

## Washtenaw County Opportunity Index – 11-18-15

### Project Overview:

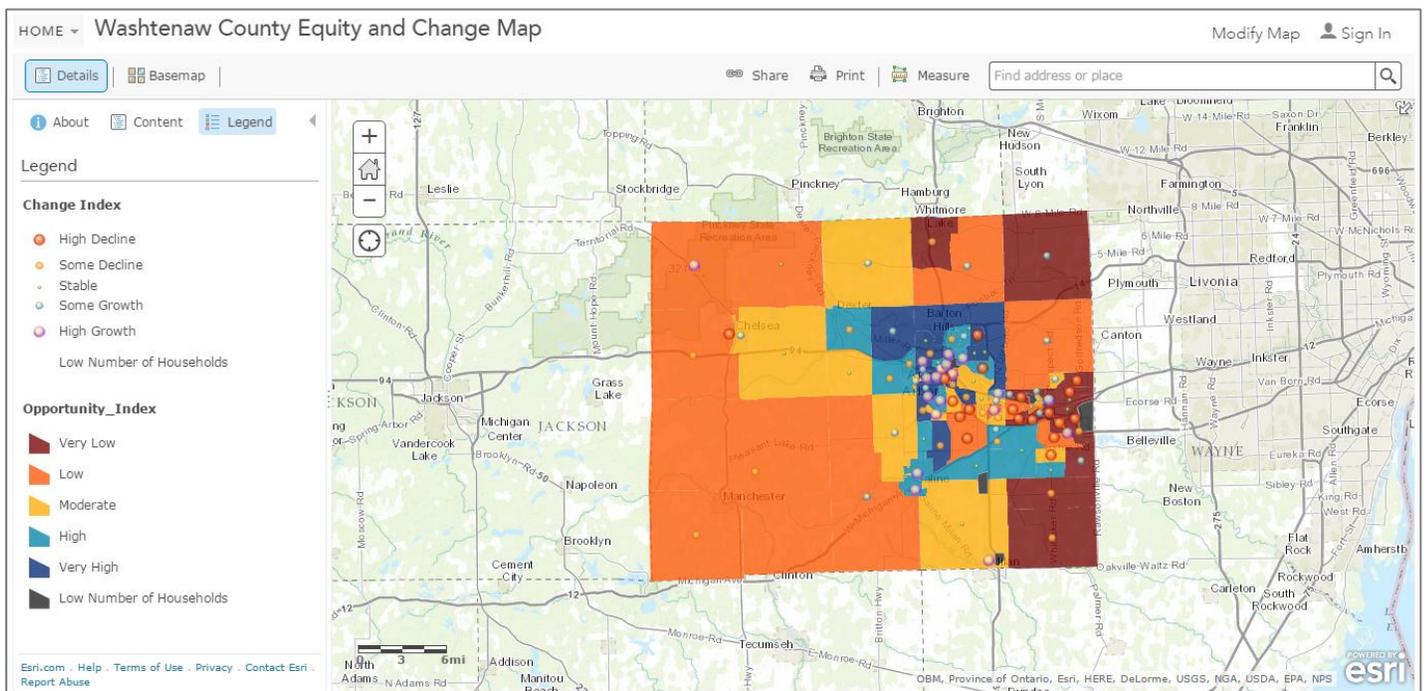
Washtenaw County's Office of Community and Economic Development (OCED) was the recipient of a 2011 HUD Sustainability grant. The grant funded a series of planning projects in the region including the 2015 *Housing Affordability and Economic Equity Analysis*. This report calls out growing inequity overall, not just in the housing market, with emphasis on the potential for increasing racial, social-economic disparities in the county.

The grant includes technical assistance and support from non-profit and higher education partners including the [Kirwan Institute for the Study of Race and Ethnicity](#). Together, the County and the Kirwan Institute collaborated on a more comprehensive opportunity index.

There are two indices as well as series of overlay maps that are part of the project: The Opportunity Index, the Change Index, and several overlays that will all be described separately in this document. All can be accessed through the same map found through a link in the opportunity index tab at [www.opportunitywashtenaw.org](http://www.opportunitywashtenaw.org). Click here for a direct link to the [Washtenaw Opportunity Index](#).

Once opened, the first view that appears will be the Change Index layered on top of the Opportunity Index. You can use the + and – sign to zoom in and out on the overall map. Selecting various basemaps can change the background on which the data is depicted. The default basemap is “topographic.”

In this view you will see the Change Index (dots) layered on top of the Opportunity Index (shaded regions). You will learn about each and how to turn them on and off, as well as how to view additional layers in the pages that follow.



**Washtenaw Opportunity Index**

The Opportunity Index scores each census tract in the county according to data points or measurements in 5 categories. Each category has a score. The 5 scores are then combined to provide an overall opportunity score for each census tract. Each category has 2-5 measurements (listed below) that comprise it. All measurements are weighed the same per category. All categories are weighed the same to make final index scores. In practice, all census tracts are ranked against one another and then broken into quintiles. Each tract falls into a quintile, and is then represented on the map by a color which represents the range of opportunity, very high to very low. The overall opportunity score is defined by averaging z-scores of all the indicators.

As tracts are compared within the county, it is encouraged that users consider the context of scores in relation to the county or state averages. As the County does rank highly in many measures, it helps to consider the data points in the lower performing tracts with other measures such as county average or state of Michigan averages.

Measurements for each category:

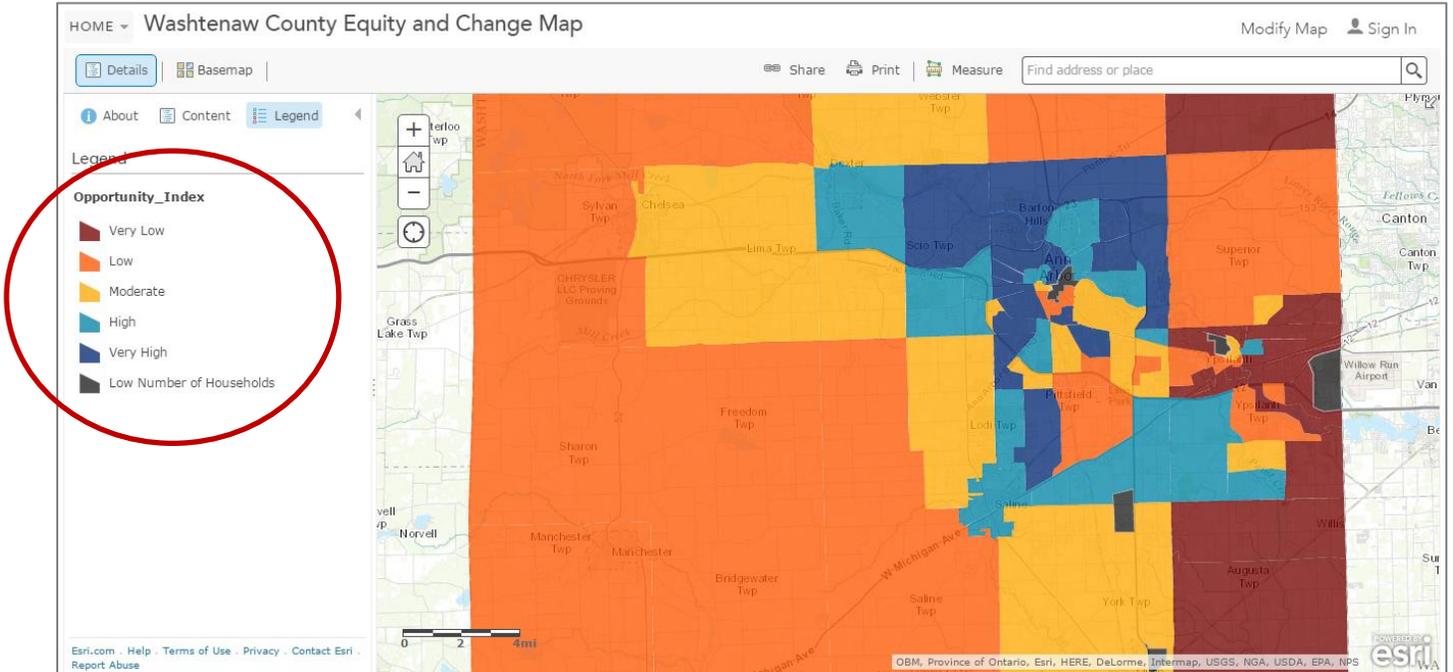
<b>Health</b>	<b>Childhood obesity</b> (By Zip Code – 2013)	<b>Low birth weight</b> (2008-2012)			
<b>Job Access</b>	<b>Adult educational attainment*</b> (bachelor’s or better; Age 25 or older)	<b>Mean commute time*</b> (Minutes)	<b>Living wage jobs nearby</b> (LEHD data 2011; using county living-wage rate)	<b>Un-employment*</b>	
<b>Economic Well-being</b>	<b>Child poverty rate*</b> (2009-2013)	<b>Housing &amp; Transportation Affordability Index</b> (combined > 45% household income)	<b>High cost mortgages</b> (Consumer Financial Protection Bureau 2013)		
<b>Education &amp; Training</b>	<b>% 3-4 year olds enrolled in pre-school other *</b>	<b>% 3rd grade reading proficient**</b>	<b>% 8th grade math proficient**</b>	<b>% dropout rate**</b>	<b>% Adults not working*</b>
<b>Neighborhood Safety &amp; Stability</b>	<b>% Vacant – residential units up to 36 months – United States Postal Service (USPS)</b>	<b>Median Home values***</b>	<b>Home Invasion</b> (local data 2014)	<b>% registered voters voting</b> (County Clerk 2012 election)	

\*American Community Survey Data (2009-2013)

\*\*WISD 2014

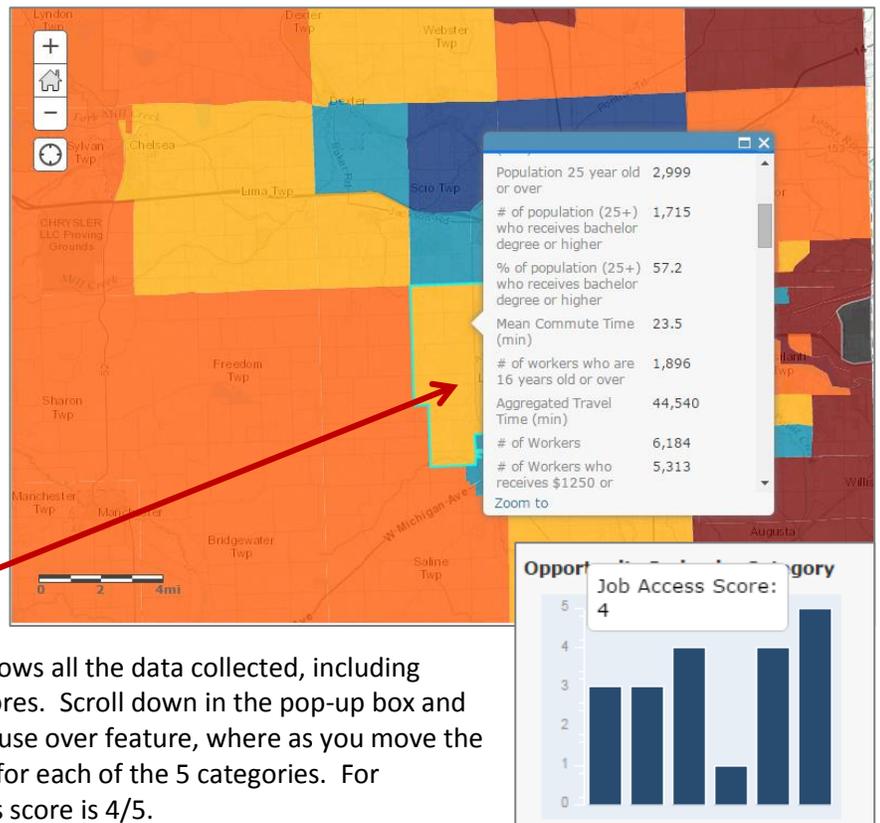
\*\*\* County Equalization 2014

## Using the [Opportunity Index](#)



The color coding on the map shows the census tracts as they are scored by quintiles into categories ranging from very low to very high opportunity. Note that there are also 5 census tracts that are grey. These tracts have less than 50 households, per census data. The small population would skew data, so have been removed from calculations. These census tracts include University of Michigan main campus, EMU Main Campus, two prisons, and the Willow Run Airport area.

As noted above, there are individual scores in each of the 5 categories. To view this and related data by census tract, click on the map. You will see a bright blue outline of a census tract appear along with a pop up box listing lots of information. The pop up box shows all the data collected, including additional data used to calculate the index scores. Scroll down in the pop-up box and you'll see a bar chart summary. There is a mouse over feature, where as you move the mouse over the bar chart, you will see scores for each of the 5 categories. For example, for the tract selected, the Job Access score is 4/5.



### Expanding the view



The underlying data that makes up each index is available for view individually as well as the data that makes up the overlays. Start by clicking on the “Content” section of the table of contents at left.

If you mouse-over the “Equity Index” you will see additional options for ways to view this index. The first is the legend that shows initially. The second is a **table** feature, that puts all the data in the pop ups into a table by census tract. If you have a tract highlighted, it will highlight it in the table. You can use the scroll bar at right to move the table up and down. The table can be expanded by pulling it up over the map for a larger viewing area.

A drop down “Table Options” menu allows you to turn columns on and off if you want to focus on one or a handful of measures to compare across tracts in the county. There are additional columns related to the measures, but that can be useful. The columns turned on, are those included in the pop-up and reflect the data used in the measurements. Data in each column can also be sorted ascending or descending.

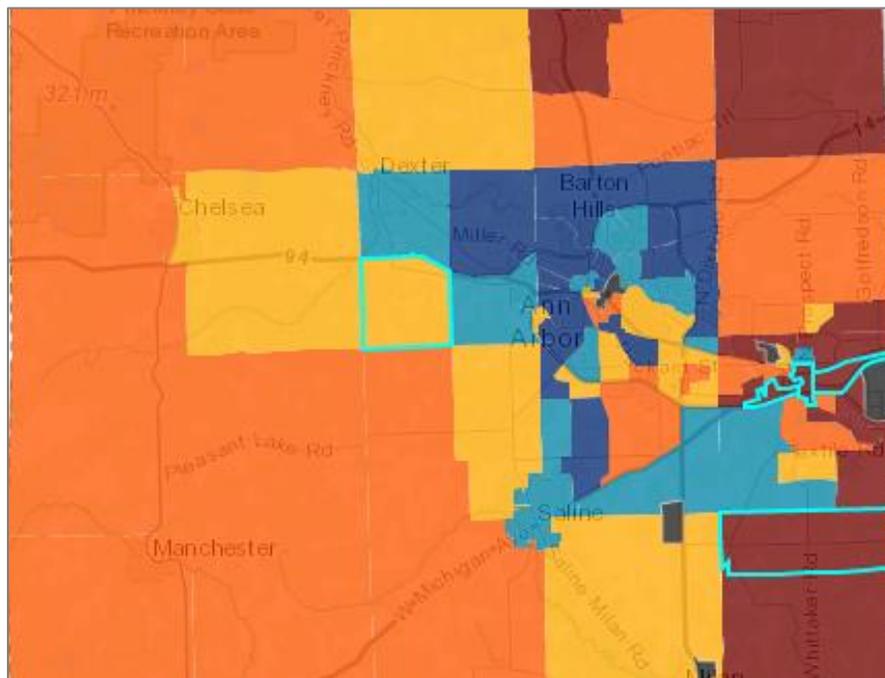
Tract ID 26161455000  
 Housing Units (Census) 1,856  
 Vacant Housing Unit 96  
 Vacancy Rate 5.17  
 Owner Occupied Housing Unit (County Equalizer) 1,423  
 Housing Unit (County Equalizer) 2,419  
 Home Ownership Rate 30.47  
 % of Registered Voters 68.19  
 High School Students who Dropped Out 36  
 High School Students 808  
 High School Drop Out 4.46  
 Zoom to

Equity Index (100 features, 1 selected)								
Tract ID	Housing Units (Census)	Vacant Housing Unit	Vacancy Rate	Owner Occupied Housing Unit (County Equalizer)	Housing Unit (County Equalizer)	Home Ownership Rate	% of Registered Voters	High School Students who Dropped Out
26161455000	1,856	96	5.17	1,423	2,419	30.47	68.19	36
26161456000	2,268	169	7.45	1,289	9,868	15.11	75.10	40

For example, to find the 5 census tracts with the highest percentage of high cost mortgages, first find the field in the table. Then click on the “gear” icon which will show a drop down list allowing you to sort by ascending or descending values. In this case, let’s choose descending. Once sorted, highlight multiple fields by clicking on the top 5 results, while holding down the “Shift” key on your keyboard.

Child lives in poverty	Child Poverty Rate (%)	H+T Index	# of Loans	# of High Cost Loans	High Cost Mortgages (HMDA) Rate (%)	Population	# of children who enrolled in preschool or nursery school	% of population under 5 who enrolled in preschool or nursery school	# of Students who take reading exams	# of students whose 3 reading test score is proficient
66.0	35.0	30	5	16.7	338	68	20.1	54	19	
51.9	37.0	52	6	11.5	146	52	35.6	7	5	
17.9	54.0	266	22	8.3	294	66	22.4	60	45	
47.5	41.0	148	12	8.1	434	144	33.2	39	13	
11.2	59.0	238	18	7.6	88	16	18.2	25	14	
48.7	36.0	28	2	7.1	100	7	7.0	6	2	
44.0	37.0	147	10	6.8	386	140	36.3	35	14	

To then view the results on the map, either close the table, or drag down the table to reveal more of the map view. The resulting census tracts will be highlighted in bright blue. In this case we see four tracts in Ypsilanti and one west of Ann Arbor.



Another way to explore the same data is to make a specific map of one data point. Let's keep using the "of high cost mortgages" data. This time, click the icon under Opportunity Index with the circle, square and triangle.



That display at left will change. For step 1 – use the drop down box to select "High Costs mortgages rate %". Once selected, the display at the right will change, making a color-coded map with a legend at left.

A screenshot of the 'Washtenaw County Equity and Change Map' interface. The 'Change Style' panel is open on the left, showing 'Opportunity Index' selected. Under 'Choose an attribute to show', 'High Cost Mortgages (HMDA) Rate (%)' is selected. Under 'select a drawing style', 'Counts and Amounts (Color)' is selected, and the 'OPTIONS' button is highlighted with a red circle. A legend for 'High Cost Mortgages (HMDA) Rate (%)' is visible, showing a color scale from light yellow (&lt; 0) to dark blue (&gt; 5.4). The map in the background is color-coded according to this legend. The interface includes a search bar, 'Share', 'Print', and 'Measure' buttons, and a 'Table Options' dropdown at the bottom right.

If you want to further modify the map, change the color ramp, or expand or contract the classification of data (default is 4 classes with natural (jerk) breaks), click the "Options" button under "number 2" for the map style, Counts and Amounts (color) map. There further modifications can be made to the maps. To return to the previous view, click on "Details".

### Exploring the Change Index

In cases where we have a current and an older data sets available, we used both to help monitor trends in the Change Index. Below is a list of data points available, as well as the two time frames for each one. Generally two data points are about 5-8 years apart.

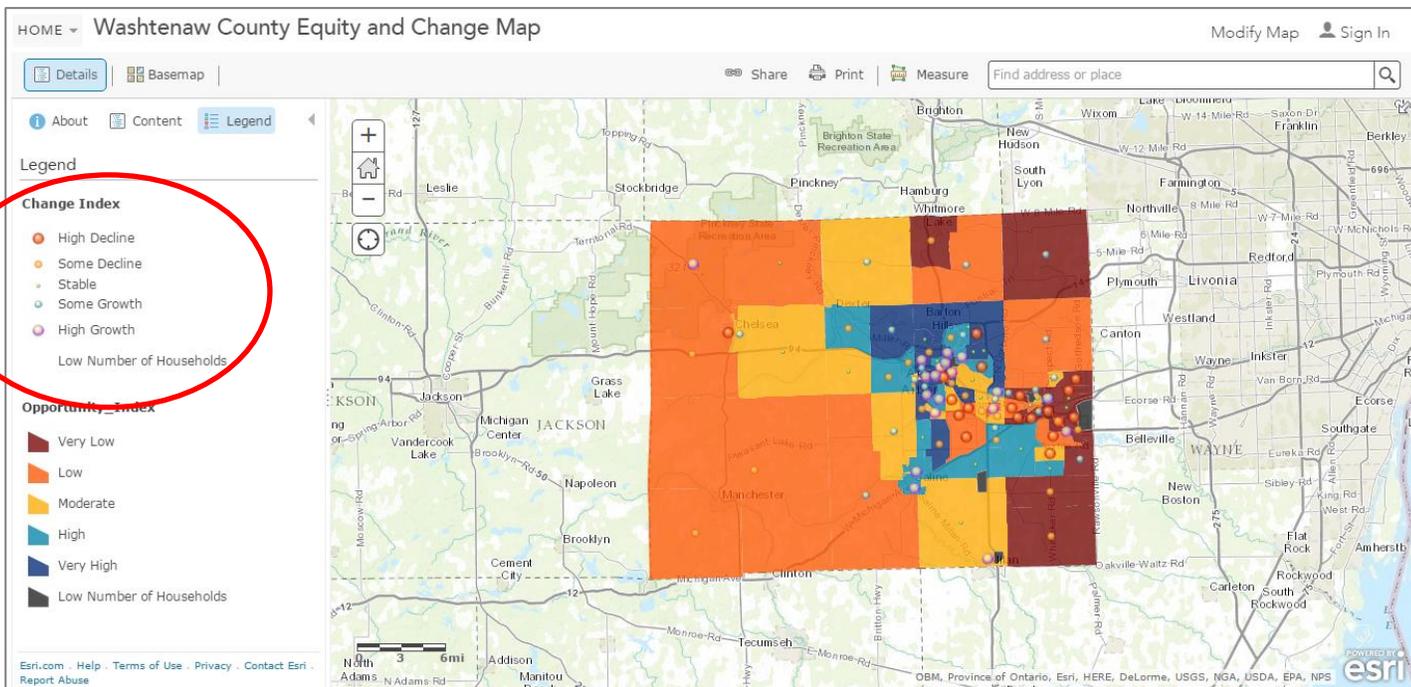
Health	No records available for two time frames			
Job Access	Educational attainment* (bachelor’s or better Age 25 or older)	Living wage jobs nearby (LEHD data - using county living-wage rate) 2006, 2011	Un-employment*	
Economic Well-being	Child poverty rate*	Severe housing cost burden* (>50%)	High cost mortgages (Consumer Financial Protection Bureau (2007, 2013)	
Education & Training	% 3-4 year olds in pre- school other *	% 3rd grade reading proficient**	% 8th grade math proficient**	% Adults not working*
Neighborhood Safety & Stability	% Vacant – residential units up to 36 months – USPS 2007, 1 <sup>st</sup> quarter 2015	Median Home values***	% registered voters voting (Nat’l elections, 2008, 2012)	

\*American Community Survey 2005-2009 and 2009-2013

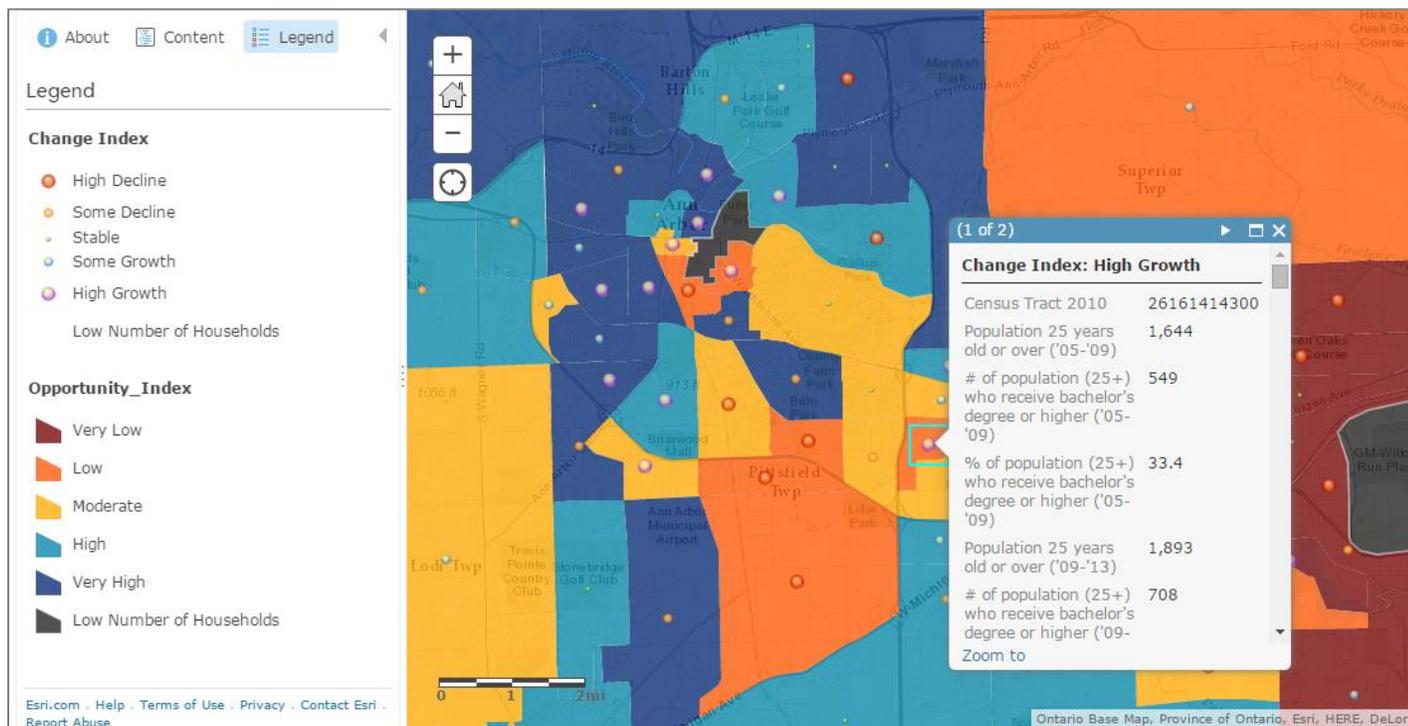
\*\*WISD data – 2008?, 2014

\*\*\* equalization – 2005, 2014

The change over time is shown by colored dots on the map. The colors match up with values that suggest high growth and high decline. **HOWEVER**, that’s not the best terminology (and we expect to change it). The change indicators were calculated like the opportunity index, with each tract getting a score. Then like the Opportunity Index, the tracts are compared against each other, basically broken into a ranking by quintiles. As a result, if a trend in the county is growth or decline, it may not show that a given census tract is improving or declining in comparison to past data measures for the same census tract. This is something we hope to adjust in future roll-outs of the index.



Zooming in on an individual change ranking for a given census tract, let's look at one in Pittsfield Township. In the Opportunity Index, the tract is ranked as "low" opportunity in comparison with all county tracts. But in the change index, the tract is showing a trend for "high growth". When comparing the change from the previous data sets (8-10 years ago) to the current data (1-3 years ago), we see growing opportunity.



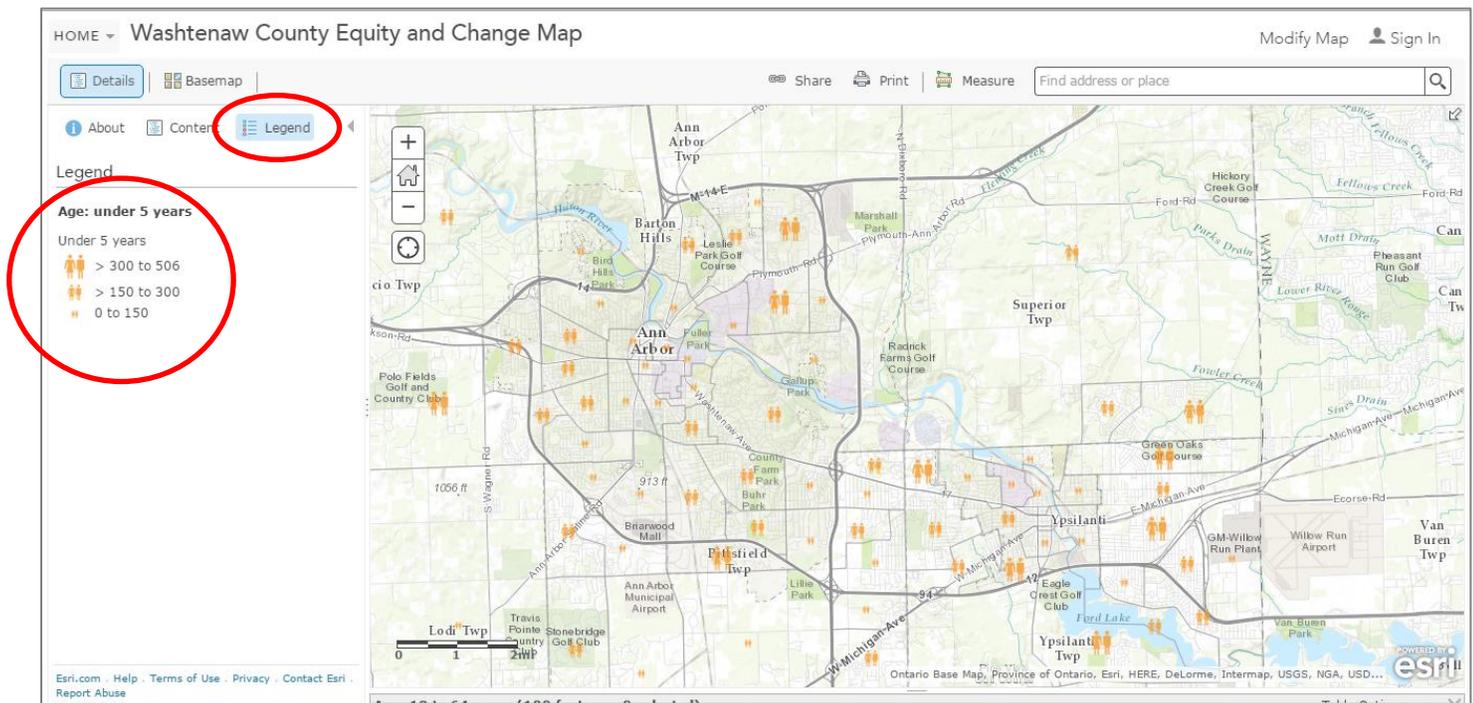
Clicking on the census tract will again reveal more detail. As above, this data can be reviewed in tables, and/or become personalized maps as well (see above for more info).

## Exploring the Overlays

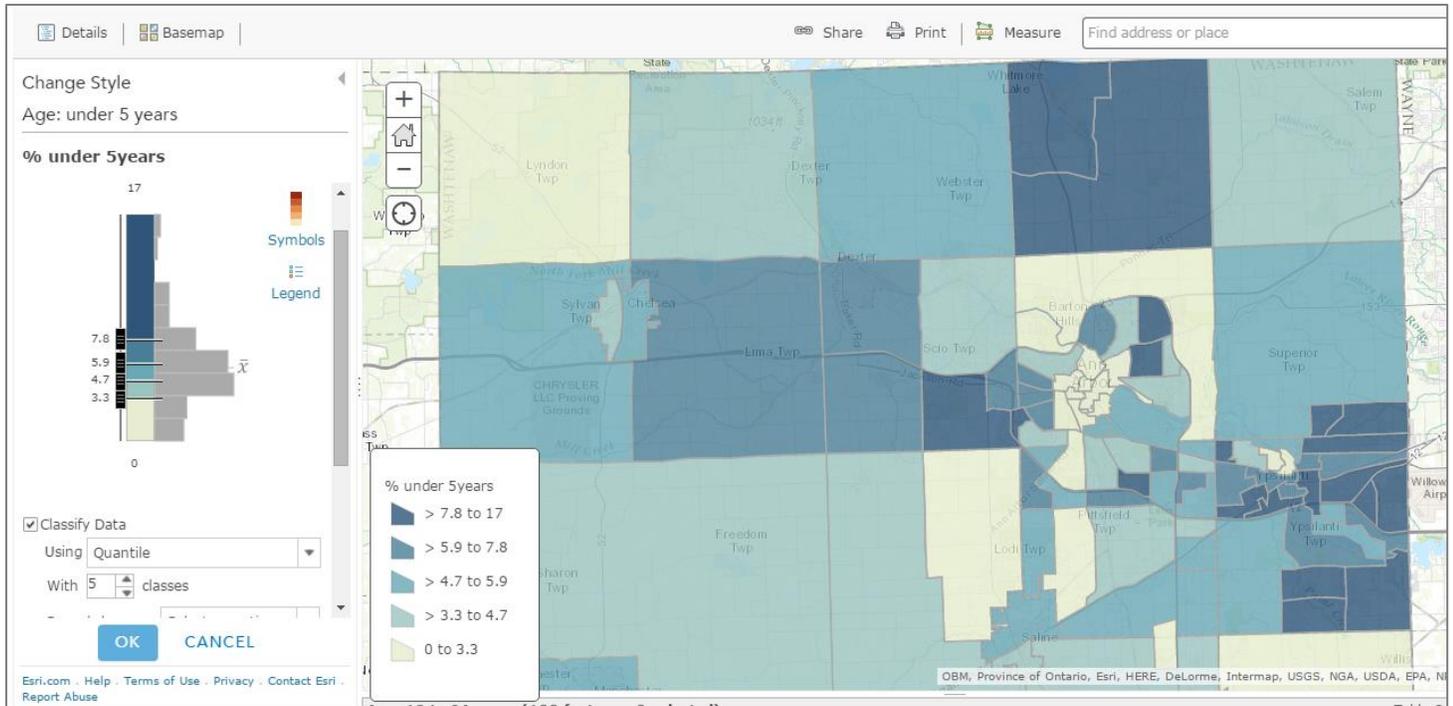
After selecting “Contents” at left, the other options can be checked on and off. The overlays usually contain one type of data that can be mapped over the opportunity or change indices.

- Life Expectancy –was calculated by zip code for the county, showing up to a 9 year discrepancy based on where individuals live.
- Per Capita Income –shows the difference between per-capita income for African-American and White populations by census tract. While using this measure, pay attention to areas with small African-American populations which may skew the data.
- Race – separate listings can be found for Asian, Hispanic/Latino, African- American and White.
- Age – separate listings are available for under 5; 5-17, 18-64, over 65. The tables and personalized maps will allow for further distinction, including 5-17, 18-24, 25-44, and 45 -64.
- Opportunity Index (Top & Bottom 20) – Data partners indicated that there would be significant differentiation within both the bottom and top quintile. When using this option, just those two are shown, to allow for closer examination of the data. As you examine it – you will see in the either quintile, a lot of variation in scores by category. Much can be learned by digging in.

When using an overlay, note that the display will vary by topic. First, check the box next to the overlay you intend to use (You may want to uncheck other layers for easier viewing.) In this example, we unchecked everything but Age: under 5 years. At first the map is populated with small figures. If the legend does not appear at first, make sure to click on the legend box, so that it will be clear what the icons represent. The other thing to note in this example is that the number is a count, not a percentage, perhaps not as helpful as we’d like. But we can fix that!



Another option for representing age data, is to click on contents, and then again chose the icon showing the square, triangle and circle under “Age: under 5.” Once there, you can select from the drop-down, % under five years. By clicking “Options”, the map has been further personalized to show 5 classes, instead of 4. In this case, at even intervals of the data, with the darkest blue representing census tracts where 7 to 17% of the population is under 5 years old.



In this manner, many detailed maps, data points and information can be developed and utilized and/or shared.

If you have questions about the data or using the maps, please contact Teresa Gillotti at [gillottitm@ewashtenaw.org](mailto:gillottitm@ewashtenaw.org). Comments and suggestions are always welcome.

**Opportunity Index in coming years**

OCED is working with the Kirwan Institute on future maintenance including updating data steps periodically. Once finalized, that information will be posted on the [www.opportunitywashtenaw.org](http://www.opportunitywashtenaw.org) website.