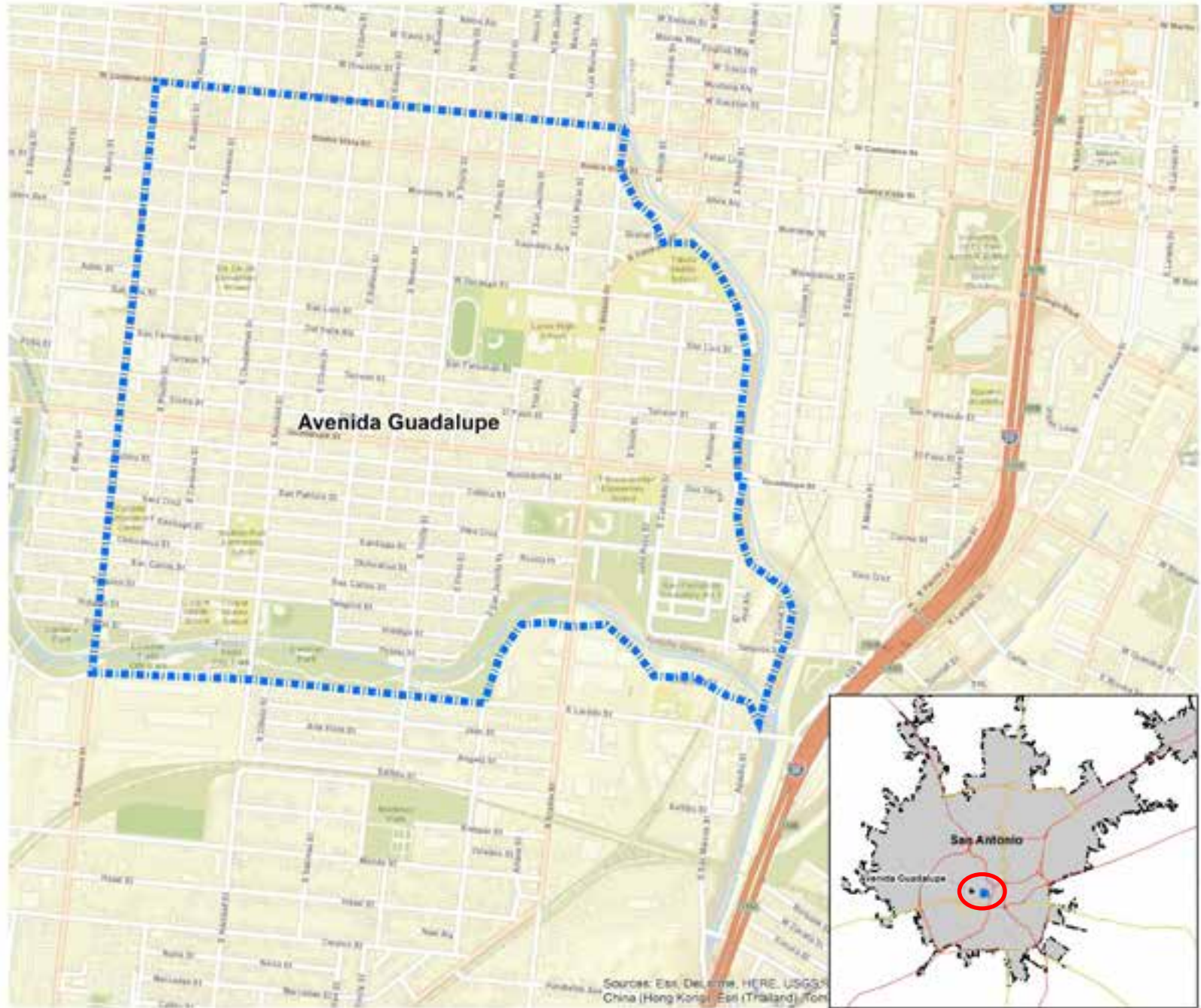


# Site Suitability for Active Living: Overlay & Scoring of Vector Data

Presenter: Nishma Naina Proma  
Graduate Student  
Dept. of Urban & Regional Planning  
University of Texas at San Antonio



Avenida Guadalupe, San Antonio, Texas

Source: ESRI



Source: Active Living Research



Source: Pearl





1



2



Guadalupe Plaza. Source: Google Map



3

- 1. Amistad Park, Source: Google Map
- 2. Association Building.  
Source: Avenida Guadalupe Association
- 3. Guadalupe Catholic Church.  
Source: Google Map



Paintings on a Neighborhood Bakery. Source: Google Map



Our Lady of Guadalupe  
Photo: Gretchen, T

# Objectives

- Mapping the active living suitability
- Identifying if it is equally distributed

# How to get there?

*Step 1*

Selection of Indicators for Active Living



*Step 2*

Scoring Neighborhood Blocks by Proximity to Indicators



*Step 3*

Calculation of Cumulative Suitability Score for Each Block



*Step 4*

Delineate the Areas According to Suitability for Active Living



*Step 5*

Overlay of Composite Score with Demographic Data

Step 1

Step 2

Step 3

Step 4

Step 5

## Selection of Indicators for Active Living

Indicators	<i>Suitable (Score 1)</i>	<i>Not Suitable (Score 0)</i>
1. Sidewalk	Adjacent to Block	Not Adjacent to Block
2. Bicycle Track	Adjacent to Block	Not Adjacent to Block
3. Recreation Centre	Within 5 Minutes Walking Distance	Beyond 5 Minutes Walking Distance
4. Elementary School	Within 5 Minutes Walking Distance	Beyond 5 Minutes Walking Distance

Step 1

> **Step 2** >

Step 3

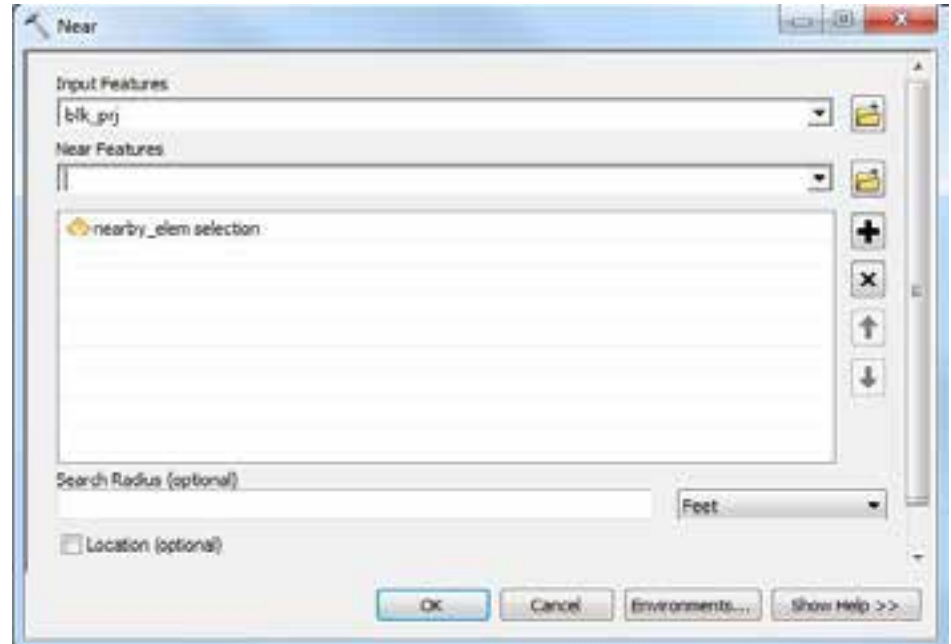
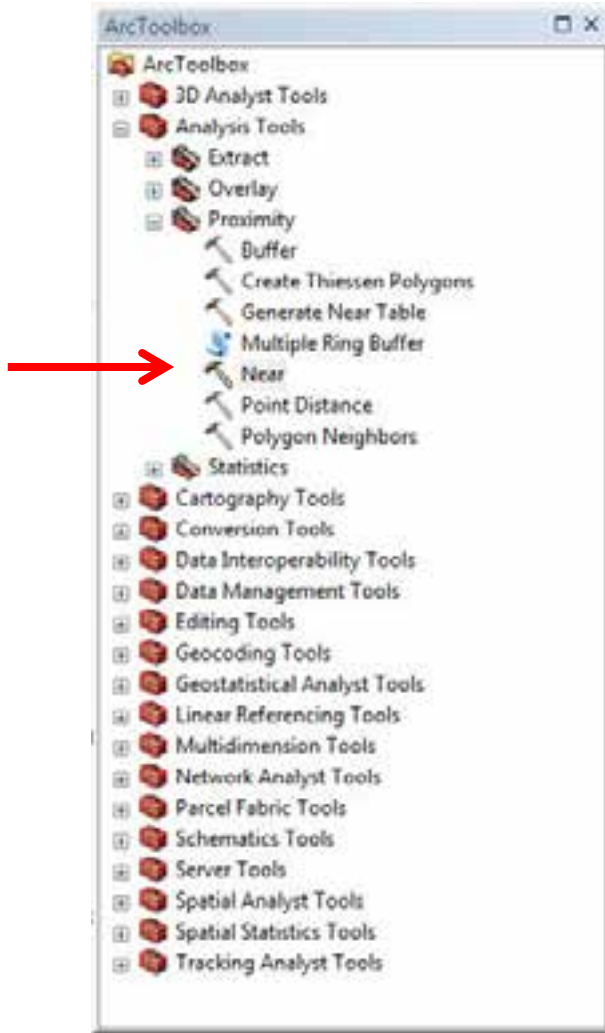
>

Step 4

>

Step 5

# Scoring Neighborhood Blocks by Proximity to Indicators





Step 1

> **Step 2** >

Step 3

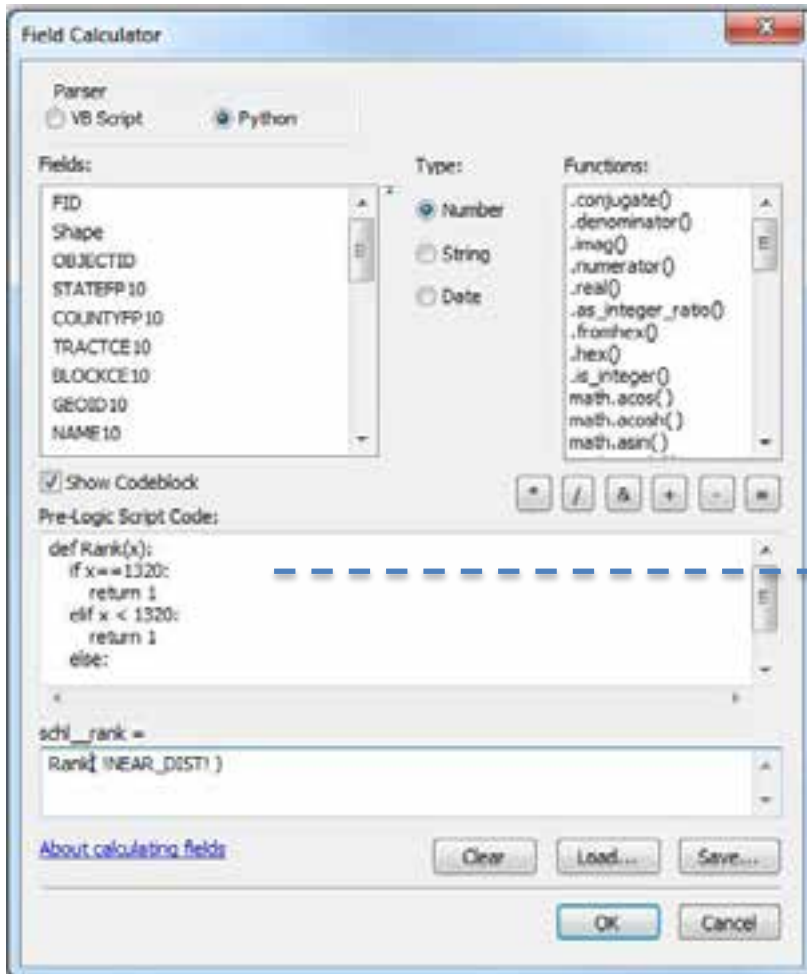
>

Step 4

>

Step 5

## Scoring Neighborhood Blocks by Proximity to Indicators (cont...)



//ranking near values

```
def Rank(x):  
    if x==1320: //1320 ft = ¼ mile  
        return 1  
    elif x < 1320:  
        return 1  
    else:  
        return 0
```

Step 1

> **Step 2** >

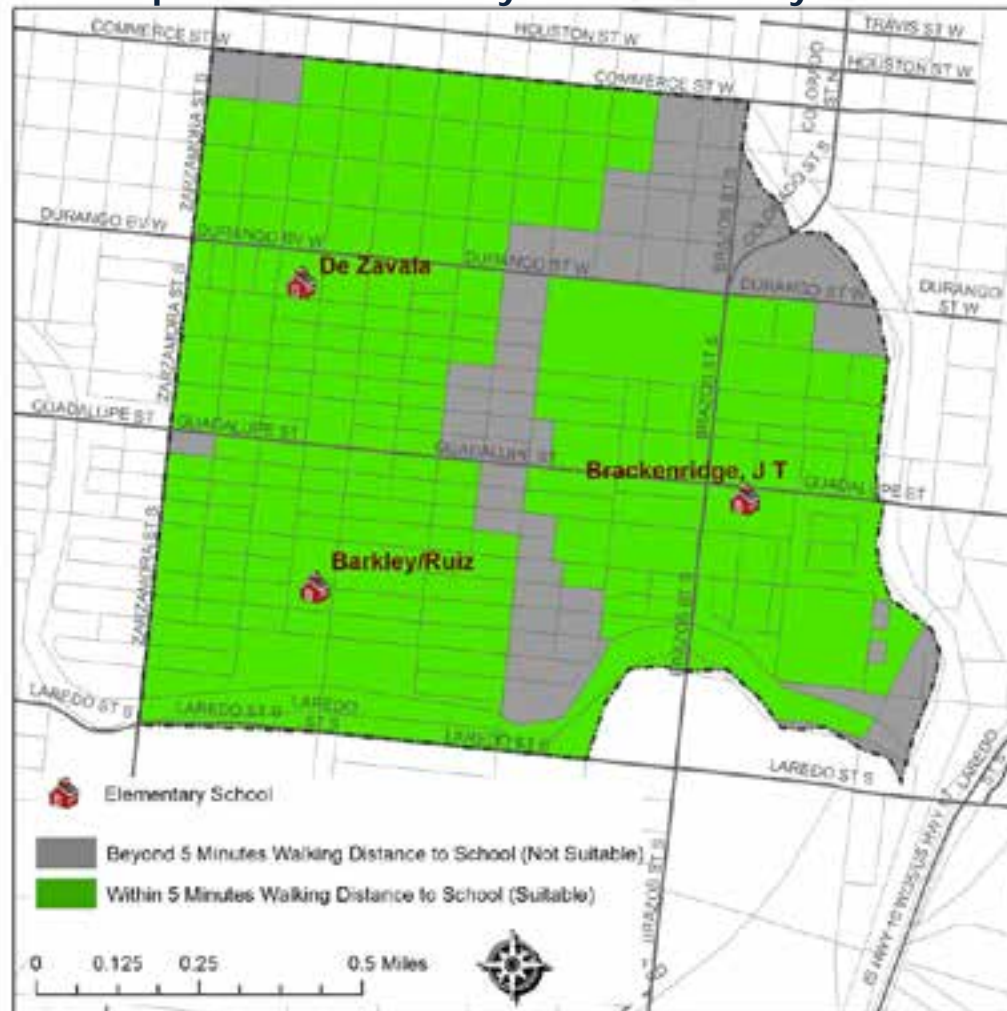
Step 3

> Step 4

> Step 5

## Scoring Neighborhood Blocks by Proximity to Indicators (cont...)

### Component : Proximity to Elementary School



Source : TIGER, TEA

Step 1

> **Step 2** >

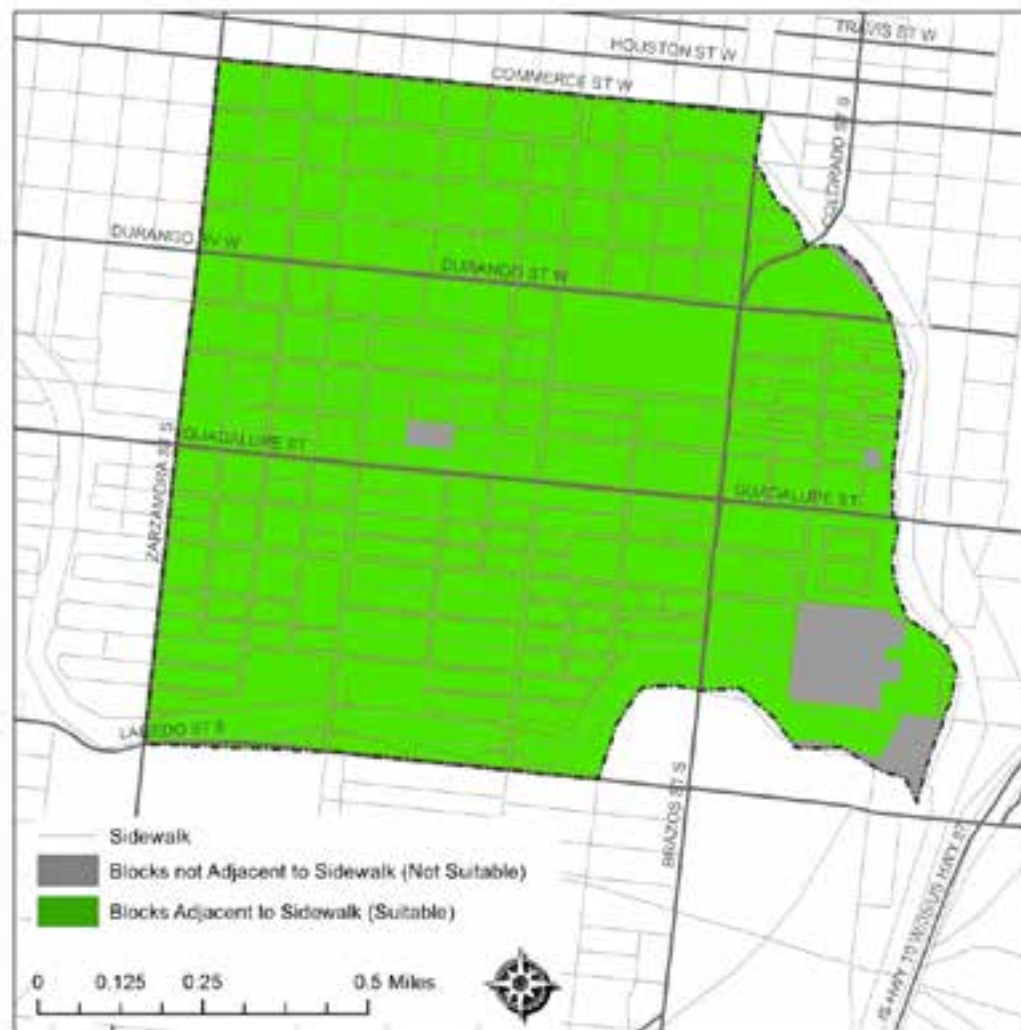
Step 3

> Step 4

> Step 5

## Scoring Neighborhood Blocks by Proximity to Indicators (cont...)

Component : Proximity to Sidewalks



Source : TIGER, Alamo Area MPO





Step 1

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Step 2

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Step 3

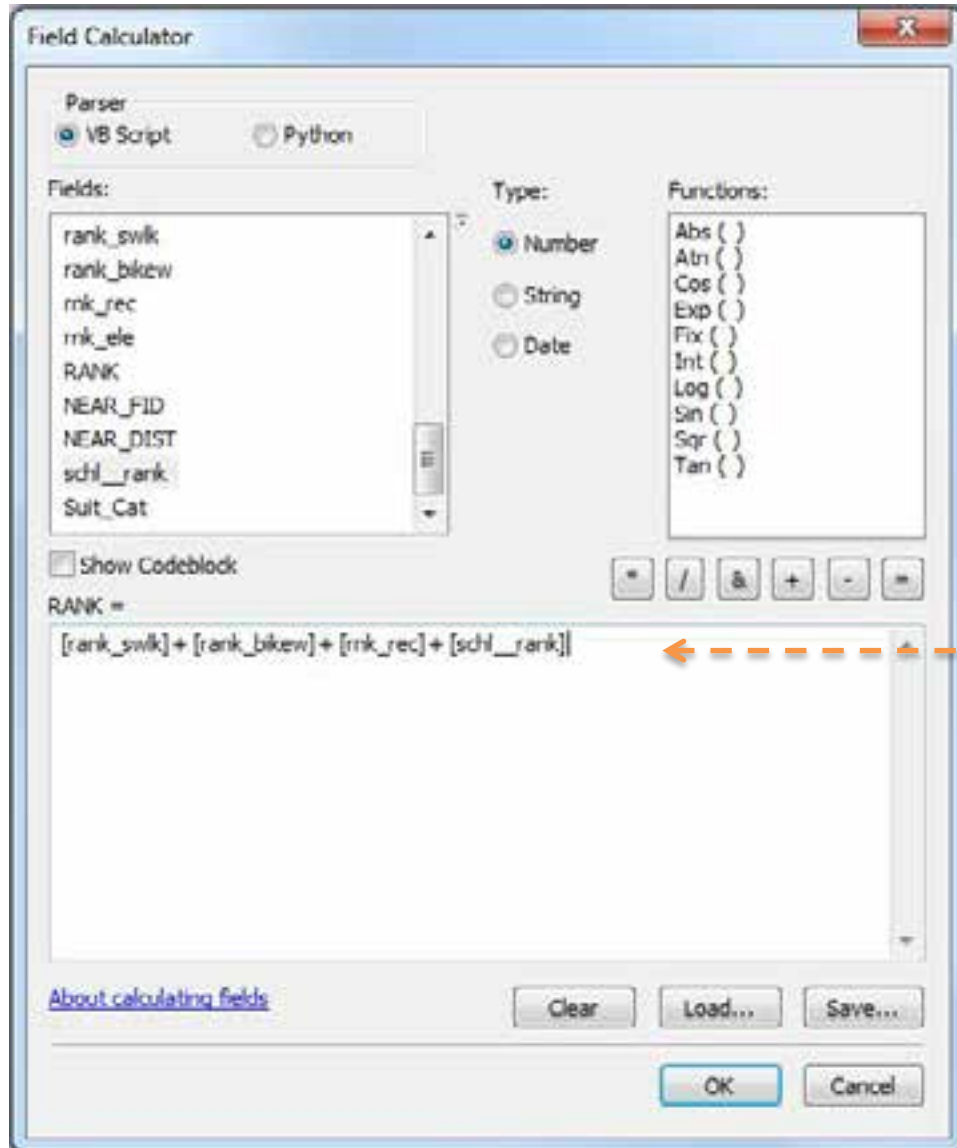
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Step 4

>

Step 5

## Calculation of Cumulative Suitability Score



(Adding up all individual suitability scores)

Step 1 >

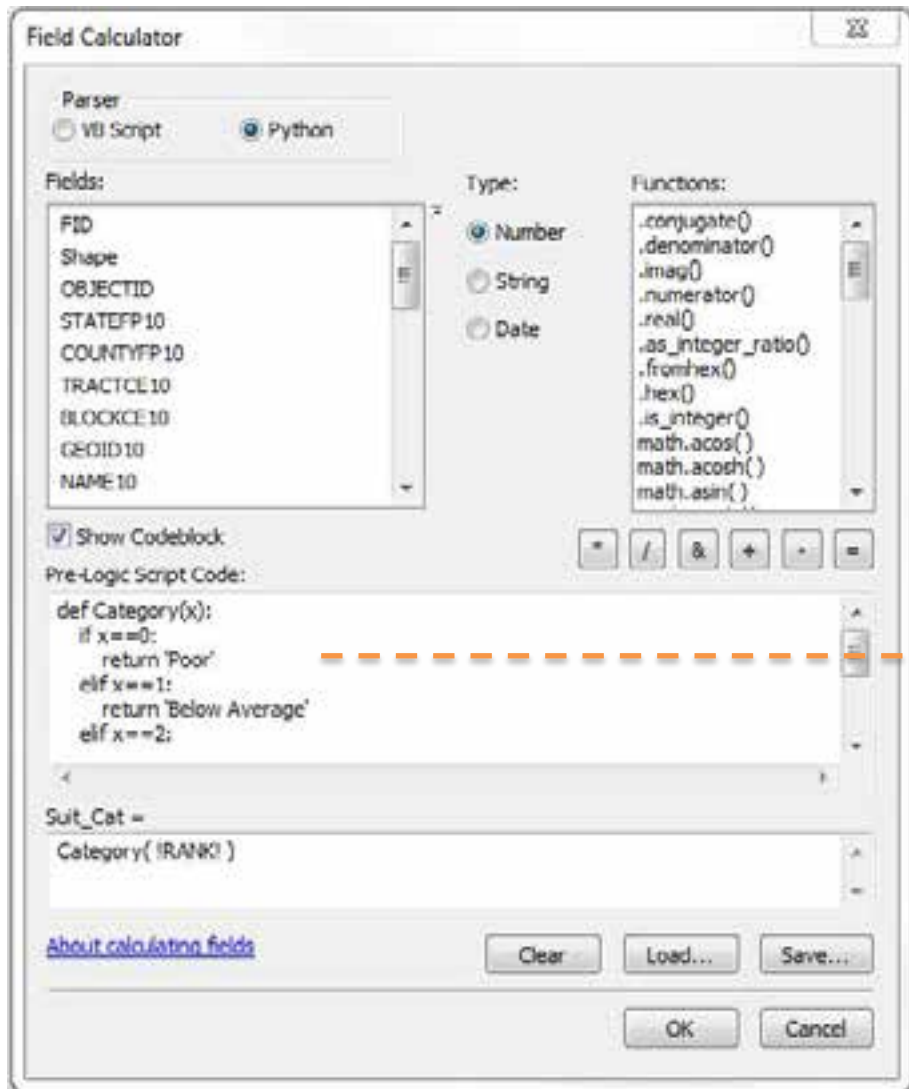
Step 2 >

**Step 3** >

Step 4 >

Step 5

## Calculation of Cumulative Suitability Score (cont...)



//category from composite rank codeblock

```
def Category(x):  
    if x==0:  
        return 'Poor'  
    elif x==1:  
        return 'Below Average'  
    elif x==2:  
        return 'Average'  
    elif x==3:  
        return 'Good'  
    else:  
        return "Excellent"
```





Step 1

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Step 2

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Step 3

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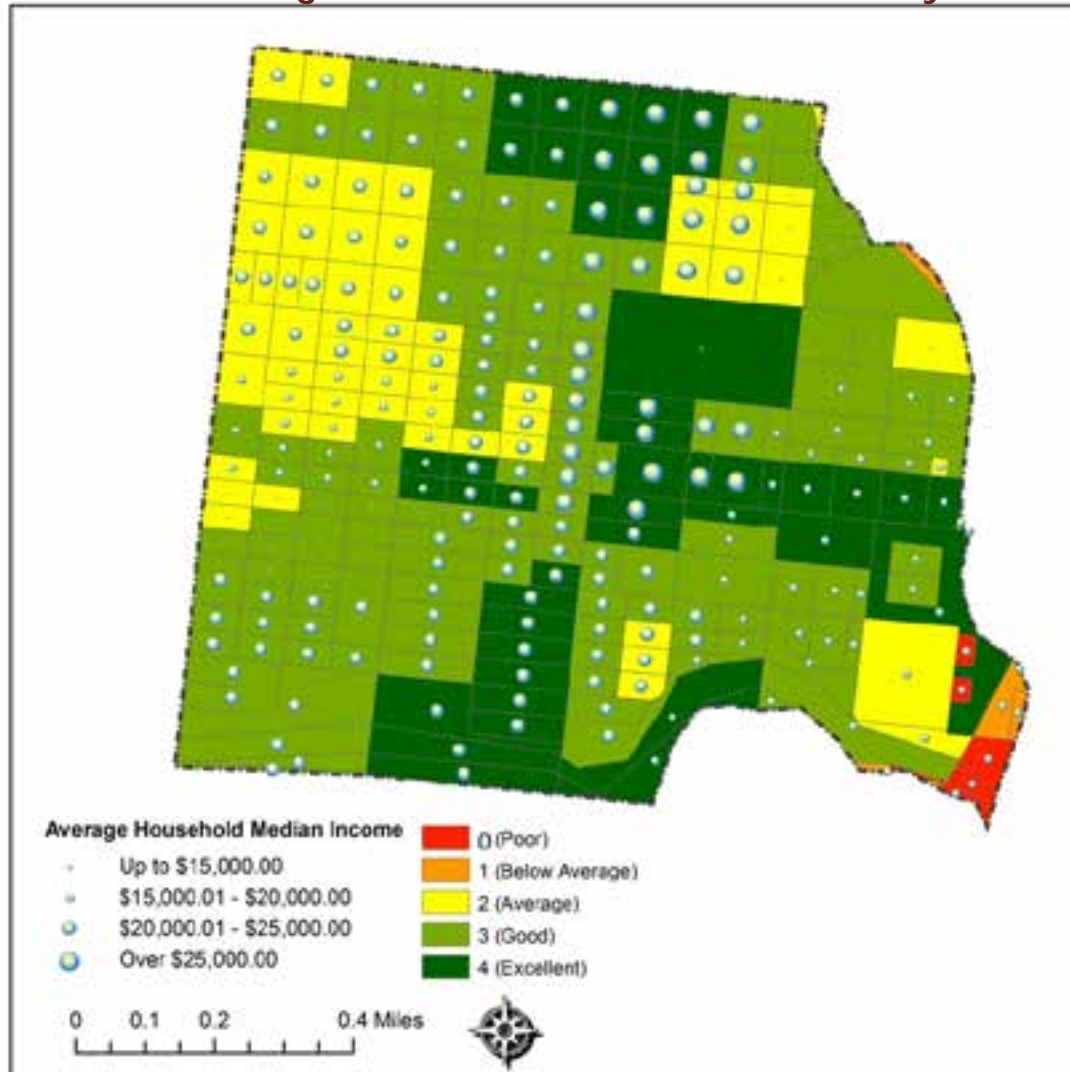
Step 4

>

Step 5

# Overlay of Composite Score with Demographic Data

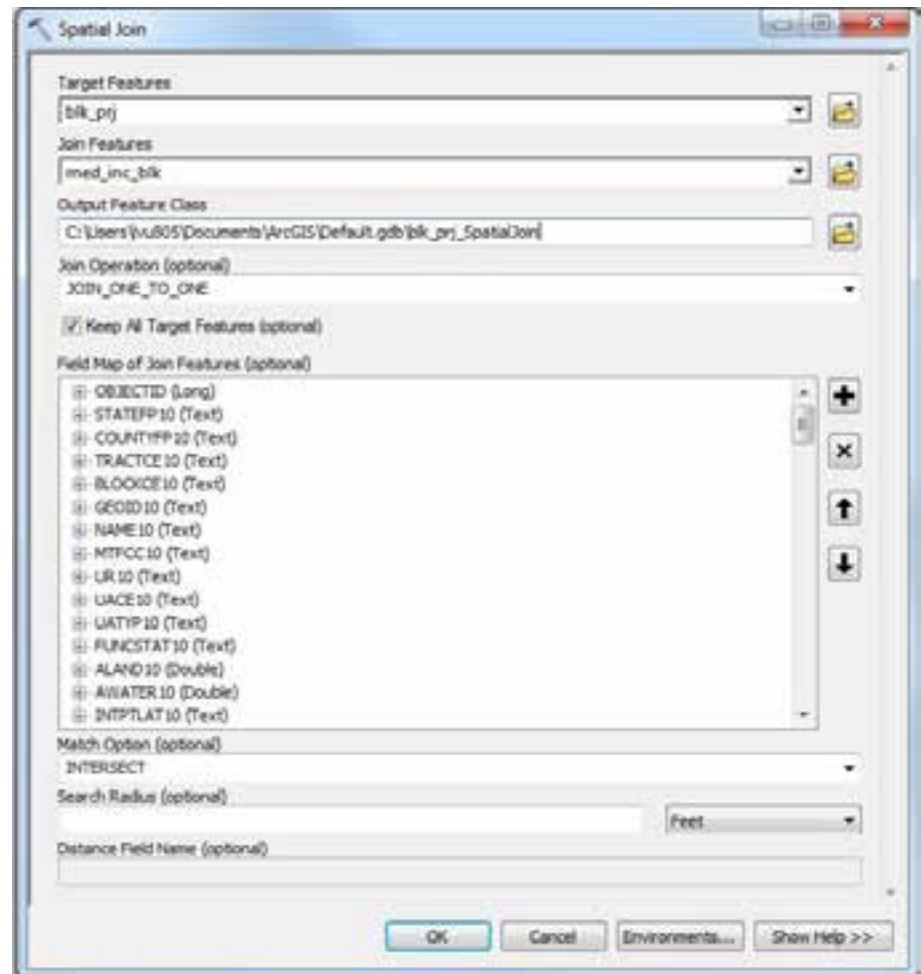
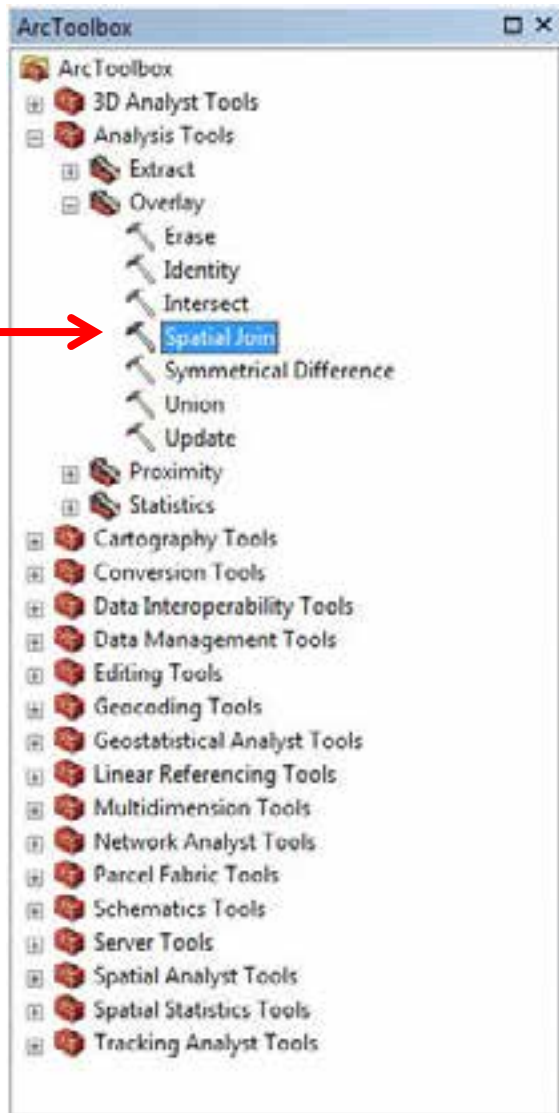
Annual Average Household Median Income by Block



Source : US Census

Step 1 > Step 2 > Step 3 > Step 4 > **Step 5**

## Overlay of Composite Score with Demographic Data (cont...)



Step 1

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Step 2

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Step 3

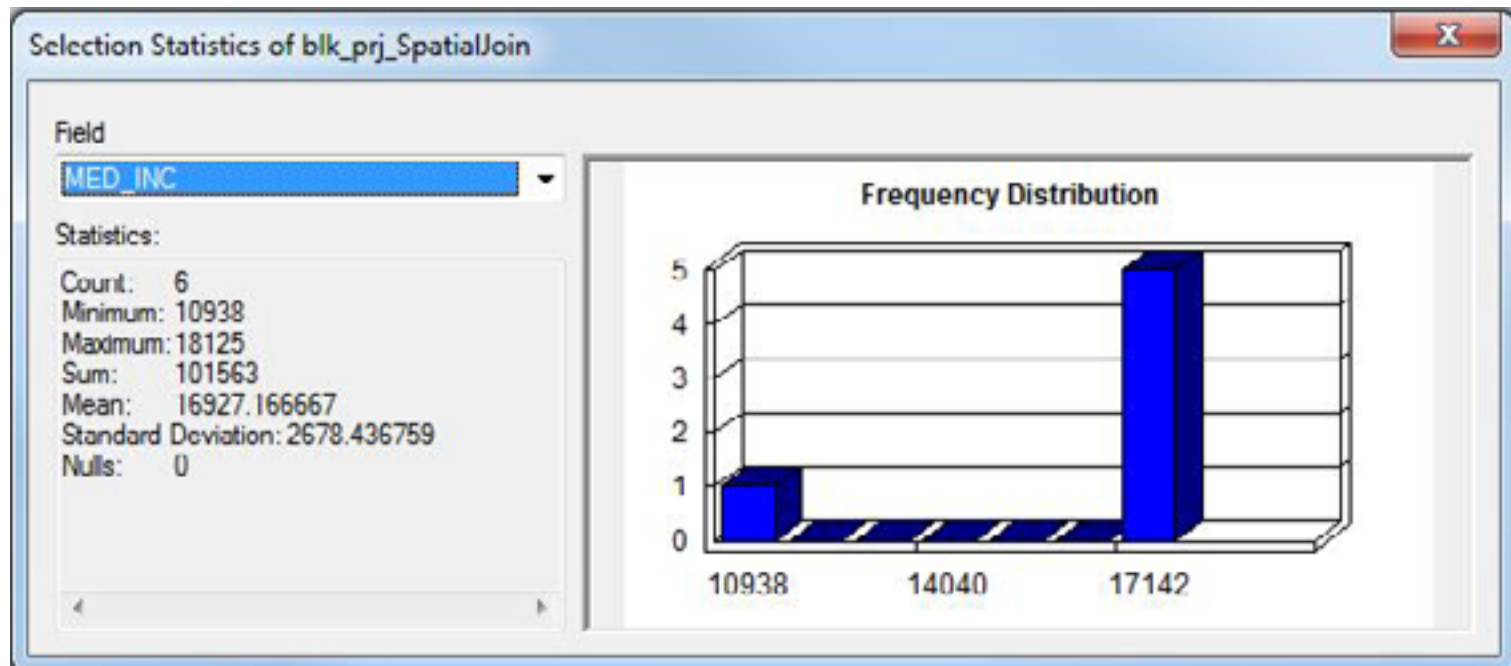
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Step 4

>

Step 5

## Overlay of Composite Score with Demographic Data (cont...)



Step 1 >

Step 2 >

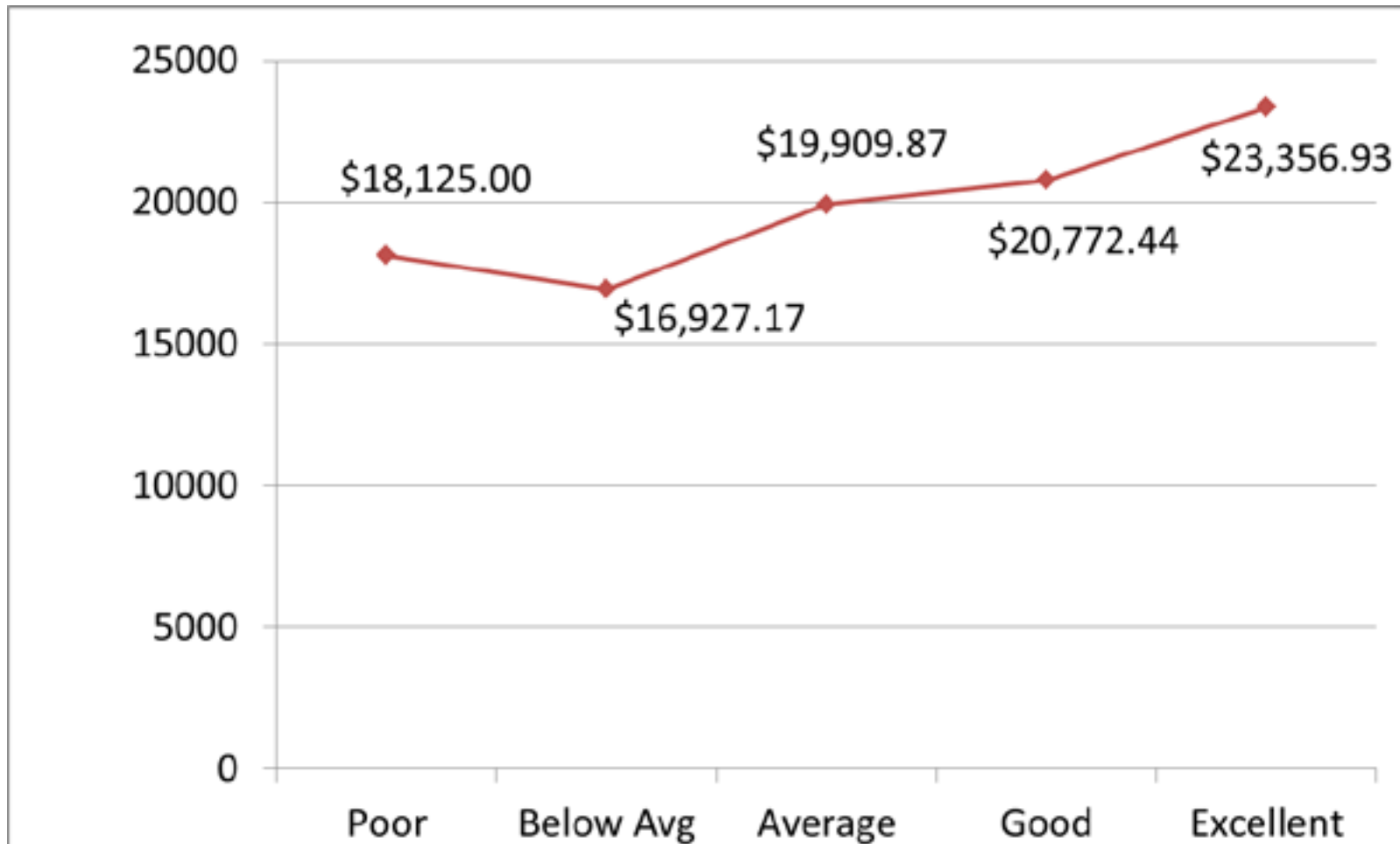
Step 3 >

Step 4 >

Step 5

## Overlay of Composite Score with Demographic Data (cont...)

Average Median Income vs Suitability Score



Source : US Census

Step 1

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Step 2

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Step 3

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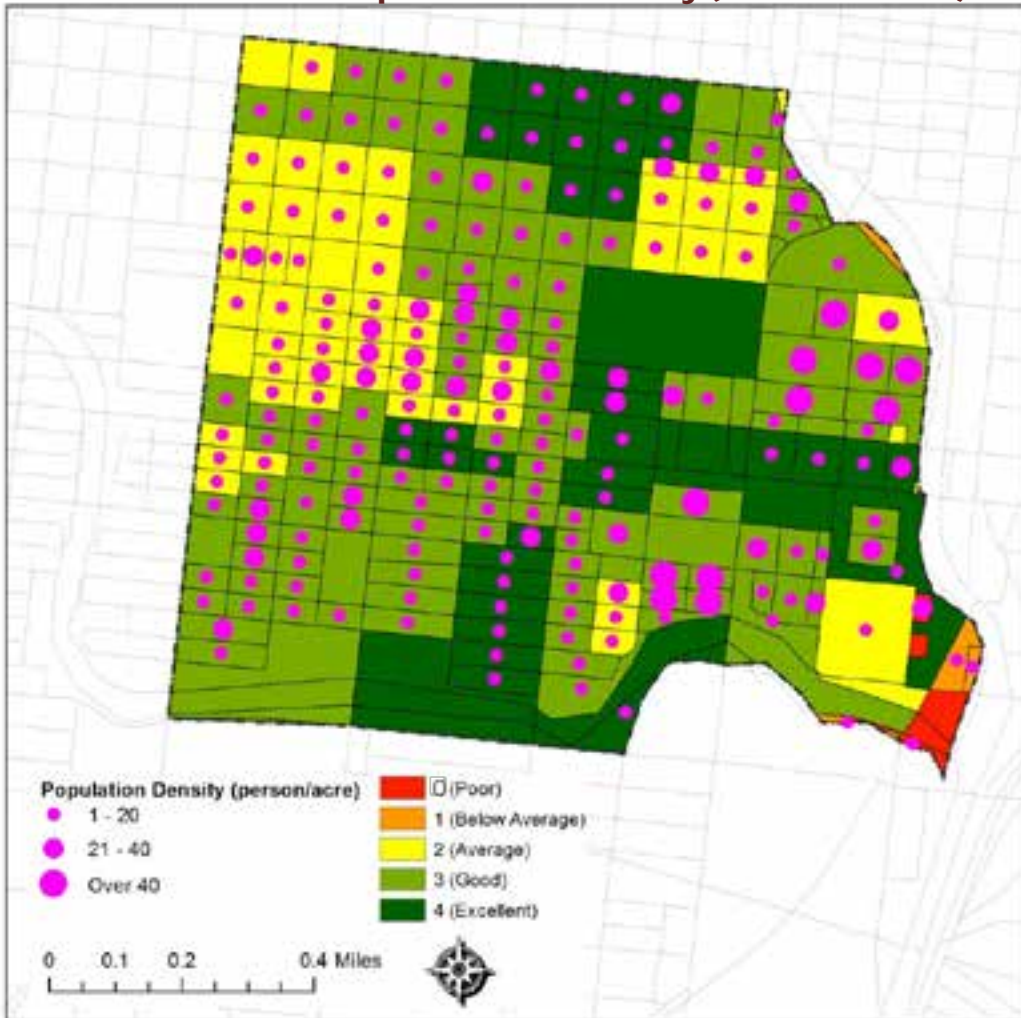
Step 4

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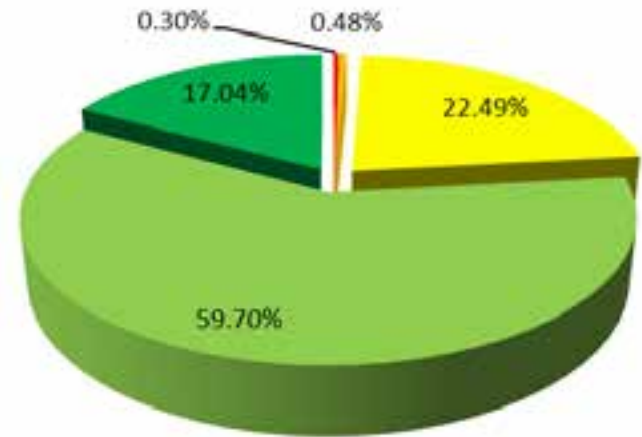
Step 5

# Overlay of Composite Score with Demographic Data (cont...)

## Distribution of Population Density(Person/acre)



Source : US Census



Source : US Census



Step 1

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Step 2

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Step 3

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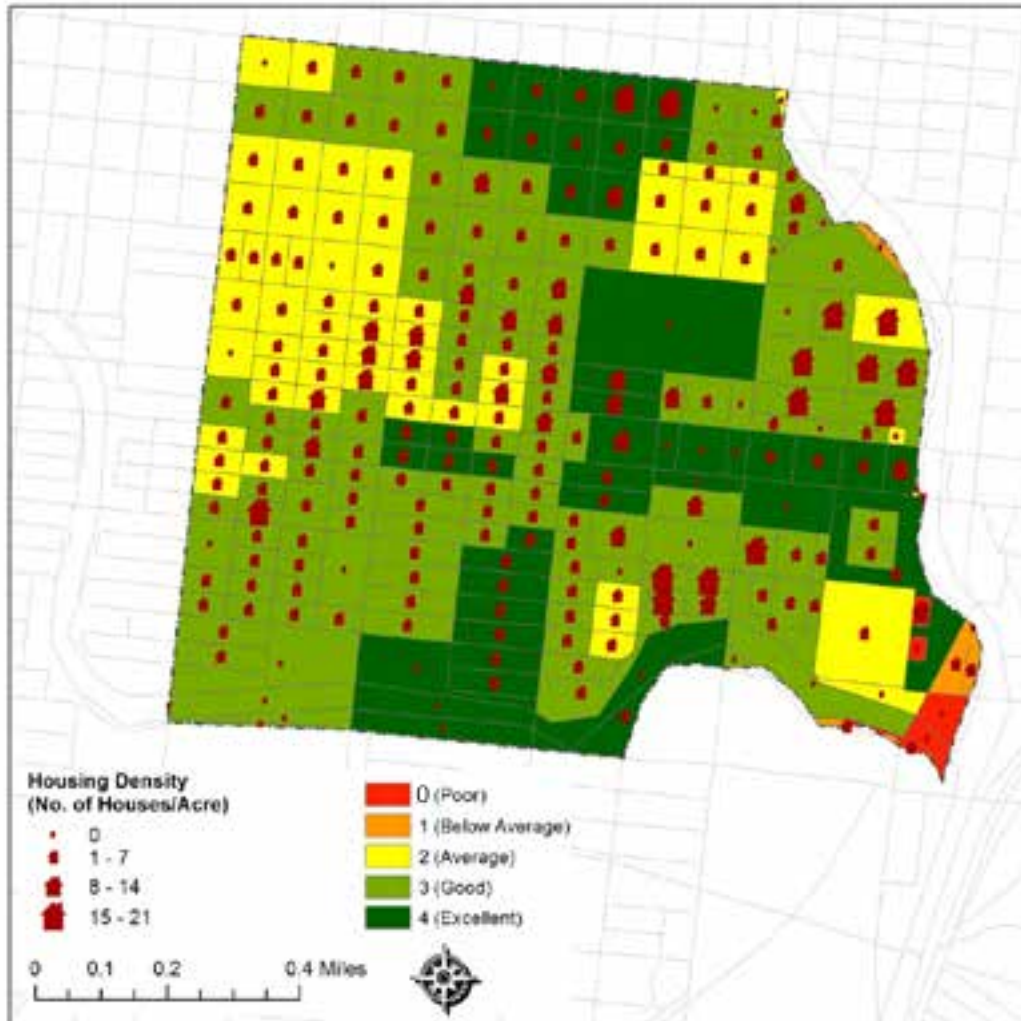
Step 4

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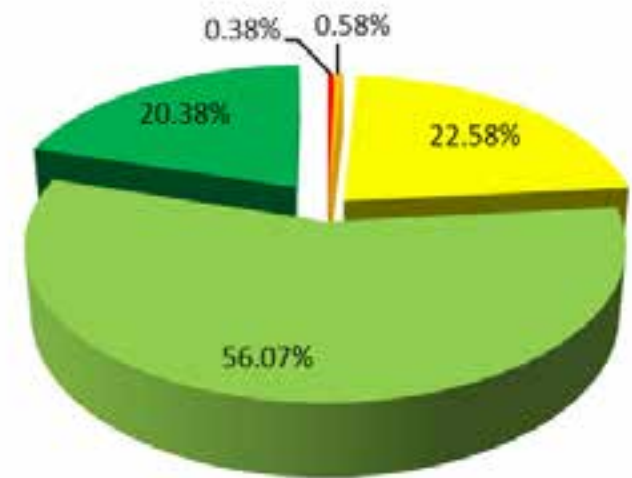
Step 5

# Overlay of Composite Score with Demographic Data (cont...)

## Distribution of Housing Density (Housing Unit/acre)



Source : US Census



Source : US Census



Step 1



Step 2



Step 3



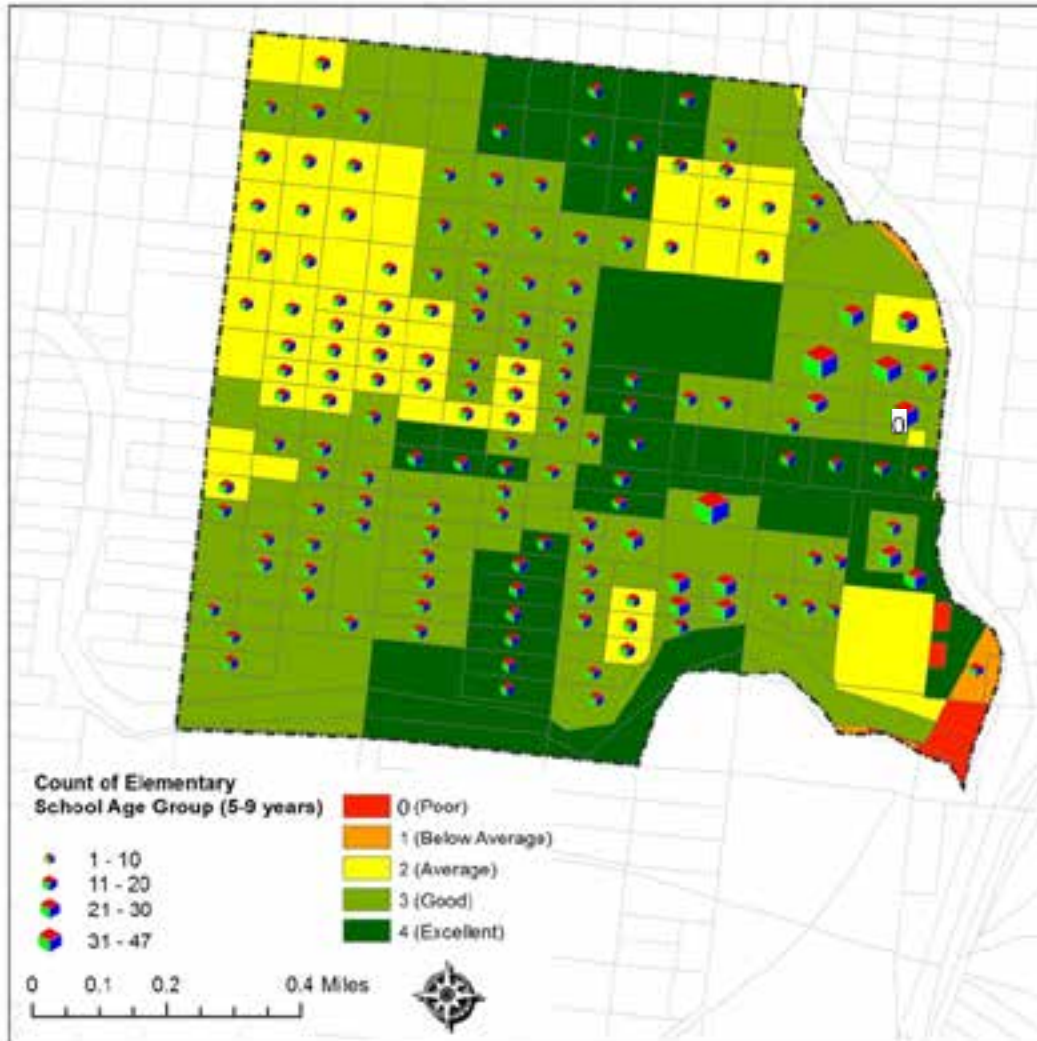
Step 4



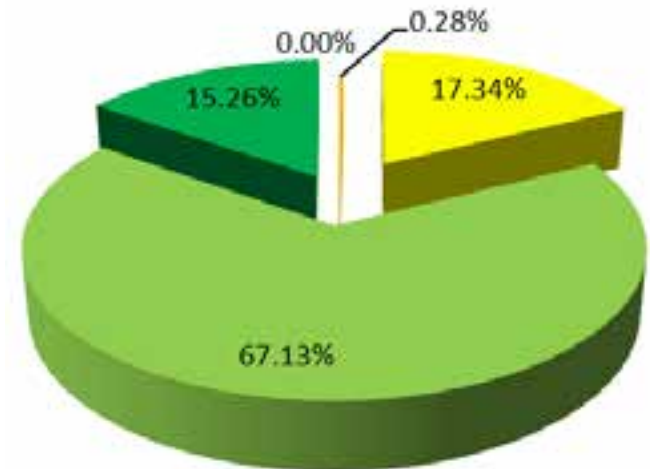
Step 5

# Overlay of Composite Score with Demographic Data (cont...)

## Distribution of Elementary School Age Children



Source : US Census



Source : US Census











**THANK YOU**

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