

Using Geospatial Mapping to Support Collective Impact

**Prepared for the Strive Network Convening
September 27-28, 2012**

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**United Way
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Outline of Today's Workshop

- Using Data for Policy Advocacy and Change
- Telling a Story with Geospatial Maps
- Connecting the Data to Collective Impact Efforts
 - Development of the Central New Mexico Education Support Initiative
 - Community Engagement
- Lessons Learned and Where We Are Headed
- Questions

USING DATA FOR POLICY ADVOCACY AND CHANGE



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Why Do Data Matter in Policy and Advocacy?

- Data provide us with insight into the education, health, and economic issues facing New Mexico's children, families and communities.
- Data provide us with a basis for advocacy and enable partnerships to come to consensus on pragmatic ways to address critical challenges including disparities in racial, cultural, economic, and political equality.
- Data enable us to ask better questions about the challenges we face; the laws, regulations, budgets, programs and policies we pass; and the barriers that keeps us from working collaboratively.
- Data help us prioritize limited resources by identifying where our citizens are most in need, how our sources of support are deployed, and where the gaps remain.
- Data help us hold each other accountable by tracking the outcomes that matter and by providing fair and independent information that people of good will can use to strengthen their efforts.

Collective Impact: A Brief Review

- Large-scale social change requires broad cross-sector coordination, yet this kind of collaborative effort is rare, especially in education.
- Kania & Kramer (2011) argue that “collective impact” – “the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem” – is essential to long-term sustainable change.
- Kania & Kramer identify five critical conditions of collective success:
 1. Do the partners have a **common agenda**?
 2. Do the partners have **shared measurement systems** so they can agree how success will be measured and reported?
 3. Are the partners engaged in specific **activities which mutually support and reinforce** each other?
 4. Are the partners **communicating** with each other enough to develop trust that their interests will be treated fairly?
 5. Do the partners have the **organizational capacity (i.e., a “backbone” organization)** to focus people’s attention, create a sense of urgency, apply pressure to stakeholders without overwhelming them, frame issues as opportunities as well as difficulties, and mediate conflicts among stakeholders?

Preconditions for Collective Impact

In a follow-up article, Hanleybrown, Kania, & Kramer (2012) identify three essential preconditions for collective impact:

- An **influential champion** who commands the respect of and can bring together cross-sector leaders in the community.
- Adequate **financial resources** to sustain the collective impact initiative for at least the first two years. In many cases, an **anchor funder** is involved in the startup.
- The **urgency for change** around an issue or a set of issues.

How Data Can Support Collective Impact

- **Creating a sense of urgency**
 - Visualization and communication techniques are essential to “telling the story”
- **Identifying risks, needs, resources, and gaps by:**
 - Developmental stage (cradle to career)
 - Geography
 - Subgroups: race, ethnicity, gender, special education, etc.
- **Developing and aligning activities around common indicators**
 - Cross-sector strategy groups can be formed to “turn the curve” on one or more indicators (e.g., kindergarten readiness, truancy, high school graduation)
- **Setting priorities**
 - Given limited resources, where should we invest our financial, personnel, and programmatic resources?
 - How should we roll out the work over time?
- **Measuring impact**
 - Did any of our collective activities make a difference in improving the education, health, and well-being of our children and youth?

TELLING A STORY WITH GEOSPATIAL MAPS



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Context

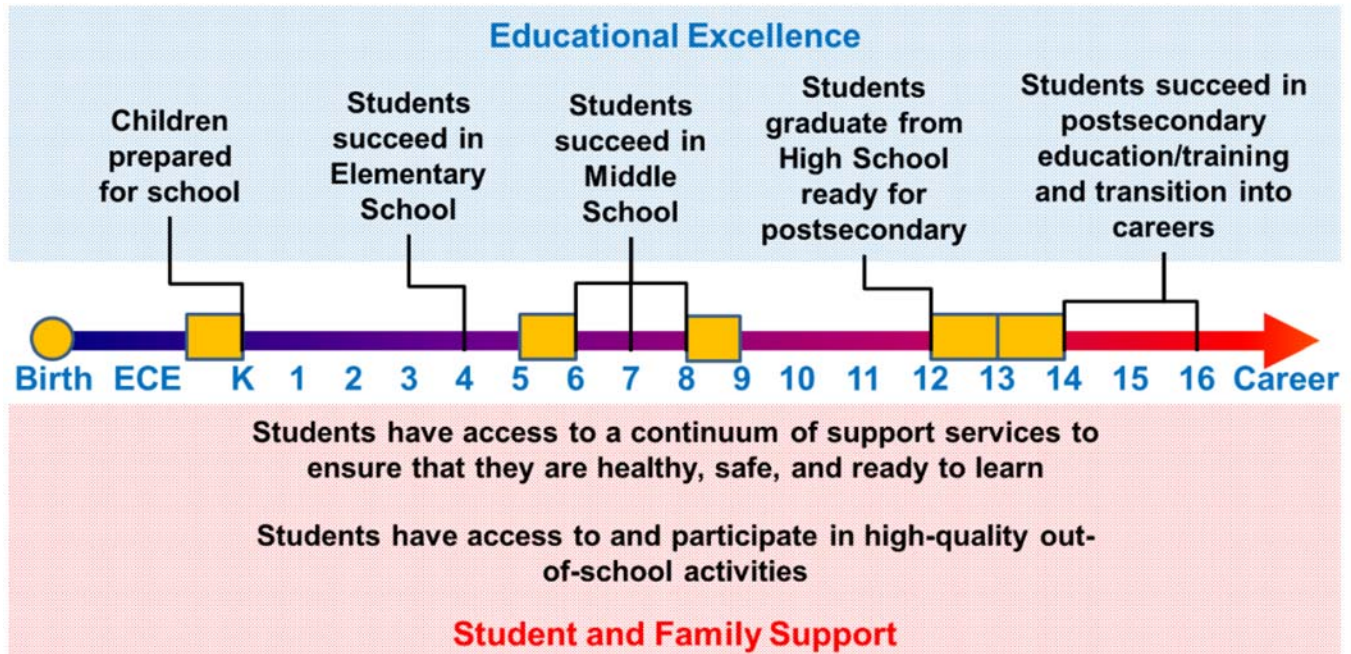
- In Central New Mexico, the UNM Center for Education Policy Research (CEPR) has been engaged a number of local collaborative efforts to improve education across the developmental continuum.
- Last year, CEPR partnered with the Albuquerque Business & Education Compact (ABEC) to identify many of the ways in which Albuquerque's children and youth are "at risk."
- The result was a comprehensive map and data resource book showing all of the ways in which Albuquerque's children and youth are at risk.
- Over the past nine months, we have presented the data before numerous and varied audiences, including: the NM secretary of public education, the Albuquerque board of education, parent groups, business leaders, and students.
- These data have also played a key role in helping to get our own cradle-to-career initiative off the ground under the leadership of the United Way of Central New Mexico.
- What follows is an overview of how we have incorporated geospatial mapping into our collective impact work and some reflections on lessons learned that might be helpful as you return to your communities.

Mapping Risk

- The data presented in this section were prepared for a specific purpose: to identify the ways in which students are “at risk” in Albuquerque.
- Major types of risk factors include:
 - **Academic**
 - **Health**
 - **Crime**
 - **Poverty**
- Risk can also be distributed:
 - **Geographically** – by school and neighborhood; and
 - **Developmentally** – at each point along the educational continuum.

Cradle-to-Career Scope

We examined data on a wide range of measures of student success and well-being, **from early childhood to higher education, both in school and out of school.**

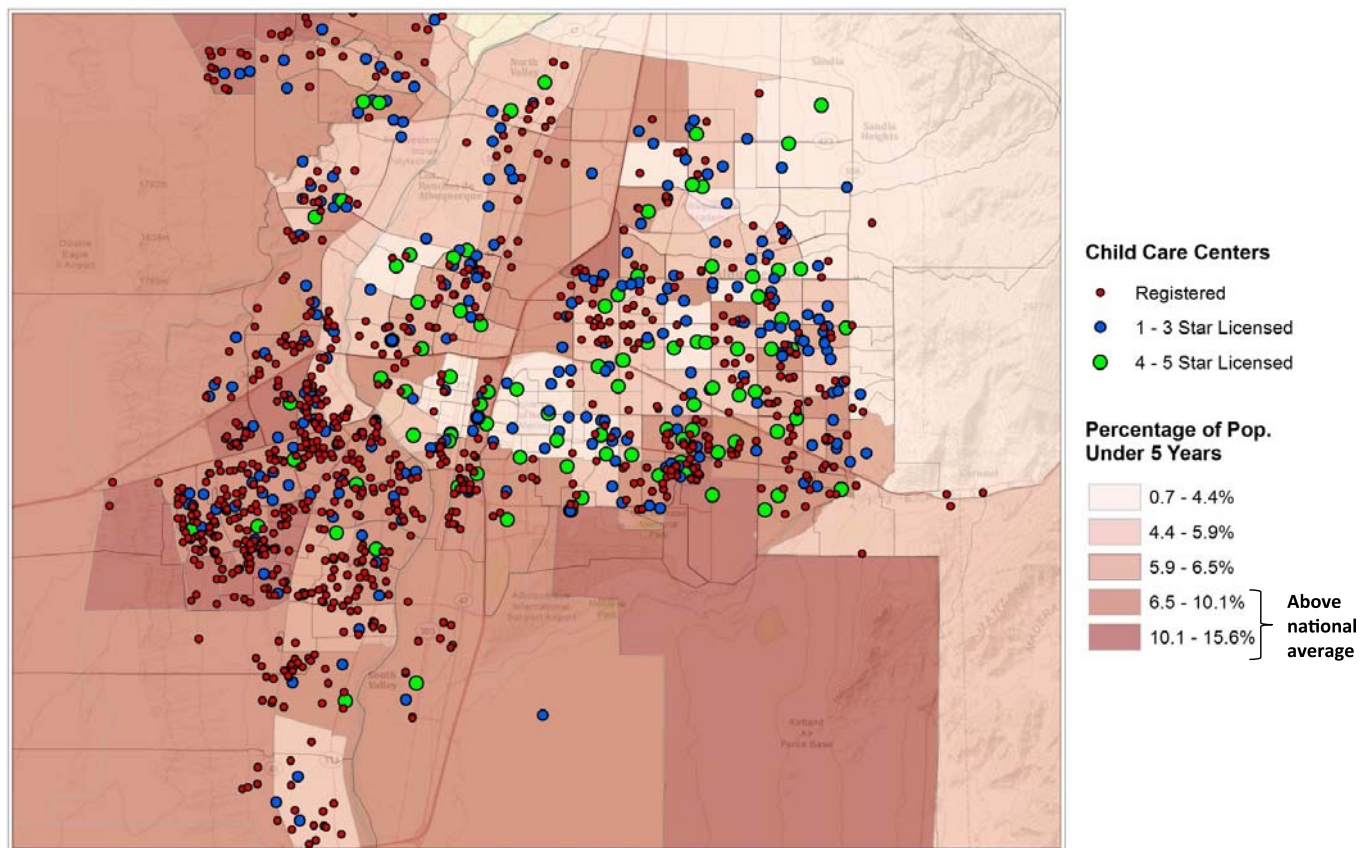


Our Approach

- We developed a “**social ecology**” of education in Albuquerque, which shows the geographic distribution of educational success and multiple risk factors throughout the community.
- Most of the data were mapped onto the attendance boundaries for elementary, middle, and high schools, as well as census tracts and block groups. Some data were presented using charts and tables for greater clarity.
- Color coding was used to visually convey risk. In all of our mapping work, **green** signals relatively low risk on a given measure, while **yellow**, **orange**, and **red** signal increasing levels of risk, respectively.

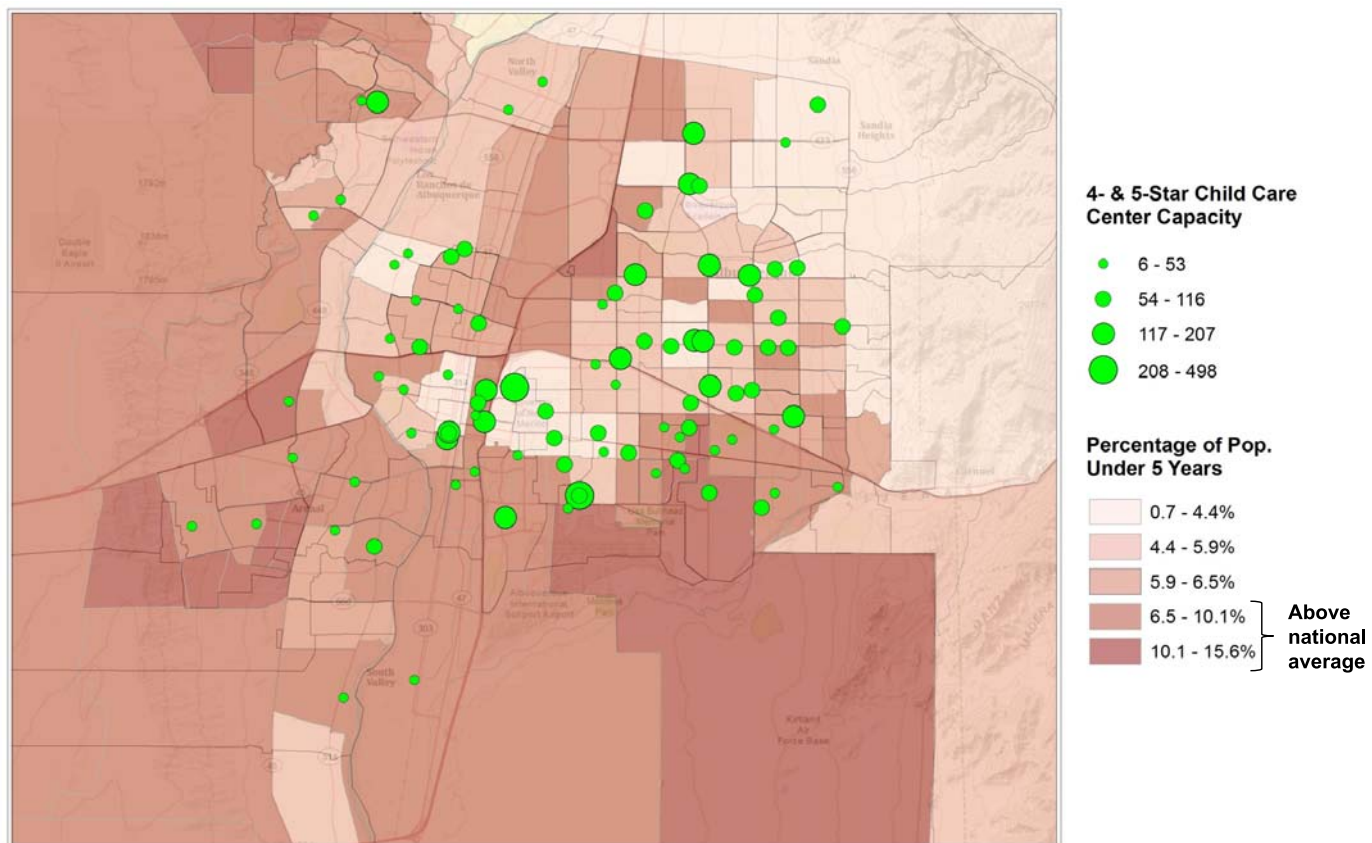
Story #1: The Path to Graduation

Registered and Licensed Child Care Centers

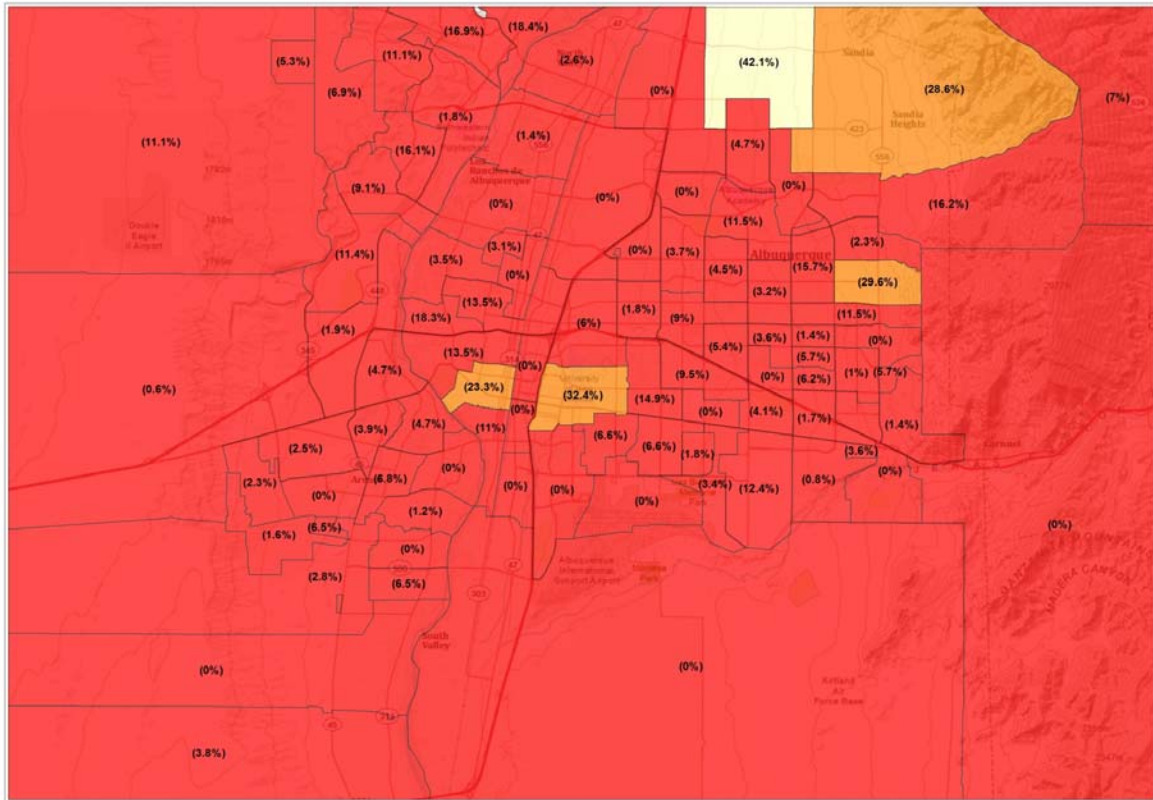


Source: New Mexico Community Data Collaborative, December 2010. Enrollment data are reported by program site. Elementary school boundaries are overlaid to provide perspective. Population data from U.S. Census 2010.

Capacity of 4- and 5-Star Licensed Child Care Centers

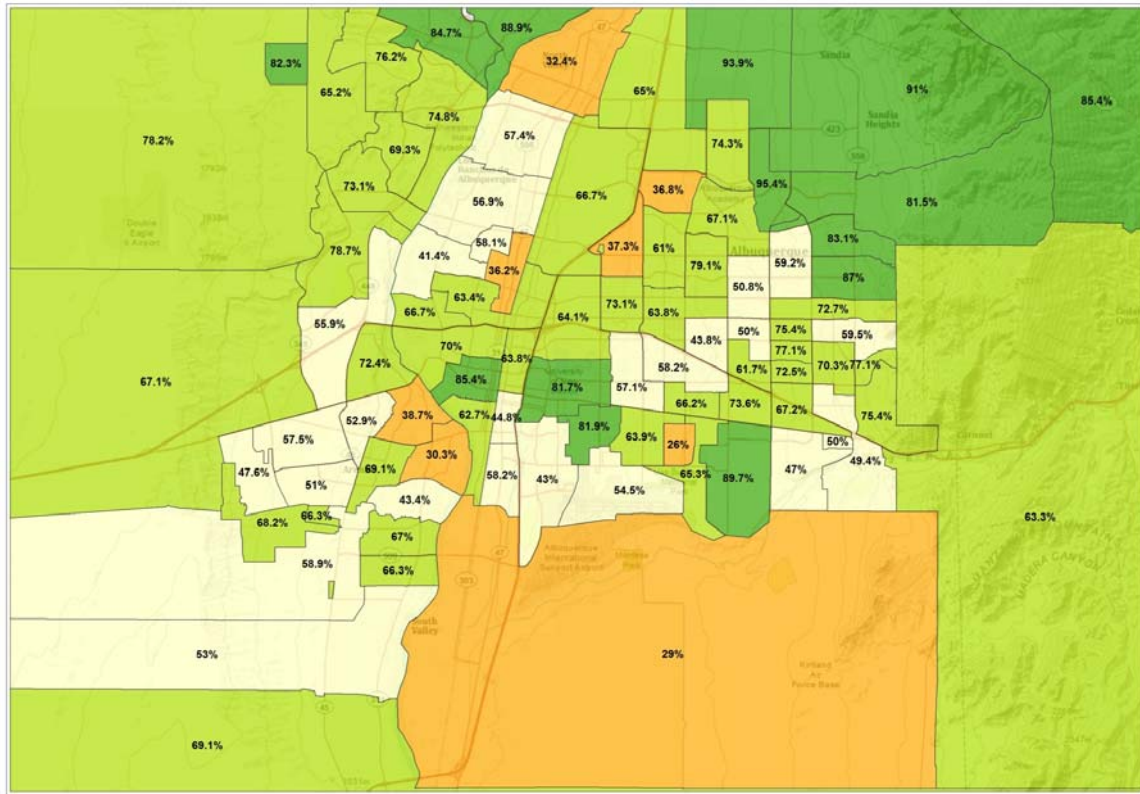


Percentage of Kindergarten Students Proficient in Reading, Fall Assessment



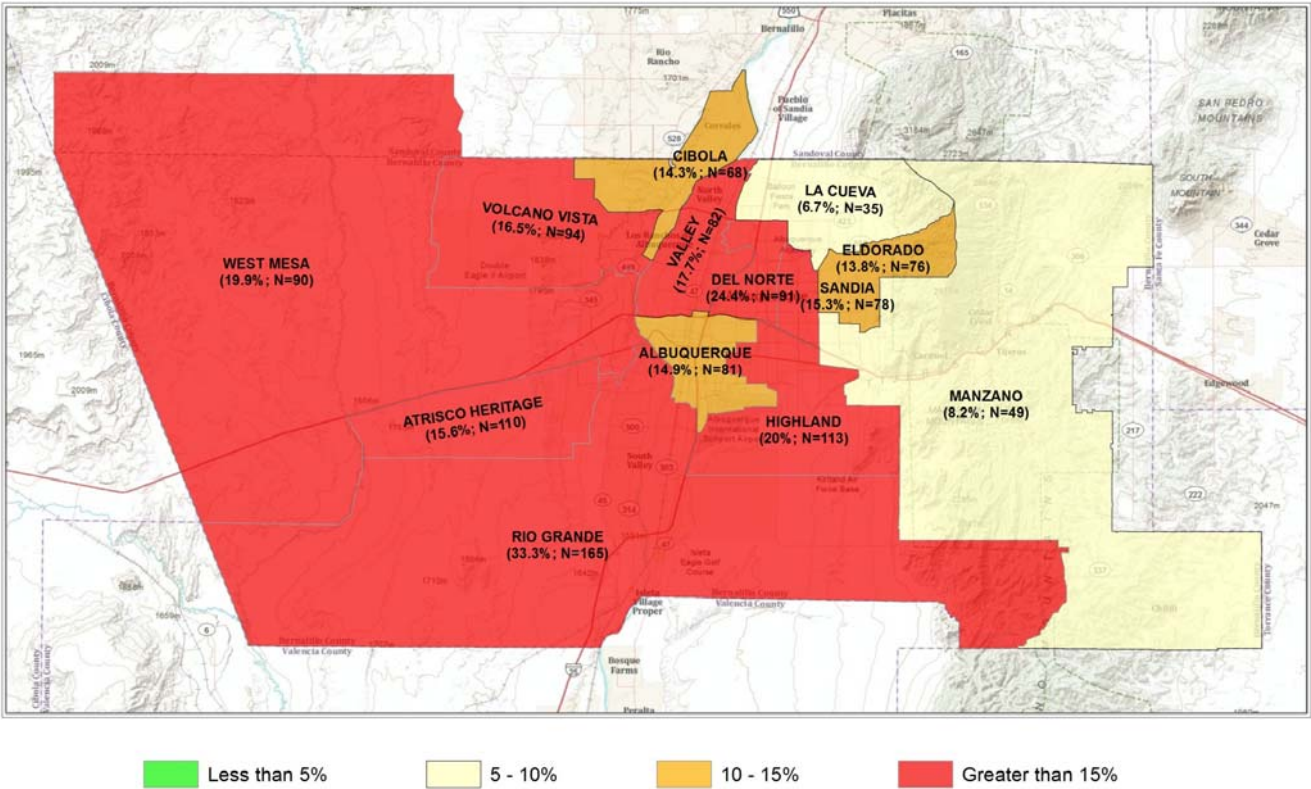
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Percentage of Kindergarten Students Proficient in Reading, Spring Assessment

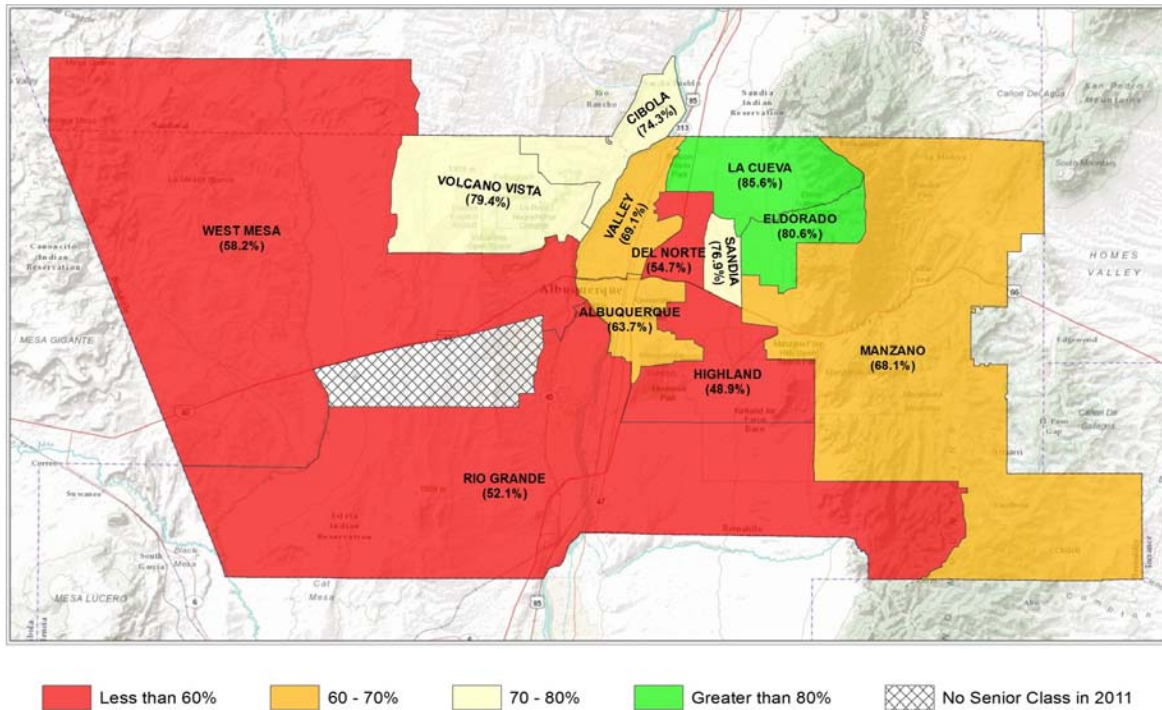


0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Early Warning Indicator: Percentage of Students Entering 9th Grade with **One or More F grades** **and** **5 or More Absences** in 8th Grade Core Courses



APS Four-Year High School Graduation Rate, All Students, Class of 2011



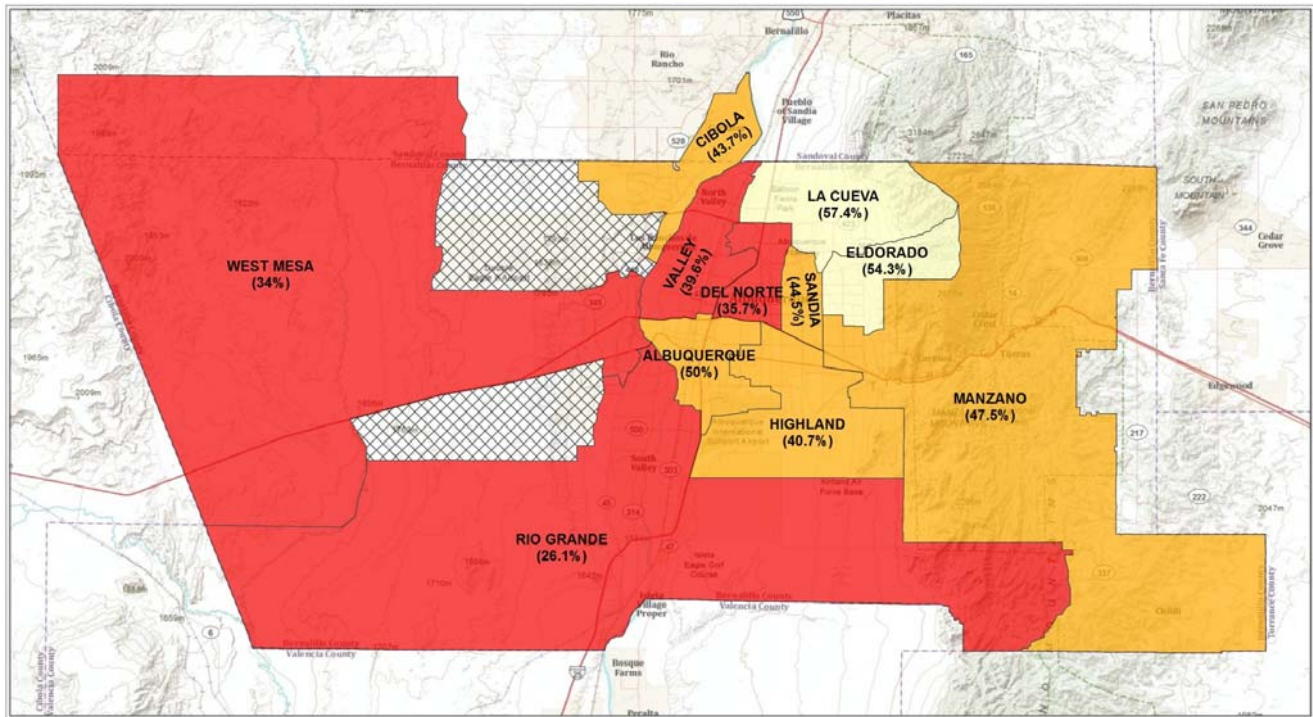
According to the Alliance for Excellent Education, there are **nearly 2000 high schools nationally that graduate less than 60% of their students** within four years.

These schools disproportionately **produce 51% of the nation's dropouts.**

APS has four high schools with less than a 60% graduation rate.

Source: NM Public Education Department, 4-Year Cohort High School Graduation Rate, Class of 2011. Data were unavailable for Atrisco Heritage Academy High School, which did not have a graduating class in 2011. Alliance for Excellent Education statistics taken from http://www.all4ed.org/about_the_crisis/schools/dropout/.

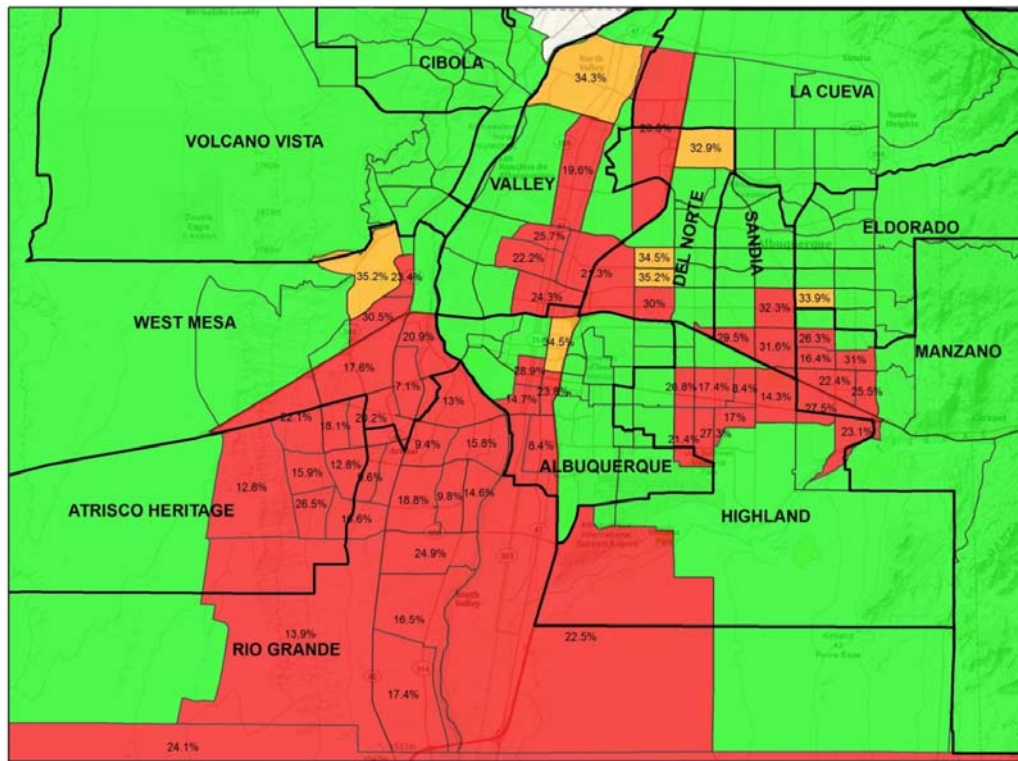
UNM Six-Year Graduation Rate, by Sending High School



Less than 40%
 40 - 50%
 50 - 60%
 Data Not Available

Source: UNM Office of Institutional Research. The six-year graduation rate is the percentage of first-time, full-time, degree seeking students each Fall semester who graduate with a Bachelors degree or PharmD degree, or who are enrolled in the fourth fall of the PharmD Program within six years (this is the definition of Graduation Rate as reported to the Federal Department of Education IPEDS system). The data reported here are for the 2004 student cohort.

Percentage of Individuals Over 25 Years of Age With an Associates Degree or Higher, By Census Tract

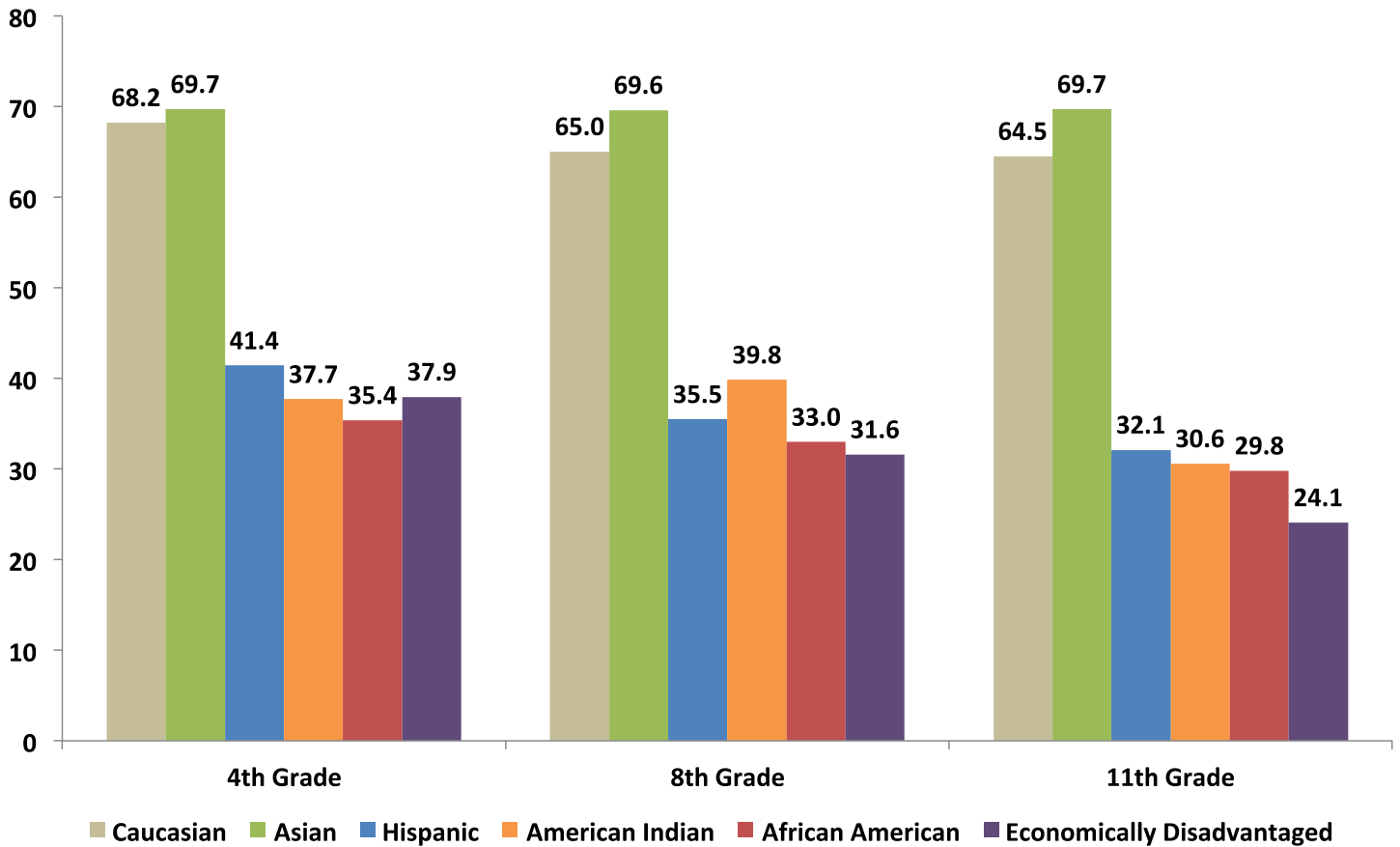


■ Less than 32.6% (Below state & nat'l avg.)
 ■ 32.6 - 35.4% (Between state & nat'l avg.)
 ■ Greater than 35.4% (Above nat'l avg.)

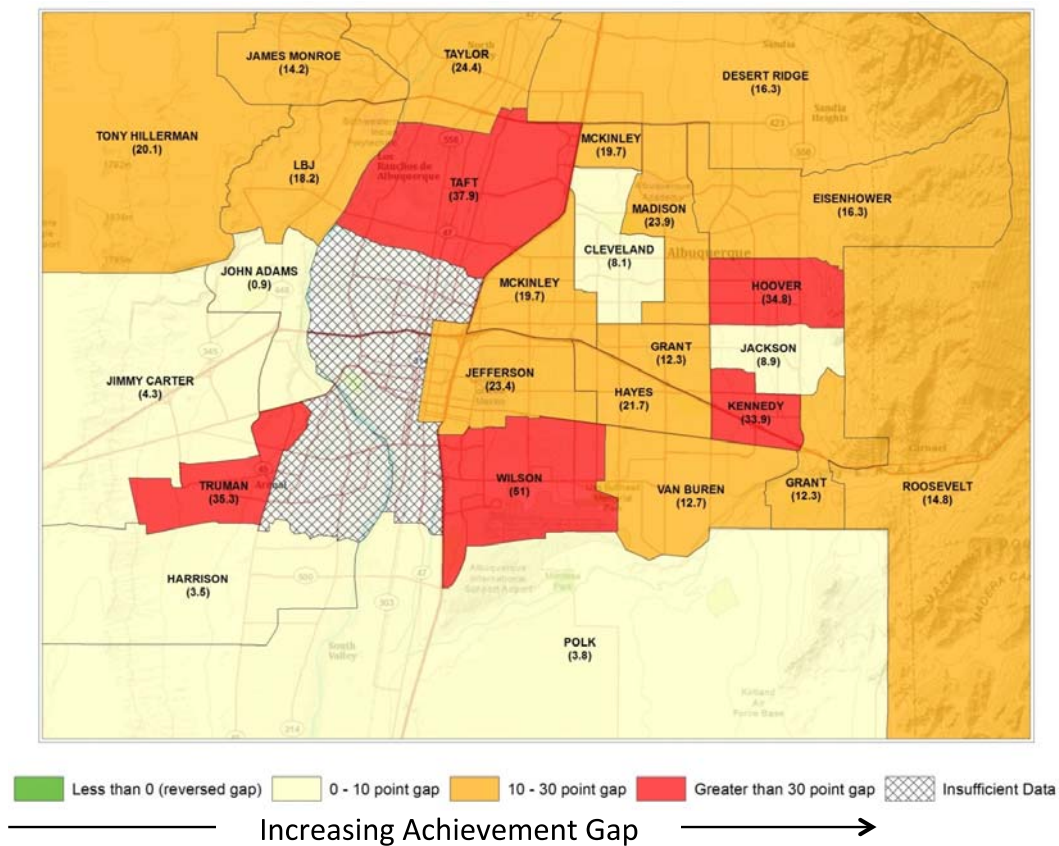
Source: U.S. Census, American Community Survey, 2006-2010 Five-Year Estimates. Rates are reported by census tract; high school boundaries are overlaid to provide perspective. State and national averages taken from the 2010 American Community Survey (state avg. = 32.6%; national avg. = 35.4%).

Story #2: The Achievement Gap

Percentage of APS Students Proficient in Math, By Grade Level and Subgroup

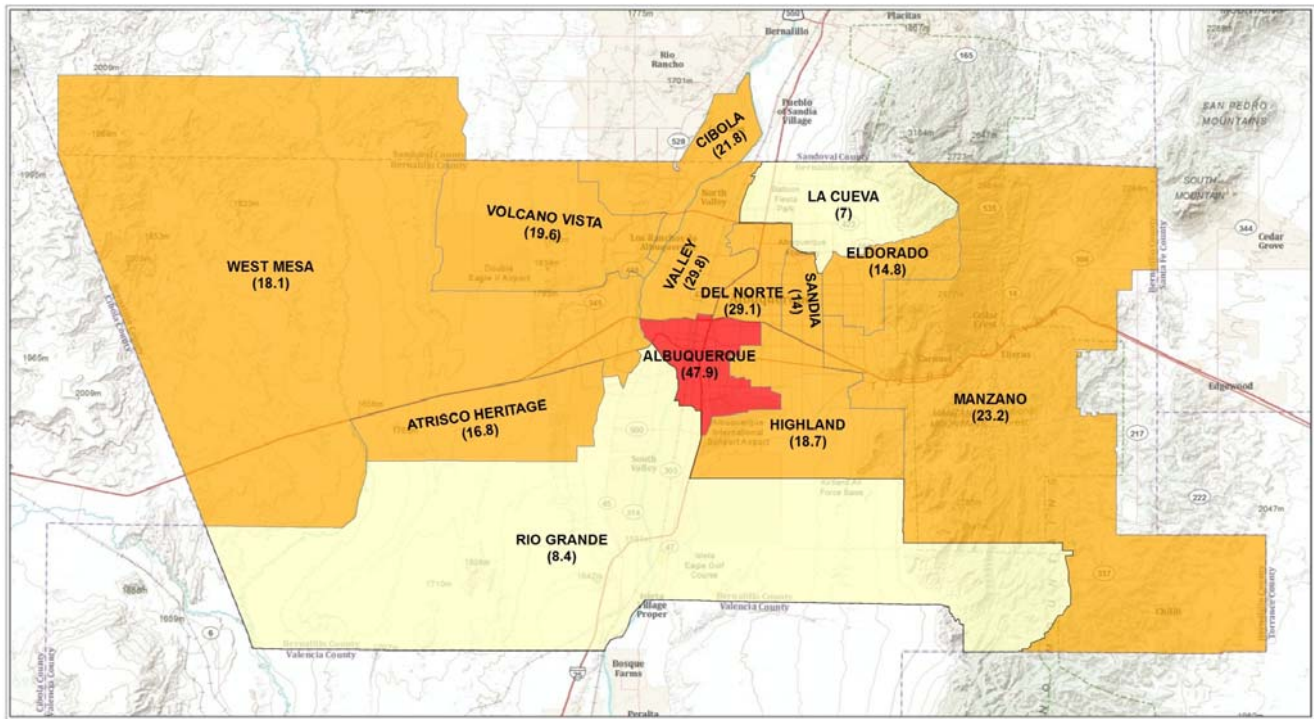


Achievement Gap Between Caucasians and Hispanics, 8th Grade Math

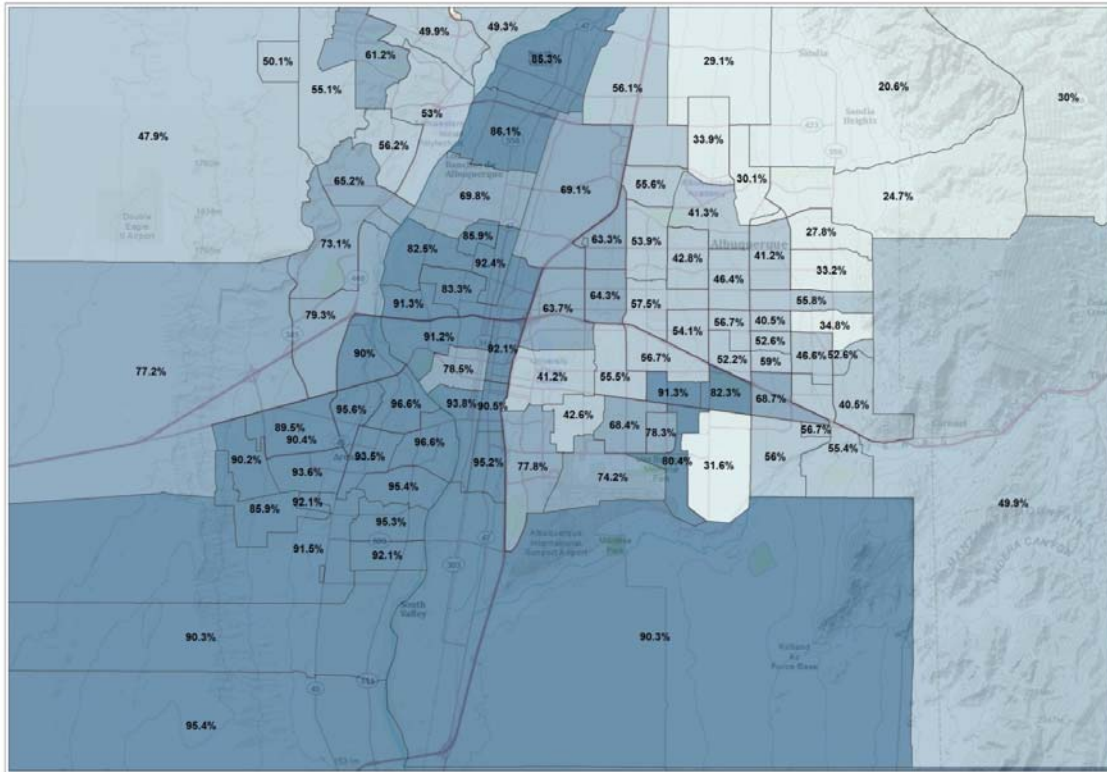


Source: Standards Based Assessment, 2010-2011, NM Public Education Department. Ernie Pyle, Garfield, & Washington did not have sufficient Caucasian student data to include in the achievement gap analysis. None of the gaps presented in this slide has been tested for statistical significance.

Achievement Gap Between Caucasians and Hispanics, 11th Grade Math



Why the Achievement Gap Matters: Percentage of Hispanic Students in Elementary School

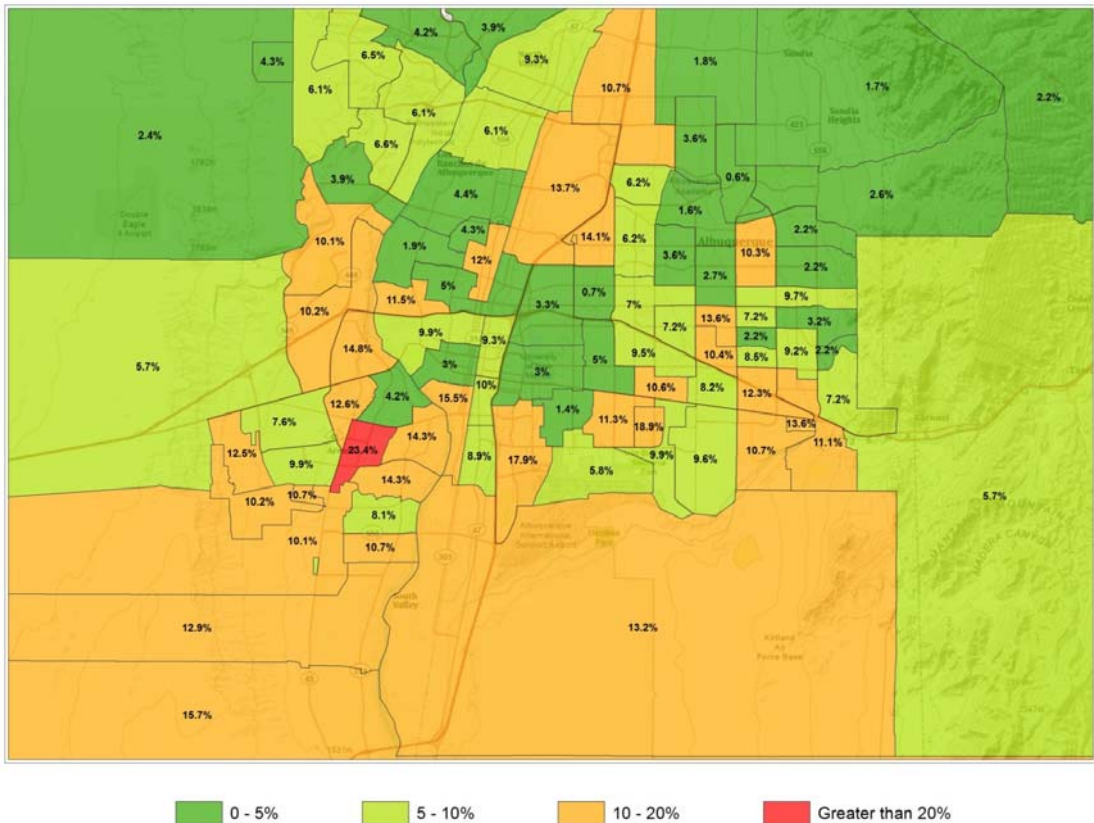


20 - 40% 40 - 60% 60 - 80% 80 - 100%

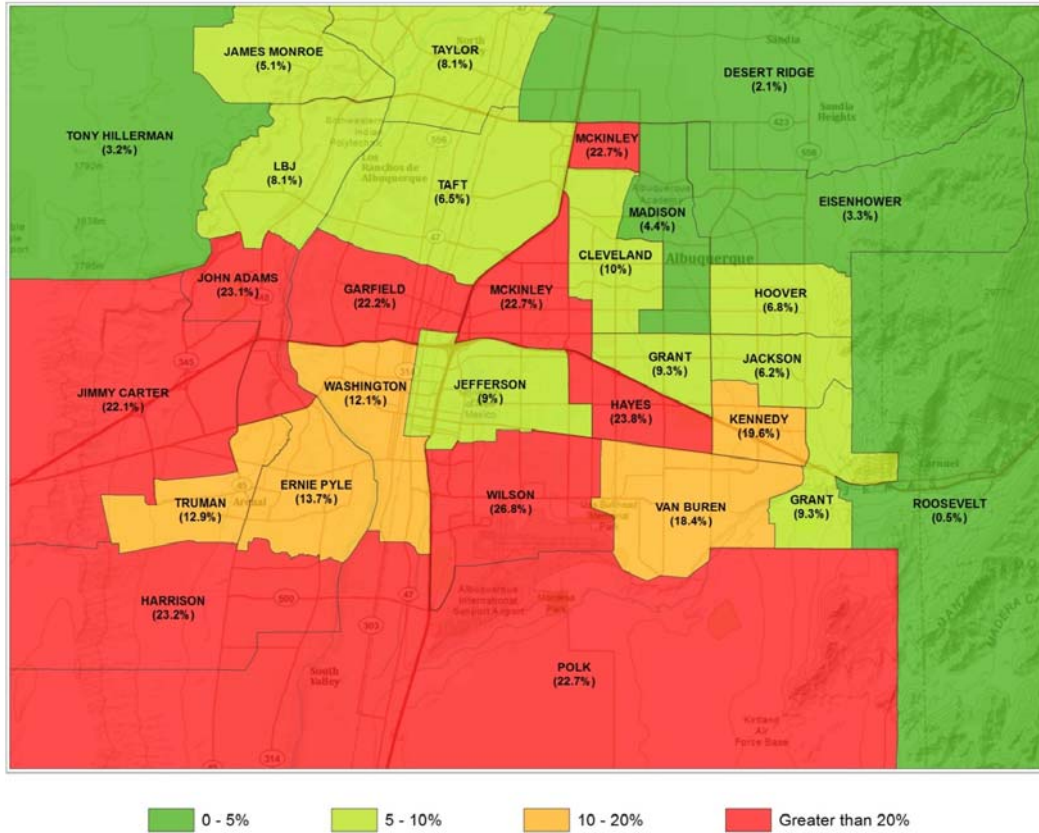
Albuquerque Public Schools has been a majority-minority district for a number of years. During the 2009-2010 school year, Hispanics comprised 66.5% of the district's elementary school population, and this number will continue to grow in line with national demographic projections. The achievement gap is not just a problem for our Hispanic students; it's a problem with implications for our entire community.

Story #3: The Challenge of Truancy

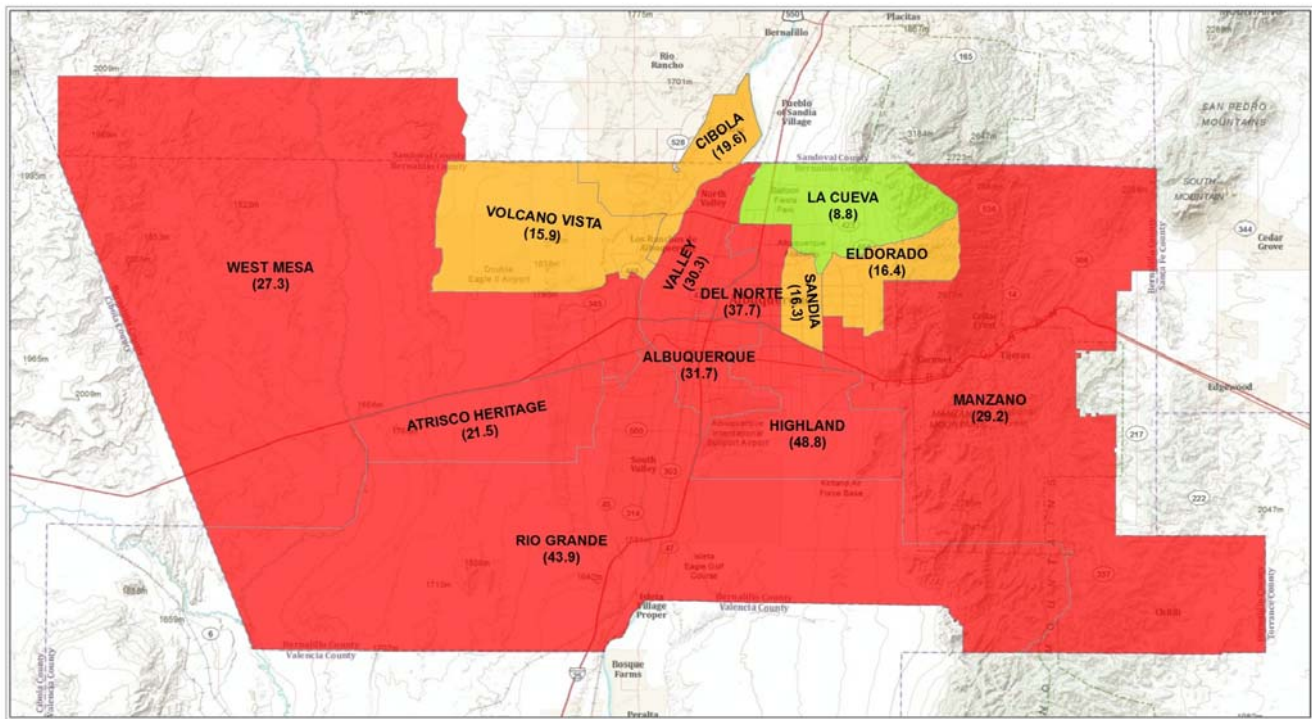
Percentage of Elementary School Students Who Are Habitually Truant



Percentage of Middle School Students Who Are Habitually Truant



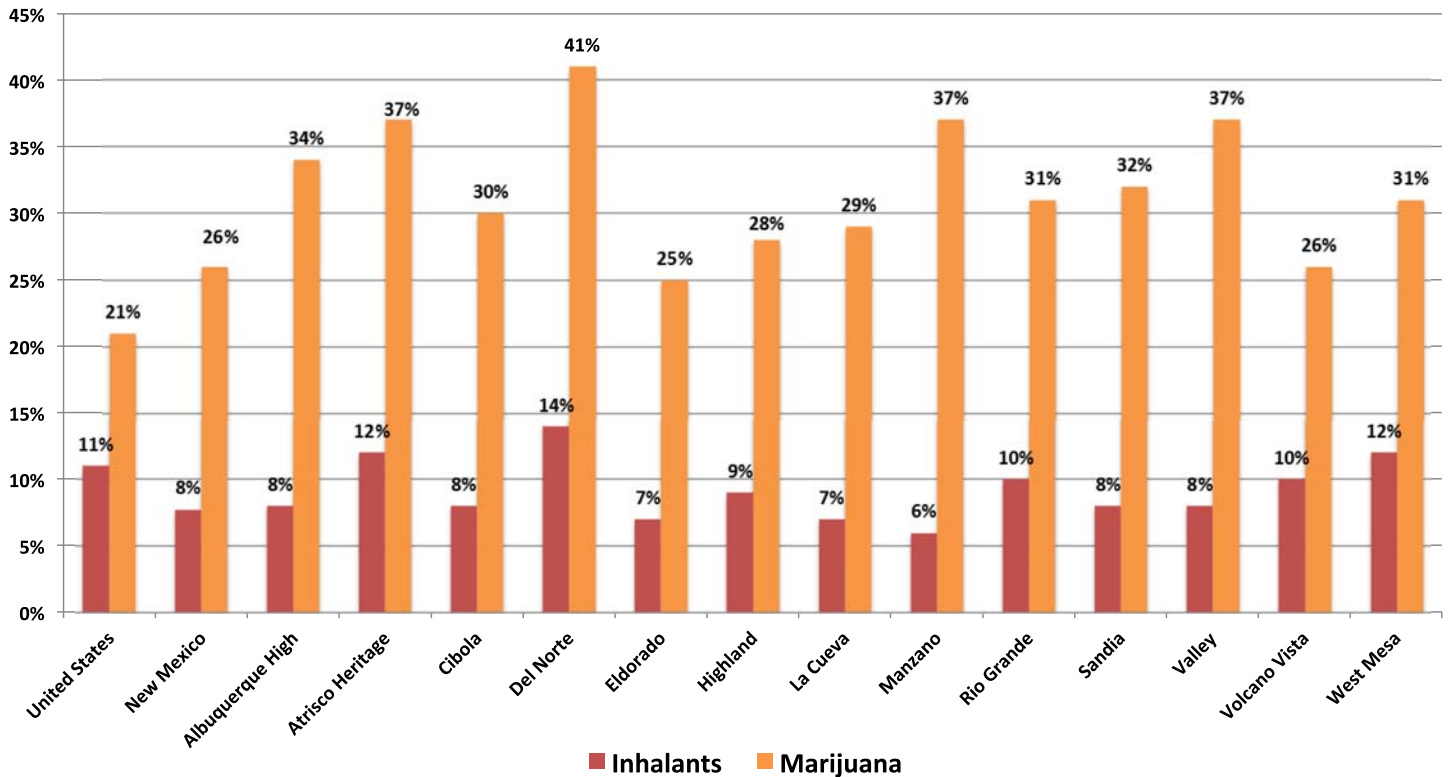
Percentage of High School Students Who Are Habitually Truant



0 - 5% 5 - 10% 10 - 20% Greater than 20%

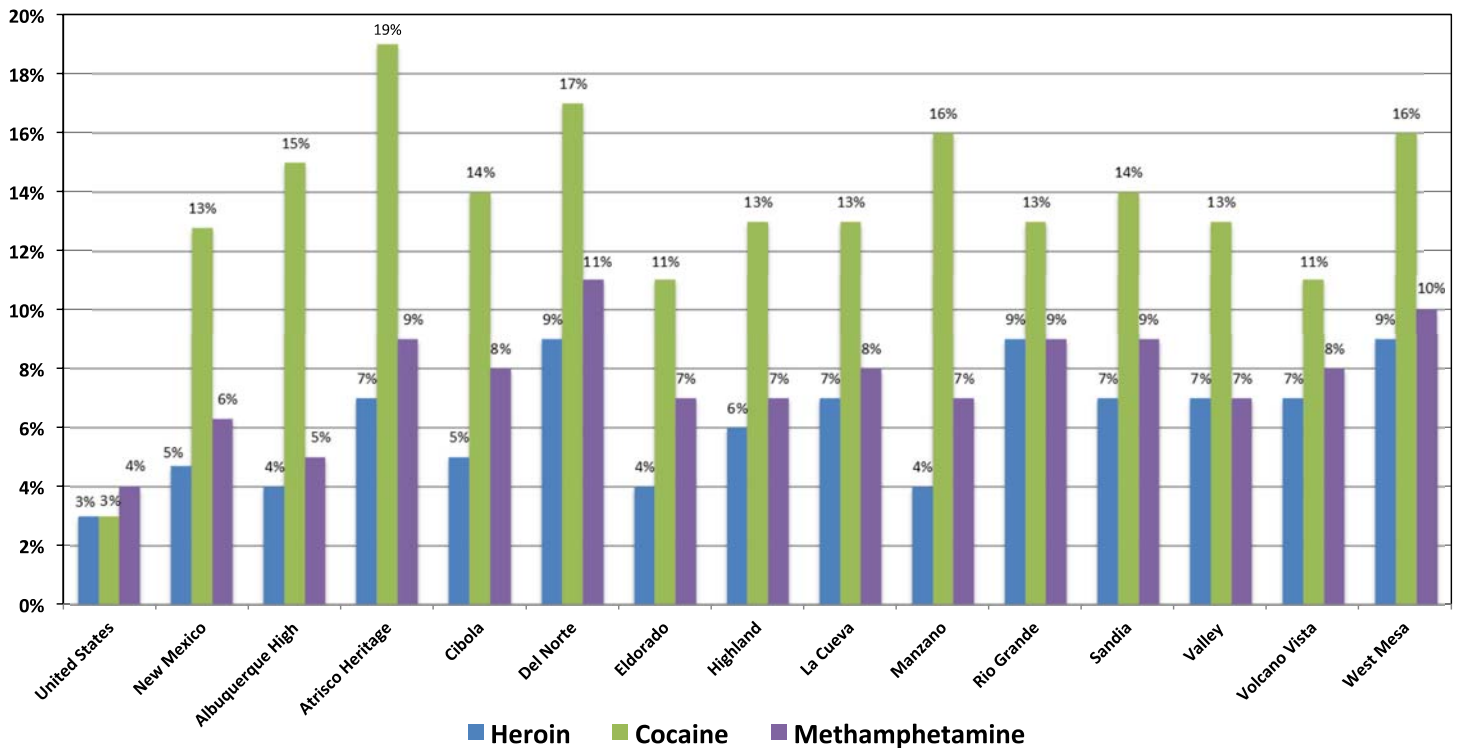
Story #4:
The Challenge of “Nonacademic” Risk Factors:
Drug Use
Suicide
Teenage Sexual Behavior
Participation in Out-of-School Time Activities

Percentage of High School Students Who Reported Using Marijuana or Inhalants at Least Once in the Past 30 Days



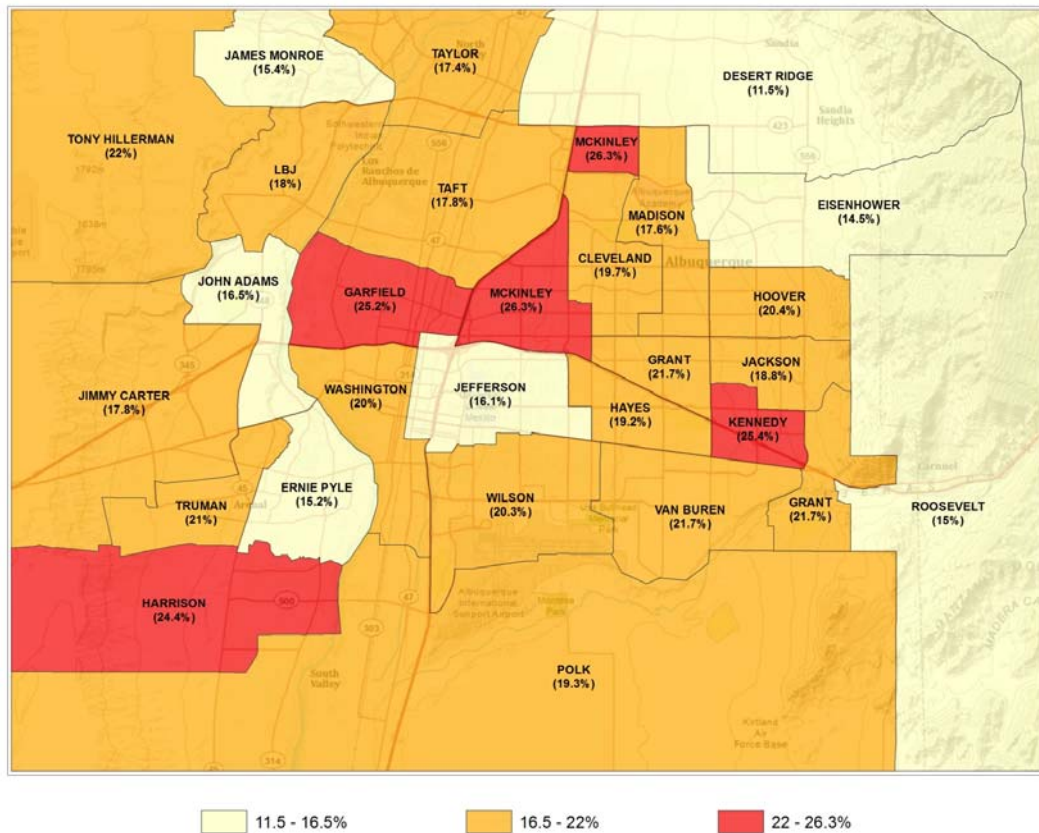
Source: APS and state high school data taken from New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked the following three questions: "During the past 30 days, how many times did you use marijuana?" "During the past 30 days, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?" The percentages reported here reflect respondents who reported using the given substance one or more times. National data taken from High School Youth Risk Behavior Survey, 2009, Centers for Disease Control & Prevention.

Percentage of High School Students Who Reported Using Heroin, Cocaine, or Meth at Least Once in their Lives



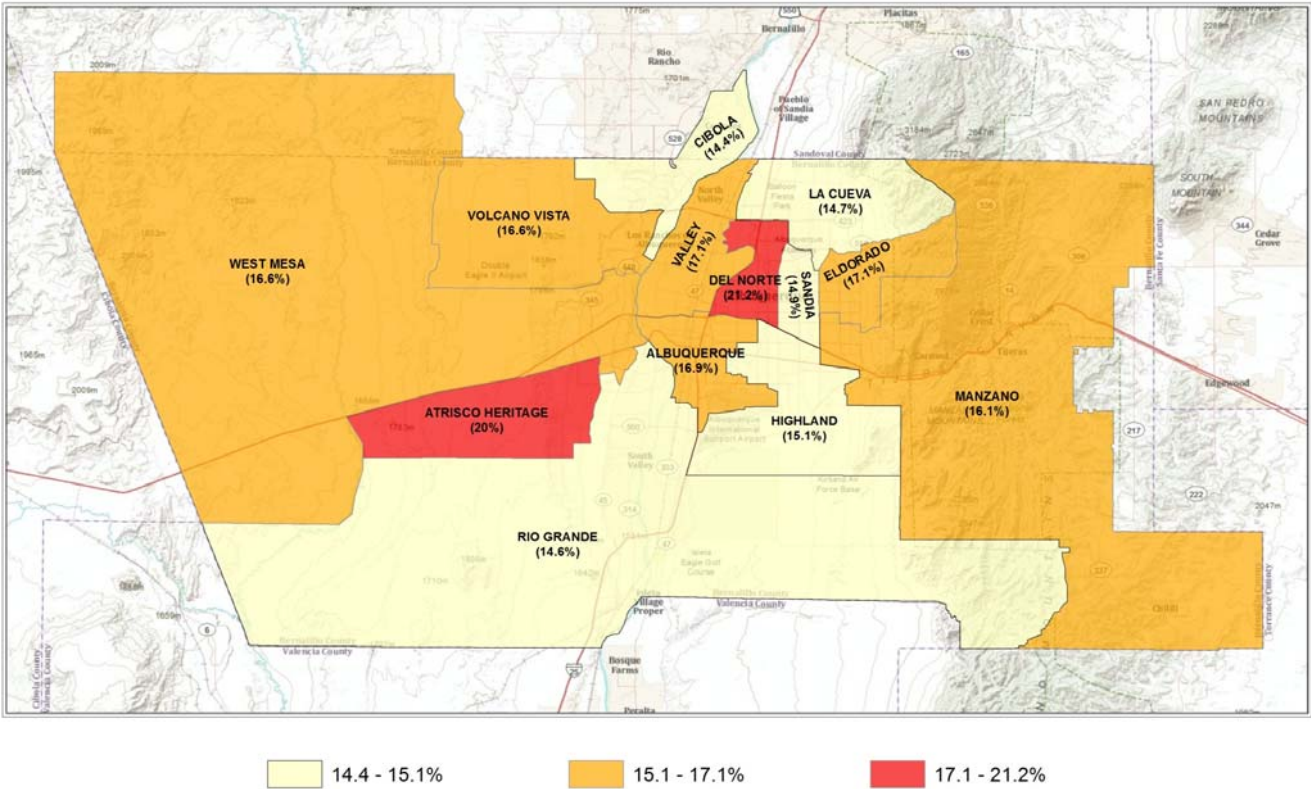
Source: APS and state high school data taken from New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked the following three questions: "During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?" "During your life, how many times have you used heroin (also called smack, junk, or China White)?" "During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?" The percentages reported here reflect respondents who reported using the given drug one or more times. National data taken from High School Youth Risk Behavior Survey, 2009, Centers for Disease Control & Prevention.

Percentage of Middle School Students Who Seriously Considered Attempting Suicide



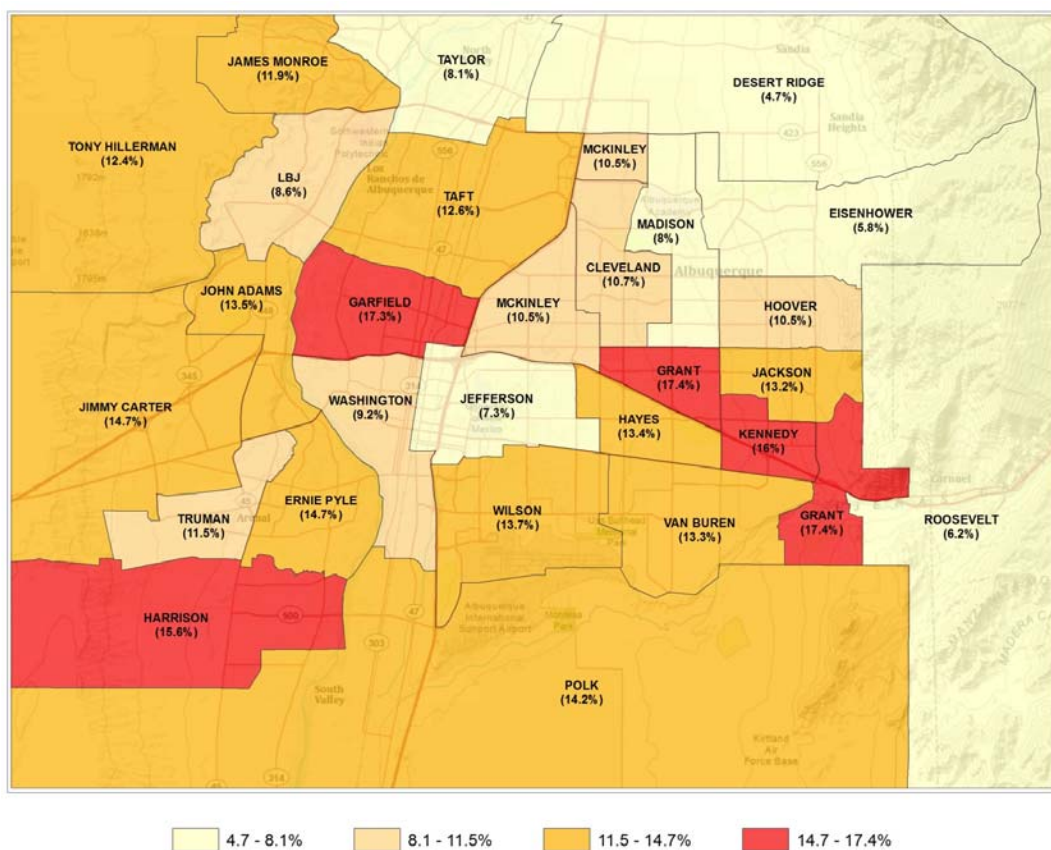
Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, "During the past 12 months, did you ever seriously consider attempting suicide?" The percentage reported here reflects respondents who answered "Yes."

Percentage of High School Students Who Seriously Considered Attempting Suicide



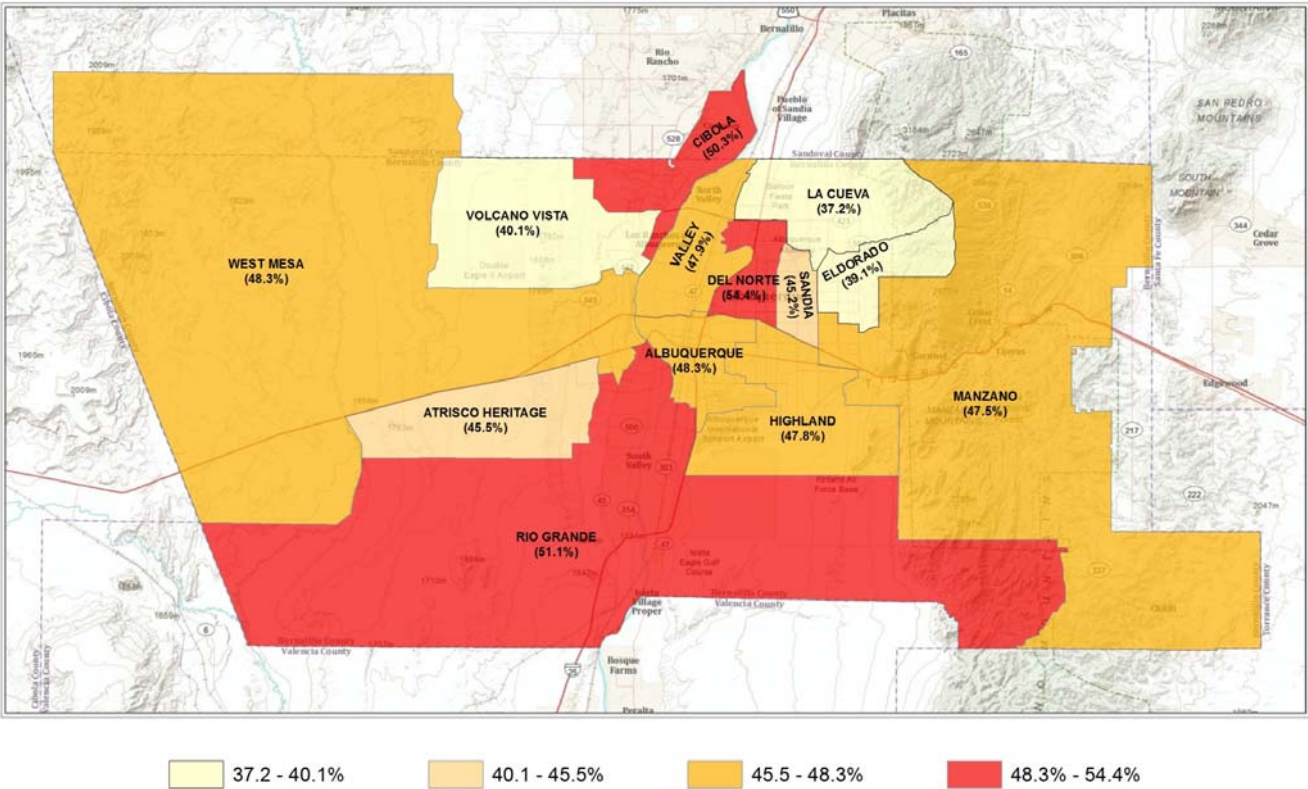
Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, “During the past 12 months, did you ever seriously consider attempting suicide?” The percentage reported here reflects respondents who answered “Yes.”

Percentage of Middle School Students Who Have Had Sexual Intercourse



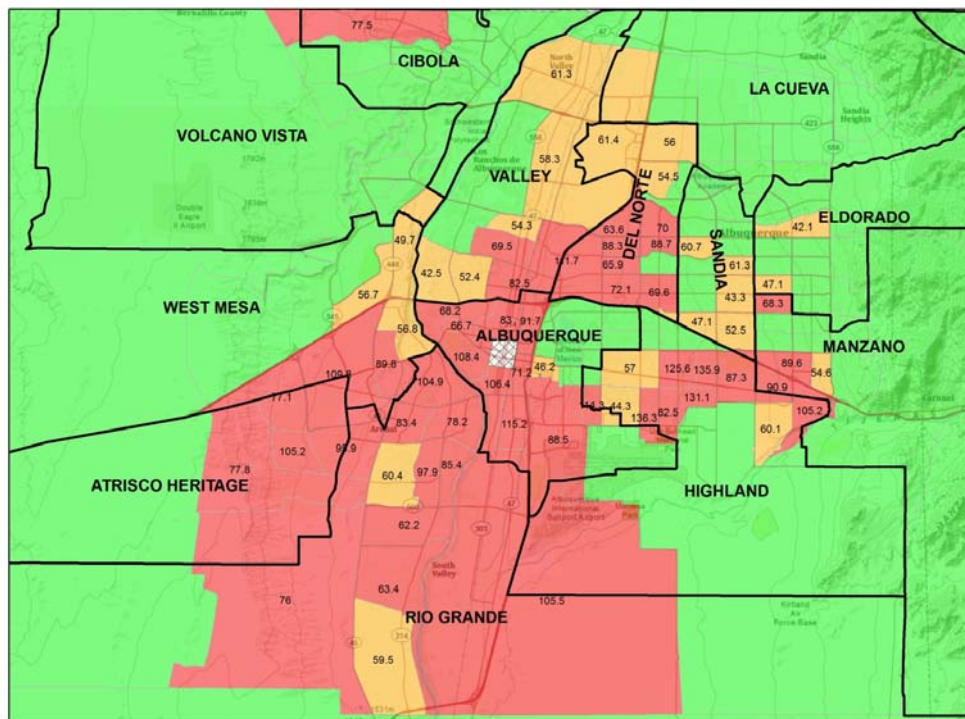
Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, "During your life, with how many people have you had sexual intercourse?" The percentage reported here reflects respondents who answered one or more people.

Percentage of High School Students Who Have Had Sexual Intercourse



Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, "During your life, with how many people have you had sexual intercourse?" The percentage reported here reflects respondents who answered one or more people.

Teen Birth Rate, Ages 15-19



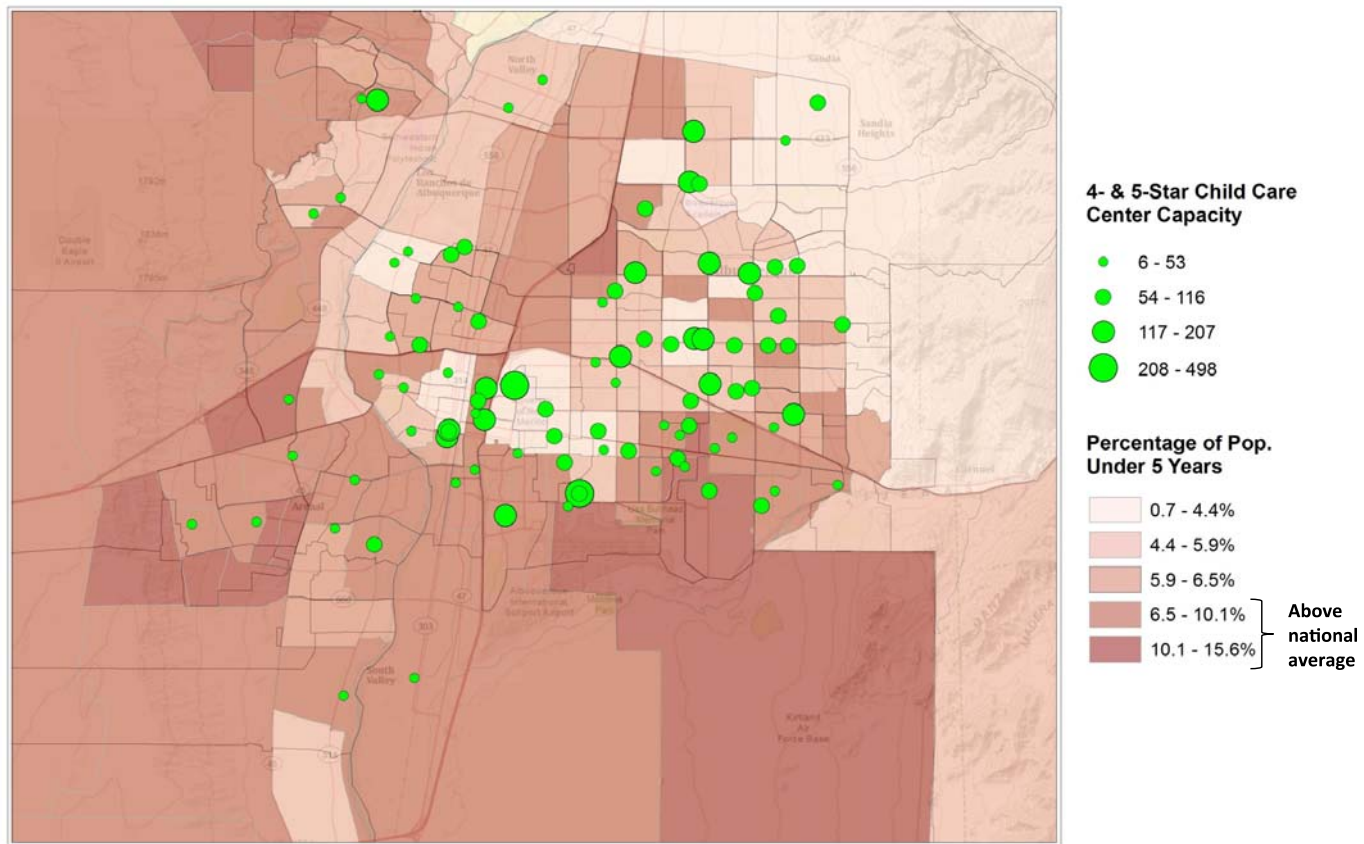
■ Less than 40 per 1000 (below nat'l avg.)
 ■ 40 - 62 per 1000 (above nat'l avg.)
 ■ Greater than 62 per 1000 (above state & nat'l avg.)
■ Poor Data Quality

The data point in each census tract represents the number of live births to teen women per 1000 teen women, over the period 2001-2005.

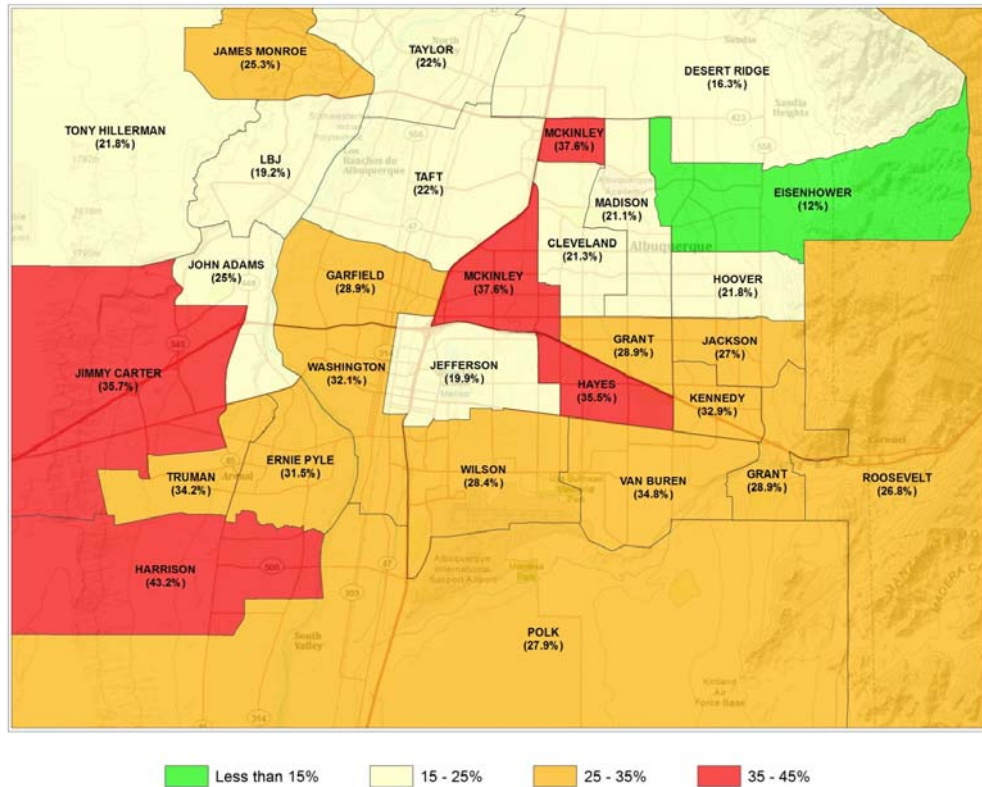
For example, the census tract in the center with a teen birth rate of 106.4 means that there were 106 live births to teen women for every 1000 teen women who live in the census tract.

Source: New Mexico Community Data Collaborative. The rates shown here reflect the average number of children per 1000 women born to teen mothers (ages 15-19) between 2001 and 2005. Rates are reported by census tract; high school boundaries are overlaid to provide perspective. In 2005, the statewide teen birth rate was 62 per 1000, and the nationwide rate was 40 per 1000 (Kids Count Data Center, <http://datacenter.kidscount.org>).

Capacity of 4- and 5-Star Licensed Child Care Centers

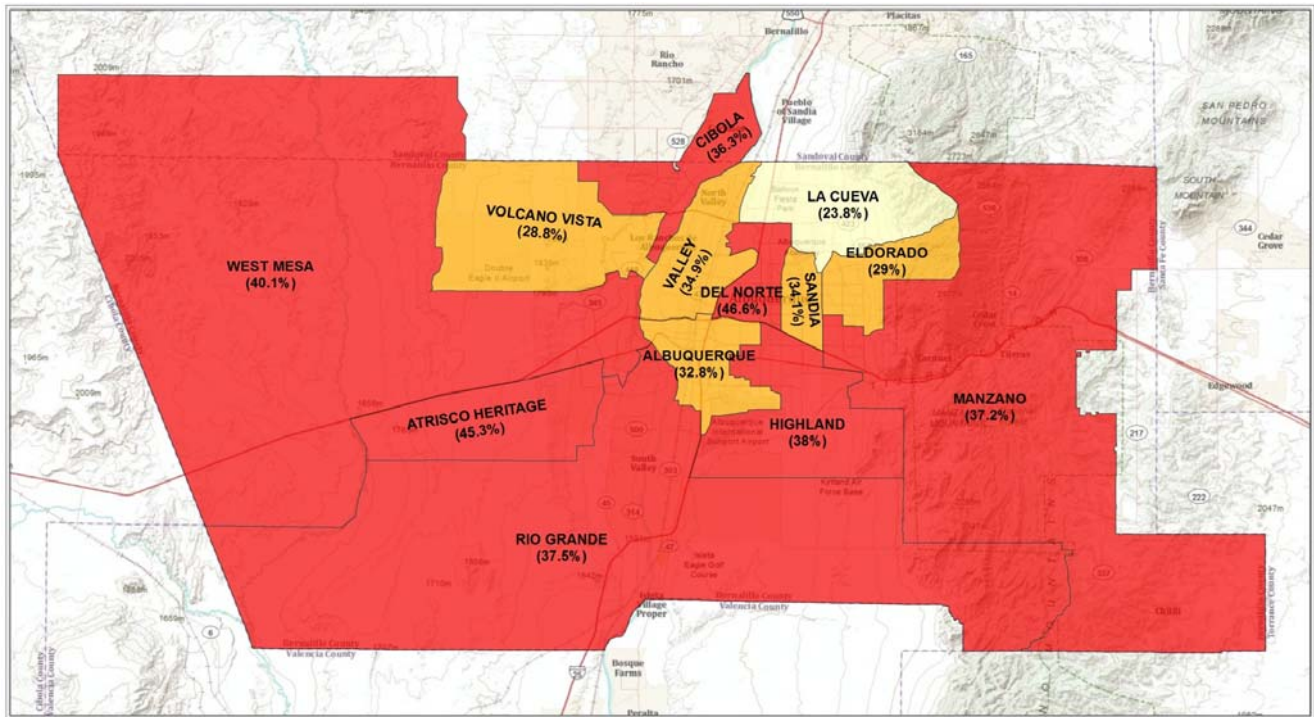


Percentage of Albuquerque Public Schools Middle School Students Not Involved in Group Activities Outside of School or Home



Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, "Outside of my home and school, I am a part of clubs, sports teams, church/temple, or other group activities." The percentage reported here reflects respondents who answered "Not true at all."

Percentage of Albuquerque Public Schools High School Students Not Involved in Group Activities Outside of School or Home



15 - 25% 25 - 35% 35 - 50%

Source: New Mexico Youth Risk and Resiliency Survey, 2009. Students were asked, "Outside of my home and school, I am a part of clubs, sports teams, church/temple, or other group activities." The percentage reported here reflects respondents who answered "Not true at all."

CONNECTING THE DATA TO COLLECTIVE IMPACT EFFORTS



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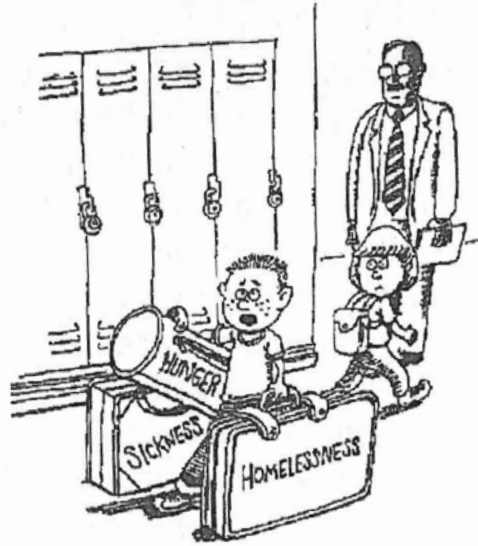


Development of the Central New Mexico Education Support Initiative

Our Guiding Question

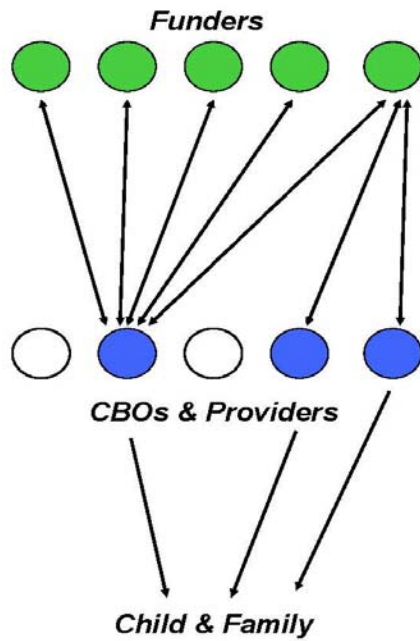
**How can we work together
as a community
to align and coordinate services
to keep kids in school, happy,
healthy and ready to learn?**

**“Could someone help me with these?
I’m late for math class.”**

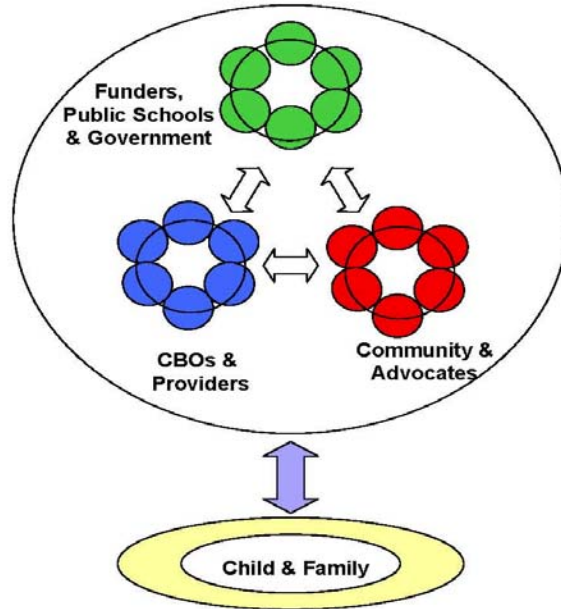


Moving Toward Cross-Sector Alignment

A. Current System



B. Cross-Sector Partnership



Our Future

The future of our community and our economy **depends on education.**

Too many of our students don't graduate.

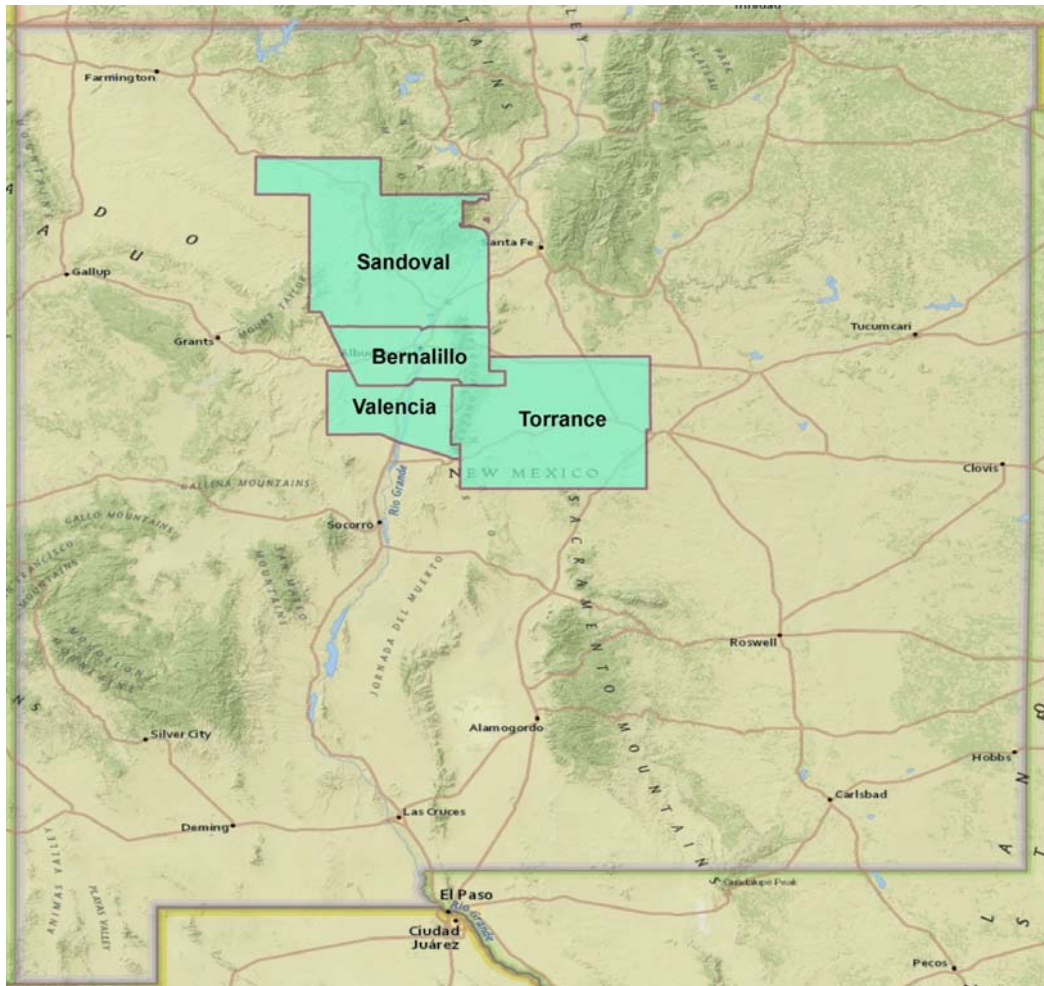
We want to increase the number of students who graduate from the high schools, community colleges, and universities in central New Mexico.

We must work together to achieve this goal.

Our Focus

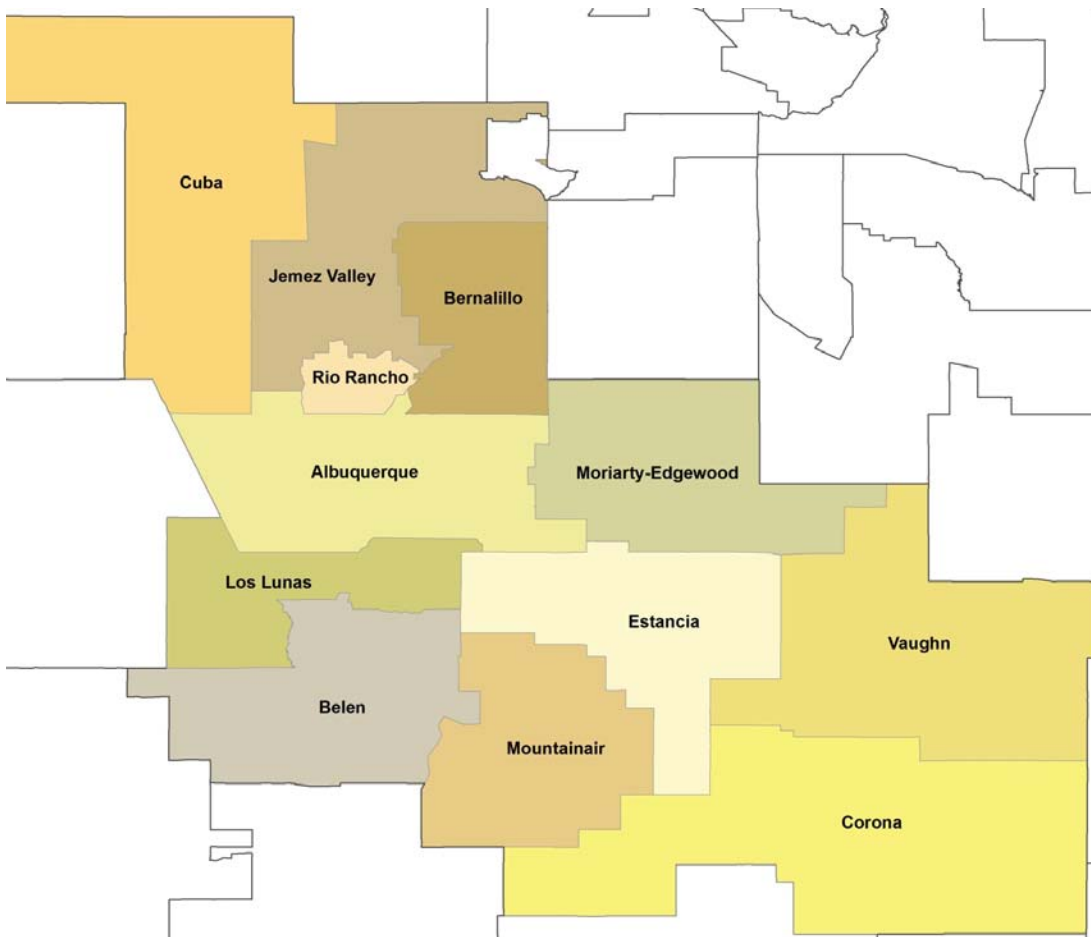
We are focusing on **improving graduation rates** because:

- Education is complex and there are many possible issues to address in the cradle to career continuum.
- All of the complex issues in education result in too few students graduating.
- Improving graduation is a shared goal of the school districts and higher education institutions in central New Mexico.



United Way of Central New Mexico serves four counties: Bernalillo, Sandoval, Torrance, and Valencia.

These four counties are home to 887,077 people which is about 43% of the 2,059,179 people living in New Mexico in 2010.



The four counties in United Way of Central New Mexico's service area include 12 school districts.

These 12 districts served about 133,000 students during the FY12 school year. This is about 41% of New Mexico's 325, 542 students.

Why This Effort Is Different

- Focused effort of many programs and collaborations.
- Shared, measureable goals and shared accountability.
- Backbone organization supporting, but not forcing, broad community engagement.
- Spans the entire cradle to career continuum, with the focus on students and their families VS the search for a single silver bullet.
- Everyone can be involved, working toward the same goal.

Community Engagement

What is Community Engagement?

- The process of working collaboratively with groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people.

--Centers for Disease Control and Prevention, 1997

- Community engagement goals:
 - Build trust.
 - Enlist new resources and allies.
 - Create better communication.
 - Improve the overall well being of people in the community.

How We Think About Community

- Systems
 - Large
 - Four counties in our Education Support Initiative
- Sites
 - Grassroots level
 - Sites that receive services and support
 - Individual communities that will benefit the initiative

Capacity to Support Community Engagement

- We must develop our communities for them be ready to receive our support.
- How?
 - We must know and learn about our communities and their capabilities.
 - We must establish positions and strategies that formally link the communities to us and guide our interactions.
 - Part of this is informal and formal networks that allow us to maintain relationships, communicate effectively and meaningfully, and help leverage resources.
 - We must help organize the community so they are ready for decision-making and social action.

Data and Community Engagement

- Increases community participation
 - Call to action, sense of urgency
- Using maps to tell a story of the community to the community
- Develops and support broad and diverse partnerships
 - Partners aligned to meet common goals
- Educate and empower community
 - Catalyst for social change

Data and Community Engagement, Cont'd.

- Helps us target and coordinate our efforts but reminds us to go deeper
 - Helps us place ourselves as insiders to the community
 - Process of community engagement
 - If we are to target low income, minority groups, how do we understand these groups not just from data but also culturally?
 - How does this help us address educational inequities?
 - Fosters mutual respect and opportunity for us to learn.

LESSONS LEARNED AND WHERE WE ARE HEADED

Lessons Learned

A Few Advantages of Geospatial Mapping

- Geospatial mapping is used extensively in other fields including health and human services, natural resources, public safety, defense, and urban and regional planning. Each of these fields has conceptual frameworks and analytical techniques that offer unique insights when applied to educational issues.
- The data in the maps are immediately accessible to a wide range of audiences including policy-makers, community members, educators, students, and parents.
- Maps are powerful conversation starters. Everybody sees something different in the maps based on their perspectives and experiences.
- Maps equalize the conversations among different groups at the table. People want to know what others think.
- Maps **can** convey the message that we are one community, bound together by a sense of place.

Geospatial Mapping Is Just A Start

- Identifying which data are important and available and then displaying that data in maps is only the first step in using data for policy and advocacy.
- The next steps include analyzing the information in ways that will help address the key challenges we face.
- Two of the analytic techniques we find useful are:
 - **The Killer Questions** – data questions, policy questions, and political questions.
 - **Setting Priorities** – enormous challenges, limited resources

QUESTION TYPE	DATA QUESTIONS	POLICY QUESTIONS	POLITICAL QUESTIONS
Policy Challenge	Data for Advocacy and Accountability	Statute, Regulations, Standards, Frameworks, and Budget	Diverse Perspectives, Power Groups, Practices and Behaviors, Fears, and Hopes
How to Improve Student Success in Central New Mexico	<ul style="list-style-type: none"> • What are the achievement gaps among different groups of students and where do they exist? • What are the social, economic, and health challenges that face our students? • What percentage of high school graduates take remedial courses in college? • How many of students graduate from college? • Where do students go after they graduate from college? 	<ul style="list-style-type: none"> • What kinds of instructional interventions should be implemented to improve proficiency among different kinds of students? • What types of out of school support do families and children need in order to address the disparities they face? • How will these initiatives be funded and where will the money come from? 	<ul style="list-style-type: none"> • Who controls which instructional interventions are adopted and implemented? • Who ensures equitable opportunities are provided to all racial/ethnic populations of students in NM? • Who can change how resources are allocated? • Who has the influence to get schools, colleges, community organizations, business leaders, and government officials to work collaboratively?

New Mexico Faces Many Challenges In Early Childhood

Child Health (Counties):

Premature Births
Low Birth Weight Infants
Infant Mortality
Juvenile Arrests
Child Maltreatment
Domestic Violence
Adolescent Births
Failure to Graduate on Time
Unemployment
Poverty

Education (School Districts):

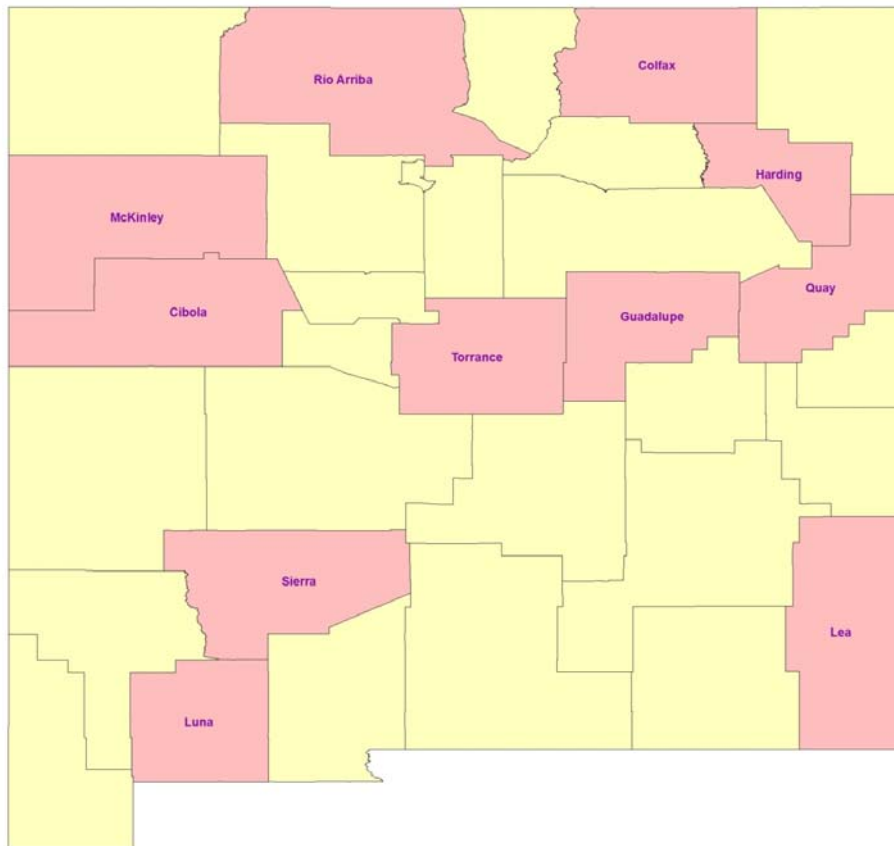
Not Proficient in Math & Reading
Failure to Graduate On Time
Population over 25 without HS or GED
Schools without Health Centers
Girls without Parenting Services
Births to Mothers without HS or GED
Title 1 (High Poverty) Schools
Free or Reduced Price Meals
Per Pupil Expenditures
Schools Graded D or F

Education & Early Childhood Risks, NM School Districts & Counties:

<http://nmcdd.maps.arcgis.com/home/webmap/viewer.html?webmap=b1abc28681624956970598b550ac3c18>

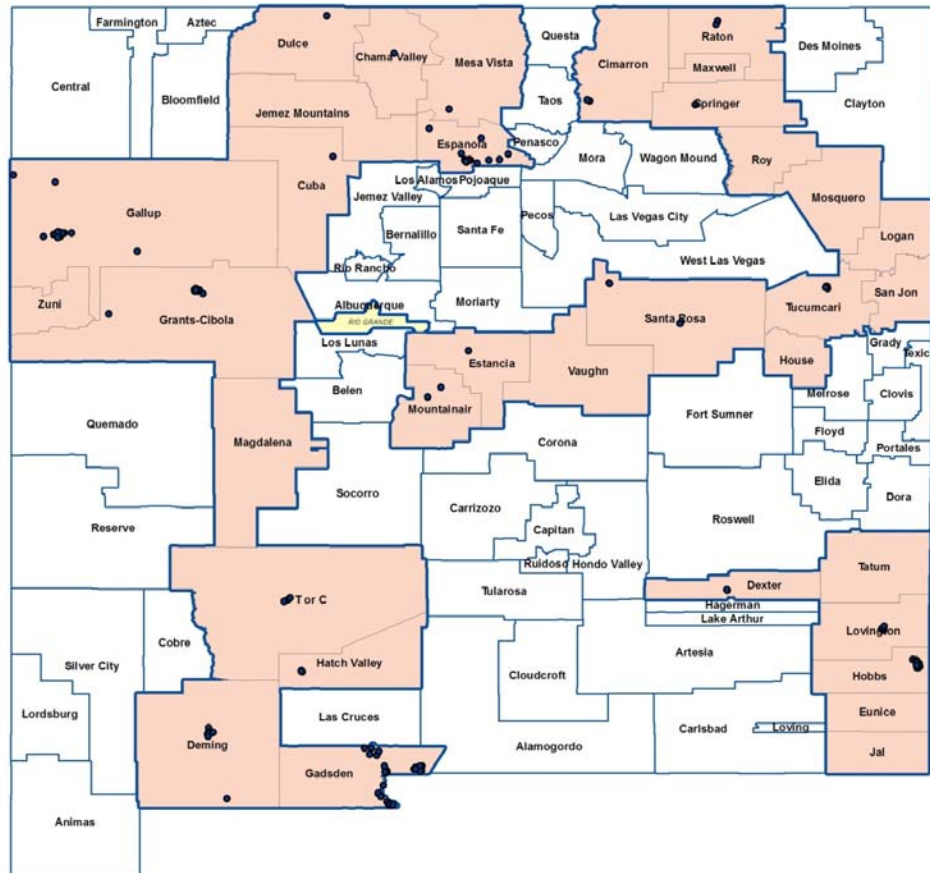
High-Risk Counties = 11 out of 33

Assessed for PRE-K need based on combined **HEALTH** risk factors:



High-Risk School Districts = 34 out of 89

Assessed for PRE-K need based on combined **EDUCATION** risk factors:



● = Existing
Licensed
Child Care
Centers

Where We Are Headed



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New Mexico Community Data Collaborative Online Maps Initiative

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**New Mexico
Community Data
Collaborative**



NM CDC FEATURED MAPS



Reproductive Risk and
Adolescent Services



Early Childhood Learning
Services, Low Income

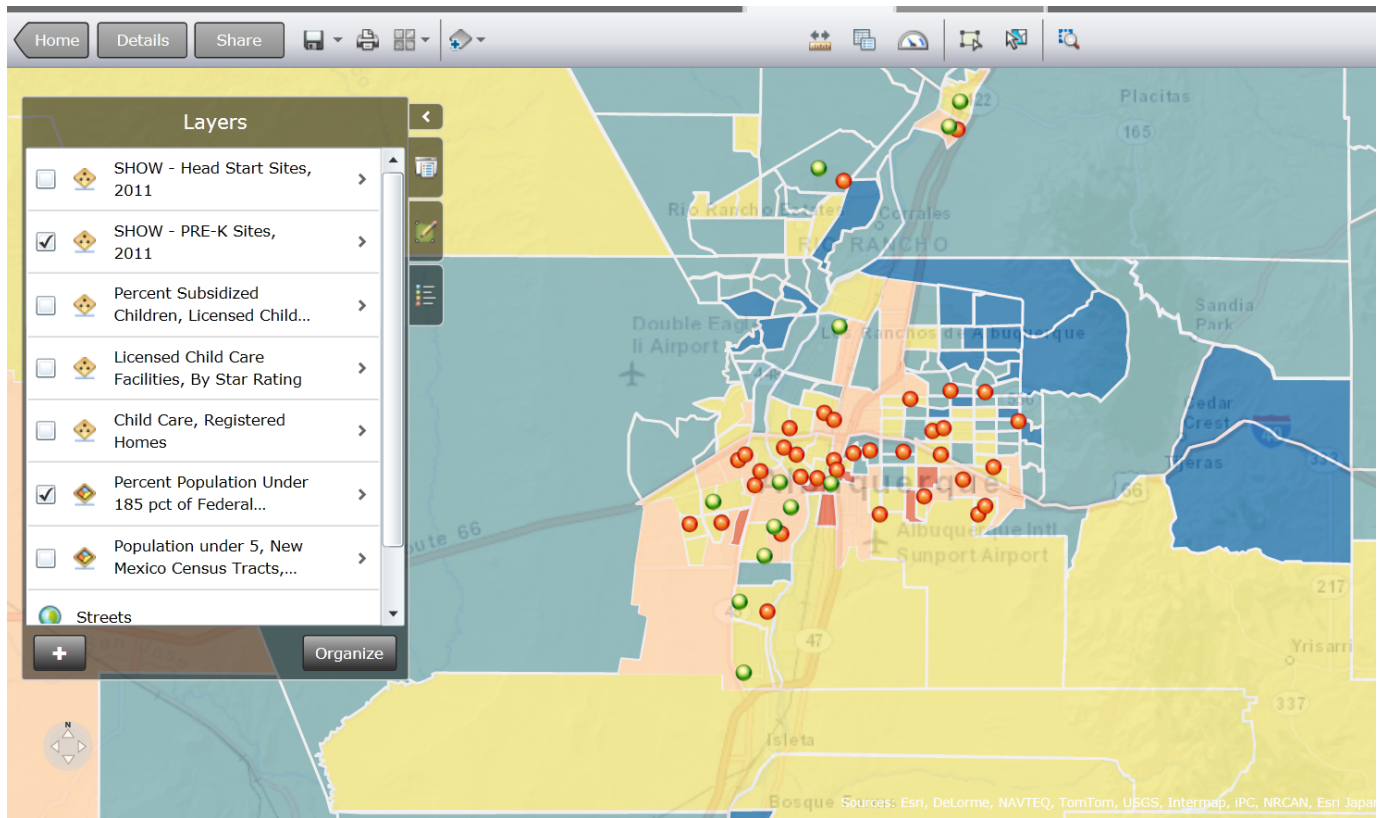


Residential Mobility,
Census Tracts, New




Economic Characteristics,
2006-2010 ACS, NM

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Map Details

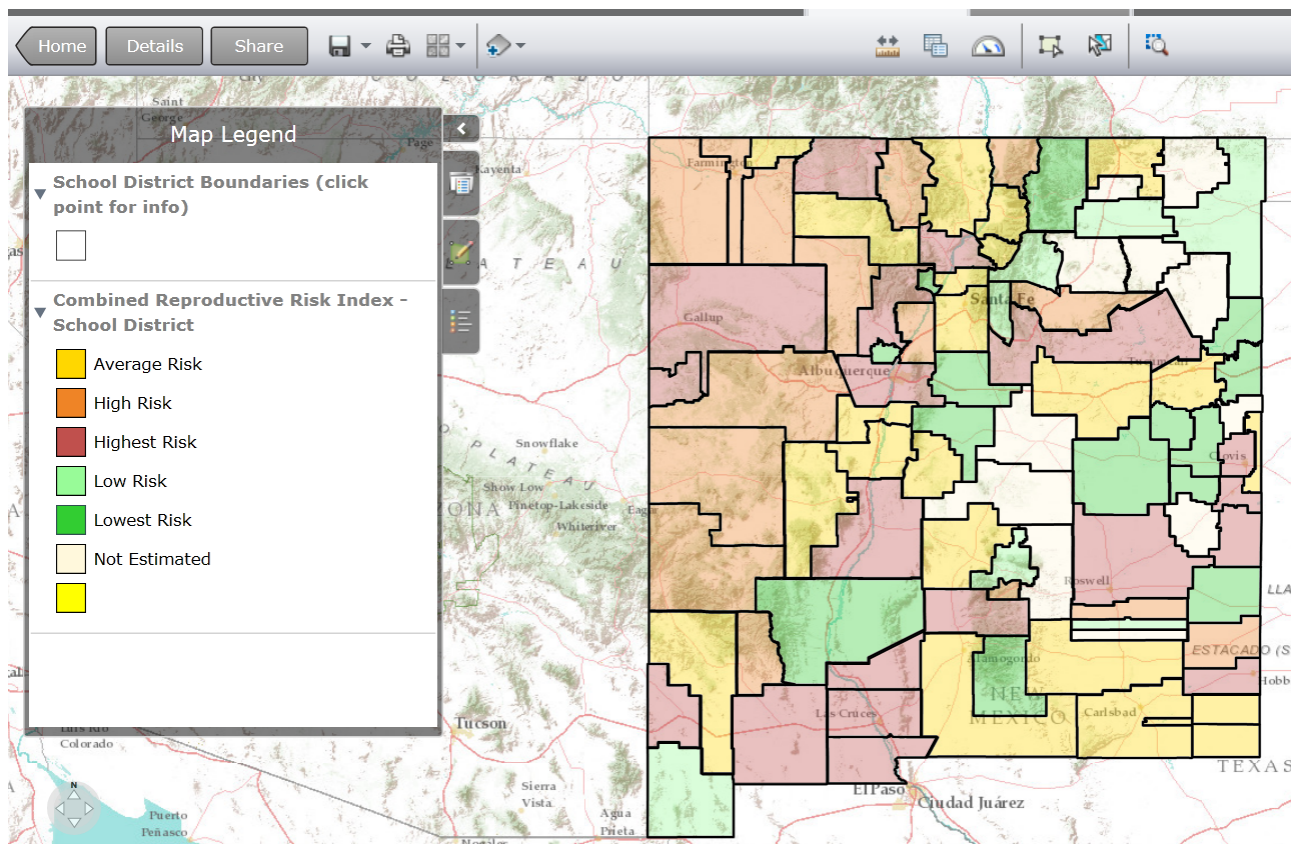
Reproductive Risk and Adolescent Services



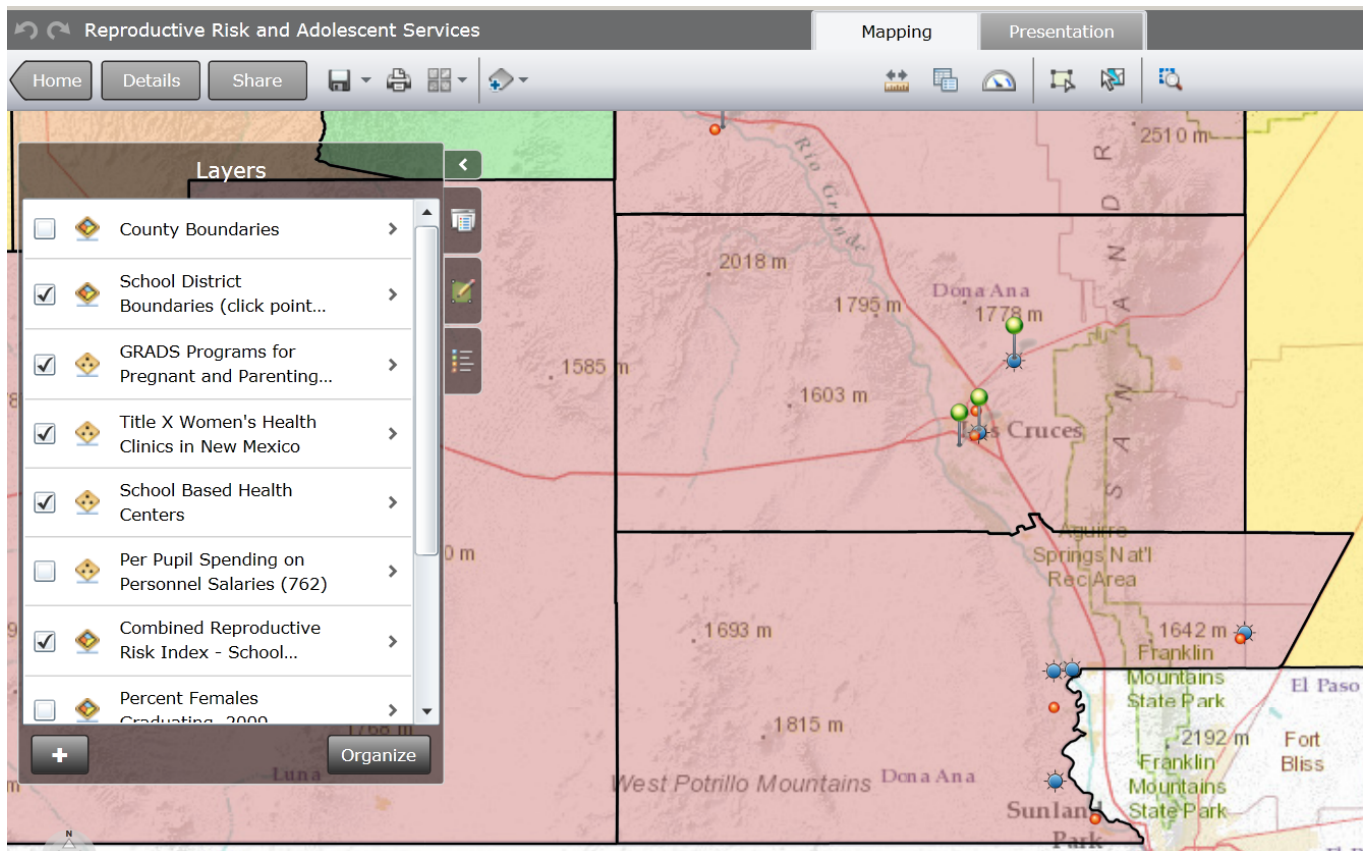
Properties	Description	Comments
<p>The 3 background layers depict school district level indicators:</p> <p>1- A Combined Reproductive Risk Index based on 7 variables: % Total Births, Ratio of births to teens 15-19 to female high school enrollment, % Repeat births to teens, % Mothers with limited access to prenatal care, % Premature births, % Low birth weight birthS, % Childhood (school-age) poverty (<i>sources: NMDOH Vital Records, 2003-2007; NMPED, 2009</i>)</p> <p>2- Estimated Fertility Ratio - Births to teens 15-19 divided by the female high school enrollment, per 1000 (<i>source: NMDOH Vital Records, 2003-2007</i>)</p> <p>3- Female High School Graduation - The percent of females who graduated high school within 4 years of enrollment in 9th grade (<i>source: National Center for Education Statistics, 2010</i>)</p>		

A Current Example Of Risk Index For Adolescent Services

NMCDC Reproductive Risk and Adolescent Services



NMCDC Reproductive Risk and Adolescent Services



We Want To Develop A Comprehensive Picture of Children and Youth In Central New Mexico

- Map the **location of and relationships among education, health, safety, economics, and social factors**, as well as the **programs and other supports** available to address key issues.
- Develop and support interactive, online, and other approaches that make the maps **more accessible, usable and effective**.
- **Tell the story of change** over time.
- Develop and support **strong partnerships among agencies, organizations, and other partners** to increase the use of data.
- Learn how to **apply the powerful tools and analytics from epidemiology, criminology, and other fields** to the issue of children and youth.
- We want to explore the use of **effective indices** of need, opportunity, and support and other key measures.
- We want to help develop ways to **train and support communities** to use these tools for advocacy and change.

QUESTIONS?



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United Way
of Central New Mexico



For More Information

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