Project Description:

Success in school and in life is influenced not only by academic achievement, but also by a complex web of social factors. OUSD's Opportunity Mapping project tries to untangle that web to show where conditions exist that tend to produce positive outcomes for kids, and where opportunity is lacking and the challenges for students are greater. It is modeled after the Opportunity Mapping project developed at the Kirwan Institute of The Ohio State University (http://kirwaninstitute.osu.edu)

By using data to show where children live in relation to schools, health care providers, nutritious food options, recreation areas and good housing stock, Opportunity Mapping can help direct investment and initiatives that improve the quality of life for youth and promote regular attendance, academic progress and social, physical and emotional growth.

The **OUSD Opportunity Mapping Project** uses Geographic Information Systems (GIS) technology to map the distribution of school-based and District-wide traditional and non-traditional indicators of student performance and community health. The **2013 Opportunity Mapping** categories include 108 layers of data, as follows: (# layers)

- School Sites & Enrollment (3)
- Graduation Rates (4)
- Academic Performance (22)
- Attendance (5)
- Suspensions (9)
- Food Programs (9)
- Language (16)
- Ethnicity (6)
- Health & Wellness (20)
- Community (8
- At-Risk Index (1)

The latest release of the OUSD Opportunity Mapping application includes an **At-Risk Index**. This index is compiled from a set of experimental OUSD indicators that present challenges to students in and around the District. The **OUSD Opportunity Mapping Workgroup** is closely exploring the wide range of indicators that might impact students in the District in such a way as to constrain their ability to reach academic and social goals. This first iteration of the **At-Risk Index** is calculated by computing a standard score (ZScore) of OUSD students per census block group who:

- score below basic or well below basic on the CST/ELA exam;
- are chronically absent (missing 10% or more enrolled days in the school year);
- have been suspended at least once;
- do not score in the Healthy Fitness Zone on the Physical Fitness Test;
- are asthmatic;

- attend a school where 85% or more students qualify for Free and Reduced Lunch;
- are long term English learners;
- are emotionally disturbed Special Ed students.

The ZScore is a statistical measurement of a score's relationship to the mean in a group of scores. A Z-score of 0 means the score is the same as the mean. A Z-score can also be positive or negative, indicating whether it is above or below the mean and by how many standard deviations *(www.investopedia.com/terms/z/zscore.asp)*. Each indicator is calculated per census block group, and summed to a composite ZScore, which is mapped to show how these combined risk factors are distributed throughout OUSD. This map layer provides a base upon which other indicators can be viewed to visualize the relationships between individual factors and the agents of risk.

This latest web map environment, developed using the ArcGIS suite of GIS spatial data processing tools, offers a streamlined user experience to share school and student data to inform a ***placed-based*** District decision support system. This latest release includes updates of map categories to include the most recently compiled data for students and schools, as well as ***Change*** data for each indicator where available to show performance over the latest two years. All data is hosted and maintained in the **ArcGIS Online Cloud**, and is embedded in a ***one map, many devices*** platform that supports a live browser based JavaScript API map viewer accessible via desktop, iPad, iPhone and Android devices. Query and filter capabilities, and security controls enabling varying levels of permissions to manage privacy concerns, will be forthcoming in future releases.

Please direct all enquiries, comments and corrections to the **OUSD Opportunity Mapping Workgroup** at ***susan.radke@ousd.k12.ca.us***.

OUSD Healthy Kids, Healthy Oakland
Opportunity Mapping – Year 2

6.2013 http://gistools.org/ousd/mapping.html

Operating Instructions:

The Opportunity Mapping application can be accessed a number of ways:
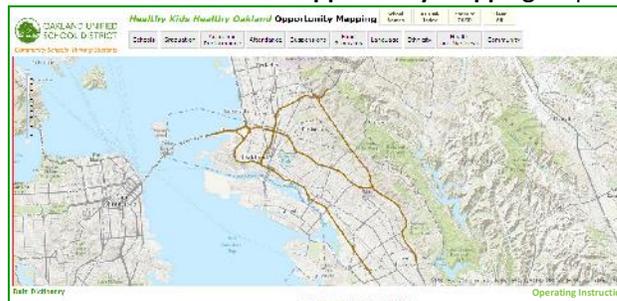
- *http://thrivingstudents.org/42*
  Access via the **OUSD ThrivingStudents.org** website:

- *http://ousd.maps.arcgis.com*
  Access via the **OUSD Web Map Center** website:
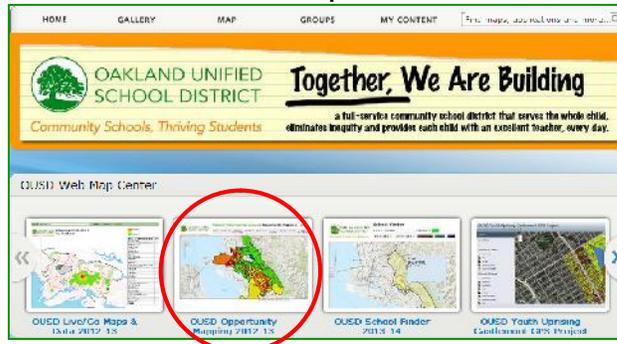
- *http://gistools.org/ousd/mapping.html*
  Direct access to the **OUSD Opportunity Mapping** map viewer:

The map view contains a live map window centered upon the Oakland area. Two sets of buttons run along the top of the map window:
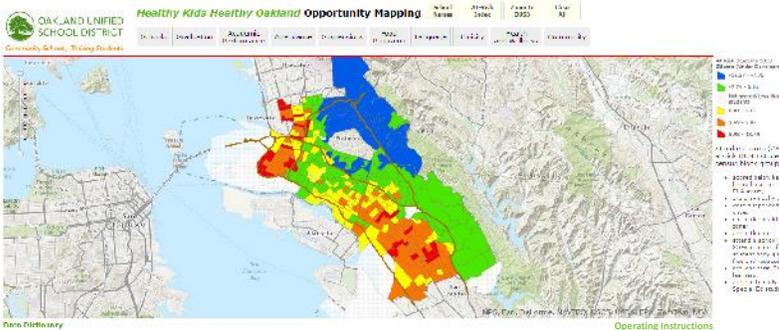
Operations Buttons:
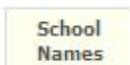
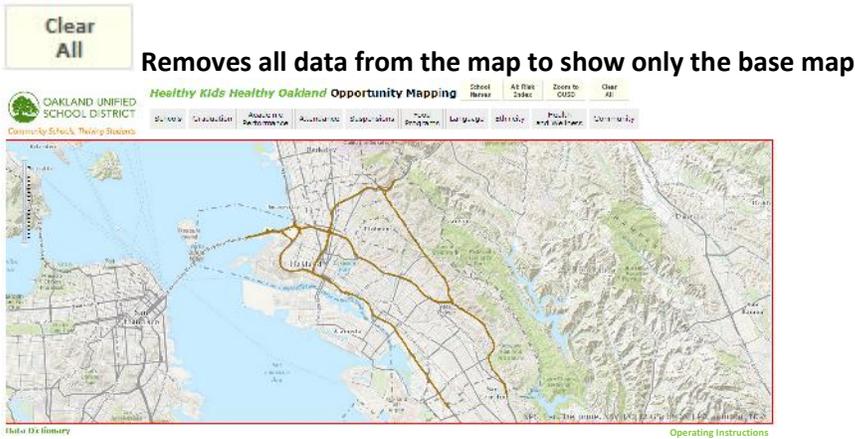 **Adds the Public and Charter school names labels to the map**
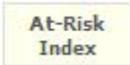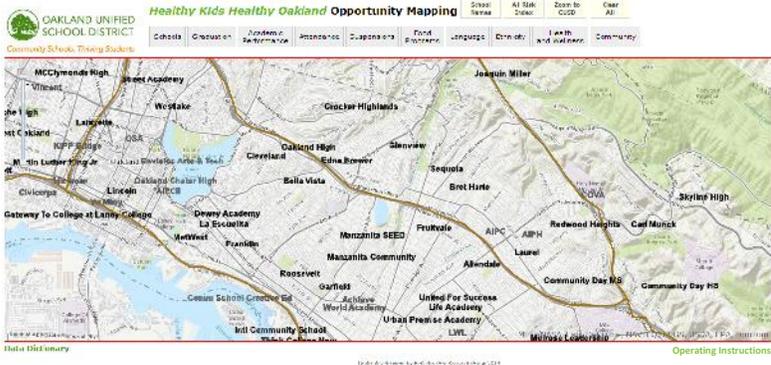
 Adds the At-Risk Index map layer to the map

 Centers the map window on Oakland

Clear All   **Removes all data from the map to show only the base map**

a. **Foundational 10 Map Layers Buttons:**

| Schools | Graduation | Academic Performance | Attendance | Suspensions | Food Programs | Language | Ethnicity | Health and Wellness | Community |

Each of these buttons contains a drop-down menu of map layers associated with each of the **Foundational 10** school and student based indicators.

Click on the Schools button to show the menu of map layers listed for this indicator.
Click the box to the left of **OUSD Public Schools 2012-13** to add the school points to the map.
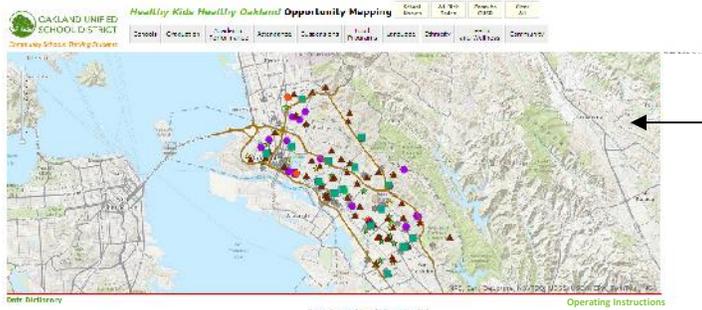

A legend appears to the right of the map window showing how the schools are symbolized by grade levels.

Click on one of the school points to show the information box listing the details of that school.
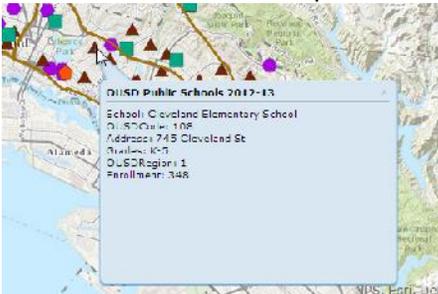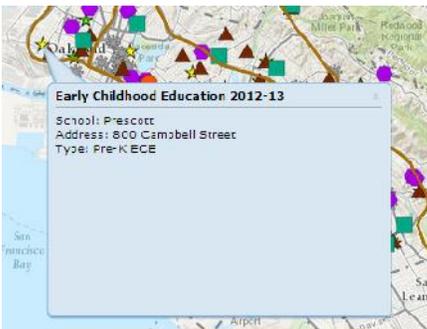
Click to turn on the other map layers listed under the Schools button to add them to the map.

Charter and Pre-K schools are added to the map, and their legends are added to the list to the right of the map window.

The details of these schools can be accessed as well by clicking on them to show the information box for each school.

The other **Foundational 10** buttons contain similar drop-down menus, listing the map layers associated with the respective indicator.

For example, the **Academic Performance** button reveals a list of map layers associated with this indicator.

These include API scores, SRI percentages, and CST performance. Some of these indicators are mapped by **School**, and some by **Census Tract**.

- **School-based indicators** show the value for that indicator calculated for the enrolled students attending that school. These indicators are mapped and symbolized as **POINTS.**

- **Census tract indicators** show the value for that indicator calculated for the students who live in that census tract. These indicators are mapped and symbolized as **AREAS.**
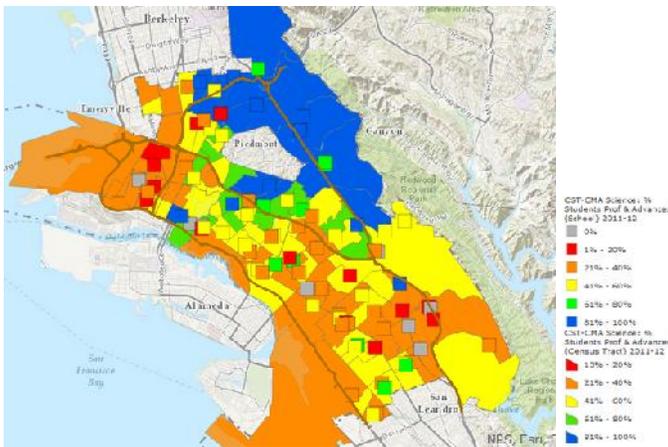
CST-CMA Science: % Students Prof
and Advanced (**School**) 2011-12
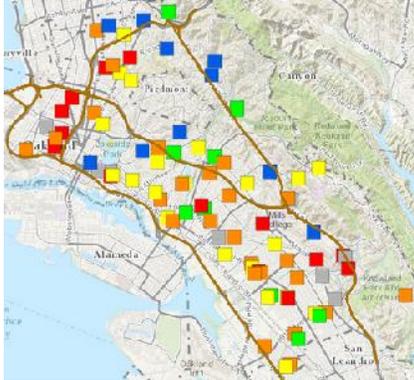
CST-CMA Science: % Students Prof
and Advanced (**Census Tract**) 2011-12

When combined, these data tell an interesting story about where students live and where they attend school.

Combining map layers of different indicators displays information that reveals relationships between certain school and social factors that may pose challenges to students in particular neighborhoods in the city;
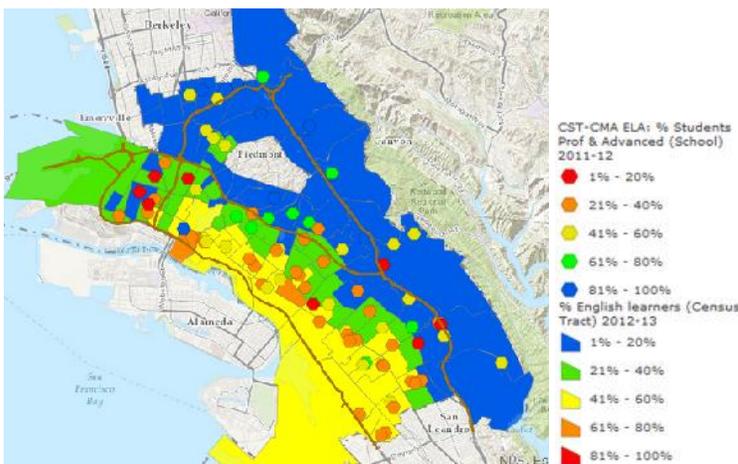
or show other factors in the communities that surround schools that struggle with increased rates of absenteeism or suspension.
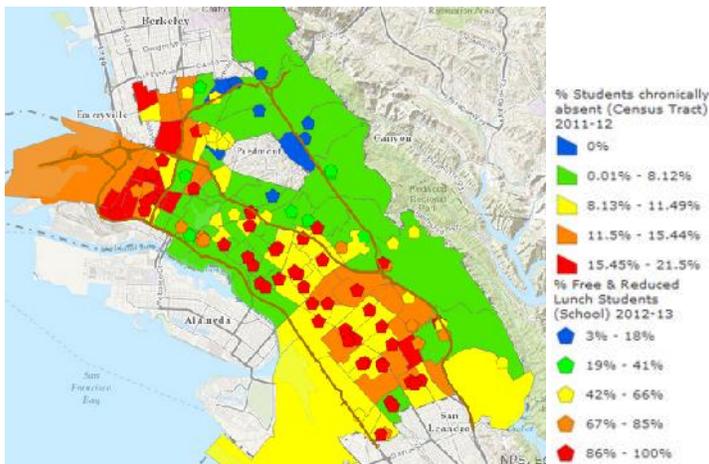

In addition to current data for each indicator, there is also a *Change* map layer that indicates how each one has performed over a two year period. This *Change* layer is symbolized to show if there has been a **Decrease , No Change**, or **Increase** in the rate of each indicator.

School change is indicated using symbols that overlay on top of school point data.
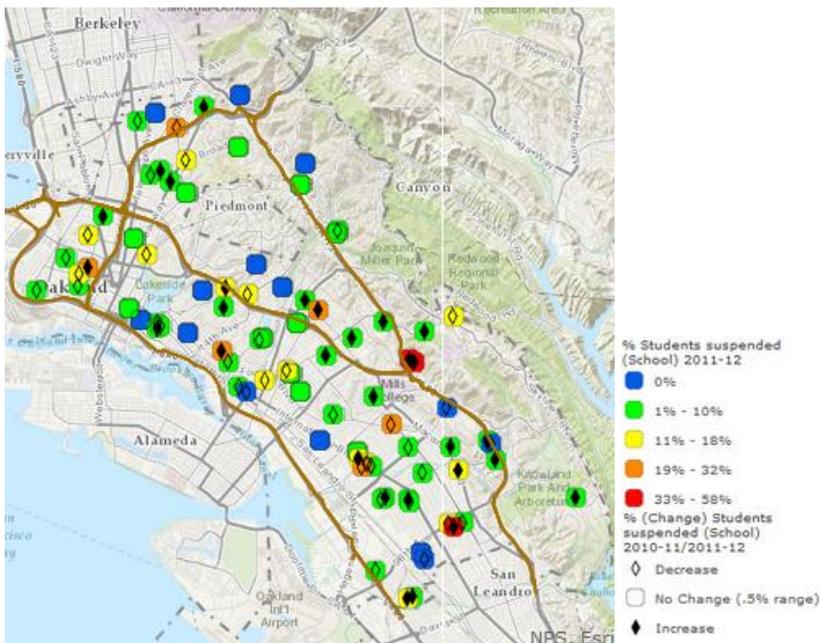
Census tract change is indicated using patterned transparent symbols that overlay on top of census tract data.
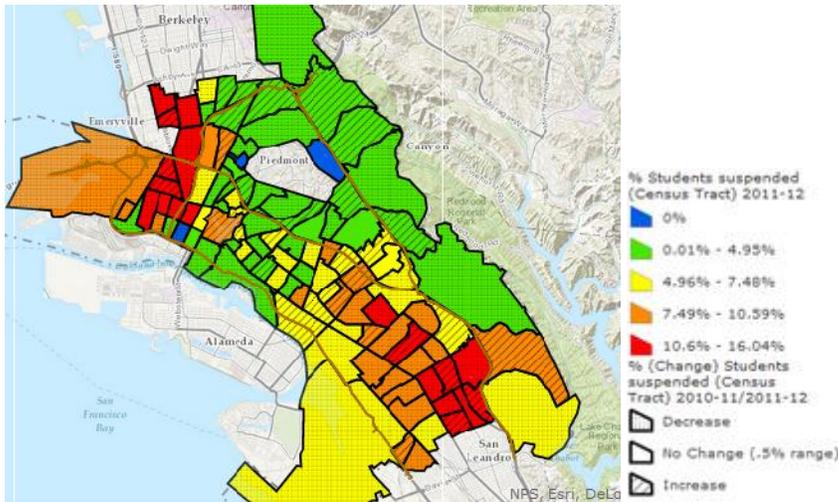
Explore the many layers of OUSD map data presented in this **Opportunity Mapping** application. A complete list of all map layers can be found by clicking on the **Data Dictionary** link found at the bottom of the map window.

Please direct all enquiries, comments and corrections to the **OUSD Opportunity Mapping Workgroup** at *susan.radke@ousd.k12.ca.us*.