My project is an evaluation of zone exits based heavily on their location. To my knowledge, this is the first time that location data on zone transitions has been made public, so I focused on what additional value it could bring to our understanding of zone exits.

My work contains three parts. The first section is essentially data analysis: I created a metric of zone exit success and saw how it related to the zone exit’s location and type of exit attempted. I found that exits with possession are far more likely to lead to offensive opportunities. In addition, the location of the exit has a large influence over what type of exit is attempted; players are very unlikely to skate the puck out of the defensive zone if they are not already near the blue line. Other than affected the type of zone exit, the location had a fairly small effect on the zone exit success.

In part 2, I built a random forest model to predict the success of any zone exit given its location and the preceding events. This provided a baseline for the difficulty of the zone exit, essentially an expected value for the probability it would succeed. This model was satisfactory but is also ripe for expansion.

Finally, I compared the model’s predicted values with actual results to see which teams and players performed particularly well or poorly on zone exits given their difficulty. This can be used to assess their overall transitional play ability.