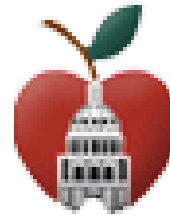


children's
optimal health

Visible changes for a healthy future



Austin

Independent School District

Using Geo Mapping and Collaboration to Target Action Addressing Social Determinants of Child Health

Mohan Rao, Children's Optimal Health

Zachary Wilson, Austin Independent School District

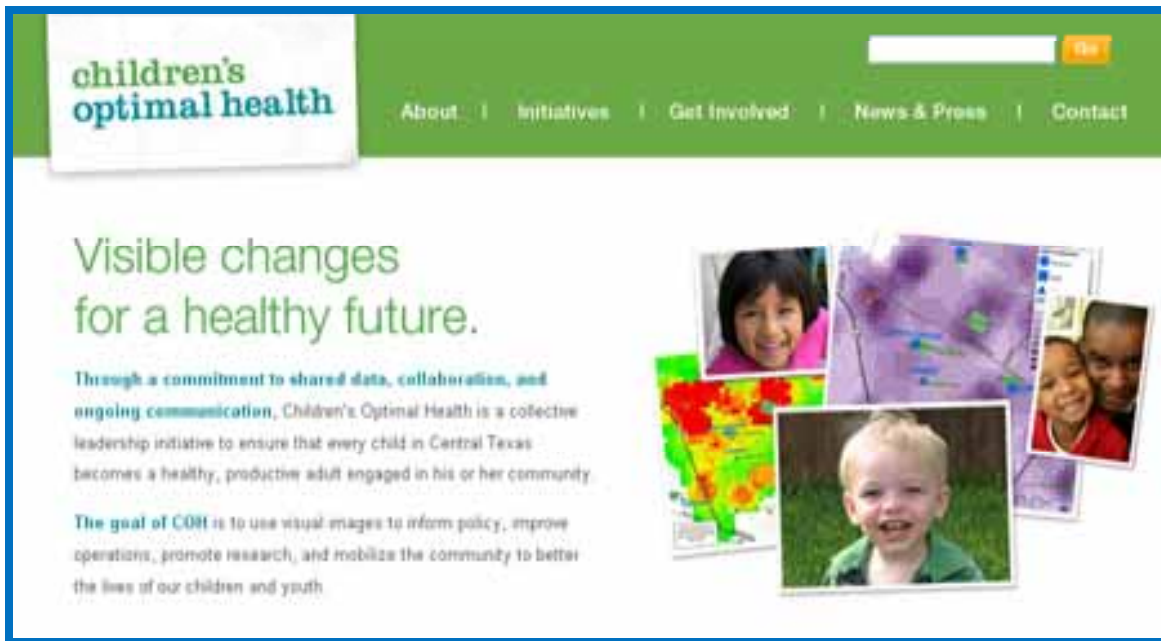
Susan Millea, Ph.D.

ESRI National Health GIS Conference

Denver, Colorado

October 18, 2010

www.childrensoptimalhealth.org



The screenshot shows the homepage of the Children's Optimal Health website. The header features the logo "children's optimal health" in green and white, a search bar, and a navigation menu with links for "About", "Initiatives", "Get Involved", "News & Press", and "Contact". The main content area has a green background with the headline "Visible changes for a healthy future." Below this, there are two paragraphs of text: "Through a commitment to shared data, collaboration, and ongoing communication, Children's Optimal Health is a collective leadership initiative to ensure that every child in Central Texas becomes a healthy, productive adult engaged in his or her community." and "The goal of COH is to use visual images to inform policy, improve operations, promote research, and mobilize the community to better the lives of our children and youth." To the right of the text is a collage of images including a smiling girl, a map of Central Texas, a family photo, and a young boy.



The "ACCESS" logo is enclosed in a blue rectangular border. It features the word "ACCESS" in large, bold, blue capital letters. Below it, the text "Austin Community Collaboration to Enhance Student Success" is written in a smaller, blue, sans-serif font.



The logo for Austin Independent School District features a red apple with a green leaf and a white outline of the Texas State Capitol building inside the apple. To the right of the apple, the word "Austin" is written in a large, bold, black font, and "Independent School District" is written below it in a smaller, grey font.



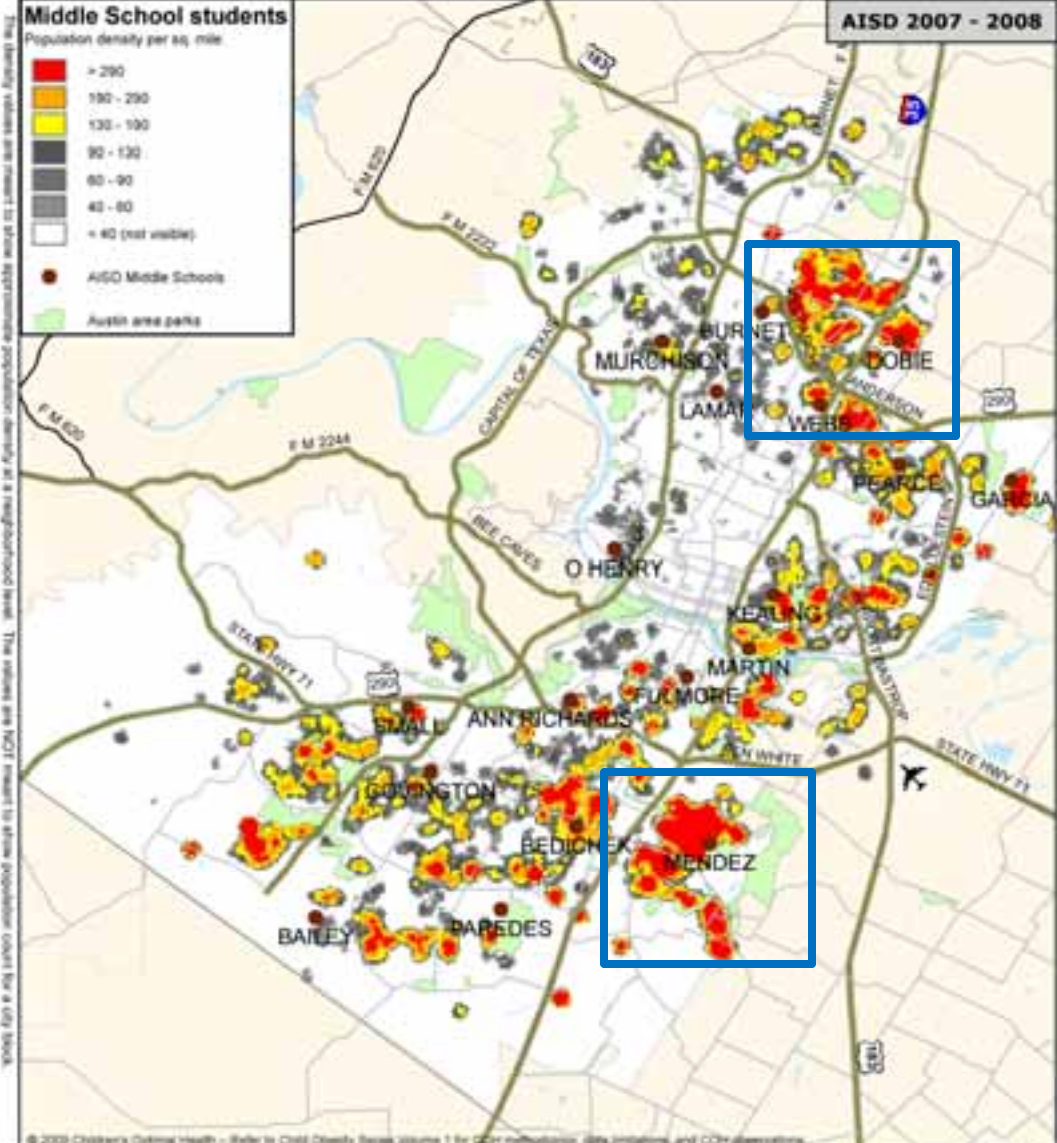
Value Add

- Maps engage community discussion
- Safe harbor for shared data supports collaboration
- Efficient use of scarce resources
- Support to service providers, funders, planners
- Focus:
 - Improve Operations
 - Impact Policy
 - Engage Community
 - Encourage Research



Are there concentrated areas where AISD Middle School students live?

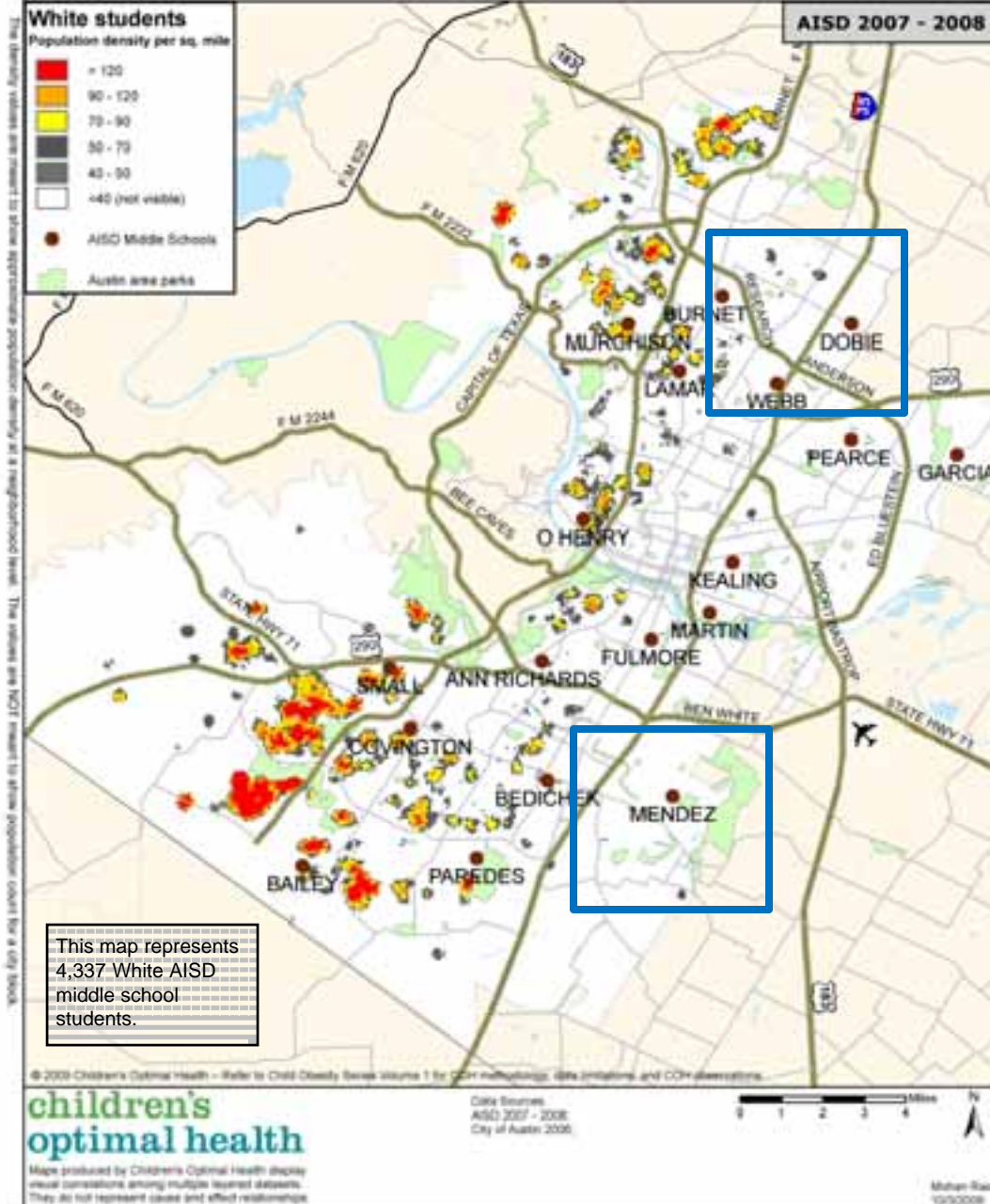
Area outside AISD boundary is shaded



The density values shown are meant to show where a higher concentration of students live. The values are NOT meant to show population counts for a city block.

Are there concentrated areas where White AISD Middle School students live?

Area outside AISD boundary is shaded

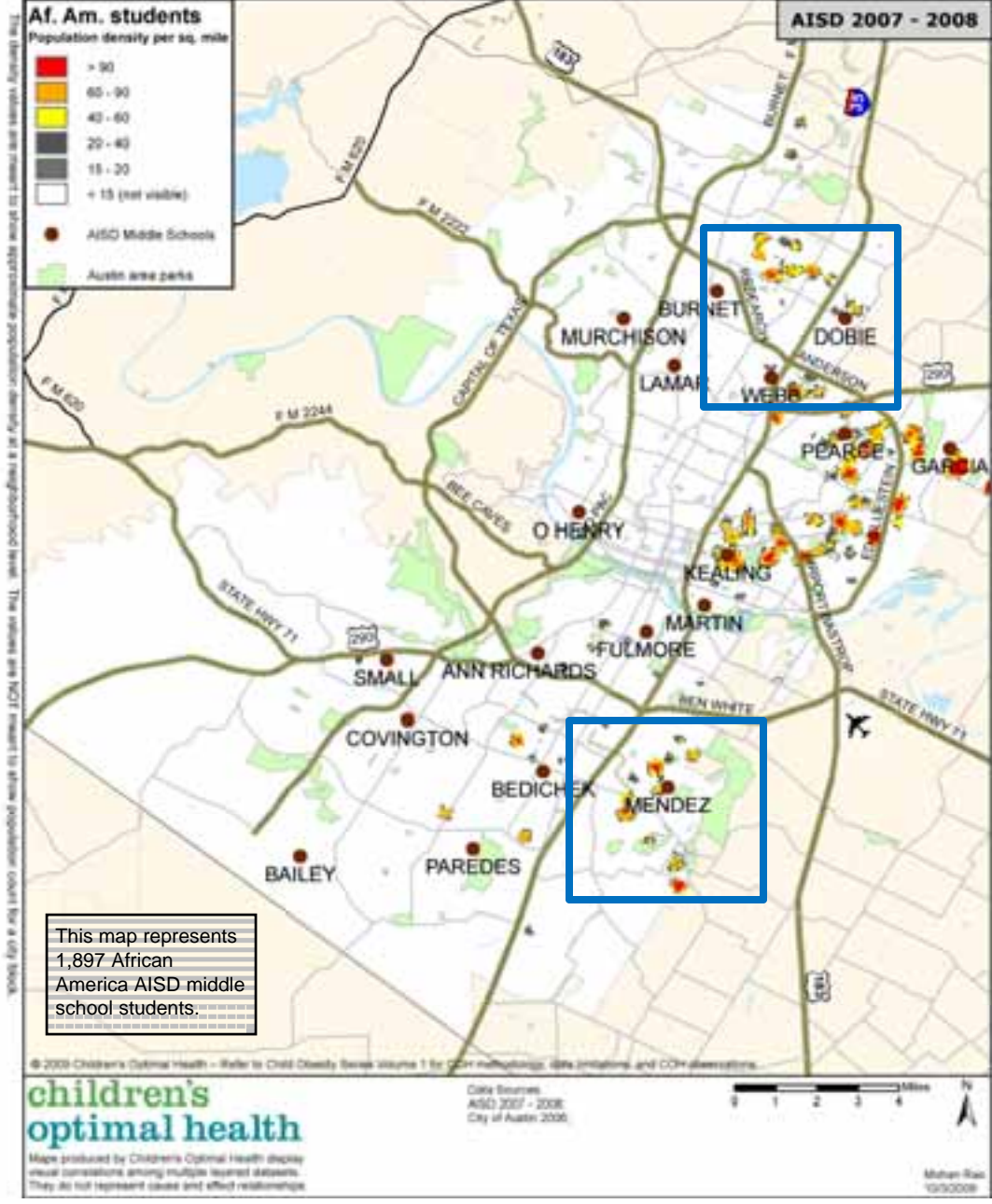


The density values are meant to show relative concentration of population density at a neighborhood level. The values are NOT meant to show population count for a city block.

This map represents 4,337 White AISD middle school students.

Are there concentrated areas where African-American AISD Middle School students live?

Area outside AISD boundary is shaded





COH's Multi-Sector Governing Board

- Health Partners
 - Health District, Competing Health Systems,
 - Safety Net Providers(ICC)
- Governmental Entities
 - (City, County, School District)
- University Partners (UT, UTSPH)
- Housing Authority
- Social Service Providers
- Chamber of Commerce



Current Projects

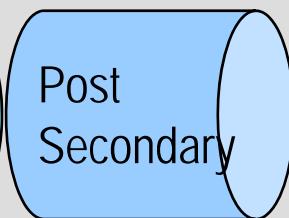
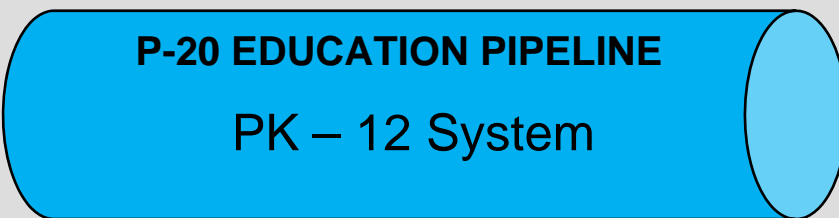
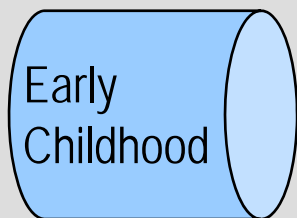
- ❑ Childhood Obesity Study
- ❑ Prenatal Care
- ❑ Access to Health Care
- ❑ Child Motor Vehicle Trauma
- ❑ Preschool-aged Children
- ❑ Student Mobility
- ❑ Chronic Absenteeism/Truancy
- ❑ Behavioral Health

ACCESS
Austin Community Collaboration
to Enhance Student Success

**children's
optimal health**



BASIC SERVICES health, mental health, housing, transportation, financial



Child care
Providers

After-school
Programs

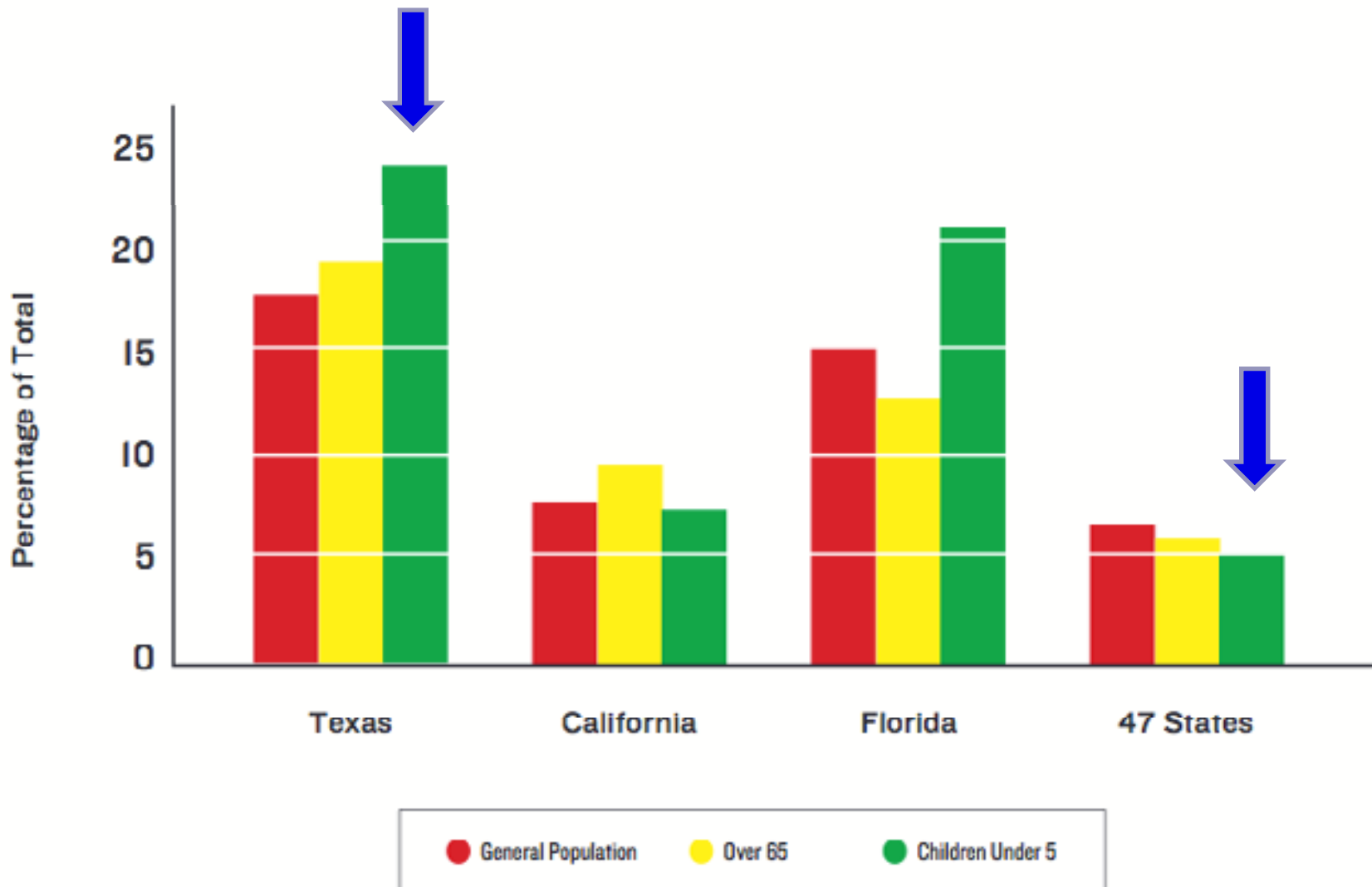
Civic/ Social/ Work
Opportunities

Social & Strategic
Supports

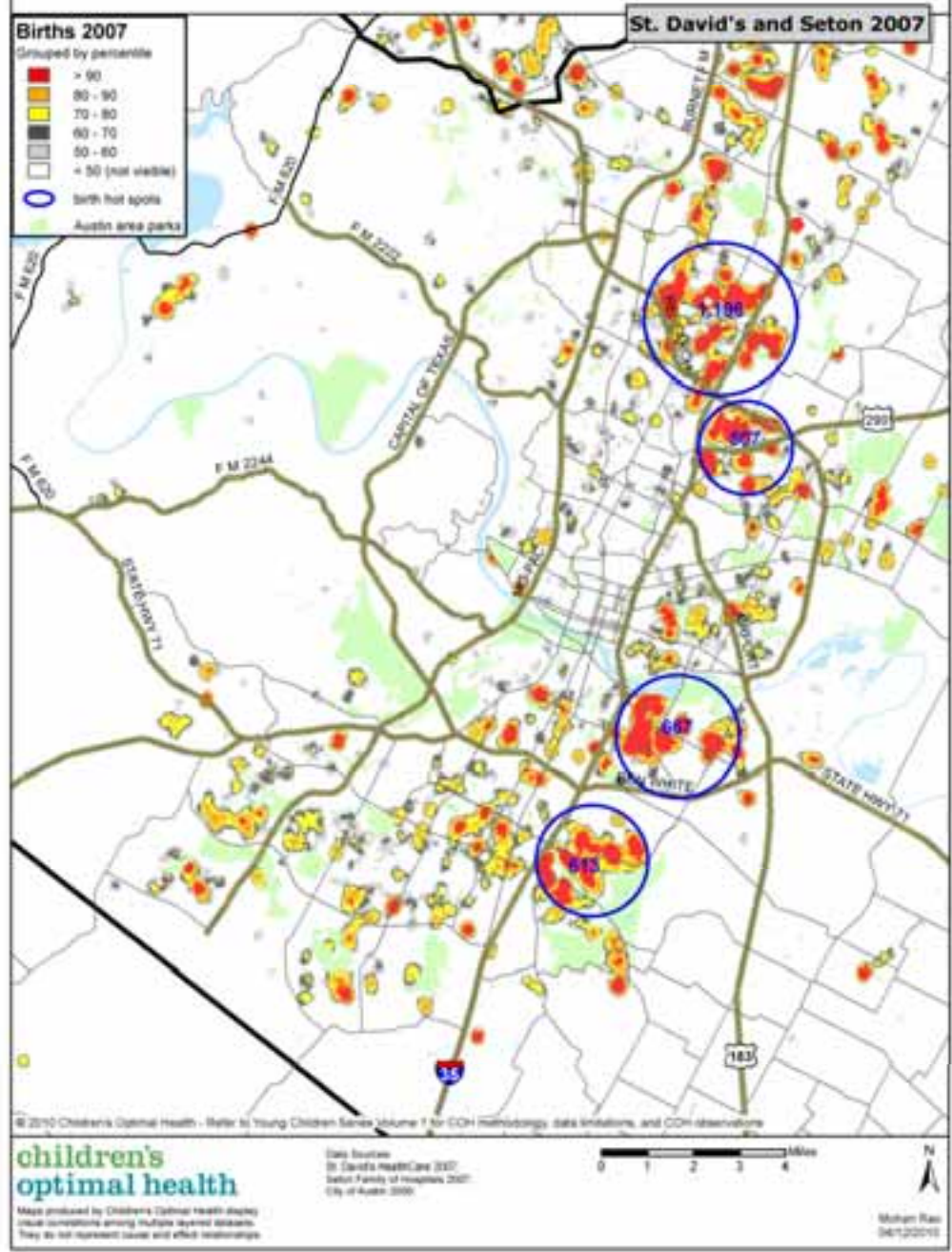
Placement
& Coaching

LEARNING & ENGAGEMENT SUPPORTS

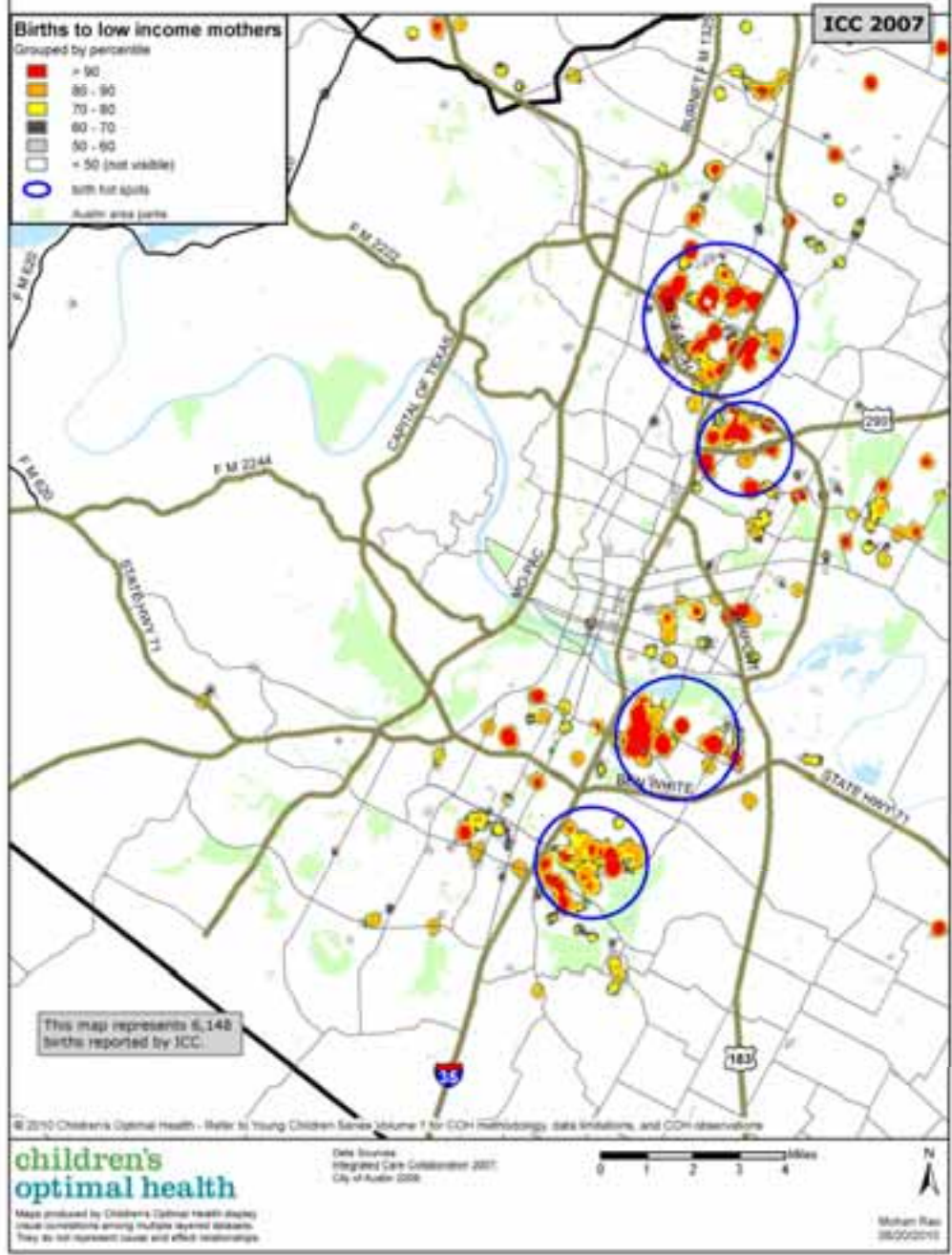
GENERAL POPULATION CHANGES 2000-2008



Concentrations of mothers delivering in 2007



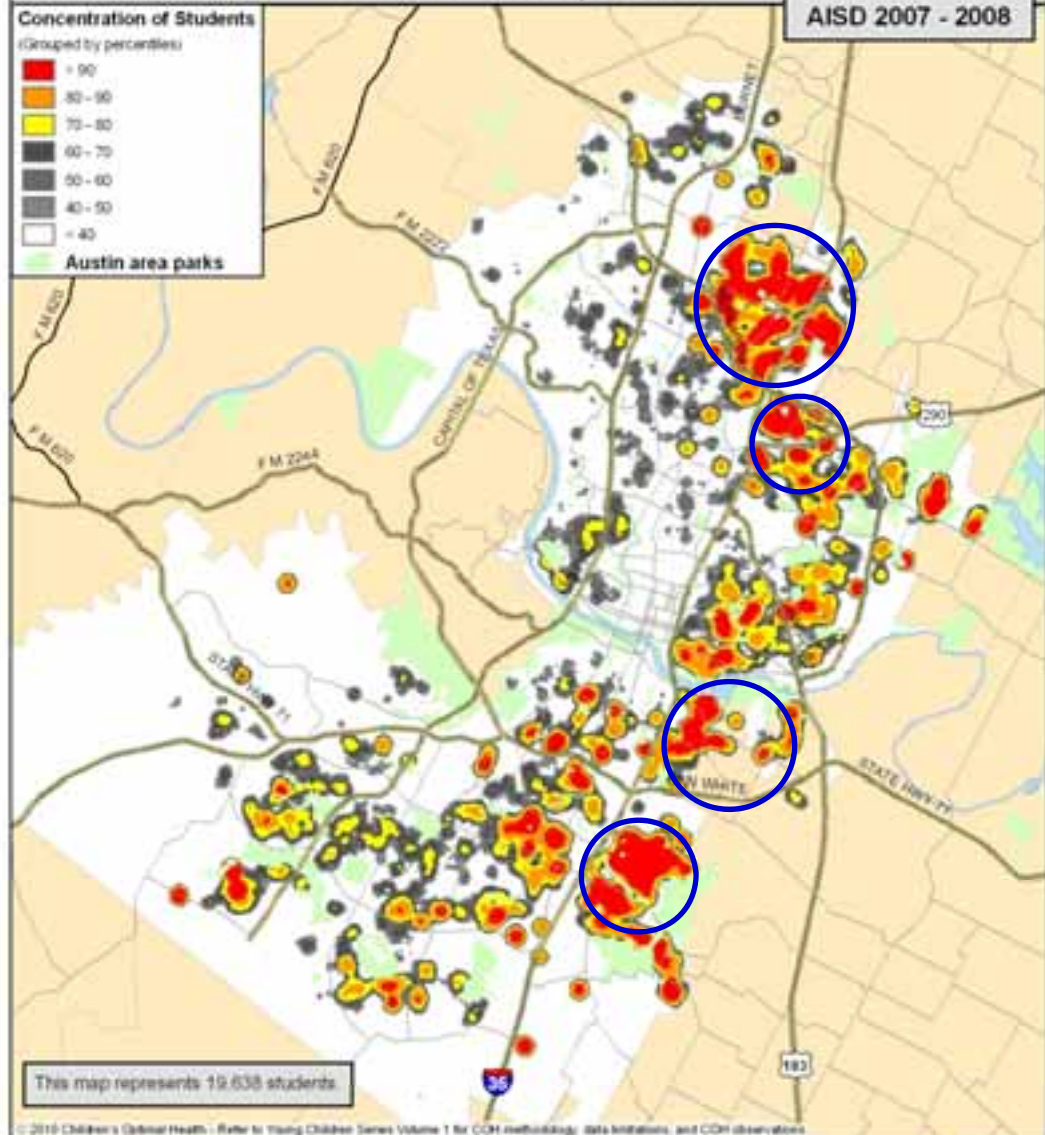
Concentrations of low income mothers delivering in 2007



Concentration of All Students (EC, PK, KG, and 1st Grade)

Area outside of AISD boundary is shaded tan

AISD 2007 - 2008



children's optimal health
Map produced by Children's Optimal Health (COH) using GIS data from the City of Austin, Texas Education Agency, and AISD. They do not represent COH and ePHD institutions.

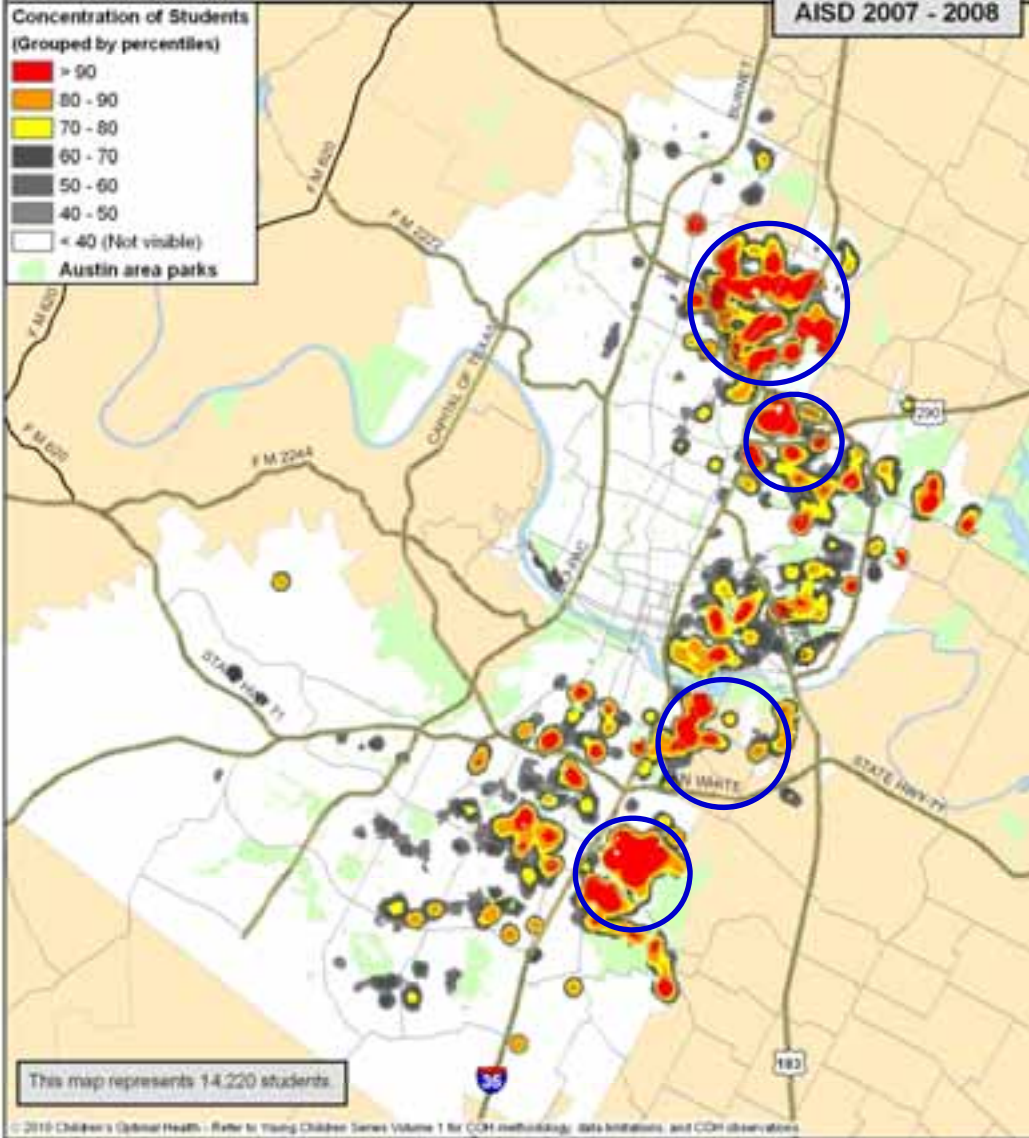
0 1 2 3 4 5 Miles
 Data Source:
 Austin Independent School District (AISD) 2007 - 2008
 City of Austin
 Texas Education Agency

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 to Enhance Student Success
 Last updated on
 4/15/2010

Concentration of Economically Disadvantaged Students (EC, PK, KG, and 1st Grade)

Area outside AISD boundary is shaded tan

AISD 2007 - 2008



children's optimal health

Map produced by Children's Optimal Health using small area data from the 2007-2008 Texas Education Agency. They do not represent state and federal legislatures.



0 1 2 3 4 5 Miles
 Data Source:
 Austin Independent School District (2007 - 2008)
 City of Austin
 Texas Education Agency

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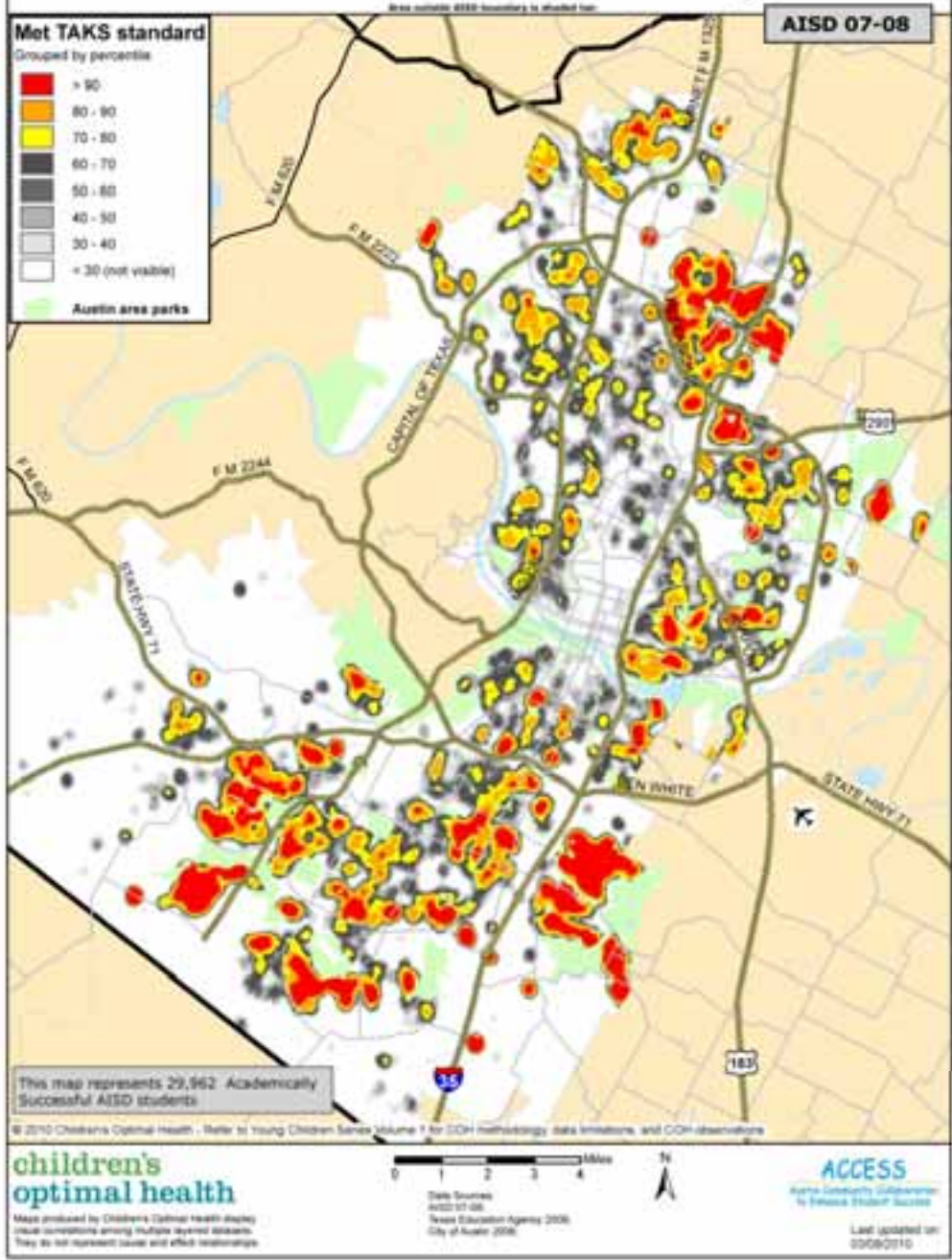
Last updated on
 4/15/2010



Process Methodology

- Data Sharing Agreement
 - HIPAA, FERPA compliance, Template
- Statement of Information Practices
 - Explains data ownership and use
 - Building partner trust
- Technical Review Committee
 - Identify data limitations, first story line
- Periodic Community Summits

Concentrations of where AISD students live who meet standard for both Math and Reading TAKS tests (grades 3 - 11)





Addressing Apparent Disparity

- ❑ **Childhood Obesity**
- ❑ **Child Mobility**

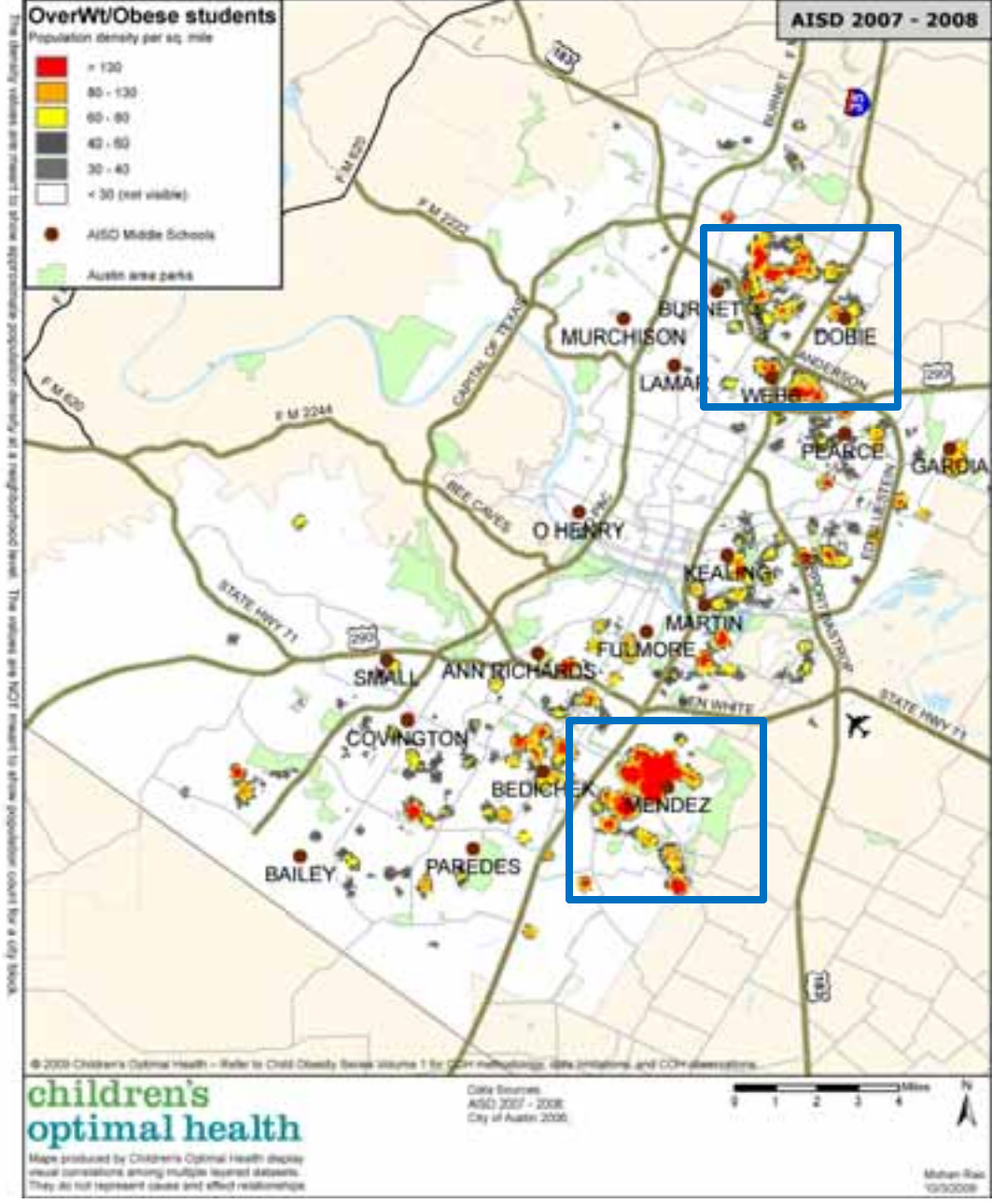


Childhood Obesity Study

children's
optimal health

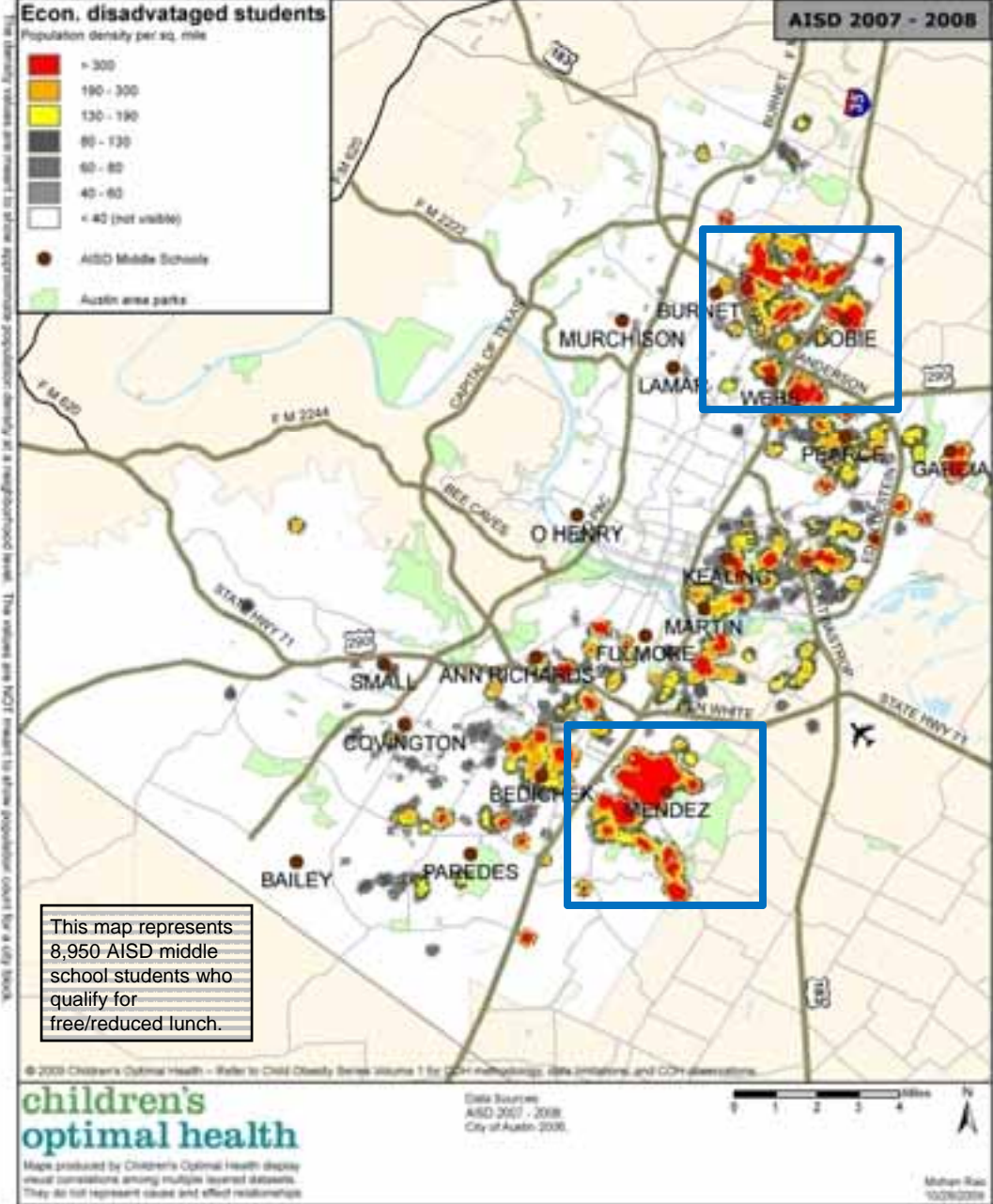
Are there concentrated areas where Overweight and Obese AISD Middle School students live?

Area outside AISD boundary is shaded



Are there concentrated areas where Economically Disadvantaged* AISD Middle School students live?

Area outside AISD boundary is shaded

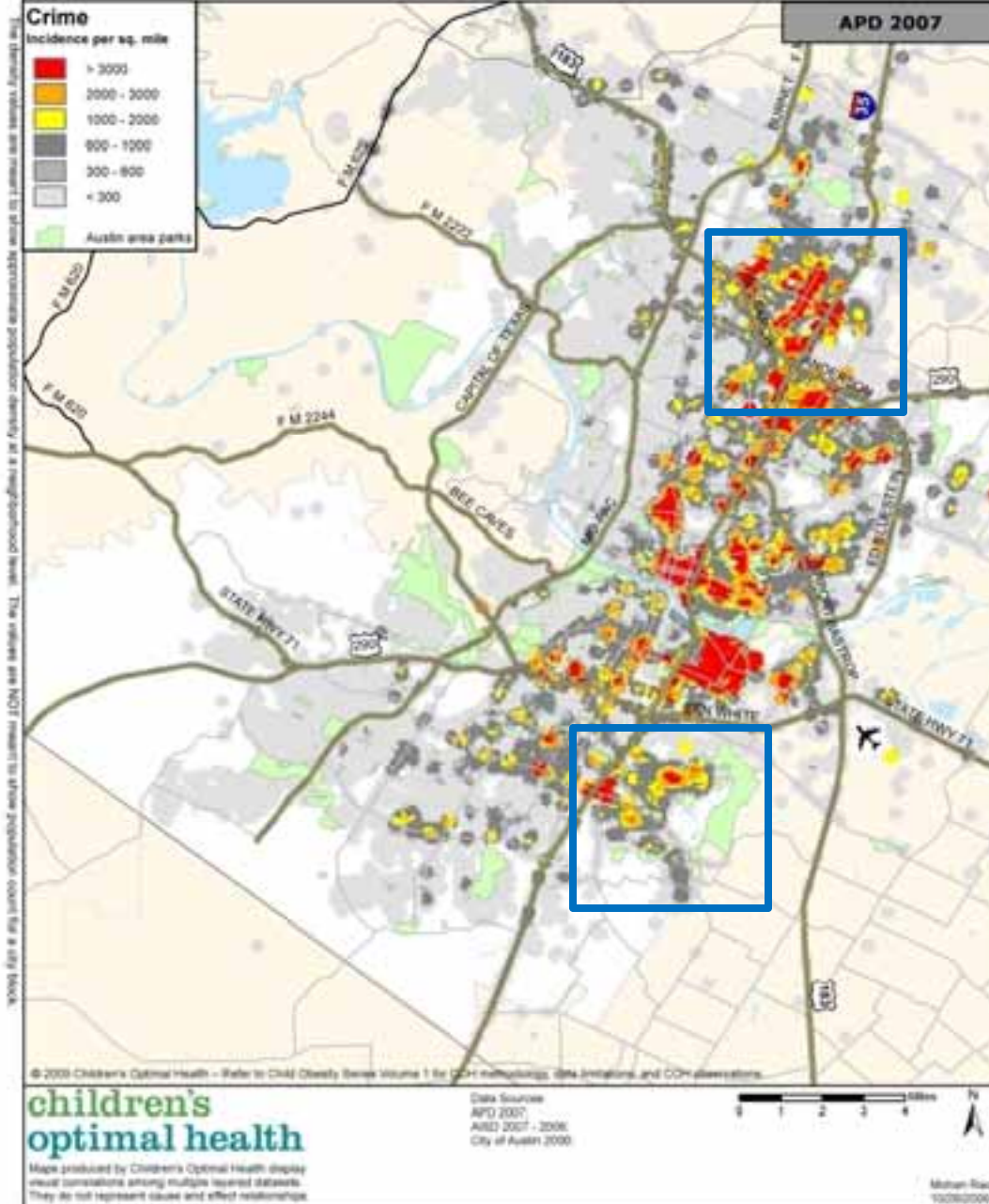


The density values represent the number of students per square mile at a neighborhood level. The values are NOT meant to show population density for a city block.

The numbers by the red and yellow lunch qualification

Are there concentrated areas where safety related crimes are reported?

Area outside AISD boundary is shaded



Symbols Key

-  Hospital
-  Medical facility
-  Pharmacy
-  AISD High School
-  AISD Middle School
-  AISD Elementary school
-  Child care center
-  Youth Center
-  Grocery store
-  Food bank
-  Convenience store
-  Pizza restaurant
-  Fast food restaurant
-  Soccer field
-  Playscape
-  Basketball court
-  Multi-purpose field
-  Tennis court
-  Workout station
-  Swimming pool
-  Thrift store
-  Bus route (Jan 2009)
-  Park
-  House of worship

Food environment Quail Creek and St. Johns

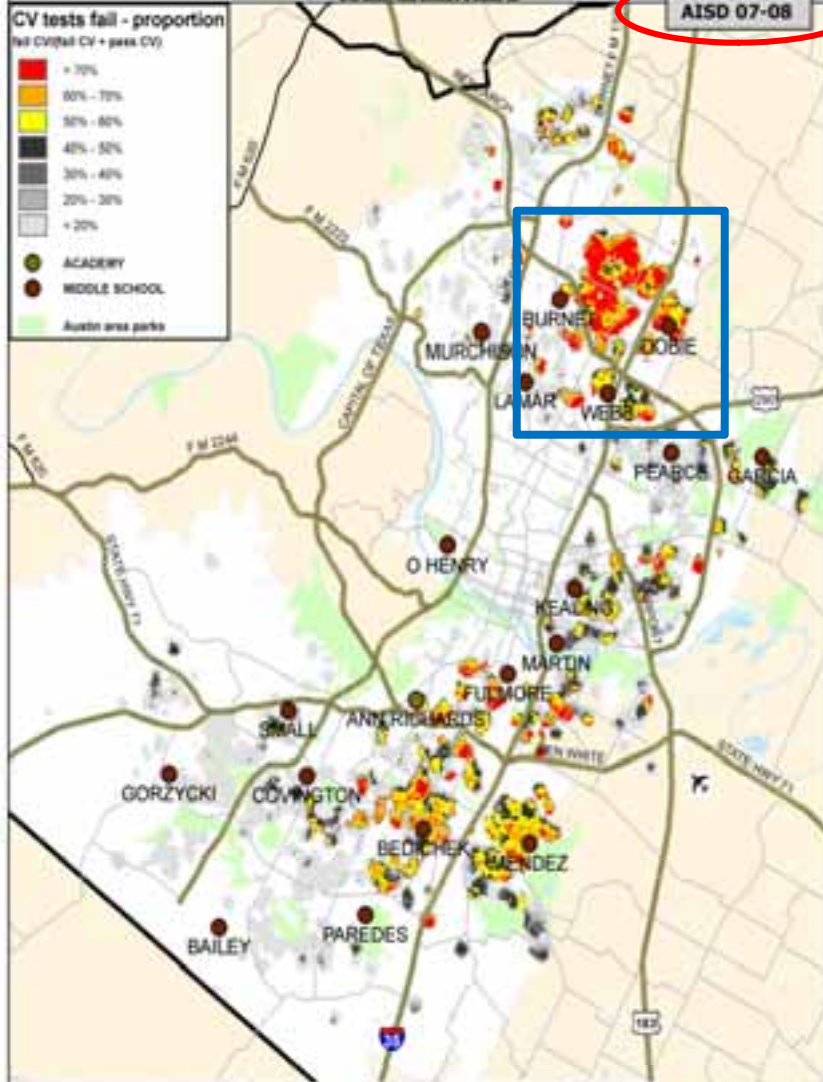


Symbols Key

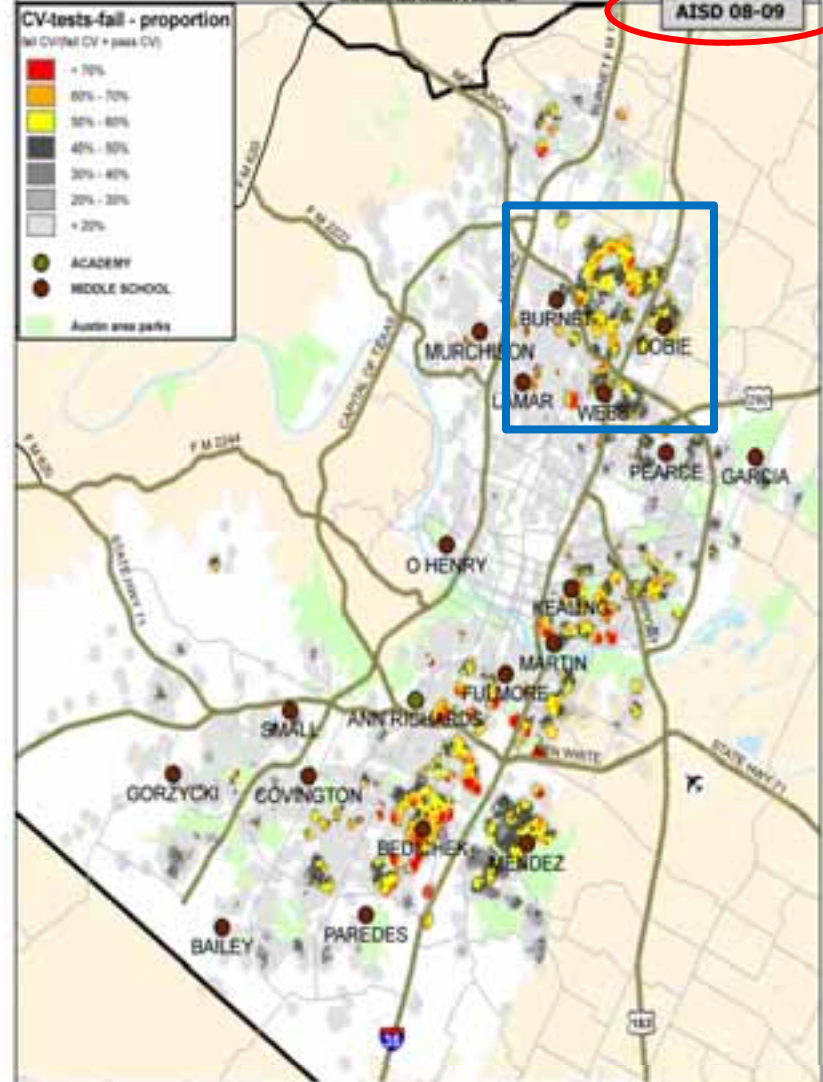
-  Hospital
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-  Convenience store
-  Pizza restaurant
-  Fast food restaurant
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-  Playscape
-  Basketball court
-  Multi-purpose field
-  Tennis court
-  Workout station
-  Swimming pool
-  Thrift store
-  Bus route (Jan 2009)
-  Park
-  House of worship



Areas of Austin with a high proportion of AISD Middle School students who failed Cardiovascular tests



Areas of Austin with a high proportion of AISD Middle School students who failed Cardiovascular tests

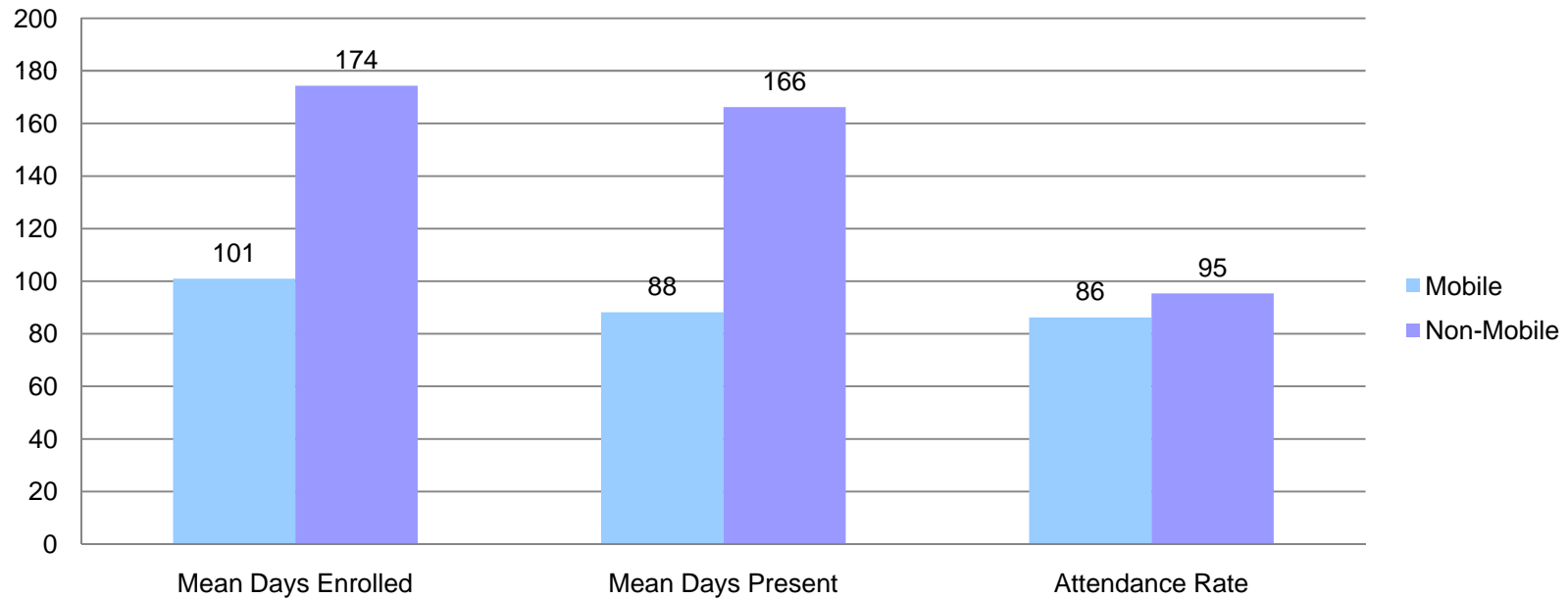




Child Mobility

AISD Mobility and Attendance

**Comparing Attendance for
Mobile and Non-Mobile Students, SY 08-09**

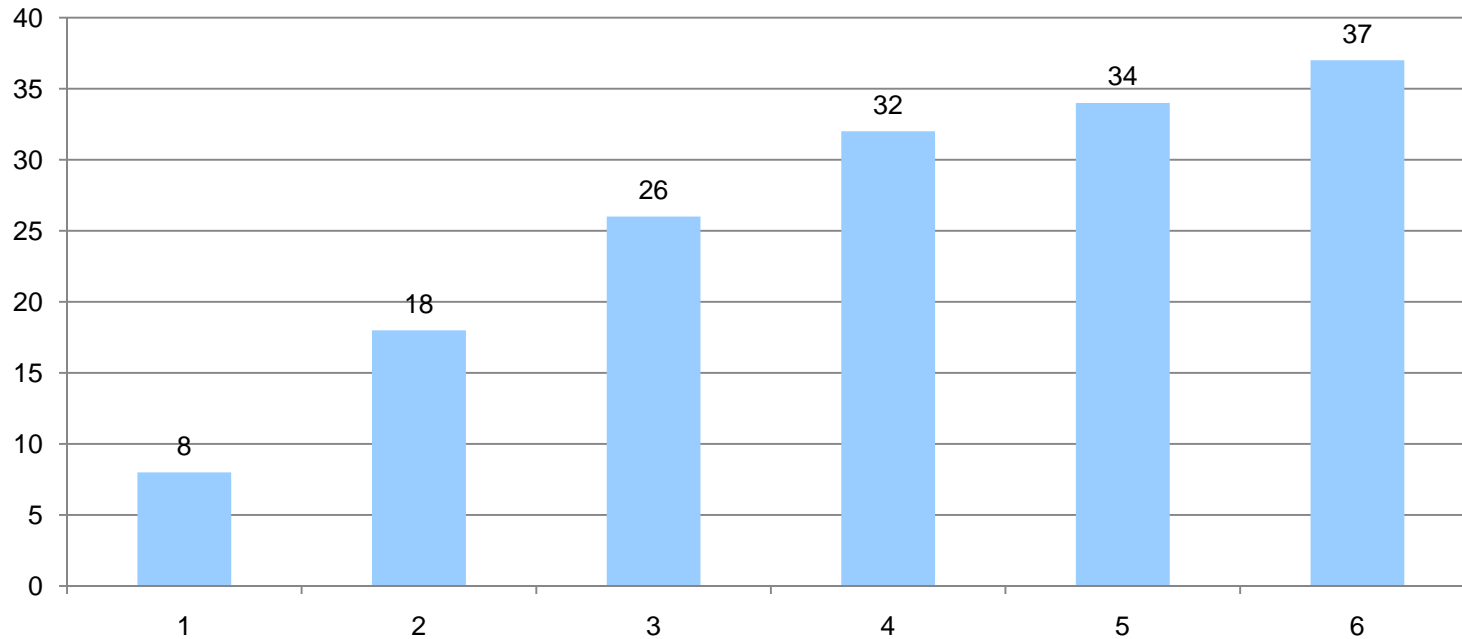


>17,000 school-mobile students, unduplicated



AISD Mobility and Attendance

**Average Days Absent by Number of Schools
Attended in SY 08-09**

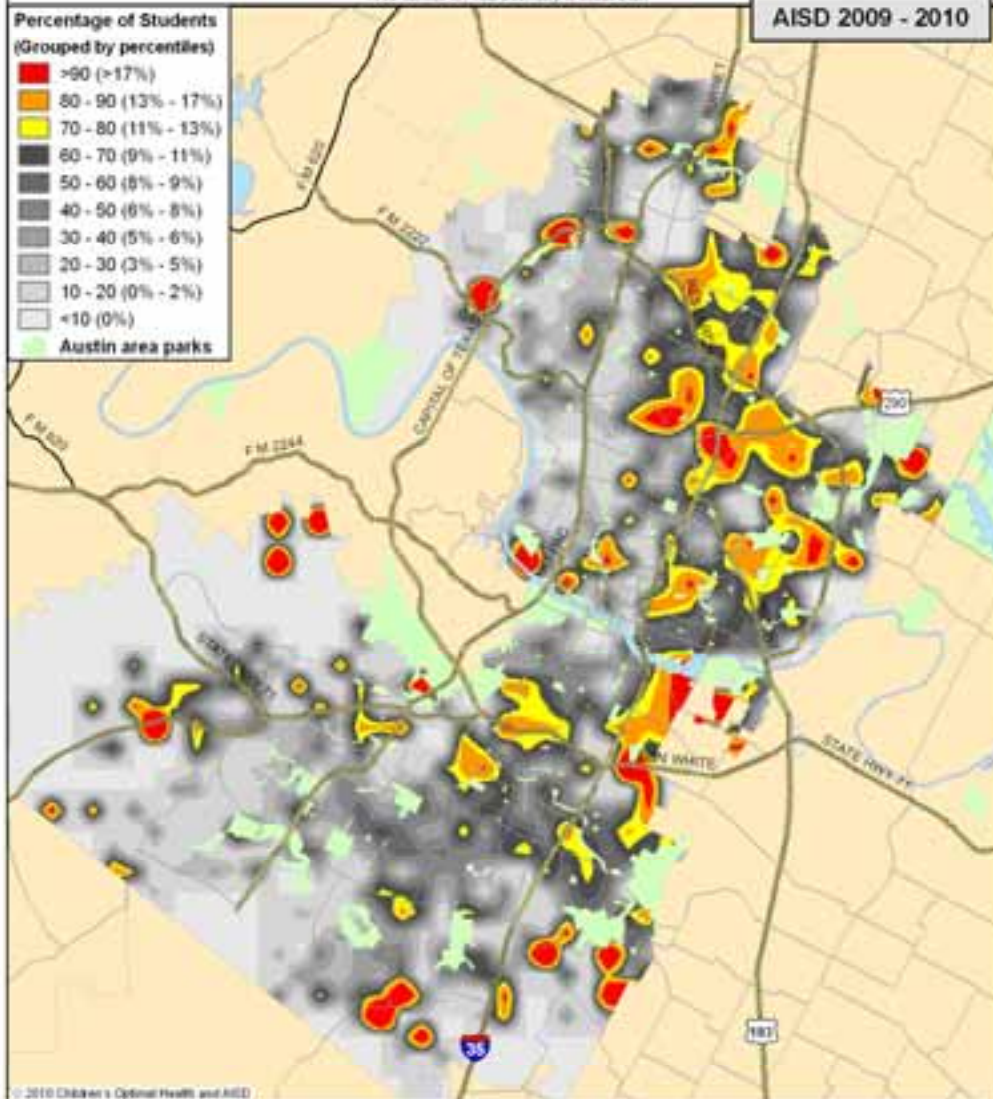


Cost of disparity in attendance rate:
>\$5 million/year (ADA @ \$45/day)

Percentage of Austin ISD Students Classified as Mobile

Area outside of AISD boundary is shaded tan

AISD 2009 - 2010



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children's optimal health

Map provided by Children's Optimal Health and AISD. Issue compilation using multiple sources. This is not meant to cause any ill feelings.



Scale Courtesy:
Austin Independent School District (AISD) 2010
GIS of Austin
Texas Foundation for Education

ACCESS

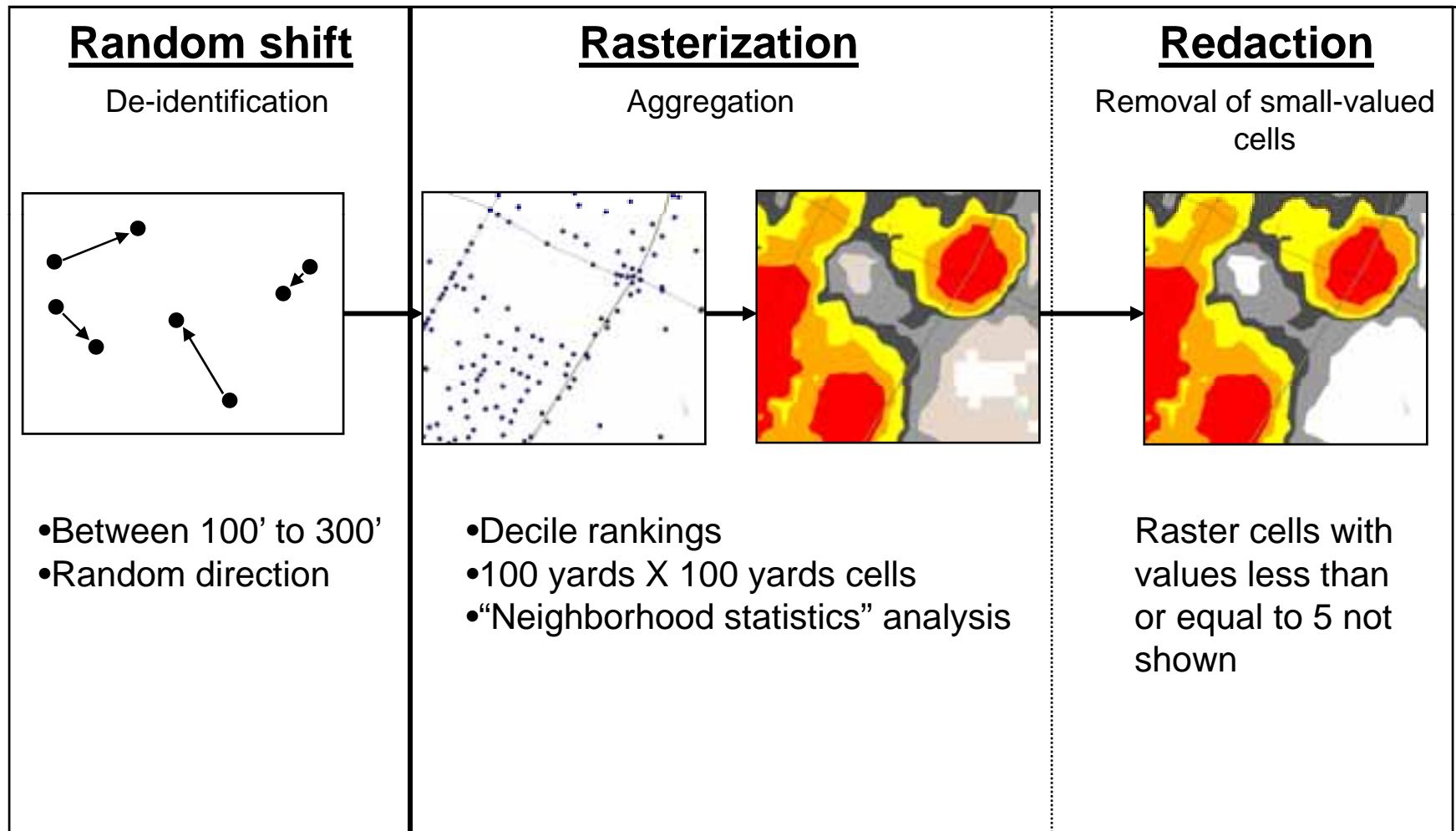
Austin Community Collaboration
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Last updated on:
10/15/2010



Technical Methodology

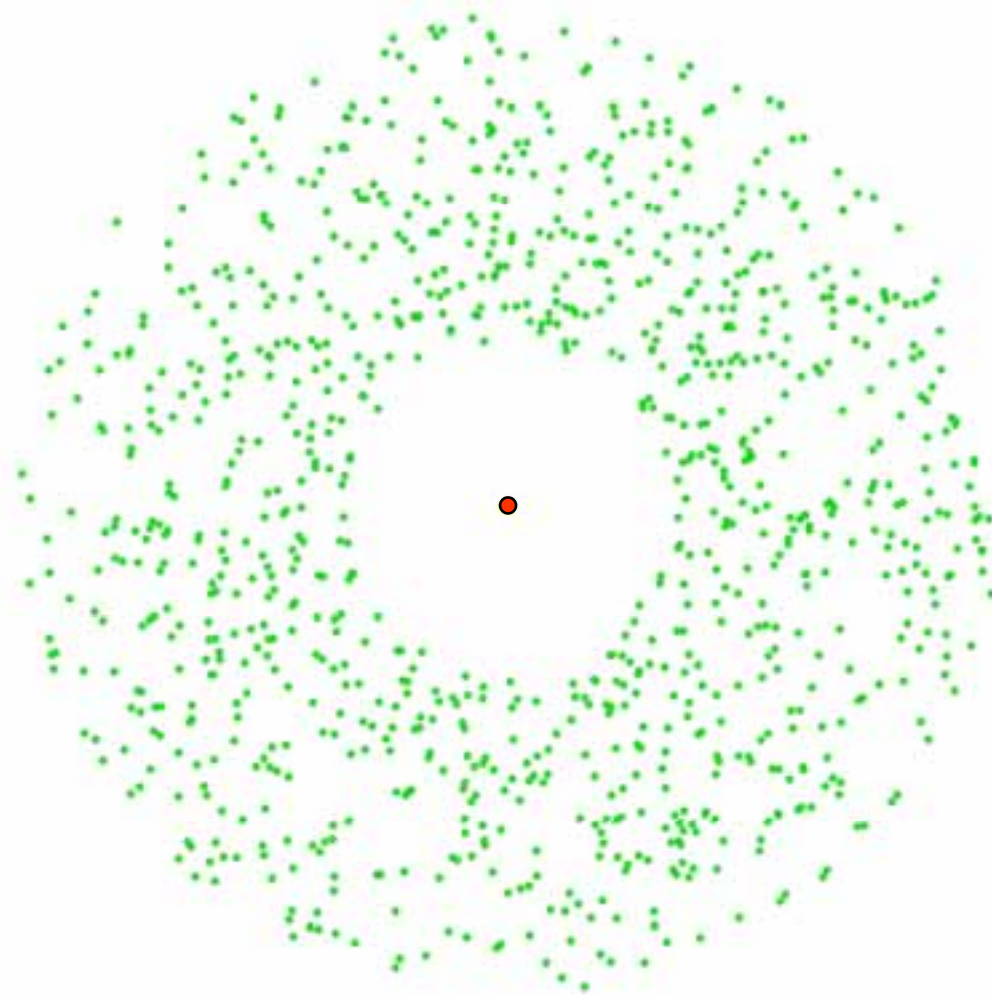
Mapping Methodology





Mapping Methodology

Random Shift Algorithm





Essential Ingredients

- Rigorous, consistent methods for assuring the accuracy and security of data, and for protecting individual privacy
- Committee of outside experts to review our work
- Offering COH's collective thoughts about the meaning of every map we produce



Thank You!

- Susan Millea, Ph.D.
 - smillea@childrensoptimalhealth.org

- Mohan Rao
 - mr Rao@childrensoptimalhealth.org

- Zachary Wilson
 - zachary.wilson@austinisd.org

