

# Prediction of Sales and New Site Selection for a Qdoba Mexican Restaurant in NJ



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# Project objective

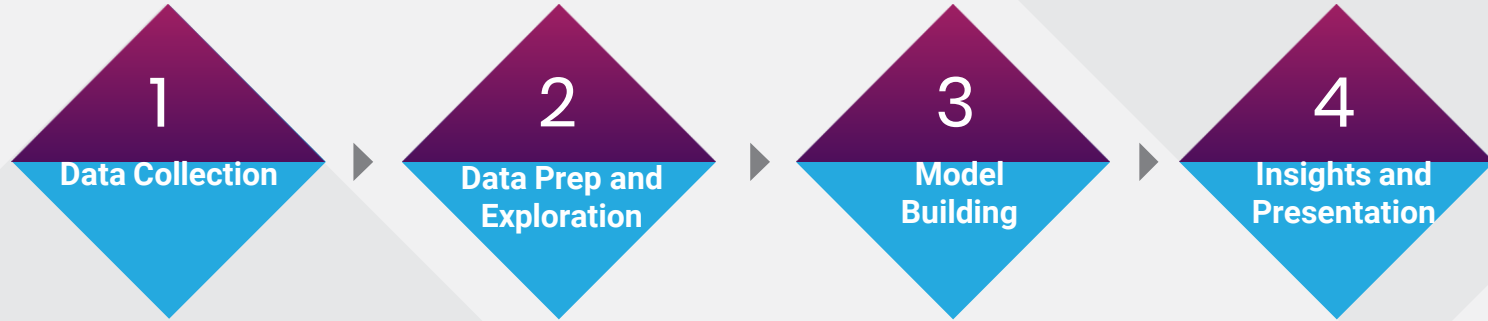
- Explore location and population demographics associated with Sales of current Qdoba NJ restaurants
- Identify and compare the potential of a new Qdoba location in New Jersey
- With over 700 zipcodes in NJ, Location Analysis can help reduce the number of locations for review.

# Background - Qdoba Mexican Restaurants

- Over 700 stores Nationally
- 24 stores in New Jersey
- Recently sold to Apollo Global Management in March of 2018



# METHODOLOGY



370 x 222

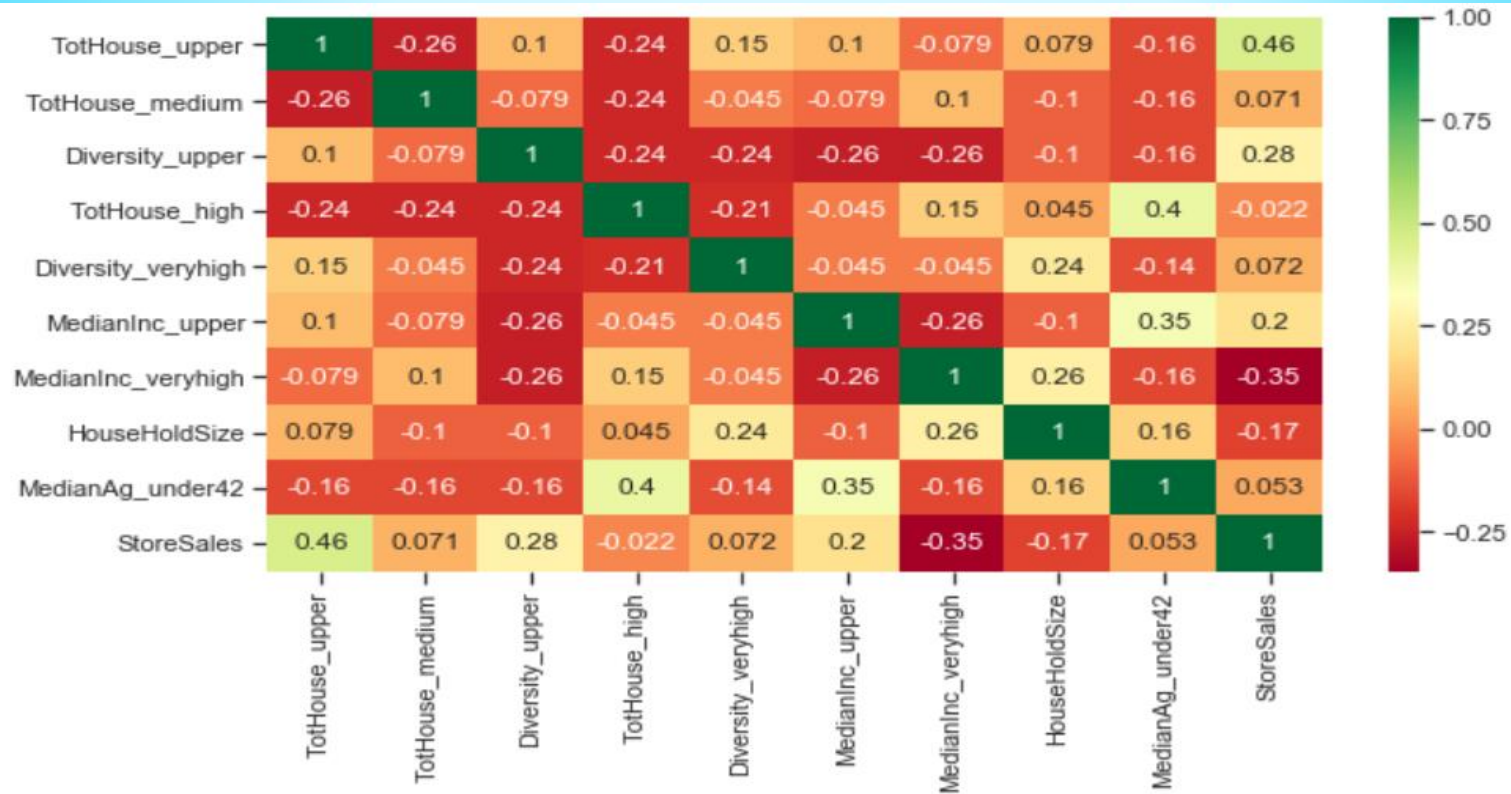
# Data Sources

- Qdoba's store location site - contains location information for each store.
- NJ Hometown Locator site - contains demographics information by Zipcode. Items such as: Population, Housing, Income levels, etc.
- Motovoto site - Real Estate site contains additional demographics including various education levels within a zipcode

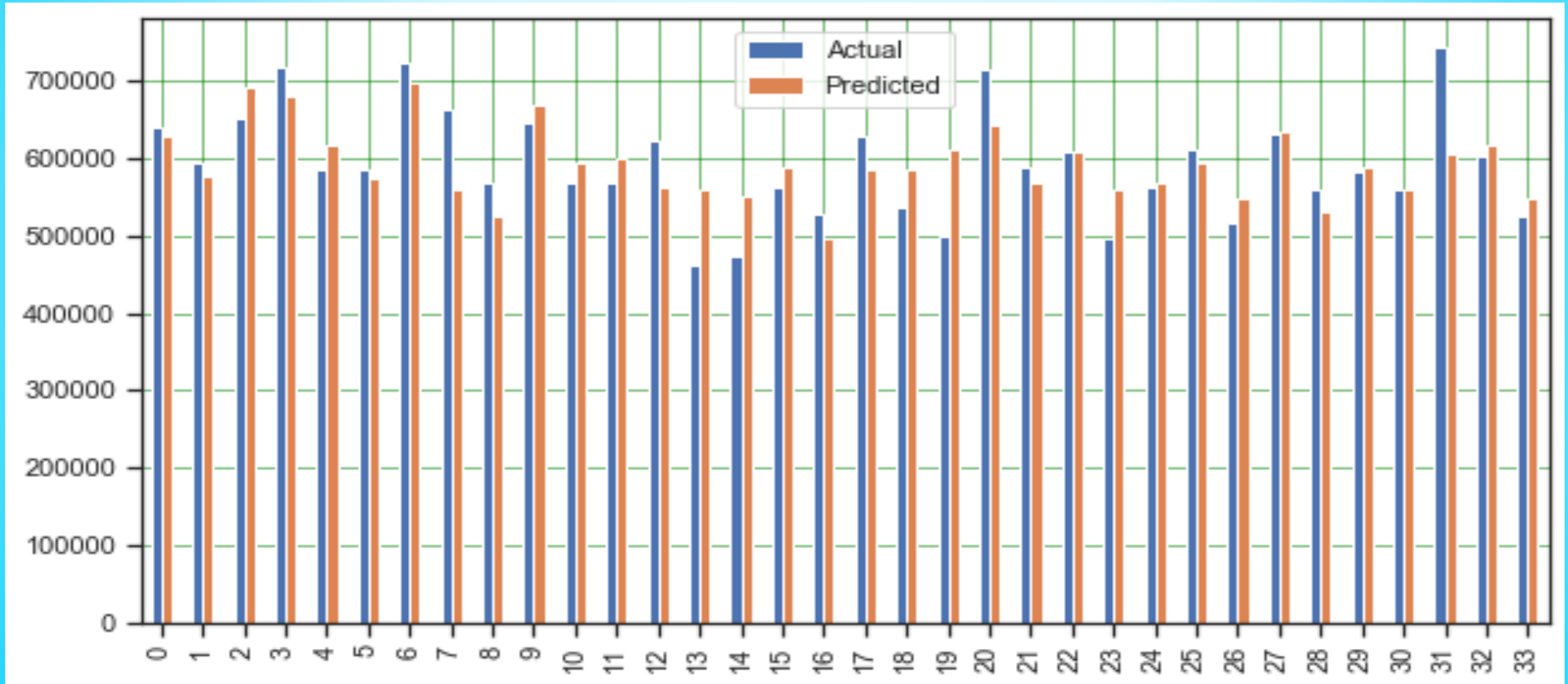
# Main Features used for Analysis – Predicting Store Sales

- Demographic Categories:
- Median Income
- Housing
- Age
- Education
- Diversity
- Population
- Location (Zipcode)

# Correlation between selected features



# Linear Regression - Store sales prediction results





# Model Accuracy

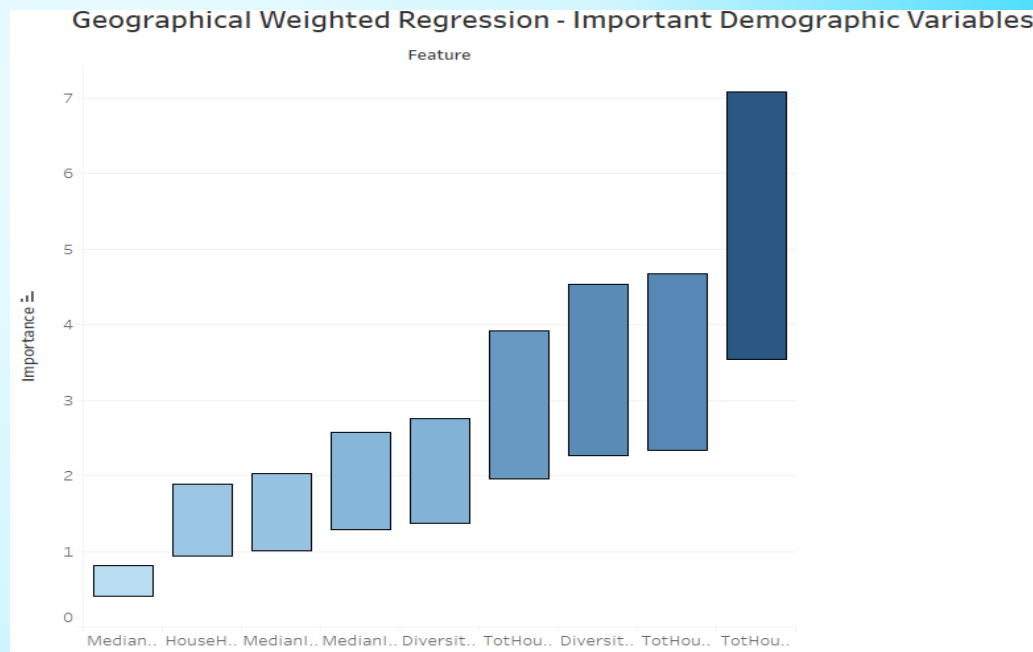
## OLS Regression Results

<b>Dep. Variable:</b>	y	<b>R-squared (uncentered):</b>	0.977
<b>Model:</b>	OLS	<b>Adj. R-squared (uncentered):</b>	0.969
<b>Method:</b>	Least Squares	<b>F-statistic:</b>	120.5
<b>Date:</b>	Mon, 11 Nov 2019	<b>Prob (F-statistic):</b>	2.52e-18
<b>Time:</b>	19:12:47	<b>Log-Likelihood:</b>	-435.89
<b>No. Observations:</b>	34	<b>AIC:</b>	889.8
<b>Df Residuals:</b>	25	<b>BIC:</b>	903.5
<b>Df Model:</b>	9		
<b>Covariance Type:</b>	nonrobust		

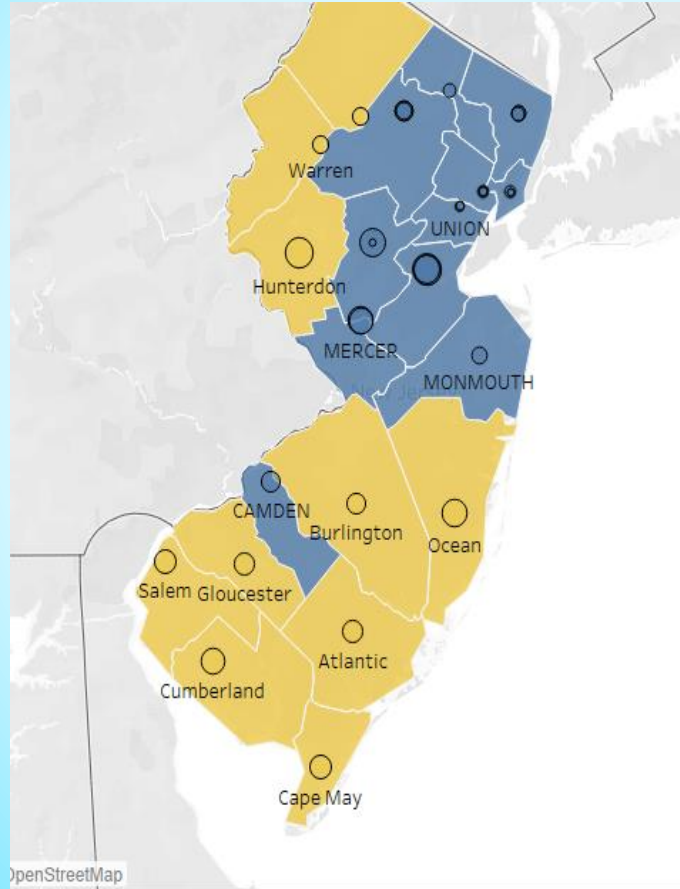
# GWR - Geographically Weighted Regression Results

GWR, a local form of linear regression used to model spatially varying relationships.

Feature	Importance
TotHouse_upper	3.537447
TotHouse_medium	2.336307
Diversity_upper	2.265119
TotHouse_high	1.956199
Diversity_veryhigh	1.377349
MedianInc_upper	1.290227
MedianInc_veryhigh	1.012849
HouseHoldSize	0.943951
MedianAg_under42	0.405558



# Actual and Potential Qdoba Locations



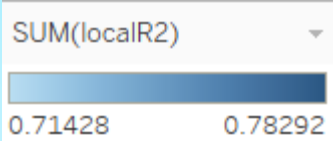
## Store Loc

Actual

Potential

# Recommended Zipcodes for a New Qdoba Restaurant Location

Location	County	Zipcode	
Hackettstown	Warren	07840	
Hopatcong	Sussex	07843	
Flemington	Hunterdon	08822	
Cape May	Cape May	08204	
Bridgeton	Cumberland	08302	
Hammonton	Atlantic	08037	
Glassboro	Gloucester	08028	
Penns Grove	Salem	08069	
Burlington	Burlington	08016	
Toms River	Ocean	08755	





THANK  
YOU