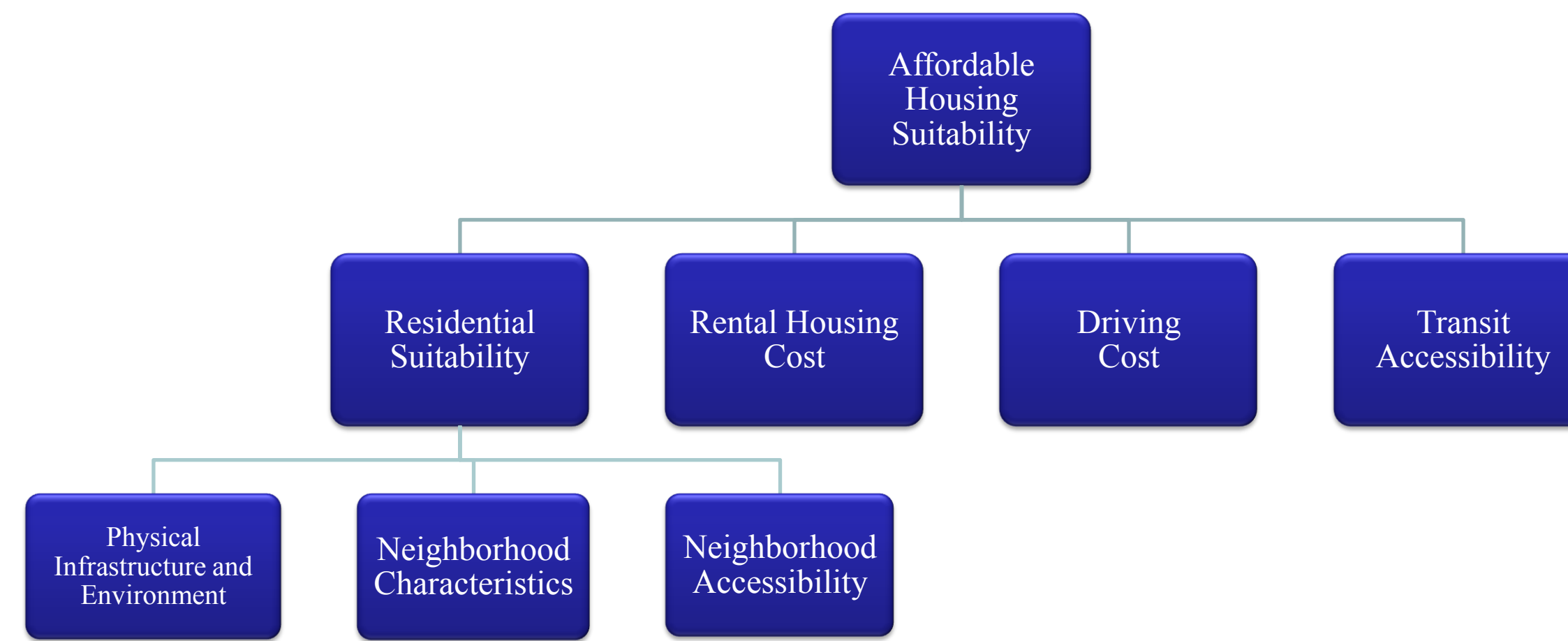
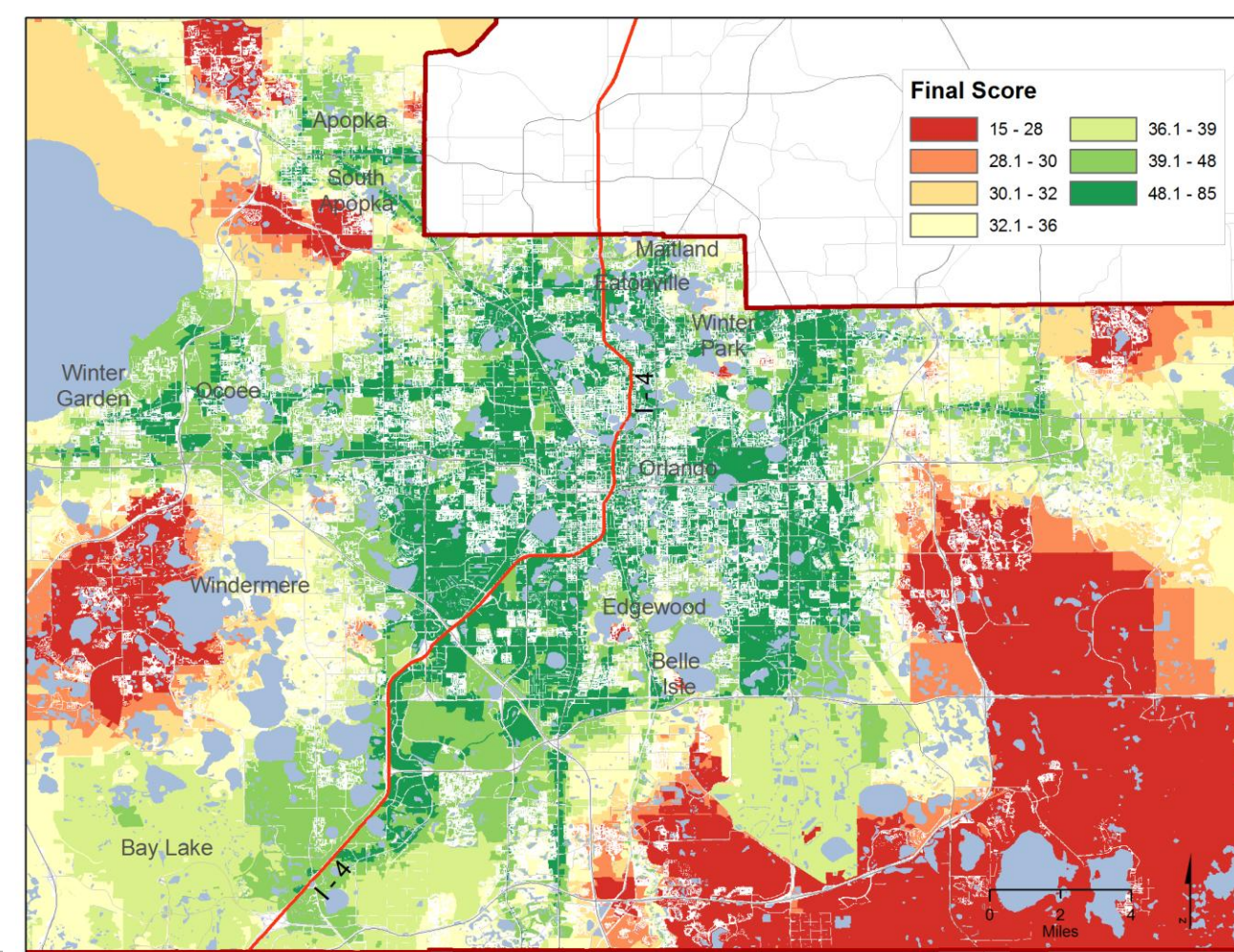


IDENTIFYING SUITABLE LOCATIONS FOR THE DEVELOPMENT AND PRESERVATION OF AFFORDABLE HOUSING IN FLORIDA: THE AHS MODEL

ABSTRACT

The Shimberg Center has developed a GIS-based decision tool that identifies land suitable for affordable housing development and preservation, with the ability to identify locations at scales from individual sites to regional development areas

The AHS Suitability Model: An Example for Orange County, FL



ANALYTICAL APPROACH AND METHODS

Scoring:

Each component is assigned a score between 0 and 25 where: 0 is not suitable and 25 is highly suitable. This reflects relationships among a set of spatial characteristics; the relationships are relative to local conditions, there are no thresholds or benchmarks.

Evaluating the Assisted Housing Inventory:

Each property in the Assisted Housing Inventory (rental housing developments receiving assistance from federal, state, and local government programs) in Orange County was assigned a score based on the average of the AHS result in an area defined by a radius of 400 meters from the property location.

CONCLUSIONS

- The final scores were around 55% of the highest possible score. This figure is similar to the average for parcels for the entire County.
- Infrastructure and Environmental Characteristics and Transit Accessibility were low when compared with the highest score possible but in both cases the Assisted Housing Inventory was above the average for parcels in the entire county.
- There is a trade-off between accessibility and social characteristics.
- Central municipalities have higher scores, especially in terms of driving cost and transit accessibility. However, they have lower Neighborhood Characteristics scores
- HUD properties tend to have higher scores, mainly because of high Transit and Neighborhood Accessibility and low Rental Costs.
- FHFC properties tend to have higher Neighborhood Characteristics scores but low Transit and Neighborhood Accessibility.
- RD properties tend to have low Transit and Neighborhood Accessibility but low Rental Costs.

PURPOSE OF THE STUDY

The model prioritizes characteristics based on input from local planners, housing experts, and the community. Maps show where positive attributes overlap and conflicting characteristics coincide.

The tool works in a GIS environment that allows the overlaying of spatial data representing characteristics important to the location of affordable housing, such as:

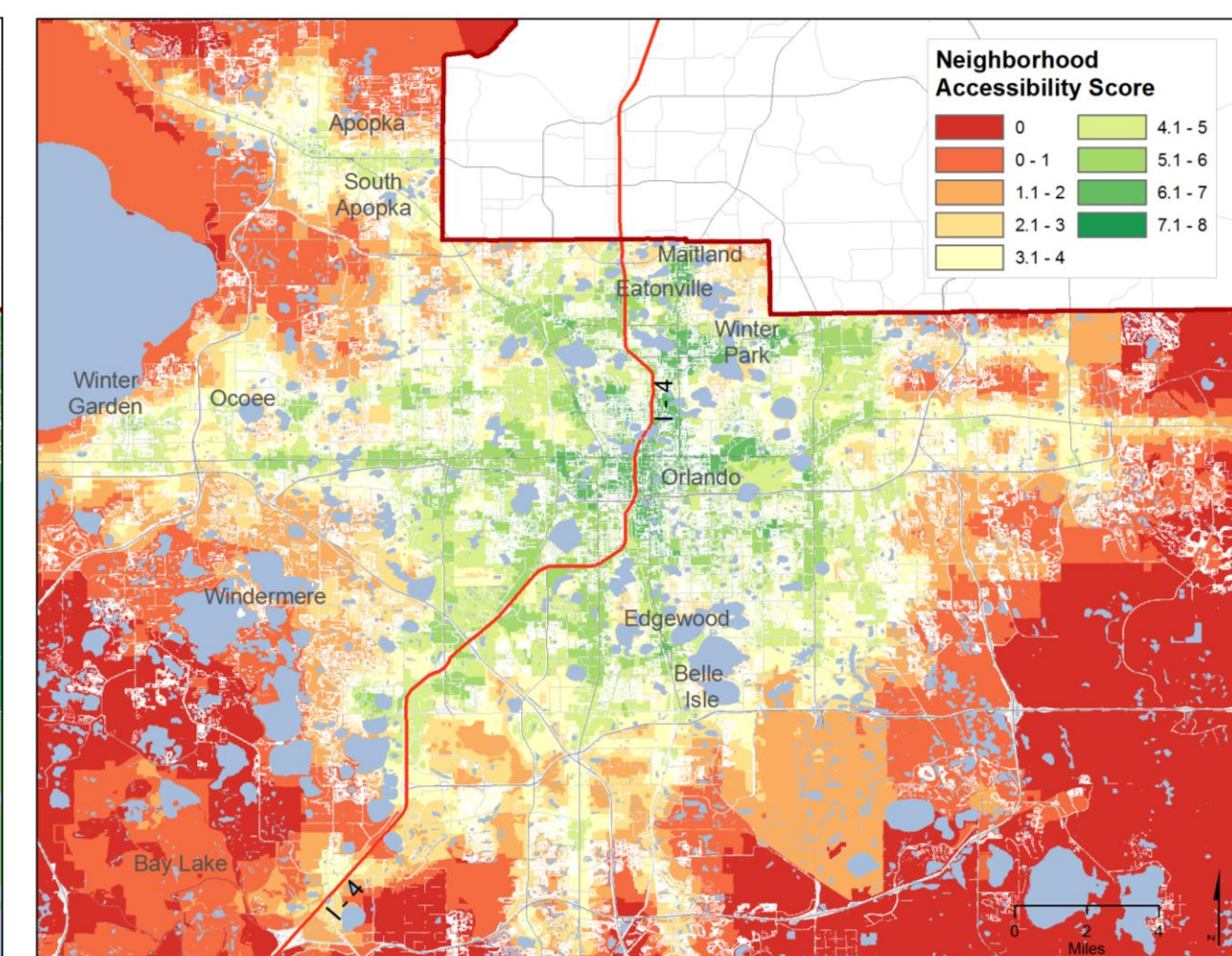
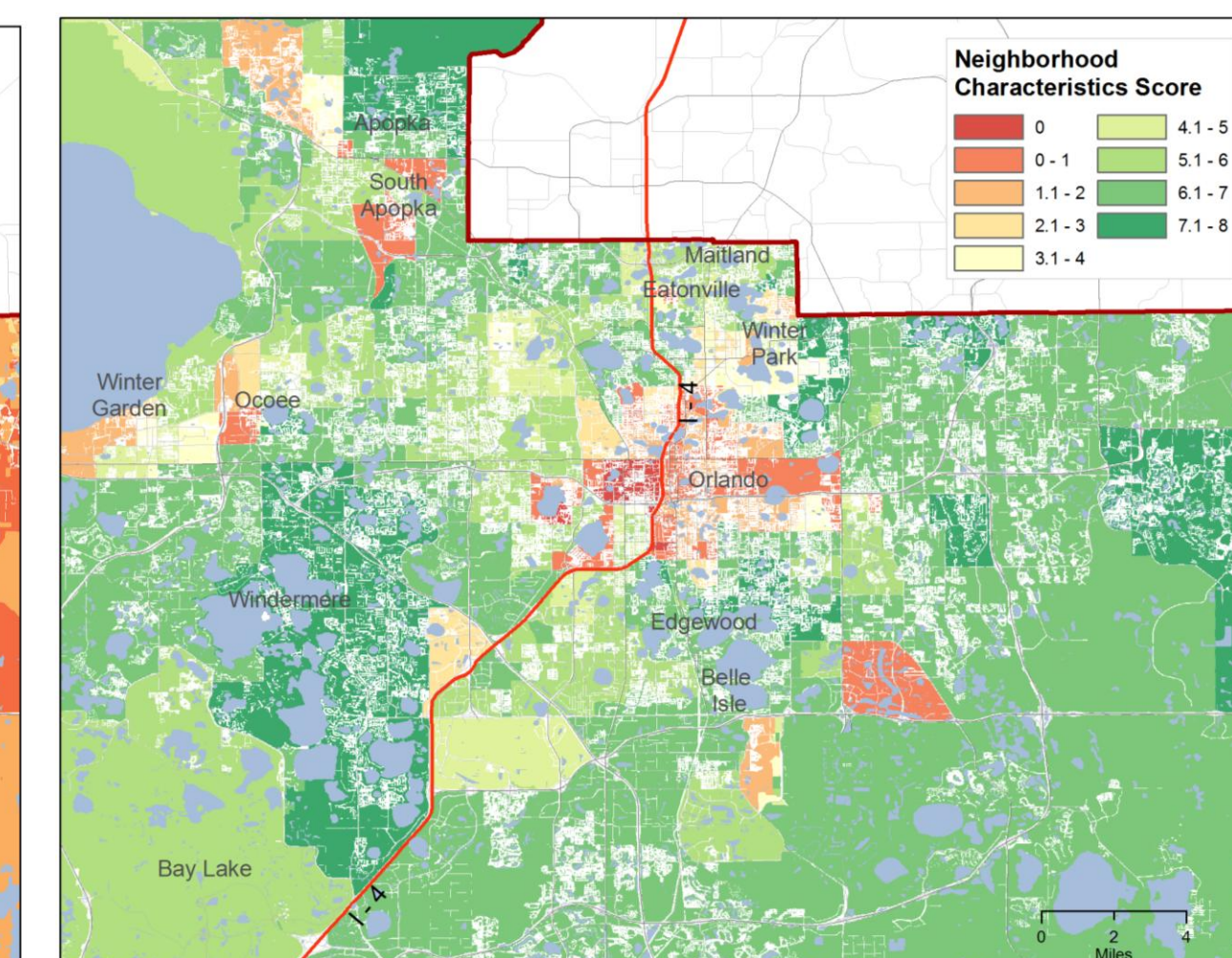
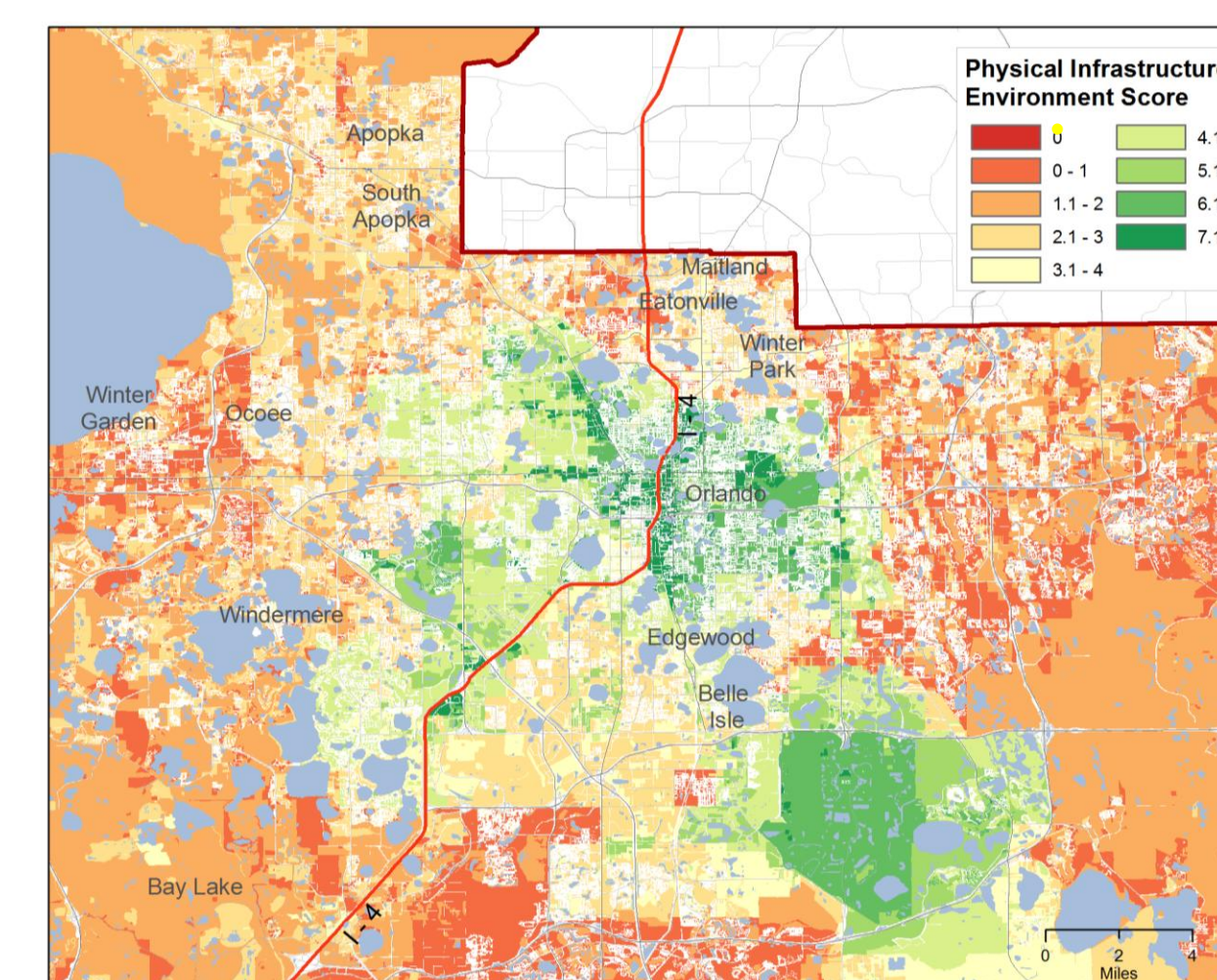
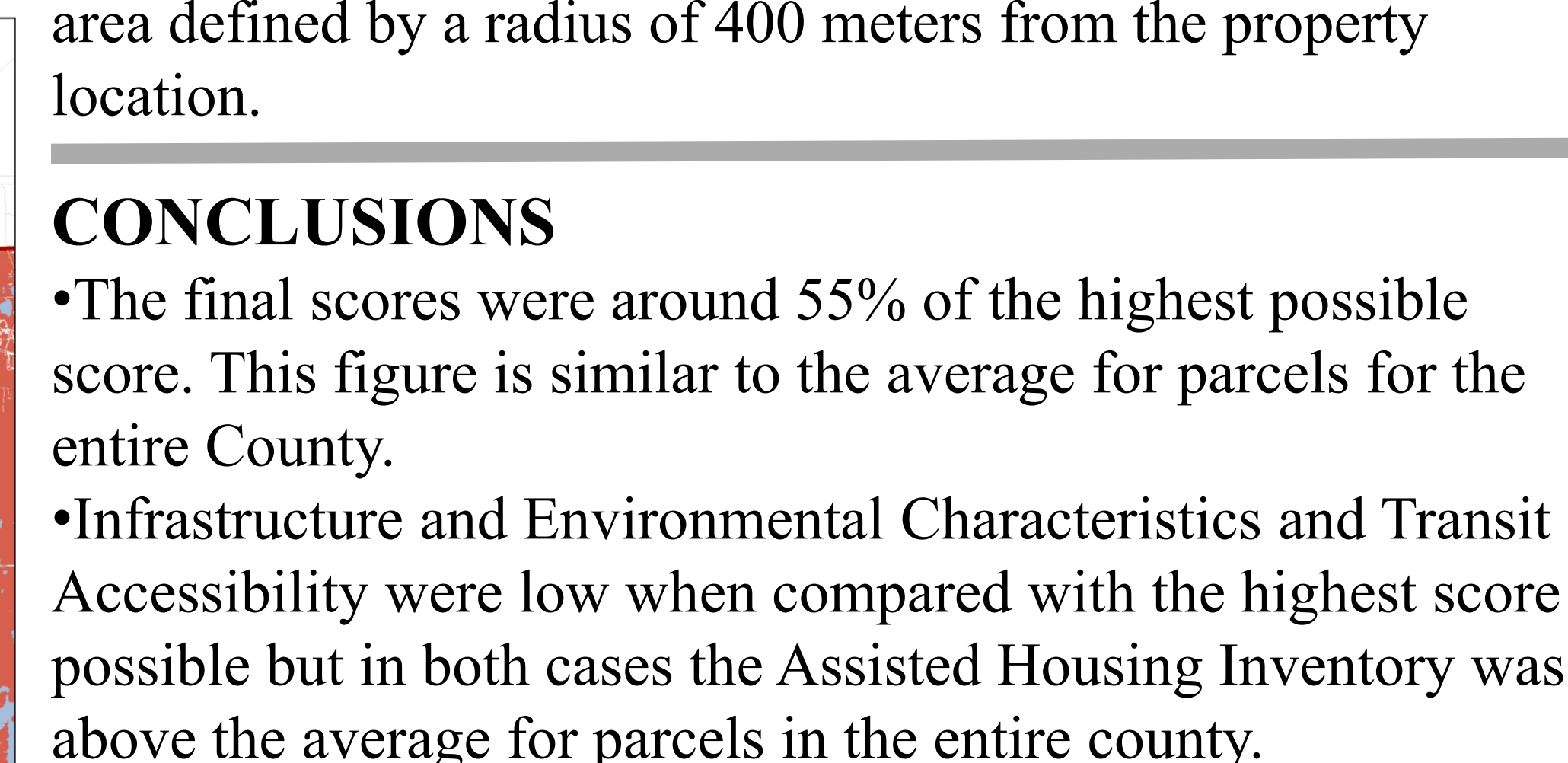
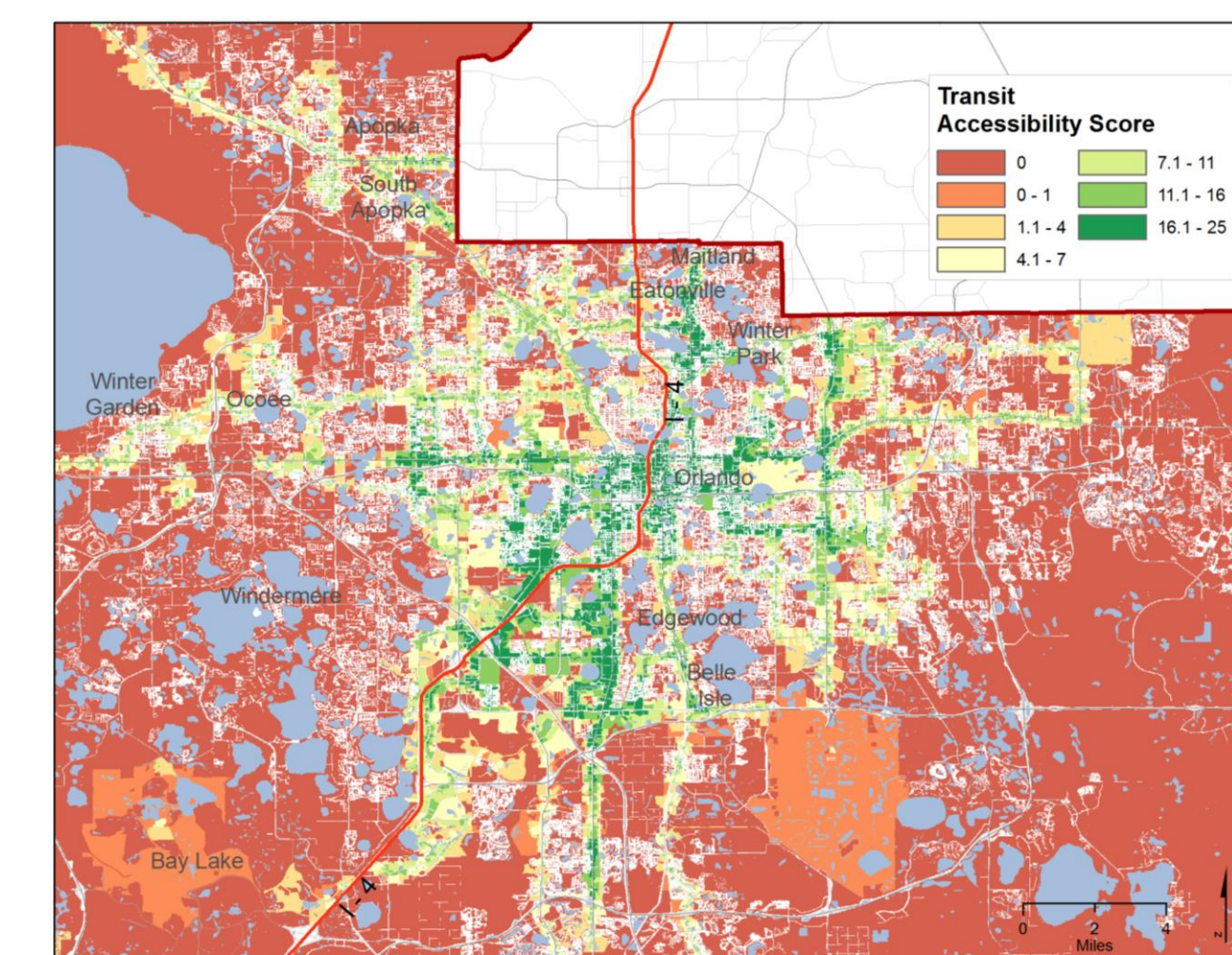
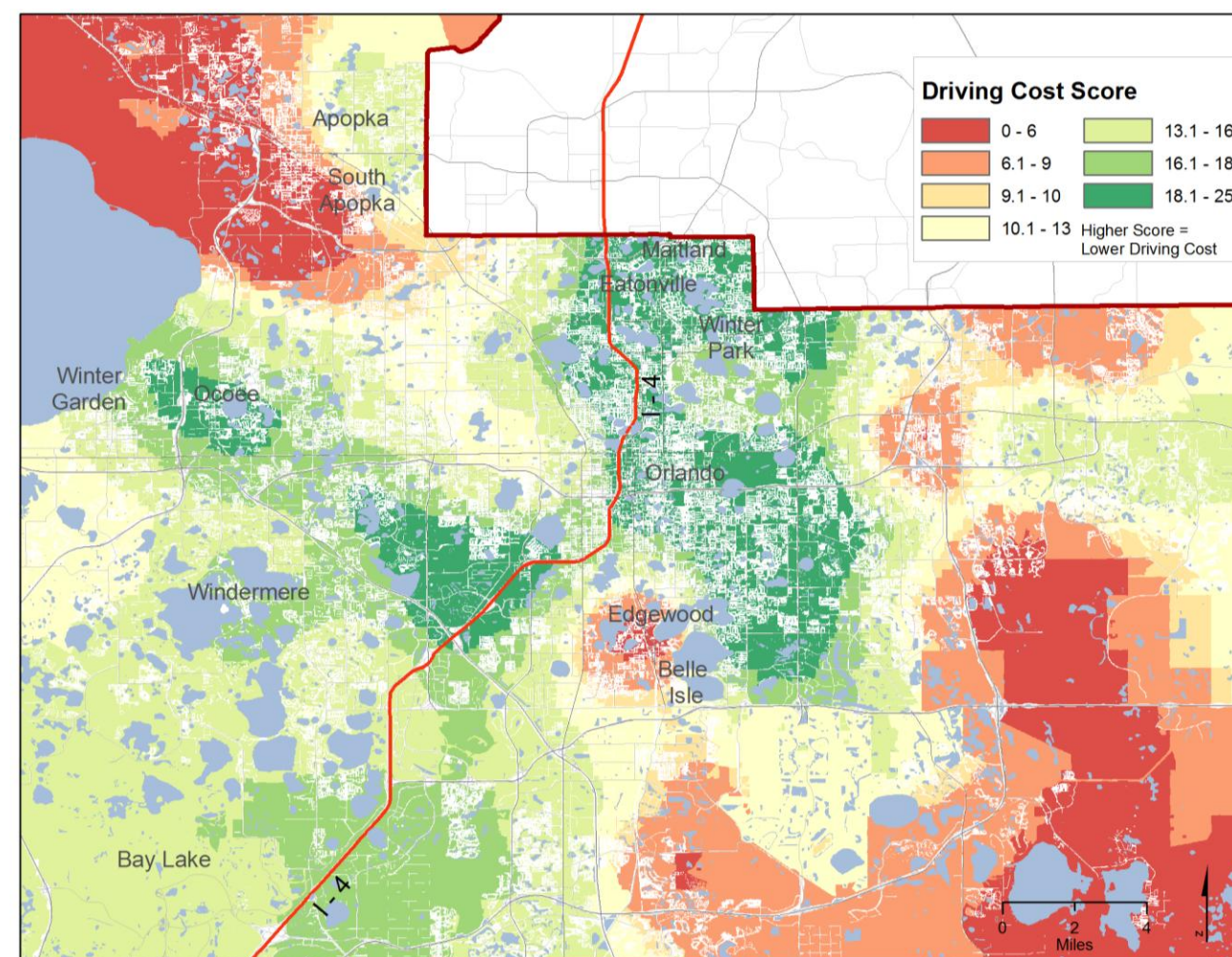
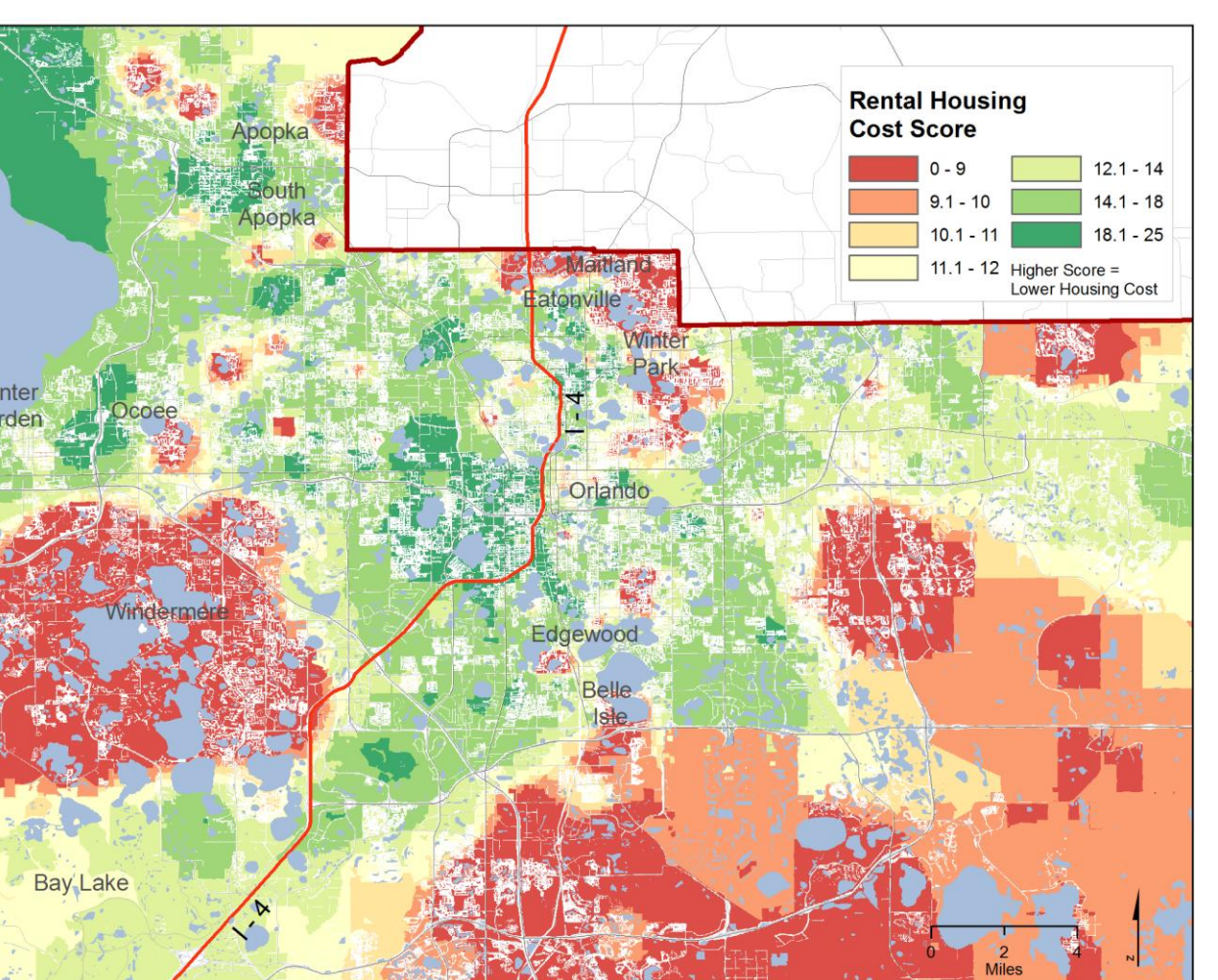
Residential Suitability

Physical Infrastructure and Environment
Neighborhood Social Characteristics
Neighborhood Accessibility to Social Services

Rental Housing Costs

Driving Costs

Transit Accessibility

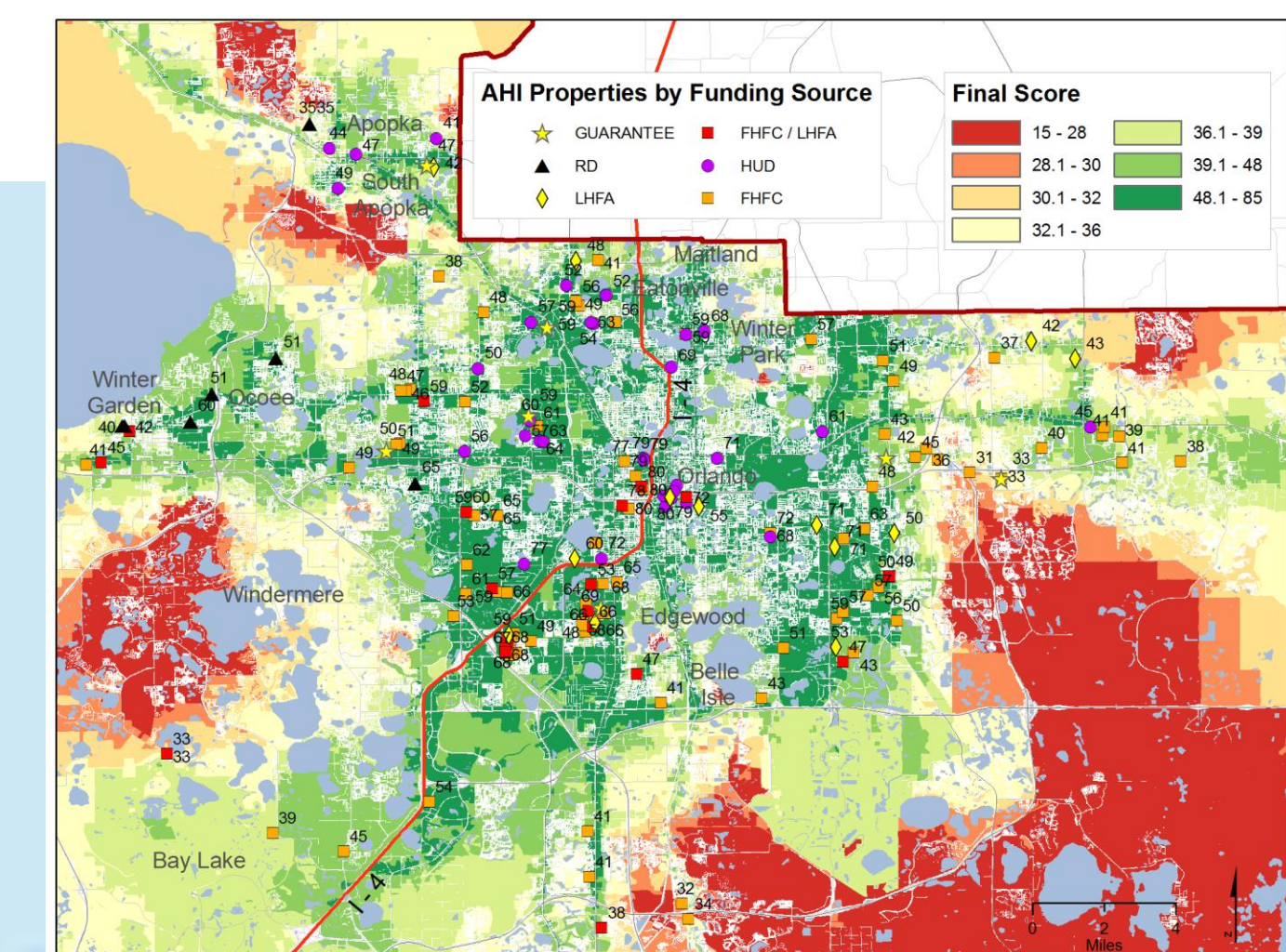


Evaluating the Assisted Housing Inventory using the AHS Model

	Infrastructure + Environmental Characteristics (I)	Neighborhood Characteristics (N)	Neighborhood Accessibility (NA)	Total Residential Suitability Score (I+N+NA=R)	Rental Cost (R2)	Driving Cost (D)	Transit Accessibility (T)	Final Score = R1+R2+D+T
Winter Park (7)	2.5	5.5	5.9	13.9	16.6	19.5	8.8	58.8
Orlando (142)	3.9	5.6	4.9	14.5	16.3	16.5	9.6	56.8
Ocoee (2)	2.3	4.6	4.0	10.9	16.9	18.0	4.9	50.8
Winter Garden (6)	1.5	3.0	4.0	8.5	17.7	14.9	3.5	44.6
Apopka (8)	2.9	4.1	4.1	11.1	17.4	10.0	3.9	42.4
Maitland (1)	1.1	7.0	3.4	11.5	12.1	16.9	0.0	40.6
Windermere (2)	1.8	6.0	0.6	8.4	8.9	15.0	0.3	32.5

	Infrastructure + Environmental Characteristics (I)	Neighborhood Characteristics (N)	Neighborhood Accessibility (NA)	Total Residential Suitability Score (I+N+NA=R)	Rental Cost (R2)	Driving Cost (D)	Transit Accessibility (T)	Final Score = R1+R2+D+T
HUD (33)	4.6	4.5	5.9	14.9	17.8	16.7	13.4	62.9
FHFC + LHFA (23)	3.8	5.3	4.7	13.8	15.7	17.0	11.4	58.0
LHFA (13)	4.3	4.5	5.0	13.7	16.4	17.3	9.5	56.9
FHFC (82)	3.4	6.2	4.5	14.0	15.5	16.0	6.9	52.5
Guarantee (8)	3.5	5.7	4.7	13.9	17.2	14.3	6.8	52.2
RD (9)	2.1	3.6	4.1	9.8	17.6	14.7	4.3	46.4

	Infrastructure + Environmental Characteristics	Neighborhood Characteristics (N)	Neighborhood Accessibility (NA)	Total Residential Suitability Score (I+N+NA=R)	Rental Cost (R2)	Driving Cost (D)	Transit Accessibility (T)	Final Score = R1+R2+D+T
168 properties, AVERAGE SCORE	3.7	5.4	4.8	13.9	16.3	16.2	8.9	55.3
168 properties, MEDIAN SCORE	3.2	6.0	5.0	14.3	16.6	16.8	6.6	55.6
Entire County, AVERAGE PARCEL SCORE	3.1	6.3	3.2	13.4	13.1	13.9	3.7	51.3



SOURCES

Banai, R. (1993). Fuzziness in geographic information systems: Contributions from the analytic hierarchy process. *International Journal of Geographic Information Science*, 7(4), 315-329.
 Bojórquez-Tapia, L. A., Díaz-Mondragón, S., & Ezcurra, E. (2001). GIS-based approach to participatory decision making and land suitability assessment. *International Journal of Geographic Information Science*, 15(2), 129-151.
 Carr, M. H., & Zwick, P. D. (2007). *Smart land-use analysis: The LUCIS model land-use conflict identification strategy*. Redlands, CA: ESRI Press.
 Harris, B., & Batty, M. (1993). Locational models, geographic information and planning support systems. *Journal of Planning Education and Research*, 12, 184-198.
 Malezewski, J. (2006). GIS-based multicriteria decision analysis: A survey of the literature. *International Journal of Geographic Information Science*, 20(7), 703-726.

Acknowledgement:

Blanco, Andres G agblanco@ufl.edu, O'Dell, William willo@ufl.edu, Bejleri, Ilir ilir@ufl.edu, Larsen, Kristin klarsen@ufl.edu, Steiner, Ruth rsteiner@dep.ufl.edu, Arafat, Abdulnaser nasaraafat@dep.ufl.edu, Kramer, Eric ekramer@ufl.edu, Seymour, Eric eseymour@gmail.com, Thompson, Elizabeth liz.thompson@dep.ufl.edu, Wang, Vince wrvince@ufl.edu, Zou, Yuyang yantazy@ufl.edu