

Right Start in Detroit 2009:

*Maternal and Infant Well-Being
in the City of Detroit, 2000 - 2007*



February 2009

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DRIVEN
DETROIT



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Key Findings

- While the Hispanic/Latino community accounts for 6 percent of Detroit's population, 9.5 percent of the infants born in the City between 2000 and 2006 were of Hispanic/Latino descent. 86 percent of these infants were born in the Vernor and Chadsey-Condon subcommunities.
- The share of births to women under the age of 20 is on the rise in Detroit since the year 2000. Shares of teen births range from a low of 10 percent in the Palmer Park subcommunity, to a high of 27 percent in the Winterhalter subcommunity.
- Despite continuing decreases in the number of births to unmarried mothers, the nonmarital share of total births continues to increase. The St. Jean subcommunity had the highest percent of nonmarital births
- Vernor and Chadsey-Condon, the two subcommunities with the highest shares of mothers without high school diplomas, show almost the same percent of mothers smoking during pregnancy as compared to subcommunities with higher education levels, despite research showing a strong correlation between lower levels of educational attainment and high rates of smoking.
- Shares of low and very low-birthweight babies have changed very little between 2000 and 2007, and display relatively little variation between subcommunities.
- Between 2000 and 2007, the percent of infants born by subcommunity that received adequate prenatal care ranged from a low of 48.2 percent in Conner, to a high of 73.1 percent in Rosedale Park.
- Despite an overall decrease in the number of infants born in Detroit between 2000 and 2007 by 23.3 percent, the Chadsey-Condon and Jeffries subcommunities both registered an increase over the eight-year period, when comparing 2000-2002 three-year average births with 2005-2007 three-year averages.

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Background

The City of Detroit Department of Health and Wellness Promotion (DHWP) and Data Driven Detroit have come together to begin creating a research agenda around health issues in Detroit. As we move forward, we plan to seek the input of a number of organizations at the forefront of health research. Our initial effort is an analysis of birth outcomes in Detroit by subcommunity¹, during the 2000 - 2007 period. The data we report in this analysis conform to those covered by The Right Start in Michigan, a review of eight indicators of maternal and infant well-being. The measures tracked are intended to highlight to policymakers, health care professionals, and others that a newborn's health status at birth is closely linked to maternal characteristics, and are related to the life prospects for a newborn. Kids Count in Michigan² annually updates these measures for the state, its 83 counties, and 69 communities with a population over 25,000.

¹ Subcommunities were first developed by United Community Services in 1951. They are intended to reflect geographic areas, comprised of census tracts that possess similar social and economic conditions, containing compatible residents and housing structures, and representing recognized community areas or neighborhoods. Subcommunities are evaluated each decade, with adjustments made to reflect population shifts, as well as census tract boundary changes. There were 39 subcommunities in 2000, down from 47 in 1990. Appendix A presents a reference map, and Appendix B provides a full alphabetical listing of the 39 subcommunities.

² <http://www.milhs.org/>.



Introduction

The conditions under which an infant is born can have lifelong effects on his or her development and readiness for school. Specifically, the educational and social characteristics of the mother can affect a child's future well-being. Indicators such as a mother's education, race, age, and tobacco usage can predict if her unborn baby is at an increased risk for developmental and health delays. For example, women who smoke during pregnancy put themselves and their unborn babies at risk for health problems which can cause cognitive disorders and lead to later problems in school and in adult life. In this document, we present eight indicators of maternal and infant well-being using data derived from Detroit birth certificate records. When looked at over time, these maternal and infant well-being indicators can measure and reveal progress toward achieving public health goals, target areas and communities for intervention, and help to plan and evaluate programs that promote positive maternal and infant health behaviors, experiences, and outcomes.

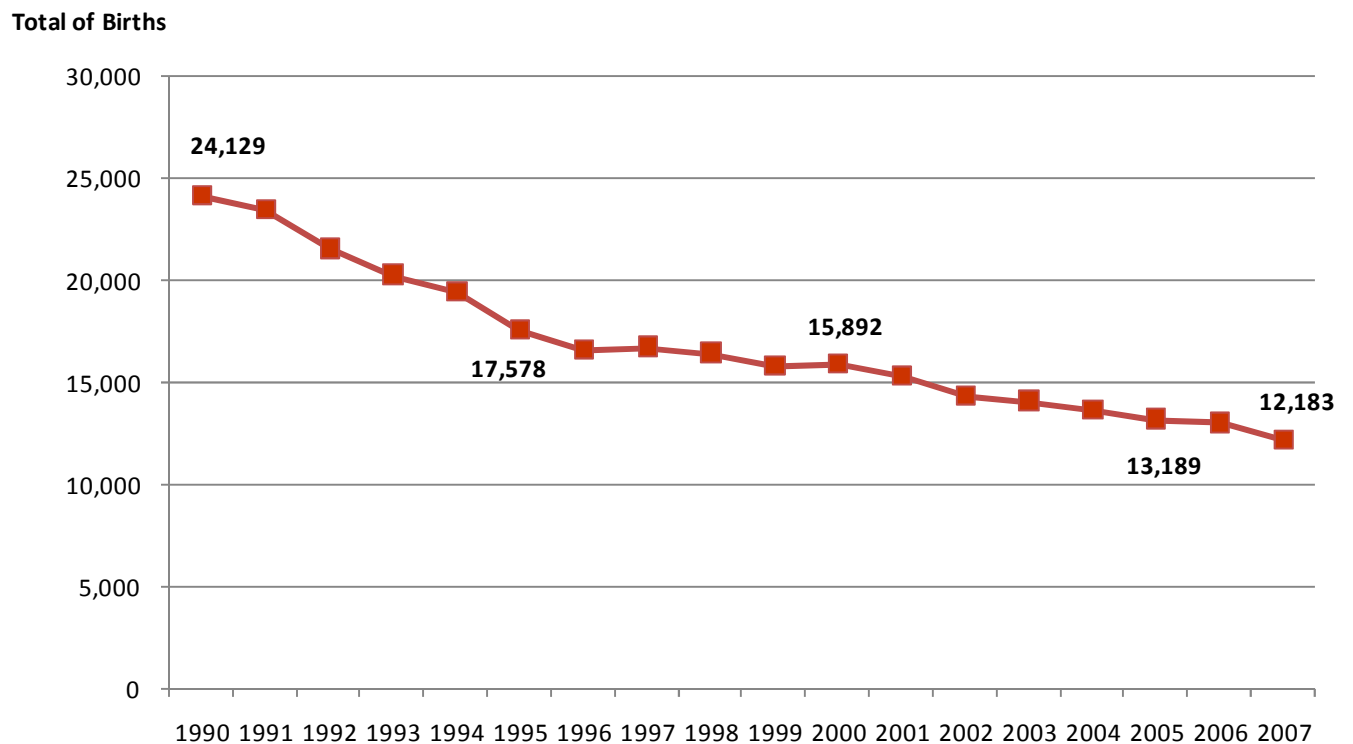
DHWP provided Data Driven Detroit with a live birth dataset containing live birth data from 2000 through 2007. A table detailing the indicators and characteristics from the Detroit Live Birth Dataset is available in Appendix C.



Birth Trends

The City of Detroit has been experiencing a decrease in the number of resident births since 1990. In fact, between 1990 and 2007 the number of annual births to Detroit residents has fallen by 49.5 percent (Figure 1).

Figure 1
Births in the City of Detroit, 1990 - 2007



During the 2000 through 2007 time period, the City of Detroit registered 111,622 total births. Births decreased by 23.3 percent over the eight-year period, dropping from a high of 15,892 in 2000 to 12,183 in 2007.



In order to conduct a subcommunity level analysis, DHWP geocoded each birth record (i.e., identified latitude and longitude coordinates for each record) based on the mother’s address. Once geocoded, each record could be attached to a subcommunity. The geocoding process resulted in 7,046 birth records over the eight-year period that could not be coded (e.g., missing or bad address, P.O. Box, etc.). In order to make comparisons across years and subcommunities, these records were dropped, resulting in a total of 104,576 birth records for analysis.

Table 1 provides an annual count of the total births and geocoded births for each year. It is clear that there was a consistency to the share of records that were able to be geocoded, with the annual percent running in a narrow band between 93.3 and 94.0 percent. The results show that the number of births decreased each year, with the greatest percentage drops occurring between 2001 and 2002, and between 2006 and 2007.

Table 1
Total Births and Geocoded Births by Year, 2000 - 2007

| Year | Total Births | Percent Change from Previous Year | Total Births (Geocoded) | Percent Change from Previous Year | Percent Geocoded |
|------|--------------|-----------------------------------|-------------------------|-----------------------------------|------------------|
| 2000 | 15,892 | ----- | 14,906 | ----- | 93.8% |
| 2001 | 15,315 | -3.6% | 14,348 | -3.7% | 93.7% |
| 2002 | 14,337 | -6.4% | 13,380 | -6.7% | 93.3% |
| 2003 | 14,071 | -1.9% | 13,148 | -1.7% | 93.4% |
| 2004 | 13,619 | -3.2% | 12,800 | -2.6% | 94.0% |
| 2005 | 13,189 | -3.2% | 12,377 | -3.3% | 93.8% |
| 2006 | 13,016 | -1.3% | 12,213 | -1.3% | 93.8% |
| 2007 | 12,183 | -6.4% | 11,404 | -6.6% | 93.6% |

Table 2 provides a rank of the 10 subcommunities with the highest number of births over the eight-year period. The births in these 10 subcommunities comprise nearly 45 percent of the total births in Detroit. A table of all 39 subcommunities ranked by total births is available in Appendix D.



Table 2

Rank of Detroit Subcommunities with the Highest Number of Live Births, 2000-2007

| Rank | Subcommunity | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|--|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| 1 | Vernor | 998 | 1,031 | 1,006 | 987 | 988 | 948 | 928 | 956 | 7,842 |
| 2 | Chadsey Condon | 692 | 783 | 766 | 824 | 799 | 788 | 811 | 761 | 6,224 |
| 3 | Cody Rouge | 716 | 712 | 693 | 702 | 609 | 597 | 654 | 578 | 5,261 |
| 4 | State Fair Nolan | 638 | 624 | 548 | 528 | 509 | 465 | 469 | 394 | 4,175 |
| 5 | Osborn | 585 | 516 | 509 | 526 | 501 | 458 | 464 | 435 | 3,994 |
| 6 | Conner | 632 | 538 | 533 | 499 | 467 | 484 | 418 | 413 | 3,984 |
| 7 | Brooks | 568 | 524 | 504 | 506 | 501 | 480 | 452 | 448 | 3,983 |
| 8 | Mackenzie | 551 | 545 | 476 | 484 | 441 | 430 | 459 | 413 | 3,799 |
| 9 | Pershing | 538 | 510 | 492 | 455 | 463 | 450 | 468 | 406 | 3,782 |
| 10 | Evergreen | 548 | 481 | 446 | 442 | 427 | 392 | 403 | 346 | 3,485 |
| Totals for Top 10 Subcommunities | | 6,466 | 6,264 | 5,973 | 5,953 | 5,705 | 5,492 | 5,526 | 5,150 | 46,529 |
| Percentage of Total Annual Births | | 43% | 44% | 45% | 45% | 45% | 44% | 45% | 45% | 44% |

The annual decrease in total city births was mirrored across all subcommunities with only a few exceptions. A comparison of the 2000-2002 averages with more recent 2005-2007 averages results in only two subcommunities showing an increase – Chadsey-Condon (up 5 percent) and Jeffries (up 3 percent). Appendix E provides three-year birth averages for all subcommunities.

Race/Ethnicity of Mother

Just as socioeconomic factors are likely to exert a profound influence on health issues and quality of life, a mother's race, social class and culture, can construct, shape and inform the experiences of her child. Given that women typically assume primary responsibility for the care, feeding, and education of children, including the transmission of shared cultural understandings, their beliefs, with respect to education and health, have implications for the life prospects of their children.

Between the years 2000 and 2006, 81.2 percent of all children born in Detroit were Black, non-Hispanic, 9.5 percent were Hispanic/Latino, 7.8 percent were white, non-Hispanic and 1.5 percent



were in other categories.³ While the Hispanic/Latino community represents 6 percent⁴ of Detroit’s population, their higher level of women in child-bearing years (15 to 44 years of age), coupled with higher birth rates, resulted in this subgroup accounting for 9.5 percent of the total live births from 2000 to 2006. Even as the total number of births continued to decline, Hispanic/Latino births increased from 7.5 percent of the total in 2000 to 11.1 percent in 2006 (Table 3).

Table 3
Number of Hispanic/Latino Infants Born in Detroit, 2000-2006

| Year | Total Annual Births (for which race/ethnicity was recorded) | Total Hispanic Births | Percentage of Total Annual Births |
|-----------|---|-----------------------|-----------------------------------|
| 2000 | 15,419 | 1,155 | 7.5% |
| 2001 | 15,186 | 1,296 | 8.5% |
| 2002 | 14,230 | 1,329 | 9.3% |
| 2003 | 13,985 | 1,366 | 9.8% |
| 2004 | 13,539 | 1,399 | 10.3% |
| 2005 | 13,082 | 1,384 | 10.6% |
| 2006 | 12,912 | 1,439 | 11.1% |
| 2000-2006 | 98,353 | 9,368 | 9.5% |

An analysis at the subcommunity level reveals that 86 percent of Hispanic/Latino children are born in Vernor and Chadsey-Condon. While the numbers remain relatively small, the Cody-Rouge subcommunity has shown a steady increase in Hispanic/Latino births over the time period as well. Over three quarters of all white, non-Hispanic births occurred in seven subcommunities (in descending order): Chadsey-Condon, Vernor, Brooks, Cody-Rouge, Airport, State Fair-Nolan, and Finney. Black, non-Hispanic births accounted for 81 percent of all births for which race/ethnicity was recorded, which is similar to the share of African Americans in Detroit’s general population. The share of Black, non-Hispanic births at the subcommunity level ranged from a low of 7 percent in Vernor to a high of 99 percent in six subcommunities, Winterhalter and St. Jean being highest.

³ Data on the child’s race/ethnicity was not collected on the 2007 birth certificate. Therefore, comparisons are only made for years between 2000 and 2006.

⁴ 2005-2007 American Community Survey 3-Year Estimates, www.census.gov.



Teen Mothers

“Children born to teens often start life with multiple disadvantages. Teen mothers are more likely to be unmarried, lack a high school education, receive late or no prenatal care, have a preterm or low-birthweight baby, and live in poverty than women who delay childbearing into their 20s.”⁵ It is believed that a teenage mother with one child can, through educational programming and family support, graduate from high school and acquire the education and training to succeed. While the same trajectory is certainly possible for teens with multiple children, the path is much more difficult and the success rate much lower.

During the 1990s, Detroit was a city with decreasing teen births. The Metro Times reported: “Teen pregnancies have plummeted in Detroit and Wayne County, according to statistics compiled by Kids Count, a national state-by-state, city-by-city, county-by-county analysis of statistics that impact the well-being of children in America. In fact, the survey found that Detroit — with a 39 percent decrease — experienced the seventh-largest decline in the percent of teen births from 1990 to 2000 among America’s 100 largest cities.”⁶ Jane Zehnder-Merrell, senior research associate at the Michigan League for Human Services and analyst for Michigan Kids Count, stated: “There’s been a tremendous effort among all youth-serving agencies to make inroads on the teen pregnancy statistic, to slow down or delay sexual activity so that young people wait longer before they become sexually active.”⁷

Studies have shown a recent reversal in this trend nationwide and our analysis confirms a similar reversal in Detroit. For example, a recent analysis showed that “Detroit and Cleveland hold the dubious distinction of landing at the top of the list of U.S. cities with the highest percents of teen births, according to data from the National Center for Health Statistics and other sources. The data were tabulated in 2006, the latest year for which information is available. As reported in the 2009 edition of Child Trends’ *Facts at a Glance*, 20 percent of births in the Motor City were to women under

⁵ Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.

⁶ Lisa M. Collins, “Teen Births Down,” *Metro Times*, March 24, 2004.

⁷ *Ibid.*



the age of 20, while Cleveland came in second place with 19 percent of all births occurring among teen moms. Jackson, Mississippi, and Memphis, Tennessee, followed with 18 percent."⁸ The 2005-2007 average (calculated for this study) was 20 percent, the same figure Child Trends reported for 2006.

The current analysis looks at trends in the age of mothers between the years 2000 and 2007. Three-year averages are used, so as to ameliorate the effects of single year changes. Table 4 summarizes the analysis by reporting the percent of births accounted for by each of seven age categories. It is clear from the table that there has been a steady increase in the percent of total Detroit births accounted for by teenage mothers. The 2005-2007 average was similar to the 2006 annual average reported in Child Trends (20 percent). The majority of births (54 percent) were to mothers in their twenties. While there has been an increase in teen births overall, the percentage of teen births that are repeat births (meaning women having a second child while still in their teen years) has decreased over the decade, from 24 to 21 percent between 2003 and 2007.

Table 4

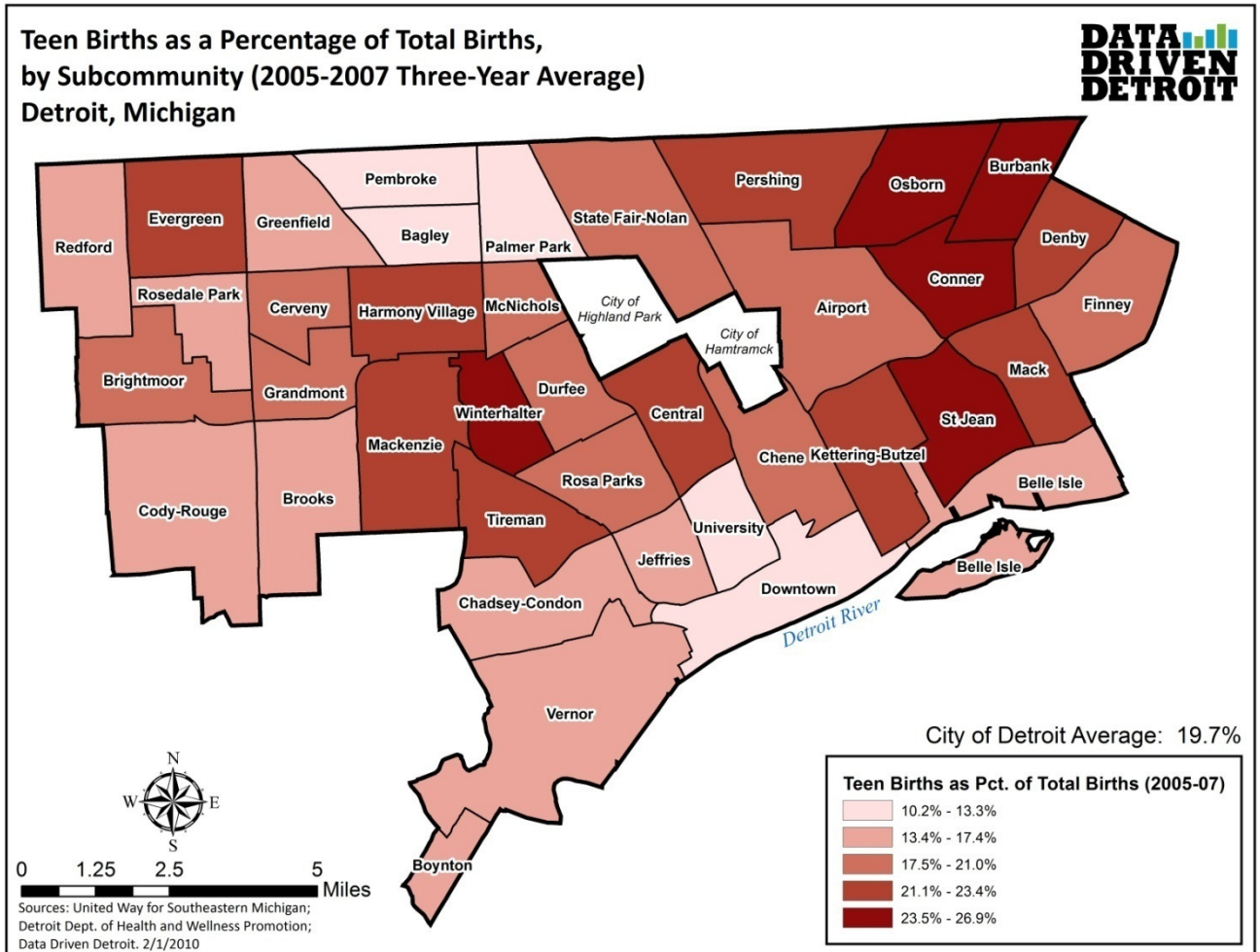
Percent of Births in Detroit by Age of Mother (Three-Year Averages)

| Year | < 20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | > 45 |
|--------------------|-------|-------|-------|-------|-------|-------|------|
| 2000 - 2002 | 17.1% | 31.3% | 25.7% | 16.6% | 7.6% | 1.7% | 0.1% |
| 2002 - 2004 | 17.5% | 30.5% | 25.2% | 17.2% | 7.8% | 1.8% | 0.1% |
| 2004 - 2006 | 18.8% | 29.9% | 25.0% | 16.7% | 7.7% | 1.9% | 0.1% |
| 2005 - 2007 | 19.7% | 29.8% | 24.6% | 16.3% | 7.7% | 1.9% | 0.1% |

⁸ "Health Highlights," *U.S. News and World Report*, September 3, 2009, <http://health.usnews.com/articles/health/healthday/2009/09/03/health-highlights-sept-3--2009.html>.



Figure 2



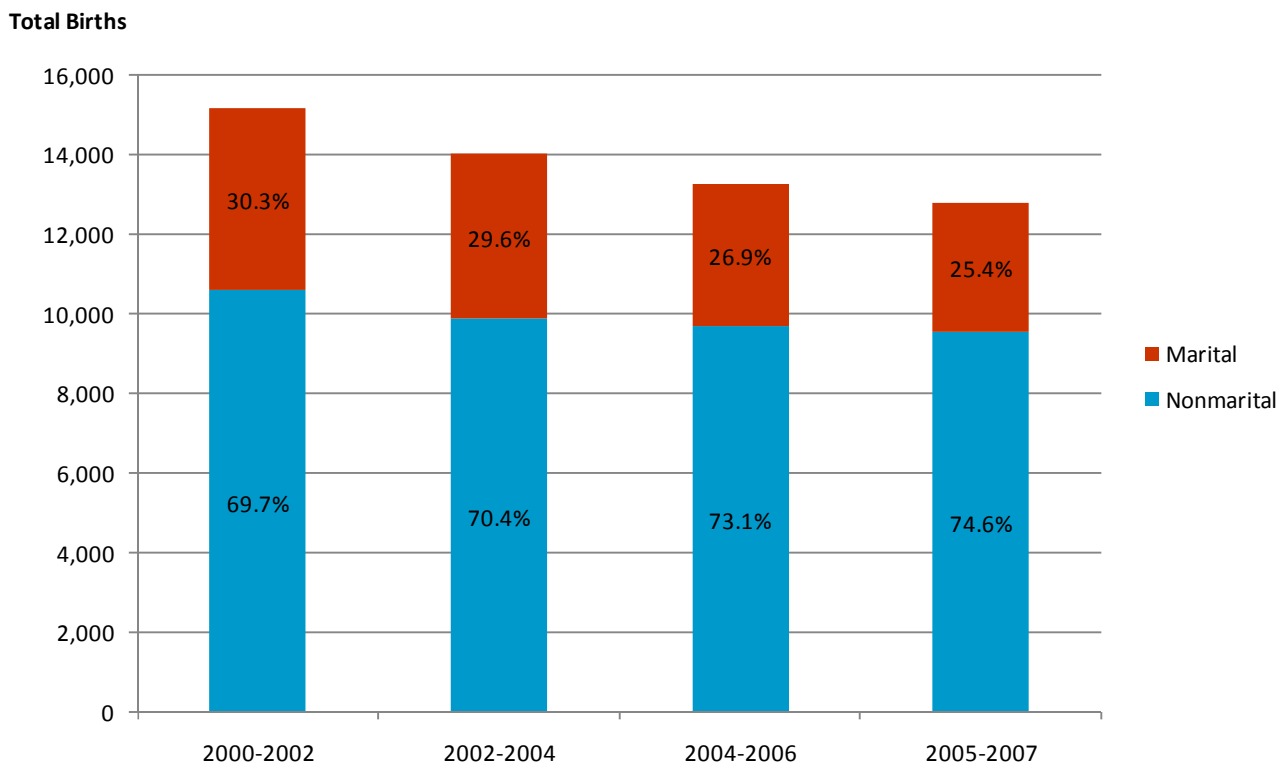
The share of births to teenagers varied across subcommunities (Figure 2). Six subcommunities had shares below 15 percent – Palmer Park (10 percent), Downtown (11 percent), Pembroke (13 percent), University (13 percent), Bagley (13 percent) and Belle Isle (14 percent). Five subcommunities had shares of 24 percent or more – Osborn (24 percent), St. Jean (25 percent), Conner (25 percent), Burbank (26 percent) and Winterhalter (27 percent).



Marital Status

“Children born to unmarried women face a greater likelihood of growing up in a mother-headed household, which has a high risk of poverty. Never-married mothers are less likely than divorced single parents to be awarded child support or receive the support awarded. Financial stress can contribute to depression and anxiety that compromise parental capacity to nurture. Children of single mothers typically also have more limited social resources.”⁹

Figure 3
Births in Detroit by Marital Status (Three-Year Averages)

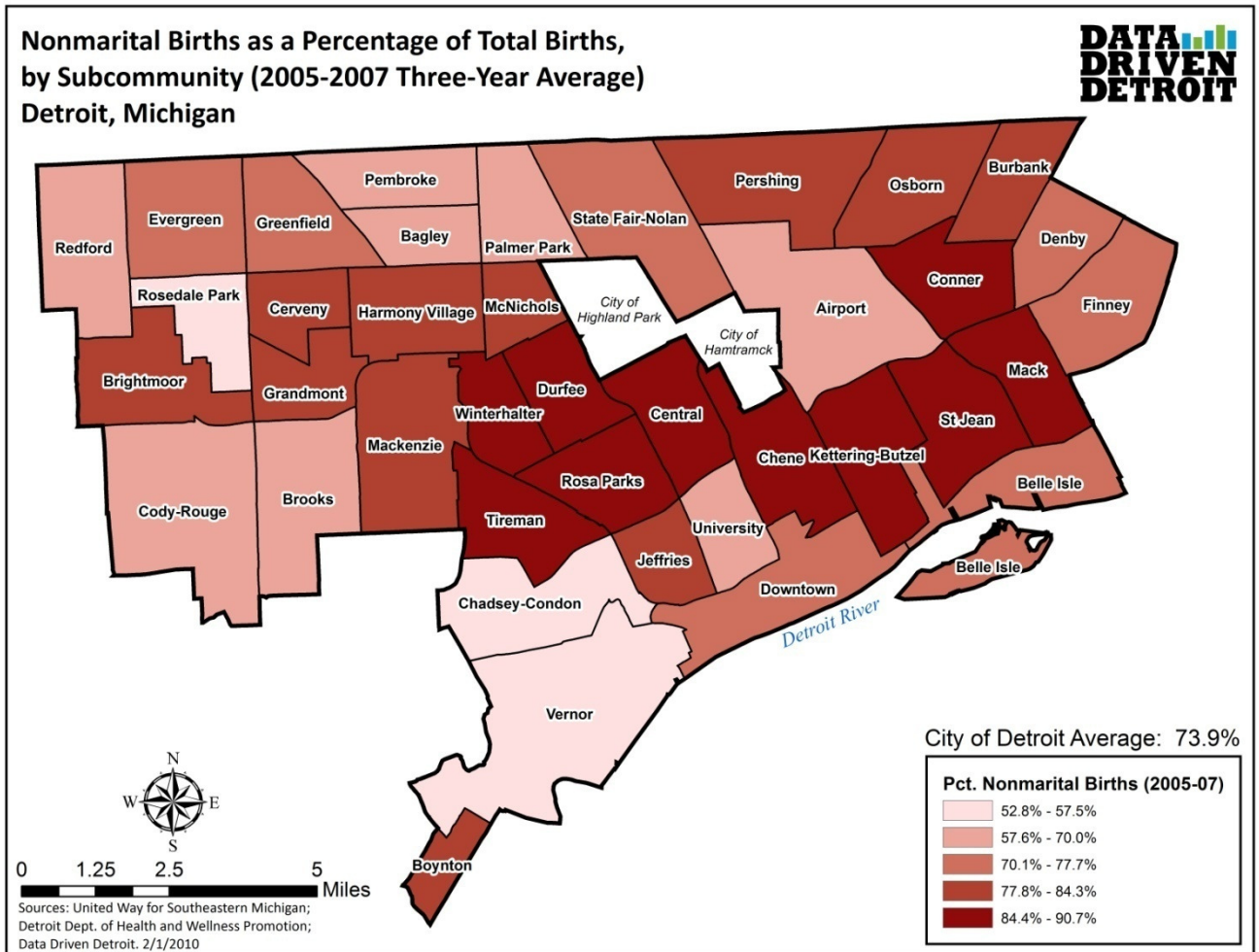


⁹ Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.



The citywide percent of nonmarital births increased over the studied time period from almost 70 percent (2000-2002) to nearly 75 percent (2005-2007). Despite continuing decreases in the number of births to unmarried mothers, the nonmarital share of total births continues to increase (Figure 3).¹⁰

Figure 4



Only eight subcommunities increased in the number of births born to unmarried mothers in the time period studied (comparing 2000-2002 and 2005-2007 three-year averages). However, as a percent of

¹⁰ It needs to be pointed out that marital status is not directly asked on the birth certificate, but rather assumed based off of whose names are listed on the birth certificate. This analysis considers cases of paternity acknowledgement to be nonmarital births. Research does show that paternity acknowledgment is protective against low birth weight. As a result, offering paternity acknowledgment does seem to be better than a single mother with no paternity acknowledgment.



total births, births to unmarried mothers increased in nearly every subcommunity (all but four: Tireman, Chene, University, and Airport). As shown in Figure 4, Chene, Kettering, Mack, and St. Jean show consistently higher nonmarital birth percentages than other subcommunities, while four others consistently claim the lowest shares: Chadsey-Condon, Vernor, Rosedale Park, and Palmer Park. At 90.7 percent, the highest level of all 39 subcommunities, St. Jean's 2005-2007 three-year average share of nonmarital births is nearly two and one-half times that of Michigan (38.1 percent in 2007).¹¹

Mother's Education

“Children born to parents without a high school diploma experience the highest risk of growing up in poverty. One-fifth of low-income children in Michigan lived with parents who had not completed 12 years of education compared to only 1 percent of higher income children.”¹² The changing economic structure of our country demands not only high school graduation but postsecondary education and/or training. Mothers without at least a high school diploma tend to live in conditions that make it very difficult for their children to succeed.

Changes to the birth certificate format over time resulted in inconsistent data for measuring mother's level of education. Prior to 2007, the education categories in the dataset were: “No School,” “First-Eleventh,” “High School,” “Some College,” “College Grad,” and “5+ Years College.” In 2007, the categories “No School” and “College Grad” were dropped. As a result, this analysis reconfigured the data to include three categories: “Less than High School,” “High School Graduate,” and “Some College or more.”

¹¹ Kids Count Data Center, <http://datacenter.kidscount.org>.

¹² Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.



Table 5
Births in Detroit by Educational Attainment of Mother (Three-Year Averages)

| Year | Less than High School | High School Grad | Some College or more |
|--------------------|-----------------------|------------------|----------------------|
| 2000 - 2002 | 34.7% | 37.9% | 27.4% |
| 2002 - 2004 | 35.9% | 37.1% | 27.1% |
| 2004 - 2006 | 36.6% | 37.3% | 26.1% |
| 2005 - 2007 | 36.6% | 37.5% | 25.9% |

Table 5 reveals that mothers with less than a high school diploma accounted for almost 37 percent of all Detroit births in 2005-2007, an increase of two percentage points over the decade. One may assume that this increase reflects the greater share of teenage pregnancies discussed previously. It is well documented that Detroit residents have generally completed fewer years of education than residents of many other large cities in the United States.¹³ The share of new mothers with a high school diploma has remained steady over this decade, while the share with some post-secondary education has decreased. As is the case with residents of Detroit in general, emphasis must be placed on making sure all children graduate from high school and are equipped to pursue post-secondary education and training. For those adults who dropped out of high school, programs must be developed to help them obtain their GED, and pursue post-secondary opportunities.

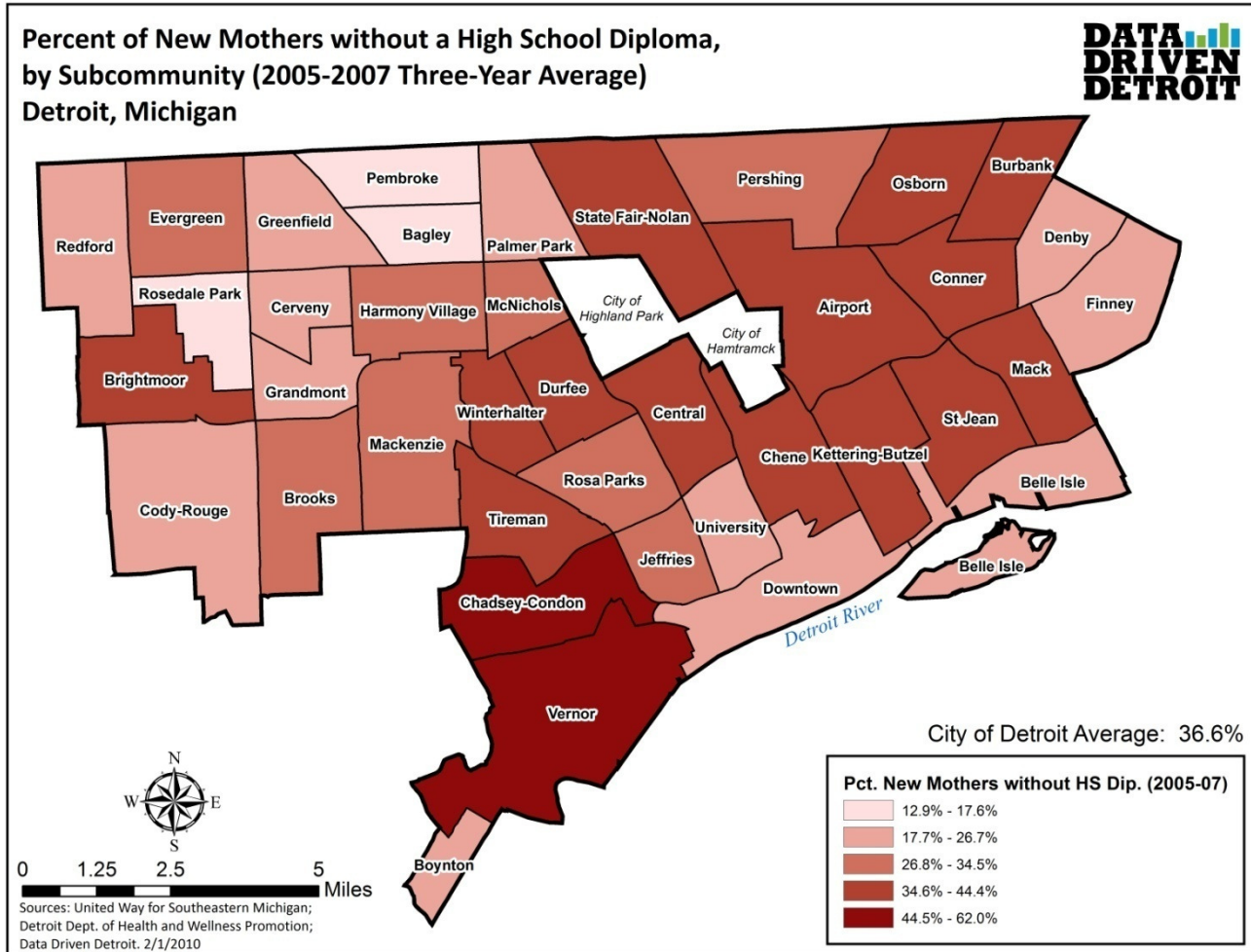
While low levels of educational attainment are a concern across all racial and ethnic groups, the subcommunity results identify this as a particular problem in the Hispanic/Latino community. As shown in Figure 5, the highest levels of new mothers without high school diplomas occurred in the Vernor (62 percent) and Chadsey-Condon (61 percent) subcommunities, which are primarily Hispanic/Latino in composition. The Airport (45 percent), St. Jean (42 percent) and Conner (41 percent) subcommunities, which are primarily African American in composition, followed.

¹³ In 2007, Kids Count found that Detroit had the highest level (32 percent) among the 50 largest U.S. cities for *Persons age 18 to 24* who: (1) are not presently enrolled in school; (2) are not currently working; and (3) have no degree beyond a high school diploma or GED. This measure is considered to reflect those young adults who are having difficulty navigating what most would consider a successful transition to adulthood.



New mothers with the highest levels of education (some college or better) live in the subcommunities of Rosedale Park (53 percent), Palmer Park (52 percent), Pembroke (51 percent), and Bagley (51 percent). These four subcommunities also ranked among the six lowest in share of teenage mothers.

Figure 5





Mothers Smoking During Pregnancy

“Babies born to mothers who smoke are more likely to be born too small or too soon. These babies have a higher risk of experiencing developmental delays, chronic health problems, and even death. Children who breathe second-hand smoke have increased risk of pneumonia, bronchitis, asthma, and Sudden Infant Death Syndrome (SIDS).”¹⁴ If women choose not to smoke during pregnancy, it is certain that fewer infant deaths would occur as a result.

Smoking prevalence continues to decline in the adult population both at the national and state level, and analysis reveals that tobacco use during pregnancy is also decreasing in Detroit.¹⁵ 13.2 percent of infants born between 2000 and 2007 had mothers who smoked during pregnancy, 5 percent less than the rate of smoking among Michigan women in general.¹⁶ The subcommunities Kettering-Butzel (17.1 percent), Mack (16.8 percent), Boynton (16.7 percent), St. Jean (16.4 percent), and Brightmoor (16.3 percent) rank as having the highest prevalence of smoking during pregnancy in 2005-2007.

While smoking occurs within all economic and social groups, there is a strong correlation with educational attainment and the likelihood that one will choose to smoke. In 2007, the Michigan Behavioral Risk Factor Survey (BRFS) showed that respondents with less than a high school education were 3.7 times more likely to report being a current smoker than respondents who graduated from college.¹⁷ This is consistent with our analysis. Of the top ten subcommunities by percent of mothers with less than a high school diploma, five rank in the top ten for percent of smoking during pregnancy (St. Jean, Kettering-Butzel, Mack, Chene, and Winterhalter). Ten subcommunities show shares of less than 10 percent for smoking during pregnancy: Rosedale Park, Bagley, Chadsey-Condon, Finney,

¹⁴ Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.

¹⁵ Smoking during pregnancy is self-reported.

¹⁶ Estimates for Risk Factors and Health Indicators: State of Michigan, 2007 Behavioral Risk Factor Survey Preliminary Estimates, April 21, 2009.

¹⁷ Estimates for Risk Factors and Health Indicators: State of Michigan, 2007 Behavioral Risk Factor Survey, December 9, 2008.



Pembroke, Vernor, Palmer Park, Downtown, Denby, and Greenfield. Seven of these top ten also rank in the top ten for having an educational attainment of some college or more.

There are, however, several exceptions worth noting. As mentioned previously, the subcommunities of Vernor, Chadsey-Condon, Airport, St. Jean, and Conner have the highest percentages of mothers without high school diplomas. Of these, only St. Jean ranks in the top 10 for smoking during pregnancy. Furthermore, the two subcommunities with the highest levels of mothers without high school diplomas, Vernor and Chadsey-Condon, show almost the same percentage of smokers as compared to more educated subcommunities, a factor possibly related to influences of Hispanic/Latino culture.

Low-Birthweight Babies

Birth weight is a strong indicator of both the birth mother's health and nutritional status, and the newborn's chances for survival, long-term health, and psychosocial development. "Babies born weighing less than five and one-half pounds (2,500 grams) have a higher risk of experiencing developmental delays, chronic health problems, and even death. School children who were born at a low birthweight are more likely to be in special education classes, to repeat a grade, or to fail school, than children who were born at a normal birthweight."¹⁸ In many cases, the exact cause of low birthweight is unknown. However, low birthweight can be caused by being born too early or by growing too slowly. Smoking by the mother is believed to be one of the main causes of poor growth, as it obstructs the supply of oxygen and food to the baby. Poor nutrition, birth defects, genetic conditions, mother's health problems (e.g. high blood pressure), environmental hazards (e.g. lead), and multiple births (e.g. twins, triplets, etc.) may also result in low birthweight.

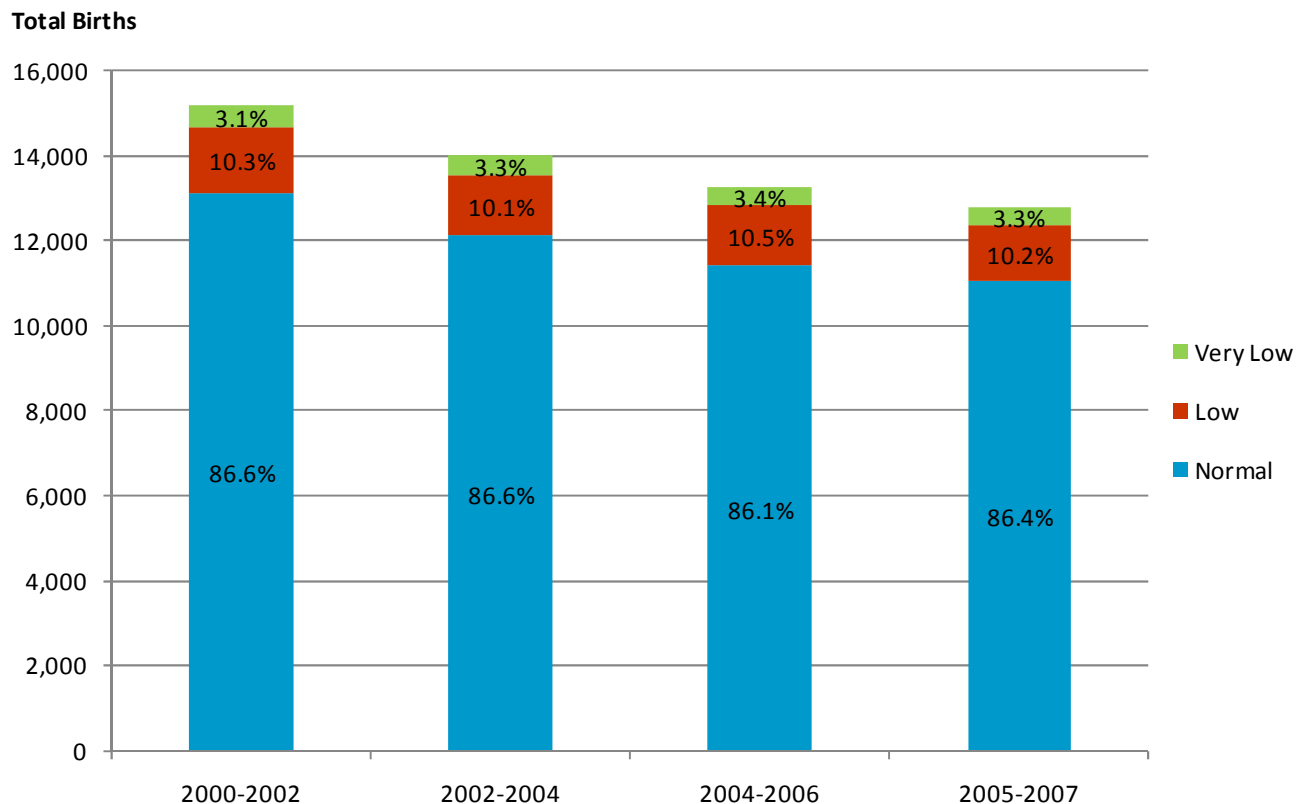
Figure 6 illustrates that virtually nothing has changed over the decade in the percentage of mothers giving birth to low-birthweight babies. These percentages are comparable to those statewide, where a

¹⁸ Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.



recent slight upward trend has resulted in a 2005-2007 share of 8.4 percent low birthweight and 1.7 percent very low birthweight.¹⁹

Figure 6
Birthweight Trends in Detroit (Three-Year Averages)²⁰



An analysis at the subcommunity level reveals a range of normal birthweight shares from a low of 81 percent in St. Jean and Jeffries, followed by Brightmoor (82 percent), Mack (83 percent) and Harmony Village (83 percent), to highs of 92 percent in Vernor and Chadsey-Condon, followed by Central (89 percent), Redford, Winterhalter, Cody-Rouge, Palmer Park and Rosedale Park (all at 88 percent). Vernor and Chadsey-Condon consistently ranked numbers one and two, respectively, between 2000 and 2007. Consistent with research demonstrating the correlation between high rates of smoking and

¹⁹ *Ibid.*

²⁰ Low birthweight < 2500 grams; Very low birthweight < 1500 grams.



low-birthweight babies, the Brightmoor, St. Jean, and Mack subcommunities ranked in the top five for both smoking during pregnancy and low birthweights.

Late or No Prenatal Care

“Mothers who have timely prenatal care are more likely to have a healthy pregnancy and delivery. Women without pre-pregnancy health insurance or a medical home are at high risk of not starting prenatal care during the first three months. They also often suffer from other risks related to low socioeconomic status that may not be addressed simply through prenatal care.”²¹ Prenatal care provides an opportunity to educate women on issues that will help them have a healthy pregnancy, delivery, and baby.

Prenatal care generally consists of:

- Monthly visits during the first two trimesters (from weeks 1-28);
- Biweekly visits from 28 through 36 weeks of pregnancy;
- Weekly visits after week 36 (delivery between weeks 38 and 40); and
- Ongoing assessment of parental needs and family dynamics.²²

Lack of prenatal care is a well-recognized risk factor for infant mortality and low birthweight. A variety of barriers to the use of prenatal care have been identified – financial, inadequate systems capacity, organizational and public health practices, atmosphere of prenatal service providers, and cultural/personal reasons. Financial barriers have largely, but not completely, been addressed by expansions of Medicaid eligibility and by reforms in health insurance, which have mandated the coverage of prenatal care. Immigration status and enrollment barriers, however, continue to influence access to Medicaid coverage as laws make it increasingly difficult for undocumented individuals to gain access to health care. Additionally, access to transportation remains a major structural barrier to care in both urban and rural areas. Organizational and personal factors, such as disrespect by providers,

²¹ Right Start in Michigan 2009: Maternal and Infant Well-Being in County Groups.

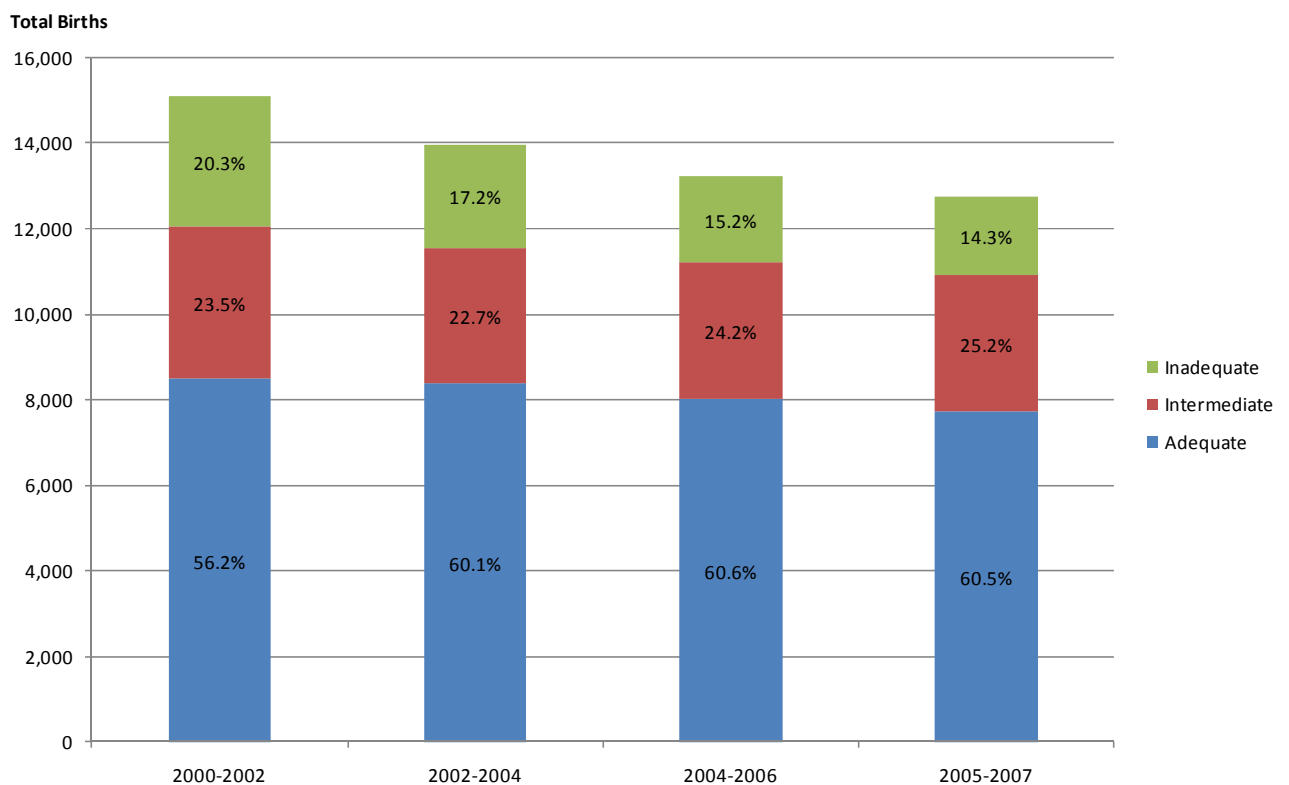
²² http://en.wikipedia.org/wiki/Prenatal_care.



lack of planned pregnancy, not valuing prenatal care, and fear of detection of drug usage, remain substantial barriers to early and continuous prenatal care.

The dataset used in this analysis distinguishes care as adequate, intermediate, and inadequate.²³ The data show that 58.6 percent of all infants born between 2000 and 2007 received adequate prenatal care, 23.8 percent intermediate care, and 17.5 percent inadequate care. Citywide analysis using three-year averages reveals a decrease in the share of inadequate prenatal care over time, and an increase in the share of adequate prenatal care (Table 6).

Table 6
Prenatal Care Trends in Detroit (Three-Year Averages)



²³ Based on the Kessner Index. The Index is a classification of prenatal care based on the month of pregnancy in which prenatal care began, the number of prenatal visits and the length of pregnancy (i.e. for shorter pregnancies, fewer prenatal visits constitute adequate care).



Looking at the percent of infants born in each subcommunity that received adequate prenatal care (2005-2007 three-year average) shows a great deal of variation among subcommunities. Appendix F provides a ranking of subcommunities on this measure. Bagley ranks first (72 percent), followed by Rosedale Park (68 percent), Pembroke (66 percent), and Downtown (65 percent). The subcommunities ranking lowest for the percent of infants receiving adequate prenatal care were, in descending order, St. Jean (51 percent), Winterhalter (55 percent), Kettering-Butzel (55 percent), Tireman (56 percent), and Chene (56 percent).



Summary

Detroit has experienced a dramatic reduction in annual resident births since 1990. While this decrease was reflected in nearly every subcommunity between 2000 and 2007, two subcommunities, Chadsey-Condon and Jeffries, actually witnessed an increase in births. The Hispanic/Latino subgroup accounts for an ever increasing percentage of total annual births, and 86 percent of these children are born in the Vernor and Chadsey-Condon subcommunities. After declining throughout the 1990s, the share of infants born to mothers in their teens is again on the rise. Among subcommunities, the percent of births to teenage mothers ranges from a low of 10 percent, to a high of 27 percent. The increasing share of teen births can be considered consistent with an increasing share of infants born to unmarried mothers, and an increasing share of infants born to mothers without a high school diploma. Percentages of smoking during pregnancy have declined or remained relatively constant in nearly every subcommunity. Also consistent with this finding, birthweight trends revealed little variation over time. The percent of infants born by subcommunity that received adequate prenatal care ranged considerably, from a low of 48.2 percent in Conner, to a high of 73.1 percent in Rosedale Park.

Taken as whole, these data can provide an indication of the subcommunities that would most benefit from targeted interventions, and can reveal the effects of programs in place over the last decade. It is hoped that this report is only the beginning of a substantial research agenda and collaborative partnership between Data Driven Detroit, DHWP, and health advocates, policymakers, professionals, and others.

Limitations of the data:

While Data Driven Detroit appreciates the magnitude, quality, and presentation of the birth data, there are limitations worth noting. In order to make comparisons across years and subcommunities, records without subcommunities attached were subtracted from the total number of births. In addition, within variables, many records remained uncodable as well. When making comparisons across years at the City total level, these “uncoded” records were included within the analysis. Birth records for infant

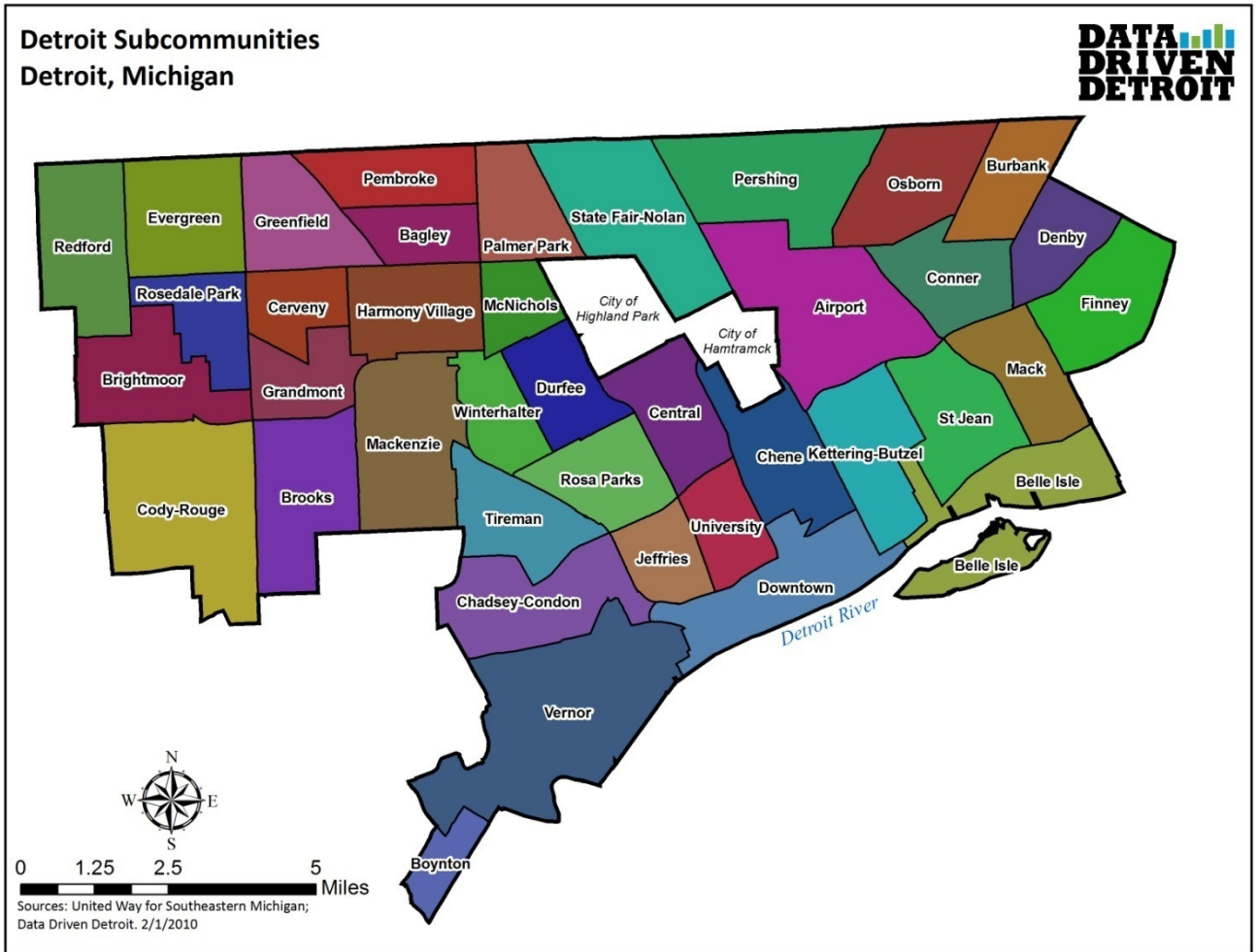


race/ethnicity were not available for 2007 and only four of the 6 education categories were provided for 2007.



Appendices

Appendix A





Appendix B

Alphabetical List of Detroit Subcommunities

1. Airport
2. Bagley
3. Belle Isle
4. Boynton
5. Brightmoor
6. Brooks
7. Burbank
8. Central
9. Cervený
10. Chadsey-Condon
11. Chene
12. Cody-Rouge
13. Conner
14. Denby
15. Downtown
16. Durfee
17. Evergreen
18. Finney
19. Grandmont
20. Greenfield
21. Harmony Village
22. Jeffries
23. Kettering-Butzel
24. Mack
25. Mackenzie
26. McNichols
27. Osborn
28. Palmer Park
29. Pembroke
30. Pershing
31. Redford
32. Rosa Parks
33. Rosedale Park
34. St Jean
35. State Fair-Nolan
36. Tireman
37. University
38. Vernor
39. Winterhalter



Appendix C

Indicators and Characteristics included in the Live Birth Dataset

The Detroit Health and Wellness Promotion Department provided Data Driven Detroit with a dataset containing live birth data from 2000-2007. Birth data is available by subcommunity for infants born in Detroit during the years 2000-2007. The dataset contains 9 variables and 32 characteristics for each of Detroit's 39 subcommunities. The following table provides a description of each variable and the characteristics attached to it.

| | Variable | Characteristic |
|---|------------------------------------|--|
| 1 | Number of Live Births | By Subcommunity |
| 2 | Infant Race/Ethnicity | Black Non-Hispanic, White Non-Hispanic, Hispanic, Other |
| 3 | Mother Race/Ethnicity | Black Non-Hispanic, White Non-Hispanic, Hispanic, Other |
| 4 | Mother's Age | ≥ 19, 20-24, 25-29, 30-34, 35-39, ≤ 45 |
| 5 | Prenatal Care | Adequate, Intermediate, Inadequate |
| 6 | Birth Weight | Normal, Low, Very Low, Extremely Low |
| 7 | Mother's Education Level | No School, First-Eleventh, High School, Some College, College Grad, 5+ Years College |
| 8 | Tobacco Use | Yes, No |
| 9 | Named Parents on Birth Certificate | One, Two, Paternity Acknowledgement |



Appendix D

Total Live Births by Detroit Subcommunity, 2000-2007

| Rank | Subcommunity | Total Births |
|--------------|------------------|----------------|
| 1 | Vernor | 7,842 |
| 2 | Chadsey-Condon | 6,224 |
| 3 | Cody-Rouge | 5,261 |
| 4 | State Fair-Nolan | 4,175 |
| 5 | Osborn | 3,994 |
| 6 | Conner | 3,984 |
| 7 | Brooks | 3,983 |
| 8 | Mackenzie | 3,799 |
| 9 | Pershing | 3,782 |
| 10 | Evergreen | 3,485 |
| 11 | Finney | 3,459 |
| 12 | Harmony Village | 3,449 |
| 13 | Burbank | 3,265 |
| 14 | Airport | 3,057 |
| 15 | Denby | 2,864 |
| 16 | Rosa Parks | 2,709 |
| 17 | Durfee | 2,688 |
| 18 | Kettering-Butzel | 2,503 |
| 19 | Tireman | 2,485 |
| 20 | Greenfield | 2,457 |
| 21 | Brightmoor | 2,323 |
| 22 | Grandmont | 2,239 |
| 23 | Redford | 2,191 |
| 24 | Winterhalter | 2,051 |
| 25 | Mack | 1,984 |
| 26 | St Jean | 1,892 |
| 27 | Cervený | 1,883 |
| 28 | Central | 1,805 |
| 29 | Rosedale Park | 1,613 |
| 30 | Pembroke | 1,568 |
| 31 | Bagley | 1,551 |
| 32 | University | 1,398 |
| 33 | Downtown | 1,267 |
| 34 | McNichols | 1,110 |
| 35 | Belle Isle | 1,091 |
| 36 | Chene | 1,007 |
| 37 | Palmer Park | 819 |
| 38 | Jeffries | 678 |
| 39 | Boynton | 641 |
| TOTAL | | 104,576 |



Appendix E

Number of Live Births in Detroit by Subcommunity (Three-Year Averages)

| Subcommunity | 2000-2002 | 2002-2004 | 2004-2006 | 2005-2007 | 2000 - 2007 | 2004 - 2007 |
|------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Airport | 416 | 380 | 360 | 353 | -15.2% | -2.1% |
| Bagley | 204 | 193 | 193 | 182 | -10.6% | -5.7% |
| Belle Isle | 147 | 127 | 129 | 133 | -9.3% | 3.4% |
| Boynton | 96 | 75 | 71 | 70 | -26.8% | -1.4% |
| Brightmoor | 346 | 292 | 256 | 249 | -28.1% | -2.9% |
| Brooks | 532 | 504 | 478 | 460 | -13.5% | -3.7% |
| Burbank | 467 | 425 | 379 | 355 | -24.0% | -6.5% |
| Central | 247 | 222 | 215 | 202 | -18.4% | -6.2% |
| Cervený | 263 | 227 | 226 | 214 | -18.6% | -5.2% |
| Chadsey-Condon | 747 | 796 | 799 | 787 | 5.3% | -1.6% |
| Chene | 142 | 121 | 118 | 111 | -21.6% | -5.9% |
| Cody-Rouge | 707 | 668 | 620 | 610 | -13.8% | -1.7% |
| Conner | 568 | 500 | 456 | 438 | -22.8% | -3.9% |
| Denby | 393 | 361 | 345 | 327 | -16.8% | -5.3% |
| Downtown | 157 | 162 | 157 | 153 | -2.6% | -3.0% |
| Durfee | 372 | 329 | 313 | 306 | -17.8% | -2.3% |
| Evergreen | 492 | 438 | 407 | 380 | -22.6% | -6.6% |
| Finney | 477 | 422 | 406 | 398 | -16.6% | -2.0% |
| Grandmont | 308 | 282 | 263 | 249 | -19.0% | -5.1% |
| Greenfield | 316 | 312 | 305 | 291 | -7.9% | -4.6% |
| Harmony Village | 461 | 417 | 415 | 414 | -10.3% | -0.2% |
| Jeffries | 87 | 75 | 87 | 90 | 3.4% | 3.1% |
| Kettering-Butzel | 337 | 312 | 286 | 283 | -15.9% | -0.9% |
| Mack | 281 | 254 | 226 | 210 | -25.3% | -7.1% |
| Mackenzie | 524 | 467 | 443 | 434 | -17.2% | -2.1% |
| McNichols | 154 | 142 | 125 | 122 | -21.0% | -2.4% |
| Osborn | 537 | 512 | 474 | 452 | -15.7% | -4.6% |
| Palmer Park | 108 | 101 | 107 | 95 | -12.6% | -11.3% |
| Pembroke | 204 | 200 | 194 | 185 | -9.2% | -4.6% |
| Pershing | 513 | 470 | 460 | 441 | -14.0% | -4.1% |
| Redford | 294 | 270 | 273 | 261 | -11.0% | -4.3% |
| Rosa Parks | 371 | 333 | 326 | 314 | -15.4% | -3.7% |
| Rosedale Park | 235 | 211 | 179 | 169 | -27.8% | -5.6% |
| St Jean | 274 | 234 | 216 | 209 | -23.6% | -3.1% |
| State Fair-Nolan | 603 | 528 | 481 | 443 | -26.6% | -8.0% |
| Tireman | 333 | 324 | 304 | 280 | -15.9% | -8.0% |
| University | 198 | 176 | 169 | 154 | -22.2% | -8.7% |
| Vernor | 1,012 | 994 | 955 | 944 | -6.7% | -1.1% |
| Winterhalter | 292 | 253 | 246 | 231 | -20.9% | -6.1% |
| TOTAL | 14,211 | 13,109 | 12,463 | 11,998 | -15.6% | -3.7% |



Appendix F

Infants Receiving Adequate Prenatal Care by Subcommunity, 2005-2007 Three-Year Average

| Subcommunity | Number Receiving Adequate Care | Percent Receiving Adequate Care |
|------------------|--------------------------------|---------------------------------|
| Bagley | 131 | 72.2% |
| Rosedale Park | 114 | 68.1% |
| Pembroke | 122 | 66.1% |
| Downtown | 99 | 65.3% |
| Cody-Rouge | 394 | 64.9% |
| Cerveny | 138 | 64.7% |
| Brooks | 293 | 64.1% |
| Redford | 165 | 63.5% |
| Vernor | 596 | 63.3% |
| Palmer Park | 58 | 62.6% |
| Finney | 246 | 62.4% |
| Belle Isle | 83 | 62.3% |
| Grandmont | 155 | 62.3% |
| University | 95 | 62.2% |
| Chadsey-Condon | 488 | 62.1% |
| Denby | 201 | 61.8% |
| Boynton | 43 | 61.7% |
| Pershing | 271 | 61.5% |
| Jeffries | 54 | 60.8% |
| Evergreen | 229 | 60.7% |
| Central | 121 | 60.3% |
| Greenfield | 172 | 60.3% |
| Harmony Village | 248 | 60.0% |
| State Fair-Nolan | 262 | 59.4% |
| McNichols | 72 | 59.2% |
| Brightmoor | 147 | 59.0% |
| Burbank | 207 | 58.6% |
| Mackenzie | 254 | 58.5% |
| Rosa Parks | 183 | 58.4% |
| Airport | 203 | 57.6% |
| Osborn | 259 | 57.4% |
| Conner | 247 | 56.9% |
| Mack | 119 | 56.7% |
| Durfee | 171 | 56.0% |
| Chene | 62 | 55.9% |
| Tireman | 155 | 55.6% |
| Kettering-Butzel | 155 | 55.1% |
| Winterhalter | 126 | 54.7% |
| St Jean | 107 | 51.2% |
| TOTAL | 7,710 | 60.5% |

DATA
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