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Estimating Changes in the Supply of and Demand for Child Care in Philadelphia

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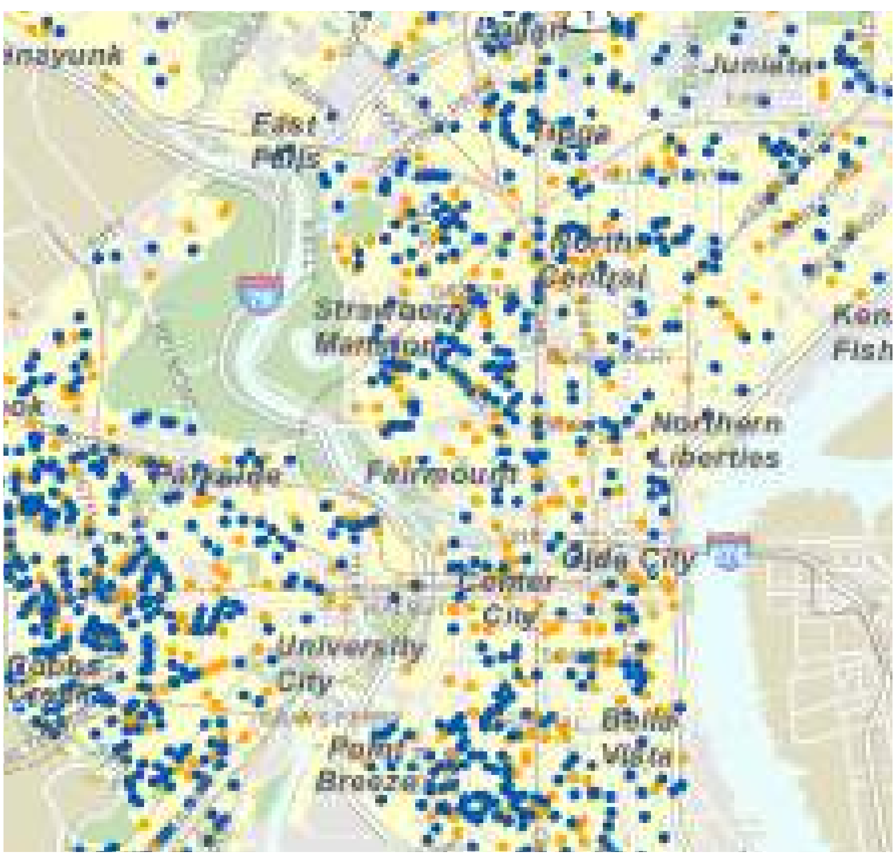

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Introduction

In 2014, Reinvestment Fund conducted an initial analysis of the supply of and demand for child care in Philadelphia to identify areas of the city where targeted investments could help address shortages of high-quality child care. Now in its third year, Reinvestment Fund's 2016 childcare analysis provides updated estimates to track the change over time in the supply of, demand for, and shortages in child care. Reinvestment Fund's Childcare Map is an interactive online tool, www.childcaremap.org, that makes the results of this work accessible to the public at no cost. The tool identifies neighborhoods where high-quality child care is scarce in absolute and relative terms, while also providing actionable information for funders, practitioners, and childcare advocates.

2016 Results: Estimating Gaps Between Supply of and Demand for Child Care

Estimating the supply of and demand for childcare services requires multiple datasets from multiple sources. The estimates presented in this memo are statistically derived using the methods developed for the initial 2014 study—methods supported by and developed in close consultation with the project's advisory group, which included local early childhood experts in Philadelphia.[1]

The 2016 update did not find substantial gaps between the total supply of child care and the demand for care across the city, although total supply declined slightly from 2015. However, while certain neighborhoods saw improvements in the provision of child care over the past year, a shortage of certified and high-quality options continues to exist in many areas of the city. These overall findings mirror those observed in 2014 and 2015.

Estimating the Supply of Child Care

Across Philadelphia, the total supply of child care has remained relatively constant from 2014 to 2016, with over 95,400 estimated seats in the city. This represents a slight decline of 5% in total seats from 2015. Tables 1 and 2 present the change in the overall number of available seats, seats at certified providers, and seats at high-quality providers throughout the city.

Table 1 shows the maximum potential supply of child care is 95,415 seats, if every center in Philadelphia were to enroll at full capacity.

[1] https://www.reinvestment.com/childcaremap/pdfs/full.pdf

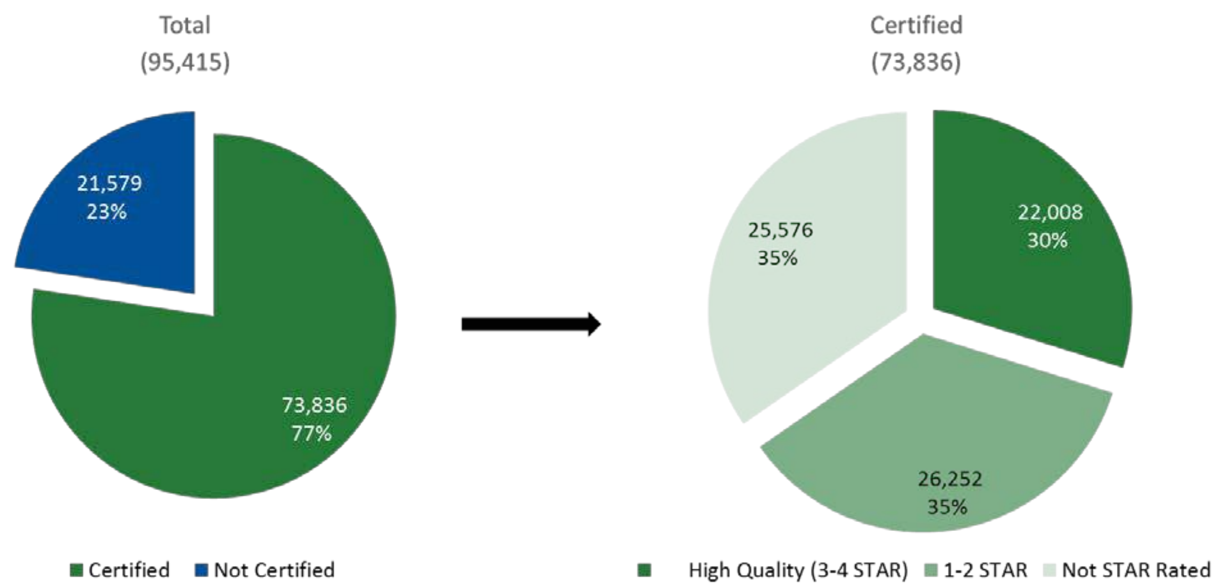
Table 1: Estimated Supply of Total Child Care

Estimated Supply of Child Care	Total Seats	% of All Seats	Change from 2015		Change from 2014	
			#	%	#	%
Certified	73,836	77.4%	480	4.7%	3,636	7.8%
High Quality (3-4 STAR)	22,008	23.1%	4,144	5.4%	7,371	8.6%
1-2 STAR	26,252	27.5%	-2,529	-1.0%	-4,882	-3.4%
Not STAR Rated	25,576	26.8%	-1,135	0.3%	1,147	2.6%
Not Certified	21,579	22.6%	-5,999	-4.7%	-9,027	-7.8%
Total Seats	**95,415**		**-5,519**		**-5,391**	

Table 2: Estimated Supply of Certified Child Care

Estimated Supply of Certified Child Care	Total Seats	Share of Certified Seats	Change from 2015		Change from 2014	
			#	%	#	%
High Quality (3-4 STAR)	22,008	29.8%	4,144	5.5%	7,371	8.9%
1-2 STAR	26,252	35.6%	-2,529	-3.7%	-4,882	-8.8%
Not STAR Rated	25,576	34.6%	-1,135	-1.8%	1,147	-0.2%
Total Certified Seats	**73,836**	100.0%				

Figure 1: Estimated Supply of Total and Certified Child Care



As seen in Tables 1 and 2, 73,836 (77%) of all seats are certified with the Office of Child Development and Early Learning (OCDEL). This represents a steady increase in the share of certified seats in the city—a 4.7 percentage point increase from 2015, and a 7.8 percentage point increase since 2014. Among certified seats, 22,000 (30%) are considered high quality, with a Keystone STARS rating of 3 or 4.[2] This also represents a steady increase in the share of high-quality childcare seats in the city—a 5.5 percentage point increase from 2015, and an 8.9

[2] The Keystone STARS program is the Pennsylvania Quality Ratings and Improvement System (QRIS) operated by OCDEL. http://www.pakeys.org/pages/get.aspx?page=programs_stars

percentage point increase from 2014. An estimated 26,300 certified seats (35%) have lower quality ratings (STAR 1 or STAR 2) and an estimated 25,600 seats (35%) are not rated but are participating in STARS. (See Tables 1 & 2)

Overall, the greatest supply of child care continues to be found close to major public transportation routes, as was the case in 2014 and 2015. In addition, the availability of certified, high-quality care continues to be greater in areas with higher rates of poverty and lower incomes. On average, block groups where less than 10% of the population was African American had the lowest supply of certified, high-quality care. This is similar to patterns observed in 2014 and 2015 (see Appendix, Table A2).

To understand how shortages of high-quality child care change over time, it is important to consider the range of ways the supply of child care may increase or decline. Table 3 presents some common factors that contribute to changes in the supply of high-quality child care.[3]

Table 3. Factors that Contribute to Change in High-Quality Childcare Supply

Factors that *increase* shortage in the supply of high-quality childcare…	Factors that *shrink* shortage in the supply of high-quality childcare…
Operators *close* a high-quality center	Operators *open* a new high-quality center
A previously high performing center receives a *lower* rating	A previously low performing center receives a *higher* rating
An existing center *shrinks to accept fewer* students	An existing center *expands* to accept more students
More parents work nearby and bring children to work with them	*Fewer* parents work nearby and bring children to work with them
New families *move in* to an area	Existing families *move out* of an area

From 2015 to 2016, a number of areas throughout Philadelphia saw substantial changes in the supply of high-quality seats. Areas in the city where the supply of high-quality seats substantially increased in 2016 include: Oak Lane, North Central, and parts of West Philadelphia. In addition, two-thirds of facilities with quality rating changes improved their Keystone STARS rating between 2015 and 2016. One-third experienced a rating drop.

Across the city, increases in the supply of high-quality child care were largely driven by changes in sites' STAR Rating from one year to the next, rather than changes in the capacity of high-quality providers at their existing site. Table 4 presents the amount of change in high-quality seats observed at centers that had a change in STAR rating and those that had a change in capacity from 2014 to 2016.

Table 4. Increases in High-Quality Child Care, 2014-2016, by Type of Change

Site Changes, 2014-16	Number of Sites	Change in Seats	
		Median	Average (Mean)
Site STAR *Rating* Increased to High Quality	80	+76	+106
High-Quality Site Increased *Capacity*	30	+45	+64

[3] Another possible factor in the decline in supply may be improved accuracy identifying duplicate childcare centers (i.e. supply sites) by Reinvestment Fund across multiple data sets.

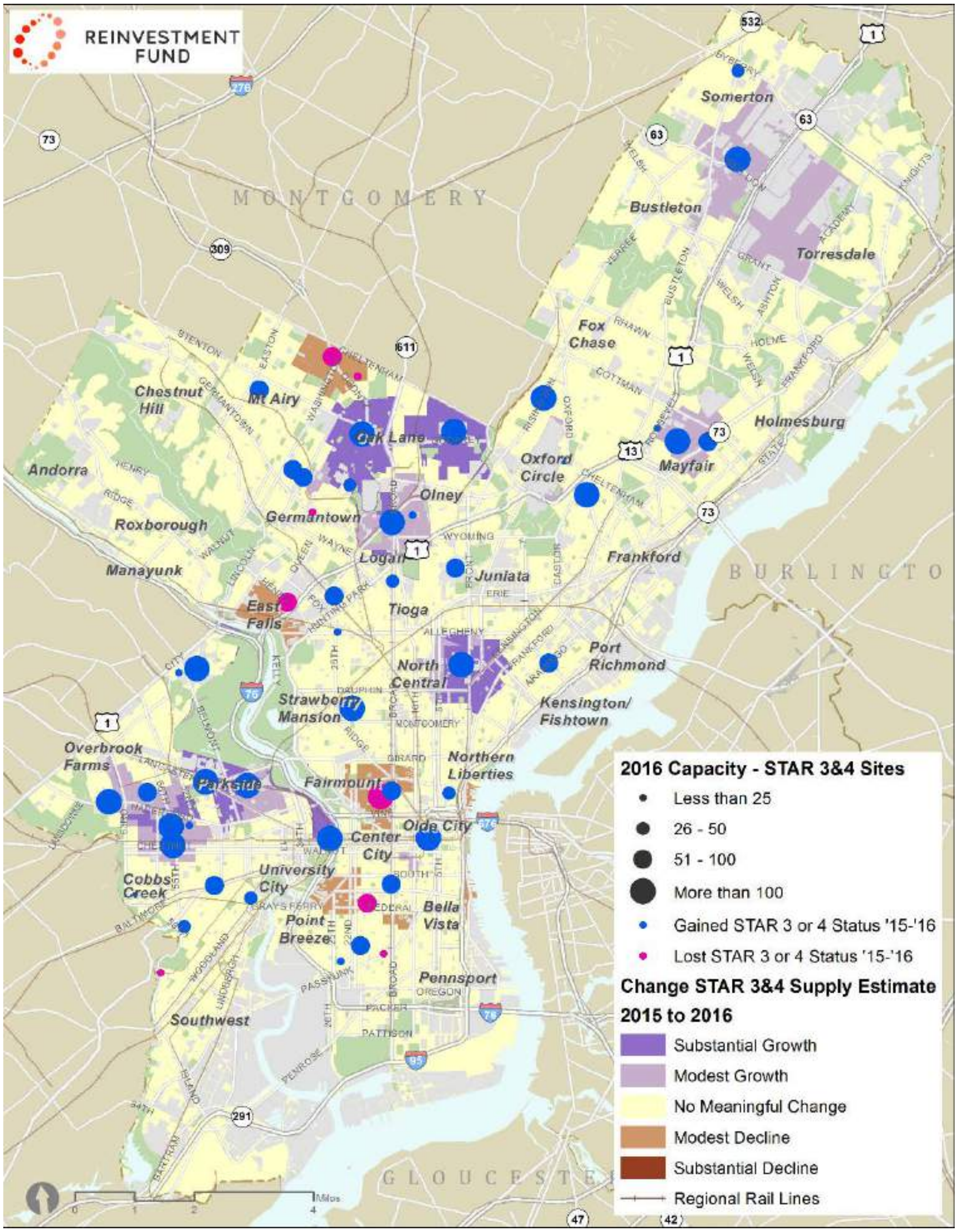
From 2014 to 2016, 80 facilities improved their STAR Rating to become high-quality sites, resulting in an average increase of 106 high-quality seats per site, compared to 30 already high-quality facilities that increased their capacity by an average of 64 seats per site.

Figures 2 and 3 on the following pages highlight the ways in which the supply of high-quality child care has changed throughout the city from 2015 to 2016.

In Figure 2:

- Purple areas represent substantial increases in high-quality supply;
- Brown areas represent substantial declines in high-quality supply;
- Blue circles represent childcare centers that transitioned to become high-quality centers in 2016; and
- Pink circles represent childcare centers that lost their high-quality status in 2016.

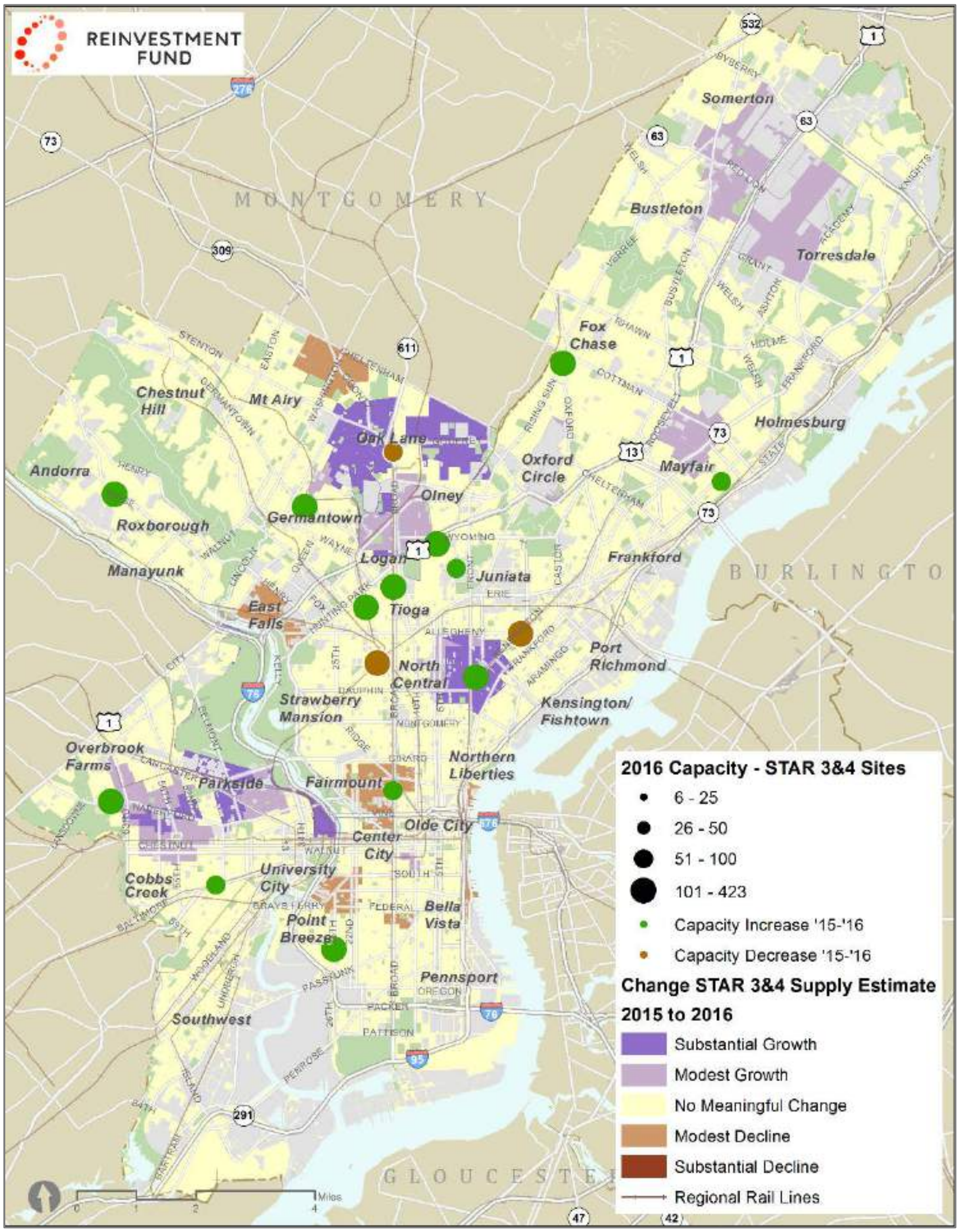
Figure 2: Childcare Sites with Changes in High-Quality Status & Changes in Supply Estimates for High-Quality Child Care (2015 to 2016)



In Figure 3:

- Purple areas represent substantial increases in high-quality supply;
- Brown areas represent substantial declines in high-quality supply;
- Green circles represent high-quality childcare centers that increased their capacity in 2016; and
- Brown circles represent high-quality childcare centers whose capacity declined in 2016.

Figure 3: Changes in Capacity at High-Quality Centers &
Changes in Supply Estimates for High-Quality Child Care (2015 to 2016)



Areas with the largest gains in the supply of high-quality child care between 2015 and 2016 (dark purple areas in Figures 2 and 3) correspond geographically with providers that gained in *rating*, as shown with blue circles in Figure 2, as opposed to increasing *capacity* at pre-existing high-quality sites, as shown with green circles in Figure 3. Accordingly, block groups with substantial growth in high-quality supply have at least one, if not multiple, centers that gained a high-quality *rating*. These areas may or may not have a center that increased *capacity* during this period.

Estimating Demand for Child Care

According to 2016 population projections from Nielsen, 106,800 children under the age of five live in Philadelphia. From this baseline estimate, adjustments to the overall demand for child care were estimated using data about where people live and work, household size, income and family composition (see Appendix, Table A1). These adjustments suggest that 9,800 resident children travel with adults to child care located outside the city near a parent's place of work, while 16,800 children who live outside the city travel with parents to child care in the city, yielding a maximum potential demand for 113,800 childcare seats in the city of Philadelphia, representing a 5.6% increase in demand since 2014, and an increase of less than 1% from 2015.[4]

The overall pattern of demand for child care remained consistent in 2016. Areas with lower median incomes and higher poverty rates tend to have greater demand than less impoverished places. In addition, areas closer to train stations and transportation hubs continue to have higher levels of demand for child care than areas farther away from public transit, as was the case in 2014 and 2015 (see Appendix, Table A5).

Identifying High Need Areas

Understanding the geographic distribution of shortages in the supply of child care provides guidance for programmatic or investment activity to address areas of concern. We calculate shortage in two ways: as an *absolute shortage* and a *relative shortage*. The absolute shortage is the raw difference between supply and demand. The relative shortage accounts for the observed demand in individual block groups to estimate the difference between observed supply and an expected level of supply that corresponds to observed demand.[5] As we observed in previous reports, the geographic picture of absolute and relative shortage is different when supply is partitioned into total, certified and high-quality.

*Shortage in total childcare seats—*The total estimated demand for child care in Philadelphia—113,800 children under five—is greater than the total supply of 95,415 slots, a citywide *absolute shortage* of more than 18,300 childcare slots. Certain areas with the most severe relative shortages in Philadelphia have remained consistent over time, including major employment centers (e.g., near Philadelphia International Airport), along the River Wards (e.g., Kensington and Port Richmond), and throughout Northeast Philadelphia (see Appendix, Figure A2). Additional areas with the severe shortages in total child care in 2016 are found in parts of Southwest and South Philadelphia (e.g., the Navy Yard).

Similar to 2014 and 2015, those areas with the most severe *relative shortages* were not necessarily the poorest parts of the city, which typically have both high demand and high supply. Since 2015, the *relative shortage* of total childcare seats narrowed substantially in a number of areas, including Southwest Philadelphia, Northern Liberties, Roxborough and Juniata Park. On the other hand, the *relative shortage* of total childcare seats became more pronounced in East Falls, East Oak Lane, and portions of South Philadelphia, including Pennsport and the Navy Yard (see Appendix, Figure A3).

[4] This figure captures changes between 2010 census estimates and 2016 Nielsen projections of children aged 0 – 4, as well as changes in the number of workers in Philadelphia reflected in census data from 2010 to 2014. In addition, this estimate assumes that 33% of children of working parents in a given block group will receive childcare services near a parent's place of work. This estimate was informed by two studies, a report from the U.S. Census Bureau using the Survey of Income and Program Participation, a report on the childcare arrangements of working parents in Cook County, Illinois, and in close consultation with the steering committee; https://www.reinvestment.com/childcaremap/pdfs/full.pdf.

[5] Methodological details for estimating gaps between supply and demand are available at https://www.reinvestment.com/child caremap/pdfs/full.pdf.

Shortage in certified childcare seats—The most severe *relative shortages* in certified slots continue to be concentrated in Mount Airy and portions of the Northeast, as well as neighborhoods in North Central and part of Southwest Philadelphia. Those block groups closest to train stations also continue to have some of the most severe *relative shortages* in certified childcare seats (See Appendix, Figure A4).

Since 2015, the following areas saw the *relative shortage* of certified childcare seats narrow substantially in 2016: Pennsport, East Falls, and North Central Philadelphia. On the other hand, the shortage of certified seats became more pronounced in parts of Port Richmond, Fishtown, and Mayfair (see Appendix, Figure A5).

Shortages in High-Quality Childcare Seats

Overall, the *absolute shortage* in high-quality child care has substantially exceeded the overall *absolute shortage* of child care in Philadelphia over the past three years (See Table 5). This pattern continues in 2016, though the percentage of children occupying high-quality slots has grown to over 19%, from less than 14% in 2014.

Table 5: Absolute Shortage of Total & High-Quality Child Care

	2016 Update	2015 Update	2014 Analysis
Absolute Shortage in Total Childcare Seats	18,431	12,153	7,023
Absolute Shortage in High Quality Seats (STAR 3 & STAR 4)	91,838	95,223	93,192
Percentage of Total Demand Met by All Seats	83.8%	89.3%	93.5%
Percentage of Total Demand Met by High-Quality Seats	19.3%	15.8%	13.6%

In 2016, those areas with the most pronounced *relative shortages* in high-quality child care include Chestnut Hill, Roxborough, Southwest Philadelphia, Kensington and Port Richmond (see Appendix, Figure A6).

Areas where the *relative shortage* of high-quality child care narrowed most notably include East Oak Lane, Oxford Circle, Somerton, and Kensington and Port Richmond—though these two still have a substantial *relative shortage* of high-quality supply (see Appendix, Figures A6 and A7). On the other hand, the *relative shortage* of high-quality seats expanded substantially in Southwest Philadelphia, East Falls, and Juniata Park.

Summary

The results from the 2016 analysis of the gaps between the estimated supply of and demand for child care highlight changes over the past two years for neighborhoods throughout the city. While the overall supply of child care across Philadelphia generally tracks demand, ongoing challenges exist for families seeking high-quality child care in a number of neighborhoods and job centers. Changes from 2015 to 2016 point to a citywide increase in the number and percent of high-quality seats, but these increases were not evenly spread across all neighborhoods.

Ongoing updates to this analysis will provide a longitudinal view into changes in the overall supply of and demand for child care in Philadelphia. Another critical source of information about the supply of, demand for, and utilization of high-quality child care are the voices of parents and childcare providers themselves. An accompanying white paper presents results from a parent survey on their experience accessing high-quality child care. This input is critical to inform public policy in general, and ongoing refinements to the methodology to assess the supply of and demand for high-quality child care.

Appendix

Table A1: Data Sources

SUPPLY SOURCES	2016 Update	2015 Update	2014 Analysis
Pennsylvania Office of Child Development and Early Learning (OCDEL)	May 2016	Dec 2014	June 2013
Philadelphia School District Head Start and Partner Sites	May 2016	Nov 2014	Sept 2013
PA Department of Education (PDE) License and Enrollment data for Pre-K	May 2016	Nov 2014	June 2013
National Establishment Time Series (NETS)	2013	2012	2011
InfoUSA	2016	2014	2012

DEMAND SOURCES	2016 Update	2015 Update	2014 Analysis
Pop. 0-4	Nielsen Population Estimates, 2016	Nielsen Population Estimates, 2015	2010 Census
Adult Working Pop.	2014 Census Longitudinal Employer-Household Dynamics	2012 Census Longitudinal Employer-Household Dynamics	2010 Census Longitudinal Employer-Household Dynamics
Poverty & Demo.	2014 Census American Community Survey (ACS)	2013 Census American Community Survey (ACS)	2011 Census American Community Survey (ACS)

Figure A1: Certified (OCDEL) and Uncertified Childcare Sites (2016)

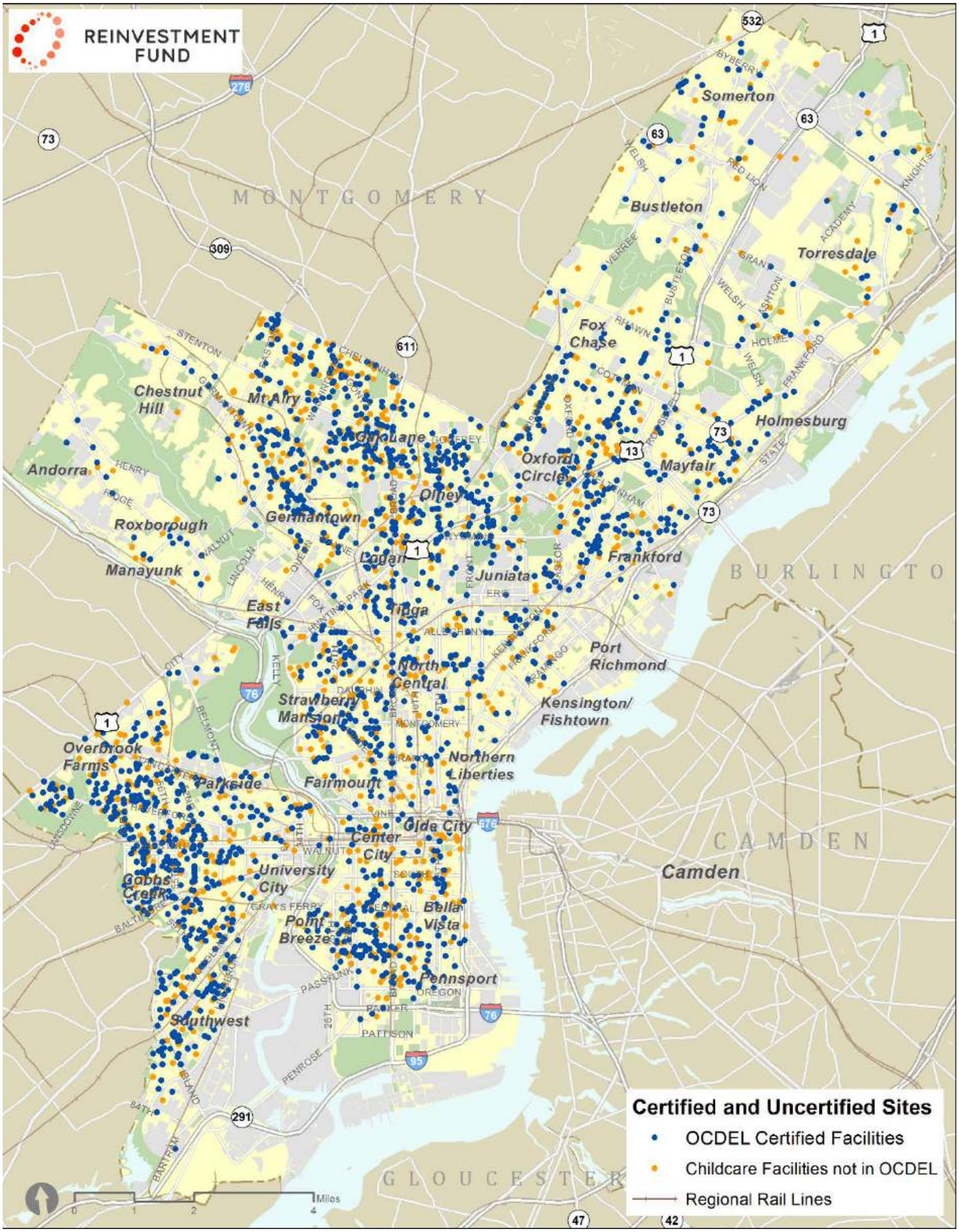


Figure A2: Relative Shortage - Total Childcare Seats (2016)

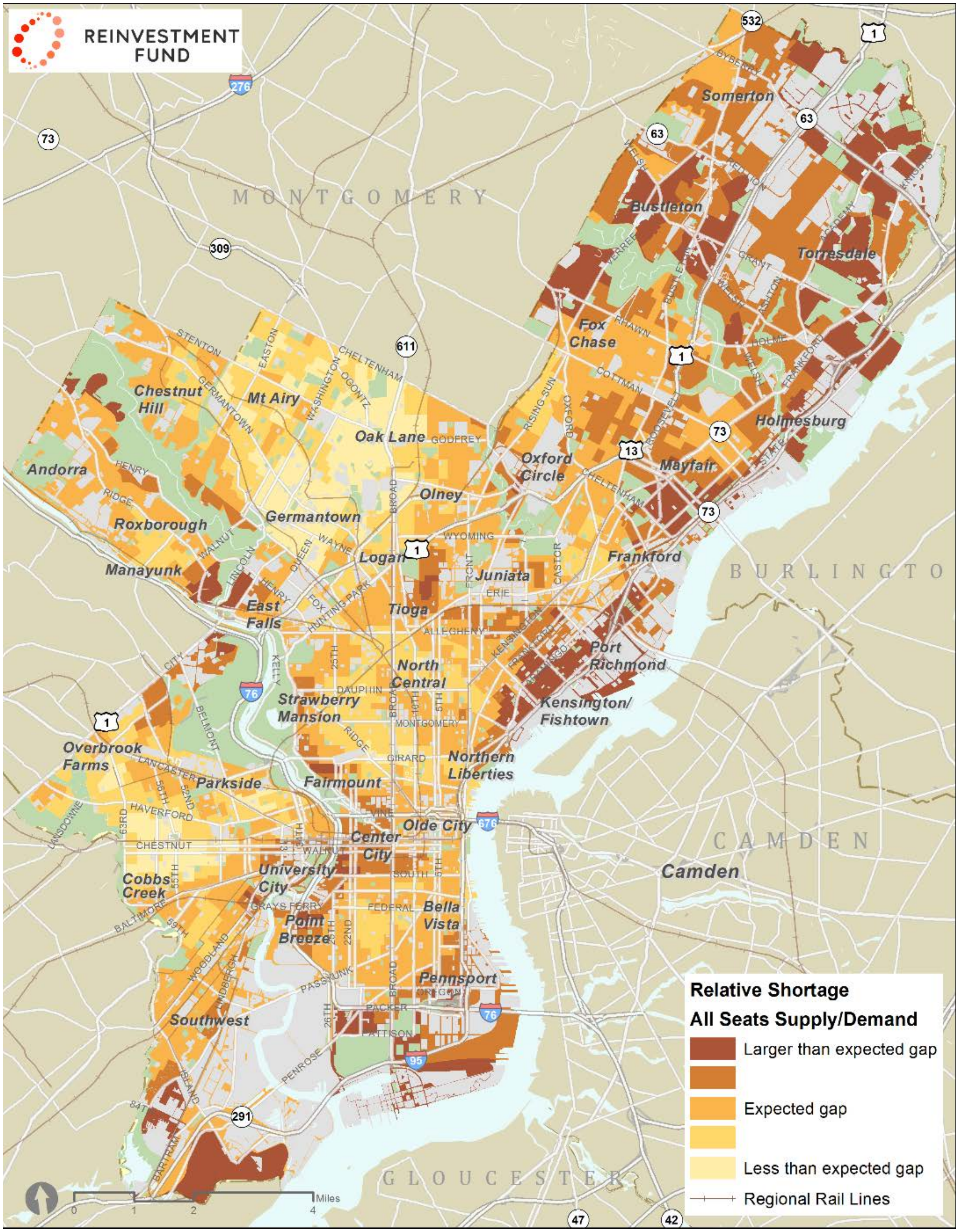


Figure A3: Change in Relative Shortage - Total Childcare Seats (2016)

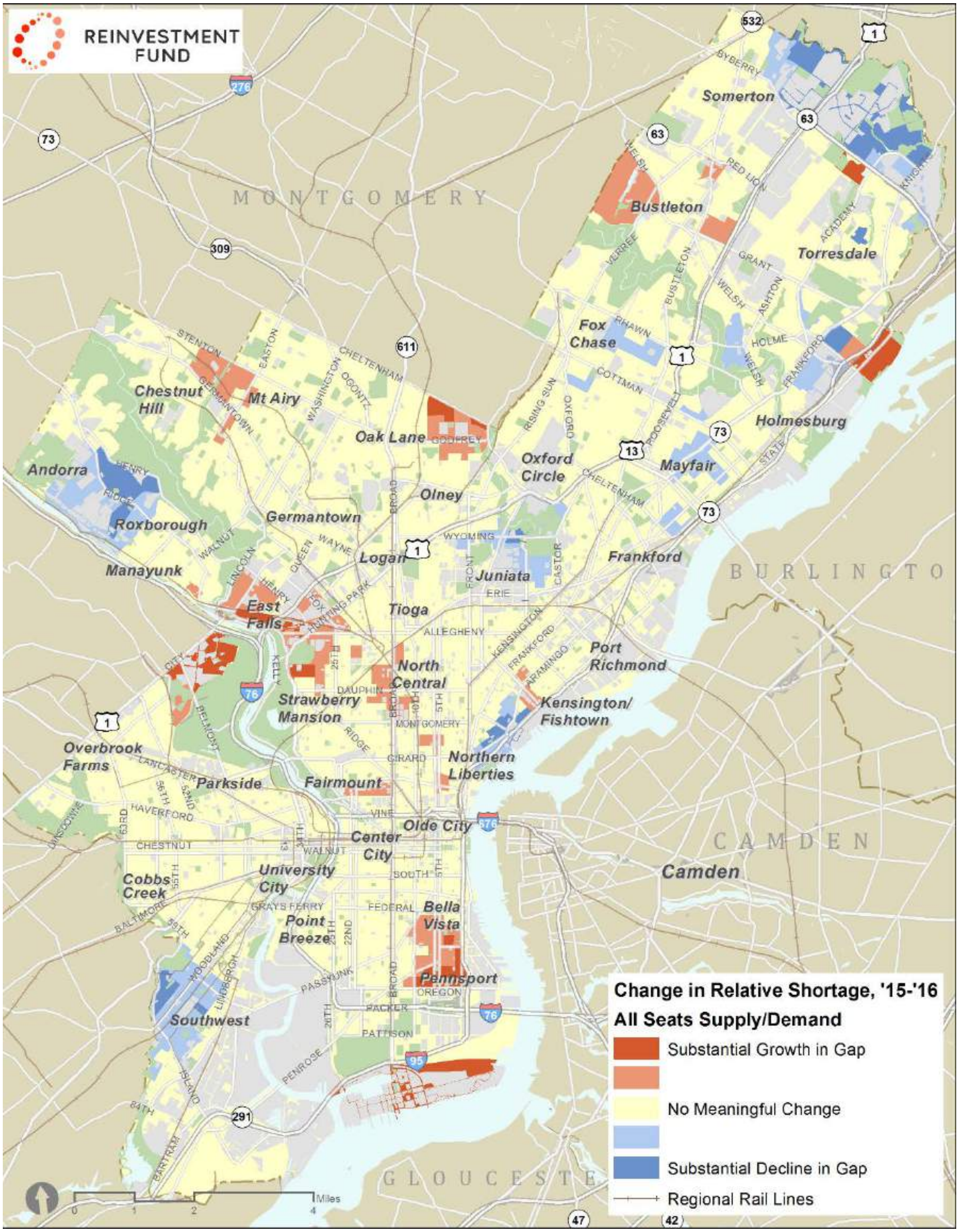


Figure A4: Relative Shortage - Certified Childcare Seats (2016)

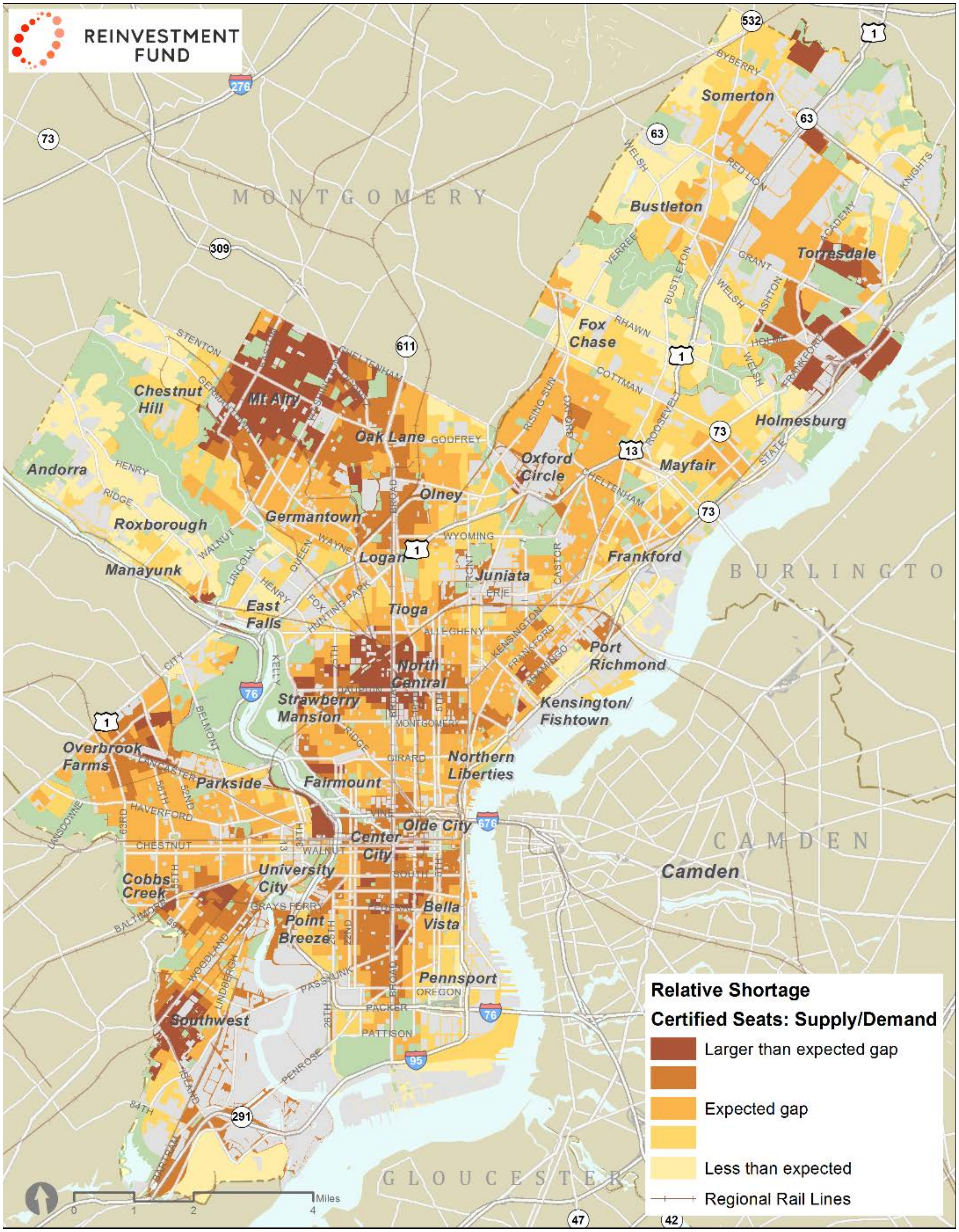


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Figure A5: Change in Relative Shortage - Certified Childcare Seats (2016)

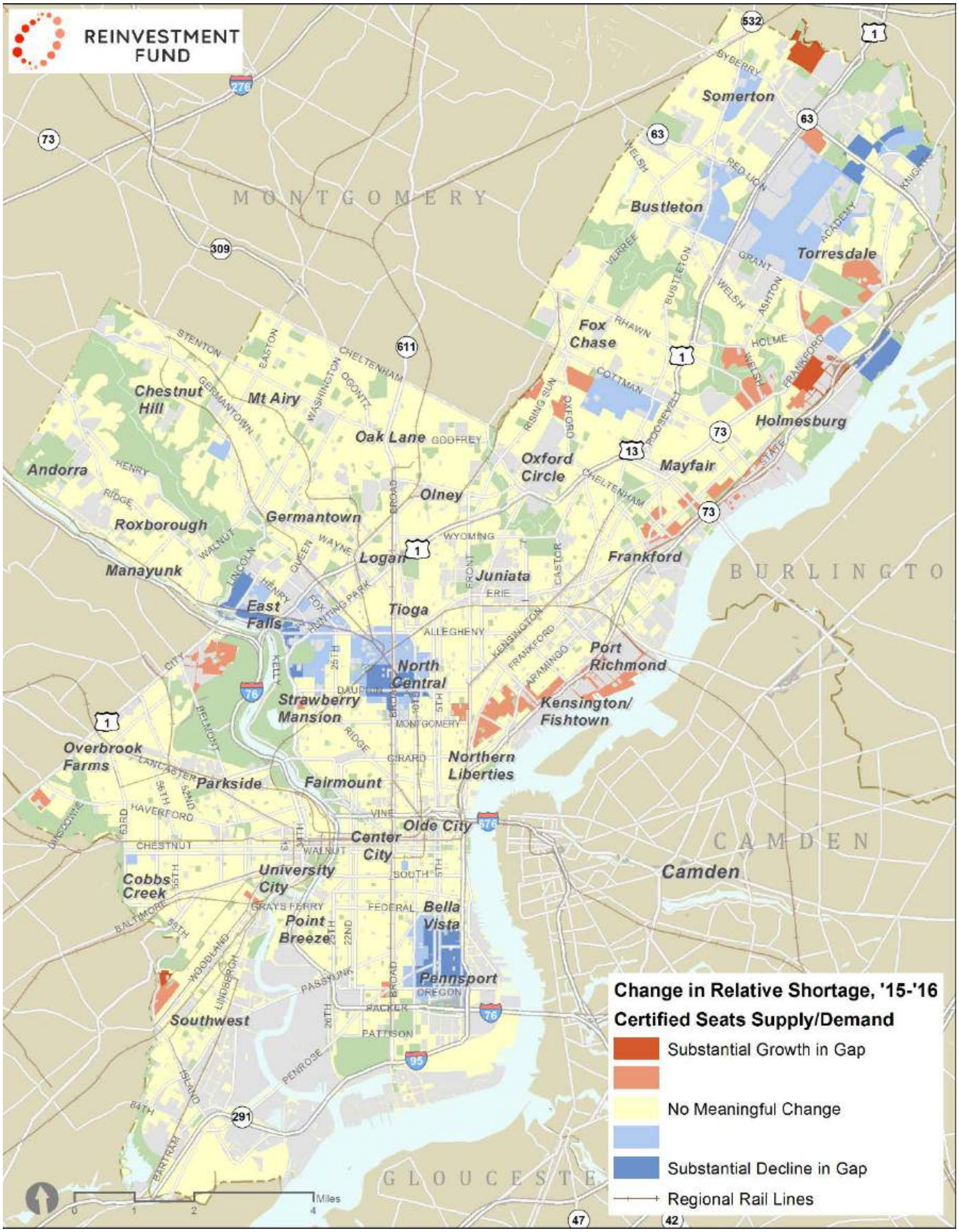

Figure A6: Relative Shortage – High-Quality Childcare Seats (2016)

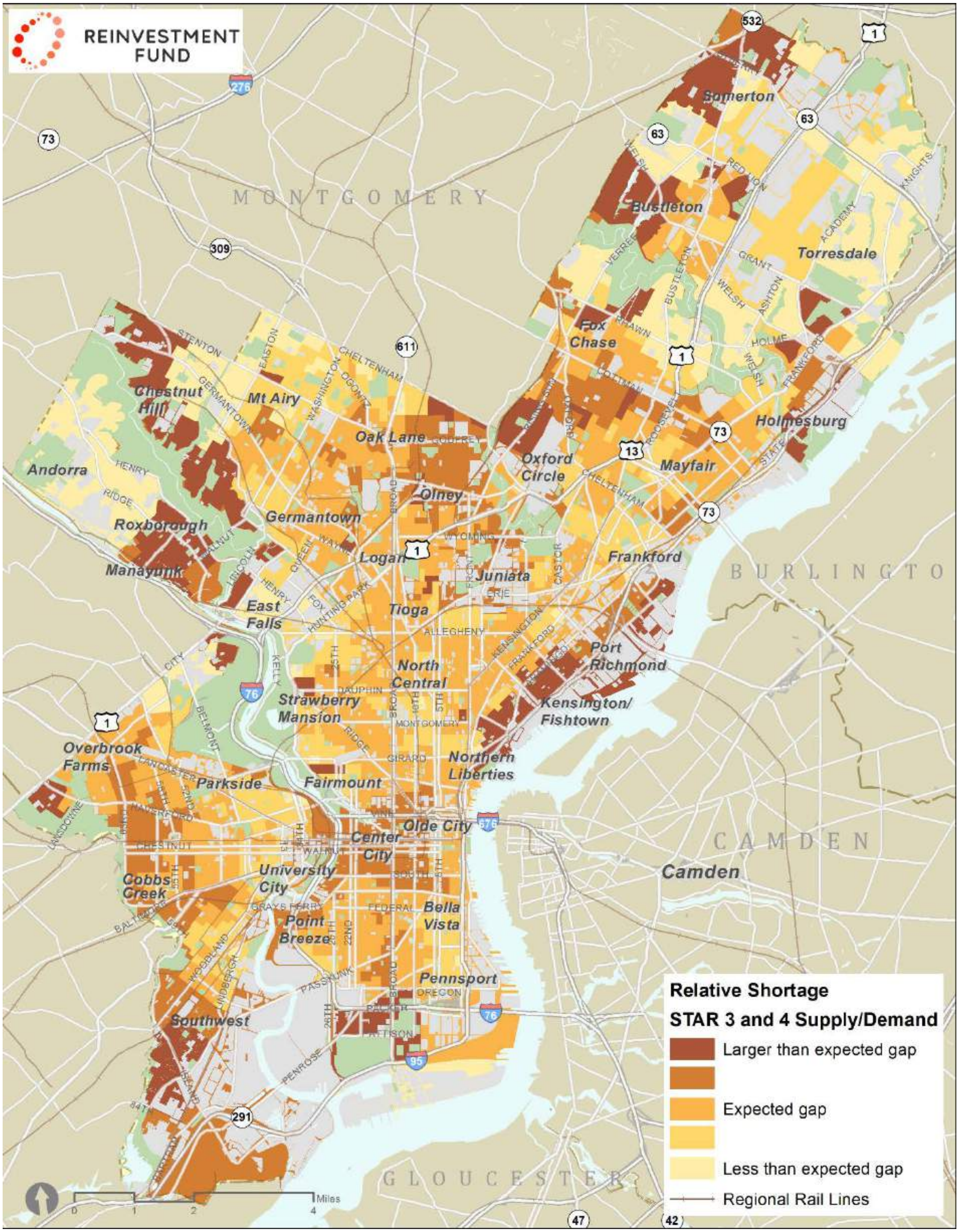

Figure A7: Change in Relative Shortage – High-Quality Childcare Seats (2016)

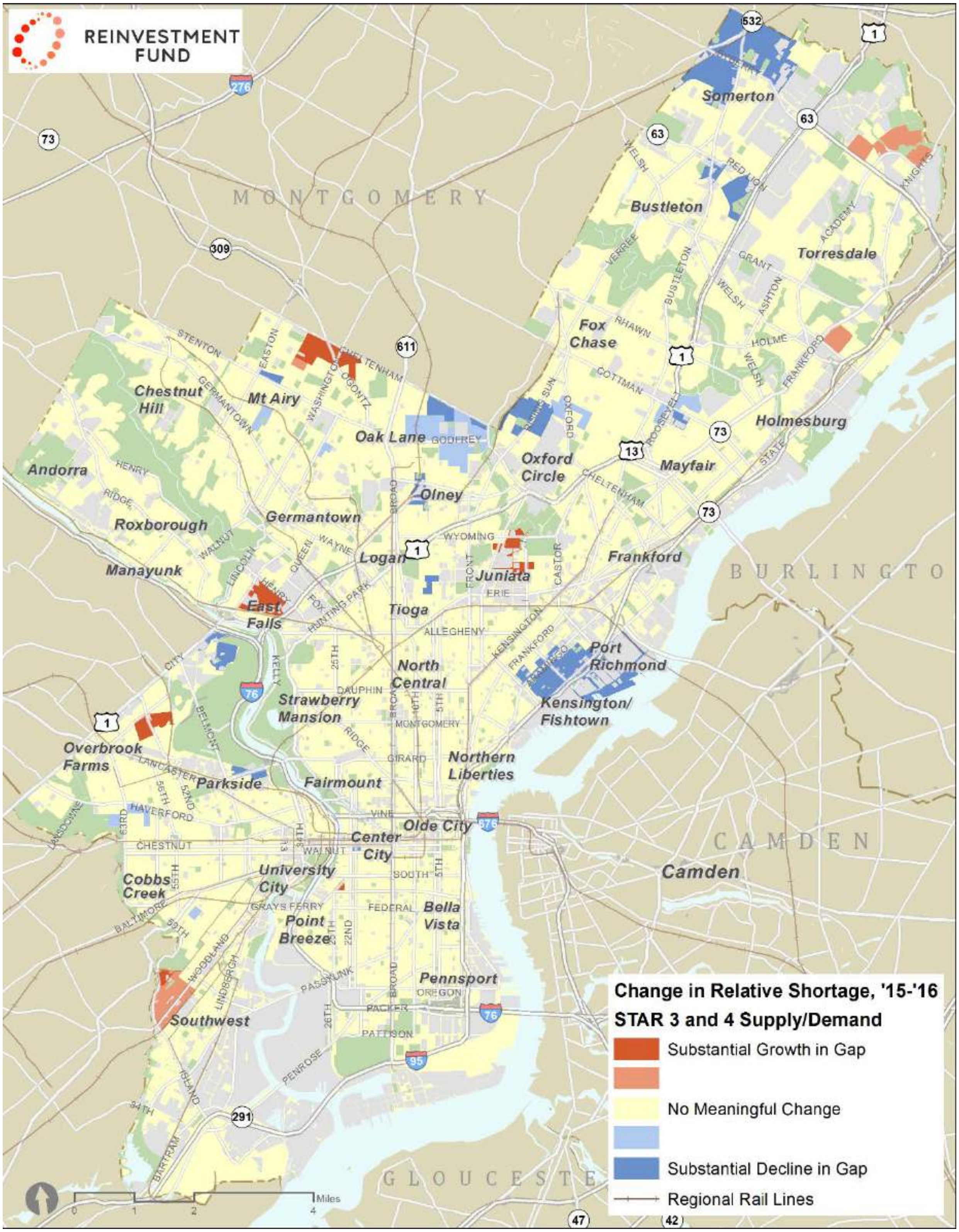

Table A2: Demographic/Economic Characteristics of Areas for Total, Certified, and High-Quality Childcare Supply

	Block Group Supply Level					
	Very Low Supply	Low Supply	Moderate Supply	High Supply	Very High Supply	Total
All Supply						
(1) <10% Family Poverty	18.1%	26.4%	36.4%	13.7%	5.4%	100.0%
(2) 10-20% Family Poverty	10.1%	22.2%	41.9%	16.1%	9.7%	100.0%
(3) 20-40% Family Poverty	5.7%	15.7%	41.1%	25.9%	11.6%	100.0%
(4) >40% Family Poverty	1.2%	12.7%	42.4%	27.3%	16.3%	100.0%
(1) <10% African American	28.8%	33.0%	25.8%	9.7%	2.7%	100.0%
(2) 10-25% African American	11.6%	27.1%	41.2%	12.1%	8.0%	100.0%
(3) 25-50% African American	5.1%	23.5%	46.9%	19.4%	5.1%	100.0%
(4) 50-75% African American	2.9%	17.6%	48.5%	20.6%	10.3%	100.0%
(5) 75-90% African American	1.5%	7.4%	38.2%	37.5%	15.4%	100.0%
(6) 90-100% African American	0.0%	6.6%	46.5%	27.9%	18.9%	100.0%
(1) 0.00-0.25 Mi to Nearest Train Station	3.2%	11.3%	34.8%	31.7%	19.0%	100.0%
(2) 0.25-0.50 Mi to Nearest Train Station	6.5%	14.2%	39.2%	26.4%	13.6%	100.0%
(3) 0.50-0.75 Mi to Nearest Train Station	6.3%	24.2%	39.7%	21.2%	8.6%	100.0%
(4) 0.75-1.00 Mi to Nearest Train Station	13.4%	21.0%	48.4%	13.4%	3.8%	100.0%
(5) > 1 Mi to Nearest Train Station	23.1%	29.6%	39.6%	4.2%	3.5%	100.0%
Certified Supply						
(1) <10% Family Poverty	16.6%	29.0%	35.9%	14.2%	4.4%	100.0%
(2) 10-20% Family Poverty	9.7%	21.4%	45.2%	14.5%	9.3%	100.0%
(3) 20-40% Family Poverty	6.5%	15.1%	41.4%	24.3%	12.7%	100.0%
(4) >40% Family Poverty	2.4%	10.6%	40.4%	29.4%	17.1%	100.0%
(1) <10% African American	26.1%	32.7%	30.3%	9.1%	1.8%	100.0%
(2) 10-25% African American	9.5%	24.6%	42.2%	15.1%	8.5%	100.0%
(3) 25-50% African American	5.6%	24.0%	43.4%	21.4%	5.6%	100.0%
(4) 50-75% African American	4.4%	16.2%	46.3%	22.8%	10.3%	100.0%
(5) 75-90% African American	2.9%	9.6%	39.0%	33.1%	15.4%	100.0%
(6) 90-100% African American	1.8%	8.7%	44.1%	26.1%	19.2%	100.0%
(1) 0.00-0.25 Mi to Nearest Train Station	4.5%	11.8%	38.0%	26.7%	19.0%	100.0%
(2) 0.25-0.50 Mi to Nearest Train Station	6.8%	14.7%	37.1%	27.5%	13.9%	100.0%
(3) 0.50-0.75 Mi to Nearest Train Station	6.6%	22.5%	39.7%	22.2%	8.9%	100.0%
(4) 0.75-1.00 Mi to Nearest Train Station	11.8%	21.0%	48.9%	15.1%	3.2%	100.0%
(5) > 1 Mi to Nearest Train Station	21.9%	31.2%	39.6%	4.2%	3.1%	100.0%
High Quality Supply						
(1) <10% Family Poverty	18.1%	23.5%	42.9%	10.7%	4.8%	100.0%
(2) 10-20% Family Poverty	8.9%	21.4%	45.2%	18.1%	6.5%	100.0%
(3) 20-40% Family Poverty	5.4%	20.5%	38.6%	26.2%	9.2%	100.0%
(4) >40% Family Poverty	2.4%	11.4%	34.7%	28.2%	23.3%	100.0%
(1) <10% African American	24.2%	22.1%	40.9%	8.8%	3.9%	100.0%
(2) 10-25% African American	6.0%	25.1%	39.2%	10.6%	19.1%	100.0%
(3) 25-50% African American	6.1%	21.4%	38.3%	20.4%	13.8%	100.0%
(4) 50-75% African American	6.6%	19.1%	38.2%	22.8%	13.2%	100.0%
(5) 75-90% African American	9.6%	12.5%	42.6%	24.3%	11.0%	100.0%
(6) 90-100% African American	2.1%	17.4%	41.7%	32.4%	6.3%	100.0%
(1) 0.00-0.25 Mi to Nearest Train Station	6.8%	14.5%	40.3%	21.3%	17.2%	100.0%
(2) 0.25-0.50 Mi to Nearest Train Station	8.4%	15.3%	40.6%	22.6%	13.1%	100.0%
(3) 0.50-0.75 Mi to Nearest Train Station	11.9%	18.2%	40.1%	18.9%	10.9%	100.0%
(4) 0.75-1.00 Mi to Nearest Train Station	11.3%	22.6%	38.2%	22.6%	5.4%	100.0%
(5) > 1 Mi to Nearest Train Station	12.3%	31.2%	41.9%	13.1%	1.5%	100.0%

Table A3: Average Block Group (BG) Demand for Child Care by Demographic and Economic Characteristics

Poverty / Race / Income / Distance	Average Number of Children <5 in BG	Average Number of Children <5 in BG (33% Allocation)	Average Number of Children <5 Within 1/2 Mile of BG (33% Allocation)	Average Total Supply Within 1/2 Mile of BG
All Block Groups	80	85	2859	1555
(1) <10% Family Poverty	67	78	2738	1265
(2) 10-20% Family Poverty	83	83	2596	1505
(3) 20-40% Family Poverty	84	82	2854	1727
(4) >40% Family Poverty	101	97	3282	1892
(1) <10% African American	67	84	2822	992
(2) 10-25% African American	93	109	3496	1389
(3) 25-50% African American	97	102	3350	1498
(4) 50-75% African American	87	87	2727	1683
(5) 75-90% African American	88	80	2556	2011
(6) 90-100% African American	71	62	2398	2008
(1) Low Income (< 50% AMI)	89	87	3254	2046
(2) Low-Middle Income (50% - 80% AMI)	85	81	3001	1819
(3) Middle Income (80% - 100% AMI)	91	85	2735	1566
(4) High Income (80% - 100% AMI)	72	83	2687	1271
(1) 0.00-0.25 Mi to Nearest Train Station	71	115	3582	1972
(2) 0.25-0.50 Mi to Nearest Train Station	76	80	3060	1764
(3) 0.50-0.75 Mi to Nearest Train Station	80	72	2754	1549
(4) 0.75-1.00 Mi to Nearest Train Station	85	75	2545	1368
(5) > 1 Mi to Nearest Train Station	89	89	2309	1045

Table A4: Average Block Group (BG) Supply of Child Care by Demographic and Economic Characteristics

Poverty / Race / Income / Distance	Average Number of Childcare Facilities in BG	Average Certified (OCDEL) supply Within 1/2 Mile of BG	Percent of Supply that is Certified	Average Number of Certified Sites in BG	Average Capacity in STAR 3 and STAR 4 Sites Within 1/2 Mile of BG	Percent of Total Supply Within 1/2 Mile of BG that is High Quality	Percent of Certified Within 1/2 Mile of BG that is High Quality
All BG	2	1201	77.2%	1.4	355	22.8%	29.6%
(1) <10% Family Poverty	1.6	945	74.7%	0.9	252	19.9%	26.7%
(2) 10-20% Family Poverty	2.3	1161	77.1%	1.6	315	20.9%	27.1%
(3) 20-40% Family Poverty	2.4	1346	77.9%	1.6	382	22.1%	28.4%
(4) >40% Family Poverty	2.2	1501	79.3%	1.6	544	28.8%	36.2%
(1) <10% African American	1	766	77.2%	0.6	224	22.6%	29.2%
(2) 10-25% African American	1.5	1112	80.1%	1	421	30.3%	37.9%
(3) 25-50% African American	2	1171	78.2%	1.4	383	25.6%	32.7%
(4) 50-75% African American	2.6	1325	78.7%	1.8	413	24.5%	31.2%
(5) 75-90% African American	3.3	1533	76.2%	2.2	378	18.8%	24.7%
(6) 90-100% African American	2.6	1516	75.5%	1.8	397	19.8%	26.2%
(1) Low Income < (50% AMI)	2	1632	79.8%	1.4	629	30.7%	38.5%
(2) Low-Middle Income (50% - 80% AMI)	2.3	1407	77.4%	1.6	418	23.0%	29.7%
(3) Middle Income (80% - 100% AMI)	2.5	1231	78.6%	1.8	324	20.7%	26.3%
(4) High Income (80% - 100% AMI)	1.8	958	75.4%	1.1	252	19.8%	26.3%
(1) 0.00-0.25 Mi to Nearest Train Station	2.3	1522	77.2%	1.5	435	22.1%	28.6%
(2) 0.25-0.50 Mi to Nearest Train Station	2.1	1374	77.9%	1.4	404	22.9%	29.4%
(3) 0.50-0.75 Mi to Nearest Train Station	2	1202	77.6%	1.3	367	23.7%	30.5%
(4) 0.75-1.00 Mi to Nearest Train Station	2	1042	76.2%	1.4	320	23.4%	30.7%
(5) > 1 Mi to Nearest Train Station	1.7	794	76.0%	1.1	230	22.0%	29.0%

Table A5: Demographic/Economic Characteristics of Areas by Level of Demand

	Block Group Level of Demand					
	Very Low Demand	Low Demand	Moderate Demand	High Demand	Very High Demand	Total
(1) <10% Family Poverty	19.0%	28.1%	30.3%	11.5%	11.1%	100.0%
(2) 10-20% Family Poverty	10.5%	21.4%	45.2%	19.0%	4.0%	100.0%
(3) 20-40% Family Poverty	5.1%	15.7%	47.8%	25.7%	5.7%	100.0%
(4) >40% Family Poverty	0.4%	10.2%	42.0%	28.6%	18.8%	100.0%
(1) <10% African American	20.0%	27.6%	28.8%	9.4%	14.2%	100.0%
(2) 10-25% African American	6.5%	10.1%	40.2%	21.6%	21.6%	100.0%
(3) 25-50% African American	7.7%	6.1%	28.6%	40.8%	16.8%	100.0%
(4) 50-75% African American	6.6%	19.9%	46.3%	23.5%	3.7%	100.0%
(5) 75-90% African American	5.9%	26.5%	41.9%	23.5%	2.2%	100.0%
(6) 90-100% African American	6.6%	24.3%	54.4%	14.1%	0.6%	100.0%
(1) 0.00-0.25 Mi to Nearest Train Station	10.9%	11.8%	36.7%	19.5%	21.3%	100.0%
(2) 0.25-0.50 Mi to Nearest Train Station	8.7%	17.7%	38.7%	20.4%	14.4%	100.0%
(3) 0.50-0.75 Mi to Nearest Train Station	9.3%	19.5%	38.4%	25.5%	7.3%	100.0%
(4) 0.75-1.00 Mi to Nearest Train Station	8.1%	18.3%	51.6%	19.4%	2.7%	100.0%
(5) > 1 Mi to Nearest Train Station	13.5%	31.9%	38.1%	13.8%	2.7%	100.0%

Table A6: Demographic/Economic Characteristics of Areas for Relative Shortages in Total, Certified, and High-Quality Child Care

	Block Group Shortage Level					
	Much Larger than Expected Shortage	Larger than Expected Shortage	Expected Shortage	Less than Expected Shortage	Much Less than Expected Shortage	Total
All Supply Shortages						
(1) <10% Family Poverty	14.8%	23.7%	39.2%	16.6%	5.7%	100.0%
(2) 10% - 20% Family Poverty	10.5%	19.0%	39.9%	19.0%	11.7%	100.0%
(3) 20% - 40% Family Poverty	6.5%	16.2%	40.3%	24.6%	12.4%	100.0%
(4) >40% Family Poverty	4.9%	18.4%	42.0%	21.6%	13.1%	100.0%
(1) <10% African American	23.0%	33.6%	37.3%	6.1%	0.0%	100.0%
(2) 10-25% African American	14.6%	31.2%	46.7%	7.5%	0.0%	100.0%
(3) 25-50% African American	9.7%	29.6%	44.4%	14.3%	2.0%	100.0%
(4) 50-75% African American	2.9%	14.0%	53.7%	21.3%	8.1%	100.0%
(5) 75-90% African American	2.2%	5.1%	35.3%	36.0%	21.3%	100.0%
(6) 90-100% African American	0.3%	2.4%	32.7%	37.8%	26.7%	100.0%
(1) Distance to Nearest Train Stop 0.00-0.25 Mi	3.2%	16.7%	39.8%	24.9%	15.4%	100.0%
(2) Distance to Nearest Train Stop 0.25-0.50 Mi	6.0%	15.3%	42.0%	26.2%	10.6%	100.0%
(3) Distance to Nearest Train Stop 0.50-0.75 Mi	10.9%	15.9%	41.4%	22.2%	9.6%	100.0%
(4) Distance to Nearest Train Stop 0.75-1.00 Mi	12.4%	20.4%	43.0%	13.4%	10.8%	100.0%
(5) Distance to Nearest Train Stop > 1 Mi	18.8%	33.8%	33.5%	9.2%	4.6%	100.0%
Certfied Supply Shortages						
(1) <10% Family Poverty	14.4%	20.7%	28.5%	18.7%	17.6%	100.0%
(2) 10% - 20% Family Poverty	8.1%	21.8%	37.5%	21.8%	10.9%	100.0%
(3) 20% - 40% Family Poverty	8.9%	19.2%	45.9%	20.3%	5.7%	100.0%
(4) >40% Family Poverty	6.1%	18.4%	54.7%	20.0%	0.8%	100.0%
(1) <10% African American	6.7%	18.8%	23.0%	20.6%	30.9%	100.0%
(2) 10-25% African American	4.5%	13.6%	34.7%	37.7%	9.5%	100.0%
(3) 25-50% African American	6.6%	16.3%	47.4%	26.0%	3.6%	100.0%
(4) 50-75% African American	8.1%	14.7%	55.1%	19.1%	2.9%	100.0%
(5) 75-90% African American	16.9%	24.3%	42.6%	15.4%	0.7%	100.0%
(6) 90-100% African American	16.8%	27.6%	48.3%	7.2%	0.0%	100.0%
(1) Distance to Nearest Train Stop 0.00-0.25 Mi	14.9%	29.4%	39.8%	13.1%	2.7%	100.0%
(2) Distance to Nearest Train Stop 0.25-0.50 Mi	7.9%	21.8%	48.5%	16.1%	5.7%	100.0%
(3) Distance to Nearest Train Stop 0.50-0.75 Mi	5.6%	18.2%	45.7%	22.8%	7.6%	100.0%
(4) Distance to Nearest Train Stop 0.75-1.00 Mi	10.8%	18.8%	35.5%	22.6%	12.4%	100.0%
(5) Distance to Nearest Train Stop > 1 Mi	13.5%	12.3%	25.0%	25.8%	23.5%	100.0%
High Quality Supply Shortages						
(1) <10% Family Poverty	16.1%	22.9%	26.4%	17.2%	17.4%	100.0%
(2) 10% - 20% Family Poverty	8.9%	18.1%	39.9%	22.6%	10.5%	100.0%
(3) 20% - 40% Family Poverty	7.6%	21.1%	45.4%	19.7%	6.2%	100.0%
(4) >40% Family Poverty	3.3%	13.5%	58.4%	23.3%	1.6%	100.0%
(1) <10% African American	19.7%	20.6%	21.5%	16.4%	21.8%	100.0%
(2) 10-25% African American	7.5%	14.6%	53.8%	17.1%	7.0%	100.0%
(3) 25-50% African American	8.2%	22.4%	45.4%	17.9%	6.1%	100.0%
(4) 50-75% African American	8.8%	18.4%	30.9%	31.6%	10.3%	100.0%
(5) 75-90% African American	13.2%	17.6%	50.7%	16.2%	2.2%	100.0%
(6) 90-100% African American	2.1%	22.2%	46.5%	23.4%	5.7%	100.0%
(1) Distance to Nearest Train Stop 0.00-0.25 Mi	5.9%	32.6%	43.4%	12.2%	5.9%	100.0%
(2) Distance to Nearest Train Stop 0.25-0.50 Mi	7.1%	24.3%	45.0%	18.5%	5.2%	100.0%
(3) Distance to Nearest Train Stop 0.50-0.75 Mi	10.9%	16.9%	45.0%	20.2%	7.0%	100.0%
(4) Distance to Nearest Train Stop 0.75-1.00 Mi	12.9%	13.4%	36.6%	31.7%	5.4%	100.0%
(5) Distance to Nearest Train Stop > 1 Mi	14.6%	11.5%	26.5%	20.0%	27.3%	100.0%

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