



COCONUT GROVE REAL ESTATE ANALYSIS

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OVERVIEW

- 1 Introduction
- 2 Segmentation
- 3 Data Preprocessing
- 4 Data Analysis
- 5 Predictive Models
- 6 Conclusion

1 Historic Coconut Grove

- First permanent settlement in Miami-Dade
 - established 1873
 - annexed by Miami in 1925
- 5.6 square miles, 10% of Miami's total area
- Rapid growth, especially since summer of 2020

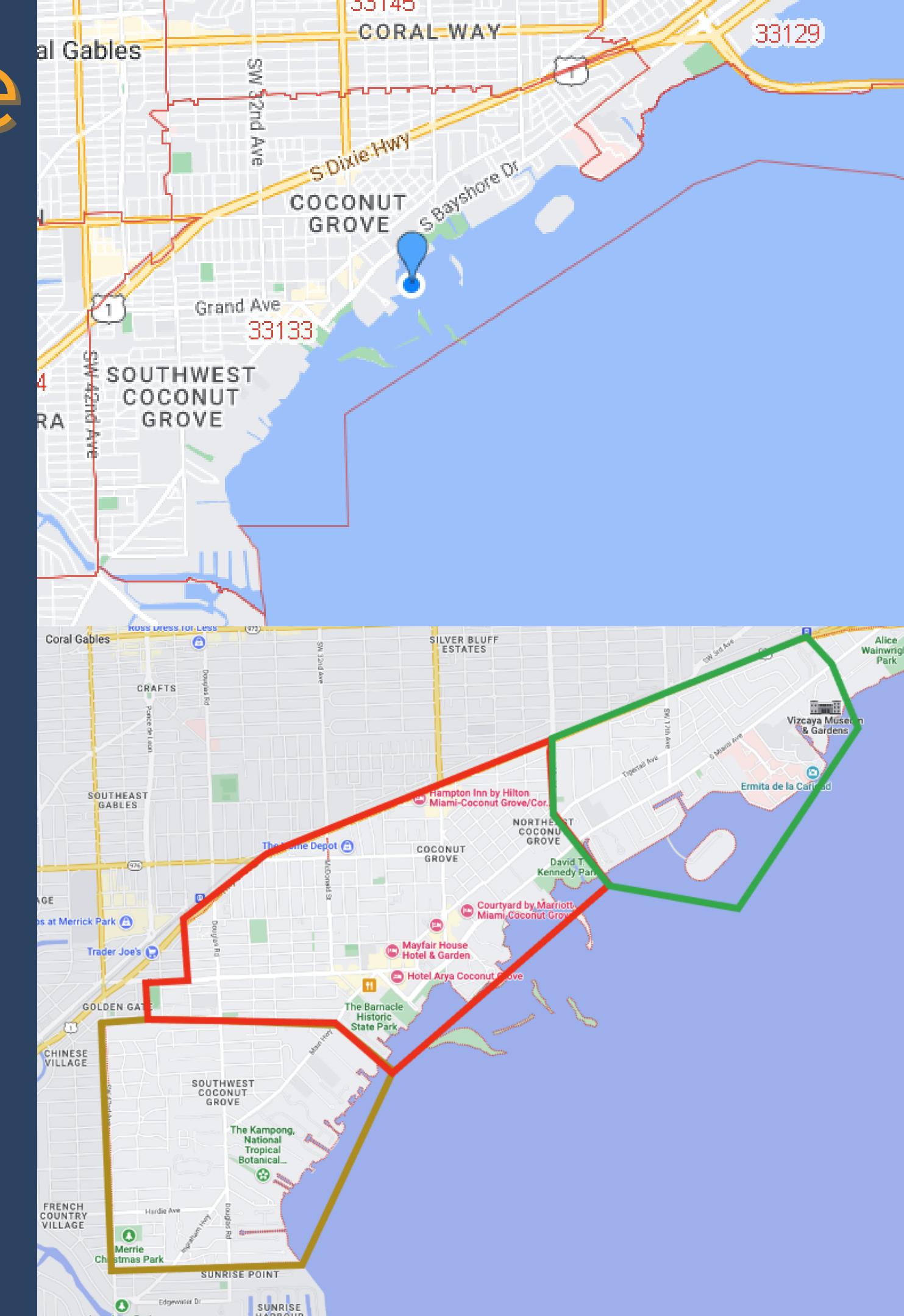
Project Goal: Provide in-depth real estate analysis of Coconut Grove in period of rapid growth



2 Segmenting the Grove

- Not a city, no official borders
- Grove often separated into 4 parts: north, south, center, and west
- Combined center and west areas
- Included only 33133 properties

Count of PARCEL20	Column Labels			Grand Total
Row Labels	33129	33133	(blank)	
CENTRAL		7,211		7,211
NORTH		1,696		1,696
OUTSIDE	7,005	4,267		11,272
SOUTH		1,671		1,671
(blank)				
Grand Total	7,005	14,845		21,850



3 Data Preprocessing

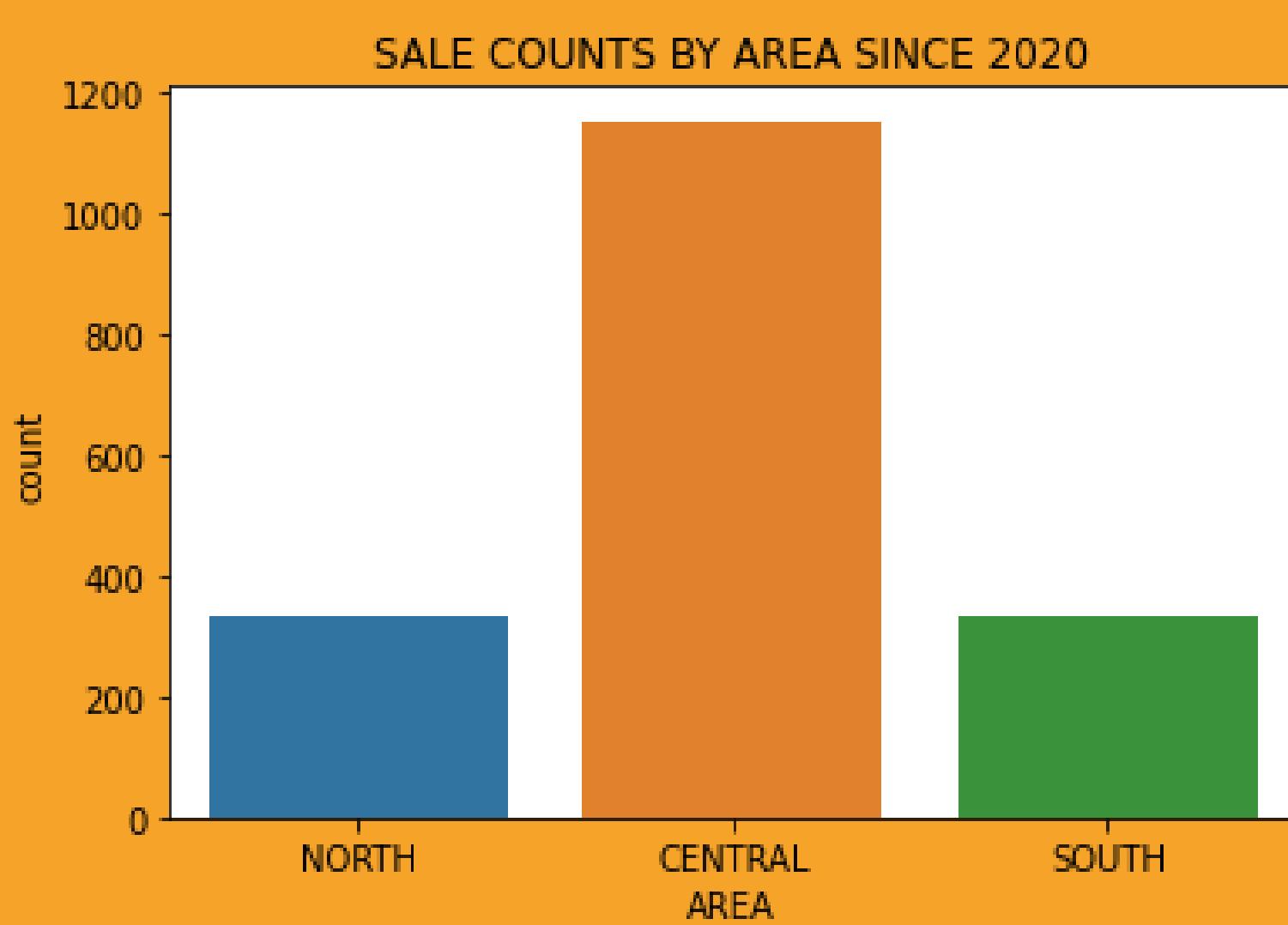
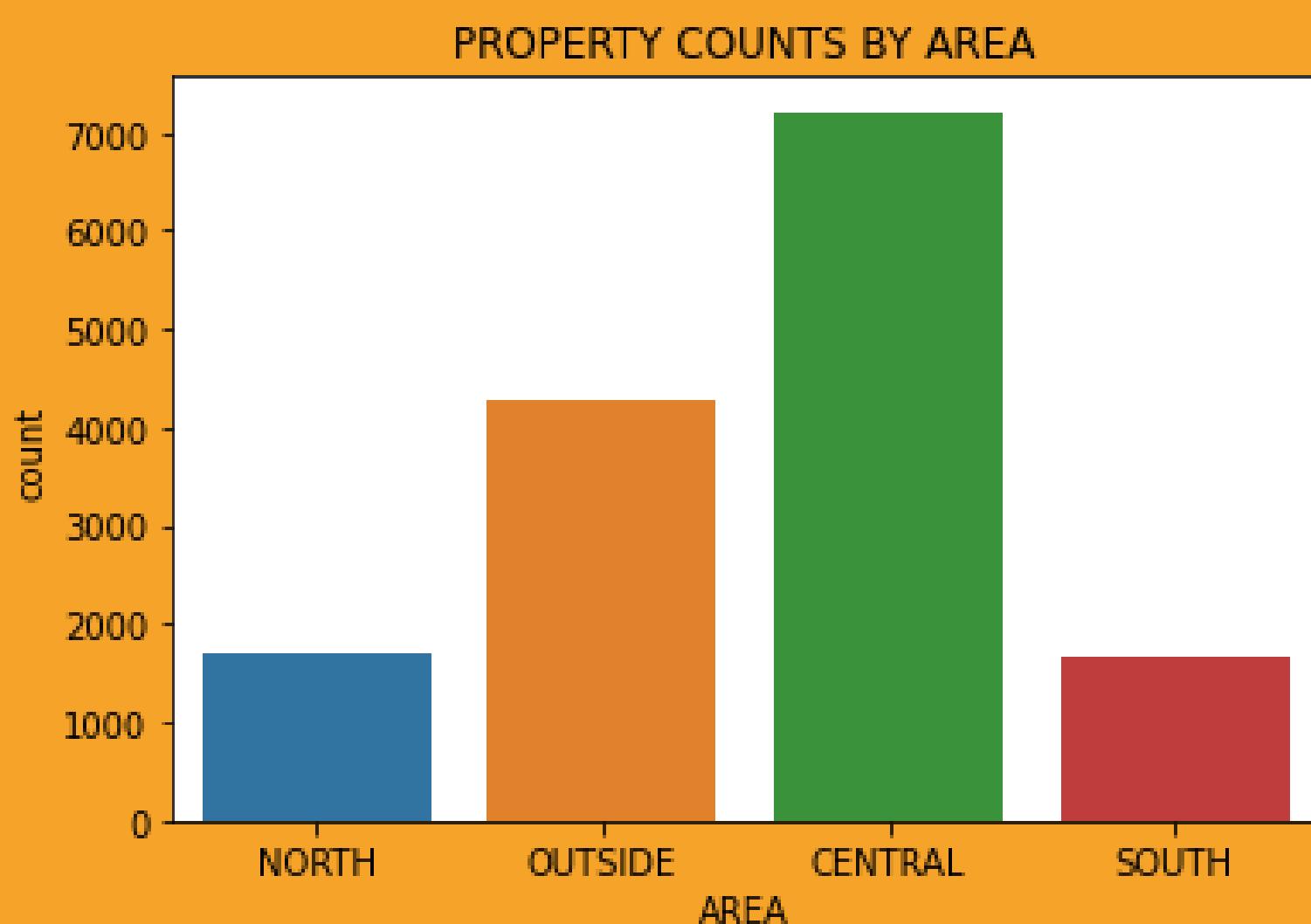
- Data from Property Appraiser's site
 - Inner-merged with dataset of areas on folio number
- Cleaning: replaced missing values with empty string or 0
- Features generated: MARKETVAL, PROPTYPE, POOL, COMPANY, LASTQSALEDT, LASTQSALEAMT

- 14845 obs, 50 rows

	POLIO	PROPERTYADDRESS	LAND	BLDG	TOTAL	ASSESSED	HEX	LANDUSE	ZONING	OWNER1	OWNER2	MAILINGADDRESS	
0	141140010005		805644	0	805644	805644	0	RESIDENTIAL - VACANT LAND	0081 - VACANT : VACANT LAND	LEONARD VIDAL		900 MERIDIAN AVE UNIT 204	
	ACTUALSQFT	AREA	MARKETVAL	PROPTYPE	PRIMARY	POOL	COMPANY	LASTQSALEDT	LASTQSALEAMT	SALEDT1	SALEDT2	SALEDT3	
	0	NORTH	1007055.0	OTHER	0	0	0	20210317	950000.0	20210317	20150303	20061201	
	MAILINGSTATE	MAILINGCOUNTRY	ADJUSTEDSQFT	LOTSIZE	BED	BATH	STORIES	UNITS	YEARBUILT	EFFECTIVEYEARBUILT	SALETYPE1	SALEQUAL1	
	FL	USA	0	8757.0	0	0	0	0	0	0	0	0	
	SALEDATE1	SALEAMT1	SALETYPE2	SALEQUAL2	SALEDATE2	SALEAMT2	SALETYPE3	SALEQUAL3	SALEDATE3	SALEAMT3	XF1	XF2	XF3 LIVINGSQFT
	03/17/2021	950000.0	1.0	Q	03/03/2015	800000.0	0.0	0	12/01/2006	825000.0			0

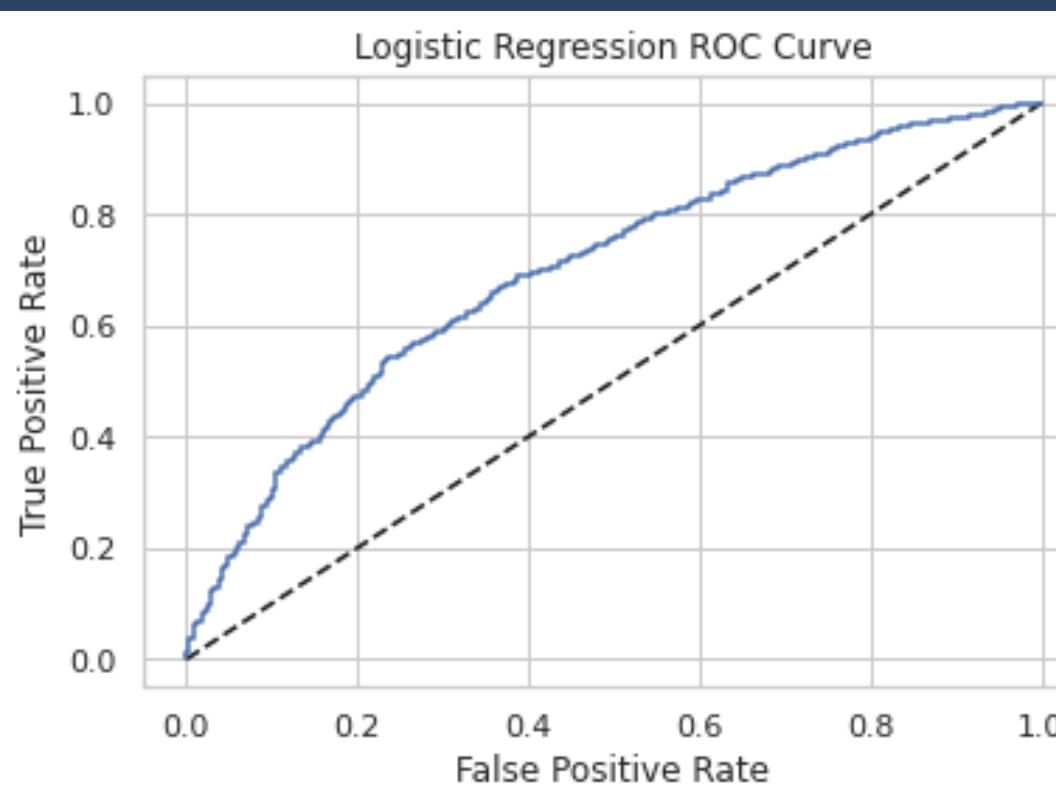
4 Data Analysis

- Focused on most common property types: condo and single family
- **Key Takeaways:**
 - Central Grove: condos, lowest property values, smallest square footage, more multi-family properties
 - North & South Grove: single family, building took up 1/3 of lot, double square footage of central grove
 - average current market value doubled average last sale amount in all areas, last sale date of 2010-11

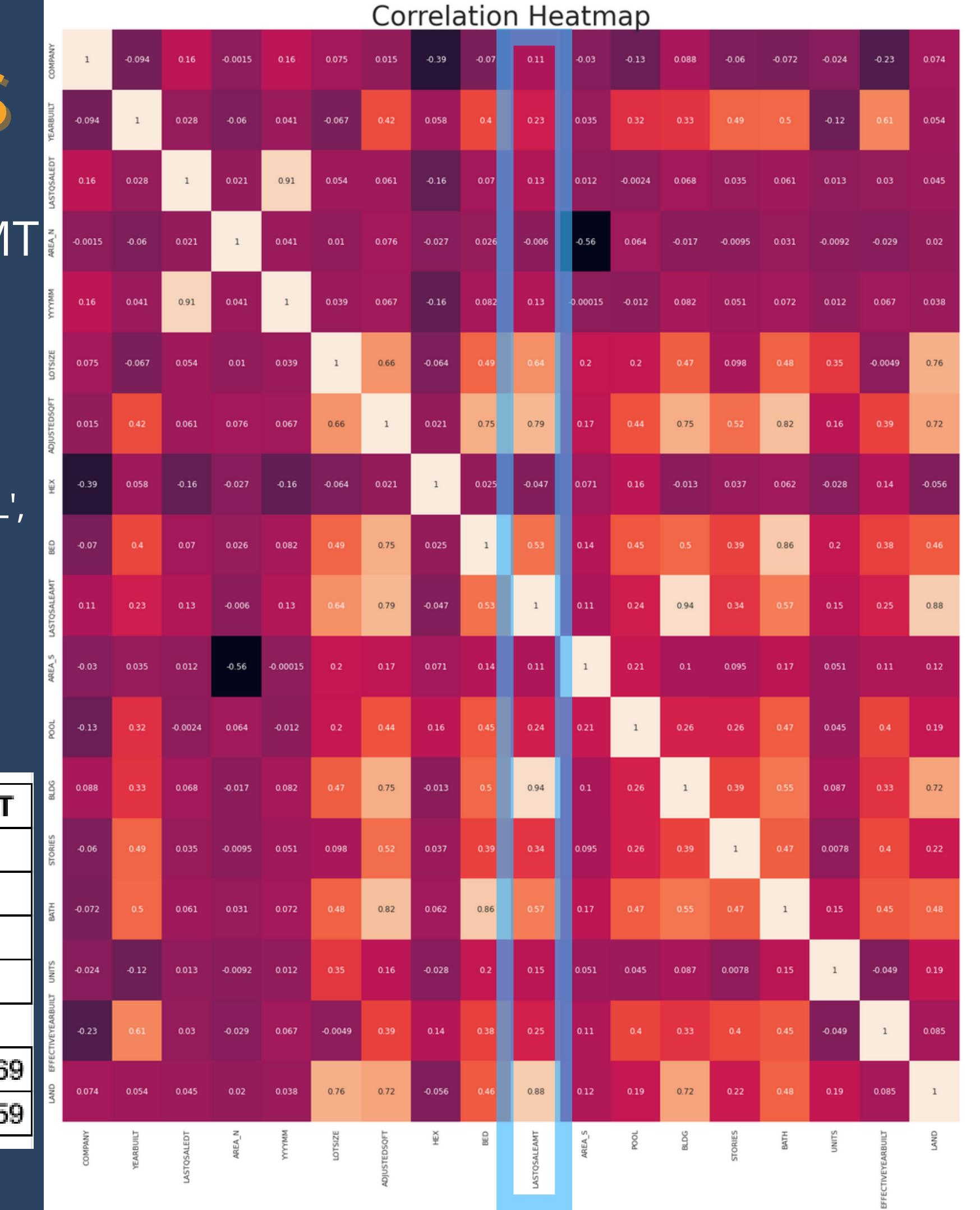


5 Predictive Models

- Linear Regression: predicting LASTQSALEAMT
 - generated last sale year feature with month as decimal
- Logistic Regression: predicting HEX
 - 'LAND','BLDG','ADJUSTEDSQFT','BED','LOTSIZE','BATH',POOL', 'STORIES','YEARBUILT','COMPANY','EFFECTIVEYEARBUILT','LASTQSALEDT','LASTQSALEAMT'

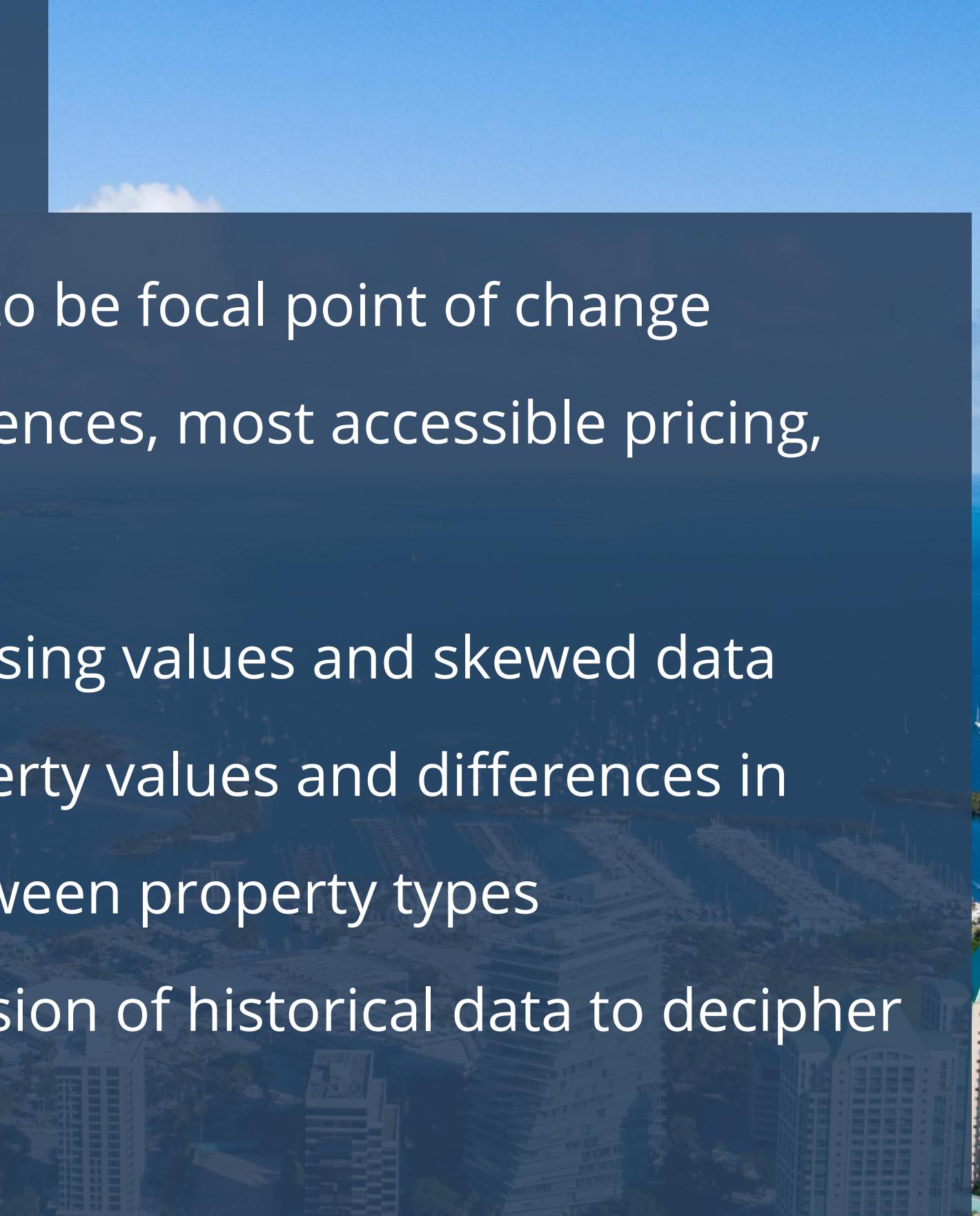


VARIABLE	COEFFICIENT
LOTSIZE	30.63376456
BATH	-417813.692
ADJUSTEDSQFT	1396.815283
YYYYMM	470043.4896
Training score	0.613482369
Testing score	0.729723759



6 Conclusions

- Central Grove is likely to be focal point of change
 - least primary residences, most accessible pricing, most properties
- Analysis limited by missing values and skewed data
 - Vast range of property values and differences in data reporting between property types
- In future studies, inclusion of historical data to decipher trends



References

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