

Pedestrian Bicycle Motor Vehicle (PBMV) Commission



Active Living Places Who Can Be Active and Where

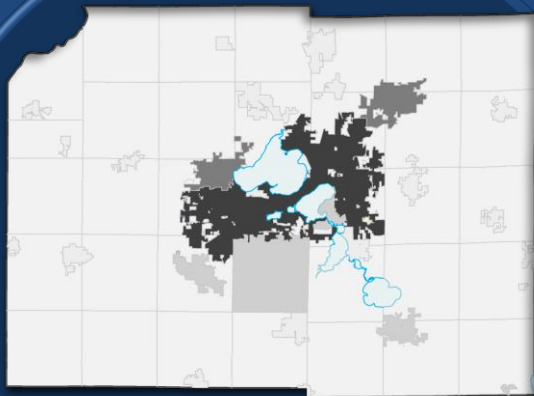
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Healthy Community Planner – Planning Division City of Madison

Outline



- Introduction
- Project Overviews
 - Active Living Places Initiative
 - **Active Living Index**

Who



Dane Co : ~ 510.000

Madison: ~ 240.000

Rural 12%



Adults

20-25% Obesity

6 – 13% Asthma

5-7 % Type 2 Diabetes

Active Living Places



11%



22%



Active Living Index



3 Components:

7 Sub-components

Walkability



Bikeway System
Accessibility



Transit System
Accessibility





Active Living Places Index
Components and Weights
- for β -version -

Possible High Score by Component / Sub-Category

75	Walkability	[component A - WkS]
	30 Intersection Density	
	5 2010 Pop Density	
	40 Destination Density (5 main domains - w/sub-scoring)	
15	Bikeway System Accessibility	[component B - BkS]
	12 Premium bikeway facilities	
	3 Bicycle level of service	
10	Transit system accessibility	[component C - TrS]
	5 Transit Service Area	
	5 Transit Access to Jobs	

100 Total

Active Living Score

0 - 4

5 - 8

9 - 13

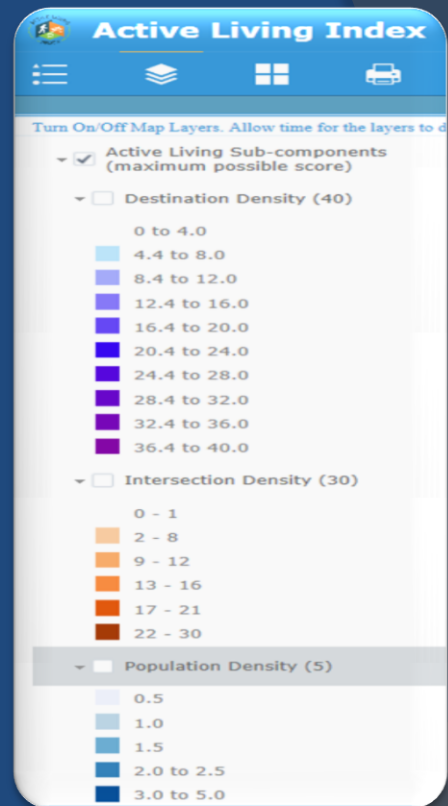
14 - 18

19 - 25

26 - 34

35 - 46

47 - 76





Active Living Index and Health

Primary Destinations



ALI

Walkability (Wks)

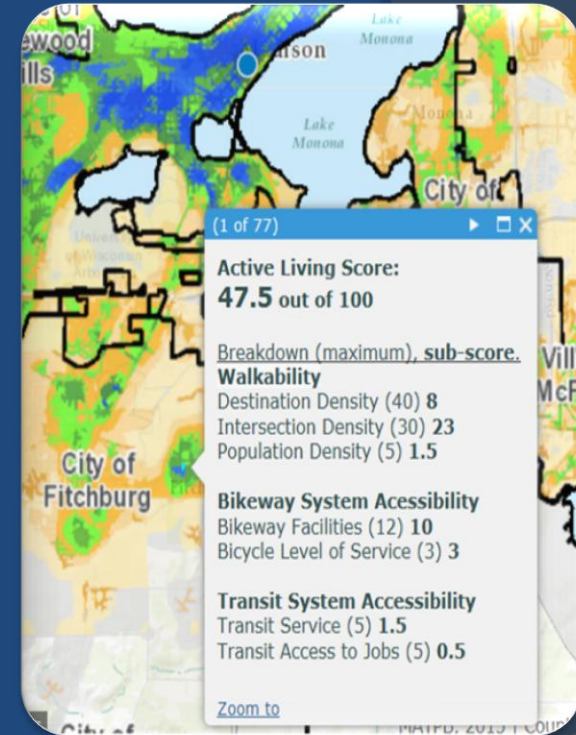
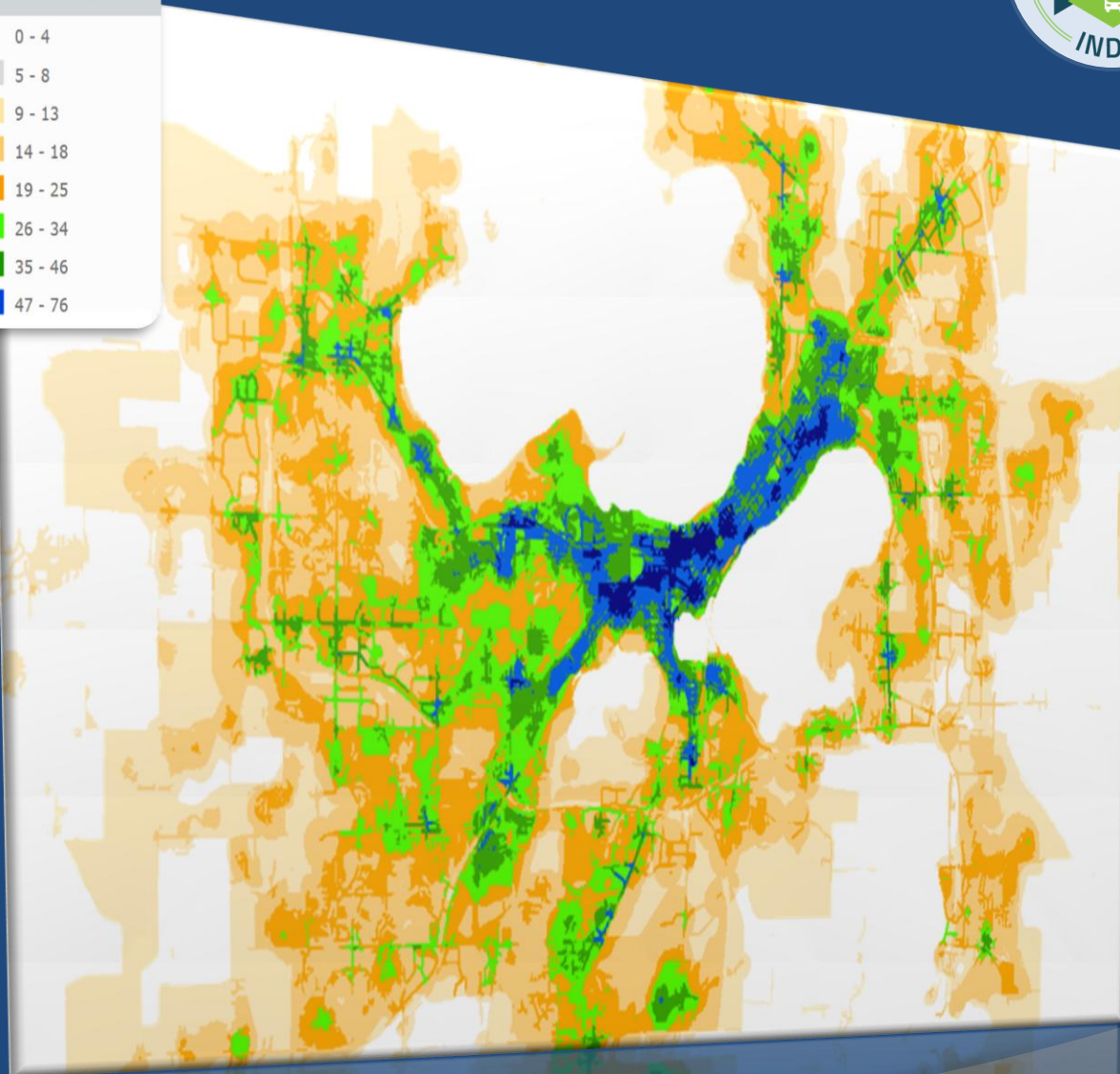
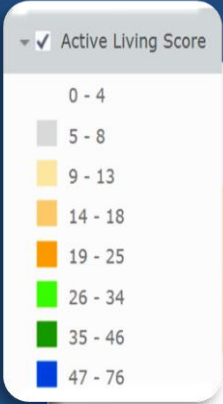
Destination Features

5 domains

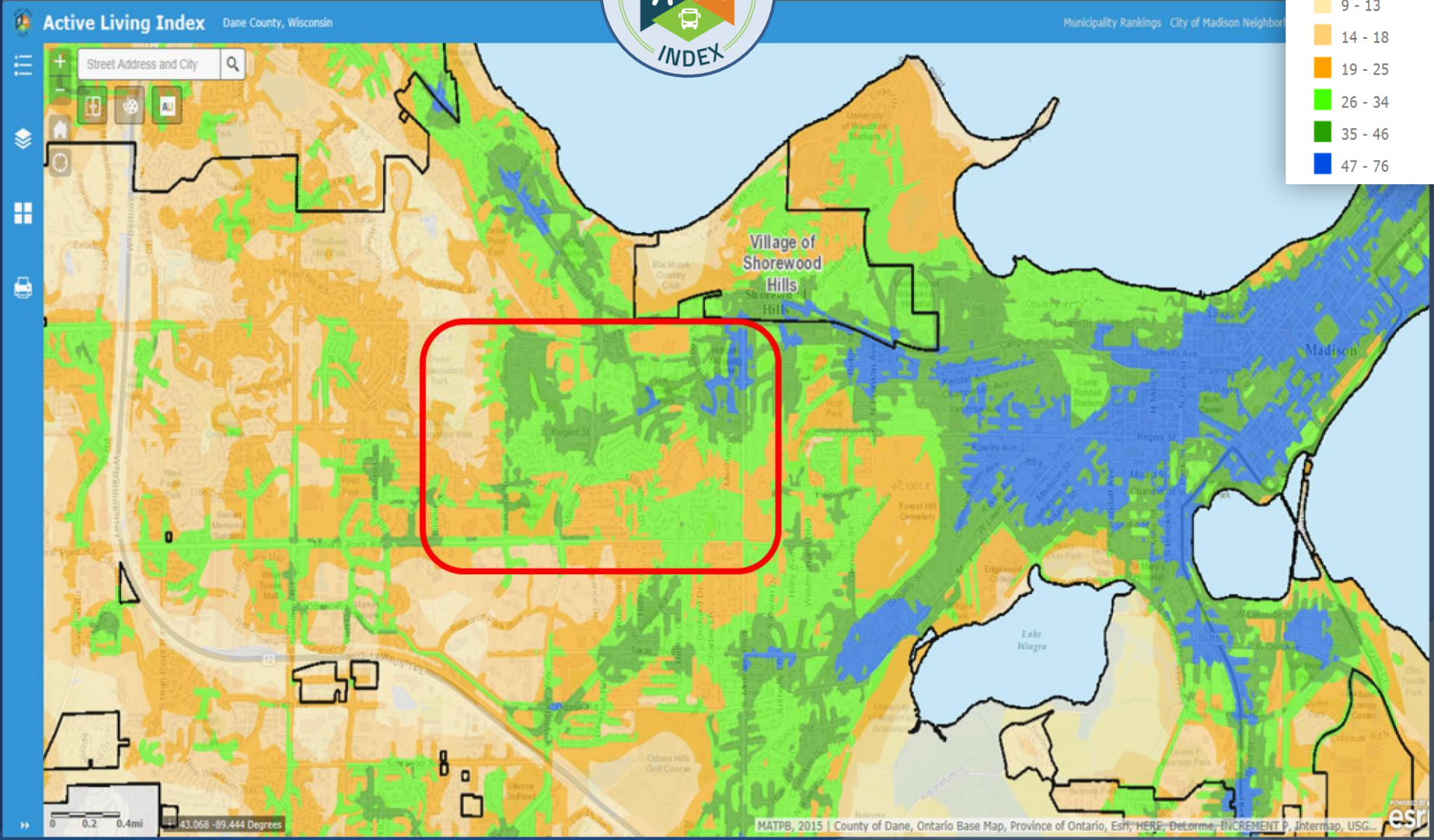
ALI sub-score max 40/100



Secondary Destination



www.cityofmadison.com/ALI



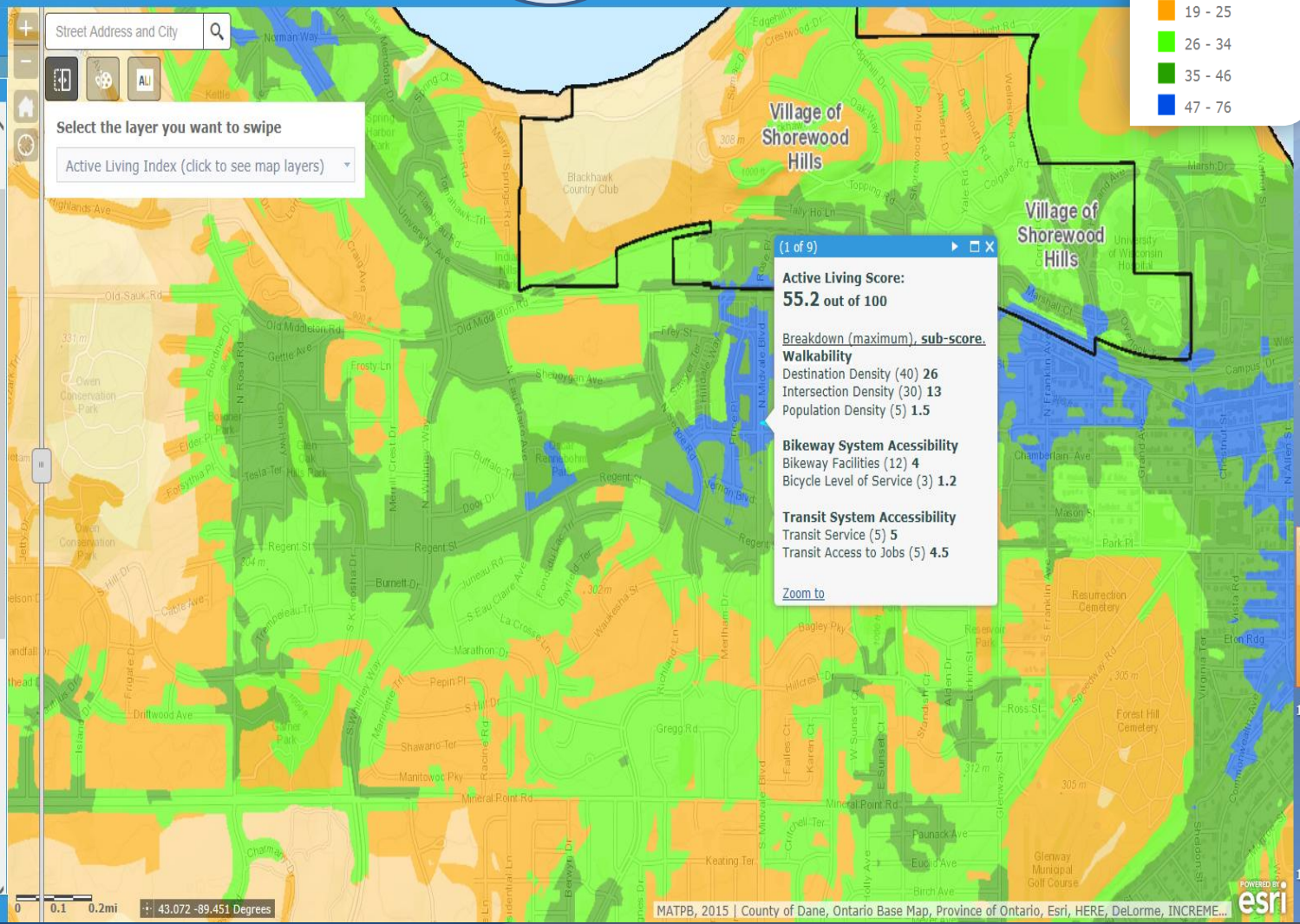


- Turn On/Off Map Layers. Allow time for the layers to draw.
- Active Living Index (click to see map layers)
 - Destination Classes
 - Food
 - Education
 - Parks
 - Recreation
 - Shopping, Services, Health
 - Active Living Sub-components (maximum possible score)
 - Destination Density (40)
 - 0 to 4.0
 - 4.4 to 8.0
 - 8.4 to 12.0
 - 12.4 to 16.0
 - 16.4 to 20.0
 - 20.4 to 24.0
 - 24.4 to 28.0
 - 28.4 to 32.0
 - 32.4 to 36.0
 - 36.4 to 40.0
 - Intersection Density (30)
 - 0 - 1
 - 2 - 8
 - 9 - 12

Street Address and City

Select the layer you want to swipe

Active Living Index (click to see map layers)



(1 of 9)

Active Living Score:
55.2 out of 100

Breakdown (maximum), sub-score.

Walkability
 Destination Density (40) 26
 Intersection Density (30) 13
 Population Density (5) 1.5

Bikeway System Accessibility
 Bikeway Facilities (12) 4
 Bicycle Level of Service (3) 1.2

Transit System Accessibility
 Transit Service (5) 5
 Transit Access to Jobs (5) 4.5

[Zoom to](#)

0 0.1 0.2mi 43.072 -89.451 Degrees



Turn On/Off Map Layers. Allow time for the layers to draw.

Active Living Score

Active Living Index (click to see map layers)

Destination Classes

Food

Education

Parks

Recreation

Shopping, Services, Health

Active Living Sub-components (maximum possible score)

Destination Density (40)

0 to 4.0

4.4 to 8.0

8.4 to 12.0

12.4 to 16.0

16.4 to 20.0

20.4 to 24.0

24.4 to 28.0

28.4 to 32.0

32.4 to 36.0

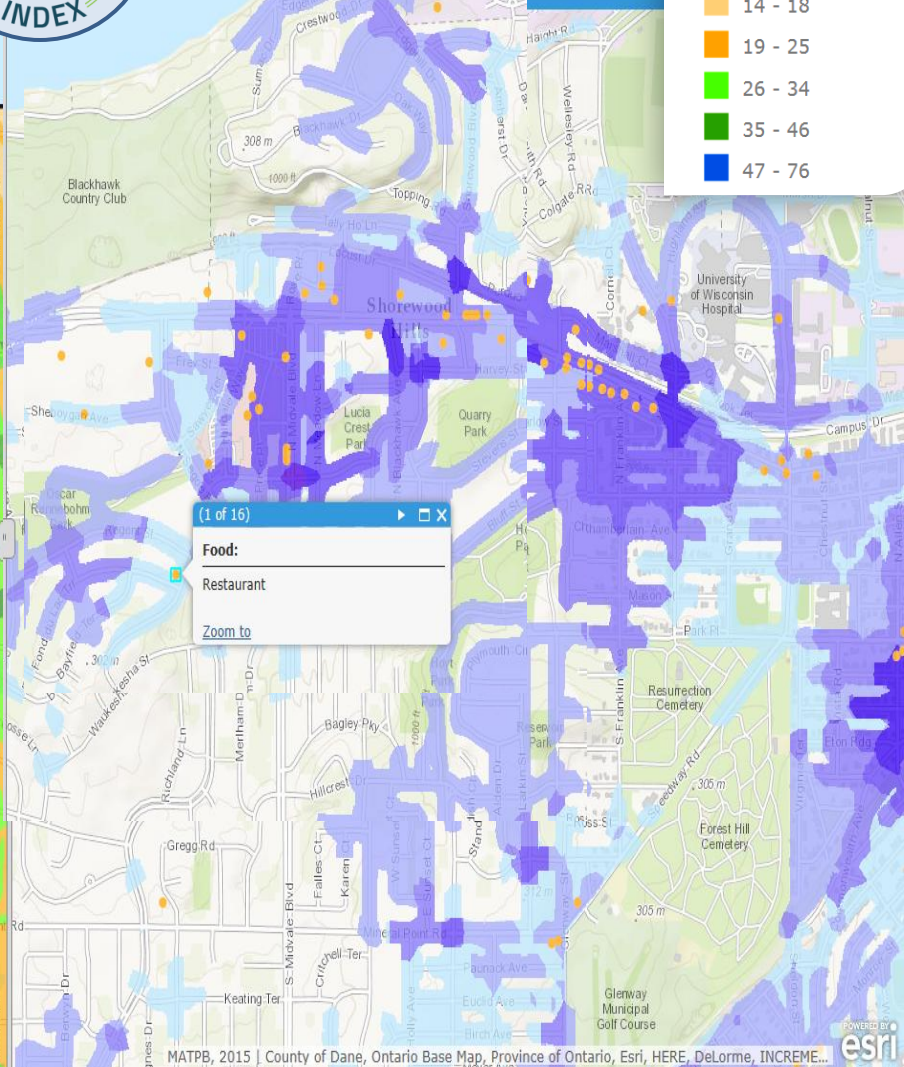
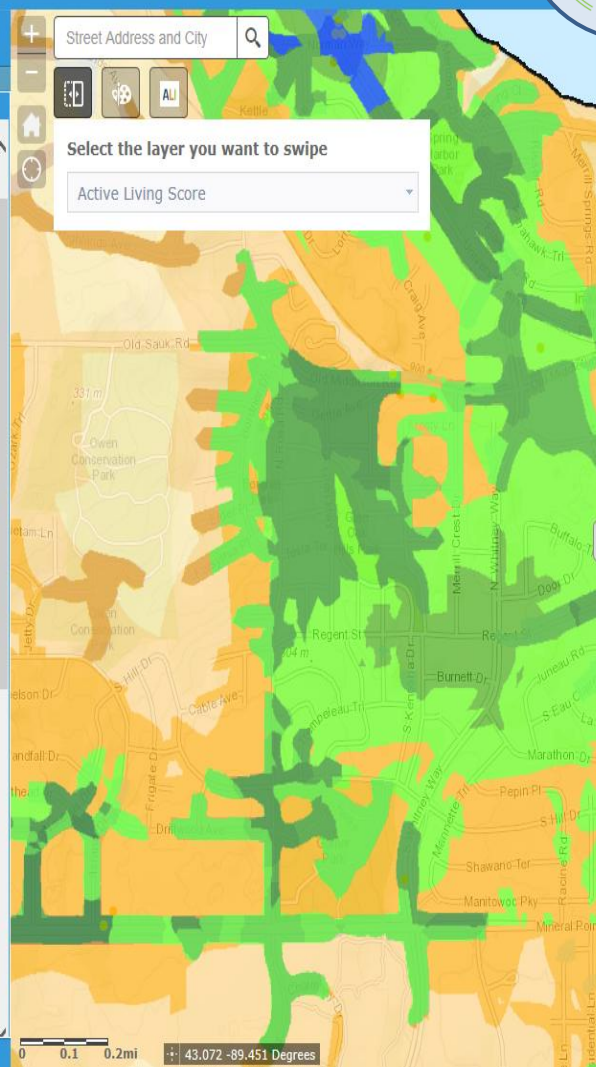
36.4 to 40.0

Intersection Density (30)

Street Address and City

Select the layer you want to swipe

Active Living Score



Active Living Score

0 - 4

5 - 8

9 - 13

14 - 18

19 - 25

26 - 34

35 - 46

47 - 76

0 0.1 0.2mi 43.072 -89.451 Degrees

MATPB, 2015 | County of Dane, Ontario Base Map, Province of Ontario, Esri, HERE, DeLorme, INCREMENTAL





Turn On/Off Map Layers. Allow time for the layers to draw.

Active Living Score

Active Living Index (click to see map layers)

Destination Classes

Food

Education

Parks

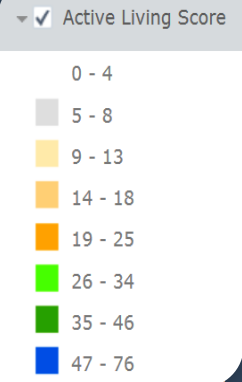
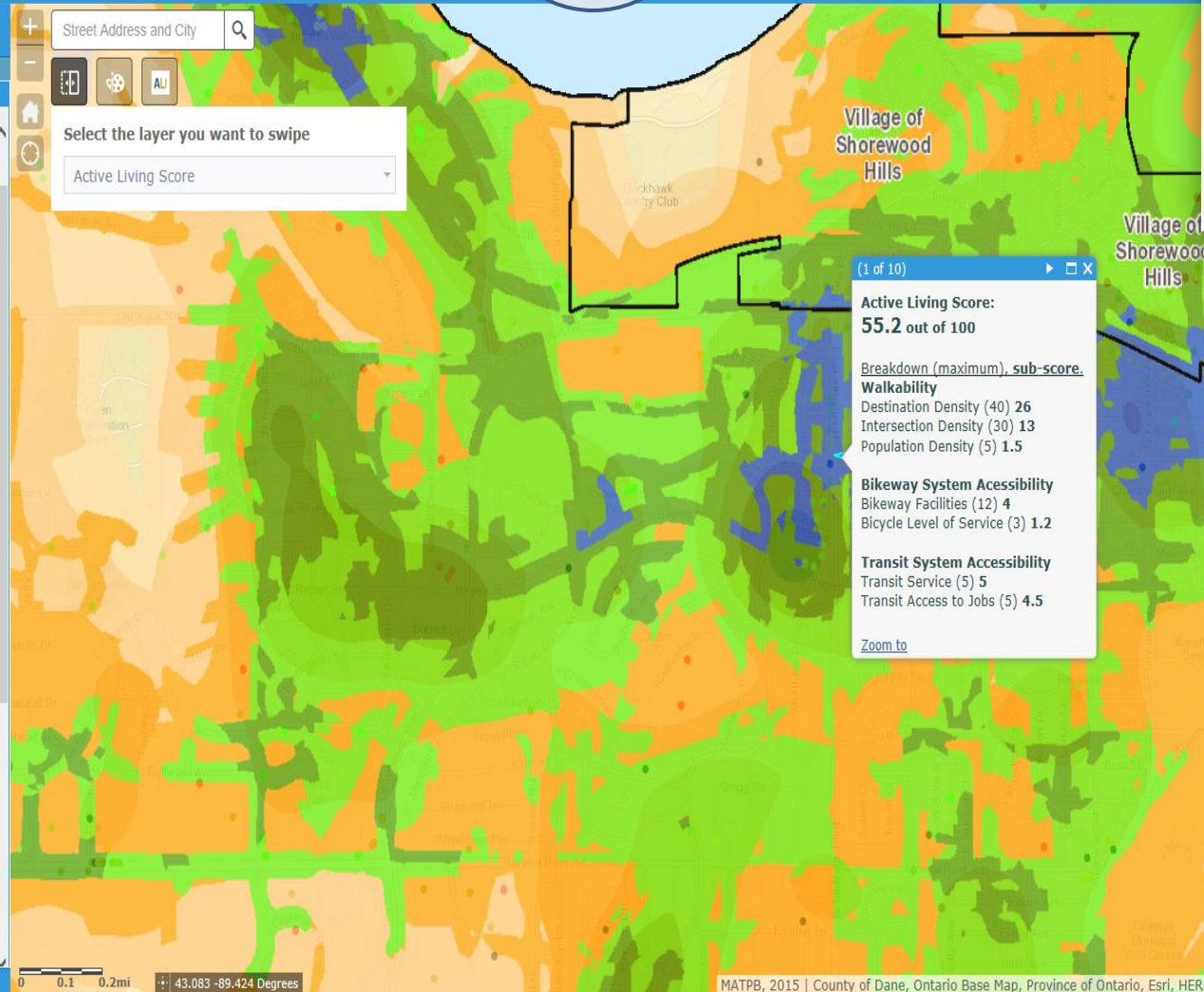
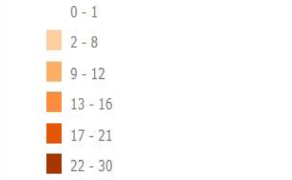
Recreation

Shopping, Services, Health

Active Living Sub-components (maximum possible score)

Destination Density (40)

Intersection Density (30)





Turn On/Off Map Layers. Allow time for the layers to draw.

- Active Living Score
- Active Living Index (click to see map layers)
 - Destination Classes
 - Food
 - Education
 - Parks
 - Recreation
 - Shopping, Services, Health
 - Active Living Sub-components (maximum possible score)
 - Destination Density (40)
 - Intersection Density (30)
 - 0 - 1
 - 2 - 8
 - 9 - 12
 - 13 - 16
 - 17 - 21
 - 22 - 30
 - Population Density (5)
 - Bikeway Facility Density (12)
 - Bicycle Level of Service (3)
 - Transit Score (5)

Select the layer you want to swipe

Active Living Score

(1 of 5)

Food:

Farmers Market

[Zoom to](#)

Active Living Score

0 - 4

5 - 8

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47 - 76

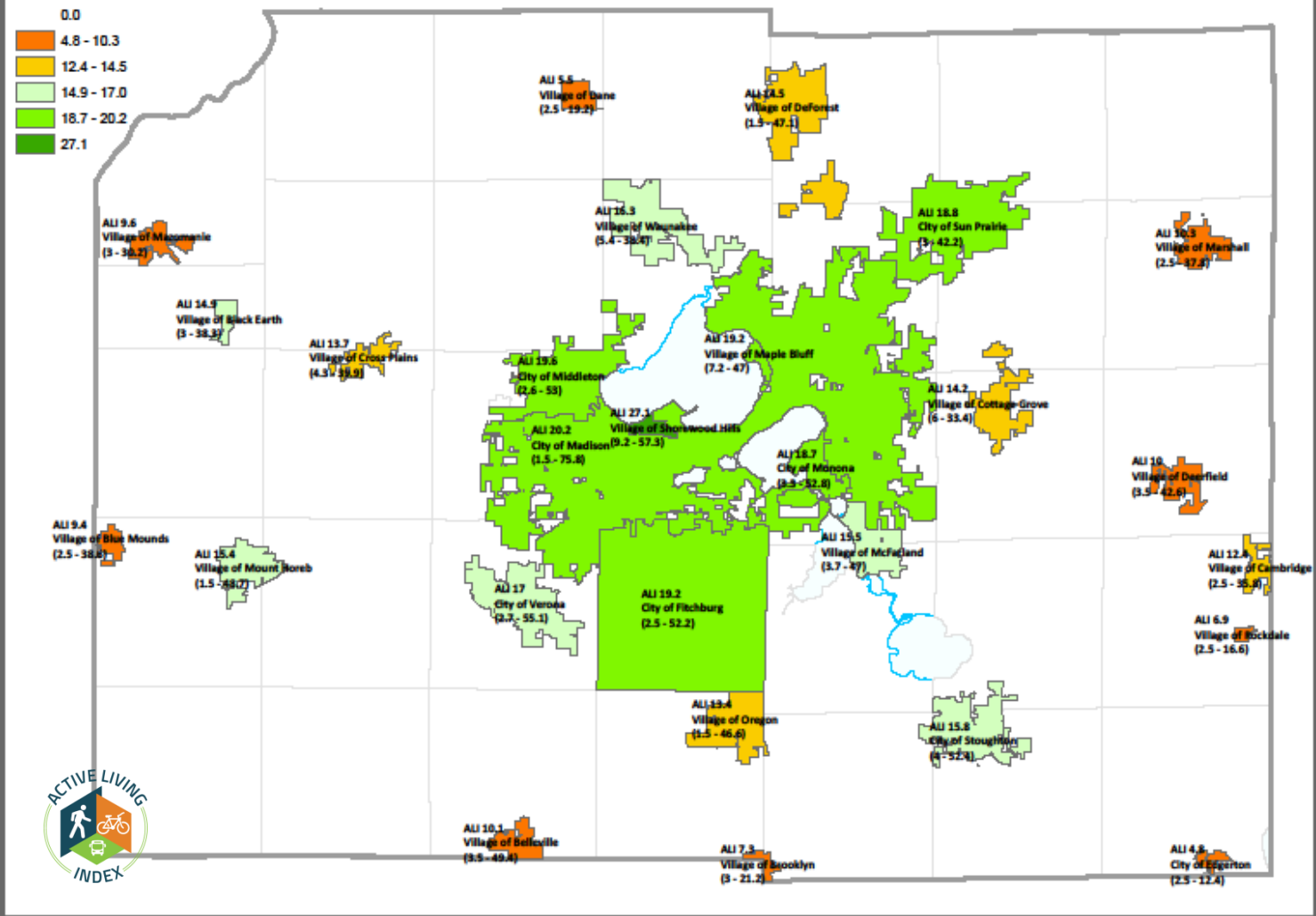


Legend

ALI_Score_Municipalities (undeveloped area excluded)

MEAN

- 0.0
- 4.8 - 10.3
- 12.4 - 14.5
- 14.9 - 17.0
- 18.7 - 20.2
- 27.1



ACTIVE LIVING PLACES

Community Selection

URBAN



SUBURBAN

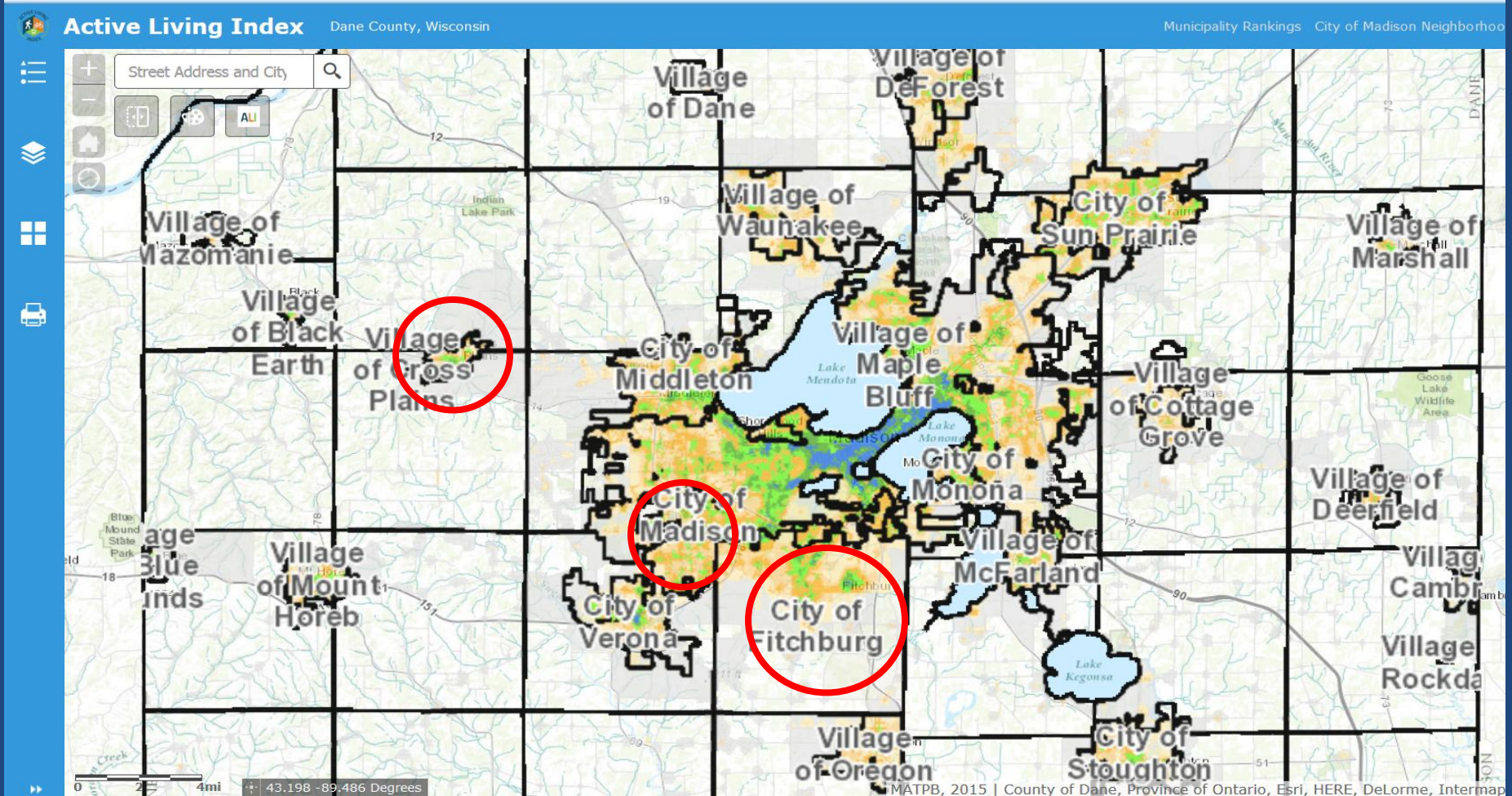


RURAL



Urbanicity

Active living places



Urban

Park Edge/Park Ridge Neighborhood

ALI 21.2 (7.3- 44.4)

Suburban

City of Fitchburg

ALI 19.2 (2.5- 52.2)

Rural

Village of Cross Plains

ALI 13.7 (4.3- 39.9)



Active Living Index & Health Outcomes



Childhood Obesity Prevalence

Study Sample County average: 10.1 % -
CBG range 1.7 – 32.7%

Statistical Analysis

Correlation

ALI & Obesity prevalence ($r = -0.25$ $p < 0.001$)

REGRESSION

ALI R² change : 13.3% variance ($p < 0.001$)

Wks standB: - 0.97

BkS standB: - 0.28

Controlling for Asthma, ALI R² change: 8.3% variance

N= 62,820



The sample represents
75% of Dane Co
children <18y.

Study sample : 2-17 y. 2007-2012 data
Study Area: Dane County, WI
Scale : Census Block Group n= 308



Active Living Index & Health Outcomes

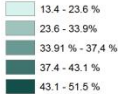


Childhood Obesity Prevalence

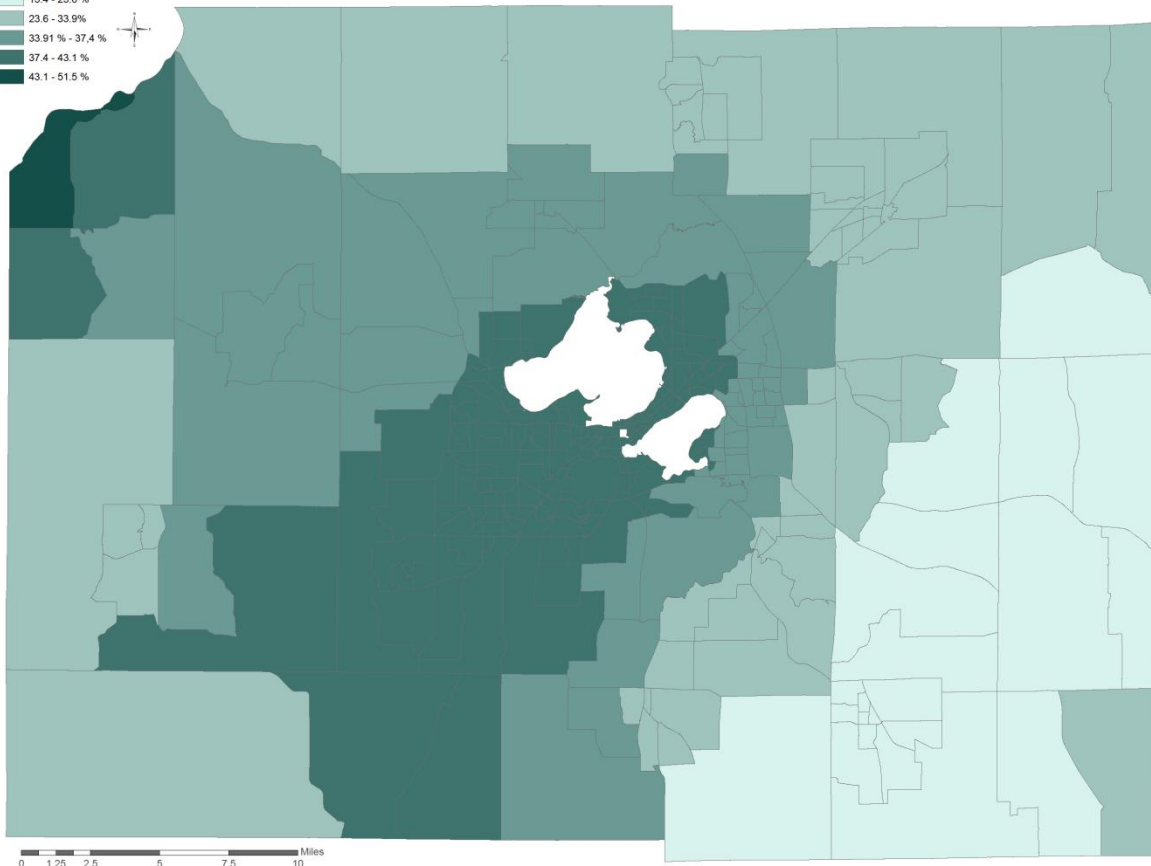
(Dane Co sample mean: 10.1 %
CBG range 1.7 – 32.7%)

R2 35.5%
(range 13.4 – 51.5%)

Legend
GWR_ALI_ObesityCHD_adjust
Local R2



ALI and CHD Obesity adjusted model -
GWR - Local R2 (overall R2=35.5%)



Spatial Regression Analysis

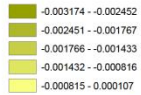
Study sample 2-17 y : n= 62.820
2007-2012 data
Study Area: Dane County, WI
Scale : Census Block Group n= 308



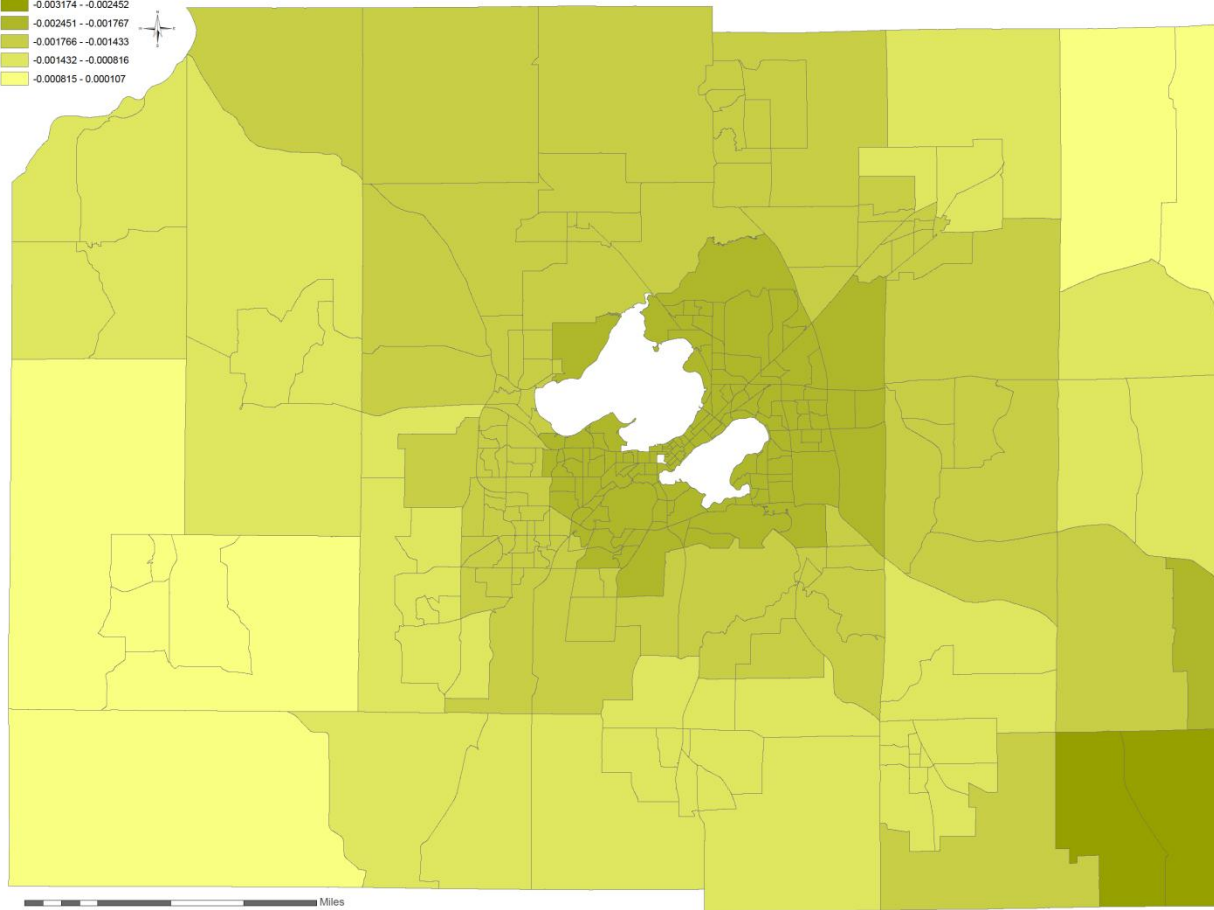
Active Living Index & Health Outcomes



Legend
GWR_ALL_ObesityCHD_adjust
ALI Beta Coefficient



ALI and CHD Obesity adjusted model -
GWR - ALI Beta-coefficients



Childhood Obesity Prevalence

(Dane Co sample mean: 10.1 %
CBG range 1.7 – 32.7%)

ALI β -coeff = - 0.0016
(range - 0.0001 -> - 0.0032)

Spatial Regression Analysis

Study sample 2-17 y : n= 62.820
2007-2012 data
Study Area: Dane County, WI
Scale : Census Block Group n= 308



Active Living Index & Health Outcomes



Adults Type2 Diabetes Prevalence

Study Sample County average: 7.2% -
CBG range 3.6 – 21.6%

Statistical Analysis

Correlation

ALI & T2D prevalence ($r = -0.38$ $p < 0.001$)

REGRESSION

ALI R² change : 24.8 % variance ($p < 0.001$)

Wks standB: - 0.49

BkS standB: - 0.24

Controlling for Asthma, ALI R² change: 14.6% variance

N= 200,420



The sample represents 52%
of Dane Co adults 18+ y.

Study sample : 18y.+ 2007-2012 data
Study Area: Dane County, WI
Scale : Census Block Group n= 308



Active Living Index & Health Outcomes

Future steps

- Regression analysis adjusted model
- ALI index age-group specific
(and new age-group specific stat analysis)
- ALI scale by Urbanicity level

Thank you!



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