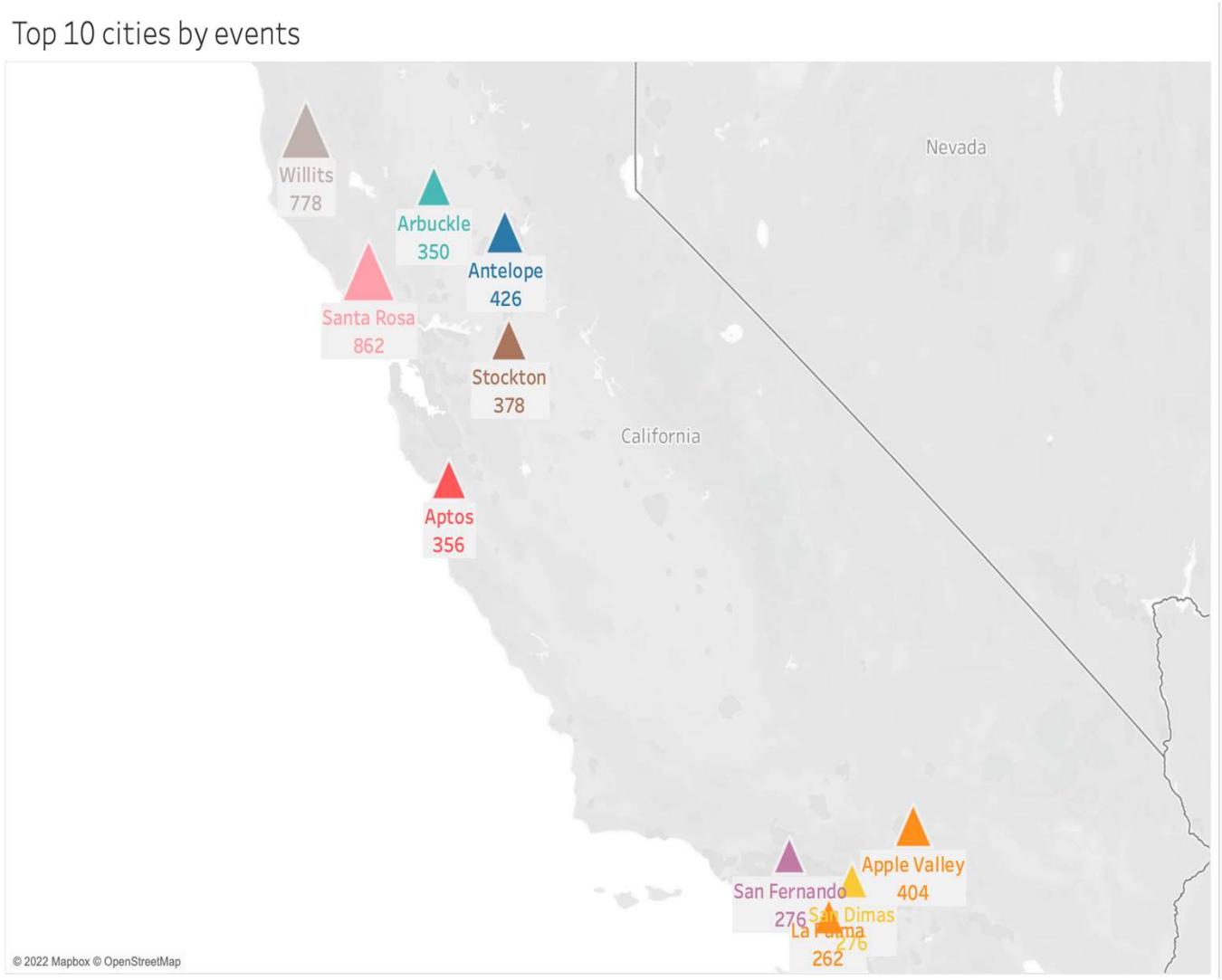
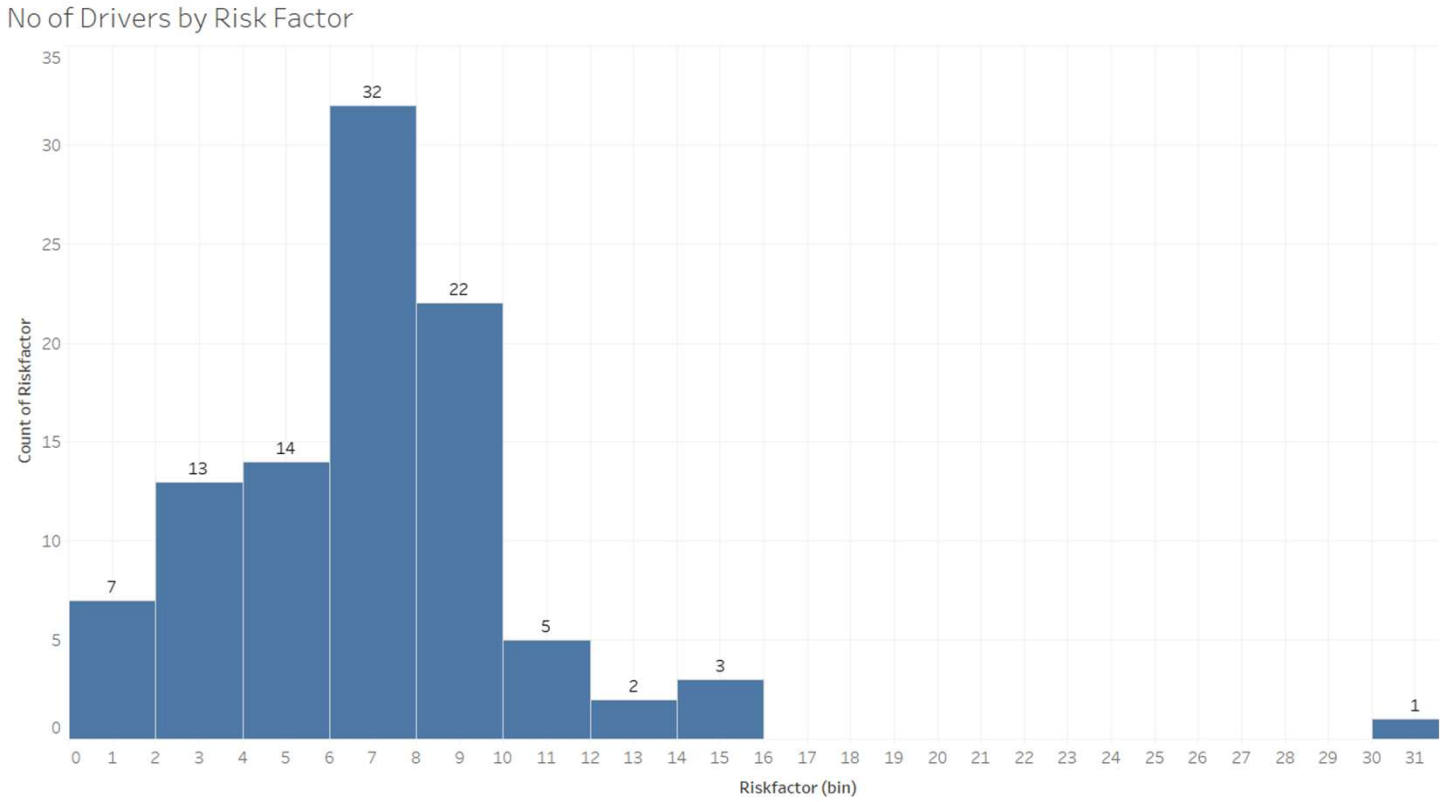
Objective

Identifying dangerous truck drivers to meet organizational goal to better understand risk

Data Process Flow

The top 10 cities based on the events are represented in the Visualization. **Santa Rosa** had the highest number of events(862) followed by **Willits**(778).

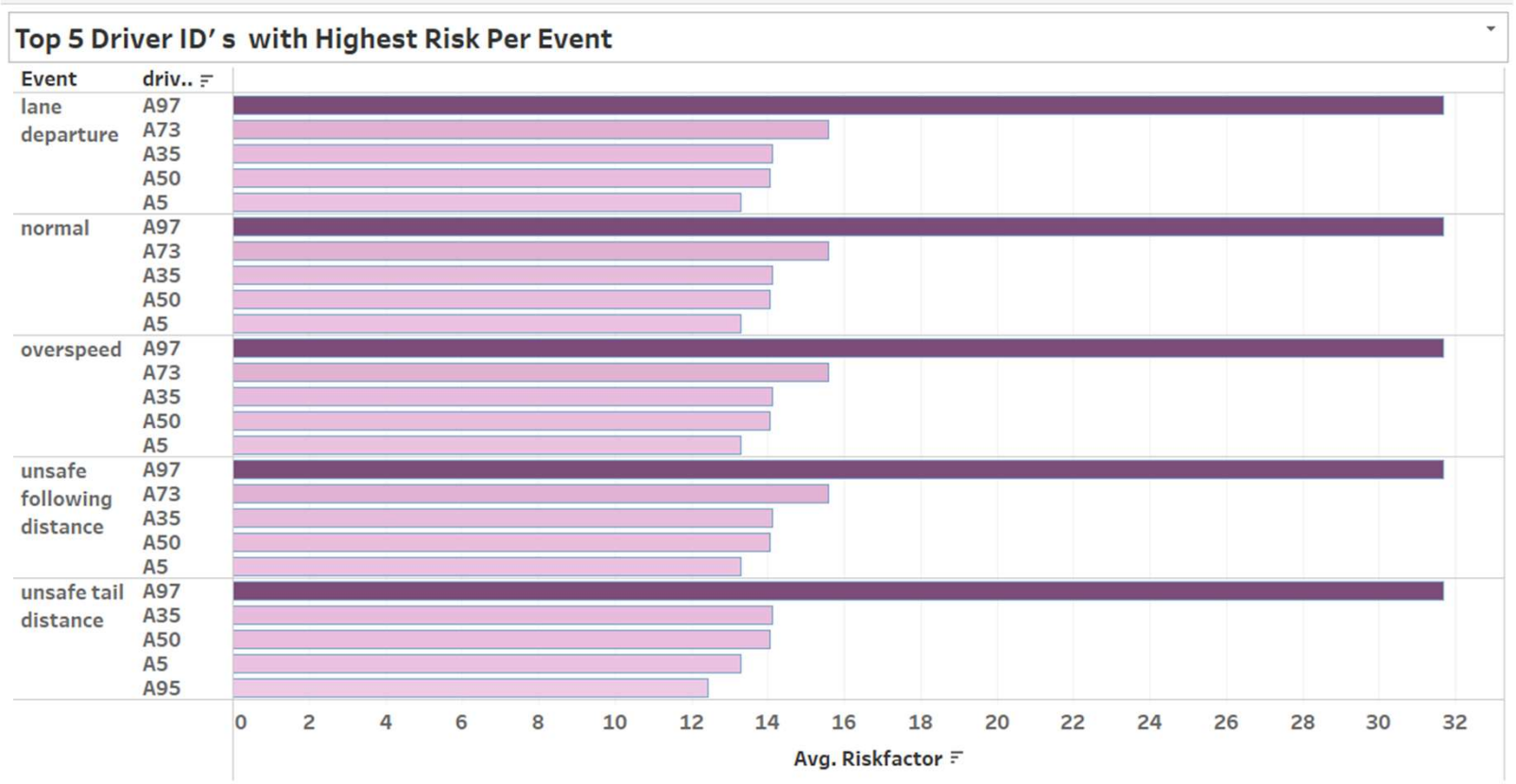




Drivers with Risk Factor >7

53

- A total of **53** drivers have a risk factor > 7 who are considered risky drivers
- More than **50%** of drivers have a risk factor > 7



- Top 5 Driver Id's with the highest risk are same across all the events
- The five Id's are **A97, A73, A35, A50, A5**

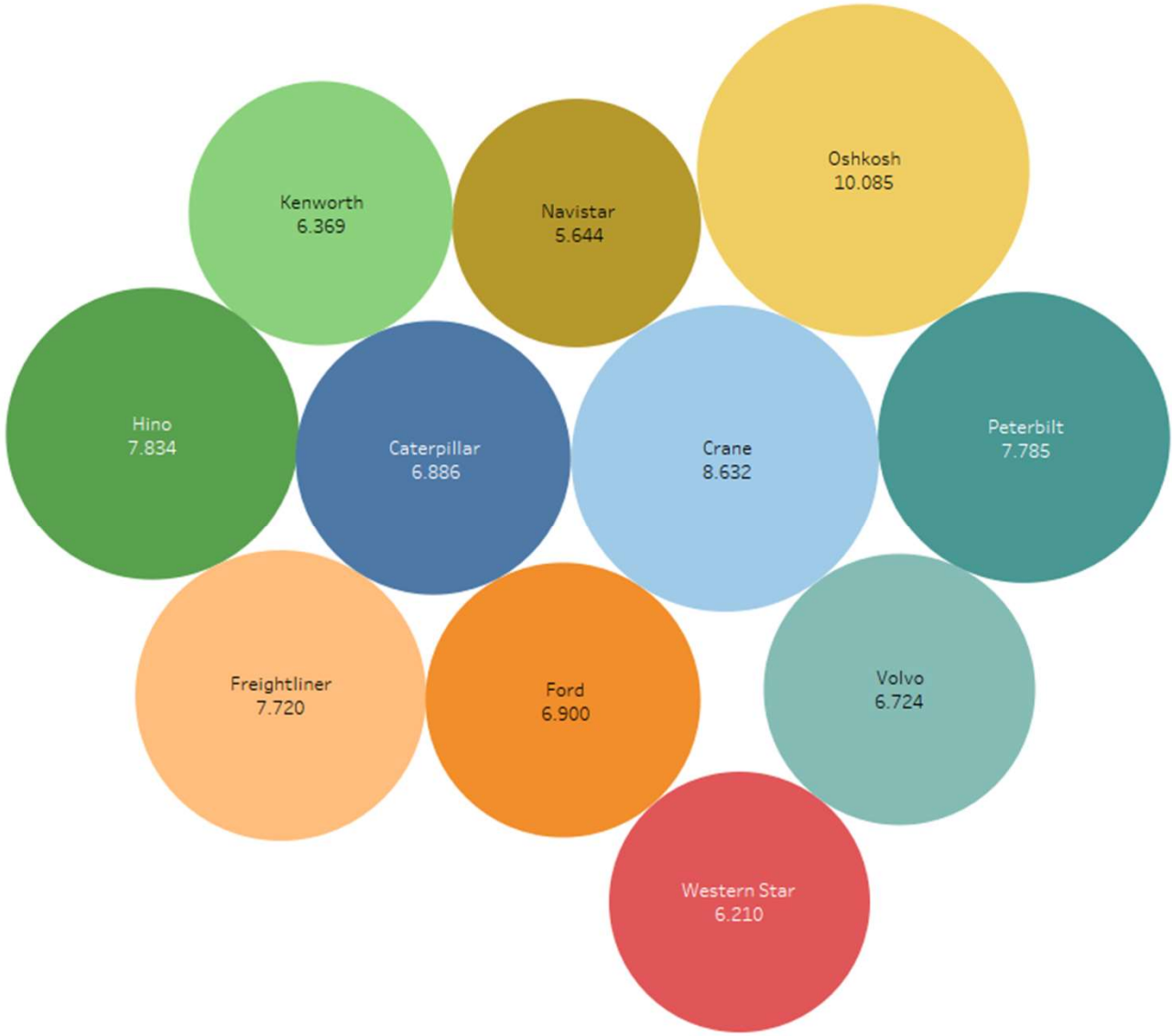
Model VS Risk Factor

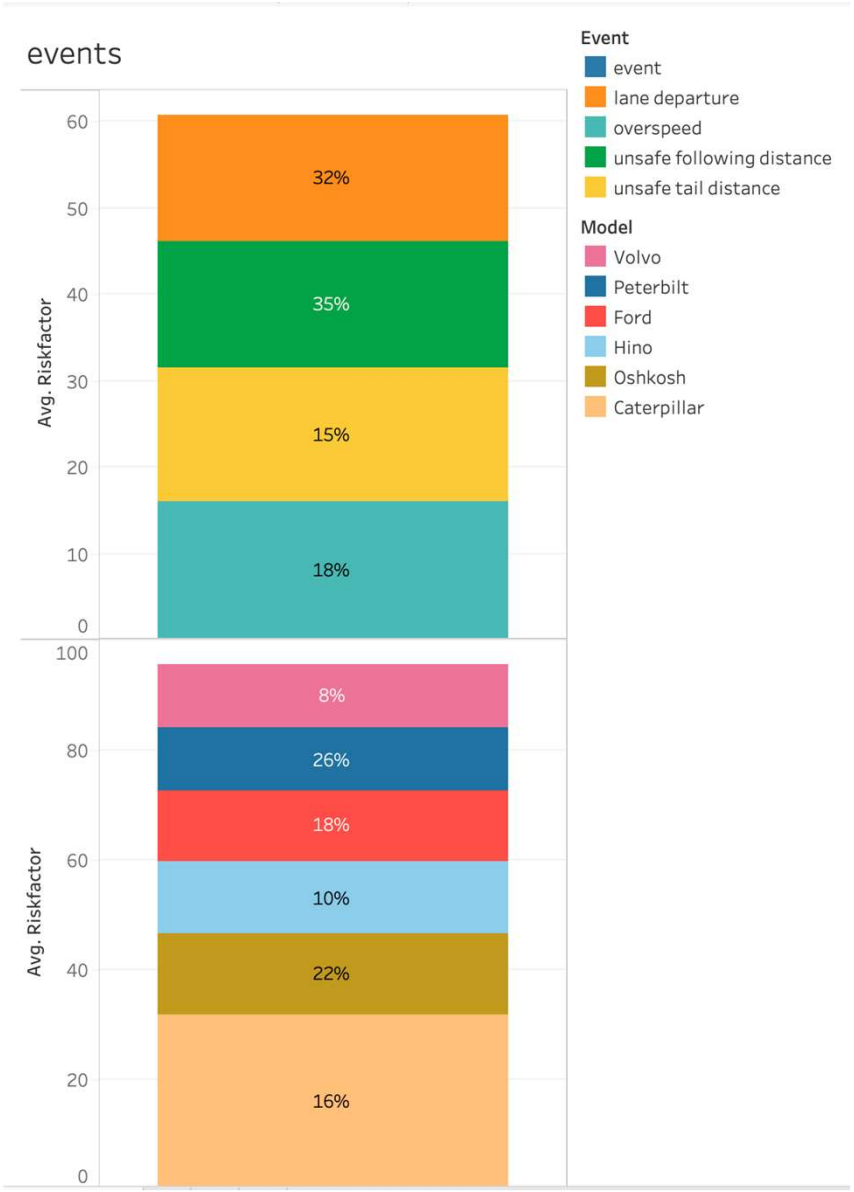
Observation:

- From the bubble chart we can conclude that **Oshkosh**, **Crane** and **Hino** are the models with highest risk factor

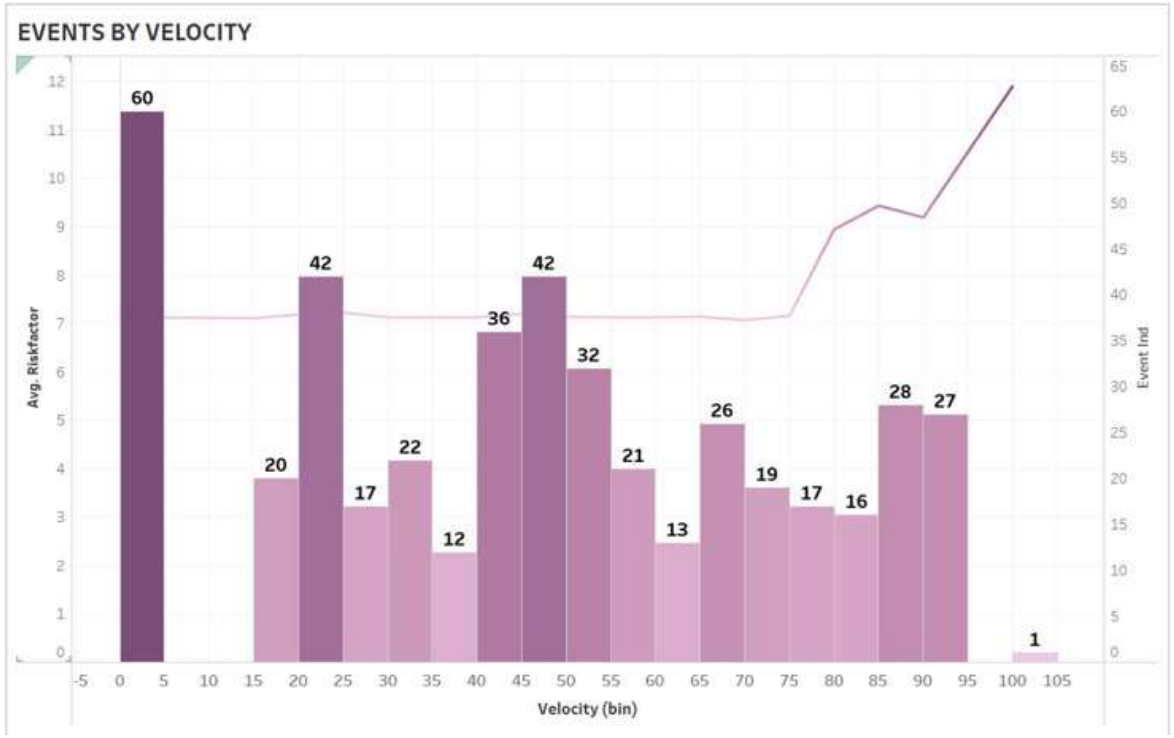
Recommendation:

- Discontinuing the models with high risk factor like Oshkosh and Crane models



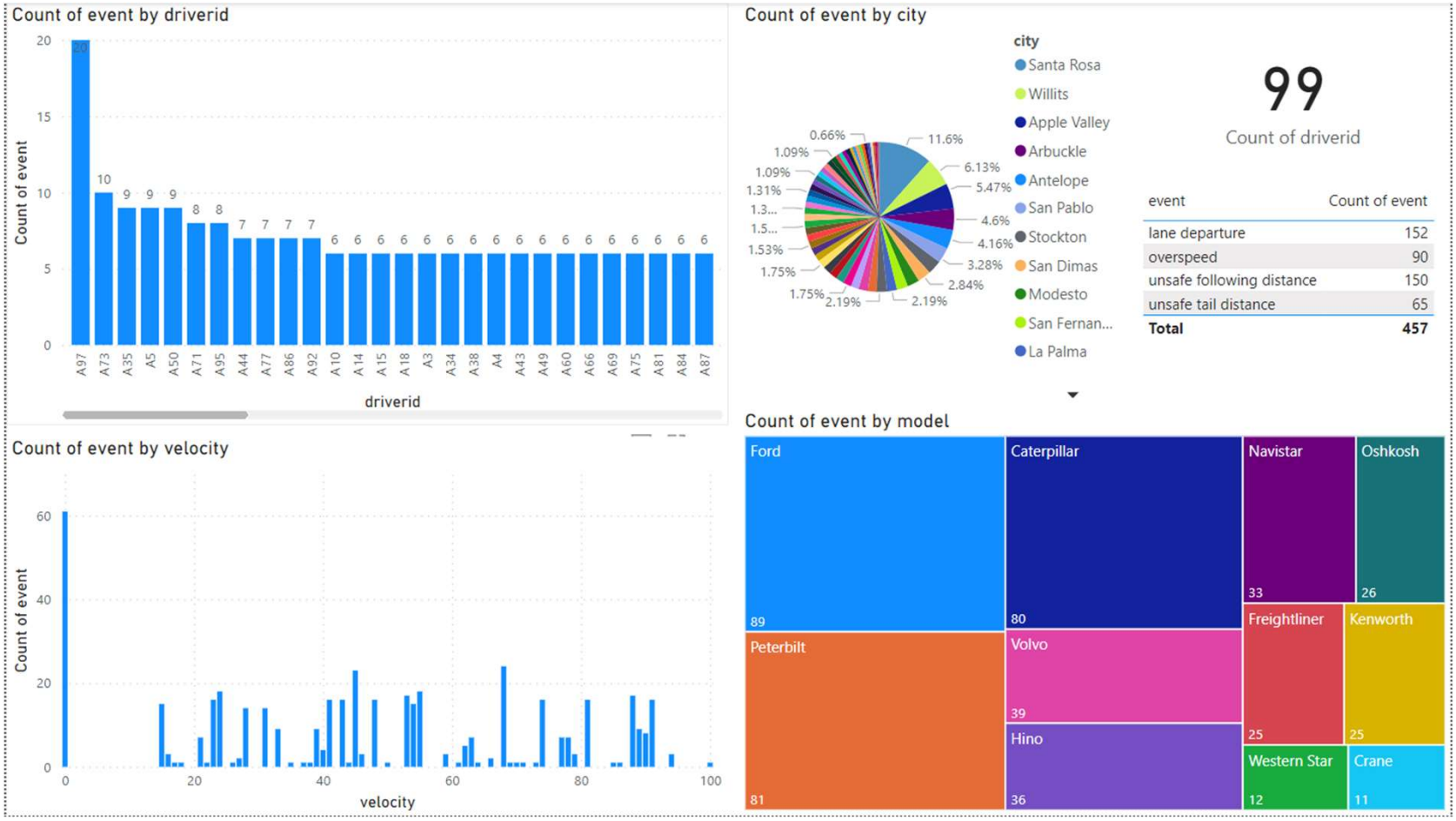


High-risk drivers are having high percentages of events for **unsafe following distance** events and for **Peterbilt model** trucks. So, drivers with high unsafe following distance events with Peterbilt model trucks may indicate risky.

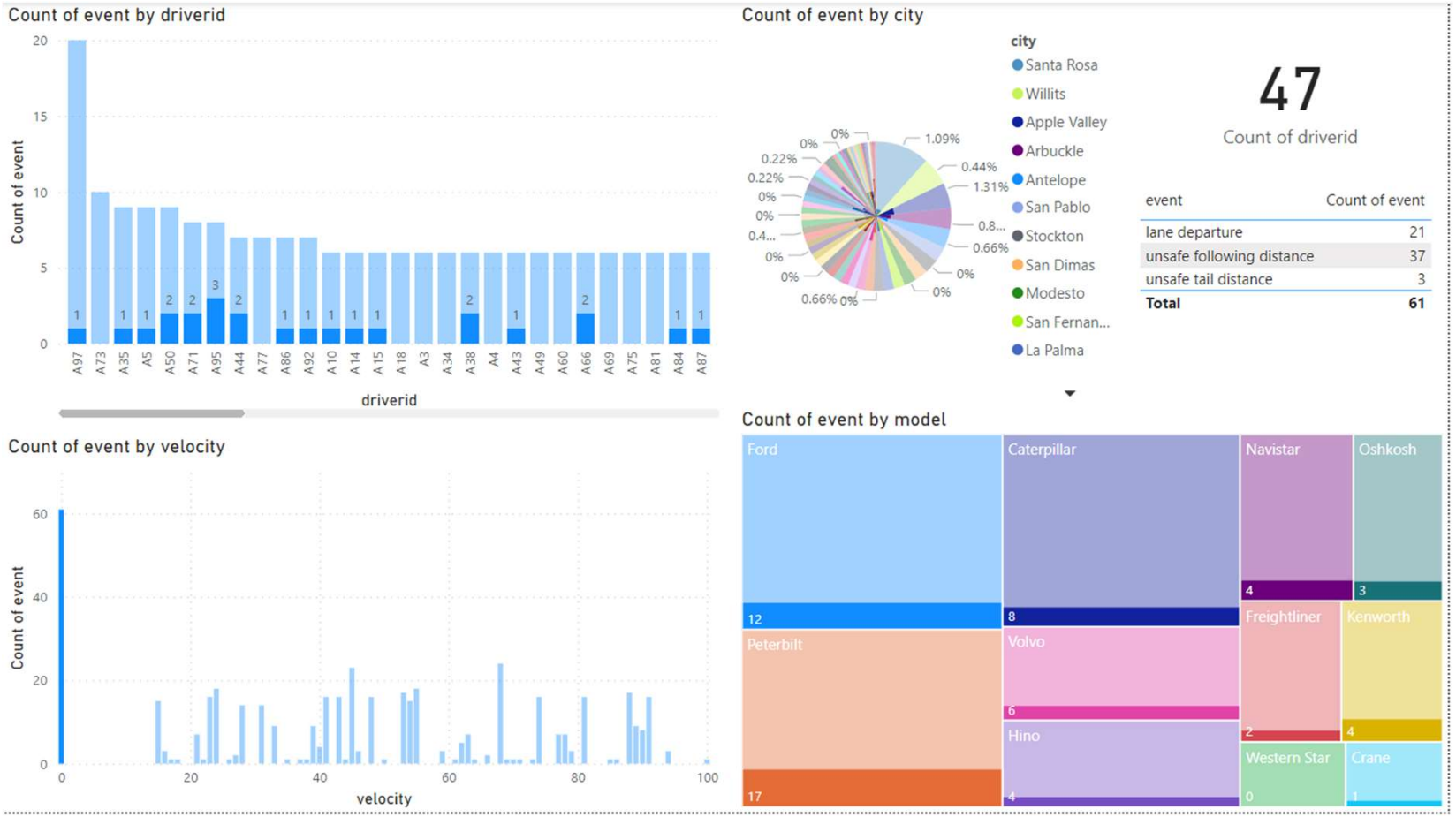


- *Alarming number of events for velocity < 5*
- *Number of events are high when velocity is between 0-5*
- *Velocity is not contributing considerably to risk factor*

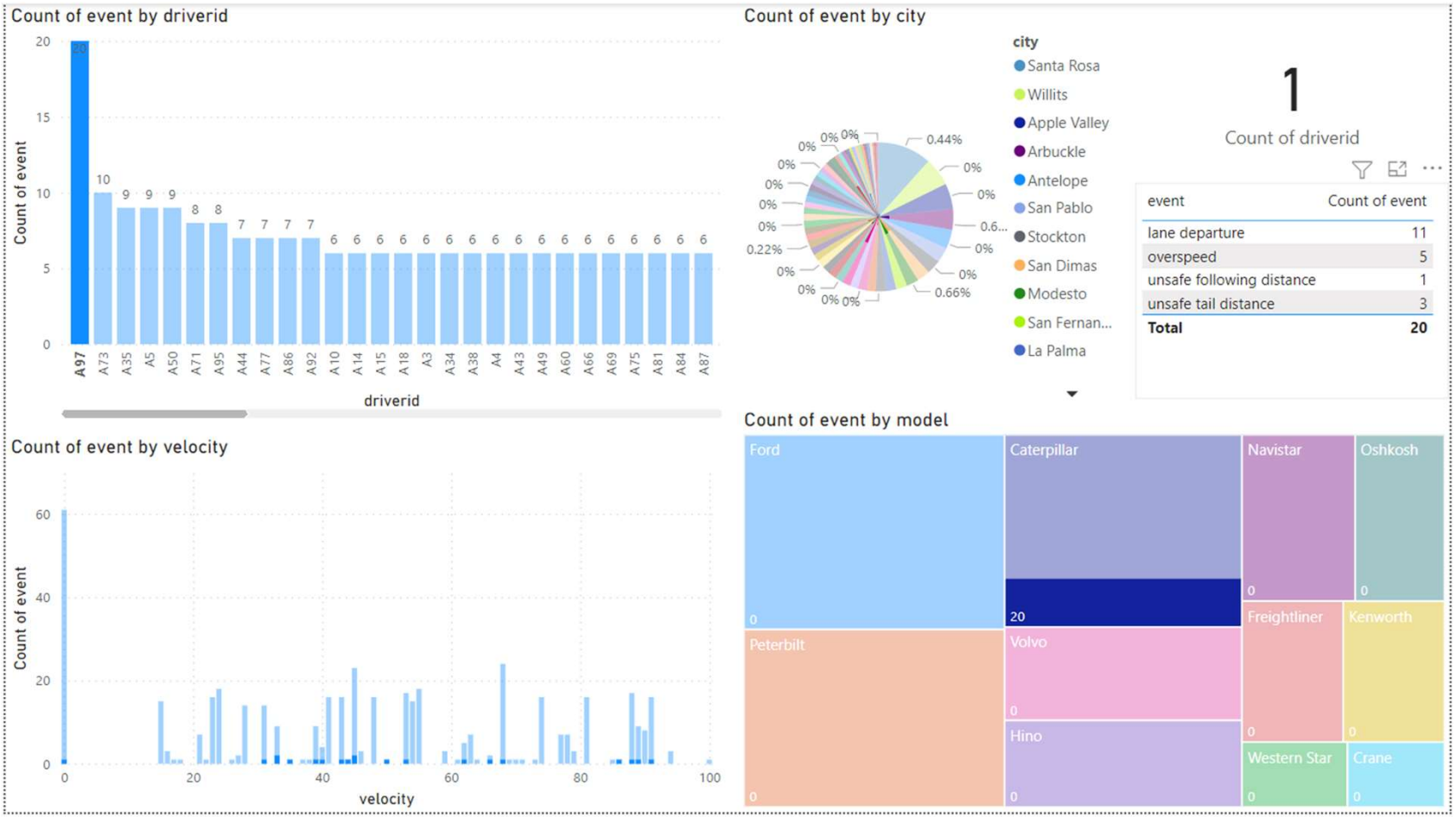
Events Dashboard



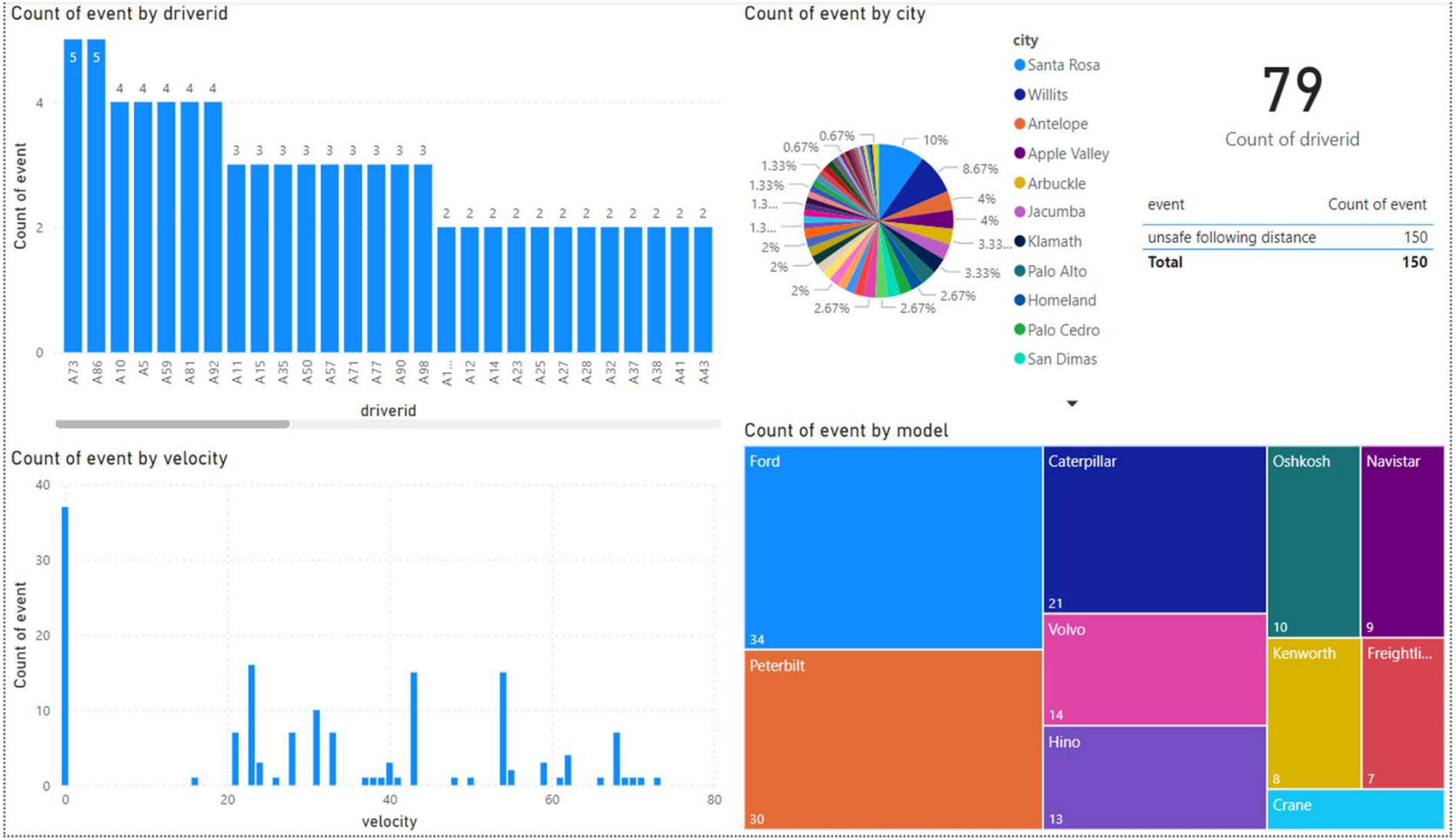
Events at zero velocity

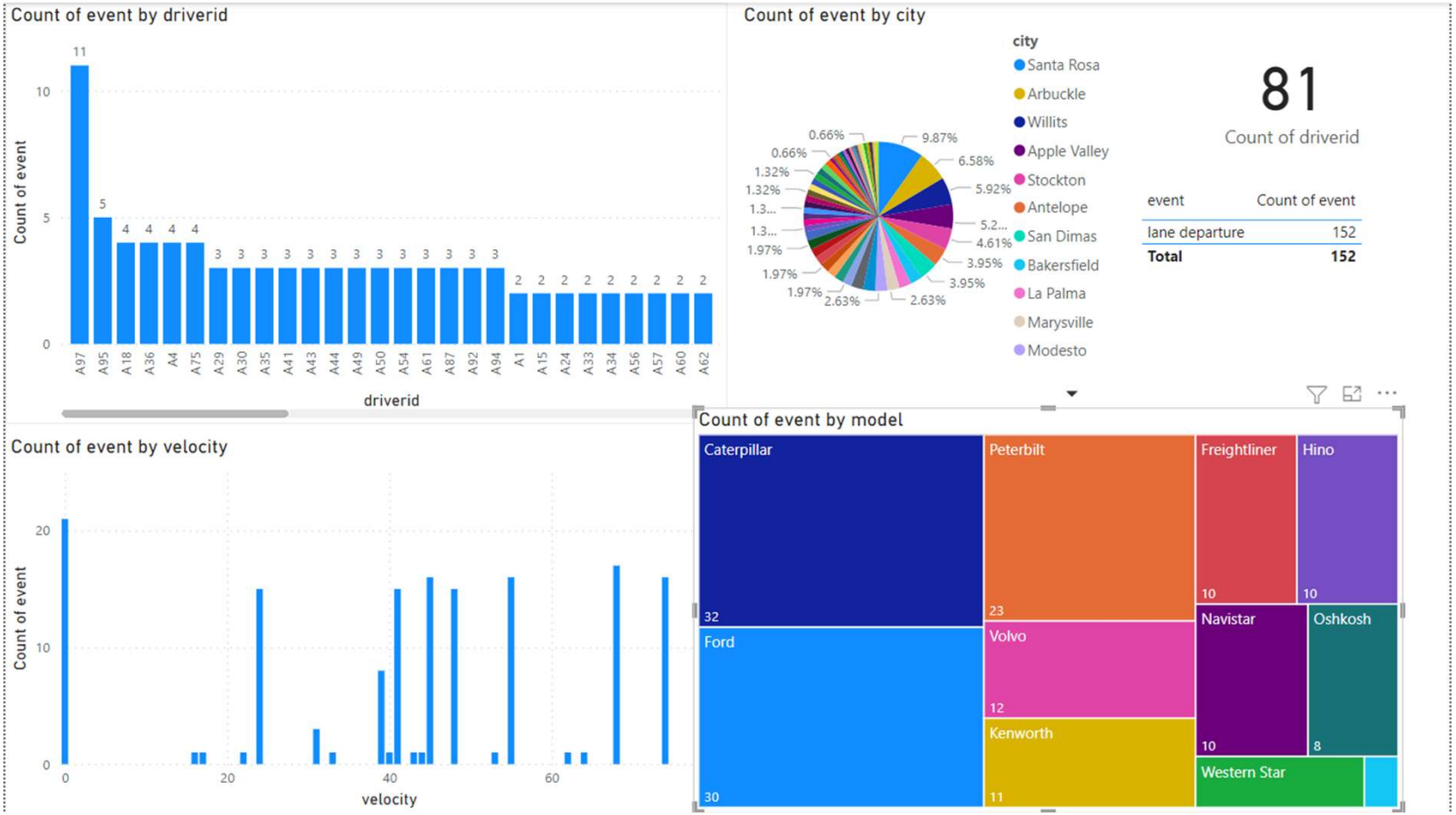


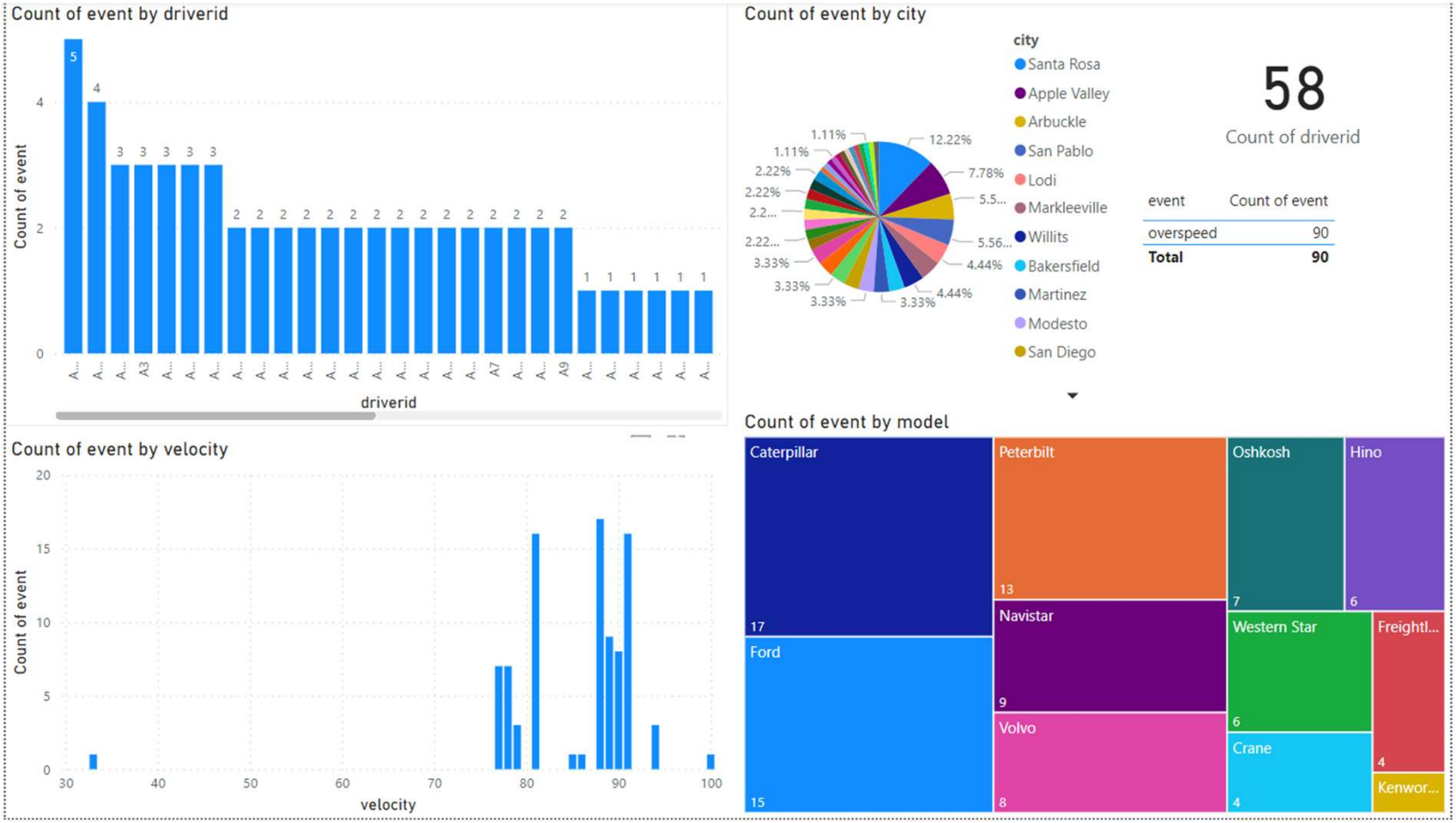
Riskiest driver based on events

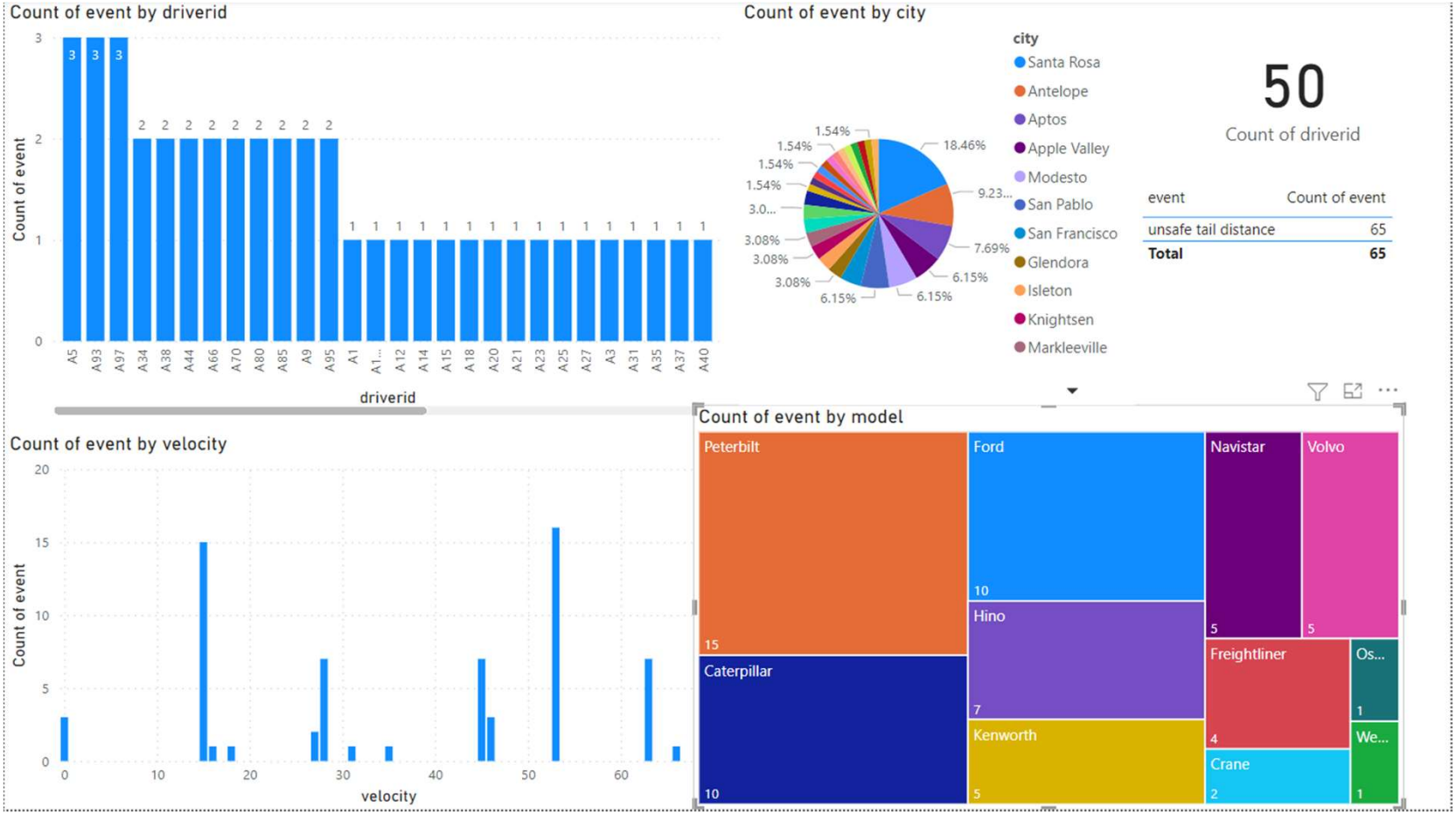


Individual Event Analysis




Count of event by driverid
Count of event
driverid
A97 A95 A18 A36 A4 A75 A29 A30 A35 A41 A43 A44 A49 A50 A54 A61 A87 A92 A94 A1 A15 A24 A33 A34 A56 A57 A60 A62
Count of event by city
city
Santa Rosa
Arbuckle
Willits
Apple Valley
Stockton
Antelope
San Dimas
Bakersfield
La Palma
Marysville
Modesto
81
Count of driverid
event
Count of event
lane departure
152
Total
152
Count of event by velocity
Count of event
velocity
Count of event by model
Caterpillar
Peterbilt
Freightliner
Hino
Ford
Volvo
Navistar
Oshkosh
Kenworth
Western Star


Count of event by driverid
Count of event
driverid
Count of event by city
city
Santa Rosa
Apple Valley
Arbuckle
San Pablo
Lodi
Markleeville
Willits
Bakersfield
Martinez
Modesto
San Diego
58
Count of driverid
event
Count of event
overspeed
90
Total
90
Count of event by velocity
Count of event
velocity
Count of event by model
Caterpillar
17
Ford
15
Peterbilt
13
Navistar
9
Volvo
8
Oshkosh
7
Hino
6
Western Star
6
Crane
4
Freightl...
4
Kenwor...


Count of event by driverid
Count of event
driverid
A5 A93 A97 A34 A38 A44 A66 A70 A80 A85 A9 A95 A1 A1... A12 A14 A15 A18 A20 A21 A23 A25 A27 A3 A31 A35 A37 A40
Count of event by city
city
Santa Rosa
Antelope
Aptos
Apple Valley
Modesto
San Pablo
San Francisco
Glendora
Isleton
Knightsen
Markleeville
18.46%
9.23...
7.69%
6.15%
6.15%
6.15%
3.08%
3.08%
3.08%
3.0...
1.54%
1.54%
1.54%
1.54%
50
Count of driverid
event
Count of event
unsafe tail distance
65
Total
65
Count of event by velocity
Count of event
velocity
Count of event by model
Peterbilt
15
Caterpillar
10
Ford
10
Hino
7
Kenworth
5
Navistar
5
Volvo
5
Freightliner
4
Os...
1
Crane
2
We...
1

Conclusion

- **Santa Rosa** had the highest number of events(862) and a total of **53** dangerous truck drivers
- Based on the Top 10 risky drivers, we can conclude that drivers with **Peterbilt** model truck and high **unsafe following distance** events may indicate risky
- Risk is high when number of events are more and risk factor is high for **lane departure** events(90.55%)
- Risk factor is high for **Oshkosh**, **Crane** and **Hino** model trucks and discontinuing these models can mitigate the risk
- **Lane Departure** and **Unsafe following distance** were among major reason for accidents with 152 and 150 records for each.
- **Ford, Peterbilt** and **Caterpillar** recorded numbers of accidents with **Crane** and **Western Star** among the lowest number of event in California