

DATA SCIENTISTS AGAINST DRUNK DRIVING

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**FATAL ACCIDENTS:  
PREDICTING SOBRIETY**

# MODEL

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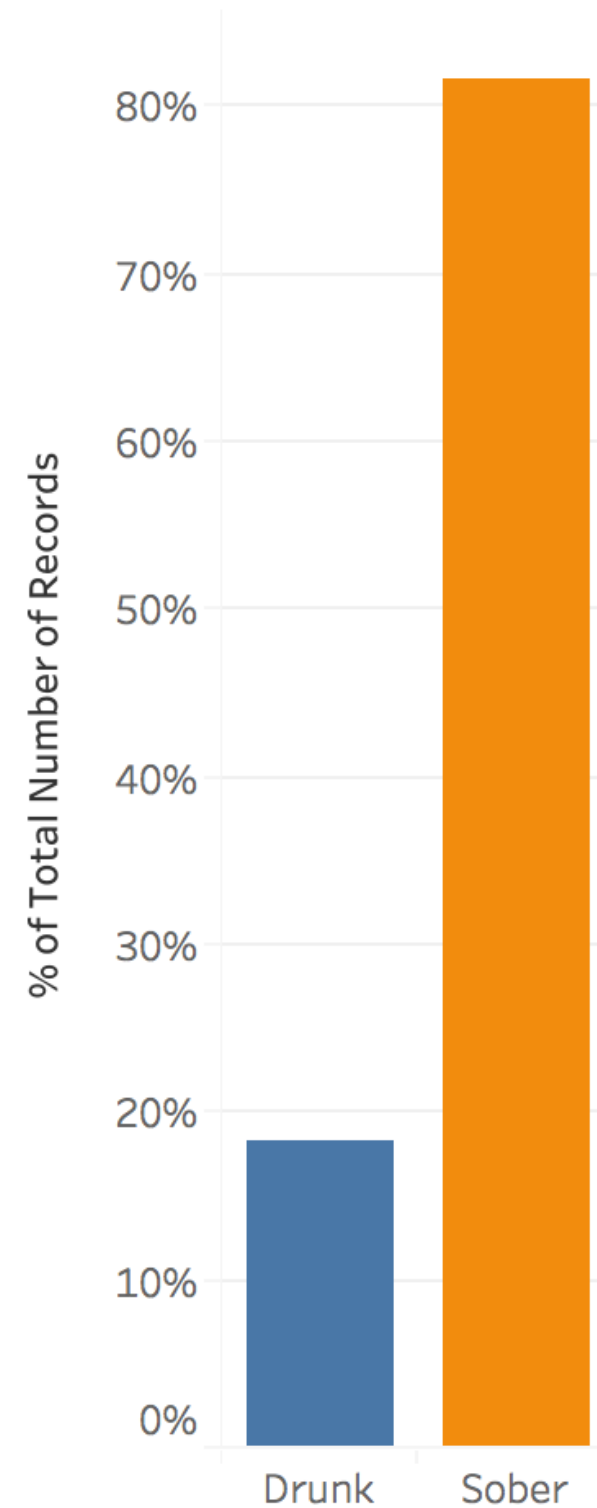
- ▶ Create model to predict whether alcohol was a factor in a fatal car accident
- ▶ Model accuracy = 85%

# DATA BALANCE

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## ► Imbalanced data

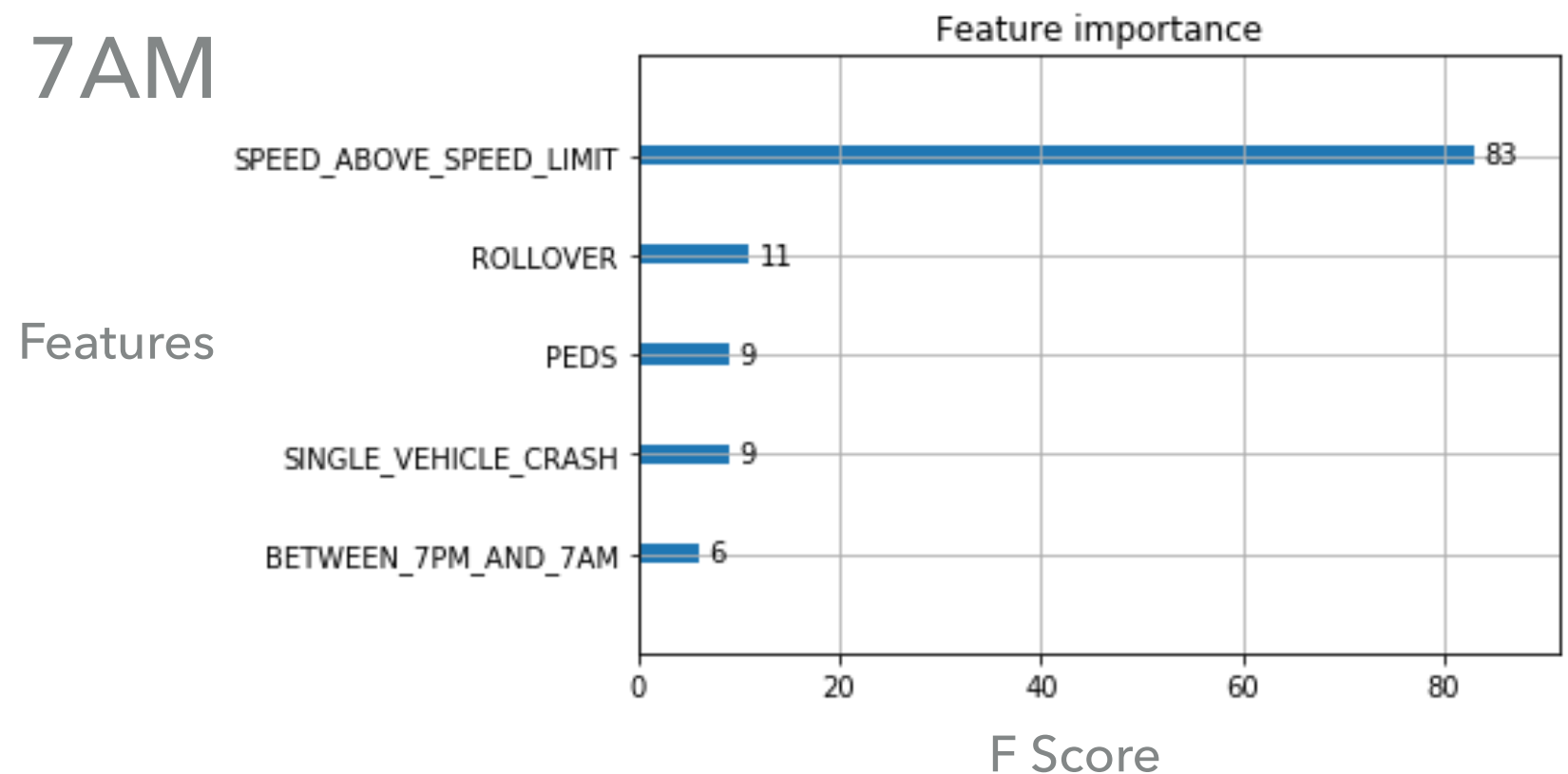
Records by Percentage



# FEATURES

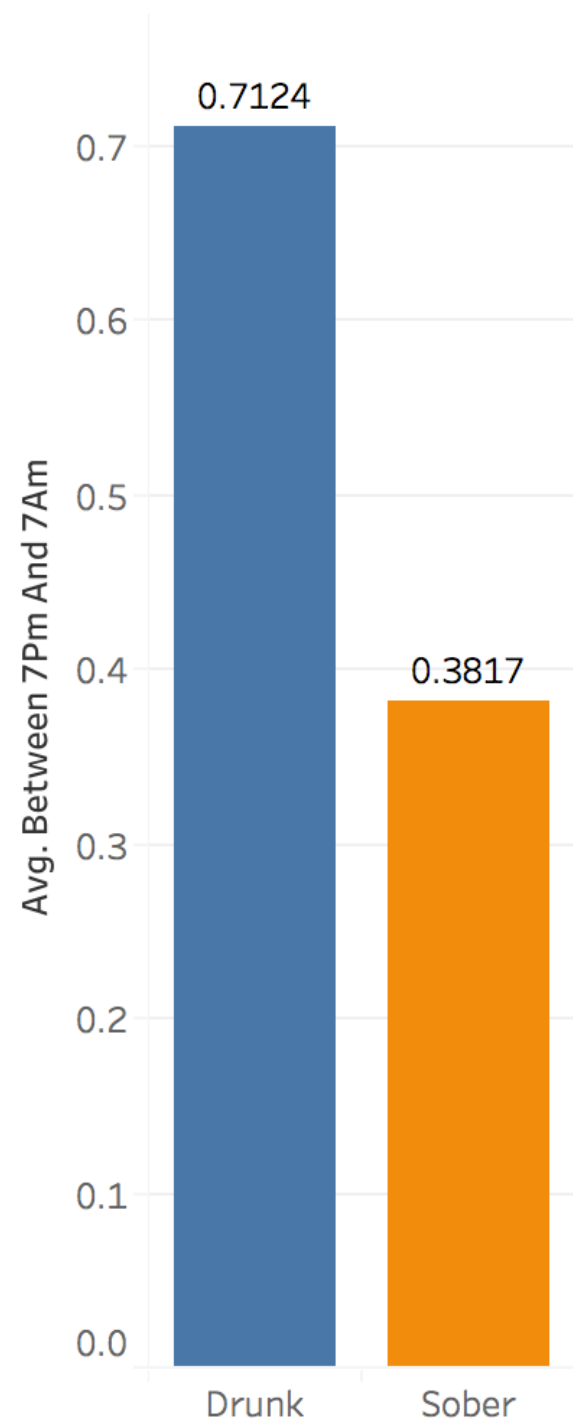
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- ▶ Speed Above Speed Limit
- ▶ Rollover
- ▶ Pedestrians
- ▶ Single Vehicle Crash
- ▶ Between 7PM and 7AM

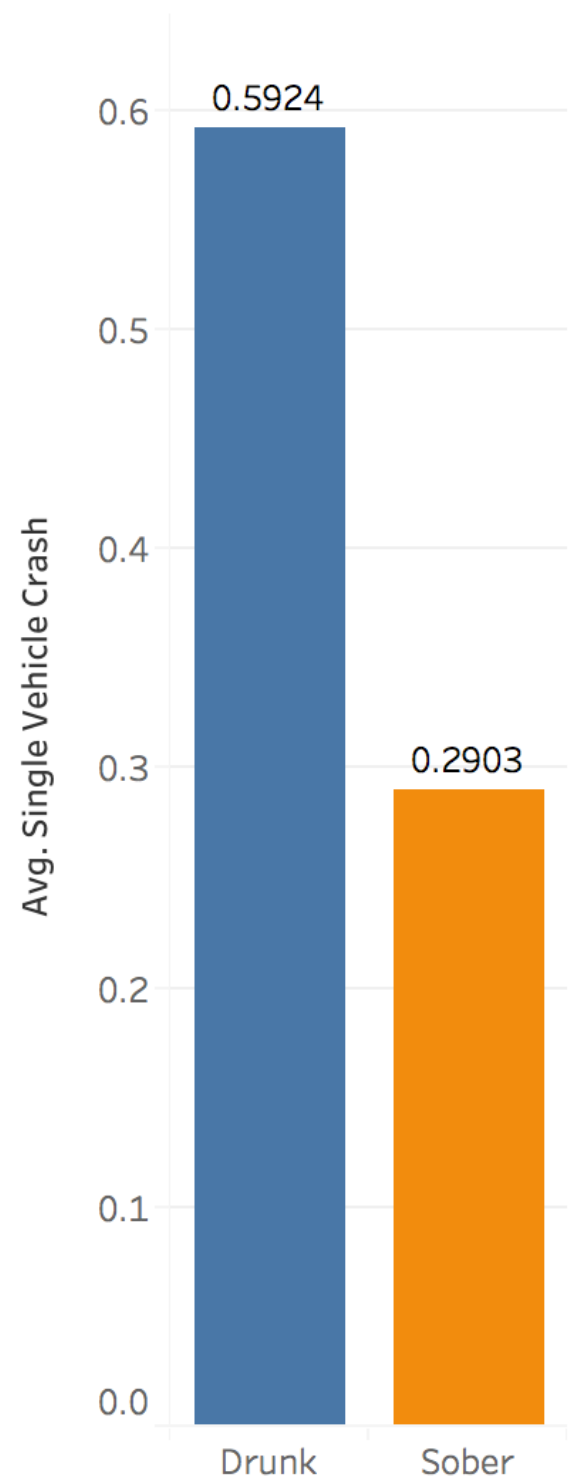


# PROPORTIONAL DIFFERENCES

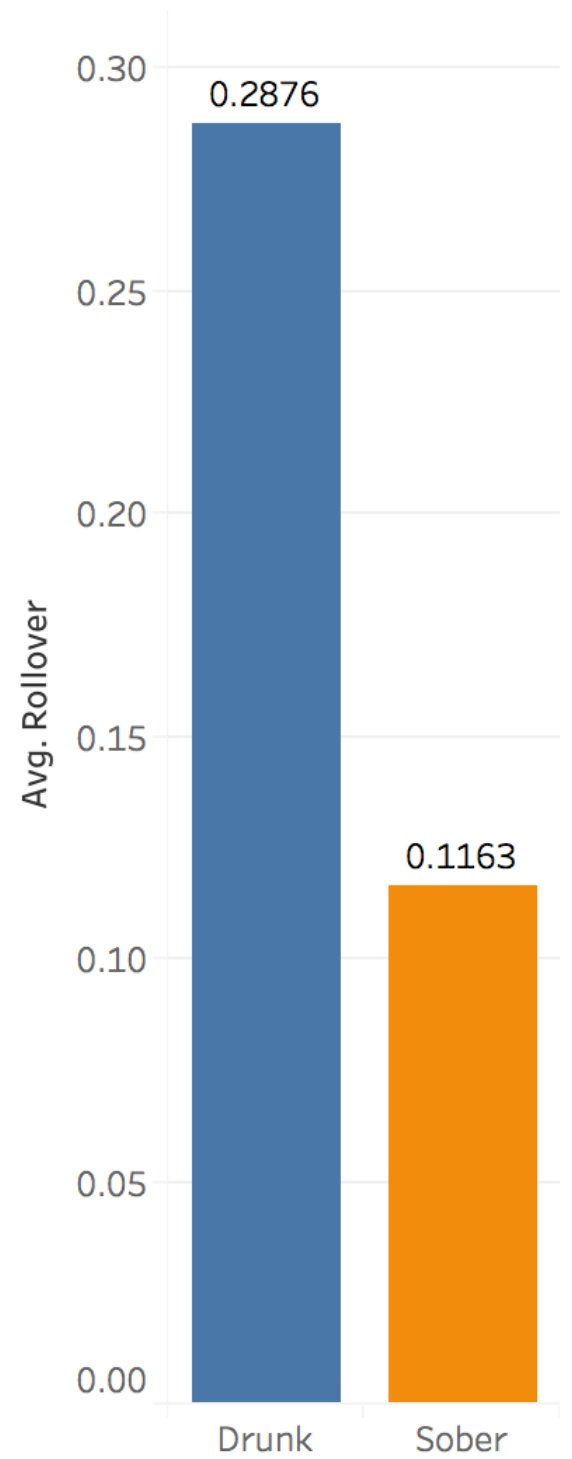
Proportion of  
Accidents Between  
7PM and 7AM



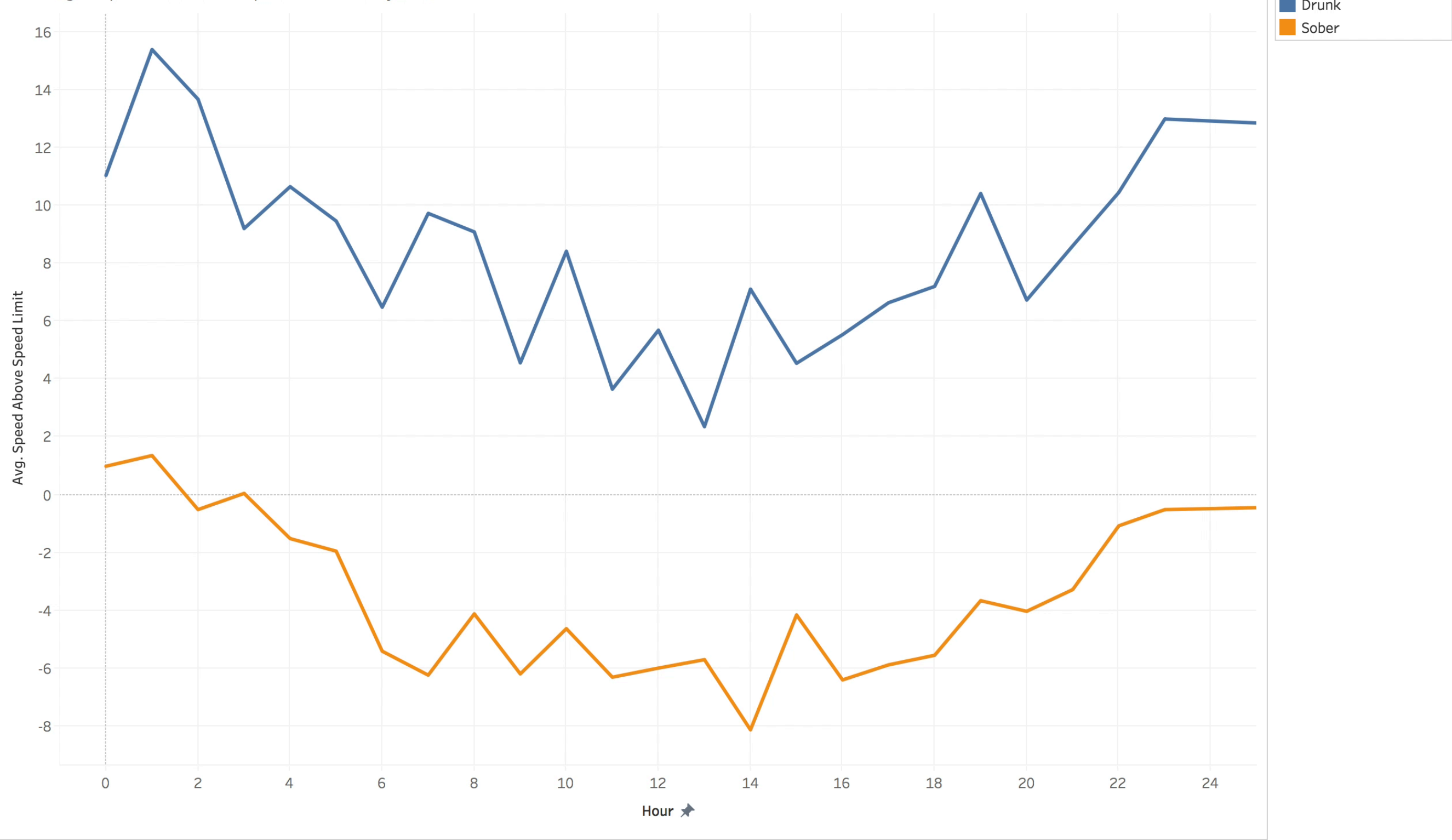
Proportion of Single  
Vehicle Accidents



Proportion of  
Rollovers



Average Speed Above Speed Limit by Hour



Average Speed Above Speed Li...

Records by Percentage

Proportion of Accidents Betwee...

Proportion of Single Vehicle Acci...

Proportion of Rollovers

Dashboard 1

Dashboard 1

# TAKEAWAYS

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- ▶ Fatal accidents involving alcohol involve riskier behaviors
- ▶ Model can be used in order to assist police in determining if alcohol was a factor after the fact