Partners in Improving Child Well-being

Where are the afterschool resources for children in 17 targeted Central Texas Zip Codes?
Project Overview

This publication of Children’s Optimal Health (COH) marks a partnership with the Central Texas Afterschool Network (CTAN). The project was funded by the Safe Schools/Healthy Students ACCESS project with additional funds from CTAN. These maps are a beginning step in using geospatial analysis to understand the relationship between quality Out of School Time (OST) care and child well-being. CTAN is a collaborative effort between private and non-profit organizations in the Travis County area that serve school-age children and their families, particularly targeting the economically disadvantaged. The map report includes information on the number of students attending OST programs, program locations and types, as well as gaps in services throughout the Austin, Del Valle and Manor School Districts. Further, COH maps representing student academic achievement, absenteeism, child health and safety are also included to help facilitate collaboration on these issues among OST providers. COH understands the importance of OST programming for the overall health and well-being of children in Central Texas and is proud to map this unique dataset and complete a useful and actionable project with CTAN.

What is Children’s Optimal Health?

Through a commitment to shared data, collaboration, and ongoing communication, Children’s Optimal Health (COH) is a collective leadership initiative to ensure that every child in Central Texas become a healthy, productive adult engaged in his or her community. In 2008, COH became a 501(c)3, Texas Unincorporated Non-Profit Association. COH’s governing board is made up of hospital networks and foundations, a school district, multiple social service providers and university schools, several of which provide core funding for our work. Utilizing a unique methodology and strong relationships with community agencies COH is able to produce maps using GIS technology at the neighborhood level. Maps are then compiled into completed projects that include a descriptive/interpretive narrative. They are presented at Summits where community action partners discuss the images (maps) of child health and engage in a planning process to take actionable steps to improve operations, impact policy, encourage research, and mobilize the community. Since its formation, COH has completed several projects including: Child Obesity by Neighborhoods and Schools, Young Children, By Physical and Social Environment, Transportation Related Child Injury, and Child and Youth Behavioral Health. Summits have been held for Child Obesity (2008 and 2009), Young Children (2010) and Child and Youth Behavioral Health (2011).

What is the Central Texas Afterschool Network (CTAN)?

The Central Texas Afterschool Network is a collaborative network of out-of-school time service providers, stakeholders, and funding organizations. CTAN promotes quality and accessibility in OST programming by building collaboration between afterschool program providers, community organizations, students, families, and educational institutions. CTAN facilitates resource sharing, networking, advocacy, research, and program quality assessment and evaluation. The term afterschool is the most recognizable and understood by the general public, and therefore has been adopted by the afterschool industry as its standard. However, afterschool time encompasses all OST for school-age youth, including afterschool, before school, summer and weekend programs. It also encompasses all types of program providers, including school-based, non-profit, for-profit, and faith-based providers. Since its inception in 2000, CTAN has accomplished the following:

- Created new funding opportunities for school aged youth in Travis County
- Organized four Lights On Afterschool rallies at the Texas Capitol
- Completed a study of twelve zip codes showing gaps in youth service in 2004
- Developed a statement of best practices and a self-assessment tool in alignment with the National Afterschool Associations accreditation program
- Collaborated with Your Community Guide to produce a searchable after-school guide for families and the public
- Partnered with United Way Capital Area and Ready by 21 to launch the High Scope Youth Quality Improvement System

This publication marks the beginning of a partnership between CTAN and Children’s Optimal Health.
Background
CTAN periodically surveys program providers to collect a snapshot picture of existing services. In the spring of 2011 CTAN surveyed providers serving 17 low income zip codes in Travis County. These zip codes were targeted based on a determination that there were campuses within the zip codes in which at least 70% of enrolled students received free/reduced price lunches. Qualification for free/reduced price lunches is based on federal poverty guidelines.

As CTAN and Ready by 21 report, over the past 10 years, total student enrollment increased by 9% in Austin ISD, 67% in Del Valle ISD, and 179% in Manor ISD. During this period, the number of students eligible for free or reduced price lunch in each district increased by 47%, 121%, and 315% respectively.

Additionally, between 2004 and 2009, the number of children living in poverty under age 5 in Travis County rose from 15% to 26% (American Community Survey). In light of this data, the number of economically disadvantaged students enrolled in Austin, Del Valle, and Manor is projected to continue to rapidly increase in the near future. Statistically, these students are often less academically successful, have lower graduation rates, are less likely to meet college readiness standards, are less likely to have health insurance, and are more likely to participate in risky behaviors. Financial and social investment in prevention and support systems such as afterschool programming will be critically necessary to serve the needs of this growing student population.

OST programming has enormous potential to increase academic equity and provide a safety net for students from low income communities who may not have access to other support systems. 62% of Austin ISD students, 85% of Del Valle ISD students, and 79% of Manor ISD students are economically disadvantaged (Academic Excellence Indicator 2009-2010. Texas Education Agency, 2010. http://ritter.tea.state.tx.us/perfreport/aeis/2010/index.html, accessed on August 27, 2011).

The term OST refers to the array of safe, structured programs that provide children and youth from kindergarten through high school with a range of supervised activities intentionally designed to encourage learning and development outside of the typical school day. Though referred to as afterschool, OST programs occur before and after school, on the weekends, during school holidays, and in the summer. They take place in a variety of settings, including schools, museums, libraries, parks, faith-based organizations; youth service agencies, health agencies, and community-based organizations. Activities offered by OST programs include academic enrichment, tutoring, mentoring, arts (e.g., music, theater, and drama), technology, science, civic engagement, health and fitness, and activities to support and promote healthy social/emotional development (http://www.centex-communitydashboards.org/rb21/OutofSchoolTime.php, accessed 8/29/2011).

Why is out-of-school time programming so important?
Research on communities that have comprehensive after school programs identify that children are less likely to commit or be victims of crime, and are less likely to engage in risky behavior such as tobacco, drug, or alcohol abuse or premature sexual activity. Teachers and parents report that children who participate in quality programs develop better social skills and learn to handle conflicts in more socially acceptable ways. Families able to enroll their children in good programs indicate their children are safer and more successful in school. These families develop a greater interest in their child’s learning. Children develop new interests and skills, and improve their school attendance. (After School Programs: Keeping Children Safe and Smart, U.S. Department of Education, 2000. http://www2.ed.gov/pubs/afterschool/afterschool.pdf, accessed 8.22.2011).

OST programs also help prevent teen pregnancy by encouraging good decision-making and providing youth health education and positive role models in a supervised setting after school. Youth who do not spend time in extracurricular activities after school are 37% more likely to become teen parents than are youth who spend time in afterschool programs. The most common time for youth to have sexual intercourse is in the hours between 3 p.m. and 6 p.m. (Westat, Inc., "Adolescent Time Use, Risky Behavior and Outcomes: An Analysis of National Data," September 1995: The After-School Corporation, "After-School Programs: An Analysis of Need, Current Research, and Public Opinion," 1999.)

Engaging in community, school and/or extracurricular activities is a key component to securing healthy outcomes for youth. OST programming offers a structured environment for students to participate in healthy enrichment activities, and decreases the likelihood that students will participate in risky behaviors. Students who regularly participate in afterschool programming perform better academically, attend school more regularly, and graduate from high school at higher rates than their peers who do not attend. One national study found that students who participated in federally funded afterschool programs saw significant grade improvement in math (42%) and reading (43%). Studies have also shown that participation in OST programming decreases reported behavior problems and the prevalence of drug and alcohol use among disadvantaged youth. Students who participate in OST programs are also less likely to be obese or become teen parents (www.afterschoolalliance.org).
Who was Surveyed?
The providers surveyed for this mapping study represent a variety of programs that target services to lower income families. These include Afterschool Centers on Education (ACE) funded by the 21st Century Community Learning Centers, City of Austin funded Prime Time, Travis County Collaborative Afterschool Program (TCCAP) funded by Travis County, Extend A Care for Kids Afterschool Childcare, and Manor LEAP After-school Childcare. These comprise the majority, though not all respondents. A list of respondent organizations is contained in Appendix A, page 39. Below is a brief description of key programs:

- Austin ISD, Del Valle ISD, Manor ISD, and Boys and Girls Clubs of Austin all receive ACE funding. There is no charge for participation in an ACE program. ACE programs serve students K-12. Each site programs at least 15 hours per week for 35 weeks and serves between 125 and 250 youth.

- Prime Time is a City of Austin funded enrichment program operating in 25 schools, primarily elementary schools. On average, Prime Time schools offer programs one hour per day, 2 to 3 days per week for 2 or 3 six to eight week sessions.

- TCAAP is funded by Travis County and provides after-school and social services to students at four middle schools for 200 days per year. TCAAP coexists with ACE Austin and ACE Boys and Girls Clubs.

- Extend A Care for Kids is a fee based licensed child care program. Fees are charged on a sliding scale. Extend A Care for Kids serves both Austin ISD and Del Valle ISD. Extend A Care coexists with both ACE and Prime Time Manor Learning, Enrichment and Academic Progress (LEAP) is the Manor ISD fee based licensed child care program. Fees are charged on a sliding scale. LEAP coexists with ACE Manor.

Key Findings of this Survey

Unduplicated Youth Served: Within the selected area, the survey looked at youth served for 30 days or more. The U.S. Department of Education has established 30 days as the minimum amount of participation required for youth to receive the benefits from after-school/after-school programming.

- 23% of students (56,298 people) were served 30 days or more by after-school time programs during the 2010-2011 school year.

- 38% of students enrolled in the targeted area participated at least one day – The discrepancy between the number served for one day and those served for 30 days or more indicates the potential to improve retention and identify barriers to sustained participation.

- In half of the zip codes studied, fewer than 19% of the student population participated in programs for more than 30 days – This indicates a largely unmet need for after-school/after-school services in many low-income areas of Travis County.

When programs are available: Most programming is available Mondays through Fridays beginning before three p.m. and ending at six p.m.

- Only 30% of sites reported providing services in the morning, and 11% on the weekends.

- Programming availability is limited when school is not in session. A particular concern is the limited number (15%) of students attending at least 20 days of summer programs. Lack of access to summer learning activities is a key impediment to the academic success of low-income youth. A recent report released by the RAND Corporation found that summer learning loss is cumulative, disproportionately affects low-income students, and as a result, broadens the achievement gap between low and middle/higher income students.

Ages of students being served: The majority of students served were elementary school aged students (78% of all participants). Fewer sites (43%) served middle school youth and only 29% served high school youth.

- Afterschool programming has been shown to significantly impact crime rates, high school completion and college enrollment when support systems are sustained over time.

Types of services provided by the programs: The CTAN study asked program providers to select from a list of 20 academic, health, and social services provided by their site. Most providers offer a variety of services including

- Academic enrichment and youth services (93%); Arts and Creative Expression (76%); Sports and fitness/health and wellbeing (55%), and Career exploration and college readiness (52%).

- Conflict resolution, violence prevention, environmental education and parent education services are the least equitably distributed.

- Several zip codes were identified to be in need due to the limited youth services provided. These include 78617, 78722 and 78744 zip codes.
What are the key barriers to access to afterschool programs?

Younger Siblings/Continuity of Service: Many youth provide childcare for younger siblings who are too young for existing programs, or services are not always available for families with children in different age groups who attend different schools.

Transportation: Unless a program is on-site or within walking distance to the child’s school or home, transportation to and from afterschool is a barrier for many families.

Days and Times of Service: Many of the programs do not offer the days and times needed to supervise youth of working families. For example, some programs are only open a few days a week, and most are not open on Saturday and Sunday.

Community Knowledge about OST Programs: Many families are unaware of OST resources available to them or of the benefits of their participation in OST programs.

Costs of Programs: Approximately 10% of programs in low-income Travis County Zip codes charge a fee for services greater than $500 per child per year.

How do we measure change over time?

The Ready by 21 Coalition, in conjunction with the Forum for Youth Investment, has developed a set of high level community performance indicators to monitor the well-being of children and youth. One indicator addresses the percent of students participating in OST activities in Central Texas, as measured by CTAN. Specifically, it is the percentage of K-12 students enrolled in area public schools from 17 targeted zip codes who participated in afterschool programs for more than 30 days during the academic year. The indicator can be monitored at www.centex-communitydashboards.org/rb21/OutofSchoolTime.php. The application of time series mapping can help us understand not just what is changing but where it is changing over time. This is particularly important in areas such as Central Texas which have experienced very rapid demographic change for several years.

Children’s Optimal Health Recommendation

The CTAN survey and associated maps and observations mark a beginning effort to identify support services for children and families, by location at the neighborhood level, throughout the Austin and Central Texas areas. Children’s Optimal Health recommends capacity development and methodological improvements in the consistent capture and representation of such information, including an unduplicated count of service utilization over time. One possible source for such information is the Youth Services Mapping tool which has been developed and implemented under the Safe Schools/Healthy Students ACCESS grant. Time series mapping can identify trends at the neighborhood level. Resource constraints are a current impediment to developing comprehensive knowledge of what services are available and used by families at a neighborhood level.

CTAN and Ready by 21 Recommendations for Action

- Increase availability of services to the low-income population to ensure students have access to quality, free out-of-school time (OST) programming. This population has difficulty paying even nominal fees for out-of-school time programs.

- Remember that OST programs are important for all students. Whether students are low-income or not, OST programs are proven to significantly improve attendance, academic performance, social skills, drop-out rates, and self-esteem.

- Increase OST Programs for North Austin and Dove Springs areas. These two areas are experiencing rapid growth in their student populations, but a low percentage of those students are being served 30 days or more by OST programs.

- Provide continuous services across age groups and throughout the year.
  - Funders – Invest across age groups, provide consistent, predictable OST funding (current funding varies over time.)
  - Providers – Consider map findings when placing services. For instance, are programs promoting physical activity located in neighborhoods with concentrations of overweight/obese children?

- Work to improve program quality and expand quality improvement efforts. This mapping study did not investigate the quality of OST programs in our region. CTAN and other organizations can work toward this effort.

- Communicate to the public at large that OST programming is a resource for families. CTAN can assist with marketing efforts.

- Improve transportation and safety for children who have to walk home. There is currently no bus transportation within a 2-mile radius of each school in AISD. Capital Metro cannot sell reduced fare bus passes to AISD out-of-school time programs because AISD is not a 501(c)3 organization.

Who are action partners working on this issue?

The CTAN survey data identifies gaps in access to afterschool programming in low income communities in central Texas. These results will be used to advocate for increased support for quality, accessible afterschool programming for currently underserved student populations. CTAN continues to work to secure grants to fund expanding programming and improving program quality in underserved areas of Central Texas. The following are key action partners in this area:
United Way of the Capital Area: Funded by the United Way Worldwide Out of School Time Community Pilot Grant Award, United Way Capital Area is partnering with other community organizations to create an “Out of School Time Action Agenda”. The action agenda will focus on improving and developing community partnerships to improve out of school time programming and increase high school graduation rates. United Way has also partnered with CTAN to administer Youth Program Quality Assessments (YPQA) of afterschool programs in central Texas. Early results from CTAN’s mapping study indicate strong interest among afterschool program providers in quality assessment tools such as the YPQA.

Texas Afterschool Association: As the local affiliate of the National Afterschool Association, TAA offers training, curriculum and professional development opportunities for afterschool programming providers in Texas.

Travis County Collaborative Afterschool Project: TCCAP was created and funded by the Travis County Commissioners’ Court in response to the results of the 2004 CTAN afterschool program mapping study which identified service gaps in low income zip codes in Travis County. TCCAP provides afterschool support and social services to students residing in zip codes near Webb and Pearce middle schools.

Texas Partnership for Out-of-School Time (TXPOST): The mission of the Texas Partnership for Out-of-School Time (TXPOST) is to improve the quality and availability of out of school time programs in Texas. TXPOST works to engage all Texas youth serving organizations, state agencies, and other stakeholders in discussions and collaboration to insure human and financial resources are maximized and fully leveraged to improve outcomes for the children and youth of Texas.

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>School Enrollment</th>
<th>School Based OST ≥ 30 Days</th>
<th>Community Based OST ≥ 30 Days</th>
<th>Percent Students with OST Care ≥ 30 Days</th>
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</thead>
<tbody>
<tr>
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<td>805</td>
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<tr>
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<tr>
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<tr>
<td>78758</td>
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<td>341</td>
<td>269</td>
<td>14.8%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63,276</td>
<td>10,530</td>
<td>3,291</td>
<td>21.8%</td>
</tr>
</tbody>
</table>

Observations:
- There were 154 Out of School Time (OST) providers who completed the survey. The survey targeted 17 zip codes that have higher concentrations of low income families, defined as campuses within the zip codes having 70% or more of enrolled students receiving free/reduced lunch.
- School districts are represented by pastel colors.
- Zip codes have been added to identify the 17 targeted zip codes for the CTAN survey.
Observations:
- The majority of OST programs in the targeted area are located on school campuses. This is an advantage for families who may lack the capacity to transport children from campus to community programs after school.

Observations:
- This map reflects the percent of enrolled students on a campus who participated in campus-based OST activities for ≥30 days during School Year 2010-11.
- The map reflects that on many campuses the percent of participating youth is low compared to enrollment. This may reflect a capacity or resource allocation issue.
- There is variability by zip code in participation of students in campus-based OST programs. For instance, 78721 has high percentages of enrolled students participating, while 78758 and 78617 do not.
Observations:
- A number of OST programs are also located at non-campus community locations. These locations include City of Austin Recreation Centers, supported housing communities, and non-profit organizations.
- Typically these programs provide transportation for participating students from campus to the OST program.
Observation
- These two maps represent the distribution of no/low cost OST providers across Austin, Manor and Del Valle school districts, within Travis County. The greatest density of OST locations is within AISD.
- While most sites served fewer than 200 students, 3 sites, as labeled above served more than 300 students for at least 30 days during the school year.

Observations:
- Summer programs serving youth in targeted zip codes are indicated. A standard metric is the number of students served at least 20 days during the summer.
- While most summer programs served fewer than 350 students for at least 20 days during the summer, two programs served 2000 or more.
Observations:
- Though the survey asked providers about the percent of staff who spoke Spanish, interpretation was limited to whether any staff spoke Spanish. Those sites with at least one staff person who spoke Spanish are represented in blue. The other sites are provided for reference.
- There may be a need to increase Spanish speaking staff in OST programs who can communicate fluently with families as well as students.

Observations:
- Survey respondents were asked whether their program maintained a wait list. Those sites with a wait list reflect a resource limitation for the program in the neighborhood served.
- Those sites that do not maintain an active wait list may have available capacity to serve additional students.
- It is possible that some programs fill enrollment but do not maintain a wait list.
Survey respondents were asked whether their program provided a snack or a meal. Those who responded positively are represented in the map.

Neither the survey nor the resulting map reflect the nutritious quality of a snack or meal provided by an OTS program.

The map, along with a table of respondents, identifies key potential partners in supporting healthy nutrition and nutrition education for children.

Survey respondents were asked to identify whether programs were for elementary, middle school or high school youth. Multiple responses were possible.

A preponderance of programs are for elementary students, however there are programs for middle and high school youth across the area.

There are few OST programs identified for youth in the Manor and Del Valle school districts in comparison with the Austin school district.
Observations:
- Survey respondents were asked whether their program provided service during the school year for key periods when school is not in session.
- The map reflects those programs that offer OST services during teacher in-services days, during Winter Break and during Spring Break.
- OST programs are available during school holidays in a number of neighborhoods, but are less available in Del Valle.

Observations:
- Survey respondents were asked whether their program provided care outside of the typical ‘after-school’ time period.
- A number of programs provide evening care, defined as 6 PM or later.
- Comparably fewer programs provide care prior to the start of school.
- Very few programs provide weekend care.
- For low income workers, access to care during these non-traditional hours can be essential to their ability to maintain employment, while assuring child safety.
Observations:
- Survey respondents were asked to qualify the types of programs and services they offered. These were then collapsed across the eleven categories represented in the two maps presented above.
- OST programs and services can be co-located at the same site.
- The stacked bars represent the types of programs and services available at individual sites, as reported by respondents.

Observations:
- These two maps represent 11 categories of programs and services.
- There is variability in the types of programs and services available across sites.
- The types of OST programs and services can be compared to maps depicting youth indicators (i.e. obesity, academic success) to consider whether programs are located in neighborhoods where need is identified.
Observations:

- This map represents 3 categories of programs and services: Career Exploration/Work Readiness, College Readiness, and Mentoring.
- The types of OST programs and services can be compared to maps depicting youth indicators (i.e. absenteeism, academic success) to consider whether programs are located in neighborhoods where need is identified.
Community Drill Downs

The previous maps have represented CTAN survey responses across the 17 targeted zip codes, and across 3 school districts. This following section contains drill down maps of different areas of the community (North and South Austin ISD, Manor and Del Valle ISD) displaying location of services offered and program qualifications. The drill downs enable better focus on local neighborhoods.

### Index of Community Drill Downs

<table>
<thead>
<tr>
<th>Map Topic</th>
<th>Map Geography</th>
<th>Page</th>
</tr>
</thead>
</table>
| Enrolled Students Participating in 30 Days or More Out of School Time (OST) Programs | North Austin  
Manor and Del Valle | 16 |
| Services Offered | North Austin | 17 |
| Services Offered | South Austin | 18 |
| Services Offered | Manor and Del Valle | 19 |
| Program Qualifications | Travis County | 20 |
| Program Qualifications | North Austin | 20 |
| Program Qualifications | South Austin | 21 |
| Program Qualifications | Manor and Del Valle | 22 |
Observations:
- This map shows the locations of campus-based OST providers in north AISD.
- The map represents the percent of enrolled students on campus in targeted zip codes who participated in OST activities for at least 30 days during School Year 2010-11.
- The two maps reflect that for many campuses, only a small percentage of students were involved in OST activities for at least 30 days.

Observations:
- This map shows the locations of campus-based OST providers in south AISD, Manor and Del Valle ISDs.
- The map represents the percent of enrolled students on campus in targeted zip codes who participated in OST activities for at least 30 days during School Year 2010-11.
Observations:
- This map shows the locations of CTAN respondents in North Austin who offer the following services: Family Support Services, Nutrition Support, Sports Fitness, Youth Development/Enrichment, Arts/Creative Expression, and Childcare.

Observations:
- This map shows the locations of CTAN respondents in North Austin who offer the following services: Mentoring, Substance Abuse Prevention, Career Exploration, Delinquency Prevention/Intervention, and Academic Enrichment.
Observations:
- This map above shows the locations of CTAN respondents in South Austin who offer the following services: Family Support Services, Nutrition Support, Sports Fitness, Youth Development/Enrichment, Arts/Creative Expression, and Childcare.

Observations:
- This map below shows the locations of CTAN respondents in South Austin who offer the following services: Mentoring, Substance Abuse Prevention, Career Exploration, Delinquency Prevention/Intervention, and Academic Enrichment.
Observations:
- This map shows the locations of CTAN respondents in Manor and Del Valle who offer the following services: Family Support Services, Nutrition Support, Sports Fitness, Youth Development/Enrichment, Arts/Creative Expression, and Childcare.

Observations:
- This map shows the locations of CTAN respondents in Manor and Del Valle who offer the following services: Mentoring, Substance Abuse Prevention, Career Exploration, Delinquency Prevention/Intervention, and Academic Enrichment.
Survey respondents were asked to provide indications of program quality, their capacity to provide services to students with special needs, and whether they provided parent engagement activities.

This map provides the full extent view of responses.

The following maps provide drill downs for more detailed information.

Observations:

- This map shows the location of CTAN respondents in North Austin.
- Many of the CTAN respondents indicate they participate in the quality assessment program.
- Several respondents indicate their programs are licensed.
Observations:

- This map shows the location of CTAN respondents in South Austin.
- Many of the CTAN respondents indicate they participate in the quality assessment program.
- Several respondents indicate their programs are licensed.
Central Texas Afterschool Network (CTAN)

Observations:
- This map shows the location of CTAN respondents in North and South Austin, Manor, and Del Valle.
- There are significantly fewer CTAN respondents in the Manor and Del Valle areas than in Austin.
- Several CTAN respondents in Manor and Del Valle indicate that they participate in the quality assessment program.
- Few respondents in Manor and Del Valle indicate that their programs are licensed.
Partnering to Improve Child Health Outcomes

The following maps are drawn from other projects in which COH has been engaged.

A desired outcome for this CTAN mapping project is to provide CTAN survey respondents with a self-contained electronic publication that provides a breadth and depth of information pertinent to the well-being of children and youth. The project provides an opportunity for health care, behavioral health and early childhood communities to communicate with OST providers to improve health outcomes for children, a mutually shared goal.

Student data in the following maps is limited to students from Austin ISD. Data was not available for students from Manor and Del Valle ISDs at the time of this study. It may well be that patterns in neighborhoods extend across school district boundaries. Future mapping efforts could explore this possibility.

The completed projects can be accessed in greater detail at www.childrensoptimalhealth.org.
Academic Achievement and Absenteeism

Research indicates that students who miss 10% or more days of school are at highest risk of not completing high school. Absenteeism rates vary across AISD, however, the percentage of students who have high absenteeism (>10% days missed) is significantly higher in low income areas of the community. Economically disadvantaged students are also more likely to struggle academically.

Before school and afterschool providers play a significant role in reducing child care and transportation barriers for school attendance for families with limited time and resources. OST providers can also engage students in extracurricular activities that can enhance motivation to attend school. Targeted programming in neighborhoods with high need that incorporates areas such as mentoring, tutoring, and substance use prevention can help to decrease absenteeism and support academic achievement.
Observations

- This map reflects one year’s worth of AISD attendance data. Three categories of absenteeism are reflected: low (< 5% days missed), moderate (5-10 % days missed), and high (> 10 % days missed).
- Absenteeism was calculated as a percent based on student days enrolled. This adjusts for students enrolled less than the full year.
- A 5% absence rate approximates 10 days absence. If a student has 10 unexcused absences, this constitutes truancy and could involve court.

Research indicates that students who miss 10% or more days of school are at highest risk of not completing high school.

Excessive absenteeism, evident at MS and HS levels, puts students at risk for not completing high school.

Absenteeism is higher at the HS level than at the MS level.

A 1% improvement in attendance across AISD, would result in additional revenue from the state of $5.6 million. (Source: AISD)
Using AISD TAKS scores for reading and math as one indicator of child school success, these maps identify where students are concentrated who are meeting or not meeting the TAKS standard for their grade level.

This map indicates that there are concentrations of students in neighborhoods across AISD who are academically successful.

Density maps identify where persons with a characteristic are concentrated. Housing type influences the way people are concentrated; they are more concentrated in apartments. To control for the influence of housing type, a proportion map is also useful.

Using AISD TAKS scores for reading and math as one indicator of child success, these maps identify where children grades 3 - 11 are concentrated, by proportion, who are meeting or not meeting the TAKS standard for their grade level.

Proportion maps control for the density of people living in a neighborhood. They reflect the rate of a characteristic within a neighborhood.

In the map above, red color indicates that 90% of students in the neighborhood are academically successful, while the gray color indicates that 70% or fewer are academically successful.
Observations

- Research indicates that the strongest predictors for a healthy start for a young child are the educational status of the mother, family constellation, and economic status of the family. Single parent households, and those with less educated adults are more likely to be lower income households.
- Though helpful, Census 2000 data (tract level) is dated. This is problematic in a community such as ours, where rapid demographic change is occurring. Nonetheless, the data and maps provide a starting place for understanding young children and their families in the community for the purpose of effective intervention.
- AISD elementary schools are included to provide a point of reference.

Observations

- There are concentrations of women over age 25 who have less than a 9th grade education.
- In 2000, these neighborhoods were clustered in central east Austin and Dove Springs in south Austin.
- Given family migration patterns since 2000, these concentrations may have shifted.
- The neighborhoods of concentration for women with less than a high school education are similar to those with less than a 9th grade education. There are many neighborhoods with >30% of women having less than a high school education.
Health

Approximately one-third of AISD students have a health risk based on body mass index (BMI) and/or cardiovascular measures. This percentage of students who are not healthy by these measures is considerably higher in certain areas of the community, revealing health vulnerability and disparity for economically disadvantaged children and youth.

OST providers are in a unique position to augment school based efforts to model and encourage healthy behavior through healthy snacks and meals and physical activity. Staff who model healthy behavior and programming that incorporates positive health messaging and provides students opportunities to make healthy choices reinforces those life skills and encourages their adoption.
Notes

- This is a density map showing the concentrations, by neighborhood of residence, of low income mothers who gave birth over a five year period, in calendar years 2005-2009.

- A density map helps locate neighborhoods where there are high concentrations of persons with a particular characteristic, in this case, low income mothers giving birth.

- A density map does not control for the type of housing that people live in. For example, people living in multi-family apartment housing are more concentrated than those who live in neighborhoods of single-family housing.

Observations

- There are areas of the Austin community where concentrations of low income mothers with very young children are identified.

- The concentrations appear to be similar to a map representing the distribution of economically disadvantaged AISD students, on the following page.

- Knowing where these families with young children are concentrated can enable better targeting of outreach, educational and service supports to improve the health outcomes of children who constitute vulnerable populations.
Neighborhoods in the eastern part of AISD have high concentrations of low income students.

**Notes**
- This is a density map showing the concentrations, by neighborhood of residence, of low income AISD middle school students in school year 2009-2010.
- A density map helps locate neighborhoods where there are high concentrations of persons with a particular characteristic, in this case, economically disadvantaged middle school students.
- A density map does not control for the type of housing that people live in. For example, people living in multi-family apartment housing are more concentrated than those who live in neighborhoods of single-family housing.

**Observations**
- Neighborhoods in the eastern part of AISD have high concentrations of low income students.
Central Texas Afterschool Network (CTAN)

What is AISD doing to address obesity?
Health-related problems play a major role in limiting the motivation and ability of urban minority youth to learn. Interventions to address those problems can improve educational as well as health outcomes. Healthier students are better learners. (Basch, Equity Matters: Research Review). Recent research provides compelling evidence for the causal role that health disparities play in the educational achievement gap that plagues urban minority youth.

AISD has developed multiple health and physical education strategies aimed at producing healthier students, that will in turn increase academic success:
- Integrating and aligning health concepts into Science and Physical Education
- Reviewing campus FITNESSGRAM data to make programmatic decisions
- Ensuring student access to healthy, balanced, nutritious food that is offered and served at breakfast and lunch - fresh fruits and vegetables daily, fat-free and reduced fat milk, and whole grain products
- Core content teachers incorporating physical activity Brain Break activities into daily instruction
- Increasing technology in the classroom, for example the use of the HopSports curriculum equipment
- Integration of health education, physical education, nutrition, and parent/community involvement using the CATCH program

What can your organization do to help turn the curve on child obesity?
At first glance, the obesity epidemic may appear to be an issue relegated to the medical professionals and physical fitness experts. While these two groups have a specific interest in turning the curve on child obesity, obesity is not something that can be changed without a holistic approach from the entire community. Below is a list of groups within the Central Texas area that could play a role in positively impacting the child obesity trend through the facilitation of suggested action steps within each sphere of influence.

Local Government
- Build and maintain parks, playgrounds, sidewalks, and street crossings that are safe and attractive for playing and close to residential areas.
- Implement a tax strategy to discourage consumption of foods and beverages that have minimal nutritional value.

Community Organizations
- Mandate and implement strong nutrition standards for foods and beverages supplied at community programs.
- Incorporate nutrition messages into all classes and programs even if they are not health related

Neighborhoods and Parents
- Adopt a community policing strategy that improves safety and security of streets and parks.
- Implement a Safe Routes to School program and encourage children to walk together to school.
- Set limits on a child’s television, computer, and sedentary activity time.
- Know what your student is learning and doing in PE class.

Observations
- This map represents concentrations of overweight and obese middle school students, by zip code.
- There are concentrations of unhealthy students living in the 17 targeted zip code of the CTAN survey. OST partners can help improve child health.
Behavioral Health and Safety

According to the AISD School Safety and Substance Use Survey 2010, both middle and high school students report significant substance use and safety issues. Students who have high absenteeism and compromised alertness due to substance abuse, as well as students who struggle to feel safe, cannot perform academically or behaviorally to best of their abilities.

OST providers are key to ensuring that children and adolescents have safe places to learn and recreate in their communities. Minimizing the amount of time students are unsupervised and engaging in unstructured and non-productive activities during out-of-school time can reduce the opportunities students have to use drugs, alcohol or become involved with a gang. Programming that incorporates mentoring, tutoring, and substance use prevention can support student behavioral health in the classroom, afterschool, and in the community.
Observations
- This density map shows neighborhoods in which Middle School (MS) students are concentrated.
- Neighborhoods with high concentrations of multi-family housing will reflect higher concentrations of people.

Observations
- This series of density maps reflect the neighborhood concentrations of Middle School (MS) students by ethnicity, and the distribution of economically disadvantaged students.
Observations
- Understanding child and adolescent behavior can be influenced by understanding exposure to safety-related crime. This map represents the neighborhood concentration of safety-related incidents reported by the Austin Police Department for 2010.
- This is a density map showing concentration of incidents.
- AISD MS locations are included as a reference to neighborhoods.

Observations
- Understanding child and adolescent behavior can be influenced by understanding exposure to domestic violence. This map represents the neighborhood concentration of domestic assault incidents with injury recorded by the Austin Police Department for 2010.
- This is a density map showing the concentration of incidents. It does not correct for the influence of housing type on how incidents are concentrated.
Observations
- The majority of MS students feel very safe (32%) or somewhat safe (44%) at school. It is unclear whether ‘somewhat safe’ reflects anxiety about safety.
- Across campuses, 10% of MS students do not feel safe.
- A high percentage of Webb students reported not feeling safe. More 6th grade students completed the survey at Webb.

Observations
- The majority of HS students feel very safe (36%) or somewhat safe (46%) at school. It is unclear whether ‘somewhat safe’ reflects anxiety about safety.
- Across campuses, 8% of HS students do not feel safe.
- Garza and Ann Richards students report high rates of feeling safe on campus.
Observations
- There is variability in the identification of racial tension across MS campuses. This may vary with the ethnic distribution on the campus.
- Across campuses 29% of MS students report racial tension is experienced daily or weekly.

Observations
- There is variability in the identification of racial tension across HS campuses. This may vary with the ethnic distribution on the campus.
- Across campuses 26% of HS students report racial tension is experienced daily or weekly.
Observations
- MS students report variability across campuses in the frequency of gang activities occurring at school. 70% report it happens never or on occasion.
- Across campuses, 23% of MS students report gang activity occurring at least weekly.

Observations
- HS students report variability across campuses in the frequency of gang activities occurring at school. 71% report it happens never or on occasion.
- Across campuses, 21% of HS students report gang activity occurring at least weekly.
Observations

- 62% MS students report ability to manage stress is very good or good.
- 15% MS students report ability to manage stress is poor or very poor.
- Research reflects improving resilience/stress management skills can reduce risky behavior for teens.

Observations

- 74% HS students report ability to manage stress is very good or good.
- 15% HS students report ability to manage stress is poor or very poor.
- Research reflects improving resilience/stress management skills can reduce risky behavior for teens.
Observations

- Though 78% of MS students report no alcohol use, 11% reported alcohol use within the month.
- Reported use does not imply it was consumed on campus.

Observations

- 52% of HS students report no alcohol use, 28% reported within month.
- More than 33% of students attending Garza, Austin and McCallum reported alcohol consumption within the past month.
- Reported use does not imply it was consumed on campus.
Observations

- 86% MS students report never using marijuana.
- 8% of MS students report using marijuana within the past month.
- Reported use does not imply it was used on campus.

Observations

- 66% of HS students report never using marijuana.
- 20% of HS students report using marijuana within the past month.
- Nearly half of Garza students report use within the past month.
- Reported use does not imply it was used on campus.
### Appendix A

**Survey Respondents, 2011**

<table>
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<tr>
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## Appendix B

### Additional Central Texas OST Providers Represented in the Survey, 2011

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Project Data Sources

Central Texas Afterschool Network (CTAN)
CTAN conducts a survey of its members every three years. The survey conducted during April, May and June, 2011, targeted 17 zip codes with high concentrations of economically disadvantaged families. CTAN provided COH with a rich dataset that describes participating after-school organizations. CTAN also made available a partial list of services provided by organizations co-hosted with the CTAN members. This partial list was supplemented by COH.

AISD Student Population and Demographics, 2009-10:
Student demographic data was based upon the PEIMS 3 submission in November of 2010. This data pull is used by AISD to report enrollment statistics to the State of Texas Education Agency. COH received data on all students enrolled in AISD but for the purposes of this project, only students enrolled in Middle schools in the 6th, 7th, or 8th grade were used. The students from this dataset were linked to those in the AISD FITNESSGRAM® dataset.

AISD FITNESSGRAM® Post-test measures, 2009-10:
In 2003, the Austin Independent School District began assessing students in grades 3, 5, 7, and 9th using FITNESSGRAM® (FG). The FG assessment included measurement of student’s height/weight, strength, and cardiovascular fitness via the PACER or mile-run. Since 2003, two additional assessments have been added: flexibility and trunk lift. The FG measurements are performed bi-annually, in most cases, through the student’s physical education class. The system allows staff to develop and query reports that evaluate and monitor programs, to track student health data, and to identify areas of focus/need. In 2007-2008, the Texas legislature passed SB 530 which requires all public schools to collect FG data on students in grades 3-12. AISD administers fitness tests in October and May, near the beginning and end of an academic year.

The data in Volume 3 is based upon the final testing of 37,967 AISD students across grades 3 – 12 whose parents or guardians gave consent to release de-identified student data to third-party research groups. The testing was completed in physical education classes and was conducted by the physical education instructors. Of the 37,967 students, the scores of 10,628 middle school students in grades 6, 7, and 8 were used in this project. The FITNESSGRAM® Post-test is the same data that is sent to the TEA and was collected in May of 2010.

Austin Police Department Incident data, 2009:
This data encompasses all crime incidents in which a citation was written by APD. The mapped location is based upon the address recorded for an incident. This data was collected from 1/1/2009 – 12/31/2009, so the timeframe may not be directly comparable to the AISD datasets.

The safety related maps show the density of crimes reported to the Austin Police Department (APD) during 2009. Only the reports for crimes that are likely to diminish a child’s or parents’ sense of safety and consequently discourage children from spending time outdoors are mapped. For example, reported burglary of residence, public intoxication, and assault by threat are mapped. However, reports of identity theft, theft of service, and counterfeiting are not mapped. Based on the APD 2009 data provided to us, 66,754 incidents across 159 offense codes were mapped.

Integrated Care Collaboration (ICC) Birth Data, 2005-2009
This data set provided by the ICC encompasses all of the uninsured or under-insured mothers who delivered at a safety net provider in the ICC system.

AISD Student Substance Use and School Safety Survey, 2010:
The federal Title IV Safe and Drug Free Schools and Communities grant requires annual needs assessment and evaluation of substance use and safety issues. Consequently, each year an anonymous self-report student survey of substance use and school safety is administered to a random, representative sample of AISD students. The survey is used to track student knowledge, attitudes, and self-reported behavior over time.

U.S. Census 2000:
The data source for the percentage of households with children headed by single mothers and the percentage of adult women who did not graduate from high schools is the U.S. Census Bureau’s 2000 census. The analysis unit used for both maps is the 2000 census tract.
**Project Limitations**

The CTAN survey questions were thoughtful and well designed, but the survey was ambitious and conducted with a very limited budget. The instrument could not control for variability in responses. For instance some questions asked about the percent of staff with a given characteristic. A number of respondents provided a count rather than a percent. For such questions, analysis was based on a binary response where non-zero responses were considered true (yes), rather than calculating a count or percent. An audit of the dataset and replication of the survey to keep the dataset current over time is difficult. This project is best viewed as an initial step to acquire a more robust and precise view of after-school programs around Central Texas.

Visual correlations on a map do not necessarily represent causality; for more information about related research or possibilities for further research, please visit [www.childrensoptimalhealth.org](http://www.childrensoptimalhealth.org).

**COH Methodology**

Standard ESRI ArcGIS 10.0 pie chart and stacked bar generation facilities were used to produce all maps with pie charts or stacked bars. CTAN member sites were geocoded to allow for proper pie chart or stacked bar placement.

For the “Services Offered on Site” map series, every service offered by a site’s CTAN member along with the services offered by co-located organizations at the site were classified into a service type and included into a stacked bar if the service type is offered at the site. For example, provision of meals to children or nutrition classes to parents were classified as Nutrition Support services and included in the relevant stacked bars. Eleven service types were identified: Academic Enrichment, Arts/Creative Expression, Career Exploration/College readiness, Delinquency Prevention/Intervention, Mentoring, Substance Abuse Prevention, Youth Development/Enrichment, Sports Fitness, Nutrition Support, Childcare, and Family Support Services.

This publication has been supplemented with maps from previous COH projects that have utilized different methodologies. A summary is provided below, however, if further information is needed please visit our website to download the entire reports for each COH project at [www.childrensoptimalhealth.org](http://www.childrensoptimalhealth.org).

**Density Maps**

Many Children’s Optimal Health (COH) maps display density distribution of some particular population of interest. Density maps show where high concentrations of the mapped population live. All COH density maps are rendered from raster datasets. Our GIS tool, ESRI’s ArcMap, supports a variety of ways to calculate and display density maps. We chose a methodology that we believe strikes a proper balance between accuracy and ease of interpretation without compromising individual privacy.

The ESRI Spatial Analyst Neighborhood Statistics tool was used to create the population density maps. The density maps’ grid cells are squares representing an area equal to 100 yards by 100 yards. Neighborhood settings were set to a circle with a radius of 3 cells. The above parameters smoothed out the distribution of cell values to make the interpretation of hotspots easier to interpret visually, but retained enough locality to be meaningful at the neighborhood level. All density maps were categorized into deciles with the top 3 deciles symbolized as red, orange, and yellow (in descending order). The remaining deciles were symbolized in a grayscale with lighter shades representing lower deciles. The symbolization of deciles forms the consistent thread across all density maps. Thus, although density values may vary greatly from map to map, the red areas on a density map always represent the top decile’s density values. All pixels with values less than or equal to 5 were symbolized to “no color” to protect individual privacy. Density is expressed in terms of the number of individuals within a 300 yard radius circle.

To meet privacy-protection requirements of individuals’ data, residence location latitude and longitude values were randomly shifted anywhere from 100 to 300 feet. This shifting can introduce significant errors for density values at the cell level. But at the neighborhood level, for example for a one mile by one mile zone, a shift of up to 300 feet does not significantly alter the overall distribution of the population within the zone. However, it is important to remember that the density value of a specific cell can vary substantially from the cell’s true value due to the shifting algorithm used to protect privacy. Therefore, it is not appropriate to use density maps at a city block level.

Spatial Analyst’s Neighborhood Statistics tool was used to create the population density maps. The density maps’ grid cells are squares representing an
area equal to 100 yards by 100 yards. Neighborhood settings were set to a circle with a radius of 3 cells. The above parameters smoothed out the distribution of cell values to make the interpretation of hotspots easier to interpret visually, but retained enough locality to be meaningful at the neighborhood level. All density maps were categorized into deciles\(^1\) with the top 3 deciles symbolized as red, orange, and yellow (in descending order). The remaining deciles were symbolized in a grayscale with lighter shades representing lower deciles. The symbolization of deciles forms the consistent thread across all density maps. Thus, although density values may vary greatly from map to map, the red areas on a density map always represent the top decile’s density values. All pixels with values less than or equal to 5 were symbolized to “no color” to protect individual privacy. Density is expressed in terms of the number of individuals within a 300 yard radius circle.

\(^1\) Decile: any one of nine numbers that divide a frequency distribution into 10 classes such that each contains the same number of individuals; also: any one of these 10 classes (source: Merriam-Webster).

**Proportion Maps**

Another kind of COH map that describes a population’s distribution is a proportion map. The COH proportion maps display the distribution of ratios of a specific population’s subset compared to the full set.

Each proportion map was derived from two or more density maps. Since proportion maps display ratios, the calculation of a proportion map’s cell value involves dividing cell values from one set of density maps by the cell values of another set of density maps. For example, an obesity proportion map is derived by dividing the density map of overweight and obese students by the density map of all students with a BMI score, so that each individual cell’s count of students with high BMI is divided by its corresponding count of all students.

All density maps underwent a reclassification process before they were used to derive proportions. Density cell values less than or equal to 5 were reclassified to 0 (zero) in order to remove them from the calculus and thus protect confidentiality. Since this reclassification occurs before proportion values are calculated, there was no need to hide any cells in the proportion maps to protect privacy.

**Choropleth Maps (Maps Page 25 only)**

The two choropleth maps show intensity at the census tract level of households with children headed by single mothers and the percentage of adult women who did not graduate from high school. The Natural Breaks classification method guided the threshold values for each class. The actual threshold values were rounded up or down to improve readability.

**How to Get Involved**

The Austin community has many individuals and organizations who work cooperatively to assure that children and youth have a healthy start to life, and graduate from high school ready for further education, employment and civic participation. Still, our rapid demographic changes indicate that large numbers of children are vulnerable to having a poor start in life, and more effort is needed to assure their healthy development early on. If you are interested in gaining more information about the partners working to address these issues, please visit the Central Texas Afterschool Network at [www.ctanweb.org](http://www.ctanweb.org) or Children’s Optimal Health at [www.childrensoptimalhealth.org](http://www.childrensoptimalhealth.org) or you can contact COH at (512) 324–5980.
About COH:
Children's Optimal Health is a collective leadership initiative that unites the efforts of Central Texas organizations in promoting community change to help our children reach a brighter future. COH strives to give agencies and communities access to formerly proprietary data by using GIS mapping to illuminate issues involving Central Texas children. By layering data from multiple sources, COH can help communities visualize the health of their neighborhoods, identify assets and needs, and unearth opportunities for collaborative change.

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. 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.

Acknowledgements:
A special thanks to CTAN Intern Lynn Brabender for her role in data collection for this project, Chantel Bottoms from Community Action Network (CAN), and United Way Capital Area for their support.

COH Board Members
- Any Baby Can
- Austin Independent School District
- Central Health
- E3 Alliance
- Greater Austin Chamber of Commerce
- H-E-B
- Housing Authority of the City of Austin
- Lifeworks
- Lone Star Circle of Care
- Workforce Solutions
- Integrated Care Collaboration
- Seton Family of Hospitals
- St. David’s Foundation
- University of Texas at Austin
- University of Texas School of Public Health

CTAN Mapping Committee: Shirlene Justice AISD, Chantel Bottoms CAN, Laura LaFuente United Way Capital Area, Lydia Domaruk Travis County 4H, Sidney Davis Pan Center Stage Texas, Jay Mills Extend A Care for Kids, John Shanks AISD, Sarah Rinner Theatre Action Project, Cheryl Chance Your Community Guide, Edna Parra Del Valle ISD

COH would like to extend special recognition and thanks to the Technical Advisory Committee for the time and effort they have dedicated to ensure the integrity of this project.

Co-Chairs:
Dr. Stephen Pont, Medical Director, Texas Center for the Prevention and Treatment of Childhood Obesity, Dell Children’s Medical Center, Medical Director Austin ISD Student Health Services, UT Southwestern, UT-Austin Department of Advertising

Dr. Steve Kelder, Professor, Division of Epidemiology, Co-Director, Michael & Susan Dell Center for Advancement of Healthy Living, UT School of Public Health Austin Campus

Participants: Dr. Bill Sage, Dr. Brenda Hummel, Shirlene Justice, Chantel Bottoms, Jamie Moxham, Jesse Simmons, Zachary Wilson, Joshua Bailey.

COH would also like to recognize ACCESS and CTAN for their time and contributions to this project.