ESRI User Conference – 2016

Place Base Health

Active Living Places

Who Can Be Active and Where

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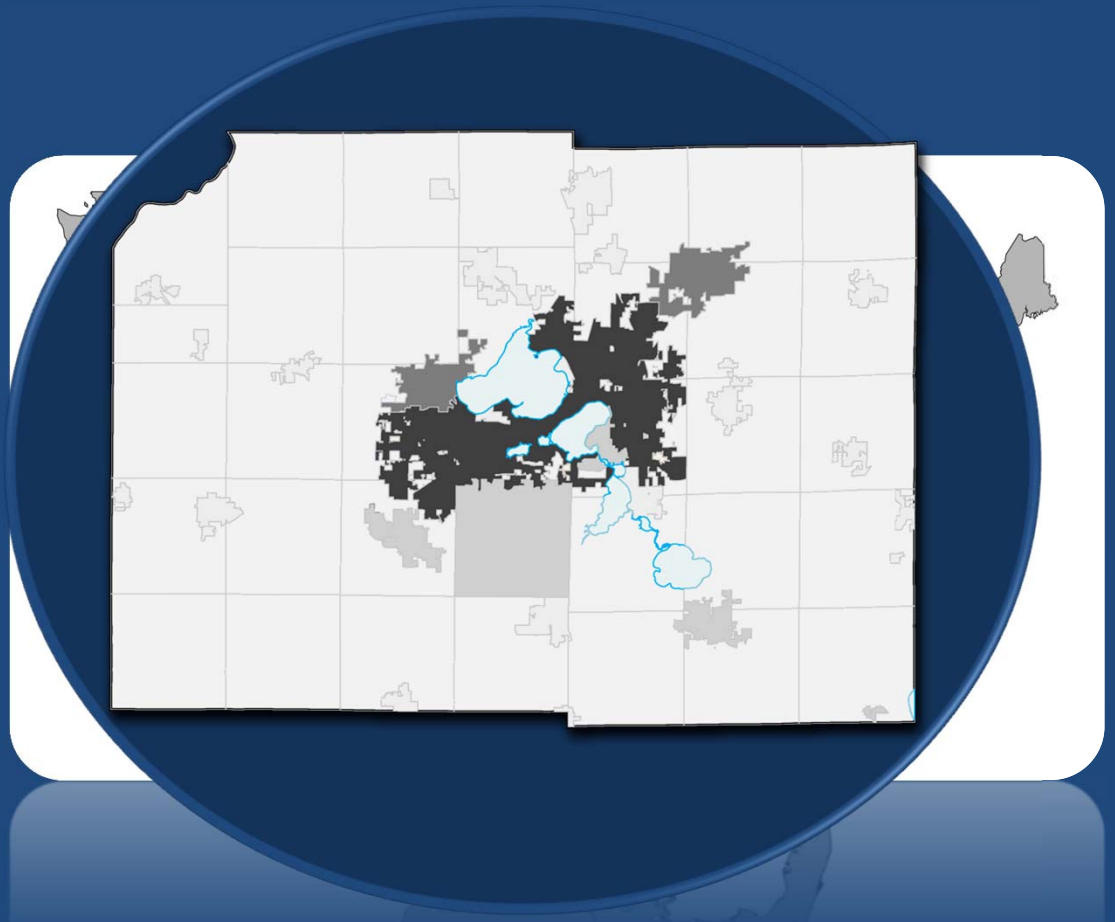
Healthy Community Planner - City of Madison , WI

PhD dissertator - UW Madison

Outline

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

Where



Dane County

City of Madison, WI

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:

Walkability

7 Sub-components

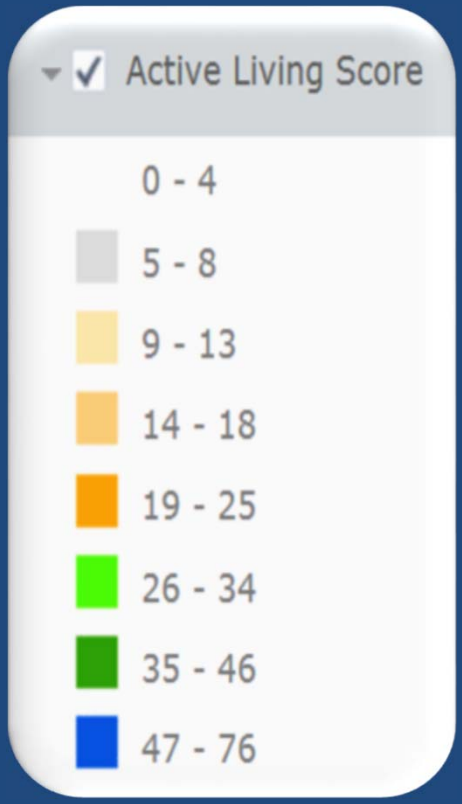
Bikeway System Accessibility

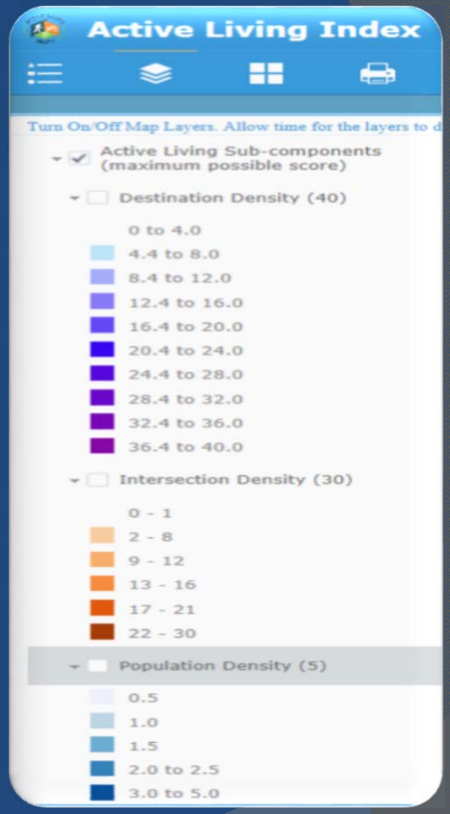
Transit System Accessibility

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 Index and Health

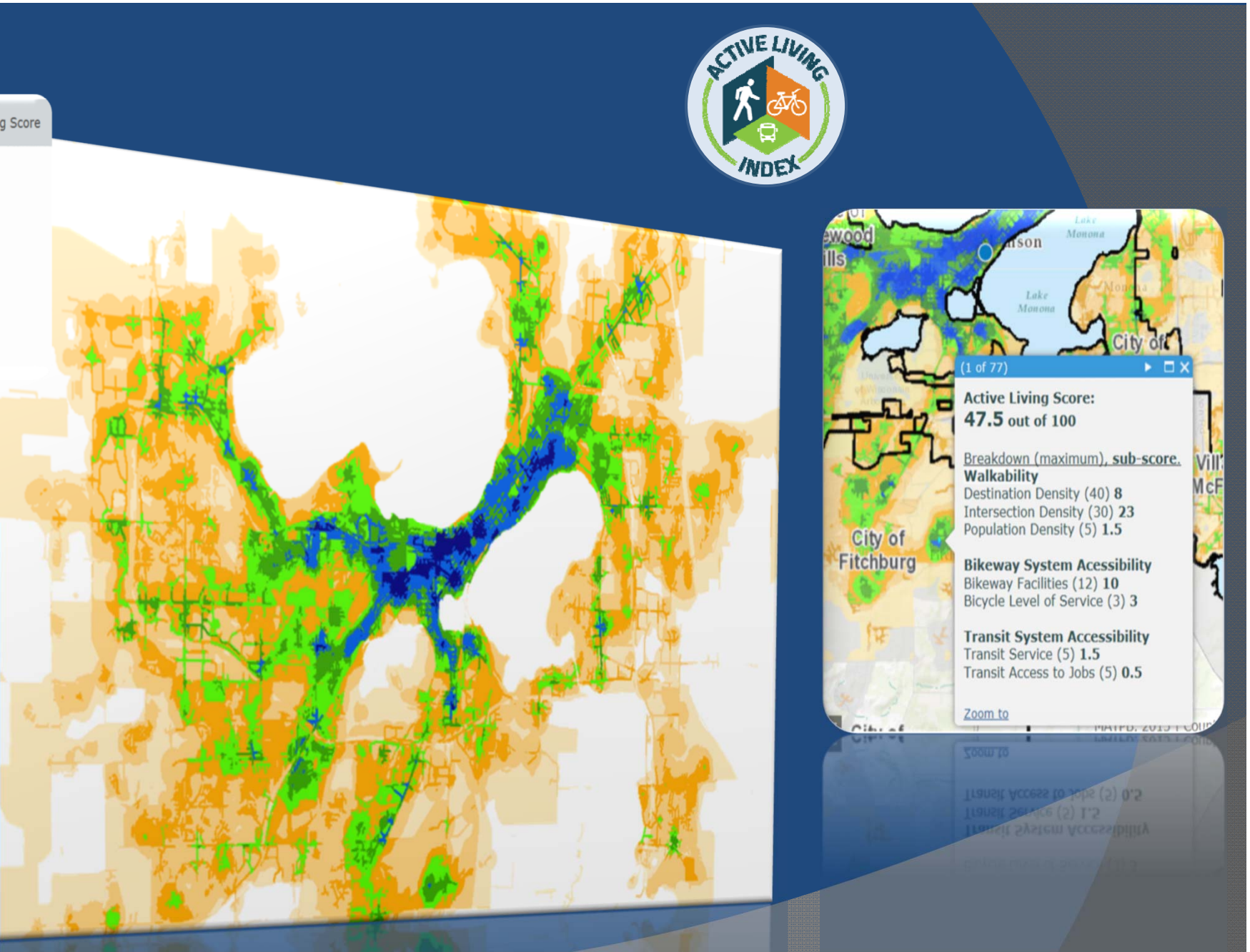
ALI

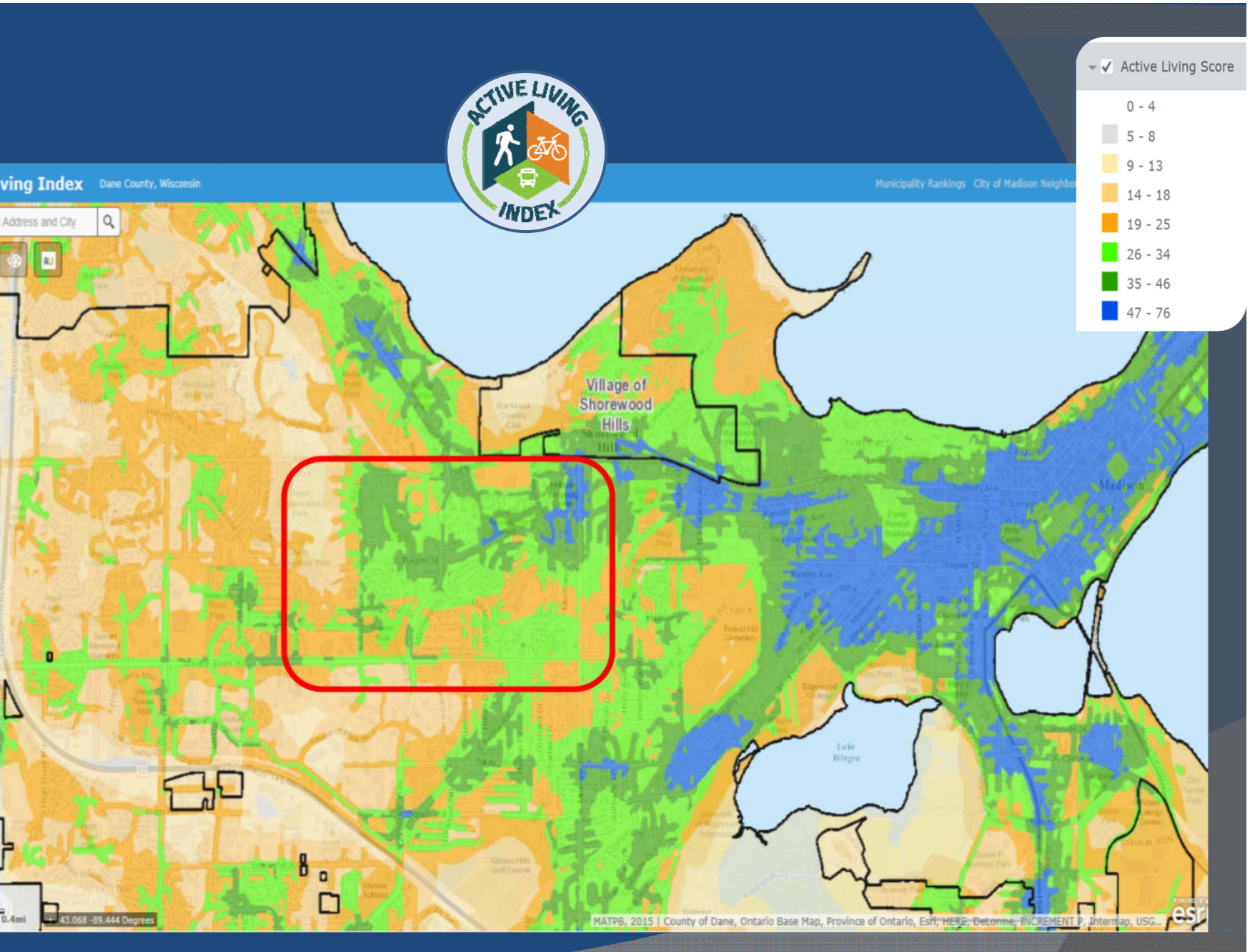
Walkability (WkS)

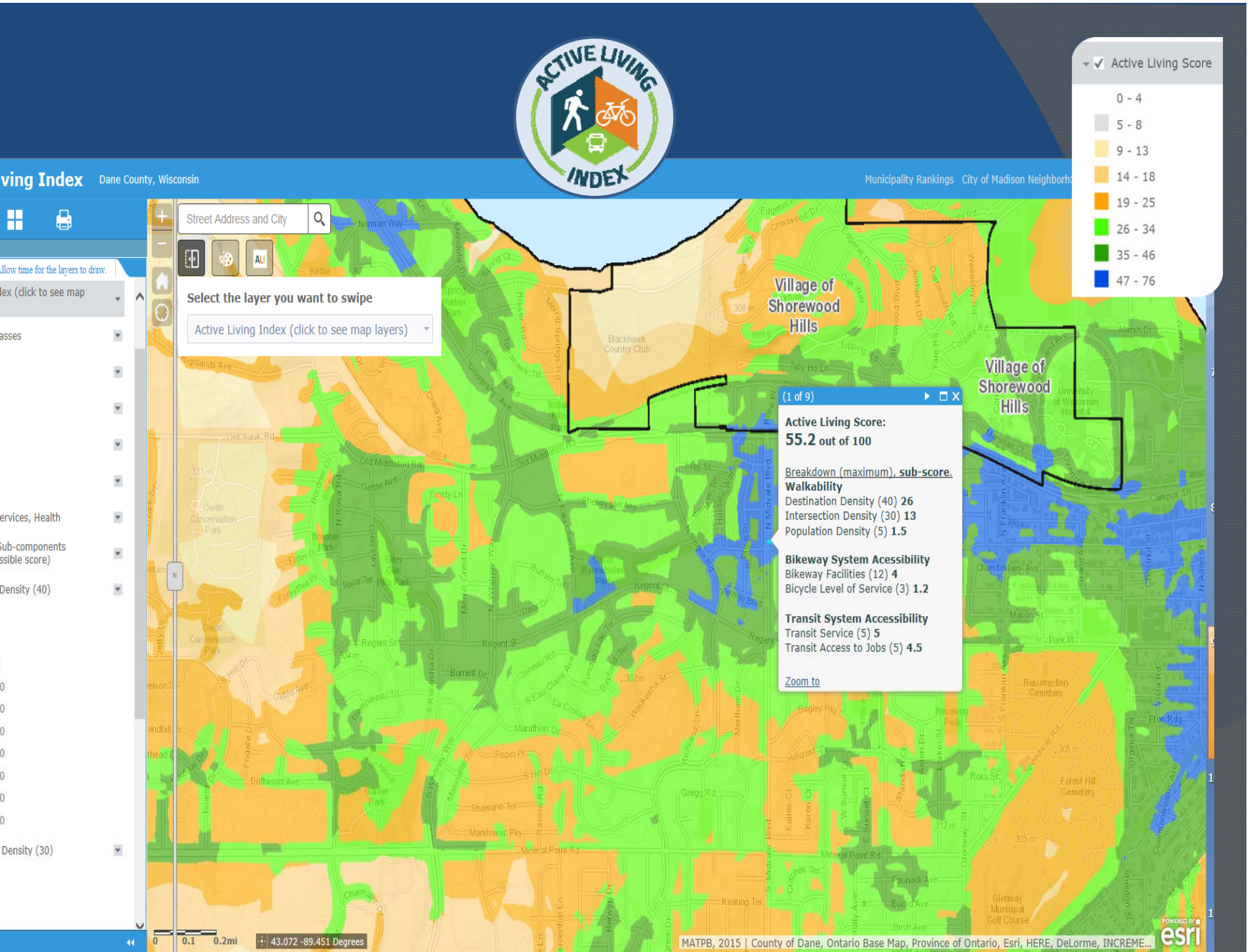
Destination Features

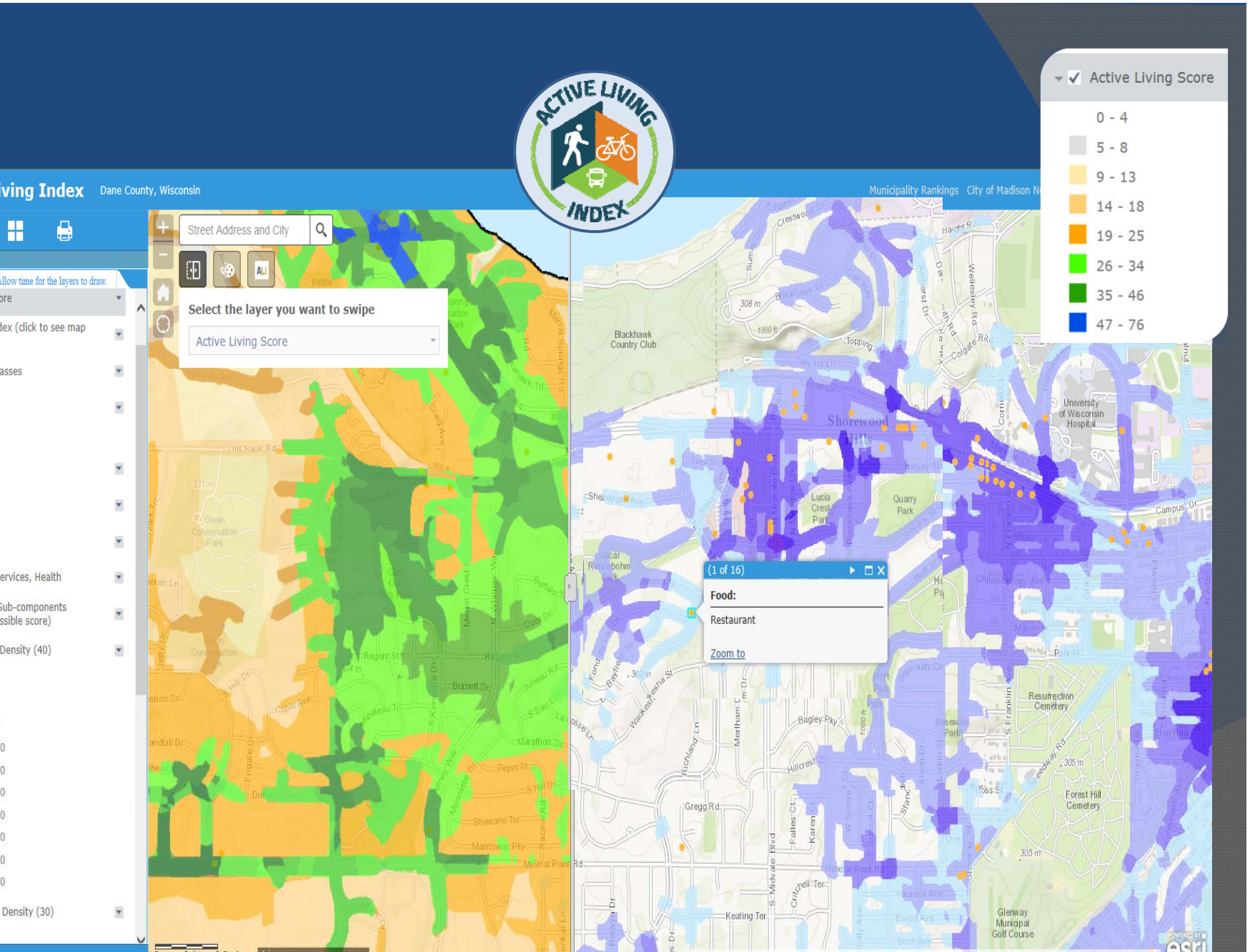
5 domains

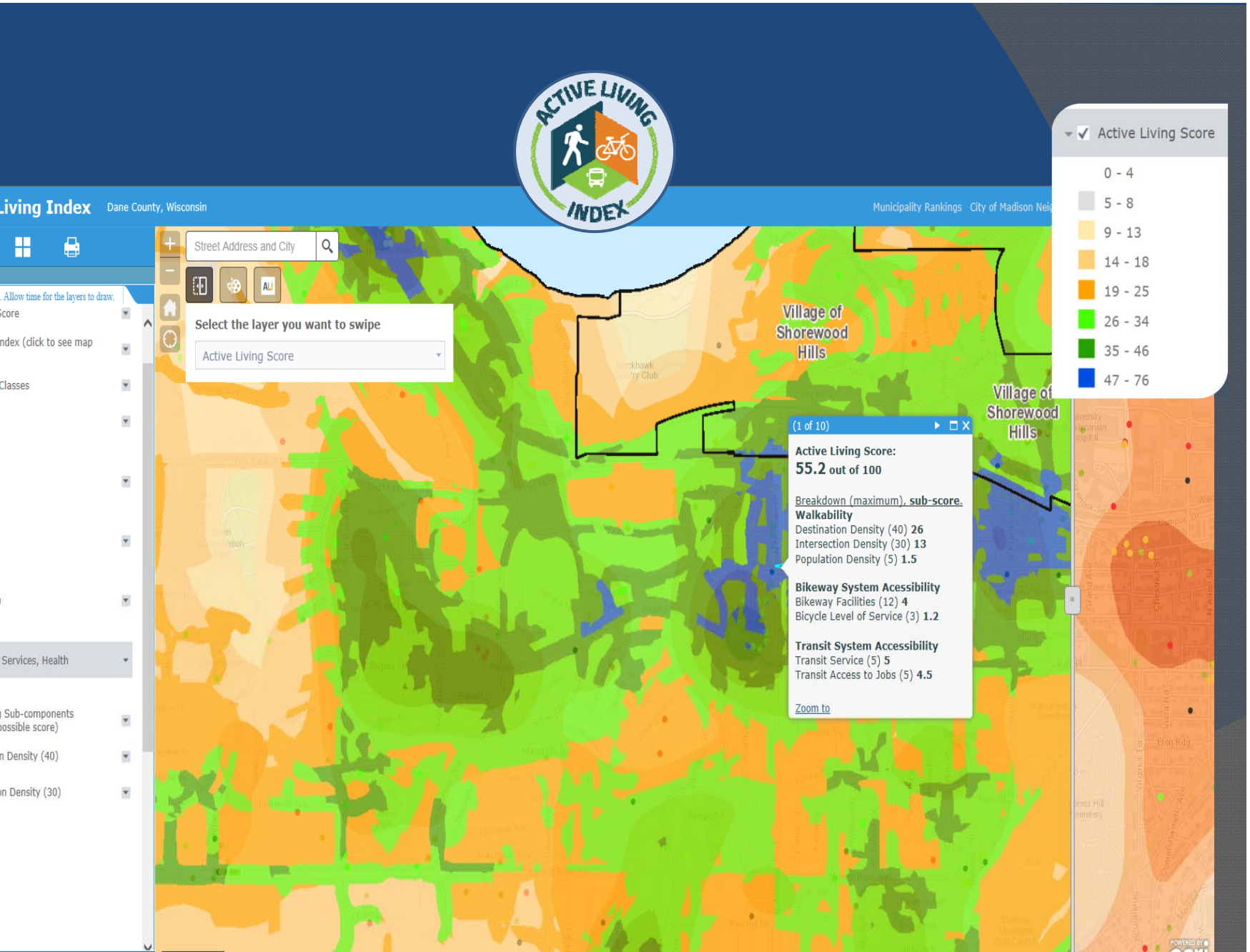
ALI sub-score max 40/100

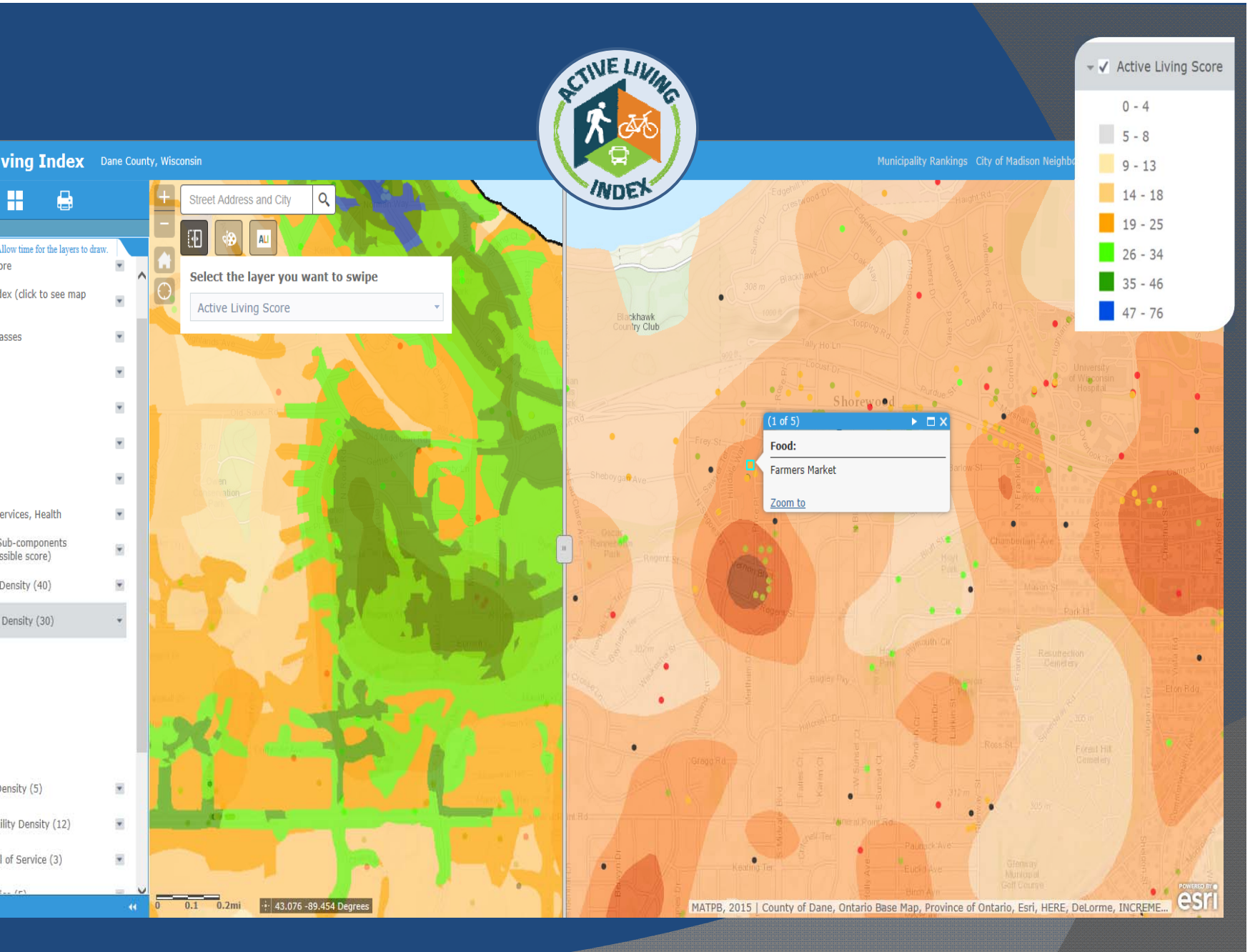

ACTIVE LIVING
INDEX
Lake Monona
City of
(1 of 77)
Active Living Score:
47.5 out of 100
Breakdown (maximum), sub-score.
Walkability
Destination Density (40) 8
Intersection Density (30) 23
Population Density (5) 1.5
Bikeway System Accessibility
Bikeway Facilities (12) 10
Bicycle Level of Service (3) 3
Transit System Accessibility
Transit Service (5) 1.5
Transit Access to Jobs (5) 0.5
Zoom to
City of
Fitchburg


ACTIVE LIVING INDEX
ving Index
Dane County, Wisconsin
Municipality Rankings
City of Madison Neighbo
Address and City
Active Living Score
0 - 4
5 - 8
9 - 13
14 - 18
19 - 25
26 - 34
35 - 46
47 - 76
Village of Shorewood Hills
Madison
Lake Wingra
43.068 -89.444 Degrees
MATPB, 2015 | County of Dane, Ontario Base Map, Province of Ontario, Esri, HERE, DeLorme, INCREMENT P, Intermap, USG...
esri


ACTIVE LIVING INDEX
ving Index
Dane County, Wisconsin
Municipality Rankings
City of Madison Neighborh
Street Address and City
Select the layer you want to swipe
Active Living Index (click to see map layers)
Active Living Score
0 - 4
5 - 8
9 - 13
14 - 18
19 - 25
26 - 34
35 - 46
47 - 76
(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 Acessibility
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
Village of Shorewood Hills
Village of Shorewood Hills
Blackhawk Country Club
43.072 -89.451 Degrees
MATPB, 2015 | County of Dane, Ontario Base Map, Province of Ontario, Esri, HERE, DeLorme, INCREME...
esri


ACTIVE LIVING INDEX
iving Index
Dane County, Wisconsin
Municipality Rankings
City of Madison N
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
(1 of 16)
Food:
Restaurant
Zoom to
Blackhawk Country Club
Shorewood Hills
University of Wisconsin Hospital
Lucia Crest Park
Quarry Park
Resurrection Cemetery
Forest Hill Cemetery
Glenway Municipal Golf Course
Owen Conservation Park
Old Sauk Rd
Regent St
Burnett Dr
Gregg Rd
Keating Ter
Campus Dr
Bagley Pky
Density (40)
Density (30)


ACTIVE LIVING INDEX
Living Index
Dane County, Wisconsin
Municipality Rankings
City of Madison Neig
Street Address and City
Select the layer you want to swipe
Active Living Score
Village of Shorewood Hills
Village of Shorewood Hills
Active Living Score
0 - 4
5 - 8
9 - 13
14 - 18
19 - 25
26 - 34
35 - 46
47 - 76
(1 of 10)
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 Acessibility
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


ACTIVE LIVING INDEX
ving Index
Dane County, Wisconsin
Municipality Rankings
City of Madison Neighbo
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
(1 of 5)
Food:
Farmers Market
Zoom to
Shorewood
Blackhawk Country Club
0 0.1 0.2mi
43.076 -89.454 Degrees
MATPB, 2015 | County of Dane, Ontario Base Map, Province of Ontario, Esri, HERE, DeLorme, INCREME...
esri

CTIVE LIVING PLACES

ommunity Selection

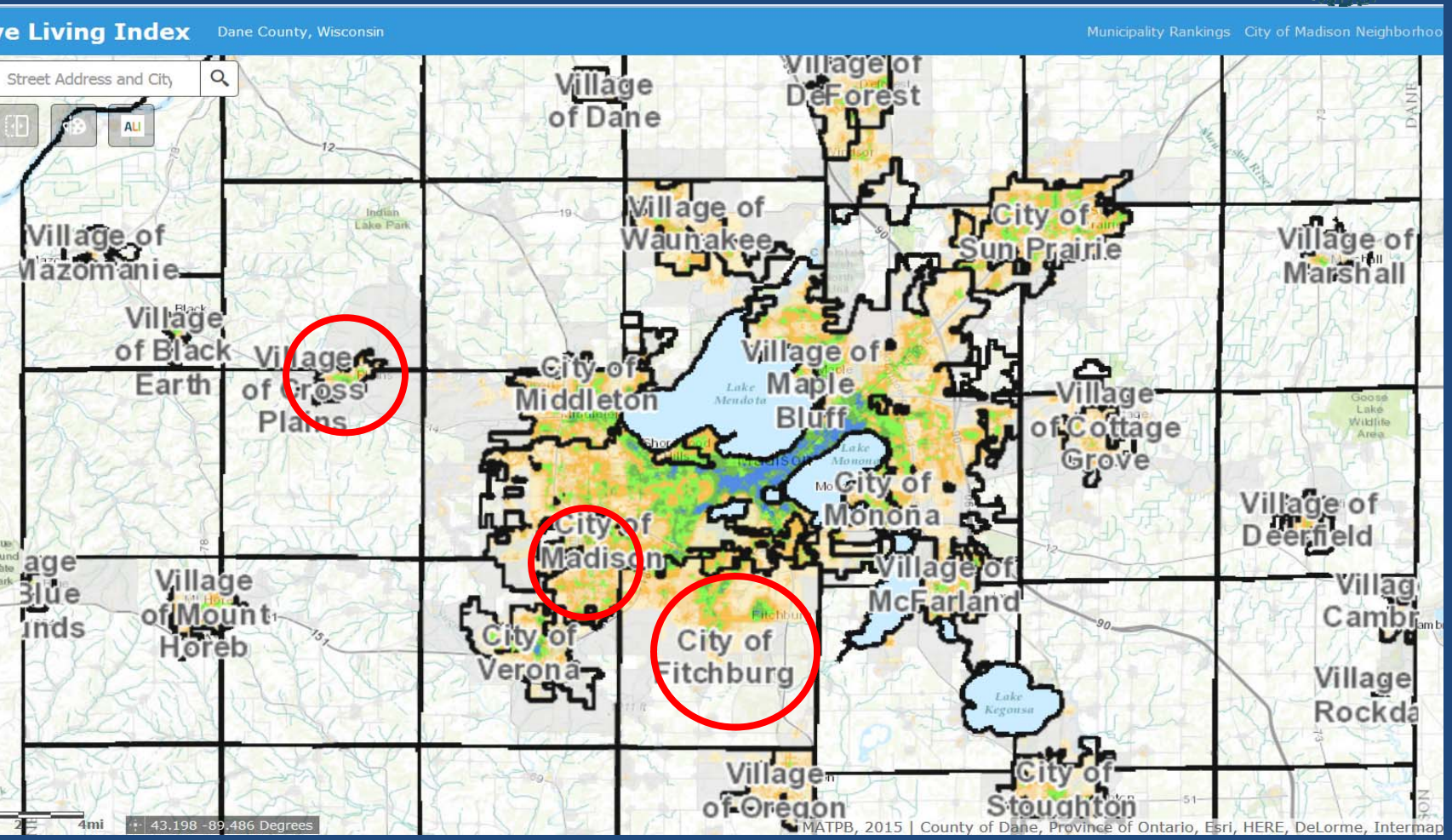
URBAN

SUBURBAN

RURAL

rbanicity

Active living places



rban

rk Edge/Park Ridge Neighborhood

Suburban

City of Fitchburg

Rural

Village of Cross Plains

Active Living Index & Health Outcomes

ildhood Obesity Prevalence

dy Sample County average: 10.1 % -
G range 1.7 – 32.7%

tistical 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

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

Study sample : 2-17 y. 2007-2012 data
Study Area: Dane County, WI

Active Living Index & Health Outcomes

tial Regression Analysis

Childhood Obesity Prevalence

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

map

Study sample 2-17 y : n= 62.820
2007-2012 data
Study Area: Dane County, WI

Active Living Index & Health Outcomes

ults Type2 Diabetes Prevalence

y Sample County average: 7.2% -
range 3.6 – 21.6%

tistical Analysis

Correlation

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

REGRESSION

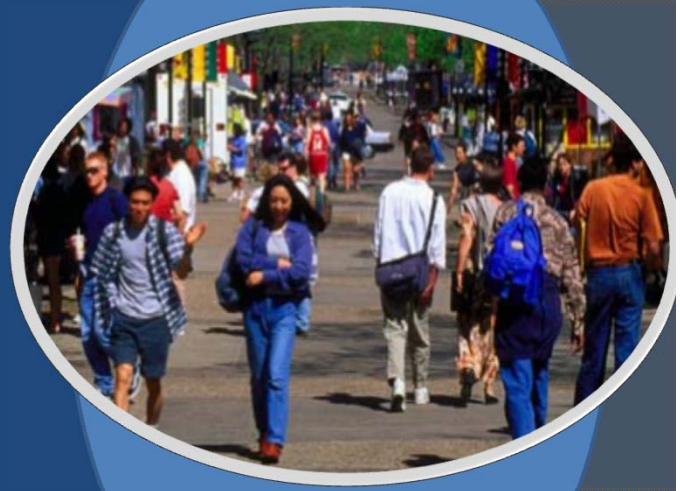
ALI R2 change : 24.8 % variance (p<0.001)

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

Active Living Index & Health Outcomes

tial Regression Analysis

Adults
Type2 Diabetes
Prevalence

Dane Co Sample mean: 7.2% -
CBG range 3.6 – 21.6%

map

Study sample : 18y.+ n=200,420
2007-2012 data
Study Area: Dane County, WI

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

hank you!

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