PITTSBURGH EQUITY INDICATORS

A BASELINE MEASUREMENT FOR ENHANCING EQUITY IN PITTSBURGH

ANNUAL REPORT: 2018

CITY OF PITTSBURGH

"America's Most Livable City"

Office of Mayor William Peduto

The core values of P4: People, Planet, Place and Performance are central to my administration. We strive to improve services by being good stewards of the planet; creating healthy, inclusive, and engaging places; and using data and performance measures to make smart investments. To better serve our people, in 2018 we released the first Pittsburgh Equity Indicators Report: the inaugural analysis of 80 indicators that measures the gaps in outcomes experienced between Pittsburghers. Implementing the Equity Indicators is an action identified in the ONEPGH Resilience Strategy, which outlined racial and economic inequity as a chronic stress impacting Pittsburgh's resilience. This second Equity Indicators Report takes another look at the same indicators examined in the baseline report.

I would like to thank the RAND Corporation, the City University of New York Institute for State and Local Governance, 100 Resilient Cities- Powered by the Rockefeller Foundation, The Forbes Funds, and the numerous local civic organizations who helped to develop this important work and make it actionable.

After two years of data collection, we confirmed that inequality persists in the Pittsburgh region, and it impacts our people before birth. Childhood health and wellbeing outcomes are consistently low. Every resident of this city deserves a start with the promise of unlimited potential regardless of race, religion, socioeconomic status, gender or neighborhood.

We are using the Equity Indicators to begin to untangle the deep roots of inequality that exist in this city. By integrating the Equity Indicators into the work of City government, we are aligning budgets, assigning staff and developing policies to increase effectiveness and efficiency, and provide a government that works for people. Since the initial report, the City has focused resources towards areas showing the greatest disparities. These investments include: $10 million into the Housing Opportunity Fund, $2 million into funding quality childcare centers, and $500,000 into a new Stop the Violence initiative; launching Financial Empowerment Centers; releasing a Climate Action Plan that outlines a transition to renewable energy and transportation systems that improve air quality; training current and new Pittsburgh police officers in implicit bias; launching a new book gifting program for Pittsburgh children; and offering free safety training to childcare providers.

While many of our challenges reach beyond the scope of local government, that does not mean the issues are not our responsibility. With that in mind, we are forging new and innovative partnerships with foundations, community organizations, universities and research organizations, and the private sector to ensure that our collective efforts are geared towards closing the gaps we've identified.

One report or one budget cycle will not undo decades of disinvestment and systemic structural barriers. This requires a sustained, community effort to improve. Let's find the commonalities between us and work together to ensure that our great city is a place that all Pittsburghers are proud to call home. Please join me.

William Peduto, Mayor

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Pittsburgh Equity Indicators

A progress update on the state of equity in Pittsburgh

Annual report: 2018

About the Authors

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- Pittsburgh Citizen Police Review Board
- The Pittsburgh Promise
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Executive Summary

Through its ONEPGH Resilience Strategy, Investment Prospectus, and other local initiatives dedicated to equity citywide, the City of Pittsburgh and its partners have demonstrated a commitment to improved opportunities and outcomes for all city residents. As a first step in assessing progress toward equitable opportunities and outcomes for Pittsburghers of all races, genders, and incomes, and to inform the city's investment decisions moving forward, the Pittsburgh Department of City Planning's Division of

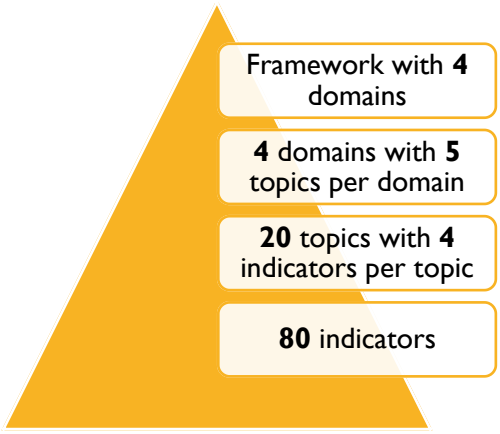
Sustainability and Resilience partnered with the Bureau of Neighborhood Empowerment to undertake the ***Pittsburgh Equity Indicators*** project in 2017. Supported with funding and strategic guidance from the City University of New York Institute for State and Local Governance (CUNY ISLG), the research team led by the RAND Corporation developed a framework and associated indicators to measure equality in both outcomes and opportunities in Pittsburgh. A report for 2017 describes the methods and results of the first round of Equity Indicators data analyses. This report represents a progress update on the indicators described in the 2017 report and includes two years of data for each of the Equity Indicators in the framework.

Defining and Scoring the Equity Indicators

The purpose of the Equity Indicators is to investigate whether Pittsburgh is making progress in reducing inequity and inequalities on an annual basis. The 80 Equity Indicators measure change, either toward or away from equality, in four domains:

- **Health, Food, and Safety**
- **Education, Workforce Development, and Entrepreneurship**
- **Housing, Transportation, Infrastructure, and Environment**
- **Civic Engagement and Communications.**

Structure of the Equity Indicators



To portray existing inequity and inequality within Pittsburgh, we analyzed two years of data for different subgroups to understand disparities, as well as changes in those disparities between the reporting years. Indicators were scored according to the relative difference in outcomes between two comparison groups, with the embedded assumption that different outcomes for different groups is undesirable. Each of the 80 indicators in the framework was scored on a scale from 1 (higher inequality) to 100 (higher equality), and scores are aggregated to produce topic, domain, and overall city equality scores. A score of 100 indicates that there is either no inequality between subgroups, or the group that one might expect to experience worse outcomes actually experienced better outcomes than the comparison group. Change scores were also calculated for each indicator, topic, and domain by subtracting the 2017 equality score from the 2018 equality score.

This report presents the second round of equality scores for Pittsburgh. The first round of equality scores, as well as information on the process of developing the framework and selecting the indicators and data sources, were presented in the 2017 annual report. In this report, we build upon the existing framework, indicators, and data sources from the 2017 report and present information on the extent of

the change for each of these metrics in Pittsburgh since the first report. To better understand year-to-year changes in the context of larger trends, we also acquired additional historical data for a subset of indicators when it was available.

Findings

The results presented in this report reveal that the overall city and domain scores are about the same in 2018 as they were in 2017: Pittsburghers were still experiencing inequitable access to opportunities and outcomes, represented by an overall city equality score of 55 that did not change from 2017 to 2018. However, underlying this score were some improvements in specific areas, including public safety, student success and discipline, infrastructure quality and investment, and civic engagement (grassroots and city-led), which were represented by positive change scores. In contrast, results show greater inequality in other metrics, including health outcomes, household income, and poverty, represented by negative change scores. For example, income and poverty was the topic with the largest change score (–10) between 2017 and 2018, placing it as the topic with the third-lowest equality score (28) and indicating that inequality was increasing for key economic outcome measures.

At the indicator level, the underlying data show a number of interesting changes between the 2017 and 2018 reporting years. Between this period, 28 indicator scores improved, 35 worsened, and 17 remained the same (or data were not available to score the indicator in 2017, represented with a change score of 0). We summarize indicator-level changes within each domain:

- In **Health, Food, and Safety**, the indicators *asthma hospitalizations*, *domestic violence*, *homicides*, and *property crime victimization* all improved in the 2018 reporting year relative to 2017 for both black and white Pittsburghers. Other health outcomes, like *diabetes* rates, improved in high-income areas but worsened slightly in low-income areas.
- In **Education, Workforce Development, and Entrepreneurship**, outcomes were mixed: *Access to quality childcare* improved across the board. Economic outcomes like *median household income* and *poverty* rates improved for white residents, while they continued to decline for black residents.
- Related to **Housing, Transportation, Infrastructure, and Environment**, notable changes included improvements across subgroups in *homelessness*, *access to high-frequency transit networks (HFTN)*, and *blood lead levels*, though outcomes did not improve to the same degree for black and white residents. Additionally, *traffic accidents involving bikes and pedestrians* in high-income areas increased relative to low-income areas.
- Finally, **Civic Engagement and Communication** indicators showed positive changes for black residents relative to white residents, including in the presence of *opportunities for volunteering* in neighborhoods, *applications to the city's Civic Leadership Academy (CLA)*, and neighborhoods *participating in the Beautify Our Burgh (BOB) program*.

The figure below illustrates the relationship between changes in the raw data for each subgroup and changes in equality score for a subset of indicators, as just described. Positive year-to-year changes in outcomes for each subgroup are shown in shades of blue (darker for more positive changes). Negative year-to-year changes in outcomes are shown in shades of orange (darker for more negative changes). Changes in equality scores for each indicator are also color coded in shades of blue and orange to represent the magnitude of change toward or away from equality between subgroups.

Domain	Indicator	Change Values Between Reporting Years: Black Residents	White Residents	Equality Score
Health, Food, and Safety	Asthma hospitalizations	+	+	+
	Domestic violence	+	+	–
	Homicides	+	+	+
	Property crime	+	+	–
Education, Workforce Development, and Entrepreneurship	Access to quality childcare	+	+	+
	Median household income	–	+	–
	Poverty	–	+	–
Housing, Transportation, Infrastructure, and Environment	Homelessness	+	+	+
	Lack of access to a HFTN	+	+	–
	Blood lead levels	+	+	+
Civic Engagement and Communication	Opportunities for volunteering	+	+	+
	Applications to CLA	+	+	+
	Participation in BOB	+	+	–

NOTE: Colors refer to the percentage change in outcomes for each subgroup and indicator change for equality scores, according to the cut-offs shown below.

Below –100	–66 to –100	–33 to –66	<0 to –33	0	>0 to 33	33 to 66	66 to 100	Above 100

Change scores simply represent progress toward or away from equality. As the figure illustrates, because change scores measure the change in disparity and not the outcomes themselves, they may mask some of the changes observed in the underlying data. As such, positive change scores do not necessarily represent improvements for the population as a whole. Similarly, negative changes in equality scores do not represent declines for the population as a whole: For some indicators, improvements were made across all subgroups, but greater improvement was observed among white residents than black residents, resulting in greater disparity in 2018. For a select few indicators, improvements were observed for black or low-income residents, and declines were observed for white or high-income residents, resulting in less disparity in 2018. As such, readers are encouraged to examine the data that contribute to indicator scores (Appendix D) to understand the changes driving fluctuations in equality scores.

Conclusion and Next Steps

Pittsburgh's second comprehensive snapshot of inequity based on CUNY ISLG's Equality Indicators methodology provides an update and comparison to the data reported for Pittsburgh in 2017. While significant disparities still exist, the city is now able to use the annual indicators update to track how outcomes may change with the introduction of new investments and to determine where to target resources to attempt to close gaps.

Within the City of Pittsburgh, the 2017 report led to a partnership between the Sustainability Resilience Division within the Department of City Planning and the Bureau of Neighborhood Empowerment within the Mayor's Office. The intention of the partnership is to use the Equity Indicators to allocate city resources and staffing capacity to drive results. The city and external partners are also using these statistics as a catalyst for deeper analyses to determine the root causes of poor outcomes and

disparities, especially for the lowest-performing indicators. As a result of the 2017 report, the city has increased attention to homicides, homelessness, access to banking services, infant mortality and childhood asthma hospitalizations, and developed a partnership with The Forbes Funds to turn the statistics into action items. The city plans to continue this work in 2019 by disseminating information by neighborhood, understanding changes in populations in neighborhoods, and taking action through resource allocation, collaboration, and programming.

While work is underway, there is still much work to be done as indicator scores shift over time. With the completion of CUNY ISLG funding and support, in 2019 the City of Pittsburgh seeks to institutionalize annual updates to the Equity Indicators and use the data as inputs into city budgeting as well as to help coordinate funding distributed through the ONEPGH Fund, set to launch in 2019.

Table of Contents

Abbreviations

ACS	American Community Survey (U.S. Census Bureau)
BLL	blood lead level
BOB	Beautify Our Burgh
CDBG	Community Development Block Grants
CLA	Civic Leadership Academy
CTE	career and technical education
CUNY	City University of New York
EDDIE	Enterprise Data Dissemination Informatics Exchange (Pennsylvania Department of Health, Division of Health Informatics)
FFIEC	Federal Financial Institutions Examination Council
HFTN	high-frequency transit network
HMDA	Home Mortgage Disclosure Act
ISLG	Institute for State and Local Governance
MVA	Urban Redevelopment Authority Market Value Analysis
OCDEL	Office of Child Development and Early Learning
PennDOT	Pennsylvania Department of Transportation
PM	particulate matter
PPS	Pittsburgh Public Schools
PUMS	Public Use Microdata Sample (U.S. Census Bureau)
SNAP	Supplemental Nutrition Assistance Program
STEM	science, technology, engineering, and mathematics
SY	school year
UPMC	University of Pittsburgh Medical Center
URA	Urban Redevelopment Authority

Introduction

Equity Indicators: From Baseline to Year 2

Through its ONEPGH Resilience Strategy, Investment Prospectus, and other local initiatives dedicated to equity citywide, the City of Pittsburgh and its partners have demonstrated a commitment to improved opportunities and outcomes for all city residents. As a first step in assessing progress toward equitable opportunities and outcomes for Pittsburghers of all races, genders, and incomes, and to inform the city's investment decisions moving forward, the City of Pittsburgh's Division of Sustainability and Resilience and Bureau of Neighborhood Empowerment undertook the ***Pittsburgh Equity Indicators*** project in 2017. Supported with funding and strategic guidance from the City University of New York Institute for State and Local Governance (CUNY ISLG), the research team led by the RAND Corporation developed a framework and associated indicators to measure equality in both outcomes and opportunities in Pittsburgh. A report for 2017 released in early 2018 describes the methods and results of the first round of Equity Indicators data analyses.

Since the release of the first Equity Indicators report, the City of Pittsburgh has worked with partners from academic, corporate, health, government, philanthropy, and nonprofit organizations to address some of the inequalities found. The city is collaborating with The Forbes Funds, a local foundation and nonprofit intermediary, to delve into the root causes and possible actions to address some of the areas of most profound inequity in the city: infant mortality, asthma hospitalizations, homicides, lack of use of banking services, and homelessness. These were the Equity Indicators that received the lowest equality scores for 2017.

The results presented in this report reveal that, at higher levels of aggregation, Pittsburghers still experience highly inequitable access to opportunities and outcomes, represented by an equivalent overall city equality score in 2017 and 2018. However, there have been some changes in specific areas, including improvements in public safety, student success and discipline, infrastructure quality and investment, and civic engagement (grassroots and city-led), and movement away from equality in health status, outcomes, and income and poverty.

Definitions of Equality and Equity

- *Equality* exists when everyone has the same health, safety, justice, education, economic, housing, and other outcomes, regardless of their race, ethnicity, income, gender, disability, sexual orientation, immigration status, or other characteristics.
- *Equity* exists when everyone has the resources and opportunities they need to enjoy full, healthy lives. Equity aims to promote fairness and justice, which means that different groups may require different resources or opportunities to succeed.

At the time of writing, the City of Pittsburgh, The Forbes Funds, and their partners are using the Equity Indicators to inform strategic investments and decisionmaking. In particular, the city has aligned relevant indicators to the investment areas of the ONEPGH Investment Prospectus, a collection of 46 priority investments for Pittsburghers to rally behind that will improve livability for all residents by 2030. The city is also using this report to improve its data collection and analysis capabilities, ensure that all public engagement is equitable, and identify areas of need to allocate public resources. The Forbes Funds is using the indicators for impact-based grant-making. As the city continues to create various entry points for collaborative involvement and participation from multiple sectors, the United Nations Sustainable Development Goals (UNSDG) give the city the ability to align the Equity Indicators to global initiatives. The UNSDG are worldwide goals to eradicate poverty, protect the planet, and to improve the quality of life for every human being on earth.

The City intends to localize the UNSDG and solicit participation from private, nonprofit, academic, and government institutions in 2019 and align relevant Equity Indicators to measure outcomes.

Purpose of the Equity Indicators and This Report

The purpose of the Equity Indicators is to investigate whether Pittsburgh is making progress in reducing inequity and inequalities on an annual basis. The Equity Indicators methodology was originally developed by CUNY ISLG for New York City and is currently being implemented in five expansion cities: Pittsburgh, Dallas, Oakland, St. Louis, and Tulsa. To develop the original Equality Indicators framework for New York, ISLG conducted a thorough review of existing indices in the United States and internationally (e.g., the Gender Inequality Index[1], the Boston Indicators Project[2], the United Nations Rule of Law Indicators[3]).[4]

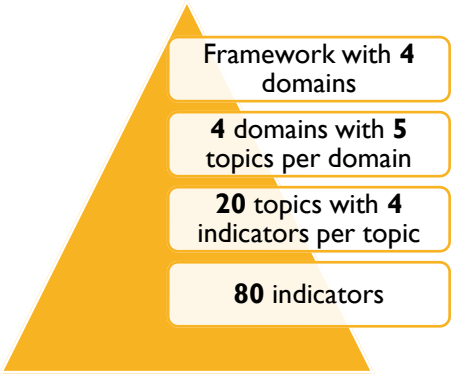
The Equity Indicators are one of many civic indicators efforts currently being used to help cities benchmark and track progress toward their well-being, quality of life, and resilience goals. For example, the Santa Monica Wellbeing Index provides a "baseline for understanding what contributes to wellbeing and how the city and community can work to improve it."[5] Similarly, the Boston Indicators, a partnership of the Boston Foundation with the City of Boston and the Metropolitan Area Planning Council, is a resource for data-driven analysis in Greater Boston, analyzing trends in Boston and its neighborhoods in broader context and allowing civic leaders to foster public discourse around the data.[2] Most civic indicator efforts tend to focus on outcomes for entire cities, neighborhoods, or geographic communities.

The Equity Indicators differ from these other efforts in that they are designed to specifically measure changes in disparities (differences in access or outcomes between populations) within a city over time. The Equity Indicators methodology is being used by the City of Pittsburgh to guide and improve policy and investment decisionmaking that ensures Pittsburgh is a city for all. Comparing results from the 80 Equity Indicators allows the city to measure change, either toward or away from equality, in four domains:

- **Health, Food, and Safety**
- **Education, Workforce Development, and Entrepreneurship**
- **Housing, Transportation, Infrastructure, and Environment**
- **Civic Engagement and Communications.**

Figure 1 shows the structure of Pittsburgh's Equity Indicators framework.

Figure 1. Structure of the Equity Indicators



To portray existing inequity and inequality within Pittsburgh, we analyzed two years of data for different subgroups to understand disparities as well as changes in those disparities between the two reporting years among Pittsburgh's residents for each of the 80 indicators in the framework. Subgroups selected for comparison are defined by **race**, **gender**, **income**, **poverty status**, or **housing status** (rent versus own), though most of the indicators in the framework assess disparities by race, comparing black and white residents, the largest two racial groups in the city and the primary comparison suggested by local stakeholders. Indicators are scored according to the relative difference in outcomes between two comparison groups, and scoring is based on the assumption that worse outcomes for a typically disadvantaged group relative to a typically more advantaged group are undesirable. As such, indicators were analyzed as ratios between the comparison groups, in line with the methodology developed by CUNY ISLG.

Each of the 80 indicators was scored on a scale from 1 (higher inequality) to 100 (higher equality). Appendix E provides the conversion table used to convert ratios to equality scores. **Topic scores** were calculated by averaging the four indicator scores under each topic, and **domain scores** were the average scores of the five topics under each domain. Finally, averaging domain scores produced the **overall citywide scores** for 2017 and 2018. A score of 100 indicates that there is either no inequality between subgroups, or the group that one would expect to experience worse outcomes actually experienced better outcomes than the comparison group.[a]

Organization of This Report

We first provide an overview of the 2018 Equity Indicators framework relative to the framework described in the 2017 report and discuss the standard for assessing change between the previously reported data and the updated data for the 2018 reporting year. As part of this update, we introduce new indicators and data sources that replaced those for which updated data were unavailable, and we describe how these metrics were chosen and why they are important to track in Pittsburgh. Next, we present results for the 2018 reporting year alongside the results for the 2017 reporting year in the order they are listed in the Equity Indicators framework, discuss the local context and relevance of these results, and analyze any meaningful changes between the results for each reporting year.

The findings will also be available online through the City of Pittsburgh's website in a forthcoming update.

Updating Pittsburgh's Equity Indicators

Changing Demographics in Pittsburgh

The demographics of Pittsburgh have changed slightly since the 2017 report was released (Table 1). Overall, the city's population shrank slightly. While the population of black and white residents living in the city decreased slightly between 2016 and 2017, the population of Asian, Hispanic or Latino, and multiracial residents grew slightly. The population of foreign-born residents remained almost the same across years.

[a] For 2018, there were eight such cases of "flipped disparities" (in which the group that might be expected to have better outcomesexperienced worse outcomes) among the indicators where patterns of disparity did not follow what might be expected from the literature (traffic accidents involving bikes or pedestrians; capital budget projects by location; access to green space; blood lead levels; representation among social service providers; appointments to boards, authorities, and commissions; participation in City Cuts; and participation in Summer Learn and Earn).

Table 1. City of Pittsburgh Demographics by Sex, Race/Ethnicity, and Nativity/Citizenship

	2017		2016	
	Population	Percentage of Population	Population	Percentage of Population
Total Population	302,414 (+/–37)	100%	303,624 (+/–35)	100%
Sex				
Male	149,787	49.5%	149,497	49.2%
Female	152,627	50.5%	154,127	50.8%
Race/ethnicity				
Hispanic or Latino (any race)	9,212	3.1%	8,450	2.8%
Not Hispanic or Latino	293,202	97.0%	295,174	97.2%
White	196,687 (+/–5,287)	65.0%	198,820 (+/–5,520)	65.5%
Black or African American	65,268 (+/–5,008)	21.6%	68,184 (+/–4,621)	22.1%
American Indian or Alaskan Native	363	0.1%	148	0.1%
Asian alone	19,357	6.4%	16,963	5.6%
Native Hawaiian another Pacific Islander	34	<0.1%	82	<0.1%
Some other race	1,261	0.4%	809	0.3%
Two or more races	10,232	3.4%	10,168	3.4%
Nativity and citizenship				
Native born	275,910	91.2%	277,020	91.2%
Foreign born	26,504	8.8%	26,604	8.78%
Foreign naturalized citizen	8,451	2.8%	9,414	3.1%
Foreign noncitizen	18,053	6.0%	17,190	5.7%

SOURCE: U.S. Census Bureau, 2017, 2018.
NOTES: Margins of error are shown in parentheses for the two largest racial subgroups and the total population of Pittsburgh and reflect a 90-percent level of confidence; changes to the black and white population are within the margin of error, meaning that no statistically meaningful change was observed between the years.

Updated Data and Analyses

The list of indicators included in Pittsburgh's Equity Indicators framework (Table 2) remained approximately the same for the 2017 and 2018 reports. Where updated data were available, we calculated new equality scores for each indicator using updated data. However, six indicators for which we report data in 2018 are different than those in the 2017 report, as summarized in Table 3. These changes were made because updated data for these indicators were no longer collected or were not available at the time this report was written, and it was unclear whether or not they would be available in the future.

Data sources for new indicators in 2018 are all administrative data sets from the City of Pittsburgh, including data from the Office of Community Affairs, the Mayor's Office, and the Department of Parks and Recreation (Citiparks). (All data sources are listed in Appendix A.) For each of the new indicators, we attempted to collect historical data and retroactively calculated 2017 scores when historical data were available, but this was not possible for all indicators.

For another set of seven indicators, though indicators remain the same, 2018 data sources differ from those used in 2017. We used different data sources when a locally collected source was identified (e.g., Supplemental Nutrition Assistance Program [SNAP] participation from Allegheny County Department of Human Services versus the Census Bureau's Current Population Survey) or when data were no longer collected via the method they were collected in 2017 but were collected via another method (e.g., utilities burden from the American Community Survey Public Use Microdata Sample [PUMS] data set versus the American Housing Survey). We retroactively updated the 2017 scores for these indicators using the same approach used for new 2018 indicators for consistency.

There were also 16 indicators for which the definition of the indicator changed slightly from 2017, or a different method for analyzing the raw data was developed. In these instances, we also retroactively calculated 2017 scores to match data sources and methods across reporting years. Information on how equality scores are calculated can be found in in the 2017 report, and detailed technical notes for each indicator are in Appendix C of this report. *However, readers should reference the 2017 report with caution, since a number of scores for 2017 have been recalculated for the 2018 report for the reasons noted above.*

Table 2 shows the list of 2018 Equity Indicators, years compared, and a summary of findings. Findings are discussed in more detail later in the report, in the Findings section.

Table 2. 2018 Equity Indicators Framework and Summary Findings for Pittsburgh

Domain	Topic	#	Indicator Name	Ratio	Years Compared in Raw Data	2018 Equality Score (Change)
Health, Food, and Safety	Access and prevention	1	Lack of health insurance	Black-to-white	2016 to 2017	65 (11)
		2	Access to primary care facilities	White-to-black	2016 to 2017	68 (–1)†
		3	SNAP participation	Black-to-white	2016 to 2017	18 (–1)†
		4	Very low food security	Black-to-white	2016 to 2017	13 (–9)†
	Health status and outcomes	5	Heart attack hospitalizations	Black-to-white	2015 to 2016	94 (–4)
		6	Opioid overdose deaths	Low-to-high-income	2016 to 2017	45 (2)†
		7	Diabetes	Low-to-high-income	2015 to 2016	50 (–22)†
		8	Hypertension	Low-to-high-income	2015 to 2016	72 (-4)†
	Childhood health and well-being	9	Infant mortality	Black-to-white	2015 to 2016	24 (-9)
		10	Low birth weight	Black-to-white	2015 to 2016	39 (1)†
		11	Asthma hospitalization rates	Black-to-white	2015 to 2016	26 (2)*
		12	Association with the child welfare system	Black-to-white	2017 to 2018	19 (0)†
	Policing and criminal justice	13	Arrests	Black-to-white	2016 to 2017	27 (–1)†
		14	Use of force	Black-to-white	2015 to 2016	27 (–3)†
		15	Currently incarcerated population	Black-to-white	2016–2017 to 2017–2018	18 (0)†

Domain	Topic	#	Indicator Name	Ratio	Years Compared in Raw Data	2018 Equality Score (Change)
Education, Workforce Development, and Entrepreneurship	Public safety	16	Multiple incarcerations	Black-to-white	2016–2017 to 2017–2018	21 (–3)†
		17	Domestic violence	Black-to-white	2017 to 2018	9 (–16)†
		18	Homicides	Black-to-white	2017 to 2018	2 (1)†
		19	Property crime	Black-to-white	2017 to 2018	62 (–1)†
		20	Traffic accidents involving bikes or pedestrians	Low-to-high-income	2016 to 2017	100 (25)†
	Educational opportunities	21	Access to quality child care	White-to-black	2017 to 2018	70 (15)†
		22	Public school capture	High-to-low percentage white	2016–2017 school year (SY) to 2017–2018 SY	69 (–3)*
		23	Promise eligibility	White-to-black	2017 to 2018	55 (–16)*
		24	Student stability	Low-to-high percentage white	2016–2017 SY to 2017–2018 SY	42 (–1)*
	Student success and discipline	25	Reading at grade level (third grade)	White-to-black	2016–2017 SY to 2017–2018 SY	64 (10)*
		26	Five-year high school graduation	White-to-black	2015–2016 SY to 2016–2017 SY	93 (11)*
		27	Pittsburgh Promise Scholar college graduation rates	White-to-black	2017 to 2018	59 (21)*
		28	Suspension	Black-to-white	2016–2017 SY to 2017–2018 SY	32 (–3)*
	Employment	29	Employment in high-paying sectors	White-to-black	2016 to 2017	51 (–5)†
		30	Job turnover	Black-to-white	2015 to 2016	55 (0)†
		31	Labor force participation	White-to-black	2016 to 2017	76 (3)
		32	Unemployment	Black-to-white	2016 to 2017	31 (–9)
	Entrepreneurship and workforce development	33	Loans to small businesses	White-to-black	2015 to 2017	77 (–2)†
		34	Business ownership	White-to-black	2016 to 2017	17 (–28)†
		35	CTE enrollment	Male-to-female	2017–2018 SY to 2018-2019 SY	78 (19)*
		36	Low educational attainment	Black-to-white	2016 to 2017	58 (–2)†
	Income and poverty	37	Lack of use of banking services	Black-to-white	2015 to 2017	1 (–19)†‡
		38	Median household income	White-to-black	2016 to 2017	37 (-3)

Domain	Topic	#	Indicator Name	Ratio	Years Compared in Raw Data	2018 Equality Score (Change)
		39	Below middle class	Black-to-white	2016 to 2017	37 (–9)†
		40	Poverty	Black-to-white	2016 to 2017	36 (–9)
Housing, Transportation, Infrastructure, and Environment	Housing affordability and stability	41	Home loan denials	Black-to-white	2016 to 2017	36 (0)†
		42	Home ownership	High-to-low-income	2016 to 2017	42 (3)†
		43	Housing cost burden for renters	Lower-to-higher-income	2016 to 2017	37 (2)†
		44	Homelessness	Black-to-white	2017 to 2018	4 (2)†
	Infrastructure quality and investment	45	Housing stock with conditions	Renter-to-owner	2016 to 2017	39 (0)†
		46	Properties with tax delinquency	Black-to-white	2017 to 2018	51 (11)†
		47	Capital budget projects by location	White-to-black	2017 to 2018	100 (12)†
		48	Index of distress	Black-to-white	2016 to 2017	37 (0)†
	Neighborhood composition and opportunity	49	Market strength	White-to-black	2016 to 2017	39 (0)†
		50	Parcels in poor or worse condition	Black-to-white	2016 to 2017	33 (0)†
		51	Community Development Block Grant (CDBG) areas	Black-to-white	2016 to 2017	48 (0)†
		52	Racial segregation index	N/A	2016 to 2017	41 (–1)†
	Transportation	53	Commute time	Black-to-white	2016 to 2017	73 (0)†
		54	Lack of access to a HFTN	Black-to-white	2017 to 2018	66 (–34)†
		55	Use of a car	White-to-black	2016 to 2017	74 (2)
		56	Walkability	White-to-black	2014 to 2018	97 (2)†
	Environment and sustainability	57	Utilities burden	Black-to-white	2016 to 2017	49 (–1)†
		58	Air quality	Black-to-white	2012–2016 to 2013–2017	79 (–14)†
		59	Access to green space	White-to-black	2016 to 2017	100 (0)†
		60	Blood lead levels	Black-to-white	2012–2016 to 2016–2017	100 (20)†
Civic Engagement and Communications	Representation	61	Representation among social service providers	White-to-black	2016 to 2017	100 (0)†
		62	Representation in education professions	White-to-black	2016 to 2017	73 (1)†
		63	Representation in local government	Male-to-female	2017 to 2018	69 (10)†
		64	Representation in police force	White-to-black	2015 to 2016	57 (3)†
	Political participation	65	Appointments to boards, authorities, and commissions	White-to-black	2018	100 (N/A)

Domain	Topic	#	Indicator Name	Ratio	Years Compared in Raw Data	2018 Equality Score (Change)
		66	Diversity of candidates in local elections	Male-to-female	2017 to 2018	46 (-14)†
		67	Voter turnout for local elections	High-to-low-income	2017 to 2018	49 (2)†
		68	Voter turnout for national elections	High-to-low-income	2016 to 2018	63 (-12)†
	Grassroots engagement	69	Access to senior centers	White-to-black	2016-2017 to 2017-2018	55 (-10)†
		70	Opportunities for volunteering	White-to-black	2017 to 2018	100 (25)†
		71	Participation in Snow Angels	White-to-black	2017-2018	74 (N/A)
		72	Participation in City Cuts	White-to-black	2018	100 (N/A)
	City-led engagement	73	Applications to the CLA	White-to-black	2017 to 2018	97 (60)†
		74	Participation in Balancing Act	White-to-black	2018	18 (N/A)
		75	Participation in Beautify Our Burgh	White-to-black	2017 to 2018	68 (-32)†
		76	Participation in Summer Learn and Earn	White-to-black	2016-2017 to 2017-2018	100 (0)†
	Technology and communications	77	Lack of a home computer	Black-to-white	2016 to 2017	55 (9)
		78	Lack of home internet connectivity	Black-to-white	2016 to 2017	43 (4)†
		79	Library availability	White-to-black	2017 to 2018	56 (-8)†
		80	Lack of a smartphone	Black-to-white	2016 to 2017	60 (-22)†

NOTES:

*: Scores are either based on the whole population or statistical testing revealed statistically significant changes between estimates (95-percent confidence level), so change is assumed to reflect true population change.

†: Unable to conduct significance tests, so change may or may not reflect true population change.

No symbol: Statistical testing showed that change between estimates was not significant at the 95-percent confidence level, so change may or may not reflect true population change.

‡: Lack of use of banking services are measured with a survey that relies on a very small sample size at the county level. No white respondents reported not having a bank account in 2017, so it is not possible to calculate a black-to-white ratio. These data should be interpreted with caution.

Table 3. Changes to the Framework from 2017 to 2018

2017 Indicator	2018 Indicator	Description of Revision and Rationale
Registered voters	Appointments to boards, authorities, and commissions	Information on appointments to boards, authorities, and commissions by race was collected by the City of Pittsburgh and was available for 2018. This indicator replaced the indicator on registered voters that came from the U.S. Census Bureau's Current

2017 Indicator	2018 Indicator	Description of Revision and Rationale
		Population Survey: Voting and Registration Supplement. The new indicator provided information on a priority metric for the City of Pittsburgh as it aims to improve representation on its boards, authorities, and commissions. Additionally, this indicator was collected at the city level (versus the county level for the previous indicator) and can be updated annually (versus biannually for the previous indicator).
Public meeting attendance	Access to senior centers	Information on the location of Healthy Active Living centers (the city's senior centers) was collected by Citiparks and was available for 2017 and 2018. Data on public meeting attendance came from the U.S. Census Bureau's Current Population Survey: Volunteer Supplement, which was last collected in 2015 and has been discontinued.
Volunteering	Participation in Snow Angels	Information on participation in the city's Snow Angels volunteer snow shoveling program by race was collected by the City of Pittsburgh and was available for 2018. Data on volunteering came from the U.S. Census Bureau's Current Population Survey: Volunteer Supplement, which was last collected in 2015 and has been discontinued.
Worked on neighborhood improvements	Participation in City Cuts	Information on participation in the city's City Cuts volunteer lawn care program by neighborhood was collected by the City of Pittsburgh and was available for 2018. Data on volunteering came from the U.S. Census Bureau's Current Population Survey: Volunteer Supplement, which was last collected in 2015 and has been discontinued.
Police-community outreach	Participation in Balancing Act	Information on participation in the city's Balancing Act participatory budgeting program by race is now was collected by the City of Pittsburgh and was available for 2018. The Pittsburgh Bureau of Police no longer tracks police-community outreach events.
Participation in Love Your Resilient Block	Participation in Summer Learn and Earn	Information on participation in the city's Summer Learn and Earn youth summer employment program by race was collected by the City of Pittsburgh and was available for 2017 and 2018. The Love Your Resilient Block grant program was not funded in 2018.

Change Scores and Recent Trends

For the 2018 report, we also calculate change scores between reporting years 2017 and 2018 to summarize the magnitude of change toward or away from equality for each indicator, topic, and domain in the framework, as well as an overall city change score. Negative change scores typically indicate that gaps have widened between subgroups in 2018 relative to 2017, while positive change scores indicate

that gaps have narrowed. Therefore, change scores simply represent a reduction or increase in disparities and may mask some of the changes observed in the underlying data. As such, readers are encouraged to examine the data that contribute to indicator scores to understand the changes driving fluctuations in equality scores.

Many of the indicators are based on data representing the whole population being compared (e.g., representative of all Pittsburgh Public Schools [PPS] students), so change scores are assumed to represent true changes in the population. Other indicators are based on estimates derived from surveys administered to a sample of the population. Where possible, we identified estimates of error or uncertainty for the estimates that underlie the equality scores. Margins of error are available for large surveys, such as those conducted by the U.S. Census Bureau, and quantify the uncertainty associated with sampling in survey research. The higher the margin of error for a survey estimate, the less likely it is that the results of the survey are true for the whole population. Therefore, when the difference in survey results between two years is less than the margins of error associated with those estimates, it is possible that the changes observed are due to differences in the samples collected or other "noise" in the data rather than true changes in the populations they represent. Margins of error were available for ten indicators in the framework because they are based on data from large national surveys (e.g., American Community Survey [ACS]). For the metrics used to create these indicators, we conducted significance testing to determine if changes in data from year to year was likely signifying a true change. Significance testing was based on changes in the raw data for each subgroup. We were unable to estimate significance at the ratio or equality score level, so we made the assumption that significant changes in the raw data would be reflected in significant changes to the ratios and equality scores. Indicators showing changes in data representing the whole population or statistically significant changes in estimates between years are noted in the Findings section and Appendix D with an asterisk.

To better understand year-to-year changes in the context of larger trends, we also acquired additional historical data for a subset of indicators. These data are summarized in the Findings section and Appendix D. Margins of error and trend data were not available for all data sources. As such, most change scores should be interpreted with caution, as we are unable to assess whether changes observed are within the expected variation due to the uncertainty associated with sampling for each data source.

Findings

2018 Pittsburgh Equality Score

Pittsburgh's 2018 equality score: 55 (no change)**.**

Pittsburgh's 2017 equality score: 55.

Pittsburgh's 2018 equality score is 55 out of a possible 100. This score suggests that inequalities by race, gender, and income are prevalent in Pittsburgh, with some populations likely to have less access to resources and worse health, economic, and social outcomes.

There was no change in the city equality score from 2017 to 2018.

Domain, Topic, and Indicator Scores

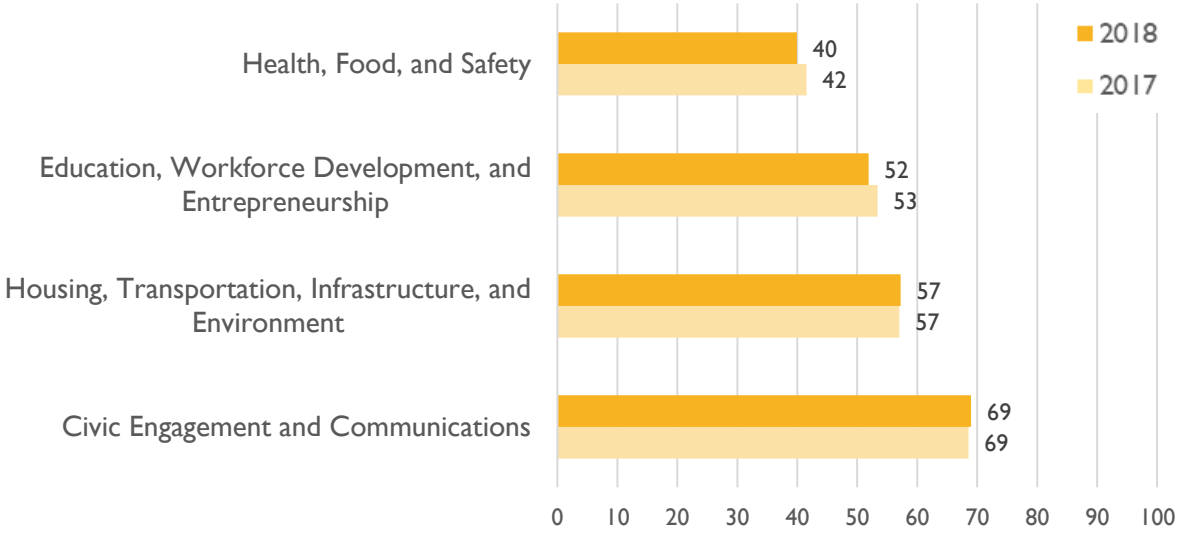
Reporting Year 2018 and 2017 Domain Scores

The 2018 city equality score was calculated by averaging the four domain scores. The lowest domain score was in **Health, Food, and Safety**, which had a domain-level score of 40, and the highest domain

score was in **Civic Engagement and Communications** at 69. **Education, Workforce Development, and Entrepreneurship** (52) and **Housing, Transportation, Infrastructure, and Environment** (57) came in near the middle (Figure 2).

Scores by domain were roughly the same between reporting years: The score for **Health, Food, and Safety** decreased by two, the score for **Education, Workforce Development, and Entrepreneurship** decreased by one, and scores for the other two domains—**Housing; Transportation, Infrastructure, and Environment**; and **Civic Engagement and Communications**—showed no change.[b]

Figure 2. Scores by Domain



Reporting Year 2018 and 2017 Topic Scores

Each of the domains in the framework included five topics, each of which received its own equality score (calculated by averaging the four indicators within them). Scores for the 2018 reporting year of the 20 topics in the framework ranged from 23 (***policing and criminal justice***) to 82 (***grassroots engagement***) and are shown in Figure 3.

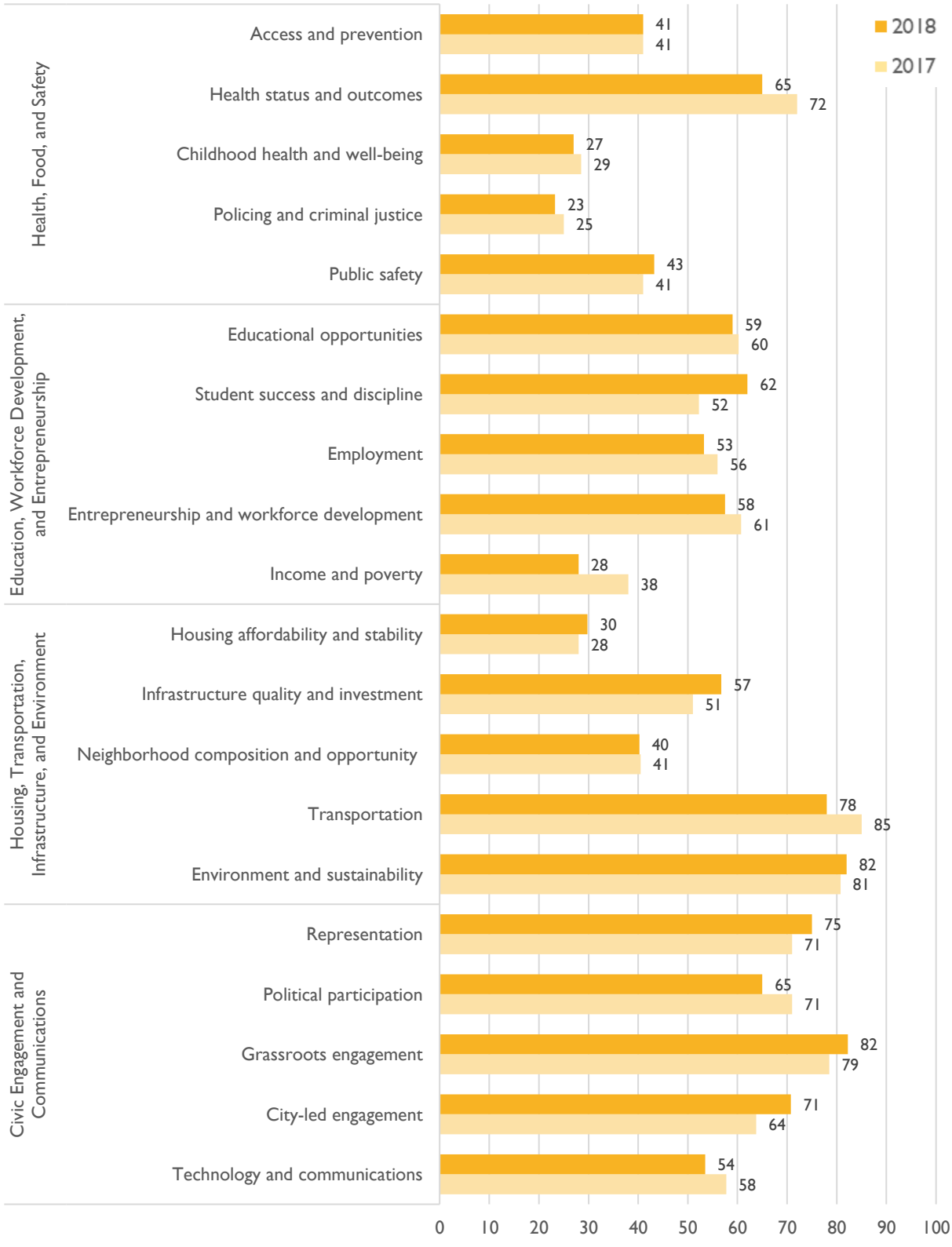
Most topic scores changed at least slightly between 2017 and 2018. Change scores ranged from –10 (***income and poverty***) to 10 (***student success and discipline***). Some topics showed very little change between 2017 and 2018, with a change score of 0 for ***access and prevention*** and change scores between ±2 for ***childhood health and well-being***, ***policing and criminal justice***, ***educational opportunities***, ***neighborhood composition and opportunity***, and ***environment and sustainability***.

Topic-level change scores are sensitive to large changes in indicator scores. Indicator-level findings are described in the next section and provide more information about the specific changes at the indicator level that drove these topic-level changes. Here we present some notable findings at the topic level:

[b] Note that the 2017 report should be read with caution with caution, since a number of scores for 2017 have been recalculated for the 2018 report for the reasons noted above.

- ***Health status and outcomes:*** The 2018 topic score was 65, down from 72 in 2017 (change score = –7). This topic score is still among the higher scores but has fallen in 2018 because of increasing disparities in chronic disease outcomes between black and white Pittsburghers.
- ***Policing and criminal justice:*** A topic score of 23 was down slightly from 25 (change score = –2). This topic previously had one of the lowest topic-level scores and had the lowest score of all topics in 2018. These changes are attributable to increasing disparities in indicators related to criminal justice, such as arrest and incarceration rates, with black Pittsburghers being disproportionately affected.
- ***Public safety:*** The 2018 topic score of 43 is up from 41 in 2017 (change score = 2). This topic continues to fall near the middle of the range of equality scores. Indicator-level scores discussed in the next section illustrate that outcomes related to crime victimization are improving for both white and black residents, while incidents of traffic accidents are worsening in high-income communities relative to low-income communities.
- ***Student success and discipline:*** This topic had a 2018 equality score of 62, up from 52, with the largest change score of all topics of 10. This topic continues to fall near the middle of the range of equality scores but is improving based on greater improvements in student success outcomes such as graduation rates for black students.
- ***Income and poverty:*** The 2018 topic score of 28 was down from 38 in 2017 (change score = –10). This topic previously had one of the lower topic-level scores of all of the topics in the framework, and the score worsened between 2017 and 2018, leaving ***income and poverty*** with the third-lowest topic score in 2018. The decreasing equality score was driven by indicator-level data that show trending improvements in income and poverty rates among white residents and concurrent declines in these outcomes among black residents. This is a cluster of outcomes that suggests substantial declines in economic equity based on race in Pittsburgh.
- ***Infrastructure quality and investment:*** A topic score of 57 in 2018 was up from 51 in 2017 (change score = 6). This topic continues to fall near the middle of the range of equality scores but showed improvement. These changes are driven by movement toward equality in investments between geographic areas and conditions improving (or not worsening) in the city's neighborhoods (e.g., proportion of properties in tax delinquency).
- ***Transportation:*** The 2018 topic score of 78 was down from the highest 2017 topic-level score of 85 (change score = –7). Changes to this topic were driven solely by greater access to high-frequency transit networks among white residents relative to black residents (discussed below); other indicators in this topic each showed a very slight positive change or no change.
- ***Political participation:*** The 2018 topic score of 65 was down from the 2017 score of 71 (change score = –6). This was previously among the highest topic scores but worsened for 2018 as a topic with one of the highest negative change scores. These changes were largely driven by decreasing gender diversity of political candidates and lower turnout for national elections in low-income areas of the city.
- ***Grassroots engagement:*** The highest 2018 topic score was in this topic at 82, up from an already high score of 79 in 2017 (change = 3). The changes in this topic are largely attributable to increased volunteering among black residents, as described in the section on the indicator-level changes below.
- ***City-led engagement:*** A topic score of 71 in 2018 was up from 64 in 2017 (change score = 7). This indicator continues to fall near the middle-high end of the range of topic scores. The improvements seen in this topic are primarily attributable to increases in participation by black residents in programs such as the Civic Leadership Academy.

Figure 3. Scores by Topic



Reporting Year 2018 Indicator Scores

Between reporting years 2017 and 2018, 28 indicator scores improved, 35 worsened, and 17 remained the same (or data were not available to score the indicator in 2017, represented with a change score of 0). Table 2 (shown earlier) provides a summary of the indicator scores for reporting year 2018. Detailed findings and data by subgroup used to calculate the equality scores reported here are available in Appendix D.

Key Findings and Changes

Here, we summarize a set of notable findings and indicator scores in each domain, including information on those equality scores that changed the most between reporting years 2017 and 2018, as well as raw data that represent interesting changes in access to resources or outcomes, but may not be reflected in substantial changes in equality scores. For a subset of indicators, data from previous years were available to describe trends.

Equality scores may mask interesting phenomena evident in the raw data for each subgroup.

Figure 4 below illustrates the relationship between changes in the underlying data for each subgroup and changes in equality score for a subset of indicators, which are described in this section in more detail. Positive year-to-year changes in outcomes for each subgroup are shown in shades of blue, darker for more positive changes. Negative year-to-year changes in outcomes are shown in shades of orange, darker for more negative changes. Changes in equality scores for each indicator are also color coded in shades of blue and orange, to represent the magnitude of change toward or away from equality between subgroups. Due to these nuances, readers may find it valuable to examine the underlying data contributing to the equality and change scores for each indicator detailed in Appendix D.

Figure 4. Changes in Raw Data and Equality Scores for a Subset of Indicators

Domain	Indicator	Change Values Between Reporting Years: Black Residents	White Residents	Equality Score
Health, Food, and Safety	Asthma hospitalizations	+	+	+
	Domestic violence	+	+	–
	Homicides	+	+	+
	Property crime	+	+	–
Education, Workforce Development, and Entrepreneurship	Access to quality childcare	+	+	+
	Median household income	–	+	–
	Poverty	–	+	–
Housing, Transportation, Infrastructure, and Environment	Homelessness	+	+	+
	Lack of access to a HFTN	+	+	–
	Blood lead levels	+	+	+
Civic Engagement and Communication	Opportunities for volunteering	+	+	+
	Applications to CLA	+	+	+
	Participation in Beautiful Our Burgh (BOB)	+	+	–

NOTE: Colors refer to the percentage change in outcomes for each subgroup and indicator change for equality scores, according to the cut-offs shown below. CLA= Civic Leadership Academy.

Below –100	–66 to –100	–33 to –66	<0 to –33	0	>0 to 33	33 to 66	66 to 100	Above 100

While there are some indicators in each domain that appeared to show dramatic change in equality scores between years, information was not available to allow us to calculate the statistical significance of these changes for most indicators. Those that relied on data representing the entire population or showed statistically significant change (95-percent level of confidence) between the two estimates are noted as such with an asterisk in the header and next to the change score.

Health, Food, and Safety

The **Health, Food, and Safety** domain score did not change much between reporting years 2017 and 2018 (change score = 2), but this domain changed the most in the framework, and data show substantial changes at the indicator level. For some indicators, including lack of health insurance, access worsened for whites between years; this undesirable change resulted in positive changes to equality scores because of the way that this report compares averages for groups. For other indicators, conditions worsened for black and low-income residents and improved for whites and higher-income residents (e.g., diabetes prevalence), resulting in widening disparities and negative change scores. For many more indicators in this domain, conditions improved for all groups considered (e.g., public safety indicators such as domestic violence, homicide, and property crime victimization), but to different degrees, resulting in widening disparities for some indicators (and negative change scores) and shrinking disparities in others (positive change scores).

Here, we present some notable findings at the indicator level for this domain:

Lack of Health Insurance (Indicator 1)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 6.0% White: 3.6% **Score: 54**	Black: 5.9% White: 4.2% **Score: 65 (change =11)**
Geography	City	

Between 2016 and 2017, the percentage of black Pittsburghers without any health insurance remained relatively stable, while the percentage of white Pittsburghers without insurance increased. Declines in insurance rates among the white population, while not a positive outcome, led to an 11-point increase in equality score between reporting years, from 54 (2017) to 65 (2018).

SNAP Participation (Indicator 3)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 30.5% White: 5.8% **Score: 19**	Black: 38.0% White: 6.8% **Score: 18 (change = –1)**
Geography	County	

A larger percentage of black households in the City of Pittsburgh participated in the federal SNAP than white households in 2017 (the most recent year for which data were available). While participation increased in both groups from 2016, the disparity between the two groups remained roughly the same.

Diabetes (Indicator 7)

Reporting year	2017	2018
Year(s) data collected	**2015**	**2016**
Results	Low-income tracts: 10.5% High-income tracts: 8.3% **Score: 72**	Low-income tracts: 10.7% High-income tracts: 6.1% **Score: 50 (change = –22)**
Geography	City (census tract)	

In 2016 (the most recent year for which data were available), the percentage of residents of low-income census tracts with a type 2 diabetes diagnosis was up slightly from in 2015. Over the same period, the percentage of residents of high-income census tracts with diabetes decreased. These data translate to equality scores of 50 and 72 for 2018 and 2017, respectively, and a change score of –22. The change indicates a widening disparity, driven primarily by the decrease in the percentage of residents of high-income tracts with type 2 diabetes. While this is a positive outcome, low-income residents did not also experience a similar drop in type 2 diabetes. This indicator is measured using health plan claims data, the limitations of which are described in Appendix C, and thus these changes should be interpreted with caution.

Asthma Hospitalization Rates (Indicator 11)*

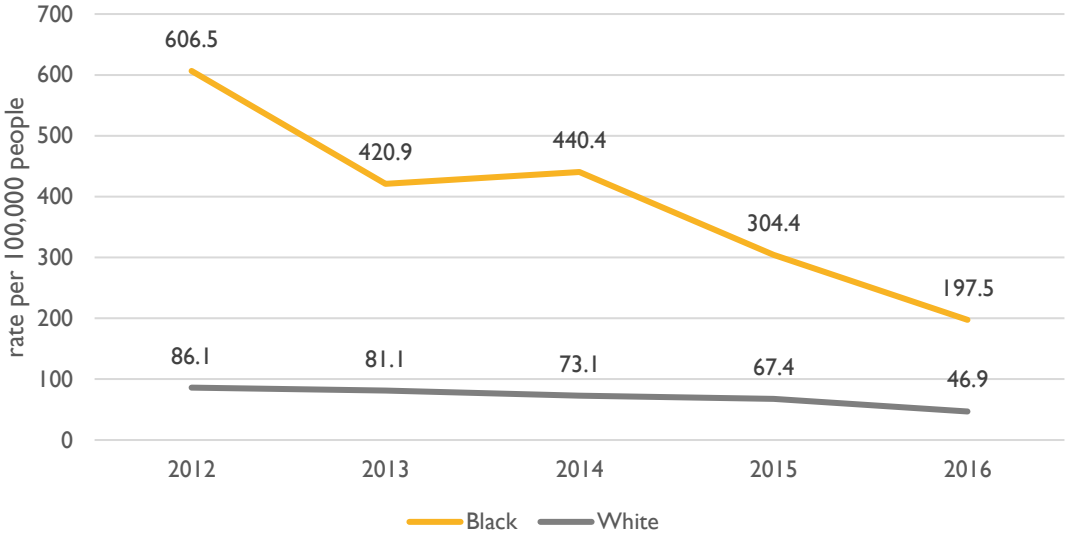
Reporting Year	2017	2018
Year(s) data collected	**2015** rate (per 100,000)	**2016** rate (per 100,000)
Results	Black children: 304.4 White children: 67.4 **Score: 24**	Black children: 197.5 White children: 46.9 **Score: 26 (change = 2*)**
Geography	County	

*Information was available from the Pennsylvania Department of Health on the margins of error associated with these estimates of rates of asthma hospitalizations. Statistical testing revealed that changes in rates between 2015 and 2016 *were* statistically significant at a 95-percent level of confidence for both subgroups.

Black children ages 0–17 were hospitalized for asthma at a significantly higher rate than white children in 2016 (the most recent year for which data were available). While rates were down for both groups between the years, they decreased more for black children, resulting in a equality score of 26 in 2018 compared with 24 in 2017. Though there is still a notable racial disparity, the gap between groups closed slightly but significantly between the years (change score =2*). Furthermore, trend data suggest that rates have been decreasing for both groups consistently between 2012 and 2016 and have fallen dramatically among black children since 2014 (Figure 5).

A number of recent events and initiatives may be related to this decrease, though causal analysis has not been conducted. The Shenango Coke Works, a major polluter in Allegheny County, ceased operations in January of 2016, and the reduction in asthma hospitalizations during this time period has been studied and may be attributed to the plant's closure.[6] In addition, the City of Pittsburgh continues to reduce tailpipe emissions through Complete Streets implementation and electrification of its fleet.

Figure 5. Child Asthma Hospitalization Rates in Allegheny County, 2012–2016



SOURCES: Data request by authors and Pennsylvania Department of Health, Division of Health Informatics, "Enterprise Data Dissemination Informatics Exchange (EDDIE): Hospitalization Admissions: County State," 2012–2014 data, webpage.

Associations with the Child Welfare System (Indicator 12)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 2,373.4 White: 442.7 **Score: 19**	Black: 1,613.0 White: 300.1 **Score: 19 (change = 0)**
Geography	City	

Allegheny County Department of Human Services tracks whether parents are involved with an allegation, investigation, or case related to child abuse or neglect in the Children's Court of the Family Division of the Allegheny County court system. In 2018, the rate of association with the child welfare system decreased among both black parents and white parents. Since rates decreased proportionally similarly between the two groups between years, the equality scores for 2018 and 2017 remained unchanged at 19.

Use of Force (Indicator 14)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 915.3 White: 258.5 **Score: 30**	Black: 568.0 White: 141.3 **Score: 27 (change = –3)**
Geography	City	

Data from 2016 and 2017 (the most recent years for which data were available) on the Pittsburgh Police Bureau's use of force by race of arrestee show that black arrestees had force used against them at a higher rate than white arrestees. The data also show that the overall use of force decreased for both subgroups between 2016 and 2017. Though rates were down dramatically for both groups, they decreased proportionately more for white populations, resulting in an equality score of 27 in 2018, down from 30 in 2017.

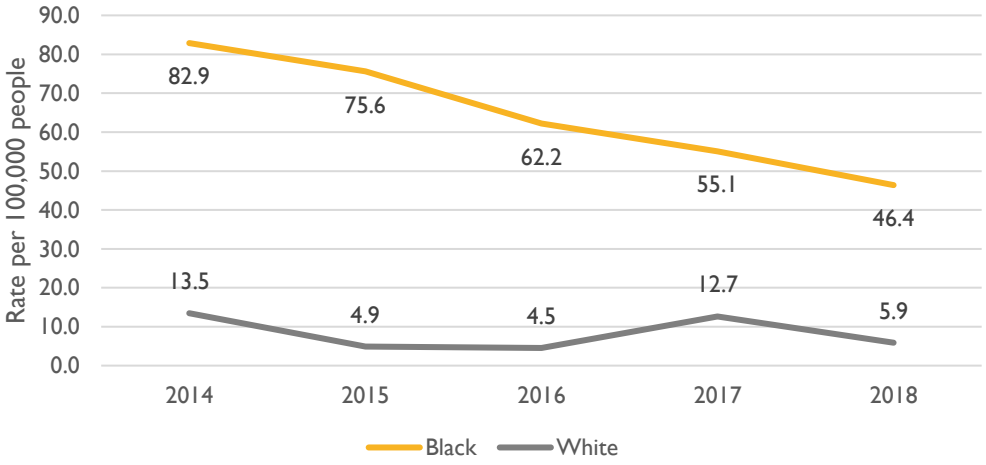
Domestic Violence (Indicator 17)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 55.1 White: 12.7 **Score: 25**	Black: 46.4 White: 5.9 **Score: 9 (change = –16)**
Geography	City	

In 2018, the rate of domestic violence victimization among black residents and white residents decreased from the 2017 rate. While there were decreasing victimization rates among both subgroups, the victimization rate among white residents decreased more than the rate among black residents, resulting in a negative change in equality scores between years (9 in 2018 and 25 in 2017; change score of –16). Additionally, trend data show that rates have been decreasing among black residents over the past five years and have been fluctuating among white residents (Figure 6).

The City plans to closely track future changes to this indicator. In 2019, the Pittsburgh Police Department received $500,000 in funding from the Nina Baldwin Fisher Foundation to establish a new Domestic Violence Unit. The unit will expand data collection and processing to improve investigations of domestic violence and review all domestic violence incident reports. Unit members will participate in collaborative justice system projects and community outreach in the area of domestic violence. They will also participate in national training on domestic violence best practices for law enforcement and become leaders in implementing such best practices locally.

Figure 6. Domestic Violence Victimization Rates in Pittsburgh, 2014–2018



SOURCE: Pennsylvania Uniform Crime Reporting System, monthly data, 2014–2018, webpage..

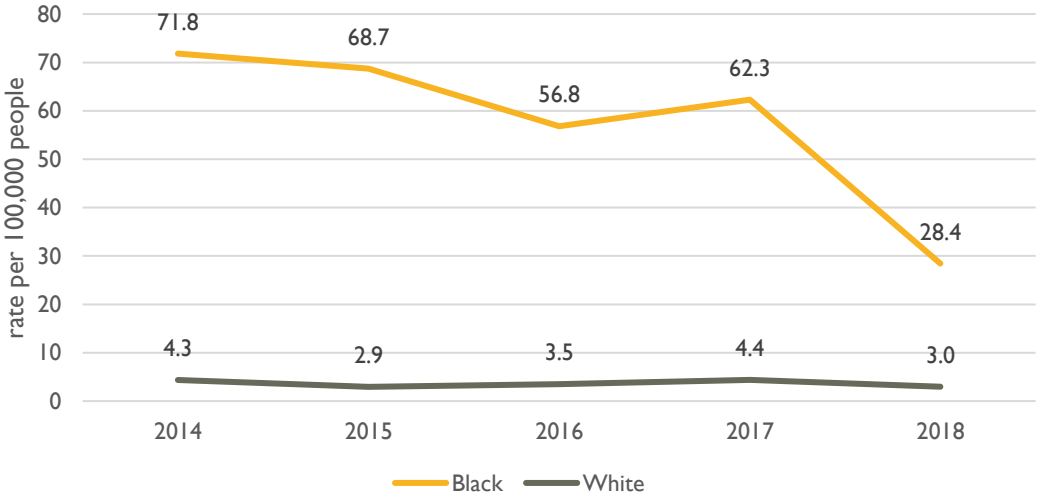
Homicides (Indicator 18)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 62.3 White: 4.4 **Score: 1**	Black: 28.4 White: 3.0 **Score: 2 (change = 1)**
Geography	City	

In 2018, the homicide victimization rate was down dramatically among black residents and decreased slightly for white residents from the 2017 rate. While disparities in homicide rates are still large between black and white residents, the proportionally greater decreases in rates among black residents led to a slightly higher (yet still very low) equality score of 2 in 2018 compared with the 2017 score of 1. Trend data show that rates have been decreasing among black residents over the past five years, though the dramatic decrease between 2017 and 2018 is an aberration from the trend. Rates over time have been generally low (lower than the overall homicide rate of any of the 30 largest U.S. cities[7] and well below the national average[8] of 5.3 per 100,000 in 2017) and fluctuating slightly among white residents (Figure 7).

Despite general declines in homicide rates in Pittsburgh, the shooting deaths of 11 Pittsburghers at the Tree of Life synagogue in the majority-white Squirrel Hill neighborhood on October 27, 2018, in addition to the persistent disparities in homicides between black and white communities, have motivated conversations at the local level about strategies to further curb gun violence.[9]

Figure 7. Homicide Victimization Rates in Pittsburgh, 2014–2018



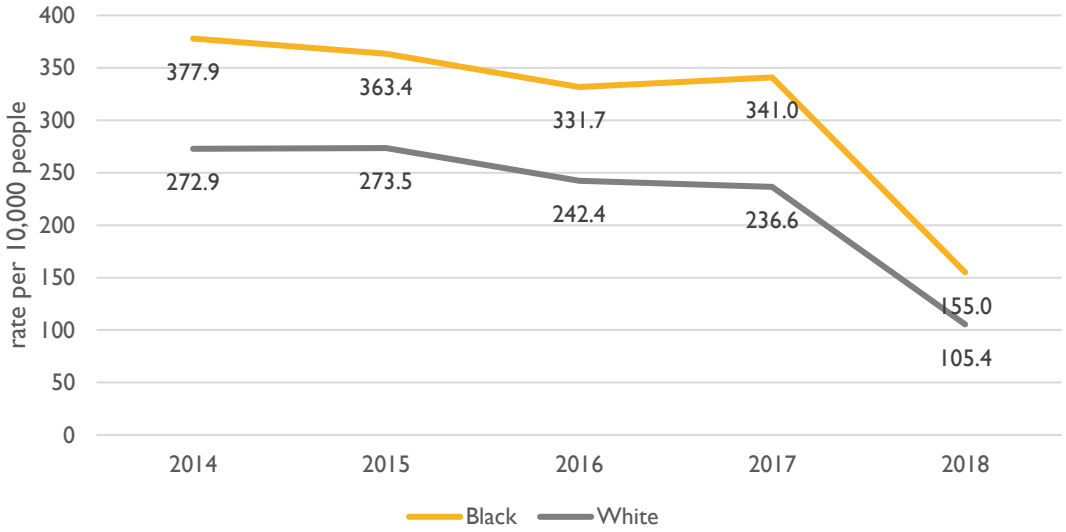
SOURCE: Pennsylvania Uniform Crime Reporting System monthly data, 2014–2018, webpage.

Property Crime (Indicator 19)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 341.0 White: 236.6 **Score: 63**	Black: 155.0 White: 105.4 **Score: 62 (change = –1)**
Geography	City	

Reflecting a consistent trend in crime-related indicators, rates of property crime victimization among black residents and white residents were down from 2017. Decreases in property crime were proportionally similar between the subgroups, resulting in similar equality scores in 2018 and 2017, at 62 and 63, respectively. Trend data show that rates have been decreasing slightly for both groups over the past five years (Figure 8). The dramatic decrease between 2017 and 2018 appears unique relative to the previous four years, however.

Figure 8. Property Crime Victimization Rates in Pittsburgh, 2014–2018



SOURCE: Pennsylvania Uniform Crime Reporting System monthly data, 2014–2018, webpage.

Traffic Accidents Involving Bikes or Pedestrians (Indicator 20)

Reporting Year	2017	2018
Year(s) data collected	**2016** rate (per 100,000)	**2017** rate (per 100,000)
Results	Low-income tracts: 99.2 High-income tracts: 82.4 **Score: 75**	Low-income tracts: 88.8 High-income tracts: 235.8 **Score: 100 (change = 25)**
Geography	City (census tract)	

In 2017 (the most recent year for which data were available), the rate of traffic accidents in low-income tracts that involved bikes or pedestrians decreased, while the rate in high-income tracts increased from 2016. While a disparity exists between high- and low-income tracts, this increase resulted in a "flipped disparity" (in which the group that might be expected to have better outcomes, in this case high-income residents, experienced worse outcomes) for 2018, as represented by the indicator score of 100 in 2018 and a 2017 score of 75 (change score = 25).

The increase in rates of accidents in high-income tracts is primarily attributable to a large number of accidents in a census tract in Pittsburgh's Strip District neighborhood between the two years: There were 14 accidents in 2017, up from 7 in 2016, in this neighborhood. This neighborhood has experienced commerical and demographic changes in the past couple of years, with more businesses and residents locating there. The increased pedestrian and bicycle traffic that often accompanies these changes may explain some of the observed increase. The City recently revealed a new redesign for Smallman Street to slow traffic, provide sidewalks, and accommodate bike lanes as part of a redevelopment project to be completed in 2020. Slight increases in rates of accidents in other high-income tracts and decreases in low-income tracts also contributed to changes in the equality score.

Education, Workforce Development, and Entrepreneurship

The score for the **Education, Workforce Development, and Entrepreneurship** domain decreased by one between 2017 and 2018, though data show more dramatic changes at the indicator level. For some indicators, including Pittsburgh Promise Scholar graduation rates, outcomes worsened for white students between years, resulting in positive changes to equality scores despite overall negative changes for both black and white students. For a sizable proportion of the indicators in this domain, conditions worsened for black residents and improved for white residents (e.g., Pittsburgh Promise eligibility, business ownership, median income, below middle class, and poverty), resulting in widening disparities and negative change scores. Negative changes among black populations for this cluster of economic outcomes suggest that inequity in this domain may be increasing in Pittsburgh.

For other indicators in this domain, conditions improved for both white and black residents (e.g., access to quality childcare), but to different degrees, resulting in widening disparities for some indicators (and negative change scores) and shrinking disparities in others (positive change scores). Finally, for another set of indicators, conditions worsened for both black and white Pittsburghers (e.g., public school capture, student stability), but declined more steeply for black residents, resulting in negative change scores.

Here, we present some notable findings at the indicator level for this domain:

Access to Quality Childcare (Indicator 21)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 14.7% White: 24.0% **Score: 55**	Black: 32.6% White: 42.4% **Score: 70 (change = 15)**
Geography	City (neighborhood)	

The percentage of residents with at least one high-quality childcare center in their neighborhood was up substantially in 2018 from 2017 for both black residents and white residents. There was a disproportionate increase in access among black populations, resulting in a higher equality score in 2018—70 compared with 55 in 2017 (change score = 15). The results of these analyses suggest that not only is access increasing for all Pittsburghers, it is increasing more for blacks. In 2019, the city introduced the City of Pittsburgh Quality Childcare Fund, a $2 million investment to upgrade childcare facilities citywide to achieve high-quality designation from the state.

Promise Eligibility (Indicator 23)*

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 63.2% White: 82.1% **Score: 71**	Black: 54.0% White: 88.4% **Score: 55 (change = –16*)**
Geography	City	

At the end of the 2018 SY, the percentage of black PPS students who were eligible for Pittsburgh Promise scholarship was lower than the 2017 percentage. At the same time, the percentage of white PPS students who were eligible increased. As a result, the 2018 equality

score was 55 compared with the 2017 score of 71, with a change score of –16 for this indicator. With rates of Promise eligibility moving in opposite directions for black and white PPS students, there is evidence that disparities in access to post-secondary opportunities via the Promise scholarship are increasing.

Student Stability (Indicator 24)*

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Lowest proportion white students: 11.4% Highest proportion white students: 5.9% **Score: 43**	Lowest proportion white students: 18.0% Highest proportion white students: 9.2% **Score: 42 (change = –1*)**
Geography	City (school)	

The rate of students transferring at least once during the SY increased between 2017 and 2018 for both the schools with the lowest and highest proportions of white students, though it increased more for those schools with the lowest proportion of white students. These dramatic changes affected all schools in the PPS system but were slightly more pronounced among the lower-percentage white schools. As a result, the equality score in 2018 was lower than in 2017, at 42 and 43, respectively.

Pittsburgh Promise Scholar Graduation Rates (Indicator 27)*

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 19.3% White: 46.9% **Score: 38**	Black: 23.8% White: 36.9% **Score: 59 (change = 21*)**
Geography	City	

In 2018, the rate of black recipients of Pittsburgh Promise scholarships graduating with two- or four-year college degrees increased slightly from 2017, while the college graduation rate of white Promise scholarship recipients decreased. The 2018 equality score of 59, while up from the 2017 score of 38 (change = 21), indicates that disparities remain between black and white Promise scholarship recipients. Moreover, while the increase in graduation rates among black students is a positive trend, much of the positive change in equality scores in 2018 is attributable to a negative trend of decreasing graduation rates among white students.

Business Ownership (Indicator 34)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 0.9% White: 1.7% **Score: 45**	Black: 0.4% White: 2.3% **Score: 17 (change = –28)**
Geography	City	

In 2017 (the most recent year for which data were available), the percentage of black residents who owned businesses further decreased from an already-low rate in 2016. In comparison, more white residents owned businesses in 2017 than in 2016. The raw decrease in business ownership among black residents and the raw increase among white residents were both very small (less than a 1-percent change). However, the widening disparity between the groups resulted in a 2018 equality score of 17 compared with the 2017 score of 45 (change = –28).

Career and Technical Education Enrollment (Indicator 35)*

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Female: 39.6% Male: 60.4% **Score: 59**	Female: 46.7% Male: 53.3% **Score: 78 (change = 19*)**
Geography	City	

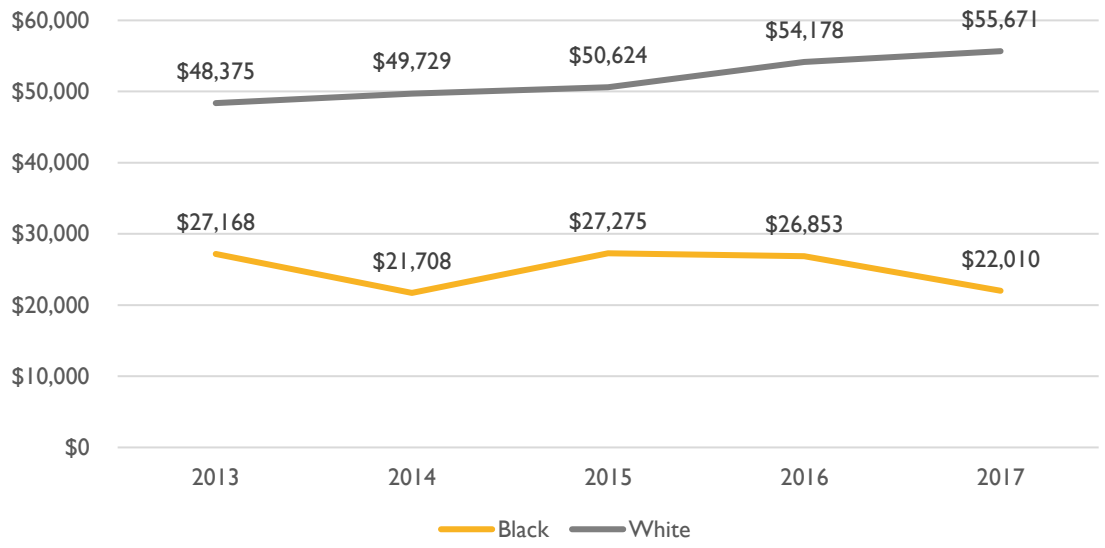
Female students comprised a greater percentage of the students enrolled in science, technology, engineering, and mathematics (STEM)–related career and technical education (CTE) courses or programs in PPS during the 2018–2019 SY than in the 2017–2018 SY. Accordingly, the percentage of male students who were enrolled in 2018 decreased in the same time period. The increasing proportion of females resulted in a positive change score for 2018 of 19, but the 2018 equality score of 78 (compared wutg 59 for 2017) reflects that there is still a disparity in who participates in STEM CTE programs.

Median Household Income (Indicator 38)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: $26,853 White: $54,178 **Score: 40**	Black: $22.010 White: $55,671 **Score: 37 (change = –3)**
Geography	City	

Between 2016 and 2017 (the most recent years for which data were available), the median income among black Pittsburghers decreased, while median income among white Pittsburghers increased. Consequently, disparities in income appeared to widen between years, resulting in a 2018 equality score of 37, down from the 2017 score of 40. Trend data were available for this indicator and show that while median income has been steadily increasing for white residents since 2013, it has been fluctuating for black residents and was at one of its lowest levels of the past five years in 2017 (Figure 9).

Figure 9. Median Income in Pittsburgh, 2013–2017



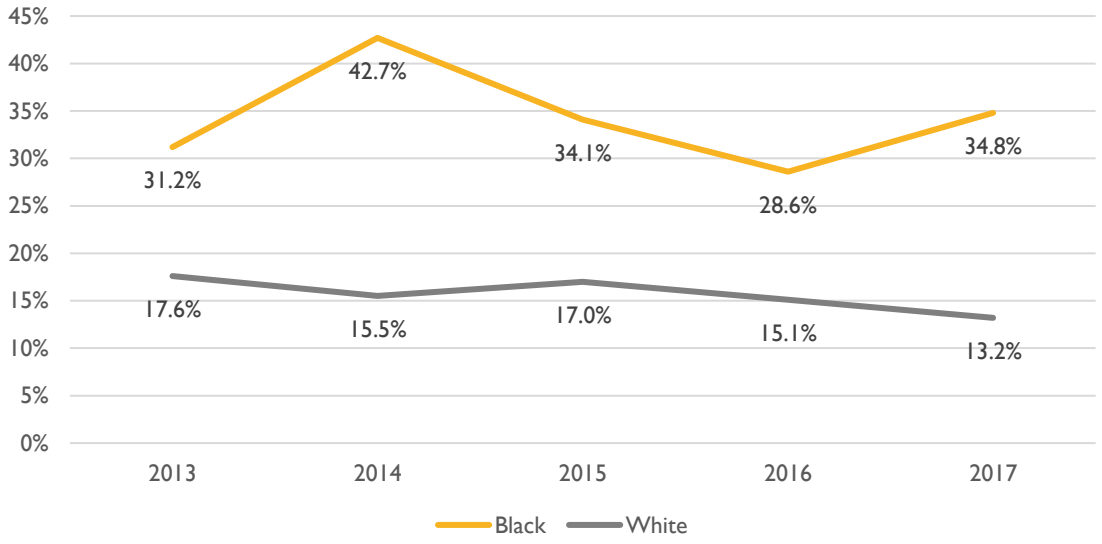
SOURCE: U.S. Census Bureau, "American Community Survey (ACS), 1-Year Estimates," years 2013–2017.
NOTE: Median income has not been adjusted for inflation.

Poverty (Indicator 40)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 28.6% White: 15.1% **Score: 45**	Black: 34.8% White: 13.2% **Score: 36 (change = –9)**
Geography	City	

Following a similar pattern to median income, in 2017, black Pittsburghers experienced a higher poverty rate and white Pittsburghers experienced a lower poverty rate since the previous year. This widening disparity is illustrated through a decreasing equality score between years, at 36 in reporting year 2018, down from 35 (change score = –9). Trend data were available for this indicator and show that while poverty rates have been steadily decreasing for white residents since 2013, they have fluctuated for black residents and were at one of their highest levels of the past five years in 2017 (Figure 10). The relative proportion of individuals living in poverty between subgroups may also explain some of the differences in median income observed over the same time period (see "Median Household Income" section above).

Figure 10. Poverty Rates in Pittsburgh, 2013–2017



SOURCE: U.S. Census Bureau, "American Community Survey (ACS), 1-Year Estimates," years 2013–2017.

Housing, Transportation, Infrastructure, and Environment

The **Housing, Transportation, Infrastructure, and Environment** domain score did not change between 2017 and 2018, though there were changes within many of the indicators. For a considerable number of indicators in this domain, conditions improved for all groups considered (e.g., home ownership, homelessness, capital budget projects by location, lack of access to high-frequency transit networks, air quality, blood lead levels), but differential improvements across groups resulted in widening disparities for some indicators (and negative change scores) and shrinking disparities in others (positive change scores). For other indicators, conditions worsened slightly for both subgroups (e.g., home loan denials, housing cost burden for renters) but worsened less for the more typically disadvantaged group, resulting in positive change scores. Finally, for another set of indicators, conditions remained relatively the same for both black and white Pittsburghers (e.g., index of distress, market strength, commute time), resulting in negligible change scores.

Here, we present some notable findings at the indicator level for this domain:

Homelessness (Indicator 44)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 1,216.9 White: 128.1 **Score: 2**	Black: 918.9 White: 99.8 **Score: 4 (change = 2)**
Geography	County	

The rate of black residents using homeless emergency shelters in Allegheny County in 2018 was down from 2017. While there is still a significant racial disparity in who is using homeless shelters, the gap closed slightly in 2018, with an equality score of 4, up from 2 in 2017.

Capital Budget Projects by Location (Indicator 47)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 72.0% White: 76.5% **Score: 88**	Black: 81.9% White: 81.5% **Score: 100 (change = 12)**
Geography	City (neighborhood)	

The percentages of black and white residents with a city a capital project being planned or implemented in their neighborhood is was virtually equal in 2018, with a score of 100 reflecting no disparity in projects by race. This is an improvement from 2017, when an equality score of 88 reflected some disparity in access to new capital budget projects.

Lack of Access to a High-Frequency Transit Network (Indicator 54)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 10.8% White: 14.0% **Score: 100**	Black: 7.4% White: 5.3% **Score: 66 (change = –34)**
Geography	City (census tract)	

Both white and black Pittsburghers experienced increased access to a transportation route that serves a stop in their census tract at least every 15 minutes during rush hour in 2018 relative to 2017. While overall rates of access are improving across subgroups, likely because of service improvements made by Port Authority of Allegheny County that have led to increased bus services during rush hour, these improvements are seen more by white residents. This difference may also be explained by demographic changes in some of the city's neighborhoods that are served more frequently by transit (e.g., East Liberty, Garfield) and may have resulted in white residents seeing disproportionately large increases in access relative to their black counterparts. The disproportionate improvements for each subgroup are represented in a 2018 equality score of 66. This score is much lower than the 2017 score of 100, when black residents had better access to a high-frequency transit network (HFTN). Consequently, a former flipped disparity was reversed for 2018.

Air Quality (Indicator 58)

Reporting Year	2017	2018
Year(s) data collected	**2012–2016**	**2013–2017**
Results	Majority-black census tracts: 27.3% Majority-white census tracts: 26.3% **Score: 93**	Majority-black census tracts: 26.2% Majority-white census tracts: 23.3% **Score: 79 (change = –14)**
Geography	City (census tract)	

The percentage of majority-black and majority-white census tracts experiencing average annual particulate matter (PM) 2.5 values of above 12.0 (at least moderately poor air quality) in 2017,

the most recent year for which data were available, was down relative to 2016. While air quality data did not change between the 2017 report and this report, differences in census tract demographics led to a lower proportion of majority-white tracts with moderately poor air quality in 2017 than in 2016, a more dramatic decrease than the proportion of majority-black tracts between the two years. As a result, the 2018 equality score is 79, down from the 2017 score of 93 (change = –14).

Blood Lead Levels (Indicator 60)

Reporting Year	2017	2018
Year(s) data collected	**2012–2016**	**2016–2017**
Results	Majority-black census tracts: 5.0% Majority-white census tracts: 4.5% **Score: 80**	Majority-black census tracts: 2.9% Majority-white census tracts: 3.0% **Score: 100 (change = 20)**
Geography	City (census tract)	

The average percentage of children tested who had a confirmed elevated blood lead level (BLL) in majority-black and majority-white census tracts between 2016 and 2017 (the most recent year for which data were available) was down from the average in previous years (2012–2016, the previous time period for which data were reported). While the percentage of children with confirmed BLL decreased across both subgroups, it decreased more in majority-black census tracts, so much so that the disparity was virtually eliminated, as reflected in a 2018 equality score of 100. This score is up 20 from the 2017 score of 80. This indicator relies on data representing time periods of different lengths. Data represent averages across time periods and should thus minimize the impact of years where lead levels were particularly high or low, but results should nevertheless be interpreted with caution.

In 2017, the city developed the Pittsburgh Safe Water Program, which distributes free water filters to residents as the Pittsburgh Water and Sewer Authority continues to upgrade the city's aging drinking water infrastructure.

Civic Engagement and Communication

The **Civic Engagement and Communication** domain score did not change between 2017 and 2018 reporting years, though data show some of the greatest indicator change scores in the framework. For some of the indicators in this domain, conditions improved for black residents and worsened for white residents (e.g., representation in social services), resulting in positive change scores, even though this meant declines for one group. For other indicators in this domain, conditions improved for both black and white residents (e.g., participation in Beautify Our Burgh, lack of a smartphone) but to different degrees, resulting in widening disparities (and negative change scores). For another set of indicators, conditions worsened in both low- and high-income areas (e.g., voter turnout in national elections), but declined more steeply for low-income areas, resulting in negative change scores. For another set of indicators in this domain (e.g., appointments to boards, authorities, and commissions, participation in Snow Angels, City Cuts, and Balancing Act), data were not available for 2017, so 2018 was used for both years and resulted in an effective change score of 0.

Here, we present some notable findings at the indicator level for this domain:

Representation in Social Services (Indicator 61)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 5.6% White: 2.2% **Score: 100**	Black: 3.9% White: 3.6% **Score: 100 (change = 0)**
Geography	City	

In 2017 (the most recent year for which data were available), a higher percentage of the black workforce was employed in social service professions compared with the white workforce. This represents a substantial decrease in the percentage of black workers in these professions and an increase in the percentage of white workers. However, since the percentage of the black workforce employed in social services exceeds the percentage of the white workforce employed in this sector, the equality score was 100 for both reporting years.

Voter Turnout in National Elections (Indicator 68)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2018**
Results	Low-income tracts: 58.5% High-income tracts: 70.7% **Score: 75**	Low-income tracts: 39.3% High-income tracts: 56.9% **Score: 63 (change = –12)**
Geography	City (census tract)	

Turnout among registered voters was unsurprisingly down for both high- and low-income census tracts for the 2018 national election (compared with turnout in 2016, which was a presidential election year) but was down more in low-income tracts than high-income tracts. This resulted in a lower equality score in reporting year 2018 (63) than in 2017 (75).

Opportunities for Volunteering (Indicator 70)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 51.4% White: 62.1% **Score: 75**	Black: 82.5% White: 81.9% **Score: 100 (change = 25)**
Geography	City (neighborhood)	

A greater percentage of black and white residents had access to a volunteer opportunity recorded by the City of Pittsburgh in their neighborhood in 2018 relative to 2017. This may be because of better record-keeping and a greater number of total projects being tracked by the city, in addition to an increase in opportunities available. In general, the higher number and more equitable distribution of opportunities tracked by the city in 2018 suggest increased access to volunteering and more so for black residents, resulting in a flipped disparity and an equality score of 100. This score is up from the 2017 equality score of 75.

Applications to Civic Leadership Academy (Indicator 73)

Reporting Year	2017	2018
Year(s) data collected	**2017** rate (per 100,000)	**2018** rate (per 100,000)
Results	Black: 24.5 White: 61.1 **Score: 37**	Black: 73.3 White: 74.5 **Score: 97 (change = 60)**
Geography	City	

Applications to the CLA increased overall, though there was a substantial increase in applications from black residents in 2018. This resulted in a very similar application rate among black and white residents in 2018 and thus an equality score of 97. The increase in applications from 2017 was more pronounced for black residents than white residents, so the equality score for this indicator increased by 60 between years (2017 equality score = 37).

Participation in Beautify Our Burgh (Indicator 75)

Reporting Year	2017	2018
Year(s) data collected	**2017**	**2018**
Results	Black: 18.2% White: 11.2% **Score: 100**	Black: 27.3% White: 36.9% **Score: 68 (change = –32)**
Geography	City (neighborhood)	

In 2018, the percentage of black and white Pittsburghers living in a neighborhood with a BOB neighborhood clean-up program was up substantially from 2017. Though rates of access to BOB programs increased for both groups, they increased more for white residents, resulting in higher rates of access for white residents than black residents and an equality score of 68, down 32 from 2017. In 2017, there was a flipped disparity, such that black residents had more access than white residents and, consequently, an equality score of 100. Since the disparity reversed in 2018, as described above, there was a substantial negative change score (–32) between years.

Lack of a Smartphone (Indicator 80)

Reporting Year	2017	2018
Year(s) data collected	**2016**	**2017**
Results	Black: 23.5% White: 21.5% **Score: 82**	Black: 20.9% White: 13.9% **Score: 60 (change = –22)**
Geography	City	

The percentage of both black and white residents who did not own a smartphone in 2017 (the most recent year for which data were available) was down from 2016. While access increased for both groups, it increased more for white residents and, as such, the equality score for 2018 is 60, down from 82 in 2017.

Limitations and Future Research

The limitations to our methodology for calculating the Equity Indicators and our findings are detailed in in the 2017 report, all of which are applicable to the findings described in this report. A limitation that bears repeating relates to survey sample sizes: Some of the surveys that are used to measure some of the indicators in the framework rely on very small sample sizes. These indicators are flagged in Appendix D and should be interpreted with particular caution.

Additionally, data used for this effort are updated on different schedules, so some data sets will lag a few years behind the current reporting year, and data for a single reporting year represent a breadth of data collection years. Data were also reported for different time periods or durations for the 2017 and 2018 reporting years for some indicators (e.g., blood lead levels were only available aggregated to 2012–2016 and 2016–2017 for 2017 and 2018 reporting years, respectively; these data also represent partially overlapping periods of time for reporting years 2017 and 2018, which is a limitation that will be addressed in future years with the availability of data from universal blood lead testing in Allegheny County). Information on all data sources and reporting years is available in Appendix C. Since data represent different time periods across indicators, there are limitations to comparing across indicators within the framework: The indicators may not be moving in the expected direction with other changes from year to year, because they do not represent the same time frame.

Change scores are subject to a number of additional limitations. For most of the indicators that rely on survey data, margins of error were not available, so we are unable to determine whether or not observed differences between the reporting years are attributable to real changes in the outcomes reported or are attributable to sampling issues or other noise in the data. Information on the availability of margins of error for each indicator are reported in Appendix D. Though we were unable to test the significance of changes between reporting years for this report, continuing to collect these data and track trends may provide valuable insight into directional changes in outcomes, as described in the discussion of trend data included in this report.

Equality scores and subsequently, change scores, are highly sensitive to very small changes when raw data represent very small values. For example, the 2018 equality score for business ownership was 17, down 28 from the 2017 equality score of 45. However, the actual change in the percentages of black and white residents who owned businesses between with the two years was less than 1 percent. Since the overall percentage of the population owning businesses is so small, even a slight change in these values represented a very large proportional change and thus a large change in equality scores.

Many of the indicators in this report represent entrenched challenges that are not expected to change substantially between two years (e.g., infant mortality, chronic disease prevalence, poverty, income, housing quality) because of the level of intervention required to close gaps. For some of these indicators, we were able to report historical data to contextualize the year-over-year changes, but this information was not available for most indicators. Additionally, demographic trends within the City of Pittsburgh (e.g., an aging population[10] and a shrinking population of black residents within the city limits[11], possibly as a result of dislocation to the inner-ring suburbs[12]) may explain some of the changes observed between reporting years, such that some areas of improvement may be attributable to demographic changes rather than the closing of gaps based on race or income, but the extent of the impact of these factors is outside the scope of this report.

Finally, change scores simply represent progress toward or away from equality—measuring a change in the extent of the disparity. Progress toward equality (positive change scores) may be a result of

improvements for disadvantaged groups or may also be the result of decreased access or worse outcomes for some populations (e.g., lower rates of health insurance among white residents). For example, for some of the indicators, improvements were seen for both black and white Pittsburghers, and larger improvements for black Pittsburghers led to positive change scores (e.g., homicides, access to quality childcare, graduation rates, home ownership, capital budget projects, applications to the city's CLA). However, for a number of other indicators, "progress toward equality" (positive change scores) was actually a result of decreased access or worse outcomes for a group (e.g., lower rates of health insurance among white residents; increased rates of traffic accidents involving bikes or pedestrians in high-income areas; decreased college graduation rates for white Pittsburgh Promise Scholars). As such, positive change scores do not necessarily represent improvements for the population as a whole. Similarly, negative changes in equality scores do not always represent declines for a group: For some indicators, improvements were made across all subgroups (e.g., domestic violence victimization, homelessness, lack of access to a HFTN, participation in BOB), but greater improvement was observed among white residents than black residents, resulting in greater disparity in 2018.

Despite these limitations, the City of Pittsburgh has introduced new programs to address some of the concerns identified as a result of the Equity Indicators process. In addition, this effort has served a pilot for a larger measurement and evaluation strategy for the ONEPGH Fund currently under development (see Conclusion). The city plans to use the metrics identified and data gathered for this effort as building blocks for long-term evaluation.

The other four cities in the Equity Indicators cohort have also found the process of collecting the indicators to be valuable for laying a foundation for discussing equity with diverse stakeholders, and the outcomes selected for monitoring lend specificity to the discussion. Through the process of creating dashboards and presenting public briefings, the cohort cities are using the Equity Indicators to foster a data-driven public dialogue around the equity issues present in their local communities. Given the differences in indicators chosen across cities, it is not possible to compare the equality scores of the cohort cities. However, a few common indicators are shared across a number of cities (e.g., poverty rates, housing affordability, home loan denials) and allow the cities in the Equity Indicators cohort to collaborate on strategies for communication and action on areas of disparity.

Future research planned in Pittsburgh will result in more robust analyses of these topics and will improve the timeliness and granularity of measurement. Future work might include primary data collection to supplement national survey data included in this report, including the elicitation of residents' stories and narratives to provide context to the findings. This report builds upon the previous report to identify clusters of inequality (e.g., outcomes that tend to be similarly poor or good for certain subgroups or that "move together" over time, such as those indicators in the income and poverty topic, which are based on the same data collection period and all seem to be showing increasing disparities), but further quantitative analyses of these phenomena will be useful to inform prioritization and decisionmaking. It will be useful for the city to continue tracking trends over time for specific indicators like these. In particular, analysis that would allow for causal inference to be made to attribute changes in equity outcomes to specific initiatives in the city would be a valuable line of future inquiry.

There is also utility in creating geographic overlays of data reported by small geographic units to identify relationships between factors (e.g., environmental risks and assets) and to guide action and investment at smaller scales. Finally, the city is interested in understanding the extent and impact of dislocation within the city and migration of residents to outside of the city limits. Analyzing indicators like those reported here for the City of Pittsburgh at the county or Metropolitan Statistical Area level may yield

valuable insights about the degree to which challenges are shared across the region, how patterns of equity and inequity may be changing during a period of regional demographic change, or if there are issues or patterns of equity or inequity that are of particular relevance at different geographic scales.

Conclusion

Pittsburgh's second comprehensive snapshot of inequity based on CUNY ISLG's Equality Indicators methodology provides an update and comparison to the data collected for Pittsburgh in 2017. While significant disparities still exist, the city is now able to use the annual indicators update to track how outcomes may change with the introduction of new investments, programs, and initiatives; understand how programs and initiatives may be impacting outcomes; and identify where to target resources to attempt to close gaps.

This study also shows changes in the raw data for subgroups being compared, even where we do not see significant changes in disparity. In other areas, disparities are decreasing. For example, childhood asthma hospitalization rates for both races decreased significantly between 2015 and 2016 but decreased more among black residents. Policymakers are able to hypothesize potential causes such as the closure of an industrial-source pollutant, improvements in access to health care and insurance, or efficacy of school-based programming and target what is working overall to the locations where disparities still exist. This line of analysis benefits all Pittsburghers.

The City and partners are using these statistics as a catalyst for deeper analyses to determine the root causes of poor outcomes and disparities. In 2018, the Mayor's Office and Department of City Planning identified the five lowest-performing indicators, compared outcomes with Pennsylvania and national averages, and convened partners to begin to understand how to address these issues. The City will continue this work in 2019 by disseminating information by neighborhood, understanding changes in populations in neighborhoods, and taking action through resource allocation, collaboration, and programming. The city plans to use this information in neighborhood planning as well as the development of the city's first Comprehensive Plan; activities the Department of City Planning has committed to in 2019.

As a result of the 2017 report, the city has increased attention toward homicides, homelessness, access to banking services, infant mortality, and childhood asthma hospitalizations and developed a partnership with The Forbes Funds to turn the statistics into action items. As a start to implementation, in October 2018, the City and Neighborhood Allies announced the development of Financial Empowerment Centers. The Division of Sustainability and Resilience has been working toward transition to cleaner sources of energy and vehicle electrification to improve air quality. The City also established its first Gender Equity Commission in February 2018, which seeks to leverage Equity Indicators reporting for a Gender Equity Analysis. Additionally, all current and new Pittsburgh police officers are required to receive implicit bias training.

While work is under way: There is still much work to be done as indicator scores shift over time. With the completion of CUNY ISLG funding and support, in 2019, the city seeks to institutionalize annual updates to the Equity Indicators and use the data as input into city budgeting as well as to help coordinate funding distributed through the ONEPGH Fund, set to launch in 2019.

Appendix A: Data Sources

Allegheny County Department of Human Services*
Allegheny County Department of Human Services, Quick Count
Allegheny County Health Department Data Across Sectors for Health (DASH) from Gateway Health Plan, Highmark Health, and University of Pittsburgh Medical Center (UPMC) Health Plan (diabetes data)***
Allegheny County Health Department DASH data from Gateway Health Plan, Highmark Health, and UPMC Health Plan (hypertension data)***
Allegheny County Primary Care Access***
Allegheny County Walk Scores***
Allegheny County, Department of Court Records; City of Pittsburgh, Department of Finance***
AllTransit
American Community Survey 1-year estimates
American Community Survey 5-year estimates
American Community Survey Public Use Microdata Sample (PUMS) data**
American Housing Survey
Carnegie Library of Pittsburgh***
Carnegie Mellon Center for Atmospheric Particle Studies (CAPS) data*
City of Pittsburgh, Balancing Act data*
City of Pittsburgh CDBG Areas data***
City of Pittsburgh Department of Public Works, Operations Division Green Spaces Inventory
City of Pittsburgh, Beautify Our Burgh (BOB) data***
City of Pittsburgh, City Cuts data*
City of Pittsburgh, Citiparks data*
City of Pittsburgh, Civic Leadership Academy application data*
City of Pittsburgh, Office of Management and Budget***
City of Pittsburgh, Office of the Mayor*
City of Pittsburgh, Police Bureau, Department of Public Safety (Use of force report)***
City of Pittsburgh, Police Bureau, Department of Public Safety (Use of force data)*
City of Pittsburgh, Snow Angels data*
City of Pittsburgh, Volunteer Project Tracking*
Current Population Survey: Food Security Supplement**
Current Population Survey: Unbanked/Underbanked Supplement**
Federal Financial Institutions Examination Council (FFIEC) Community Reinvestment Act (CRA) Aggregate Reports
Home Mortgage Disclosure Act (HMDA)
Local Election Results***
Local Primary Election Results***
Market Value Analysis, Urban Redevelopment Authority***
Municipal personnel data reported to Pennsylvania Department of Community & Economic Development
National Election Results***
Office of Child Development and Early Learning (OCDEL) Public Data File
PA Uniform Crime Reporting System monthly data
Pennsylvania Department of Transportation (PennDOT) crash data***
Pennsylvania Death Certificate Dataset
Pennsylvania Department of Education
Pennsylvania Department of Health Live Birth Data

Pennsylvania Department of Health, Division of Health Informatics; Enterprise Data Dissemination Informatics Exchange (EDDIE)
Pennsylvania Department of Health, PA National Electronic Disease Surveillance System*
Pittsburgh Bureau of Police personnel data***
Pittsburgh Promise Data*
Pittsburgh Public Schools*
Pittsburgh Public Schools, Career and Technical Education program*
U.S. Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics program; Quarterly Workforce Indicators
WalkScore Data*

*Data available by request
**ACS PUMS and Current Population Survey data available from Data Ferrett
***Data accessed through the Western Pennsylvania Regional Data Center

Appendix B: 2018 Indicators and Definitions

Domain	Topic	#	Indicator	Indicator definition
Health, Food, and Safety	Access and prevention	1	Lack of health insurance	Ratio of the percentages of blacks and whites without any health insurance
		2	Access to primary care facilities	Ratio of the percentages of whites and blacks with a primary care facility in their census tract
		3	SNAP participation	Ratio of the percentages of black and white households that participate in the federal SNAP
		4	Very low food security	Ratio of the percentages of blacks and whites reporting very low food security
	Health status and outcomes	5	Heart attack hospitalizations	Ratio of the rates of blacks and whites hospitalized for heart attack
		6	Opioid overdose deaths	Ratio of opioid overdose death rates in low-income and high-income neighborhoods
		7	Diabetes	Ratio of the percentages of residents with type 2 diabetes in low-income and high-income census tracts
		8	Hypertension	Ratio of the percentages of residents with hypertension in low-income and high-income census tracts
	Childhood health and wellbeing	9	Infant mortality	Ratio of infant mortality rates for black and white babies
		10	Low birth weight	Ratio of percentages of black and white babies born with low birth weight
		11	Asthma hospitalization rates	Ratio of the rates of black and white children, ages 0–17, hospitalized for asthma
		12	Association with the child welfare system	Ratio of rates of black and white parents who are associated with a child welfare allegation, investigation or case
	Policing and criminal justice	13	Arrests	Ratio of blacks' and whites' arrest rates
		14	Use of force	Ratio of rates of use of force for black and white arrestees
		15	Currently incarcerated population	Ratio of blacks' and whites' incarceration rates
		16	Multiple incarcerations	Ratio of rates of blacks and whites with multiple incarcerations
	Public safety	17	Domestic violence	Ratio of blacks' and whites' family-related violence victimization rates
		18	Homicides	Ratio of blacks' and whites' homicide victimization rates
		19	Property crime	Ratio of blacks' and whites' property crime victimization rates
		20	Traffic accidents involving bikes or pedestrians	Ratio of traffic accidents per capita involving bikes or pedestrians in low-income and high-income census tracts
Education, Workforce Development, and Entrepreneurship	Educational opportunities	21	Access to quality child care	Ratio of percentages of whites and blacks with at least one high-quality childcare center in their neighborhood
		22	Public school capture	Ratio of school capture rates in highest percentage of white and lowest percentage of white schools
		23	Promise eligibility	Ratio of white and black students' Pittsburgh Promise eligibility rates
		24	Student stability	Ratio of rates of students transferring at least once during the SY in lowest percentage of white and highest percentage of white schools
	Student success and discipline	25	Reading at grade level (third grade)	Ratio of percentages of white and black PPS third graders who scored reading proficient or higher on state accountability assessments

		26	Five-year high school graduation	Ratio of white students' and black students' five-year cohort graduation rates from PPS
		27	Pittsburgh Promise Scholar college graduation rates	Ratio of rates of white and black Promise Scholars earning a two- or four-year degree within five years
		28	Suspension	Ratio of black and white PPS students' suspension rates
	Employment	29	Employment in high-paying sectors	Ratio between percentages of whites and blacks employed in high-demand, high-paying occupations (those in management, business, science, and arts)
		30	Job turnover	Ratio of blacks' and whites' job turnover rates
		31	Labor force participation	Ratio of whites' and blacks' labor force participation rates
		32	Unemployment	Ratio of blacks' and whites' unemployment rates
	Entrepreneurship and workforce development	33	Loans to small businesses	Ratio of number of small business loans per capita issued in majority-white and majority-black census tracts
		34	Business ownership	Ratio of whites' and blacks' business ownership rates
		35	CTE enrollment	Ratio of male and female PPS students' participation rates in STEM-related CTE courses or programs
		36	Low educational attainment	Ratio of the percentages of black and white city residents who do not have any post-secondary education (high school degree or lower)
	Income and poverty	37	Lack of use of banking services	Ratio of the percentages of blacks and whites without a checking or savings account
		38	Median household income	Ratio of the median annual income of white and black households
		39	Below middle class	Ratio of percentage of black and white households whose income puts them below the threshold for middle class
		40	Poverty	Ratio of the percentages of blacks and whites living below the poverty line
Housing, Transportation, Infrastructure, and Environment	Housing affordability and stability	41	Home loan denials	Ratio of the percentages of black and white applicants who applied for and were denied loans for home purchases
		42	Home ownership	Ratio of the percentages of higher-income and lower-income residents who are homeowners
		43	Housing cost burden for renters	Ratio of the percentages of lower-income and higher-income residents paying more than 30 percent of their annual income on rent
		44	Homelessness	Ratio of rates of blacks and whites using homeless emergency shelters
	Infrastructure quality and investment	45	Housing stock with conditions	Ratio of percentages of renter- and owner-occupied homes with "conditions"
		46	Properties with tax delinquency	Ratio of percentages of tax-delinquent properties in majority-black and majority-white census tracts
		47	Capital budget projects by location	Ratio of percentages of whites and blacks with a city capital project being planned or implemented in their neighborhood
		48	Index of distress	Ratio of percentages of black and white Pittsburghers who live in a census tract with at least one distressed block
	Neighborhood composition and opportunity	49	Market strength	Ratio of the average percentages of white and black Pittsburghers who live in a "high market value" census tract
		50	Parcels in poor or worse condition	Ratio of percentages of parcels in poor or worse condition in majority-black and majority-white census tracts

		51	CDBG areas	Ratio of percentages of black and white Pittsburghers living in census tracts eligible for CDBG
		52	Racial segregation index	Index of dissimilarity for Pittsburgh: the (inverse of the) proportion of a group that would need to move to create a uniform distribution of the population by race
	Transportation	53	Commute time	Ratio of black and white Pittsburghers' average commute times
		54	Lack of access to a HFTN	Ratio of percentages of black and white Pittsburghers living in census tracts with no HFTNs during rush hour
		55	Use of a car	Ratio of percentages of working whites and blacks who commute by driving alone
		56	Walkability	Ratio of average walk scores in majority-white and majority-black census tracts
	Environment and sustainability	57	Utilities burden	Ratio of median annual utility costs for black and white Pittsburghers relative to annual income
		58	Air quality	Ratio of percentages of majority-black and majority-white census tracts with annual average PM 2.5 values of above 12.0
		59	Access to green space	Ratio of the percentages of white and black residents living within one-quarter of mile of a green space
		60	Blood lead levels	Ratio of average percentage of children tested with confirmed elevated blood lead levels in majority-black and majority-white census tracts
Civic Engagement and Communications	Representation	61	Representation among social service providers	Ratio of percentages of the white and black workforce employed in social service professions
		62	Representation in education professions	Ratio of representativeness of the white and black workforce employed in education professions
		63	Representation in local government	Ratio of percentages of male and female local government officials
		64	Representation in police force	Ratio of representativeness of white and black police officers
	Political participation	65	Appointments to boards, authorities, and commissions	Ratio of representativeness of white and black appointees to City of Pittsburgh boards, authorities, and commissions
		66	Diversity of candidates on the ballot in local elections	Ratio of representativeness of male and female candidates on the ballot in local elections
		67	Voter turnout for local elections	Ratio of average percentages of registered voters who voted in local elections in high-income and low-income census tracts
		68	Voter turnout for national elections	Ratio of average percentages of registered voters who voted in national elections in high-income and low-income census tracts
	Grassroots engagement	69	Access to senior centers	Ratio of percentages of older white and black Pittsburghers with a senior center (Healthy Active Living center) in their neighborhood
		70	Opportunities for volunteering	Ratio of percentages of white and black Pittsburghers who have access to organized volunteer opportunities in their neighborhoods
		71	Participation in Snow Angels	Ratio of the participation rates in the city's Snow Angels volunteer snow shoveling program in majority-white and majority-black neighborhoods
		72	Participation in City Cuts	Ratio of average participation rates in the city's City Cuts volunteer lawn care program in majority-white and majority-black neighborhoods

City-led engagement	73	Applications to CLA	Ratio of representativeness of white and black applicants to the city's CLA program
	74	Participation in Balancing Act	Ratio of representativeness of white and black participants in the city's Balancing Act participatory budgeting program
	75	Participation in BOB	Ratio of percentages of white and black Pittsburghers whose neighborhoods have an organized BOB effort
	76	Participation in Summer Learn and Earn	Ratio of the participation rates or white and black Pittsburghers in the city's Summer Learn and Earn program
Technology and communications	77	Lack of a home computer	Ratio of the percentages of black and white households who do not have a computer at home
	78	Lack of home internet connectivity	Ratio of the percentages of black and white households who do not have high-speed internet at home
	79	Library availability	Ratio of the percentages of white and black Pittsburghers who live in a neighborhood with a public library
	80	Lack of a smartphone	Ratio of the percentages of blacks and whites who do not have a smartphone

Appendix C: 2018 Technical Notes on Indicator Calculations

#	Indicator	Technical notes
1	Lack of health insurance	The 2016 and 2017 ACS 1-year estimates were used to find data about residents with or without health insurance. Margins of error were available for this indicator and are reported in Appendix D.
2	Access to primary care facilities	The most recent data on the location of primary care facilities were collected in 2014, so these data were used for both years of analysis. Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup for 2017 and 2018 reporting years.
3	SNAP participation	Allegheny County Department of Human Services data from 2016 and 2017 were used to estimate SNAP participation in Allegheny County.
4	Very low food security	Data about the food security of residents were found using the 2016 and 2017 Current Population Survey Food Security Supplement.
5	Heart attack hospitalizations	These data were provided by the Division of Health Informatics, Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions. Data were from 2014 and 2015. Margins of error were available for this indicator and are reported in Appendix D.
6	Opioid overdose deaths	The data for this indicator were from 2016 and 2017. Data were reported for low- and high-income neighborhoods, which are defined as neighborhoods where the median income is in the bottom 40 percent and top 40 percent of Pittsburgh's income distribution, respectively. Neighborhood median income was calculated using data on census tracts within the borders of those neighborhoods. Overdose incident rates, or death rates, were calculated based on the number of all overdose deaths for the year presented. Rates generated from small populations should be interpreted with caution, as small fluctuations in the number of overdose deaths from year-to-year in smaller communities can result in large fluctuations in overdose rates. Interpretation of the rates shown on in this report (and their fluctuations from year to year) should be approached with caution, as they may not be indicative of significant changes within that community.
7	Diabetes	Data on diabetes diagnoses were not available at the individual level, but by census tract for local managed care organizations. These organizations include Gateway Health Plan, Highmark Health, and the University of Pittsburgh Medical Center. These members represent approximately 60 percent of the county's insured population. Users should be cautious of using administrative claims data as a measure of disease prevalence and interpreting trends over time, as data provided were collected for purposes other than surveillance. Limitations of these data include but are not limited to: misclassification, duplicate individuals, exclusion of individuals who did not seek care in the past two years and those who are uninsured, enrolled in plans not represented in the data set, or were not enrolled in one of the represented plans for at least 90 days. Census tracts were categorized as "low income" if their median income was in the lowest 20 percent of tract median-income citywide and "high income" if their median income was in the highest 20 percent. Data on the prevalence of diabetes was weighted by population for each census tract to estimate the prevalence by subgroup, so they represent estimates of prevalence. Data were from 2015 and 2016.
8	Hypertension	Data on hypertension prevalence comes from hypertension diagnoses reported by three local managed care organizations. However, people who have blood pressure measured higher than the normal range may not receive a hypertension diagnosis, so these estimates are conservative. Data on hypertension diagnoses were not available at the individual level, but rather by census tract for local managed care organizations. These organizations include Gateway Health Plan, Highmark Health, and the University

		of Pittsburgh Medical Center. These members represent approximately 60 percent of the county's insured population. Users should be cautious of using administrative claims data as a measure of disease prevalence and interpreting trends over time, as data provided were collected for purposes other than surveillance. Limitations of these data include but are not limited to: misclassification, duplicate individuals, exclusion of individuals who did not seek care in the past two years and those who are uninsured, enrolled in plans not represented in the dataset, or were not enrolled in one of the represented plans for at least 90 days. Census tracts were categorized as "low income" if their median income was in the lowest 20 percent of tract median-income citywide and "high-income" if their median income was in the highest 20 percent. Data on the prevalence of hypertension was weighted by population for each census tract to estimate the prevalence by subgroup, so they represent estimates of prevalence. Data were from 2015 and 2016.
9	Infant mortality	Information about infant mortality was from the Pennsylvania Death Certificate dataset for 2015 and 2016. Margins of error were available for this indicator and are reported in Appendix D.
10	Low birth weight	Pennsylvania Department of Health keeps track of live birth data, including birth weight. The data for this indicator were from 2015 and 2016.
11	Asthma hospitalization rates	These data were provided by the Division of Health Informatics, Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions. Data are from 2015 and 2016. Margins of error were available for this indicator and are reported in Appendix D.
12	Association with the child welfare system	Allegheny County Department of Human Services data covered the period of the 2017 and 2018 calendar years (January through December).
13	Arrests	Allegheny County Department of Human Services data covered the period of October 2016 to September 2017 and October 2017 to September 2018.
14	Use of force	The Pittsburgh Bureau of Police track incidents of use of force against arrestees during arrests and the race, gender, and age of those arrestees. Rates were calculated by dividing the number of incidents of user of force by the total population for each subgroup. Note that disproportionality of arrests is not included in the calculation for this indicator, so much of the disparity in use of force may be attributable to the disparities in arrest rates between black and white Pittsburghers. Similar to other indicators described in this report, data and techniques were not available to control for factors beyond subgroup membership that may influence disparities. Data were from 2015 and 2016.
15	Currently incarcerated population	Allegheny County Department of Human Services data covered the period of October 2016 to September 2017 and October 2017 to September 2018.
16	Multiple incarcerations	Allegheny County Department of Human Services data covered the period of October 2016 to September 2017 and October 2017 to September 2018.
17	Domestic violence	The Pennsylvania Uniform Crime Reporting System collects monthly data concerning domestic violence. The data for this indicator covered the period of October 2016 to September 2017 and October 2017 to September 2018.
18	Homicides	The Pennsylvania Uniform Crime Reporting System collects monthly data concerning homicides. The data for this indicator covered the period of October 2016 to September 2017 and October 2017 to September 2018.
19	Property crime	Includes charges of burglary, theft/larceny, motor vehicle theft, arson, and vandalism. The data for this indicator covered the period of October 2016 to September 2017 and October 2017 to September 2018.
20	Traffic accidents involving bikes or pedestrians	The Pennsylvania Department of Transportation tracks information about all traffic accidents in Pennsylvania that involve a police report. One limitation of this data set is that an accident is only recorded if a police report is made, therefore these data do not

		capture the universe of accidents in Pittsburgh. Additionally, tracking the rate of accidents also may not fully represent the state of safety of cyclists and pedestrians in Pittsburgh because of shared infrastructure knowledge, meaning that many cyclists and pedestrians may avoid the more commonly known dangerous routes due to knowledge of existing dangers. Census tracts were categorized as "low income" if their median income was in the lowest 20 percent of tract median-income citywide and "high-income" if their median income was in the highest 20 percent. Analysis excluded crashes in the Central Business District (Downtown Pittsburgh). Data were from 2016 and 2017.
21	Access to quality childcare	*Quality childcare* was defined as child care facilities that achieved a Keystone STAR rating of 3+ in 2017 and 2018. The Keystone STARS Performance Standards provide the foundation for the program. The Performance Standards are grouped into four levels: STAR 1, STAR 2, STAR 3, and STAR 4. Keystone STARS is managed through a partnership of the Office of Child Development and Early Learning (OCDEL) and the Pennsylvania and Regional Keys. Locations were matched to neighborhood and neighborhood demographic data from 2012–2016 ACS 5-year estimates, and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup.
22	Public school capture	School-level indicators used school demographic data to compare highest percentage and lowest percentage (one of each) of white students in K–5 schools in PPS, based on enrollment demographic information for each school. The universe of public schools for the capture rate indicator did not include charter or alternative schools. Data were from the 2016–2017 and 2017–2018 SYs.
23	Promise eligibility	To be eligible for a Pittsburgh Promise scholarship, students must • graduate from a Pittsburgh Public High School or one of its charter high schools • be enrolled in the PPS district continuously since at least the beginning of ninth grade • be a resident of the City of Pittsburgh continuously since at least the beginning of ninth grade • graduate with a minimum cumulative, unweighted grade point average of 2.5 • graduate with a minimum attendance record of 90 percent. Students who do not meet one of these requirements may appeal and be granted eligibility in certain cases. Data were from 2017 and 2018.
24	Student stability	School-level indicators used school demographic data to compare the highest and lowest percentage (one of each) of white students in K–5 schools in PPS, based on enrollment demographic information for each school. The universe of public schools for the capture rate indicator did not include charter or alternative schools. School-level indicators use school demographic data to compare the highest percentage of black students and highest percentage of white students in PPS schools. Data were from the 2016–2017 and 2017–2018 SYs.
25	Reading at grade level (third grade)	Reading proficiency of third graders was determined based on PPS PSSA data from 2017 and 2018.
26	Five-year high school graduation	The five-year graduation rate included all four-year graduates, as well as those who may have attended summer school after the four years and students who may have needed an additional year of school in order to acquire their high school diploma. Data were from 2017 and 2018.
27	Pittsburgh Promise Scholar college graduation rates	Data about Pittsburgh Promise Scholar college graduation rates were for the college entering class of 2012 and 2013 and counted those who graduated from college within five years (by May 2017 and May 2018) of graduating from high school.
28	Suspension	Suspensions in PPS were for the period of 2016–2017 and 2017–2018 SYs.
29	Employment in high-paying sectors	Median salary data was obtained from the ACS 1-year estimates and "management, business, science, and arts" was selected as because it was the highest-paying cluster of sectors in the data set.

		Specific occupations in these sectors included computer; education; architecture and engineering; life, physical, and social sciences; business and financial; management occupations. Other sector clusters included "service occupations," "sales and office occupations," "natural resources, construction, and maintenance occupations," and "production, transportation, and material moving occupations." Data were from 2016 and 2017.
30	Job turnover	Job turnover was determined using data from the U.S. Census Bureau's Center for Economic Studies' Longitudinal Employer-Household Dynamics and Quarterly Workforce Indicators for 2015 and 2016.
31	Labor force participation	The 2016 and 2017 ACS 1-year estimates were used to find data about labor force participation. Margins of error were available for this indicator and are reported in Appendix D.
32	Unemployment	The 2016 and 2017 ACS 1-year estimates were used to find data about unemployment rates. Margins of error were available for this indicator and are reported in Appendix D.
33	Loans to small businesses	Loans to small businesses are reported by loan amount and by census tract. For this indicator, we calculated total number of loans per capita by demographics of census tracts (tract demographic classification described in the 2017 Equity Indicators report). Raw data were reported for 2015 and 2017. Thus, changes reported in this report for this indicator reflect changes over two years. We included these data to start to detect any trends for the 2018 report. In future years, data will be updated in the Equity Indicators reports according to the update schedule for the raw data (biannually), so data will not be updated each year for future reports.
34	Business ownership	Business ownership was determined using the "class of worker" variable in the ACS. Respondents who select the option for "self-employed in own incorporated business, professional practice or farm" were considered business owners. Data were from 2016 and 2017.
35	CTE enrollment	STEM-related programs offered in PPS include engineering; health careers; information technology; multimedia production and coding; finance; refrigeration, heating, ventilation, and air conditioning; carpentry; emergency response technology; business administration, sports and entertainment; auto body; auto tech; and machine operations. Program and class offerings differ by school. Data were from the 2017–2018 and 2018–2019 SYs.
36	Low educational attainment	The 2016 and 2017 ACS 1-year estimates were used to find data about educational attainment.
37	Lack of use of banking services	Data about residents' use of banking services was found using the 2015 and 2017 Current Population Survey Unbanked/Underbanked Supplement. Thus, changes reported in this report for this indicator reflect changes over two years. We included these data to start to detect any trends for the 2018 report. In future years, data will be updated in the Equity Indicators reports according to the update schedule for the raw data (biannually), so data will not be updated each year for future reports. This indicator is based on the percentage of respondents who responded "no" to a survey question assessing whether someone in the household had a checking or savings account. This data set relies on a very small sample, and the subsample of white Allegheny County residents reporting "no" bank account was 0, so these data should be interpreted with caution.
38	Median household income	The 2016 and 2017 ACS 1-year estimates were used to find data about median household income. Margins of error were available for this indicator and are reported in Appendix D.
39	Below middle class	Area median income by household size was obtained from the ACS 1-year estimates. Using a Pew Research Center[13] definition of middle class (between two-thirds and twice the median income), "middle class" income ranges were determined for Pittsburgh households of various sizes. Raw ACS data (ACS PUMS) was used to classify

		each respondent based on household size and household income variables into below middle class, middle class, or above middle class. Data were from 2016 and 2017.
40	Poverty	The 2016 and 2017 ACS 1-year estimates were used to find data about poverty. Margins of error were available for this indicator and are reported in Appendix D.
41	Home loan denials	The Home Mortgage Disclosure Act (HMDA) collects financial data from various sources to report data about home loan and mortgage approval and denials. The information for this indicator was from 2016 and 2017.
42	Home ownership	The 2016 and 2017 ACS 1-year estimates were used to find data about home ownership.
43	Housing cost burden for renters	The 2016 and 2017 ACS 1-year estimates were used to find data about housing cost burden for renters.
44	Homelessness	The data for this indicator covered the period of October 2016 to September 2017 and October 2017 to September 2018 and included all unduplicated individuals who used Allegheny County homeless emergency shelters in that time period.
45	Housing stock with conditions	Conditions include lacking complete plumbing facilities, lacking complete kitchen facilities, with more than 1.01 persons per room, and/or selected monthly owner costs greater than 30 percent of household income or gross rent as a percentage of household income of greater than 30 percent. The 2016 and 2017 ACS 1-year estimates were used to find data about housing stock with conditions.
46	Properties with tax delinquency	The information about properties with tax delinquency for 2017 and 2018 was collected by the City of Pittsburgh Department of Finance and Allegheny County Department of Court Records.
47	Capital budget projects by location	Data on planned capital budget projects are updated as needed and published weekly. Data used for this indicator were updated November 2018 and represent projects planned or implemented in the 2017 and 2018 fiscal years. Locations and neighborhoods in the available data were matched to neighborhood. Neighborhood demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup.
48	Index of distress	The index of distress is a combined measure of the z-scores for the housing age, condition, and vacancy by census block (smaller geographic scale than census tract). A z-score indicates how many standard deviations the value for a block is from the mean of all blocks in the city, so larger z-scores correspond to greater distress. Since demographic data are available at the census tract level and not the block level, this indicator is defined as the presence of at least one distressed block (z-score of greater than 1) within a census tract. The most recent data on index of distress were from 2016, so these data were used for both years of analysis. Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate exposure by subgroup for 2017 and 2018 reporting years.
49	Market strength	The Urban Redevelopment Authority (URA) of Pittsburgh conducts market value analysis (MVA), which uses a variety of data sets to determine the market strength of individual census blocks within the city.[14] Market strength is calculated using cluster analysis, such that groups of census blocks are grouped with other similar blocks and assigned a cluster letter (A through I, where A through C are considered "high market value" clusters). Since multiple cluster types may be present within one census tract, and demographic data are only available at the tract level, this indicator is based on the average percentage of populations living in a census tract with an MVA cluster of A, B, or C ("high market value"). The most recent data on market strength were from 2016, so these data were used for both years of analysis. Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate exposure by subgroup for 2017 and 2018 reporting years.
50	Parcels in poor or worse condition	MVA conducted by the URA of Pittsburgh also collects information about parcels in poor or worse condition. The most recent data for parcels in poor or worse condition were from 2016, so these data were used for both years of analysis. Demographic data

		from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate exposure by subgroup for 2017 and 2018 reporting years.
51	CDBG areas	The City of Pittsburgh tracks areas of Pittsburgh designated for U.S. Department of Housing and Urban Development's Community Development Block Grants. The data for this indicator were from 2017 and 2018.
52	Racial segregation index	The racial segregation index chosen for the Equity Indicators is the Index of Dissimilarity,[15] which is the most common measure of segregation. The Index of Dissimilarity for two groups, whites and blacks in Pittsburgh, analyzes the distribution by race within and between census tracts. The value of the index represents the proportion of a group that would need to move to a different census tract in order to create a uniform distribution of population throughout the city. The value of the index is maximum (100) when each tract contains only one group (i.e., the city is considered completely segregated); it is minimized (0) when the proportion by race in each tract is the same as the proportion by race of the population of the city. For the purpose of the equality score, a larger number is considered more equal, so the analysis of this indicator involves taking the inverse of the Index of Dissimilarity. The 2011–2015 and 2012–2016 ACS 5-year estimates were used to find data about the racial segregation index.
53	Commute time	Excludes those respondents reporting a commute time of zero minutes. Commute time was collected using the 2016 and 2017 ACS PUMS 1-year estimates. These estimates were produced by the U.S. Census Bureau and provided indicator data at the level of individual people or housing units.
54	Lack of access to a high-frequency transit network	The Center for Neighborhood Technology AllTransit maps track information about stops, routes, schedules, and frequency of service. The data used in this indicator were from 2017 and 2018. The data from AllTransit provided HFTN access by census tract, which was matched with demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates to estimate access by subgroup.
55	Use of a car	The 2016 and 2017 ACS 1-year estimates were used to find data about use of a car. Margins of error were available for this indicator and are reported in Appendix D.
56	Walkability	The Allegheny County Walk Scores data for walkability were measured in 2014. Data were not available from Allegheny County for more recent years, so data from 2018 come directly from WalkScore (the company that calculates Walk Scores at the census-tract level), by request. The geographic boundaries for which scores were calculated are consistent between years. Changes reported in this report for this indicator reflect changes over four years (2014–2018). We were unable to obtain historical WalkScore data from more recently than 2014. In the future, the raw data will be updated with annual data requests, so changes reported will represent annual changes. WalkScore measures the walkability of any address (or larger geographic areas, such as census tract) using a patented system. For each address, WalkScore analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a five-minute walk (one-quarter of a mile) are given maximum points. A decay function is used to give points to more-distant amenities, with no points given after a 30-minute walk. WalkScore also measures pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density. Data sources include Google, Education.com, Open Street Map, the U.S. Census, Localeze, and places added by the WalkScore user community. Census tract–level data were calculated using the centroid of each census tract. The data were matched to census tracts and census tract demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup.
57	Utilities burden	Utilities burden was collected using the 2016 and 2017 ACS PUMS 1-year estimates. Variables include annual household income and monthly fuel, water, and electricity costs.

58	Air quality	Data on PM 2.5 values show our best estimate of the annual average concentrations of different pollutants in Allegheny County. The maps are informed by data collected by Carnegie Mellon Center for Atmospheric Particle Studies researchers between 2011 and 2014 using a mobile air quality laboratory. Air quality data were collected at 70 sites across the county at different times of day and in multiple seasons. We then use a statistical model to reproduce the measurements at the 70 sampling sites and to interpolate between the sites. Data were mapped to census blocks, and blocks were categorized into majority black or majority white using data from the Integrated Public Use Microdata Series National Historical Geographic Information System.[16] Maps did not change between reporting years, so the same air quality data were used for both years of analysis. Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate exposure by subgroup for 2017 and 2018 reporting years.
59	Access to green space	Spatial analysis of green space access defines green space as any park, woodland, greenway, or river. Distances are calculated from the center of the census tract (snapped to the nearest road) to the nearest point on the edge of a green space that has slope of less than or equal to a 5-percent grade and is accessible via a path or road. The most recent data on the location of green space in the Pittsburgh were from 2016, so the same green space data were used for both years of analysis. Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup for 2017 and 2018 reporting years.
60	BLL	Data are from Pennsylvania Department of Health, Pennsylvania National Electronic Disease Surveillance System and are the percentage of children tested whose BLL exceeded 5 micrograms per deciliter (µg/dL) by census tract. Data are from 2012–2016 and 2016–2017. We were unable to obtain data that disaggregated by year. Changes reported in this report for this indicator reflect changes over different durations and include a year of overlap (2016). We included these data to start to detect any trends for the 2018 report. In future years, raw data will be updated annually as data from universal blood lead testing data become available.
61	Representation among social service providers	The 2016 and 2017 ACS 1-year estimates were used to find data on representation in social services ("community and social services" job category).
62	Representation in education professions	The 2016 and 2017 ACS 1-year estimates were used to find data on representation in social services ("education, training, and library occupations" job category).
63	Representation in local government	The information about local government officials, including city and county officials, used for this indicator was based on municipal personnel data reported to Pennsylvania Department of Community and Economic Development for 2017 and 2018.
64	Representation in police force	The most-recent available data about Pittsburgh Bureau of Police personnel by rank, gender, and race were from 2015 and 2016.
65	Appointments to boards, authorities, and commissions	New indicator for 2018. Data were from City of Pittsburgh, Office of the Mayor, and represent representativeness of appointments to boards, authorities, and commissions as of 2018. Historical data were not available, so 2018 data were used for both years of analysis (2017 and 2018). This indicator will be updated for future years.
66	Diversity of candidates on the ballot in local elections	Ability to find demographic information about all candidates on the ballot was limited. Because of these limitations, the list of candidates used for this indicator does not include the full list of candidates. Data were more available for statewide and citywide candidates, such as Justice of the Pennsylvania Supreme Court, Judge of the Superior Court, Sheriff, Mayor, Member of Council, and Magisterial District Judge. The data exclude Judges of Election and Inspectors of Election because of lack of available demographic data. Data were from 2017 and 2018.

67	Voter turnout for local elections	Census tracts were categorized as "low income" if their median income was in the lowest 20 percent of tract median-income citywide and "high income" if their median income was in the highest 20 percent. Voter turnout data were available at the precinct level, which does not align cleanly with census tracts. To assign voter turnout data to census tracts, we • determined what percentage of the area of a census tract falls inside a given precinct • determined the percentage of the area of the precinct that the census tract piece represents • assigned the voters in a way proportionate to the total/voting-age population and/or the area of the precinct that the census tract piece represents. Data were from 2017 and 2018.
68	Voter turnout for national elections	Census tracts were categorized as "low income" if their median income was in the lowest 20 percent of tract median-income citywide and "high income" if their median income was in the highest 20 percent. Voter turnout data are available at the precinct level, which do not align cleanly with census tracts. To assign voter turnout data to census tracts, we • determined what percentage of the area of a census tract falls inside a given precinct • determined the percentage of the area of the precinct that the census tract piece represents • assigned the voters in a way proportionate to the total/voting-age population and/or the area of the precinct that the census tract piece represents. Data were from 2016 and 2018. Changes reported in this report for this indicator reflect changes over two years. We included these data to start to detect any trends for the 2018 report. In future years, data will be updated in the equity indicators reports according to the update schedule for the raw data (biannually). Thus, data will not be updated each year for future reports.
69	Access to senior centers	New indicator for 2018. Data on the location of Healthy Active Living centers (city-run senior centers) were from Citiparks and did not change between program years 2016–2017 and 2017–2018 (non-overlapping). Demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup for 2017 and 2018 reporting years.
70	Opportunities for volunteering	The City of Pittsburgh Department of Public Works tracks volunteer projects and the number of organizations and number of volunteers (within ranges) for each project by neighborhood, based on data reported to the department. The data used for the indicators were from 2017 and 2018. Locations and neighborhoods in the available data were matched to neighborhood and neighborhood demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates, which were used to estimate access by subgroup.
71	Participation in Snow Angels	New indicator for 2018. Participation in Snow Angels by neighborhood came from City of Pittsburgh Office of Community Affairs. Historical data were not available, so 2018 data were used for both years of analysis (2017 and 2018). This indicator will be updated for future years.
72	Participation in City Cuts	New indicator for 2018. Participation in City Cuts by neighborhood came from City of Pittsburgh Office of Community Affairs. Historical data were not available, so 2018 data were used for both years of analysis (2017 and 2018). This indicator will be updated for future years.
73	Applications to Civic Leadership Academy	Information about all individuals who applied for the 2017 and 2018 cohorts of the Civic Leadership Academy, including information about those accepted, was provided by the City of Pittsburgh Office of Community Affairs.

74	Participation in Balancing Act	New indicator for 2018. Participants reported their race/ethnicity when submitting their Balancing Act participatory budgeting form online. Historical data were not available, so 2018 data were used for both years of analysis (2017 and 2018). This indicator will be updated for future years.
75	Participation in Beautify Our Burgh	Information about Beautify Our Burgh groups by neighborhood and outreach method for 2017 and 2018 was provided by the City of Pittsburgh. Locations and neighborhoods in the available data were matched to neighborhood and neighborhood demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup.
76	Participation in Summer Learn and Earn	New indicator for 2018. The City of Pittsburgh tracks the race/ethnicity of Summer Learn and Earn participants. Data were from the 2016–2017 and 2017–2018 cohorts (representing non-overlapping program years, aligned with SYs).
77	Lack of a home computer	The 2016 and 2017 ACS 1-year estimates were used to find data about home computer availability. Margins of error were available for this indicator and are reported in Appendix D.
78	Lack of home internet connectivity	The 2016 and 2017 ACS 1-year estimates were used to find data about home internet connectivity.
79	Library availability	The Carnegie Library of Pittsburgh provided up-to-date data about library locations, addresses, contact information, and operating hours for 2017 and 2018. Locations and neighborhoods in the available data were matched to neighborhood and neighborhood demographic data from 2012–2016 ACS 5-year estimates and 2013–2017 ACS 5-year estimates were used to estimate access by subgroup.
80	Lack of a smartphone	Information on smartphone ownerships was collected in the 2016 and 2017 ACS PUMS 1-year estimates. These estimates were produced by the U.S. Census Bureau and provided data at the level of individual people or housing units.

Appendix D: Detailed Findings

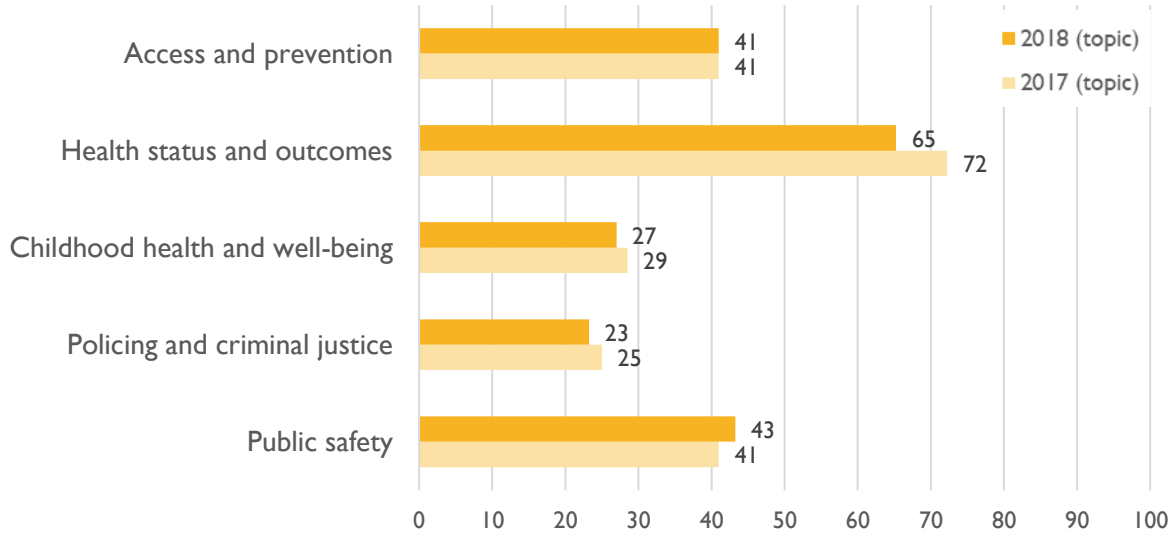
Those that relied on data representing the entire population or showed statistically significant change (95-percent level of confidence) between the estimates for the two subgroups are noted as such with an asterisk (*). Unless noted with an asterisk, changes between reporting years were either not statistically significant or we were unable to conduct significance testing on the change between estimates.

Health, Food, and Safety

2018 domain equality score: 40 (–2)

2017 domain equality score: 42

Figure 11. Health, Food, and Safety Topic Scores

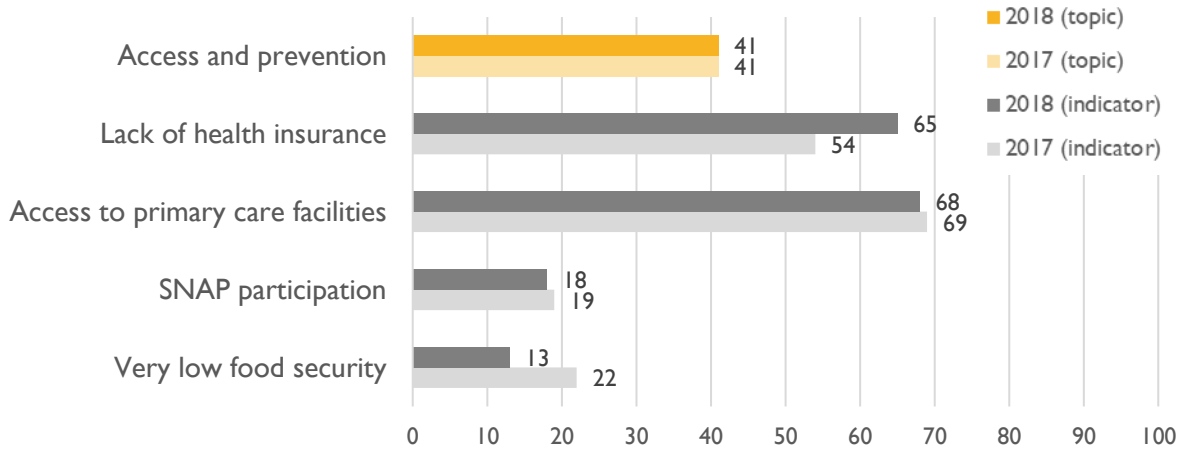


Access and Prevention

2018 topic equality score: 41 (no change)

2017 topic equality score: 41

Figure 12. Access and Prevention Indicator Scores



Indicator 1: Lack of health insurance

2018 equality score: 65

Indicator definition	Ratio of the percentages of blacks and whites without any health insurance	
Reporting year results	**2017** Black: 6.0% (3,934 people) White: 3.6% (7,257 people) **Black-to-white ratio = 1.667, score 54**	**2018** Black: 5.9% (3,742 people) White: 4.2% (8,275 people) **Black-to-white ratio = 1.405, score 65**
Changes from reporting year 2017 to reporting year 2018	Black: –0.1% White: 0.6% Change in equality score: 11	
Geography	City	
Description of results and context	Health insurance helps the insurance holder pay for medical expenses, including routine health examinations, surgery, specialist services, and costs related to illness or injury. The percentage of black Pittsburghers without any health insurance in 2017 (the most recent year for which data were available) was 5.9 percent, down negligibly from the 6.0 percent who were uninsured in 2016. Rates of uninsurance increased among white residents, with 4.2 percent uninsured in 2017, up from 3.6 percent. Declines in insurance rates among the white population, while overall not a positive outcome, led to an increase in equality scores between years of 11, at 65 in 2018 from 54 in 2017. Information was available from the Census Bureau on the margins of error of these estimates of rates of uninsurance among white and black residents (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 90-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–1.80% White: +/–0.80% Information on margins of error (2018): Black: +/–2.1% White: +/–0.8% It is important to note that these data cover a period during which people may have enrolled in health insurance exchanges under the Affordable Care Act. With change in health care policy related to the Affordable Care Act (such as the elimination of the individual mandate, to go into effect for the 2019 tax year), we expect to observe continued shifts in the number of uninsured people in the City of Pittsburgh.	
Data source	ACS 1-year estimates, 2016 and 2017	

Indicator 2: Access to primary care facilities

2018 equality score: 68

Indicator definition	Ratio of the percentages of whites and blacks with a primary care facility in their census tract	
Reporting year results	**2017** White: 55.1% (108,277 people) Black: 41.4% (30,369 people) **White-to-black ratio = 1.331, score 69**	**2018** White: 55.4% (112,542 people) Black: 41.3% (29,810 people) **White-to-black ratio = 1.341, score 68**
Changes from reporting year 2017 to reporting year 2018	White: 0.3% Black: –0.1% Change in equality score: –1	
Geography	City (census tract)	
Description of results and context	Use of primary care facilities has been shown to decrease emergency room visits and is considered crucial to preventative care. Though not completely aimed at impacting access to primary care, the two largest health systems in the Pittsburgh area (University of Pittsburgh Medical Center [UPMC] and Allegheny Health Network) recently announced plans for new facilities, so changes in access to care will be important to track over time.[17] Access to primary care facilities by race varied by census tract. White Pittsburghers were more likely to have access to a primary care facility in their census tract (55.4 percent with access) than black Pittsburghers (41.3 percent with access). A comparison in access between years showed that slightly more white Pittsburghers and slightly fewer black Pittsburghers had access to a primary care facility in their census tract in 2018 than in 2017, thus the negative change in score by one. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	
Data sources	Allegheny County Primary Care Access, 2014; ACS 1-year estimates, 2016 and 2017	

Indicator 3: SNAP participation

2018 equality score: 18

Indicator definition	Ratio of the percentages of black and white households that participate in the federal Supplemental Nutrition Assistance Program (SNAP)	
Reporting year results	**2017** Black: 30.5% (47,065 people) White: 5.8% (56,905 people) **Black-to-white ratio = 5.259, score 19**	**2018** Black: 38.0% (58,565 people) White: 6.8% (66,161 people) **Black-to-white ratio = 5.596, score 18**

Changes from reporting year 2017 to reporting year 2018	Black: 7.5% White: 1.0% Change in equality score: –1
Geography	County
Description of results and context	SNAP is the federal nutrition program that helps low low-income families pay for groceries (formerly called food stamps), and differential rates of SNAP participation reflect underlying economic disparities in a community. A larger percentage of black households in the City of Pittsburgh participated in the federal SNAP compared with white households in 2017 (the most recent year for which we had data available). 38.0 percent of black households participated in SNAP in 2017, up substantially from 2016, when participation was 30.5 percent. Only 6.8 percent of white households participated in SNAP in 2017, up from 5.8 percent. While participation rates among both groups increased between 2016 and 2017, the disparity between the two groups remained roughly the same, and so the equality score decreased by only 1, to 18 from 19. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	Allegheny County Department of Human Services, 2016 and 2017

Indicator 4: Very low food security

2018 equality score: 13

Indicator definition	Ratio of the percentages of blacks and whites reporting very low food security	
Reporting year results	**2017** Black: 10.6% (23,434 people) White: 2.2% (19,701 people) **Black-to-white ratio = 4.818, score 22**	**2018** Black: 11.5% (30,951 people) White: 1.7% (13,483 people) **Black-to-white ratio = 6.765, score 13**
Changes from reporting year 2017 to reporting year 2018	Black: 0.9% White: –0.5% Change in equality score: –9	
Geography	County	
Description of results and context	Food security is the ability to consistently access a safe and nutritious food supply. When measuring food security, the Current Population Survey: Food Security Supplement assesses food-insecure conditions including whether children skip meals or family members go to bed hungry. In Allegheny County in 2017 (the most recent year for which data were available), the percentage of black residents who reported very low food security (11.5 percent) was higher than that of white residents (1.7 percent). Between 2016 and 2017, the percentage of white residents who reported very low food security decreased by 0.5 percent, while the percentage of black residents who reported very low food security increased by 0.9 percent. The divergence in the data deepened	

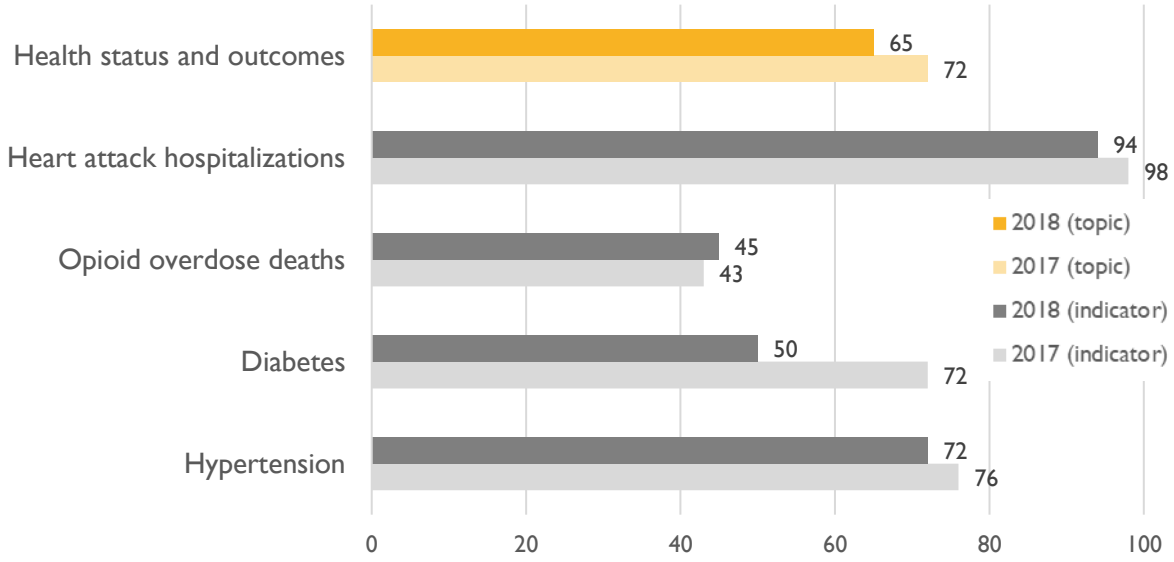
	an already-existing divide in food security by subgroup and decreased the equality score between years to 13 in 2018 from 22 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	Current Population Survey: Food Security Supplement, 2016 and 2017

Health Status and Outcomes

2018 topic equality score: 65 (–7)

2017 topic equality score: 72

Figure 13. Health Status and Outcomes Indicator Scores



Indicator 5: Heart attack hospitalizations

2018 equality score: 94

Indicator definition	Ratio of the rates of blacks and whites hospitalized for heart attack	
Reporting year results	**2017** Black: 296.6 (per 100,000 people) White: 293.2 (per 100,000 people) **Black-to-white ratio = 1.012, score 98**	**2018** Black: 305.4 (per 100,000 people) White: 295.8 (per 100,000 people) **Black-to-white ratio = 1.032, score 94**
Changes from reporting year 2017 to reporting year 2018	Black: 8.8 White: 2.6 Change in equality score: –4	
Geography	County	
Description of results and context	Findings related to heart attack hospitalizations reflect underlying disparities in cardiovascular health between different populations in	

	Pittsburgh. Black residents of Allegheny County have a higher likelihood of being hospitalized for a heart attack, which is evidence of poorer cardiovascular health in this population. The rate for black residents per 100,000 people was 305.4 compared with 295.8 for white residents. Information was available from the Pennsylvania Department of Health on the margins of error associated with these estimates of rates of hospitalization for heart attack (see below). The rate of hospitalization for heart attack is higher for black Pittsburghers than for the U.S. population as a whole: In 2013, the national rate was 15.6 per 10,000.[18] Even though heart attack–related hospitalizations have increased overall for black and white residents of Allegheny County, the equality score decreased by four points from 2017 to 2018 (98 to 94) because of a large increase among black residents. Statistical testing revealed that changes in rates between 2015 and 2016 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–30.6 White: +/–11.7 Information on margins of error (2018): Black: +/–31.1 White: +/–11.8
Data source	Pennsylvania Department of Health, Division of Health Informatics; Enterprise Data Dissemination Informatics Exchange (EDDIE), 2015 and 2016

Indicator 6: Opioid overdose deaths

2018 equality score: 45

Indicator definition	Ratio of opioid overdose death rates in low-income and high-income neighborhoods	
Reporting year results	**2017** Low-income neighborhoods: 10.4 (per 10,000 people) High-income neighborhoods: 5.4 (per 10,000 people) **Low-to-high-income ratio = 1.935, score 43**	**2018** Low-income neighborhoods: 11.0 (per 10,000) High-income neighborhoods: 5.8 (per 10,000) **Low-to-high-income ratio = 1.897, score 45**
Changes from reporting year 2017 to reporting year 2018	Low-income neighborhoods: 0.6 High-income neighborhoods: 0.4 Change in equality score: 2	
Geography	City (neighborhood)	
Description of results and context	Data on opioid overdose deaths do not capture the income of individuals, but data on where overdoses occurred reveal a disparity by	

	neighborhood income level. Low-income neighborhoods, or neighborhoods where the median income falls in the bottom two quintiles (bottom 40 percent) of neighborhoods in Pittsburgh, experienced a greater rate of opioid overdose deaths compared with high-income neighborhoods, neighborhoods where the median income falls in the top two quintiles (top 40 percent). In 2017 (the most recent year for which data were available), low-income neighborhoods had a rate of 11.0 opioid deaths, whereas high-income neighborhoods had a rate of 5.8 per 10,000 people living in those neighborhoods. The rate of opioid overdose deaths increased since 2016 for both low-income neighborhoods (up from 10.4) and high-income neighborhoods (up from 5.4). As a result of the simultaneous increase, but one that was proportionally greater in high-income neighborhoods, the equality score increased from 43 to 45 (a change of 2). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Low- to moderate-income individuals are disproportionately impacted by the "diseases of despair," including depression, suicide, and substance abuse disorders.[19] Risk factors for opioid overdose in Pittsburgh mirror those in Western Pennsylvania and the United States as whole, though rates in Pittsburgh were much higher than drug overdose rates state- or nationwide.[20] In 2017, Pittsburgh had an opioid overdose rate of 80 per 100,000 residents[21], while Pennsylvania experienced a drug overdose rate of 37.9 per 100,000 and the national rate was 16.3 per 100,000 over a similar time period.[22] To help combat overdose deaths in the area, in May 2015, the Allegheny County Health Department issued an order to allow licensed pharmacies to dispense naloxone to individuals at risk of opioid-related overdose, or those who may witness one.[23]
Data source	Allegheny County Department of Human Services, 2016 and 2017

Indicator 7: Diabetes

2018 equality score: 50

Indicator definition	Ratio of the percentages of residents with type 2 diabetes in low-income and high-income census tracts	
Reporting year results	**2017** Low-income tracts: 10.5% (1,911 people) High-income tracts: 8.3% (3,089 people) **Low-to-high-income ratio = 1.265, score 72**	**2018** Low-income tracts: 10.7% (2,233 people) High-income tracts: 6.1% (1,947 people) **Low-to-high-income ratio = 1.754, score 50**
Changes from reporting year 2017 to reporting year 2018	Low-income tracts: 0.2% High-income tracts: –2.2% Change in equality score: –22	
Geography	City (census tract)	

Description of results and context	Diabetes is a metabolic condition that puts people at risk for heart disease, eye conditions, and kidney disease and can be expensive to treat.[24] Nationwide, approximately 7.2 percent of the population was diagnosed with diabetes (95 percent of those diagnoses are for type 2 diabetes), and prevalence increases in older age groups. Approximately 20.8 percent of people over 65 in the United States were diagnosed with diabetes.[25] In 2016 (the most recent year for which data were available), the percentage of residents of low-income census tracts with a type 2 diabetes diagnosis was 10.7 percent, up very slightly from 10.5 percent in 2015. Additionally, in 2016, the percentage of residents of high-income census tracts with diabetes was 6.1 percent, down from 8.3 percent in 2015. These data translate to equality scores of 50 and 72 for 2018 and 2017, respectively, and a change score of –22. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The change indicates a widening disparity and is driven primarily by the decrease in the percentage of residents of high-income tracts with type 2 diabetes.
Data source	Allegheny County Health Department Data Across Sectors for Health from Gateway Health Plan, Highmark Health, and UPMC Health Plan, 2015 and 2016

Indicator 8: Hypertension

2018 equality score: 72

Indicator definition	Ratio of the percentages of residents with hypertension in low-income and high-income census tracts	
Reporting year results	**2017** Low-income tracts: 22.3% (4,036 people) High-income tracts: 18.6% (6,890 people) **Low-to-high-income ratio = 1.199, score 76**	**2018** Low-income tracts: 23.0% (4,721 people) High-income tracts: 18.2% (5,749 people) **Low-to-high-income ratio = 1.264, score 72**
Changes from reporting year 2017 to reporting year 2018	Low-income tracts: 0.7% High-income tracts: -0.4% Change in equality score: –4	
Geography	City (census tract)	
Description of results and context	Hypertension (high blood pressure) puts people at risk for heart attack, stroke, and other cardiovascular diseases.[26] Research shows that hypertension correlates with exposure to chronic stress, which has been shown to be more common among racial/ethnic minorities and low-income individuals and to contribute to socioeconomic disparities in health outcomes.[27] The percentage of residents with hypertension was greater in low-income than high-income census tracts: 23.0 percent of residents in low-income tracts were diagnosed with hypertension,	

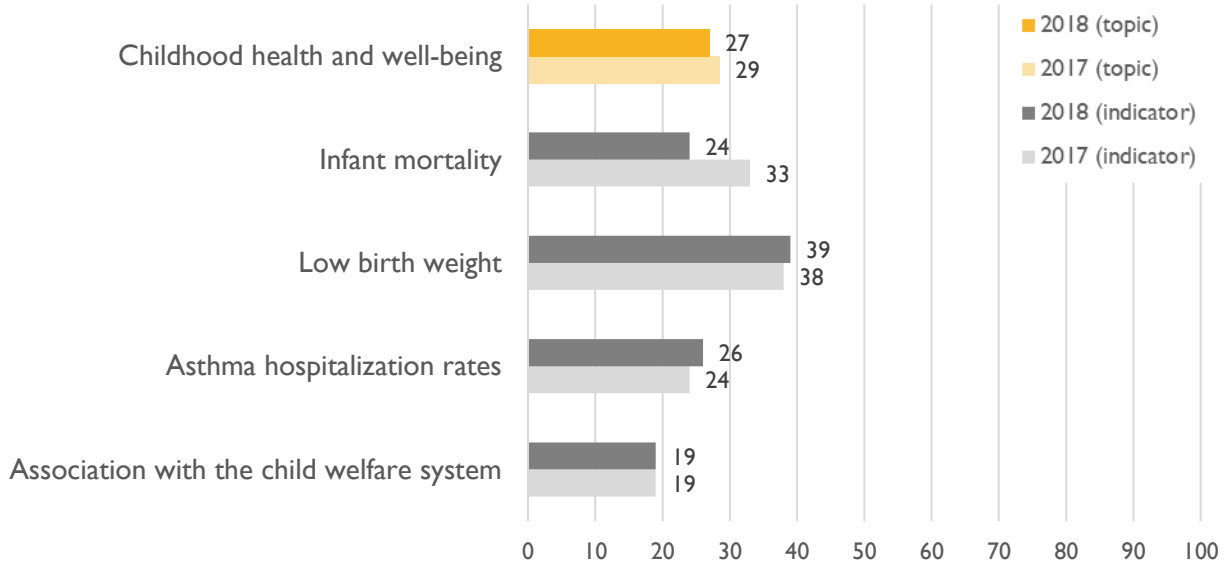
	whereas 18.2 percent of residents in high-income tracts received a diagnosis. These results are for 2016, the most recent year for which data were available. Compared with the previous year, the incidence of hypertension in low-income tracts increased by 0.7 percent and decreased in high-income tracts by 0.4 percent. As a result of the data shift, the equality score decreased by four points because of the diverging incidence of hypertension across low-income and high-income census tracts. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The prevalence of hypertension calculated for census tracts in Pittsburgh is somewhat lower than the national prevalence: 33.5 percent of people nationwide had measured high blood pressure or were taking medication for high blood pressure between 2013 and 2014.[28]
Data source	Allegheny County Health Department Data Across Sectors for Health from Gateway Health Plan, Highmark Health, and UPMC Health Plan, 2015 and 2016

Childhood Health and Well-Being

2018 topic equality score: 27 (–2)

2017 topic equality score: 29

Figure 14. Childhood Health and Well-Being Indicator Scores

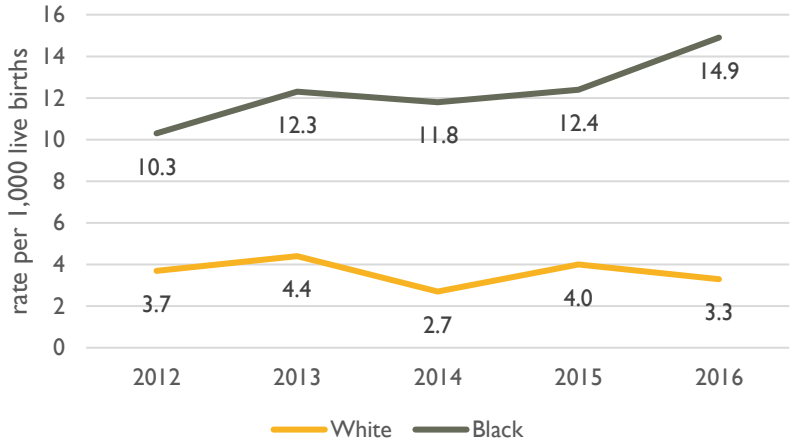


Indicator 9: Infant mortality

2018 equality score: 24

Indicator definition	Ratio of infant mortality rates for black and white babies	
Reporting year results	**2017** Black: 12.4 (per 1,000 births) White: 4.0 (per 1,000 births)	**2018** Black: 14.9 (per 1,000 births) White: 3.3 (per 1,000 births)

	Black-to-white ratio = 3.100, score 33	**Black-to-white ratio = 4.515, score 24**
Changes from reporting year 2017 to reporting year 2018	Black: 2.5 White: –0.7 Change in equality score: –9	
Geography	County	
Description of results and context	Infant mortality is the death of an infant before the age of one. There is disparity between rates of infant mortality for black babies and white babies in Allegheny County. In 2016 (the most recent year for which data were available), infant mortality for black babies occurred at a rate of 14.9 per 1,000 births, while the rate for white babies was 3.3. The increase in the rate of infant mortality for black babies between 2015 and 2016 is consistent with long-term trend data. The trend data displayed below show that, between 2012 and 2016, the rate of infant mortality for black babies had increased from 10.3 per 1,000 live births to 14.9 per 1,000 live births. Meanwhile, between 2012 and 2016, the rate of infant mortality for white babies has fluctuated between 2.7 and 4.4 per 1,000 live births. The equality score decreased from 33 to 24 because of the divergent trends in the data: The rate of infant mortality for black babies increased, while the rate of infant mortality for white babies decreased. Information was available from the State of Pennsylvania on the margins of error associated with these estimates of rates of infant mortality (see below). Statistical testing revealed that changes in rates between 2015 and 2016 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–4.3 White: +/–1.3 Information on margins of error (2018): Black: +/–4.8 White: +/–1.1 The disparity (and overall infant mortality rate) in Allegheny County is similar to Pennsylvania as a whole: In 2016, the infant mortality rate for black babies in Pennsylvania was 14.6 per 1,000 compared with 4.6 per 1,000 for white babies.[29] This stark disparity suggests a need to intervene early with adequate prenatal care, risk-monitoring systems, and other evidence-based interventions.[30]	

	Infant mortality rates in Allegheny County, 2012–2016  SOURCE: Commonwealth of Pennsylvania, Department of Health, Division of Health Informatics, "Resident Infant Deaths by Age, Sex, Race, Year: State Total, Pennsylvania, 2012–2016 (Unknowns Included in Total)," undated.
Data source	Pennsylvania Death Certificate Dataset, 2015 and 2016

Indicator 10: Low birth weight

2018 equality score: 39

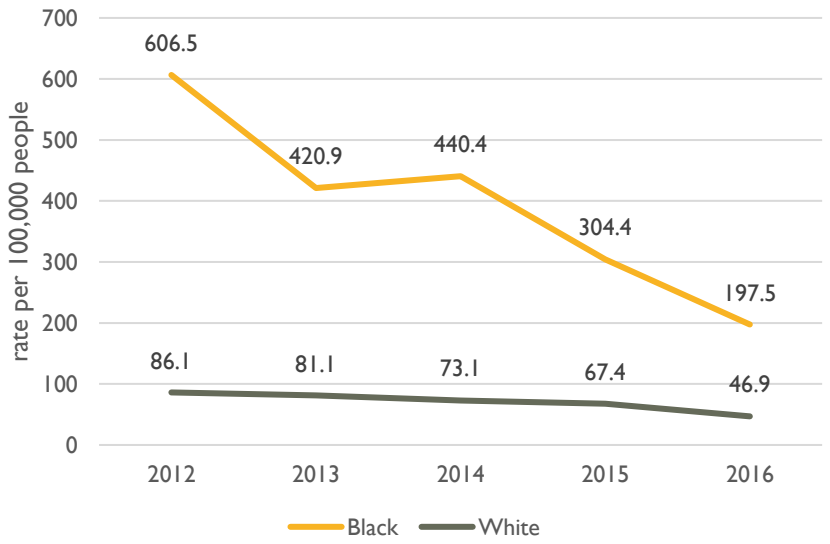
Indicator definition	Ratio of percentages of black and white babies born with low birth weight	
Reporting year results	**2017** Black: 12.7% (326 babies) White: 5.5% (523 babies) **Black-to-white ratio = 2.309, score 38**	**2018** Black: 13.9% (354 babies) White: 6.2% (573 babies) **Black-to-white ratio = 2.242, score 39**
Changes from reporting year 2017 to reporting year 2018	Black: 1.20% White: 0.70% Change in equality score: 1	
Geography	County	
Description of results and context	Low birth weight is when a baby is born weighing less than 2,500 grams (5 pounds and 5 ounces). Low birth weight is associated with premature birth and may increase risk of other health conditions, such as heart disease and high blood pressure later in life, and social and emotional developmental delays in early childhood.[31] A higher percentage of black babies in Allegheny County are born with low birth weight compared with white babies. Across all races in 2016 (the most recent year for which data were available), 8.1 percent of babies were born with low birth weight. During the same period, 13.9 percent of black babies and 6.2 percent of white babies were born with low birth weight. The incidence of low birth rate increased overall from 2015 to 2016, including for both white babies and black babies.	

	While the equality score showed a positive change of 1 between 2017 and 2018, the increase was due to the increase in the incidence of low birth weight for both black and white babies (with the incidence increasing more among white babies). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Rates of low birth weight in Allegheny County are consistent with statewide rates, and the disparity exists in Pennsylvania as a whole: Between 2012 and 2016, 13.8 percent of black babies and 6.8 percent of white babies in Pennsylvania were born with low birth weight.[32]
Data source	Pennsylvania Department of Health Live Birth Data, 2015 and 2016

Indicator 11: Asthma hospitalization rates

2018 equality score: 26

Indicator definition	Ratio of the rates of black and white children, ages 0–17, hospitalized for asthma	
Reporting year results	**2017** Black: 304.4 (per 100,000 people) White: 67.4 (per 100,000 people) **Black-to-white ratio = 4.516, score 24**	**2018** Black: 197.5 (per 100,000 people) White: 46.9 (per 100,000 people) **Black-to-white ratio = 4.211, score 26**
Changes from reporting year 2017 to reporting year 2018	Black: –106.9 White: –20.5 Change in equality score: 2*	
Geography	County	
Description of results and context	Hospitalization is a sign of uncontrolled asthma symptoms and may increase with exposure to asthma triggers in the environment such as secondhand smoke, dust, or pollution. Asthma in Pittsburgh contributes to missed school days and time off work for parents.[33] Black children ages 0–17 were hospitalized for asthma at a significantly higher rate than white children. In Allegheny County in 2016 (the most recent year for which data were available), the overall rate of hospitalization for asthma in children was 73.6 per 100,000. The rate for black children was much higher at 197.5 and slightly lower for white children at 46.9 (per 100,000 people), however, both rates decreased in 2015, down from 304.4 for black children and 67.4 for white children. This decrease is consistent with the overall trend in the data from 2012–2016 displayed below. The equality score increased by 2 from 2017 to 2018 because of the overall decrease in hospitalizations of children aged 0–17 for asthma, particularly due to the decreased rate of asthma hospitalization for black children. Information was available from the Pennsylvania Department of Health on the margins of error associated with these estimates of rates of asthma hospitalizations (see below). Information on margins of error (2017):	

	Black: +/–52.2 White: +/–12.5 Information on margins of error (2018): Black: +/–42 White: +/–10.4 *This is change score is estimated to be significant at a 95-percent confidence level. The year-to-year change in both subgroups was determined to be significant, and therefore we assume that the difference between the ratios each year (and subsequently, the change scores) are significant, as described in the body of the report. Asthma Hospitalizations, Children 0–17 in Allegheny County, 2012–2016  SOURCES: Data request by authors and Pennsylvania Department of Health, Division of Health Informatics, "Enterprise Data Dissemination Informatics Exchange (EDDIE): Hospitalization Admissions: County State," 2012–2014 data, webpage.
Data source	Pennsylvania Department of Health, Division of Health Informatics; Enterprise Data Dissemination Informatics Exchange (EDDIE), 2015 and 2016

Indicator 12: Association with the child welfare system

2018 equality score: 19

Indicator definition	Ratio of rates of black and white parents who are associated with a child welfare allegation, investigation, or case	
Reporting year results	**2017** Black: 2,373.4 (per 100,000 people) White: 442.7 (per 100,000 people)	**2018** Black: 1,613.0 (per 100,000 people) White: 300.1 (per 100,000 people)

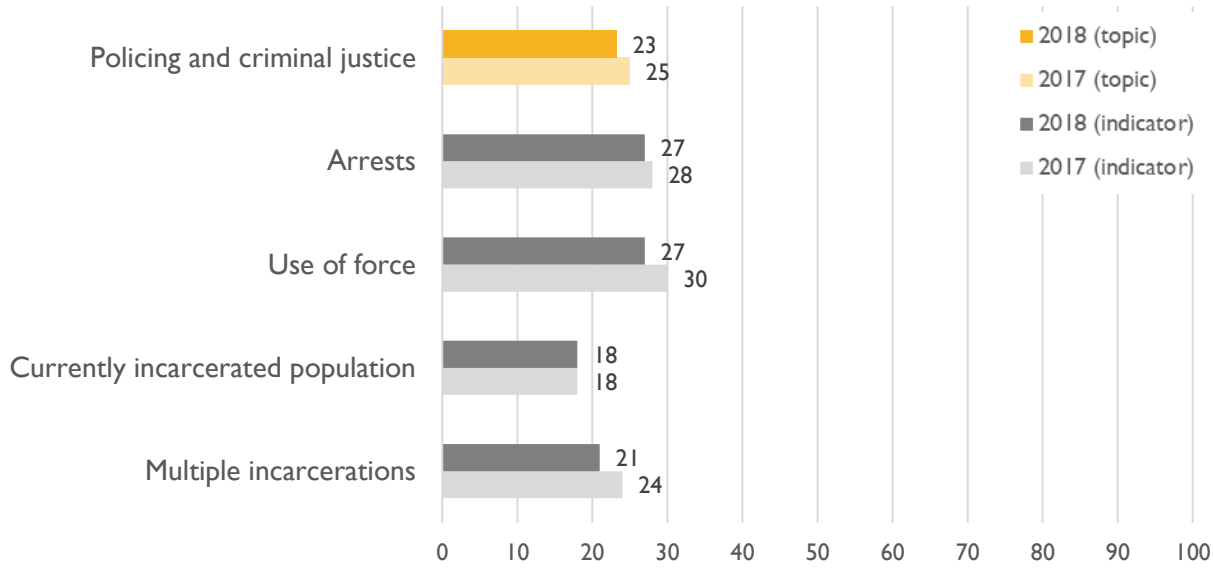
	Black-to-white ratio = 5.361, score 19	**Black-to-white ratio = 5.375, score 19**
Changes from reporting year 2017 to reporting year 2018	Black: –760.4 White: –142.6 Change in equality score: 0	
Geography	City	
Description of results and context	Allegheny County Department of Human Services tracks whether parents are involved with an allegation, investigation, or case related to child abuse or neglect in the Children's Court of the Family Division of the Allegheny County court system. While an important indicator of child well-being, contact with the child welfare system may also be a symptom of other systemic inequities including poverty, discrimination, and factors within the child welfare system.[34] Disparities exist in rates of association with the child welfare system, with black parents experiencing a rate of 1,613.0 per 100,000 compared with a rate of 300.1 per 100,000 for white parents in 2018. Set against the rates of parents' association with the child welfare system in 2017, the current rates represent a decrease of 760.4 per 100,000 for black parents and 142.6 per 100,000 for white parents. Despite an overall decrease across both races of parents in the likelihood of association with a child welfare allegation, investigation, or case, black parents are still much more likely to have an association with a child welfare allegation, investigation, or case than white parents. As a result, the equality score did not change between 2017 and 2018. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. A possible explanation on the decrease is that Allegheny County recently implemented a screening algorithm called the Allegheny Family Screening Tool to better assess risk and screen calls concerning child and family welfare. After 16 months of use, the tool has reduced the low-risk caseload for caseworkers, helped screen in more high-risk calls, and increased consistency in treatment of black and white families with regard to action taken in response to calls.[35] However, the disparity between black and white parents' involvement in the child welfare system has persisted, despite these improvements, suggesting the need for additional intervention.	
Data source	Allegheny County Department of Human Services, 2017 and 2018	

Policing and Criminal Justice

2018 topic equality score: 23 (–2)

2017 topic equality score: 25

Figure 15. Policing and Criminal Justice Indicator Scores



Indicator 13: Arrests

2018 equality score: 27

Indicator definition	Ratio of blacks' and whites' arrest rates	
Reporting year results	**2017** Black: 7,457.4 (per 100,000 people) White: 1,905.9 (per 100,000 people) **Black-to-white ratio = 3.913, score 28**	**2018** Black: 8,299.5 (per 100,000 people) White: 2,044.7 (per 100,000 people) **Black-to-white ratio = 4.059, score 27**
Changes from reporting year 2017 to reporting year 2018	Black: 842.1 White: 138.9 Change in equality score: –1	
Geography	City	
Description of results and context	The arrest rate for black Pittsburghers is considerably higher than that of white Pittsburghers. Disparities in arrests, use of force, and incarceration have received a lot of attention nationally in the context of systemic bias in executing the functions of arresting agencies and court systems, such that populations of color are more likely to be arrested, be incarcerated, and receive more severe sentences for similar crimes than their white counterparts.[36] The arrest rate in the City of Pittsburgh in 2017 (the most recent year for which data were available) was 3,482.5 per 100,000 people, up from 3,307.64 in 2016. In the same period, the arrest rate for	

	black Pittsburghers was 8,299.5, an increase from 7,697.5, and the arrest rate for white Pittsburghers was 2,044.7 per 100,000 people, also an increase from 1,978.8. While there was an overall increase in arrests, the arrest rate for black Pittsburghers remained significantly higher than that of white Pittsburghers. Because of this disparity, the equality score was 2017 27 in 2018, down from 28 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	Allegheny County Department of Human Services, October 2016–September 2017 and October 2017–September 2018

Indicator 14: Use of force

2018 equality score: 27

Indicator definition	Ratio of rates of use of force for black and white arrestees	
Reporting year results	**2017** Black: 915.3 (per 100,000 people) White: 258.5 (per 100,000 people) **Black-to-white ratio = 3.541, score 30**	**2018** Black: 568.0 (per 100,000 people) White: 141.3 (per 100,000 people) **Black-to-white ratio = 4.02, score 27**
Changes from reporting year 2017 to reporting year 2018	Black: –347.3 White: –117.2 Change in equality score: –3	
Geography	City	
Description of results and context	The Pittsburgh Bureau of Police report on the use of force during arrests by race. Data from 2016 (the most recent year for which data were available) on the Pittsburgh Police Bureau's use of force by race of arrestees show that black arrestees had force used against them at a rate of 568.0 per 100,000 population, down substantially from the rate of 915.3 in 2015. Similarly, rates for white arrestees were down in 2016, at 141.3 from 258.5 per 100,000 population. Though rates were down dramatically for both groups, they decreased more for white populations, resulting in an equality score of 27 in 2018, down from 30 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Note that disproportionality of arrests is not included in the calculation for this indicator, so much of the disparity in use of force may be attributable to the disparities in arrest rates between black and white Pittsburghers. Similar to other indicators described in this report, data and techniques were not available to control for factors beyond subgroup membership that may influence disparities.	
Data source	Pittsburgh Bureau of Police, 2015 and 2016	

Indicator 15: Currently incarcerated population

2018 equality score: 18

Indicator definition	Ratio of blacks' and whites' incarceration rates	
Reporting year results	**2017** Black: 2,770.6 (per 100,000 people) White: 499.0 (per 100,000 people) **Black-to-white ratio = 5.552, score 18**	**2018** Black: 2,531.7 (per 100,000 people) White: 455.0 (per 100,000 people) **Black-to-white ratio = 5.564, score 18**
Changes from reporting year 2017 to reporting year 2018	Black: –238.9 White: –44.0 Change in equality score: 0	
Geography	City	
Description of results and context	The Allegheny County Department of Human Services provides data on the currently incarcerated population by race. In 2018, black Pittsburghers were five times more likely to be incarcerated (2,531.7 per 100,000 people) than white Pittsburghers (455.0 per 100,000 people). There was a slight decrease in the rate of incarceration by 238.9 per 100,000 for black Pittsburghers and by 44.0 per 100,000 for white Pittsburghers from 2017 to 2018. Black Pittsburghers continue to be incarcerated at a larger rate than white Pittsburghers, even with the small decrease in the rate of incarceration. As a result, the equality score did not change and remains as 18. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Many formerly incarcerated individuals struggle with finding employment after being released from jail.[37] This was one of the key findings of the report "Barriers & Bridges: An Action Plan for Overcoming Obstacles and Unlocking Opportunities for African American Men in Pittsburgh," which called for the need to improve opportunities for formerly incarcerated individuals in Pittsburgh, with the aim of improving economic outcomes for these populations.[38]	
Data source	Allegheny County Department of Human Services, October 2016–September 2017 and October 2017–September 2018	

Indicator 16: Multiple incarcerations

2018 equality score: 21

Indicator definition	Ratio of rates of blacks and whites with multiple incarcerations	
Reporting year results	**2017** Black: 736.1 (per 100,000 people) White: 164.7 (per 100,000 people) **Black-to-white ratio = 4.469, score 24**	**2018** Black: 748.1 (per 100,000 people) White: 150.5 (per 100,000 people) **Black-to-white ratio = 4.97, score 21**

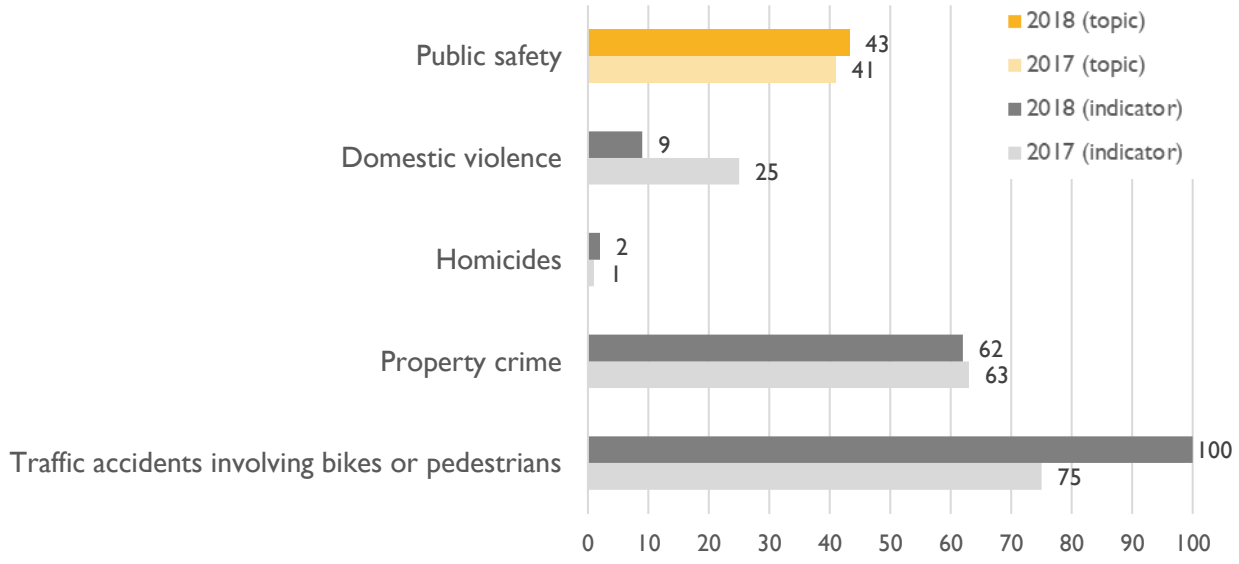
Changes from reporting year 2017 to reporting year 2018	Black: 12.0 White: -14.2 Change in equality score: –3
Geography	City
Description of results and context	Similar to the data for incarceration rates, there is also a disparity between the rates of multiple incarcerations among black and white Pittsburghers. Black Pittsburghers were almost five times as likely to have multiple incarcerations (748.1 per 100,000 people) than white Pittsburghers (150.5 per 100,000 people) in 2018. The rate of multiple incarcerations increased from the previous year for black Pittsburghers and decreased from the previous year for white Pittsburghers, expanding the already-existing disparity. Consequently, the equality score was 21, representing a negative change of 3 from 24. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Research shows that individuals who lack job skills, economic prospects, and who struggle with substance abuse (among other risk factors) are more likely to return to jail after being released.[39] As suggested by the information presented in this report, there may be a relationship between racial disparities in multiple incarcerations and disparities in income and employment.
Data source	Allegheny County Department of Human Services, October 2016–September 2017 and October 2017–September 2018

Public Safety

2018 topic equality score: 43 (2)

2017 topic equality score: 41

Figure 16. Public Safety Indicator Scores



Indicator 17: Domestic violence

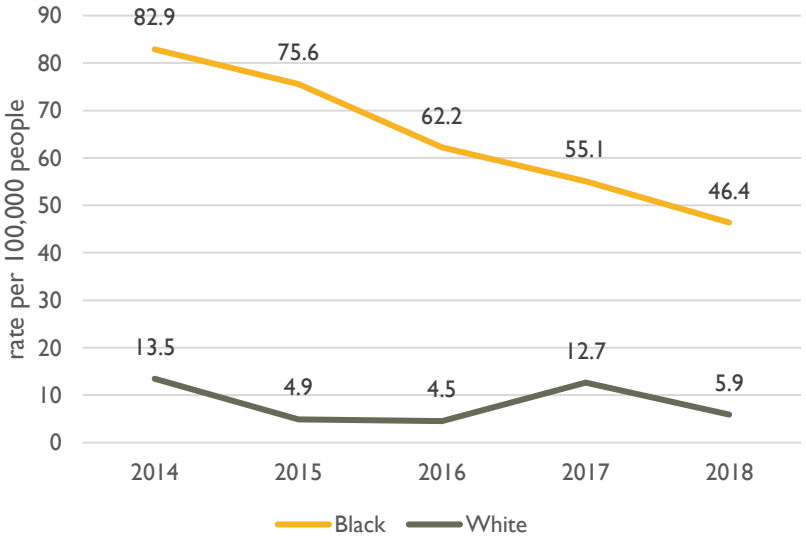
2018 equality score: 9

<table>
<tr><td>Indicator definition</td><td colspan="2">Ratio of blacks' and whites' family-related violence victimization rates</td></tr>
<tr><td>Reporting year results</td><td>2017
Black: 55.1 (per 100,000 people)
White: 12.7 (per 100,000 people)

Black-to-white ratio = 4.339, score 25</td><td>2018
Black: 46.4 (per 100,000 people)
White: 5.9 (per 100,000 people)

Black-to-white ratio = 7.832, score 9</td></tr>
<tr><td>Changes from reporting year 2017 to reporting year 2018</td><td colspan="2">Black: –8.7
White: –6.8

Change in equality score: –16</td></tr>
<tr><td>Geography</td><td colspan="2">City</td></tr>
<tr><td>Description of results and context</td><td colspan="2">The Pennsylvania Uniform Crime Reporting System publishes monthly data to track reported crimes such as domestic violence. In 2018, the rate of domestic violence victimization among black residents was 46.4 per 100,000, down from 55.1 in 2017. In comparison, white residents' victimization rate was 5.9 in 2018, a decrease from 12.7 per 100,000 in 2017.
While there were decreasing victimization rates among both subgroups, the victimization rate among white residents decreased more proportionately than the rate among black residents, resulting in a negative change in equality scores between years (9 in 2018 and 25 in 2017; change score of –16). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Trend data show that rates have been decreasing among black residents over the past five years and have been fluctuating among white residents.

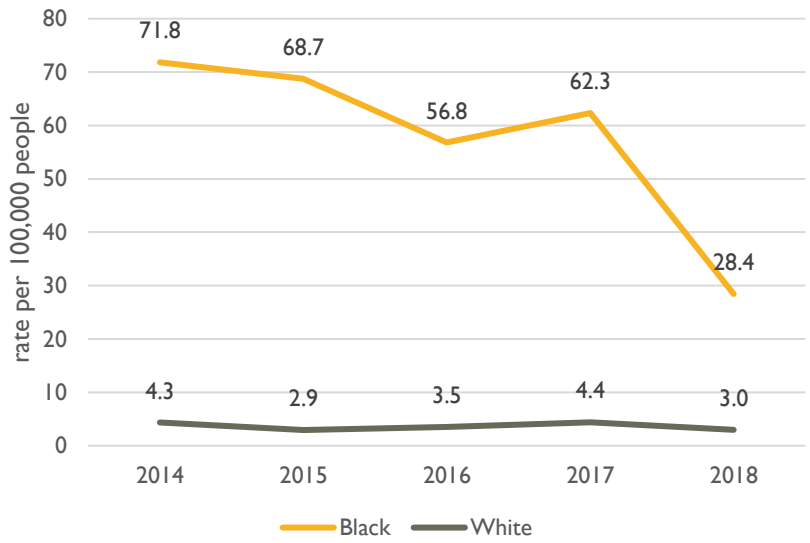
Domestic Violence Victimization in Pittsburgh, 2014–2018
 
</td></tr>
</table>

	SOURCE: Pennsylvania Uniform Crime Reporting System, monthly data, 2014–2018.
Data source	Pennsylvania Uniform Crime Reporting System monthly data, 2017 and 2018

Indicator 18: Homicides

2018 equality score: 2

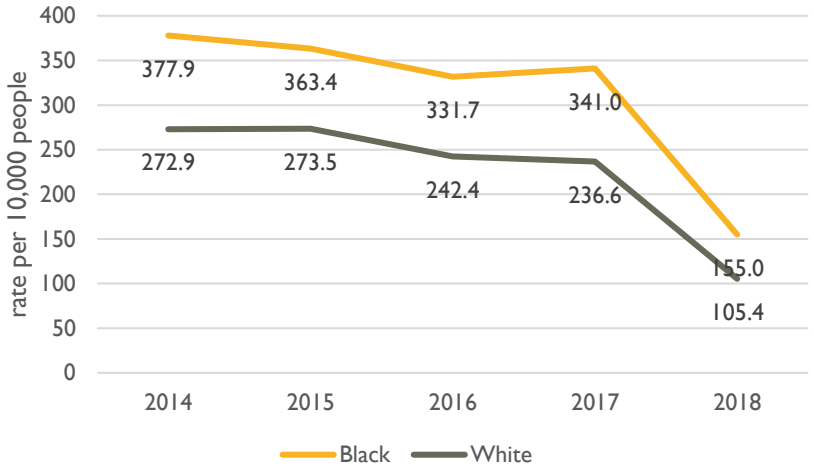
Indicator definition	Ratio of blacks' and whites' homicide victimization rates	
Reporting year results	**2017** Black: 62.3 (per 100,000 people) White: 4.4 (per 100,000 people) **Black-to-white ratio = 14.026, score 1**	**2018** Black: 28.4 (per 100,000 people) White: 3.0 (per 100,000 people) **Black-to-white ratio = 9.6, score 2**
Changes from reporting year 2017 to reporting year 2018	Black: –33.9 White: –1.5 Change in equality score: 1	
Geography	City	
Description of results and context	There is a substantial disparity between the homicide victimization rates for black and white Pittsburghers. In 2018, the homicide victimization rate was among black residents was 28.4 per 100,000 and was 3.0 for white residents. Homicides were down dramatically from the previous year for both subgroups, but particularly for black residents: In 2017, rates were 62.3 per 100,000 for black residents and 4.4 for white residents. While disparities in homicide rates are still profound between black and white residents, the proportionally greater decreases in rates among black residents led to a higher equality score of 2 in 2018 compared with the 2017 score of 1. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Trend data show that rates have been decreasing for among black residents over the past five years, though the dramatic decrease between 2017 and 2018 is an aberration from the trend. The increased attention to building relationships between the community and police, security cameras, and gunshot detector ShotSpotter may have impacted the decrease in homicides in the past several years.[40]	

	 SOURCE: Pennsylvania Uniform Crime Reporting System, monthly data, 2014–2018.
Data source	Pennsylvania Uniform Crime Reporting System, monthly data, 2017 and 2018

Indicator 19: Property crime

2018 equality score: 62

Indicator definition	Ratio of blacks' and whites' property crime victimization rates	
Reporting year results	**2017** Black: 341.0 (per 10,000 people) White: 236.6 (per 10,000 people) **Black-to-white ratio = 1.441, score 63**	**2018** Black: 155.0 (per 10,000 people) White: 105.4 (per 10,000 people) **Black-to-white ratio = 1.471, score 62**
Changes from reporting year 2017 to reporting year 2018	Black: –186.0 White: –131.2 Change in equality score: –1	
Geography	City	
Description of results and context	The Pennsylvania Uniform Crime Reporting System monthly data set tracks property crime as offenses such as burglary, theft/larceny, motor vehicle theft, arson, and vandalism. Black Pittsburghers were more likely to be the victims of property crime than white Pittsburghers, at a rate of 155.0 per 10,000 people, compared with a rate of 105.4. These rates represent an overall decrease in the rate of property crime victimization, down from 341.0 per 10,000 people for black Pittsburghers and 236.6 per 10,000 people for white Pittsburghers in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	

	The trend data below shows that, after several years of generally steady decrease in property crime victimization, the overall rate dipped notably from 2017 to 2018. The dramatic decrease between 2017 and 2018 appears unique relative to the previous four years. However, while the overall rates of property crime victimization decreased, the rates did not decrease equally for both black and white Pittsburghers, and the 2018 equality score decreased to 62 from 63 in 2017. Property Crime Victimization in Pittsburgh, 2014–2018  SOURCE: Pennsylvania Uniform Crime Reporting System, monthly data, 2014–2018.
Data source	Pennsylvania Uniform Crime Reporting System, monthly data, 2017 and 2018

Indicator 20: Traffic accidents involving bikes or pedestrians

2018 equality score: 100

Indicator definition	Ratio of traffic accidents per capita involving bikes or pedestrians in low-income and high-income census tracts	
Reporting year results	**2017** Low-income tracts: 99.2 (per 100,000 people) High-income tracts: 82.4 (per 100,000 people) **Low-to-high-income ratio = 1.204, score 75**	**2018** Low-income tracts: 88.8 (per 100,000 people) High-income tracts: 235.8 (per 100,000 people) **Low-to-high-income ratio = 0.377, score 100**
Changes from reporting year 2017 to reporting year 2018	Low-income tracts: –10.4 High-income tracts: 153.4 Change in equality score: 25	
Geography	City (census tract)	
Description of results and context	The Pennsylvania Department of Transportation (PennDOT) tracks traffic accidents per capita, including accidents that involve at least one	

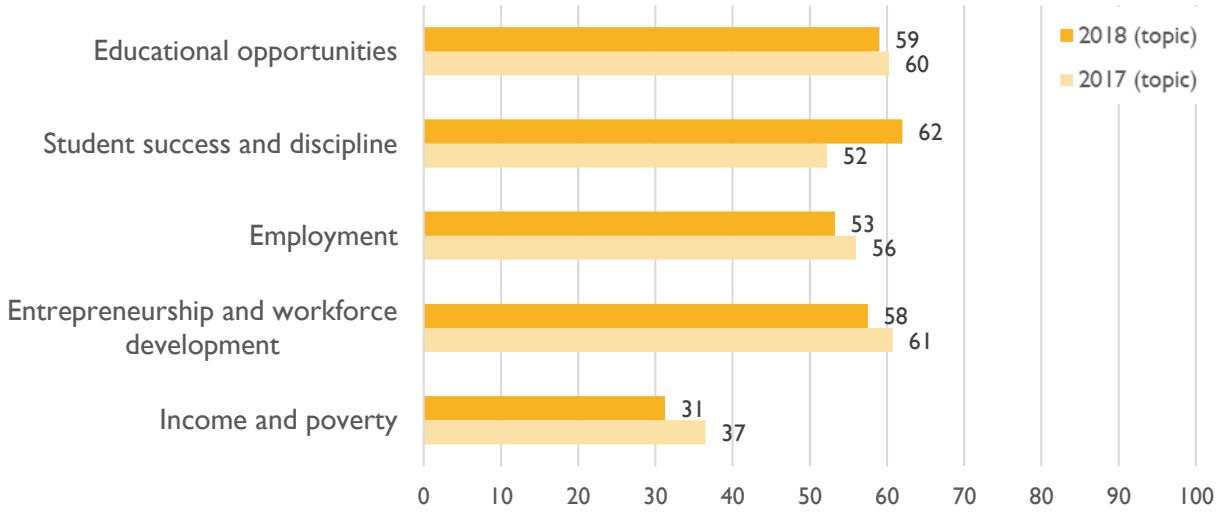
	bike or pedestrian based on data from police reports. In 2017 (the most recent year for which data were available), the rate of traffic accidents in low-income tracts that involved bikes or pedestrians was 88.8 per 100,000, down from 99.2 in 2016. In comparison, the rate in high-income tracts in 2017 was 235.8 per 100,000, up substantially from 82.4 in 2016. While a disparity exists between high- and low-income tracts, this increase resulted in a flipped disparity for 2018 (in which the group expected to have better outcomes group experienced worse outcomes), as represented by the indicator score of 100 in 2018 and a 2017 score of 75 (change score = 25). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The increase in rates of accidents in high-income tracts is primarily attributable to a large number of accidents in a census tract in Pittsburgh's Strip District neighborhood between the two years: There were 14 accidents in 2017, up from seven in 2016. Slight increases in other high-income tracts and decreases in low-income tracts also contributed to the changes. As the city seeks to achieve a "vision zero," where no traffic-related fatalities occur in Pittsburgh, it will be useful to consult the spatial data that informed this indicator to identify priority areas for intervention.
Data source	PennDOT crash data, 2016 and 2017

Education, Workforce Development, and Entrepreneurship

2018 domain equality score: 52 (–1)

2017 domain equality score: 53

Figure 17. Education, Workforce Development, and Entrepreneurship Topic Scores

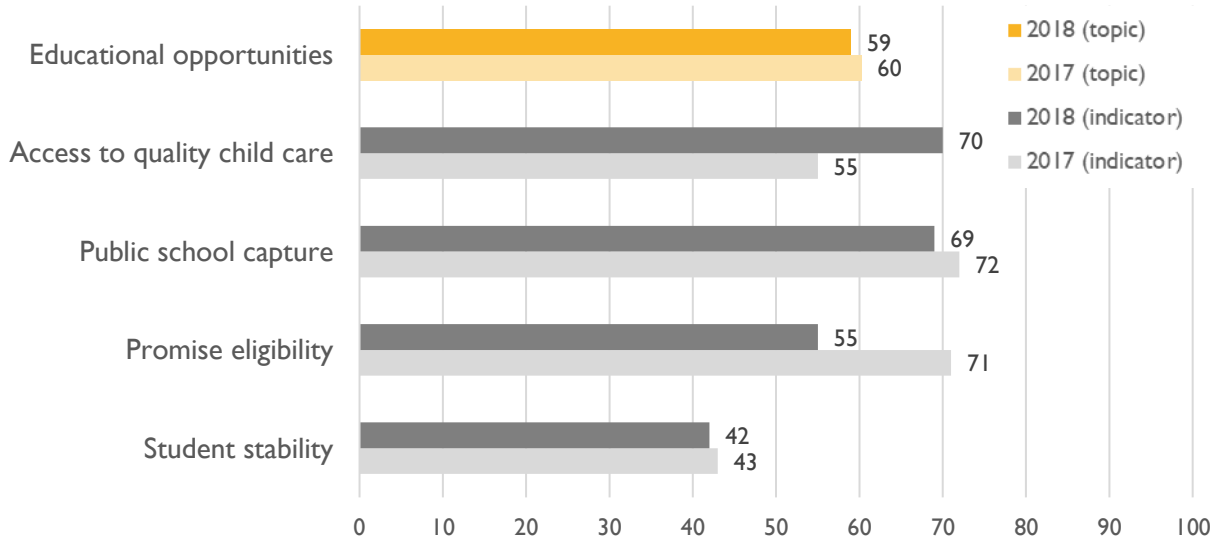


Educational Opportunities

2018 topic equality score: 59 (–1)

2017 topic equality score: 60

Figure 18. Educational Opportunities Indicator Scores



Indicator 21: Access to quality childcare

2018 equality score: 70

Indicator definition	Ratio of percentages of whites and blacks with at least one high-quality childcare center in their neighborhood	
Reporting year results	**2017** White: 24.0% (47,162 people) Black: 14.7% (10,783 people) **White-to-black ratio = 1.633, score 55**	**2018** White: 42.4% (79,878 people) Black: 32.6% (23,920 people) **White-to-black ratio = 1.301, score 70**
Changes from reporting year 2017 to reporting year 2018	White: 18.4% Black: 17.9% Change in equality score: 15	
Geography	City (neighborhood)	
Description of results and context	The Pennsylvania Department of Human Services, OCDEL, tracks the number and quality of child care centers using the Keystone STAR rating system. A childcare center with a rating of 3 STARS (out of 4) or more is considered a high-quality center. Lack of access to quality childcare may have an impact on early childhood development and success in pre-kindergarten. Access to quality childcare in their neighborhood increased to 42.4 percent for white Pittsburghers and 32.6 percent for black Pittsburghers in 2018. Previously in the City of Pittsburgh, access to a high-quality childcare center was very low across racial groups. 24.0% of white Pittsburghers and only 14.7 percent of black Pittsburghers had access to this type of quality childcare within their neighborhood in 2017. These positive changes were experienced disproportionately by black residents, resulting in a 15-point change in the equality score (70 in 2018 from 55 in 2017). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. As the city seeks to develop and implement its plan for early childhood for all, it will be important to increase access to facilities in additional to financial support to families to attend preschool.	
Data source	OCDEL Public Data File, 2017 and 2018	

Indicator 22: Public school capture

2018 equality score: 69

Indicator definition	Ratio of school capture rates in highest percentage of white students and lowest percentage of white students in schools	
Reporting year results	**2017** Highest percentage white: 50.2% (205 students) Lowest percentage white: 39.5% (461 students)	**2018** Highest percentage white: 46.1% (212 students) Lowest percentage white: 34.9% (481 students)

	High-to-low percentage white ratio = 1.271, score 72	**High-to-low percentage white ratio = 1.321, score 69**
Changes from reporting year 2017 to reporting year 2018	Highest percent white: –4.1% Lowest percent white: –4.6% Change in equality score: –3*	
Geography	City (school)	
Description of results and context	School capture rate is the percentage of students assigned to a school who enroll in that school. Data from PPS for the 2017–2018 SY showed that in elementary schools with the lowest percentage of white students (e.g., Faison K–5), 34.9 percent of students attended the school that they were assigned to. This is compared with 46.1 percent of students attending their assigned school in elementary schools with the highest percentage of white students (e.g., Pittsburgh West Liberty K–5). Compared with the previous SY, the school capture rate decreased across the highest and lowest percentage of white students in public schools. However, the school capture rate for the lowest percentage of white students in schools remains lower than the highest percentage white students in schools, resulting in a 3-point decrease in the equality score at 69 for 2018, down from 72 in 2017. *This change score is based on data representing entire school populations, so is assumed to be representative of true changes. Public school capture, especially when a large number of students opt not to attend a public school, can have impacts on community cohesion and overall school quality.	
Data source	PPS, 2016–2017 and 2017–2018 SYs	

Indicator 23: Promise eligibility

2018 equality score: 55

Indicator definition	Ratio of white and black students' Pittsburgh Promise eligibility rates	
Reporting year results	**2017** White: 82.1% (519 students) Black: 63.2% (526 students) **White-to-black ratio = 1.299, score 71**	**2018** White: 88.4% (519 students) Black: 54.0% (459 students) **White-to-black ratio = 1.637, score 55**
Changes from reporting year 2017 to reporting year 2018	White: 6.3% Black: –9.2% Change in equality score: –16*	
Geography	City	
Description of results and context	The Pittsburgh Promise offers post-secondary scholarships to PPS students who meet eligibility standards for attendance, grade point average, and residency. For the class of 2018, 88.4 percent of white students and 54.0 percent of black students were eligible for the Pittsburgh Promise scholarship, up from 82.1 percent of white students and down from 63.2 percent of black students in 2017. The Pittsburgh	

	Promise has a goal of "[g]row[ing] the high school completion rates, college readiness, and post high school success of all students in Pittsburgh Public Schools," and actively tracks the types of students who are able to take advantage of Promise funding for post-secondary schooling.[41] The divergent changes in eligibility of white and black students for the Pittsburgh Promise scholarship are represented in the decrease in the equality score, at 55 in 2018, down from 71. *This change score is based on data representing entire school populations, so is assumed to be representative of true changes.
Data source	Pittsburgh Promise Data, 2017 and 2018

Indicator 24: Student stability

2018 equality score: 42

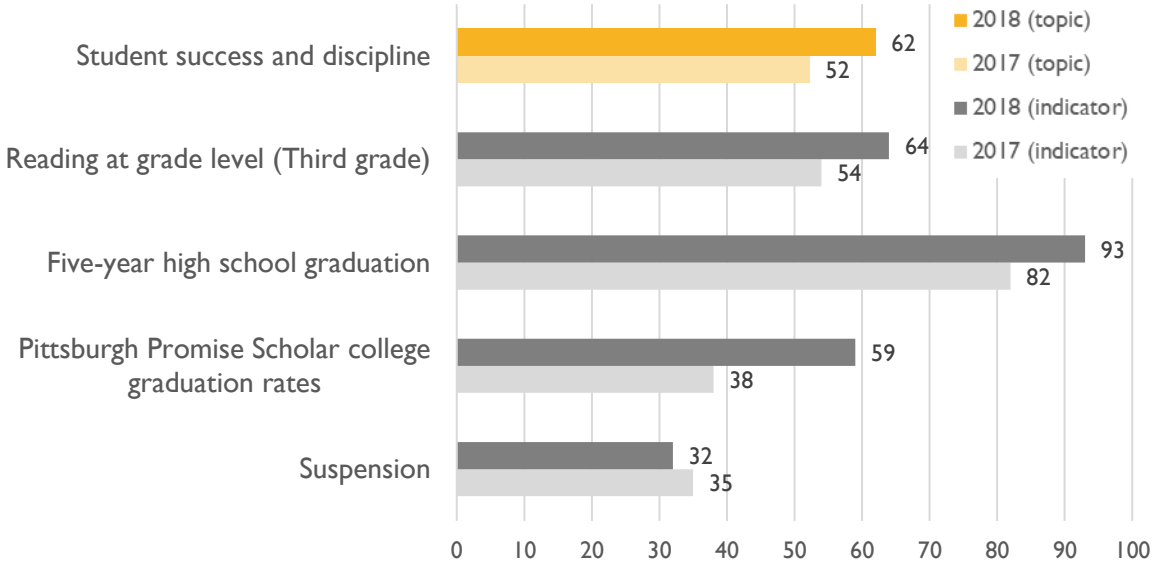
Indicator definition	Ratio of rates of students transferring at least once during the SY in lowest percentage of white students and highest percentage of white students in schools	
Reporting year results	**2017** Lowest percentage of white students: 11.4% Highest percentage of white students: 5.9% **Low-to-high percentagea white ratio = 1.932, score 43**	**2018** Lowest percentage of white students: 18.0% Highest percentage of white students: 9.2% **Low-to-high percentge white ratio = 1.957, score 42**
Changes from reporting year 2017 to reporting year 2018	Lowest percentage of white students: 6.6% Highest percentage of white students: 3.3% Change in equality score: –1*	
Geography	City (school)	
Description of results and context	PPS monitors rates of student transfers and calculates a school-based metric of how many students transfer at least once during the SY. During the 2017–2018 SY, a higher percentage of students transferred at least once during the SY from elementary schools that contained the lowest percentage of white students (18.0 percent) compared with a lower percentage of student transfers from elementary schools with the highest percentage of white students (9.2 percent). The percentage of students who transferred at least once during the SY increased from the 2016–2017 SY levels for both the lowest (11.4 percent) and highest (5.9 percent) percent white schools, but it increased more for schools with the lowest percentage of white students. As a result, the equality score decreased slightly to 42 from 43. *This change score is based on data representing entire school populations, so is assumed to be representative of true changes. Consistency is especially important for building a strong foundation in a child's early education. Changing schools during a SY impacts the student themselves, as well as teachers who must adapt to fluctuating class membership, and may reflect issues at home or other family stability concerns.	
Data source	PPS, 2016–2017 and 2017–2018 SYs	

Student Success and Discipline

2018 topic equality score: 62 (10)

2017 topic equality score: 52

Figure 19. Student Success and Discipline Indicator Scores



Indicator 25: Reading at grade level (third grade)

2018 equality score: 64

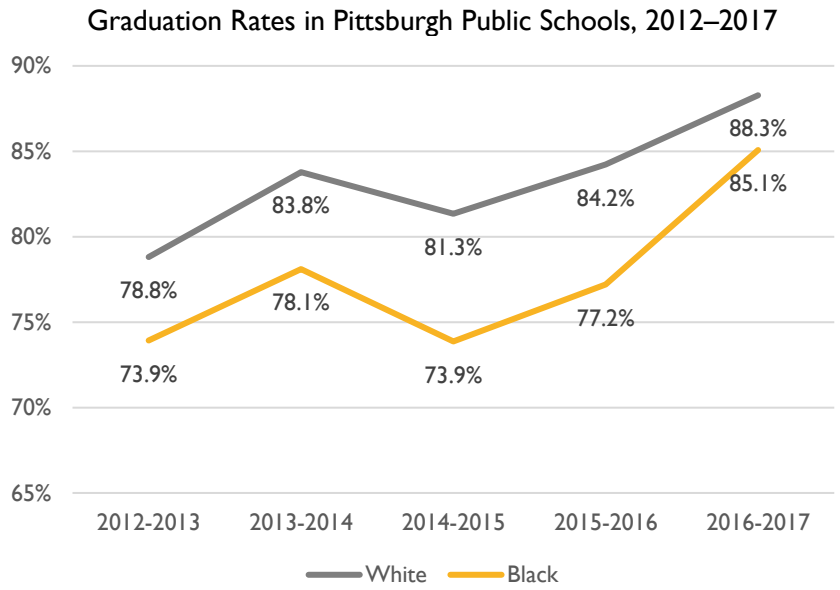
Indicator definition	Ratio of percentages of white and black PPS third graders who scored reading proficient or higher on state accountability assessments	
Reporting year results	**2017** White: 71.8% (N/A) Black: 43.3% (N/A) **White-to-black ratio = 1.658, score 54**	**2018** White: 67.1% (N/A) Black: 47.1% (N/A) **White-to-black ratio = 1.425, score 64**
Changes from reporting year 2017 to reporting year 2018	White: –4.7% Black: 3.8% Change in equality score: 10*	
Geography	City	

Description of results and context	State accountability assessment scores reveal significant inequality between white and black PPS third graders in reading at grade level. In the 2017–2018 SY, a larger percentage of white third-grade students (67.1 percent) scored reading proficient or higher compared with less than half of black third-grade students in the same district (47.1 percent). Compared with the previous SY, the percentage of white third-grade students who scored reading proficient or higher decreased from 71.8 percent, and the percentage of black third-graders increased from 43.3 percent. The equality score increased by 10 points (from 54 to 64) because of an increase in reading proficient or higher black third graders and a decrease in reading proficient or higher white third graders. *This change score is based on data representing the entire PPS population, so is assumed to be representative of true changes. While disparities are shrinking, it is concerning that this change is at least partially attributable to declines among white students. Elementary school reading level is an important indicator of current student achievement and can have a significant impact on students' future success. Students who struggle to achieve reading proficiency by third grade may be at a disadvantage in their future academic achievement.
Data source	PPS, 2016–2017 and 2017–2018 SYs

Indicator 26: Five-year high school graduation

2018 equality score: 93

Indicator definition	Ratio of white students' and black students' five-year cohort graduation rates from Pittsburgh Public Schools	
Reporting year results	**2017** White: 84.2% (N/A) Black: 77.2% (N/A) **White-to-black ratio = 1.091, score 82**	**2018** White: 88.3% (N/A) Black: 85.1% (N/A) **White-to-black ratio = 1.038, score 93**
Changes from reporting year 2017 to reporting year 2018	White: 4.1% Black: 7.9% Change in equality score: 11*	
Geography	City	
Description of results and context	PPS tracks the percentage of white students and black students who graduate from PPS within five years of beginning high school. A small and decreasing disparity exists between white and black students' five-year graduation rates from PPS. The percentage of white students who graduated within five years was slightly higher (88.3 percent) than that of their black peers (85.1 percent) in the 2016–2017 SY (the most recent year for which data were available), an increase from 84.2 percent of white students and 77.2 percent of black students in the 2015–2016 SY. Based on the trend data below, PPS students' five-year cohort graduation rates have been rising for both black students and white students over the last three SYs and increasing at a higher rate for black students. This increase has decreased the disparity between five-year graduation rates	

	for black students and white students in PPS and resulted in an 11-point increase in the equality score (from 82 to 93). *This change score is based on data representing the entire PPS population, so is assumed to be representative of true changes. Individuals who fail to complete high school earn significantly less than those who graduate, and have significantly higher unemployment rates.[42]  SOURCE: Pennsylvania Department of Education, "Graduate Data and Statistics: Graduates Public by School," years 2012–2017, webpage.
Data source	Pennsylvania Department of Education, 2015–2016 and 2016–2017 SYs

Indicator 27: Pittsburgh Promise Scholar college graduation rates

2018 equality score: 59

Indicator definition	Ratio of rates of white and black Promise Scholars earning a two- or four-year degree within five years	
Reporting year results	**2017** White: 46.9% (211 students) Black: 19.3% (87 students) **White-to-black ratio = 2.43, score 38**	**2018** White: 36.9% (143 students) Black: 23.8% (66 students) **White-to-black ratio = 1.547, score 59**
Changes from reporting year 2017 to reporting year 2018	White: –10.0% Black: 4.5% Change in equality score: 21*	
Geography	City	
Description of results and context	In addition to monitoring the success of and administering scholarships to PPS students, the Pittsburgh Promise also follows student success in college and other post-secondary schooling, including all eligible Promise Scholarship students who enrolled in and graduated from two- or four-	

	year institutions within five years. Within the college entering class of 2013 Promise Scholars, a disparity existed between the percentage of white students (36.9 percent) who graduated from a two- or four-year post-secondary institution within five years compared with their black student peers (23.8 percent). Compared with the entering class of 2012 Promise scholars, the percentage of white students who graduated from a two- or four-year post-secondary institution within five years decreased by 10.0 percent (from 46.9 percent), while the percentage of their black peers who did so increased by 4.5 percent (from 19.3 percent). Despite a lower overall graduation rate, the decrease in graduation rates for white students and increase in graduation rates for black students decreased the disparity and changed the equality score to 59 from 38 (an increase of 21). *This change score is based on data representing the entire Pittsburgh Promise Scholar population, so is assumed to be representative of true changes. These disparities reflect national trends in college completion rates, and suggest that more support is needed to enable students of color to successfully complete post-secondary education and to gain the benefits of doing so.[43]
Data source	Pittsburgh Promise Data, 2017 and 2018

Indicator 28: Suspension

2018 equality score: 32

Indicator definition	Ratio of black and white Pittsburgh Public Schools students' suspension rates	
Reporting year results	**2017** Black: 18.3% (2,253 students) White: 6.6% (442 students) **Black-to-white ratio = 2.773, score 35**	**2018** Black: 15.4% (2,036 students) White: 4.8% (372 students) **Black-to-white ratio = 3.208, score 32**
Changes from reporting year 2017 to reporting year 2018	Black: –2.9% White: –1.8% Change in equality score: –3*	
Geography	City	
Description of results and context	Suspensions have been shown to negatively impact students' academic achievement and graduation rates.[44] There is a disparity in the percentages of black and white students with a least one suspension during the SY. A higher percentage of black PPS students (15.4 percent) compared with white students (4.8 percent) were suspended from school at least once during the 2017–2018 SY. These percentages represent a decrease in suspensions for both black students (down by 2.9 percent) and white students (down by 1.8 percent). However, black students remain more than three times as likely to be suspended from school at least once during the SY. Consequently, the equality score decreased by 3 points from 35 to 32.	

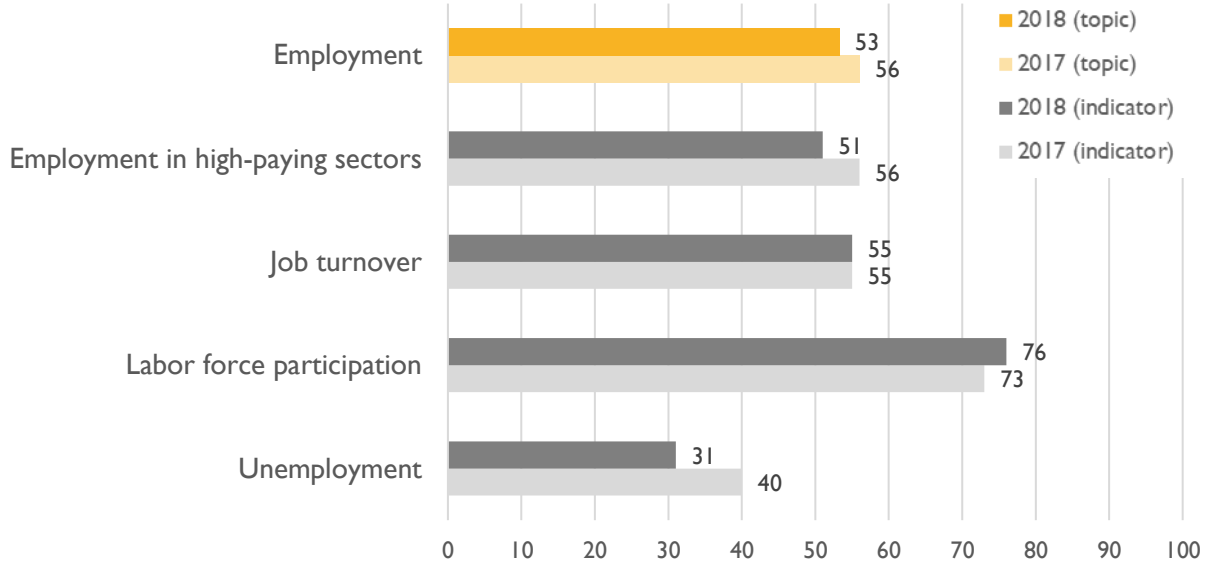
	*This change score is based on data representing the entire PPS population, so is assumed to be representative of true changes. In December 2017, the PPS school board voted to institute a moratorium on suspensions of kids in pre-K through second grade.[45] A study by PPS and the RAND Corporation noted that the number of suspensions decreased as new disciplinary measures that included restorative practices were implemented in the district over the past several years. Restorative practices include therapy activities such as discussion circles and emphasize a culture of empathy, communication, and compassion throughout institutions.[46]
Data source	PPS, 2016–2017 and 2017–2018 SYs

Employment

2018 topic equality score: 53 (–3)

2017 topic equality score: 56

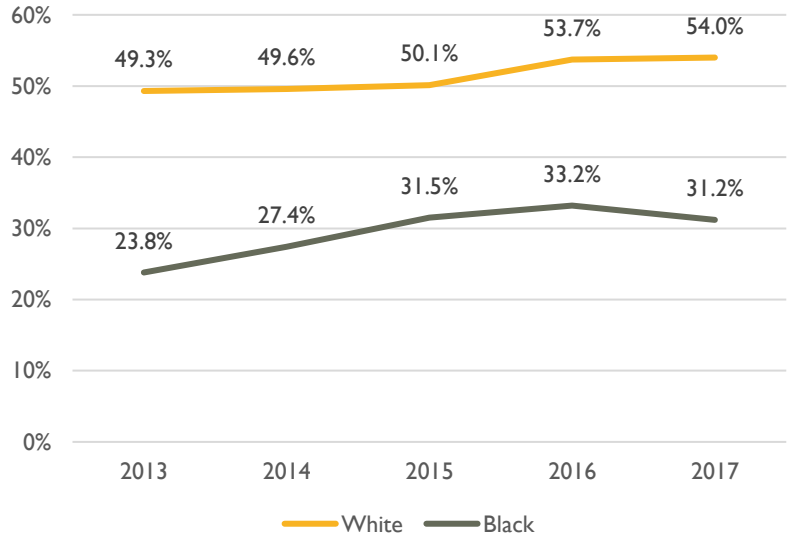
Figure 20. Employment Indicator Scores



Indicator 29: Employment in high-paying sectors

2018 equality score: 51

Indicator definition	Ratio between percentages of whites and blacks employed in high-demand, high-paying occupations (those in management, business, science, and arts)	
Reporting year results	**2017** White: 53.7% (60,968 people) Black: 33.2% (9,165 people) **White-to-black ratio = 1.617, score 56**	**2018** White: 54.0% (63,054 people) Black: 31.2% (8,031 people) **White-to-black ratio = 1.732, score 51**

Changes from reporting year 2017 to reporting year 2018	White: 0.3% Black: –2.0% Change in equality score: –5
Geography	City
Description of results and context	The U.S. Census Bureau's "management, business, science, and arts occupations" occupation category includes careers in computers; education; architecture and engineering; life, physical, and social sciences; business and financial; and management occupations, among others. The Allegheny Conference in its Inflection Point report has identified these types of careers as being high-demand, high-growth, and high-paying careers for this region.[47] In 2017 (the most recent year for which data were available), about half of white Pittsburghers (54.0 percent), compared with approximately one-third of black Pittsburghers (31.2 percent), were employed in these high-demand, high-paying occupations. The percentage of white Pittsburghers in these occupations is up slightly from 53.7 percent in 2016, while the percentage of black Pittsburghers is down from 33.2%. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The trend data below show that this is the first observed decrease in employment in these types of careers for black Pittsburghers over the last five years, while the percentage of white Pittsburghers employed in high-paying sectors continues to grow. The increase in employment in these occupations for white Pittsburghers and decrease in employment in the same occupations for black Pittsburghers widened the disparity and resulted in a 5-point decrease in the equality score (51 in 2018 compared with 56 in 2017). Employment in High-Paying Sectors in Pittsburgh, 2013–2017  SOURCE: ACS 1-year estimates, 2013–2017
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 30: Job turnover

2018 equality score: 55

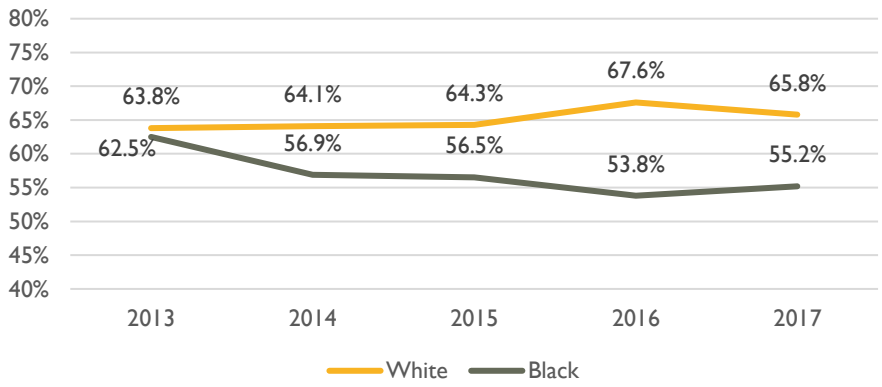
Indicator definition	Ratio of blacks' and whites' job turnover rates	
Reporting year results	**2017** Black: 12.4% White: 7.6% **Black-to-white ratio = 1.646, score 55**	**2018** Black: 12.5% White: 7.6% **Black-to-white ratio = 1.633, score 55**
Changes from reporting year 2017 to reporting year 2018	Black: 0.02% White: 0.08% Change in equality score: 0	
Geography	Metropolitan Statistical Area	
Description of results and context	Quarterly job turnover rates illustrate the stability or lack of stability of employment in Pittsburgh. Differences in the average annual quarterly job turnover rate show that black Pittsburghers changed jobs (turnover rate of 12.5 percent) more frequently than their white peers (turnover rate of 7.6 percent). The change in percentage of job turnover for both black Pittsburghers and white Pittsburghers was less than 0.1 percent between 2015 and 2016. As a result, the equality score of 55 did not change. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Instability in employment can have a spillover effect on other important indicators of economic well-being, such as paying for housing and food security. Research shows that employees of color may experience more negative workplace experiences than their white counterparts, contributing to higher rates of job turnover and employment instability.[48]	
Data source	U.S. Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics program; Quarterly Workforce Indicators, 2015 and 2016	

Indicator 31: Labor force participation

2018 equality score: 76

Indicator definition	Ratio of whites' and blacks' labor force participation rates	
Reporting year results	**2017** White: 67.6% (123,659 people) Black: 53.8% (31,145 people) **White-to-black ratio = 1.257, score 73**	**2018** White: 65.8% (121,289 people) Black: 55.2% (29,582 people) **White-to-black ratio = 1.192, score 76**
Changes from reporting year 2017 to reporting year 2018	White: –1.80% Black: 1.40% Change in equality score: 3	

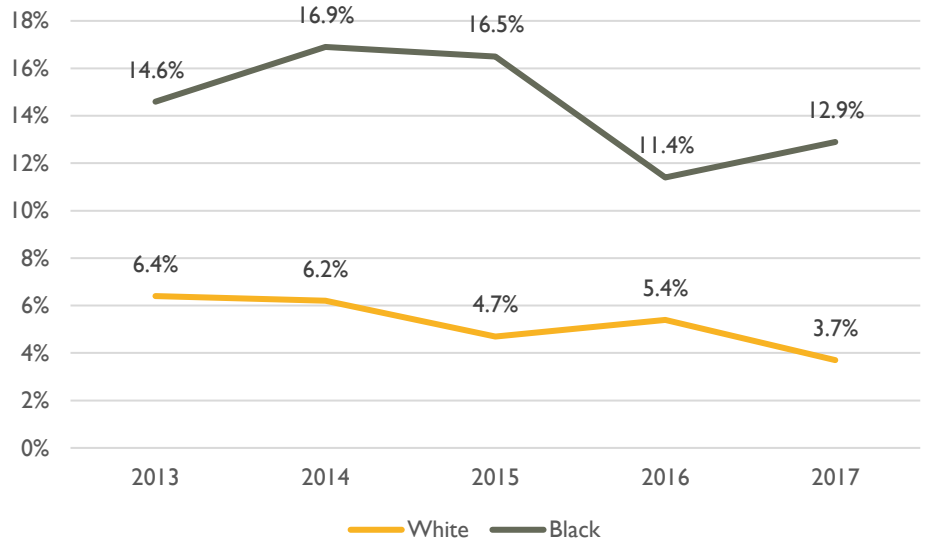
Geography	City
Description of results and context	Labor force participation is the percentage of people ages 16 or older in a population who are employed or actively looking for work. Labor force participation varied between racial subgroups: Approximately two-thirds of white Pittsburghers (65.8 percent) and just over half of black Pittsburghers (55.2 percent) participated in the labor force in 2017 (the most recent year for which data were available). A slightly larger disparity existed in labor force participation in 2016: 67.6 percent of white Pittsburghers and 53.8 percent of black Pittsburghers were employed. Information was available from the Census Bureau on the margins of error associated with these estimates of rates of labor force participation (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): White: +/–1.6% Black: +/–2.7% Information on margins of error (2018): White: +/–1.6% Black: +/–4.0% The trend data below demonstrates that the labor force participation rate was almost equal for black and white Pittsburghers in 2013 and that the disparity has been growing (increased labor force participation for white Pittsburghers and decreased labor force participation for black Pittsburghers) through 2016, with a small uptick among black Pittsburghers and downtick among white Pittsburghers in 2017. The increase in labor force participation for black Pittsburghers and decrease in labor force participation for white Pittsburghers between 2016 and 2017 decreased the existing disparity and changed the equality score from 73 to 76 (a change of 3). In general, Pittsburgh's overall labor participation rate is slightly higher than that of the United States (63.6 percent in Pittsburgh compared with 63.1 percent in the United States in 2016).[49]

	 SOURCE: ACS 1-year estimates, 2013–2017
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 32: Unemployment

2018 equality score: 31

Indicator definition	Ratio of blacks' and whites' unemployment rates	
Reporting year results	**2017** Black: 11.4% (6,600 people) White: 5.4% (9,615 people) **Black-to-white ratio = 2.111, score 40**	**2018** Black: 12.9% (6,913 people) White: 3.7% (6,820 people) **Black-to-white ratio = 3.486, score 31**
Changes from reporting year 2017 to reporting year 2018	Black: 1.5% White: –1.7% Change in equality score: –9	
Geography	City	
Description of results and context	The ACS tracks unemployment in cities by race. The unemployment rate does not include those individuals who are not currently looking for work or have left the labor force. The unemployment rate for black Pittsburghers (12.9 percent) was more than three times the rate of unemployment for white Pittsburghers (3.7 percent) in 2017 (the most recent year for which the data were available). The unemployment rate for black Pittsburghers increased by 1.5 percent and decreased for white Pittsburghers by 1.7 percent from 2016 levels, widening the existing gap and decreasing the Equality Score to 31 from 40 (a change of –9). Information was available from the Census Bureau on the margins of error associated with these estimates of unemployment (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–2.8% White: +/–1.0%	

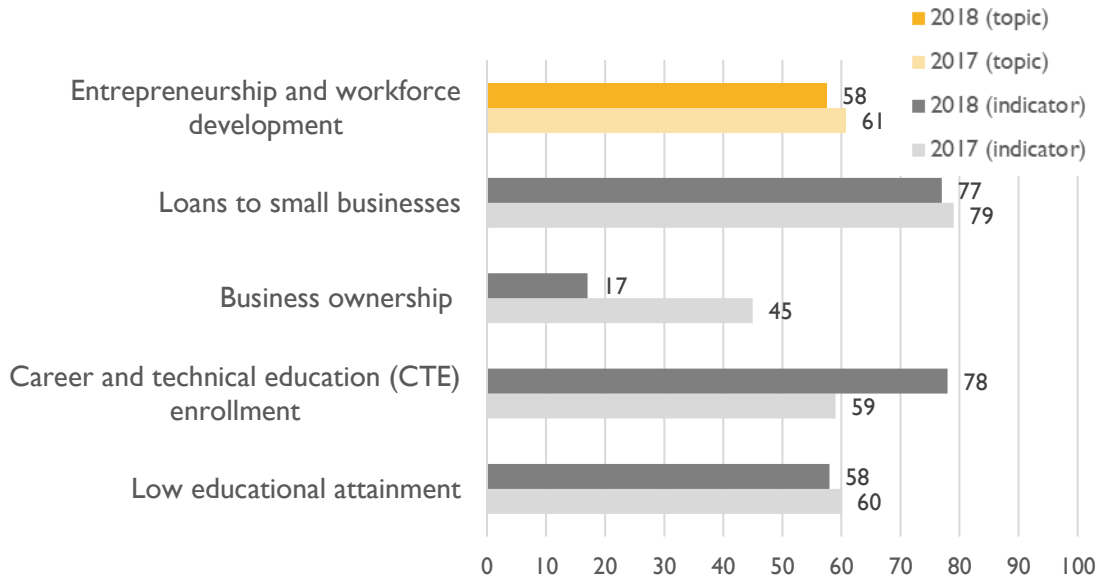
	Information on margins of error (2018): Black: +/–3.60% White: +/–0.80% The trend data below show that the unemployment rate for white Pittsburghers has been generally decreasing between 2013–2017 and that the current rate of unemployment for black Pittsburghers is lower than its peak in the last five years (16.9 percent in 2014). Extended unemployment has been found to have economic, social, and health impacts.[50] Unemployment in Pittsburgh, 2013–2017  SOURCE: ACS 1-year estimates, 2013–2017
Data source	ACS 1-year estimates, 2016 and 2017

Entrepreneurship and Workforce Development

2018 topic equality score: 58 (–3)

2017 topic equality score: 61

Figure 21. Entrepreneurship and Workforce Development Indicator Scores



Indicator 33: Loans to small businesses

2018 equality score: 77

Indicator definition	Ratio of number of small business loans per capita issued in majority-white and majority-black census tracts	
Reporting year results	**2017** Majority-white tracts: 22.0 (per 1,000 people) Majority-black tracts: 19.6 (per 1,000 capita) **White-to-black ratio = 1.22, score 79**	**2018** Majority-white tracts: 26.1 (per 1,000 people) Majority-black tracts: 22.5 (per 1,000 people) **White-to-black ratio = 1.16, score 77**
Changes from reporting year 2017 to reporting year 2018	Majority white tracts: 4.1 Majority black tracts: 2.9 Change in equality score: –2	
Geography	City (census tract)	
Description of results and context	The Federal Financial Institutions Examination Council (FFIEC), as required by the Community Reinvestment Act (CRA), tracks the number of loans issued to small businesses by census tract. In the City of Pittsburgh, there was a slight difference in the number of small business loans issued per capita in majority-white and majority-black census tracts. Majority-white census tracts had slightly more loans issued (26.1 per 1,000 people) than majority-black census tracts (22.5 per 1,000 people) in 2017 (the most recent year for which data were available). These	

	numbers represent an overall increase from 2015, up from 22.0 per 1,000 people for majority-white census tracts and 19.6 per 1,000 people for majority-black census tracts. Despite the increase in both majority-white and majority-black census tracts, the rate increased more in majority-white census tracts, resulting in a decrease in the equality score to 77 from 79 (a change of 2). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The initial capital provided by small business loans is critical to starting a new small business, and the disparities in loan dispersal may partially explain disparities in *business ownership* rates (indicator 34).
Data source	Federal Financial Institutions Examination Council (FFIEC) Community Reinvestment Act (CRA) Aggregate Reports, 2015 and 2017

Indicator 34: Business ownership

2018 equality score: 17

Indicator definition	Ratio of whites' and blacks' business ownership rates	
Reporting year results	**2017** White: 1.7% (3,573 people) Black: 0.9% (658 people) **White-to-black ratio = 1.889, score 45**	**2018** White: 2.3% (4,775 people) Black: 0.4% (265 people) **White-to-black ratio = 5.75, score 17**
Changes from reporting year 2017 to reporting year 2018	White: 0.6% Black: –0.5% Change in equality score: –28	
Geography	City	
Description of results and context	The ACS PUMS data categorize business owners as the class of worker who report that they are, "self-employed in own incorporated business, professional practice, or farm." In Pittsburgh, within subgroups, a small percentage of each population falls into this category. There are also disparities in business ownership between racial groups: Black Pittsburghers were less likely to be business owners (0.4 percent of respondents) than white Pittsburghers (2.3 percent of respondents) in 2017 (the most recent year for which data were available). The rate of business ownership has increased for white Pittsburghers from 1.7 percent in 2016 and decreased for black Pittsburghers from 0.9 percent in the same year. As a result of the widening disparity, the equality score decreased by 28 points (to 17 from 45). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Business ownership is an important indicator of entrepreneurial activity. Increasing the share of businesses owned by people of color allows them to build wealth, increase value, and may help to close the racial gap in economic wellbeing.[51]	
Data source	ACS PUMS data, 2016 and 2017	

Indicator 35: Career and technical education enrollment

2018 equality score: 78

Indicator definition	Ratio of male and female Pittsburgh Public Schools students' participation rates in science, technology, engineering, and mathematics (STEM)–related career and technical education courses or programs	
Reporting year results	**2017** Male: 60.4% (307 students) Female: 39.6% (201 students) **Male-to-female ratio = 1.525, score 59**	**2018** Male: 53.3% (290 students) Female: 46.7% (254 students) **Male-to-female ratio = 1.142, score 78**
Changes from reporting year 2017 to reporting year 2018	Male: –7.1% Female: 7.1% Change in equality score: 19*	
Geography	City	
Description of results and context	STEM-related CTE is a growing field of programming across the United States. Students at PPS can participate in multiple STEM-related CTE programs, including engineering, health careers, information technology, multimedia production and coding, and finance. In PPS, there is a disparity in the representation of male (53.3 percent) and female (46.7 percent) students who participated in these courses and programs for the 2018–2019 SY. This gap decreased between the 2017–2018 and 2018–2019 SYs because of increasing representation by females and decreasing representation by males in these courses (7.1 percent swing). Accordingly, the equality score increased to 78 from 59 (an increase of 19). *This change score is based on data representing the entire PPS population, so is assumed to be representative of true changes. Nationwide, the lack of female representation in STEM careers is garnering attention and increasing female participation in secondary school CTE programming may be a critical step in closing the gap.	
Data source	PPS, 2017–2018 and 2018–2019 SYs	

Indicator 36: Low educational attainment

2018 equality score: 58

Indicator definition	Ratio of the percentages of black and white city residents who do not have any post-secondary education (high school degree or lower)	
Reporting year results	**2017** Black: 45.7% (21,244 people) White: 30.3% (43,485 people) **Black-to-white ratio = 1.508, score 60**	**2018** Black: 40.5% (17,937 people) White: 26.0% (38,397 people) **Black-to-white ratio = 1.558, score 58**

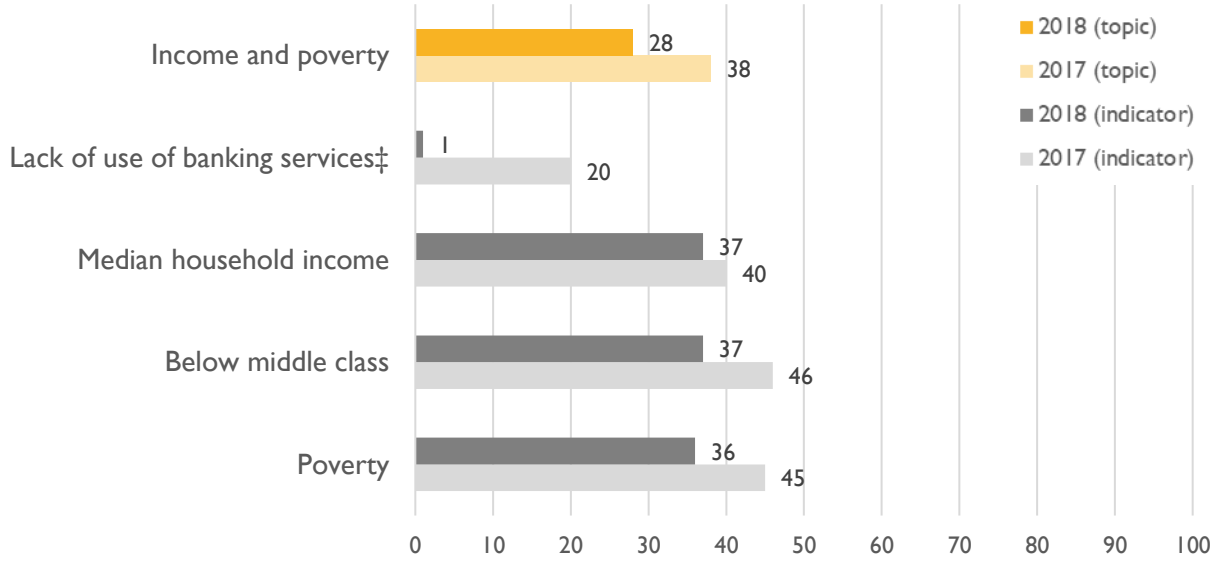
Changes from reporting year 2017 to reporting year 2018	Black: –5.2% White: 4.3% Change in equality score: –2
Geography	City
Description of results and context	Educational attainment is an important indicator that also impacts employment, income, and other factors that might contribute to inequity in Pittsburgh. Comparing racial groups, there is a significant gap in educational attainment in the City of Pittsburgh. On one hand, while more than half of black residents attended some college or pursued further post-secondary education (59.5 percent) in 2017 (the most recent year for which data were available), a significant percentage attained a high school degree or lower (40.5 percent). On the other hand, almost three-quarters of white Pittsburghers attended some college or pursued further post-secondary education (74.0 percent) with a far lower percentage had a high school degree or less (26.0 percent). While the overall percentage of both black and white Pittsburghers who had any post-secondary education or higher increased since 2016, the percentage of black Pittsburghers remains 14.5 percent lower than the percentage of white Pittsburghers. Correspondingly, the equality score decreased to 58 from 60 (a change of 2). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	ACS 1-year estimates, 2016 and 2017

Income and Poverty

2018 topic equality score: 28 (–10)

2017 topic equality score: 38

Figure 22. Income and Poverty Indicator Scores



‡NOTE: *Lack of use of banking services* is measured with a survey that relies on a very small sample size at the county level. No white respondents reported not having a bank account in 2017, so these data should be interpreted with caution.

Indicator 37: Lack of use of banking services

2018 equality score: 1‡

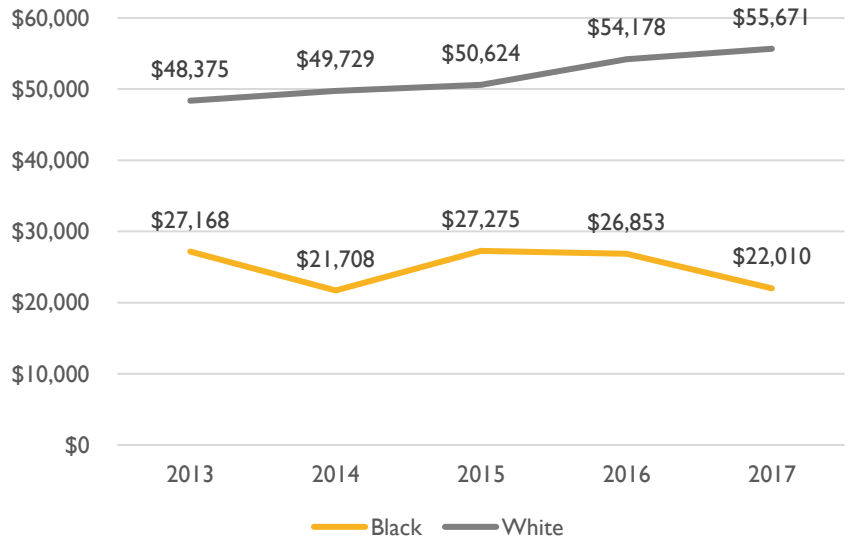
Indicator definition	Ratio of the percentages of blacks and whites without a checking or savings account	
Reporting year results	**2017** Black: 22.5% White: 4.4% **Black-to-white ratio = 5.114, score 20**	**2018** Black: 32.0% White: 0%‡ **Black-to-white ratio = N/A, score 1**
Changes from reporting year 2017 to reporting year 2018	Black: +9.5% White: –4.4% Change in equality score: –19	
Geography	County	
Description of results and context	A checking or savings account can impact the ability to obtain housing and to save money, among other important elements of current and future economic well-being. In 2017 (the most recent year for which data were available), black residents were significantly unbanked or underbanked (32.0 percent), without a checking or savings account, compared with their white peers (0 percent reported not having a	

	checking or savings account in 2017). While there are concerns associated with small sample size for this survey, directional changes suggest that disparities may be worsening and that fewer white residents and more black residents are without a bank account in 2017 than in 2015. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	Current Population Survey: Unbanked/Underbanked Supplement, 2015 and 2017 ‡Note: Lack of use of banking services are measured with a survey that relies on a very small sample size at the county level. No white respondents reported not having a bank account in 2017, so it is not possible to calculate a black-to-white ratio. These data should be interpreted with caution.

Indicator 38: Median household income

2018 equality score: 37

Indicator definition	Ratio of the median annual income of white and black households	
Reporting year results	**2017** White: $54,178 Black: $26,853 **White-to-black ratio = 2.018, score 40**	**2018** White: $55,671 Black: $22,010 **White-to-black ratio = 2.529, score 37**
Changes from reporting year 2017 to reporting year 2018	White: $1,493 Black: -$4,843 Change in equality score: –3	
Geography	City	
Description of results and context	Median household income is a measure of income for a household, including salaries and wages, retirement income, food stamps, and capital gains. Significant inequality exists in the median annual income between white and black households in the City of Pittsburgh. In 2017, white households had a median annual income of $55,671, which is two and a half times that of black households at $22,010. Compared with the previous year, the median household income for white households increased by $1,493 and decreased by $4,843 for black households. Information was available from the Census Bureau on the margins of error associated with these estimates of median household income (see below). Statistical testing revealed that changes in median income between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. The divergent changes further increased the existing disparity in median household income and caused the equality score to decrease by 3 points (to 37 from 40). Information on margins of error (2017): White: +/–$2,806 Black: +/–$3,638	

	Information on margins of error (2018): White: +/–$4,294 Black: +/–$2,871 The trend data below show that while median household income has gradually increased for white households between 2013 and 2017, the median household income for black households has seen a lot of fluctuation and stays consistently much lower than white households. Nationwide, the median household income was $61,372 in 2017, higher than the median income for white Pittsburghers and substantially higher than that of black Pittsburghers. One driver of income disparities has been found to be income from capital gains (or investment income), which has increased for white families over the past 15 years, while playing a generally small role in the overall wealth picture for black families.[52] Median Income in Pittsburgh, 2013–2017  SOURCE: ACS 1-year estimates, 2013–2017
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 39: Below middle class

2018 equality score: 37

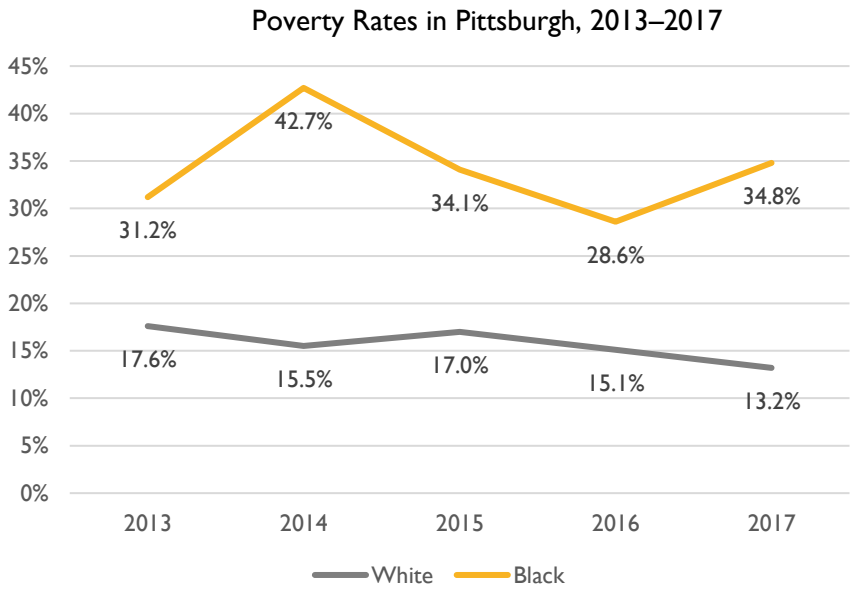
Indicator definition	Ratio of percentage of black and white households whose income puts them below the threshold for middle class	
Reporting year results	**2017** Black: 47.2% (27,811 people) White: 25.2% (46,247 people) **Black-to-white ratio = 1.873, score 46**	**2018** Black: 63.8% (40,678 people) White: 25.4% (47,675 people) **Black-to-white ratio = 2.512, score 37**

Changes from reporting year 2017 to reporting year 2018	Black: 16.6% White: 0.2% Change in equality score: –9
Geography	City
Description of results and context	Pew Research Center defines the middle class income range for an area as two-thirds to twice the median area household-size-adjusted income.[53] For a family of four in Pittsburgh, middle class families earn between $51,333 and $154,000 annually. Black households were more likely to be below this the threshold for middle class than white households. In 2017 (the most recent year for which data were available), 63.8 percent of black households were considered below middle class, compared with 25.4 percent of white households. The percentage of black households with incomes below middle class rose from 47.2 percent in 2016, as did the percentage of white families from 25.2 percent, though the change was small. The widening disparity led to a change in the equality score, at 37 in 2018, down from 46 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	ACS PUMS data, 2016 and 2017

Indicator 40: Poverty

2018 equality score: 36

Indicator definition	Ratio of the percentages of blacks and whites living below the poverty line	
Reporting year results	**2017** Black: 28.6% (18,396 people) White: 15.1% (28,581 people) **Black-to-white ratio = 1.894, score 45**	**2018** Black: 34.8% (21,698 people) White: 13.2% (24,791 people) **Black-to-white ratio = 2.636, score 36**
Changes from reporting year 2017 to reporting year 2018	Black: 6.20% White: –1.90% Change in equality score: –9	
Geography	City	
Description of results and context	The income threshold for determining poverty status differs by the number of persons in the family or household. For a family of four in Pittsburgh, the poverty threshold in 2018 was an annual income of lower than $25,100. Following a similar pattern to median income in the City of Pittsburgh, the percentage of black Pittsburghers living below the poverty line (34.8 percent) was almost three times that of white Pittsburghers (13.2 percent) in 2017 (the most recent year for which data were available). Compared with the previous year, the percentage of white Pittsburghers living below the poverty line decreased from 15.1 percent, and the percentage of black Pittsburghers living below the poverty line	

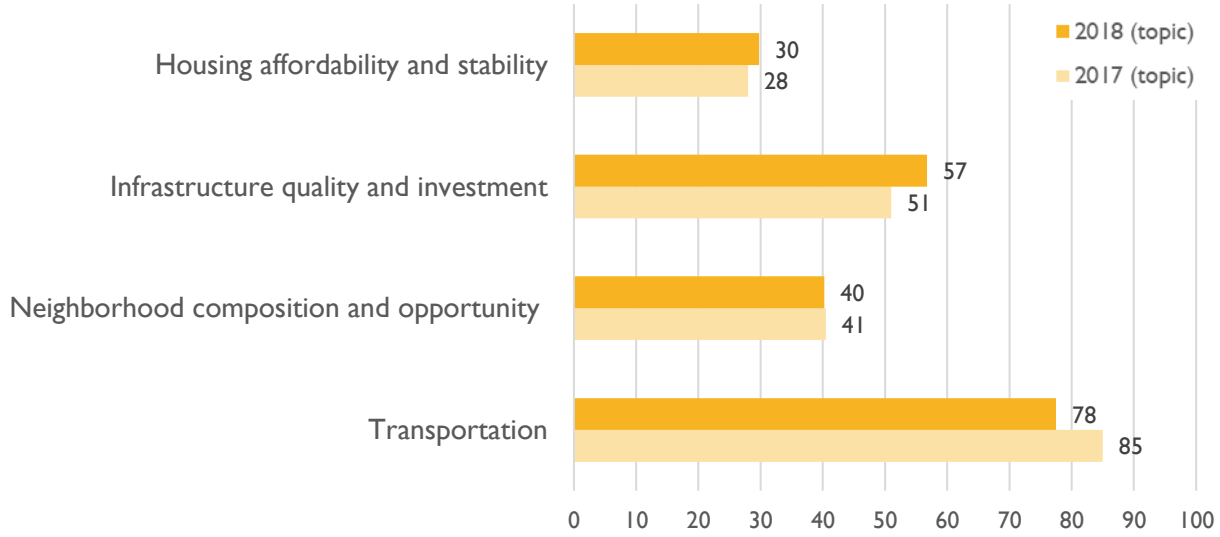
	increased from 28.6 percent. Beause of these divergent changes, the equality score fell to 36 from 45 (a change of –9). Information was available from the Census Bureau on the margins of error associated with these estimates of poverty rates (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–4.3% White: +/–1.7% Information on margins of error (2018): Black: +/–5.8% White: +/–1.6% The trend data below show that the percentage of white Pittsburghers living below the poverty line has generally decreased between 2013 and 2017, while the percentage of black Pittsburghers living below the poverty line in the same period has fluctuated considerably. The relative proportion of low-income earners between subgroups may explain some of the differences in median income observed over the same time period.  SOURCE: ACS 1-year estimates, 2013–2017
Data source	ACS 1-year estimates, 2016 and 2017

Housing, Transportation, Infrastructure, and Environment

2018 domain equality score: 57 (no change)

2017 domain equality score: 57

Figure 23. Housing, Transportation, Infrastructure, and Environment Topic Scores

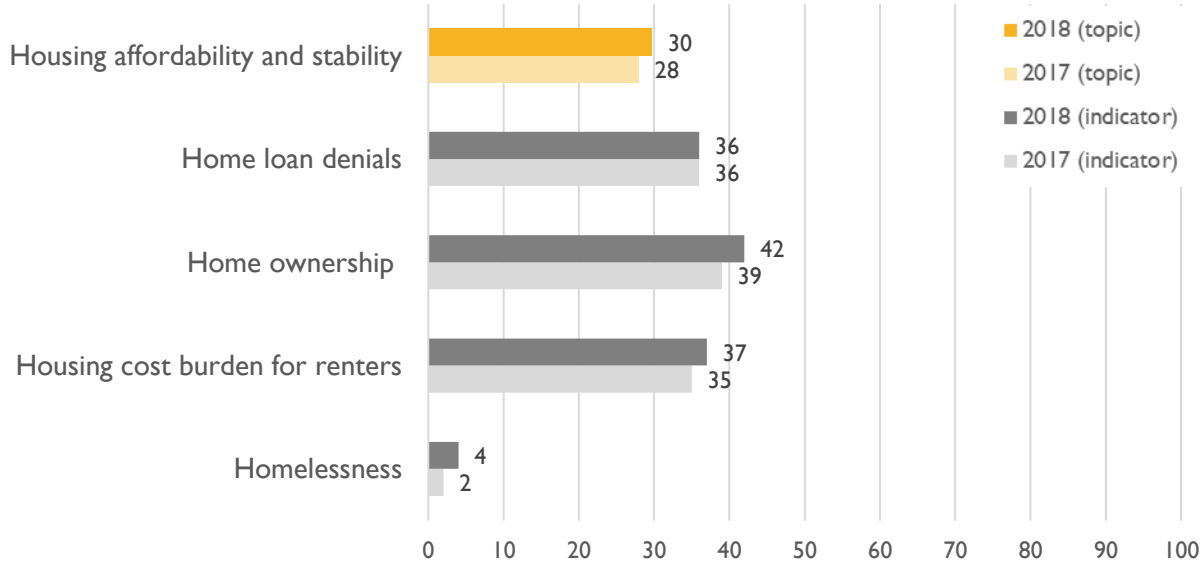


Housing Affordability and Stability

2018 topic equality score: 30 (2)

2017 topic equality score: 28

Figure 24. Housing Affordability and Stability Indicator Scores



Indicator 41: Home loan denials

2018 equality score: 36

Indicator definition	Ratio of the percentages of black and white applicants who applied for and were denied loans for home purchases	
Reporting year results	**2017** Black: 14.3% (147 loans) White: 5.4% (913 loans) **Black-to-white ratio = 2.633, score 36**	**2018** Black: 14.7% (162 loans) White: 5.6% (938 loans) **Black-to-white ratio = 2.632, score 36**
Changes from reporting year 2017 to reporting year 2018	Black: 0.4% White: 0.2% Change in equality score: 0	
Geography	County	
Description of results and context	The Home Mortgage Disclosure Act (HMDA) was designed to identify potentially discriminatory lending patterns that could contribute to disparities in home ownership.[54] In Allegheny County, white residents applied for and were denied a home loan at a much lower rate (5.6 percent) than black residents (14.7 percent). The percentage of residents who applied for and were denied loans for home purchases increased for both black and white residents of Allegheny County (from 5.4 percent and 14.3 percent for black and white residents, respectively), resulting in no change to the equality score of 36. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Home loans enable residents to purchase homes and build wealth over time, so disparities in home loan origination may contribute to downstream economic disparities.	
Data source	HMDA, 2016 and 2017	

Indicator 42: Home ownership

2018 equality score: 42

Indicator definition	Ratio of the percentages of higher-income and lower-income residents who are homeowners	
Reporting year results	**2017** Higher-income: 54.7% (55,956 people) Lower-income: 24.6% (8,358 people) **High-to-low-income ratio = 2.224, score 39**	**2018** Higher-income: 55.4% (57,490 people) Lower-income: 28.1% (9,729 people) **High-to-low-income ratio = 1.972, score 42**

Changes from reporting year 2017 to reporting year 2018	Higher income: 0.7% Lower income: 3.5% Change in equality score: 3
Geography	City
Description of results and context	Home ownership is an important step in creating household stability and building wealth over time. A sharp disparity exists in the percentages of higher-income and lower-income residents who are homeowners. In 2017 (the most recent year for which data were available), higher-income residents were about two times as likely to be homeowners (55.7 percent) than lower-income residents (28.1 percent). The rate of home ownership increased for both higher-income (by 0.7 percent) and lower-income residents (by 3.5 percent) between 2016 and 2017. Because of the greater increase in home ownership for lower-income residents, the equality score increased to 42, up from 39 (a change of 3). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Historical practices that discriminated against families of color looking to purchase homes still resonate today in generational wealth gaps.[55]
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 43: Housing cost burden for renters

2018 equality score: 37

Indicator definition	Ratio of the percentages of lower-income and higher-income residents paying more than 30 percent of their annual income on rent	
Reporting year results	**2017** Lower income: 72.0% (18,485 people) Higher income: 25.8% (11,942 people) **Lower-to-higher-income ratio = 2.791, score 35**	**2018** Lower income: 72.5% (17,374 people) Higher income: 29.3% (13,559 people) **Lower-to-higher-income ratio = 2.475, score 37**
Changes from reporting year 2017 to reporting year 2018	Lower income: 0.5% Higher income: 3.5% Change in equality score: 2	
Geography	City	
Description of results and context	The supply of affordable housing in the region has been a concern among decisionmakers for a number of years.[56] Lower-income residents of Pittsburgh were almost two and a half times as likely to pay 30 percent or more of their annual income on rent (72.5 percent) than higher-income residents (29.3 percent) in 2017 (the most recent year for which data were available). Within the lower-income bracket (with an annual household income of less than $19,999), the largest subset of residents (59.3 percent) paid 50 percent or more of their annual income on rent. At the same time, residents who fell into the higher-income bracket	

	(greater than $20,000), the largest subset of residents (39.9 percent) paid less than 20% of their annual income on rent. Compared with the previous year, there was a 0.5 percent increase in the percentage of lower-income residents and a 3.5 percent increase in the percentage of higher-income residents paying 30 percent of their annual income on rent. While housing cost burden for renters went up for both subgroups, because of the larger increase for higher-income residents, the disparity slightly decreased and resulted in a change in the equality score to 37, up from 35 (a change of 2). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The Affordable Housing Task Force released recommendations in 2016 of ways to address increasing housing cost burden in the city, especially among low-income and very low-income residents.[57]
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 44: Homelessness

2018 equality score: 4

Indicator definition	Ratio of rates of blacks and whites using homeless emergency shelters	
Reporting year results	**2017** Black: 1,216.9 (per 100,000 people) White: 128.1 (per 100,000 people) **Black-to-white ratio = 9.5, score 2**	**2018** Black: 918.9 (per 100,000) White: 99.8 (per 100,000) **Black-to-white ratio = 9.207, score 4**
Changes from reporting year 2017 to reporting year 2018	Black: –298 White: –28.3 Change in equality score: 2	
Geography	County	
Description of results and context	The Allegheny County Department of Human Services provides a variety of services to the homeless and unstably housed population of Pittsburgh, including homeless emergency shelters. The Department of Human Services captures population estimates and tracks participation across multiple services to attempt to account for the full and changing picture of homelessness and unstable housing across Pittsburgh but is limited to only those who use homelessness services. The use of homeless emergency shelters across racial groups showed a severe disproportion in rates between black Pittsburghers and white Pittsburghers. In 2018, black Pittsburghers were significantly more likely to use homeless emergency shelters at a rate of 918.9 per 100,000 people than white Pittsburghers at a rate of 99.8 per 100,000 people. While a significant disparity stills exists between the rates of black and white residents of Allegheny County using homeless emergency shelters, the rates are decreasing for both populations (down from 1,216.9 and 128.1in 2017, for black and white residents, respectively), resulting in a slight change in the equality score from 2 to 4 (a change of 2). There is no information available on the error associated with these data points,	

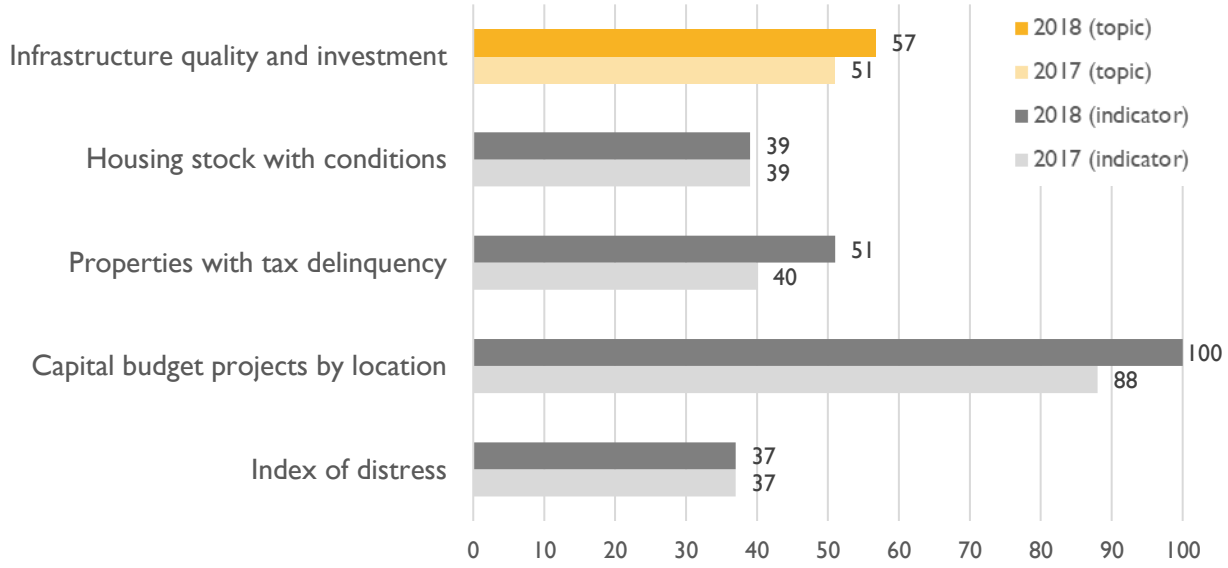
	so we are unable to determine the statistical significance of changes in raw data or equality scores. Use of homelessness services reflects underlying housing instability and may be related to increasing affordability challenges in the city.
Data source	Allegheny County Department of Human Services, 2017 and 2018

Infrastructure Quality and Investment

2018 topic equality score: 57 (6)

2017 topic equality score: 51

Figure 25. Infrastructure Quality and Investment Indicator Scores



Indicator 45: Housing stock with conditions

2018 equality score: 39

Indicator definition	Ratio of percentages of renter- and owner-occupied homes with "conditions"	
Reporting year results	**2017** Renter occupied: 41.8% (30,057 homes) Owner occupied: 19.2% (12,359 homes) **Rent-to-own ratio = 2.173, score 39**	**2018** Renter occupied: 43.4% (30,461 homes) Owner occupied: 19.3% (12,977 homes) **Rent-to-own ratio = 2.247, score 39**
Changes from reporting year 2017 to reporting year 2018	Renter occupied: 1.62% Owner occupied: 0.09% Change in equality score: 0	
Geography	City	

Description of results and context	The U.S. Census Bureau defines "conditions" as a lacking complete plumbing facilities, lacking complete kitchen facilities, housing more than 1.01 persons per room, and/or costing owners greater than 30 percent of household income per month or costing renters gross rent as a percentage of household income of greater than 30 percent per month. There is inequality in the percentages of renter- and owner-occupied homes with conditions. In 2017 (the most recent year for which data were available), renter-occupied homes were more than two times as likely to have "conditions" (43.4 percent) than owner-occupied homes (19.3 percent). The percentages of renter- and owner-occupied homes with "conditions" only slightly increased for both types of residents (up from 41.8 percent and 19.2 percent, for renter and owner-occupied homes, respectively) and therefore, there was no change to the equality score of 39. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Pittsburgh's aging infrastructure and large population of renters (51.1 percent of Pittsburghers rent) has elevated the concern of improving the stock of healthy and affordable housing.
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 46: Properties with tax delinquency

2018 equality score: 51

Indicator definition	Ratio of percentages of tax delinquent properties in majority-black and majority-white census tracts	
Reporting year results	**2017** Majority-black tracts: 17.8% (8,758 properties) Majority-white tracts: 8.4% (8,292 properties) **Black-to-white ratio = 2.119, score 40**	**2018** Majority-black tracts: 15.5% (8,065 properties) Majority-white tracts: 8.9% (8,031 properties) **Black-to-white ratio = 1.742, score 51**
Changes from reporting year 2017 to reporting year 2018	Majority-black tracts: –2.3% Majority-white tracts: 0.5% Change in equality score: 11	
Geography	City (census tract)	
Description of results and context	Tax delinquency reflects financial instability in a community and has spillover effects on neighborhood property values.[58] Majority-black census tracts contained a larger percentage of tax delinquent properties (15.5 percent) compared with majority-white census tracts (8.9 percent) in 2018. The percentage of tax-delinquent properties decreased in majority-black tracts (by 2.3 percent) and increased in majority-white tracts (by 0.5 percent) between 2017 and 2018. Because of these divergent changes and closing gaps between majority-black and majority-white tracts, the equality score increased from 40 to 51 (a change of 11). There is no information available on the error associated with these data	

	points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	Allegheny County, Department of Court Records; City of Pittsburgh, Department of Finance, 2017 and 2018

Indicator 47: Capital budget projects by location

2018 equality score: 100

Indicator definition	Ratio of percentages of whites and blacks with a city capital project being planned or implemented in their neighborhood	
Reporting year results	**2017** White: 76.5% (150,330 people) Black: 72.0% (52,815 people) **White-to-black ratio = 1.063, score 88**	**2018** White: 81.5% (156,572 people) Black: 81.9% (60,405 people) **White-to-black ratio = 0.995, score 100**
Changes from reporting year 2017 to reporting year 2018	White: 5.0% Black: 9.9% Change in equality score: 12	
Geography	City (neighborhood)	
Description of results and context	The City of Pittsburgh Office of Management and Budget tracks city capital projects being planned or implemented across neighborhoods of Pittsburgh each fiscal year. Capital projects include repairs to existing facilities, construction of new facilities, installation of public infrastructure, and creation of community gardens; 81.9 percent of black and 81.5 percent of and white Pittsburghers had a city capital project being planned or implemented in their neighborhood in 2018. In 2017, a slightly larger gap existed between the percentage of black (72.0 percent) and white (76.5 percent) Pittsburghers with a city capital project being planned or implemented in their neighborhood. Because of disproportionate increases in access for black residents, the percentages of black and white residents with projects in their neighborhood is virtually equal in 2018, with a score of 100 reflecting no disparity in projects by race. This is an improvement from 2017, when an equality score of 88 reflected some disparity in access to new capital budget projects. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	
Data source	City of Pittsburgh, Office of Management and Budget, 2017 and 2018	

Indicator 48: Index of distress

2018 equality score: 37

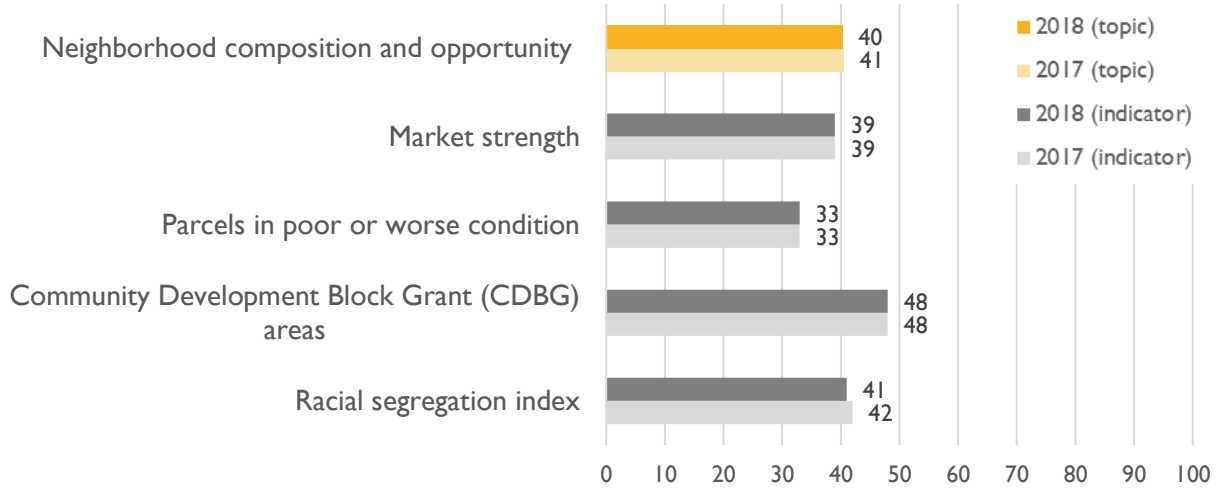
Indicator definition	Ratio of percentages of black and white Pittsburghers who live in a census tract with at least one distressed block	
Reporting year results	**2017** Black: 56.7% (42,038 people) White: 22.3% (45,164 people) **Black-to-white ratio = 2.543, score 37**	**2018** Black: 56.2% (40,508 people) White: 22.2% (45,189 people) **Black-to-white ratio = 2.532, score 37**
Changes from reporting year 2017 to reporting year 2018	Black: –0.5% White: –0.1% Change in equality score: 0	
Geography	City (census tract)	
Description of results and context	The Index of Distress is calculated at the census-block level and is a composite index of housing age, condition, and vacancy. The index is used by the Urban Redevelopment Authority (URA) as a part of the Market Value Analysis (MVA) to identify particularly distressed or healthy housing markets in the City of Pittsburgh. In 2017 (the most recent year for which demographic data were available), more than half of black Pittsburghers lived in a census tract with at least one distressed block (56.2 percent) compared with less than one-quarter of white Pittsburghers (22.2 percent). These percentages decreased slightly from 2016 for both black Pittsburghers (down by 0.5 percent) and white Pittsburghers (down by 0.1 percent). Because of the very slight change in the percentages, the equality score of 37 did not change. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	
Data sources	MVA, URA, 2016; ACS 1-year estimates, 2016 and 2017	

Neighborhood Composition and Opportunity

2018 topic equality score: 40 (–1)

2017 topic equality score: 41

Figure 26. Neighborhood Composition and Opportunity Indicator Scores



Indicator 49: Market strength

2018 equality score: 39

Indicator definition	Ratio of the average percentages of white and black Pittsburghers who live in a "high market value" census tract	
Reporting year results	**2017** White: 23.8% Black: 10.7% **White-to-black ratio = 2.224, score 39**	**2018** White: 24.1% Black: 10.9% **White-to-black ratio = 2.211, score 39**
Changes from reporting year 2017 to reporting year 2018	White: 0.3% Black: 0.2% Change in equality score: 0	
Geography	City (census tract)	
Description of results and context	The URA's MVA uses an internally referenced index of residential real estate markets and identifies highest demand markets (and other characteristics) in the city. MVA clusters are classified as "high market value" if they are rated an A, B, or C, "mid-market value" if they are rated D, E, or F, and "low market value" if they are rated H or I. MVA is recommended for use by U.S. Department of Housing and Urban Development to help match neighborhood needs with investment opportunities. In 2017 (the most recent year for which demographic data were available), the average percentage of white Pittsburghers living in a high market value census tract (24.1 percent) was higher than the percentage of black Pittsburghers (10.9 percent) living in a high-market	

	value tract. Compared with 2016, the percentages of white and black Pittsburghers who live in a "high market value" census tract both increased slightly (by 0.3 percent and 0.2 percent, respectively). As a result, the equality score of 39 did not change. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data sources	MVA, URA, 2016; ACS 1-year estimates, 2016 and 2017

Indicator 50: Parcels in poor or worse condition

2018 equality score: 33

Indicator definition	Ratio of percentages of parcels in poor or worse condition in majority-black and majority-white census tracts	
Reporting year results	**2017** Majority-black tracts: 6.5% (N/A) Majority-white tracts: 2.1% (N/A) **Black-to-white ratio = 3.095, score 33**	**2018** Majority-black tracts: 6.5% (N/A) Majority-white tracts: 2.1% (N/A) **Black-to-white ratio = 3.095, score 33**
Changes from reporting year 2017 to reporting year 2018	Majority-black tracts: 0% Majority-white tracts: 0% Change in equality score: 0	
Geography	City (census tract)	
Description of results and context	The URA also tracks the number of parcels in the city that are in poor or worse condition. There is a small percentage of parcels in the city that are in disrepair, and the percentages of parcels in poor or worse condition varied between majority-black and majority-white census tracts. In 2017 (the most recent year for which demographic data were available), majority-black census tracts (6.5 percent) were three times more likely to contain parcels in poor or worse condition than majority-white census tracts (2.1 percent). Between our report years, there was no change in the data because of the same classification of neighborhoods as majority black and majority white and no change in underlying data. Consequently, the equality score of 33 did not change. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Neighborhood blight has been found to impact physical and mental health outcomes, economic development opportunities, and overall community well-being.[59]	
Data sources	MVA, URA, 2016; ACS 1-year estimates, 2016 and 2017	

Indicator 51: Community Development Block Grant (CDBG) areas

2018 equality score: 48

Indicator definition	Ratio of percentages of black and white Pittsburghers living in census tracts eligible for Community Development Block Grants	
Reporting year results	**2017** Black: 74.6% (55,295 people) White: 41.2% (83,319 people) **Black-to-white ratio = 1.811, score 48**	**2018** Black: 74.9% (54,029 people) White: 41.3% (84,033 people) **Black-to-white ratio = 1.814, score 48**
Changes from reporting year 2017 to reporting year 2018	Black: 0.3% White: 0.1% Change in equality score: 0	
Geography	City (census tract)	
Description of results and context	The U.S. Department of Housing and Urban Development (HUD) distributes CDBGs to communities to address a specific community need. Eligibility for CDBGs is determined by HUD based such factors as population, age of housing, level of poverty, and overcrowding. The percentage of black Pittsburghers living in census tracts eligible for CDBGs in 2017 (the most recent year for which data were available) was 74.9 percent, almost twice that of white Pittsburghers (41.3 percent). These percentages are similar to those reported for the previous year: 74.6 percent for black and 41.2 percent for white Pittsburghers. The equality score of 48 did not change between 2017 and 2018 because of the minor change in percentages. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. CDBG eligibility is often used as a proxy for communities with the highest development needs.[60]	
Data sources	City of Pittsburgh CDBG areas data, 2017; ACS 1-year estimates, 2016 and 2017	

Indicator 52: Racial segregation index

2018 equality score: 41

Indicator definition	Index of dissimilarity for Pittsburgh: the (inverse of the) proportion of a group that would need to move in order to create a uniform distribution of the population by race	
Reporting year results	**2017** The proportion of white Pittsburghers who could remain living in their census tracts to eliminate residential segregation in the city: 42% **Score: 42**	**2018** The proportion of white Pittsburghers who could remain living in their census tracts to eliminate residential segregation in the city: 41% **Score: 41**

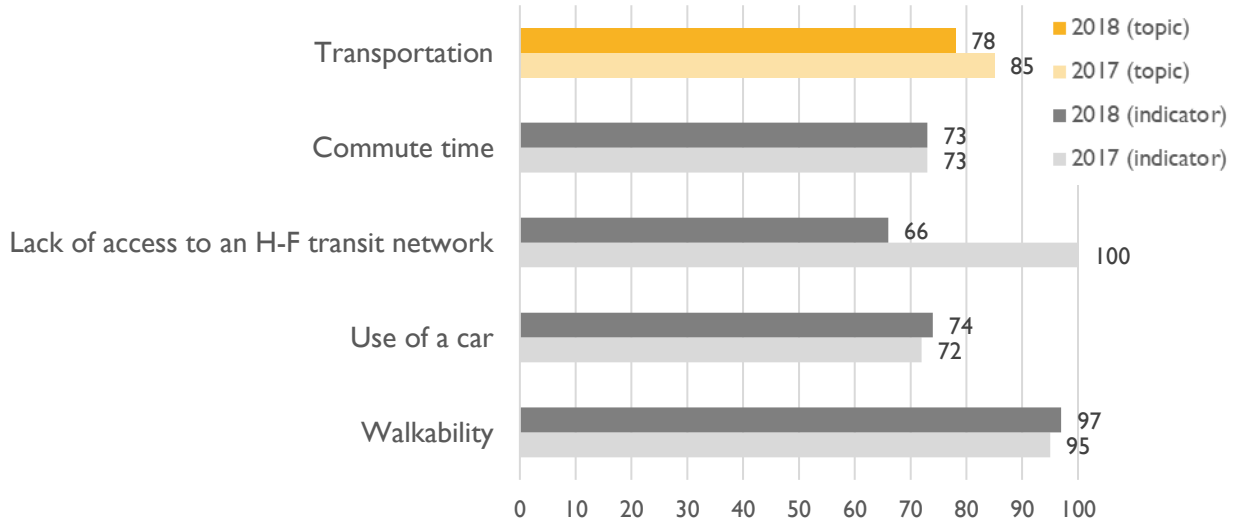
Changes from reporting year 2017 to reporting year 2018	Change in equality score: –1
Geography	City (census tract)
Description of results and context	The racial segregation index indicates the proportion of a population who could remain living in their census tracts while attempting to eliminate residential segregation in the city. The residential segregation between black and white Pittsburghers was substantial in 2017 (the most recent year for which data were available): 41 percent of white Pittsburghers could remain living in their census tracts, meaning that the majority would need to move to eliminate residential segregation. Since the level of residential segregation between 2016 and 2017 increased by 1 percent, the equality score decreased from 42 to 41. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	ACS 1-year estimates, 2016 and 2017

Transportation

2018 topic equality score: 78 (–7)

2017 topic equality score: 85

Figure 27. Transportation Indicator Scores



Indicator 53: Commute time

2018 equality score: 73

Indicator definition	Ratio of black and white Pittsburghers' average commute times	
Reporting year results	**2017** Black: 32.4 minutes White: 26.1 minutes	**2018** Black: 32.8 minutes White: 26.3 minutes

	Black-to-white ratio = 1.241, score 73	**Black-to-white ratio = 1.247, score 73**
Changes from reporting year 2017 to reporting year 2018	Black: 0.4 White: 0.2 Change in equality score: 0	
Geography	City	
Description of results and context	ACS PUMS data showed a slight difference in average commute times for black and white Pittsburghers. In 2017 (the most recent year for which data were available), black Pittsburghers had an average commute time that was six minutes more (32.8 minutes) than the average commute time of white Pittsburghers (26.3 minutes). The difference in average commute time for black and white Pittsburghers only increased very slightly, and therefore, the equality score of 73 did not change between the reports for 2017 and 2018. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Pittsburgh's smart transportation initiatives, including smart signals and the proposed Bus Rapid Transit system aim to improve commute times across the city. It will be critical to track the equity impacts of these investments, as their effect is currently unknown.[61]	
Data source	ACS PUMS data, 2016 and 2017	

Indicator 54: Lack of access to a high-frequency transit network

2018 equality score: 66

Indicator definition	Ratio of percentages of black and white Pittsburghers living in census tracts with no High Frequency Transit Network (HFTN) during rush hour	
Reporting year results	**2017** Black: 10.8% (8,007 people) White: 14.0% (28,349 people) **Black-to-white ratio = 0.771, score 100**	**2018** Black: 7.4% (5,327 people) White: 5.3% (10,781 people) **Black-to-white ratio = 1.396, score 66**
Changes from reporting year 2017 to reporting year 2018	Black: –3.4% White: –8.7% Change in equality score: –34	
Geography	City (census tract)	
Description of results and context	HFTNs are transit routes that serve a stop at least every 15 minutes. In 2018, the percentage of Pittsburghers living in census tracts with *no access* to a HFTN during rush hour (weekday mornings and evenings) was similar between white (5.3 percent) and black (7.4) Pittsburghers. The percentage of Pittsburghers who lacked access to a HFTN is down from 10.8 percent of black residents and 14.0 percent of white residents in 2017, indicating positive changes in access. There is no information available on the error associated with these data points, so we are unable	

	to determine the statistical significance of changes in raw data or equality scores. While overall rates of access are improving across subgroups, likely because of service improvements made by Port Authority of Allegheny County that have led to increased bus services during rush hour, they are improving more for white residents. This difference may be in part explained by demographic changes in some of the city's neighborhoods that are served more frequently by transit (e.g., East Liberty, Garfield) and may have resulted in white residents seeing disproportionately large increases in access relative to their black counterparts. In 2018, white residents had better access to a HFTN than their black counterparts, represented in an equality score of 66. This score is down 34 from the 2017 score of 100, when black residents had better access to a HFTN. Consequently, a former flipped disparity has been reversed for 2018.
Data source	AllTransit, 2017 and 2018

Indicator 55: Use of a car

2018 equality score: 74

Indicator definition	Ratio of percentages of working whites and blacks who commute by driving alone	
Reporting year results	**2017** White: 57.9% (66,354 people) Black: 45.4% (12,351 people) **White-to-black ratio = 1.275, score 72**	**2018** White: 60.5% (68,199 people) Black: 49.5% (12,396 people) **White-to-black ratio = 1.221, score 74**
Changes from reporting year 2017 to reporting year 2018	White: 2.6% Black: 4.1% Change in equality score: 2	
Geography	City	
Description of results and context	This indicator was selected as a proxy for car ownership. In 2017 (the most recent year for which data were available), white Pittsburghers were more likely to use a car to commute compared with black Pittsburghers. More than half of white Pittsburghers (60.5 percent), and slightly less than half of black Pittsburghers (49.5 percent) commuted by driving alone. The percentage of working whites and blacks who commuted by driving alone increased from 2016 by 2.6 percent and 4.1 percent for white and black populations, respectively. Because of the greater increase in the percentage of working black Pittsburghers who commuted by driving alone, the equality score increased from 72 to 74 (a change of 2). Information was available from the Census Bureau on the margins of error associated with these estimates of rates of use of a car (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant.	

	Information on margins of error (2017): White: +/–3.2% Black: +/–7.0% Information on margins of error (2018): White: +/–3.3% Black: +/–7.8% It is important to note that while Pittsburghers may have a car but choose not to drive, car ownership has traditionally been an important indicator of family wealth.[62]
Data source	ACS 1-year estimates, 2016 and 2017

Indicator 56: Walkability

2018 equality score: 97

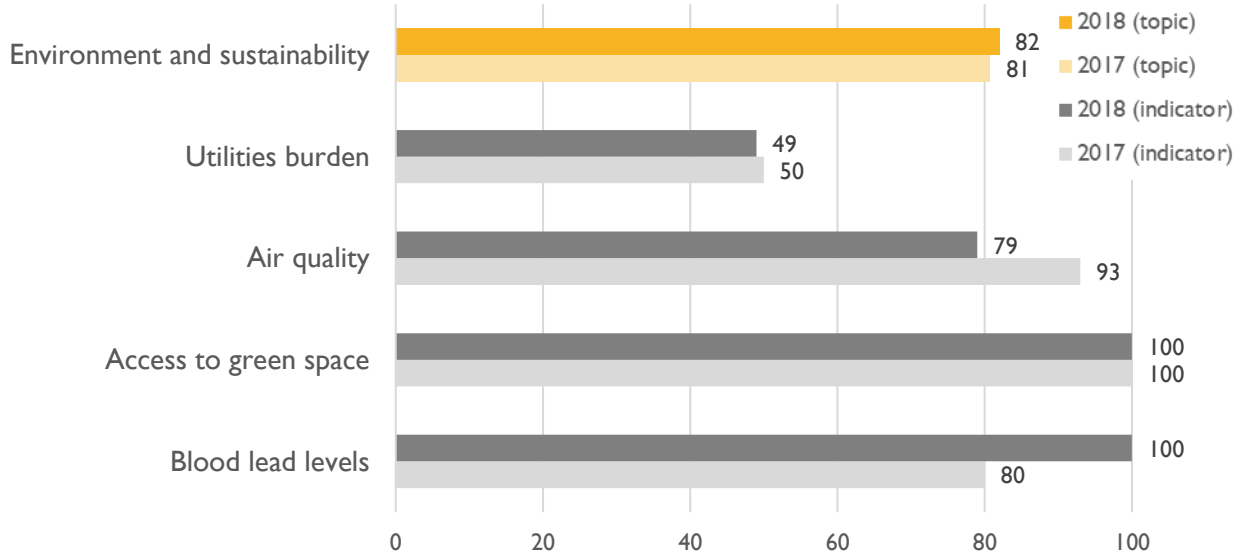
Indicator definition	Ratio of average walk scores in majority-white and majority-black census tracts	
Reporting year results	**2017** Majority-white tracts: 60.0 Majority-black tracts: 58.5 **White-to-black ratio = 1.026, score 95**	**2018** Majority-white tracts: 60.3 Majority-black tracts: 59.3 **White-to-black ratio = 1.017, score 97**
Changes from reporting year 2017 to reporting year 2018	Majority-white tracts: 0.3 Majority-black tracts: 0.8 Change in equality score: 2	
Geography	City (census tract)	
Description of results and context	Walk Scores measure the walkability of an area using distance to amenities by subcategories, pedestrian friendliness, population density, and road characteristics. The highest scores are given to amenities within a five-minute walk, and the lowest scores are given to amenities with a 30-minute or greater walk. In 2018, the average walk scores in majority-white (60.3) and majority-black (59.3) census tracts were almost equal in the City of Pittsburgh. These numbers are up slightly from previous years, up from 60.0 in majority-white tracts and 58.5 in majority-black tracts. The improvements were greater in majority-black tracts, resulting in an equality score of 97 (change score = 2) that even more closely approximates equality across subgroups. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. It should be noted that while scores were almost equal across the board, the equality of the scores does not necessarily mean that all census tracts are highly walkable, just that, on average, all census tracts have a similar level of walkability.	
Data sources	Allegheny County Walk Scores, 2014; WalkScore data, 2018	

Environment and Sustainability

2018 topic equality score: 82 (1)

2017 topic equality score: 81

Figure 28. Environment and Sustainability Indicator Scores



Indicator 57: Utilities burden

2018 equality score: 49

Indicator definition	Ratio of median annual utility costs for black and and white Pittsburghers relative to annual income	
Reporting year results	**2017** Black: 4.9% White: 2.8% **Black-to-white ratio = 1.75, score 50**	**2018** Black: 5.0% White: 2.8% **Black-to-white ratio = 1.786, score 49**
Changes from reporting year 2017 to reporting year 2018	Black: 0.1% White: 0.0% Change in equality score: –1	
Geography	City	
Description of results and context	Analysis of data from the American Housing Survey revealed a disparity between the percentage of annual income that black Pittsburghers and white Pittsburghers spend on utility (gas, water, electric) costs. The median percentage of annual income spent on utilities was higher for black Pittsburghers (5.0 percent) compared with white Pittsburghers (2.8 percent). There was a slight increase of 0.1 percent from 2016 to 2017 in the median percentage of annual income spent on utilities for black Pittsburghers and no change for white Pittsburghers. The equality change score decreased to 49, down from 50 in 2017 as a result. There is no	

	information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Steps can be taken to improve energy efficiency of homes and reduce utilities payments, though these repairs and modifications often have up-front costs. Programs exist for low-income city residents to increase the energy efficiency of their homes.[63]
Data source	ACS PUMS data, 2016 and 2017

Indicator 58: Air quality

2018 equality score: 79

Indicator definition	Ratio of percentages of majority-black and majority-white census tracts with annual average PM 2.5 values of above 12.0	
Reporting year results	**2017** Majority-black tracts: 27.3% Majority-white tracts: 26.3% **Black-to-white ratio = 1.038, score 93**	**2018** Majority-black tracts: 26.2% Majority-white tracts: 23.3% **Black-to-white ratio = 1.124, score 79**
Changes from reporting year 2017 to reporting year 2018	Majority-black tracts: –1.1% Majority-white tracts: –3.0% Change in equality score: –14	
Geography	City (census tract)	
Description of results and context	The Carnegie Mellon Center for Atmospheric Particle Studies collects data on PM 2.5 and other air quality metrics. The Air Quality Index classifies the levels of PM 2.5 in Pittsburgh as generally good, with levels of 0–12.0 categorized as little to no risk and levels of 12.1–35.4 (which are rare in the city when aggregated over the year) as moderate and risky only for those who are unusually sensitive or at risk for respiratory symptoms. 26.2% of majority-black census tracts experienced average annual PM 2.5 values of above 12.0 (at least moderately poor air quality) in 2017, the most recent year for which data were available. This percentage is down slightly from 2016, with 27.3 percent of majority-black tracts experiencing at least moderately poor air quality. In comparison, 23.3 percent of majority-white tracts experienced at least moderately poor air quality in 2017, compared with 26.3 percent of majority-white tracts in 2016. While underlying air quality values remained the same between 2016 data collection in 2017, differences in census tract demographics led to a lower proportion of majority-white tracts with moderately poor air quality in 2017 than in 2016, a more dramatic decrease than the proportion of majority-black tracts between the two years. Consequently, the equality score decreased to 79 from 93 (a change of –14). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	

	It should be noted that air pollution does not follow census tract boundaries, and some areas within a census tract may be affected by pollution to a greater extent than others.
Data sources	Carnegie Mellon Center for Atmospheric Particle Studies data, 2017; ACS 5-year estimates, 2012–2016 and 2013–2017

Indicator 59: Access to green space

2018 equality score: 100

Indicator definition	Ratio of the percentages of white and black residents living within one-quarter of mile from a green space	
Reporting year results	**2017** White: 91.0% (178,824 people) Black: 93.5% (68,586 people) **White-to-black ratio = 0.973, score 100**	**2018** White: 90.8% (184,621 people) Black: 94.5% (68,165 people) **White-to-black ratio = 0.961, score 100**
Changes from reporting year 2017 to reporting year 2018	White: –0.2% Black: 1.0% Change in equality score: 0	
Geography	City (census tract)	
Description of results and context	Access to green space (e.g., a park, wooded area, or greenway), based on a living within one-quarter of a mile from green space, is generally good in Pittsburgh. Access varied slightly between racial groups: black residents were slightly more likely to be living within one-quarter of mile from green space (94.5 percent) than white residents (90.8 percent). These findings indicate that black residents may have better access to parks and urban forests than their white counterparts. Between 2017 and 2018, the percentage of black Pittsburghers living within one-quarter of mile from a green space increased by 1.0 percent, while it decreased by 0.2 percent for white Pittsburghers. The small percentage change, and the maintenance of the flipped disparity between black and white Pittsburghers' access to green space, resulted in no change in the 2017 equality score of 100. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Note that this analysis does not take into account the quality or specific amenities available at a given green space location.	
Data source	City of Pittsburgh Departmen of Public Works, Operations Division green spaces inventory, 2016; ACS 1-year estimates, 2016 and 2017	

Indicator 60: Blood lead levels (BLLs)

2018 equality score: 100

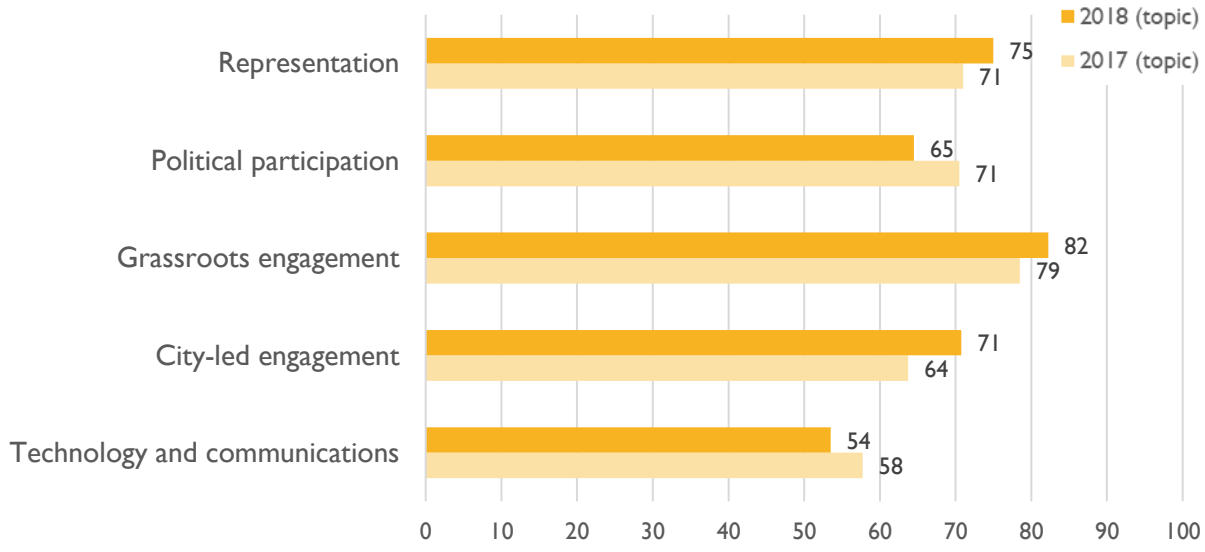
Indicator definition	Ratio of average percentage of children tested with confirmed elevated blood lead levels (BLLs) in majority-black and majority-white census tracts	
Reporting year results	**2017** Majority-black tracts: 5.0% Majority-white tracts: 4.5% **Black-to-white ratio = 1.111, score 80**	**2018** Majority-black tracts: 2.9% Majority-white tracts: 3.0% **Black-to-white ratio = 0.967, score 100**
Changes from reporting year 2017 to reporting year 2018	Majority-black tracts: –2.1% Majority-white tracts: –1.5% Change in equality score: 20	
Geography	City (census tract)	
Description of results and context	BLLs greater than or equal to 5 µg/dL are considered to be elevated, though the Pennsylvania Department of Health does not consider any level of lead in the blood to be safe. A difference of 0.1 percent existed in the average percentage of children tested with confirmed elevated blood lead levels in majority-black (2.9 percent) and majority-white (3.0 percent) census tracts in 2016–2017 (the most recent year for which data were available). These percentages demonstrate a decrease in confirmed elevated blood lead levels for children in both majority-black and majority-white census tracts from previous years, from 5.0 percent and 4.5 percent of majority-black and majority-white tracts, respectively. While the percentage of children with confirmed BLL decreased across both subgroups, it decreased more in majority-black census tracts, so much so that the disparity was virtually eliminated, as reflected in a 2018 equality score of 100. This score is up 20 from the 2017 score of 80. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Increasing recognition of the danger of lead in homes, as well as increasing awareness and participation in lead mitigation programming in the region may be contributing to the observed decreases in elevated BLL results. Because of known issues with lead present in older homes, lead paint and pipe infrastructure, and other factors contributing to lead exposure, universal childhood lead testing at six months and two years started in January 2018.	
Data source	Pennsylvania Department of Health, Pennsylvania National Electronic Disease Surveillance System, 2012–2016 and 2016–2017	

Civic Engagement and Communications

2018 domain equality score: 69 (no change)

2017 domain equality score: 69

Figure 29. Civic Engagement and Communications Topic Scores

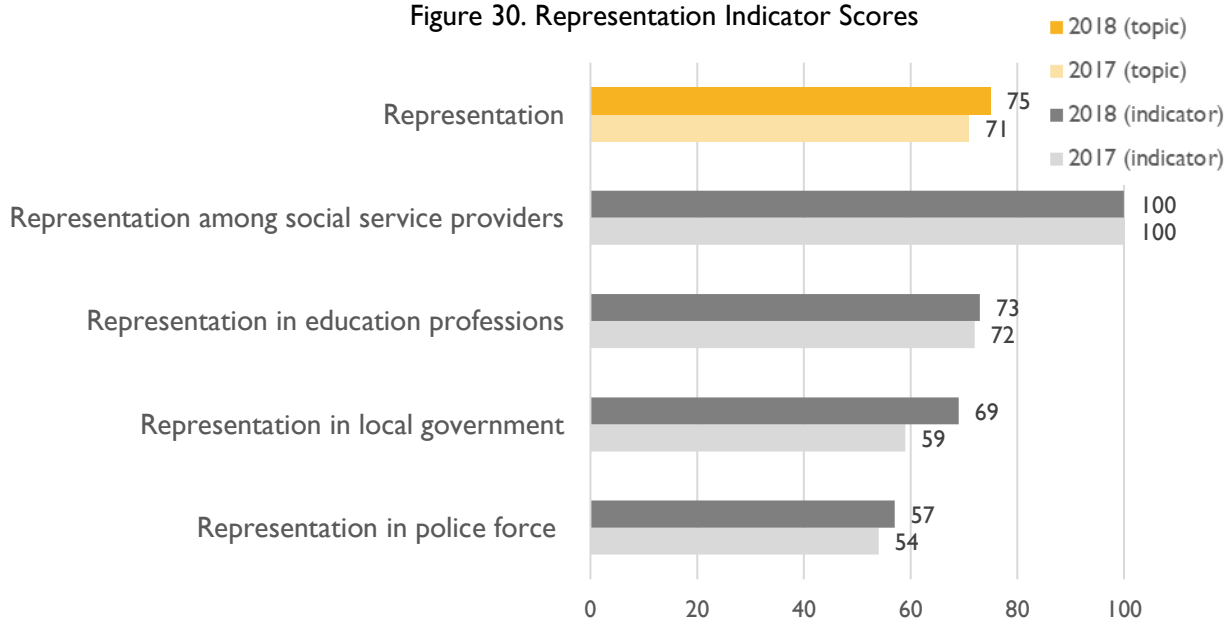


Representation

2018 topic equality score: 75 (4)

2017 topic equality score: 71

Figure 30. Representation Indicator Scores



Indicator 61: Representation among social service providers

2018 equality score: 100

Indicator definition	Ratio of percentages of the white and black workforce employed in social service professions	
Reporting year results	**2017** White: 2.2% (2,453 people) Black: 5.6% (1,551 people) **White-to-black ratio = 0.393, score 100**	**2018** White: 3.6% (4,044 people) Black: 3.9% (1,017 people) **White-to-black ratio = 0.923, score 100**
Changes from reporting year 2017 to reporting year 2018	White: 1.4% Black: –1.7% Change in equality score: 0	
Geography	City	
Description of results and context	The U.S. Census Bureau defines occupations such as social work, counseling, and health education as social service professions. In 2017 (the most recent year for which data were available) a higher percentage of the black workforce (3.9 percent) was employed in social service professions compared with the white workforce (3.6 percent). This represents a decrease in the percentage of black workers in these professions and an increase in the percentage of white workers. However, since the percentage of the black workforce employed in social services exceeds the percentage of the white workforce employed in this sector, the equality score was 100 for both years. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Data analyzed for the other indicators in this report (e.g., participation in *SNAP participation* [indicator 3] and *poverty* rates [indicator 40]) indicate that a higher percentage of black Pittsburghers use social service programs than their white peers. While representation is positive in this aspect, these also tend to be lower-paying professions and may help to explain some of the income gap between black and white populations in the city.	
Data source	ACS 1-year estimates, 2016 and 2017	

Indicator 62: Representation in education professions

2018 equality score: 73

Indicator definition	Ratio of representativeness of the white and black workforce employed in education professions	
Reporting year results	**2017** White: 7.9% (8,930 people) Black: 6.2% (1,718 people)	**2018** White: 8.1% (9,122 people) Black: 6.5% (1,665 people)

	White-to-black ratio = 1.274, score 72	**White-to-black ratio = 1.246, score 73**
Changes from reporting year 2017 to reporting year 2018	White: 0.2% Black: 0.3% Change in equality score: 1	
Geography	City	
Description of results and context	Representation in education professions varied by race. In 2017, a significant difference existed between the percentages of the white (8.1 percent) and black (6.5 percent) workforce employed in education professions. These percentages are up slightly for both white and black workers, and a more significant proportional increase in the percentage of black workers in education professions led to a slight improvement in equality scores between years: 73 in 2018, up from 72 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. PPS students are 56.8 percent black, and the majority of educational professionals in the city are white. A lack of representation in education professions, to the extent that students may not see teachers and role models who look like them, can influence student buy-in, school engagement, and future educational outcomes.	
Data source	ACS 1-year estimates, 2016 and 2017	

Indicator 63: Representation in local government

2018 equality score: 69

Indicator definition	Ratio of percentages of male and female local government officials	
Reporting year results	**2017** Males: 60.7% (17 employees) Females: 39.3% (11 employees) **Male-to-female ratio = 1.545, score 59**	**2018** Males: 57.1% (16 employees) Females: 42.9% (12 employees) **Male-to-female ratio = 1.333, score 69**
Changes from reporting year 2017 to reporting year 2018	Males: –3.56% Females: 3.56% Change in equality score: 10	
Geography	City	
Description of results and context	Local government officials include those employees with titles such as council member, controller, director of public safety, mayor, and police chief. Municipal personnel data reported to the Pennsylvania Department of Community and Economic Development show that, in 2018, more males (57.1 percent) were employed than females (42.9 percent) as local government officials in the City of Pittsburgh. The percentage of the workforce is more equitably distributed across sex than it was in 2017, when 60.7 percent of the workforce was male and 39.3 percent was female. The distribution in 2018 resulted in an improvement in equality score, at 69 in 2018 compared with 59 in 2017. There is no information	

	available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Lack of representation across gender or racial groups in highly visible government positions can have an impact on citizen perception of government and its ability to tackle issues that are important to their community. Pittsburgh City Council approved a Gender Equity Commission in December 2016 to address gender bias in city government and citywide.[64]
Data source	Municipal personnel data reported to Pennsylvania Department of Community and Economic Development, 2017 and 2018

Indicator 64: Representation in police force

2018 equality score: 57

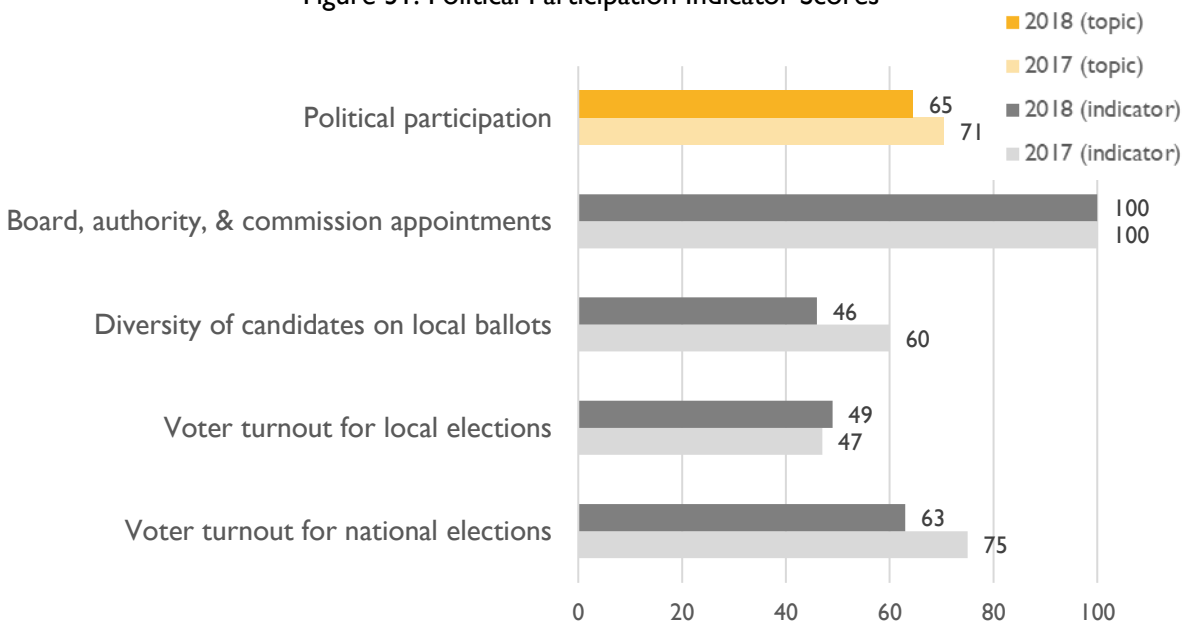
Indicator definition	Ratio of representativeness of white and black police officers	
Reporting year results	**2017** White: 7.2 (per 100,000 people; 776 officers) Black: 4.3 (per 100,000 people; 118 officers) **White-to-black ratio = 1.674, score 54**	**2018** White: 6.3 (per 100,000 people; 719 officers) Black: 4.0 (per 100,000 people; 111 officers) **White-to-black ratio = 1.575, score 57**
Changes from reporting year 2017 to reporting year 2018	White: 87.7 Black: 29.4 Change in equality score: 3	
Geography	City	
Description of results and context	A large disparity exists in the representation of Pittsburgh police officers by race. In 2016 (the most recent year that data were available), white police officers were more represented (at a rate of 6.3 per 100,000) than black officers (at a rate of 4.0). The number of officers of both races decreased across years, but the number of white officers decreased proportionately more (down from 7.2 per 100,000) than the number of black offices (down from 4.3 per 100,000), resulting in an equality score of 57 for 2018, up from a score of 54 for 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. While conditions are improving, the persistent disparity in Pittsburgh reflects national trends of misalignment in the demographic characteristics of police and community. Evidence shows that a diverse police force is more likely to have credibility and gain buy-in from the communities they serve.[65]	
Data source	Pittsburgh Bureau of Police personnel data, 2015 and 2016	

Political Participation

2018 topic equality score: 65 (–6)

2017 topic equality score: 71

Figure 31. Political Participation Indicator Scores



Indicator 65: Appointments to boards, authorities, and commissions

2018 equality score: 100

Indicator definition	Ratio of representativeness of white and black appointees to City of Pittsburgh boards, authorities, and commissions	
Reporting year results	**2017** N/A	**2018** White: 47.9 (per 100,000 people; 97 appointments) Black: 95.8 (per 100,000 people; 64 appointments) **White-to-black ratio = 0.5, score 100**
Changes from reporting year 2017 to reporting year 2018	N/A*	
Geography	City	
Description of results and context	The City of Pittsburgh keeps data on the race, gender, and other demographics of all appointees to city boards, authorities, and commissions. Data from 2018 (the only year for which data were available) indicate that black Pitsburghers are more well-represented on boards and commissons than white Pittsburghers, at rates of 95.8 and 47.9 per 100,000 people, respectively. Though these data do not indicate equal representation among groups, since the comparison group (black	

	Pittsburghers) is better represented (a flipped disparity) the equality score for this indicator is 100. *This indicator is new for the 2018 report, and data for 2017 were not available. Thus, we use data from 2018 to represent both years, so no change score could be calculated. Future iterations of the Equity Indicators analysis will use updated data and will allow for change scores to be calculated.
Data source	City of Pittsburgh, Office of the Mayor, 2018

Indicator 66: Diversity of candidates on the ballot in local elections

2018 equality score: 46

Indicator definition	Ratio of representativeness of male and female candidates on the ballot in local elections	
Reporting year results	**2017** Male: 60.3% (38 candidates) Female: 40.0% (25 candidates) **Male-to-female ratio = 1.508, score 60**	**2018** Male: 65.1% (54 candidates) Female: 34.9% (29 candidates) **Male-to-female ratio = 1.862, score 46**
Changes from reporting year 2017 to reporting year 2018	Male: 4.8% Female: –5.1% Change in equality score: –14	
Geography	City	
Description of results and context	Local primary election results demonstrated a disproportionate representation of candidates on the ballot by sex. Male candidates (65.1 percent) outnumbered female candidates (34.9 percent) on the ballot in the last local primary election (May 2018). This represents movement away from equality since the last election, when male candidates were 60.3 percent of the pool and female candidates were 40.0 percent. Thus, the equality score for 2018 is 46, down from 60 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Positions analyzed for this indicator included justice of the Pennsylvania Supreme Court, judge of the Superior Court, sheriff, mayor, council member, and magisterial district judge. Seats that were set aside for candidates of particular sex were excluded. Local efforts to improve representation of women in public office include trainings to prepare women for political campaigning and elections.[66]	
Data source	Local primary election results, 2017 and 2018	

Indicator 67: Voter turnout for local elections

2018 equality score: 49

Indicator definition	Ratio of average percentages of registered voters who voted in local elections in high-income and low-income census tracts

Reporting year results	**2017** High-income tracts: 27.5% Low-income tracts: 14.9% **High-to-low-income ratio = 1.846, score 47**	**2018** High-income tracts: 20.9% Low-income tracts: 11.7% **High-to-low-income ratio = 1.786, score 49**
Changes from reporting year 2017 to reporting year 2018	High-income tracts: –6.6% Low-income tracts: –3.2% Change in equality score: 2	
Geography	City (census tract)	
Description of results and context	The average percentage of registered voters who voted in local elections was almost two times higher in high-income census tracts (20.9 percent) than in low-income census tracts (11.7 percent) in 2018. These numbers are down for both types of census tracts compared with 2017, down from 27.5 percent in high-income tracts and 14.9 percent in low-income tracts. Turnout was down less for low-income tracts, resulting in a higher 2018 equality score of 49 (versus 47 for 2017). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Voter turnout in local elections is typically quite low, and Pittsburgh's latest election was no exception. It is important to note that voter turnout data could have been influenced by the large student populations living in "low-income" neighborhoods (as they have been defined for this study). Voter turnout is a common indicator of civic engagement. Pennsylvania does not allow for early voting or provide absentee ballots without a substantiated reason for needing one, which may have an impact on voter turnout, especially for voters without flexible work schedules.	
Data source	Local election results, 2017 and 2018	

Indicator 68: Voter turnout for national elections

2018 equality score: 63

Indicator definition	Ratio of average percentages of registered voters who voted in national elections in high-income and low-income census tracts	
Reporting year results	**2017** High-income tracts: 70.7% Low-income tracts: 58.5% **High-to-low-income ratio = 1.209, score 75**	**2018** High-income tracts: 56.9% Low-income tracts: 39.3% **High-to-low-income ratio = 1.448, score 63**
Changes from reporting year 2017 to reporting year 2018	High-income tracts: –13.8% Low-income tracts: –19.2% Change in equality score: –12	
Geography	City (census tract)	

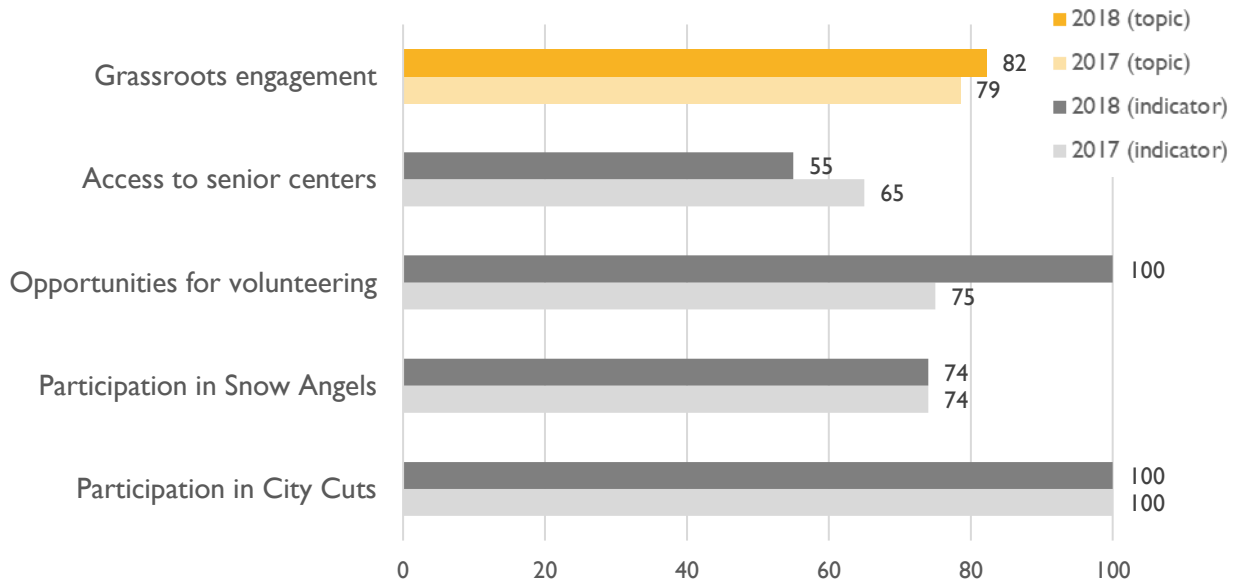
Description of results and context	Voter turnout was much higher for the most recent national election than local election, though similar disparities existed between low- and high-income census tracts. High-income census tracts had a higher average percentage of registered voters who voted in the national election (56.9 percent) than low-income census tracts (39.3 percent) in the 2018 national election. Turnout was unsurprisingly down for both types of tracts between 2018 and 2016, since the national election in 2016 was a presidential election, but was down more in low-income tracts than high-income tracts. This resulted in a lower equality score in reporting year 2018 (63) than in 2017 (75). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	National election results, 2016 and 2018

Grassroots Engagement

2018 topic equality score: 82 (3)

2017 topic equality score: 79

Figure 32. Grassroots Engagement Indicator Scores



Indicator 69: Access to senior centers

2018 equality score: 55

Indicator definition	Ratio of percentages of older white and black Pittsburghers with a senior center (Healthy Active Living center) in their neighborhood	
Reporting year results	**2017** White: 22.2% (13,783 seniors) Black: 15.7% (3,394 seniors)	**2018** White: 22.8% (14,261 seniors) Black: 14.0% (3,001 seniors)

	White-to-black ratio = 1.414, score 65	**White-to-black ratio = 1.629, score 55**
Changes from reporting year 2017 to reporting year 2018	White: 0.6% Black: –1.7% Change in equality score: –10	
Geography	City (neighborhood)	
Description of results and context	Pittsburgh Citiparks operates Healthy Active Living (HAL) centers in a set of Pittsburgh's neighborhoods. These centers offer programming, no-cost meals, and opportunities for socialization for older adults. In 2018, 14.0 percent of older (55+) black Pittsburghers had a HAL center in their neighborhood compared with 22.8 percent of white Pittsburghers. While the location of centers did not change between 2017 and 2018, inter-neighborhood migration led to slightly high access for white Pittsburghers than in 2017 (up from 22.8 percent) and slightly lower access for black Pittsburghers (down from 15.7 percent). Despite the very small changes in access for both populations, the changes resulted in a lower equality score of 55 in 2018, compared with 65 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	
Data source	Citiparks, Healthy Active Living Center data, 2016–2017 and 2017–2018	

Indicator 70: Opportunities for volunteering

2018 equality score: 100

Indicator definition	Ratio of percentages of white and black Pittsburghers who have access to organized volunteer opportunities in their neighborhoods	
Reporting year results	**2017** White: 62.1% (122,033 people) Black: 51.4% (37,704 people) **White-to-black ratio = 1.208, score 75**	**2018** White: 81.9% (157,254 people) Black: 82.5% (60,772 people) **White-to-black ratio = 0.993, score 100**
Changes from reporting year 2017 to reporting year 2018	White: 19.8% Black: 31.1% Change in equality score: 25	
Geography	City (neighborhood)	
Description of results and context	The City of Pittsburgh tracks volunteer projects as part of an effort to understand local neighborhood activities and to direct and coordinate city resources. 82.5 percent of black residents had access to a volunteer opportunity recorded by the City of Pittsburgh in their neighborhood in 2018, up substantially from the 51.4 percent who had access to these opportunities in 2017. Similarly, 81.9 percent of white residents had access to volunteer opportunities in their neighborhood in 2018, up from 62.1 percent in 2017. In general, the higher number and more equitable distribution of opportunities tracked by the city in 2018 suggest increased access to volunteering—and more so for black residents—	

	resulting in a flipped disparity and an equality score of 100. This score is up from the 2017 equality score of 75. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Opportunities for volunteering not only impact social cohesion, but may reflect larger patterns of neighborhood empowerment and community mobilization around shared priorities.[67]
Data source	City of Pittsburgh, volunteer project tracking, 2017 and 2018

Indicator 71: Participation in Snow Angels

2018 equality score: 74

Indicator definition	Ratio of the participation rates in the city's Snow Angels volunteer snow shoveling program in majority-white and majority-black neighborhoods	
Reporting year results	**2017** N/A	**2018** Majority-white: 105.9 (per 100,000; 116 participants) Majority-black: 86.2 (per 100,00; 15 participants) **White-to-black ratio = 1.229, score 74**
Changes from reporting year 2017 to reporting year 2018	N/A*	
Geography	City	
Description of results and context	The Snow Angels program pairs volunteers with individuals in their neighborhood who apply for assistance with shoveling sidewalks and driveways in the winter. This program offers a valuable free service to individuals with disabilities, older adults, and others in need of assistance with winter snow maintenance. The City of Pittsburgh keeps data on neighborhoods of residence for each volunteer. For winter 2017–2018 (the only year of data available for this report), the participation rate in majority-black neighborhoods was 86.2 per 100,000, compared with 105.9 in majority-white neighborhoods. This disparity is reflected in an equality score of 74. The Snow Angels program is only a couple of years old, and in general, participation is low. The city hopes to increase participation in future years and will continue to track which neighborhoods volunteers represent. *This indicator is new for the 2018 report, and data for 2017 were not available. Thus, we use data from 2018 to represent both years, so no change score could be calculated. Future iterations of the Equity Indicators analysis will use updated data and will allow for change scores to be calculated.	
Data source	City of Pittsburgh, Snow Angels data, 2017–2018	

Indicator 72: Participation in City Cuts

2018 equality score: 100

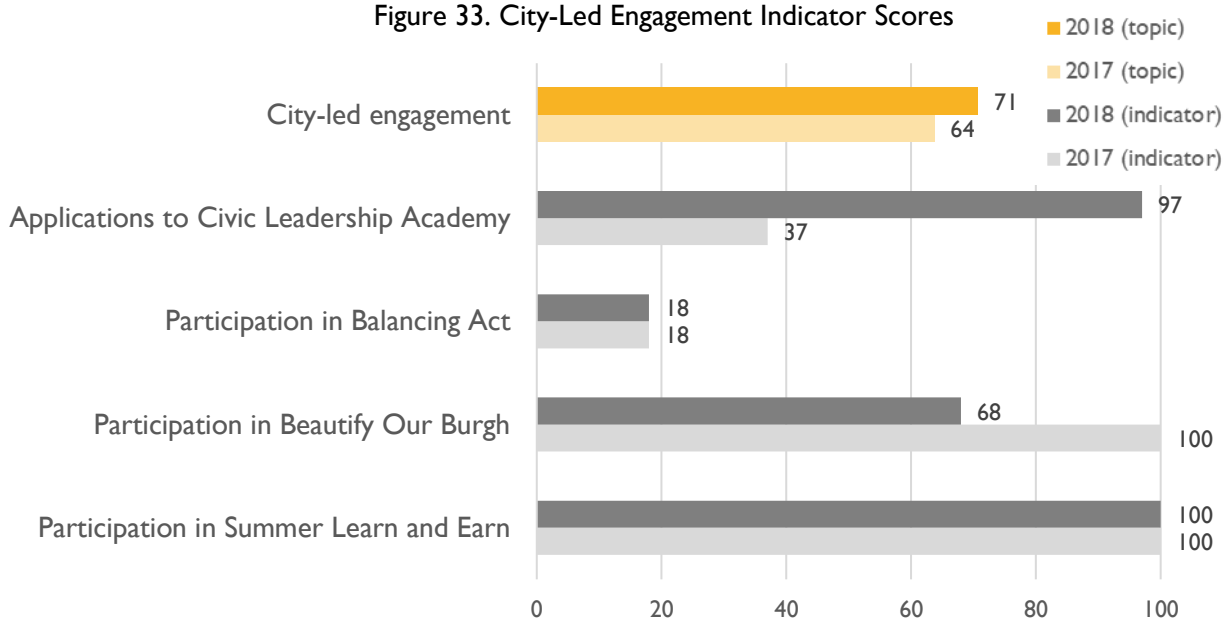
Indicator definition	Ratio of average participation rates in the city's City Cuts volunteer lawn care program in majority-white and majority-black neighborhoods	
Reporting year results	**2017** N/A	**2018** Majority-white: 302.8 (per 100,000; 536 participants) Majority-black: 467.1 (per 100,000; 165 participants) **White-to-black ratio = 0.648, score 100**
Changes from reporting year 2017 to reporting year 2018	N/A*	
Geography	City	
Description of results and context	The City Cuts program pairs volunteers with individuals in their neighborhood who apply for assistance with lawn maintenance (mowing, weed removal, etc). Like Snow Angels, this program offers a valuable free service to individuals with disabilities, older adults, and others in need of assistance. The City of Pittsburgh keeps data on neighborhoods of residence for each volunteer. For the summer of 2018 (the only year of data available for this report), the participation rate in majority-black neighborhoods was 467.1 per 100,000, compared with 302.8 in majority-white neighborhoods. This flipped disparity (higher participation in majority-black neighborhoods than majority-white neighborhoods) is reflected in an equality score of 100. City Cuts has been offered for one summer, and the city hopes to that participation will increase as more volunteers become aware of the program. *This indicator is new for the 2018 report, and data for 2017 were not available. Thus, we use data from 2018 to represent both years, so no change score could be calculated. Future iterations of the Equity Indicators analysis will use updated data and will allow for change scores to be calculated.	
Data source	City of Pittsburgh, City Cuts data, 2018	

City-Led Engagement

2018 topic equality score: 71 (7)

2017 topic equality score: 64

Figure 33. City-Led Engagement Indicator Scores



Indicator 73: Applications to Civic Leadership Academy

2018 equality score: 97

Indicator definition	Ratio of representativeness of white and black applicants to the city's Civic Leadership Academy program	
Reporting year results	**2017** White: 61.1 (per 100,000 people; 120 applicants) Black: 24.5 (per 100,000 people; 18 applicants) **White-to-black ratio = 2.494, score 37**	**2018** White: 74.5 (per 100,000 people; 151 applicants) Black: 73.3 (per 100,000 people; 49 applicants) **White-to-black ratio = 1.016, score 97**
Changes from reporting year 2017 to reporting year 2018	White: 13.4 Black: 48.8 Change in equality score: 60	
Geography	City	
Description of results and context	The City of Pittsburgh's Civic Leadership Academy (CLA) program provides training to residents with the goals of developing community leaders and to improving citizens' knowledge of local government. The CLA collects demographic information from applicants, including racial and ethnic group and sex. In 2018, black residents applied to the CLA at a rate of 73.3 per 100,000 people, which is up from the application rate in 2017 of 24.5. Rates also increased among white residents, with a 2018	

	rate of 74.5 per 100,000, up from 61.1. The substantial increase in applications from black residents resulted in a very similar application rate among black and white residents in 2018, and thus an equality score of 97. The increase in applications from 2017 was more pronounced for black residents than white residents, and so the equality score for this indicator increased by 60 between years (2017 equality score = 37). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.
Data source	City of Pittsburgh, Civic Leadership Academy application data, 2017 and 2018

Indicator 74: Participation in Balancing Act

2018 equality score: 18

Indicator definition	Ratio of representativeness of white and black participants in the city's Balancing Act participatory budgeting program	
Reporting year results	**2017** N/A	**2018** White: 33.1 (per 100,000 people; 67 participants) Black: 6.0 (per 100,000 people; 4 participants) **White-to-black ratio = 5.517, score 18**
Changes from reporting year 2017 to reporting year 2018	N/A*	
Geography	City	
Description of results and context	Balancing Act is a program that offers City residents the opportunity to create their own city budget (allocating both expenses and revenue sources) within categories like "community development projects" and "facilities projects" via an online tool. The program launched for the 2019 budget, so data are only available for 2018. Participants provide demographic information when the submit their proposed budget. These data show that black residents participated at a rate of 6.0 per 100,000 people, compared with a rate of 33.1 for white residents. This disparity is reflected in an equality score of 18. Overall participation is very low (only 71 residents participated in 2018), and the city hopes that it will increase with each year that Balancing Act is implemented. *This indicator is new for the 2018 report, and data for 2017 were not available. Thus, we use data from 2018 to represent both years, so no change score could be calculated. Future iterations of the Equity Indicators analysis will use updated data and will allow for change scores to be calculated.	
Data source	City of Pittsburgh, Balancing Act data, 2018	

Indicator 75: Participation in Beautify Our Burgh

2018 equality score: 68

Indicator definition	Ratio of percentages of white and black Pittsburghers whose neighborhoods have an organized Beautify Our Burgh effort	
Reporting year results	**2017** White: 11.2% (22,009 people) Black: 18.2% (13,350 people) **White-to-black ratio = 0.615, score 100**	**2018** White: 36.9% (70,970 people) Black: 27.3% (20,099 people) **White-to-black ratio = 1.352, score 68**
Changes from reporting year 2017 to reporting year 2018	White: 25.7% Black: 9.1% Change in equality score: –32	
Geography	City (neighborhood)	
Description of results and context	Beautify Our Burgh (BOB) is a city program that organizes efforts to clean up litter in Pittsburgh neighborhoods. In 2018, 27.3 percent of black Pittsburghers lived in a neighborhood with a BOB neighborhood clean-up program, up substantially from 18.2 percent in 2017. In comparison, 36.9 percent of white Pittsburghers lived in a neighborhood with BOB, also an increase from 11.2 percent in 2017. Though rates of access to BOB programs increased for both groups, it increased more for white residents, resulting in higher rates of access for white residents than black residents and an equality score of 68. In 2017, there was a flipped disparity, such that black residents had more access than white residents, and consequently, an equality score of 100. Since the disparity reversed in 2018, as described above, there was a substantial negative change score between years (–32). There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Participation in neighborhood efforts, such as BOB, can indicate a sense of pride and social cohesion in Pittsburgh neighborhoods. Despite the large negative changes score for this indicator, general improvements access to this program are a positive indicator of civic engagement throughout the city.	
Data source	City of Pittsburgh, Beautify Our Burgh data, 2017 and 2018	

Indicator 76: Participation in Summer Learn and Earn

2018 equality score: 100

Indicator definition	Ratio of the participation rates of white and black Pittsburghers in the city's Summer Learn and Earn program	
Reporting year results	**2017** White: 13.1 (per 100,000; 49 youth) Black: 823.0 (per 100,000; 992 youth)	**2018** White: 14.3 (per 100,000; 54 youth) Black: 931.9 (per 100,000; 908 youth)

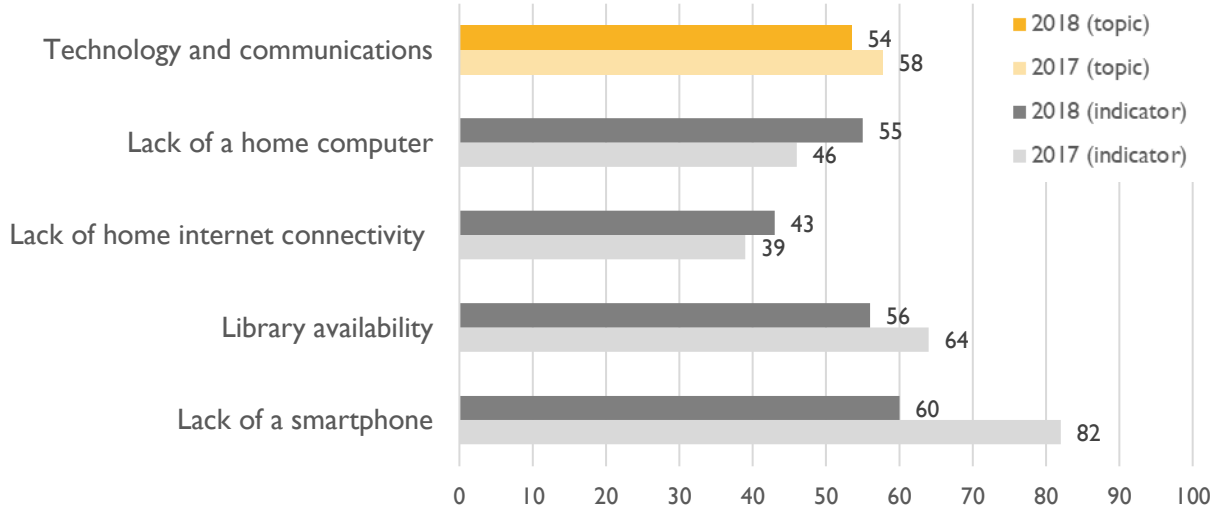
	White-to-black ratio = 0.016, score 100	**White-to-black ratio = 0.015, score 100**
Changes from reporting year 2017 to reporting year 2018	White: 1.2 Black: 108.9 Change in equality score: 0	
Geography	City	
Description of results and context	The Summer Learn and Earn program is a six-week summer employment program for teens and young adults ages 14–21 in the Pittsburgh region, implemented through a partnership between Allegheny County, the City of Pittsburgh, and Partner4Work with support from local foundations. In 2018, black youth participated at a rate of 931.9 per 100,000 compared with a rate of 14.3 for white youth. This flipped disparity is consistent with the previous year, when the black youth participation rate was 823.0 and the white youth participation rate was 13.1. Consequently, the equality score for both years was 100, despite increases in participation among both subgroups in 2018 relative to 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores.	
Data source	City of Pittsburgh, Summer Learn and Earn data, 2016–2017 and 2017–2018	

Technology and Communications

2018 topic equality score: 54 (–4)

2017 topic equality score: 58

Figure 34. Technology and Communications Indicator Scores



Indicator 77: Lack of a home computer

2018 equality score: 55

Indicator definition	Ratio of the percentages of black and white households who do not have a computer at home	
Reporting year results	**2017** Black: 13.7% (8,812 people) White: 7.4% (13,510 people) **Black-to-white ratio = 1.851, score 46**	**2018** Black: 11.6% (7,215 people) White: 7.1% (12,874 people) **Black-to-white ratio = 1.634, score 55**
Changes from reporting year 2017 to reporting year 2018	Black: –2.1% White: –0.3% Change in equality score: 9	
Geography	City	
Description of results and context	Lack of a home computer varied between black and white households in Pittsburgh. In 2017 (the most recent year for which data were available), black households were less likely to have a computer at home (11.6 percent without a computer) than white households (7.1 percent without a computer). The percentage of black and white households that lacked a computer in 2017 was down from the previous year, when 13.7 percent of black households and 7.4 percent of white households lacked a computer. Since the number of black households lacking a computer decreased proportionally more than the number of white households, the 2018 equality score increased to 55 from 46 in 2017. Information was available from the Census Bureau on the margins of error associated with these estimates of lack of computer access (see below). Statistical testing revealed that changes in rates between 2016 and 2017 were *not* statistically significant at a 95-percent confidence threshold, so we assume that the observed change score is also *not* statistically significant. Information on margins of error (2017): Black: +/–2.7% White: +/–1.3% Information on margins of error (2018): Black: +/–3.4% White: +/–1.1% Lack of access a computer at home may have downstream effects on employment and educational outcomes.	
Data source	ACS 1-year estimates, 2016 and 2017	

Indicator 78: Lack of home internet connectivity

2018 equality score: 43

Indicator definition	Ratio of the percentages of black and white households who do not have high-speed internet at home	
Reporting year results	**2017** Black: 27.6% (17,698 people) White: 12.2% (22,414 people) **Black-to-white ratio = 2.262, score 39**	**2018** Black: 23.8% (14,803 people) White: 12.3% (22,206 people) **Black-to-white ratio = 1.943, score 43**
Changes from reporting year 2017 to reporting year 2018	Black: –3.8% White: 0.1% Change in equality score: 4	
Geography	City	
Description of results and context	A disparity exists between black and white households that have no access to high-speed internet at home. In 2017 (the most recent year for which data were available), black households were almost two times more likely to lack high-speed internet at home (23.8 percent) than white households (12.3 percent). The number of black households lacking internet connectivity went down since 2016, when 27.6 percent of households lacked access. This decrease was larger than the decrease among white households: Lack of access was down from 12.2 percent in 2017 among this subpopulation. While a disparity remains in 2018, the larger proportional improvements in access for black households is reflected in a higher equality score of 43 in 2018, up from 39 in 2017. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. Closing the digital divide, improving equitable access to the internet, and enabling all Pittsburghers to contribute to its increasingly technology-based economy are some of the priorities of the city's Roadmap for Inclusive Innovation.[68]	
Data source	ACS 1-year estimates, 2016 and 2017	

Indicator 79: Library availability

2018 equality score: 56

Indicator definition	Ratio of the percentages of white and black Pittsburghers who live in a neighborhood with a public library	
Reporting year results	**2017** White: 29.0% (56,988 people) Black: 20.4% (14,964 people) **White-to-black ratio = 1.422, score 64**	**2018** White: 32.9% (63,193 people) Black: 20.5% (15,144 people) **White-to-black ratio = 1.605, score 56**

Changes from reporting year 2017 to reporting year 2018	White: 3.9% Black: 0.1% Change in equality score: –8
Geography	City (neighborhood)
Description of results and context	The Carnegie Public Library system lists the neighborhoods where libraries are located. Spatial analysis showed that, in 2018, black Pittsburghers were less likely (20.5 percent) to live in a neighborhood with a Carnegie Public Library than white Pittsburghers (32.9 percent). While the locations of libraries did not change, neighborhood composition changes between 2017 and 2018 led to virtually equal access for black Pittsburghers as in 2017 (20.4 percent), and slightly increased access for white Pittsburghers (up from 29.0 percent). Improvements in access for white residents led to a 2018 equality score of 56, lower than the 2017 score of 64. There is no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. A neighborhood public library may provide a family's only access to a computer (especially if residents lack access to a home computer), host community events, and provide opportunities for personal educational enrichment.
Data source	Carnegie Library of Pittsburgh, 2017 and 2018

Indicator 80: Lack of a smartphone

2018 equality score: 60

Indicator definition	Ratio of the percentages of blacks and whites who do not have a smartphone	
Reporting year results	**2017** Black: 23.5% (17,270 people) White: 21.5% (42,347 people) **Black-to-white ratio = 1.093, score 82**	**2018** Black: 20.9% (13,589 people) White: 13.9% (26,244 people) **Black-to-white ratio = 1.504, score 60**
Changes from reporting year 2017 to reporting year 2018	Black: –2.6% White: –7.6% Change in equality score: –22	
Geography	City	
Description of results and context	Lack of smartphone access, in addition to lack of high-speed internet and/or lack of home computer availability, may present challenges to getting a high-paying job, establishing and growing a new business, and accessing information on services. 20.9 percent of black residents did not own a smartphone in 2017 (the most recent year for which data were available), down from 23.5 percent without one in 2016. Smartphone ownership increased also among white residents, with 13.9 percent lacking one in 2017, down from 21.5 percent in 2016. While access increased for both groups, it increased more for white residents, and as such the equality score for 2018 is 60, down from 82 in 2017. There is	

	no information available on the error associated with these data points, so we are unable to determine the statistical significance of changes in raw data or equality scores. The City of Pittsburgh has released several smartphone applications to improve communication with residents (e.g., MyBurgh, a facility reservation app) and is interested in understanding the ability of residents to access these resources. Improvements in access to smartphones are generally positive, despite the negative change score observed for this indicator.
Data source	ACS PUMS data, 2016 and 2017

Appendix E: Ratio-to-Score Conversion Table

Score Range	Ratio From	Ratio To	Score Range	Ratio From	Ratio To
100	<1.000	1.004	**50**	1.750	1.774
99	1.005	1.009	49	1.775	1.799
98	1.010	1.014	48	1.800	1.824
97	1.015	1.019	47	1.825	1.849
96	1.020	1.024	46	1.850	1.874
95	1.025	1.029	45	1.875	1.899
94	1.030	1.034	44	1.900	1.924
93	1.035	1.039	43	1.925	1.949
92	1.040	1.044	42	1.950	1.974
91	1.045	1.049	41	1.975	1.999
90	1.050	1.054	**40**	2.000	2.149
89	1.055	1.059	39	2.150	2.299
88	1.060	1.064	38	2.300	2.449
87	1.065	1.069	37	2.450	2.599
86	1.070	1.074	36	2.600	2.749
85	1.075	1.079	35	2.750	2.899
84	1.080	1.084	34	2.900	3.049
83	1.085	1.089	33	3.050	3.199
82	1.090	1.094	32	3.200	3.349
81	1.095	1.099	31	3.350	3.499
80	1.100	1.119	**30**	3.500	3.649
79	1.120	1.139	29	3.650	3.799
78	1.140	1.159	28	3.800	3.949
77	1.160	1.179	27	3.950	4.099
76	1.180	1.199	26	4.100	4.249
75	1.200	1.219	25	4.250	4.399
74	1.220	1.239	24	4.400	4.549
73	1.240	1.259	23	4.550	4.699
72	1.260	1.279	22	4.700	4.849
71	1.280	1.299	21	4.850	4.999
70	1.300	1.319	**20**	5.000	5.249
69	1.320	1.339	19	5.250	5.499
68	1.340	1.359	18	5.500	5.749
67	1.360	1.379	17	5.750	5.999
66	1.380	1.399	16	6.000	6.249
65	1.400	1.419	15	6.250	6.499
64	1.420	1.439	14	6.500	6.749
63	1.440	1.459	13	6.750	6.999
62	1.460	1.479	12	7.000	7.249
61	1.480	1.499	11	7.250	7.499
60	1.500	1.524	**10**	7.500	7.749
59	1.525	1.549	9	7.750	7.999
58	1.550	1.574	8	8.000	8.249
57	1.575	1.599	7	8.250	8.499
56	1.600	1.624	6	8.500	8.749
55	1.625	1.649	5	8.750	8.999
54	1.650	1.674	4	9.000	9.249
53	1.675	1.699	3	9.250	9.499
52	1.700	1.724	2	9.500	9.749
51	1.725	1.749	1	9.750	9.999+

SOURCE: Victoria Lawson, Jocelyn Drummond, Elizabeth DeWolf, Julia Bowling, and Qian Zhang, *Equality Indicators: 2017 Annual Report 2017*, New York: CUNY Institute for State and Local Governance, Deember 2017.

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