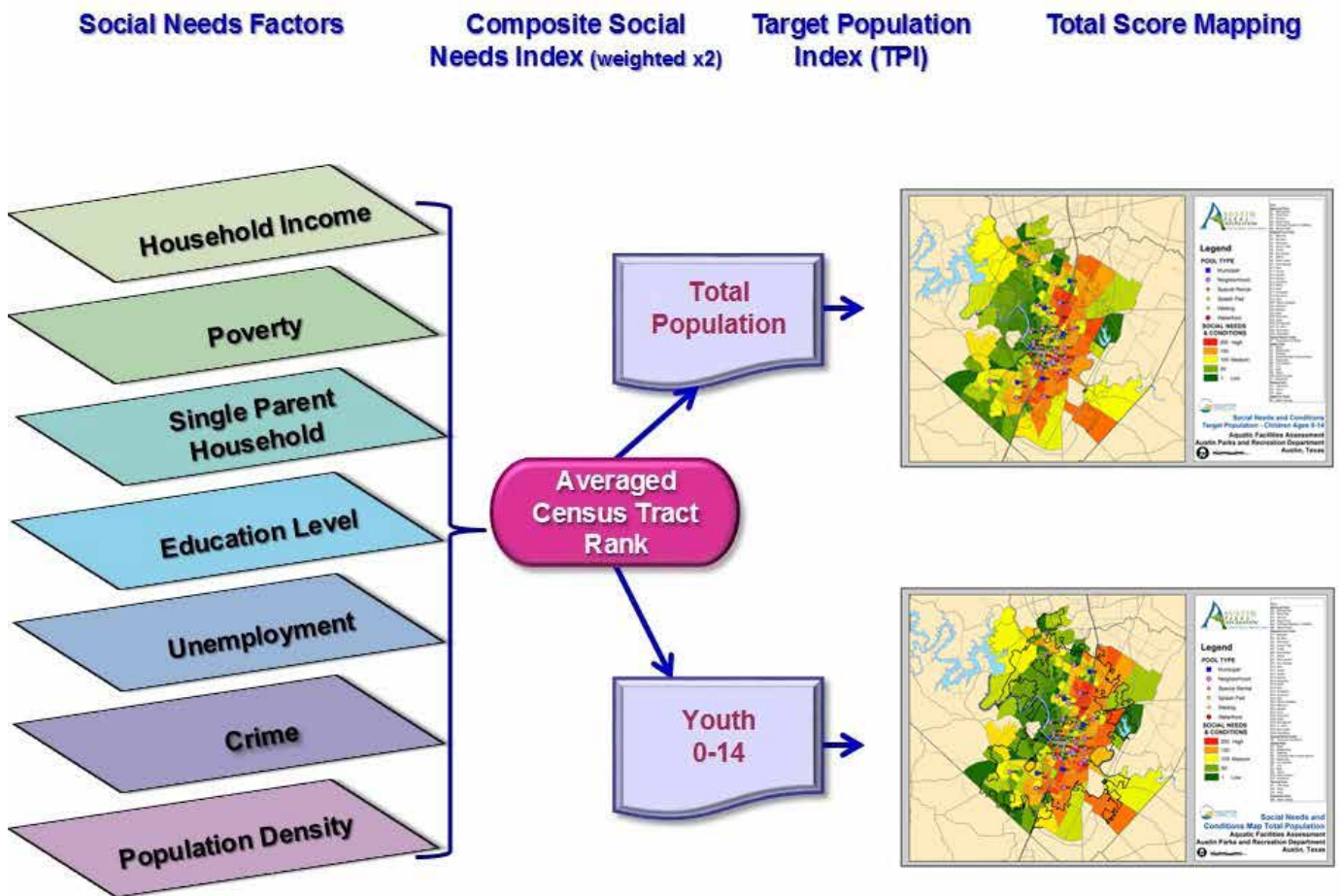# APPENDIX B: SOCIAL NEEDS AND CONDITIONS ANALYSIS

B.1 OVERVIEW

Certain socioeconomic characteristics should help to identify those individuals or target populations most likely to use and/or benefit from public sector programs and services, and community outreach programs. A Social Needs & Conditions Index was developed, using seven (7) socioeconomic indicators that measure the well-being of residents in each of Austin's 200 census tracts, to assist the project team in establishing priorities as they relate to outreach and program development.

B.2 METHODOLOGY

Information has been organized specifically for each of Austin's 200 census tracts. Most of the demographic data was taken directly from the 2010 Census data for the City of Austin or from the American Community Survey 5-year averages from years 2007-2011. The census tracts were selected which are within or touching the current city limits. Therefore, some extend beyond the current city limits for the City of Austin.

B.3 DATA DISCLAIMER

The information contained in the analysis was taken from the 2010 Census data and American Community Surveys data.   It is correct, to the best of the author's knowledge; however, some census data is subjective.

It is as accurate as the information that the census participants reported at the time it was compiled.

B.4 AMERICAN COMMUNITY SURVEY

The American Community Survey is a part of the U.S. Census Bureau's Decennial Census Program and is designed to provide more detailed demographic, social, economic, and housing estimates throughout the decade. The ACS provides information on more than 40 topics including: education, language ability, the foreign-born, marital status, migration, and many more. Each year the survey randomly samples 3.5 million addresses and produces statistics that cover 1-year, 3-year, and 5-year periods for geographic areas in the United States. The 5-year estimates are available in a variety of geographic areas. The 5-year estimates used in this analysis are the 5-year estimates covering the period from 2007 to 2011.

B.5 DATA DEFINITIONS AND SOURCES

B.5.1 Total Population

Universe: Total Population), Source: Census of Population & Housing, 2010 Tiger Files DPSF1 – Sex and Age – column DP0010001

B.5.2 Target Population

(Universe: Total Population), Source: Census of Population & Housing, 2010 Tiger Files DPSF1 - Column DP0010002-0004 for the various ages of children.

B.5.3 Educational Attainment

Population without a High School Diploma (Universe: Persons 25 Years and Over), Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B23006 – Percent of persons over age 25 without a high school diploma.

B.5.4 Households

(Universe: Households), Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B19001.

B.5.5 Median Household Income

(Universe: Households), Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B19013 - Median household income in the past 12 months (in 2011 inflation-adjusted dollars).

B.5.6 Population Density

Total population divided by the number of land acres (water area excluded) in the census tract area to result in the number of persons per acre. Source U.S. Bureau of the Census 2010 Tiger Files. Table is provided in square meters which were converted to acres.

B.5.7 Poverty Status

Quantity of the Total Population Living in Poverty – (Universe: Persons for Whom Poverty is Determined in 1999), Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B17010 Households with income in the past 12 months below poverty level.

B.5.8 Employment Status: Percent Unemployed

(Universe: Persons 16 Years and Over in the Labor Force), Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B23025 - In labor force, number employed, calculated as the percent of the labor force not employed.

B.5.9 Crime: Total Population per Actual Reported Incident

Source: City of Austin Police Department Records Management System Indexed and Non-Indexed Offenses by Year and Census Tract for Year 2012. Indexed crimes used in this analysis. The APD uses census tracts from previous census. Therefore, where tracts have split, the total incidents were divided by the number of new tracts from the parent tract.

B.5.10 Single Parent Households – Universe

Households with children under age 18. Source: U.S. Census Bureau American Community Survey 5-year averages for years 2007-2011, column B11004, sum of columns for households with single mothers and single fathers with children under the age of 18 in the household.

B.6 SOCIAL NEEDS & CONDITIONS INDEX

The Social Needs & Conditions Index was determined through a three-step process that included the following components: Total and Target Population Index (TPI); Composite Social Needs Index (CSNI); combining a weighted TPI score and a CSNI score to decide a final Composite Social Needs & Conditions score; and then ranking the census tracts based upon their final score.

B.6.1 Three-Step Process

- Total and Target Population Index (TPI)
- Composite Social Needs Index (CSNI)
- Index Number - Composite Social Needs & Conditions Index

B.6.2 Total and Target Population Index

The purpose of the Total and Target Population Index (TPI) is to identify the distribution of the total population and target populations citywide. Each of Austin's 200 census tracts was ranked by their total population and by identified target populations from one to two hundred according to its position citywide, with tied scores given the same ranking status. A number one ranking status suggests the neighborhood exhibiting the least need and a ranking status of 200 suggest the greatest need. When determining demand for target populations, the ranking of the total population and the target population are summed together, divided by the number of variables (usually two), resulting in a TPI score. The TPI scores are then ranked from one to 200 for each census tract.

$$\frac{A + B}{X} = TPI\ Score$$

A = Total Population

B = Target Population

X = Total Number of Variables in the Numerator

B.6.3 Composite Social Needs Index

A Composite Social Needs Index (CSNI) score was determined for each census tract. CSNI consists of the seven independent variables or indicators representing social conditions in each neighborhood. The seven (7) variables are independently ranked by census tract from one (1) to 200 according to the variables position citywide, with tied scores given the same rank. A number one (1) ranking status suggests the neighborhood exhibiting the least need and a ranking status of 200 suggests the greatest need. For each census tract, the ranking score for each of the seven variables were then summed into a composite score. This composite score was then divided by the number of variables (seven), weighted by a factor of two, and thus resulting in the CSNI score for each census tract. The CSNI scores are then ranked from one to 200 for each census tract.

$$2 \times (C + D + E + F + G + H + I) = \text{CSNI Score}$$
$$X$$

C = Variable
D = Variable
E = Variable
F = Variable
G = Variable
H = Variable
I = Variable
X = Total Number of Variables in the Numerator

B.6.4 Index Number - Composite Social Needs & Conditions Index

- The third step involved combining a weighted TPI score and a CSNI score for each of the independent neighborhood planning districts. This results in a final Composite Social Needs & Conditions Indicator (CSNCI) score for each census tract.

  $$TPI + (2 \times CSNI) = \text{CSNCI Score}$$

- Finally, the final score for each census tract is ranked from one to 200. The highest index number represents the neighborhood with the greatest need, which is given a ranking status of 200, and the lowest index number, representing the neighborhood with the least need, is given a ranking status of one.

B.7 TOTAL POPULATION

The map of the Social Needs and Conditions for the Total Population indicates the census tracts exhibiting the highest social needs (red in color) are concentrated in a corridor extending north to south along Interstate 35, with the majority of the areas located east of I-35. The areas with the lower needs (green in color) are located in the growth areas in the southwest (South of Slaughter), northwest and west Austin areas (west of MoPac).

B.8 TARGET POPULATIONS – 0-14 IN AGE

One of the main priorities through the public input process has been on the delivery of aquatic facilities for children. Therefore this analysis was performed for the children in ages 0-14. Since there is a ten-year horizon for this plan, we have included the entire population of this age group rather than just teens. Of the 200 census tracts, the same general areas exhibited the greatest needs as the analysis for the total population with very minor differences.
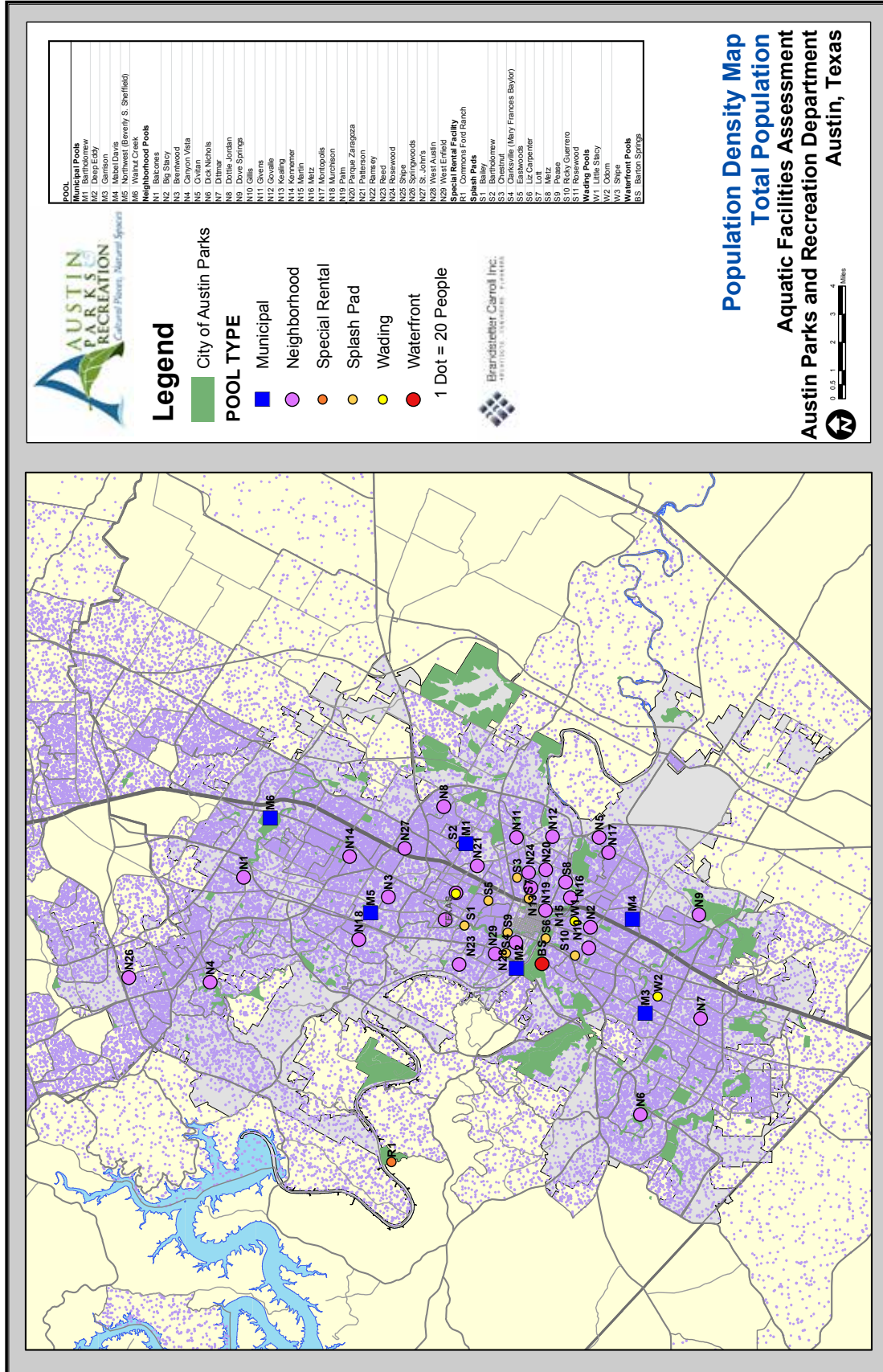
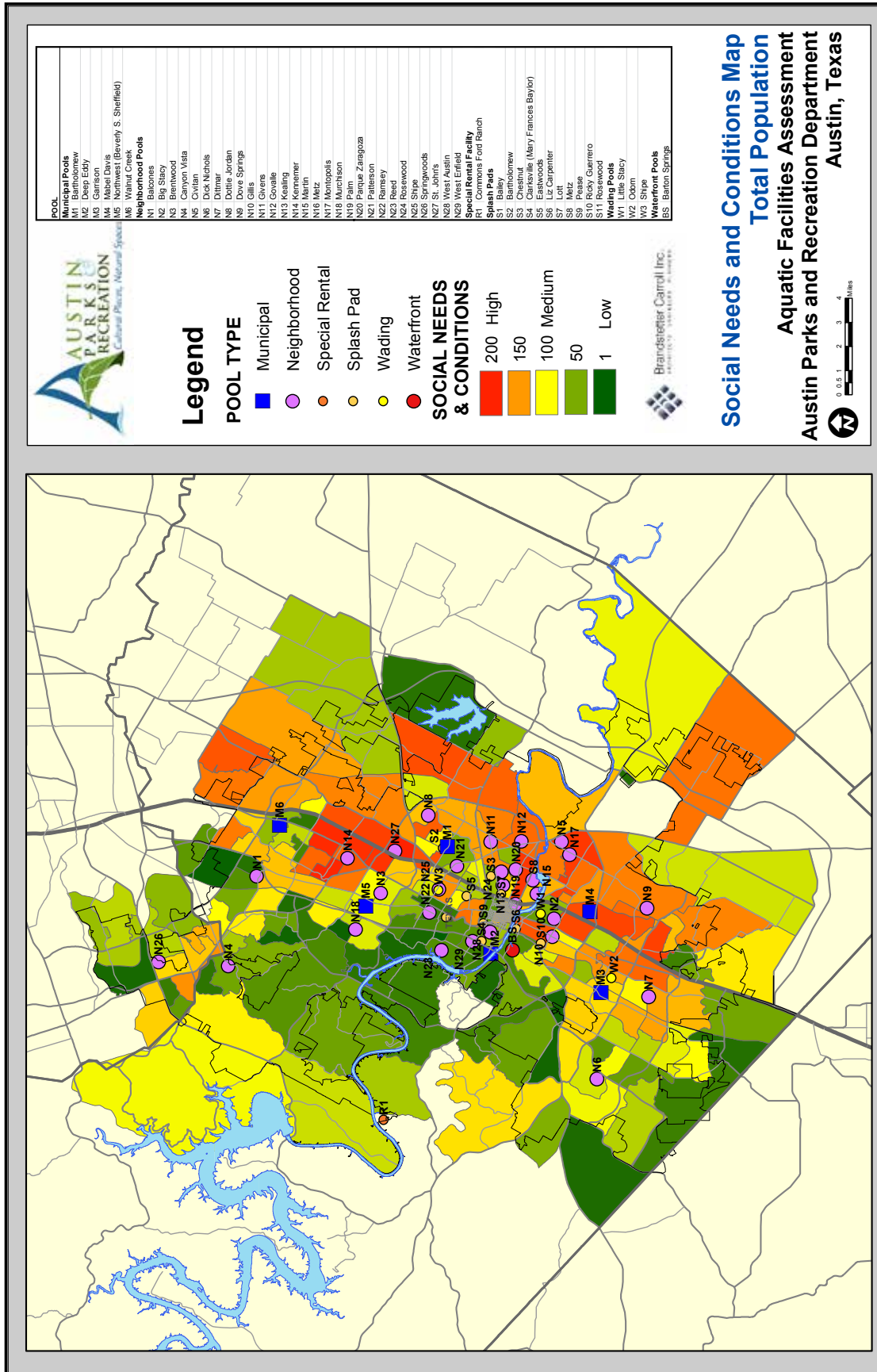Figure B.1: Total Population - Population Density

Social Needs and Conditions Map
Target Population - Children Ages 0-14
Aquatic Facilities Assessment
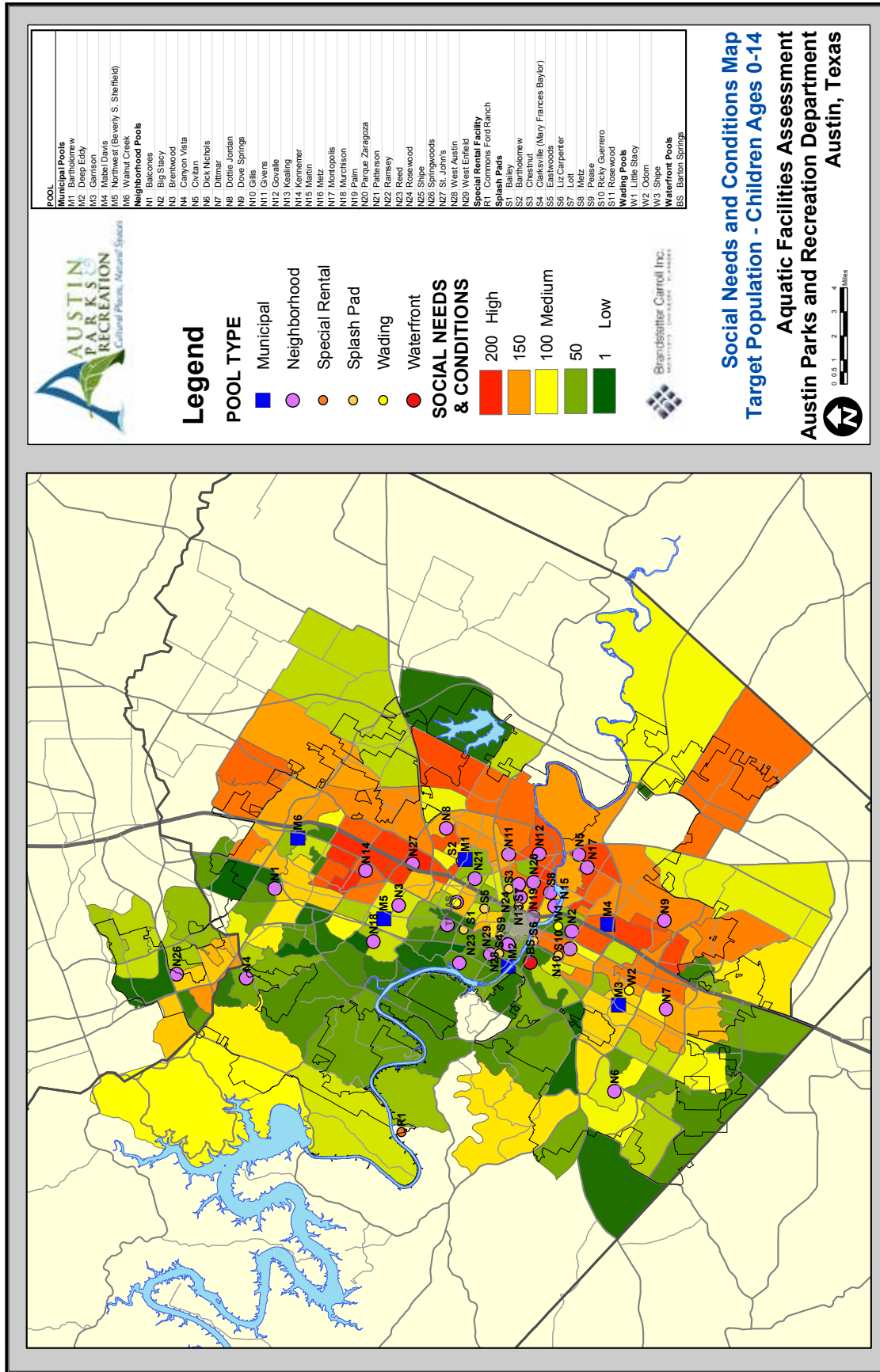Austin Parks and Recreation Department
Austin, Texas

Figure B.4: Target Population – Children Ages 0-14 – Social Needs and Conditions