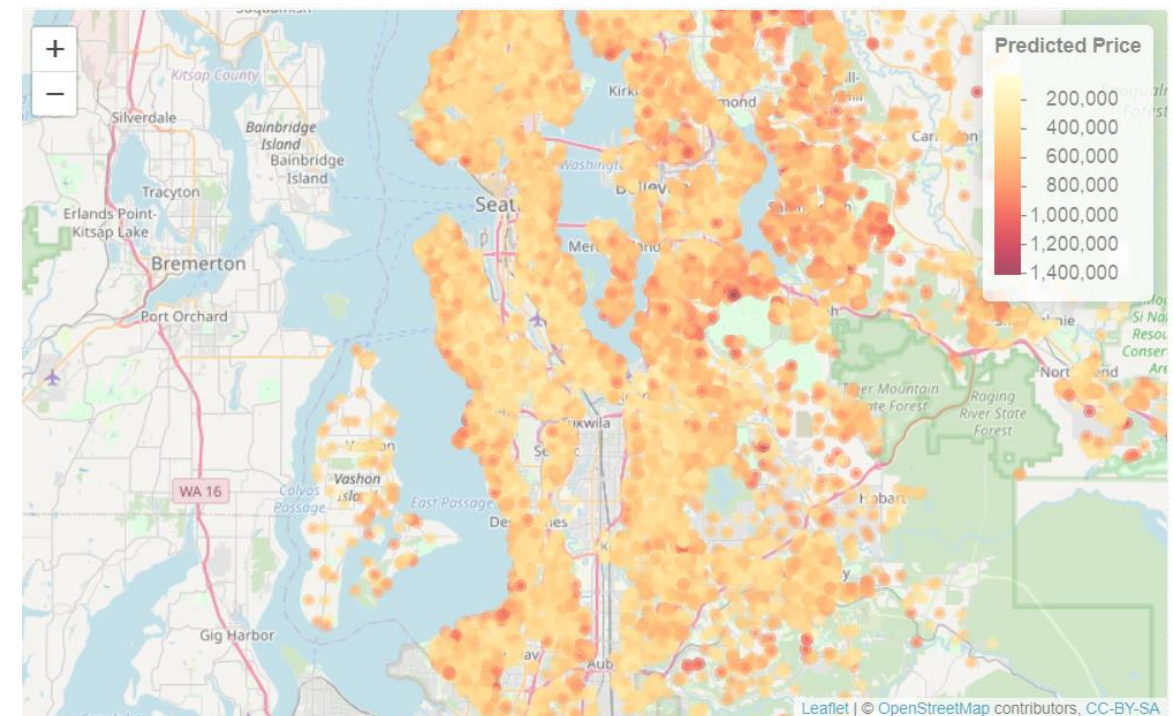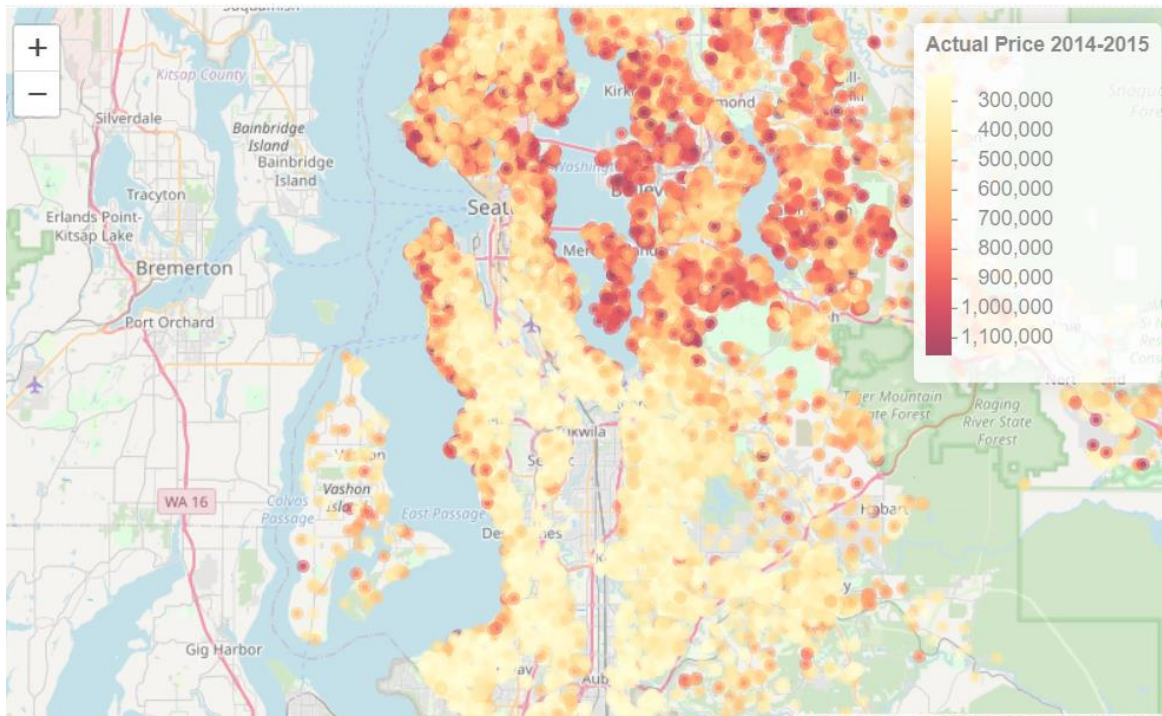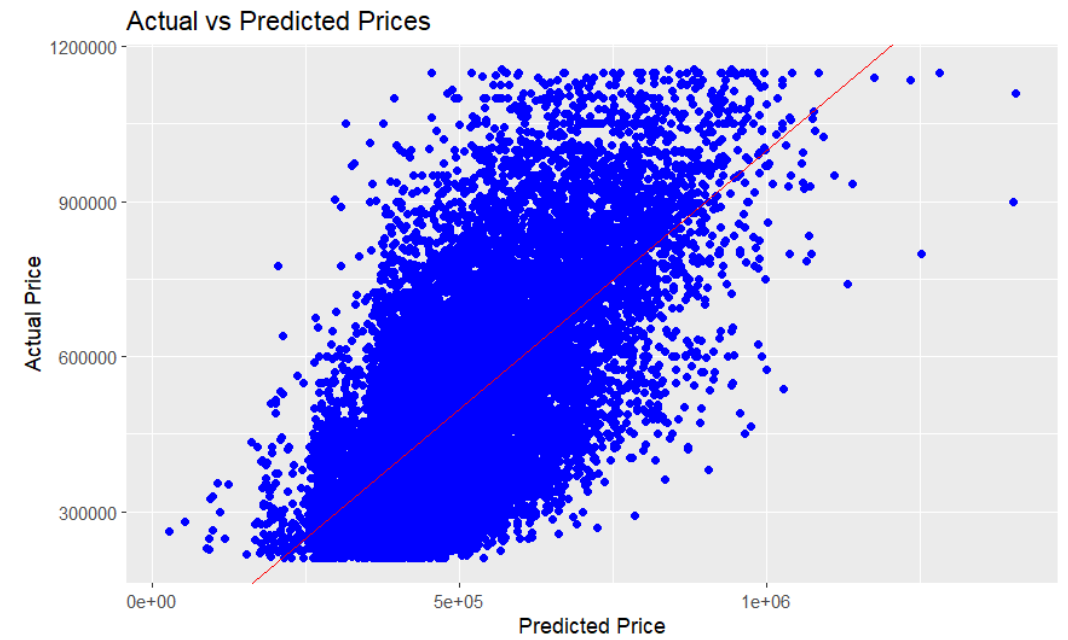# Linear Regression Model


```
# Create a linear regression model to predict the sale price based on bedrooms, bathrooms, sqft_living,
grade, waterfront and view
model <- lm(price ~ bedrooms + bathrooms + sqft_living + grade + view + waterfront, data =
kc_house_data_filtered)
```

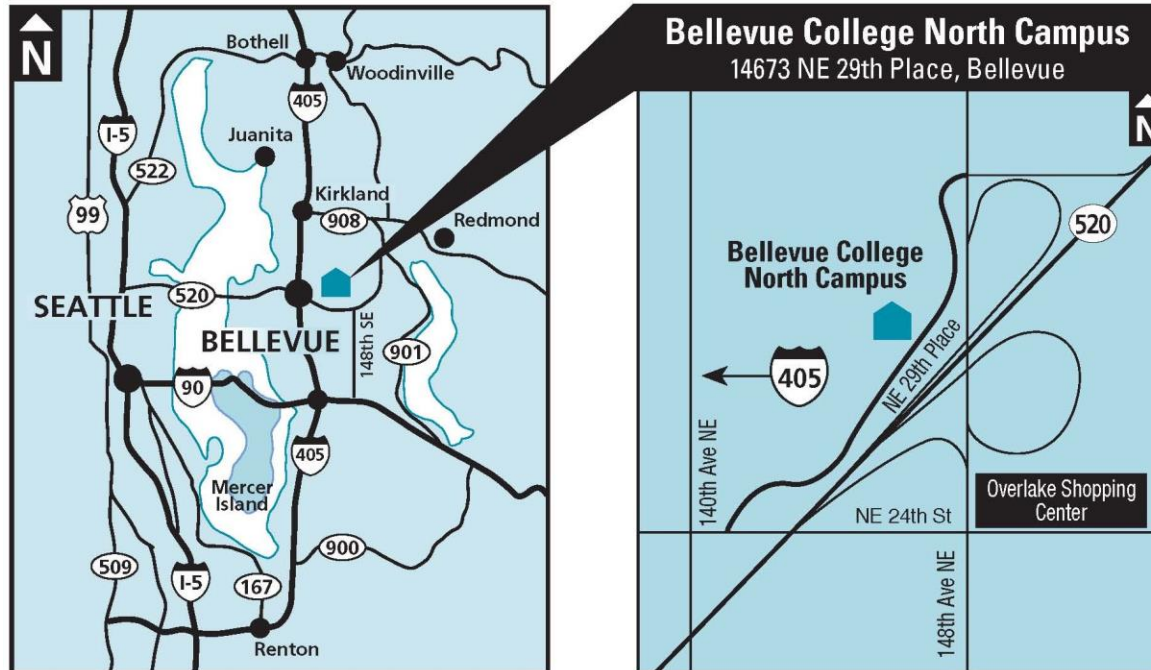# Comparison of King County Predicted Prices vs Actual Prices

King County Price Model
Accuracy:

72.84% accuracy


```
# Calculate the mean absolute percentage error (MAPE) with outliers removed
kc_house_data_filtered <- kc_house_data_filtered %>%
  mutate(error_pct = abs((price - predicted_price) / price) * 100)
```

Testing Our Model: House Price Prediction Near Bellevue College


```r
# Set the coordinates of Bellevue College
lat_bc <- 47.5852
long_bc <- -122.1479

# Filter the data to include only properties within 1 km of Bellevue College
near_bc <- kc_house_data_filtered %>%
    filter((abs(lat - lat_bc) < 0.009) & (abs(long - long_bc) < 0.009))
```

Actual Price vs Predicted Price Example with Small Percentage of Error

2014 Actual Price : $490,000

2014 Predicted Price : $491538.90

Percentage Error = 0.314%