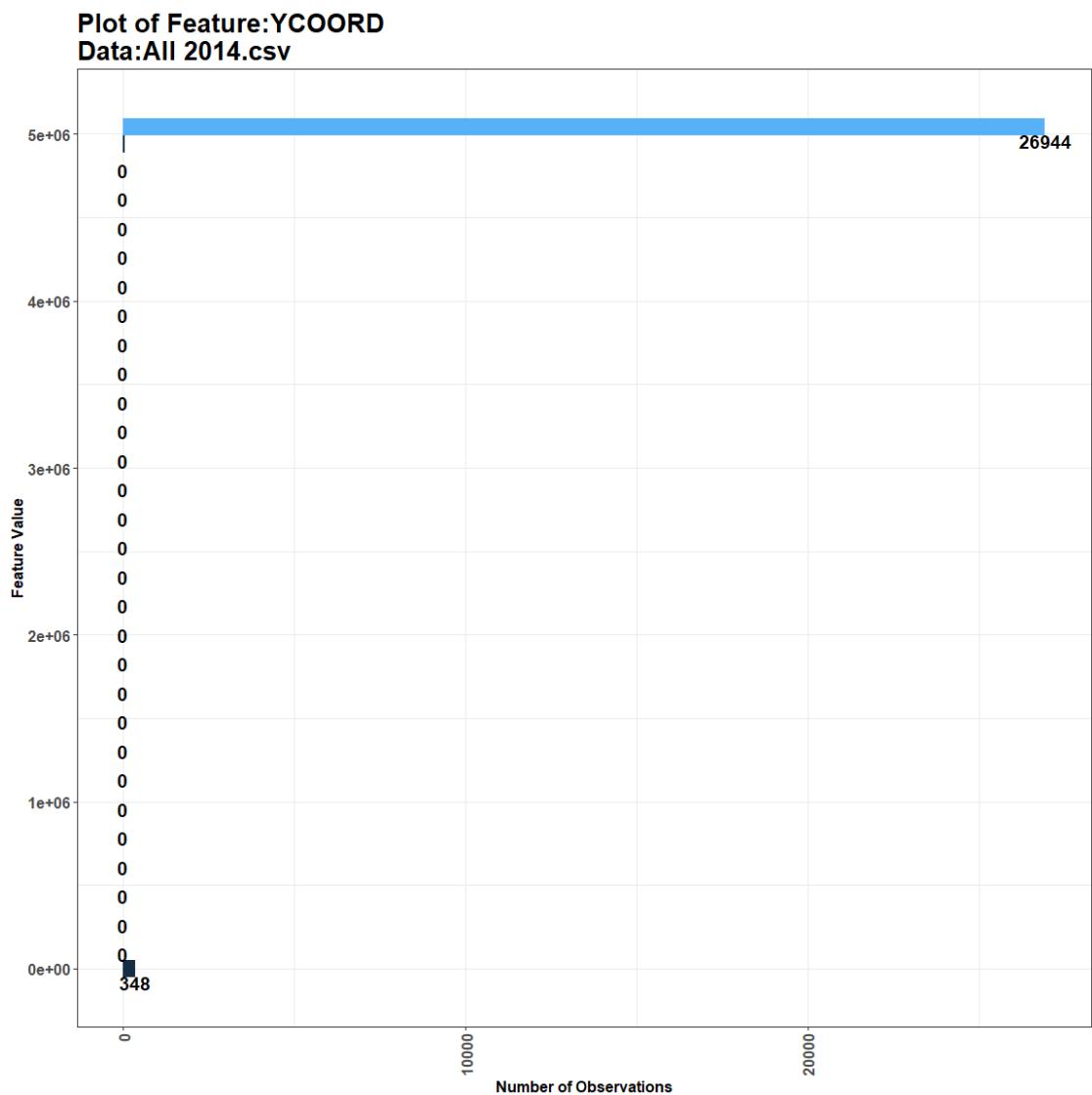
```

## 5021732.494	12	0.0440
## 5021891.503	12	0.0440
## 5021942.498	12	0.0440
## 5023772.4	12	0.0440
## 5025946.787	12	0.0440
## 5026408.425	12	0.0440
## 5030592.553	12	0.0440
## 5031798.27	12	0.0440
## 5036472.529	12	0.0440
## 5014360.436	11	0.0403
## 5021946.259	11	0.0403
## 5022947.548	11	0.0403
## 5024441.52	11	0.0403
## 5026028.533	11	0.0403
## 5029081.558	11	0.0403
## 5029269.608	11	0.0403
## 5030003.671	11	0.0403
## 5030406.555	11	0.0403
## 5032413.589	11	0.0403
## 5032470.689	11	0.0403
## 5033169.592	11	0.0403
## 5034296.403	11	0.0403
## 5035566.606	11	0.0403
## 5014878.717	10	0.0366
## 5015275.477	10	0.0366
## 5016732.455	10	0.0366
## 5018180.827	10	0.0366
## 5018182.723	10	0.0366
## 5018423.512	10	0.0366
## 5021245.541	10	0.0366
## 5021892.264	10	0.0366
## 5023771.453	10	0.0366
## 5023991.56	10	0.0366
## 5025402.627	10	0.0366
## 5026649.117	10	0.0366
## 5027337.549	10	0.0366
## 5029260.976	10	0.0366
## 5030765.57	10	0.0366
## 5031136.816	10	0.0366
## 5031425.218	10	0.0366
## 5031548.628	10	0.0366
## 5031742.564	10	0.0366
## 5031841.564	10	0.0366
## 5032111.58	10	0.0366
## 5032690.586	10	0.0366
## 5033066.54	10	0.0366
## 5033816.647	10	0.0366
## 5034108.108	10	0.0366



```
## 5014329.728      9    0.0330
## 5016623.444      9    0.0330
## 5016731.507      9    0.0330
## 5017864.465      9    0.0330
## 5020502.004      9    0.0330
## 5021766.3        9    0.0330
## 5022396.544      9    0.0330
## 5022584.5        9    0.0330
## 5023265.568      9    0.0330
## 5023465.505      9    0.0330
## 5024095.558      9    0.0330
## 5025876.912      9    0.0330
## 5026221.574      9    0.0330
## 5026488.527      9    0.0330
## 5028038.547      9    0.0330
## 5028091.547      9    0.0330
## 5029453.088      9    0.0330
## 5029797.514      9    0.0330
## 5030004.619      9    0.0330
## 5030591.606      9    0.0330
## 5030602.404      9    0.0330
## (Other)          25751  94.3537

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2015.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:368  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
##      0 5022544 5027982 4960329 5031454 5043413  
##  
## Summary as Factor Feature:  
##
```

```
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 0 368 1.3206
## 5036471.099 33 0.1184
## 5021945.138 22 0.0789
## 5036159.2 22 0.0789
## 5021945.017 20 0.0718
## 5021944.417 19 0.0682
## 5021945.859 19 0.0682
## 5032412.508 18 0.0646
## 5021891.143 17 0.0610
## 5036160.043 17 0.0610
## 5030578.08 16 0.0574
## 5036470.135 16 0.0574
## 5031951.214 15 0.0538
## 5021942.98 14 0.0502
## 5025947.375 14 0.0502
## 5028091.187 14 0.0502
## 5030592.193 14 0.0502
## 5031015.426 14 0.0502
## 5031426.526 14 0.0502
## 5032471.139 14 0.0502
## 5034108.101 14 0.0502
## 5016623.804 13 0.0467
## 5018182.136 13 0.0467
## 5018423.014 13 0.0467
## 5023769.059 13 0.0467
## 5030005.206 13 0.0467
## 5030399.204 13 0.0467
## 5030578.202 13 0.0467
## 5030591.472 13 0.0467
## 5030593.035 13 0.0467
## 5021246.849 12 0.0431
## 5022583.419 12 0.0431
## 5022584.14 12 0.0431
## 5027894.193 12 0.0431
## 5033197.129 12 0.0431
## 5037976.801 12 0.0431
## 5017242.091 11 0.0395
## 5017903.55 11 0.0395
## 5021732.012 11 0.0395
## 5021890.422 11 0.0395
## 5023725.992 11 0.0395
## 5029080.476 11 0.0395
```

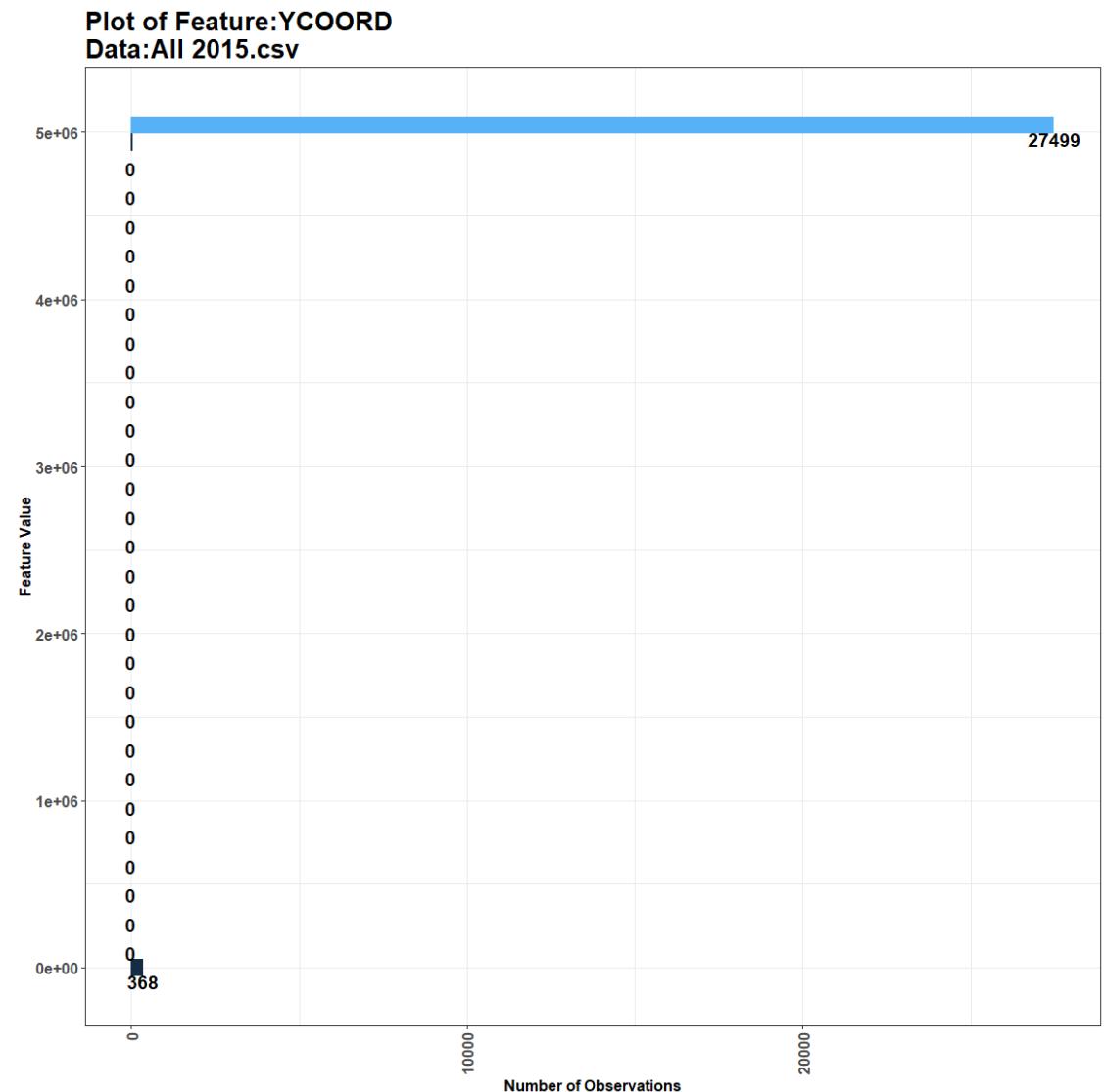
## 5031439.555	11	0.0395
## 5031742.925	11	0.0395
## 5031950.129	11	0.0395
## 5031951.935	11	0.0395
## 5036158.115	11	0.0395
## 5015275.943	10	0.0359
## 5017242.811	10	0.0359
## 5022748.014	10	0.0359
## 5023725.028	10	0.0359
## 5024781.03	10	0.0359
## 5024890.031	10	0.0359
## 5025692.995	10	0.0359
## 5026405.083	10	0.0359
## 5026850.461	10	0.0359
## 5026851.06	10	0.0359
## 5026851.182	10	0.0359
## 5026851.542	10	0.0359
## 5027337.067	10	0.0359
## 5027983.064	10	0.0359
## 5028498.46	10	0.0359
## 5029081.558	10	0.0359
## 5029796.085	10	0.0359
## 5030666.2	10	0.0359
## 5031118.118	10	0.0359
## 5031438.474	10	0.0359
## 5031439.195	10	0.0359
## 5031439.915	10	0.0359
## 5032472.225	10	0.0359
## 5032822.508	10	0.0359
## 5033817.113	10	0.0359
## 5036159.921	10	0.0359
## 5036473.544	10	0.0359
## 5014804.089	9	0.0323
## 5014824.673	9	0.0323
## 5020476.106	9	0.0323
## 5021891.021	9	0.0323
## 5021945.98	9	0.0323
## 5023465.866	9	0.0323
## 5023770.023	9	0.0323
## 5023770.505	9	0.0323
## 5024096.024	9	0.0323
## 5025404.041	9	0.0323
## 5027982.465	9	0.0323
## 5030006.049	9	0.0323
## 5030578.922	9	0.0323
## 5031101.106	9	0.0323
## 5031549.215	9	0.0323
## 5031841.924	9	0.0323

```

## 5032111.22      9    0.0323
## 5032822.143    9    0.0323
## 5033064.146    9    0.0323
## 5036472.063    9    0.0323
## 5036899.375    9    0.0323
## 5039989.859    9    0.0323
## 5014684.758    8    0.0287
## 5017241.37     8    0.0287
## 5017902.83     8    0.0287
## (Other)        26351 94.5599

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```



```

## 
## -----
## CHECKING FEATURE:YCOORD

```

```

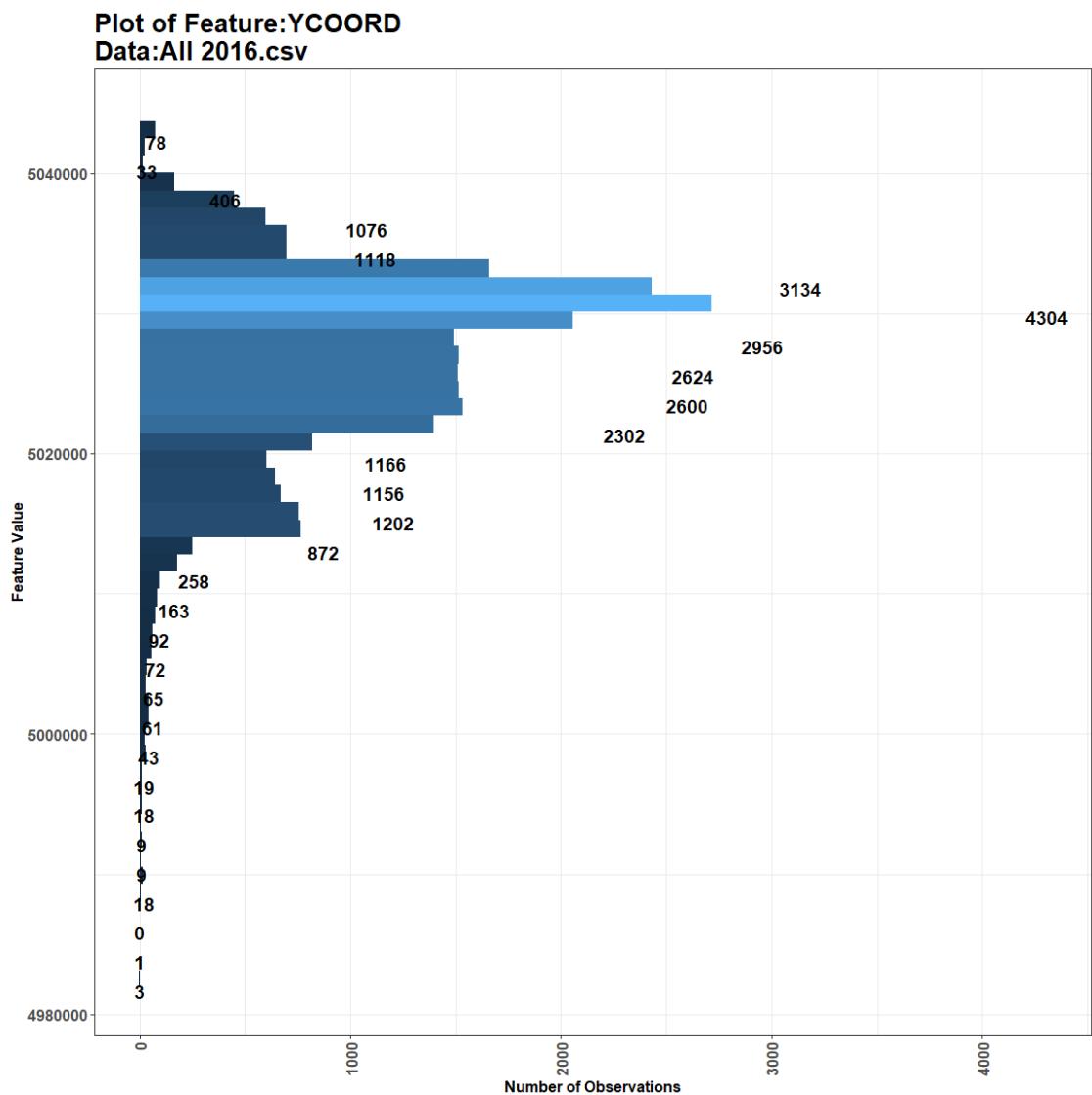
## DATA:All 2016.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Numeric Feature:
##     Min. 1st Qu. Median Mean 3rd Qu. Max.
## 4982829 5022398 5027767 5026532 5031501 5043440
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036900.456      32    0.1238
## 5015759.789      21    0.0812
## 5039284.783      16    0.0619
## 5036158.319      15    0.0580
## 5021246.269      13    0.0503
## 5019506.072      12    0.0464
## 5031439.969      11    0.0425
## 5035022.308      11    0.0425
## 5021891.917      10    0.0387
## 5025830.528      10    0.0387
## 5036471.847      10    0.0387
## 5021941.256       9    0.0348
## 5022408.413       9    0.0348
## 5022584.086       9    0.0348
## 5024096.726       9    0.0348
## 5031119.564       9    0.0348
## 5033064.933       9    0.0348
## 5016732.236       8    0.0309
## 5022332.082       8    0.0309
## 5024890.099       8    0.0309
## 5025948.977       8    0.0309
## 5027493.641       8    0.0309
## 5027700.325       8    0.0309
## 5029081.777       8    0.0309
## 5029134.482       8    0.0309
## 5030987.139       8    0.0309
## 5031241.356       8    0.0309
## 5032111.8          8    0.0309
## 5032472.585       8    0.0309
## 5036470.892       8    0.0309

```

## 5036470.922	8	0.0309
## 5036471.315	8	0.0309
## 5036471.351	8	0.0309
## 5036775.913	8	0.0309
## 5015174.122	7	0.0271
## 5021890.845	7	0.0271
## 5022265.445	7	0.0271
## 5023724.852	7	0.0271
## 5026488.308	7	0.0271
## 5027766.85	7	0.0271
## 5028784.125	7	0.0271
## 5029345.397	7	0.0271
## 5030557.156	7	0.0271
## 5030626.347	7	0.0271
## 5031611.483	7	0.0271
## 5039285.316	7	0.0271
## 5012899.706	6	0.0232
## 5014001.028	6	0.0232
## 5014824.605	6	0.0232
## 5014961.935	6	0.0232
## 5015890.778	6	0.0232
## 5016732.041	6	0.0232
## 5017242.231	6	0.0232
## 5020175.263	6	0.0232
## 5020502.893	6	0.0232
## 5020503.721	6	0.0232
## 5020750.723	6	0.0232
## 5021245.247	6	0.0232
## 5021890.261	6	0.0232
## 5021891.284	6	0.0232
## 5021891.503	6	0.0232
## 5021944.401	6	0.0232
## 5021945.718	6	0.0232
## 5021945.913	6	0.0232
## 5021946.741	6	0.0232
## 5022055.979	6	0.0232
## 5022297.257	6	0.0232
## 5022396.25	6	0.0232
## 5022730.371	6	0.0232
## 5023508.236	6	0.0232
## 5023725.924	6	0.0232
## 5024096.287	6	0.0232
## 5024471.293	6	0.0232
## 5024541.267	6	0.0232
## 5024967.322	6	0.0232
## 5025042.737	6	0.0232
## 5025724.855	6	0.0232
## 5025725.294	6	0.0232

```
## 5025947.321      6    0.0232
## 5026029.775      6    0.0232
## 5026407.31       6    0.0232
## 5026646.807      6    0.0232
## 5027894.139      6    0.0232
## 5028675.204      6    0.0232
## 5029269.458      6    0.0232
## 5029334.903      6    0.0232
## 5031119.15       6    0.0232
## 5031154.477      6    0.0232
## 5031252.173      6    0.0232
## 5031523.456      6    0.0232
## 5031526.574      6    0.0232
## 5031549.162      6    0.0232
## 5031611.289      6    0.0232
## 5031628.159      6    0.0232
## 5032377.828      6    0.0232
## 5032471.343      6    0.0232
## 5032472.171      6    0.0232
## 5036159.78       6    0.0232
## 5036174.792      6    0.0232
## (Other)          25105 97.0879

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
##  
## -----  
## CHECKING FEATURE:YCOORD  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Numeric Feature:  
##      Min. 1st Qu. Median Mean 3rd Qu. Max.  
## 4981312 5022099 5027160 5026123 5031278 5043414  
##  
## Summary as Factor Feature:  
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF YCOORD
##
## Feature Value Counter Percentage
## -----
## 5036900.456      39     0.1469
## 5025830.528      37     0.1394
## 5029453.563      25     0.0942
## 5036471.581      23     0.0867
## 5021246.489      21     0.0791
## 5026406.529      20     0.0754
## 5035022.308      20     0.0754
## 5021245.82       18     0.0678
## 5025325.515      18     0.0678
## 5015759.789      17     0.0641
## 5030578.562      17     0.0641
## 5031119.564      17     0.0641
## 5014584.958      16     0.0603
## 5021946.167      16     0.0603
## 5023770.505      14     0.0527
## 5030407.893      14     0.0527
## 5031798.27       14     0.0527
## 5021247.158      13     0.0490
## 5038666.453      13     0.0490
## 5014784.417      12     0.0452
## 5017676.769      12     0.0452
## 5019506.072      12     0.0452
## 5021942.498      12     0.0452
## 5024890.513      12     0.0452
## 5032009.58       12     0.0452
## 5032191.978      12     0.0452
## 5036472.919      12     0.0452
## 5014360.436      11     0.0414
## 5034108.583      11     0.0414
## 5014359.767      10     0.0377
## 5014945.242      10     0.0377
## 5017242.451      10     0.0377
## 5021945.499      10     0.0377
## 5023771.174      10     0.0377
## 5024097.506      10     0.0377
## 5027983.546      10     0.0377
## 5028092.885      10     0.0377
## 5028499.541      10     0.0377
## 5029364.565      10     0.0377
## 5031015.908      10     0.0377
## 5036470.243      10     0.0377
## 5017241.782       9     0.0339

```

## 5019554.478	9	0.0339
## 5021891.503	9	0.0339
## 5024129.499	9	0.0339
## 5024782.181	9	0.0339
## 5027766.436	9	0.0339
## 5030592.553	9	0.0339
## 5031550.245	9	0.0339
## 5033359.306	9	0.0339
## 5038667.122	9	0.0339
## 5014685.066	8	0.0301
## 5017904.528	8	0.0301
## 5018943.516	8	0.0301
## 5020455.478	8	0.0301
## 5022544.496	8	0.0301
## 5023313.163	8	0.0301
## 5023864.504	8	0.0301
## 5024839.528	8	0.0301
## 5024853.529	8	0.0301
## 5025662.527	8	0.0301
## 5026851.542	8	0.0301
## 5027337.549	8	0.0301
## 5029040.554	8	0.0301
## 5030245.247	8	0.0301
## 5030626.567	8	0.0301
## 5031118.895	8	0.0301
## 5033064.923	8	0.0301
## 5033781.565	8	0.0301
## 5035568.891	8	0.0301
## 5036159.561	8	0.0301
## 5036470.912	8	0.0301
## 5008974.718	7	0.0264
## 5014403.42	7	0.0264
## 5014684.398	7	0.0264
## 5014824.191	7	0.0264
## 5015174.509	7	0.0264
## 5017106.945	7	0.0264
## 5017107.614	7	0.0264
## 5017865.133	7	0.0264
## 5018424.46	7	0.0264
## 5020502.479	7	0.0264
## 5021566.492	7	0.0264
## 5021892.172	7	0.0264
## 5021943.167	7	0.0264
## 5022298.499	7	0.0264
## 5022543.828	7	0.0264
## 5022584.5	7	0.0264
## 5022949.833	7	0.0264
## 5023120.823	7	0.0264

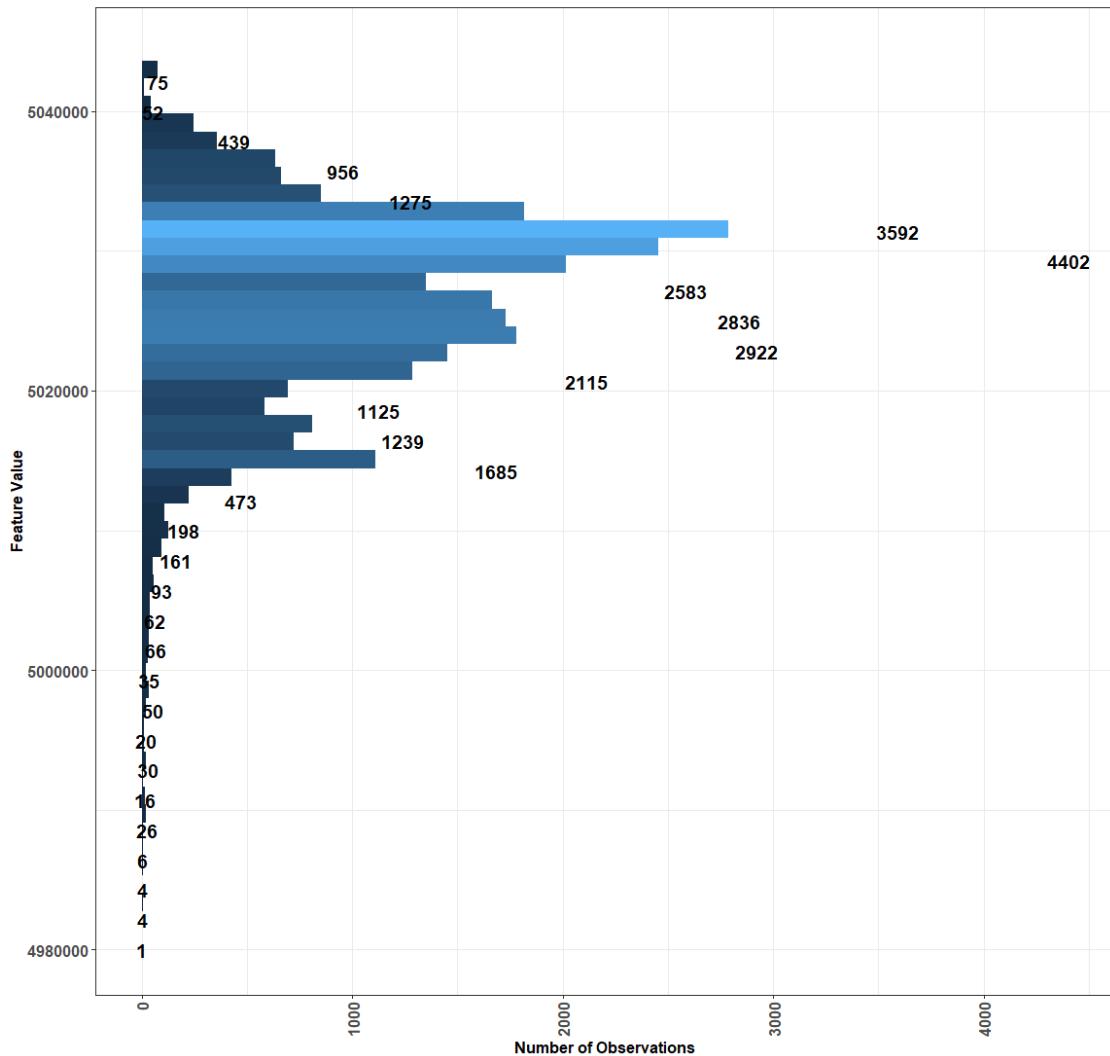
```

## 5024695.37      7    0.0264
## 5024781.512    7    0.0264
## 5026488.527    7    0.0264
## 5028247.233    7    0.0264
## 5028603.551    7    0.0264
## 5030393.233    7    0.0264
## 5030398.227    7    0.0264
## 5030476.572    7    0.0264
## 5030561.522    7    0.0264
## (Other)        25484 96.0175

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:YCOORD
Data:All 2017.csv**



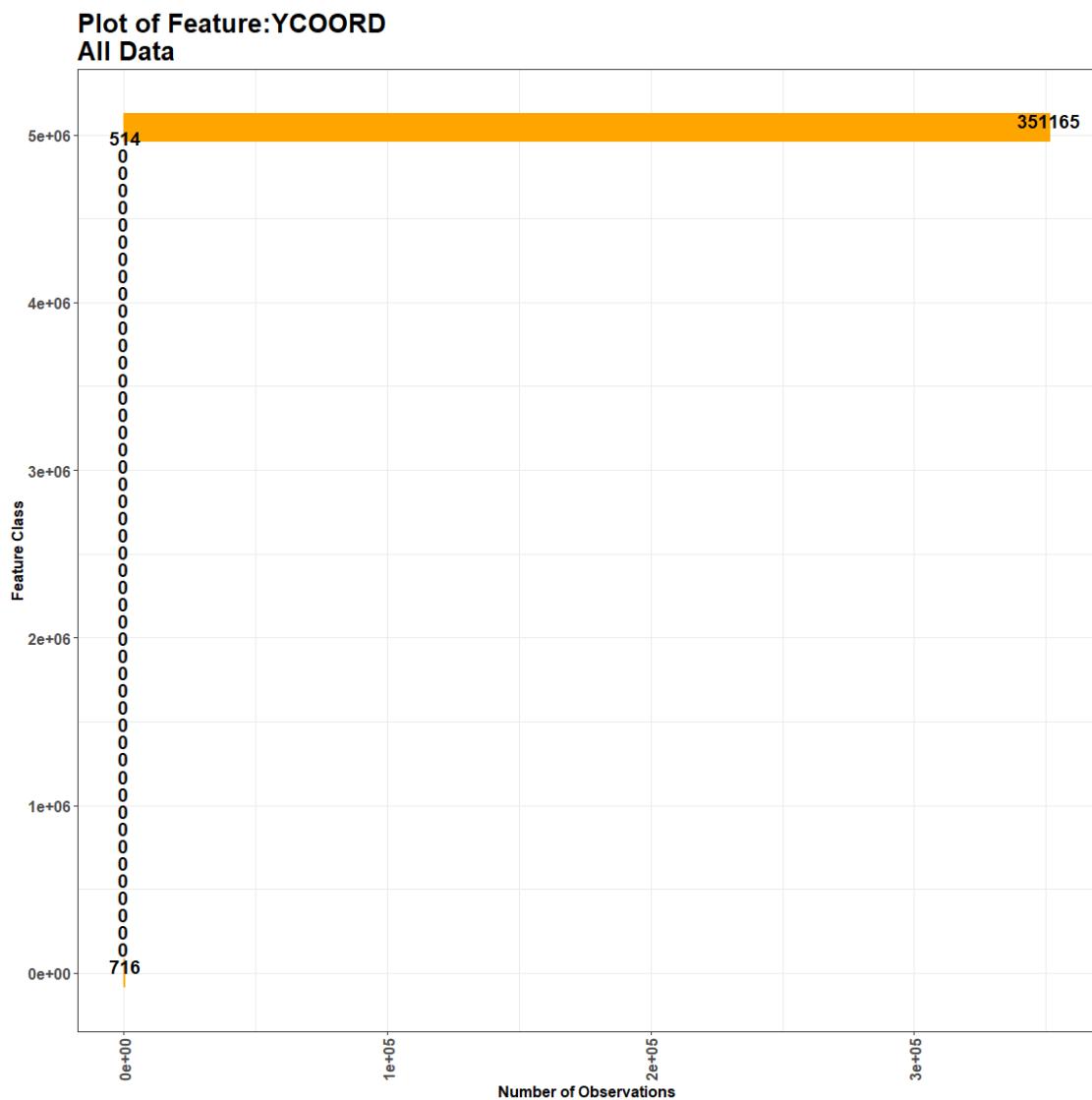
```

##
## =====
## FINAL INFO CHECKING FEATURE:YCOORD

```

```
## ALL DATA...
## =====
##
## Number of Blank Values:0
## Number of Zero Values:716
## Number of Negative Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## Summary as Numeric Feature:
##   Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
##   0 5022613 5027747 5016285 5031428 5043472 28515
##
## Summary as Factor Feature:
## Number of Features: 100

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
## [1] "TOP 100 FEATURES COUNTERS OF:YCOORD"
```

Feature Value	Counter	Percentage
0	716	0.1880
5036471.581	154	0.0404
5031016.344	122	0.0320
5029081.557	100	0.0263
5023465.505	80	0.0210
5036900.456	80	0.0210
5023490.538	78	0.0205
5021946.714	77	0.0202
5036471.986	76	0.0200

5021948.334	75	0.0197
5021947.524	73	0.0192
5021247.706	72	0.0189
5021246.896	69	0.0181
5032475.42	69	0.0181
5026852.757	68	0.0179
5026631.186	66	0.0173
5023774.15	64	0.0168
5021945.904	63	0.0165
5023772.53	63	0.0165
5021892.719	62	0.0163
5036472.796	62	0.0163
5030005.972	59	0.0155
5030006.782	59	0.0155
5021248.516	57	0.0150
5021250.136	57	0.0150
5023725.916	57	0.0150
5036474.416	56	0.0147
5021895.148	55	0.0144
5020502.884	54	0.0142
5030188.97	54	0.0142
5030582.207	54	0.0142
5016735.29	53	0.0139
5021891.909	53	0.0139
5023865.729	53	0.0139
5024100.151	53	0.0139
5030558.785	53	0.0139
5031956.03	53	0.0139
5032477.85	53	0.0139
5033497.429	53	0.0139
5019557.645	52	0.0137
5021949.144	52	0.0137
5028499.947	52	0.0137
5036471.176	52	0.0137
5014788.072	51	0.0134

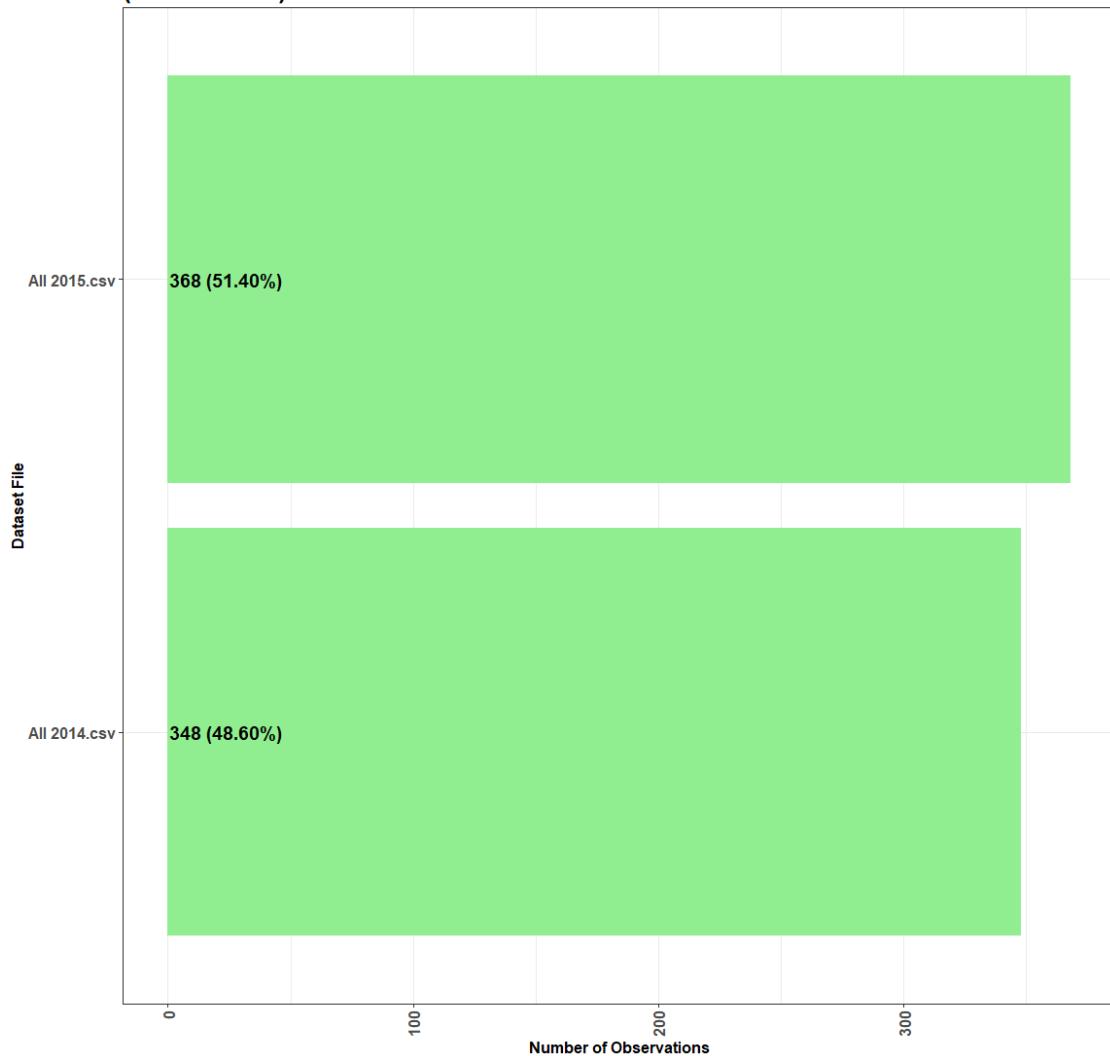
5020506.124	51	0.0134
5021226.529	51	0.0134
5023773.34	51	0.0134
5026629.566	51	0.0134
5032476.23	51	0.0134
5036473.606	51	0.0134
5021246.086	50	0.0131
5021250.946	50	0.0131
5021950.763	50	0.0131
5025699.176	50	0.0131
5026628.756	50	0.0131
5031954.41	50	0.0131
5033198.98	50	0.0131
5016734.48	49	0.0129
5021943.713	49	0.0129
5021945.094	49	0.0129
5023770.1	49	0.0129
5025949.76	49	0.0129
5030581.397	49	0.0129
5036160.776	49	0.0129
5021949.953	48	0.0126
5031439.96	48	0.0126
5033499.858	48	0.0126
5035571.209	48	0.0126
5021245.276	47	0.0123
5023769.29	47	0.0123
5024099.341	47	0.0123
5024100.961	47	0.0123
5025830.528	47	0.0123
5025948.95	47	0.0123
5025952.19	47	0.0123
5027493.939	47	0.0123
5028499.137	47	0.0123
5014789.692	46	0.0121
5016732.861	46	0.0121

5021891.099	46	0.0121
5021894.338	46	0.0121
5023771.72	46	0.0121
5026630.376	46	0.0121
5030010.022	46	0.0121
5030192.209	46	0.0121
5032416.424	46	0.0121
5033200.6	46	0.0121
5021942.904	45	0.0118
5023171.237	45	0.0118
5024097.721	45	0.0118
5024101.961	45	0.0118
5030578.967	45	0.0118
5030583.017	45	0.0118
5032472.99	45	0.0118
5036163.206	45	0.0118
5036476.036	45	0.0118
5021893.528	44	0.0116
5023727.536	44	0.0116
(Other)	346294	90.9123
NA's	28515	7.4860

29.1 YCOORD = "0"

```
##  
## ======  
## CHECKING FEATURE AND VALUE (YCOORD=0)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv  
##      348      368
```

**Plot of Feature and Value
(YCOORD=0)**



DATASET FILE	COUNTER OF (YCOORD=0)	Percentage
All 2014.csv	348	48.6
All 2015.csv	368	51.4

29.2 YCOORD = "5043472"

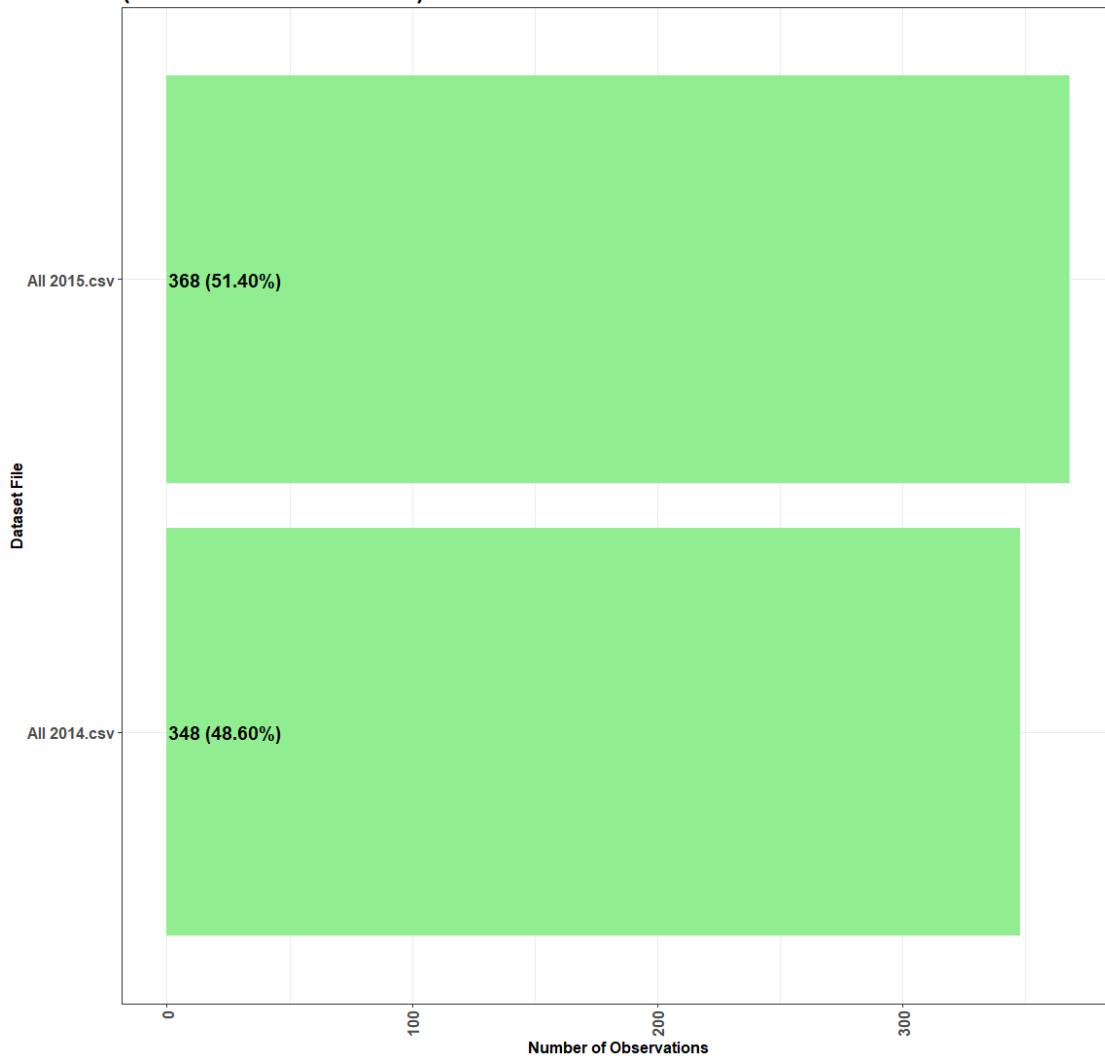
```
##  
## =====  
## CHECKING FEATURE AND VALUE (YCOORD=5043472)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (YCOORD=5043472) Percentage -----

29.3 YCOORD < “4979899.901”

```
##  
## =====  
## CHECKING FEATURE AND VALUE (YCOORD<4979899.901)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv  
##          348          368
```

**Plot of Feature and Value
(YCOORD<4979899.901)**



DATASET FILE	COUNTER OF (YCOORD<4979899.901)	Percentage
All 2014.csv	348	48.6
All 2015.csv	368	51.4

29.4 YCORD > "5047442.691"

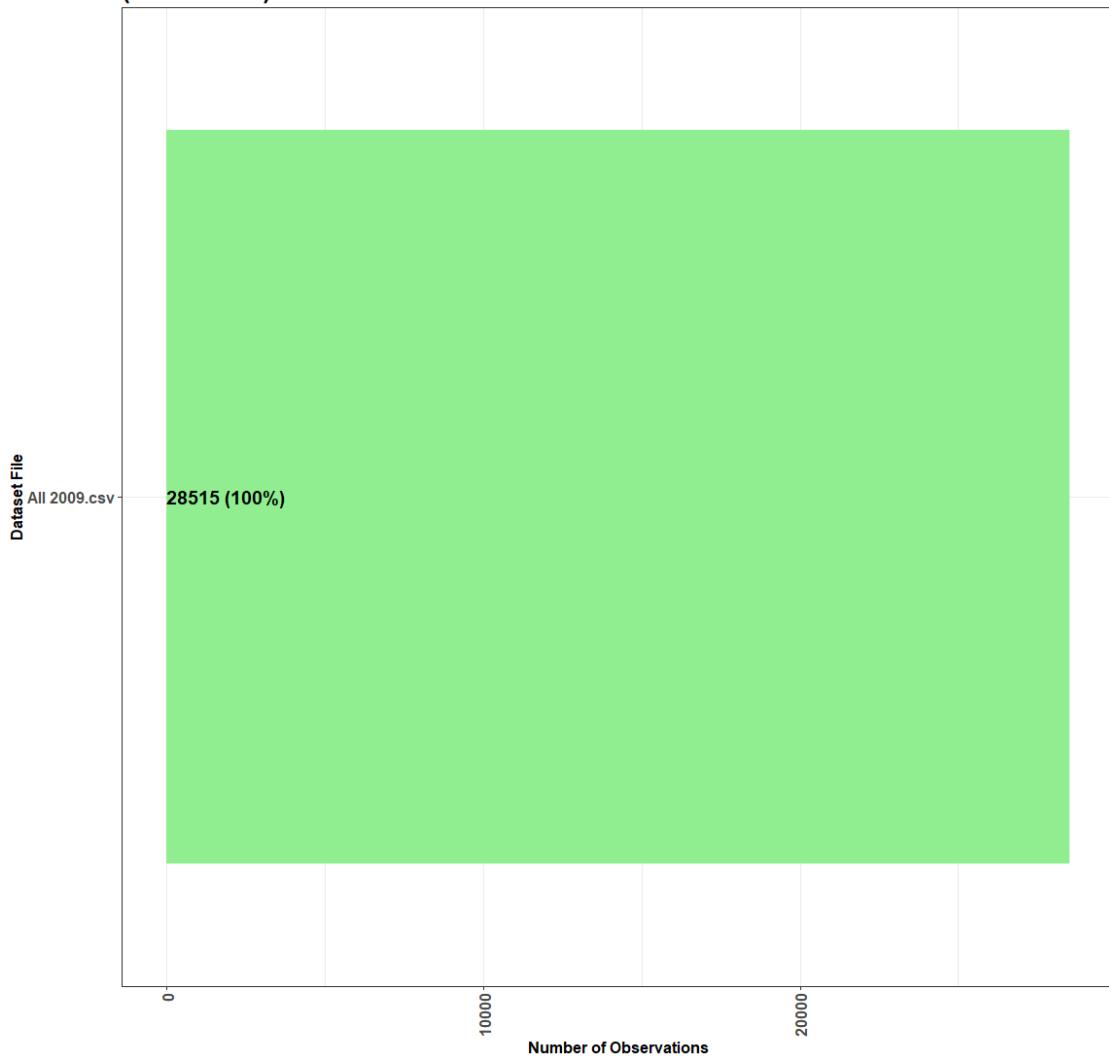
```
##  
## =====  
## CHECKING FEATURE AND VALUE (YCOORD>5047442.691)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (YCOORD>5047442.691) Percentage ----- -----

29.5 YCOORD = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (YCOORD=)  
##  
## Summary per Data File:  
## All 2009.csv  
## 28515
```

**Plot of Feature and Value
(YCOORD=)**



DATASET FILE	COUNTER OF (YCOORD=)	Percentage
All 2009.csv	28515	100

30. Street1 (STREET1)

```
##  
## -----  
## CHECKING FEATURE:STREET1  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##
```



```
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value Counter Percentage
## -----
## HIGHWAY 417      1850   7.1962
## BANK ST          913    3.5514
## BASELINE RD      643    2.5012
## CARLING AVE     550    2.1394
## BRONSON AVE     406    1.5793
## MONTREAL RD      366    1.4237
## INNES RD          336    1.3070
## MERIVALE RD      313    1.2175
## ST. LAURENT BLVD 292    1.1358
## KING EDWARD AVE 289    1.1242
## EAGLESON RD      283    1.1008
## HUNT CLUB RD      271    1.0541
## GREENBANK RD      264    1.0269
## RICHMOND RD       252    0.9802
## PRINCE OF WALES DR 244    0.9491
## FALLOWFIELD RD    234    0.9102
## BLAIR RD          215    0.8363
## MARCH RD          207    0.8052
## WOODROFFE AVE     204    0.7935
## ST. JOSEPH BLVD   201    0.7819
## RIVERSIDE DR       188    0.7313
## HIGHWAY 416        178    0.6924
## BOOTH ST           160    0.6224
## ALTA VISTA DR      156    0.6068
## REGIONAL ROAD 174  156    0.6068
## COLONEL BY DR      148    0.5757
## CYRVILLE RD         145    0.5640
## LAURIER AVE         145    0.5640
## MEADOWLANDS DR      143    0.5562
## RUSSELL RD          141    0.5485
## RIDEAU ST           138    0.5368
## HERON RD             133    0.5173
## ALBERT ST            131    0.5096
## DONALD ST             126    0.4901
## WALKLEY RD           126    0.4901
## ALBION RD              125    0.4862
## CARP RD                124    0.4823
## ELGIN ST                 123    0.4785
## ISLAND PARK DR        122    0.4746
## INDUSTRIAL AVE        121    0.4707
## JEANNE D'ARC BLVD      121    0.4707
## BELFAST RD               117    0.4551
```



## CATHERINE ST	116	0.4512
## CONROY RD	115	0.4473
## FISHER AVE	113	0.4396
## REGIONAL RD 174	111	0.4318
## WEST HUNT CLUB RD	108	0.4201
## CAMPEAU DR	103	0.4007
## MCARTHUR AVE	103	0.4007
## AIRPORT PKWY	101	0.3929
## ROBERTSON RD	99	0.3851
## BYRON AVE	98	0.3812
## BEECHWOOD AVE	97	0.3773
## COVENTRY RD	96	0.3734
## CLYDE AVE	92	0.3579
## DALHOUSIE ST	92	0.3579
## GLADSTONE AVE	91	0.3540
## KENT ST	91	0.3540
## PRESTON ST	89	0.3462
## HAZELDEAN RD	86	0.3345
## CUMMINGS AVE	84	0.3267
## LYON ST	84	0.3267
## TENTH LINE RD	84	0.3267
## OGILVIE RD	83	0.3229
## HAWTHORNE RD	81	0.3151
## LANCASTER RD	76	0.2956
## SOMERSET ST	76	0.2956
## AVIATION PKWY	75	0.2917
## CEDARVIEW RD	75	0.2917
## MOODIE DR	74	0.2878
## WELLINGTON ST	73	0.2840
## SMYTH RD	71	0.2762
## CARLING AVE WB	70	0.2723
## CASTLEFRANK RD	69	0.2684
## PARKDALE AVE	67	0.2606
## CUMBERLAND ST	65	0.2528
## CARLING AVE EB	64	0.2489
## KIRKWOOD AVE	63	0.2451
## PINCREST RD	56	0.2178
## HOLLAND AVE	55	0.2139
## METCALFE ST	55	0.2139
## ANDERSON RD	54	0.2101
## BATHGATE DR	53	0.2062
## BESSERER ST	52	0.2023
## REGIONAL RD 174 EB	52	0.2023
## BAY ST	50	0.1945
## MITCH OWENS RD	50	0.1945
## DUNROBIN RD	49	0.1906
## RIVERSIDE DR NB	48	0.1867
## HWY 417 RIVERS IC117R52	46	0.1789



```
## QUEEN ST                      46    0.1789
## KNOXDALE RD                   45    0.1750
## O'CONNOR ST                   45    0.1750
## WEST HUNT CLUB RD EB          45    0.1750
## BRIDLE PATH DR                44    0.1712
## HAWTHORNE AVE                 44    0.1712
## HWY 417 ST.LAURE IC115R6       44    0.1712
## MAIN ST                        44    0.1712
## MCCARTHY RD                    44    0.1712
## (Other)                         10152 39.4897
##
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2005.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value      Counter   Percentage
## -----
## HIGHWAY 417           1832     6.8789
## BANK ST                  1059     3.9764
## BASELINE RD              640      2.4031
## CARLING AVE              626      2.3506
## BRONSON AVE              442      1.6597
## MERIVALE RD               357      1.3405
## MONTREAL RD               340      1.2767
## KING EDWARD AVE          328      1.2316
## GREENBANK RD              327      1.2278
## INNES RD                  320      1.2016
## EAGLESON RD               297      1.1152
## PRINCE OF WALES DR         279      1.0476
## RICHMOND RD                272      1.0213
## ST. LAURENT BLVD          248      0.9312
## HUNT CLUB RD               245      0.9199
## FALLOWFIELD RD             238      0.8937
## MARCH RD                  204      0.7660
## ALTA VISTA DR              199      0.7472
## BLAIR RD                   196      0.7360
## ST. JOSEPH BLVD            194      0.7284
## MEADOWLANDS DR              186      0.6984
## WOODROFFE AVE              186      0.6984
## LAURIER AVE                167      0.6271
```



## JEANNE D'ARC BLVD	161	0.6045
## ALBERT ST	157	0.5895
## REGIONAL ROAD 174	156	0.5858
## COLONEL BY DR	152	0.5707
## ELGIN ST	152	0.5707
## RUSSELL RD	145	0.5445
## HAZELDEAN RD	139	0.5219
## ALBION RD	137	0.5144
## HIGHWAY 416	137	0.5144
## REGIONAL RD 174	136	0.5107
## RIDEAU ST	135	0.5069
## CARP RD	131	0.4919
## CATHERINE ST	131	0.4919
## MOODIE DR	129	0.4844
## WALKLEY RD	129	0.4844
## INDUSTRIAL AVE	126	0.4731
## COVENTRY RD	124	0.4656
## GLADSTONE AVE	122	0.4581
## DONALD ST	119	0.4468
## AIRPORT PKWY	115	0.4318
## BELFAST RD	115	0.4318
## HERON RD	115	0.4318
## RIVERSIDE DR	115	0.4318
## FISHER AVE	114	0.4281
## WEST HUNT CLUB RD	108	0.4055
## MCARTHUR AVE	107	0.4018
## PRESTON ST	106	0.3980
## CAMPEAU DR	103	0.3868
## CYRVILLE RD	100	0.3755
## TENTH LINE RD	100	0.3755
## CONROY RD	95	0.3567
## BEECHWOOD AVE	94	0.3530
## HOLLAND AVE	94	0.3530
## LANCASTER RD	94	0.3530
## ISLAND PARK DR	93	0.3492
## BOOTH ST	91	0.3417
## DALHOUSIE ST	88	0.3304
## ROBERTSON RD	87	0.3267
## CLYDE AVE	80	0.3004
## HAWTHORNE RD	80	0.3004
## CASTLEFRANK RD	79	0.2966
## OGILVIE RD	79	0.2966
## PARKDALE AVE	77	0.2891
## WELLINGTON ST	73	0.2741
## CEDARVIEW RD	72	0.2704
## KIRKWOOD AVE	71	0.2666
## BESSERER ST	70	0.2628
## CUMBERLAND ST	70	0.2628

## BYRON AVE	69	0.2591
## AVIATION PKWY	68	0.2553
## CARLING AVE WB	65	0.2441
## LYON ST	65	0.2441
## BANTREE ST	64	0.2403
## HIGHWAY 7	60	0.2253
## BATHGATE DR	59	0.2215
## DUNROBIN RD	59	0.2215
## O'CONNOR ST	59	0.2215
## PINECREST RD	59	0.2215
## CUMMINGS AVE	58	0.2178
## KENT ST	57	0.2140
## MITCH OWENS RD	57	0.2140
## REGIONAL RD 174 EB	57	0.2140
## SMYTH RD	57	0.2140
## WEST HUNT CLUB RD EB	57	0.2140
## DALY AVE	56	0.2103
## ANDERSON RD	55	0.2065
## MACKENZIE AVE	55	0.2065
## METCALFE ST	55	0.2065
## RIVERSIDE DR NB	55	0.2065
## RIVER RD	54	0.2028
## ORLEANS BLVD	53	0.1990
## MAITLAND AVE	52	0.1953
## WEST HUNT CLUB RD WB	52	0.1953
## SOMERSET ST	51	0.1915
## CARLING AVE EB	50	0.1877
## QUEEN ST	50	0.1877
## (Other)	10539	39.5727
##		
## -----		
## CHECKING FEATURE:STREET1		
## DATA:All 2006.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREET1		
##		
## Feature Value	Counter	Percentage
## -----	-----	-----
## HIGHWAY 417	1703	6.5152
## BANK ST	1005	3.8448
## BASELINE RD	666	2.5479
## CARLING AVE	631	2.4140

## INNES RD	369	1.4117
## BRONSON AVE	365	1.3964
## KING EDWARD AVE	353	1.3505
## MONTREAL RD	351	1.3428
## MERIVALE RD	350	1.3390
## GREENBANK RD	313	1.1974
## PRINCE OF WALES DR	256	0.9794
## BLAIR RD	251	0.9603
## ST. LAURENT BLVD	246	0.9411
## RICHMOND RD	243	0.9296
## MARCH RD	242	0.9258
## HUNT CLUB RD	233	0.8914
## FALLOWFIELD RD	225	0.8608
## ALTA VISTA DR	223	0.8531
## REGIONAL ROAD 174	218	0.8340
## EAGLESON RD	211	0.8072
## COLONEL BY DR	203	0.7766
## WOODROFFE AVE	200	0.7651
## MEADOWLANDS DR	189	0.7231
## LAURIER AVE	177	0.6771
## HIGHWAY 416	171	0.6542
## ELGIN ST	167	0.6389
## ALBERT ST	166	0.6351
## ST. JOSEPH BLVD	162	0.6198
## HERON RD	150	0.5739
## ALBION RD	145	0.5547
## GLADSTONE AVE	141	0.5394
## INDUSTRIAL AVE	138	0.5279
## RUSSELL RD	138	0.5279
## WALKLEY RD	129	0.4935
## CARP RD	128	0.4897
## JEANNE D'ARC BLVD	126	0.4820
## REGIONAL RD 174	125	0.4782
## CATHERINE ST	124	0.4744
## CLYDE AVE	123	0.4706
## RIVERSIDE DR	122	0.4667
## RIDEAU ST	118	0.4514
## CONROY RD	115	0.4400
## BELFAST RD	113	0.4323
## DONALD ST	113	0.4323
## MCARTHUR AVE	110	0.4208
## HAZELDEAN RD	105	0.4017
## FISHER AVE	104	0.3979
## MOODIE DR	103	0.3940
## CYRVILLE RD	101	0.3864
## KENT ST	99	0.3787
## ROBERTSON RD	99	0.3787
## BOOTH ST	97	0.3711

## AIRPORT PKWY	95	0.3634
## CARLING AVE WB	94	0.3596
## DALHOUSIE ST	94	0.3596
## CAMPEAU DR	90	0.3443
## BEECHWOOD AVE	88	0.3367
## ISLAND PARK DR	87	0.3328
## COVENTRY RD	82	0.3137
## WEST HUNT CLUB RD	81	0.3099
## HAWTHORNE RD	79	0.3022
## HOLLAND AVE	77	0.2946
## LYON ST	76	0.2908
## BANTREE ST	73	0.2793
## CARLING AVE EB	71	0.2716
## CASTLEFRANK RD	67	0.2563
## HOG'S BACK RD	66	0.2525
## PRESTON ST	66	0.2525
## PARKDALE AVE	65	0.2487
## BYRON AVE	64	0.2448
## SOMERSET ST	61	0.2334
## TENTH LINE RD	61	0.2334
## O'CONNOR ST	60	0.2295
## RIVERSIDE DR NB	60	0.2295
## BESSERER ST	59	0.2257
## MAITLAND AVE	59	0.2257
## OGILVIE RD	59	0.2257
## WELLINGTON ST	59	0.2257
## ANDERSON RD	58	0.2219
## WEST HUNT CLUB RD WB	58	0.2219
## KIRKWOOD AVE	55	0.2104
## CEDARVIEW RD	54	0.2066
## METCALFE ST	53	0.2028
## MITCH OWENS RD	53	0.2028
## REGIONAL RD 174 EB	52	0.1989
## CUMMINGS AVE	50	0.1913
## CLEOPATRA DR	49	0.1875
## DWYER HILL RD	49	0.1875
## AVIATION PKWY	48	0.1836
## LIMEBANK RD	48	0.1836
## BAYSHORE DR	47	0.1798
## BRIDGE ST	47	0.1798
## PLEASANT PARK RD	47	0.1798
## CUMBERLAND ST	46	0.1760
## LANCASTER RD	46	0.1760
## STRANDHERD DR	45	0.1722
## HWY 417 ST.LAURE IC115R6	44	0.1683
## CHARLEMAGNE BLVD N	43	0.1645
## DALY AVE	43	0.1645
## (Other)	10456	40.0015

```
##  
## -----  
## CHECKING FEATURE:STREET1  
## DATA:All 2007.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF STREET1  
##  
## Feature Value Counter Percentage  
## -----  
## HIGHWAY 417 1941 6.9747  
## BANK ST 1111 3.9922  
## CARLING AVE 646 2.3213  
## BASELINE RD 573 2.0590  
## BRONSON AVE 454 1.6314  
## INNES RD 388 1.3942  
## GREENBANK RD 365 1.3116  
## MERIVALE RD 354 1.2721  
## MONTREAL RD 352 1.2649  
## KING EDWARD AVE 327 1.1750  
## ST. LAURENT BLVD 309 1.1104  
## RICHMOND RD 294 1.0565  
## HUNT CLUB RD 285 1.0241  
## PRINCE OF WALES DR 275 0.9882  
## BLAIR RD 268 0.9630  
## WOODROFFE AVE 254 0.9127  
## EAGLESON RD 242 0.8696  
## MARCH RD 237 0.8516  
## ALTA VISTA DR 232 0.8337  
## FALLOWFIELD RD 225 0.8085  
## ALBERT ST 186 0.6684  
## COLONEL BY DR 186 0.6684  
## MEADOWLANDS DR 184 0.6612  
## JEANNE D'ARC BLVD 178 0.6396  
## REGIONAL ROAD 174 167 0.6001  
## RIDEAU ST 163 0.5857  
## ST. JOSEPH BLVD 163 0.5857  
## ELGIN ST 160 0.5749  
## HERON RD 154 0.5534  
## HIGHWAY 416 154 0.5534  
## HAZELDEAN RD 149 0.5354  
## RIVERSIDE DR 149 0.5354  
## INDUSTRIAL AVE 148 0.5318
```

## WALKLEY RD	147	0.5282
## CYRVILLE RD	144	0.5174
## MOODIE DR	137	0.4923
## GLADSTONE AVE	129	0.4635
## ALBION RD	128	0.4600
## WEST HUNT CLUB RD	128	0.4600
## COVENTRY RD	126	0.4528
## CONROY RD	125	0.4492
## LAURIER AVE	125	0.4492
## REGIONAL RD 174	125	0.4492
## CATHERINE ST	123	0.4420
## MCARTHUR AVE	123	0.4420
## FISHER AVE	121	0.4348
## BELFAST RD	120	0.4312
## BOOTH ST	118	0.4240
## RUSSELL RD	118	0.4240
## DONALD ST	111	0.3989
## CARP RD	108	0.3881
## CAMPEAU DR	100	0.3593
## SOMERSET ST	98	0.3522
## PARKDALE AVE	97	0.3486
## TENTH LINE RD	97	0.3486
## LYON ST	94	0.3378
## AIRPORT PKWY	93	0.3342
## CARLING AVE WB	91	0.3270
## REGIONAL RD 174 EB	90	0.3234
## HAWTHORNE RD	89	0.3198
## BEECHWOOD AVE	88	0.3162
## CLYDE AVE	86	0.3090
## CEDARVIEW RD	85	0.3054
## DALHOUSIE ST	85	0.3054
## CUMBERLAND ST	84	0.3018
## CARLING AVE EB	82	0.2947
## ROBERTSON RD	80	0.2875
## ISLAND PARK DR	79	0.2839
## KIRKWOOD AVE	79	0.2839
## LANCASTER RD	77	0.2767
## OGILVIE RD	75	0.2695
## PINCREST RD	75	0.2695
## CASTLEFRANK RD	74	0.2659
## O'CONNOR ST	73	0.2623
## BYRON AVE	71	0.2551
## MITCH OWENS RD	70	0.2515
## HOLLAND AVE	69	0.2479
## CUMMINGS AVE	67	0.2408
## KENT ST	67	0.2408
## ANDERSON RD	65	0.2336
## PRESTON ST	63	0.2264



```
## OTTAWA RIVER PKWY           60    0.2156
## TRIM RD                     59    0.2120
## BANKFIELD RD                58    0.2084
## SMYTH RD                     58    0.2084
## AVIATION PKWY               57    0.2048
## DALY AVE                     57    0.2048
## KNOXDALE RD                  57    0.2048
## HIGHWAY 7                     56    0.2012
## LIMEBANK RD                  55    0.1976
## BESSERER ST                  54    0.1940
## MAITLAND AVE                 54    0.1940
## BAYSHORE DR                  53    0.1904
## BELCOURT BLVD                53    0.1904
## HWY 417 ST.LAURE IC115R6      53    0.1904
## RIVER RD                      53    0.1904
## CLEOPATRA DR                 52    0.1869
## BRIDLE PATH DR               51    0.1833
## ABBEYHILL DR                 50    0.1797
## (Other)                       10867 39.0492
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value             Counter   Percentage
## -----
## HIGHWAY 417                2079     7.2837
## BANK ST                      1049     3.6752
## BASELINE RD                  608      2.1301
## CARLING AVE                  606      2.1231
## BRONSON AVE                  429      1.5030
## MONTREAL RD                  385      1.3488
## INNES RD                      376      1.3173
## RICHMOND RD                  323      1.1316
## GREENBANK RD                  318      1.1141
## EAGLESON RD                  308      1.0791
## PRINCE OF WALES DR            304      1.0651
## HUNT CLUB RD                  292      1.0230
## KING EDWARD AVE              287      1.0055
## MERIVALE RD                  285      0.9985
```

## ST. LAURENT BLVD	278	0.9740
## ALTA VISTA DR	239	0.8373
## WOODROFFE AVE	237	0.8303
## BLAIR RD	229	0.8023
## FALLOWFIELD RD	227	0.7953
## REGIONAL ROAD 174	217	0.7603
## MARCH RD	201	0.7042
## HIGHWAY 416	198	0.6937
## INDUSTRIAL AVE	197	0.6902
## ALBION RD	194	0.6797
## HAZELDEAN RD	180	0.6306
## RIVERSIDE DR	178	0.6236
## JEANNE D'ARC BLVD	173	0.6061
## WALKLEY RD	172	0.6026
## HERON RD	171	0.5991
## MEADOWLANDS DR	171	0.5991
## COLONEL BY DR	167	0.5851
## RUSSELL RD	162	0.5676
## BELFAST RD	156	0.5465
## RIDEAU ST	156	0.5465
## CYRVILLE RD	154	0.5395
## MCARTHUR AVE	151	0.5290
## ELGIN ST	150	0.5255
## ALBERT ST	149	0.5220
## ST. JOSEPH BLVD	142	0.4975
## WEST HUNT CLUB RD	138	0.4835
## DONALD ST	136	0.4765
## COVENTRY RD	135	0.4730
## CATHERINE ST	132	0.4625
## GLADSTONE AVE	129	0.4519
## MOODIE DR	128	0.4484
## LAURIER AVE	127	0.4449
## CONROY RD	123	0.4309
## CARP RD	120	0.4204
## KENT ST	107	0.3749
## REGIONAL RD 174	105	0.3679
## BOOTH ST	103	0.3609
## FISHER AVE	103	0.3609
## HAWTHORNE RD	103	0.3609
## DALHOUSIE ST	101	0.3539
## CARLING AVE WB	98	0.3433
## CLYDE AVE	98	0.3433
## ISLAND PARK DR	98	0.3433
## ROBERTSON RD	95	0.3328
## BEECHWOOD AVE	94	0.3293
## AIRPORT PKWY	87	0.3048
## BAYSHORE DR	80	0.2803
## CAMPEAU DR	80	0.2803

## PINECREST RD	79	0.2768
## REGIONAL RD 174 EB	79	0.2768
## CASTLEFRANK RD	78	0.2733
## CEDARVIEW RD	76	0.2663
## CUMMINGS AVE	75	0.2628
## KNOXDALE RD	75	0.2628
## LYON ST	75	0.2628
## O'CONNOR ST	74	0.2593
## TENTH LINE RD	73	0.2558
## CUMBERLAND ST	71	0.2487
## BRIDGE ST	69	0.2417
## WELLINGTON ST	69	0.2417
## HUNTMAR DR	66	0.2312
## PARKDALE AVE	66	0.2312
## AVIATION PKWY	65	0.2277
## HOLLAND AVE	65	0.2277
## SOMERSET ST	64	0.2242
## BANTREE ST	63	0.2207
## LANCASTER RD	62	0.2172
## MITCH OWENS RD	62	0.2172
## TRIM RD	61	0.2137
## BAY ST	60	0.2102
## BYRON AVE	60	0.2102
## RIVERSIDE DR NB	60	0.2102
## ANDERSON RD	59	0.2067
## HWY 417 RIVERS IC117R52	59	0.2067
## WEST HUNT CLUB RD WB	59	0.2067
## CARLING AVE EB	56	0.1962
## CHARLEMAGNE BLVD N	55	0.1927
## WEST HUNT CLUB RD EB	55	0.1927
## MAITLAND AVE	53	0.1857
## OGILVIE RD	52	0.1822
## TERRY FOX DR	52	0.1822
## DALY AVE	51	0.1787
## KIRKWOOD AVE	51	0.1787
## PRESTON ST	51	0.1787
## ANTARES DR	50	0.1752
## (Other)	11375	39.8522
##		
## -----		
## CHECKING FEATURE:STREET1		
## DATA:All 2009.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		

```
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value      Counter   Percentage
## -----
## HIGHWAY 417        2104     7.3786
## BANK ST             982      3.4438
## BASELINE RD         743      2.6056
## CARLING AVE         624      2.1883
## INNES RD             489      1.7149
## MONTREAL RD          453      1.5886
## BRONSON AVE          442      1.5501
## GREENBANK RD          336      1.1783
## MERIVALE RD           326      1.1433
## HUNT CLUB RD           325      1.1398
## ST. LAURENT BLVD       313      1.0977
## RICHMOND RD            286      1.0030
## PRINCE OF WALES DR       274      0.9609
## KING EDWARD AVE         254      0.8908
## FALLOWFIELD RD          245      0.8592
## REGIONAL ROAD 174        242      0.8487
## BLAIR RD                238      0.8346
## WOODROFFE AVE           234      0.8206
## ALTA VISTA DR             233      0.8171
## MARCH RD                 223      0.7820
## EAGLESON RD               219      0.7680
## MEADOWLANDS DR             211      0.7400
## HAZELDEAN RD               188      0.6593
## LAURIER AVE                 178      0.6242
## COLONEL BY DR              177      0.6207
## CYRVILLE RD                  176      0.6172
## HERON RD                     175      0.6137
## RIVERSIDE DR                  175      0.6137
## ALBION RD                     170      0.5962
## ST. JOSEPH BLVD                 169      0.5927
## COVENTRY RD                   162      0.5681
## ELGIN ST                      162      0.5681
## ALBERT ST                      160      0.5611
## HIGHWAY 416                     158      0.5541
## INDUSTRIAL AVE                   156      0.5471
## CATHERINE ST                     146      0.5120
## JEANNE D'ARC BLVD                  142      0.4980
## RUSSELL RD                      138      0.4840
## BELFAST RD                      135      0.4734
## WALKLEY RD                      131      0.4594
## DONALD ST                        127      0.4454
## FISHER AVE                      126      0.4419
## CONROY RD                       122      0.4278
```



## KENT ST	120	0.4208
## ISLAND PARK DR	116	0.4068
## CLYDE AVE	115	0.4033
## RIDEAU ST	115	0.4033
## GLADSTONE AVE	114	0.3998
## BEECHWOOD AVE	113	0.3963
## MOODIE DR	112	0.3928
## WEST HUNT CLUB RD	109	0.3823
## DALHOUSIE ST	106	0.3717
## MCARTHUR AVE	106	0.3717
## BOOTH ST	102	0.3577
## O'CONNOR ST	99	0.3472
## CARLING AVE WB	97	0.3402
## REGIONAL RD 174	97	0.3402
## CARP RD	95	0.3332
## CAMPEAU DR	94	0.3297
## TENTH LINE RD	92	0.3226
## CUMBERLAND ST	90	0.3156
## PARKDALE AVE	88	0.3086
## HAWTHORNE RD	87	0.3051
## AVIATION PKWY	86	0.3016
## CEDARVIEW RD	80	0.2806
## AIRPORT PKWY	77	0.2700
## MITCH OWENS RD	77	0.2700
## ROBERTSON RD	75	0.2630
## CUMMINGS AVE	71	0.2490
## OGILVIE RD	71	0.2490
## VANIER PKWY NB	71	0.2490
## BESSERER ST	70	0.2455
## BYRON AVE	70	0.2455
## REGIONAL RD 174 EB	70	0.2455
## METCALFE ST	66	0.2315
## HOLLAND AVE	65	0.2280
## CASTLEFRANK RD	64	0.2244
## KIRKWOOD AVE	64	0.2244
## BAY ST	63	0.2209
## SOMERSET ST	63	0.2209
## CARLING AVE EB	62	0.2174
## DUNROBIN RD	62	0.2174
## LYON ST	61	0.2139
## RIVERSIDE DR NB	61	0.2139
## LANCASTER RD	60	0.2104
## PINCREST RD	60	0.2104
## TERRY FOX DR	60	0.2104
## BAYSHORE DR	59	0.2069
## BROOKFIELD RD	59	0.2069
## COLONNADE RD	59	0.2069
## SMYTH RD	58	0.2034



```
## TRIM RD           57    0.1999
## BEARBROOK RD     56    0.1964
## CHURCHILL AVE    55    0.1929
## ANDERSON RD      54    0.1894
## HOLLY ACRES RD   54    0.1894
## NELSON ST         54    0.1894
## BANTREE ST        53    0.1859
## HAWTHORNE AVE    52    0.1824
## (Other)          11080  38.8567
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value       Counter  Percentage
## -----
## HIGHWAY 417         2002    7.2776
## BANK ST              1268    4.6094
## CARLING AVE         640     2.3265
## BASELINE RD          552     2.0066
## INNES RD              489     1.7776
## BRONSON AVE          461     1.6758
## MONTREAL RD           363     1.3196
## GREENBANK RD          337     1.2251
## MERIVALE RD           333     1.2105
## ST. LAURENT BLVD     300     1.0906
## FALLOWFIELD RD        284     1.0324
## PRINCE OF WALES DR    276     1.0033
## RICHMOND RD            260     0.9451
## EAGLESON RD            256     0.9306
## WOODROFFE AVE          255     0.9270
## HUNT CLUB RD           248     0.9015
## ALTA VISTA DR           221     0.8034
## KING EDWARD AVE        217     0.7888
## BLAIR RD                215     0.7816
## MARCH RD                 211     0.7670
## REGIONAL ROAD 174       205     0.7452
## MEADOWLANDS DR           201     0.7307
## INDUSTRIAL AVE          177     0.6434
## ALBION RD                  165     0.5998
```



## CATHERINE ST	165	0.5998
## JEANNE D'ARC BLVD	163	0.5925
## ALBERT ST	161	0.5853
## CARP RD	159	0.5780
## LAURIER AVE	159	0.5780
## ST. JOSEPH BLVD	155	0.5635
## HERON RD	146	0.5307
## WALKLEY RD	141	0.5126
## CLYDE AVE	139	0.5053
## DONALD ST	139	0.5053
## FISHER AVE	137	0.4980
## COLONEL BY DR	135	0.4907
## CYRVILLE RD	135	0.4907
## RIDEAU ST	132	0.4798
## DALHOUSIE ST	131	0.4762
## HAZELDEAN RD	129	0.4689
## CONROY RD	127	0.4617
## GLADSTONE AVE	126	0.4580
## HIGHWAY 416	125	0.4544
## RUSSELL RD	125	0.4544
## HAWTHORNE RD	124	0.4508
## RIVERSIDE DR	124	0.4508
## REGIONAL RD 174	122	0.4435
## MCARTHUR AVE	120	0.4362
## ELGIN ST	118	0.4290
## COVENTRY RD	116	0.4217
## ISLAND PARK DR	115	0.4180
## BEECHWOOD AVE	114	0.4144
## BELFAST RD	111	0.4035
## CAMPEAU DR	108	0.3926
## TENTH LINE RD	100	0.3635
## CARLING AVE WB	98	0.3562
## BOOTH ST	96	0.3490
## CEDARVIEW RD	95	0.3453
## LANCASTER RD	95	0.3453
## KENT ST	92	0.3344
## REGIONAL RD 174 EB	90	0.3272
## MOODIE DR	89	0.3235
## WEST HUNT CLUB RD	86	0.3126
## PARKDALE AVE	85	0.3090
## AIRPORT PKWY	82	0.2981
## CARLING AVE EB	78	0.2835
## HOLLAND AVE	78	0.2835
## TERRY FOX DR	71	0.2581
## AVIATION PKWY	69	0.2508
## LYON ST	69	0.2508
## CHAMPLAIN BRIDGE	68	0.2472
## SOMERSET ST	67	0.2436

```

## BLACKBURN BYPASS           64      0.2327
## KIRKWOOD AVE              64      0.2327
## O'CONNOR ST                64      0.2327
## PINCREST RD                64      0.2327
## SMYTH RD                   64      0.2327
## RIVERSIDE DR NB            63      0.2290
## CUMMINGS AVE               60      0.2181
## OGILVIE RD                 60      0.2181
## CASTLEFRANK RD             59      0.2145
## CUMBERLAND ST              58      0.2108
## HAWTHORNE AVE              58      0.2108
## BAYSHORE DR                57      0.2072
## WELLINGTON ST              57      0.2072
## KATIMAVIK RD               56      0.2036
## BANKFIELD RD               55      0.1999
## BESSERER ST                55      0.1999
## HOG'S BACK RD              54      0.1963
## ROBERTSON RD               54      0.1963
## OTTAWA RIVER PKWY WB        53      0.1927
## PRESTON ST                 53      0.1927
## BYRON AVE                  52      0.1890
## DALY AVE                   52      0.1890
## ANDERSON RD                50      0.1818
## MITCH OWENS RD              50      0.1818
## NICHOLAS ST                50      0.1818
## LEITRIM RD                 49      0.1781
## METCALFE ST                49      0.1781
## (Other)                     10540   38.3147
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value          Counter  Percentage
## -----
## HIGHWAY 417             2106    7.5405
## BANK ST                  1001    3.5841
## BASELINE RD              745     2.6675
## CARLING AVE              602     2.1555
## INNES RD                 483     1.7294

```

## BRONSON AVE	477	1.7079
## GREENBANK RD	409	1.4644
## MONTREAL RD	388	1.3892
## MERIVALE RD	334	1.1959
## HUNT CLUB RD	317	1.1350
## ST. LAURENT BLVD	309	1.1064
## FALLOWFIELD RD	283	1.0133
## PRINCE OF WALES DR	276	0.9882
## JEANNE D'ARC BLVD	271	0.9703
## BLAIR RD	250	0.8951
## EAGLESON RD	239	0.8557
## RICHMOND RD	238	0.8522
## WOODROFFE AVE	212	0.7591
## KING EDWARD AVE	208	0.7447
## ALTA VISTA DR	207	0.7412
## MARCH RD	199	0.7125
## INDUSTRIAL AVE	186	0.6660
## WALKLEY RD	179	0.6409
## FISHER AVE	173	0.6194
## REGIONAL ROAD 174	170	0.6087
## CARP RD	166	0.5944
## COLONEL BY DR	165	0.5908
## HIGHWAY 416	161	0.5765
## HERON RD	159	0.5693
## BELFAST RD	157	0.5621
## RIDEAU ST	154	0.5514
## CATHERINE ST	153	0.5478
## LAURIER AVE	153	0.5478
## ALBERT ST	149	0.5335
## ALBION RD	143	0.5120
## ELGIN ST	141	0.5049
## ST. JOSEPH BLVD	141	0.5049
## RIVERSIDE DR	139	0.4977
## RUSSELL RD	137	0.4905
## MEADOWLANDS DR	136	0.4869
## GLADSTONE AVE	133	0.4762
## HAWTHORNE RD	127	0.4547
## REGIONAL RD 174	121	0.4332
## DONALD ST	118	0.4225
## HAZELDEAN RD	116	0.4153
## BEECHWOOD AVE	114	0.4082
## CYRVILLE RD	114	0.4082
## CAMPEAU DR	113	0.4046
## ISLAND PARK DR	111	0.3974
## BOOTH ST	108	0.3867
## PARKDALE AVE	108	0.3867
## CONROY RD	106	0.3795
## COVENTRY RD	106	0.3795

## CARLING AVE WB	104	0.3724
## CLYDE AVE	97	0.3473
## LYON ST	95	0.3401
## WEST HUNT CLUB RD	94	0.3366
## KENT ST	91	0.3258
## MCARTHUR AVE	91	0.3258
## DALHOUSIE ST	88	0.3151
## AIRPORT PKWY	83	0.2972
## LANCASTER RD	81	0.2900
## O'CONNOR ST	80	0.2864
## MOODIE DR	77	0.2757
## CEDARVIEW RD	73	0.2614
## REGIONAL RD 174 EB	73	0.2614
## CARLING AVE EB	71	0.2542
## MAITLAND AVE	70	0.2506
## HOG'S BACK RD	68	0.2435
## HOLLAND AVE	68	0.2435
## BRIDGE ST	67	0.2399
## ROBERTSON RD	66	0.2363
## SMYTH RD	66	0.2363
## TRIM RD	66	0.2363
## BROOKFIELD RD	64	0.2292
## CASTLEFRANK RD	64	0.2292
## KIRKWOOD AVE	64	0.2292
## PRESTON ST	64	0.2292
## PINCREST RD	63	0.2256
## RIVERSIDE DR NB	63	0.2256
## TENTH LINE RD	63	0.2256
## BYRON AVE	62	0.2220
## WELLINGTON ST	62	0.2220
## AVIATION PKWY	59	0.2112
## KNOXDALE RD	59	0.2112
## MITCH OWENS RD	59	0.2112
## COLONNADE RD	58	0.2077
## NICHOLAS ST	58	0.2077
## CUMBERLAND ST	57	0.2041
## REGIONAL ROAD 174 WB	57	0.2041
## HWY 417 RIVERS IC117R52	56	0.2005
## STRANDHERD DR	56	0.2005
## TERRY FOX DR	55	0.1969
## LEITRIM RD	54	0.1933
## BERRIGAN DR	53	0.1898
## DUNROBIN RD	53	0.1898
## BAY ST	52	0.1862
## OGILVIE RD	52	0.1862
## SOMERSET ST	52	0.1862
## (Other)	10790	38.6337
##		

```

## -----
## CHECKING FEATURE:STREET1
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value          Counter   Percentage
## -----
## HIGHWAY 417           1782     6.7050
## BANK ST                955      3.5933
## BASELINE RD            716      2.6941
## INNES RD               544      2.0469
## CARLING AVE            473      1.7797
## GREENBANK RD            417      1.5690
## MONTREAL RD             333      1.2530
## BRONSON AVE             320      1.2040
## FALLOWFIELD RD          317      1.1928
## MERIVALE RD              293      1.1025
## ST. LAURENT BLVD        262      0.9858
## EAGLESON RD              260      0.9783
## JEANNE D'ARC BLVD       256      0.9632
## KING EDWARD AVE         251      0.9444
## HUNT CLUB RD             249      0.9369
## RICHMOND RD              246      0.9256
## PRINCE OF WALES DR       238      0.8955
## BLAIR RD                 235      0.8842
## INDUSTRIAL AVE           214      0.8052
## ALTA VISTA DR             210      0.7902
## MARCH RD                  194      0.7300
## WOODROFFE AVE             194      0.7300
## COLONEL BY DR              191      0.7187
## REGIONAL ROAD 174         172      0.6472
## ALBION RD                  159      0.5983
## ST. JOSEPH BLVD            149      0.5606
## ELGIN ST                   147      0.5531
## ALBERT ST                  144      0.5418
## MEADOWLANDS DR              143      0.5381
## WALKLEY RD                  143      0.5381
## CARP RD                     142      0.5343
## HERON RD                     140      0.5268
## REGIONAL RD 174              140      0.5268
## RUSSELL RD                  138      0.5192

```



## CATHERINE ST	137	0.5155
## HIGHWAY 416	129	0.4854
## WEST HUNT CLUB RD	127	0.4779
## HAZELDEAN RD	126	0.4741
## GLADSTONE AVE	125	0.4703
## CYRVILLE RD	121	0.4553
## LAURIER AVE	120	0.4515
## AIRPORT PKWY	117	0.4402
## FISHER AVE	116	0.4365
## CONROY RD	112	0.4214
## RIVERSIDE DR	112	0.4214
## COVENTRY RD	111	0.4177
## BELFAST RD	110	0.4139
## LYON ST	110	0.4139
## HAWTHORNE RD	109	0.4101
## BOOTH ST	108	0.4064
## MCARTHUR AVE	106	0.3988
## CAMPEAU DR	105	0.3951
## BEECHWOOD AVE	104	0.3913
## CASTLEFRANK RD	100	0.3763
## CLYDE AVE	93	0.3499
## MOODIE DR	93	0.3499
## DONALD ST	92	0.3462
## BESSERER ST	88	0.3311
## CEDARVIEW RD	87	0.3274
## ISLAND PARK DR	87	0.3274
## DALHOUSIE ST	86	0.3236
## REGIONAL RD 174 EB	84	0.3161
## WELLINGTON ST	84	0.3161
## CUMBERLAND ST	83	0.3123
## TENTH LINE RD	83	0.3123
## KENT ST	80	0.3010
## O'CONNOR ST	80	0.3010
## MITCH OWENS RD	79	0.2972
## RIDEAU ST	79	0.2972
## BAYSHORE DR	76	0.2860
## OGILVIE RD	72	0.2709
## AVIATION PKWY	71	0.2671
## CARLING AVE WB	69	0.2596
## PARKDALE AVE	67	0.2521
## PINCREST RD	66	0.2483
## ANDERSON RD	65	0.2446
## BRIDGE ST	65	0.2446
## HOG'S BACK RD	65	0.2446
## KIRKWOOD AVE	64	0.2408
## BAY ST	62	0.2333
## RIVERSIDE DR NB	62	0.2333
## NAVAN RD	61	0.2295



```
## LEITRIM RD           60    0.2258
## STRANDHERD DR       60    0.2258
## TERRY FOX DR         60    0.2258
## CARLING AVE EB       57    0.2145
## ROBERTSON RD          57    0.2145
## WEST HUNT CLUB RD EB   55    0.2069
## BYRON AVE             54    0.2032
## CUMMINGS AVE           53    0.1994
## NAVAHO DR              53    0.1994
## DEAKIN ST               51    0.1919
## RIVERSIDE DR SB        50    0.1881
## TRIM RD                 50    0.1881
## WEST HUNT CLUB RD WB    50    0.1881
## OLD MONTREAL RD         49    0.1844
## PRESTON ST               49    0.1844
## CHURCHILL AVE            48    0.1806
## SOMERSET ST                48    0.1806
## (Other)                  10458 39.3498
##
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value      Counter  Percentage
## -----
## HIGHWAY 417          2446    8.7448
## BANK ST                1149    4.1078
## BASELINE RD             636    2.2738
## CARLING AVE             517    1.8483
## INNES RD                 495    1.7697
## GREENBANK RD              418    1.4944
## MERIVALE RD                376    1.3442
## BRONSON AVE                370    1.3228
## ST. LAURENT BLVD            324    1.1583
## MONTREAL RD                 318    1.1369
## PRINCE OF WALES DR            281    1.0046
## BLAIR RD                   261    0.9331
## HUNT CLUB RD                  260    0.9295
## FALLOWFIELD RD                 254    0.9081
## ALTA VISTA DR                  247    0.8831
```



## KING EDWARD AVE	245	0.8759
## INDUSTRIAL AVE	243	0.8688
## WOODROFFE AVE	241	0.8616
## REGIONAL ROAD 174	240	0.8580
## JEANNE D'ARC BLVD	233	0.8330
## RICHMOND RD	233	0.8330
## EAGLESON RD	201	0.7186
## ALBION RD	184	0.6578
## MEADOWLANDS DR	173	0.6185
## RIVERSIDE DR	169	0.6042
## WALKLEY RD	169	0.6042
## HAZELDEAN RD	164	0.5863
## HIGHWAY 416	163	0.5827
## MARCH RD	157	0.5613
## LAURIER AVE	155	0.5541
## WEST HUNT CLUB RD	152	0.5434
## CARP RD	148	0.5291
## ELGIN ST	148	0.5291
## ALBERT ST	143	0.5112
## CATHERINE ST	142	0.5077
## CAMPEAU DR	140	0.5005
## COLONEL BY DR	136	0.4862
## HERON RD	135	0.4826
## ST. JOSEPH BLVD	132	0.4719
## RUSSELL RD	131	0.4683
## GLADSTONE AVE	129	0.4612
## ISLAND PARK DR	125	0.4469
## BELFAST RD	123	0.4397
## CYRVILLE RD	121	0.4326
## DONALD ST	115	0.4111
## CONROY RD	112	0.4004
## KENT ST	110	0.3933
## MCARTHUR AVE	108	0.3861
## TERRY FOX DR	107	0.3825
## FISHER AVE	106	0.3790
## REGIONAL RD 174	106	0.3790
## BAYSHORE DR	105	0.3754
## BEECHWOOD AVE	104	0.3718
## HAWTHORNE RD	101	0.3611
## CARLING AVE WB	100	0.3575
## BOOTH ST	94	0.3361
## DALHOUSIE ST	93	0.3325
## COVENTRY RD	92	0.3289
## CASTLEFRANK RD	89	0.3182
## LYON ST	89	0.3182
## ROBERTSON RD	89	0.3182
## TRIM RD	88	0.3146
## CEDARVIEW RD	86	0.3075



## MITCH OWENS RD	86	0.3075
## MOODIE DR	85	0.3039
## RIVERSIDE DR NB	81	0.2896
## WELLINGTON ST	81	0.2896
## BESSERER ST	80	0.2860
## PARKDALE AVE	80	0.2860
## KIRKWOOD AVE	79	0.2824
## RIDEAU ST	79	0.2824
## BYRON AVE	76	0.2717
## AVIATION PKWY	75	0.2681
## CARLING AVE EB	73	0.2610
## MAITLAND AVE	73	0.2610
## CLYDE AVE	72	0.2574
## AIRPORT PKWY	71	0.2538
## SOMERSET ST	69	0.2467
## CUMMINGS AVE	68	0.2431
## REGIONAL RD 174 EB	64	0.2288
## ANDERSON RD	63	0.2252
## HOG'S BACK RD	63	0.2252
## CLEOPATRA DR	62	0.2217
## BELCOURT BLVD	60	0.2145
## HAWTHORNE AVE	60	0.2145
## OGILVIE RD	60	0.2145
## WEST HUNT CLUB RD WB	60	0.2145
## O'CONNOR ST	59	0.2109
## CUMBERLAND ST	58	0.2074
## KATIMAVIK RD	58	0.2074
## LONGFIELDS DR	57	0.2038
## BLACKBURN BYPASS	56	0.2002
## WEST HUNT CLUB RD EB	55	0.1966
## HOLLAND AVE	52	0.1859
## PRESTON ST	52	0.1859
## SMYTH RD	52	0.1859
## LANCASTER RD	51	0.1823
## BAY ST	50	0.1788
## CHURCHILL AVE	49	0.1752
## (Other)	10481	37.4710
##		
## -----		
## CHECKING FEATURE:STREET1		
## DATA:All 2014.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		

```

## TOP 100 FEATURES OF STREET1
##
## Feature Value
Counter Percentage
## -----
-----
## ST. JOSEPH BLVD @ JEANNE D'ARC BLVD (0012421)
129      0.4727
## HIGHWAY 417 btwn HWY417 IC118 RAMP57 & HWY417 IC118 RAMP35 (_3ZA2YQ)
113      0.4140
## HIGHWAY 417 btwn HWY417 IC118 RAMP35 & HWY417 IC117 RAMP51 (_3ZA2YP)
111      0.4067
## HIGHWAY 417 btwn HWY417 IC117 RAMP51 & HWY417 IC117 RAMP35 (_3ZA2YN)
89       0.3261
## NEW Midblock East/West Location DO NOT APPROVE COUNT (_dddddd)
87       0.3188
## WEST HUNT CLUB RD @ WOODROFFE AVE (0000576)
87       0.3188
## HUNT CLUB RD @ RIVERSIDE DR (0002237)
85       0.3114
## BASELINE RD @ WOODROFFE AVE (0002225)
84       0.3078
## PRINCE OF WALES DR @ WEST HUNT CLUB RD (0000567)
79       0.2895
## HIGHWAY 417 btwn HWY417 IC117 RAMP26 & HWY417 IC117 RAMP61 (_3ZA2YM)
78       0.2858
## INDUSTRIAL AVE @ RIVERSIDE DR (0011905)
72       0.2638
## INDUSTRIAL AVE/INNES RD @ ST. LAURENT BLVD (0002203)
72       0.2638
## TERRY FOX DR @ PALLADIUM DR/KATIMAVIK RD (0011858)
72       0.2638
## NEW Midblock North/South Location DO NOT APPROVE COUNT (_eeeeee)
70       0.2565
## HIGHWAY 417 btwn HWY417 IC126 RAMP61 & HWY417 IC124 RAMP76 (_3ZA2Y2)
69       0.2528
## INNES RD @ TENTH LINE RD (0004633)
69       0.2528
## CAMPEAU DR/HWY 417 MARCH IC138R63 @ MARCH RD (0009710)
68       0.2492
## FALLOWFIELD RD @ GREENBANK RD (0000549)
67       0.2455
## GREENBANK RD @ STRANDHERD DR (0005563)
66       0.2418
## ST. LAURENT BLVD @ COVENTRY RD/OGILVIE RD (0002151)
66       0.2418
## HAWTHORNE RD/RUSSELL RD @ WALKLEY RD (0002618)
65       0.2382

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ALTA VISTA DR @ SMYTH RD (0011353)
62 0.2272
MERIVALE RD @ WEST HUNT CLUB RD (0000584)
61 0.2235
HIGHWAY 417 btwn HWY417 IC117 RAMP61 & HWY417 IC115 RAMP36 (__3ZA2RZ)
60 0.2198
BANK ST @ WALKLEY RD (0011423)
56 0.2052
GREENBANK RD @ WEST HUNT CLUB RD (0005167)
54 0.1979
HIGHWAY 417 btwn HWY417 IC115 RAMP36 & HWY417 IC115 RAMP26 (__3ZA2R4)
53 0.1942
MEADOWLANDS DR @ MERIVALE RD (0000625)
53 0.1942
MONTREAL RD @ VANIER PKWY (0004630)
53 0.1942
VANIER PKWY/CRICHTON ST @ BEECHWOOD AVE/ST. PA (0001604)
53 0.1942
LYON ST @ WELLINGTON ST (0002388)
52 0.1905
MEADOWLANDS DR/TALLWOOD DR @ WOODROFFE AVE (0000095)
52 0.1905
RIVERSIDE DR @ HERON RD (0002236)
52 0.1905
BASELINE RD @ CLYDE AVE (0002343)
51 0.1869
FALLOWFIELD RD @ WOODROFFE AVE (0010372)
50 0.1832
HIGHWAY 417 btwn HWY417 IC119A RAMP75 & HWY417 IC118 RAMP57 (__3ZA2R2)
50 0.1832
MONTREAL RD @ ST. LAURENT BLVD (0002604)
49 0.1795
HIGHWAY 417 btwn HWY417 IC124 RAMP76 & HWY417 IC124 RAMP67 (__3ZA2R7)
48 0.1759
RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52 (0010790)
48 0.1759
HAWTHORNE RD @ HUNT CLUB RD (0007651)
47 0.1722
ZZ COLLISION AT STOP CONTROL @ ZZ COLLISION AT STOP CONTROL (9900003)
47 0.1722
AVIATION PKWY @ OGILVIE RD (0004114)
46 0.1685
BRONSON AVE @ SUNNYSIDE AVE/UNIVERSITY RD - CA (0007209)
46 0.1685
HIGHWAY 417 btwn HWY417 IC127 RAMP63 & HWY417 IC127 RAMP67 (__3ZA2RF)
45 0.1649
REGIONAL ROAD 174 EB btwn OR174 IC109 RAMP55 & TRANSIT (__3ZA28V)
45 0.1649

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## BANK ST @ HUNT CLUB RD (0002119)
44      0.1612
## CARLING AVE @ KIRKWOOD AVE S (0002209)
44      0.1612
## GREENBANK RD @ HWY 417 IC129 RAMP57/IRIS ST (0009073)
44      0.1612
## INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD (0012475)
44      0.1612
## WOODROFFE AVE @ KNOXDALE RD/MEDHURST DR (0000519)
44      0.1612
## BREWER RD @ BRONSON AVE (0002240)
43      0.1576
## BRONSON AVE @ CATHERINE ST/RAYMOND ST (0007198)
43      0.1576
## DONALD ST @ ST. LAURENT BLVD (0008630)
43      0.1576
## EAGLESON RD @ HAZELDEAN RD/ROBERTSON RD (0002715)
43      0.1576
## GREENBANK RD @ BERRIGAN DR/WESSEX RD (0004726)
43      0.1576
## LAURIER AVE @ NICHOLAS ST (0010711)
43      0.1576
## HIGHWAY 417 btwn HWY417 IC118 RAMP67 & HWY417 IC117 RAMP36 (__3ZA2Y0)
42      0.1539
## WEST HUNT CLUB RD @ CLEOPATRA DR/LANCELOT DR (0000114)
42      0.1539
## HAZELDEAN RD @ TERRY FOX DR (0003682)
41      0.1502
## HIGHWAY 417 btwn HWY417 IC117 RAMP25 & HWY417 IC115 RAMP51 (__3ZA2R3)
41      0.1502
## HIGHWAY 417 btwn HWY417 IC121B RAMP51 & HWY417 IC121A RAMP51 (__3ZA2YW)
41      0.1502
## TENTH LINE RD @ CHARLEMAGNE BLVD S/DES EPINETT (0003686)
41      0.1502
## BASELINE RD @ GREENBANK RD (0002357)
40      0.1466
## CAMPEAU DR @ TERRY FOX DR (0008211)
40      0.1466
## HIGHWAY 417 btwn HWY417 IC117 RAMP36 & HWY417 IC117 RAMP26 (__3ZAZE0)
40      0.1466
## JEANNE D'ARC BLVD @ ORLEANS BLVD S (0004154)
40      0.1466
## OTTAWA RIVER PKWY WB btwn TUNNEY'S PASTURE/REMIC RAPIDS ENT & PARKDALE
(__3ZA24KA)      40      0.1466
## RICHMOND RD @ HOLLY ACRES RD/NANAIMO DR (0001068)
40      0.1466
## BASELINE RD @ FISHER AVE (0002346)
39      0.1429

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MCARTHUR AVE @ VANIER PKWY (0004626)
 39 0.1429

AVIATION PKWY @ MONTREAL RD (0008799)
 38 0.1392

OTTAWA RIVER PKWY @ ISLAND PARK DR (0002127)
 38 0.1392

VIEWMOUNT DR @ MERIVALE RD (0001528)
 38 0.1392

BANTREE ST @ INNES RD (0007684)
 37 0.1356

CARP RD @ HAZELDEAN RD (0000086)
 37 0.1356

HIGHWAY 417 btwn HWY417 IC122 RAMP16 & HWY417 IC122 RAMP61 (_3ZA2RA)
 37 0.1356

HIGHWAY 417 btwn HWY417 IC122 RAMP51 & HWY417 IC122 RAMP15 (_3ZA2R0)
 37 0.1356

INDUSTRIAL AVE btwn RUSSELL RD & ST. LAURENT BLVD (_3ZA3R7)
 37 0.1356

KING EDWARD AVE @ RIDEAU ST (0002121)
 37 0.1356

BASELINE RD @ MERIVALE RD (0002342)
 36 0.1319

GREENBANK RD btwn WEST HUNT CLUB RD & FALLOWFIELD RD (_3ZA1NE)
 36 0.1319

HIGHWAY 417 btwn HWY417 IC127 RAMP25 & HWY417 IC126 RAMP51 (_3ZA2XA)
 36 0.1319

ISABELLA ST/HWY417 IC119AR75 @ METCALFE ST (0011380)
 36 0.1319

KING EDWARD AVE @ LAURIER AVE (0002170)
 36 0.1319

REGIONAL RD 174 @ TRIM RD (0012835)
 36 0.1319

BANK ST @ RIVERSIDE DR N (0010778)
 35 0.1282

CATHERINE ST @ KENT ST (0002707)
 35 0.1282

HIGHWAY 417 btwn HWY417 IC118 RAMP76 & HWY417 IC118 RAMP67 (_3ZA2YR)
 35 0.1282

KING EDWARD AVE @ ST. PATRICK ST (0002714)
 35 0.1282

KIRKWOOD AVE N @ CARLING AVE (0002358)
 35 0.1282

ST. LAURENT BLVD @ WALKLEY RD (0007653)
 35 0.1282

CARLING AVE @ PINCREST RD/GREENVIEW AVE (0001630)
 34 0.1246

CHAMPLAIN BRIDGE/ISLAND PARK DR btwn BATE ISLAND & OTTAWA RIVER PKWY
 (_3ZA2ZEB) 34 0.1246

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## WEST HUNT CLUB RD @ ANTARES DR/LASER ST (0000116)
34      0.1246
## INNES RD @ ORLEANS BLVD (0003611)
33      0.1209
## MERIVALE RD/LOTTA AVE @ CLYDE AVE (0001112)
33      0.1209
## MONTREAL RD @ SHEFFORD RD (0012423)
33      0.1209
## ST. LAURENT BLVD @ TREMBLAY RD (0002573)
33      0.1209
## STITTSVILLE MAIN ST @ HAZELDEAN RD (0000050)
33      0.1209
## (Other)
22288     81.6650
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2015.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value
Counter Percentage
## -----
----- -----
## HUNT CLUB RD @ RIVERSIDE DR (0002237)
125      0.4486
## ST. JOSEPH BLVD @ JEANNE D'ARC BLVD (0012421)
108      0.3876
## INNES RD @ TENTH LINE RD (0004633)
100      0.3588
## INDUSTRIAL AVE @ RIVERSIDE DR (0011905)
81       0.2907
## PRINCE OF WALES DR @ WEST HUNT CLUB RD (0000567)
79       0.2835
## ST. LAURENT BLVD @ COVENTRY RD/OGILVIE RD (0002151)
79       0.2835
## DONALD ST @ ST. LAURENT BLVD (0008630)
73       0.2620
## BANK ST @ HERON RD (0002155)
72       0.2584
## BASELINE RD @ WOODROFFE AVE (0002225)

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70 0.2512
 ## BLAIR RD @ INNES RD (0004165)
 70 0.2512
 ## BANK ST @ HUNT CLUB RD (0002119)
 67 0.2404
 ## RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52 (0010790)
 67 0.2404
 ## BELFAST RD @ ST. LAURENT BLVD (0007658)
 66 0.2368
 ## HIGHWAY 417 btwn HWY417 IC118 RAMP57 & HWY417 IC118 RAMP35 (_3ZA2YQ)
 66 0.2368
 ## HIGHWAY 417 btwn HWY417 IC117 RAMP51 & HWY417 IC117 RAMP35 (_3ZA2YN)
 65 0.2333
 ## INDUSTRIAL AVE/INNES RD @ ST. LAURENT BLVD (0002203)
 65 0.2333
 ## LYON ST @ WELLINGTON ST (0002388)
 62 0.2225
 ## HAWTHORNE RD @ HUNT CLUB RD (0007651)
 61 0.2189
 ## MEADOWLANDS DR @ MERIVALE RD (0000625)
 61 0.2189
 ## HIGHWAY 417 btwn HWY417 IC118 RAMP67 & HWY417 IC117 RAMP36 (_3ZA2Y0)
 60 0.2153
 ## REGIONAL ROAD 174 EB btwn HWY417 IC113 RAMP65 & OR174 BLAIR IC112 RAMP51
 (_3ZAZFJ) 60 0.2153
 ## ALTA VISTA DR @ SMYTH RD (0011353)
 59 0.2117
 ## CAMPEAU DR/HWY 417 MARCH IC138R63 @ MARCH RD (0009710)
 57 0.2045
 ## BLAIR RD @ OGILVIE RD (0004120)
 56 0.2010
 ## BANK ST @ RIVERSIDE DR N (0010778)
 55 0.1974
 ## BLAIR RD @ REGIONAL RD 174 N/OR174 IC112 RAMP61 (0003617)
 54 0.1938
 ## HIGHWAY 417 btwn HWY417 IC124 RAMP76 & HWY417 IC124 RAMP67 (_3ZA2R7)
 54 0.1938
 ## WEST HUNT CLUB RD @ CLEOPATRA DR/LANCELOT DR (0000114)
 54 0.1938
 ## CONROY RD @ HUNT CLUB RD (0002257)
 53 0.1902
 ## CYRVILLE RD @ INNES RD (0009352)
 52 0.1866
 ## HIGHWAY 417 btwn HWY417 IC127 RAMP25 & HWY417 IC126 RAMP51 (_3ZA2XA)
 52 0.1866
 ## MONTREAL RD @ ST. LAURENT BLVD (0002604)
 52 0.1866
 ## ST. JOSEPH BLVD @ TENTH LINE RD (0009163)

52 0.1866
TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV (0009222)
52 0.1866
FALLOWFIELD RD @ WOODROFFE AVE (0010372)
51 0.1830
RIVERSIDE DR @ HERON RD (0002236)
51 0.1830
TERRY FOX DR @ PALLADIUM DR/KATIMAVIK RD (0011858)
51 0.1830
VANIER PKWY/CRICHTON ST @ BEECHWOOD AVE/ST. PA (0001604)
51 0.1830
BRONSON AVE @ SUNNYSIDE AVE/UNIVERSITY RD - CA (0007209)
50 0.1794
HAZELDEAN RD @ TERRY FOX DR (0003682)
50 0.1794
KING EDWARD AVE @ RIDEAU ST (0002121)
50 0.1794
ST. LAURENT BLVD @ WALKLEY RD (0007653)
50 0.1794
BASELINE RD @ GREENBANK RD (0002357)
49 0.1758
ELGIN ST @ LAURIER AVE (0002232)
49 0.1758
BESSERER ST @ WALLER ST (0008859)
48 0.1722
HIGHWAY 417 btwn HWY417 IC117 RAMP61 & HWY417 IC115 RAMP36 (____3ZA2RZ)
48 0.1722
MERIVALE RD/LOTTA AVE @ CLYDE AVE (0001112)
48 0.1722
CATHERINE ST/HWY 417 O'CONN IC119BR76 @ O'CONN (0001697)
47 0.1687
BASELINE RD @ CLYDE AVE (0002343)
46 0.1651
COVENTRY RD @ VANIER PKWY (0002139)
46 0.1651
HIGHWAY 417 btwn HWY417 IC118 RAMP35 & HWY417 IC117 RAMP51 (____3ZA2YP)
46 0.1651
CARLING AVE @ KIRKWOOD AVE S (0002209)
45 0.1615
HIGHWAY 417 btwn HWY417 IC118 RAMP76 & HWY417 IC118 RAMP67 (____3ZA2YR)
45 0.1615
HIGHWAY 417 btwn HWY417 IC121B RAMP51 & HWY417 IC121A RAMP51 (____3ZA2YW)
45 0.1615
PRINCE OF WALES DR @ MEADOWLANDS DR/HOG'S BACK (0001629)
45 0.1615
WEST HUNT CLUB RD @ WOODROFFE AVE (0000576)
45 0.1615
AVIATION PKWY @ OGILVIE RD (0004114)

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44      0.1579
## HIGHWAY 417 btwn HWY417 IC126 RAMP61 & HWY417 IC124 RAMP76 (_3ZA2Y2)
44      0.1579
## GREENBANK RD btwn WEST HUNT CLUB RD & FALLOWFIELD RD (_3ZA1NE)
43      0.1543
## HIGHWAY 417 btwn HWY417 IC122 RAMP51 & HWY417 IC122 RAMP15 (_3ZA2R0)
43      0.1543
## MEADOWLANDS DR/TALLWOOD DR @ WOODROFFE AVE (0000095)
43      0.1543
## WOODROFFE AVE @ KNOXDALE RD/MEDHURST DR (0000519)
43      0.1543
## AVIATION PKWY @ MONTREAL RD (0008799)
42      0.1507
## GREENBANK RD @ WEST HUNT CLUB RD (0005167)
42      0.1507
## KIRKWOOD AVE N @ CARLING AVE (0002358)
42      0.1507
## LEMIEUX ST @ ST. LAURENT BLVD (0002021)
42      0.1507
## BANK ST @ WALKLEY RD (0011423)
41      0.1471
## KING EDWARD AVE @ ST. PATRICK ST (0002714)
41      0.1471
## LAURIER AVE @ NICHOLAS ST (0010711)
41      0.1471
## MERIVALE RD @ WEST HUNT CLUB RD (0000584)
41      0.1471
## BANK ST @ RIVERSIDE DR S (0002704)
40      0.1435
## EAGLESON RD @ HAZELDEAN RD/ROBERTSON RD (0002715)
40      0.1435
## HAWTHORNE RD/RUSSELL RD @ WALKLEY RD (0002618)
40      0.1435
## HIGHWAY 417 btwn HWY417 IC117 RAMP26 & HWY417 IC117 RAMP61 (_3ZA2YM)
40      0.1435
## HIGHWAY 417 btwn HWY417 IC119B RAMP57 & HWY417 IC119A RAMP75 (_3ZA1QN)
40      0.1435
## MERIVALE RD @ CAPILANO DR/WITHROW AVE (0009820)
40      0.1435
## MONTREAL RD @ VANIER PKWY (0004630)
40      0.1435
## BASELINE RD/HERON RD @ PRINCE OF WALES DR (0002345)
39      0.1400
## FALLOWFIELD RD @ GREENBANK RD (0000549)
39      0.1400
## HIGHWAY 417 btwn HWY417 IC119A RAMP75 & HWY417 IC118 RAMP57 (_3ZA2R2)
39      0.1400
## CONROY RD @ WALKLEY RD (0002648)

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38 0.1364
GREENBANK RD @ STRANDHERD DR (0005563)
38 0.1364
SMYTH RD E/LANCASTER RD @ ST. LAURENT BLVD N/R (0002256)
38 0.1364
BASELINE RD @ MERIVALE RD (0002342)
37 0.1328
BREWER RD @ BRONSON AVE (0002240)
37 0.1328
BRONSON AVE @ CATHERINE ST/RAYMOND ST (0007198)
37 0.1328
MCARTHUR AVE @ VANIER PKWY (0004626)
37 0.1328
OGILVIE RD @ CITY PARK DR E/CSIS HQ ACCESS (0003696)
37 0.1328
BANK ST @ LEITRIM RD (0004125)
36 0.1292
BANTREE ST @ INNES RD (0007684)
36 0.1292
BASELINE RD @ FISHER AVE (0002346)
36 0.1292
HIGHWAY 417 btwn HWY417 IC122 RAMP61 & HWY417 IC121B RAMP16 (__3ZA2Y4)
36 0.1292
BOOTH ST @ OTTAWA RIVER PKWY/WELLINGTON ST (0012252)
35 0.1256
EARL ARMSTRONG RD @ RIVER RD (0012470)
35 0.1256
INNES RD @ STAR TOP RD/WINDMILL LANE (0008734)
35 0.1256
KING EDWARD AVE @ LAURIER AVE (0002170)
35 0.1256
ALBION RD @ HUNT CLUB RD (0006974)
34 0.1220
EAGLESON RD @ MICHAEL COWPLAND DR/STONEHAVEN D (0003544)
34 0.1220
HIGHWAY 417 btwn HWY417 IC124 RAMP57 & HWY417 IC124 RAMP55 (__3ZA2Y1)
34 0.1220
(Other)
22878 82.0971

CHECKING FEATURE:STREET1
DATA:All 2016.csv...

Number of Blank Values:0

Summary as Factor Feature:
##

```

## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value
Counter Percentage
## -----
-----
## ST. JOSEPH BLVD @ JEANNE D'ARC BLVD
117      0.4525
## HUNT CLUB RD @ RIVERSIDE DR
88       0.3403
## HIGHWAY 417 btwn HWY417 IC122 RAMP61 & HWY417 IC121B RAMP16
80       0.3094
## PRINCE OF WALES DR @ WEST HUNT CLUB RD
74       0.2862
## WEST HUNT CLUB RD @ WOODROFFE AVE
70       0.2707
## CYRVILLE RD @ INNES RD
67       0.2591
## HIGHWAY 417 btwn HWY417 IC126 RAMP61 & HWY417 IC124 RAMP76
67       0.2591
## HAWTHORNE RD @ HUNT CLUB RD
66       0.2552
## MONTREAL RD @ VANIER PKWY
64       0.2475
## BANK ST @ HUNT CLUB RD
63       0.2436
## BASELINE RD @ WOODROFFE AVE
63       0.2436
## INNES RD @ TENTH LINE RD
63       0.2436
## HIGHWAY 417 btwn HWY417 IC127 RAMP25 & HWY417 IC126 RAMP51
61       0.2359
## AVIATION PKWY @ OGILVIE RD
59       0.2282
## FALLOWFIELD RD @ GREENBANK RD
59       0.2282
## HIGHWAY 417 btwn HWY417 IC127 RAMP35 & HWY417 IC127 RAMP25
59       0.2282
## VANIER PKWY/CRICHTON ST @ BEECHWOOD AVE/ST. PA
59       0.2282
## BLAIR RD @ INNES RD
57       0.2204
## DONALD ST @ ST. LAURENT BLVD
57       0.2204
## BASELINE RD @ CLYDE AVE
56       0.2166

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KIRKWOOD AVE N @ CARLING AVE
56 0.2166
MEADOWLANDS DR @ MERIVALE RD
55 0.2127
MERIVALE RD @ WEST HUNT CLUB RD
52 0.2011
HIGHWAY 417 btwn HWY417 IC123 RAMP62 & HWY417 IC122 RAMP16
51 0.1972
HIGHWAY 417 btwn HWY417 IC129 RAMP25 & HWY417 IC129 RAMP35
51 0.1972
BANK ST @ WALKLEY RD
50 0.1934
BANK ST @ HERON RD
49 0.1895
LAURIER AVE @ NICHOLAS ST
49 0.1895
HIGHWAY 417 btwn HWY417 IC117 RAMP51 & HWY417 IC117 RAMP35
48 0.1856
LEMIEUX ST @ ST. LAURENT BLVD
48 0.1856
BASELINE RD @ GREENBANK RD
47 0.1818
MCARTHUR AVE @ VANIER PKWY
47 0.1818
ST. JOSEPH BLVD/OLD MONTREAL RD @ TRIM RD
47 0.1818
HIGHWAY 417 btwn HWY417 IC122 RAMP15 & HWY417 IC121B RAMP51
46 0.1779
BELFAST RD @ ST. LAURENT BLVD
45 0.1740
HIGHWAY 417 btwn HWY417 IC115 RAMP36 & HWY417 IC115 RAMP26
45 0.1740
MONTREAL RD @ ST. LAURENT BLVD
45 0.1740
GREENBANK RD @ HWY 417 IC129 RAMP57/IRIS ST
44 0.1702
INDUSTRIAL AVE @ ALTA VISTA DR/SANDFORD FLEMIN
44 0.1702
RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52
44 0.1702
RIVERSIDE DR NB btwn INDUSTRIAL AVE & TREMBLAY RD
44 0.1702
STRANDHERD DR @ WOODROFFE AVE
44 0.1702
HAWTHORNE RD/RUSSELL RD @ WALKLEY RD
43 0.1663
HIGHWAY 417 btwn HWY417 IC124 RAMP65 & HWY417 IC122 RAMP51
43 0.1663

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## HIGHWAY 417 btwn HWY417 IC134 RAMP35 & HWY417 IC134 RAMP25
43      0.1663
## INDUSTRIAL AVE @ RIVERSIDE DR
43      0.1663
## HIGHWAY 417 btwn HWY417 IC124 RAMP67 & HWY417 IC123 RAMP62
42      0.1624
## HIGHWAY 417 btwn HWY417 IC118 RAMP67 & HWY417 IC117 RAMP36
41      0.1586
## REGIONAL ROAD 174 EB btwn OR174 IC109 RAMP55 & TRANSIT
41      0.1586
## ST. JOSEPH BLVD @ TENTH LINE RD
41      0.1586
## TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV
41      0.1586
## AVIATION PKWY @ MONTREAL RD
40      0.1547
## BREWER RD @ BRONSON AVE
40      0.1547
## CONROY RD @ WALKLEY RD
40      0.1547
## HIGHWAY 417 btwn HWY 417 ANDERSON IC104R61 & HWY 417 BOUNDARY IC96R16
40      0.1547
## HIGHWAY 417 btwn HWY417 IC117 RAMP61 & HWY417 IC115 RAMP36
40      0.1547
## INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD
40      0.1547
## KING EDWARD AVE @ ST. PATRICK ST
40      0.1547
## BASELINE RD @ MERIVALE RD
39      0.1508
## COVENTRY RD @ VANIER PKWY
39      0.1508
## HIGHWAY 417 btwn HWY417 IC121A RAMP16 & HWY417 IC121A RAMP61
39      0.1508
## TERRY FOX DR @ PALLADIUM DR/KATIMAVIK RD
39      0.1508
## CONROY RD @ HUNT CLUB RD
38      0.1470
## GREENBANK RD @ WEST HUNT CLUB RD
38      0.1470
## INDUSTRIAL AVE/INNES RD @ ST. LAURENT BLVD
38      0.1470
## INNES RD @ ORLEANS BLVD
38      0.1470
## JOCKVALE RD @ STRANDHERD DR
38      0.1470
## MEADOWLANDS DR/TALLWOOD DR @ WOODROFFE AVE
38      0.1470

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REGIONAL ROAD 174 btwn Continuation of REGIONAL ROAD 174 & OR174 IC112
37 0.1431
HIGHWAY 417 btwn HWY417 IC119B RAMP57 & HWY417 IC119A RAMP75
36 0.1392
REGIONAL ROAD 174 EB btwn HWY417 IC113 RAMP65 & OR174 BLAIR IC112 RAMP51
36 0.1392
BESSERER ST @ WALLER ST
35 0.1354
CARLING AVE @ KIRKWOOD AVE S
35 0.1354
FALLOWFIELD RD @ WOODROFFE AVE
35 0.1354
HIGHWAY 417 btwn HWY417 IC117 RAMP26 & HWY417 IC117 RAMP61
35 0.1354
HIGHWAY 417 btwn HWY417 IC119A RAMP67 & HWY417 IC118 RAMP76
35 0.1354
HIGHWAY 417 btwn HWY417 IC127 RAMP63 & HWY417 IC127 RAMP67
35 0.1354
KING EDWARD AVE @ MURRAY ST
35 0.1354
BANK ST @ CHAMBERLAIN AVE N/ISABELLA ST
34 0.1315
GREENBANK RD @ STRANDHERD DR
34 0.1315
HIGHWAY 417 btwn HWY417 IC124 RAMP76 & HWY417 IC124 RAMP67
34 0.1315
HIGHWAY 417 btwn HWY417 IC126 RAMP25 & HWY417 IC124 RAMP57
34 0.1315
PRINCE OF WALES DR @ STRANDHERD DR
34 0.1315
RIVERSIDE DR @ BROOKFIELD RD/HOG'S BACK RD
34 0.1315
VIEWMOUNT DR @ MERIVALE RD
34 0.1315
ALTA VISTA DR @ SMYTH RD
33 0.1276
BANK ST @ RIVERSIDE DR N
33 0.1276
CARLING AVE @ RICHMOND RD
33 0.1276
MERIVALE RD/LOTTA AVE @ CLYDE AVE
33 0.1276
RIVERSIDE DR @ HERON RD
33 0.1276
BANK ST @ JOHNSTON RD
32 0.1238
HAZELDEAN RD @ TERRY FOX DR
32 0.1238

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## HIGHWAY 417 btwn HWY417 IC119B RAMP76 & HWY417 IC119A RAMP67
32      0.1238
## MOODIE DR @ WEST HUNT CLUB RD
32      0.1238
## TENTH LINE RD @ CHARLEMAGNE BLVD S/DES EPINETT
32      0.1238
## WEST HUNT CLUB RD @ ROYDON PL/SUNDERLAND ST
32      0.1238
## BANK ST @ RIVERSIDE DR S
31      0.1199
## BANTREE ST @ INNES RD
31      0.1199
## CAHILL DR @ HUNT CLUB RD
31      0.1199
## (Other)
21374     82.6591
##
## -----
## CHECKING FEATURE:STREET1
## DATA:All 2017.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET1
##
## Feature Value
Counter Percentage
## -----
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## ST. JOSEPH BLVD @ JEANNE D'ARC BLVD
106      0.3994
## HIGHWAY 417 btwn HWY417 IC124 RAMP65 & HWY417 IC122 RAMP51
104      0.3918
## HIGHWAY 417 btwn HWY417 IC119A RAMP75 & HWY417 IC118 RAMP57
102      0.3843
## HIGHWAY 417 btwn HWY417 IC122 RAMP61 & HWY417 IC121B RAMP16
94       0.3542
## HUNT CLUB RD @ RIVERSIDE DR
93       0.3504
## BASELINE RD @ WOODROFFE AVE
87       0.3278
## HIGHWAY 417 btwn HWY417 IC127 RAMP25 & HWY417 IC126 RAMP51
85       0.3203
## WEST HUNT CLUB RD @ WOODROFFE AVE

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83      0.3127
## HIGHWAY 417 btwn HWY417 IC122 RAMP15 & HWY417 IC121B RAMP51
81      0.3052
## ST. JOSEPH BLVD/OLD MONTREAL RD @ TRIM RD
78      0.2939
## HIGHWAY 417 btwn HWY417 IC118 RAMP67 & HWY417 IC117 RAMP36
75      0.2826
## HAWTHORNE RD @ HUNT CLUB RD
69      0.2600
## GREENBANK RD @ STRANDHERD DR
68      0.2562
## HIGHWAY 417 btwn HWY417 IC126 RAMP61 & HWY417 IC124 RAMP76
68      0.2562
## CYRVILLE RD @ INNES RD
66      0.2487
## BASELINE RD @ MERIVALE RD
65      0.2449
## HIGHWAY 417 btwn HWY417 IC124 RAMP67 & HWY417 IC123 RAMP62
65      0.2449
## MERIVALE RD @ WEST HUNT CLUB RD
65      0.2449
## DONALD ST @ ST. LAURENT BLVD
63      0.2374
## RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52
63      0.2374
## HIGHWAY 417 btwn HWY417 IC138 RAMP61 & HWY417 IC134 RAMP36
61      0.2298
## BELFAST RD @ ST. LAURENT BLVD
59      0.2223
## HIGHWAY 417 btwn HWY417 IC121A RAMP16 & HWY417 IC121A RAMP61
59      0.2223
## PRINCE OF WALES DR @ WEST HUNT CLUB RD
59      0.2223
## BANK ST @ WALKLEY RD
58      0.2185
## INDUSTRIAL AVE/INNES RD @ ST. LAURENT BLVD
58      0.2185
## INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD
58      0.2185
## LAURIER AVE @ NICHOLAS ST
58      0.2185
## HAZELDEAN RD @ TERRY FOX DR
57      0.2148
## INNES RD @ TENTH LINE RD
57      0.2148
## BASELINE RD @ CLYDE AVE
56      0.2110
## HIGHWAY 417 btwn HWY417 IC126 RAMP25 & HWY417 IC124 RAMP57

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56 0.2110
 ## BLAIR RD @ INNES RD
 55 0.2072
 ## CAMPEAU DR/HWY 417 MARCH IC138R63 @ MARCH RD
 54 0.2035
 ## HIGHWAY 417 btwn HWY417 IC118 RAMP35 & HWY417 IC117 RAMP51
 53 0.1997
 ## HIGHWAY 417 btwn HWY417 IC129 RAMP25 & TRANSIT
 53 0.1997
 ## MCARTHUR AVE @ VANIER PKWY
 52 0.1959
 ## MERIVALE RD/LOTTA AVE @ CLYDE AVE
 52 0.1959
 ## BRONSON AVE @ SUNNYSIDE AVE/UNIVERSITY RD - CA
 51 0.1922
 ## MEADOWLANDS DR @ MERIVALE RD
 51 0.1922
 ## MONTREAL RD @ ST. LAURENT BLVD
 51 0.1922
 ## ST. LAURENT BLVD @ COVENTRY RD/OGILVIE RD
 50 0.1884
 ## FALLOWFIELD RD @ GREENBANK RD
 49 0.1846
 ## MONTREAL RD @ VANIER PKWY
 49 0.1846
 ## ST. JOSEPH BLVD @ TENTH LINE RD
 49 0.1846
 ## GREENBANK RD @ WEST HUNT CLUB RD
 48 0.1809
 ## OTTAWA RIVER PKWY @ ISLAND PARK DR
 48 0.1809
 ## VIEWMOUNT DR @ MERIVALE RD
 47 0.1771
 ## BANK ST @ HUNT CLUB RD
 46 0.1733
 ## BLAIR RD @ REGIONAL RD 174 S/OR174 IC112 RAMP15
 46 0.1733
 ## CARP RD @ HAZELDEAN RD
 46 0.1733
 ## EAGLESON RD @ HAZELDEAN RD/ROBERTSON RD
 46 0.1733
 ## ST. LAURENT BLVD @ WALKLEY RD
 46 0.1733
 ## CARLING AVE @ WOODROFFE AVE W
 45 0.1695
 ## CEDARVIEW RD @ WEST HUNT CLUB RD
 45 0.1695
 ## HIGHWAY 417 btwn HWY417 IC123 RAMP62 & HWY417 IC122 RAMP16

45 0.1695
ISABELLA ST/HWY417 IC119AR75 @ METCALFE ST
45 0.1695
WOODROFFE AVE @ KNOXDALE RD/MEDHURST DR
45 0.1695
AIRPORT PKWY @ HUNT CLUB RD
44 0.1658
BLAIR RD @ REGIONAL RD 174 N/OR174 IC112 RAMP61
44 0.1658
CARLING AVE @ KIRKWOOD AVE S
44 0.1658
VANIER PKWY/CRICKTON ST @ BEECHWOOD AVE/ST. PA
44 0.1658
AVIATION PKWY @ MONTREAL RD
43 0.1620
BANK ST @ HERON RD
43 0.1620
BASELINE RD @ GREENBANK RD
43 0.1620
COVENTRY RD @ VANIER PKWY
43 0.1620
BASELINE RD/HERON RD @ PRINCE OF WALES DR
42 0.1582
CONROY RD @ HUNT CLUB RD
42 0.1582
HIGHWAY 417 btwn HWY417 IC117 RAMP51 & HWY417 IC117 RAMP35
42 0.1582
HIGHWAY 417 btwn HWY417 IC117 RAMP61 & HWY417 IC115 RAMP36
42 0.1582
HIGHWAY 417 btwn HWY417 IC124 RAMP57 & HWY417 IC124 RAMP55
42 0.1582
HIGHWAY 417 btwn HWY417 IC124 RAMP76 & HWY417 IC124 RAMP67
42 0.1582
HIGHWAY 417 btwn HWY417 IC126 RAMP16 & HWY417 IC126 RAMP61
42 0.1582
BANK ST @ RIVERSIDE DR N
41 0.1545
BANTREE ST @ INNES RD
41 0.1545
GREENBANK RD @ HWY 417 IC129 RAMP57/IRIS ST
40 0.1507
KIRKWOOD AVE N @ CARLING AVE
40 0.1507
ALBION RD @ MITCH OWENS RD
39 0.1469
BLAIR RD @ OGILVIE RD
39 0.1469
EARL ARMSTRONG RD @ RIVER RD

39 0.1469
INDUSTRIAL AVE @ RIVERSIDE DR
39 0.1469
MEADOWLANDS DR/TALLWOOD DR @ WOODROFFE AVE
39 0.1469
TENTH LINE RD @ CHARLEMAGNE BLVD S/DES EPINETT
39 0.1469
COLONEL BY DR/SUSSEX DR @ RIDEAU ST
38 0.1432
HIGHWAY 417 btwn HWY 417 ANDERSON IC104R61 & HWY 417 BOUNDARY IC96R16
38 0.1432
HWY 417 MAITLAND IC126R26/62 @ MAITLAND AVE
38 0.1432
REGIONAL ROAD 174 EB btwn HWY417 IC113 RAMP65 & OR174 BLAIR IC112 RAMP51
38 0.1432
REGIONAL ROAD 174 EB btwn OR174 IC109 RAMP55 & TRANSIT
38 0.1432
CARLING AVE @ FAIRLAWN AVE/WOODROFFE AVE E
37 0.1394
FALLOWFIELD RD @ WOODROFFE AVE
37 0.1394
HIGHWAY 417 btwn HWY417 IC117 RAMP25 & HWY417 IC115 RAMP51
37 0.1394
HIGHWAY 417 btwn HWY417 IC119A RAMP67 & HWY417 IC118 RAMP76
37 0.1394
KING EDWARD AVE @ ST. PATRICK ST
37 0.1394
MERIVALE RD @ WOODFIELD DR/ROYDON PL
37 0.1394
BREWER RD @ BRONSON AVE
36 0.1356
CASTLEFRANK RD @ HAZELDEAN RD
36 0.1356
HIGHWAY 417 btwn Continuation of HIGHWAY 417 & HWY417 IC134 RAMP51
36 0.1356
HIGHWAY 417 btwn HWY417 IC127 RAMP67 & HWY417 IC126 RAMP16
36 0.1356
ALBERT ST @ BOOTH ST
35 0.1319
(Other)
21369 80.5132

=====
FINAL INFO CHECKING FEATURE:STREET1
ALL DATA...
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Number of Blank Values:0

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## 
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## 
## Summary as Factor Feature:
## Number of Features: 100[1] "TOP 100 FEATURES COUNTERS OF:STREET1"

```

Feature Value	Counter	Percentage
HIGHWAY 417	19845	5.2099
BANK ST	10492	2.7545
BASELINE RD	6522	1.7122
CARLING AVE	5915	1.5529
INNES RD	4289	1.1260
BRONSON AVE	4166	1.0937
MONTREAL RD	3649	0.9580
GREENBANK RD	3504	0.9199
MERIVALE RD	3321	0.8719
ST. LAURENT BLVD	2881	0.7563
KING EDWARD AVE	2759	0.7243
HUNT CLUB RD	2725	0.7154
PRINCE OF WALES DR	2703	0.7096
RICHMOND RD	2647	0.6949
FALLOWFIELD RD	2532	0.6647
EAGLESON RD	2516	0.6605
BLAIR RD	2358	0.6190
WOODROFFE AVE	2217	0.5820
ALTA VISTA DR	2167	0.5689
MARCH RD	2075	0.5447
REGIONAL ROAD 174	1943	0.5101
JEANNE D'ARC BLVD	1824	0.4789
MEADOWLANDS DR	1737	0.4560
INDUSTRIAL AVE	1706	0.4479
COLONEL BY DR	1660	0.4358

ST. JOSEPH BLVD	1608	0.4221
HIGHWAY 416	1574	0.4132
ALBION RD	1550	0.4069
ALBERT ST	1546	0.4059
LAURIER AVE	1506	0.3954
HERON RD	1478	0.3880
RIVERSIDE DR	1471	0.3862
ELGIN ST	1468	0.3854
WALKLEY RD	1466	0.3849
HAZELDEAN RD	1382	0.3628
RUSSELL RD	1373	0.3605
CATHERINE ST	1369	0.3594
CARP RD	1321	0.3468
CYRVILLE RD	1311	0.3442
RIDEAU ST	1269	0.3331
BELFAST RD	1257	0.3300
GLADSTONE AVE	1239	0.3253
FISHER AVE	1213	0.3184
DONALD ST	1196	0.3140
REGIONAL RD 174	1188	0.3119
CONROY RD	1152	0.3024
COVENTRY RD	1150	0.3019
WEST HUNT CLUB RD	1131	0.2969
MCARTHUR AVE	1125	0.2953
BOOTH ST	1077	0.2827
CAMPEAU DR	1036	0.2720
ISLAND PARK DR	1033	0.2712
MOODIE DR	1027	0.2696
BEECHWOOD AVE	1010	0.2652
CLYDE AVE	995	0.2612
HAWTHORNE RD	980	0.2573
DALHOUSIE ST	964	0.2531
AIRPORT PKWY	921	0.2418
KENT ST	914	0.2400
CARLING AVE WB	886	0.2326

LYON ST	818	0.2147
ROBERTSON RD	801	0.2103
TENTH LINE RD	801	0.2103
PARKDALE AVE	800	0.2100
CEDARVIEW RD	783	0.2056
CASTLEFRANK RD	743	0.1951
REGIONAL RD 174 EB	711	0.1867
O'CONNOR ST	693	0.1819
LANCASTER RD	685	0.1798
CUMBERLAND ST	682	0.1790
BYRON AVE	676	0.1775
AVIATION PKWY	673	0.1767
HOLLAND AVE	670	0.1759
CARLING AVE EB	664	0.1743
OGILVIE RD	663	0.1741
KIRKWOOD AVE	654	0.1717
WELLINGTON ST	650	0.1706
SOMERSET ST	649	0.1704
MITCH OWENS RD	643	0.1688
PRESTON ST	636	0.1670
BESSERER ST	628	0.1649
CUMMINGS AVE	628	0.1649
PINECREST RD	608	0.1596
BAYSHORE DR	606	0.1591
RIVERSIDE DR NB	603	0.1583
ANDERSON RD	569	0.1494
TERRY FOX DR	561	0.1473
TRIM RD	551	0.1447
SMYTH RD	534	0.1402
MAITLAND AVE	532	0.1397
HOG'S BACK RD	526	0.1381
BRIDGE ST	503	0.1321
BAY ST	498	0.1307
WEST HUNT CLUB RD WB	498	0.1307
BANTREE ST	492	0.1292

METCALFE ST	488	0.1281
KNOXDALE RD	487	0.1279
DUNROBIN RD	463	0.1216
WEST HUNT CLUB RD EB	458	0.1202
(Other)	215243	56.5076

30.1 STREET1 = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (STREET1=)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (STREET1=) Percentage -----

31. Street2 (STREET2)

```
##  
## -----  
## CHECKING FEATURE:STREET2  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF STREET2  
##  
## Feature Value Counter Percentage  
## -----  
## WOODROFFE AVE 501 1.9488  
## ST. LAURENT BLVD 481 1.8710  
## MERIVALE RD 349 1.3576  
## WALKLEY RD 346 1.3459  
## RIVERSIDE DR 324 1.2603  
## WEST HUNT CLUB RD 295 1.1475  
## RICHMOND RD 290 1.1281  
## OGILVIE RD 273 1.0619  
## MONTREAL RD 262 1.0191  
## BANK ST 252 0.9802  
## CARLING AVE 238 0.9258  
## INNES RD 228 0.8869  
## HUNT CLUB RD 227 0.8830  
## ST. JOSEPH BLVD 207 0.8052  
## GREENBANK RD 196 0.7624
```



## HERON RD	194	0.7546
## RIDEAU ST	184	0.7157
## WELLINGTON ST	160	0.6224
## VANIER PKWY	155	0.6029
## HAZELDEAN RD	152	0.5913
## MARCH RD	152	0.5913
## SOMERSET ST	152	0.5913
## TENTH LINE RD	152	0.5913
## PRINCE OF WALES DR	150	0.5835
## HIGHWAY 417	146	0.5679
## EAGLESON RD	123	0.4785
## ISLAND PARK DR	122	0.4746
## JEANNE D'ARC BLVD	122	0.4746
## LAURIER AVE	121	0.4707
## ST. PATRICK ST	118	0.4590
## MAITLAND AVE	109	0.4240
## TERRY FOX DR	106	0.4123
## END	102	0.3968
## MEADOWLANDS DR	102	0.3968
## OTTAWA RIVER PKWY	102	0.3968
## CLYDE AVE	101	0.3929
## SCOTT ST	97	0.3773
## HWY 417 NICHOLA IC118R67	95	0.3695
## METCALFE ST	94	0.3656
## MOODIE DR	87	0.3384
## CUMBERLAND ST	86	0.3345
## O'CONNOR ST	86	0.3345
## SMYTH RD	86	0.3345
## BASELINE RD	84	0.3267
## GLADSTONE AVE	83	0.3229
## HWY 417 NICHOLA IC118R35	82	0.3190
## PRESTON ST	79	0.3073
## BRONSON AVE	78	0.3034
## FISHER AVE	78	0.3034
## HWY 417 BRONSO IC121AR16	78	0.3034
## NAVAHO DR	77	0.2995
## HWY 417 PARKDAL IC122R15	75	0.2917
## ELGIN ST	74	0.2878
## ORLEANS BLVD	74	0.2878
## KENT ST	72	0.2801
## MAIN ST	70	0.2723
## MITCH OWENS RD	70	0.2723
## STRANDHERD DR	70	0.2723
## BLAIR RD RAMP 36	68	0.2645
## KING EDWARD AVE	67	0.2606
## SUNNYSIDE AVE	67	0.2606
## CATHERINE ST	65	0.2528
## HWY 417 METCAL IC119AR75	65	0.2528



## RUSSELL RD	65	0.2528
## ALTA VISTA DR	64	0.2489
## HWY 417 CARLING IC124R67	61	0.2373
## COVENTRY RD	60	0.2334
## NICHOLAS ST	60	0.2334
## BOURASSA ST	59	0.2295
## HWY 417 O'CONN IC119BR76	59	0.2295
## KATIMAVIK RD	59	0.2295
## MURRAY ST	59	0.2295
## SLATER ST	57	0.2217
## UPLANDS DR	57	0.2217
## DWYER HILL RD	55	0.2139
## BELFAST RD	54	0.2101
## HAWTHORNE RD	54	0.2101
## PARKDALE AVE	54	0.2101
## CAHILL DR	53	0.2062
## FALLOWFIELD RD	52	0.2023
## BLAIR RD	51	0.1984
## JOHNSTON RD	51	0.1984
## SUSSEX DR	51	0.1984
## MCARTHUR AVE	49	0.1906
## CRICHTON ST	48	0.1867
## HWY 417 CARLING IC124R65	48	0.1867
## OR174 IC112 RAMP 26	48	0.1867
## PINECREST RD	48	0.1867
## HOG'S BACK RD	47	0.1828
## HWY 417 CARLING IC124R55	47	0.1828
## HWY 417 VANIER IC117R26	47	0.1828
## ISABELLA ST	47	0.1828
## ROBERTSON RD	47	0.1828
## WALLER ST	47	0.1828
## DALHOUSIE ST	46	0.1789
## GEORGE ST	46	0.1789
## INDUSTRIAL AVE	46	0.1789
## KIRKWOOD AVE	46	0.1789
## KIRKWOOD AVE S	46	0.1789
## (Other)	14419	56.0876
##		
## -----		
## CHECKING FEATURE:STREET2		
## DATA:All 2005.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		

TOP 100 FEATURES OF STREET2

##

## Feature Value	Counter	Percentage
## -----	-----	-----
## WOODROFFE AVE	566	2.1253
## ST. LAURENT BLVD	482	1.8099
## MERIVALE RD	427	1.6033
## WALKLEY RD	320	1.2016
## WEST HUNT CLUB RD	304	1.1415
## RICHMOND RD	303	1.1377
## BANK ST	290	1.0889
## MONTREAL RD	286	1.0739
## OGILVIE RD	283	1.0626
## RIVERSIDE DR	278	1.0439
## HUNT CLUB RD	265	0.9950
## GREENBANK RD	226	0.8486
## RIDEAU ST	221	0.8298
## ST. JOSEPH BLVD	219	0.8223
## INNES RD	209	0.7848
## CARLING AVE	206	0.7735
## PRINCE OF WALES DR	206	0.7735
## HAZELDEAN RD	170	0.6383
## HERON RD	168	0.6308
## WELLINGTON ST	165	0.6196
## VANIER PKWY	163	0.6120
## TENTH LINE RD	161	0.6045
## LAURIER AVE	146	0.5482
## SOMERSET ST	144	0.5407
## KENT ST	132	0.4956
## JEANNE D'ARC BLVD	130	0.4881
## MARCH RD	130	0.4881
## TERRY FOX DR	126	0.4731
## O'CONNOR ST	125	0.4694
## EAGLESON RD	121	0.4543
## ISLAND PARK DR	117	0.4393
## CLYDE AVE	116	0.4356
## HIGHWAY 417	116	0.4356
## MAITLAND AVE	106	0.3980
## SMYTH RD	105	0.3943
## GLADSTONE AVE	100	0.3755
## MOODIE DR	98	0.3680
## BASELINE RD	95	0.3567
## BRONSON AVE	95	0.3567
## HWY 417 NICHOLA IC118R35	94	0.3530
## MEADOWLANDS DR	94	0.3530
## END	91	0.3417
## ST. PATRICK ST	91	0.3417
## FALLOWFIELD RD	90	0.3379

## NICHOLAS ST	90	0.3379
## SCOTT ST	90	0.3379
## CUMBERLAND ST	87	0.3267
## HWY 417 PARKDAL IC122R15	86	0.3229
## ELGIN ST	84	0.3154
## KING EDWARD AVE	84	0.3154
## METCALFE ST	81	0.3041
## RUSSELL RD	81	0.3041
## STRANDHERD DR	78	0.2929
## SUNNYSIDE AVE	78	0.2929
## FISHER AVE	75	0.2816
## ORLEANS BLVD	73	0.2741
## CHURCHILL AVE	72	0.2704
## MITCH OWENS RD	72	0.2704
## INDUSTRIAL AVE	71	0.2666
## HWY 417 CARLING IC124R67	69	0.2591
## KATIMAVIK RD	69	0.2591
## ROBERTSON RD	68	0.2553
## DWYER HILL RD	67	0.2516
## PARKDALE AVE	67	0.2516
## TRIM RD	66	0.2478
## HWY 417 BRONSO IC121AR16	65	0.2441
## BELFAST RD	64	0.2403
## HWY 417 CARLING IC124R55	64	0.2403
## HWY 417 NICHOLA IC118R67	64	0.2403
## BAY ST	63	0.2366
## NAVAHO DR	62	0.2328
## BLAIR RD RAMP 36	61	0.2290
## PRESTON ST	59	0.2215
## VIEWMOUNT DR	59	0.2215
## COLONEL BY DR	58	0.2178
## STITTSVILLE MAIN ST	58	0.2178
## MCARTHUR AVE	57	0.2140
## COLONNADE RD	56	0.2103
## HWY 417 MAITLAN IC126R51	56	0.2103
## SLATER ST	56	0.2103
## BOOTH ST	55	0.2065
## CATHERINE ST	55	0.2065
## KANATA AVE	54	0.2028
## RIVER RD	54	0.2028
## HWY 417 CARLING IC124R76	53	0.1990
## JOHNSTON RD	53	0.1990
## MAIN ST	53	0.1990
## RIVERSIDE DR N	53	0.1990
## HWY 417 METCAL IC119AR75	52	0.1953
## FAIRLAWN AVE	51	0.1915
## UPLANDS DR	51	0.1915
## CRICHTON ST	50	0.1877



```
## KNOXDALE RD           50    0.1877
## GEORGE ST             49    0.1840
## HWY 417 GREENBA IC129R51 49    0.1840
## BOURASSA ST           48    0.1802
## LYON ST                48    0.1802
## DALHOUSIE ST          47    0.1765
## HWY 417 ANDERSO IC104R61 47    0.1765
## (Other)                14770 55.4596
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter Percentage
## -----
## WOODROFFE AVE          563   2.1539
## ST. LAURENT BLVD       451   1.7254
## MERIVALE RD             420   1.6068
## WALKLEY RD              353   1.3505
## WEST HUNT CLUB RD      338   1.2931
## RICHMOND RD             294   1.1248
## BANK ST                 288   1.1018
## RIVERSIDE DR            280   1.0712
## INNES RD                265   1.0138
## GREENBANK RD            258   0.9870
## HUNT CLUB RD            258   0.9870
## RIDEAU ST               253   0.9679
## OGILVIE RD              231   0.8837
## MONTREAL RD             221   0.8455
## TENTH LINE RD            208   0.7957
## CARLING AVE             207   0.7919
## ST. JOSEPH BLVD         191   0.7307
## PRINCE OF WALES DR      177   0.6771
## HERON RD                 175   0.6695
## LAURIER AVE             168   0.6427
## MARCH RD                 155   0.5930
## VANIER PKWY              155   0.5930
## TERRY FOX DR             148   0.5662
## WELLINGTON ST            141   0.5394
## SOMERSET ST              136   0.5203
```

## ST. PATRICK ST	134	0.5126
## HIGHWAY 417	129	0.4935
## MAITLAND AVE	125	0.4782
## METCALFE ST	124	0.4744
## KENT ST	120	0.4591
## EAGLESON RD	115	0.4400
## ISLAND PARK DR	113	0.4323
## JEANNE D'ARC BLVD	113	0.4323
## FALLOWFIELD RD	106	0.4055
## HAZELDEAN RD	104	0.3979
## O'CONNOR ST	103	0.3940
## CLYDE AVE	101	0.3864
## BRONSON AVE	95	0.3634
## SMYTH RD	95	0.3634
## STRANDHERD DR	91	0.3481
## END	90	0.3443
## FISHER AVE	88	0.3367
## BASELINE RD	85	0.3252
## HWY 417 PARKDAL IC122R15	85	0.3252
## CUMBERLAND ST	84	0.3214
## ELGIN ST	82	0.3137
## BLAIR RD RAMP 36	81	0.3099
## NICHOLAS ST	79	0.3022
## RUSSELL RD	79	0.3022
## HWY 417 BRONSO IC121AR16	78	0.2984
## NAVAHO DR	76	0.2908
## MITCH OWENS RD	75	0.2869
## ALTA VISTA DR	74	0.2831
## CATHERINE ST	73	0.2793
## OTTAWA RIVER PKWY	73	0.2793
## HWY 417 CARLING IC124R67	72	0.2755
## KING EDWARD AVE	72	0.2755
## PARKDALE AVE	72	0.2755
## HWY 417 NICHOLA IC118R35	71	0.2716
## ORLEANS BLVD	70	0.2678
## MURRAY ST	68	0.2601
## PRESTON ST	68	0.2601
## SCOTT ST	68	0.2601
## SLATER ST	67	0.2563
## SUNNYSIDE AVE	66	0.2525
## MOODIE DR	64	0.2448
## MEADOWLANDS DR	63	0.2410
## GLADSTONE AVE	62	0.2372
## BAY ST	61	0.2334
## TRIM RD	61	0.2334
## COLONEL BY DR	60	0.2295
## LEITRIM RD	60	0.2295
## QUEEN ST	57	0.2181



```
## INDUSTRIAL AVE      56    0.2142
## BOOTH ST            55    0.2104
## JOHNSTON RD          55    0.2104
## BOURASSA ST          54    0.2066
## COVENTRY RD          54    0.2066
## HAWTHORNE RD          53    0.2028
## MAIN ST              53    0.2028
## ROBERTSON RD          51    0.1951
## LISA AVE              50    0.1913
## DALHOUSIE ST          49    0.1875
## WALLER ST              49    0.1875
## HWY 417 VANIER IC117R26 48    0.1836
## MCARTHUR AVE          48    0.1836
## ALBION RD              47    0.1798
## COOPER ST              47    0.1798
## HWY 417 CARLING IC124R76 47    0.1798
## HWY 417 RIVERSI IC117R35 47    0.1798
## CAHILL DR              46    0.1760
## CEDARVIEW RD           46    0.1760
## CORDOVA ST              46    0.1760
## FORMER NE/OT BOUNDARY 46    0.1760
## HWY 417 METCAL IC119AR75 46    0.1760
## HWY 417 O'CONN IC119BR76 46    0.1760
## KIRKWOOD AVE N          46    0.1760
## VIEWMOUNT DR             45    0.1722
## CHURCHILL AVE           44    0.1683
## (Other)                  14479  55.3923
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter  Percentage
## -----
## WOODROFFE AVE           661     2.3752
## ST. LAURENT BLVD        498     1.7895
## MERIVALE RD              384     1.3799
## WEST HUNT CLUB RD        336     1.2074
## WALKLEY RD                334     1.2002
## RIVERSIDE DR               310     1.1139
```

## INNES RD	291	1.0457
## RICHMOND RD	291	1.0457
## OGILVIE RD	290	1.0421
## HUNT CLUB RD	269	0.9666
## GREENBANK RD	261	0.9379
## BANK ST	230	0.8265
## MONTREAL RD	226	0.8121
## ST. JOSEPH BLVD	226	0.8121
## RIDEAU ST	204	0.7330
## CARLING AVE	195	0.7007
## TENTH LINE RD	186	0.6684
## PRINCE OF WALES DR	185	0.6648
## HERON RD	181	0.6504
## VANIER PKWY	177	0.6360
## LAURIER AVE	165	0.5929
## WELLINGTON ST	162	0.5821
## TERRY FOX DR	153	0.5498
## JEANNE D'ARC BLVD	152	0.5462
## HIGHWAY 417	151	0.5426
## SOMERSET ST	149	0.5354
## EAGLESON RD	144	0.5174
## MEADOWLANDS DR	131	0.4707
## SMYTH RD	130	0.4671
## END	125	0.4492
## METCALFE ST	125	0.4492
## ST. PATRICK ST	124	0.4456
## KENT ST	118	0.4240
## MARCH RD	118	0.4240
## CLYDE AVE	112	0.4025
## GLADSTONE AVE	107	0.3845
## STRANDHERD DR	105	0.3773
## ISLAND PARK DR	103	0.3701
## HAZELDEAN RD	102	0.3665
## BAY ST	98	0.3522
## MCARTHUR AVE	95	0.3414
## BRONSON AVE	91	0.3270
## HWY 417 NICHOLA IC118R35	90	0.3234
## O'CONNOR ST	89	0.3198
## RUSSELL RD	89	0.3198
## FISHER AVE	87	0.3126
## HWY 417 CARLING IC124R55	87	0.3126
## ALTA VISTA DR	82	0.2947
## HWY 417 CARLING IC124R67	79	0.2839
## FALLOWFIELD RD	78	0.2803
## ROBERTSON RD	77	0.2767
## SLATER ST	76	0.2731
## COVENTRY RD	75	0.2695
## KING EDWARD AVE	75	0.2695

## PRESTON ST	74	0.2659
## MAIN ST	73	0.2623
## CHURCHILL AVE	72	0.2587
## HWY 417 NICHOLA IC118R67	72	0.2587
## HWY 417 PARKDAL IC122R16	68	0.2443
## NICHOLAS ST	68	0.2443
## INDUSTRIAL AVE	67	0.2408
## MAITLAND AVE	66	0.2372
## MITCH OWENS RD	65	0.2336
## PARKDALE AVE	65	0.2336
## BASELINE RD	64	0.2300
## HWY 417 BRONSO IC121AR16	64	0.2300
## BOOTH ST	63	0.2264
## HWY 417 PARKDAL IC122R15	63	0.2264
## MURRAY ST	63	0.2264
## OTTAWA RIVER PKWY	63	0.2264
## COLONEL BY DR	62	0.2228
## JOHNSTON RD	61	0.2192
## KANATA AVE	61	0.2192
## BLAIR RD RAMP 36	60	0.2156
## JOCKVALE RD	60	0.2156
## MEADOWBROOK RD	60	0.2156
## ORLEANS BLVD	60	0.2156
## CATHERINE ST	59	0.2120
## LEITRIM RD	58	0.2084
## SUSSEX DR	58	0.2084
## LYON ST	57	0.2048
## NAVAHO DR	57	0.2048
## MOODIE DR	56	0.2012
## HWY 417 BRONSO IC121AR51	55	0.1976
## SCOTT ST	55	0.1976
## CHARLEMAGNE BLVD	54	0.1940
## CUMBERLAND ST	54	0.1940
## HWY 417 GREENBA IC129R51	54	0.1940
## CONROY RD	53	0.1904
## ELGIN ST	53	0.1904
## LABELLE ST	53	0.1904
## ALBION RD	52	0.1869
## DALHOUSIE ST	52	0.1869
## PINCREST RD	52	0.1869
## BOURASSA ST	51	0.1833
## HAWTHORNE RD	51	0.1833
## HWY 417 MAITLAN IC126R51	51	0.1833
## LISA AVE	51	0.1833
## HWY 417 METCAL IC119AR75	50	0.1797
## (Other)	15670	56.3082
## -----		

```

## CHECKING FEATURE:STREET2
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter   Percentage
## -----
## WOODROFFE AVE           615      2.1546
## ST. LAURENT BLVD        538      1.8849
## MERIVALE RD              414      1.4504
## WALKLEY RD               407      1.4259
## WEST HUNT CLUB RD        378      1.3243
## RIVERSIDE DR              370      1.2963
## RICHMOND RD               338      1.1842
## BANK ST                  301      1.0545
## OGILVIE RD                290      1.0160
## HUNT CLUB RD              260      0.9109
## INNES RD                  255      0.8934
## CARLING AVE               243      0.8513
## RIDEAU ST                 233      0.8163
## GREENBANK RD               226      0.7918
## HERON RD                  218      0.7638
## MONTREAL RD                213      0.7462
## TENTH LINE RD              209      0.7322
## ST. JOSEPH BLVD            193      0.6762
## VANIER PKWY                185      0.6481
## PRINCE OF WALES DR          173      0.6061
## TERRY FOX DR                172      0.6026
## SOMERSET ST                 157      0.5500
## HIGHWAY 417                  148      0.5185
## WELLINGTON ST                144      0.5045
## HAZELDEAN RD                 137      0.4800
## JEANNE D'ARC BLVD             133      0.4660
## LAURIER AVE                  130      0.4555
## STRANDHERD DR                 130      0.4555
## MAITLAND AVE                  127      0.4449
## END                           126      0.4414
## MARCH RD                      119      0.4169
## ST. PATRICK ST                  114      0.3994
## GLADSTONE AVE                  112      0.3924
## HWY 417 NICHOLA IC118R35            112      0.3924
## KENT ST                         110      0.3854

```

## ISLAND PARK DR	108	0.3784
## EAGLESON RD	107	0.3749
## BRONSON AVE	103	0.3609
## FALLOWFIELD RD	103	0.3609
## BLAIR RD RAMP 36	101	0.3539
## METCALFE ST	98	0.3433
## O'CONNOR ST	98	0.3433
## SMYTH RD	93	0.3258
## CLYDE AVE	92	0.3223
## MOODIE DR	92	0.3223
## MEADOWLANDS DR	90	0.3153
## HWY 417 EAGLESO IC138R25	86	0.3013
## PARKDALE AVE	85	0.2978
## BASELINE RD	84	0.2943
## FISHER AVE	82	0.2873
## RUSSELL RD	79	0.2768
## INDUSTRIAL AVE	78	0.2733
## ELGIN ST	75	0.2628
## HWY 417 BRONSO IC121AR16	75	0.2628
## HWY 417 NICHOLA IC118R67	75	0.2628
## HWY 417 PARKDAL IC122R16	73	0.2558
## HWY 417 CARLING IC124R67	72	0.2523
## MAIN ST	72	0.2523
## NICHOLAS ST	72	0.2523
## SCOTT ST	72	0.2523
## HWY 417 VANIER IC117R26	71	0.2487
## WALLER ST	71	0.2487
## KATIMAVIK RD	68	0.2382
## MITCH OWENS RD	66	0.2312
## KING EDWARD AVE	65	0.2277
## CATHERINE ST	64	0.2242
## MURRAY ST	64	0.2242
## ORLEANS BLVD	63	0.2207
## TRIM RD	63	0.2207
## ALTA VISTA DR	60	0.2102
## BAY ST	60	0.2102
## NAVAHO DR	60	0.2102
## ROBERTSON RD	60	0.2102
## SUNNYSIDE AVE	59	0.2067
## CHARLEMAGNE BLVD	58	0.2032
## CUMBERLAND ST	57	0.1997
## HWY 417 BRONSO IC121AR51	57	0.1997
## HWY 417 METCAL IC119AR75	57	0.1997
## CHURCHILL AVE	56	0.1962
## HAWTHORNE RD	56	0.1962
## HWY 417 MAITLAN IC126R51	56	0.1962
## KNOXDALE RD	55	0.1927
## SUSSEX DR	55	0.1927

```

## VIEWMOUNT DR           55   0.1927
## HWY 417 PARKDAL IC122R15 54   0.1892
## KANATA AVE            54   0.1892
## BELFAST RD             53   0.1857
## COLONEL BY DR          53   0.1857
## ISABELLA ST             53   0.1857
## LEITRIM RD              52   0.1822
## RICHARDSON SIDE RD      52   0.1822
## SLATER ST                52   0.1822
## STITTSVILLE MAIN ST      52   0.1822
## HWY 416 RICHMOND IC75R26 51   0.1787
## HWY 417 MOODIE IC134R26 51   0.1787
## OTTAWA RIVER PKWY         51   0.1787
## GEORGE ST                  50   0.1752
## HWY 417 CARLING IC124R55 50   0.1752
## CAHILL DR                  49   0.1717
## (Other)                      16115 56.4587
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2009.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter Percentage
## -----
## WOODROFFE AVE            625   2.1918
## ST. LAURENT BLVD          496   1.7394
## MERIVALE RD                 477   1.6728
## RICHMOND RD                  369   1.2941
## WEST HUNT CLUB RD          332   1.1643
## RIVERSIDE DR                  331   1.1608
## INNES RD                     311   1.0907
## WALKLEY RD                  301   1.0556
## BANK ST                       297   1.0416
## HUNT CLUB RD                  293   1.0275
## OGILVIE RD                     271   0.9504
## CARLING AVE                   248   0.8697
## GREENBANK RD                  247   0.8662
## RIDEAU ST                      240   0.8417
## ST. JOSEPH BLVD                 238   0.8346
## VANIER PKWY                     229   0.8031

```



## PRINCE OF WALES DR	222	0.7785
## MONTREAL RD	216	0.7575
## TENTH LINE RD	214	0.7505
## HERON RD	213	0.7470
## HIGHWAY 417	209	0.7329
## JEANNE D'ARC BLVD	171	0.5997
## TERRY FOX DR	170	0.5962
## LAURIER AVE	165	0.5786
## SOMERSET ST	164	0.5751
## WELLINGTON ST	142	0.4980
## BRONSON AVE	139	0.4875
## MAITLAND AVE	131	0.4594
## MARCH RD	131	0.4594
## CLYDE AVE	123	0.4314
## ST. PATRICK ST	118	0.4138
## O'CONNOR ST	113	0.3963
## STRANDHERD DR	113	0.3963
## HWY 417 BRONSO IC121AR16	111	0.3893
## END	107	0.3752
## HWY 417 NICHOLA IC118R35	107	0.3752
## EAGLESON RD	106	0.3717
## HWY 417 CARLING IC124R67	106	0.3717
## MEADOWLANDS DR	103	0.3612
## KENT ST	102	0.3577
## ISLAND PARK DR	99	0.3472
## SMYTH RD	98	0.3437
## GLADSTONE AVE	97	0.3402
## NICHOLAS ST	96	0.3367
## NAVAHO DR	95	0.3332
## BLAIR RD RAMP 36	93	0.3261
## SUSSEX DR	91	0.3191
## ELGIN ST	90	0.3156
## ORLEANS BLVD	90	0.3156
## FISHER AVE	89	0.3121
## FALLOWFIELD RD	88	0.3086
## METCALFE ST	88	0.3086
## BASELINE RD	87	0.3051
## SCOTT ST	85	0.2981
## MAIN ST	83	0.2911
## CUMBERLAND ST	82	0.2876
## MCARTHUR AVE	79	0.2770
## HWY 417 PARKDAL IC122R15	77	0.2700
## MOODIE DR	77	0.2700
## TRIM RD	77	0.2700
## BAY ST	75	0.2630
## HWY 417 PARKDAL IC122R16	75	0.2630
## INDUSTRIAL AVE	75	0.2630
## COVENTRY RD	74	0.2595

## PRESTON ST	72	0.2525
## HAZELDEAN RD	71	0.2490
## PARKDALE AVE	71	0.2490
## CAHILL DR	68	0.2385
## ROBERTSON RD	68	0.2385
## HWY 417 EAGLES0 IC138R25	67	0.2350
## BOURASSA ST	66	0.2315
## ALTA VISTA DR	64	0.2244
## COLONEL BY DR	64	0.2244
## HWY 417 METCAL IC119AR75	64	0.2244
## SLATER ST	63	0.2209
## CRICHTON ST	62	0.2174
## RUSSELL RD	62	0.2174
## CHURCHILL AVE	61	0.2139
## LANTHIER DR	61	0.2139
## QUEEN ST	61	0.2139
## SUNNYSIDE AVE	61	0.2139
## JOHNSTON RD	60	0.2104
## HWY 417 CARLING IC124R65	59	0.2069
## MURRAY ST	59	0.2069
## COLONNADE RD	58	0.2034
## DALHOUSIE ST	58	0.2034
## HWY 417 RIVERSI IC117R35	58	0.2034
## KING EDWARD AVE	57	0.1999
## PINECREST RD	57	0.1999
## HWY 417 NICHOLA IC118R67	56	0.1964
## ALBION RD	55	0.1929
## CATHERINE ST	55	0.1929
## KANATA AVE	55	0.1929
## MITCH OWENS RD	55	0.1929
## BELFAST RD	54	0.1894
## ISABELLA ST	53	0.1859
## UPLANDS DR	52	0.1824
## HWY 417 CARLING IC124R55	51	0.1789
## HWY 417 CARLING IC124R76	51	0.1789
## (Other)	15545	54.5152
##		
## -----		
## CHECKING FEATURE:STREET2		
## DATA:All 2010.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREET2		

## Feature Value	Counter	Percentage
## WOODROFFE AVE	564	2.0502
## ST. LAURENT BLVD	523	1.9012
## MERIVALE RD	401	1.4577
## WALKLEY RD	364	1.3232
## BANK ST	318	1.1560
## RICHMOND RD	311	1.1305
## INNES RD	298	1.0833
## WEST HUNT CLUB RD	296	1.0760
## RIVERSIDE DR	283	1.0288
## OGILVIE RD	281	1.0215
## HUNT CLUB RD	274	0.9960
## GREENBANK RD	264	0.9597
## ST. JOSEPH BLVD	248	0.9015
## RIDEAU ST	247	0.8979
## MONTREAL RD	239	0.8688
## PRINCE OF WALES DR	236	0.8579
## TENTH LINE RD	222	0.8070
## CARLING AVE	201	0.7307
## TERRY FOX DR	196	0.7125
## HIGHWAY 417	191	0.6943
## HERON RD	169	0.6143
## STRANDHERD DR	167	0.6071
## LAURIER AVE	151	0.5489
## SOMERSET ST	150	0.5453
## WELLINGTON ST	148	0.5380
## JEANNE D'ARC BLVD	147	0.5344
## VANIER PKWY	147	0.5344
## MARCH RD	124	0.4508
## MEADOWLANDS DR	117	0.4253
## KENT ST	116	0.4217
## METCALFE ST	116	0.4217
## GLADSTONE AVE	115	0.4180
## HAZELDEAN RD	114	0.4144
## ISLAND PARK DR	109	0.3962
## SMYTH RD	107	0.3890
## BRONSON AVE	104	0.3781
## RUSSELL RD	102	0.3708
## FALLOWFIELD RD	101	0.3672
## NICHOLAS ST	99	0.3599
## END	98	0.3562
## MAITLAND AVE	95	0.3453
## BLAIR RD RAMP 36	90	0.3272
## CLYDE AVE	88	0.3199
## ELGIN ST	88	0.3199
## PARKDALE AVE	84	0.3054

## HWY 417 NICHOLA IC118R67	83	0.3017
## SLATER ST	83	0.3017
## HAWTHORNE RD	82	0.2981
## MOODIE DR	81	0.2944
## O'CONNOR ST	78	0.2835
## BAY ST	75	0.2726
## CATHERINE ST	75	0.2726
## HWY 417 CARLING IC124R67	75	0.2726
## TRIM RD	75	0.2726
## HWY 417 VANIER IC117R26	74	0.2690
## CUMBERLAND ST	73	0.2654
## INDUSTRIAL AVE	73	0.2654
## SCOTT ST	73	0.2654
## FISHER AVE	71	0.2581
## ST. PATRICK ST	70	0.2545
## JOHNSTON RD	69	0.2508
## LEITRIM RD	69	0.2508
## BATE ISLAND	68	0.2472
## BASELINE RD	67	0.2436
## HWY 417 BRONSO IC121AR16	67	0.2436
## ORLEANS BLVD	66	0.2399
## STITTSVILLE MAIN ST	65	0.2363
## HWY 417 NICHOLA IC118R35	63	0.2290
## SUSSEX DR	63	0.2290
## DALHOUSIE ST	62	0.2254
## HWY 417 CARLING IC124R76	61	0.2217
## PRESTON ST	61	0.2217
## RIVERSIDE DR N	61	0.2217
## HWY 417 PARKDAL IC122R15	60	0.2181
## MITCH OWENS RD	60	0.2181
## NAVAHO DR	60	0.2181
## STAR TOP RD	60	0.2181
## HWY 417 BRONSO IC121AR51	59	0.2145
## KANATA AVE	59	0.2145
## COLONEL BY DR	58	0.2108
## TREMBLAY RD	58	0.2108
## EAGLESON RD	57	0.2072
## KING EDWARD AVE	56	0.2036
## KNOXDALE RD	56	0.2036
## MEADOWBROOK RD	56	0.2036
## COLONNADE RD	55	0.1999
## CRICHTON ST	55	0.1999
## KIRKWOOD AVE N	55	0.1999
## OTTAWA RIVER PKWY	55	0.1999
## MCARTHUR AVE	54	0.1963
## DONALD ST	53	0.1927
## GEORGE ST	53	0.1927
## HWY 417 RIVERSI IC117R35	53	0.1927



```
## LANTHIER DR           53   0.1927
## VIEWMOUNT DR          53   0.1927
## CHURCHILL AVE         52   0.1890
## HWY 417 METCAL IC119AR75 52   0.1890
## MAIN ST                52   0.1890
## FORMER NE/OT BOUNDARY 51   0.1854
## (Other)                 15178 55.1747
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter Percentage
## -----
## WOODROFFE AVE          575   2.0588
## ST. LAURENT BLVD       520   1.8619
## MERIVALE RD             397   1.4215
## RIVERSIDE DR            388   1.3892
## RICHMOND RD             368   1.3176
## WALKLEY RD              367   1.3140
## INNES RD                324   1.1601
## ST. JOSEPH BLVD        314   1.1243
## BANK ST                 310   1.1100
## WEST HUNT CLUB RD      297   1.0634
## GREENBANK RD            268   0.9596
## MONTREAL RD             235   0.8414
## CARLING AVE             227   0.8128
## HUNT CLUB RD            224   0.8020
## RIDEAU ST               206   0.7376
## PRINCE OF WALES DR     202   0.7233
## HERON RD                197   0.7054
## OGILVIE RD              196   0.7018
## TENTH LINE RD            189   0.6767
## HIGHWAY 417              188   0.6731
## TERRY FOX DR             187   0.6696
## LAURIER AVE              151   0.5407
## SOMERSET ST              150   0.5371
## STRANDHERD DR            146   0.5228
## VANIER PKWY              137   0.4905
## JEANNE D'ARC BLVD        133   0.4762
```

## MARCH RD	133	0.4762
## GLADSTONE AVE	132	0.4726
## WELLINGTON ST	132	0.4726
## SMYTH RD	123	0.4404
## BRONSON AVE	119	0.4261
## ISLAND PARK DR	119	0.4261
## HAZELDEAN RD	114	0.4082
## KENT ST	114	0.4082
## CLYDE AVE	110	0.3939
## MAITLAND AVE	110	0.3939
## FISHER AVE	109	0.3903
## HWY 417 CARLING IC124R67	108	0.3867
## MEADOWLANDS DR	105	0.3760
## FALLOWFIELD RD	99	0.3545
## END	97	0.3473
## EAGLESON RD	94	0.3366
## O'CONNOR ST	93	0.3330
## METCALFE ST	90	0.3222
## PRESTON ST	89	0.3187
## HWY 417 NICHOLA IC118R67	87	0.3115
## PARKDALE AVE	84	0.3008
## SCOTT ST	83	0.2972
## TRIM RD	80	0.2864
## BASELINE RD	79	0.2829
## SLATER ST	79	0.2829
## RUSSELL RD	78	0.2793
## OTTAWA RIVER PKWY	77	0.2757
## HWY 417 BRONSO IC121AR16	76	0.2721
## HWY 417 NICHOLA IC118R35	76	0.2721
## NICHOLAS ST	76	0.2721
## BLAIR RD RAMP 36	74	0.2650
## NAVAHO DR	74	0.2650
## HAWTHORNE RD	72	0.2578
## HWY 417 VANIER IC117R26	72	0.2578
## MCARTHUR AVE	72	0.2578
## BAY ST	71	0.2542
## ELGIN ST	71	0.2542
## KANATA AVE	70	0.2506
## STITTSVILLE MAIN ST	69	0.2471
## CEDARVIEW RD	68	0.2435
## MITCH OWENS RD	68	0.2435
## HWY 417 PARKDAL IC122R15	66	0.2363
## CATHERINE ST	65	0.2327
## CRICHTON ST	65	0.2327
## CUMBERLAND ST	65	0.2327
## ST. PATRICK ST	65	0.2327
## ALTA VISTA DR	64	0.2292
## HWY 417 CARLING IC124R55	64	0.2292

## INDUSTRIAL AVE	62	0.2220
## SUNNYSIDE AVE	62	0.2220
## WALLER ST	61	0.2184
## COLONEL BY DR	60	0.2148
## LANTHIER DR	58	0.2077
## KING EDWARD AVE	57	0.2041
## VIEWMOUNT DR	57	0.2041
## ORLEANS BLVD	56	0.2005
## BOURASSA ST	54	0.1933
## LEITRIM RD	54	0.1933
## TREMBLAY RD	54	0.1933
## HWY 417 CARLING IC124R76	53	0.1898
## HWY 417 MAITLAN IC126R51	53	0.1898
## JOCKVALE RD	53	0.1898
## MOODIE DR	53	0.1898
## HWY 417 GREENBA IC129R51	52	0.1862
## OR174 IC112 RAMP 26	52	0.1862
## QUEEN ST	52	0.1862
## COVENTRY RD	51	0.1826
## HWY 417 METCAL IC119AR75	51	0.1826
## MAIN ST	51	0.1826
## HWY 417 PARKDAL IC122R16	50	0.1790
## MICHAEL COWPLAND DR	50	0.1790
## MURRAY ST	49	0.1754
## SOLANDT RD	49	0.1754
## (Other)	15479	55.4227
##		
## -----		
## CHECKING FEATURE:STREET2		
## DATA:All 2012.csv...		
##		
## Number of Blank Values:0		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREET2		
##		
## Feature Value	Counter	Percentage
## -----	-----	-----
## WOODROFFE AVE	556	2.0920
## ST. LAURENT BLVD	476	1.7910
## MERIVALE RD	386	1.4524
## INNES RD	353	1.3282
## WALKLEY RD	343	1.2906
## RIVERSIDE DR	318	1.1965
## WEST HUNT CLUB RD	311	1.1702

## ST. JOSEPH BLVD	297	1.1175
## RICHMOND RD	278	1.0460
## HUNT CLUB RD	275	1.0347
## BANK ST	256	0.9632
## RIDEAU ST	250	0.9407
## GREENBANK RD	247	0.9294
## OGILVIE RD	237	0.8917
## PRINCE OF WALES DR	236	0.8880
## CARLING AVE	233	0.8767
## MONTREAL RD	233	0.8767
## TERRY FOX DR	226	0.8504
## TENTH LINE RD	213	0.8014
## HERON RD	179	0.6735
## SOMERSET ST	176	0.6622
## VANIER PKWY	168	0.6321
## WELLINGTON ST	168	0.6321
## JEANNE D'ARC BLVD	166	0.6246
## HIGHWAY 417	165	0.6208
## STRANDHERD DR	147	0.5531
## LAURIER AVE	140	0.5268
## MAITLAND AVE	131	0.4929
## MARCH RD	130	0.4891
## HAZELDEAN RD	128	0.4816
## FALLOWFIELD RD	125	0.4703
## KENT ST	121	0.4553
## CLYDE AVE	111	0.4177
## END	109	0.4101
## ISLAND PARK DR	107	0.4026
## SMYTH RD	106	0.3988
## CUMBERLAND ST	92	0.3462
## TRIM RD	92	0.3462
## METCALFE ST	91	0.3424
## HWY 417 NICHOLA IC118R35	89	0.3349
## INDUSTRIAL AVE	89	0.3349
## FISHER AVE	88	0.3311
## EAGLESON RD	87	0.3274
## ELGIN ST	86	0.3236
## MOODIE DR	86	0.3236
## MITCH OWENS RD	85	0.3198
## BASELINE RD	83	0.3123
## HWY 417 NICHOLA IC118R67	81	0.3048
## HWY 417 CARLING IC124R67	80	0.3010
## PARKDALE AVE	79	0.2972
## BRONSON AVE	77	0.2897
## MAIN ST	75	0.2822
## O'CONNOR ST	75	0.2822
## RUSSELL RD	73	0.2747
## BLAIR RD RAMP 36	72	0.2709



## MCARTHUR AVE	69	0.2596
## NICHOLAS ST	69	0.2596
## ORLEANS BLVD	68	0.2559
## GLADSTONE AVE	67	0.2521
## NAVAHO DR	67	0.2521
## CORDOVA ST	62	0.2333
## COVENTRY RD	61	0.2295
## HWY 417 VANIER IC117R26	61	0.2295
## BAY ST	60	0.2258
## SCOTT ST	59	0.2220
## ST. PATRICK ST	59	0.2220
## DALHOUSIE ST	58	0.2182
## HWY 417 CARLING IC124R76	58	0.2182
## LEITRIM RD	58	0.2182
## JOHNSTON RD	57	0.2145
## MEADOWLANDS DR	57	0.2145
## PRESTON ST	57	0.2145
## SLATER ST	56	0.2107
## GEORGE ST	55	0.2069
## HWY 417 METCAL IC119AR75	55	0.2069
## KING EDWARD AVE	55	0.2069
## MURRAY ST	55	0.2069
## CRICHTON ST	54	0.2032
## HWY 417 BRONSO IC121AR16	54	0.2032
## HWY 417 MAITLAN IC126R51	53	0.1994
## KATIMAVIK RD	53	0.1994
## STITTSVILLE MAIN ST	53	0.1994
## SUSSEX DR	52	0.1957
## HWY 417 CARLING IC124R55	51	0.1919
## OR174 IC112 RAMP 26	51	0.1919
## UPLANDS DR	51	0.1919
## BOOTH ST	50	0.1881
## KIRKWOOD AVE N	49	0.1844
## CATHERINE ST	48	0.1806
## FOXFIELD DR	48	0.1806
## RICHARDSON SIDE RD	48	0.1806
## BLAIR RD	47	0.1768
## FIFTH AVE	47	0.1768
## HWY 417 GREENBA IC129R51	46	0.1731
## HWY 417 PARKDAL IC122R15	46	0.1731
## KANATA AVE	46	0.1731
## NEIGHBORHOOD WAY	46	0.1731
## OTTAWA RIVER PKWY	46	0.1731
## QUEEN ST	46	0.1731
## (Other)	14488	54.5133
##		
## -----		
## CHECKING FEATURE:STREET2		

```

## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value          Counter   Percentage
## -----
## WOODROFFE AVE           581      2.0772
## ST. LAURENT BLVD        462      1.6517
## MERIVALE RD              441      1.5766
## WEST HUNT CLUB RD        405      1.4479
## WALKLEY RD                388      1.3872
## BANK ST                  337      1.2048
## INNES RD                  315      1.1262
## RIVERSIDE DR              300      1.0725
## RICHMOND RD               292      1.0439
## HUNT CLUB RD              290      1.0368
## TERRY FOX DR              284      1.0153
## ST. JOSEPH BLVD           262      0.9367
## GREENBANK RD              251      0.8974
## OGILVIE RD                 246      0.8795
## CARLING AVE                234      0.8366
## MONTREAL RD                234      0.8366
## PRINCE OF WALES DR         221      0.7901
## HIGHWAY 417                  215      0.7687
## WELLINGTON ST                188      0.6721
## HERON RD                  185      0.6614
## VANIER PKWY                174      0.6221
## TENTH LINE RD                173      0.6185
## HWY 417 NICHOLA IC118R35       157      0.5613
## MARCH RD                  157      0.5613
## RIDEAU ST                  156      0.5577
## SOMERSET ST                 153      0.5470
## LAURIER AVE                 151      0.5398
## KENT ST                      142      0.5077
## STRANDHERD DR                141      0.5041
## SMYTH RD                      138      0.4934
## BLAIR RD RAMP 36                133      0.4755
## FALLOWFIELD RD                133      0.4755
## HWY 417 NICHOLA IC118R67       126      0.4505
## EAGLESON RD                  122      0.4362
## JEANNE D'ARC BLVD              119      0.4254
## MAITLAND AVE                  116      0.4147

```



## HAZELDEAN RD	115	0.4111
## HWY 417 PARKDAL IC122R15	115	0.4111
## END	111	0.3968
## CLYDE AVE	110	0.3933
## BASELINE RD	109	0.3897
## SLATER ST	109	0.3897
## HWY 417 VANIER IC117R26	108	0.3861
## FISHER AVE	101	0.3611
## GLADSTONE AVE	97	0.3468
## BRONSON AVE	92	0.3289
## METCALFE ST	89	0.3182
## MITCH OWENS RD	88	0.3146
## ELGIN ST	87	0.3110
## PRESTON ST	85	0.3039
## RUSSELL RD	84	0.3003
## SCOTT ST	84	0.3003
## ISLAND PARK DR	82	0.2932
## HWY 417 CARLING IC124R67	80	0.2860
## HWY 417 BRONSO IC121AR16	79	0.2824
## ORLEANS BLVD	77	0.2753
## TRIM RD	77	0.2753
## COVENTRY RD	76	0.2717
## HWY 417 PARKDAL IC122R16	73	0.2610
## O'CONNOR ST	73	0.2610
## ROBERTSON RD	73	0.2610
## HWY 417 RIVERSI IC117R35	71	0.2538
## NICHOLAS ST	69	0.2467
## HAWTHORNE RD	68	0.2431
## MEADOWLANDS DR	68	0.2431
## HWY 417 CARLING IC124R55	66	0.2360
## SUNNYSIDE AVE	66	0.2360
## MAIN ST	65	0.2324
## CATHERINE ST	64	0.2288
## HWY 417 BRONSO IC121AR51	64	0.2288
## INDUSTRIAL AVE	64	0.2288
## LEITRIM RD	64	0.2288
## ALTA VISTA DR	63	0.2252
## CAHILL DR	63	0.2252
## NEIGHBORHOOD WAY	63	0.2252
## ST. PATRICK ST	62	0.2217
## BAY ST	61	0.2181
## MURRAY ST	60	0.2145
## ROCHESTER ST	60	0.2145
## STITTSVILLE MAIN ST	60	0.2145
## OTTAWA RIVER PKWY	59	0.2109
## MOODIE DR	58	0.2074
## CUMBERLAND ST	57	0.2038
## FIFTH AVE	57	0.2038

```

## COLONEL BY DR           56   0.2002
## LYON ST                 56   0.2002
## OR174 IC112 RAMP 26     55   0.1966
## VIEWMOUNT DR            55   0.1966
## WALLER ST                55   0.1966
## BOOTH ST                  54   0.1931
## SUSSEX DR                  54   0.1931
## NAVAHO DR                  53   0.1895
## BOURASSA ST                 52   0.1859
## CRICHTON ST                 52   0.1859
## HWY 417 CARLING IC124R76     52   0.1859
## FARLANE BLVD                 51   0.1823
## KING EDWARD AVE             51   0.1823
## MCARTHUR AVE                 51   0.1823
## PARKDALE AVE                 51   0.1823
## (Other)                      15025 53.7163
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2014.csv...
##
## Number of Blank Values:27292
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value   Counter   Percentage
## -----          -----      -----
##                               27292       100
##
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2015.csv...
##
## Number of Blank Values:27867
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET2
##
## Feature Value   Counter   Percentage
## -----          -----      -----
##                               27867       100

```

```

## 
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2016.csv...
## 
## Number of Blank Values:25858
## 
## Summary as Factor Feature:
## 
## Number of Features: 1
## 
## TOP 100 FEATURES OF STREET2
## 
## Feature Value Counter Percentage
## ----- -----
## 25858 100
## 
## -----
## CHECKING FEATURE:STREET2
## DATA:All 2017.csv...
## 
## Number of Blank Values:26541
## 
## Summary as Factor Feature:
## 
## Number of Features: 1
## 
## TOP 100 FEATURES OF STREET2
## 
## Feature Value Counter Percentage
## ----- -----
## 26541 100
## 
## =====
## FINAL INFO CHECKING FEATURE:STREET2
## ALL DATA...
## =====
## 
## Number of Blank Values:107558
## 
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
## 25708 26632 26139 27829 28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
## 28515 27509 27929 26577 27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
## 27292 27867 25858 26541
## 

```

```
##  
## Summary as Factor Feature:  
## Number of Features: 100[1] "TOP 100 FEATURES COUNTERS OF:STREET2"
```

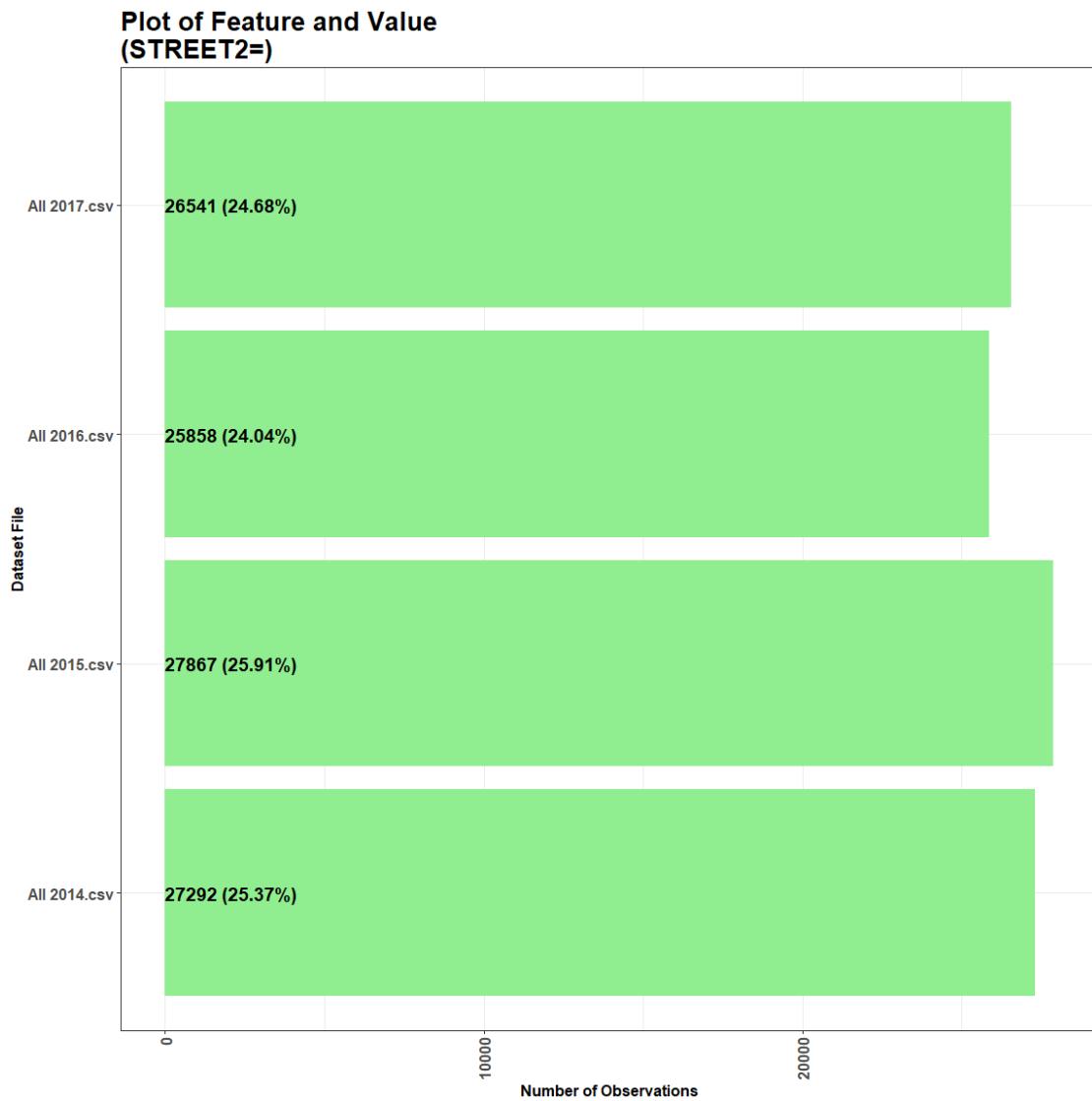
Feature Value	Counter	Percentage
	107558	28.2371
WOODROFFE AVE	5807	1.5245
ST. LAURENT BLVD	4927	1.2935
MERIVALE RD	4096	1.0753
WALKLEY RD	3523	0.9249
WEST HUNT CLUB RD	3292	0.8642
RIVERSIDE DR	3182	0.8354
RICHMOND RD	3134	0.8228
BANK ST	2879	0.7558
INNES RD	2849	0.7479
HUNT CLUB RD	2635	0.6918
OGILVIE RD	2598	0.6821
GREENBANK RD	2444	0.6416
ST. JOSEPH BLVD	2395	0.6288
MONTREAL RD	2365	0.6209
CARLING AVE	2232	0.5860
RIDEAU ST	2194	0.5760
PRINCE OF WALES DR	2008	0.5272
TENTH LINE RD	1927	0.5059
HERON RD	1879	0.4933
TERRY FOX DR	1768	0.4642
VANIER PKWY	1690	0.4437
HIGHWAY 417	1658	0.4353
WELLINGTON ST	1550	0.4069
SOMERSET ST	1531	0.4019
LAURIER AVE	1488	0.3906
JEANNE D'ARC BLVD	1386	0.3639
MARCH RD	1349	0.3542
HAZELDEAN RD	1207	0.3169
STRANDHERD DR	1188	0.3119
KENT ST	1147	0.3011

MAITLAND AVE	1116	0.2930
SMYTH RD	1081	0.2838
ISLAND PARK DR	1079	0.2833
EAGLESON RD	1076	0.2825
CLYDE AVE	1064	0.2793
END	1056	0.2772
METCALFE ST	996	0.2615
BRONSON AVE	993	0.2607
FALLOWFIELD RD	975	0.2560
GLADSTONE AVE	972	0.2552
ST. PATRICK ST	955	0.2507
HWY 417 NICHOLA IC118R35	941	0.2470
O'CONNOR ST	933	0.2449
MEADOWLANDS DR	930	0.2442
FISHER AVE	868	0.2279
BASELINE RD	837	0.2197
BLAIR RD RAMP 36	833	0.2187
HWY 417 CARLING IC124R67	802	0.2105
RUSSELL RD	792	0.2079
ELGIN ST	790	0.2074
NICHOLAS ST	778	0.2042
HWY 417 NICHOLA IC118R67	773	0.2029
SCOTT ST	766	0.2011
MOODIE DR	752	0.1974
HWY 417 BRONSO IC121AR16	747	0.1961
CUMBERLAND ST	737	0.1935
HWY 417 PARKDAL IC122R15	727	0.1909
PARKDALE AVE	712	0.1869
MITCH OWENS RD	704	0.1848
SLATER ST	698	0.1832
ORLEANS BLVD	697	0.1830
PRESTON ST	690	0.1811
INDUSTRIAL AVE	681	0.1788
NAVAHO DR	681	0.1788
TRIM RD	677	0.1777

BAY ST	657	0.1725
MAIN ST	647	0.1699
KING EDWARD AVE	639	0.1678
CATHERINE ST	623	0.1636
MCARTHUR AVE	623	0.1636
OTTAWA RIVER PKWY	623	0.1636
HWY 417 VANIER IC117R26	609	0.1599
ALTA VISTA DR	592	0.1554
SUNNYSIDE AVE	582	0.1528
ROBERTSON RD	572	0.1502
COVENTRY RD	566	0.1486
MURRAY ST	563	0.1478
COLONEL BY DR	561	0.1473
SUSSEX DR	561	0.1473
HAWTHORNE RD	554	0.1454
HWY 417 METCAL IC119AR75	541	0.1420
HWY 417 PARKDAL IC122R16	538	0.1412
HWY 417 CARLING IC124R55	536	0.1407
JOHNSTON RD	530	0.1391
KANATA AVE	521	0.1368
STITTSVILLE MAIN ST	521	0.1368
CHURCHILL AVE	517	0.1357
LEITRIM RD	514	0.1349
CRICHTON ST	511	0.1342
BOURASSA ST	505	0.1326
WALLER ST	495	0.1300
HWY 417 CARLING IC124R76	489	0.1284
BELFAST RD	488	0.1281
BOOTH ST	486	0.1276
CAHILL DR	485	0.1273
KATIMAVIK RD	485	0.1273
DALHOUSIE ST	483	0.1268
HWY 417 MAITLAN IC126R51	478	0.1255
(Other)	153020	40.1722

31.1 STREET2 = “” (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (STREET2=)  
##  
## Summary per Data File:  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 27292 27867 25858 26541
```



DATASET FILE	COUNTER OF (STREET2=)	Percentage
All 2014.csv	27292	25.37
All 2015.csv	27867	25.91
All 2016.csv	25858	24.04

All 2017.csv 26541 24.68

32. Street3 (STREET3)

```
##  
## -----  
## CHECKING FEATURE:STREET3  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:13176  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF STREETS  
##  
##  
## Feature Value Counter Percentage  
## -----  
## 13176 51.2525  
## WOODROFFE AVE 127 0.4940  
## HWY 417 PARKDAL IC122R51 109 0.4240  
## HWY 417 VANIER IC117R36 94 0.3656  
## RIVERSIDE DR 92 0.3579  
## TRANSITWAY 92 0.3579  
## O'CONNOR ST 86 0.3345  
## WEST HUNT CLUB RD 86 0.3345  
## WALKLEY RD 82 0.3190  
## ST. LAURENT BLVD 75 0.2917  
## HWY 417 O'CONN IC119BR57 74 0.2878  
## RUSSELL RD 72 0.2801  
## HWY 417 RIVERSI IC117R51 66 0.2567  
## HWY 417 NICHOLA IC118R57 61 0.2373  
## MERIVALE RD 60 0.2334  
## REGIONAL ROAD 174 59 0.2295  
## SOMERSET ST 59 0.2295  
## INNES RD 58 0.2256  
## WELLINGTON ST 58 0.2256  
## INDUSTRIAL AVE 57 0.2217  
## PRINCE OF WALES DR 57 0.2217  
## RICHMOND RD 57 0.2217  
## ST. JOSEPH BLVD 57 0.2217  
## STAR TOP RD 57 0.2217  
## KENT ST 55 0.2139  
## NO NAME 54 0.2101  
## SUSSEX DR 54 0.2101  
## HWY 417 BRONSO IC121AR61 52 0.2023  
## LYON ST 52 0.2023
```

## HWY 417 ST.LAUR IC115R36	50	0.1945
## HIGHWAY 417	49	0.1906
## HWY 417 MOODIE IC134R36	49	0.1906
## MOODIE DR	49	0.1906
## VANIER PKWY	49	0.1906
## METCALFE ST	48	0.1867
## TERRY FOX DR	47	0.1828
## REGIONAL RD 174	46	0.1789
## HWY 417 WOODROF IC127R25	44	0.1712
## KING EDWARD AVE	44	0.1712
## HWY 417 CARLING IC124R57	43	0.1673
## X-ROYDON PL	43	0.1673
## END	42	0.1634
## HWY 417 MOODIE IC134R51	42	0.1634
## OTTAWA RIVER PKWY	42	0.1634
## IRIS ST	41	0.1595
## N/A	41	0.1595
## HWY 417 O'CONN IC119BR76	40	0.1556
## MEADOWLANDS DR	40	0.1556
## HWY 417 VANIER IC117R61	39	0.1517
## MONTREAL RD	39	0.1517
## HWY 417 NICHOLA IC118R76	38	0.1478
## TREMBLAY RD	38	0.1478
## HWY 417 PARKDAL IC122R61	37	0.1439
## HWY 417 ROCHE IC121BR16	37	0.1439
## HWY 417 MAITLAN IC126R61	36	0.1400
## OGILVIE RD	36	0.1400
## VIEWMOUNT DR	36	0.1400
## HWY 416 ROGERSTE IC49R	35	0.1361
## THOMAS A. DOLAN PKWY	35	0.1361
## HWY 417 ST.LAUR IC115R51	34	0.1323
## MELFORT ST	34	0.1323
## ORLEANS BLVD	34	0.1323
## GREY NUNS DR	33	0.1284
## HWY 417 MOODIE IC134R61	32	0.1245
## HWY 417 RICHMON IC130R26	32	0.1245
## LANCASTER RD	32	0.1245
## RIDEAU ST	32	0.1245
## RIVERSIDE DR RAMP 42A	32	0.1245
## YORK ST	32	0.1245
## HWY 417 CARLING IC124R76	31	0.1206
## HWY 417 ROCHE IC121BR51	31	0.1206
## MARCH RD	31	0.1206
## OR174 IC112 RAMP 36	31	0.1206
## RIDEAU RD	31	0.1206
## ROCHESTER ST	31	0.1206
## DONALD ST	30	0.1167
## NELSON ST	30	0.1167



```
## PARKDALE AVE           30    0.1167
## TENTH LINE RD          30    0.1167
## HWY 417 WOODROF IC127R63 29    0.1128
## JOHNSTON RD            29    0.1128
## HERON RD                28    0.1089
## HUNT CLUB RD           28    0.1089
## LARKIN DR               28    0.1089
## ST. PATRICK ST          28    0.1089
## OSGODEE ST              27    0.1050
## HWY 417 IS.PARK IC123R62 26    0.1011
## UNIVERSITY RD           26    0.1011
## HAANEL DR               25    0.0972
## HWY 417 WOODROF IC127R51 25    0.0972
## MCARTHUR AVE            25    0.0972
## CATHERINE ST             24    0.0934
## HWY 417 KENT IC120AR52   24    0.0934
## NORICE ST                24    0.0934
## RICHARDSON SIDE RD      24    0.0934
## STRANDHERD DR            24    0.0934
## SUNNYSIDE AVE            24    0.0934
## CYRVILLE RD              23    0.0895
## FALLOWFIELD RD            23    0.0895
## (Other)                  8168   31.7722
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2005.csv...
##
## Number of Blank Values:13983
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value          Counter  Percentage
## -----
##                               13983   52.5045
## WOODROFFE AVE            127    0.4769
## WEST HUNT CLUB RD         117    0.4393
## TRANSITWAY                 90    0.3379
## O'CONNOR ST                86    0.3229
## RUSSELL RD                  80    0.3004
## MERIVALE RD                  79    0.2966
## RIVERSIDE DR                  77    0.2891
## ST. LAURENT BLVD            75    0.2816
## HWY 417 RIVERSI IC117R51     72    0.2704
```



## HWY 417 PARKDAL IC122R51	70	0.2628
## LYON ST	69	0.2591
## SUSSEX DR	67	0.2516
## END	64	0.2403
## HWY 417 NICHOLA IC118R57	63	0.2366
## HWY 417 CARLING IC124R57	61	0.2290
## WELLINGTON ST	61	0.2290
## HIGHWAY 417	60	0.2253
## HWY 417 MAITLAN IC126R61	59	0.2215
## PRINCE OF WALES DR	59	0.2215
## WALKLEY RD	59	0.2215
## HWY 417 MOODIE IC134R51	58	0.2178
## MOODIE DR	58	0.2178
## N/A	58	0.2178
## RICHMOND RD	58	0.2178
## HWY 417 BRONSO IC121AR61	57	0.2140
## SOMERSET ST	57	0.2140
## ST. JOSEPH BLVD	57	0.2140
## HWY 417 VANIER IC117R36	56	0.2103
## HWY 417 WOODROF IC127R25	56	0.2103
## VIEWMOUNT DR	54	0.2028
## KENT ST	53	0.1990
## HWY 417 BOUNDARY IC96R16	52	0.1953
## HWY 417 ROCHE'S IC121BR51	52	0.1953
## INNES RD	52	0.1953
## INDUSTRIAL AVE	51	0.1915
## RIDEAU ST	50	0.1877
## HERON RD	48	0.1802
## HWY 417 O'CONN IC119BR76	47	0.1765
## KING EDWARD AVE	47	0.1765
## METCALFE ST	47	0.1765
## NELSON ST	47	0.1765
## HWY 417 CARLING IC124R76	45	0.1690
## REGIONAL ROAD 174	45	0.1690
## RIDEAU RD	45	0.1690
## HWY 417 PARKDAL IC122R61	43	0.1615
## X-GL/OT BOUNDARY	43	0.1615
## HWY 417 MOODIE IC134R61	42	0.1577
## REGIONAL RD 174	42	0.1577
## HWY 417 ST.LAUR IC115R36	40	0.1502
## HWY 417 O'CONN IC119BR57	38	0.1427
## HWY 417 VANIER IC117R61	37	0.1389
## TREMBLAY RD	37	0.1389
## STAR TOP RD	35	0.1314
## OR174 IC112 RAMP 51	34	0.1277
## ORLEANS BLVD	34	0.1277
## HWY 417 MOODIE IC134R36	33	0.1239
## MELFORT ST	32	0.1202



## OGILVIE RD	32	0.1202
## MEADOWLANDS DR	31	0.1164
## MONTREAL RD	31	0.1164
## HUNT CLUB RD	29	0.1089
## HWY 417 NICHOLA IC118R76	29	0.1089
## HWY 417 ST.LAUR IC115R51	29	0.1089
## OTTAWA RIVER PKWY	29	0.1089
## PINCREST RD	29	0.1089
## ROYDON PL	29	0.1089
## HWY 417 WOODROF IC127R63	28	0.1051
## NO NAME	28	0.1051
## STARWOOD RD	28	0.1051
## HUNT CLUB PL	27	0.1014
## NORICE ST	27	0.1014
## PERCY ST	27	0.1014
## RICHARDSON SIDE RD	27	0.1014
## TERRY FOX DR	27	0.1014
## THOMAS A. DOLAN PKWY	27	0.1014
## DALHOUSIE ST	26	0.0976
## FALLOWFIELD RD	26	0.0976
## HWY 417 BOUNDARY IC96R51	26	0.0976
## HWY 417 MAITLAN IC126R15	26	0.0976
## HWY 417 ROCHE'S IC121BR16	26	0.0976
## CLYDE AVE	25	0.0939
## GREENBANK RD	25	0.0939
## HWY 416 ROGERSTE IC49R	25	0.0939
## MALAKOFF RD	25	0.0939
## MCARTHUR AVE	25	0.0939
## REMIC RAPIDS ENT	25	0.0939
## SHEFFIELD RD	25	0.0939
## STINSON AVE	25	0.0939
## SUNNYSIDE AVE	25	0.0939
## WESTLEIGH BLVD	25	0.0939
## CASTLEFRANK RD	24	0.0901
## HWY 417 MARCH IC138R61	24	0.0901
## HWY 417 ST.LAUR IC115R57	24	0.0901
## MARCH RD	24	0.0901
## MCLEOD ST	24	0.0901
## OSGODE ST	24	0.0901
## RITA AVE	24	0.0901
## TERMINAL AVE	24	0.0901
## (Other)	8328	31.2707
##		
## -----		
## CHECKING FEATURE:STREET3		
## DATA:All 2006.csv...		
##		
## Number of Blank Values:13782		

```

## 
## Summary as Factor Feature:
## 
## Number of Features: 100
## 
## TOP 100 FEATURES OF STREETS
## 

## Feature Value          Counter   Percentage
## -----
## WOODROFFE AVE          13782    52.7258
## TRANSITWAY               112      0.4285
## MERIVALE RD                100      0.3826
## O'CONNOR ST                  99      0.3787
## HWY 417 PARKDAL IC122R51     89      0.3405
## WEST HUNT CLUB RD           89      0.3405
## LYON ST                      87      0.3328
## RIVERSIDE DR                  82      0.3137
## HWY 417 RIVERSI IC117R51      74      0.2831
## RUSSELL RD                     71      0.2716
## ST. LAURENT BLVD              71      0.2716
## HIGHWAY 417                      68      0.2601
## RIDEAU RD                      67      0.2563
## END                           65      0.2487
## PRINCE OF WALES DR             65      0.2487
## REGIONAL ROAD 174                 65      0.2487
## MOODIE DR                      58      0.2219
## INNES RD                        55      0.2104
## WALKLEY RD                      55      0.2104
## HWY 417 MOODIE IC134R51            54      0.2066
## SUSSEX DR                         54      0.2066
## HWY 417 MAITLAN IC126R61            52      0.1989
## INDUSTRIAL AVE                      52      0.1989
## STAR TOP RD                      51      0.1951
## STARWOOD RD                      51      0.1951
## WELLINGTON ST                      51      0.1951
## SOMERSET ST                        50      0.1913
## TREMBLAY RD                      50      0.1913
## N/A                            49      0.1875
## HWY 417 VANIER IC117R36            48      0.1836
## ST. JOSEPH BLVD                      48      0.1836
## KENT ST                           47      0.1798
## HWY 417 O'CONN IC119BR57            46      0.1760
## MELFORT ST                         46      0.1760
## RICHMOND RD                        45      0.1722
## HWY 417 CARLING IC124R76            44      0.1683
## HWY 417 ROCHE'S IC121BR16            44      0.1683
## HWY 417 MOODIE IC134R61            43      0.1645

```

## KING EDWARD AVE	43	0.1645
## HWY 417 NICHOLA IC118R57	42	0.1607
## METCALFE ST	42	0.1607
## PARKDALE AVE	41	0.1569
## REGIONAL RD 174	41	0.1569
## TERRY FOX DR	41	0.1569
## HWY 417 BRONSO IC121AR61	40	0.1530
## NO NAME	40	0.1530
## HWY 417 BOUNDARY IC96R16	39	0.1492
## GREENBANK RD	37	0.1416
## HWY 417 RICHMON IC130R26	37	0.1416
## HWY 417 ST.LAUR IC115R36	37	0.1416
## STRANDHERD DR	37	0.1416
## BANK ST	36	0.1377
## FALLOWFIELD RD	36	0.1377
## HWY 417 PARKDAL IC122R61	36	0.1377
## LANCASTER RD	36	0.1377
## MONTREAL RD	36	0.1377
## THOMAS A. DOLAN PKWY	36	0.1377
## TRANSITWAY ON RAMP	36	0.1377
## MONTREAL RD RAMP 86	35	0.1339
## PRESTON ST	35	0.1339
## HERON RD	34	0.1301
## VANIER PKWY	34	0.1301
## HWY 417 ST.LAUR IC115R51	33	0.1262
## OTTAWA RIVER PKWY	33	0.1262
## REMIC RAPIDS ENT	33	0.1262
## HAANEL DR	32	0.1224
## HWY 417 EAGLESO IC138R51	32	0.1224
## HWY 417 O'CONN IC119BR76	32	0.1224
## HWY 417 MOODIE IC134R36	31	0.1186
## PERCY ST	31	0.1186
## HWY 417 KINBURN IC169R35	30	0.1148
## HWY 417 WOODROF IC127R25	30	0.1148
## HWY 417 WOODROF IC127R51	30	0.1148
## IRIS ST	30	0.1148
## ROYDON PL	30	0.1148
## YORK ST	30	0.1148
## CLYDE AVE	29	0.1109
## MCARTHUR AVE	29	0.1109
## SHEFFIELD RD	29	0.1109
## HWY 417 WALKLEY IC110R64	28	0.1071
## OR174 IC112 RAMP 51	28	0.1071
## RITA AVE	28	0.1071
## TERMINAL AVE	28	0.1071
## HWY 417 ROCHE IC121BR51	27	0.1033
## MEADOWLANDS DR	27	0.1033
## SPRATT RD	27	0.1033

```

## VIEWMOUNT DR           27   0.1033
## DALHOUSIE ST          26   0.0995
## HWY 417 WOODROF IC127R63  26   0.0995
## LANG'S RD              26   0.0995
## TENTH LINE RD           26   0.0995
## OGILVIE RD              25   0.0956
## ROSSLAND AVE            25   0.0956
## CLEOPATRA DR             24   0.0918
## HWY 417 PARKDAL IC122R16  24   0.0918
## MARCH RD                 24   0.0918
## NELSON ST                24   0.0918
## RIDEAU ST                 24   0.0918
## (Other)                  8044 30.7739
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2007.csv...
##
## Number of Blank Values:14432
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value           Counter Percentage
## -----
## 14432                   51.8596
## WOODROFFE AVE            112   0.4025
## WEST HUNT CLUB RD         102   0.3665
## TRANSITWAY                 99   0.3557
## HWY 417 PARKDAL IC122R51  98   0.3522
## O'CONNOR ST                89   0.3198
## WALKLEY RD                  84   0.3018
## ST. LAURENT BLVD            82   0.2947
## HIGHWAY 417                  79   0.2839
## HWY 417 CARLING IC124R57   76   0.2731
## MERIVALE RD                  76   0.2731
## RUSSELL RD                  75   0.2695
## HWY 417 RIVERSI IC117R51   74   0.2659
## LYON ST                      69   0.2479
## TERRY FOX DR                  69   0.2479
## HWY 417 PARKDAL IC122R61   68   0.2443
## PRINCE OF WALES DR            67   0.2408
## RICHMOND RD                  67   0.2408
## SUSSEX DR                      64   0.2300
## WELLINGTON ST                  62   0.2228

```

## HWY 417 VANIER IC117R36	61	0.2192
## N/A	60	0.2156
## END	59	0.2120
## STAR TOP RD	59	0.2120
## HWY 417 ST.LAUR IC115R36	57	0.2048
## RIVERSIDE DR	57	0.2048
## SOMERSET ST	55	0.1976
## HWY 417 VANIER IC117R61	54	0.1940
## HWY 417 BRONSO IC121AR61	53	0.1904
## HWY 417 NICHOLA IC118R57	53	0.1904
## RIDEAU RD	52	0.1869
## HWY 417 WOODROF IC127R25	51	0.1833
## OTTAWA RIVER PKWY	51	0.1833
## INNES RD	50	0.1797
## MOODIE DR	50	0.1797
## HWY 417 O'CONN IC119BR57	49	0.1761
## METCALFE ST	49	0.1761
## ST. JOSEPH BLVD	48	0.1725
## INDUSTRIAL AVE	46	0.1653
## REGIONAL RD 174	46	0.1653
## HWY 417 WOODROF IC127R63	45	0.1617
## LANCASTER RD	45	0.1617
## REGIONAL ROAD 174	45	0.1617
## HWY 417 O'CONN IC119BR76	44	0.1581
## VANIER PKWY	43	0.1545
## HERON RD	42	0.1509
## HWY 417 MOODIE IC134R61	42	0.1509
## TREMBLAY RD	42	0.1509
## MARCH RD	41	0.1473
## MCARTHUR AVE	41	0.1473
## OSGODEE ST	41	0.1473
## STARWOOD RD	41	0.1473
## HWY 417 BOUNDARY IC96R16	40	0.1437
## HWY 417 MAITLAN IC126R61	38	0.1365
## NELSON ST	38	0.1365
## NO NAME	38	0.1365
## OGILVIE RD	38	0.1365
## TENTH LINE RD	38	0.1365
## PERCY ST	37	0.1330
## HWY 416 ROGERSTE IC49R	36	0.1294
## HWY 417 CARLING IC124R76	36	0.1294
## HWY 417 NICHOLA IC118R76	36	0.1294
## HWY 417 MOODIE IC134R36	35	0.1258
## HWY 417 WOODROF IC127R51	35	0.1258
## NORICE ST	35	0.1258
## STRANDHERD DR	35	0.1258
## HWY 417 MOODIE IC134R51	34	0.1222
## MONTREAL RD	34	0.1222



## FALLOWFIELD RD	33	0.1186
## GREENBANK RD	33	0.1186
## HWY 417 ROCHE'S IC121BR51	33	0.1186
## RITA AVE	33	0.1186
## HWY 417 WOODROF IC127R67	32	0.1150
## REMIC RAPIDS ENT	32	0.1150
## HWY 417 KENT IC120AR52	31	0.1114
## HWY 417 PARKDAL IC122R16	31	0.1114
## ORLEANS BLVD	31	0.1114
## ROCHESTER ST	31	0.1114
## VIEWMOUNT DR	31	0.1114
## WINSTON AVE	31	0.1114
## HWY 417 IS.PARK IC123R62	30	0.1078
## HWY 417 ST.LAUR IC115R51	30	0.1078
## KATIMAVIK RD	30	0.1078
## KENT ST	30	0.1078
## YORK ST	30	0.1078
## BANK ST	29	0.1042
## BRONSON AVE	29	0.1042
## HWY 417 ROCHE'S IC121BR16	29	0.1042
## HWY 417 WALKLEY IC110R64	29	0.1042
## OR174 IC112 RAMP 51	29	0.1042
## PARKDALE AVE	29	0.1042
## PRESTON ST	29	0.1042
## HWY 417 RICHMON IC130R26	28	0.1006
## RIDEAU ST	27	0.0970
## TERMINAL AVE	27	0.0970
## TRANSITWAY ON RAMP	27	0.0970
## ERIE AVE	26	0.0934
## GLADSTONE AVE	26	0.0934
## KING EDWARD AVE RAMP 34	26	0.0934
## (Other)	8808	31.6504
##		
## -----		
## CHECKING FEATURE:STREET3		
## DATA:All 2008.csv...		
##		
## Number of Blank Values:14822		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREETS		
##		
## Feature Value	Counter	Percentage
## -----	-----	-----
##	14822	51.9287

## WEST HUNT CLUB RD	128	0.4484
## WOODROFFE AVE	124	0.4344
## TRANSITWAY	113	0.3959
## RIVERSIDE DR	104	0.3644
## HWY 417 MOODIE IC134R51	100	0.3503
## REGIONAL ROAD 174	100	0.3503
## MERIVALE RD	99	0.3468
## HWY 417 RIVERSI IC117R51	95	0.3328
## ST. LAURENT BLVD	95	0.3328
## WALKLEY RD	90	0.3153
## HWY 417 VANIER IC117R36	85	0.2978
## O'CONNOR ST	85	0.2978
## RUSSELL RD	79	0.2768
## N/A	78	0.2733
## RICHMOND RD	77	0.2698
## SUSSEX DR	74	0.2593
## HWY 417 PARKDAL IC122R61	73	0.2558
## HWY 417 PARKDAL IC122R51	72	0.2523
## LYON ST	70	0.2452
## HWY 417 MOODIE IC134R36	69	0.2417
## END	68	0.2382
## HWY 417 O'CONN IC119BR57	65	0.2277
## TERRY FOX DR	64	0.2242
## INNES RD	63	0.2207
## HWY 417 VANIER IC117R61	59	0.2067
## HWY 417 ROCHE IC121BR16	58	0.2032
## KENT ST	57	0.1997
## HWY 417 WOODROF IC127R25	56	0.1962
## ST. JOSEPH BLVD	56	0.1962
## HWY 417 NICHOLA IC118R57	55	0.1927
## MOODIE DR	55	0.1927
## OR174 IC112 RAMP 51	55	0.1927
## SOMERSET ST	55	0.1927
## WELLINGTON ST	55	0.1927
## PRINCE OF WALES DR	54	0.1892
## OTTAWA RIVER PKWY	53	0.1857
## TREMBLAY RD	53	0.1857
## VANIER PKWY	53	0.1857
## HWY 417 BRONSO IC121AR61	52	0.1822
## RIDEAU RD	52	0.1822
## HWY 417 CARLING IC124R76	51	0.1787
## HWY 417 ROCHE IC121BR51	49	0.1717
## HIGHWAY 417	48	0.1682
## HWY 417 CARLING IC124R57	48	0.1682
## HWY 417 MOODIE IC134R61	47	0.1647
## METCALFE ST	46	0.1612
## HWY 417 ST.LAUR IC115R36	44	0.1542
## REGIONAL RD 174	44	0.1542

## HWY 417 MAITLAN IC126R61	43	0.1506
## VIEWMOUNT DR	42	0.1471
## STARWOOD RD	41	0.1436
## HERON RD	40	0.1401
## HWY 417 ST.LAUR IC115R51	40	0.1401
## MARCH RD	40	0.1401
## STAR TOP RD	40	0.1401
## YORK ST	40	0.1401
## MONTREAL RD	39	0.1366
## NO NAME	39	0.1366
## PERCY ST	39	0.1366
## HUNT CLUB RD	38	0.1331
## HIGHBURY PARK	37	0.1296
## HWY 416 ROGERSTE IC49R	37	0.1296
## LANCASTER RD	37	0.1296
## INDUSTRIAL AVE	35	0.1226
## FALLOWFIELD RD	33	0.1156
## KING EDWARD AVE	33	0.1156
## NORICE ST	33	0.1156
## SPRATT RD	33	0.1156
## HWY 416 WESTHUNT IC72R24	32	0.1121
## MCARTHUR AVE	32	0.1121
## TRANSITWAY ON RAMP	32	0.1121
## GREENBANK RD	31	0.1086
## HWY 417 WOODROF IC127R51	31	0.1086
## MELFORT ST	31	0.1086
## NELSON ST	31	0.1086
## HWY 416 FALLOWFI IC66R24	30	0.1051
## VANIER RD	30	0.1051
## IRIS ST	29	0.1016
## KIRKWOOD AVE	29	0.1016
## MEADOWLANDS DR	29	0.1016
## HWY 417 KENT IC120AR52	28	0.0981
## RIDEAU ST	28	0.0981
## ROYDON PL	28	0.0981
## STINSON AVE	28	0.0981
## TERMINAL AVE	28	0.0981
## EAGLESON RD	27	0.0946
## HWY 417 WOODROF IC127R63	27	0.0946
## HWY 417 WOODROF IC127R67	27	0.0946
## NICHOLAS ST	27	0.0946
## REMIC RAPIDS ENT	27	0.0946
## ELGIN ST	26	0.0911
## HARDING RD	26	0.0911
## HEATHERINGTON RD	26	0.0911
## HWY 417 EAGLESO IC138R51	26	0.0911
## HWY 417 O'CONN IC119BR76	26	0.0911
## TEMPLETON ST	26	0.0911



```
## THOMAS A. DOLAN PKWY           26      0.0911
## HWY 417 BOUNDARY IC96R51        25      0.0876
## (Other)                         8788    30.7886
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2009.csv...
##
## Number of Blank Values:14755
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREETS
##
## Feature Value          Counter   Percentage
## -----
##                                     14755    51.7447
## RIVERSIDE DR                  137      0.4804
## WOODROFFE AVE                135      0.4734
## HWY 417 PARKDAL IC122R51     119      0.4173
## WEST HUNT CLUB RD            113      0.3963
## O'CONNOR ST                  111      0.3893
## REGIONAL ROAD 174            100      0.3507
## WALKLEY RD                   99       0.3472
## HWY 417 RIVERSI IC117R51     97       0.3402
## ST. LAURENT BLVD             90       0.3156
## TRANSITWAY                    87       0.3051
## HIGHWAY 417                   85       0.2981
## RUSSELL RD                   85       0.2981
## HWY 417 MOODIE IC134R51      82       0.2876
## SUSSEX DR                     80       0.2806
## HWY 417 ROCHES IC121BR16     77       0.2700
## HWY 417 BRONSO IC121AR61     73       0.2560
## HWY 417 PARKDAL IC122R61     73       0.2560
## TERRY FOX DR                 73       0.2560
## MERIVALE RD                  69       0.2420
## SOMERSET ST                  68       0.2385
## RICHMOND RD                  66       0.2315
## END                           65       0.2280
## HWY 417 CARLING IC124R76     65       0.2280
## HWY 417 NICHOLA IC118R57     65       0.2280
## LYON ST                        63       0.2209
## TREMBLAY RD                  62       0.2174
## STAR TOP RD                  61       0.2139
## HWY 417 VANIER IC117R36      56       0.1964
## PRINCE OF WALES DR            56       0.1964
```



## MOODIE DR	55	0.1929
## PERCY ST	55	0.1929
## HWY 417 ST.LAUR IC115R36	54	0.1894
## WELLINGTON ST	54	0.1894
## HWY 417 O'CONN IC119BR57	52	0.1824
## OR174 IC112 RAMP 51	52	0.1824
## OTTAWA RIVER PKWY	52	0.1824
## HWY 417 MAITLAN IC126R61	51	0.1789
## INDUSTRIAL AVE	51	0.1789
## METCALFE ST	51	0.1789
## N/A	51	0.1789
## VANIER PKWY	51	0.1789
## HIGHBURY PARK	50	0.1753
## HWY 416 ROGERSTE IC49R	50	0.1753
## HWY 417 VANIER IC117R61	50	0.1753
## TENTH LINE RD	49	0.1718
## HWY 417 WOODROF IC127R25	48	0.1683
## HWY 417 WOODROF IC127R51	48	0.1683
## ST. JOSEPH BLVD	48	0.1683
## KING EDWARD AVE	47	0.1648
## HWY 417 ROCHE'S IC121BR51	46	0.1613
## HWY 417 MOODIE IC134R36	45	0.1578
## OGILVIE RD	45	0.1578
## RIDEAU ST	45	0.1578
## INNES RD	44	0.1543
## LANCASTER RD	44	0.1543
## HERON RD	43	0.1508
## KENT ST	43	0.1508
## REGIONAL RD 174	43	0.1508
## SUNNYSIDE AVE	43	0.1508
## MONTREAL RD	42	0.1473
## ORLEANS BLVD	42	0.1473
## VIEWMOUNT DR	41	0.1438
## RIDEAU RD	40	0.1403
## HWY 417 CARLING IC124R57	38	0.1333
## FALLOWFIELD RD	36	0.1262
## RIVERSIDE DR RAMP 42A	36	0.1262
## HWY 417 WOODROF IC127R67	34	0.1192
## MCARTHUR AVE	34	0.1192
## SPRATT RD	34	0.1192
## MEADOWLANDS DR	33	0.1157
## SHOPPERS CITY WEST SC	33	0.1157
## ROCHESTER ST	32	0.1122
## SHEFFIELD RD	32	0.1122
## HWY 417 WALKLEY IC110R64	31	0.1087
## MAITLAND AVE	31	0.1087
## NAVAHO DR	31	0.1087
## CLYDE AVE	30	0.1052

## ANTARES DR	29	0.1017
## HUNT CLUB PL	29	0.1017
## HWY 417 BOUNDARY IC96R16	29	0.1017
## HWY 417 O'CONN IC119BR76	29	0.1017
## HWY 417 RR 174 IC113R67	29	0.1017
## NO NAME	29	0.1017
## RENFREW AVE	29	0.1017
## STARWOOD RD	29	0.1017
## MARCH RD	28	0.0982
## ROYDON PL	28	0.0982
## CAMBRIDGE ST	27	0.0947
## GREENBANK RD	27	0.0947
## HWY 417 IS.PARK IC123R62	27	0.0947
## HWY 417 RICHMON IC130R26	27	0.0947
## HWY 417 RICHMON IC130R35	27	0.0947
## HUNT CLUB RD	26	0.0912
## HWY 417 EAGLESO IC138R51	26	0.0912
## HWY 417 MOODIE IC134R61	26	0.0912
## HWY 417 NICHOLA IC118R76	26	0.0912
## IBER RD	26	0.0912
## LARKIN DR	26	0.0912
## (Other)	8679	30.4366
##		
## -----		
## CHECKING FEATURE:STREET3		
## DATA:All 2010.csv...		
##		
## Number of Blank Values:14349		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREETS		
##		
## Feature Value	Counter	Percentage
## -----	-----	-----
##	14349	52.1611
## TRANSITWAY	175	0.6362
## WOODROFFE AVE	128	0.4653
## ST. LAURENT BLVD	108	0.3926
## MERIVALE RD	94	0.3417
## RUSSELL RD	94	0.3417
## HWY 417 VANIER IC117R36	92	0.3344
## WEST HUNT CLUB RD	92	0.3344
## RIVERSIDE DR	83	0.3017
## O'CONNOR ST	80	0.2908
## END	79	0.2872



## REGIONAL RD 174	79	0.2872
## HWY 417 RIVERSI IC117R51	74	0.2690
## REGIONAL ROAD 174	71	0.2581
## HWY 417 PARKDAL IC122R51	70	0.2545
## SUSSEX DR	69	0.2508
## WELLINGTON ST	69	0.2508
## KENT ST	68	0.2472
## TERRY FOX DR	68	0.2472
## WALKLEY RD	68	0.2472
## LYON ST	67	0.2436
## HWY 417 ROCHE IC121BR16	66	0.2399
## OTTAWA RIVER PKWY	66	0.2399
## HWY 417 MAITLAN IC126R61	63	0.2290
## HWY 417 VANIER IC117R61	62	0.2254
## PRINCE OF WALES DR	62	0.2254
## RICHMOND RD	62	0.2254
## HWY 417 ROCHE IC121BR51	61	0.2217
## STARWOOD RD	60	0.2181
## MEADOWLANDS DR	57	0.2072
## HWY 417 CARLING IC124R76	55	0.1999
## HWY 417 WOODROF IC127R67	54	0.1963
## METCALFE ST	53	0.1927
## N/A	53	0.1927
## TREMBLAY RD	53	0.1927
## STAR TOP RD	52	0.1890
## HWY 417 O'CONN IC119BR76	50	0.1818
## HWY 417 PARKDAL IC122R61	50	0.1818
## INDUSTRIAL AVE	50	0.1818
## MCARTHUR AVE	50	0.1818
## ST. JOSEPH BLVD	50	0.1818
## INNES RD	49	0.1781
## JOHNSTON RD	49	0.1781
## HWY 417 GREENBA IC126R51	48	0.1745
## HWY 417 WOODROF IC127R51	48	0.1745
## HWY 417 WOODROF IC127R25	47	0.1709
## MARCH RD	47	0.1709
## NO NAME	47	0.1709
## TENTH LINE RD	47	0.1709
## HIGHWAY 417	46	0.1672
## HWY 417 O'CONN IC119BR57	46	0.1672
## ORLEANS BLVD	46	0.1672
## VANIER PKWY	45	0.1636
## HWY 417 BRONSO IC121AR61	44	0.1599
## HWY 417 MOODIE IC134R51	44	0.1599
## NELSON ST	44	0.1599
## RIDEAU RD	44	0.1599
## HWY 417 ST.LAUR IC115R36	43	0.1563
## HWY 417 NICHOLA IC118R57	42	0.1527



## NORICE ST	42	0.1527
## OR174 IC112 RAMP 51	39	0.1418
## HERON RD	38	0.1381
## LANCASTER RD	38	0.1381
## VIEWMOUNT DR	37	0.1345
## MONTREAL RD	36	0.1309
## HWY 417 NICHOLA IC118R76	34	0.1236
## HWY 417 WOODROF IC127R63	34	0.1236
## KING EDWARD AVE	34	0.1236
## PERCY ST	34	0.1236
## Highbury Park	33	0.1200
## HWY 417 ST.LAUR IC115R51	33	0.1200
## HWY 417 BOUNDARY IC96R16	32	0.1163
## MELFORT ST	32	0.1163
## PARKDALE AVE	32	0.1163
## SPRATT RD	32	0.1163
## HWY 417 PARKDAL IC122R16	31	0.1127
## OGILVIE RD	31	0.1127
## STRANDHERD DR	31	0.1127
## HUNT CLUB RD	30	0.1091
## HWY 417 MOODIE IC134R36	30	0.1091
## MCLEOD ST	30	0.1091
## MOODIE DR	30	0.1091
## NEPEAN ST	30	0.1091
## SOMERSET ST	30	0.1091
## WALLER ST	30	0.1091
## YORK ST	30	0.1091
## HWY 416 ROGERSTE IC49R	29	0.1054
## HWY 417 RR 174 IC113R65	29	0.1054
## IRIS ST	29	0.1054
## REMIC RAPIDS ENT	29	0.1054
## TRANSITWAY ON RAMP	29	0.1054
## HWY 417 MARCH IC138R61	28	0.1018
## RIVERSIDE DR RAMP 42A	28	0.1018
## WILLIAM ST	28	0.1018
## HWY 417 MAITLAN IC126R15	27	0.0981
## PRESTON ST	27	0.0981
## ST. PATRICK ST	27	0.0981
## ST. JOSEPH BLVD R-TRANSIT	26	0.0945
## HWY 417 BOUNDARY IC96R51	25	0.0909
## (Other)	8223	29.8920
##		
## -----		
## CHECKING FEATURE:STREET3		
## DATA:All 2011.csv...		
##		
## Number of Blank Values:14508		
##		

```

## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREETS
##
## Feature Value          Counter   Percentage
## -----                  -----      -----
##                               14508     51.9460
## WOODROFFE AVE           126       0.4511
## HWY 417 VANIER IC117R36 114       0.4082
## INNES RD                 109       0.3903
## WEST HUNT CLUB RD        109       0.3903
## TRANSITWAY                108       0.3867
## MERIVALE RD               107       0.3831
## ST. LAURENT BLVD         106       0.3795
## RIVERSIDE DR              101       0.3616
## HWY 417 PARKDAL IC122R51 86        0.3079
## WALKLEY RD                86        0.3079
## TERRY FOX DR              83        0.2972
## O'CONNOR ST               81        0.2900
## RUSSELL RD                74        0.2650
## HWY 417 BRONSO IC121AR61 72        0.2578
## HERON RD                  71        0.2542
## HIGHWAY 417                71        0.2542
## HWY 417 CARLING IC124R76 71        0.2542
## HWY 417 RR 174 IC113R67   70        0.2506
## HWY 417 RIVERSI IC117R51 67        0.2399
## HWY 417 WOODROF IC127R51 65        0.2327
## SUSSEX DR                  65        0.2327
## REGIONAL RD 174            63        0.2256
## PRINCE OF WALES DR         61        0.2184
## MEADOWLANDS DR             59        0.2112
## HWY 417 MAITLAN IC126R61 55        0.1969
## TENTH LINE RD               55        0.1969
## GREENBANK RD                54        0.1933
## HWY 417 CARLING IC124R57 54        0.1933
## HWY 417 NICHOLA IC118R57 54        0.1933
## INDUSTRIAL AVE              54        0.1933
## REGIONAL ROAD 174            54        0.1933
## HWY 417 WOODROF IC127R25 53        0.1898
## NO NAME                      53        0.1898
## END                           52        0.1862
## KENT ST                        52        0.1862
## MONTREAL RD                   52        0.1862
## SOMERSET ST                   52        0.1862
## TREMBLAY RD                   52        0.1862
## OR174 IC112 RAMP 51            51        0.1826

```

## VIEWMOUNT DR	51	0.1826
## HWY 417 WOODROF IC127R67	50	0.1790
## N/A	50	0.1790
## LYON ST	49	0.1754
## RICHMOND RD	49	0.1754
## METCALFE ST	48	0.1719
## RIDEAU RD	48	0.1719
## VANIER PKWY	48	0.1719
## WELLINGTON ST	48	0.1719
## HWY 417 GREENBA IC126R51	47	0.1683
## HWY 417 MOODIE IC134R36	46	0.1647
## HWY 417 ROCHE'S IC121BR16	46	0.1647
## MARCH RD	45	0.1611
## HWY 417 O'CONN IC119BR57	44	0.1575
## HWY 417 ST.LAUR IC115R51	44	0.1575
## STAR TOP RD	44	0.1575
## HWY 417 PARKDAL IC122R61	42	0.1504
## ST. JOSEPH BLVD	41	0.1468
## RIDEAU ST	40	0.1432
## PERCY ST	39	0.1396
## LARKIN DR	38	0.1361
## MOODIE DR	38	0.1361
## TRANSITWAY ON RAMP	38	0.1361
## HWY 416 ROGERSTE IC49R	36	0.1289
## HWY 417 VANIER IC117R61	36	0.1289
## HWY 417 BOUNDARY IC96R16	35	0.1253
## MAC ST	35	0.1253
## SUNNYSIDE AVE	35	0.1253
## HWY 417 MOODIE IC134R51	34	0.1217
## HWY 417 ROCHE'S IC121BR51	34	0.1217
## MELFORT ST	34	0.1217
## RENAUD RD	34	0.1217
## HWY 417 RICHMON IC130R35	33	0.1182
## HWY 417 ST.LAUR IC115R36	33	0.1182
## KING EDWARD AVE	33	0.1182
## HWY 417 O'CONN IC119BR76	32	0.1146
## LANCASTER RD	32	0.1146
## NELSON ST	32	0.1146
## HUNT CLUB RD	31	0.1110
## MCCOOEY LANE	31	0.1110
## NAVAHO DR	31	0.1110
## SPRATT RD	31	0.1110
## HWY 417 BOUNDARY IC96R51	30	0.1074
## HWY 417 NICHOLA IC118R76	30	0.1074
## HWY 417 MAITLAN IC126R15	29	0.1038
## ROCHESTER ST	29	0.1038
## VANCES SIDE RD	29	0.1038
## FALLOWFIELD RD	28	0.1003

```

## HWY 417 RR 174 IC113R65          28      0.1003
## RICHARDSON SIDE RD             28      0.1003
## ROTHBOURNE RD                 28      0.1003
## HWY 417 IS.PARK IC123R62        27      0.0967
## JOCKVALE RD                     27      0.0967
## OTTAWA RIVER PKWY               27      0.0967
## SHEFFIELD RD                   27      0.0967
## DESCHAMPS AVE                  26      0.0931
## HWY 417 WOODROF IC127R63        26      0.0931
## ORLEANS BLVD                     26      0.0931
## SHOPPERS CITY WEST SC           26      0.0931
## (Other)                           8463     30.3018
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2012.csv...
##
## Number of Blank Values:14362
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF STREETS
##
## Feature Value          Counter  Percentage
## -----                  -----  -----
##                               14362     54.0392
## TRANSITWAY                123      0.4628
## WOODROFFE AVE              123      0.4628
## WEST HUNT CLUB RD           103      0.3876
## HWY 417 VANIER IC117R36     101      0.3800
## RUSSELL RD                  101      0.3800
## ST. LAURENT BLVD            97       0.3650
## RIVERSIDE DR                 80       0.3010
## TREMBLAY RD                  77       0.2897
## LYON ST                      76       0.2860
## O'CONNOR ST                  76       0.2860
## REGIONAL ROAD 174            75       0.2822
## NO NAME                      70       0.2634
## MERIVALE RD                  69       0.2596
## HWY 417 MAITLAN IC126R61     67       0.2521
## INNES RD                      66       0.2483
## PRINCE OF WALES DR            65       0.2446
## WALKLEY RD                    64       0.2408
## RICHMOND RD                   62       0.2333
## END                            60       0.2258
## HWY 417 NICHOLA IC118R57     60       0.2258

```

## MOODIE DR	57	0.2145
## MONTREAL RD	56	0.2107
## HIGHWAY 417	55	0.2069
## ST. JOSEPH BLVD	55	0.2069
## HWY 417 CARLING IC124R76	54	0.2032
## HWY 417 RIVERSI IC117R51	54	0.2032
## HWY 417 WOODROF IC127R25	53	0.1994
## REGIONAL RD 174	52	0.1957
## METCALFE ST	51	0.1919
## HWY 417 CARLING IC124R57	50	0.1881
## HWY 417 ST.LAUR IC115R51	50	0.1881
## HWY 417 PARKDAL IC122R51	49	0.1844
## HWY 417 ROCHE'S IC121BR16	49	0.1844
## HWY 417 ST.LAUR IC115R36	47	0.1768
## WELLINGTON ST	47	0.1768
## KENT ST	46	0.1731
## STAR TOP RD	46	0.1731
## N/A	45	0.1693
## SOMERSET ST	45	0.1693
## HERON RD	44	0.1656
## SUSSEX DR	44	0.1656
## HWY 417 MOODIE IC134R36	43	0.1618
## Highbury Park	42	0.1580
## HWY 417 O'CONN IC119BR57	42	0.1580
## HWY 417 BRONSO IC121AR61	41	0.1543
## MARCH RD	41	0.1543
## FALLOWFIELD RD	40	0.1505
## HWY 417 MARCH IC138R61	39	0.1467
## RIDEAU RD	39	0.1467
## HWY 417 VANIER IC117R61	38	0.1430
## TENTH LINE RD	38	0.1430
## VANIER PKWY	38	0.1430
## HWY 417 ROCHE'S IC121BR51	37	0.1392
## VIEWMOUNT DR	37	0.1392
## KING EDWARD AVE	36	0.1355
## HWY 417 BOUNDARY IC96R51	35	0.1317
## HWY 417 O'CONN IC119BR76	35	0.1317
## PERCY ST	35	0.1317
## TERRY FOX DR	35	0.1317
## RIDEAU ST	34	0.1279
## STRANDHERD DR	34	0.1279
## GREENBANK RD	33	0.1242
## OTTAWA RIVER PKWY	33	0.1242
## JEANNE D'ARC BLVD	32	0.1204
## OR174 IC112 RAMP 36	32	0.1204
## CLEOPATRA DR	31	0.1166
## HWY 417 MOODIE IC134R51	31	0.1166
## HWY 417 WOODROF IC127R51	31	0.1166



## HWY 417 WOODROF IC127R67	31	0.1166
## HWY 417 GREENBA IC126R51	30	0.1129
## MCARTHUR AVE	30	0.1129
## LARKIN DR	29	0.1091
## ORLEANS BLVD	29	0.1091
## HWY 417 PARKDAL IC122R61	28	0.1054
## MONTREAL RD RAMP 64	28	0.1054
## DALHOUSIE ST	27	0.1016
## HWY 416 ROGERSTE IC49R	27	0.1016
## HWY 417 WOODROF IC127R63	27	0.1016
## INDUSTRIAL AVE	27	0.1016
## SPRATT RD	27	0.1016
## FERGUSON ST	26	0.0978
## HWY 417 NICHOLA IC118R76	26	0.0978
## MEADOWLANDS DR	26	0.0978
## NELSON ST	26	0.0978
## NORMANDY CRES S	26	0.0978
## RENFREW AVE	26	0.0978
## SUNNYSIDE AVE	26	0.0978
## WILDFLOWER DR	26	0.0978
## CUMBERLAND ST	25	0.0941
## DEAD END	25	0.0941
## HWY 417 MAITLAN IC126R15	25	0.0941
## LANCASTER RD	25	0.0941
## ST. JEAN ST	25	0.0941
## ST. JOSEPH BLVD R-TRANSIT	25	0.0941
## HWY 417 BOUNDARY IC96R16	24	0.0903
## IRIS ST	24	0.0903
## O'TOOLE RD	24	0.0903
## ROCHESTER ST	24	0.0903
## (Other)	7775	29.2546
##		
## -----		
## CHECKING FEATURE:STREET3		
## DATA:All 2013.csv...		
##		
## Number of Blank Values:14629		
##		
## Summary as Factor Feature:		
##		
## Number of Features: 100		
##		
## TOP 100 FEATURES OF STREETS		
##		
## Feature Value	Counter	Percentage
## -----	-----	-----
##	14629	52.3006
## HWY 417 VANIER IC117R36	165	0.5899

## HWY 417 RIVERSI IC117R51	141	0.5041
## HWY 417 PARKDAL IC122R51	128	0.4576
## REGIONAL ROAD 174	118	0.4219
## ST. LAURENT BLVD	108	0.3861
## WOODROFFE AVE	108	0.3861
## RIVERSIDE DR	105	0.3754
## RUSSELL RD	105	0.3754
## WEST HUNT CLUB RD	102	0.3647
## WALKLEY RD	100	0.3575
## TRANSITWAY	97	0.3468
## O'CONNOR ST	95	0.3396
## MERIVALE RD	94	0.3361
## HWY 417 NICHOLA IC118R57	82	0.2932
## HIGHWAY 417	76	0.2717
## HWY 417 ROCHE'S IC121BR16	74	0.2646
## END	73	0.2610
## HWY 417 PARKDAL IC122R61	73	0.2610
## LYON ST	70	0.2503
## PRINCE OF WALES DR	70	0.2503
## TERRY FOX DR	65	0.2324
## HWY 417 ROCHE'S IC121BR51	64	0.2288
## HWY 417 ST.LAUR IC115R36	62	0.2217
## REGIONAL RD 174	61	0.2181
## HWY 416 ROGERSTE IC49R	59	0.2109
## HWY 417 VANIER IC117R61	59	0.2109
## KENT ST	59	0.2109
## MOODIE DR	59	0.2109
## HWY 417 CARLING IC124R76	58	0.2074
## INNES RD	58	0.2074
## TREMBLAY RD	58	0.2074
## METCALFE ST	56	0.2002
## RIDEAU RD	55	0.1966
## WELLINGTON ST	54	0.1931
## MEADOWLANDS DR	53	0.1895
## RICHMOND RD	53	0.1895
## SUSSEX DR	52	0.1859
## HWY 417 CARLING IC124R57	51	0.1823
## HWY 417 O'CONN IC119BR57	49	0.1752
## HWY 417 MOODIE IC134R36	48	0.1716
## HWY 417 MAITLAN IC126R61	47	0.1680
## HWY 417 MOODIE IC134R51	47	0.1680
## N/A	47	0.1680
## INDUSTRIAL AVE	46	0.1645
## MARCH RD	45	0.1609
## HWY 417 WOODROF IC127R63	44	0.1573
## HWY 417 WOODROF IC127R51	43	0.1537
## ST. JOSEPH BLVD	42	0.1502
## HWY 417 BRONSO IC121AR61	41	0.1466



## SOMERSET ST	41	0.1466
## HWY 417 WOODROF IC127R25	40	0.1430
## HWY 417 WOODROF IC127R67	40	0.1430
## HWY 417 ST.LAUR IC115R51	39	0.1394
## LANCASTER RD	39	0.1394
## OR174 IC112 RAMP 51	39	0.1394
## HERON RD	37	0.1323
## HWY 417 O'CONN IC119BR76	37	0.1323
## STAR TOP RD	37	0.1323
## Highbury Park	35	0.1251
## HWY 417 NICHOLA IC118R76	35	0.1251
## ORLEANS BLVD	35	0.1251
## ELGIN ST	34	0.1216
## HWY 417 RICHMON IC130R26	34	0.1216
## MONTREAL RD	34	0.1216
## PERCY ST	34	0.1216
## RIDEAU ST	34	0.1216
## STRANDHERD DR	34	0.1216
## VANIER PKWY	34	0.1216
## HUNT CLUB RD	33	0.1180
## FALLOWFIELD RD	32	0.1144
## HWY 417 MAITLAN IC126R15	32	0.1144
## RIVERSIDE DR RAMP 42A	32	0.1144
## ROYDON PL	32	0.1144
## YORK ST	32	0.1144
## HWY 417 EAGLESO IC138R51	31	0.1108
## NORICE ST	31	0.1108
## ROCHESTER ST	31	0.1108
## CLEOPATRA DR	30	0.1073
## GREENBANK RD	30	0.1073
## IRIS ST	30	0.1073
## MCARTHUR AVE	30	0.1073
## NE/OT BOUNDARY	30	0.1073
## OR174 IC112 RAMP 36	30	0.1073
## RIDGEMONT AVE	30	0.1073
## LANG'S RD	29	0.1037
## PAGE RD	29	0.1037
## SUNNYSIDE AVE	29	0.1037
## DALHOUSIE ST	28	0.1001
## HWY 417 BOUNDARY IC96R16	28	0.1001
## HWY 417 RR 174 IC113R67	28	0.1001
## MAIN ST	28	0.1001
## MELFORT ST	28	0.1001
## PARKDALE AVE	28	0.1001
## SPRATT RD	28	0.1001
## HWY 417 MARCH IC155R61	27	0.0965
## NO NAME	27	0.0965
## ROSSLAND AVE	27	0.0965

```

## TENTH LINE RD           27      0.0965
## (Other)                 8244     29.4734
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2014.csv...
##
## Number of Blank Values:27292
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value   Counter   Percentage
## -----          -----   -----
##                               27292      100
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2015.csv...
##
## Number of Blank Values:27867
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value   Counter   Percentage
## -----          -----   -----
##                               27867      100
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2016.csv...
##
## Number of Blank Values:25858
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value   Counter   Percentage

```

```

## -----
##          25858      100
##
## -----
## CHECKING FEATURE:STREET3
## DATA:All 2017.csv...
##
## Number of Blank Values:26541
##
## Summary as Factor Feature:
##
## Number of Features: 1
##
## TOP 100 FEATURES OF STREET3
##
## Feature Value   Counter Percentage
## -----
##          26541      100
##
## =====
## FINAL INFO CHECKING FEATURE:STREET3
## ALL DATA...
## =====
##
## Number of Blank Values:250356
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## =====
## Summary as Factor Feature:
## Number of Features: 100[1] "TOP 100 FEATURES COUNTERS OF:STREET3"

```

Feature Value	Counter	Percentage
	250356	65.7258
WOODROFFE AVE	1222	0.3208
TRANSITWAY	1084	0.2846
WEST HUNT CLUB RD	1041	0.2733
RIVERSIDE DR	918	0.2410
ST. LAURENT BLVD	907	0.2381
HWY 417 PARKDAL IC122R51	890	0.2337

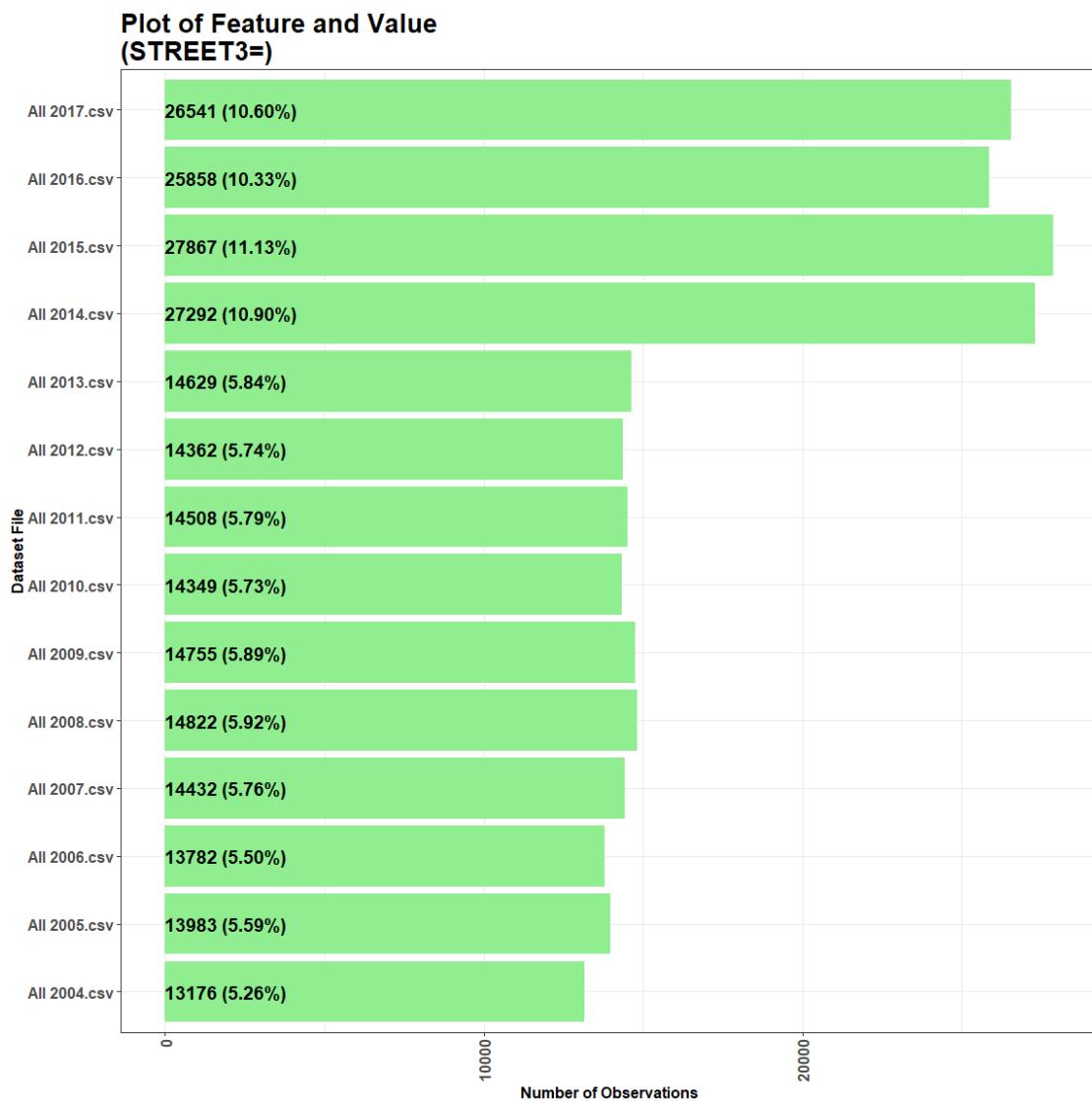
O'CONNOR ST	880	0.2310
HWY 417 VANIER IC117R36	872	0.2289
MERIVALE RD	846	0.2221
RUSSELL RD	836	0.2195
HWY 417 RIVERSI IC117R51	814	0.2137
WALKLEY RD	787	0.2066
REGIONAL ROAD 174	732	0.1922
LYON ST	672	0.1764
HIGHWAY 417	637	0.1672
END	627	0.1646
SUSSEX DR	623	0.1636
PRINCE OF WALES DR	616	0.1617
INNES RD	604	0.1586
RICHMOND RD	596	0.1565
HWY 417 NICHOLA IC118R57	577	0.1515
TERRY FOX DR	572	0.1502
WELLINGTON ST	559	0.1468
N/A	532	0.1397
HWY 417 MOODIE IC134R51	526	0.1381
HWY 417 BRONSO IC121AR61	525	0.1378
HWY 417 PARKDAL IC122R61	523	0.1373
TREMBLAY RD	522	0.1370
REGIONAL RD 174	517	0.1357
SOMERSET ST	512	0.1344
HWY 417 MAITLAN IC126R61	511	0.1342
HWY 417 CARLING IC124R76	510	0.1339
KENT ST	510	0.1339
MOODIE DR	509	0.1336
HWY 417 ROCHE IC121BR16	506	0.1328
HWY 417 O'CONN IC119BR57	505	0.1326
ST. JOSEPH BLVD	502	0.1318
METCALFE ST	491	0.1289
STAR TOP RD	482	0.1265
HWY 417 WOODROF IC127R25	478	0.1255
RIDEAU RD	473	0.1242

INDUSTRIAL AVE	469	0.1231
HWY 417 CARLING IC124R57	468	0.1229
HWY 417 ST.LAUR IC115R36	467	0.1226
HWY 417 VANIER IC117R61	457	0.1200
HWY 417 ROCHE'S IC121BR51	434	0.1139
HWY 417 MOODIE IC134R36	429	0.1126
HERON RD	425	0.1116
NO NAME	425	0.1116
VANIER PKWY	418	0.1097
OTTAWA RIVER PKWY	412	0.1082
MONTREAL RD	399	0.1047
VIEWMOUNT DR	382	0.1003
MEADOWLANDS DR	376	0.0987
HWY 417 WOODROF IC127R51	375	0.0984
OR174 IC112 RAMP 51	373	0.0979
HWY 417 O'CONN IC119BR76	372	0.0977
MARCH RD	366	0.0961
HWY 417 ST.LAUR IC115R51	356	0.0935
HWY 416 ROGERSTE IC49R	355	0.0932
TENTH LINE RD	354	0.0929
PERCY ST	352	0.0924
KING EDWARD AVE	350	0.0919
LANCASTER RD	347	0.0911
RIDEAU ST	333	0.0874
HWY 417 WOODROF IC127R67	330	0.0866
ORLEANS BLVD	324	0.0851
HWY 417 BOUNDARY IC96R16	321	0.0843
MCARTHUR AVE	321	0.0843
STARWOOD RD	320	0.0840
NELSON ST	314	0.0824
HIGBURY PARK	308	0.0809
FALLOWFIELD RD	306	0.0803
HWY 417 WOODROF IC127R63	306	0.0803
GREENBANK RD	302	0.0793
MELFORT ST	295	0.0774

HWY 417 NICHOLA IC118R76	289	0.0759
HWY 417 MOODIE IC134R61	288	0.0756
OGILVIE RD	285	0.0748
STRANDHERD DR	284	0.0746
YORK ST	281	0.0738
HUNT CLUB RD	279	0.0732
SPRATT RD	273	0.0717
TRANSITWAY ON RAMP	269	0.0706
NORICE ST	265	0.0696
SUNNYSIDE AVE	265	0.0696
PARKDALE AVE	264	0.0693
ROCHESTER ST	263	0.0690
IRIS ST	254	0.0667
THOMAS A. DOLAN PKWY	254	0.0667
HWY 417 GREENBA IC126R51	250	0.0656
HWY 417 RICHMON IC130R26	248	0.0651
HWY 417 BOUNDARY IC96R51	245	0.0643
ROYDON PL	244	0.0641
LARKIN DR	238	0.0625
HWY 417 MARCH IC138R61	236	0.0620
HWY 417 WALKLEY IC110R64	236	0.0620
HWY 417 RR 174 IC113R67	235	0.0617
(Other)	84822	22.2683

32.1 STREET3 = "" (Blank)

```
##
## =====
## CHECKING FEATURE AND VALUE (STREET3=)
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      13176      13983      13782      14432      14822
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      14755      14349      14508      14362      14629
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
```



DATASET FILE	COUNTER OF (STREET3=)	Percentage
All 2004.csv	13176	5.263
All 2005.csv	13983	5.585
All 2006.csv	13782	5.505
All 2007.csv	14432	5.765
All 2008.csv	14822	5.920
All 2009.csv	14755	5.894
All 2010.csv	14349	5.731
All 2011.csv	14508	5.795
All 2012.csv	14362	5.737
All 2013.csv	14629	5.843



All 2014.csv	27292	10.901
All 2015.csv	27867	11.131
All 2016.csv	25858	10.329
All 2017.csv	26541	10.601

33. Accident Date (ACCIDENT_DATE)

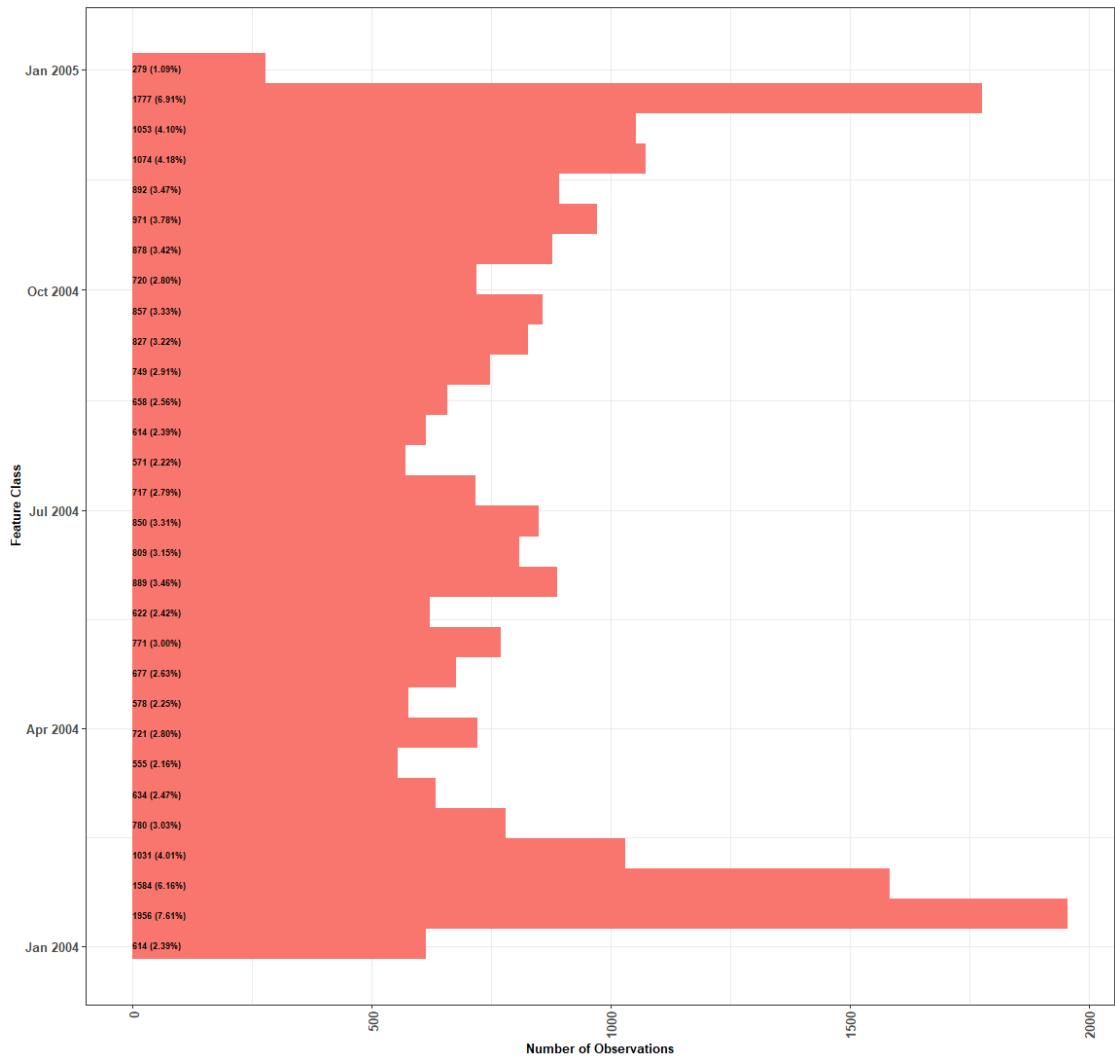
```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_DATE  
## DATA:All 2004.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Date Feature:  
##  
##      Min.    1st Qu.    Median      Mean    3rd Qu.  
## "2004-01-01" "2004-03-08" "2004-06-30" "2004-06-30" "2004-10-19"  
##      Max.  
## "2005-01-01"  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_DATE  
##  
## Feature Value   Counter Percentage  
## -----  
## 2004-01-14       390     1.5170  
## 2004-12-20       372     1.4470  
## 2004-01-15       343     1.3342  
## 2004-01-26       238     0.9258  
## 2004-12-21       238     0.9258  
## 2004-01-24       213     0.8285  
## 2004-01-11       193     0.7507  
## 2004-01-23       185     0.7196  
## 2004-12-01       184     0.7157  
## 2004-12-23       178     0.6924  
## 2004-12-17       176     0.6846  
## 2004-04-04       173     0.6729  
## 2004-01-16       163     0.6340  
## 2004-12-15       154     0.5990  
## 2004-12-10       153     0.5951  
## 2004-09-07       147     0.5718
```

## 2004-01-07	141	0.5485
## 2004-11-02	141	0.5485
## 2004-01-09	140	0.5446
## 2004-01-13	140	0.5446
## 2004-12-07	139	0.5407
## 2004-01-21	138	0.5368
## 2004-02-03	138	0.5368
## 2004-02-12	133	0.5173
## 2004-01-08	129	0.5018
## 2004-02-06	126	0.4901
## 2004-07-14	122	0.4746
## 2004-01-28	121	0.4707
## 2004-01-12	118	0.4590
## 2004-12-11	116	0.4512
## 2004-06-01	115	0.4473
## 2004-11-19	115	0.4473
## 2004-02-13	114	0.4434
## 2004-01-20	113	0.4396
## 2004-06-29	111	0.4318
## 2004-12-14	110	0.4279
## 2004-01-17	109	0.4240
## 2004-06-30	109	0.4240
## 2004-01-06	104	0.4045
## 2004-10-21	104	0.4045
## 2004-12-18	104	0.4045
## 2004-10-30	103	0.4007
## 2004-11-18	103	0.4007
## 2004-01-22	102	0.3968
## 2004-01-30	102	0.3968
## 2004-05-18	102	0.3968
## 2004-01-29	101	0.3929
## 2004-01-25	100	0.3890
## 2004-09-10	100	0.3890
## 2004-10-15	100	0.3890
## 2004-02-05	99	0.3851
## 2004-02-04	98	0.3812
## 2004-11-15	98	0.3812
## 2004-12-13	98	0.3812
## 2004-10-29	97	0.3773
## 2004-12-16	97	0.3773
## 2004-12-22	97	0.3773
## 2004-12-24	96	0.3734
## 2004-10-28	95	0.3695
## 2004-11-30	95	0.3695
## 2004-10-01	93	0.3618
## 2004-05-07	92	0.3579
## 2004-09-22	92	0.3579
## 2004-10-22	92	0.3579

```
## 2004-02-26          91    0.3540
## 2004-04-22          91    0.3540
## 2004-06-22          91    0.3540
## 2004-08-03          91    0.3540
## 2004-11-24          91    0.3540
## 2004-05-28          90    0.3501
## 2004-02-02          89    0.3462
## 2004-11-23          89    0.3462
## 2004-11-26          89    0.3462
## 2004-06-24          88    0.3423
## 2004-11-17          88    0.3423
## 2004-12-03          88    0.3423
## 2004-01-18          87    0.3384
## 2004-04-23          87    0.3384
## 2004-09-24          87    0.3384
## 2004-11-04          87    0.3384
## 2004-04-05          86    0.3345
## 2004-11-12          86    0.3345
## 2004-09-23          85    0.3306
## 2004-10-07          85    0.3306
## 2004-12-09          85    0.3306
## 2004-01-19          84    0.3267
## 2004-06-03          84    0.3267
## 2004-02-23          83    0.3229
## 2004-09-15          83    0.3229
## 2004-10-02          83    0.3229
## 2004-10-20          83    0.3229
## 2004-11-05          83    0.3229
## 2004-12-04          83    0.3229
## 2004-02-27          82    0.3190
## 2004-05-13          82    0.3190
## 2004-06-18          82    0.3190
## 2004-09-29          82    0.3190
## 2004-11-20          81    0.3151
## 2004-01-05          80    0.3112
## (Other)           13900   54.0688

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2004.csv



```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2005.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.    1st Qu.      Median        Mean      3rd Qu.
## "2005-01-01" "2005-03-18" "2005-07-06" "2005-07-04" "2005-10-16"
##      Max.
## "2006-01-01"
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_DATE  
##  
## Feature Value Counter Percentage  
## -----  
## 2005-01-21 414 1.5545  
## 2005-11-24 226 0.8486  
## 2005-01-28 220 0.8261  
## 2005-01-27 219 0.8223  
## 2005-03-01 205 0.7698  
## 2005-11-18 195 0.7322  
## 2005-03-07 194 0.7284  
## 2005-12-15 176 0.6609  
## 2005-05-27 164 0.6158  
## 2005-01-19 162 0.6083  
## 2005-09-16 160 0.6008  
## 2005-02-18 157 0.5895  
## 2005-11-17 157 0.5895  
## 2005-12-13 157 0.5895  
## 2005-01-26 155 0.5820  
## 2005-10-13 155 0.5820  
## 2005-01-20 152 0.5707  
## 2005-12-21 152 0.5707  
## 2005-12-09 149 0.5595  
## 2005-12-08 147 0.5520  
## 2005-08-12 142 0.5332  
## 2005-10-07 142 0.5332  
## 2005-12-23 138 0.5182  
## 2005-11-25 135 0.5069  
## 2005-12-06 135 0.5069  
## 2005-12-19 135 0.5069  
## 2005-01-07 133 0.4994  
## 2005-12-16 132 0.4956  
## 2005-06-14 131 0.4919  
## 2005-01-22 129 0.4844  
## 2005-12-14 126 0.4731  
## 2005-11-09 125 0.4694  
## 2005-03-03 124 0.4656  
## 2005-08-19 124 0.4656  
## 2005-12-12 117 0.4393  
## 2005-02-01 116 0.4356  
## 2005-12-20 114 0.4281  
## 2005-02-10 113 0.4243  
## 2005-12-02 113 0.4243
```

## 2005-06-21	111	0.4168
## 2005-11-28	111	0.4168
## 2005-11-03	110	0.4130
## 2005-01-11	109	0.4093
## 2005-02-04	109	0.4093
## 2005-09-08	108	0.4055
## 2005-06-24	107	0.4018
## 2005-01-23	106	0.3980
## 2005-12-07	106	0.3980
## 2005-06-29	105	0.3943
## 2005-10-21	105	0.3943
## 2005-03-09	104	0.3905
## 2005-06-15	104	0.3905
## 2005-06-17	103	0.3868
## 2005-11-16	102	0.3830
## 2005-10-18	101	0.3792
## 2005-06-01	100	0.3755
## 2005-09-17	100	0.3755
## 2005-09-29	100	0.3755
## 2005-02-14	98	0.3680
## 2005-10-19	97	0.3642
## 2005-07-06	96	0.3605
## 2005-10-14	96	0.3605
## 2005-03-08	95	0.3567
## 2005-08-02	95	0.3567
## 2005-01-06	94	0.3530
## 2005-11-01	94	0.3530
## 2005-01-17	93	0.3492
## 2005-02-21	93	0.3492
## 2005-07-21	93	0.3492
## 2005-01-18	92	0.3454
## 2005-01-25	92	0.3454
## 2005-02-02	92	0.3454
## 2005-11-29	92	0.3454
## 2005-11-15	91	0.3417
## 2005-09-30	90	0.3379
## 2005-04-28	89	0.3342
## 2005-07-25	89	0.3342
## 2005-01-12	88	0.3304
## 2005-02-24	88	0.3304
## 2005-09-22	88	0.3304
## 2005-03-10	87	0.3267
## 2005-07-05	87	0.3267
## 2005-11-04	87	0.3267
## 2005-01-31	86	0.3229
## 2005-02-23	86	0.3229
## 2005-06-02	86	0.3229
## 2005-06-08	86	0.3229

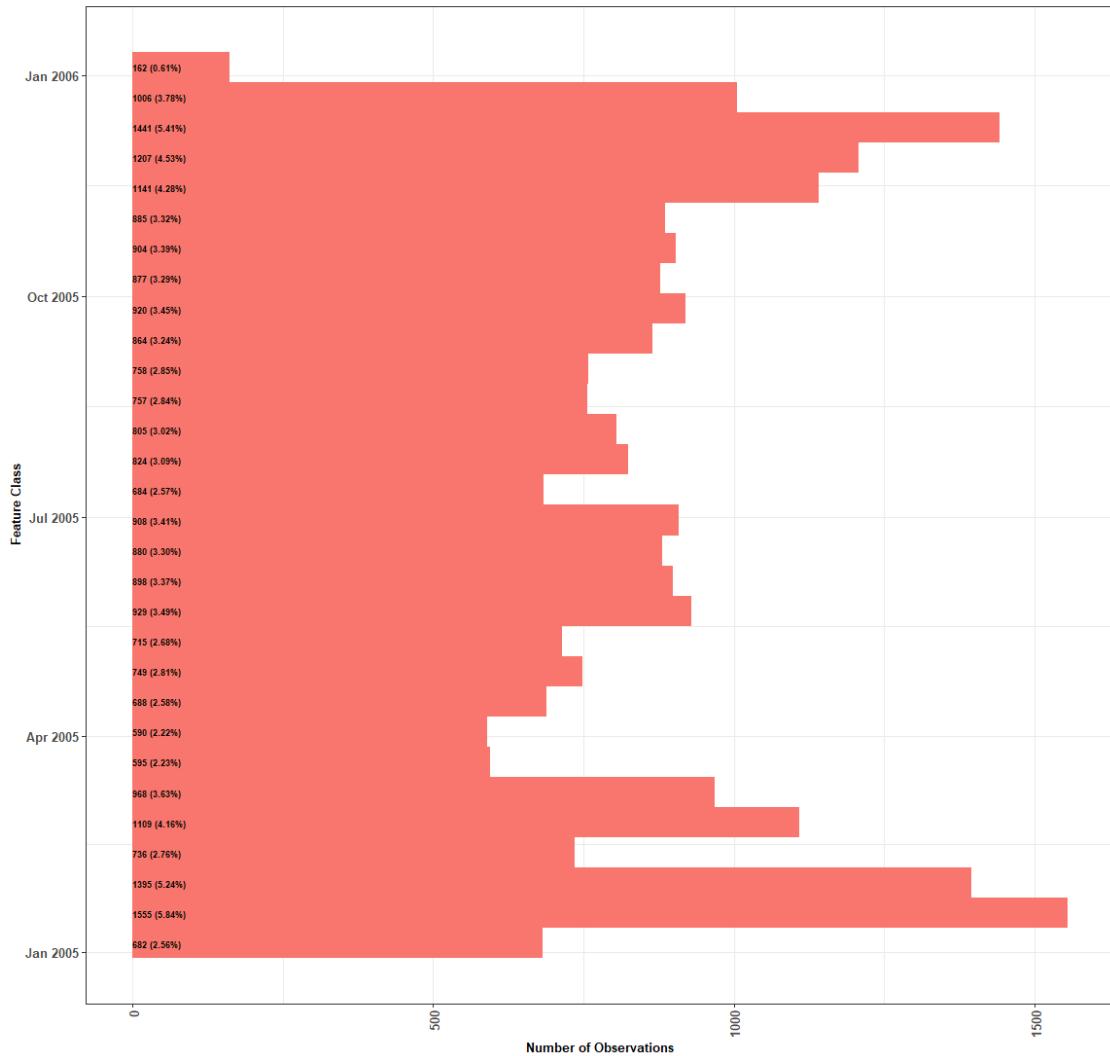
```

## 2005-06-30          86    0.3229
## 2005-12-22          86    0.3229
## 2005-05-20          85    0.3192
## 2005-09-23          85    0.3192
## 2005-10-25          85    0.3192
## 2005-06-09          84    0.3154
## 2005-05-25          83    0.3117
## 2005-09-09          83    0.3117
## 2005-12-05          83    0.3117
## 2005-06-03          82    0.3079
## 2005-10-05          82    0.3079
## 2005-01-14          81    0.3041
## (Other)           14846   55.7450

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

Plot of Feature:ACCIDENT_DATE
Data:All 2005.csv



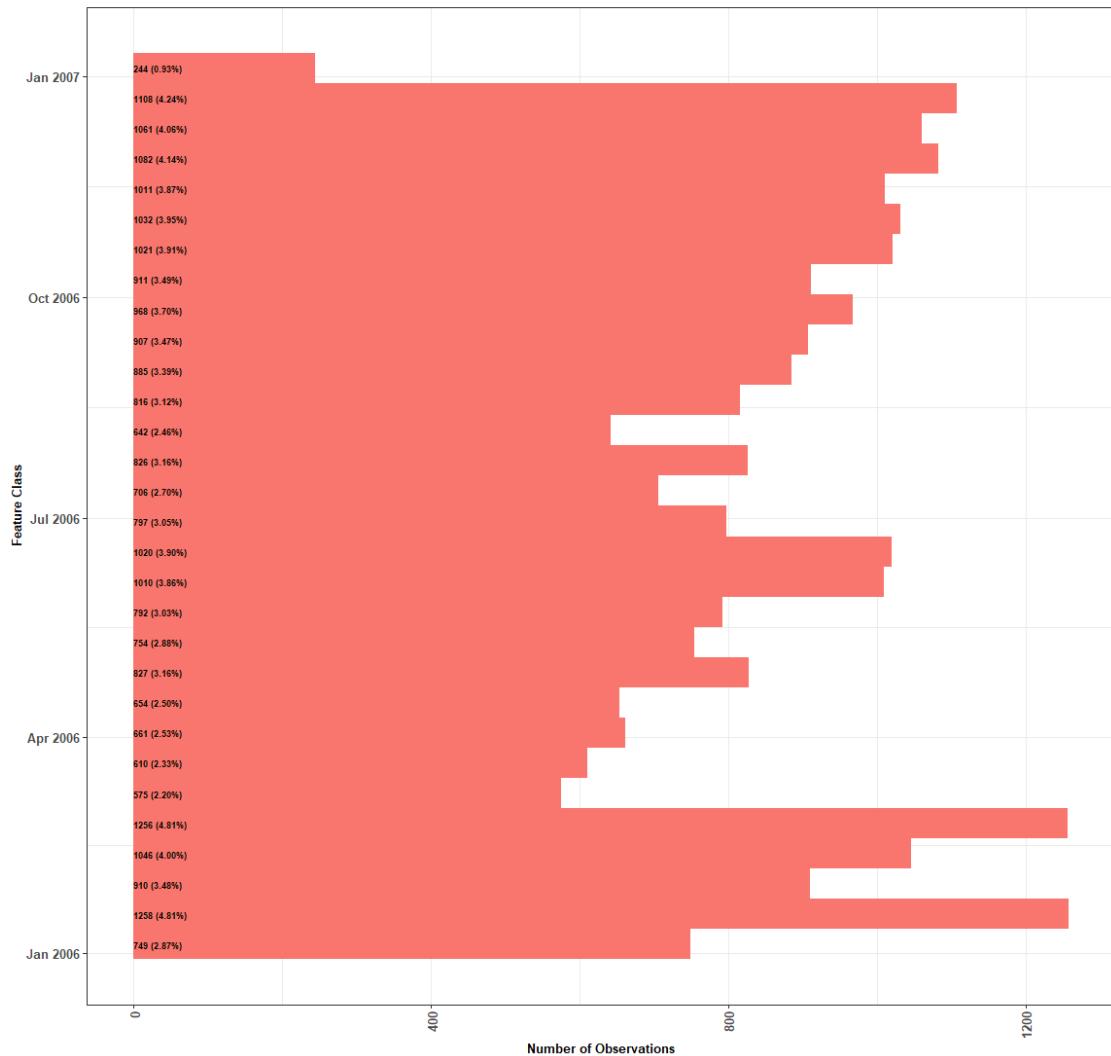
```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2006.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.    1st Qu.    Median    Mean    3rd Qu.
## "2006-01-01" "2006-03-30" "2006-07-09" "2006-07-07" "2006-10-15"
##      Max.
## "2007-01-01"
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_DATE
##
## Feature Value   Counter   Percentage
## -----
## 2006-12-22       347     1.3275
## 2006-02-17       202     0.7728
## 2006-01-18       162     0.6198
## 2006-09-13       157     0.6006
## 2006-01-21       156     0.5968
## 2006-01-11       151     0.5777
## 2006-06-09       151     0.5777
## 2006-02-27       144     0.5509
## 2006-09-08       135     0.5165
## 2006-09-28       134     0.5126
## 2006-11-30       132     0.5050
## 2006-01-27       130     0.4973
## 2006-11-08       129     0.4935
## 2006-12-15       129     0.4935
## 2006-02-24       128     0.4897
## 2006-02-16       126     0.4820
## 2006-12-07       125     0.4782
## 2006-06-03       124     0.4744
## 2006-11-16       124     0.4744
## 2006-02-14       122     0.4667
## 2006-10-04       120     0.4591
## 2006-01-26       118     0.4514
## 2006-02-20       117     0.4476
## 2006-10-28       117     0.4476
```

## 2006-10-11	116	0.4438
## 2006-12-01	114	0.4361
## 2006-12-08	114	0.4361
## 2006-11-29	112	0.4285
## 2006-11-24	111	0.4247
## 2006-06-16	110	0.4208
## 2006-01-09	109	0.4170
## 2006-01-23	108	0.4132
## 2006-06-13	108	0.4132
## 2006-01-17	107	0.4094
## 2006-11-23	106	0.4055
## 2006-01-10	105	0.4017
## 2006-02-18	105	0.4017
## 2006-02-10	104	0.3979
## 2006-05-31	104	0.3979
## 2006-10-20	104	0.3979
## 2006-11-07	104	0.3979
## 2006-12-09	104	0.3979
## 2006-12-21	104	0.3979
## 2006-06-27	103	0.3940
## 2006-11-17	103	0.3940
## 2006-01-04	102	0.3902
## 2006-02-28	102	0.3902
## 2006-10-17	102	0.3902
## 2006-11-14	101	0.3864
## 2006-11-27	101	0.3864
## 2006-12-30	101	0.3864
## 2006-01-06	100	0.3826
## 2006-04-26	100	0.3826
## 2006-05-04	100	0.3826
## 2006-05-12	100	0.3826
## 2006-06-23	100	0.3826
## 2006-05-29	99	0.3787
## 2006-11-02	99	0.3787
## 2006-12-20	99	0.3787
## 2006-10-23	98	0.3749
## 2006-11-03	98	0.3749
## 2006-02-25	97	0.3711
## 2006-07-27	97	0.3711
## 2006-12-19	97	0.3711
## 2006-09-20	96	0.3673
## 2006-09-29	96	0.3673
## 2006-11-21	96	0.3673
## 2006-12-28	96	0.3673
## 2006-06-02	95	0.3634
## 2006-06-29	95	0.3634
## 2006-10-16	95	0.3634
## 2006-10-19	95	0.3634

```
## 2006-06-06          94    0.3596
## 2006-07-25          94    0.3596
## 2006-09-05          94    0.3596
## 2006-11-01          94    0.3596
## 2006-11-09          94    0.3596
## 2006-03-01          93    0.3558
## 2006-06-19          93    0.3558
## 2006-12-12          93    0.3558
## 2006-12-14          93    0.3558
## 2006-02-21          92    0.3520
## 2006-11-10          92    0.3520
## 2006-10-27          91    0.3481
## 2006-06-20          90    0.3443
## 2006-07-21          90    0.3443
## 2006-09-14          90    0.3443
## 2006-10-05          90    0.3443
## 2006-01-19          89    0.3405
## 2006-01-25          89    0.3405
## 2006-05-20          89    0.3405
## 2006-09-01          89    0.3405
## 2006-02-19          88    0.3367
## 2006-04-22          88    0.3367
## 2006-06-15          88    0.3367
## 2006-10-12          88    0.3367
## 2006-03-17          87    0.3328
## 2006-10-14          87    0.3328
## 2006-10-18          87    0.3328
## (Other)           15301   58.5371

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2006.csv



```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2007.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##           Min.     1st Qu.      Median        Mean      3rd Qu.
## "2007-01-01" "2007-03-18" "2007-07-09" "2007-07-05" "2007-10-18"
##          Max.
## "2008-01-01"
```

```

##  

## Summary as Factor Feature:  

##  

## Number of Features: 100  

##  

## TOP 100 FEATURES OF ACCIDENT_DATE  

##  

## Feature Value      Counter   Percentage  

## -----  

## 2007-02-14          261      0.9379  

## 2007-11-29          251      0.9019  

## 2007-12-17          218      0.7834  

## 2007-02-09          212      0.7618  

## 2007-12-19          210      0.7546  

## 2007-01-25          185      0.6648  

## 2007-02-07          185      0.6648  

## 2007-01-29          183      0.6576  

## 2007-12-11          177      0.6360  

## 2007-01-26          171      0.6145  

## 2007-11-22          167      0.6001  

## 2007-01-31          164      0.5893  

## 2007-03-02          159      0.5713  

## 2007-02-05          158      0.5678  

## 2007-12-27          158      0.5678  

## 2007-11-30          154      0.5534  

## 2007-01-30          152      0.5462  

## 2007-12-06          147      0.5282  

## 2007-12-05          145      0.5210  

## 2007-01-23          143      0.5139  

## 2007-01-15          140      0.5031  

## 2007-06-04          138      0.4959  

## 2007-12-21          138      0.4959  

## 2007-01-17          134      0.4815  

## 2007-11-28          133      0.4779  

## 2007-12-14          133      0.4779  

## 2007-01-22          131      0.4707  

## 2007-09-11          128      0.4600  

## 2007-12-20          127      0.4564  

## 2007-11-14          126      0.4528  

## 2007-12-18          125      0.4492  

## 2007-02-15          124      0.4456  

## 2007-02-16          124      0.4456  

## 2007-10-19          124      0.4456  

## 2007-01-24          122      0.4384  

## 2007-07-04          121      0.4348  

## 2007-08-24          120      0.4312  

## 2007-10-09          120      0.4312  

## 2007-10-11          118      0.4240

```

## 2007-11-27	117	0.4204
## 2007-12-13	117	0.4204
## 2007-02-01	116	0.4168
## 2007-07-12	116	0.4168
## 2007-11-21	114	0.4096
## 2007-01-16	113	0.4061
## 2007-02-08	110	0.3953
## 2007-09-20	109	0.3917
## 2007-10-13	108	0.3881
## 2007-11-01	108	0.3881
## 2007-12-16	108	0.3881
## 2007-11-05	107	0.3845
## 2007-12-01	107	0.3845
## 2007-10-25	106	0.3809
## 2007-08-17	105	0.3773
## 2007-10-23	105	0.3773
## 2007-02-19	104	0.3737
## 2007-11-13	104	0.3737
## 2007-09-21	103	0.3701
## 2007-01-19	102	0.3665
## 2007-04-05	102	0.3665
## 2007-08-23	102	0.3665
## 2007-09-28	102	0.3665
## 2007-12-15	102	0.3665
## 2007-02-02	101	0.3629
## 2007-12-03	101	0.3629
## 2007-07-06	100	0.3593
## 2007-11-23	100	0.3593
## 2007-11-26	100	0.3593
## 2007-03-17	99	0.3557
## 2007-10-27	98	0.3522
## 2007-09-18	97	0.3486
## 2007-12-12	97	0.3486
## 2007-06-27	96	0.3450
## 2007-06-29	96	0.3450
## 2007-05-31	95	0.3414
## 2007-08-16	95	0.3414
## 2007-08-30	95	0.3414
## 2007-03-05	94	0.3378
## 2007-08-08	94	0.3378
## 2007-08-31	94	0.3378
## 2007-10-04	94	0.3378
## 2007-05-11	93	0.3342
## 2007-10-31	92	0.3306
## 2007-11-09	92	0.3306
## 2007-06-08	91	0.3270
## 2007-09-24	91	0.3270
## 2007-02-20	90	0.3234

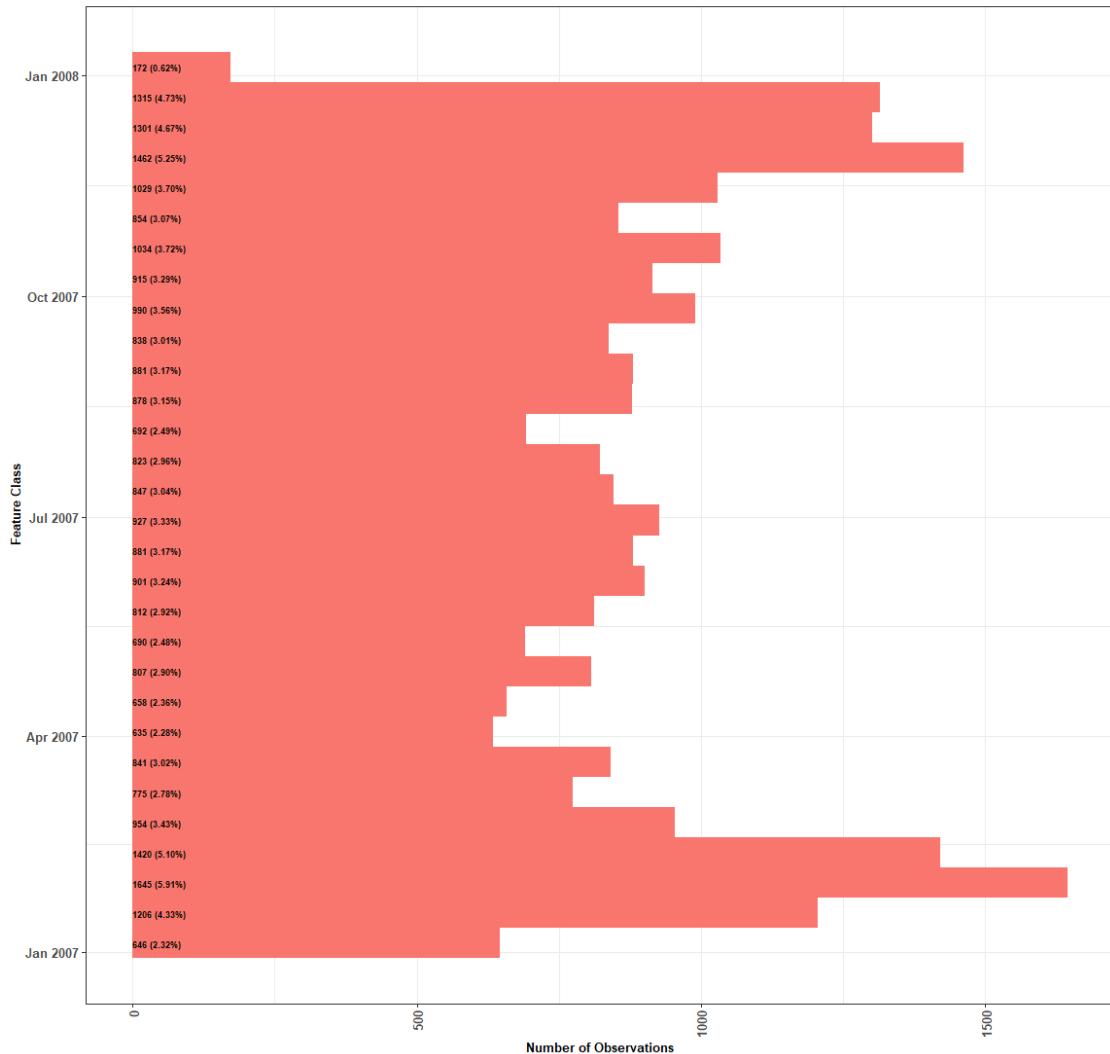
```

## 2007-02-21          90    0.3234
## 2007-06-05          90    0.3234
## 2007-06-19          90    0.3234
## 2007-08-10          90    0.3234
## 2007-09-27          90    0.3234
## 2007-01-11          89    0.3198
## 2007-02-23          89    0.3198
## 2007-03-06          88    0.3162
## 2007-06-07          88    0.3162
## 2007-07-09          88    0.3162
## 2007-07-16          88    0.3162
## 2007-07-20          88    0.3162
## (Other)           15853   56.9658

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:ACCIDENT_DATE
Data:All 2007.csv**



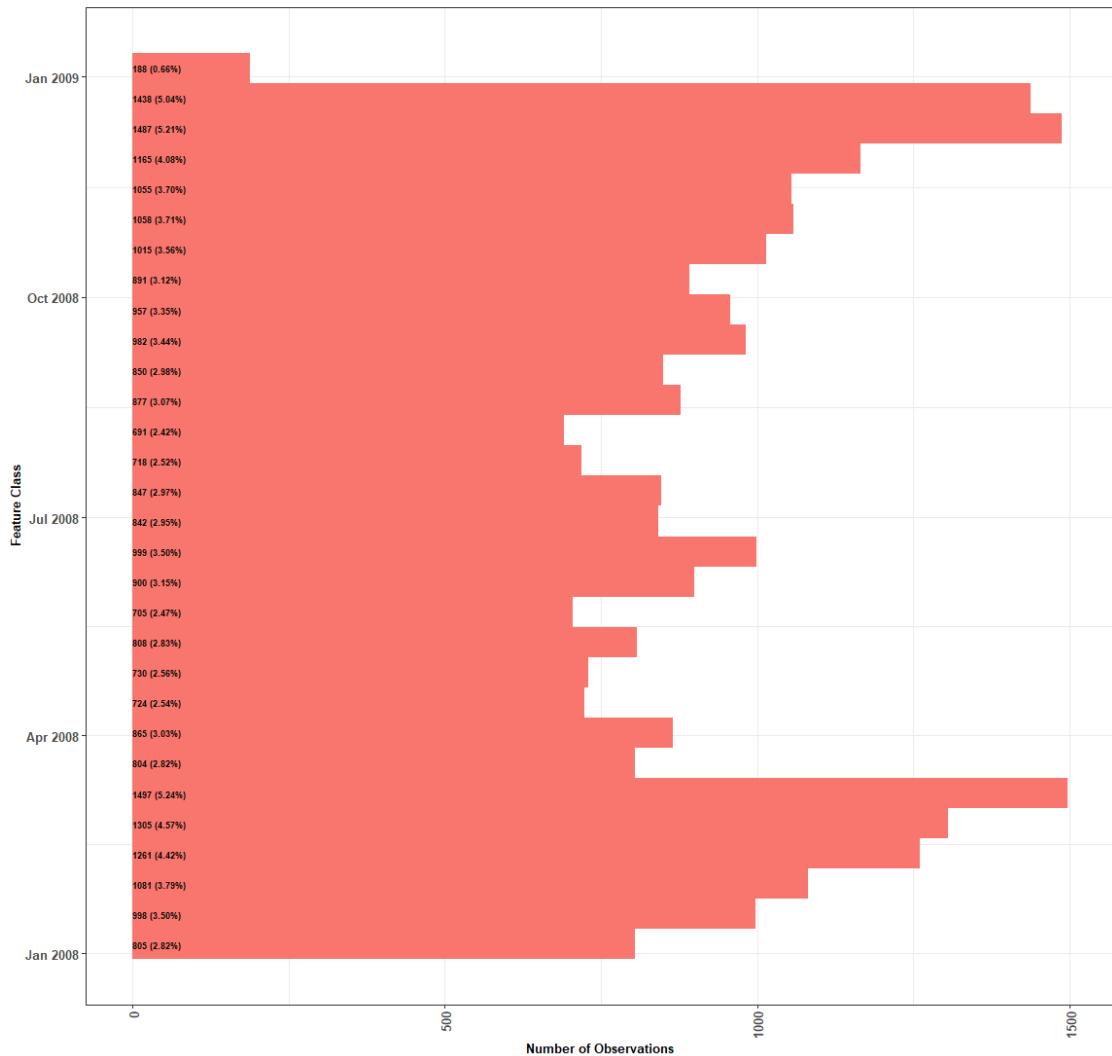
```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2008.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.    1st Qu.    Median    Mean    3rd Qu.
## "2008-01-01" "2008-03-17" "2008-07-04" "2008-07-05" "2008-10-18"
##      Max.
## "2009-01-01"
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_DATE
##
## Feature Value   Counter   Percentage
## -----
## 2008-01-22       229      0.8023
## 2008-03-07       208      0.7287
## 2008-02-07       189      0.6622
## 2008-12-22       184      0.6446
## 2008-12-11       172      0.6026
## 2008-02-27       167      0.5851
## 2008-03-10       167      0.5851
## 2008-02-13       158      0.5536
## 2008-12-09       158      0.5536
## 2008-12-19       157      0.5500
## 2008-12-17       155      0.5430
## 2008-12-20       154      0.5395
## 2008-12-05       153      0.5360
## 2008-03-01       150      0.5255
## 2008-12-27       150      0.5255
## 2008-12-12       149      0.5220
## 2008-12-02       147      0.5150
## 2008-12-08       147      0.5150
## 2008-02-15       144      0.5045
## 2008-02-26       143      0.5010
## 2008-03-11       142      0.4975
## 2008-12-10       141      0.4940
## 2008-12-13       140      0.4905
## 2008-12-23       137      0.4800
```

## 2008-11-25	135	0.4730
## 2008-11-18	134	0.4695
## 2008-03-14	129	0.4519
## 2008-03-03	128	0.4484
## 2008-03-13	128	0.4484
## 2008-10-09	127	0.4449
## 2008-11-28	125	0.4379
## 2008-03-06	124	0.4344
## 2008-09-30	122	0.4274
## 2008-12-21	122	0.4274
## 2008-03-20	120	0.4204
## 2008-10-31	119	0.4169
## 2008-02-28	118	0.4134
## 2008-01-03	117	0.4099
## 2008-02-14	116	0.4064
## 2008-10-30	116	0.4064
## 2008-02-21	115	0.4029
## 2008-02-20	114	0.3994
## 2008-01-24	110	0.3854
## 2008-10-10	110	0.3854
## 2008-02-02	109	0.3819
## 2008-11-21	109	0.3819
## 2008-12-16	109	0.3819
## 2008-01-25	108	0.3784
## 2008-02-01	108	0.3784
## 2008-02-22	108	0.3784
## 2008-09-08	108	0.3784
## 2008-08-14	107	0.3749
## 2008-09-06	107	0.3749
## 2008-10-28	107	0.3749
## 2008-11-13	106	0.3714
## 2008-01-02	105	0.3679
## 2008-10-29	105	0.3679
## 2008-11-06	105	0.3679
## 2008-12-18	105	0.3679
## 2008-02-29	104	0.3644
## 2008-11-24	103	0.3609
## 2008-01-31	102	0.3574
## 2008-03-19	102	0.3574
## 2008-07-18	102	0.3574
## 2008-10-21	102	0.3574
## 2008-01-14	101	0.3539
## 2008-03-31	101	0.3539
## 2008-02-11	100	0.3503
## 2008-06-11	100	0.3503
## 2008-06-23	99	0.3468
## 2008-10-07	99	0.3468
## 2008-11-07	99	0.3468

```
## 2008-11-26          99    0.3468
## 2008-12-04          99    0.3468
## 2008-11-14          98    0.3433
## 2008-11-27          98    0.3433
## 2008-12-14          98    0.3433
## 2008-02-06          97    0.3398
## 2008-03-17          97    0.3398
## 2008-06-20          97    0.3398
## 2008-10-16          97    0.3398
## 2008-01-23          96    0.3363
## 2008-03-05          96    0.3363
## 2008-06-06          96    0.3363
## 2008-06-17          96    0.3363
## 2008-09-16          96    0.3363
## 2008-10-23          96    0.3363
## 2008-11-12          96    0.3363
## 2008-02-19          95    0.3328
## 2008-04-01          95    0.3328
## 2008-10-17          95    0.3328
## 2008-10-20          95    0.3328
## 2008-01-16          94    0.3293
## 2008-09-05          94    0.3293
## 2008-02-12          93    0.3258
## 2008-09-19          93    0.3258
## 2008-08-15          92    0.3223
## 2008-09-12          92    0.3223
## 2008-02-09          91    0.3188
## (Other)           16772  58.7605

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2008.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_DATE  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Date Feature:  
##  
##           Min.     1st Qu.      Median        Mean     3rd Qu.  
## "2009-01-01" "2009-03-13" "2009-06-29" "2009-06-28" "2009-10-09"  
##          Max.  
## "2010-01-01"
```

```

##  

## Summary as Factor Feature:  

##  

## Number of Features: 100  

##  

## TOP 100 FEATURES OF ACCIDENT_DATE  

##  

## Feature Value      Counter   Percentage  

## -----  

## 2009-01-15          399      1.3993  

## 2009-01-16          282      0.9890  

## 2009-01-28          231      0.8101  

## 2009-12-18          211      0.7400  

## 2009-02-05          200      0.7014  

## 2009-05-27          184      0.6453  

## 2009-12-30          176      0.6172  

## 2009-01-30          175      0.6137  

## 2009-12-09          170      0.5962  

## 2009-01-07          167      0.5857  

## 2009-01-27          162      0.5681  

## 2009-04-07          162      0.5681  

## 2009-01-26          157      0.5506  

## 2009-01-02          156      0.5471  

## 2009-01-29          156      0.5471  

## 2009-02-18          152      0.5331  

## 2009-10-09          152      0.5331  

## 2009-02-03          145      0.5085  

## 2009-01-06          144      0.5050  

## 2009-01-13          144      0.5050  

## 2009-01-08          142      0.4980  

## 2009-01-09          138      0.4840  

## 2009-01-14          138      0.4840  

## 2009-01-20          138      0.4840  

## 2009-12-11          137      0.4804  

## 2009-12-21          136      0.4769  

## 2009-01-18          133      0.4664  

## 2009-12-10          133      0.4664  

## 2009-12-15          133      0.4664  

## 2009-02-27          131      0.4594  

## 2009-06-18          127      0.4454  

## 2009-10-30          124      0.4349  

## 2009-01-19          123      0.4314  

## 2009-09-25          122      0.4278  

## 2009-11-20          122      0.4278  

## 2009-12-17          122      0.4278  

## 2009-01-10          120      0.4208  

## 2009-07-24          119      0.4173  

## 2009-09-23          119      0.4173

```

## 2009-12-07	119	0.4173
## 2009-11-25	118	0.4138
## 2009-01-24	117	0.4103
## 2009-05-20	117	0.4103
## 2009-07-07	116	0.4068
## 2009-11-27	116	0.4068
## 2009-12-12	116	0.4068
## 2009-09-18	112	0.3928
## 2009-09-29	112	0.3928
## 2009-02-04	111	0.3893
## 2009-07-03	111	0.3893
## 2009-12-16	111	0.3893
## 2009-01-31	109	0.3823
## 2009-12-23	109	0.3823
## 2009-06-23	108	0.3787
## 2009-10-23	108	0.3787
## 2009-11-05	108	0.3787
## 2009-02-06	107	0.3752
## 2009-08-21	107	0.3752
## 2009-10-22	107	0.3752
## 2009-11-19	106	0.3717
## 2009-11-03	105	0.3682
## 2009-09-14	104	0.3647
## 2009-10-16	104	0.3647
## 2009-11-12	104	0.3647
## 2009-10-07	103	0.3612
## 2009-10-28	103	0.3612
## 2009-07-09	102	0.3577
## 2009-09-04	102	0.3577
## 2009-09-24	102	0.3577
## 2009-09-30	102	0.3577
## 2009-11-18	102	0.3577
## 2009-12-03	102	0.3577
## 2009-05-07	101	0.3542
## 2009-02-25	100	0.3507
## 2009-01-17	99	0.3472
## 2009-04-20	99	0.3472
## 2009-06-04	98	0.3437
## 2009-08-31	98	0.3437
## 2009-10-24	98	0.3437
## 2009-05-29	97	0.3402
## 2009-12-02	97	0.3402
## 2009-10-06	96	0.3367
## 2009-10-08	96	0.3367
## 2009-01-03	94	0.3297
## 2009-02-19	94	0.3297
## 2009-05-12	94	0.3297
## 2009-05-28	94	0.3297

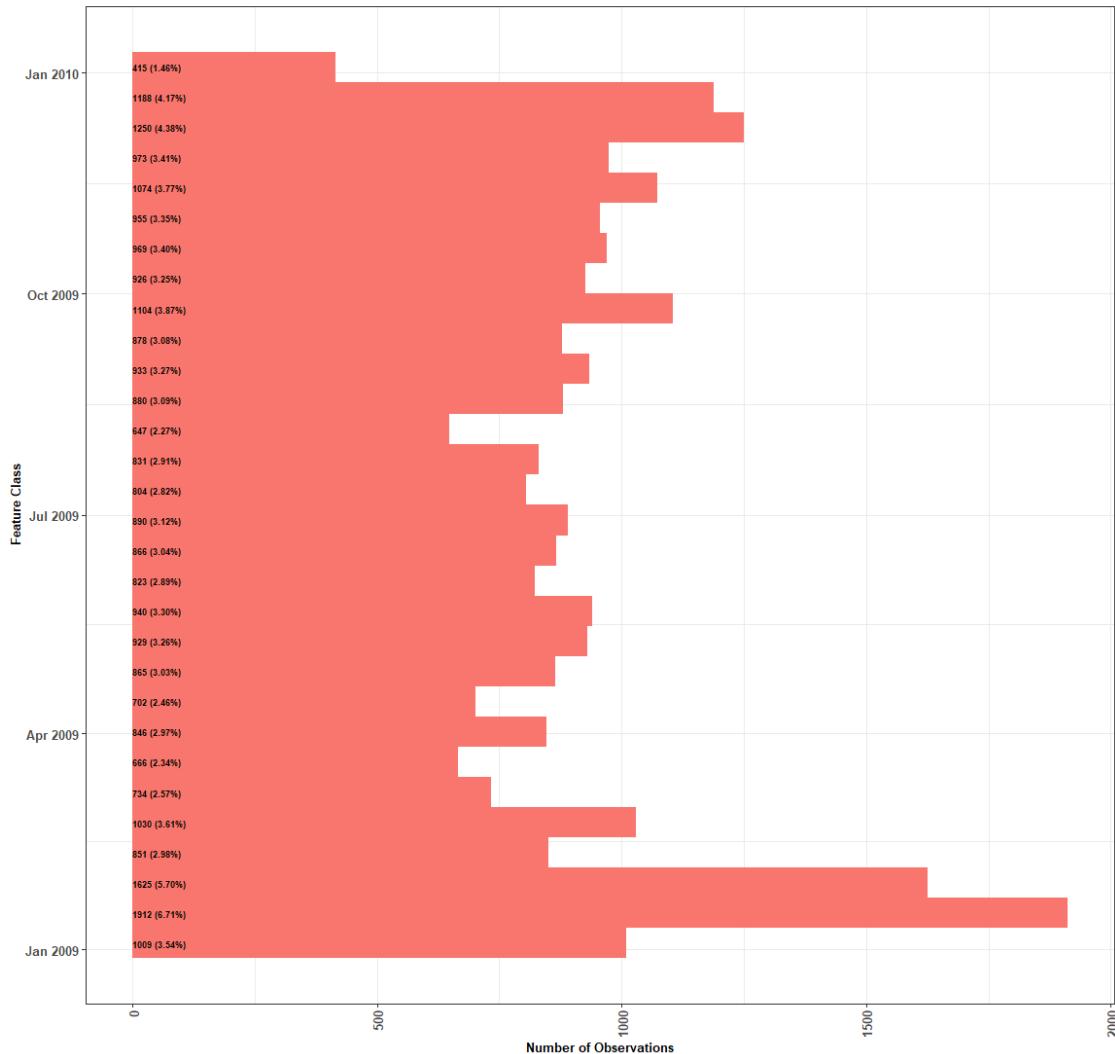
```

## 2009-01-12          93    0.3261
## 2009-04-27          93    0.3261
## 2009-08-18          93    0.3261
## 2009-10-13          93    0.3261
## 2009-05-14          92    0.3226
## 2009-06-12          92    0.3226
## 2009-06-24          92    0.3226
## 2009-07-02          92    0.3226
## 2009-08-12          92    0.3226
## 2009-08-27          92    0.3226
## 2009-09-16          92    0.3226
## 2009-11-10          92    0.3226
## (Other)           16190   56.7771

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:ACCIDENT_DATE
Data:All 2009.csv**



```

## 
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2010.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.     1st Qu.      Median      Mean      3rd Qu.
## "2010-01-01" "2010-04-08" "2010-07-14" "2010-07-09" "2010-10-15"
##          Max.
## "2011-01-01"
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_DATE
##
## Feature Value   Counter   Percentage
## -----
## 2010-02-25       210      0.7634
## 2010-12-14       191      0.6943
## 2010-01-29       181      0.6580
## 2010-01-28       180      0.6543
## 2010-12-09       161      0.5853
## 2010-11-26       154      0.5598
## 2010-06-30       153      0.5562
## 2010-09-30       149      0.5416
## 2010-12-08       145      0.5271
## 2010-10-06       144      0.5235
## 2010-06-24       139      0.5053
## 2010-10-15       138      0.5017
## 2010-11-10       136      0.4944
## 2010-08-03       133      0.4835
## 2010-02-01       128      0.4653
## 2010-09-03       128      0.4653
## 2010-09-16       128      0.4653
## 2010-12-15       127      0.4617
## 2010-06-23       126      0.4580
## 2010-11-23       124      0.4508
## 2010-11-12       122      0.4435
## 2010-12-10       121      0.4399
## 2010-12-13       120      0.4362
## 2010-04-23       118      0.4290

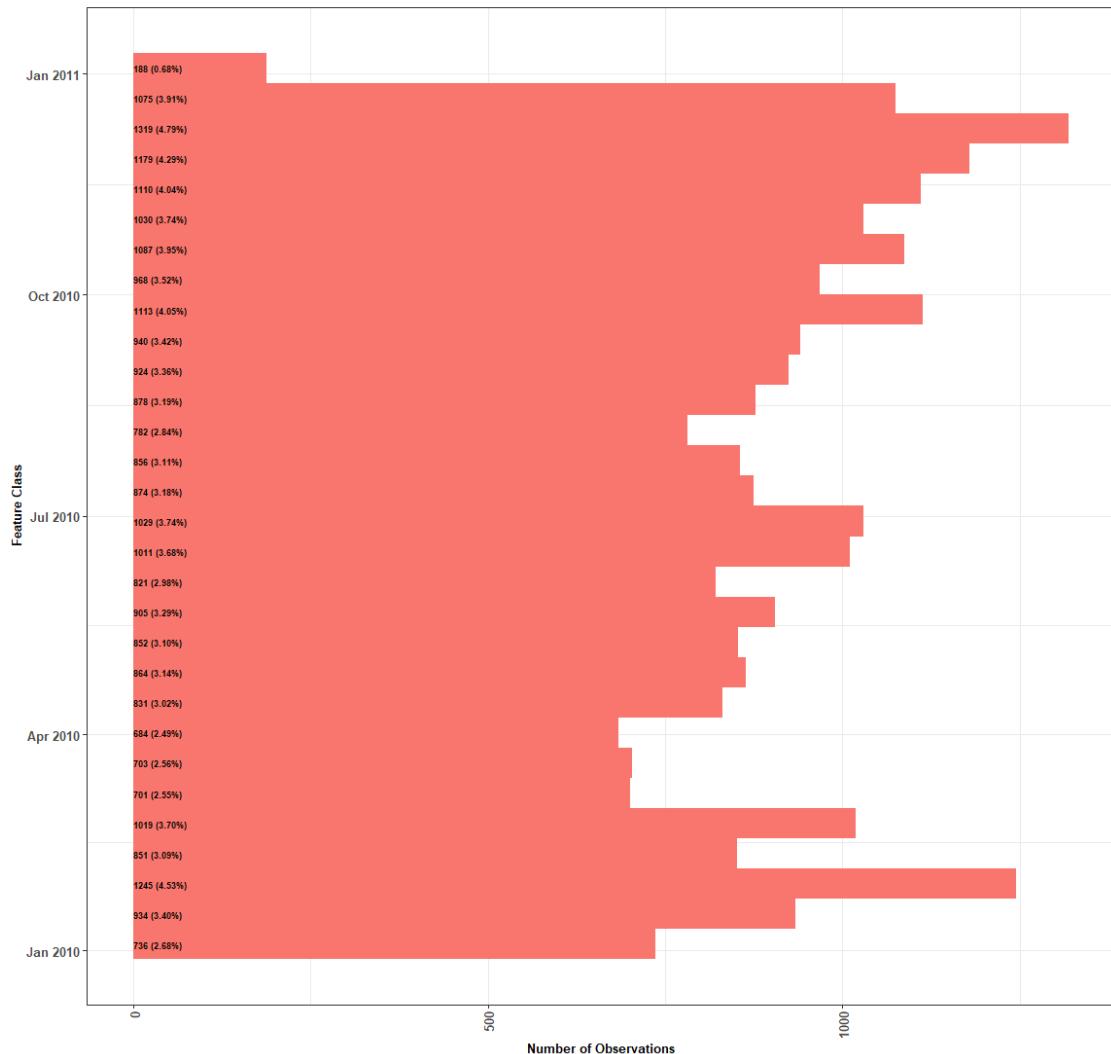
```

## 2010-01-03	117	0.4253
## 2010-10-12	117	0.4253
## 2010-11-29	117	0.4253
## 2010-06-16	116	0.4217
## 2010-02-23	114	0.4144
## 2010-07-09	112	0.4071
## 2010-12-22	112	0.4071
## 2010-06-17	111	0.4035
## 2010-05-08	110	0.3999
## 2010-10-01	110	0.3999
## 2010-11-04	110	0.3999
## 2010-12-21	110	0.3999
## 2010-01-21	109	0.3962
## 2010-02-03	109	0.3962
## 2010-02-11	109	0.3962
## 2010-06-01	109	0.3962
## 2010-10-27	109	0.3962
## 2010-12-07	109	0.3962
## 2010-10-05	108	0.3926
## 2010-02-05	106	0.3853
## 2010-05-25	106	0.3853
## 2010-12-06	105	0.3817
## 2010-06-10	104	0.3781
## 2010-09-15	104	0.3781
## 2010-11-05	104	0.3781
## 2010-02-26	103	0.3744
## 2010-09-24	103	0.3744
## 2010-11-02	103	0.3744
## 2010-11-21	103	0.3744
## 2010-12-01	103	0.3744
## 2010-10-07	102	0.3708
## 2010-11-03	102	0.3708
## 2010-11-15	102	0.3708
## 2010-08-24	101	0.3672
## 2010-10-30	101	0.3672
## 2010-02-02	100	0.3635
## 2010-10-18	100	0.3635
## 2010-10-26	100	0.3635
## 2010-11-17	100	0.3635
## 2010-02-17	99	0.3599
## 2010-11-24	99	0.3599
## 2010-01-13	98	0.3562
## 2010-04-01	98	0.3562
## 2010-12-23	97	0.3526
## 2010-01-07	96	0.3490
## 2010-01-08	96	0.3490
## 2010-05-13	96	0.3490
## 2010-06-29	96	0.3490

```
## 2010-09-07          96    0.3490
## 2010-10-21          96    0.3490
## 2010-12-16          96    0.3490
## 2010-03-26          95    0.3453
## 2010-04-27          95    0.3453
## 2010-07-05          95    0.3453
## 2010-09-02          95    0.3453
## 2010-09-22          94    0.3417
## 2010-12-20          94    0.3417
## 2010-08-04          93    0.3381
## 2010-08-13          93    0.3381
## 2010-11-19          93    0.3381
## 2010-05-19          92    0.3344
## 2010-11-09          92    0.3344
## 2010-01-30          91    0.3308
## 2010-06-14          91    0.3308
## 2010-06-18          91    0.3308
## 2010-07-15          91    0.3308
## 2010-08-19          91    0.3308
## 2010-08-31          91    0.3308
## 2010-09-09          91    0.3308
## 2010-09-23          91    0.3308
## 2010-12-24          91    0.3308
## 2010-04-20          90    0.3272
## 2010-05-20          90    0.3272
## 2010-09-13          90    0.3272
## 2010-09-28          90    0.3272
## (Other)           16510   60.0167

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2010.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_DATE  
## DATA:All 2011.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Date Feature:  
##  
##      Min.    1st Qu.    Median      Mean    3rd Qu.  
## "2011-01-01" "2011-03-21" "2011-07-02" "2011-07-02" "2011-10-11"  
##      Max.  
## "2012-01-01"
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_DATE  
##  
## Feature Value Counter Percentage  
## -----  
## 2011-01-15 225 0.8056  
## 2011-02-03 181 0.6481  
## 2011-02-28 180 0.6445  
## 2011-02-02 177 0.6337  
## 2011-01-07 166 0.5944  
## 2011-03-21 161 0.5765  
## 2011-12-28 160 0.5729  
## 2011-06-24 158 0.5657  
## 2011-01-17 154 0.5514  
## 2011-12-21 150 0.5371  
## 2011-12-16 149 0.5335  
## 2011-01-14 147 0.5263  
## 2011-01-21 146 0.5228  
## 2011-12-29 145 0.5192  
## 2011-01-04 144 0.5156  
## 2011-11-23 142 0.5084  
## 2011-01-20 139 0.4977  
## 2011-01-25 136 0.4869  
## 2011-10-03 133 0.4762  
## 2011-10-28 133 0.4762  
## 2011-02-09 132 0.4726  
## 2011-11-03 132 0.4726  
## 2011-12-23 129 0.4619  
## 2011-10-13 128 0.4583  
## 2011-08-09 126 0.4511  
## 2011-09-29 126 0.4511  
## 2011-01-11 124 0.4440  
## 2011-01-18 122 0.4368  
## 2011-10-20 122 0.4368  
## 2011-12-05 122 0.4368  
## 2011-05-27 119 0.4261  
## 2011-01-12 118 0.4225  
## 2011-11-29 117 0.4189  
## 2011-12-22 117 0.4189  
## 2011-12-25 117 0.4189  
## 2011-01-24 116 0.4153  
## 2011-01-29 116 0.4153  
## 2011-03-01 115 0.4118  
## 2011-04-20 115 0.4118
```

## 2011-09-30	115	0.4118
## 2011-12-20	113	0.4046
## 2011-10-14	112	0.4010
## 2011-10-06	111	0.3974
## 2011-02-01	110	0.3939
## 2011-01-06	109	0.3903
## 2011-01-31	109	0.3903
## 2011-03-07	109	0.3903
## 2011-03-10	109	0.3903
## 2011-09-22	108	0.3867
## 2011-02-04	107	0.3831
## 2011-02-10	107	0.3831
## 2011-09-27	107	0.3831
## 2011-10-21	107	0.3831
## 2011-12-02	107	0.3831
## 2011-02-11	106	0.3795
## 2011-11-24	106	0.3795
## 2011-12-13	106	0.3795
## 2011-05-12	105	0.3760
## 2011-05-31	105	0.3760
## 2011-06-22	105	0.3760
## 2011-09-13	104	0.3724
## 2011-11-14	104	0.3724
## 2011-06-03	103	0.3688
## 2011-09-15	103	0.3688
## 2011-10-11	103	0.3688
## 2011-06-10	102	0.3652
## 2011-07-07	102	0.3652
## 2011-12-09	102	0.3652
## 2011-04-21	101	0.3616
## 2011-08-19	101	0.3616
## 2011-11-10	101	0.3616
## 2011-06-23	100	0.3581
## 2011-10-18	100	0.3581
## 2011-04-28	99	0.3545
## 2011-05-16	99	0.3545
## 2011-06-20	99	0.3545
## 2011-01-22	98	0.3509
## 2011-09-14	98	0.3509
## 2011-12-14	98	0.3509
## 2011-01-05	97	0.3473
## 2011-01-19	97	0.3473
## 2011-09-06	97	0.3473
## 2011-11-30	97	0.3473
## 2011-12-07	97	0.3473
## 2011-12-15	97	0.3473
## 2011-02-18	96	0.3437
## 2011-07-15	96	0.3437

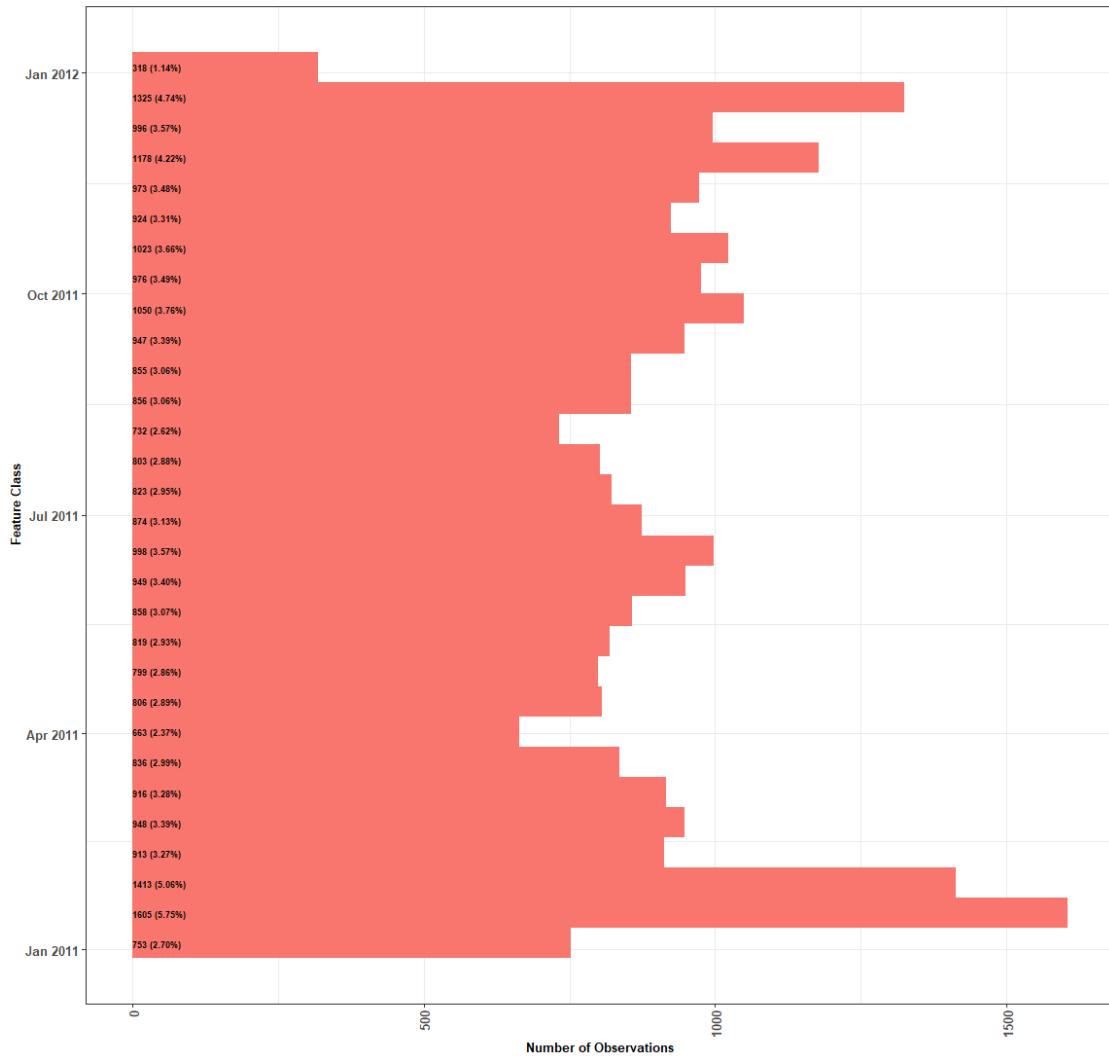
```

## 2011-10-07      96    0.3437
## 2011-11-11      96    0.3437
## 2011-10-05      95    0.3401
## 2011-11-21      95    0.3401
## 2011-09-28      94    0.3366
## 2011-11-16      94    0.3366
## 2011-11-22      94    0.3366
## 2011-05-03      93    0.3330
## 2011-07-12      93    0.3330
## 2011-08-12      93    0.3330
## 2011-11-15      93    0.3330
## 2011-07-11      92    0.3294
## (Other)        16398   58.7132

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:ACCIDENT_DATE
Data:All 2011.csv**



```

## 
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2012.csv...
## 
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
## 
## Summary as Date Feature:
## 
##      Min.     1st Qu.      Median      Mean      3rd Qu.
## "2012-01-01" "2012-03-21" "2012-07-02" "2012-07-02" "2012-10-12"
##      Max.
## "2013-01-01"
## 
## Summary as Factor Feature:
## 
## Number of Features: 100
## 
## TOP 100 FEATURES OF ACCIDENT_DATE
## 
## Feature Value   Counter   Percentage
## -----
## 2012-02-24       304      1.1438
## 2012-01-20       189      0.7111
## 2012-01-19       170      0.6397
## 2012-01-18       168      0.6321
## 2012-01-13       166      0.6246
## 2012-01-27       166      0.6246
## 2012-09-04       163      0.6133
## 2012-12-21       157      0.5907
## 2012-11-26       153      0.5757
## 2012-10-31       141      0.5305
## 2012-01-12       139      0.5230
## 2012-12-29       139      0.5230
## 2012-11-01       138      0.5192
## 2012-12-18       138      0.5192
## 2012-01-16       131      0.4929
## 2012-11-08       130      0.4891
## 2012-09-14       129      0.4854
## 2012-01-23       125      0.4703
## 2012-12-28       125      0.4703
## 2012-09-21       124      0.4666
## 2012-11-30       123      0.4628
## 2012-12-20       123      0.4628
## 2012-12-07       121      0.4553
## 2012-02-03       120      0.4515

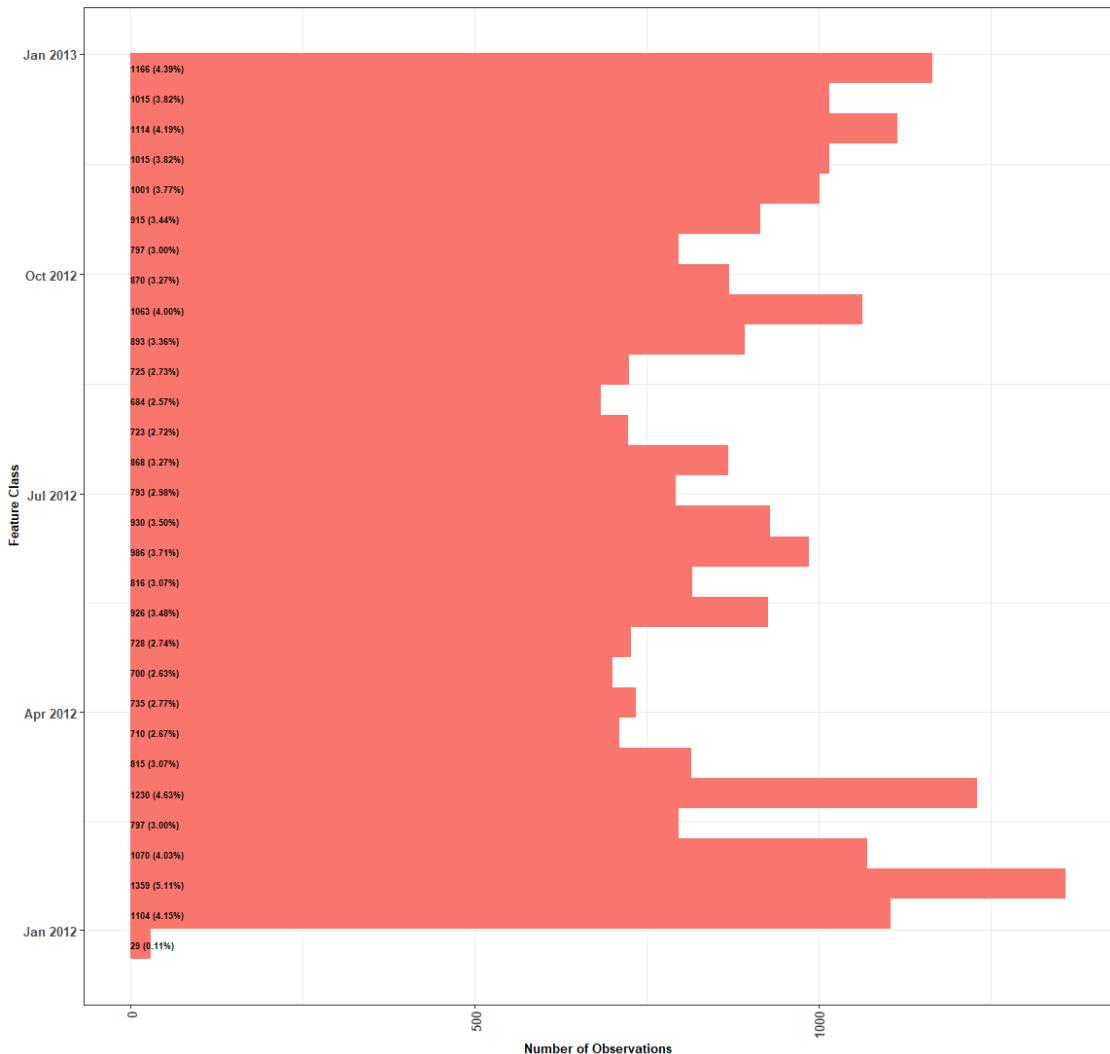
```

## 2012-11-23	120	0.4515
## 2012-12-13	120	0.4515
## 2012-05-11	119	0.4478
## 2012-12-27	115	0.4327
## 2012-01-21	114	0.4289
## 2012-06-01	113	0.4252
## 2012-11-02	112	0.4214
## 2012-09-13	111	0.4177
## 2012-08-31	110	0.4139
## 2012-05-29	109	0.4101
## 2012-10-19	109	0.4101
## 2012-12-14	109	0.4101
## 2012-03-01	108	0.4064
## 2012-06-25	108	0.4064
## 2012-01-05	105	0.3951
## 2012-01-17	105	0.3951
## 2012-02-09	105	0.3951
## 2012-10-12	104	0.3913
## 2012-02-17	103	0.3876
## 2012-02-29	103	0.3876
## 2012-06-13	103	0.3876
## 2012-07-04	103	0.3876
## 2012-01-26	102	0.3838
## 2012-02-27	102	0.3838
## 2012-09-17	101	0.3800
## 2012-09-27	101	0.3800
## 2012-10-11	100	0.3763
## 2012-01-06	99	0.3725
## 2012-02-02	99	0.3725
## 2012-11-13	99	0.3725
## 2012-08-29	98	0.3687
## 2012-09-18	98	0.3687
## 2012-10-04	98	0.3687
## 2012-05-03	97	0.3650
## 2012-05-22	97	0.3650
## 2012-08-08	97	0.3650
## 2012-11-21	97	0.3650
## 2012-10-26	96	0.3612
## 2012-12-06	96	0.3612
## 2012-06-22	95	0.3575
## 2012-06-29	95	0.3575
## 2012-11-22	95	0.3575
## 2012-01-31	94	0.3537
## 2012-06-05	94	0.3537
## 2012-06-15	94	0.3537
## 2012-02-25	93	0.3499
## 2012-12-04	92	0.3462
## 2012-06-20	91	0.3424

```
## 2012-11-15          91    0.3424
## 2012-05-30          90    0.3386
## 2012-06-02          90    0.3386
## 2012-12-08          90    0.3386
## 2012-01-09          89    0.3349
## 2012-09-06          89    0.3349
## 2012-12-22          89    0.3349
## 2012-02-08          88    0.3311
## 2012-02-14          88    0.3311
## 2012-03-02          88    0.3311
## 2012-03-09          88    0.3311
## 2012-05-04          88    0.3311
## 2012-06-28          88    0.3311
## 2012-09-28          88    0.3311
## 2012-11-16          88    0.3311
## 2012-11-29          88    0.3311
## 2012-06-12          87    0.3274
## 2012-08-09          87    0.3274
## 2012-09-05          87    0.3274
## 2012-10-13          87    0.3274
## 2012-10-18          87    0.3274
## 2012-01-22          86    0.3236
## 2012-03-05          86    0.3236
## 2012-05-09          86    0.3236
## 2012-03-07          85    0.3198
## 2012-08-30          85    0.3198
## 2012-09-12          85    0.3198
## (Other)           15699  59.0699

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2012.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_DATE  
## DATA:All 2013.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Date Feature:  
##  
##      Min.    1st Qu.    Median      Mean    3rd Qu.  
## "2013-01-01" "2013-03-20" "2013-07-06" "2013-07-03" "2013-10-14"  
##      Max.  
## "2013-12-31"
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_DATE  
##  
## Feature Value Counter Percentage  
## -----  
## 2013-11-23 294 1.0511  
## 2013-02-08 271 0.9689  
## 2013-01-28 235 0.8402  
## 2013-02-27 227 0.8116  
## 2013-01-24 210 0.7508  
## 2013-01-23 208 0.7436  
## 2013-01-25 181 0.6471  
## 2013-11-29 177 0.6328  
## 2013-02-05 171 0.6113  
## 2013-12-17 164 0.5863  
## 2013-03-19 160 0.5720  
## 2013-12-13 159 0.5684  
## 2013-12-20 158 0.5649  
## 2013-02-19 147 0.5255  
## 2013-01-10 145 0.5184  
## 2013-10-31 145 0.5184  
## 2013-03-20 141 0.5041  
## 2013-02-06 140 0.5005  
## 2013-01-19 139 0.4969  
## 2013-01-07 132 0.4719  
## 2013-02-09 132 0.4719  
## 2013-01-18 131 0.4683  
## 2013-06-28 131 0.4683  
## 2013-12-09 129 0.4612  
## 2013-11-28 127 0.4540  
## 2013-12-16 126 0.4505  
## 2013-01-17 125 0.4469  
## 2013-11-27 125 0.4469  
## 2013-03-15 123 0.4397  
## 2013-11-01 123 0.4397  
## 2013-01-02 120 0.4290  
## 2013-06-07 120 0.4290  
## 2013-10-18 119 0.4254  
## 2013-12-23 119 0.4254  
## 2013-10-29 117 0.4183  
## 2013-11-22 117 0.4183  
## 2013-06-24 115 0.4111  
## 2013-01-22 114 0.4076  
## 2013-05-30 112 0.4004
```

## 2013-06-06	112	0.4004
## 2013-12-12	112	0.4004
## 2013-01-06	111	0.3968
## 2013-04-12	111	0.3968
## 2013-06-19	111	0.3968
## 2013-09-12	109	0.3897
## 2013-08-22	108	0.3861
## 2013-09-20	108	0.3861
## 2013-12-15	108	0.3861
## 2013-08-12	107	0.3825
## 2013-10-08	107	0.3825
## 2013-09-05	106	0.3790
## 2013-12-18	106	0.3790
## 2013-10-04	104	0.3718
## 2013-10-09	104	0.3718
## 2013-11-06	104	0.3718
## 2013-03-01	103	0.3682
## 2013-03-28	103	0.3682
## 2013-07-19	103	0.3682
## 2013-11-21	103	0.3682
## 2013-09-26	102	0.3647
## 2013-10-17	102	0.3647
## 2013-12-03	102	0.3647
## 2013-02-20	101	0.3611
## 2013-05-07	101	0.3611
## 2013-05-22	101	0.3611
## 2013-11-14	101	0.3611
## 2013-01-21	100	0.3575
## 2013-06-27	100	0.3575
## 2013-08-23	100	0.3575
## 2013-12-10	100	0.3575
## 2013-01-11	99	0.3539
## 2013-10-03	99	0.3539
## 2013-11-26	99	0.3539
## 2013-12-11	99	0.3539
## 2013-05-24	98	0.3504
## 2013-06-05	98	0.3504
## 2013-06-13	98	0.3504
## 2013-10-10	98	0.3504
## 2013-10-24	98	0.3504
## 2013-10-26	98	0.3504
## 2013-05-17	97	0.3468
## 2013-09-11	97	0.3468
## 2013-12-19	97	0.3468
## 2013-12-24	96	0.3432
## 2013-12-31	95	0.3396
## 2013-05-29	94	0.3361
## 2013-07-29	94	0.3361

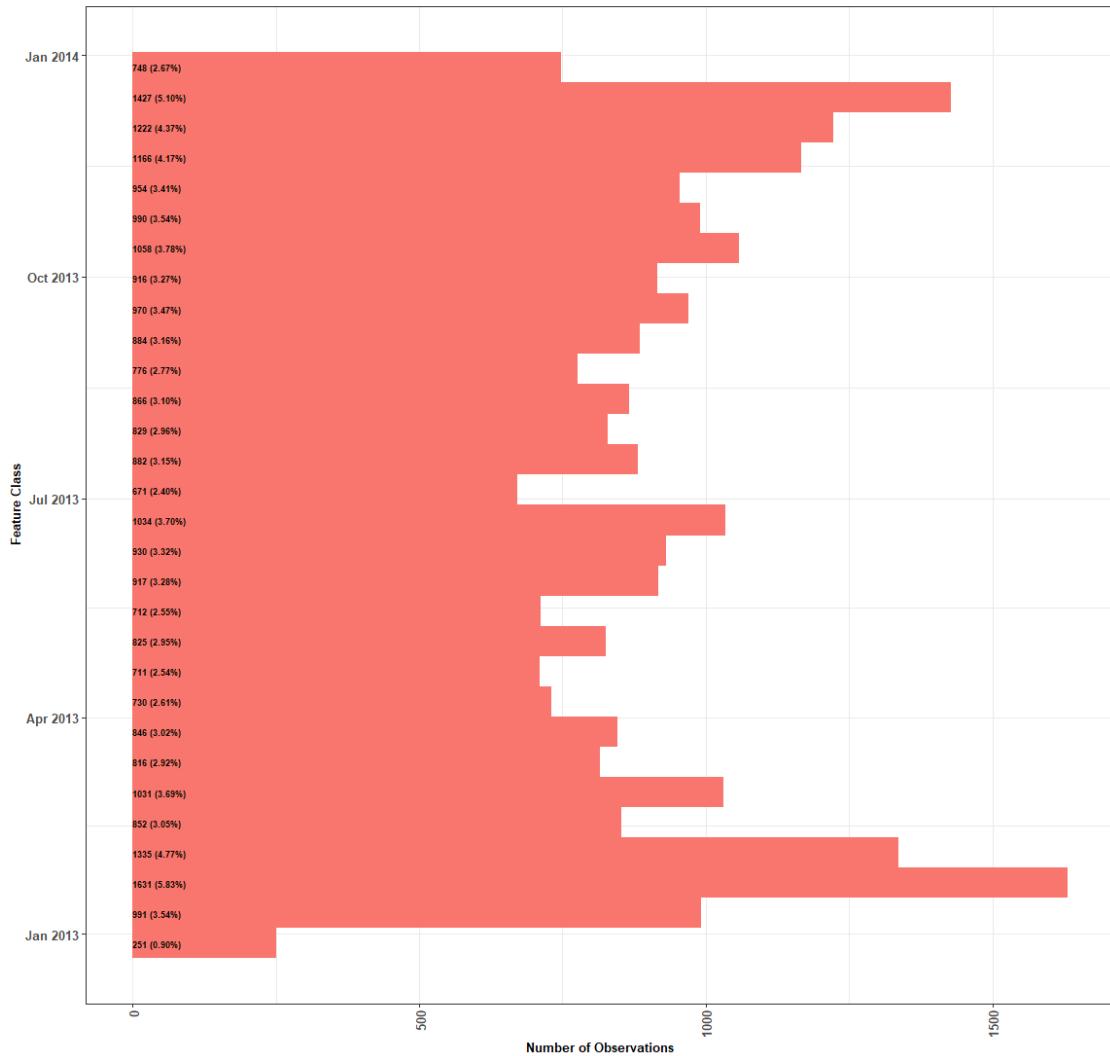
```

## 2013-08-02          94    0.3361
## 2013-09-25          94    0.3361
## 2013-10-16          94    0.3361
## 2013-11-30          94    0.3361
## 2013-05-10          93    0.3325
## 2013-08-13          93    0.3325
## 2013-02-01          92    0.3289
## 2013-02-28          92    0.3289
## 2013-07-18          92    0.3289
## 2013-08-01          92    0.3289
## 2013-11-25          92    0.3289
## 2013-08-30          91    0.3253
## (Other)           16025   57.2915

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:ACCIDENT_DATE
Data:All 2013.csv**



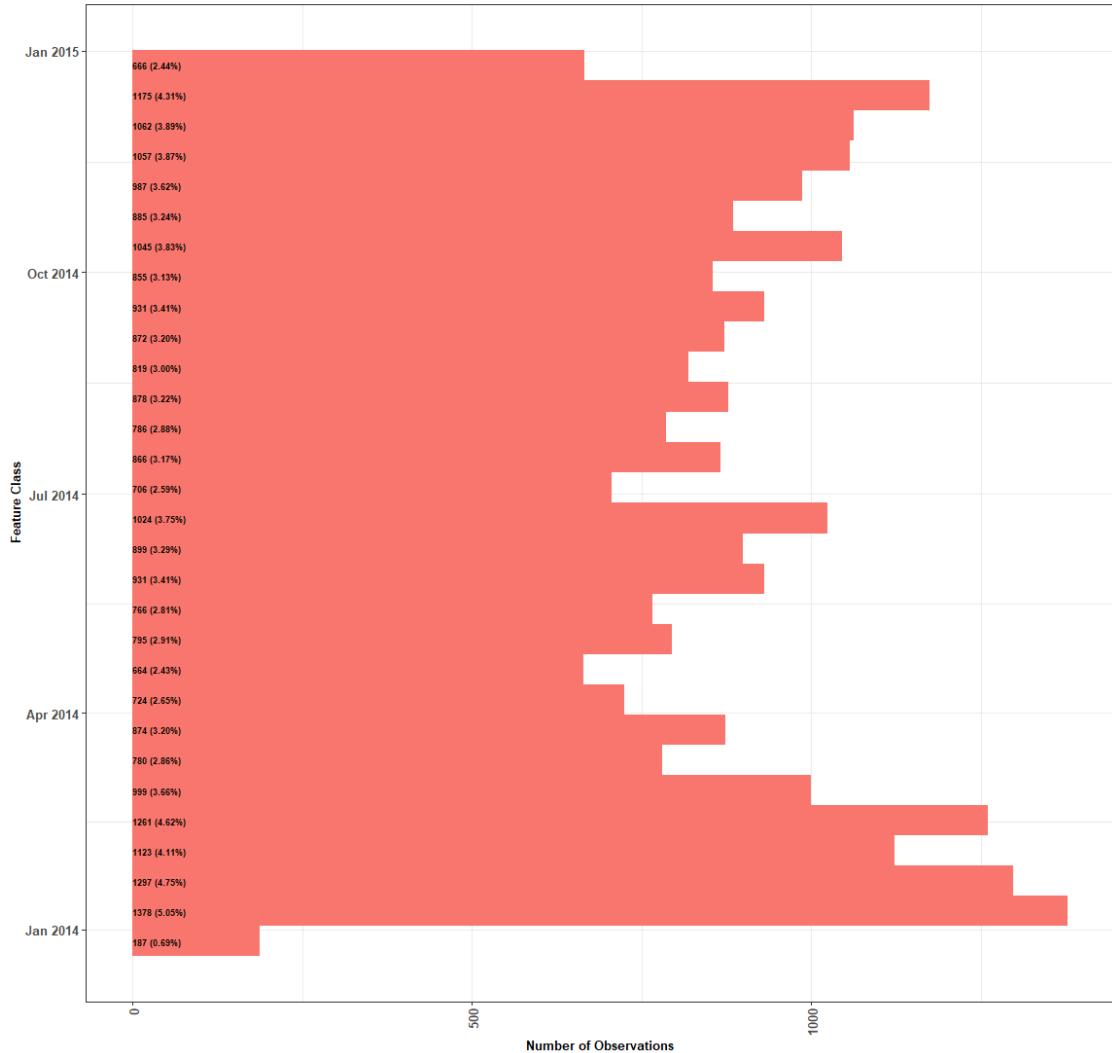
```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2014.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.    1st Qu.    Median    Mean    3rd Qu.
## "2014-01-01" "2014-03-14" "2014-06-27" "2014-06-27" "2014-10-06"
##          Max.
## "2014-12-31"
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_DATE
##
## Feature Value   Counter   Percentage
## -----
## 2014-01-03       279     1.0223
## 2014-02-14       250     0.9160
## 2014-01-27       247     0.9050
## 2014-02-18       180     0.6595
## 2014-01-22       176     0.6449
## 2014-01-24       171     0.6266
## 2014-02-11       171     0.6266
## 2014-12-10       165     0.6046
## 2014-01-11       146     0.5350
## 2014-02-28       145     0.5313
## 2014-03-06       145     0.5313
## 2014-01-09       143     0.5240
## 2014-12-19       140     0.5130
## 2014-10-07       139     0.5093
## 2014-01-07       137     0.5020
## 2014-01-02       136     0.4983
## 2014-01-08       128     0.4690
## 2014-11-07       127     0.4653
## 2014-11-20       127     0.4653
## 2014-06-18       126     0.4617
## 2014-10-16       125     0.4580
## 2014-11-28       121     0.4434
## 2014-11-18       119     0.4360
## 2014-02-12       118     0.4324
```

## 2014-02-06	117	0.4287
## 2014-08-12	116	0.4250
## 2014-10-17	115	0.4214
## 2014-07-08	114	0.4177
## 2014-10-24	114	0.4177
## 2014-11-17	113	0.4140
## 2014-12-05	113	0.4140
## 2014-12-18	113	0.4140
## 2014-01-21	112	0.4104
## 2014-03-13	112	0.4104
## 2014-11-14	110	0.4030
## 2014-12-15	110	0.4030
## 2014-02-05	109	0.3994
## 2014-12-12	109	0.3994
## 2014-11-04	108	0.3957
## 2014-01-23	107	0.3921
## 2014-02-01	107	0.3921
## 2014-06-11	107	0.3921
## 2014-12-02	107	0.3921
## 2014-12-04	107	0.3921
## 2014-01-20	106	0.3884
## 2014-02-10	106	0.3884
## 2014-03-12	106	0.3884
## 2014-11-19	105	0.3847
## 2014-12-01	105	0.3847
## 2014-10-04	104	0.3811
## 2014-06-20	103	0.3774
## 2014-09-16	103	0.3774
## 2014-01-25	102	0.3737
## 2014-01-28	102	0.3737
## 2014-08-14	102	0.3737
## 2014-03-21	101	0.3701
## 2014-07-11	101	0.3701
## 2014-10-29	101	0.3701
## 2014-05-20	100	0.3664
## 2014-06-27	100	0.3664
## 2014-11-21	100	0.3664
## 2014-12-22	99	0.3627
## 2014-04-30	98	0.3591
## 2014-10-15	98	0.3591
## 2014-10-30	98	0.3591
## 2014-11-06	98	0.3591
## 2014-05-15	97	0.3554
## 2014-02-27	96	0.3518
## 2014-05-30	94	0.3444
## 2014-09-08	94	0.3444
## 2014-09-25	94	0.3444
## 2014-02-07	93	0.3408

```
## 2014-04-17          93    0.3408
## 2014-05-22          93    0.3408
## 2014-09-02          93    0.3408
## 2014-01-29          92    0.3371
## 2014-02-04          92    0.3371
## 2014-03-07          92    0.3371
## 2014-06-10          92    0.3371
## 2014-06-26          92    0.3371
## 2014-09-18          92    0.3371
## 2014-12-09          92    0.3371
## 2014-09-05          91    0.3334
## 2014-09-11          91    0.3334
## 2014-01-04          90    0.3298
## 2014-02-03          90    0.3298
## 2014-05-29          90    0.3298
## 2014-06-12          90    0.3298
## 2014-07-30          90    0.3298
## 2014-10-06          90    0.3298
## 2014-10-08          90    0.3298
## 2014-12-03          90    0.3298
## 2014-12-23          90    0.3298
## 2014-03-03          89    0.3261
## 2014-06-06          89    0.3261
## 2014-07-18          89    0.3261
## 2014-08-21          89    0.3261
## 2014-12-20          89    0.3261
## 2014-05-07          88    0.3224
## (Other)           16057  58.8341

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2014.csv



```
##
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2015.csv...
##
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
##
## Summary as Date Feature:
##
##      Min.    1st Qu.      Median      Mean      3rd Qu.
## "2015-01-01" "2015-02-26" "2015-06-16" "2015-06-17" "2015-09-25"
##      Max.
## "2015-12-31"
```

```

##  

## Summary as Factor Feature:  

##  

## Number of Features: 100  

##  

## TOP 100 FEATURES OF ACCIDENT_DATE  

##  

## Feature Value      Counter   Percentage  

## -----  

## 2015-02-02          294      1.0550  

## 2015-01-14          208      0.7464  

## 2015-01-30          205      0.7356  

## 2015-02-04          203      0.7285  

## 2015-02-21          201      0.7213  

## 2015-01-29          198      0.7105  

## 2015-02-17          185      0.6639  

## 2015-01-08          181      0.6495  

## 2015-02-14          174      0.6244  

## 2015-01-07          171      0.6136  

## 2015-01-26          164      0.5885  

## 2015-02-13          164      0.5885  

## 2015-01-13          157      0.5634  

## 2015-01-16          156      0.5598  

## 2015-01-09          154      0.5526  

## 2015-02-20          154      0.5526  

## 2015-01-21          152      0.5454  

## 2015-11-27          150      0.5383  

## 2015-02-27          140      0.5024  

## 2015-01-22          139      0.4988  

## 2015-01-06          138      0.4952  

## 2015-01-05          137      0.4916  

## 2015-02-23          137      0.4916  

## 2015-02-19          136      0.4880  

## 2015-03-03          136      0.4880  

## 2015-02-06          135      0.4844  

## 2015-01-20          134      0.4809  

## 2015-01-31          131      0.4701  

## 2015-03-27          131      0.4701  

## 2015-01-12          130      0.4665  

## 2015-02-26          128      0.4593  

## 2015-02-08          125      0.4486  

## 2015-11-12          125      0.4486  

## 2015-02-05          124      0.4450  

## 2015-06-12          123      0.4414  

## 2015-02-12          122      0.4378  

## 2015-04-02          120      0.4306  

## 2015-02-11          119      0.4270  

## 2015-11-19          118      0.4234

```

## 2015-01-15	114	0.4091
## 2015-06-18	114	0.4091
## 2015-02-25	113	0.4055
## 2015-11-13	111	0.3983
## 2015-01-28	110	0.3947
## 2015-01-23	109	0.3911
## 2015-11-16	109	0.3911
## 2015-02-24	108	0.3876
## 2015-09-12	107	0.3840
## 2015-02-03	104	0.3732
## 2015-05-26	104	0.3732
## 2015-10-13	104	0.3732
## 2015-10-28	104	0.3732
## 2015-07-07	103	0.3696
## 2015-08-11	103	0.3696
## 2015-09-30	103	0.3696
## 2015-10-01	103	0.3696
## 2015-11-20	103	0.3696
## 2015-09-08	102	0.3660
## 2015-11-23	102	0.3660
## 2015-06-19	101	0.3624
## 2015-08-20	101	0.3624
## 2015-08-26	101	0.3624
## 2015-09-04	101	0.3624
## 2015-10-16	101	0.3624
## 2015-12-11	101	0.3624
## 2015-01-03	100	0.3588
## 2015-04-17	100	0.3588
## 2015-07-10	100	0.3588
## 2015-10-15	100	0.3588
## 2015-11-04	100	0.3588
## 2015-05-08	99	0.3553
## 2015-02-10	98	0.3517
## 2015-06-26	98	0.3517
## 2015-07-08	98	0.3517
## 2015-09-16	98	0.3517
## 2015-09-18	98	0.3517
## 2015-01-04	97	0.3481
## 2015-07-31	97	0.3481
## 2015-12-10	97	0.3481
## 2015-01-27	96	0.3445
## 2015-09-28	96	0.3445
## 2015-06-16	93	0.3337
## 2015-06-29	93	0.3337
## 2015-06-30	93	0.3337
## 2015-10-08	93	0.3337
## 2015-06-24	92	0.3301
## 2015-09-03	92	0.3301

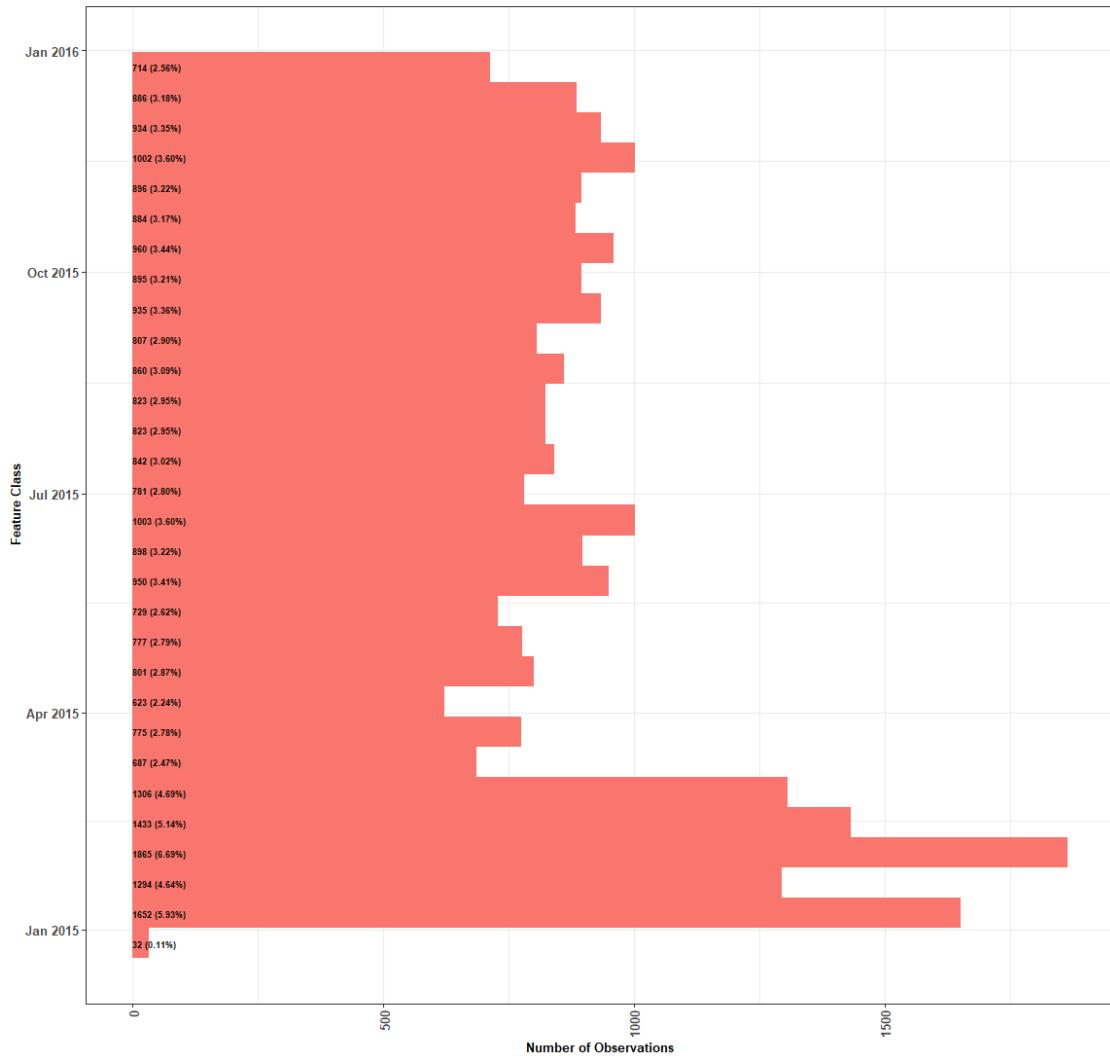
```

## 2015-10-09      92    0.3301
## 2015-10-21      92    0.3301
## 2015-10-30      92    0.3301
## 2015-05-21      91    0.3266
## 2015-08-18      91    0.3266
## 2015-09-29      91    0.3266
## 2015-10-14      91    0.3266
## 2015-12-24      91    0.3266
## 2015-02-01      90    0.3230
## 2015-07-02      90    0.3230
## 2015-07-28      90    0.3230
## 2015-10-19      90    0.3230
## (Other)        15913  57.1034

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .

```

**Plot of Feature:ACCIDENT_DATE
Data:All 2015.csv**



```

## 
## -----
## CHECKING FEATURE:ACCIDENT_DATE
## DATA:All 2016.csv...
## 
## Number of Blank Values:0
## Number of Zero Values:0
## Number of Negative Values:0
## 
## Summary as Date Feature:
## 
##      Min.     1st Qu.      Median      Mean      3rd Qu.
## "2016-01-01" "2016-03-19" "2016-06-29" "2016-06-30" "2016-10-07"
##          Max.
## "2016-12-31"
## 
## Summary as Factor Feature:
## 
## Number of Features: 100
## 
## TOP 100 FEATURES OF ACCIDENT_DATE
## 
## Feature Value   Counter   Percentage
## -----
## 2016-02-17       300      1.1602
## 2016-02-18       227      0.8779
## 2016-04-06       223      0.8624
## 2016-02-25       196      0.7580
## 2016-12-09       183      0.7077
## 2016-12-08       172      0.6652
## 2016-02-16       156      0.6033
## 2016-12-05       156      0.6033
## 2016-02-12       142      0.5492
## 2016-01-12       138      0.5337
## 2016-02-13       138      0.5337
## 2016-02-19       138      0.5337
## 2016-01-20       137      0.5298
## 2016-12-17       137      0.5298
## 2016-12-16       136      0.5259
## 2016-11-24       135      0.5221
## 2016-01-14       134      0.5182
## 2016-01-18       134      0.5182
## 2016-01-21       134      0.5182
## 2016-03-24       134      0.5182
## 2016-12-14       131      0.5066
## 2016-01-22       125      0.4834
## 2016-10-06       125      0.4834
## 2016-02-26       124      0.4795

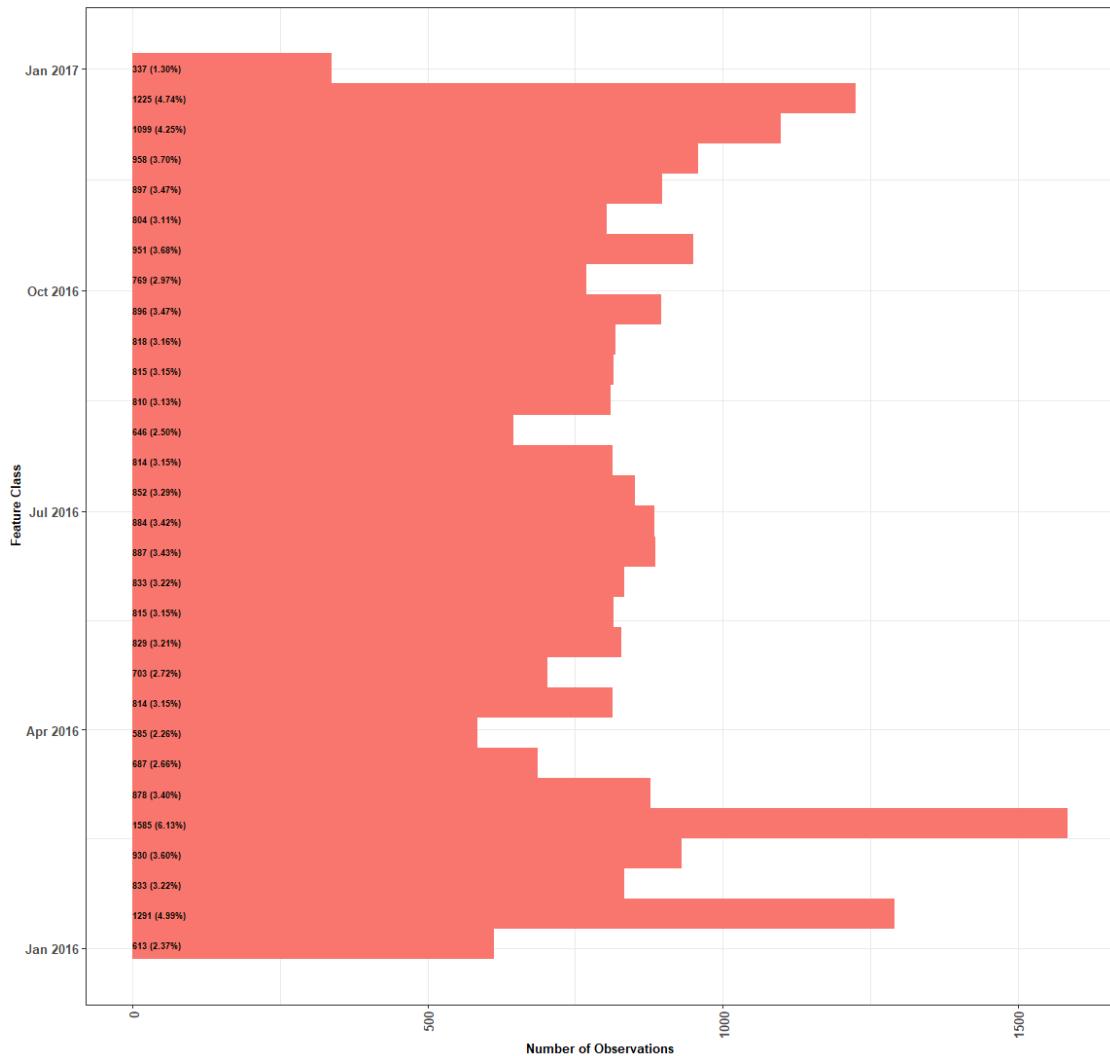
```

## 2016-06-30	120	0.4641
## 2016-10-20	120	0.4641
## 2016-10-21	118	0.4563
## 2016-11-04	117	0.4525
## 2016-01-11	116	0.4486
## 2016-12-15	116	0.4486
## 2016-01-06	115	0.4447
## 2016-02-24	114	0.4409
## 2016-09-09	114	0.4409
## 2016-01-05	112	0.4331
## 2016-03-02	111	0.4293
## 2016-01-13	108	0.4177
## 2016-03-04	108	0.4177
## 2016-11-21	108	0.4177
## 2016-06-21	107	0.4138
## 2016-12-21	106	0.4099
## 2016-06-01	103	0.3983
## 2016-12-18	103	0.3983
## 2016-12-19	103	0.3983
## 2016-11-16	101	0.3906
## 2016-02-11	100	0.3867
## 2016-03-11	99	0.3829
## 2016-08-12	99	0.3829
## 2016-05-05	98	0.3790
## 2016-10-27	98	0.3790
## 2016-10-28	98	0.3790
## 2016-05-26	96	0.3713
## 2016-07-22	96	0.3713
## 2016-09-19	96	0.3713
## 2016-12-29	95	0.3674
## 2016-02-05	94	0.3635
## 2016-05-13	94	0.3635
## 2016-06-09	94	0.3635
## 2016-08-17	94	0.3635
## 2016-05-24	93	0.3597
## 2016-11-20	93	0.3597
## 2016-01-19	92	0.3558
## 2016-05-11	92	0.3558
## 2016-09-02	92	0.3558
## 2016-11-23	92	0.3558
## 2016-12-31	92	0.3558
## 2016-01-29	91	0.3519
## 2016-06-29	91	0.3519
## 2016-12-22	91	0.3519
## 2016-01-07	90	0.3481
## 2016-01-27	90	0.3481
## 2016-05-17	90	0.3481
## 2016-06-16	90	0.3481

```
## 2016-07-26          90    0.3481
## 2016-09-07          90    0.3481
## 2016-05-31          89    0.3442
## 2016-11-18          89    0.3442
## 2016-01-04          88    0.3403
## 2016-05-27          88    0.3403
## 2016-06-17          88    0.3403
## 2016-07-05          88    0.3403
## 2016-09-20          88    0.3403
## 2016-12-13          88    0.3403
## 2016-09-23          87    0.3365
## 2016-12-01          87    0.3365
## 2016-12-23          87    0.3365
## 2016-02-09          86    0.3326
## 2016-03-17          86    0.3326
## 2016-06-03          86    0.3326
## 2016-07-13          86    0.3326
## 2016-11-30          86    0.3326
## 2016-12-20          86    0.3326
## 2016-05-30          85    0.3287
## 2016-06-10          85    0.3287
## 2016-07-27          85    0.3287
## 2016-06-07          84    0.3249
## 2016-07-21          84    0.3249
## 2016-08-25          84    0.3249
## 2016-08-31          84    0.3249
## 2016-09-22          84    0.3249
## (Other)           14915   57.6804

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Plot of Feature:ACCIDENT_DATE Data:All 2016.csv



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_DATE  
## DATA:All 2017.csv...  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary as Date Feature:  
##  
##      Min.    1st Qu.    Median      Mean    3rd Qu.  
## "2017-01-01" "2017-03-29" "2017-07-12" "2017-07-10" "2017-10-23"  
##      Max.  
## "2017-12-31"
```

```
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_DATE  
##  
## Feature Value Counter Percentage  
## -----  
## 2017-03-24 220 0.8289  
## 2017-02-15 212 0.7988  
## 2017-12-14 202 0.7611  
## 2017-12-12 193 0.7272  
## 2017-11-26 162 0.6104  
## 2017-01-05 161 0.6066  
## 2017-12-15 159 0.5991  
## 2017-02-10 144 0.5426  
## 2017-02-16 144 0.5426  
## 2017-12-18 141 0.5313  
## 2017-12-28 139 0.5237  
## 2017-12-23 138 0.5200  
## 2017-11-27 132 0.4973  
## 2017-12-20 132 0.4973  
## 2017-12-13 130 0.4898  
## 2017-12-11 129 0.4860  
## 2017-01-04 128 0.4823  
## 2017-02-13 128 0.4823  
## 2017-03-08 126 0.4747  
## 2017-03-14 123 0.4634  
## 2017-02-09 122 0.4597  
## 2017-11-17 122 0.4597  
## 2017-12-27 120 0.4521  
## 2017-11-02 119 0.4484  
## 2017-11-03 119 0.4484  
## 2017-11-30 119 0.4484  
## 2017-02-14 118 0.4446  
## 2017-12-08 118 0.4446  
## 2017-10-24 117 0.4408  
## 2017-12-05 117 0.4408  
## 2017-01-09 116 0.4371  
## 2017-10-20 116 0.4371  
## 2017-05-18 115 0.4333  
## 2017-09-12 114 0.4295  
## 2017-11-21 113 0.4258  
## 2017-12-21 113 0.4258  
## 2017-03-15 112 0.4220  
## 2017-09-21 112 0.4220  
## 2017-12-19 112 0.4220
```

## 2017-01-06	111	0.4182
## 2017-12-16	109	0.4107
## 2017-01-30	108	0.4069
## 2017-08-24	108	0.4069
## 2017-02-12	107	0.4031
## 2017-11-24	107	0.4031
## 2017-12-29	107	0.4031
## 2017-09-07	106	0.3994
## 2017-12-22	106	0.3994
## 2017-11-15	105	0.3956
## 2017-01-13	104	0.3918
## 2017-01-31	104	0.3918
## 2017-12-07	104	0.3918
## 2017-01-03	103	0.3881
## 2017-07-21	103	0.3881
## 2017-09-28	103	0.3881
## 2017-09-29	103	0.3881
## 2017-11-29	102	0.3843
## 2017-05-02	101	0.3805
## 2017-06-21	101	0.3805
## 2017-07-05	101	0.3805
## 2017-11-16	100	0.3768
## 2017-09-20	99	0.3730
## 2017-05-23	98	0.3692
## 2017-10-05	98	0.3692
## 2017-06-30	97	0.3655
## 2017-02-03	96	0.3617
## 2017-03-06	96	0.3617
## 2017-05-05	96	0.3617
## 2017-06-06	96	0.3617
## 2017-11-22	96	0.3617
## 2017-11-28	96	0.3617
## 2017-02-17	95	0.3579
## 2017-04-13	95	0.3579
## 2017-09-08	95	0.3579
## 2017-11-01	94	0.3542
## 2017-11-23	94	0.3542
## 2017-02-08	93	0.3504
## 2017-06-28	93	0.3504
## 2017-07-11	93	0.3504
## 2017-01-27	92	0.3466
## 2017-06-26	92	0.3466
## 2017-09-13	92	0.3466
## 2017-09-14	92	0.3466
## 2017-03-02	91	0.3429
## 2017-11-06	91	0.3429
## 2017-06-13	90	0.3391
## 2017-09-22	89	0.3353

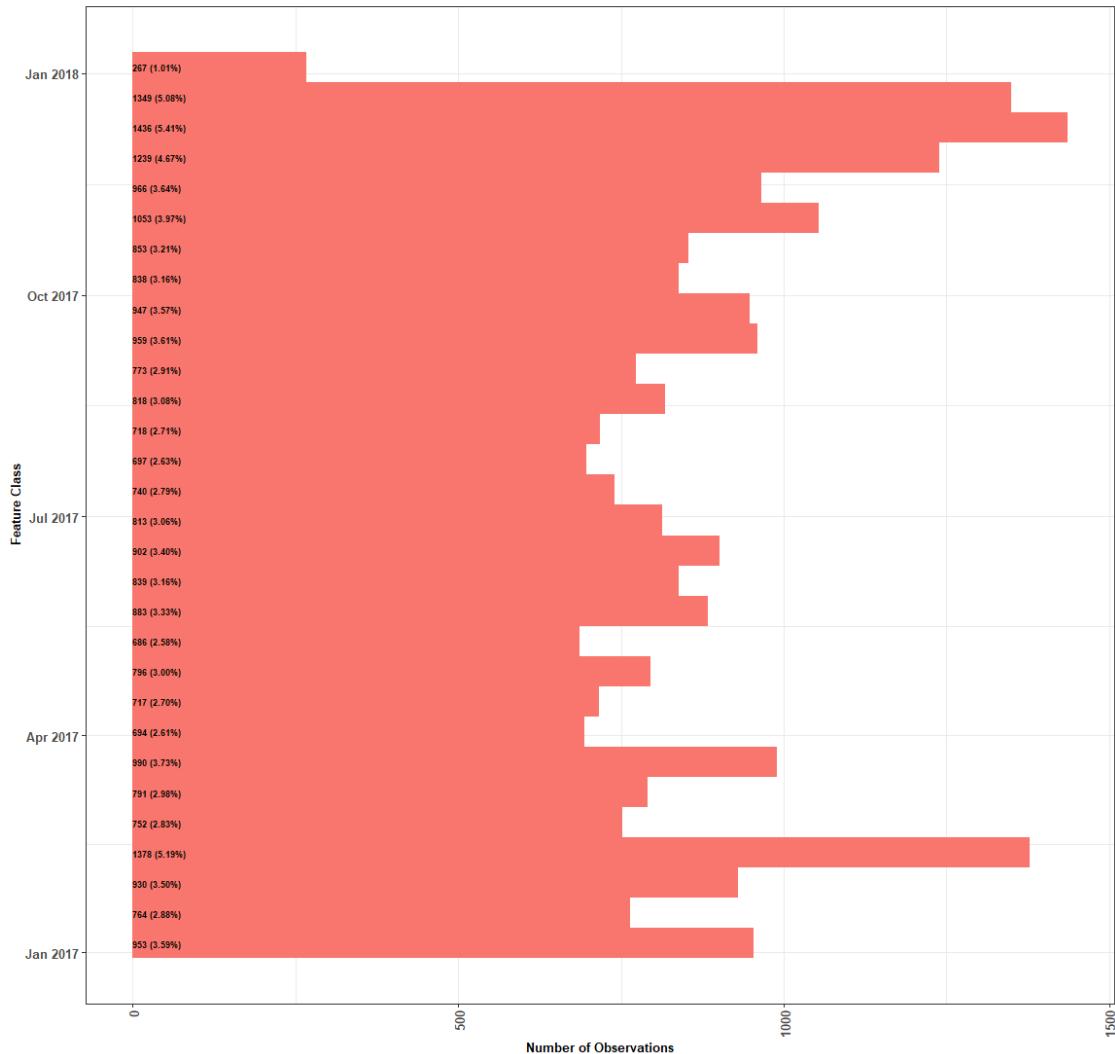
```

## 2017-10-30      89    0.3353
## 2017-12-26      89    0.3353
## 2017-12-30      89    0.3353
## 2017-06-23      88    0.3316
## 2017-08-16      88    0.3316
## 2017-09-19      88    0.3316
## 2017-11-07      88    0.3316
## 2017-11-09      88    0.3316
## 2017-04-18      87    0.3278
## 2017-06-01      87    0.3278
## 2017-08-17      87    0.3278
## 2017-09-26      87    0.3278
## (Other)        15477   58.3136

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

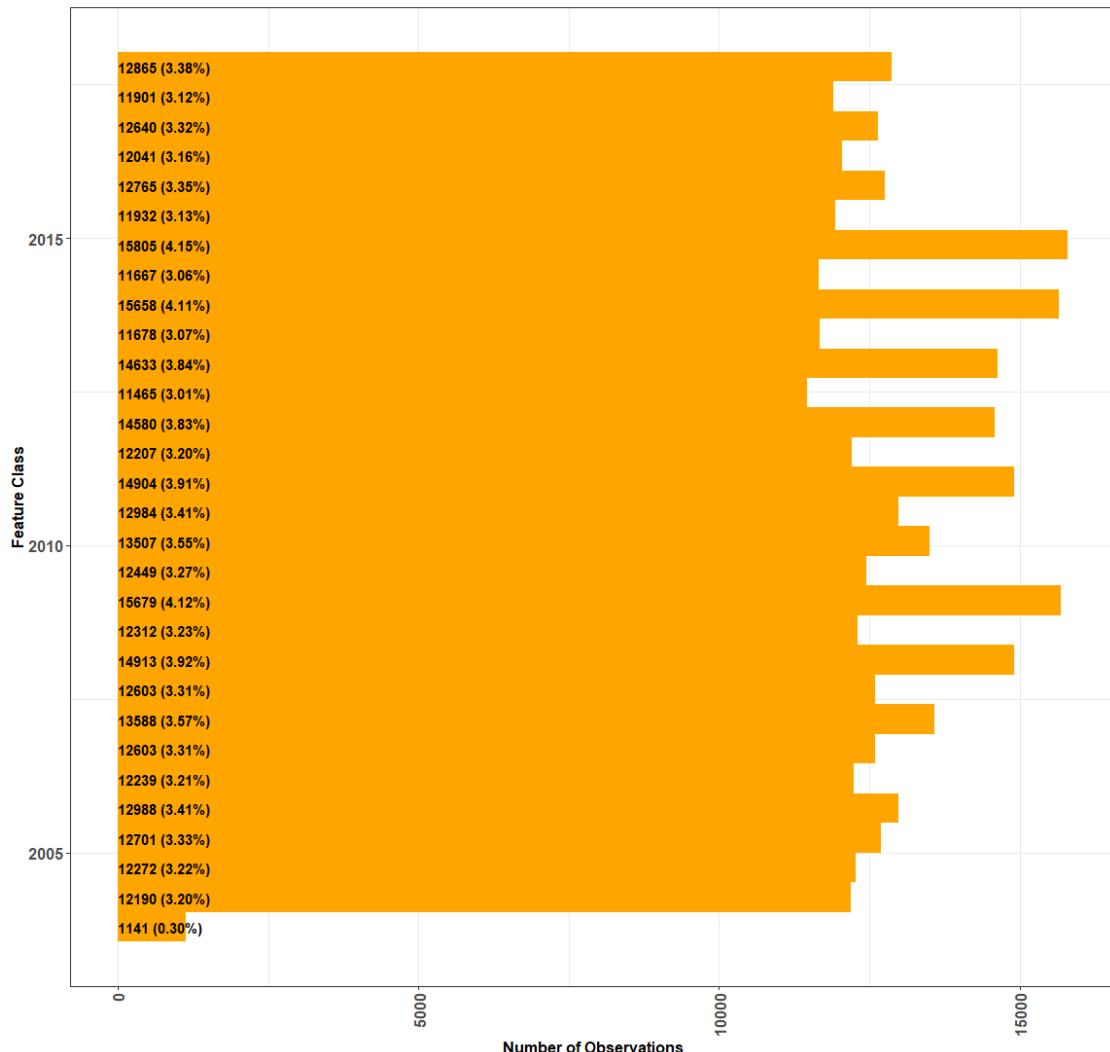
```

**Plot of Feature:ACCIDENT_DATE
Data:All 2017.csv**



```
##  
## =====  
## FINAL INFO CHECKING FEATURE:ACCIDENT_DATE  
## ALL DATA...  
## =====  
##  
## Number of Blank Values:0  
## Number of Zero Values:0  
## Number of Negative Values:0  
##  
## Summary per Data File:  
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv  
## 25708 26632 26139 27829 28543  
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv  
## 28515 27509 27929 26577 27971  
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv  
## 27292 27867 25858 26541  
##  
##  
## Summary as Date Feature:  
## Min. 1st Qu. Median Mean 3rd Qu.  
## "2004-01-01" "2007-08-22" "2010-12-25" "2011-01-04" "2014-06-10"  
## Max.  
## "2017-12-31"  
##  
## Summary as Factor Feature:  
## Number of Features: 100  
  
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth` .
```

Plot of Feature:ACCIDENT_DATE All Data



```
## [1] "TOP 100 FEATURES COUNTERS OF:ACCIDENT_DATE"
```

Feature Value	Counter	Percentage
2005-01-21	414	0.1087
2009-01-15	399	0.1047
2004-01-14	390	0.1024
2004-12-20	372	0.0977
2006-12-22	347	0.0911
2004-01-15	343	0.0900
2012-02-24	304	0.0798
2016-02-17	300	0.0788
2013-11-23	294	0.0772

2015-02-02	294	0.0772
2009-01-16	282	0.0740
2014-01-03	279	0.0732
2013-02-08	271	0.0711
2007-02-14	261	0.0685
2007-11-29	251	0.0659
2014-02-14	250	0.0656
2014-01-27	247	0.0648
2004-01-26	238	0.0625
2004-12-21	238	0.0625
2013-01-28	235	0.0617
2009-01-28	231	0.0606
2008-01-22	229	0.0601
2013-02-27	227	0.0596
2016-02-18	227	0.0596
2005-11-24	226	0.0593
2011-01-15	225	0.0591
2016-04-06	223	0.0585
2005-01-28	220	0.0578
2017-03-24	220	0.0578
2005-01-27	219	0.0575
2007-12-17	218	0.0572
2004-01-24	213	0.0559
2007-02-09	212	0.0557
2017-02-15	212	0.0557
2009-12-18	211	0.0554
2007-12-19	210	0.0551
2010-02-25	210	0.0551
2013-01-24	210	0.0551
2008-03-07	208	0.0546
2013-01-23	208	0.0546
2015-01-14	208	0.0546
2005-03-01	205	0.0538
2015-01-30	205	0.0538
2015-02-04	203	0.0533

2006-02-17	202	0.0530
2017-12-14	202	0.0530
2015-02-21	201	0.0528
2009-02-05	200	0.0525
2015-01-29	198	0.0520
2016-02-25	196	0.0515
2005-11-18	195	0.0512
2005-03-07	194	0.0509
2004-01-11	193	0.0507
2017-12-12	193	0.0507
2010-12-14	191	0.0501
2008-02-07	189	0.0496
2012-01-20	189	0.0496
2004-01-23	185	0.0486
2007-01-25	185	0.0486
2007-02-07	185	0.0486
2015-02-17	185	0.0486
2004-12-01	184	0.0483
2008-12-22	184	0.0483
2009-05-27	184	0.0483
2007-01-29	183	0.0480
2016-12-09	183	0.0480
2010-01-29	181	0.0475
2011-02-03	181	0.0475
2013-01-25	181	0.0475
2015-01-08	181	0.0475
2010-01-28	180	0.0473
2011-02-28	180	0.0473
2014-02-18	180	0.0473
2004-12-23	178	0.0467
2007-12-11	177	0.0465
2011-02-02	177	0.0465
2013-11-29	177	0.0465
2004-12-17	176	0.0462
2005-12-15	176	0.0462

2009-12-30	176	0.0462
2014-01-22	176	0.0462
2009-01-30	175	0.0459
2015-02-14	174	0.0457
2004-04-04	173	0.0454
2008-12-11	172	0.0452
2016-12-08	172	0.0452
2007-01-26	171	0.0449
2013-02-05	171	0.0449
2014-01-24	171	0.0449
2014-02-11	171	0.0449
2015-01-07	171	0.0449
2009-12-09	170	0.0446
2012-01-19	170	0.0446
2012-01-18	168	0.0441
2007-11-22	167	0.0438
2008-02-27	167	0.0438
2008-03-10	167	0.0438
2009-01-07	167	0.0438
2011-01-07	166	0.0436
(Other)	359780	94.4528

33.1 ACCIDENT_DATE = "" (Blank)

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ACCIDENT_DATE=)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (ACCIDENT_DATE=) Percentage -----

33.2 ACCIDENT_DATE = "0"

```
##  
## =====  
## CHECKING FEATURE AND VALUE (ACCIDENT_DATE=0)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (ACCIDENT_DATE=0) Percentage -----

34. Accident Time (ACCIDENT_TIME)

```
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2004.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value Counter Percentage
## -----
## 4:30 PM 258 1.0036
## 5:00 PM 257 0.9997
## 8:30 AM 240 0.9336
## 5:30 PM 237 0.9219
## 4:00 PM 222 0.8635
## 6:00 PM 210 0.8169
## 8:00 AM 193 0.7507
## 3:00 PM 186 0.7235
## 2:00 PM 176 0.6846
## 3:30 PM 170 0.6613
## 12:00 PM 169 0.6574
## 4:15 PM 168 0.6535
## 9:00 AM 167 0.6496
## 5:20 PM 159 0.6185
## 1:30 PM 150 0.5835
## 2:30 PM 146 0.5679
## 1:00 PM 145 0.5640
## 3:45 PM 142 0.5524
## 10:00 AM 141 0.5485
## 11:00 AM 138 0.5368
## 11:30 AM 138 0.5368
## 12:30 PM 137 0.5329
## 7:00 PM 129 0.5018
## 4:45 PM 128 0.4979
## 8:40 AM 127 0.4940
## 5:15 PM 126 0.4901
## 6:30 PM 126 0.4901
## 7:30 AM 123 0.4785
## 5:45 PM 121 0.4707
## 2:45 PM 119 0.4629
## 8:45 AM 117 0.4551
## 10:30 AM 116 0.4512
```

## 3:15 PM	114	0.4434
## 8:50 AM	113	0.4396
## 9:30 AM	113	0.4396
## 4:40 PM	109	0.4240
## 4:10 PM	108	0.4201
## 3:40 PM	103	0.4007
## 8:10 AM	102	0.3968
## 9:00 PM	101	0.3929
## 2:15 PM	97	0.3773
## 8:00 PM	96	0.3734
## 12:15 PM	94	0.3656
## 8:15 AM	94	0.3656
## 6:45 PM	93	0.3618
## 7:30 PM	92	0.3579
## 6:15 PM	91	0.3540
## 7:45 AM	91	0.3540
## 4:20 PM	90	0.3501
## 5:10 PM	89	0.3462
## 5:50 PM	88	0.3423
## 8:20 AM	88	0.3423
## 12:45 PM	87	0.3384
## 3:10 PM	87	0.3384
## 4:50 PM	87	0.3384
## 7:50 AM	85	0.3306
## 3:20 PM	84	0.3267
## 1:45 PM	83	0.3229
## 12:20 PM	83	0.3229
## 5:40 PM	83	0.3229
## 9:45 AM	82	0.3190
## 2:20 PM	81	0.3151
## 3:50 PM	80	0.3112
## 6:20 PM	80	0.3112
## 7:00 AM	80	0.3112
## 9:15 AM	79	0.3073
## 10:00 PM	78	0.3034
## 4:25 PM	78	0.3034
## 10:15 AM	76	0.2956
## 9:05 AM	74	0.2878
## 5:35 PM	73	0.2840
## 9:30 PM	70	0.2723
## 1:20 PM	68	0.2645
## 12:00 AM	68	0.2645
## 11:50 AM	67	0.2606
## 12:50 PM	67	0.2606
## 8:25 AM	67	0.2606
## 11:45 AM	66	0.2567
## 5:05 PM	66	0.2567
## 9:40 AM	66	0.2567

```

## 2:10 PM           64   0.2489
## 3:35 PM           64   0.2489
## 4:35 PM           64   0.2489
## 6:10 PM           64   0.2489
## 7:40 AM           64   0.2489
## 8:35 AM           64   0.2489
## 11:15 AM          63   0.2451
## 11:20 AM          63   0.2451
## 12:10 PM          63   0.2451
## 12:40 PM          63   0.2451
## 1:40 PM            62   0.2412
## 3:55 PM            62   0.2412
## 5:55 PM            61   0.2373
## 2:50 PM            60   0.2334
## 9:20 AM            60   0.2334
## 8:55 AM            59   0.2295
## 12:35 PM           58   0.2256
## 6:50 PM            58   0.2256
## 8:05 AM            58   0.2256
## (Other)          15242  59.2889
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2005.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value      Counter   Percentage
## -----
## 5:00 PM            285     1.0701
## 4:00 PM            268     1.0063
## 5:30 PM            262     0.9838
## 4:30 PM            239     0.8974
## 3:30 PM            222     0.8336
## 8:30 AM             217     0.8148
## 6:00 PM             206     0.7735
## 1:30 PM             198     0.7435
## 3:00 PM             187     0.7022
## 9:00 AM             184     0.6909
## 1:00 PM             181     0.6796
## 12:30 PM            178     0.6684
## 2:30 PM             174     0.6533

```

## 8:00 AM	174	0.6533
## 12:00 PM	173	0.6496
## 2:00 PM	170	0.6383
## 4:45 PM	169	0.6346
## 7:00 PM	164	0.6158
## 6:30 PM	159	0.5970
## 5:15 PM	156	0.5858
## 3:45 PM	147	0.5520
## 4:50 PM	140	0.5257
## 11:30 AM	139	0.5219
## 8:45 AM	136	0.5107
## 10:00 AM	134	0.5032
## 11:00 AM	130	0.4881
## 4:15 PM	130	0.4881
## 5:45 PM	130	0.4881
## 3:50 PM	125	0.4694
## 9:30 AM	125	0.4694
## 10:30 AM	122	0.4581
## 4:20 PM	121	0.4543
## 3:10 PM	119	0.4468
## 5:20 PM	119	0.4468
## 7:30 AM	119	0.4468
## 8:50 AM	118	0.4431
## 3:20 PM	117	0.4393
## 9:30 PM	113	0.4243
## 7:30 PM	111	0.4168
## 11:45 AM	106	0.3980
## 12:00 AM	106	0.3980
## 4:10 PM	103	0.3868
## 8:20 AM	100	0.3755
## 3:40 PM	99	0.3717
## 9:15 AM	99	0.3717
## 3:15 PM	97	0.3642
## 12:45 PM	96	0.3605
## 8:00 PM	96	0.3605
## 8:15 AM	95	0.3567
## 5:40 PM	94	0.3530
## 2:40 PM	93	0.3492
## 5:50 PM	92	0.3454
## 6:15 PM	91	0.3417
## 1:45 PM	90	0.3379
## 8:40 AM	90	0.3379
## 12:15 PM	89	0.3342
## 9:00 PM	86	0.3229
## 1:20 PM	85	0.3192
## 7:50 AM	85	0.3192
## 8:30 PM	85	0.3192
## 5:10 PM	82	0.3079



```
## 7:00 AM           82    0.3079
## 2:50 PM           80    0.3004
## 10:00 PM          79    0.2966
## 2:45 PM           79    0.2966
## 1:10 PM           78    0.2929
## 10:15 AM          77    0.2891
## 6:45 PM           75    0.2816
## 4:40 PM           73    0.2741
## 8:10 AM           73    0.2741
## 2:20 PM           72    0.2704
## 5:25 PM           71    0.2666
## 7:15 AM           71    0.2666
## 7:55 AM           71    0.2666
## 8:35 AM           71    0.2666
## 10:45 AM          70    0.2628
## 11:15 AM          69    0.2591
## 12:20 PM          69    0.2591
## 4:25 PM           69    0.2591
## 11:40 AM          68    0.2553
## 12:50 PM          68    0.2553
## 1:50 PM           67    0.2516
## 3:35 PM           67    0.2516
## 12:05 PM          66    0.2478
## 2:15 PM           66    0.2478
## 3:25 PM           66    0.2478
## 7:40 AM           65    0.2441
## 1:40 PM           64    0.2403
## 1:15 PM           63    0.2366
## 5:05 PM           63    0.2366
## 7:45 AM           63    0.2366
## 8:05 AM           63    0.2366
## 9:50 AM           63    0.2366
## 1:25 PM           62    0.2328
## 4:35 PM           62    0.2328
## 6:10 PM           62    0.2328
## 7:15 PM           62    0.2328
## 11:00 PM          61    0.2290
## 6:20 PM           59    0.2215
## (Other)          15603  58.5874
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2006.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
```

```

## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value Counter Percentage
## -----
## 5:00 PM      287   1.0980
## 5:30 PM      249   0.9526
## 6:00 PM      247   0.9449
## 4:30 PM      242   0.9258
## 4:00 PM      218   0.8340
## 3:30 PM      209   0.7996
## 1:00 PM      208   0.7957
## 3:00 PM      192   0.7345
## 5:15 PM      182   0.6963
## 2:00 PM      180   0.6886
## 9:00 AM       173   0.6618
## 12:30 PM     171   0.6542
## 8:00 AM       167   0.6389
## 12:00 PM     164   0.6274
## 6:30 PM       164   0.6274
## 3:45 PM       162   0.6198
## 11:00 AM      158   0.6045
## 2:30 PM       151   0.5777
## 5:45 PM       150   0.5739
## 7:00 PM       150   0.5739
## 11:30 AM      149   0.5700
## 12:00 AM      147   0.5624
## 10:30 AM      141   0.5394
## 4:15 PM       138   0.5279
## 8:30 AM       135   0.5165
## 10:00 AM      133   0.5088
## 5:20 PM       127   0.4859
## 1:30 PM       124   0.4744
## 8:45 AM       117   0.4476
## 4:50 PM       115   0.4400
## 7:30 AM       115   0.4400
## 5:10 PM       113   0.4323
## 7:50 AM       113   0.4323
## 4:45 PM       109   0.4170
## 4:20 PM       108   0.4132
## 2:45 PM       106   0.4055
## 3:50 PM       105   0.4017
## 2:15 PM       102   0.3902
## 8:15 AM       102   0.3902
## 8:30 PM       102   0.3902
## 12:45 PM      101   0.3864
## 3:40 PM       101   0.3864

```

## 8:00 PM	97	0.3711
## 10:30 PM	96	0.3673
## 9:30 AM	94	0.3596
## 12:15 PM	93	0.3558
## 7:15 PM	93	0.3558
## 3:15 PM	92	0.3520
## 9:00 PM	91	0.3481
## 2:40 PM	89	0.3405
## 5:50 PM	88	0.3367
## 5:05 PM	87	0.3328
## 3:20 PM	86	0.3290
## 4:10 PM	85	0.3252
## 7:45 AM	85	0.3252
## 5:40 PM	84	0.3214
## 1:45 PM	83	0.3175
## 12:20 PM	83	0.3175
## 6:20 PM	83	0.3175
## 9:15 AM	83	0.3175
## 10:00 PM	81	0.3099
## 8:40 AM	79	0.3022
## 2:50 PM	78	0.2984
## 5:25 PM	78	0.2984
## 6:15 PM	78	0.2984
## 1:40 PM	77	0.2946
## 11:15 AM	77	0.2946
## 8:20 AM	77	0.2946
## 9:30 PM	76	0.2908
## 6:45 PM	75	0.2869
## 4:40 PM	74	0.2831
## 11:45 AM	73	0.2793
## 2:10 PM	73	0.2793
## 1:15 PM	72	0.2755
## 11:50 AM	72	0.2755
## 6:30 AM	70	0.2678
## 7:30 PM	70	0.2678
## 10:15 AM	69	0.2640
## 8:50 AM	69	0.2640
## 11:00 PM	67	0.2563
## 6:10 PM	67	0.2563
## 7:00 AM	67	0.2563
## 2:20 PM	66	0.2525
## 8:10 AM	66	0.2525
## 10:45 AM	65	0.2487
## 4:25 PM	64	0.2448
## 4:35 PM	64	0.2448
## 9:05 AM	64	0.2448
## 9:45 AM	63	0.2410
## 3:10 PM	62	0.2372



```
## 5:55 PM           61    0.2334
## 7:40 AM           61    0.2334
## 8:45 PM           61    0.2334
## 1:10 PM           60    0.2295
## 12:40 PM          60    0.2295
## 12:50 PM          60    0.2295
## 4:05 PM           59    0.2257
## 9:10 AM           59    0.2257
## 3:35 PM           58    0.2219
## (Other)          15448  59.0994
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2007.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value   Counter Percentage
## -----
## 4:00 PM         282    1.0133
## 5:00 PM         276    0.9918
## 5:30 PM         271    0.9738
## 3:30 PM         233    0.8373
## 12:00 AM        226    0.8121
## 4:30 PM         221    0.7941
## 6:00 PM         219    0.7869
## 3:00 PM         212    0.7618
## 8:30 AM          208    0.7474
## 8:00 AM          205    0.7366
## 2:00 PM          185    0.6648
## 9:00 AM          178    0.6396
## 1:00 PM          170    0.6109
## 12:00 PM         161    0.5785
## 4:45 PM          161    0.5785
## 11:00 AM         153    0.5498
## 1:30 PM          151    0.5426
## 6:30 PM          149    0.5354
## 4:15 PM          146    0.5246
## 2:30 PM          142    0.5103
## 7:00 PM          141    0.5067
## 12:30 PM         135    0.4851
## 5:45 PM          132    0.4743
```

## 5:15 PM	128	0.4600
## 8:15 AM	126	0.4528
## 4:40 PM	124	0.4456
## 10:00 AM	122	0.4384
## 7:30 AM	120	0.4312
## 3:45 PM	118	0.4240
## 5:20 PM	118	0.4240
## 5:10 PM	116	0.4168
## 7:30 PM	115	0.4132
## 11:30 AM	113	0.4061
## 4:50 PM	113	0.4061
## 4:10 PM	109	0.3917
## 8:20 AM	108	0.3881
## 8:45 AM	108	0.3881
## 3:15 PM	107	0.3845
## 10:30 AM	106	0.3809
## 4:20 PM	102	0.3665
## 7:50 AM	101	0.3629
## 8:50 AM	101	0.3629
## 5:40 PM	99	0.3557
## 12:15 PM	98	0.3522
## 3:50 PM	98	0.3522
## 2:15 PM	95	0.3414
## 5:50 PM	94	0.3378
## 6:15 PM	94	0.3378
## 8:40 AM	94	0.3378
## 9:30 AM	94	0.3378
## 1:15 PM	93	0.3342
## 7:45 AM	93	0.3342
## 8:00 PM	93	0.3342
## 9:10 AM	91	0.3270
## 12:50 PM	90	0.3234
## 3:40 PM	90	0.3234
## 4:05 PM	90	0.3234
## 3:20 PM	89	0.3198
## 7:00 AM	89	0.3198
## 2:50 PM	88	0.3162
## 9:00 PM	88	0.3162
## 12:45 PM	84	0.3018
## 5:25 PM	83	0.2983
## 2:20 PM	82	0.2947
## 12:20 PM	81	0.2911
## 3:10 PM	81	0.2911
## 8:10 AM	80	0.2875
## 1:20 PM	77	0.2767
## 1:40 PM	77	0.2767
## 8:55 AM	76	0.2731
## 2:40 PM	73	0.2623

```

## 2:45 PM           72      0.2587
## 5:35 PM           72      0.2587
## 6:45 PM           72      0.2587
## 11:00 PM          71      0.2551
## 7:15 AM           71      0.2551
## 9:30 PM           71      0.2551
## 9:40 AM           71      0.2551
## 12:10 PM          70      0.2515
## 12:40 PM          70      0.2515
## 10:00 PM          69      0.2479
## 3:25 PM           69      0.2479
## 8:30 PM           69      0.2479
## 2:55 PM           68      0.2443
## 6:20 PM           68      0.2443
## 7:40 AM           67      0.2408
## 1:45 PM           66      0.2372
## 11:45 AM          66      0.2372
## 10:15 AM          65      0.2336
## 9:15 AM           65      0.2336
## 1:50 PM           63      0.2264
## 4:25 PM           63      0.2264
## 5:05 PM           63      0.2264
## 7:55 AM           63      0.2264
## 9:45 AM           63      0.2264
## 1:55 PM           62      0.2228
## 8:05 AM           62      0.2228
## 10:45 AM          61      0.2192
## 2:10 PM           60      0.2156
## (Other)          16891   60.6957
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2008.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value     Counter   Percentage
## -----
## 4:30 PM           324      1.1351
## 4:00 PM           312      1.0931
## 5:00 PM           295      1.0335
## 5:30 PM           275      0.9635

```

## 3:30 PM	228	0.7988
## 9:00 AM	212	0.7427
## 1:00 PM	204	0.7147
## 2:00 PM	198	0.6937
## 8:00 AM	195	0.6832
## 2:30 PM	194	0.6797
## 12:00 AM	190	0.6657
## 6:00 PM	187	0.6552
## 12:30 PM	185	0.6481
## 3:00 PM	180	0.6306
## 5:15 PM	178	0.6236
## 8:30 AM	168	0.5886
## 1:30 PM	157	0.5500
## 4:45 PM	156	0.5465
## 12:00 PM	153	0.5360
## 6:30 PM	152	0.5325
## 7:00 PM	147	0.5150
## 11:30 AM	142	0.4975
## 7:30 AM	142	0.4975
## 4:15 PM	138	0.4835
## 10:00 AM	136	0.4765
## 11:00 AM	135	0.4730
## 3:15 PM	135	0.4730
## 4:20 PM	134	0.4695
## 5:45 PM	134	0.4695
## 3:45 PM	123	0.4309
## 7:00 AM	121	0.4239
## 5:20 PM	120	0.4204
## 9:30 AM	119	0.4169
## 10:30 AM	117	0.4099
## 5:10 PM	117	0.4099
## 7:30 PM	116	0.4064
## 8:00 PM	110	0.3854
## 8:20 AM	110	0.3854
## 12:15 PM	109	0.3819
## 8:50 AM	108	0.3784
## 8:15 AM	106	0.3714
## 3:50 PM	102	0.3574
## 4:50 PM	101	0.3539
## 9:15 AM	100	0.3503
## 5:40 PM	99	0.3468
## 7:45 AM	98	0.3433
## 8:45 AM	98	0.3433
## 3:10 PM	96	0.3363
## 3:40 PM	96	0.3363
## 2:45 PM	95	0.3328
## 6:15 PM	94	0.3293
## 9:30 PM	93	0.3258

## 12:45 PM	90	0.3153
## 4:10 PM	89	0.3118
## 2:15 PM	88	0.3083
## 10:00 PM	86	0.3013
## 5:50 PM	86	0.3013
## 8:40 AM	86	0.3013
## 10:30 PM	85	0.2978
## 5:25 PM	84	0.2943
## 8:10 AM	84	0.2943
## 4:40 PM	83	0.2908
## 6:20 PM	83	0.2908
## 9:45 AM	83	0.2908
## 12:10 PM	80	0.2803
## 1:15 PM	77	0.2698
## 11:45 AM	77	0.2698
## 9:00 PM	77	0.2698
## 11:00 PM	74	0.2593
## 6:30 AM	74	0.2593
## 8:55 AM	74	0.2593
## 1:45 PM	73	0.2558
## 7:50 AM	73	0.2558
## 11:15 AM	72	0.2523
## 2:40 PM	72	0.2523
## 7:15 PM	71	0.2487
## 9:40 AM	71	0.2487
## 5:05 PM	70	0.2452
## 10:45 AM	69	0.2417
## 7:40 AM	69	0.2417
## 8:30 PM	69	0.2417
## 1:40 PM	68	0.2382
## 12:50 PM	68	0.2382
## 6:25 PM	68	0.2382
## 1:20 PM	67	0.2347
## 1:50 PM	67	0.2347
## 10:50 AM	67	0.2347
## 2:50 PM	67	0.2347
## 4:25 PM	67	0.2347
## 1:10 PM	66	0.2312
## 4:05 PM	66	0.2312
## 3:20 PM	64	0.2242
## 4:35 PM	64	0.2242
## 1:35 PM	63	0.2207
## 10:15 AM	61	0.2137
## 12:20 PM	61	0.2137
## 9:20 AM	61	0.2137
## 9:50 AM	61	0.2137
## 12:40 PM	60	0.2102
## (Other)	17274	60.5192



```
##  
## -----  
## CHECKING FEATURE:ACCIDENT_TIME  
## DATA:All 2009.csv...  
##  
## Number of Blank Values:0  
##  
## Summary as Factor Feature:  
##  
## Number of Features: 100  
##  
## TOP 100 FEATURES OF ACCIDENT_TIME  
##  
## Feature Value Counter Percentage  
## -----  
## 4:00 PM 293 1.0275  
## 5:30 PM 270 0.9469  
## 4:30 PM 269 0.9434  
## 3:00 PM 264 0.9258  
## 3:30 PM 254 0.8908  
## 5:00 PM 249 0.8732  
## 8:30 AM 209 0.7329  
## 12:00 AM 208 0.7294  
## 2:30 PM 203 0.7119  
## 1:00 PM 195 0.6839  
## 8:00 AM 191 0.6698  
## 12:00 PM 188 0.6593  
## 2:00 PM 184 0.6453  
## 6:00 PM 180 0.6312  
## 9:00 AM 179 0.6277  
## 4:15 PM 171 0.5997  
## 1:30 PM 170 0.5962  
## 6:30 PM 170 0.5962  
## 12:30 PM 166 0.5821  
## 5:15 PM 163 0.5716  
## 3:45 PM 159 0.5576  
## 4:45 PM 155 0.5436  
## 11:00 AM 148 0.5190  
## 7:00 PM 148 0.5190  
## 11:30 AM 143 0.5015  
## 3:15 PM 141 0.4945  
## 8:15 AM 141 0.4945  
## 7:30 AM 140 0.4910  
## 10:00 AM 137 0.4804  
## 4:20 PM 134 0.4699  
## 5:45 PM 130 0.4559  
## 3:50 PM 127 0.4454  
## 9:30 AM 122 0.4278
```

## 4:40 PM	121	0.4243
## 12:15 PM	118	0.4138
## 3:20 PM	115	0.4033
## 4:50 PM	108	0.3787
## 10:30 AM	105	0.3682
## 4:10 PM	104	0.3647
## 5:20 PM	104	0.3647
## 7:45 AM	102	0.3577
## 8:00 PM	101	0.3542
## 8:10 AM	100	0.3507
## 8:45 AM	100	0.3507
## 1:15 PM	96	0.3367
## 5:40 PM	95	0.3332
## 3:40 PM	94	0.3297
## 9:30 PM	93	0.3261
## 8:20 AM	92	0.3226
## 1:20 PM	91	0.3191
## 2:45 PM	88	0.3086
## 6:15 PM	87	0.3051
## 6:45 PM	86	0.3016
## 7:00 AM	84	0.2946
## 9:00 PM	84	0.2946
## 12:40 PM	83	0.2911
## 2:40 PM	83	0.2911
## 9:15 AM	83	0.2911
## 12:10 PM	80	0.2806
## 8:40 AM	80	0.2806
## 7:30 PM	79	0.2770
## 10:45 AM	78	0.2735
## 12:50 PM	78	0.2735
## 5:10 PM	78	0.2735
## 5:35 PM	78	0.2735
## 5:50 PM	78	0.2735
## 1:45 PM	77	0.2700
## 11:20 AM	77	0.2700
## 12:45 PM	77	0.2700
## 6:20 PM	76	0.2665
## 7:15 AM	76	0.2665
## 8:30 PM	76	0.2665
## 5:05 PM	75	0.2630
## 7:50 AM	75	0.2630
## 11:40 AM	74	0.2595
## 2:15 PM	74	0.2595
## 10:00 PM	73	0.2560
## 2:50 PM	73	0.2560
## 11:15 AM	72	0.2525
## 6:40 PM	72	0.2525
## 1:50 PM	70	0.2455



```
## 6:30 AM           70    0.2455
## 11:45 AM          69    0.2420
## 4:55 PM           69    0.2420
## 6:50 PM           69    0.2420
## 2:10 PM           68    0.2385
## 6:45 AM           67    0.2350
## 6:50 AM           67    0.2350
## 8:50 AM           67    0.2350
## 9:45 AM           67    0.2350
## 4:05 PM           66    0.2315
## 4:25 PM           66    0.2315
## 2:20 PM           65    0.2280
## 8:05 AM           65    0.2280
## 10:30 PM          64    0.2244
## 11:00 PM          64    0.2244
## 3:10 PM           64    0.2244
## 3:25 PM           64    0.2244
## 7:40 AM           63    0.2209
## (Other)          17157  60.1683
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2010.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value   Counter Percentage
## -----
## 5:00 PM         311    1.1305
## 4:30 PM         288    1.0469
## 5:30 PM         273    0.9924
## 4:00 PM         260    0.9451
## 3:30 PM         216    0.7852
## 6:00 PM         197    0.7161
## 2:00 PM         195    0.7089
## 12:00 AM        193    0.7016
## 8:30 AM         186    0.6761
## 3:00 PM         172    0.6252
## 2:30 PM         166    0.6034
## 1:30 PM         165    0.5998
## 5:15 PM         158    0.5744
## 7:00 PM         156    0.5671
```

## 12:30 PM	155	0.5635
## 6:30 PM	153	0.5562
## 1:00 PM	152	0.5525
## 3:45 PM	149	0.5416
## 12:00 PM	147	0.5344
## 4:15 PM	142	0.5162
## 8:00 AM	142	0.5162
## 9:00 AM	142	0.5162
## 4:45 PM	137	0.4980
## 10:00 AM	131	0.4762
## 2:45 PM	127	0.4617
## 3:40 PM	126	0.4580
## 11:00 AM	123	0.4471
## 4:50 PM	122	0.4435
## 11:30 AM	119	0.4326
## 4:40 PM	117	0.4253
## 5:10 PM	115	0.4180
## 5:45 PM	114	0.4144
## 5:20 PM	112	0.4071
## 8:15 AM	112	0.4071
## 9:30 AM	112	0.4071
## 3:10 PM	109	0.3962
## 3:15 PM	108	0.3926
## 3:50 PM	108	0.3926
## 7:30 PM	108	0.3926
## 7:50 AM	108	0.3926
## 8:40 AM	107	0.3890
## 4:20 PM	106	0.3853
## 4:10 PM	100	0.3635
## 8:20 AM	97	0.3526
## 3:20 PM	96	0.3490
## 5:40 PM	95	0.3453
## 5:50 PM	95	0.3453
## 8:00 PM	91	0.3308
## 6:15 PM	89	0.3235
## 7:00 AM	89	0.3235
## 7:30 AM	88	0.3199
## 7:45 AM	84	0.3054
## 1:10 PM	83	0.3017
## 3:55 PM	83	0.3017
## 9:00 PM	81	0.2944
## 10:30 AM	80	0.2908
## 12:15 PM	80	0.2908
## 12:45 PM	79	0.2872
## 8:45 AM	78	0.2835
## 1:15 PM	77	0.2799
## 2:50 PM	77	0.2799
## 7:20 AM	77	0.2799

```

## 8:10 AM           77   0.2799
## 1:45 PM          76   0.2763
## 10:45 AM         74   0.2690
## 6:45 AM          74   0.2690
## 4:05 PM          73   0.2654
## 9:15 AM          73   0.2654
## 12:50 PM         72   0.2617
## 6:45 PM          72   0.2617
## 6:50 PM          72   0.2617
## 2:10 PM          70   0.2545
## 5:35 PM          70   0.2545
## 2:15 PM          69   0.2508
## 2:20 PM          69   0.2508
## 1:40 PM          68   0.2472
## 12:20 PM         68   0.2472
## 7:40 AM          68   0.2472
## 2:40 PM          67   0.2436
## 6:10 PM          67   0.2436
## 5:25 PM          66   0.2399
## 8:50 AM          66   0.2399
## 3:35 PM          65   0.2363
## 8:30 PM          65   0.2363
## 10:30 PM         64   0.2327
## 11:45 AM         64   0.2327
## 4:55 PM          64   0.2327
## 12:10 PM         63   0.2290
## 6:40 PM          63   0.2290
## 3:25 PM          62   0.2254
## 6:20 PM          62   0.2254
## 7:15 PM          62   0.2254
## 8:55 AM          62   0.2254
## 10:00 PM         61   0.2217
## 9:10 AM          61   0.2217
## 1:20 PM          59   0.2145
## 4:25 PM          59   0.2145
## 9:45 AM          59   0.2145
## 2:35 PM          57   0.2072
## (Other)          16888 61.3908
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2011.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100

```

```
##  
## TOP 100 FEATURES OF ACCIDENT_TIME  
##  
## Feature Value Counter Percentage  
## ----- -----  
## 5:00 PM 258 0.9238  
## 4:00 PM 253 0.9059  
## 3:30 PM 244 0.8736  
## 3:00 PM 226 0.8092  
## 6:00 PM 215 0.7698  
## 12:00 AM 209 0.7483  
## 5:30 PM 209 0.7483  
## 4:30 PM 204 0.7304  
## 2:00 PM 198 0.7089  
## 8:00 AM 188 0.6731  
## 12:00 PM 182 0.6517  
## 9:00 AM 181 0.6481  
## 8:30 AM 176 0.6302  
## 4:15 PM 168 0.6015  
## 4:45 PM 164 0.5872  
## 11:30 AM 161 0.5765  
## 5:15 PM 155 0.5550  
## 1:00 PM 152 0.5442  
## 12:30 PM 152 0.5442  
## 5:20 PM 150 0.5371  
## 6:30 PM 147 0.5263  
## 3:45 PM 144 0.5156  
## 9:30 AM 140 0.5013  
## 1:30 PM 136 0.4869  
## 11:00 AM 132 0.4726  
## 2:30 PM 129 0.4619  
## 7:00 PM 127 0.4547  
## 10:00 AM 123 0.4404  
## 3:15 PM 121 0.4332  
## 7:30 AM 120 0.4297  
## 10:30 AM 115 0.4118  
## 8:45 AM 115 0.4118  
## 4:10 PM 113 0.4046  
## 5:10 PM 112 0.4010  
## 2:15 PM 110 0.3939  
## 3:20 PM 110 0.3939  
## 8:15 AM 109 0.3903  
## 5:45 PM 108 0.3867  
## 4:20 PM 106 0.3795  
## 12:45 PM 104 0.3724  
## 4:50 PM 103 0.3688  
## 2:45 PM 101 0.3616  
## 3:40 PM 101 0.3616
```



## 3:50 PM	99	0.3545
## 5:40 PM	99	0.3545
## 8:20 AM	95	0.3401
## 8:50 AM	93	0.3330
## 4:40 PM	92	0.3294
## 2:50 PM	89	0.3187
## 4:55 PM	89	0.3187
## 3:10 PM	88	0.3151
## 6:45 PM	88	0.3151
## 7:30 PM	88	0.3151
## 7:50 AM	88	0.3151
## 7:00 AM	85	0.3043
## 7:20 AM	80	0.2864
## 8:00 PM	78	0.2793
## 1:45 PM	77	0.2757
## 11:00 PM	77	0.2757
## 4:35 PM	77	0.2757
## 5:05 PM	77	0.2757
## 5:25 PM	77	0.2757
## 6:10 PM	77	0.2757
## 9:20 AM	77	0.2757
## 10:15 AM	76	0.2721
## 1:15 PM	75	0.2685
## 9:30 PM	75	0.2685
## 6:50 AM	74	0.2650
## 10:45 AM	73	0.2614
## 5:50 PM	73	0.2614
## 9:15 AM	73	0.2614
## 9:35 AM	73	0.2614
## 2:40 PM	72	0.2578
## 8:40 AM	71	0.2542
## 8:30 PM	70	0.2506
## 12:20 PM	69	0.2471
## 7:15 PM	69	0.2471
## 9:10 AM	68	0.2435
## 12:15 PM	67	0.2399
## 12:40 PM	67	0.2399
## 6:20 PM	65	0.2327
## 8:25 AM	65	0.2327
## 1:20 PM	64	0.2292
## 6:15 PM	64	0.2292
## 10:00 PM	63	0.2256
## 12:10 PM	63	0.2256
## 6:30 AM	63	0.2256
## 9:45 AM	63	0.2256
## 1:50 PM	62	0.2220
## 12:50 PM	62	0.2220
## 4:05 PM	62	0.2220

```

## 9:00 PM           62   0.2220
## 11:50 AM          61   0.2184
## 8:35 AM           61   0.2184
## 9:05 AM           61   0.2184
## 9:40 AM           61   0.2184
## 7:45 AM           60   0.2148
## 8:55 AM           60   0.2148
## 3:25 PM            58   0.2077
## (Other)          17243 61.7387
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2012.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value      Counter   Percentage
## -----
## 4:00 PM            314     1.1815
## 5:00 PM            268     1.0084
## 3:30 PM            248     0.9331
## 5:30 PM            244     0.9181
## 3:00 PM            236     0.8880
## 12:00 AM           227     0.8541
## 4:30 PM            215     0.8090
## 6:00 PM            187     0.7036
## 9:00 AM             175     0.6585
## 2:30 PM             171     0.6434
## 8:00 AM             167     0.6284
## 12:00 PM            165     0.6208
## 12:30 PM            164     0.6171
## 2:00 PM             164     0.6171
## 8:30 AM             161     0.6058
## 4:20 PM             148     0.5569
## 11:00 AM            145     0.5456
## 7:30 AM             143     0.5381
## 11:30 AM            141     0.5305
## 6:30 PM             140     0.5268
## 1:00 PM              138     0.5192
## 10:00 AM            138     0.5192
## 7:00 PM              133     0.5004
## 4:40 PM              132     0.4967

```

## 4:15 PM	131	0.4929
## 5:10 PM	130	0.4891
## 3:15 PM	128	0.4816
## 4:10 PM	124	0.4666
## 1:30 PM	122	0.4590
## 5:20 PM	122	0.4590
## 3:45 PM	120	0.4515
## 4:45 PM	116	0.4365
## 9:30 AM	116	0.4365
## 12:45 PM	114	0.4289
## 5:15 PM	114	0.4289
## 3:50 PM	109	0.4101
## 2:45 PM	107	0.4026
## 4:50 PM	107	0.4026
## 8:50 AM	105	0.3951
## 3:20 PM	101	0.3800
## 10:30 AM	100	0.3763
## 8:00 PM	99	0.3725
## 5:45 PM	97	0.3650
## 3:40 PM	96	0.3612
## 5:35 PM	96	0.3612
## 8:40 AM	91	0.3424
## 11:50 AM	90	0.3386
## 8:45 AM	90	0.3386
## 7:50 AM	89	0.3349
## 5:50 PM	86	0.3236
## 7:00 AM	85	0.3198
## 8:15 AM	85	0.3198
## 2:15 PM	81	0.3048
## 9:15 AM	81	0.3048
## 1:15 PM	79	0.2972
## 12:15 PM	79	0.2972
## 6:10 PM	79	0.2972
## 3:35 PM	78	0.2935
## 7:15 AM	78	0.2935
## 5:40 PM	77	0.2897
## 11:45 AM	75	0.2822
## 9:00 PM	75	0.2822
## 3:10 PM	73	0.2747
## 6:30 AM	72	0.2709
## 11:15 AM	71	0.2671
## 12:50 PM	71	0.2671
## 7:45 AM	71	0.2671
## 6:45 PM	70	0.2634
## 8:55 AM	68	0.2559
## 9:20 AM	68	0.2559
## 1:10 PM	67	0.2521
## 7:30 PM	65	0.2446

```

## 8:20 AM           65   0.2446
## 2:20 PM          64   0.2408
## 3:55 PM          64   0.2408
## 1:45 PM          63   0.2370
## 6:45 AM          63   0.2370
## 8:10 AM          63   0.2370
## 4:35 PM          62   0.2333
## 2:50 PM          61   0.2295
## 6:15 PM          61   0.2295
## 9:45 AM          61   0.2295
## 4:55 PM          60   0.2258
## 5:05 PM          60   0.2258
## 9:10 AM          60   0.2258
## 10:00 PM         59   0.2220
## 12:55 PM         58   0.2182
## 1:50 PM          56   0.2107
## 2:40 PM          56   0.2107
## 4:25 PM          56   0.2107
## 9:30 PM          56   0.2107
## 9:50 AM          55   0.2069
## 12:10 PM         54   0.2032
## 5:55 PM          54   0.2032
## 10:45 AM         53   0.1994
## 5:25 PM          53   0.1994
## 12:20 PM         52   0.1957
## 2:55 PM          52   0.1957
## 3:25 PM          51   0.1919
## (Other)          16193 60.9286
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2013.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value      Counter  Percentage
## -----
## 4:30 PM            269     0.9617
## 5:00 PM            239     0.8545
## 4:00 PM            225     0.8044
## 1:00 PM            224     0.8008
## 5:30 PM            213     0.7615

```

## 3:30 PM	209	0.7472
## 3:00 PM	202	0.7222
## 4:15 PM	180	0.6435
## 1:30 PM	177	0.6328
## 12:00 PM	175	0.6256
## 6:00 PM	169	0.6042
## 9:00 AM	169	0.6042
## 8:00 AM	162	0.5792
## 2:00 PM	159	0.5684
## 12:00 AM	154	0.5506
## 2:30 PM	154	0.5506
## 11:30 AM	152	0.5434
## 8:30 AM	150	0.5363
## 12:30 PM	145	0.5184
## 7:00 PM	126	0.4505
## 11:00 AM	125	0.4469
## 5:15 PM	125	0.4469
## 12:15 PM	124	0.4433
## 10:00 AM	121	0.4326
## 3:15 PM	120	0.4290
## 5:20 PM	120	0.4290
## 6:30 PM	120	0.4290
## 8:15 AM	115	0.4111
## 4:45 PM	114	0.4076
## 3:45 PM	111	0.3968
## 8:45 AM	111	0.3968
## 9:30 AM	109	0.3897
## 8:50 AM	104	0.3718
## 10:30 AM	102	0.3647
## 3:20 PM	101	0.3611
## 2:45 PM	99	0.3539
## 5:45 PM	99	0.3539
## 7:30 AM	99	0.3539
## 12:45 PM	98	0.3504
## 4:50 PM	97	0.3468
## 7:45 AM	97	0.3468
## 5:40 PM	93	0.3325
## 7:30 PM	93	0.3325
## 8:20 AM	93	0.3325
## 12:20 PM	92	0.3289
## 8:00 PM	92	0.3289
## 9:45 AM	91	0.3253
## 5:10 PM	90	0.3218
## 7:00 AM	87	0.3110
## 3:10 PM	84	0.3003
## 2:50 PM	82	0.2932
## 5:50 PM	82	0.2932
## 4:40 PM	81	0.2896

## 4:20 PM	79	0.2824
## 9:10 AM	78	0.2789
## 12:50 PM	76	0.2717
## 5:25 PM	76	0.2717
## 8:40 AM	76	0.2717
## 9:15 AM	76	0.2717
## 1:45 PM	74	0.2646
## 3:40 PM	74	0.2646
## 4:35 PM	74	0.2646
## 1:20 PM	73	0.2610
## 2:15 PM	73	0.2610
## 5:05 PM	72	0.2574
## 4:10 PM	71	0.2538
## 8:10 AM	70	0.2503
## 3:50 PM	68	0.2431
## 6:45 AM	68	0.2431
## 6:10 PM	66	0.2360
## 9:40 AM	66	0.2360
## 7:50 AM	65	0.2324
## 9:00 PM	65	0.2324
## 11:50 AM	62	0.2217
## 5:55 PM	62	0.2217
## 8:35 AM	62	0.2217
## 1:15 PM	61	0.2181
## 3:35 PM	61	0.2181
## 4:05 PM	61	0.2181
## 7:20 AM	61	0.2181
## 2:20 PM	60	0.2145
## 2:40 PM	60	0.2145
## 1:10 PM	59	0.2109
## 12:40 PM	59	0.2109
## 6:30 AM	59	0.2109
## 8:30 PM	59	0.2109
## 11:40 AM	58	0.2074
## 8:55 AM	58	0.2074
## 9:20 AM	58	0.2074
## 12:10 PM	57	0.2038
## 6:40 PM	56	0.2002
## 6:45 PM	56	0.2002
## 10:00 PM	55	0.1966
## 6:15 PM	55	0.1966
## 6:20 PM	55	0.1966
## 11:15 AM	54	0.1931
## 7:40 AM	54	0.1931
## 10:45 AM	53	0.1895
## 8:25 AM	53	0.1895
## (Other)	17999	64.3488
##		

```

## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2014.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value      Counter      Percentage
## -----  -----
## 12:00 AM           269          0.9856
## 5:30 PM            231          0.8464
## 3:30 PM            207          0.7585
## 6:00 PM            202          0.7401
## 8:30 AM            201          0.7365
## 4:00 PM             199          0.7292
## 5:00 PM             197          0.7218
## 3:00 PM             186          0.6815
## 4:30 PM             184          0.6742
## 1:00 PM             165          0.6046
## 9:00 AM              160          0.5863
## 2:00 PM              155          0.5679
## 8:00 AM              148          0.5423
## 6:30 PM              142          0.5203
## 4:45 PM              141          0.5166
## 12:00 PM             135          0.4947
## 11:00 AM             131          0.4800
## 1:30 PM              130          0.4763
## 10:00 AM             130          0.4763
## 5:15 PM              130          0.4763
## 2:30 PM              127          0.4653
## 4:15 PM              126          0.4617
## 12:30 PM             121          0.4434
## 7:00 PM              121          0.4434
## 11:30 AM             120          0.4397
## 5:20 PM              119          0.4360
## 5:45 PM              119          0.4360
## 8:45 AM              119          0.4360
## 7:45 AM              111          0.4067
## 3:45 PM              110          0.4030
## 8:15 AM              107          0.3921
## 9:30 AM              105          0.3847
## 12:45 PM             104          0.3811
## 2:45 PM              104          0.3811

```



## 3:15 PM	98	0.3591
## 4:20 PM	98	0.3591
## 1:15 PM	96	0.3518
## 10:30 AM	92	0.3371
## 6:15 PM	92	0.3371
## 4:50 PM	89	0.3261
## 2:15 PM	87	0.3188
## 12:20 PM	86	0.3151
## 4:40 PM	86	0.3151
## 7:00 AM	86	0.3151
## 3:20 PM	84	0.3078
## 9:15 AM	83	0.3041
## 7:30 AM	82	0.3005
## 8:00 PM	82	0.3005
## 8:40 AM	81	0.2968
## 9:45 AM	79	0.2895
## 12:15 PM	78	0.2858
## 7:30 PM	78	0.2858
## 1:45 PM	77	0.2821
## 3:50 PM	76	0.2785
## 11:45 AM	75	0.2748
## 2:40 PM	75	0.2748
## 4:25 PM	75	0.2748
## 5:10 PM	74	0.2711
## 5:40 PM	74	0.2711
## 2:50 PM	73	0.2675
## 9:50 AM	73	0.2675
## 4:10 PM	72	0.2638
## 9:00 PM	71	0.2601
## 10:45 AM	70	0.2565
## 8:10 AM	70	0.2565
## 8:50 AM	70	0.2565
## 11:15 AM	68	0.2492
## 3:40 PM	68	0.2492
## 8:20 AM	68	0.2492
## 6:20 PM	66	0.2418
## 11:20 AM	63	0.2308
## 1:40 PM	62	0.2272
## 7:50 AM	62	0.2272
## 4:55 PM	61	0.2235
## 6:45 PM	60	0.2198
## 4:05 PM	59	0.2162
## 6:10 PM	59	0.2162
## 9:30 PM	58	0.2125
## 1:50 PM	57	0.2089
## 4:48 PM	57	0.2089
## 9:20 AM	57	0.2089
## 1:25 PM	56	0.2052

```

## 8:25 AM           56   0.2052
## 5:35 PM          55   0.2015
## 10:15 AM         54   0.1979
## 10:20 AM         52   0.1905
## 11:50 AM         52   0.1905
## 5:25 PM          52   0.1905
## 5:50 PM          52   0.1905
## 6:30 AM          52   0.1905
## 12:50 PM         51   0.1869
## 5:05 PM          51   0.1869
## 5:38 PM          51   0.1869
## 6:50 AM          51   0.1869
## 1:10 PM          50   0.1832
## 10:00 PM         50   0.1832
## 10:50 AM         50   0.1832
## 12:40 PM         50   0.1832
## 3:35 PM          50   0.1832
## (Other)          17794 65.1986
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2015.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value   Counter   Percentage
## -----
## 12:00 AM        261      0.9366
## 5:00 PM          193      0.6926
## 4:00 PM          183      0.6567
## 5:30 PM          181      0.6495
## 3:00 PM          163      0.5849
## 6:00 PM          148      0.5311
## 3:30 PM          134      0.4809
## 4:30 PM          128      0.4593
## 4:15 PM          122      0.4378
## 9:00 AM          121      0.4342
## 4:20 PM          118      0.4234
## 4:45 PM          117      0.4199
## 12:30 PM         116      0.4163
## 3:15 PM          113      0.4055
## 8:00 AM          109      0.3911

```

## 12:00 PM	108	0.3876
## 8:45 AM	106	0.3804
## 8:30 AM	104	0.3732
## 2:30 PM	101	0.3624
## 3:45 PM	101	0.3624
## 6:30 PM	101	0.3624
## 1:00 PM	100	0.3588
## 10:30 AM	100	0.3588
## 2:00 PM	98	0.3517
## 2:45 PM	98	0.3517
## 8:20 AM	97	0.3481
## 7:30 AM	96	0.3445
## 5:15 PM	94	0.3373
## 11:00 AM	93	0.3337
## 5:10 PM	93	0.3337
## 5:45 PM	91	0.3266
## 12:15 PM	90	0.3230
## 9:30 AM	90	0.3230
## 11:30 AM	89	0.3194
## 3:20 PM	83	0.2978
## 1:30 PM	82	0.2943
## 3:50 PM	82	0.2943
## 8:40 AM	82	0.2943
## 3:10 PM	81	0.2907
## 1:15 PM	80	0.2871
## 5:20 PM	80	0.2871
## 8:15 AM	78	0.2799
## 7:00 PM	77	0.2763
## 6:20 PM	76	0.2727
## 8:55 AM	76	0.2727
## 4:50 PM	75	0.2691
## 5:50 PM	74	0.2655
## 7:40 AM	72	0.2584
## 3:40 PM	71	0.2548
## 7:00 AM	71	0.2548
## 8:00 PM	71	0.2548
## 8:50 AM	70	0.2512
## 7:15 AM	69	0.2476
## 8:10 AM	69	0.2476
## 4:40 PM	68	0.2440
## 4:10 PM	67	0.2404
## 5:40 PM	67	0.2404
## 7:45 AM	67	0.2404
## 9:15 AM	66	0.2368
## 4:32 PM	64	0.2297
## 4:35 PM	64	0.2297
## 10:15 AM	63	0.2261
## 12:10 PM	63	0.2261

```

## 12:45 PM           63   0.2261
## 12:50 PM           63   0.2261
## 7:20 AM            63   0.2261
## 10:00 AM           62   0.2225
## 6:15 PM             62   0.2225
## 6:45 AM             62   0.2225
## 4:48 PM             59   0.2117
## 2:40 PM             58   0.2081
## 3:25 PM             58   0.2081
## 4:25 PM             58   0.2081
## 6:10 PM             56   0.2010
## 9:45 AM             56   0.2010
## 5:24 PM             55   0.1974
## 7:50 AM             55   0.1974
## 2:15 PM             53   0.1902
## 11:40 AM            52   0.1866
## 8:25 AM             52   0.1866
## 9:10 AM             52   0.1866
## 11:20 AM            51   0.1830
## 12:25 PM            51   0.1830
## 5:22 PM             51   0.1830
## 5:27 PM             51   0.1830
## 6:30 AM             51   0.1830
## 4:14 PM              50   0.1794
## 9:40 AM              50   0.1794
## 2:20 PM              49   0.1758
## 4:58 PM              49   0.1758
## 1:40 PM              48   0.1722
## 11:45 AM             48   0.1722
## 4:16 PM              48   0.1722
## 5:03 PM              48   0.1722
## 6:45 PM              48   0.1722
## 9:35 AM              48   0.1722
## 4:53 PM              47   0.1687
## 5:17 PM              47   0.1687
## 7:30 PM              47   0.1687
## (Other)          19781  70.9836
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2016.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##

```

```

## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value      Counter   Percentage
## -----
## 12:00 AM           254       0.9823
## 3:30 PM            156       0.6033
## 4:00 PM            151       0.5840
## 4:30 PM            135       0.5221
## 5:30 PM            124       0.4795
## 6:00 PM            120       0.4641
## 8:30 AM            115       0.4447
## 5:00 PM            114       0.4409
## 4:45 PM            113       0.4370
## 3:00 PM            111       0.4293
## 9:00 AM             111       0.4293
## 7:00 PM             103       0.3983
## 8:00 AM             103       0.3983
## 5:15 PM             102       0.3945
## 3:45 PM             100       0.3867
## 2:00 PM              98       0.3790
## 6:30 PM              97       0.3751
## 1:00 PM              93       0.3597
## 8:45 AM              93       0.3597
## 4:40 PM              89       0.3442
## 3:15 PM              87       0.3365
## 7:30 AM              87       0.3365
## 5:20 PM              85       0.3287
## 4:50 PM              84       0.3249
## 5:45 PM              84       0.3249
## 2:50 PM              83       0.3210
## 10:00 AM             79       0.3055
## 12:30 PM             78       0.3016
## 7:45 AM              78       0.3016
## 4:10 PM              76       0.2939
## 11:30 AM             75       0.2900
## 2:45 PM              75       0.2900
## 4:20 PM              75       0.2900
## 3:20 PM              74       0.2862
## 4:15 PM              74       0.2862
## 1:30 PM              71       0.2746
## 3:40 PM              71       0.2746
## 10:30 AM             70       0.2707
## 6:20 PM              70       0.2707
## 11:00 AM             69       0.2668
## 3:10 PM              68       0.2630
## 2:30 PM              67       0.2591
## 6:45 AM              67       0.2591
## 8:40 AM              67       0.2591

```

## 12:00 PM	65	0.2514
## 8:00 PM	65	0.2514
## 12:15 PM	64	0.2475
## 3:50 PM	63	0.2436
## 8:15 AM	63	0.2436
## 9:30 AM	63	0.2436
## 7:50 AM	62	0.2398
## 12:10 PM	61	0.2359
## 7:30 PM	60	0.2320
## 11:45 AM	59	0.2282
## 2:15 PM	59	0.2282
## 8:20 AM	59	0.2282
## 8:25 AM	59	0.2282
## 12:20 PM	56	0.2166
## 4:05 PM	56	0.2166
## 4:55 PM	56	0.2166
## 9:45 AM	56	0.2166
## 12:45 PM	55	0.2127
## 5:07 PM	55	0.2127
## 8:55 AM	55	0.2127
## 4:46 PM	54	0.2088
## 7:20 AM	54	0.2088
## 5:05 PM	53	0.2050
## 5:42 PM	53	0.2050
## 5:55 PM	53	0.2050
## 2:35 PM	52	0.2011
## 5:10 PM	52	0.2011
## 5:40 PM	52	0.2011
## 3:25 PM	51	0.1972
## 3:55 PM	51	0.1972
## 5:50 PM	51	0.1972
## 6:15 PM	51	0.1972
## 6:45 PM	51	0.1972
## 4:35 PM	50	0.1934
## 5:23 PM	49	0.1895
## 7:00 AM	49	0.1895
## 1:50 PM	48	0.1856
## 2:40 PM	48	0.1856
## 3:21 PM	48	0.1856
## 9:10 AM	48	0.1856
## 2:55 PM	47	0.1818
## 3:35 PM	47	0.1818
## 4:38 PM	47	0.1818
## 5:35 PM	47	0.1818
## 5:43 PM	47	0.1818
## 9:00 PM	47	0.1818
## 12:40 PM	46	0.1779
## 4:16 PM	46	0.1779



```
## 5:25 PM           46    0.1779
## 1:15 PM           45    0.1740
## 10:35 AM          45    0.1740
## 5:37 PM           45    0.1740
## 8:30 PM           45    0.1740
## 8:50 AM           45    0.1740
## 11:05 AM          44    0.1702
## (Other)          18764  72.5656
##
## -----
## CHECKING FEATURE:ACCIDENT_TIME
## DATA:All 2017.csv...
##
## Number of Blank Values:0
##
## Summary as Factor Feature:
##
## Number of Features: 100
##
## TOP 100 FEATURES OF ACCIDENT_TIME
##
## Feature Value   Counter Percentage
## -----
## 12:00 AM         482    1.8161
## 4:30 PM          200    0.7536
## 5:00 PM          193    0.7272
## 4:00 PM          181    0.6820
## 3:30 PM          179    0.6744
## 5:30 PM          151    0.5689
## 3:00 PM          142    0.5350
## 8:30 AM          115    0.4333
## 2:30 PM          114    0.4295
## 4:15 PM          108    0.4069
## 6:00 PM          108    0.4069
## 9:00 AM          103    0.3881
## 1:30 PM          102    0.3843
## 5:15 PM          102    0.3843
## 6:30 PM          102    0.3843
## 1:00 PM          101    0.3805
## 12:00 PM         100    0.3768
## 4:20 PM          95     0.3579
## 9:30 AM          93     0.3504
## 5:20 PM          91     0.3429
## 4:45 PM          89     0.3353
## 4:40 PM          88     0.3316
## 3:15 PM          87     0.3278
## 3:50 PM          84     0.3165
## 2:00 PM          83     0.3127
```

## 5:10 PM	81	0.3052
## 8:00 AM	81	0.3052
## 3:45 PM	79	0.2977
## 7:00 AM	79	0.2977
## 7:30 AM	79	0.2977
## 12:30 PM	78	0.2939
## 4:10 PM	78	0.2939
## 7:30 PM	77	0.2901
## 3:20 PM	76	0.2863
## 12:45 PM	75	0.2826
## 10:00 AM	74	0.2788
## 6:15 PM	73	0.2750
## 4:25 PM	72	0.2713
## 4:50 PM	72	0.2713
## 7:45 AM	72	0.2713
## 10:30 AM	71	0.2675
## 7:50 AM	65	0.2449
## 2:45 PM	63	0.2374
## 5:05 PM	63	0.2374
## 8:45 AM	63	0.2374
## 1:45 PM	62	0.2336
## 3:40 PM	62	0.2336
## 3:55 PM	61	0.2298
## 5:35 PM	61	0.2298
## 5:45 PM	61	0.2298
## 7:00 PM	61	0.2298
## 8:00 PM	61	0.2298
## 1:15 PM	60	0.2261
## 11:00 AM	60	0.2261
## 8:50 AM	60	0.2261
## 12:15 PM	59	0.2223
## 9:15 AM	59	0.2223
## 11:30 AM	58	0.2185
## 4:35 PM	57	0.2148
## 9:50 AM	56	0.2110
## 5:40 PM	55	0.2072
## 12:05 PM	54	0.2035
## 8:20 AM	54	0.2035
## 2:20 PM	53	0.1997
## 3:35 PM	53	0.1997
## 6:10 PM	53	0.1997
## 8:15 AM	53	0.1997
## 9:00 PM	53	0.1997
## 10:45 AM	51	0.1922
## 3:10 PM	51	0.1922
## 3:25 PM	50	0.1884
## 3:56 PM	50	0.1884
## 7:40 AM	50	0.1884

```

## 4:47 PM           48   0.1809
## 7:20 PM           48   0.1809
## 11:45 AM          47   0.1771
## 11:50 AM          47   0.1771
## 12:50 PM          47   0.1771
## 2:35 PM           47   0.1771
## 5:21 PM           47   0.1771
## 6:45 AM           47   0.1771
## 9:20 AM            47   0.1771
## 1:20 PM            46   0.1733
## 4:27 PM            46   0.1733
## 5:25 PM            46   0.1733
## 5:33 PM            46   0.1733
## 8:40 AM            46   0.1733
## 9:30 PM            46   0.1733
## 10:15 AM           45   0.1695
## 11:20 AM           45   0.1695
## 4:05 PM            45   0.1695
## 4:55 PM            45   0.1695
## 4:58 PM            45   0.1695
## 6:20 PM            45   0.1695
## 7:55 AM            45   0.1695
## 12:08 PM           44   0.1658
## 2:40 PM            44   0.1658
## 2:49 PM            44   0.1658
## 2:50 PM            44   0.1658
## (Other)          19007  71.6137
##
## =====
## FINAL INFO CHECKING FEATURE:ACCIDENT_TIME
## ALL DATA...
## =====
##
## Number of Blank Values:0
##
## Summary per Data File:
## All 2004.csv All 2005.csv All 2006.csv All 2007.csv All 2008.csv
##      25708      26632      26139      27829      28543
## All 2009.csv All 2010.csv All 2011.csv All 2012.csv All 2013.csv
##      28515      27509      27929      26577      27971
## All 2014.csv All 2015.csv All 2016.csv All 2017.csv
##      27292      27867      25858      26541
##
## 
## Summary as Factor Feature:
## Number of Features: 100[1] "TOP 100 FEATURES COUNTERS OF:ACCIDENT_TIME"

```

Feature	Value	Counter	Percentage
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5:00 PM	3422	0.8984
4:00 PM	3361	0.8824
5:30 PM	3190	0.8375
4:30 PM	3176	0.8338
12:00 AM	2994	0.7860
3:30 PM	2909	0.7637
3:00 PM	2659	0.6981
6:00 PM	2595	0.6813
8:30 AM	2385	0.6261
9:00 AM	2255	0.5920
2:00 PM	2243	0.5889
1:00 PM	2228	0.5849
8:00 AM	2225	0.5841
12:00 PM	2085	0.5474
2:30 PM	2039	0.5353
12:30 PM	1981	0.5201
4:15 PM	1942	0.5098
1:30 PM	1935	0.5080
6:30 PM	1922	0.5046
5:15 PM	1913	0.5022
4:45 PM	1869	0.4907
7:00 PM	1783	0.4681
3:45 PM	1765	0.4634
11:00 AM	1740	0.4568
11:30 AM	1739	0.4565
10:00 AM	1661	0.4361
5:20 PM	1626	0.4269
5:45 PM	1570	0.4122
7:30 AM	1553	0.4077
3:15 PM	1548	0.4064
4:20 PM	1514	0.3975
9:30 AM	1495	0.3925
8:45 AM	1451	0.3809
10:30 AM	1437	0.3773
4:50 PM	1413	0.3710

8:15 AM	1386	0.3639
5:10 PM	1342	0.3523
4:40 PM	1337	0.3510
2:45 PM	1333	0.3500
3:50 PM	1326	0.3481
4:10 PM	1299	0.3410
3:20 PM	1280	0.3360
3:40 PM	1252	0.3287
12:15 PM	1242	0.3261
8:00 PM	1232	0.3234
12:45 PM	1227	0.3221
8:20 AM	1203	0.3158
7:30 PM	1199	0.3148
8:50 AM	1189	0.3121
8:40 AM	1177	0.3090
7:45 AM	1172	0.3077
5:40 PM	1166	0.3061
7:00 AM	1154	0.3030
7:50 AM	1126	0.2956
3:10 PM	1106	0.2904
2:15 PM	1097	0.2880
6:15 PM	1082	0.2841
5:50 PM	1078	0.2830
9:15 AM	1058	0.2778
9:00 PM	1025	0.2691
1:15 PM	1021	0.2680
2:50 PM	998	0.2620
8:10 AM	989	0.2596
1:45 PM	985	0.2586
6:45 PM	942	0.2473
6:20 PM	939	0.2465
2:40 PM	938	0.2463
12:20 PM	935	0.2455
9:30 PM	930	0.2442
11:45 AM	921	0.2418

9:45 AM	914	0.2400
12:50 PM	908	0.2384
5:05 PM	878	0.2305
5:25 PM	877	0.2302
4:25 PM	872	0.2289
6:10 PM	872	0.2289
10:00 PM	860	0.2258
8:30 PM	856	0.2247
1:20 PM	851	0.2234
4:35 PM	851	0.2234
5:35 PM	841	0.2208
2:20 PM	839	0.2203
12:10 PM	837	0.2197
10:45 AM	832	0.2184
4:05 PM	830	0.2179
11:15 AM	828	0.2174
10:15 AM	823	0.2161
11:50 AM	815	0.2140
7:40 AM	814	0.2137
6:45 AM	809	0.2124
12:40 PM	799	0.2098
8:55 AM	791	0.2077
4:55 PM	786	0.2063
9:10 AM	783	0.2056
1:50 PM	778	0.2042
7:15 AM	778	0.2042
3:55 PM	777	0.2040
6:30 AM	777	0.2040
3:35 PM	774	0.2032
(Other)	243551	63.9393

34.1 ACCIDENT_TIME = "" (Blank)

```
##  
## ======  
## CHECKING FEATURE AND VALUE (ACCIDENT_TIME=)  
## [1] "No data Found"
```

DATASET FILE COUNTER OF (ACCIDENT_TIME=) Percentage -----

Conclusion

As can be seen in this document, most of the features include special values like: blanks, zero and negative; is necessary to create a strategy to handle that. Also, is necessary to homologate the values of the features (for example "0" and "0 - Unknown"). This homologation needs to be handle aligned with the MVCR Manual. In the documents "Ottawa Collision Data Report: Homologation Transformations" and "Ottawa Collision Data Report: Clean Transformations" this strategy will be defined.