Terry Stops/ Stop, Search, and Frisk

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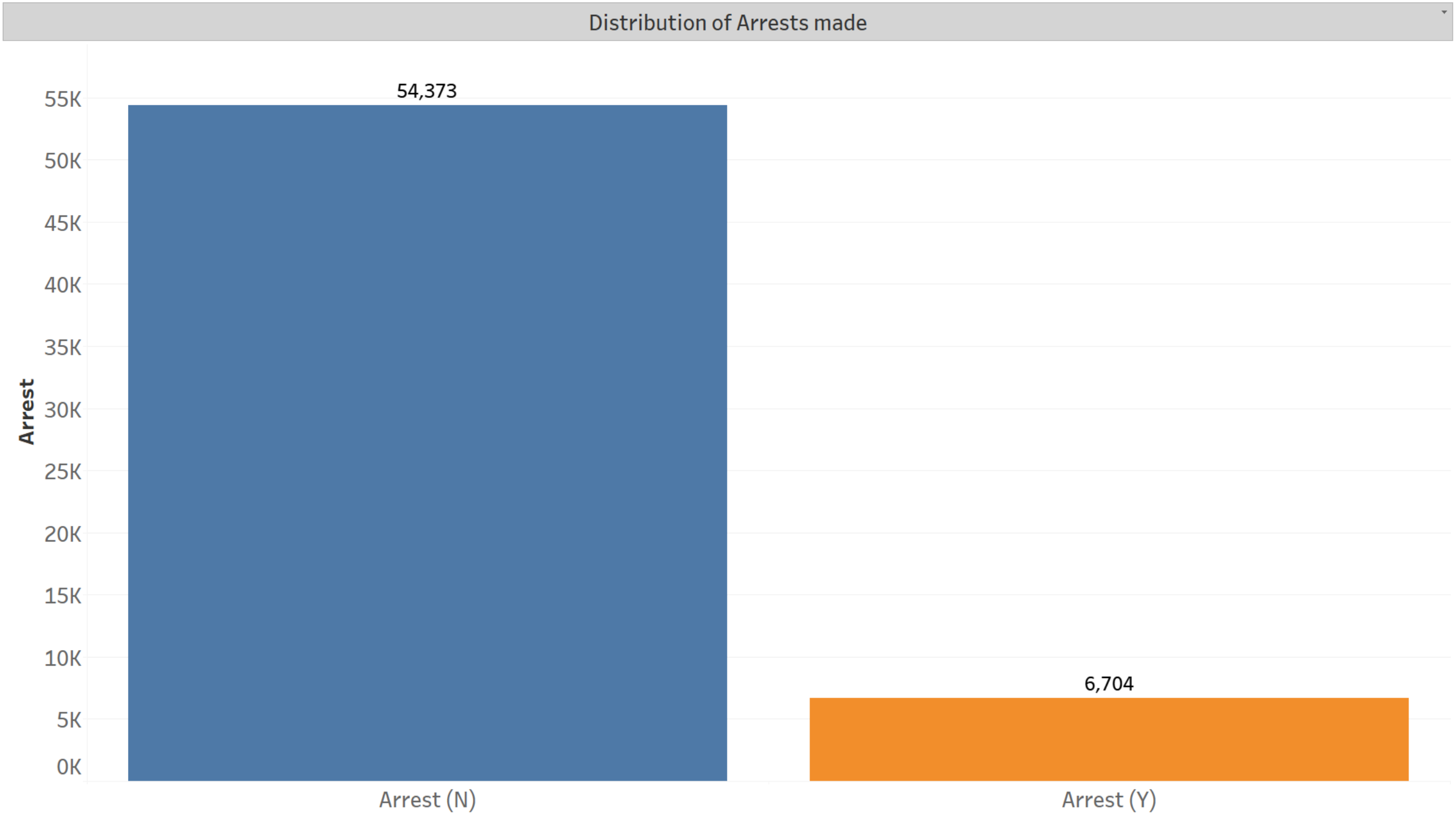
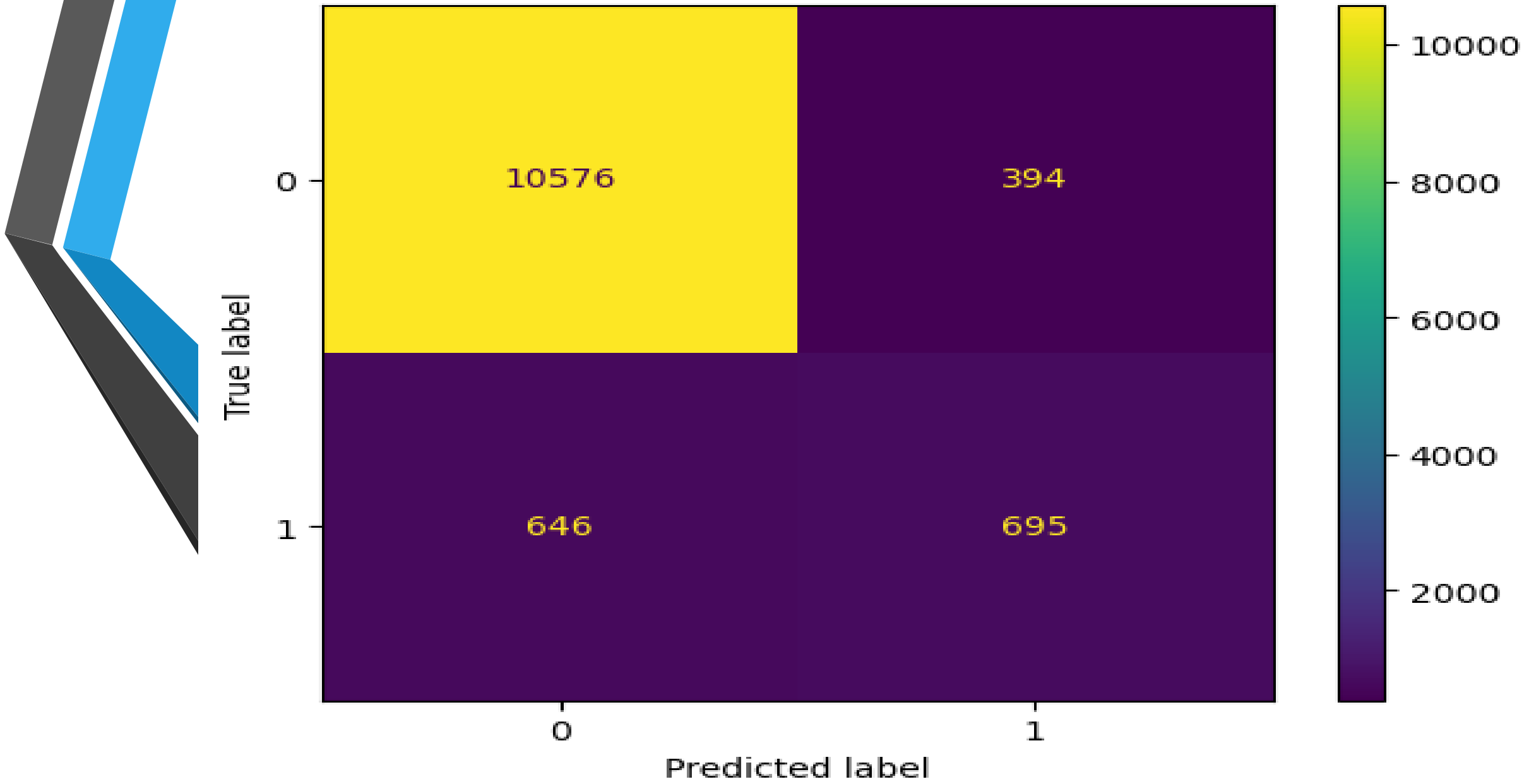
Business Problem

Creating a model where it records an arrest is being made following a Terry stop.

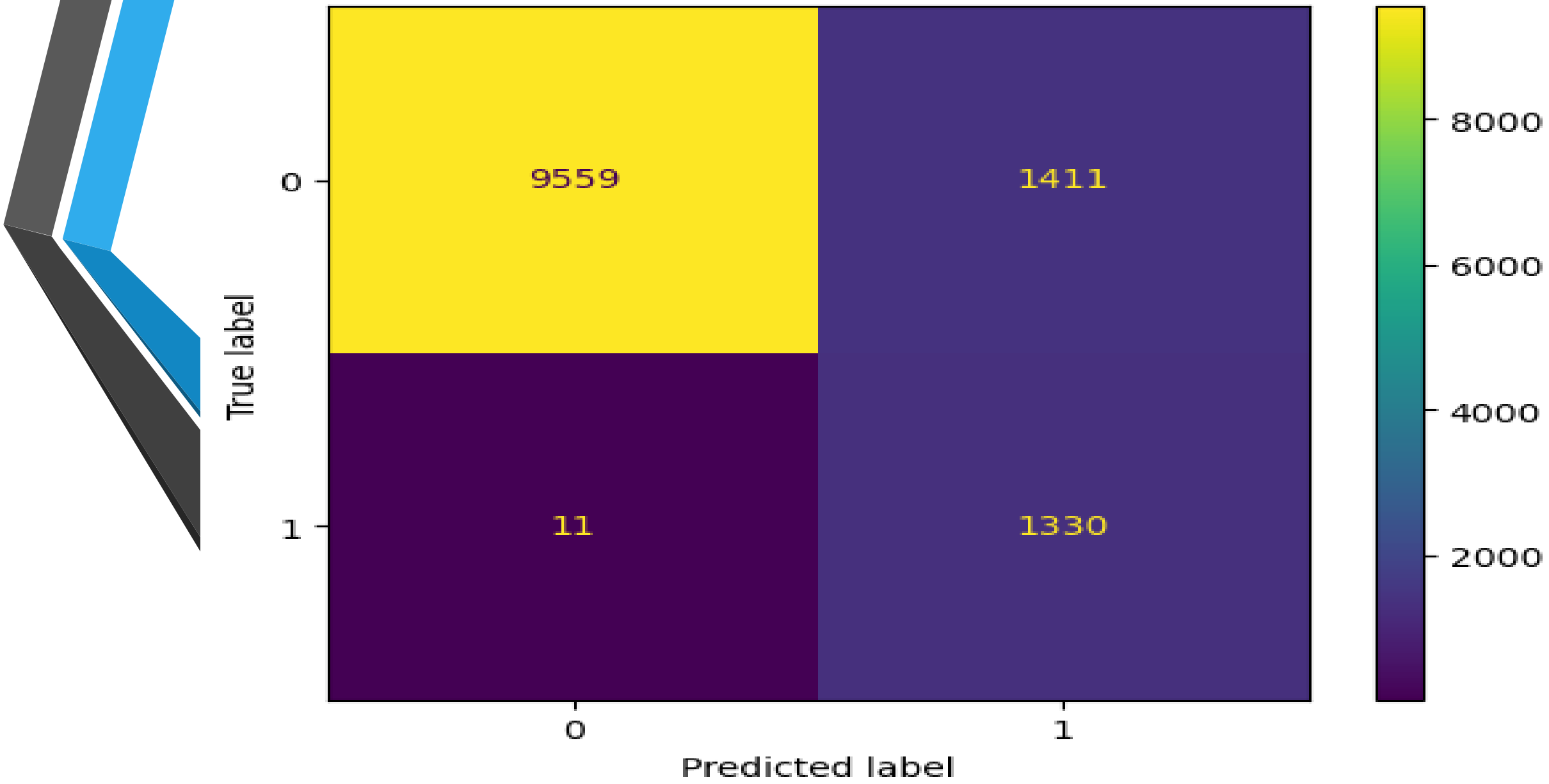
- Analyze data from Terry stops in Seattle
- Determine best predictors that lead to arrests from a Terry stop
- Make recommendations to improve the outcome


Distribution of Arrests made
54,373
6,704
55K
50K
45K
40K
35K
30K
25K
20K
15K
10K
5K
0K
Arrest
Arrest (N)
Arrest (Y)

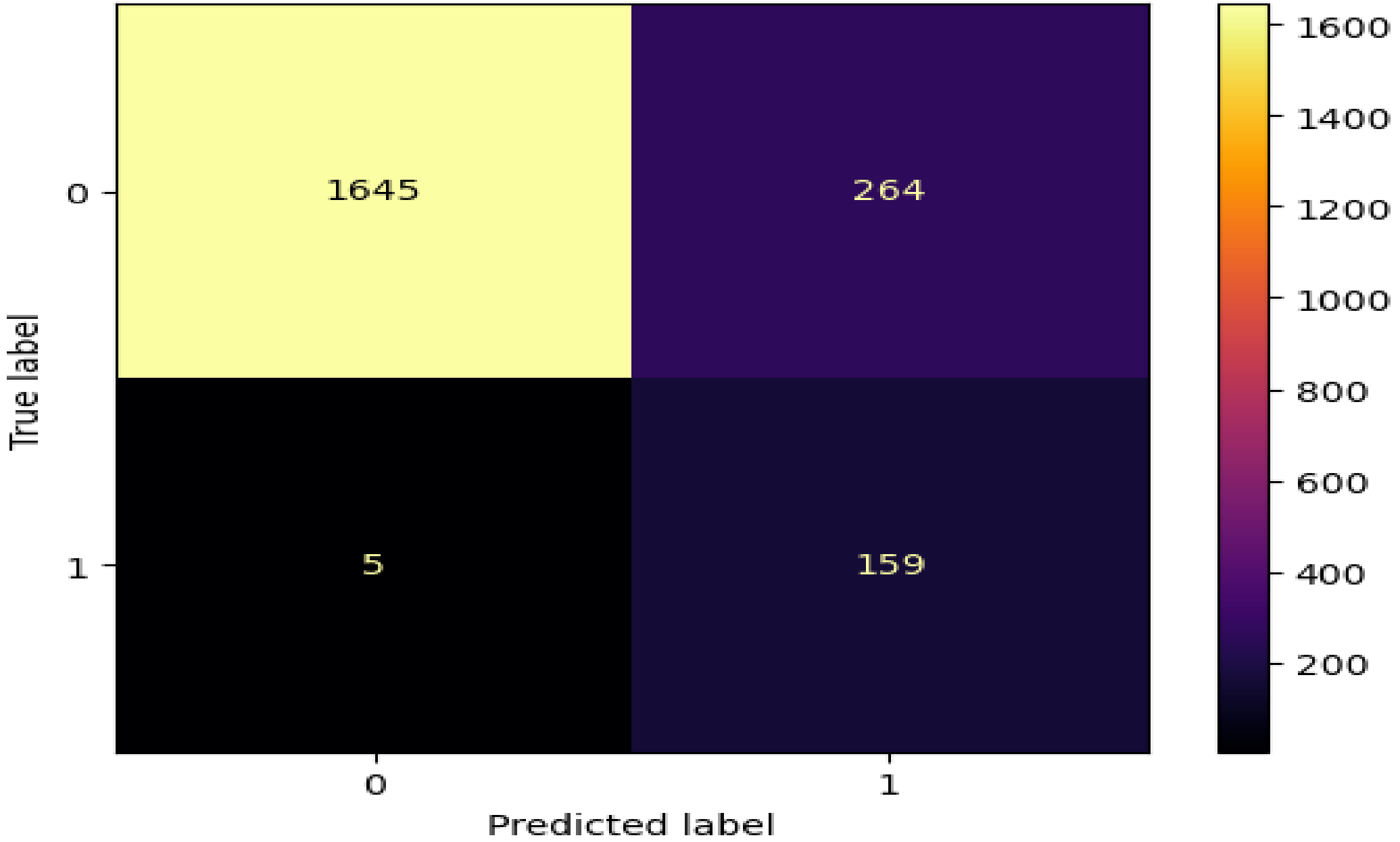
Baseline Model (Logistic Regression)



Decision Tree Classifier Model



Final Model


1645
264
5
159
0
1
True label
0
1
Predicted label
1600
1400
1200
1000
800
600
400
200

Next Steps:

- Compared to the initial logistic regression model. The model performance overall is doing well when determining a frisk and arrests were made from a stop.
- The recall score can predict the correct instances of arrests.
- Improving data collection, accurately recording incidents, and refining the model with additional data. This will help the model's performance for future reference.

Conclusion

- The model overall, is able to predict instances where a stop has led to an arrest.
- Although some instances provided arrests that shouldn't occur. The overall goal was to accurately predict how these stops were performed.