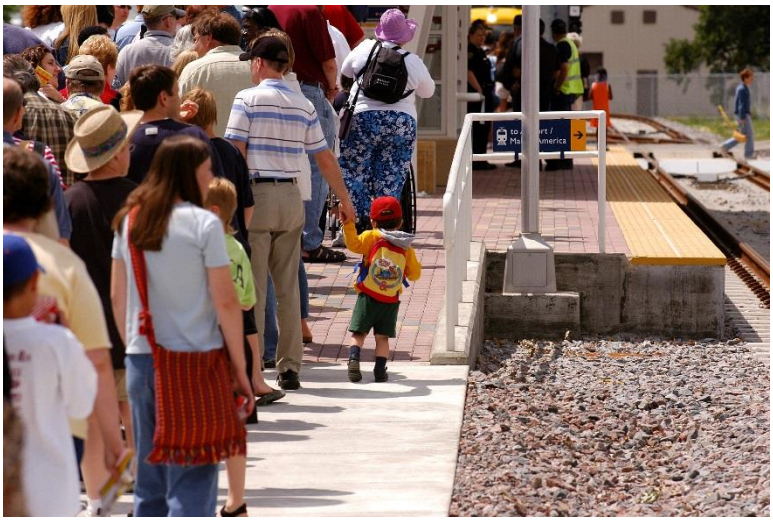

Transit-Accessible Child Care Study

Prepared for Metro Transit

JUNE 2016

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Acknowledgments

Thank you to the following for their contributions to this study:

Steven Aviles, Wilder Research
Allison Bell, Metro Transit
Jennifer K. Bohlke, Wilder Research
Angie Bowman, Child Care Aware
Monzong Cha, Wilder Research
Richard Chase, Wilder Research
Randika De Mel, Wilder Research
Rachel Dungca, Metro Transit
Amy Geisler, Metro Transit
Baris Gumus-Dawes, Metropolitan Council
Heidi Hagel-Braid, First Children's Finance
Paul Hanson, Metropolitan Council
Ann McCully, Child Care Aware of Minnesota
Christina Morrison, Metro Transit
Todd Otis, Think Small
Margaret Peterson, Wilder Research
Pa Nhia Yang, Wilder Research

And thank you to the parents who participated in the parent interviews.

This study was made possible through a 2015 Equity Grant from the Metropolitan Council.

Introduction

Metro Transit's Transit Oriented Development (TOD) Office contracted with Wilder Research in the fall of 2015 to conduct a study on transit-accessible child care, particularly the ability of families to access child care via public transportation. Anecdotally, the TOD Office believed many transit riders opt to stop using transit once they have kids and lower-income families who rely on transit have fewer child care options due to the location of child care relative to their homes and workplaces.

The study focused on addressing the following questions, with are addressed in the following pages of the report.

1. How many child care facilities in our region are within easy walking distance of high-frequency transit stops? (See "The Twin Cities child care market" on page 2.)

2. What is the capacity and availability of open slots in these facilities relative to the number of children living in these areas? Is the "supply" of transit-accessible child care adequate? (See "Transit-accessible child care in the Twin Cities" on page 3.)

3. What barriers do transit users face in accessing child care facilities and using transit with children? (See "Transportation barriers to accessing child care" on page 10.)

4. What are potential strategies for increasing the capacity and/or quality of transit-accessible child care facilities? (See "Recommendations" on page 15.)

The study included a literature review, interviews with 20 parents who use transit and child care, and the creation of four maps overlaying the location of existing child care providers (both in-home and centers) and high-frequency transit routes with 1) the Census tracts where young children live, 2) the Census tracts young children can travel to in under 30 minutes, 3) regional job centers and 4) areas with high concentrations of families living in poverty. A full description of the research methods is available in the Appendix.

The child care marketplace

Types of child care

Child care arrangements can include either formal or informal care. Formal child care comprises government-regulated, paid child care; informal child care can be paid or unpaid and is often provided by household family members, relatives, and friends (referred to as Family, Friend and Neighbor, or FFN).

In both Minnesota and the U.S., child care is mainly provided by the informal market – parents or relatives – rather than the formal market (Chase & Valorose, 2010; Warner, 2007). Nationally, U.S. Census data from 2011 show that 42 percent of children under age 5 were taken care of by family relatives (Laughlin, 2013). In Minnesota, approximately 500,000 households in 2009 had at least one child under age 12, of which 75 percent used some type of child care arrangement (Chase & Valorose, 2010). Of those who were in child care, 43 percent were primarily being cared for by informal FFN caregivers in 2009 (Chase & Valorose, 2010).

The Twin Cities child care market

In the Twin Cities 7-county metro area, 4,308 licensed providers make up the formal market (Figure 1). These family child care providers and child care centers have licensed capacity to serve 108,650 children birth through age 5, though often providers desire to have fewer children than they are licensed to serve. In comparison, an estimated 166,500 children under age 6 have all parents working, indicating that the Twin Cities may have a gap in the formal child care market to serve all families who may need it to participate in the workforce. **Of the total number of slots, 11 percent (11,500 spots) are within a quarter mile of existing high-frequency transit routes.**

1. Count and capacity of Metro area child care centers and family child care serving children age 5 and under

	Count	Capacity
Family child care	3,417	38,970
Child care centers	891	69,680

Note: Data obtained from Child Care Aware® of Minnesota on April 5, 2016, of licensed child care; this excludes 126 centers that are assumed to be part-time preschool programs based on ages served and hours of operation.

The formal market is changing as licensed family providers retire out of the field or close due to market forces. In Minnesota, from 2006 to 2011 the number of family child care providers decreased whereas the number of child care centers increased (Valorose &

Chase, 2012). This trend has continued. Data obtained for this study indicated in the last five years, the number of family child care providers has decreased another 18 percent.

Transit-accessible child care in the Twin Cities

To conduct the market analysis, a series of four maps were created that mapped the location of licensed child care providers (both in-home and centers) against the Hi-Frequency Network and four other factors: concentration of children in residence, whether the area is an Area of Concentrated Poverty (40% or more of households with incomes less than 185% of poverty), a designated job center, and the cumulative demand that estimates the potential concentration of child care clients based on which census tracts children could access within 30 minutes or less using public transportation. A description of the mapping methods, as well as the maps used for the analysis are located in the Appendix. Metro Transit's Hi-Frequency Network includes 13 transit routes with service every 15 minutes or better, on weekdays and Saturdays (See Appendix D).

In general, the mapping analysis found that child care is generally well distributed throughout the Twin Cities metro area, particularly located in areas defined as job centers or with high concentrations of children in residence.

Each transit corridor and destination was also examined to determine if certain areas may benefit from the additional presence of child care. Two overview charts are presented in Figures 2 and 3 with the breakdown of each route. Additional market research is recommended to explore the need and feasibility of additional child care in the following areas where routes are currently running at high frequency:

- Route 10 from Minneapolis to Anoka
- Route 515 in Richfield at the intersection of Route 18
- The Blue Line at 46th and 50th Street stations
- Route 84 along Snelling Avenue in Roseville or around 46th Street
- Inside the Mall of America or Minneapolis Saint Paul International Airport (accessed by the Blue Line and Route 54)

In addition, these two routes may warrant extension of high-frequency service or rerouting to better access nearby child care providers in Areas of Concentrated Poverty with high concentrations of children:

- Route 64 east of Saint Paul
- Routes 5 and 19 through North Minneapolis

2. Overview of map findings

Route	Concentration of children (Map A)	Cumulative demand (Map B)	Job center (Map C)	ACP (Map D)	Child care access	Considerations
Transit corridors						
North Minneapolis (Routes 19 & 5)	Medium to high	Medium	No	Yes	High	Further research needed on potential or need for extending high-frequency routes north to Brooklyn Park job center
NE Minneapolis into Anoka (Route 10)	Low to high	Low to medium	Yes (south section)	No	Low to medium, but outside ¼ mile radius	Further market research needed on the need for more child care centers within ¼ mile radius
South Minneapolis (Routes 6, 18, & 5)	Medium to high	High	Yes (north section)	Yes (north section)	High	None
Richfield (Route 515)	Low to medium	High	Yes	No	Medium	Further market research needed on the need for more child care particularly at intersection of routes 515 & 18
Blue Line	Low to high	Medium to high	Yes	Yes (north section)	Varies	Further market research needed on the need for more child care particularly at the 46th and 50th Street LRT stations
Green Line from DT Minneapolis to Snelling Ave	Low	Medium	Yes	No	High	Monitor changes in demographics and job accessibility near Prospect Park and Westgate stations. More child care may be needed if more jobs or families moved into this area.
Green Line from Snelling Ave to DT Saint Paul	Medium to high	Medium	Yes	Yes	High	None
Snelling (Route 84)	Medium	Low to Medium	No (intersects some)	No	Varies	Further market research needed on the need for more child care at each end of line.
East Saint Paul (Route 64)	Medium to high	Medium	No	Yes	Medium (in home providers)	Monitor changes in demographics and extent in-home providers retire. Additional child care may be needed if more families move to area, or in-home providers retire out of the field.
West 7th (Route 54)	Low	Low	No	No	High	None
Highland Park (A line)	Low to medium	N/A	Yes	No	High	None – A line will give existing child care access to transit.

2. Overview of map findings (continued)

Route	Concentration of children (Map A)	Cumulative demand (Map B)	Job center (Map C)	ACP (Map D)	Child care access	Considerations
Destinations						
Downtown Minneapolis	Low	High	Yes	No	High	None
Downtown Saint Paul	Medium	High	Yes	No	High	None
Airport / MOA	Low	Medium	Yes	No	None	Further market research needed on the need for more child care at these locations with a concentration of both white and blue collar jobs during nonstandard hours.

Accessibility of child care

Lack of child care or issues with child care can be a challenge for all families regardless of income, and when unresolved, can prevent parents from entering the workforce. Wilder Research has found that a fifth of parents in low-income households and a quarter of parents of color reported that child care issues prevented them from accepting or keeping jobs they want (Chase & Valorose, 2010). Another study in the Netherlands found that for every additional child care slot per 100 children in a residential area increased the odds of the mother entering the paid workforce by over 2 percent (Van Ham & Mulder, 2005).

Factors influencing parents' child care choices

Background from the literature

Studies show that cost and location are the main reasons affecting parents' child care choices (Chase and Valorose, 2010). Data pulled from Parent Aware for this study found that about half (52%) of child care centers and just four percent of family child cares are rated highly, that is they are accredited or have received a 3 or 4 star rating on Parent Aware. However, location and cost often trump quality when parents are unable to access the care they want. Though Minnesota families indicate the most important criteria for them when selecting a child care facility is "a caregiver that is rated high quality," they most often chose their child care provider primarily based on location and cost (Chase & Valorose, 2010, p.63). Minnesota families, particularly low-income families, often feel they have little choice in who cares for their children; "29 percent of all parents and 35 percent of parents with low incomes say that in choosing child care for the selected child, they feel they had to take whatever arrangement they could get" (Chase & Valorose, 2010, p.65).

Parent interview feedback

Wilder Research conducted 20 interviews with parents of young children who use public transit about their experience accessing child care via transit. A full description of the interviews is in Appendix A.

If location was not a barrier, half of the parents currently using center-based care (6) reported for this study that they are satisfied with their current center and would not choose anywhere else. One parent noted that she has gotten "immune to the distance

when taking my children to child care." One person would prefer a nanny, and another would prefer a center close to home.

When asked where they would take their children to be cared for if location were not a barrier, all but one parent (6) who rely on friends or relatives to care for their children would prefer to use a child care center.

Costs of child care

According to Child Care Aware of America, in 2014, the average cost of center-based care in Minnesota was between $11,100 and $14,400 depending on the age of the child, whereas the average cost of family child care ranged from $7,100 to $7,900. Minnesota is ranked in the top five least affordable center-based care, though the state does have more capacity in lower cost, licensed family child care than other states.

Due to the cost of formal, licensed child care, low-income households especially rely on relatives to provide care. According to the U.S. Census Bureau's Survey of Income and Program Participation (SIPP), "children in poverty with an employed mother relied to a greater extent on grandparents (30%) and fathers (29%) than on day care centers (16%) or family day care providers (4%) for their care. … This tendency may be due to the higher costs associated with organized care" (Laughlin, 2013, pg. 8). Other researchers have found that the following types of parents are also more likely to depend on relatives or family child care than center-based child care: 1) working mothers living in neighborhoods that have higher rates of poverty or immigration, 2) mothers with low-incomes, 3) parents with nonstandard work hours, and 4) mothers with lower levels of education (Liu & Anderson, 2012).

In Minnesota, 30 percent of low-income households rely exclusively on FFN caregivers and 82 percent use FFN caregivers regularly, double the rate of use of FFN care among higher income households (Chase & Valorose, 2010).

To make child care more affordable for low-income families in Minnesota, the Minnesota Child Care Assistance Program (CCAP) provides financial support for families that have children under age 12 or children with special needs under age 15. The CCAP subsidy is provided on a sliding fee scale based on family income. To be eligible for the CCAP subsidy, families must have a household income that is 47 percent or less of the State Median Income. For a family of four in Minnesota, that is $43,300 a year or less (Minnesota Child Care Assistance Program, 2015).

CCAP gives low-income families access to the formal child care market in order to work, look for work, or attend school. Based on data extracted from the Child Care Aware

database, a large majority of licensed providers in the Twin Cities metro are willing to care for children who have the CCAP subsidy (71% family child care providers and 83% of child care centers). Low-income families with a CCAP subsidy are most likely to use center-based care (46% reported doing so in 2009) compared to those without a subsidy, who primarily rely on friends and neighbors to care for their children (60% reported doing so in 2009), indicating the CCAP program does give low-income families access to the formal child care market they may not have otherwise (Chase & Valorose, 2010). However, CCAP is not able to provide a subsidy to all eligible families; some families end up on long wait lists. In their "Plan to Address Early Childhood Disparities in Minneapolis," the City of Minneapolis' Cradle to K Cabinet recommends funding CCAP and other subsidy programs at higher levels so more families can access the subsidy and increase reimbursements rates so more providers will participate (2015).

Transportation barriers to accessing child care

Background from the literature

In Minnesota, about a quarter of parents with low incomes and a third of parents of color reported that transportation issues prevent them from using the type of care they prefer, almost double that of higher income, white parents (Chase & Valorose, 2010).

In a survey at 19 transit-oriented child care centers in California, the majority of parents reported using their cars to pick up and drop off their children from child care centers even though some of the child care centers are located close to transit stations (Local Investment in Child Care [LINCC] & Child Care Coordinating Council of San Mateo County [4Cs], 2007). Parents in this survey stated that carrying children's belongings is one of the major barriers to using transit, primarily because of convenience and speed, but parents also worry about reaching their children during an emergency.

Parent interview feedback

Sixteen parents interviewed for this study indicated that they only take the bus or light rail get to and from their home, to their child care arrangement, and then to work or school (Figure 3). Three parents use the following combination of transportation modes (including public transit) to get to and from their home, to their child care arrangement, and then to work or school:

- Drive by car to the day care center and then take the bus from the day care center to work.
- Drive by car to the day care center, then return back to home to take the bus to work.

- Carpool to the child care center with spouse, then take the bus to work.

Parents reported that it takes them between 20 and 120 minutes to get their children to the child care center, drop the children off, and then get to work including any walking they have to do. On average, it takes interviewed parents 68 minutes for this trip. They reported that a reasonable amount of time of their commute should be around between 10 and 60 minutes or 32 minutes on average, about half that of the current commuting time. Based on the limited sample interviewed for this project, those who use transit have a commute that averages 15 minutes longer than those who combine driving and transit.

3. Primary mode of transport from home to child care to work or school

	Number
I take the bus or ride the light rail (public transportation)	16
Combination of driving and public transit	3
I ride with someone else	1
I drive myself in a car	0
I ride a bike	0

Transportation time (Minutes)	Range	Mean (N=20)
Duration of current commute	20 to 120	68
Reasonable amount your commute should be for work	10 to 60	32

Promoting child care as part of transit-oriented developments (TOD)

Researchers have noted that "child care is a critical community infrastructure important for economic development and family wellbeing" (Warner, 2007, p.111). Given this important role child care plays in the economy, researchers have argued that child care land use should be integrated into city plans and transit-oriented development along with transportation, economic development, public facilities, social services, and other services (Warner & Prentice, 2013).

California has been working with urban planners to address the shortcomings of child care infrastructure. The Local Investment in Child Care (LINCC) was created in 1997 with a grant from the Packard Foundation to provide technical assistance to planners in seven counties in California on supporting child care infrastructure. Their website (www.lincc-childcare.com) is not currently active, so it is unclear whether their work continues.

In their guide for creating child care facilities in transit-oriented developments, LINCC notes that TODs, in general, increase property values and transit ridership. By including child care in such developments, child care advocates are more likely to support such developments and developments may be able to access additional funding (LINCC, 2008).

The American Planning Association (2011) also proposes that cities should work collaboratively with school districts, transit agencies, and housing development organizations to develop public and private backing for child care development projects. Some California "jurisdictions require new developments to either include child care or pay an impact fee" (LINCC, 2008, pg. 13). With a new focus on child care as an important economic driver, both child care centers and developers have found they can leverage additional funding by working together (LINCC, 2008). For example, in Los Angles, California, the developer of the $80 million Metro Hollywood Transit Village brought in a child care expert to operate a center for 52 children within the larger development to meet local requirements that new developments include child care. Furthermore, a child care center is located at the Shady Grove Metro Station in Maryland, built through a public-private partnership that included eleven corporate sponsors (LINCC, 2008).

LINCC and the American Planning Association offer the following recommendations on how to support child care centers as part of community development.

- Encourage employers to take part in guaranteed ride home programs offered by transit agencies so that parents can meet their children during an emergency (LINCC & 4Cs, 2007).
- Encourage child care centers to adopt transit-supportive policies, such as providing subsides for transit users and priority admission for transit riders (LINCC & 4Cs, 2007).
- Encourage transit agencies and child care providers located along transit lines to work collaboratively to advertise the child care services available along the lines (LINCC & 4Cs, 2007).
- Co-locate child care centers within walking distance of residential neighborhoods where people live, large employer complexes where people work, or within schools (LINCC & 4Cs, 2007; American Planning Association, 2011).

Parent recommendations for family-friendly transit

Twenty parents were asked how Metro Transit could make buses and light rail more family friendly.

- Half noted the need for **priority seating** or **dedicated space** for pregnant women, parents and young children. Three indicated children's seating should have seat belts or space for infant car seats.
- Five parents wanted to see **increased frequency** of bus service or more routes for increased accessibility.
- Parents disagreed about how **strollers** should be handled. Currently, strollers are welcome on Metro Transit light rail and buses, though they are required to be folded on the buses. While one specifically stated that children should be permitted to stay in strollers while on the bus, others agreed with the policy of folding down strollers. Two felt there should be stroller hooks, like those for bikes. Another felt that bus drivers should be required to wait for parents to fold their strollers.
- Three parents wanted to see Metro Transit provide some **entertainment** or engagement for children riding the bus, such as music, games, or visuals in the spaces where the advertisements currently are posted.
- Two parents noted **bus fare** was too high for families and would like to see a discounted fare available; neither of these parents reported receiving CCAP, so they may not be eligible for a reduced fare.
- Two parents suggested that **doors remain open longer** to give parents with children more time to get on or off the buses and trains.
- Two parents requested **police presence** on certain routes or stations so parents feel safe bringing their children to those areas.
- Two parents identified a need for more **information on how to ride** the bus or light rail and making that information available in multiple languages.

Conclusions

Throughout the 7-county metro region, the number of child care spots is lower than the number of children under age 6 whose parents work. This may indicate a lack of child care capacity, though research does indicate up to 40 percent of parents choose to use relatives and friends to care for their children, particularly for babies. It is difficult to know the extent parents choose to use relatives and friends to care for their children, or have few options because of the costs or lack of accessibility of licensed providers. In Minnesota, about a third of parents that use child care, particularly low-income parents, indicate they take whatever child care arrangement they can get. Minnesota has some of the highest rates of center-based child care in the country, so certainly cost is a driving factor for many parents, especially low-income parents; however, low-income families who rely on public transportation cannot access child care that is located too far outside transit routes.

The market analysis conducted for this study did find that licensed child care providers are fairly well distributed along high-frequency transit routes and concentrated near job centers and in areas with high concentrations of children in residence, indicating the market has largely been responsive to parents' needs. Despite that, the parents that were interviewed indicated their commute time is about twice what they believe is reasonable and noted challenges to bringing children on transit.

Recommendations

The Advisory Group for this project generated the following recommendations for Metro Transit, child care agencies, partner jurisdictions, and other stakeholders to consider moving forward to support parents who rely on public transportation to access child care.

In the short-term – Metro Transit could:

- Designate priority seating or dedicated space for pregnant women, parents and young children.
- Consider adjusting fares to make transit affordable for families.
- Keep doors open longer to give parents time to not only get on the bus or light-rail, but also get their children settled in to a seat.
- Consider revising the stroller policy such that strollers must be out of the aisles, but can remain open if there is enough space to keep the aisle free and clear for riders

getting on and off the bus. This recommendation is supported by a recent Transit Cooperative Research Program (TCRP) Synthesis 88, which addresses stroller use on transit (Goldman & Murray, 2011).

- Develop some additional communication materials, in multiple languages, to communicate with parents about how to ride the bus with children, stroller policy and the guaranteed ride home program. Partner with Think Small, an organization working to advance quality care and education of children in their early years, to distribute communication to providers within ¼ mile radius of high-frequency routes and their families about transit-related issues.

- Develop a next-steps document for this study, for internal and external communications of the study and ideas for integration into larger Metro Transit and Metropolitan Council policies and procedures.

In the long-term – Metro Transit, child care agencies, partner jurisdictions, and other stakeholders could:

- Conduct additional market research to determine the need for additional child care along the existing high-frequency route system.

- Consider the location of child care providers in planning future transit routes, such as the Bottineau line and Southwest LRT, just as job access, housing density, shopping, and recreational areas are considered in transit planning.

- Consider including proximity to child care facilities as a factor in competitive development grant programs, along with job access and housing density.

- Educate operators on the needs of transit users travelling with young children.

- Use advertising space on the bus for games or activities parents can do with children that both keep them entertained and contribute to child development.

- Renovate or build new child care with considerations of how pedestrians can access it via transit; make sure parking lots, sidewalks, and building entrances are pedestrian-friendly.

- Partner with child care providers along high-frequency transit routes to provide discounts or priority space for transit users.
- Research the possibility of locating a child care center within Mall of America or MSP International Airport.
- Co-locate child care centers with residential neighborhoods, schools, or job centers to reduce the number of stops parents have to make during their commute.

Appendix A: Research methods

Literature review

Wilder Research conducted a literature review of past research and information on transit-accessible child care in other cities or regions, including peer-reviewed journals, Wilder's own reports on child care, and policy reports. References are listed in Appendix B.

Interviews with parents who use transit and child care

Wilder Research had planned to conduct two focus groups with parents who use transit and child care – one in Minneapolis and one in Saint Paul. Wilder Research and Metro Transit worked with the Minneapolis and St. Paul Public Housing Agencies (PHAs) to invite 100 households that had at least one child age 5 and under, a working head of household or spouse with wage income, and had no additional adult with no income (to remove in-home relatives that could be providing care). Letters were sent to selected households inviting them to participate and asking them to call Wilder Research to sign-up to participate; postcard reminders were also sent. Participants were offered a $20 Target card, a transit voucher, and a light meal. A follow-up postcard was also sent to advertise the focus groups. Unfortunately, only one parent called to register for either of the groups. Instead, Wilder Research recruited parents to complete a brief phone or in-person interview.

Wilder Research revised the focus group protocol into an interview survey. Flyers were sent to child care centers along various transit routes, as well as New Horizon centers with a high concentration of parents receiving Child Care Assistance to pay for child care. Flyers invited parents to call Wilder Research to participate in the 10-minute interviews and were offered a $20 Target card for participating. In addition, two Wilder Research data collection staff conducted intercept interviews in-person with parents at the Robert Street and Sixth Street bus station and Green Line Central Station light rail station in Saint Paul (four block radius) on a Friday afternoon during rush hour. A total of 20 parents with young children were interviewed by Wilder Research – 4 via phone and 16 in-person.

Characteristics of interview participants

Parents that took part in this interview have 1 to 5 children and an average about 2 children (Figure 4), with at least one child under age 6. The average age of parents was 29 years, ranging from 19 to 46 years old. For work hours, the parents that participated in this study work or attend school outside the home between 3 and 40 hours per week, or an average of 25 hours per week.

Fifteen of the respondents identified themselves as African American, and five as white/Caucasian, with a few respondents identifying with other race/ethnicities.

4. Description of respondents

	Range	Mean (N=19-20)
Number of children	1-5	2
Parent's age	19-46	29
Parent's work hours per week	3-40	25

Race/Ethnicity	Number
African American	15
White/Caucasian	5
American Indian	3
Hispanic/Latina	3
Other (Puerto Rican).	1
Asian/Asian American	1
African	1

In terms of child care use, 12 of the 20 survey participants that were interviewed mentioned that they use a child care center when they are working or in school (Figure 5). Four indicated they pay a relative or friend to care for their children when they are working or in school. Another three participants have a friend or relative care for their child, but do not pay them. One self-employed parent noted that he/she does not use child care.

Eight of 16 interviewed parents receive assistance through the Child Care Assistance Program (CCAP) that helps them pay for child care. A majority of these parents use center-based care.

Furthermore, 17 of the 20 participants that were interviewed for this survey use the light rail or buses every day, while three participants use the light rail or buses weekly or occasionally. In addition, seven participants reported that they own or have access to a car. Those without access to cars use public transit on a daily or weekly basis.

5. Respondents' use of child care, Child Care Assistance, and transportation

	Number
Child care (N=20)	
Child care center [1]	12
Relative or friend whom I pay to watch my child	4
Relative or friend whom I do NOT pay to watch my child	3
Does not use child care	1
Child Care Assistance Program (CCAP) (N=16)	
Receives child care subsidy to help pay for child care	8
Use of public transit (N=20)	
Everyday	17
Weekly	2
Every other week	0
Occasionally	1
Never	0
Access to car (N=20)	
Do you own or have access to a car	7

[1] Respondents noted that their children attend the following centers: New Horizon, Wilder Foundation Child Development Center, Shiloh Temple, Sand Castle, Union Gospel Mission, Kinder Care, YWCA, and Head Start.

Interview tool

Thank you for calling about the interviews. I just have a few quick questions to make sure you qualify to participate.

1. How many children do you have? _____
   a. What are their ages? _____

   [If they do not have any children ages 5 or younger, thank them and tell them they are not eligible to participate.]

2. Do you work or attend school outside the home?
   ❒[1] Yes, how many hours? _____
   ❒[2] No

   [If NO, thank them and tell them they are not eligible to participate.]

3. How often do you use light rail or buses? Would you say . . .
   ❒[1] Every day
   ❒[2] Weekly
   ❒[3] Every other week
   ❒[4] Occasionally
   ❒[5] Never

   [If NEVER, thank them and tell them they are not eligible to participate.]

You are eligible to participate. This is a quick survey on behalf of Metro Transit to learn about the advantages and challenges of using public transit. We will send you a $20 Target card upon completion of the interview. Do you have any questions before we started?

4. What type of child care do you use while you are working or at school?
   ❒[1] Relative or friend whom I pay to watch my child
   ❒[2] Relative or friend whom I do NOT pay to watch my child
   ❒[3] Child care center, if so, which one?_____
   ❒[4] I take my child to an in-home/family child care provider
   ❒[5] A nanny, baby-sitter or in-home provider comes to my home.
   ❒[6] Other? _____

5. If location were not a barrier, where would you chose to send you child(ren)?

6. What's the primary way you get to and from your home, to that child care arrangement, then to work or school?
   ❒[1] I drive myself in a car
   ❒[2] I take the bus or ride the light rail (public transportation)
   ❒[3] I ride a bike
   ❒[4] I ride with someone else
   ❒[5] Combination, specify?_____
   ❒[5] Other? _____

7. How long does your current commute take, that is getting to child care, dropping off your child and then getting to work, including any walking you have to do?
   _____ minutes

8. What would be a reasonable amount for your commute to work? _____minutes

9. How could Metro Transit make buses and light rail more family friendly?

10. Do you own or have access to a car?
    ❒[1] Yes
    ❒[2] No

11. Do you receive a subsidy from the Child Care Assistance Program (CCAP) to help pay for child care?
    ❒[1] Yes ❒[2] No

12. How old are you? _____

13. What is your race/ethnicity? [Check all that apply]
    ❒[1] African American
    ❒[2] Asian/Asian American
    ❒[3] American Indian
    ❒[4] African
    ❒[5] White/Caucasian
    ❒[6] Hispanic/Latina
    ❒[7] Other _____

That is all the questions I have for you. Thanks for completing an interview with us. As a Thank you, I'd like to send you a $20 gift card to Target. Can I get your address to put that in the mail?

[Collect address]

We can send this in the regular mail, or we can send it certified mail in which someone in your household would have to sign for it to ensure that you get your gift card. Which do you prefer?

Appendix B: Market analysis and mapping

The Metropolitan Council created the four maps for this study, with Wilder Research consulting on research methods and assisting in acquiring data.

To show "supply" of child care, all four maps show the location of licensed child care providers and their size, based on their capacity to serve children under age 6. Wilder geocoded data obtained from Child Care Aware on the licensed capacity of centers and family child care providers in the 7-county metro region. Child Care Aware attempted to estimate as many part-time preschool programs as possible, based on ages served and hours of operation, as they do not address child care needs of full-time working families. School-age programs were also excluded since they serve children outside the targeted age. Each map also shows the high-frequency transit routes, though Metro Transit provides many additional routes beyond what is part of the Hi-Frequency Network.

Since we did not have a single way to calculate demand for child care, as no single data source was available showing where working parents live and work, or their use of transit, "demand" for child care was estimated four ways.

- Map A examines where children under age 6 are living, and which census tracts have the highest density of young children. These data were extracted from the U.S. Census Bureau. For each census tract, Wilder determined the number children under 6 in each with all available parents working based on the 2014 American Community Survey 5-year Estimates (table B23008).

- Map B shows the cumulative demand for child care for each census tract. Cumulative demand takes into account two different types of demand for child care facilities – the local demand as well as nearby demand. Local demand is the number of potential child care clients (children under age 6 living in households where all available parents work) who live in that particular census tract (as shown in Map A). Nearby demand is the number of potential child care clients who could reach that particular census tract within 30-minutes.

  The Metropolitan Council's Transportation Forecast Model data is the source for the transit accessibility matrix (or transit skim) that was used to identify the cumulative child care demand from both local and nearby communities. This transit accessibility matrix, which is based on the region's existing transportation network distances, provides origin-destination travel times for all Traffic Analysis Zones (TAZ) in the 7-

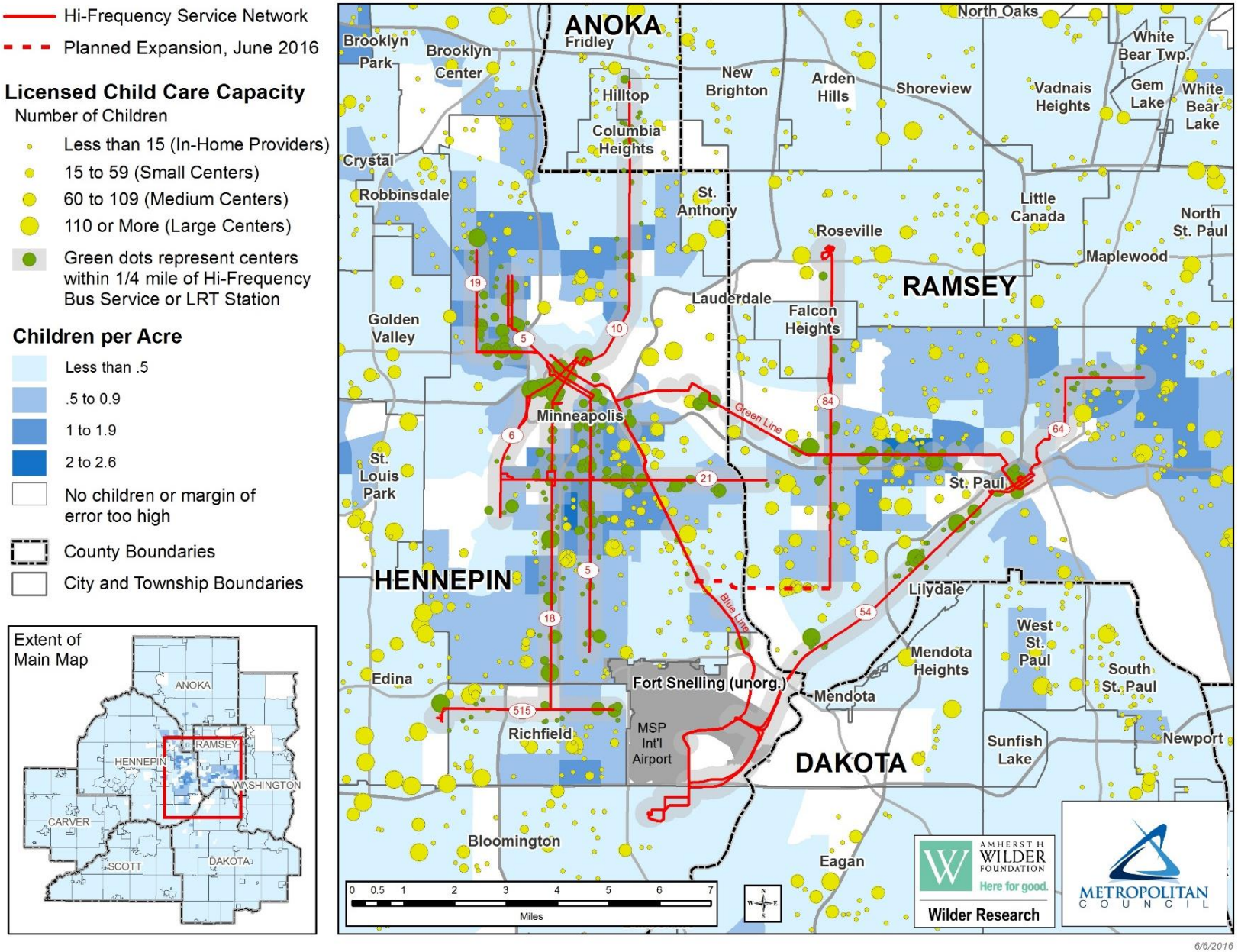
county metro area. This TAZ-based matrix was converted into a census tract-based matrix in order to make the geographic scale of the travel skim data congruent with the census tract-level ACS data Wilder extracted for Map A.

In order to determine the destination census tracts accessible to each census tract of origin, only tract-to-tract trips that lasted 30 minutes or less by transit were selected from the transit travel time matrix. The total number of child care clients living in each of these destination tracts was then summed to calculate the cumulative demand for child care in each census tract of origin. The total number of child care clients who could reach a particular census tract within a 30-minute transit ride was taken as a proxy for the cumulative demand for a potential child care facility in that particular census tract.

- Map C highlights the regional Job a Centers, which describe contiguous areas where there are at least 1,000 jobs and the employment density is at least 10 jobs per net acre. The data also includes some regionally significant manufacturing and distribution centers that have at least 1,000 jobs but densities less than 10 jobs per acre. Job Centers were defined using employment data from the Minnesota Dept. of Employment and Economic Development's (DEED) 2010 Quarterly Census of Employment and Wages (QCEW) and generally follow U.S. Census block boundaries.

- Map D highlights the Areas of Concentrated Poverty (ACPs), which are the census tracts in which 40 percent or more of households living there have incomes less than 185 percent of the federal poverty level.

Map A: Concentration of children



Map B: Cumulative demand

Hi-Frequency Service Network

Planned Expansion, June 2016

Licensed Child Care Capacity

Number of Children

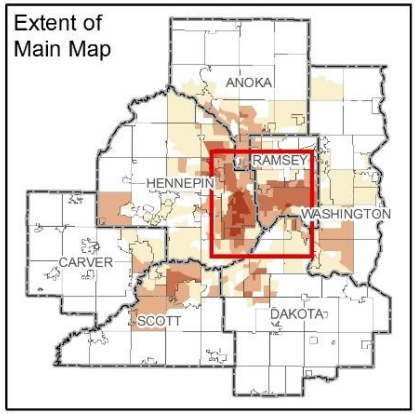
- Less than 15 (In-Home Providers)
- 15 to 59 (Small Centers)
- 60 to 109 (Medium Centers)
- 110 or More (Large Centers)
- Green dots represent centers within 1/4 mile of Hi-Frequency Bus Service or LRT Station

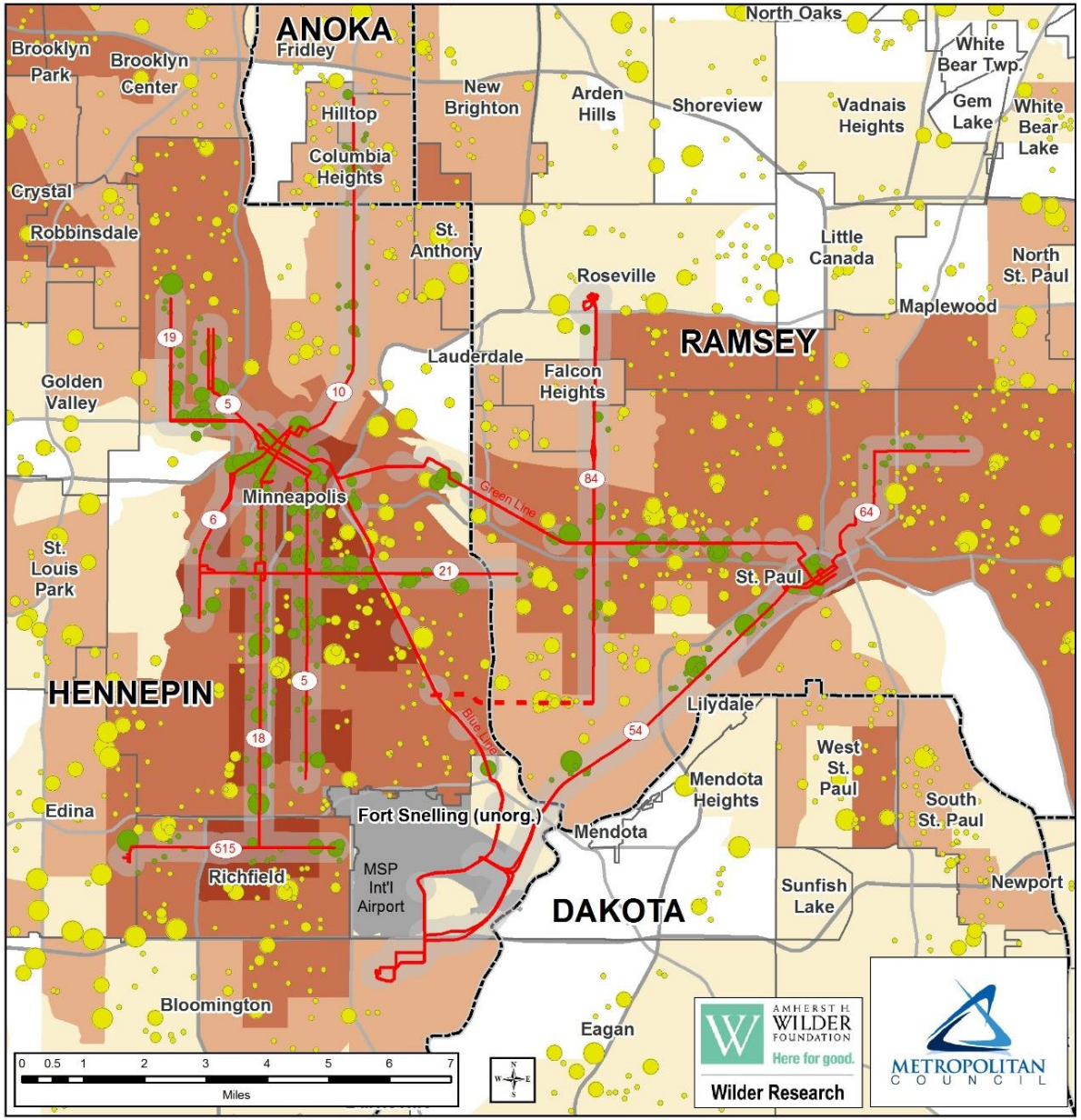
Cumulative Need

- 87 to 499
- 500 to 1,499
- 1,500 to 4,499
- 4,500 to 9,720
- No children or margin of error too high

County Boundaries

City and Township Boundaries





6/6/2016

Map C: Job centers

Hi-Frequency Service Network

Planned Expansion, June 2016

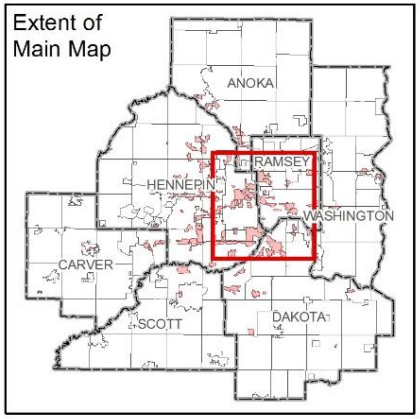
Licensed Child Care Capacity

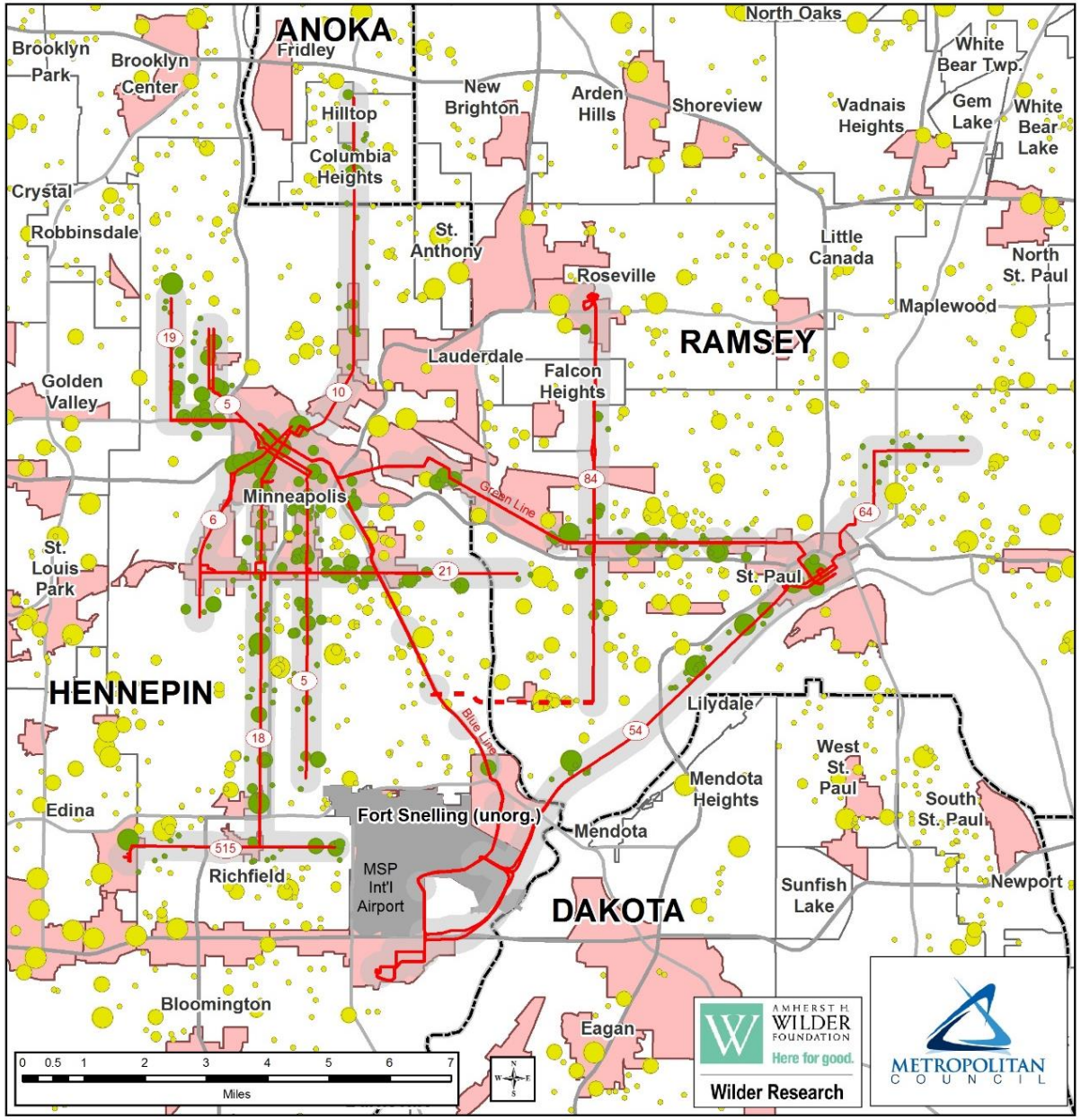
Number of Children

- Less than 15 (In-Home Providers)
- 15 to 59 (Small Centers)
- 60 to 109 (Medium Centers)
- 110 or More (Large Centers)
- Green dots represent centers within 1/4 mile of Hi-Frequency Bus Service or LRT Station

Job and Activity Centers

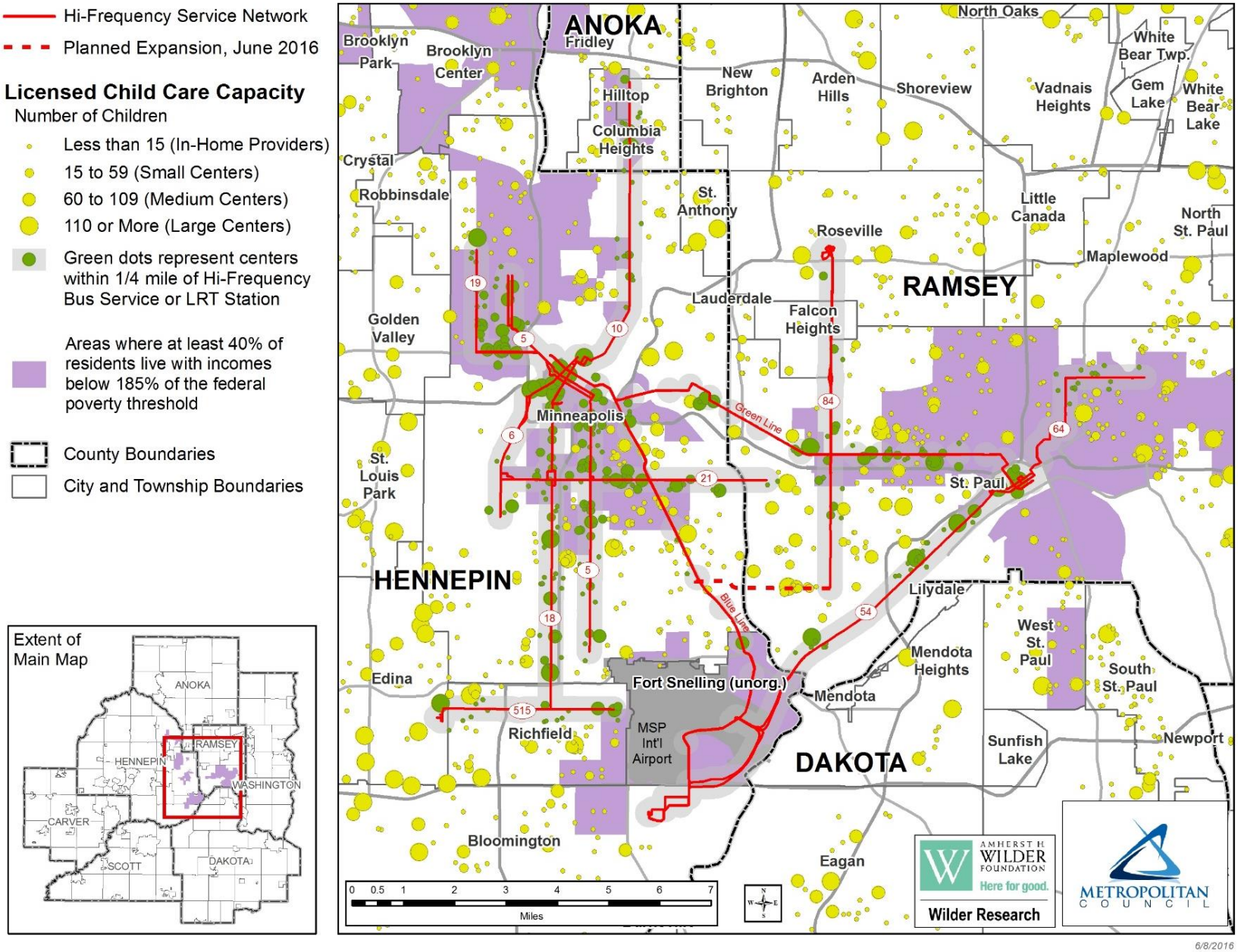
- Job and Activity Centers
- County Boundaries
- City and Township Boundaries





6/8/2016

Map D: Areas of Concentrated Poverty



Appendix C: References

American Planning Association. (2011). *Child Care and Sustainable Community Development*. Chicago, IL. Retrieved from http://static1.squarespace.com/static/54c6e0a9e4b05b81c90f45fc/t/54cfcc3ee4b0aa862f9acf82/1422904382472/CCandCommunityDevelopment-APA-2011.pdf

Chase, R., & Valorose, J. (2010). *Child Care Use in Minnesota: Report of the 2009 Statewide Household Child Care Survey*. Saint Paul, MN: Wilder Research. Retrieved from http://www.wilder.org/Wilder-Research/Publications/Studies/Child%20Care%20Use%20in%20Minnesota%202009/Child%20Care%20Use%20in%20Minnesota,%20Full%20Report.pdf

Child Care Aware of America. (2015). *Parents and the High Cost of Child Care: 2015 Report.* Arlington, VA. Retrieved from http://usa.childcareaware.org/wp-content/uploads/2016/05/Parents-and-the-High-Cost-of-Child-Care-2015-FINAL.pdf

City of Minneapolis. (2015). *Cradle to K Cabinet Draft Plan to Address Early Childhood Disparities in Minneapolis*. Minneapolis, MN. Retrieved from http://www.ci.minneapolis.mn.us/www/groups/public/@mayor/documents/webasset/wcms1p-136712.pdf

Goldman, J. M., & Murray, G. (2011). Strollers, carts, and other large items on buses and trains: A synthesis of transit practice. Retrieved from http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_88.pdf

Laughlin, L. (2013). Who's minding the kids? Child care arrangements: Spring 2011, U.S. Census Bureau. Retrieved from http://www.census.gov/content/dam/Census/library/publications/2013/demo/p70-135.pdf

Liu, M., and Anderson, S. G. (2012). Neighborhood Effects on Working Mothers' Child Care Arrangements. *Children and Youth Services Review* 34(4), 740–747. doi:10.1016/j.childyouth.2011.12.021

Local Investment in Child Care. (2008). *Building Child Care Into New Developments: A Guide For Creating Child Care Facilities In Transit-Oriented Developments*. Retrieved from http://reconnectingamerica.org/assets/Uploads/20080624linccdevBRweb.pdf

Local Investment in Child Care & Child Care Coordinating Council of San Mateo County. (July 2007). *Child Care and Transit: Making the Link in California*. Retrieved from http://s3.amazonaws.com/mildredwarner.org/attachments/000/000/392/original/51f727e204cba4cee9db9c5a38c1b8d8

Minnesota Child Care Assistance Program (2015). Copayment Schedules. Minnesota Department of Human Services. Retrieved from https://edocs.dhs.state.mn.us/lfserver/Public/DHS-6413D-ENG.

Overson, K., & McConnell, S. (2015). *Supply and Demand for Early Care and Education Services in North Minneapolis: Analyses of Current Capacity and Use of School-Based Early Education and Family and Center-Based Child Care Programs in Zip Codes 55411 and 55412 (A 2015 update)*. Minneapolis, MN: Center for Early Education and Development & Urban Research and Outreach/Engagement Center, University of Minnesota.

Tilahun, N., & Fan, Y. (2014). Transit and job accessibility: an empirical study of access to competitive clusters and regional growth strategies for enhancing transit accessibility. *Transport Policy*, 33, 17–25. http://doi.org/10.1016/j.tranpol.2014.02.002

Valorose, J., & Chase, R. (2012). *Child Care Workforce in Minnesota: 2011 Statewide Study of Demographics, Training, and Professional Development (Final Report).* Saint Paul, MN: Wilder Research. Retrieved from http://www.wilder.org/Wilder-Research/Publications/Studies/Child%20Care%20Workforce%20in%20Minnesota,%202011%20Study/2011%20Statewide%20Study%20of%20Demographics,%20Training%20and%20Professional%20Development.pdf

Van Ham, M., & Mulder, C. H. (2005). Geographical Access to Childcare and Mothers' Labour-Force Participation. *Tijdschrift Voor Economische En Sociale Geografie* 96(1), 63–74. http://doi:10.1111/j.1467-9663.2005.00439.x

Warner, M. E. (2007). Child Care and Economic Development: Markets, Households and Public Policy. *International Journal of Economic Development* 9(3), 111.

Warner, M. E., & Prentice, S. (2013). Regional Economic Development and Child Care: Toward Social Rights. *Journal of Urban Affairs* 35(2), 195–217. http://doi:10.1111/j.1467-9906.2012.00622.x

Appendix D: Hi-Frequency Network

Hi-Frequency Service Network

HI-FREQUENCY PROMISE

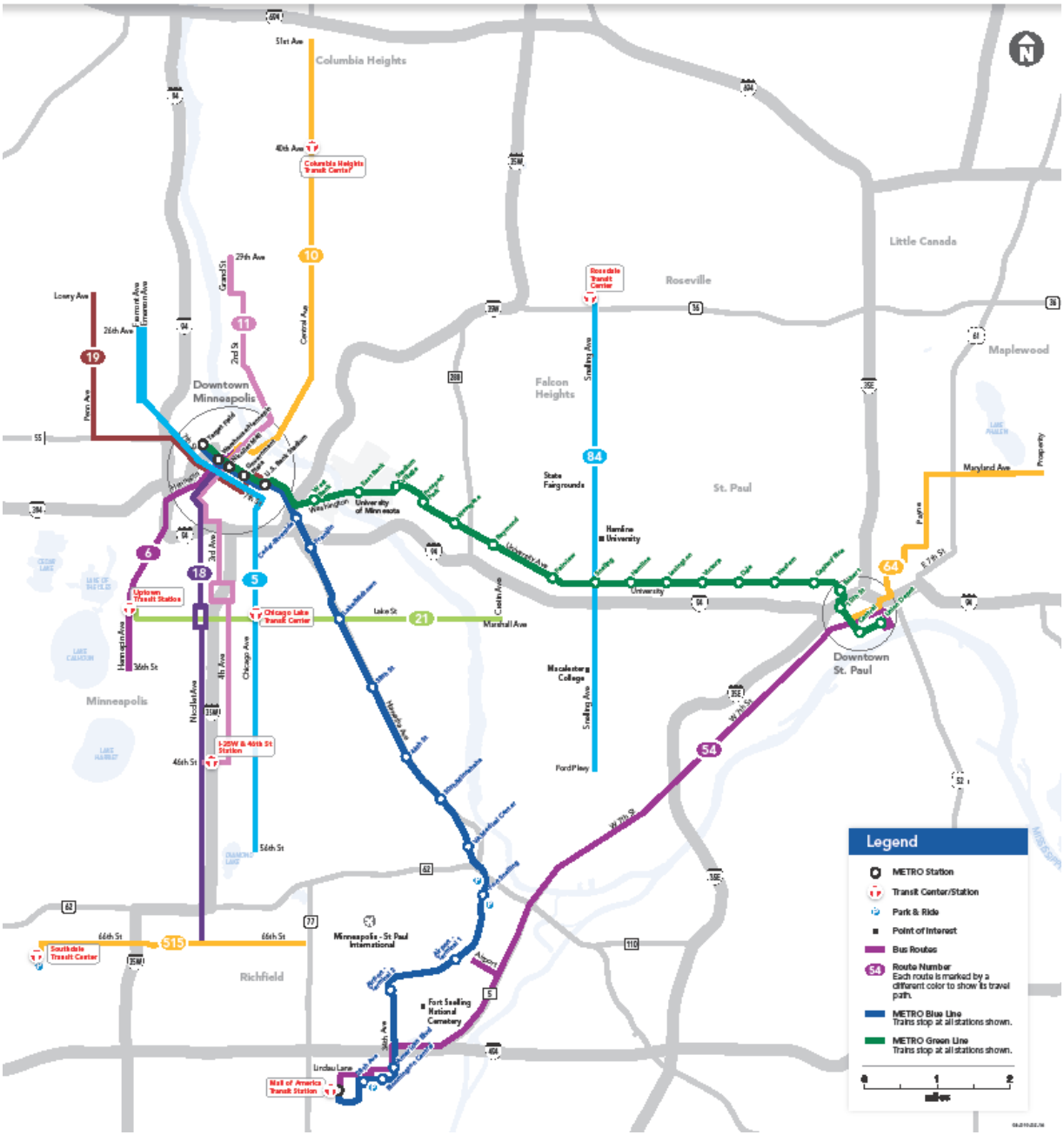
Service every 15 minutes (or better)

Weekdays: 6 a.m. to 7 p.m.

Saturdays: 9 a.m. to 6 p.m.

Colored lines show where Hi-Frequency service is available.

All of Route 54 and METRO Blue Line and METRO Green Line offer Hi-Frequency service.

Service on these routes—5, 6, 10, 11, 18, 19, 21, 64, 84 and 515—continues outside the areas shown, but operates less frequently. For details, see specific route schedules, visit metrotransit.org or call 612-373-3333.

Metro Transit
a service of the Metropolitan Council