PITTSBURGH EQUITY INDICATORS

A BASELINE MEASUREMENT FOR ENHANCING EQUITY IN PITTSBURGH

■ ANNUAL REPORT: 2017 ■

About the Authors

Acknowledgements

P4 (People, Place, Planet and Performance) has become a common vision for my administration. The term serves as an evaluating tool, to ensure that we are focusing the efforts of city government to benefit all residents, support our neighborhoods, be good stewards of the planet and measure the performance of our collective activities. Taking such an approach is a bit new, placing an evaluation lens over the work of local government, especially in a place where historically political bosses and influential patrons received the majority of benefits of local government – and often at the expense of the community or environment.

Pittsburgh, like many cities in North America and around the world for that matter have experienced growing separation between peoples, classes and races. These divisions are deep and complicated and rooted in history and embedded in systems. Taking the difficult, but first step of looking in the mirror and acknowledging these separations and their associated challenges is not new. In fact, it's actually in Pittsburgh's DNA. In 1908 the Russell Sage Foundation commissioned The Pittsburgh Survey, a pioneering sociological study of the City of Pittsburgh. The Survey is one of the first detailed descriptions of an industrial city. The study focused on the seemingly simple topics of the people, the place and the work. The result of this landmark analysis served as a foundation for reform, and a pathway to systemically address the growing inequalities that had developed between industrial titans and the people who helped to build the city and its wealth.

Today, we have come full circle. One hundred and ten years later, amidst great advancements in society, we are now experiencing the same systemic inequalities that existed during the turn of the 20th century.

The Equity Indicators Project serves as an initial foundation for the same type of ground breaking analysis fostered by the original Pittsburgh Survey, and serves as the basis for a modern reinvigoration of the Pittsburgh Survey.

The Equity Indicators project is the logical follow up from the City's ONEPGH Resilience Strategy; where systemic inequities were identified as one of the City's primary stressors, impeding our residents and neighbors from accessing opportunity to be not only participants, but beneficiaries in the 21st Century economy. The Equity Indicators research will serve as an important baseline and evaluation tool that will enable civic leaders to measure and monitor equality and reinforce our commitment to P4 (People, Planet, Place and Performance).

I would like to thank the Rockefeller Foundation, City University of New York, 100 Resilient Cities and the Sustainability and Resilience Division of the Department of City Planning; and the numerous civic organizations that helped to develop and support this effort.

Sincerely,

William Peduto

Mayor

Executive Summary

The city of Pittsburgh, with a population of roughly 300,000, is 64 percent white, 24 percent black, and 6 percent Asian, with other racial and ethnic groups each comprising a small percentage of the remaining population. There are disparities between these groups in terms of quality of life outcomes, economic opportunity, and access to resources. This inequity is one of the key long-term stresses identified by the city in its OnePGH Resilience Strategy.[1]

Through OnePGH and other local initiatives dedicated to equity citywide, the city of Pittsburgh has committed to the guiding principle of "If it's not for all, it's not for us."[1] 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 undertook the Pittsburgh Equity Indicators project. Supported with funding and strategic guidance from the City University of New York Institute for State and Local Governance (CUNY ISLG), the research team developed a framework and associated indicators to measure equality in both outcomes and opportunities in Pittsburgh.

The result of the Equity Indicators effort is a set of scores that will allow the city to measure change, either toward or away from equality, in four key domains, each with five topics per domain, and four indicators per topic. The four domains of Pittsburgh's Equity Indicators are:

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

To portray existing inequity and inequality within Pittsburgh, we analyzed data to understand the largest disparities among Pittsburgh's residents for each of the 80 indicators in the framework. Subgroups selected for comparison are defined by race/ethnicity, gender, income, poverty status, or housing status (rent versus own). We chose each indicator and the subgroups for comparison through a literature review, assessment of available local data, and feedback from stakeholders. As a result of this process, most of the indicators in the framework assess disparities by race.

Indicators were then 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). Topic scores were calculated by averaging the four indicator scores under that topic, and domain scores are the average of the five topics under that domain. Finally, averaging domain scores produced the overall citywide score for 2017. A score of 100 indicates that there is either no inequality between subgroups, or the group that typically has less equal outcomes experienced better outcomes than the comparison group. Indicators are scored according to the relative difference in outcomes between two groups, and, for the purpose of scoring, it is assumed that different outcomes for different groups is undesirable.

Pittsburgh is part of a cohort of four other cities implementing the methodology developed by CUNY ISLG for New York's Equality Indicators.[2] The methodology allows data to be compared across domains, topics, indicators, and from year to year within a city. However, because each city has developed its own framework and set of indicators, scores are not comparable across cities. In addition, the process for calculating equality scores using ratios, aggregating scores based on different types of data, as well as the subgroups chosen for each indicator, does introduce a number of limitations in data

analysis and interpretation, which are described in detail in the Limitations and Future Research section of the report. Additional caveats described in that section relate to the limited availability of data reported by race for the city of Pittsburgh, limitations inherent to the original data sources (e.g., the U.S. Census Bureau's sampling and population estimates), challenges with conducting point-in-time comparisons based on a single category (e.g., race), and the loss of context when reporting equality scores. However, the indicator level scores and underlying data (provided in the main body and in an appendix to the report, respectively) provide additional insights and detail useful for stakeholders attempting to prioritize areas of intervention to enhance equity in Pittsburgh.

This report presents the 2017 equality scores for Pittsburgh. Section 2 describes the process of developing the Equity Indicators framework and introduces the indicators and data sources, including the rationale for selecting these measures. Section 3 reviews the results for calendar year 2017 and discusses the local context and relevance of these results. This analysis will be repeated for calendar year 2018, including changes in scores, to begin to see trends and their links to changes in the city over time.

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

2017 Pittsburgh Equality Score

Pittsburgh's 2017 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.

Domain, Topic, and Indicator Scores

2017 Domain Scores

The 2017 city equality score was calculated by averaging the four domain scores. The city score was affected by large disparities in the **Health, Food, and Safety** domain, which had a domain-level score of 43, although a relatively higher score in the **Civic Engagement and Communications** (65) lifted the overall score slightly. **Education, Workforce Development, and Entrepreneurship** (54) and **Housing, Transportation, Infrastructure, and Environment** (57) came in near the middle.

2017 Topic Scores

Each of the domains in the framework included five topics, each of which received its own score (calculated by averaging the four indicators within them). The scores of the 20 topics in the framework ranged from 24 (*Childhood health and wellbeing*) to 85 (*Transportation*) and are shown in the figure below. A low score for *Childhood health and wellbeing* is especially concerning, given the importance of a healthy childhood to enable success over a person's lifespan. Relatively more equitable access to multimodal *Transportation* options in the city is a positive sign, as the city has worked to expand these opportunities in recent years.

Other low-scoring topics in the framework included *Housing affordability and stability* (28) and *Neighborhood composition and opportunity* (41). These scores indicate that additional investment and policy changes are needed to ensure all in Pittsburgh have opportunities to live in diverse and vibrant neighborhoods of opportunity. Other high scoring topics include *Environment and sustainability* (83), *Grassroots engagement* (77), and *Political participation* (71), indicating that various communities in Pittsburgh have relatively more equal access (relative to the other topics in the Equity Indicators framework) to healthy environments and opportunities for civic engagement and

participating in civic processes. However, there is variation in scores by indicator within these topics, and disparities in the underlying rates of access or participation for all city residents regardless of race or income indicate there is still work to be done on these topics.
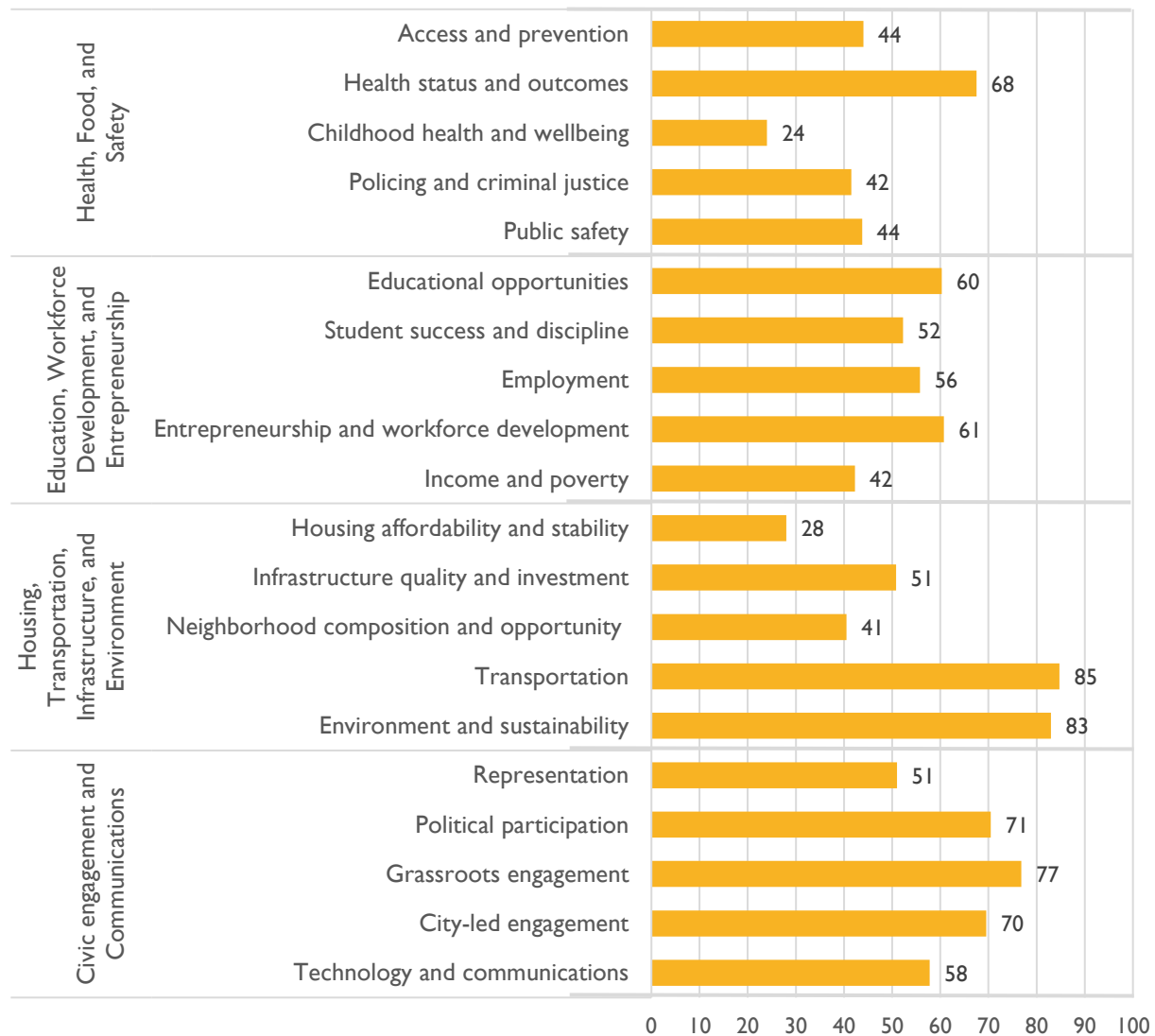
2017 Indicator Scores

Scores for the 80 indicators that comprise the Pittsburgh Equity Indicators framework (listed in Appendix B of this report) show substantial variation, ranging from 1 (*homicides*) to 100 (*lack of access to a high frequency transit network (HFTN), access to green space, registered voters, volunteering, participation in Beautify Our Burgh*). In the latter cases, a score of 100 indicates the group that often experiences less equitable outcomes showed better outcomes than the comparison group. So, while inequality still exists in the city more broadly, typical patterns of disadvantage were not observed in these specific areas for 2017.

Moreover, while five of the 80 indicators received a score of 100, the especially low indicator scores for *homicides* (1), *homelessness* (2), and *asthma hospitalization rates* (16) indicate that there are still significant disparities between black and white populations in the city for some of the most important and

commonly tracked community health and wellbeing outcomes. Examination of the supportive data for all indicators reveals areas where action is needed to address significant issues in the city, such as the effect of the opioid epidemic on low-income, white communities (*opioid overdose deaths* [indicator 6]), and the burden of incarceration borne heavily by black men (*currently incarcerated population* [indicator 15]).

Key Findings Contributing to Indicator Scores

Detailed findings and data by subgroup used to calculate the equality scores reported here are available in Appendix E. We summarize a set of notable findings that contribute to indicator scores in each domain.

Health, Food, Safety

- *Lack of health insurance*: 6.0 percent of black residents are uninsured compared to 3.3 percent of white residents.
- *Opioid overdose deaths*: Rates were 205.8 per 100,000 residents in low-income neighborhoods, compared to 113.7 per 100,000 in high-income neighborhoods.
- *Infant mortality:* Rates for black babies were 14.9 per 10,000 births compared to a rate of 3.3 per 10,000 births for white babies.
- *Incarceration*: 2,606.5 black residents per 100,000 were incarcerated in 2017, compared to 521.1 white residents per 100,000.
- *Homicides:* There were 58.6 homicides per 100,000 black residents compared to 4.6 homicides per 100,000 white residents.

Education, Workforce Development, Entrepreneurship

- *Access to high-quality child care*: 24.0 percent of white Pittsburghers and 14.7 percent of black Pittsburghers have a high-quality (STAR rating of three or higher) child care center in their neighborhood.
- *Third grade reading levels*: 71.8 percent of white Pittsburgh Public School (PPS) students scored "reading proficient" or higher on Pennsylvania System of School Assessment (PSSA) exams compared to 43.3 percent of black PPS students.
- *Employment in high-paying sectors*: 53.7 percent of the white working population and 33.2 percent of the black working population was employed in "Management, business, science, and arts occupations" (see Appendix C for more information on these employment categories).
- *Low educational attainment*: 30.3 percent of white residents and 45.7 percent of black residents have a high school degree or lower.
- *Lack of use of banking services*: 17.7 percent of black residents do not have a checking or savings account compared to 2.8 percent of white residents.

Housing, Transportation, Infrastructure, and Environment

- *Homelessness*: Rates were 1,216.9 and 128.1 per 100,000 residents for black and white populations, respectively.
- *Capital budget projects by location*: 76.5 percent of white Pittsburghers have a capital budget project planned or implemented in their neighborhood compared to 72.0 percent of black Pittsburghers.
- *Parcels in poor or worse condition*: 2.1 percent of parcels in majority-white census tracts and 6.5 percent of parcels in majority-black tracts are considered to be in poor or worse condition.

- *Lack of access to a high-frequency transit network*: 10.8 percent of black Pittsburghers live in a census tract without any HFTN compared to 14.0 percent of white Pittsburghers.
- *Access to green space*: 93.5 percent of black residents live within one-fourth of a mile of green space compared to 91.0 percent of white residents.

Civic Engagement and Communication

- *Representation in police force*: In 2015, the most recent data available, there were 118 black Pittsburgh Police officers and 776 white officers.
- *Voter registration*: 85.8 percent of black residents in Allegheny County are registered to vote compared to 83.4 percent of white residents.
- *Volunteering*: 27.6 percent of black residents and 25.4 percent of white residents report volunteering in the last year.
- *Participation in Beautify Our Burgh*: 18.2 percent of black residents live in a neighborhood with an established Beautify Our Burgh effort compared to 11.2 percent of white residents.
- *Lack of home internet connectivity*: 27.6 percent of black families do not have broadband internet at home compared to only 12.2 percent of white families.

Conclusion

Pittsburgh's first comprehensive snapshot of inequity based on the CUNY ISLG Equality Indicators methodology highlights that the city's population experiences some significant inequities, measured in terms of access to resources and opportunities as well as in outcomes. This summary shows that the gap between black and white residents (and between other groups) is particularly evident in health and public safety, housing affordability and stability, income and poverty, and infrastructure quality and neighborhood composition, all of which have been identified as high priority areas for additional investment by city and regional policymakers and stakeholders. On the other hand, for environment- or civic engagement-related indicators, inequities were not as pronounced, or black residents fared better than white residents. Overall, Pittsburgh's 2017 indicators paint a picture of important areas with substantial room for improvement. These indicators, and the underlying metrics and data sources used to support them, can serve as a tool to track the city's progress over time towards improved opportunities and outcomes for all city residents.

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Acronyms Used in this Report

ACHD	Allegheny County Health Department
ACS	American Community Survey (U.S. Census Bureau)
B.A.S.E.	Business Administration, Sports, & Entertainment
BLL	blood lead level
BOB	Beautify Our Burgh
CAPS	Carnegie Mellon Center for Atmospheric Particle Studies
CDBG	Community Development Block Grant
CPS	Current Population Survey (U.S. Census Bureau)
CRA	Community Reinvestment Act
CTE	Career and Technical Education
CUNY	City University of New York
DHS	(Allegheny County) Department of Human Services
DTI	domains, topics, and indicators
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
HUD	Housing and Urban Development
ISLG	Institute for State and Local Governance
LEHD	Longitudinal Employer-Household Dynamics (U.S. Census Bureau, Center for Economic Studies)
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer+
LYRB	Love Your Resilient Block
M-PAC	Multimedia Production And Coding
MVA	Urban Redevelopment Authority Market Value Analysis
NGO	nongovernmental organization
OCDEL	Office of Child Development and Early Learning
PennDOT	Pennsylvania Department of Transportation
PPS	Pittsburgh Public Schools
PSSA	Pennsylvania System of School Assessment
PUMS	Public Use Microdata Sample (U.S. Census Bureau)
SNAP	Supplemental Nutrition Assistance Program
SRR	Subject Resistance Report
STEM	Science, Technology, Engineering, and Mathematics
UPMC	University of Pittsburgh Medical Center
URA	Urban Redevelopment Authority

Section 1: Introduction

Equity and Equality Defined

"If it's not for all, it's not for us" has become a guiding principle for charting Pittsburgh's course in the 21st century. This commitment to equity addresses one of Pittsburgh's long-term challenges identified by the city in its OnePGH Resiliency Strategy, is at the core of each of the strategy's objectives, and is reflected in the decision to undertake the Pittsburgh Equity Indicators.[1] The Equity Indicators framework includes indicators that measure equality in both outcomes and opportunities. *Equality in outcomes* refers to everyone having 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.[2]

Equity, while related, is distinct from equality in outcomes, and relates instead to ensuring all residents have the opportunity to succeed. According to Summers and Smith, "Equity involves trying to understand and give people what they need to enjoy full, healthy lives. Equality, in contrast, aims to ensure that everyone gets the same things in order to enjoy full, healthy lives. Like equity, equality aims to promote fairness and justice, but it can only work if everyone starts from the same place and needs the same things."[3] Equity's reliance on principles such as social and distributive justice (e.g., everyone has a fair opportunity to realize their full potential) sets it apart from concepts such as equality and disparity, which focus more on the differences in outcomes between population groups.[4] Moreover, inequities are inherently systemic: socially produced, systematic in their distribution across the population, and avoidable and unfair.[5, 6]

> ## 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.

Values of equity and equality are important to Pittsburgh for different reasons: Valuing equity means providing residents the resources and services they need for improved community wellbeing, and equality demonstrates that providing these opportunities ultimately leads to equal outcomes for different subpopulations.

Pittsburgh finalized its OnePGH strategy in spring 2017. As a member of the 100 Resilient Cities network, the city, along with four other cities, had the opportunity to apply the Equality Indicators methodology initially developed by the City University of New York Institute for State and Local Governance (CUNY ISLG) to Pittsburgh.

The Equity Indicators effort is intended to serve as a tool through which the City of Pittsburgh can explore, monitor, and enhance its progress in reducing inequity and inequality and bettering the lives of all of its residents. To discover existing inequity and inequality within the city, we focused on the disparity among populations (by race, gender, and income level, primarily) for each indicator in the framework. Because scores consider the absolute difference between two populations, they are called "equality scores." However, Pittsburgh still adopted "Equity Indicators" to describe the overall project to (1) align with the four other cities in the cohort, the majority of which decided on "equity" as an overall descriptor, (2) be consistent with ongoing efforts to promote equity in the city, and (3) reinforce

Pittsburgh's commitment to equitable opportunities in addition to the value it places on equal outcomes. We chose each indicator and the population affected through a review of the relevant literature, a search of the available data, and feedback from local stakeholders, including City of Pittsburgh partners, nonprofits, universities, experts, and community groups.

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 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.**

This report presents the first round of equality scores for Pittsburgh. We first describe the process of developing the measurement framework and introduce the indicators and data sources, with a focus on why these are important metrics to track in Pittsburgh. Next, we present results for calendar year 2017 and discuss the local context and relevance of these results. This analysis will be repeated for calendar year 2018, including changes, to begin to see trends and their links to changes in the city over time.

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

Section 2: About the Equity Indicators

Process of Developing Pittsburgh's Equity Indicators

The Division of Sustainability and Resilience in the Department of City Planning undertook the Pittsburgh Equity Indicators effort to measure progress towards selected objectives of the OnePGH Resilience Strategy, specifically seeking to measure inequity across the city in these priority areas. The Equity Indicators represent the first step in a planned larger evaluation effort that will help the city measure its resilience and wellbeing and track its progress over time, inform current and future planning efforts, and support better communication and engagement with city residents.

Framework

A summary of Pittsburgh's Equity Indicators framework is shown in Figure 1 and Table I. The domains of **Health, Food, and Safety, Education**; **Workforce Development, and Entrepreneurship**; **Housing, Transportation, Infrastructure, and Environment**; and **Civic Engagement and Communications** come directly from objectives identified in OnePGH. Each objective embeds language affirming a commitment to equity in that area. For the purposes of the Equity Indicators framework, we clustered related OnePGH objectives together into domains. Example objectives from OnePGH include:

- Improve the physical and mental health and wellbeing of all Pittsburghers.
- Provide access for all to high-quality and engaging education to support wellbeing, informed citizens, and the workforce of the future.
- Provide safe, affordable, and sustainable housing in new development or redevelopment.
- Educate, engage, and empower residents to take part in civic decisionmaking.

Figure 1. Structure of the Equity Indicators

Framework with **4** domains

4 domains with **5** topics per domain

20 topics with **4** indicators per topic
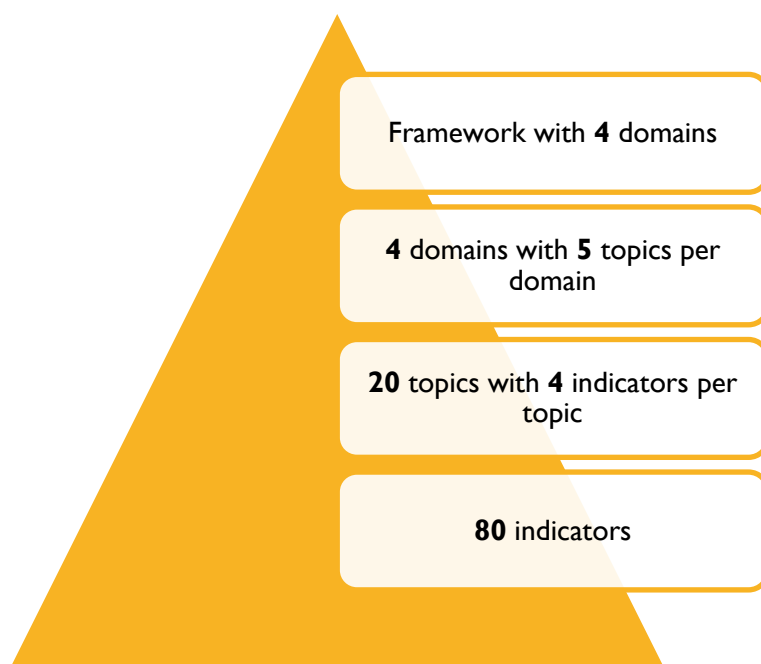
80 indicators

Table 1. Equity Indicators framework for Pittsburgh

Theme	Topic	#	Indicator name	Ratio
Health, Food, and Safety	**Access and prevention**	1	Lack of health insurance	Black-to-white
		2	Access to primary care facilities	White-to-black
		3	Supplemental Nutrition Assistance Program (SNAP) participation	Black-to-white
		4	Very low food security	Black-to-white
	Health status and outcomes	5	Heart attack hospitalizations	Black-to-white
		6	Opioid overdose deaths	Low-to-high income
		7	Diabetes	Low-to-high income
		8	Hypertension	Low-to-high income
	Childhood health and wellbeing	9	Infant mortality	Black-to-white
		10	Low birth weight	Black-to-white
		11	Asthma hospitalization rates	Black-to-white
		12	Association with the child welfare system	Black-to-white
	Policing and criminal justice	13	Arrests	Black-to-white
		14	Use of force	N/A
		15	Currently incarcerated population	Black-to-white
		16	Multiple incarcerations	Black-to-white
	Public safety	17	Domestic violence	Black-to-white
		18	Homicides	Black-to-white
		19	Property crime	Black-to-white
		20	Traffic accidents involving bikes or pedestrians	Low-to-high income
Education, Workforce Development, and Entrepreneurship	**Educational opportunities**	21	Access to quality child care	White-to-black
		22	Public school capture	White-to-black
		23	Promise eligibility	White-to-black
		24	Student stability	Black-to-white
	Student success and discipline	25	Reading at grade level (third grade)	White-to-black
		26	Five-year high school graduation	White-to-black
		27	Pittsburgh Promise Scholar college graduation rates	White-to-black
		28	Suspension	Black-to-white
	Employment	29	Employment in high-paying sectors	White-to-black
		30	Job turnover	Black-to-white
		31	Labor force participation	White-to-black
		32	Unemployment	Black-to-white
	Entrepreneurship and workforce development	33	Loans to small businesses	White-to-black
		34	Business ownership	White-to-black
		35	Career and technical education (CTE) enrollment	Male-to-female
		36	Low educational attainment	Black-to-white
	Income and poverty	37	Lack of use of banking services	Black-to-white
		38	Median household income	White-to-black
		39	Below middle class	Black-to-white
		40	Poverty	Black-to-white

Theme	Topic	#	Indicator name	Ratio
Housing, Transportation, Infrastructure, and Environment	Housing affordability and stability	41	Home loan denials	Black-to-white
		42	Home ownership	High-to-low income
		43	Housing cost burden for renters	Low-to-high income
		44	Homelessness	Black-to-white
	Infrastructure quality and investment	45	Housing stock with conditions	Rent-to-own
		46	Properties with tax delinquency	Black-to-white
		47	Capital budget projects by location	White-to-black
		48	Index of distress	Black-to-white
	Neighborhood composition and opportunity	49	Market strength	White-to-black
		50	Parcels in poor or worse condition	Black-to-white
		51	Community Development Block Grant (CDBG) areas	Black-to-White
		52	Racial segregation index	N/A
	Transportation	53	Commute time	Black-to-white
		54	Lack of access to a high-frequency transit network	Black-to-white
		55	Use of a car	White-to-black
		56	Walkability	White-to-black
	Environment and sustainability	57	Utilities burden	Black-to-white
		58	Air quality	Black-to-white
		59	Access to green space	White-to-black
		60	Blood lead levels	Black-to-white
Civic Engagement and Communications	Representation	61	Representation among social service providers	White-to-black
		62	Representation in education professions	White-to-black
		63	Representation in local government	Male-to-female
		64	Representation in police force	White-to-black
	Political participation	65	Registered voters	White-to-black
		66	Diversity of candidates on the ballot in local elections	Male-to-female
		67	Voter turnout for local elections	High-to-low income
		68	Voter turnout for national elections	High-to-low income
	Grassroots engagement	69	Public meeting attendance	White-to-black
		70	Opportunities for volunteering	White-to-black
		71	Volunteering	White-to-black
		72	Worked on neighborhood improvements	White-to-black
	City-led engagement	73	Applications to Civic Leadership Academy	White-to-black
		74	Police-Community outreach	White-to-black
		75	Participation in Beautify Our Burgh	White-to-black
		76	Participation in Love Your Resilient Block	White-to-black
	Technology and communications	77	Lack of a home computer	Black-to-white
		78	Lack of home internet connectivity	Black-to-white
		79	Library availability	White-to-black
		80	Lack of a smartphone	Black-to-white

Topics and indicators within domains were informed primarily by the Division of Sustainability and Resilience's extensive community engagement and data collection efforts to inform the challenges to be addressed ("shocks and stresses"[1]) and priority actions of the OnePGH strategy. For example, residents cited access to affordable housing as a key challenge to be tackled if Pittsburgh is to be a resilient city in the 21st century.[1] Beyond information from previous engagement and data collection efforts, the RAND Corporation contributed expertise from its work supporting cities to develop frameworks and identify data sources for measuring wellbeing and resilience (e.g., Santa Monica's Wellbeing Index[7]). The CUNY Institute for State and Local Governance (CUNY ISLG) team brought experience developing the Equality Indicators framework and data sources for New York City.[2] To develop the original Equality Indicators framework on which this work is based, CUNY ISLG conducted a thorough review of existing indices in the United States and internationally (e.g., the Gender Inequality Index, the Boston Indicators Project, the United Nations Rule of Law Indicators). They also consulted experts in equality and performance indicators for feedback on their methodology, framework, and data sources.[2]

> ### Developing Pittsburgh's Equity Indicators Framework
> Domains measure objectives from OnePGH
> Topics and data sources informed by:
> - OnePGH community engagement and data collection
> - RAND's experience working with cities to measure wellbeing and resilience
> - CUNY's experience developing the Equality Indicators for New York City
>   - Review of academic literature and other indicator efforts
>   - Feedback from experts
> - Consultation and working meetings with over 45 local experts and data providers.

Topics, indicators, and data sources for Pittsburgh were selected after consultation and working meetings with over 45 local experts and data providers. These groups are identified in the Acknowledgements section above, and include the City of Pittsburgh Department of City Planning and Office of Community Affairs, Allegheny County's Health Department (ACHD) and Department of Human Services (DHS), Pittsburgh Public Schools (PPS), the Pittsburgh Equitable Development Collaborative, and others.

Table 2 summarizes the process of developing the Equity Indicators framework and data sources in 2017, identifying the stages and methods of stakeholder engagement, and the outcomes of each step.

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[1]"Shocks" are acute, large-scale disasters that disrupt city services and threaten residents, from extreme weather to economic collapse. "Stresses" are chronic, slow-burning issues that overwhelm the capacity of city resources and erode resident wellbeing.

Table 2. Process of developing the Pittsburgh Equity Indicators framework and stakeholder engagement

Step	Timing	Stakeholders consulted (example)	Method	Outcomes
Domain and topic selection	Jul 2017	Community members, city department leads, local nongovernmental organizations (NGOs), foundations	Selected by working team (RAND, City of Pittsburgh, and CUNY ISLG) based off of OnePGH engagement process (resident forums, focus groups, workshops)[1]	Draft list of domains and topics based on OnePGH objectives
Framework development	Jul 2017	None	Working team brainstorming	Draft list of domains, topics, and indicators (DTI)
Framework refinement	Aug 2017	City employees for equity-related issues (e.g., Critical Communities Initiative Manager)	Small group discussion; Written feedback via email	Revised list of DTI
Framework refinement; data source identification	Sept – Oct 2017	None	Working team continued to iterate on framework internally; conducted data inventory and mapping process	Revised list of DTI; data sources mapped to indicators; data gaps identified; data owners identified
Framework refinement; data source identification	Oct 2017	17 city employees, NGOs, researchers, other experts and data providers (e.g., Department of City Planning, Office of Community Affairs, ACHD, DHS, A+ Schools)	In-person workshop involving facilitated discussion of each indicator and associated data source(s)	Revised list of DTI; data sources mapped to indicators; data gaps and limitations identified; data owners identified
Indicator refinement; data source and subgroup identification	Nov 2017	Pittsburgh Equitable Development Collaborative	Small group discussion; written feedback via email	Revised indicator definitions; data sources mapped to indicators; subgroups for comparison identified
Framework refinement; data source identification; data acquisition	Oct 2017 – Jan 2017	Data providers (e.g., ACHD, DHS, PPS, Pittsburgh Promise)	Phone meetings to discuss indicators of interest/expertise; email communications	Revised list of DTI; data sources mapped to indicators; data gaps and limitations identified; data acquired
Framework review; indicator refinement; subgroup identification	Jan 2017	Pittsburgh Equitable Development Collaborative	Small group discussion; written feedback via email	Revised indicator definitions; subgroups for comparison identified
Framework review	Jan 2017	City department leadership (e.g., Assistant Director, Department of Innovation and Performance)	Small group discussion	Next steps for data presentation and organization identified

To summarize, stakeholders contributed to the Equity Indicators framework at multiple stages:

1. Stakeholder engagement through OnePGH informed candidates for domains and topics of interest
2. City employees working on equity-related issues (e.g., the mayor's Critical Communities Initiative Manager) reviewed and offered feedback on candidate domains and topics of interest
3. Experts and data providers were convened for a workshop to review the methodology for calculating the Equity Indicators, the potential subgroups of interest, and a draft framework of DTI. The draft framework included a greater number of indicators than are represented in the final framework, and this stakeholder group suggested additional candidate indicators and helped to prioritize the indicators to be included in the final framework. They also provided information on data sources available for candidate indicators at this workshop and in follow-up meetings. Their feedback on data availability and subgroups of interest to their work also contributed to the choice of subgroups for comparison described below.

The grouping and order of DTI in the final framework was determined by (1) grouping more conceptually similar objectives from the OnePGH into domains (e.g., **Health, Food, and Safety**), (2) grouping more conceptually similar subdomains into topics (e.g., *Educational opportunities, Entrepreneurship and workforce development*) and indicators within topics (for topics covering multiple subtopics [e.g., *Student success and discipline*]), and (3) ordered to reflect a logical flow within domains and topics based on the pathways by which wellbeing is impacted (e.g., "upstream" to "downstream" causes of inequity [e.g., *Access and prevention, Health status and outcomes*], less-severe to more-severe outcomes [e.g., *employment in high-paying sectors, job turnover, unemployment*], or stages of a process [e.g., *home loan denials, home ownership*]).

Equity-related Efforts Underway in Pittsburgh

Stakeholder engagement was also driven by the numerous equity-related efforts currently underway in Pittsburgh. We reviewed relevant reports, attempted to connect with representatives of these efforts, and endeavored to align our choice of indicators, data sources, and subgroups with their topics and populations of interest. These initiatives include, for example:

- Pittsburgh Equitable Development Collaborative (and the associated Equitable Development: The Path to an All-In Pittsburgh report[8])
- p4 and p4 Performance Measures[9]
- Pittsburgh Peace and Justice Initiative[10]
- Pittsburgh Gender Equity Commission[11]
- City of Pittsburgh LGBTQIA+ advisory council.[12]

Populations Adversely Affected by Inequity and Inequality

As previously noted, we identified portions of the city population of particular interest for measuring inequity and inequality based on previous research and stakeholder feedback. Specifically, we identified the following sub-groups as representing populations that do or may experience inequity or inequality and for which outcomes should be compared. Table 3 below shows the City of Pittsburgh's demographics by sex, race/ethnicity, and nativity and citizenship as a reference point for this list. Data for subset of indicators are reported by race at the county level (see Appendix E for details), so Table 4 shows data on Allegheny County's population by race. Note that the Allegheny County population data is broken down by race only and not ethnicity, so the different race categories also include Hispanic/Latino individuals.

- **Racial and ethnic minorities:** Pittsburgh's population is 88.4 percent white or black (and the population of Hispanic/Latino Pittsburghers is very small, especially relative to other cities participating in the Equity Indicators effort), so the bulk of the Equity Indicators focus on black-white disparities. Stakeholders consulted via the workshop and in follow-up meetings hypothsized that inequity in Pittsburgh is primarily race-based, and that racial disparities should be the focus of this analysis. Black/white disparities have also been the focus of other equity-based research efforts locally.[8, 13, 14] For certain indicators, analysis was done comparing majority-black and majority-white neighborhoods: Garfield, Homewood North, Homewood South, Larimer, and Lincoln-Lemington-Belmar (majority-black neighborhoods), compared to Duquesne Heights, Greenfield, Overbrook, South Side Flats, and Swisshelm Park (majority-white neighborhoods).
- **Low-income families:** For the purpose of this effort, low-income families were defined as households with a yearly income of $20,000 or below, which is roughly 45 percent of the area median income. This is a group of interest to local stakeholders. For certain indicators, analysis was done comparing low- and high-income neighborhoods: Bluff, Central Oakland, Garfield, Larimer, and Spring Garden (low-income neighborhoods), compared to Greenfield, Highland Park, Point Breeze, Shadyside, and Swisshelm Park (high-income neighborhoods).
- **Households living in poverty:** This subgroup was defined as households with an annual income below the federal poverty threshold. In Pittsburgh, the threshold is $24,600 per year for a family of four.
- **Women:** Pittsburgh's population is 51 percent female, and a small subset of indicators compared outcomes and representation of women and men.
- **People who rent (rather than own) housing:** A small subset of indicators compare conditions for Pittsburghers who rent their housing to those who own.
- **Children (under 18):** Children were not compared to adults for the purposes of measuring inequality, but a set of the indicators in Pittsburgh's Equity Indicators framework relate to outcomes and access to resources for children.
- **Individuals currently in jail:** Incarcerated individuals were not compared to non-incarcerated individuals, but a set of the indicators examines incarceration outcomes for subsets of the population.

We recognize that the groups listed above do not represent all the groups that may experience inequity and inequality in the City of Pittsburgh. One of the issues that we encountered in the creation of this tool was the availability, as well as frequency of collection, of data that would be necessary to include additional populations of interest. Due to a lack of data, we are unable to fully capture the circumstances of other subgroups. A key recommendation from this effort is to *conduct future data collection to help uncover how groups not currently represented may be impacted*. There are some populations that were not selected for comparison, even when data were available, due to the focus of the particular indicator (see **Choosing Subgroups** on page 26). Examples of groups outside the scope of this effort include:

- **Immigrants**
- **Individuals with a physical or intellectual disability**
- **Lesbian, gay, bisexual, transgender, and queer individuals (LGBTQ)**
- **Seniors (65 and older).**

Table 3. City of Pittsburgh demographics by sex, race/ethnicity, and nativity/citizenship

	Population	Percentage of Population
Total Population	305,305	100.00%
Sex		
Male	149,250	48.89%
Female	156,055	51.11%
Race/Ethnicity		
Hispanic or Latino (of any race)	8,652	2.83%
Not Hispanic or Latino	296,653	97.17%
White alone	196,510	64.37%
Black or African American alone	73,354	24.03%
American Indian or Alaska Native alone	419	0.14%
Asian alone	16,802	5.66%
Native Hawaiian and Other Pacific Islander alone	77	0.03%
Some other race alone	653	0.21%
Two or more races	8,838	2.89%
Nativity & Citizenship		
Native-born	279,326	91.49%
Foreign-born	25,979	8.51%
Foreign naturalized citizen	8,996	2.95%
Foreign non-citizen	16,983	5.56%

ACS 5-Year Estimates (2012–2016)

Table 4. Allegheny County demographics by race

	Population	Percentage of Population
Total Population	1,230,360	100.00%
Race		
White alone	992,002	80.63%
Black or African American alone	159,592	12.97%
American Indian or Alaska Native alone	1,435	0.12%
Asian alone	41,764	3.39%
Native Hawaiian and Other Pacific Islander alone	299	0.02%
Some other race alone	5,083	0.41%
Two or more races	30,185	2.45%

ACS 5-Year Estimates (2012–2016)

Data Sources

A combination of administrative and evaluation data, infrastructure and environmental data, and public survey data provides a multi-faceted picture of inequity in Pittsburgh. For each type of data, we used both (1) publicly available data and (2) data provided upon request from our research partners. Since most th e data used was not collected for the specific purpose of measuring inequity or inequality, we recognize that the data may not display the full range of experiences or perspectives that Pittsburgh residents have concerning inequity or inequality.

Data sources

The data for the Equity Indicators came from three sources:
1. Administrative and evaluation data, provided by government agencies and non-profits
2. Infrastructure and environmental data collected by local researchers and advocacy organizations
3. Secondary public survey data, publicly available at the local level from the websites of federal organizations (e.g., U.S. Census Bureau)

This effort relied on three types of existing data sources:

Administrative data, as well as evaluation data, was acquired from city, state, and federal government agencies, non-profit organizations, and research and academic institutions. These included both publicly available data as well as datasets made available upon request to specific agencies, departments, or other local partners.
1. Publicly available data
    - Local: Western Pennsylvania Regional Data Center; Pennsylvania Department of Health, Division of Health Informatics
    - National: Federal Financial Institutions Examination Council (FFIEC); Home Mortgage Disclosure Act (HMDA) data
2. Data provided by research partners
    - Allegheny County Department of Human Services
    - The Pittsburgh Promise
    - Pittsburgh Public Schools
    - City of Pittsburgh, Office of Community Affairs

Infrastructure and environmental sensor data included spatial data from government agencies, non-profit organizations, and research and academic institutions. The spatial data collected for infrastructure and environment required some additional manipulation to prepare it for analysis.
1. Publicly available data
    - Local: City of Pittsburgh Department of Public Works; Urban Redevelopment Authority (URA)
    - National: AllTransit
2. Data provided by research partners
    - Carnegie Mellon Center for Atmospheric Particle Studies (CAPS) data

Secondary public survey data included data from national surveys, which was all publicly available, such as the U.S. Census Bureau's annual American Community Survey (ACS), American Housing Survey, and Current Population Survey (CPS) and its supplements, which are conducted on an ongoing basis.

Where possible, we used annually collected data for each indicator so that changes could be tracked year to year. We used the most recently available data as of December 2017. Most of the data was

originally collected in either 2016 or 2017, and we complied the available data between September 2017 and December 2017. In some cases, there are data lags of several years (e.g., 2014 data on heart attack hospitalizations). We attempted to—and also recommend that future iterations of the Equity Indicators—take into account the varied release dates for particular indicator data in order to mitigate the effects of data time lags and to strengthen contextual understanding of the findings.

Appendix A contains the full list of secondary data sources.

Methodology and Reporting Equality Scores

Scoring and reporting of Equity Indicators data was consistent with the methodology designed by CUNY ISLG for the New York City Equality Indicators. CUNY ISLG required that Pittsburgh utilize the scoring methodology developed for New York, though we customized the specific indicators in the framework, data sources, and subgroups for the Pittsburgh context. Consistent with the CUNY approach, we scored the Equity Indicators on a scale of 1 to 100, with 1 representing higher inequality in each area and 100 representing higher equality. Scores are based upon the ratio of rates, percentages, or other proportions of interest for two subgroups (e.g., the percentage of black and white residents without health insurance). Scoring in this way allowed us to standardize the interpretation of data reported in different ways (e.g., indexes, percentages, rates) and from different data sources. It also allowed the scores to be synthesized across topics and domains to estimate summary equality scores. This approach also introduced a number of limitations that are discussed below.

Choosing subgroups

The set of possible subgroups for comparison was primarily limited by data availability for each indicator. When data was available for multiple subgroups, we generally chose to compare black and white populations in Pittsburgh. These groups represent the largest two racial/ethnic groups in the city, and this was the preferred primary comparison suggested by local stakeholders. However, when the literature and previous work indicated that inequity is related to other factors (e.g., gender or income), we chose different subgroups. We also endeavored to align with ongoing initiatives, such as the Pittsburgh Equitable Development Collaborative.

Defining indicators

Indicators are defined by the ratio of values of a measure for the two subgroups being compared. The indicators differ in the way they are framed. Most of the measures in the Pittsburgh Equity Indicators framework are framed from the perspective of negative outcomes (e.g., *homicide* victimization). However, certain indicators are framed from the perspective of positive outcomes, because they are either more easily understood that way (e.g., *Five-year graduation rates*), or are specifically utilized as positive indicators by local partners to evaluate other efforts (e.g., *Pittsburgh Promise eligibility*). For indicators that represent access to neighborhood resources or participation in programming, we also elected to frame the definition of the indicator from the positive perspective for clarity (e.g., *access to green space*). The full list of indicators and their definitions are available in Appendix B.

To retain a consistent approach, the direction of comparison for each indicator was based on general patterns of inequity informed by the literature and existing local work. For negative outcomes, black or low-income residents were compared to white or high-income residents; conversely, for positive outcomes, white or high-income residents were compared to black or low-income residents. In the instances when white or high-income residents experienced worse outcomes than black or low-income residents, due to the direction of comparison, these indicators received scores of 100. The Scoring and

reporting section below explains this in more detail, and the Limitations section describes the potential drawbacks of this approach.

Analysis

To calculate scores for each indicator, we first gathered the most recent data available from partners and other sources, as described previously. Depending on the type of data, we conducted the following types of analysis to obtain values for the two subgroups we would compare (details and technical notes for indicators are available in Appendix C):

- **Raw survey data that included respondent demographics**: Raw survey data from the U.S. Census Bureau's ACS Public Use Microdata Sample (PUMS) and the CPS includes demographic information of respondents. For race-based indicators using raw survey data (10 of the 80 indicators), we used "[race] alone" categories from the Census (e.g., white alone, black alone). We used this information to calculate percent of each subgroup reporting an outcome to obtain values for comparison.
- **Survey data reported by demographics**: Survey data used for the Equity Indicators was often reported by race/ethnicity, gender, and/or income. For race-based indicators using data reported by race, we used "[race] alone" categories from the Census (e.g., white alone, black alone). In these instances, we used the reported percent of each subgroup experiencing an outcome. 19 of the 80 indicators fell into this category.
- **Administrative data reported by demographics**: Administrative data reported by demographics was reported either as counts or rates by subgroup. We either used rates directly, or created rates from counts using estimates of Pittsburgh's (or Allegheny County's) population by subgroup from 5-year ACS estimates (2012–2016). 26 of the 80 indicators were based on administrative data reported by demographics.
- **Data reported by census tract:** Data on resources available or environmental conditions was often reported by census tract (11 of the 80 indicators). When data was categorical (e.g., census tracts eligible for a Community Development Block Grant), we used data from ACS, 5-year estimates on demographics by census tract to calculate the percent of individuals of each subgroup who had access or exposure to the resource or condition. When data was continuous (e.g., number of police-community outreach events, annual PM2.5), we used ACS data to classify census tracts by majority race and income:
  - o *Majority-black* and *majority-white* census tracts are tracts where greater than 50 percent of the population is represented by that racial group
  - o *Low-income* census tracts are tracts where the median income is in the bottom 20 percent of Pittsburgh's income distribution (bottom quintile), and *high-income* census tracts are tracts where the median income is in the top 20 percent (top quintile).
- **Data reported by neighborhood:** When data was reported by neighborhood, we aggregated demographic data available at the census tract level to the neighborhood level and performed a similar calculation. 6 of the 80 indicators were reported at the neighborhood level.
- **Data reported by other spatial unit:** When data was reported by a spatial unit that was not directly aligned to census tracts (e.g., voting districts) or when point-level datasets were available (e.g., addresses of child care facilities), we used ArcGIS spatial analysis software to overlay the data with census tract boundaries. Once the data was distributed by census tract (in the case of larger spatial units, based on the proportion of the tract falling within the unit), we performed the analysis described above using census tract demographic data. We performed this spatial readjustment for 8 of the 80 indicators.

Scoring and reporting

Each of the 80 indicators is scored on a scale from 1 (higher inequality) to 100 (higher equality). 78 of the 80 indicators are scored by converting the ratios of values for the two subgroups to an equality score using the conversion table shown in Appendix D. Note that all ratios below 1.00 receive a score of 100. This indicates that there is either no inequality between subgroups, or the group frequently experiencing inequity showed better outcomes than the comparison group. There were five such cases among the indicators, due to "flipped disparities" where patterns of disparity do not follow what might be expected from the literature. These five cases were indicators concerning *lack of access to a high-frequency transit network (HFTN)* (indicator 54), *access to green space* (indicator 59), *registered voters* (indicator 65), *volunteering* (indicator 71), and *participation in Beautify Our Burgh* (indicator 75). Ratios reflect the proportional relationship – or disparity – between outcomes for the two groups compared, and interpreting the equality scores assumes that disparities are undesirable.

> ### CUNY ISLG's Process of Developing the Equality Indicators Scoring Methodology
> 1. Environmental scan of existing indicator efforts in the U.S. (e.g., Gender Inequality Index, Boston Indicators Project, UN Rule of Law Indicators)
> 2. Exploratory analysis of data sources and reporting efforts in NYC (e.g., Citywide Performance Report)
> 3. Development of draft ratio-based methodology to standardize reporting across data sources
> 4. Consultation with equality and performance measurement experts
> 5. Pilot testing in 2015

There were two indicators for which we did not convert the ratio of values to equality scores. For indicator 14, *disproportionate use of force,* we directly report the disproportionality score calculated by the Pittsburgh Bureau of Police, and for indicator 52, *racial segregation index*, we report the inverse racial segregation index calculated using ACS data from 2016. These scores range from 1 to 100 as provided, so no additional score conversion was needed. (Notes on these indicators are available in Appendix C.)

Topic scores were calculated by averaging the four indicator scores under that topic, and domain scores are the average of the five topics under that domain. Finally, averaging domain scores produced the overall citywide score for 2017. In order to achieve balance across the framework and to avoid weighting certain indicators, topics, or domains more heavily than others in the final score, the Equity Indicators framework and methodology developed by CUNY ISLG requires an even number of indicators within topics and topics within domains. Future Equity Indicator reports will also include change scores by indicator, topic, and domain, representing changes from year to year in equality scores for each level of the framework.

To aid interpretation of the equality scores, we also report the values that went into calculating the score, such as the percent of black and white Pittsburghers who have access to a high-frequency transit network. These data are available in Appendix E. For select indicators, we also report values for subgroups that were not part of the ratios that informed the equality scores, with the hopes that local stakeholders will find the data useful.

It is important to note that a high equality score does not necessarily indicate a successful outcome for the metric in question. For example, Pittsburgh may rate relatively high in equality of access to a diverse range of transportation options for both black and white residents, but that underlying level of access for the whole population may still be inadequate to meet resident needs. We expand on this point in the

limitations discussion below. Equality scores are also not comparable across cities, because city's individual frameworks have different structures and are made up of different indicators, topics, and domains. *The only comparison that is possible across cities is at the individual indicator level.* If two cities use the same indicator and data source, and compare the exact same two subgroups (e.g., women and men), the indicator scores can be compared.

Limitations and Future Research

We recognize several limitations to our methodology for calculating the Equity Indicators and our findings, and we recommend that future measurement efforts in Pittsburgh attempt to address the gaps identified here. Our data collection was limited by availability of data for indicators of interest, reported at the city level, and by subgroup or small geographic units; and frequency of data collection. Where possible, we used spatial analysis to analyze data for indicators across smaller geographic units. When we were not able to find city-level data and could not disaggregate data to the city level, we used county-level data. These data represent Pittsburgh residents as well as residents of other cities, boroughs, and townships in Allegheny County. As Table 4 above indicates, there are significant demographic differences between the City of Pittsburgh and Allegheny County (e.g., 24 percent of Pittsburgh residents are black while only 13 percent of Allegheny County residents are black), so county-level indicators should be interpreted with these differences in mind.

We were also subject to limitations of the original data sources. Many of the Equity Indicators utilize subpopulation data from the ACS and the CPS (and its supplements), conducted by the U.S. Census Bureau. These data are based on estimates rather than the exact count of the population.[15] The sample size for the 2016 ACS was 10,487 in Allegheny County.[16] The U.S. Census Bureau reports margins of error for each of the estimates, which are available from the original data sources (Appendix A). In future iterations of the Pittsburgh Equity Indicators effort, we plan to conduct statistical testing to estimate the extent to which differences in equality scores from year to year are attributable to changes in the population, and which fall within the margin of error for each indicator. In this report, 13 of the 80 indicators are based on county-level data (indicators 4, 5, 9-11, 30, 37, 41, 44, 65, 69, 71, and 72). Additional details for select indicators are available in Appendix C.

Using a single category comparison for each indicator may mask some underlying patterns within and between subgroups. While we examined differences by race/ethnicity and income separately, we recognize that these factors are highly correlated. Additionally, while Pittsburgh appears be made up of relatively equal numbers of men and women, there is variation in the gender distribution by age: Between ages 20-40 the city has significantly more men, while ages 55+ and progressively with age, there are more women.[17] Pittsburgh is home to nine colleges or universities, resulting in a substantial population of students, many of which report a low annual income.[18] As a result, indicators that examine differences by income (either of individuals or of census tracts or neighborhoods) include students, a population whose experience likely differs significantly other "low-income" populations. Additionally, indicators based on program participation (e.g., *SNAP participation*) do not account for differences in program eligibility, which may also show disparities by subgroup. The descriptive and cross-sectional nature of the data collected for this effort does not allow us to account for these or other potential confounding variables. Additionally, data used for this effort are updated on different schedules, so some datasets will lag a few years behind the current reporting year.

The approach to scoring described above also introduces a few limitations. The Equity Indicators framework and methodology developed by CUNY ISLG requires an even number of indicators within topics and topics within domains. Consequently, indicators that are seemingly related may have been

organized into different domains to achieve balance. Scores are developed by comparing two subgroups at the indicator level, and are then aggregated to higher levels. Thus, as higher-level scores are calculated, the nuance and context to each, as well as actions to address inequity at broader levels, become less clear. While indicators are equally weighted in this framework, policymakers and citizens might not weight all of these indicators equally. Additionally, indicators are calculated using a variety of data sources and methodologies. The scoring process aims to standardize data to allow for comparison, but this standardization does not account for methodological differences between indicators. We encourage readers to refer to the more detailed data reported in Appendix E for clarity on these differences and to aid in interpretation of the scores.

Moreover, evaluating inequality by looking at the relative disparity between two groups simply indicates how far apart the averages of the two groups are from one another, and not the overall status of an outcome. For example, if hypertension is very common across subpopulations in a community, the equality score for that indicator would be quite high, despite the sub-optimal outcome. For these reasons, we report the subgroup level data that were used to calculate each score and often compare data for subgroups to data for the city as a whole to put values for each subgroup in context. The approach of comparing averages between groups also does not provide a nuanced picture of variations within each of the groups, or address the total numbers of people most affected by particular inequities.

Future research planned in Pittsburgh will result in more robust analysis 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. We recommend additional quantitative analyses 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) to inform prioritization and decision-making. 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.

Section 3: Findings

This section provides an overview of each domain score along with supporting topic and indicator scores. The domain score is presented first, including a figure showing the scores of each topic that make up the domain. Next, each topic score is described, and the figure shown for each topic provides both the topic score (darker bar) and the indicator scores (lighter bars) that make up the topic. Each topic section also includes a concise summary of notable insights related to that topic (including illustrative indicator-level data and/or state or national comparison data), and implications related to some of those insights. Readers are encouraged to refer to Appendix E as the main source of information on the indicators, as well as the original data that went into calculating indicator-level equality scores and the context and implications for each indicator score. Appendix E also offers state and national comparison data to provide additional context for selected metrics. These are included where comparison data was readily available and when (1) disparities were found to be especially pronounced (e.g., *infant mortality rates*) or (2) local rates differed significantly from state or national rates (e.g., *opioid overdose deaths*).

Overview of Scores

Pittsburgh's 2017 equality score: 55

Figure 2. Scores by domain

Figure 3. Scores by topic

Category	Topic	Score
Health, Food, and Safety	Access and prevention	44
	Health status and outcomes	68
	Childhood health and wellbeing	24
	Policing and criminal justice	42
	Public safety	44
Education, Workforce Development, and Entrepreneurship	Educational opportunities	60
	Student success and discipline	52
	Employment	56
	Entrepreneurship and workforce development	61
	Income and poverty	42
Housing, Transportation, Infrastructure, and Environment	Housing affordability and stability	28
	Infrastructure quality and investment	51
	Neighborhood composition and opportunity	41
	Transportation	85
	Environment and sustainability	83
Civic engagement and Communications	Representation	51
	Political participation	71
	Grassroots engagement	77
	City-led engagement	70
	Technology and communications	58

Pittsburgh's equality score of 55 indicates there is room for improvement to enhance opportunities and outcomes for residents of all races, genders, and incomes. While the score itself is a useful snapshot, a deeper investigation is needed to truly understand where the city's greatest disparities lie and to provide information relevant to decision makers. The Pittsburgh Equity Indicators team analyzed 80 indicators, nested within 20 topics, aligned with four domains. This section summarizes findings by domain and topic. Detailed information and data sources used to calculate this set of equality scores for 2017 can be found in Appendix E. As a reminder for the reader, each of the 80 indicators is scored on a scale from 1 (higher inequality) to 100 (higher equality).

Health, Food, and Safety
Domain equality score: 43

Figure 4. Health, Food, and Safety Topic Scores
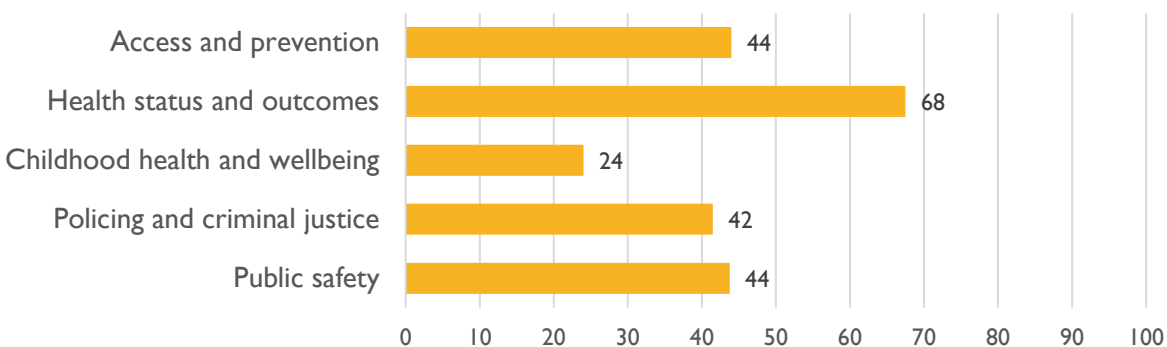
Of all the domains represented in the Equity Indicators framework, Pittsburgh experiences the greatest inequity in **Health, Food, and Safety**. We primarily compared outcomes and access to resources for black and white residents, but also compared low- and high-income neighborhoods for a few of the indicators in this domain. **Health, Food, and Safety** touches on topics in five areas: ***Access and prevention***, ***Health status and outcomes***, ***Childhood health and wellbeing***, ***Policing and criminal justice***, and ***Public safety***. Indicators within these topics assess disparities in whether basic needs such as food security are being met, whether individuals have equal access to health care resources, and differences in health outcomes for black and white babies. This domain also includes disparities in experiences with the police, the criminal justice system, and crime victimization.

Access and prevention
Topic equality score: 44

Figure 5. Access and Prevention Indicator Scores
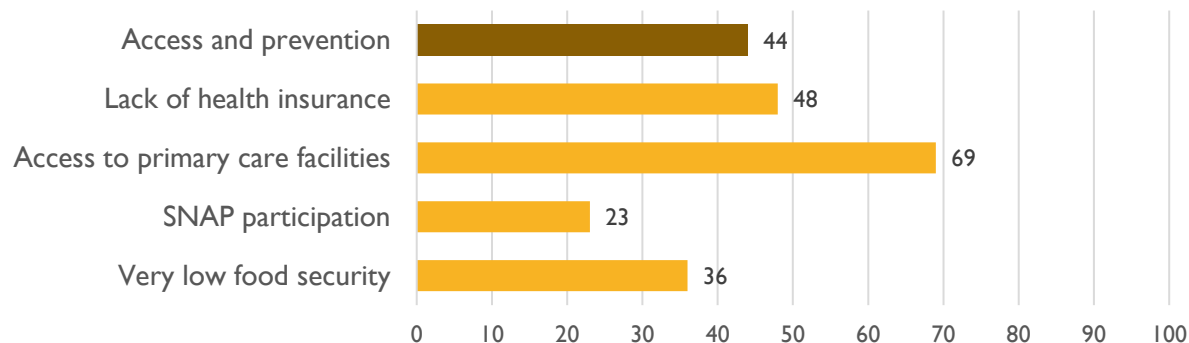
Buoyed by more equal *access to primary healthcare facilities* in neighborhoods relative to the other indicators in this topic area, **Access and prevention** had a score of 44. This topic includes indicators that assess access to health care resources and nutrition needed to live a healthy life. Data analyzed in this topic also point to generally high, though unequal, rates of *lack of health insurance* in the city (6.0 percent of black residents are uninsured compared to 3.3 percent of white residents). There are sharp disparities by race in *SNAP participation* and *very low food security*, indicating there is work to be done to ensure that all Pittsburgh residents have consistent access to healthy meals.

Health status and outcomes
Topic equality score: 68

Figure 6. Health Status and Outcomes Indicator Scores
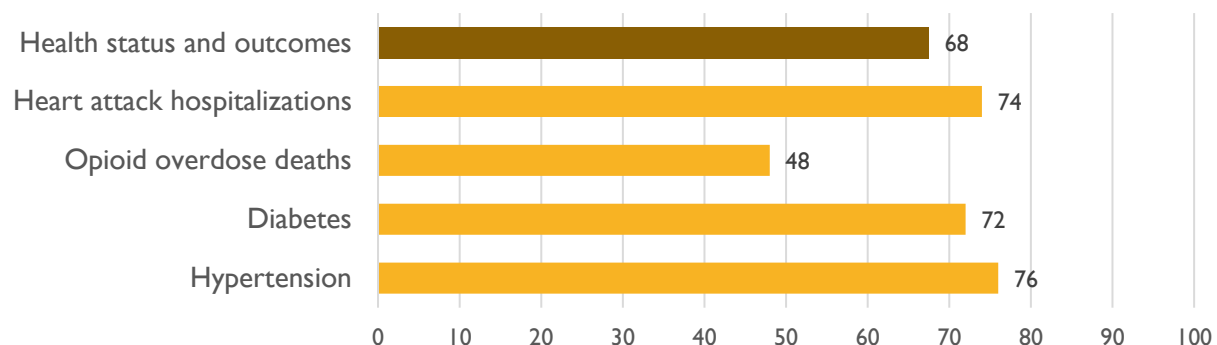
Showing the smallest differences by subgroup of all topics in the **Health, Food, and Safety** domain, *Health status and outcomes* had an equality score of 68. This topic area assessed data on chronic disease health outcomes and highlights the subpopulations in the city that bear the greatest burden in the region's growing opioid epidemic: *Opioid overdose deaths* are high in Pittsburgh compared to statewide and national rates, and the equality score of 48 indicates that deaths were far more common in low-income than high-income neighborhoods. Rates were 205.8 per 100,000 residents in low-income neighborhoods compared to 113.7 per 100,000 in high-income neighborhoods. Our analysis also

revealed important race-based disparities in cardiovascular and metabolic health outcomes (*heart attack hospitalizations*, *hypertension*, *diabetes*).

Childhood health and wellbeing
Topic equality score: 24

Figure 7. Childhood Health and Wellbeing Indicator Scores

Indicator	Score
Childhood health and wellbeing	24
Infant mortality	24
Low birth weight	38
Asthma hospitalization rates	16
Association with the child welfare system	19
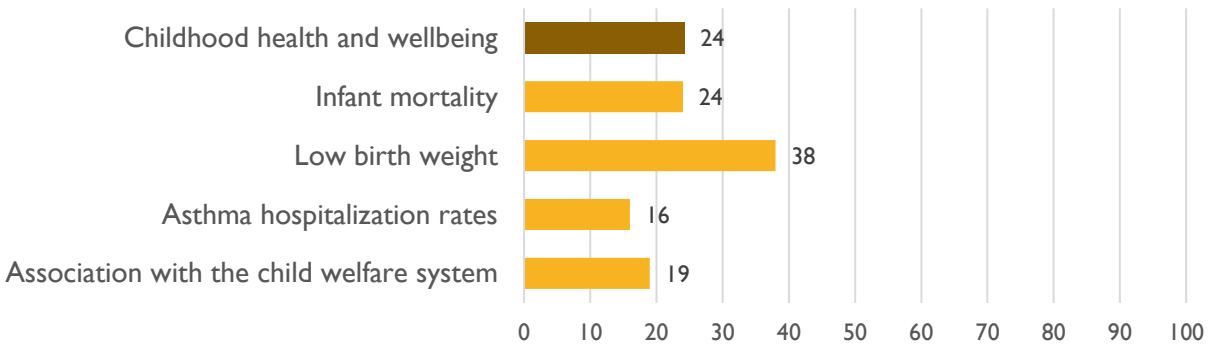
The ***Childhood health*** topic area, with an equality score of 24, assesses differences in health outcomes and risks for Pittsburgh youngest and is the topic area in which the city shows the greatest room for improvement. Performance in this topic is driven by stark disparities between black and white children in *infant mortality*, *asthma hospitalization*, and *child welfare* concerns. The infant mortality rate for black babies was 14.9 per 10,000 births compared to a rate of 3.3 per 10,000 for white babies. While *low birth weight* is also more common among black babies than white babies, the indicator-level equality score of 38 is the highest in this topic area. Differences in health during childhood have impacts across the lifespan, impacting educational outcomes, economic opportunity, and long-term wellbeing.[19]

Policing and criminal justice
Topic equality score: 42

Figure 8. Policing and Criminal Justice Indicator Scores

Indicator	Score
Policing and criminal justice	42
Arrests	28
Use of force	91
Currently incarcerated population	20
Multiple incarcerations	27
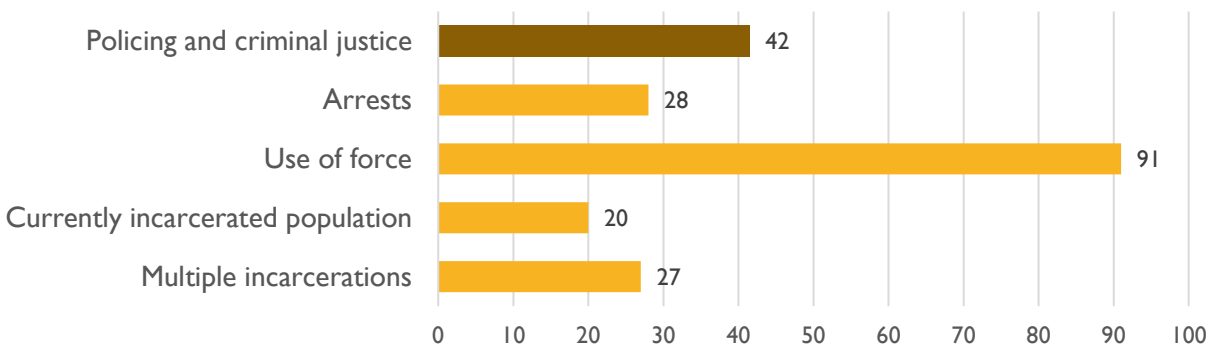
We calculated an equality score of 42 for ***Policing and criminal justice***, indicating that Pittsburgh's black and white communities face unequal experiences and access to justice when suspected of or arrested for committing a crime. While the equality score for this topic is elevated by a relatively high indicator-level score for *disproportionate use of force during arrests* (equality score = 91), *arrest, incarceration, and multiple incarceration* rates are vastly higher for black Pittsburghers than their white

counterparts. 2,606.5 black residents per 100,000 were incarcerated in 2017 compared to 521.1 white residents per 100,000. Not only do arrest and incarceration impact community cohesion in the short-term, they present significant barriers to employment and future economic wellbeing.[20]

Public safety
Topic equality score: 44

Figure 9. Public Safety Indicator Scores
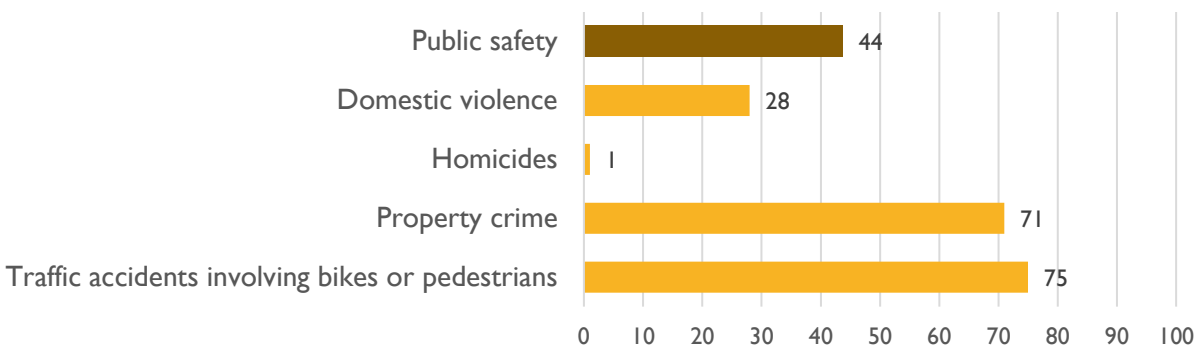
The equality score calculated for ***Public safety*** (44) highlights disparities in crime victimization and exposure to dangerous traffic conditions. This score was strongly impacted by *homicide* rates, which are so much higher among black populations than white populations in Pittsburgh (58.6 and 4.6 per 100,000 residents, respectively), the indicator received an equality score of 1. Black Pittsburghers were also more likely to be victims of *domestic violence* and *property crimes* (including theft, burglary, and arson), and low-income communities experienced more *accidents involving bikes or pedestrians* than higher-income communities. Targeting public safety resources and crime prevention interventions to these communities will be an important step for improving equity citywide.

Education, Workforce Development, and Entrepreneurship
Domain equality score: 54

Figure 10. Education, Workforce Development, and Entrepreneurship Topic Scores
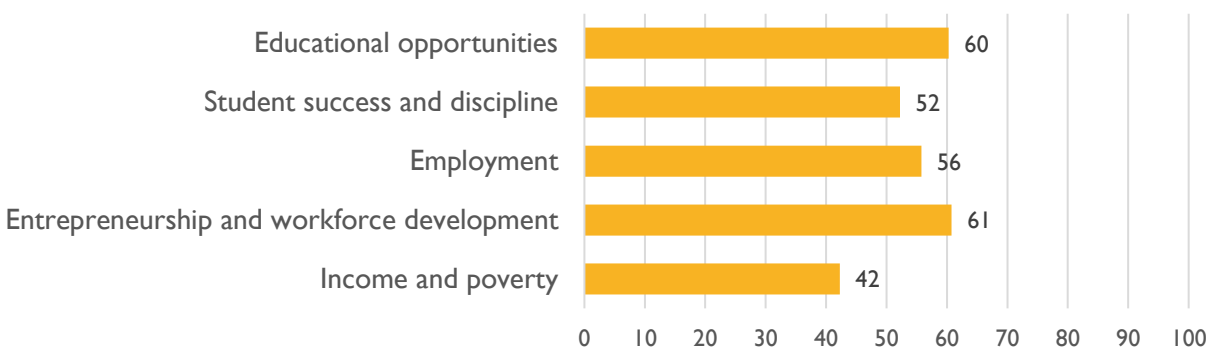
Inequity is also evident between black and white, low- and high-income, and male and female Pittsburghers in the **Education, Workforce Development, and Entrepreneurship** domain. This domain includes five topics: ***Educational opportunities, Student success and discipline, Employment, entrepreneurship and workforce development***, and ***Income and poverty.*** These

topics compare access to quality early childhood opportunities near residents' homes, whether Pittsburgh Public School students of different races can take advantage of Pittsburgh Promise scholarships to attend college (and whether they are successful once they get there), if black and white residents participate equally in the workforce, have similarly good, high-paying jobs, and if differences in opportunity in the city are having downstream effects on residents' income.

Educational opportunities
Topic equality score: 60

Figure 11. Educational Opportunities Indicator Scores
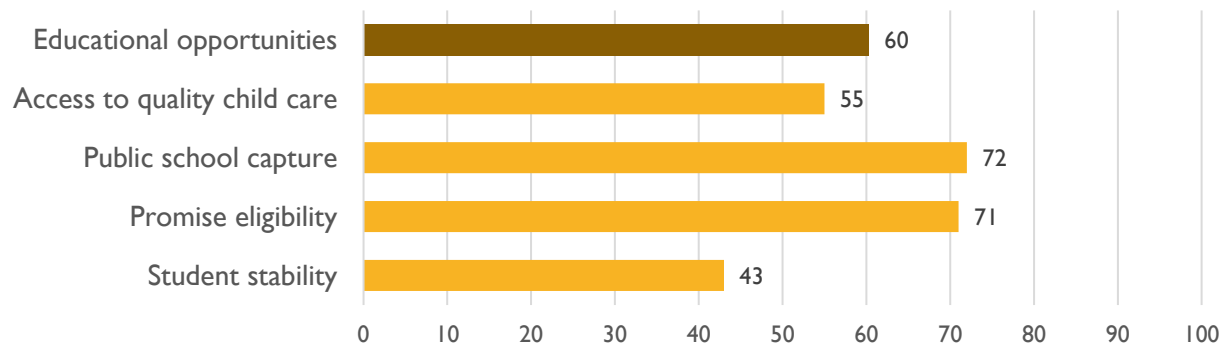
The results of our analysis showed that *Educational opportunities,* with an equality score of 60, are slightly more equitable in Pittsburgh compared to the other topics in **Education, Workforce Development, and Entrepreneurship**. This score is primarily impacted by a relatively higher indicator level-score for *public school capture* rate—defined as the percentage of students assigned to a school who enroll in that school—though overall PPS capture rates are generally low (below 60 percent for schools across the system). The city also experiences relatively more equitable rates of *eligibility for the Pittsburgh Promise*, though ongoing efforts aim to help even more students take advantage of the Promise's post-secondary scholarships. Not only is *access to quality childcare* unequal between neighborhoods, examination of the raw data shows that overall access to high quality childcare is relatively poor across subpopulations in the city. 24.0 percent of white Pittsburghers and 14.7 percent of black Pittsburghers have a high-quality (STAR rating of three or higher) child care center in their neighborhood. Finally, *student stability* rates indicate that children at the highest-percent black schools are more likely to transfer schools during the school year, which impacts the student, their classmates, and their teachers.

Student success and discipline
Topic equality score: 52

Figure 12. Student Success and Discipline Indicator Scores

Indicator	Score
Student success and discipline	52
Reading at grade level (third grade)	54
Five-year high school graduation	82
Pittsburgh Promise Scholar college graduation rates	38
Suspension	35
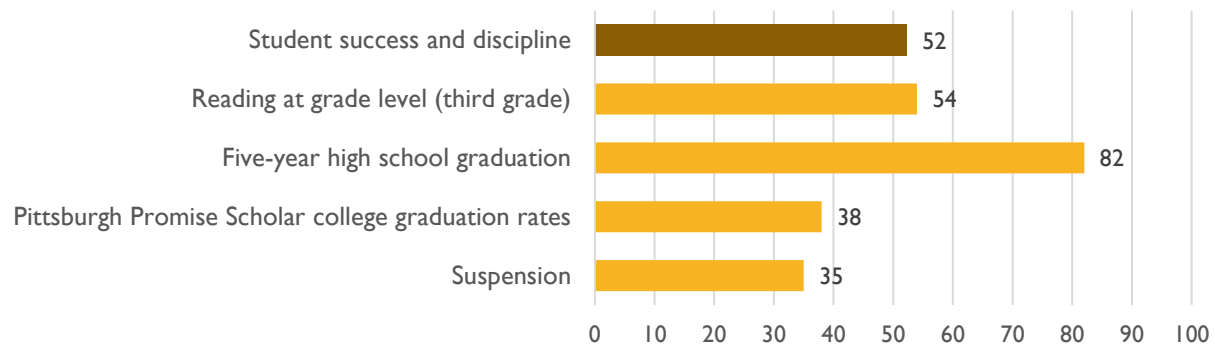
Student success and discipline had an equality score of 52, primarily based upon highly unequal rates of *suspension* in PPS and unequal *college graduation rates* for Promise scholars, though *five-year high school graduation rates* show more parity between black and white students. *Third grade reading levels* have been discussed frequently locally as a marker of early educational success, as well as predictive of future educational outcomes. 71.8 percent of white PPS students scored "reading proficient" or higher on Pennsylvania System of School Assessment (PSSA) exams compared to only 43.3 percent of black PPS students. In recognition of the importance of early intervention, local efforts to increase access to early childhood education for all and improve early reading skills are in progress.[21]

Employment
Topic equality score: 58

Figure 13. Employment Indicator Scores

Indicator	Score
Employment	56
Employment in high-paying sectors	56
Job turnover	54
Labor force participation	73
Unemployment	40
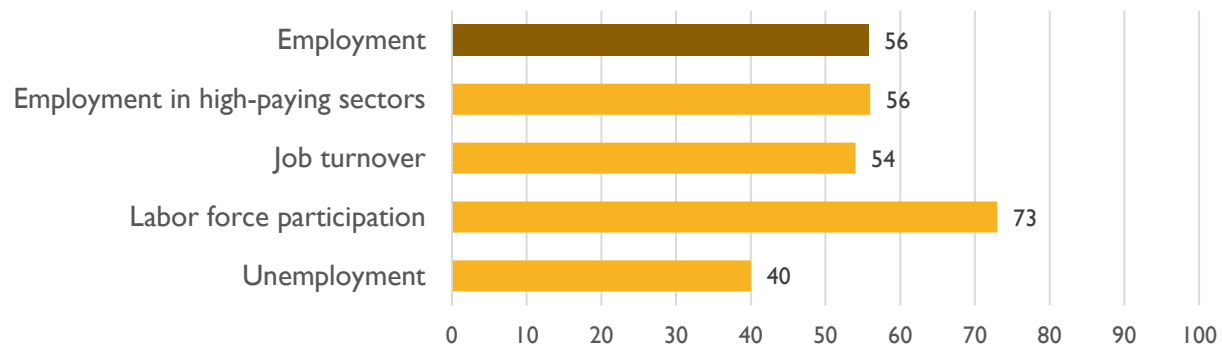
Due to significant disparities in rates of *unemployment*, *job turnover*, and unequal representation in *high-paying sectors*, the **Employment** topic area had an equality score of 56. Black Pittsburghers are much more likely to be unemployed than their white counterparts, and also to change jobs more frequently—two factors that have long-term impacts on family stability and building wealth over time.[22] Under-employment of people of color in Pittsburgh has also been reported as a significant issue—meaning that black Pittsburghers are less likely to have jobs that are high-paying or allow them to fully use their skills or abilities.[20] The indicator-level equality score of 56 for employment in *high-paying sectors* supports this

finding. Our analysis found that 53.7 percent of the white working population was employed in "Management, business, science, and arts occupations" (see Appendix C for more information on these employment categories) compared to 33.2 percent of the black working population.

Entrepreneurship and workforce development
Topic equality score: 61

Figure 14. Entrepreneurship and Workforce Development Indicator Scores
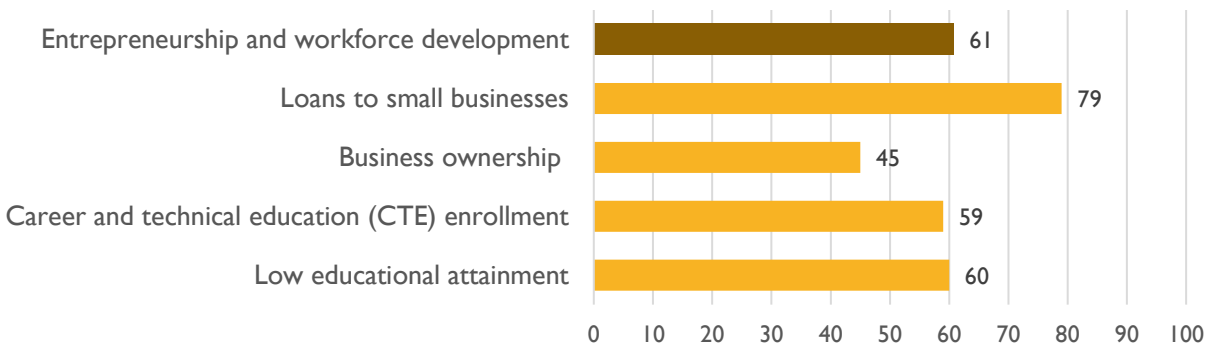
Entrepreneurship and workforce development examined inequality by gender for *participation in CTE programming* and inequality by race for the other indicators in the topic. The average of these indicators yielded the highest topic-level equality score in the **Education, Workforce Development, and Entrepreneurship** domain at 61. However, black Pittsburghers are much less likely to *own businesses* than their white counterparts, a disparity which may be partially explained by differences in *loans offered to small businesses* in predominantly black census tracts in the city. *Business ownership* (in addition to *educational attainment)* presents the opportunity to build wealth, may have impacts on overall workforce diversity, and may help to close the racial gap in economic well-being.[23] Our analysis showed that 30.3 percent of white residents and 45.7 percent of black residents have a high school degree or lower. Low female representation in science, technology, engineering, and mathematics (STEM) CTE programming is concerning, as equitable representation in science and math-related fields is garnering attention nationally.

Income and poverty
Topic equality score: 42

Figure 15. Income and Poverty Indicator Scores
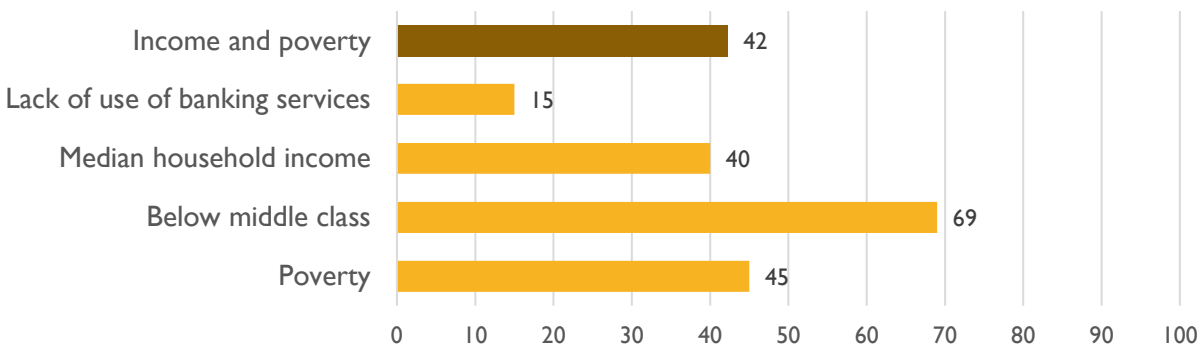
Income and poverty, with an equality score of 42, is the topic area in the **Education, Workforce Development, and Entrepreneurship** domain in which there is greatest room for improvement. Rates of *lack of use of banking services* differ between black and white Pittsburghers (17.7 percent of black residents do not have a checking or savings account compared to 2.8 percent of white residents), which results in disparities in access to funds for housing and long-term savings. Black Pittsburghers overall earn a lower *median income* and experience higher rates of *poverty*. The disparities highlighted in the other topic areas of **Education, Workforce Development, and Entrepreneurship** bear out in this topic area, which paints a picture of economic inequity by race in Pittsburgh. Actions that work on the drivers of economic wellbeing described in the other topic areas in this domain, including access to early education, increasing educational attainment and business ownership among black residents and women, for example, may over time work to impact these inequitable outcomes.

Housing, Transportation, Infrastructure, and Environment
Domain equality score: 57

Figure 16. Housing, Transportation, Infrastructure, and Environment Topic Scores
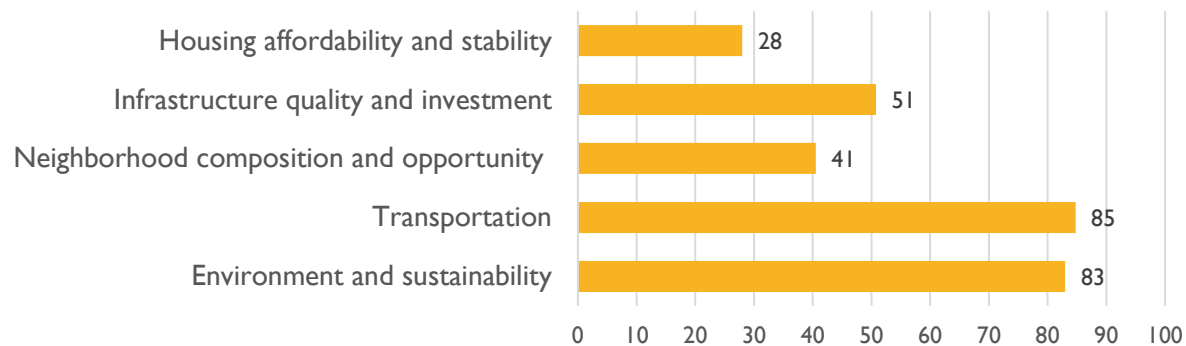
Housing, Transportation, Infrastructure, and Environment is a domain that evaluates inequity in *Housing affordability and stability, Infrastructure quality and investment, Neighborhood composition and opportunity, Transportation,* and *Environment and sustainability.* This domain examines disparities in outcomes of interest to many local stakeholders, including homeownership rates, how much renters pay for housing in the city, access to city services and neighborhood investments, access to multi-modal transit options, including high-frequency public transportation, and environmental benefits or risks such as access to green space or exposure to air pollution. This domain compares outcomes and access by race/ethnicity, income, and between renters and owners.

Housing affordability and stability
Topic equality score: 28

Figure 17. Housing Affordability and Stability Indicator Scores
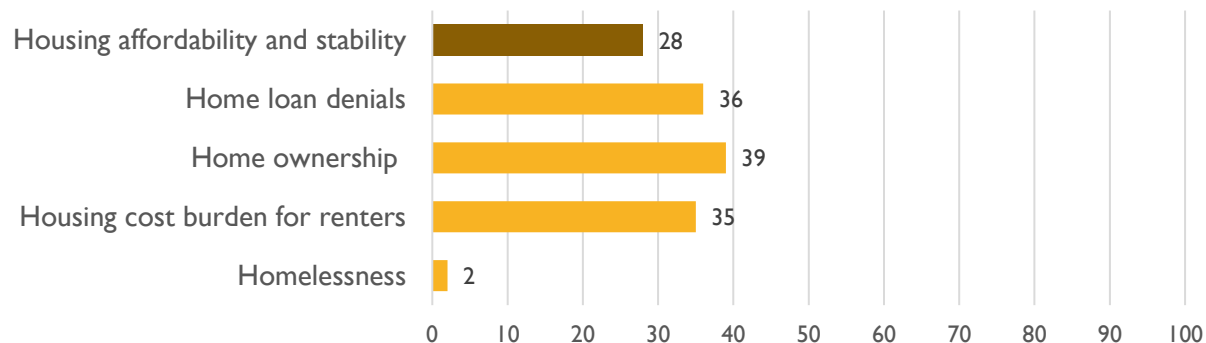
Housing affordability and stability, with an equality score of 28, is the topic area in **Housing, Transportation, Infrastructure, and Environment** in which there are the greatest equity gaps. Black and white Pittsburghers utilize emergency shelter services for *homelessness* at starkly different rates (1,216.9 and 128.1 per 100,000 residents, respectively), resulting in an equality score of 2, the second lowest indicator-level equality score in the framework. *Home loan denials* are also higher for black residents than white residents, possibly making it easier in general for white Pittsburghers to *own homes* in the city than their black counterparts. With an equality score of 35 for *housing cost burden*, we also note that lower-income residents pay a much larger share of their income on housing than higher-income residents (72.0 percent of low-income residents pay more than 30 percent of their annual income on housing compared to 25.8 percent of higher-income residents.). Ensuring access to affordable housing is a key priority for the city moving forward as Pittsburgh grows, and community dislocation and gentrification pose risks to low-income and black residents.[8]

Infrastructure quality and investment
Topic equality score: 51

Figure 18. Infrastructure Quality and Investment Indicator Scores
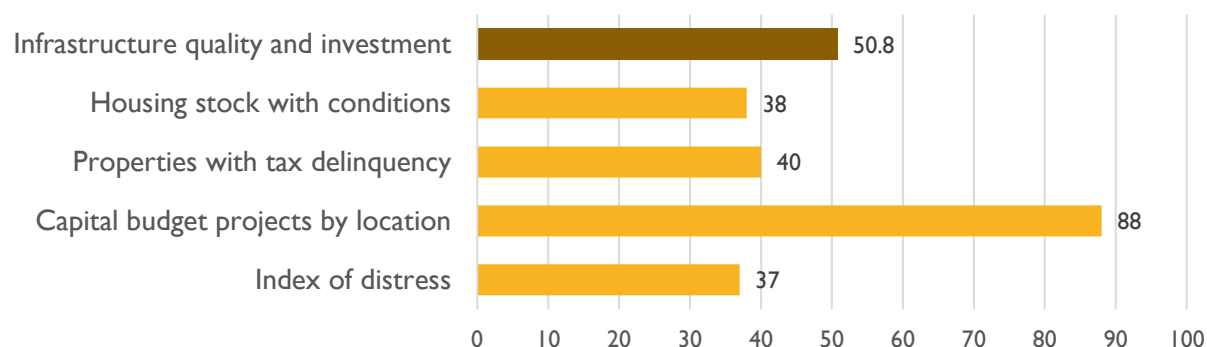
Renters and owners and Pittsburghers of different races have varied experiences with *Infrastructure quality and investment*, including more rental *housing stock with conditions* than owned housing stock, more *tax delinquent properties* in majority-black census tracts, and greater exposure to *distressed* census

blocks for black residents. Relatively more equal are the *capital budget projects* being planned or implemented by the city across neighborhoods in 2017. 76.5 percent of white Pittsburghers have a capital budget project planned or implemented in their neighborhood compared to 72.0 percent of black Pittsburghers. These data correspond to an equality score of 88 for this indicator, which pulls the overall score for **Infrastructure quality and investment** up from the disparities other indicators in this topic area highlight. This analysis indicates that city's black residents bear the greatest burden of the city's aging infrastructure (much of which was built in the early 20th century), and that strategic neighborhood investment is needed to address these inequities.

Neighborhood composition and opportunity
Topic equality score: 41

Figure 19. Neighborhood Composition and Opportunity Indicator Scores
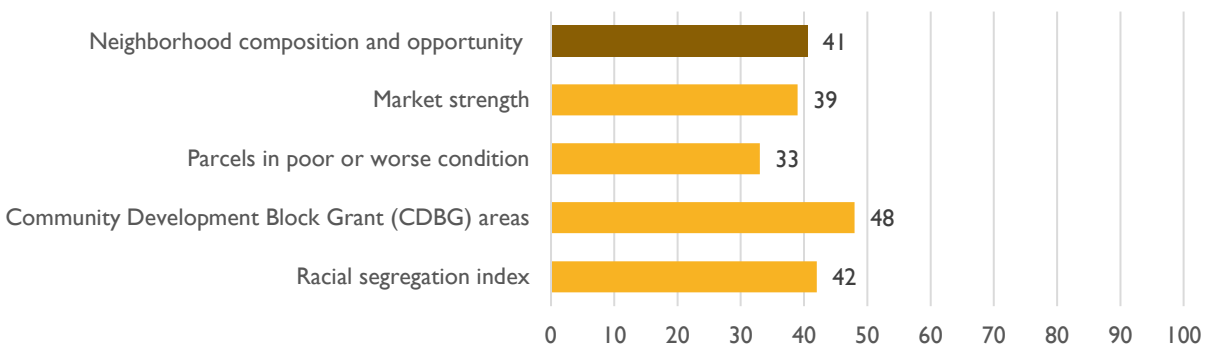
Neighborhoods in Pittsburgh are highly segregated, as shown by the city's *racial segregation index*, and relatedly, residents experience different outcomes in **Neighborhood composition and opportunity** (equality score=41). Pittsburghers of color are more likely to live in areas eligible for Department of Housing and Urban Development (HUD) CDBGs, which is often used as a proxy for communities with the highest development needs.[24] Black communities were also less likely to be assessed as "high *market strength*" by the URA's Market Value Analysis (MVA) tool, and typically showed a greater percent of their *parcels rated in "poor condition" or worse*. For example, 2.1 percent of parcels in majority-white census tracts are considered to be in poor or worse condition compared to 6.5 percent of parcels in majority-black tracts. Neighborhood blight has been found to impact physical and mental health outcomes, economic development opportunities, and overall community wellbeing.[25]

Transportation
Topic equality score: 85

Figure 20. Transportation Indicator Scores
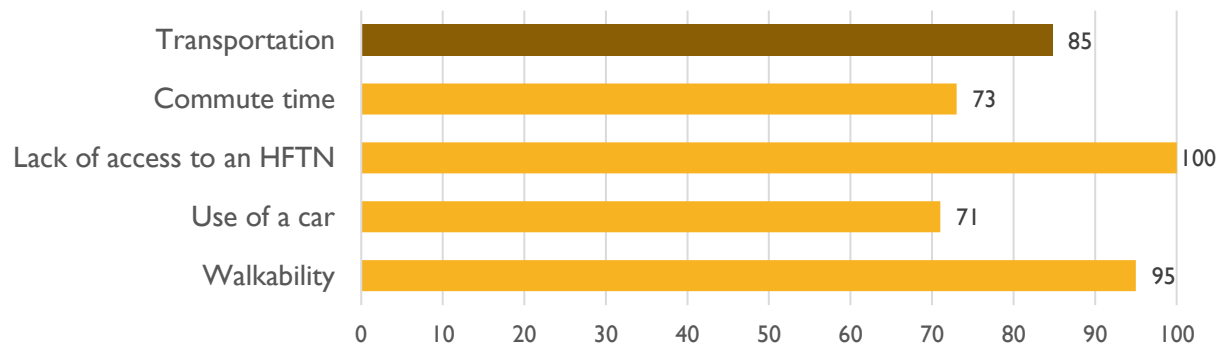
Of all topics in **Housing, Transportation, Infrastructure, and Environment** (and of all topics assessed for the Pittsburgh Equity Indicators effort) indicator scores are highest in *Transportation*, which had an equality score of 85. While black Pittsburghers had longer *commute times* on average than their white counterparts and lower rates of reported *car usage* (a proxy for car ownership), black communities also did not experience a *lack of HFTN* (i.e., transit routes that serve a stop at least every 15 minutes) in their census tracts to the same degree as white communities (Only 10.8 percent of black Pittsburghers live in a census tract without any HFTN compared to 14.0 percent of white Pittsburghers.). While inequality in access to HFTNs still exists between subgroups, because the disparity is reversed relative to typical patterns of inequity, this indicator received an equality score of 100. The relatively high topic-level score for *Transportation* is also influenced by a *walkability* score of 95, indicating that black and white communities benefit relatively equally from Pittsburgh's generally pedestrian-friendly urban spaces.[26]

Environment and sustainability
Topic equality score: 83

Figure 21. Environment and Sustainability Indicator Scores
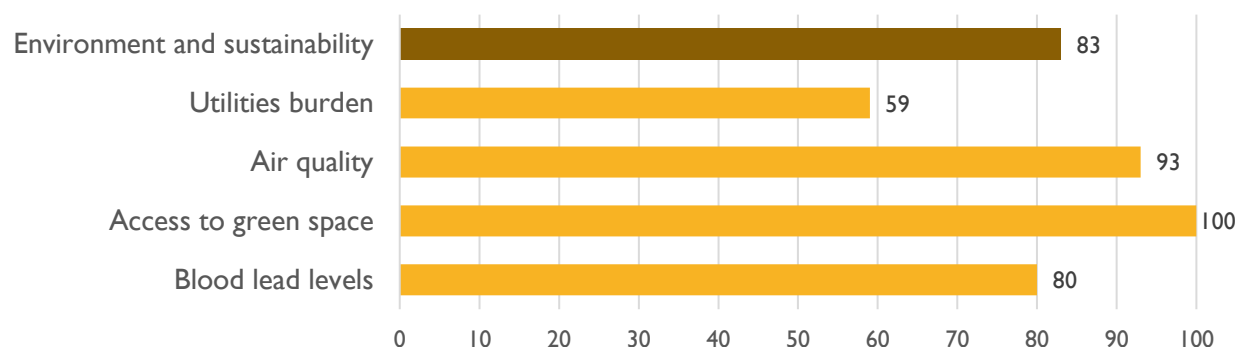
Environment and sustainability had the second highest equality score of all topic areas in the Equity Indicators framework at 83. This score was influenced by an indicator-level equality score of 100 for *access to green space,* since a greater percentage of black residents than white residents have a park,

wooded area, or greenway less than one-quarter mile from their census tract (93.5 percent and 91.0 percent, respectively). While the *access to green space* indicator did not account for the quality of parks, playgrounds, trails, or other green spaces in the city, analyses showed that access is generally very high in the city as a whole. Analyses also revealed that moderately poor *air quality* is generally equitably distributed across census tracts in the city, though a block-level analysis tells a story of greater disparity for wider Allegheny County (detailed in Appendix E). While testing for *blood lead levels* was relatively rare at the time of data collection, analyses showed slight differences by race, and these disparities will continue to be assessed as universal blood lead testing goes into effect in Allegheny County in 2018.[27] The greatest inequities were found with respect to *utilities burden*, with black families paying a much higher percent of their income on utilities than white families, and indicating there is work to be done to ensure that energy efficiency programming is appropriately targeted.

Civic Engagement and Communications
Domain equality score: 65

Figure 22. Civic Engagement and Communications Topic Scores
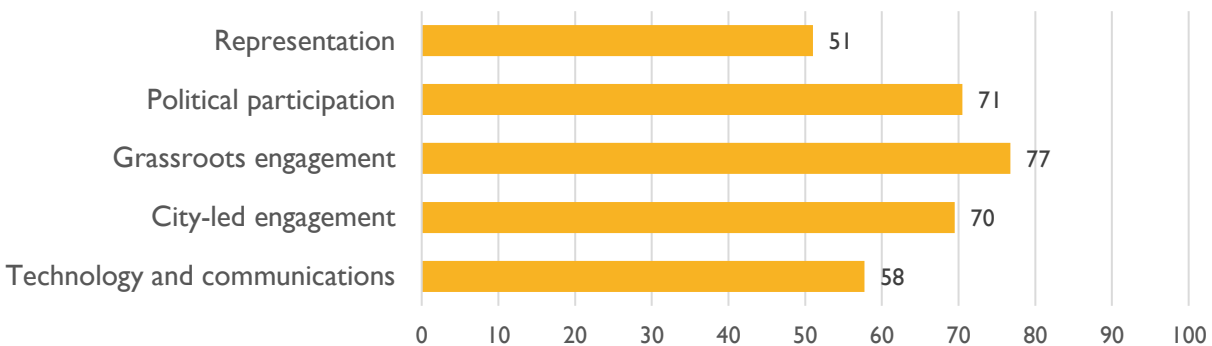
Civic Engagement and Communications is the domain of Pittsburgh's Equity Indicators framework that has the highest equality score, though there is room for improvement in each of the five topic areas that comprise this domain: ***Representation, Political participation, Grassroots engagement, City-led engagement,*** and ***Technology and communications.*** **Civic Engagement and Communications** includes indicators that assess gaps in rates of employment by race and gender in several sectors, including local government, the police force, and social services occupations. This domain also examines the extent to which subpopulations in the city participate in volunteer efforts, have access to neighborhood cleanup and civic engagement programming, as well as the degree to which there is equal access to information and technology, including libraries, internet, computers, and smartphones.

Representation
Topic equality score: 51

Figure 23. Representation Indicator Scores
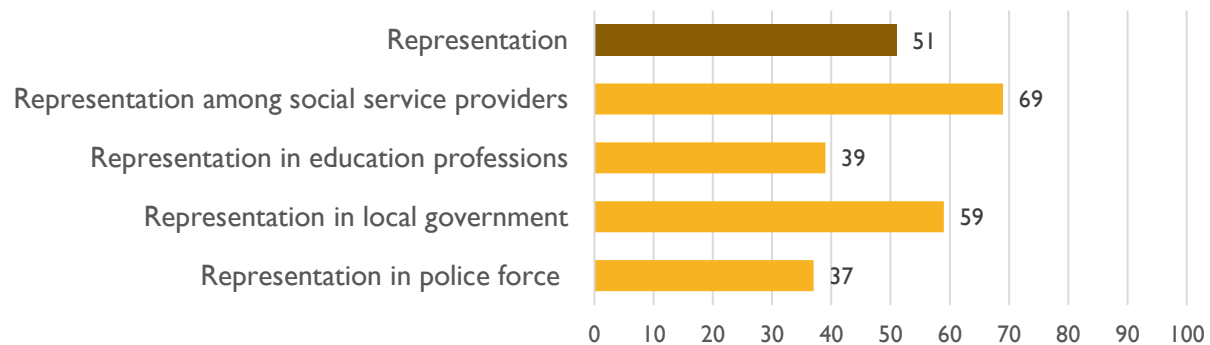
With an equality score of 51, Pittsburgh exhibits significant inequality in the ***Representation*** topic**.** This score was impacted by very low rates of black Pittsburghers employed in *education* professions and in the city's *police force* relative to rates in the working white population. In 2015, the most recent data available, there were 118 black Pittsburgh Police officers and 776 white officers. Representation is slightly better in *social service professions*, though the relatively low-paying careers that fall into this sector may partially explain income disparities by race citywide. Representation in social service sectors and law enforcement is important to ensure that there is not a "racial mismatch" between service users and constituents (described in other domains of the Equity Indicators framework) and providers.[28] Finally, municipal personnel data revealed gender inequity in those employed in *local government*. To address this, City Council passed legislation to appoint a Gender Equity Commission in December 2016 to analyze and devise solutions to gender bias in city government and citywide.[29]

Political participation
Topic equality score: 71

Figure 24. Political Participation Indicator Scores
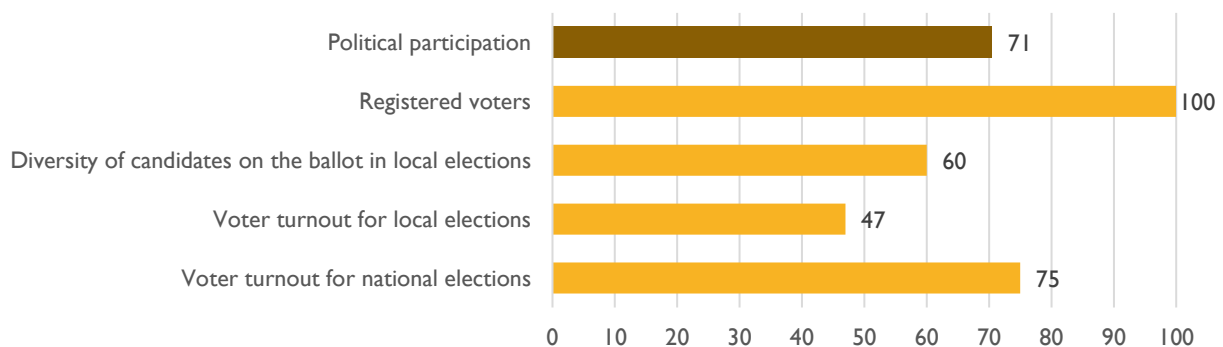
Political participation indicators (topic equality score = 71) show less disparity than many of the other topic areas in the framework. Analyses in this topic revealed that low gender diversity in local government may start with the ballot, as women were not as well-represented as men on *ballots in the most recent local elections*. While there was unequal *voter turnout* in low- and high-income neighborhoods in the most recent local and national elections, *voter registration* in the county is actually higher among

black residents than white residents (85.8 percent of black residents in Allegheny County were registered to vote compared to 83.4 percent of white residents), garnering an indicator-level equality score of 100 and lifting the overall topic score. Voting is a common metric of community engagement, and data in this topic area indicate that work may be needed to engage low-income communities in the political process.

Grassroots engagement
Topic equality score: 77

Figure 25. Grassroots Engagement Indicator Scores
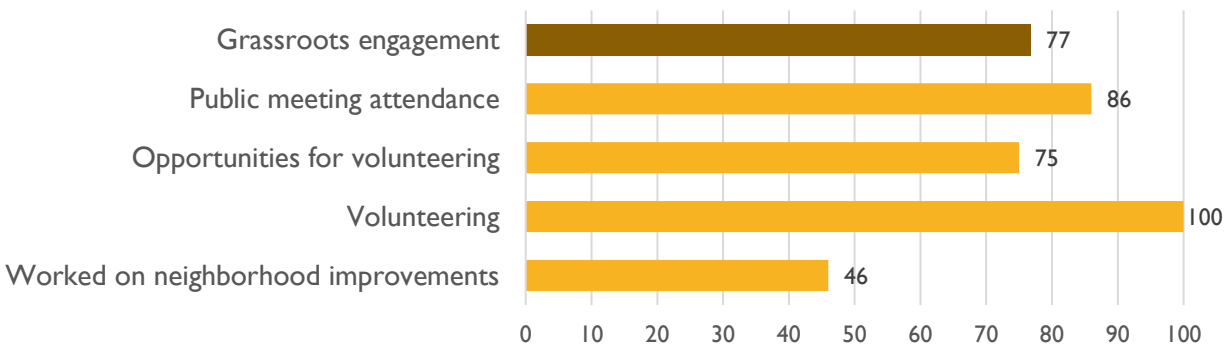
Lifted by higher reported rates of *volunteering* among black residents than white residents (27.6 percent and 25.4 percent, respectively), the ***Grassroots engagement*** topic area yielded the third-highest equality score among all 20 topics in the Pittsburgh Equity Indicators framework at 77. Census data also show that black and white county residents report similar rates of *public meeting attendance*, though the overall rate was low: Under 10 percent of all respondents reporting attending a public meeting in the last year. Similarly, there was low reported participation in "*working on neighborhood improvements*", which also showed greater inequality with a topic-level score of 46. Finally, *opportunities for volunteering* tracked by the City of Pittsburgh were not equitably distributed citywide, though the indicator-level score of 75 is relatively high compared to other topics in the framework. Future research should assess these indicators at smaller geographic scales (Census data are reported at the county level) and ensure that a greater variety of volunteering and community engagement activities can be captured.

City-led engagement
Topic equality score: 70

Figure 26. City-Led Engagement Indicator Scores
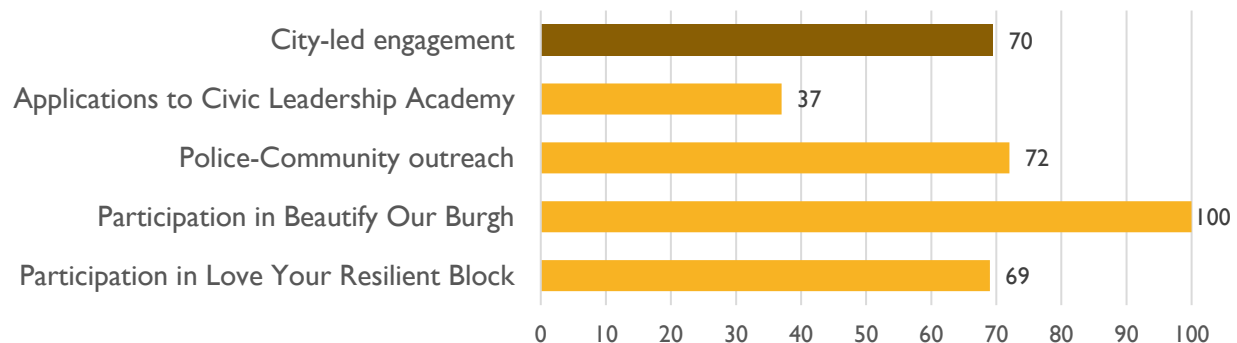
With an equality score of 70, *City-led engagement* shows room for improvement in encouraging interest from a diverse set of applicants for city programming, including the *Civic Leadership Academy* and *Love Your Resilient Block (LYRB)* minigrant program. The Pittsburgh Bureau of *Police outreach events* were also not equitably distributed citywide in 2017. On the other hand, black residents have greater access to *Beautify Our Burgh* programming (a neighborhood clean-up initiative) in their neighborhoods than white residents, leading to an equality score of 100 for this indicator. 18.2 percent of black residents live in a neighborhood with an established Beautify Our Burgh effort compared to 11.2 percent of white residents. Since joining Cities of Service in 2009, the City of Pittsburgh's Office of Community Affairs has been increasing civic engagement opportunities for residents and has relied on volunteers to execute a number of municipal strategies for addressing local challenges.[30] Striving for equitable participation in city-led civic engagement programming may help increase trust in government, strengthen community cohesion, and ensure that government is responsive to the needs of its constituents.[31]

Technology and communications
Topic equality score: 58

Figure 27. Technology and Communications Indicator Scores
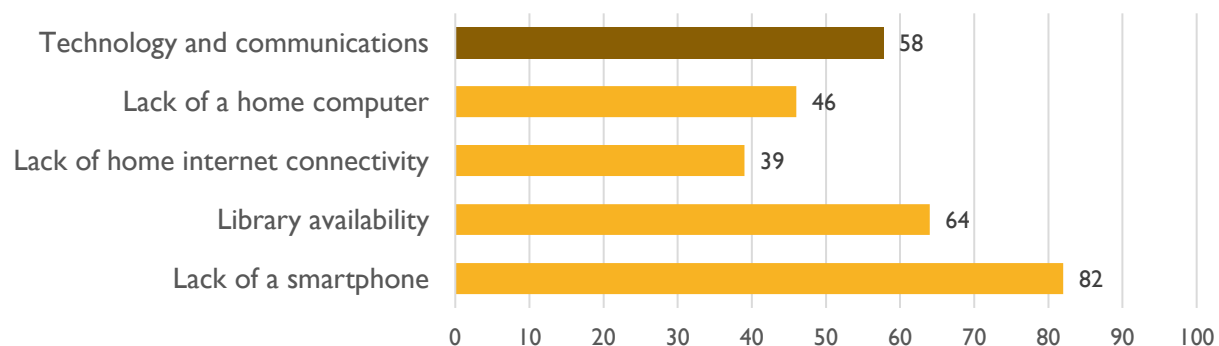
The *Technology and communications* topic shows that there is unequal in-home access to *internet*, *computers*, as well as unequal access to public information and technology resources at *public libraries*, as

reflected a topic-level equality score of 58. For example, 27.6 percent of black families do not have broadband internet at home compared to only 12.2 percent of white families. Consistent with national trends, there is slightly more equity in *lack of a smartphone,* though relying on mobile devices for access to the internet makes it difficult for students to complete their school work, and for adults to apply for jobs and take advantage of telecommuting options at some workplaces, for example.[32] 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.[33]

Conclusion

Pittsburgh's first comprehensive snapshot of inequity based on CUNY ISLG Equality Indicators methodology highlights that the city's population experiences some significant disparities in outcomes, measured in terms of access to resources and opportunities as well as in outcomes. This summary shows that the gap between black and white residents (or between other comparison groups) is particularly evident in health and public safety, housing affordability and stability, income and poverty, and infrastructure quality and neighborhood composition, all of which have been identified as high priority areas for additional investment by city and regional policymakers and stakeholders. The summary also reveals that the city is doing comparatively better in terms of equal access to transportation and civic engagement opportunities. However, it could be argued that the rates of access or participation for all city residents are nevertheless too low in these sectors, which would still demand further investment.

Overall, Pittsburgh's 2017 indicators paint a picture of a city with substantial room for improvement. These indicators, and the underlying metrics and data sources used to support them, can serve as a tool to track the city's progress over time towards improved opportunities and outcomes for all city residents. As a starting point, this process will be repeated using 2018 data to evaluate year to year changes. Interested readers should also review Appendix E below, which provides substantially greater detail about each indicator including the underlying data or rates used to generate the scores as well as further discussion and interpretation.

Appendix A: Data Sources

Allegheny County Department of Human Services*

Allegheny County Department of Human Services, Quick Count

Allegheny County Health Department DASH data 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 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, Civic Leadership Academy application data*

City of Pittsburgh, Love Your Resilient Block application data*

City of Pittsburgh, Office of Management and Budget***

City of Pittsburgh, Police Bureau, Department of Public Safety (Police-community outreach)***

City of Pittsburgh, Police Bureau, Department of Public Safety (Use of force report)***

City of Pittsburgh, Volunteer Project Tracking*

Current Population Survey: Food Security Supplement**

Current Population Survey: Unbanked/Underbanked Supplement**

Current Population Survey: Volunteer Supplement**

Current Population Survey: Voting and Registration 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 (NEDSS)*

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 (LEHD) program; Quarterly Workforce Indicators

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

Appendix B: Indicators and Definitions

Domain	Topic	#	Indicator	Indicator definition
Health, Food, and Safety	Access and prevention	1	Lack of health insurance	Ratio of percentages of blacks and whites without any health insurance.
		2	Access to primary care facilities	Ratio of percentages of whites and blacks with a primary care facility in their census tract.
		3	SNAP participation	Ratio of percentages of black and white households that participate in the federal SNAP.
		4	Very low food security	Ratio of percentages of blacks and whites reporting very low food security.
	Health status and outcomes	5	Heart attack hospitalizations	Ratio of 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 percentages of residents with type 2 diabetes in low-income and high-income census tracts.
		8	Hypertension	Ratio of 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 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	Disproportionality in use of force explained by disproportionality in arrests by race.
		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 child care center in their neighborhood.
		22	Public school capture	Ratio of school capture rates in highest percent white and highest percent black 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 school year in highest percent black and highest percent 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 Pittsburgh Public School students' suspension rates.
Employment	29	Employment in high-paying sectors	Ratio between percentages of whites and blacks employed In high-demand, high-paying occupations (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 percentages of blacks 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 percentages of blacks and whites without a checking or savings account.
	38	Median household income	Ratio of 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 percentages of blacks and whites living below the poverty line.

<div style="writing-mode: vertical">Housing, Transportation, Infrastructure, and Environment</div>

Housing affordability and stability	41	Home loan approvals	Ratio of percentages of black and white applicants who applied for and were denied loans for home purchases.
	42	Home ownership	Ratio of percentages of higher-income and lower-income residents who are homeowners.
	43	Housing cost burden for renters	Ratio of percentages of lower-income and higher-income residents paying more than 30% of their annual income on rent.
	44	Homelessness	Ratio of rates of blacks and whites utilizing 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 project budgets 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 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 CDBGs.

		52	Racial segregation index	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.
	Transportation	53	Commute time	Ratio of black and white Pittsburghers' average commute times.
		54	Lack of access to a high-frequency transit network	Ratio of percentages of white and black Pittsburghers living in census tracts with no HFTN during rush hour.
		55	Use of a car	Ratio of percentages of 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 blacks' and whites' utilities costs relative to annual income.
		58	Air quality	Ratio of percentages of majority-black and majority-white census tracts with annual average PM2.5 values of above 12.0.
		59	Access to green space	Ratio of percentages of white and black residents living within 1/4 mile of a green space.
		60	Blood lead levels	Ratio of average childhood blood lead level (BLL) of children tested 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	Registered voters	Ratio of percentages of whites and blacks who are registered to vote.
		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	Public meeting attendance	Ratio of percentages of whites and blacks who attended any public meetings in the last year.
		70	Opportunities for volunteering	Ratio of percentages of white and black Pittsburghers who have access to organized volunteer opportunities in their neighborhoods.
		71	Volunteering	Ratio of percentages of whites and blacks who volunteered in the last year.
		72	Worked on neighborhood improvements	Ratio of percentages of whites and blacks who worked with their neighbors on a neighborhood volunteer project.
	City-led engagement	73	Applications to Civic Leadership Academy	Ratio of representativeness of white and black applicants to the city's Civic Leadership Academy program.
		74	Police-Community outreach	Ratio of the average number of community outreach events organized or attended by Pittsburgh Police in majority-white and majority-black census tracts.

	75	Participation in Beautify Our Burgh	Ratio of percentages of white and black Pittsburghers whose neighborhoods have an organized Beautify Our Burgh effort.
	76	Participation in Love Your Resilient Block	Ratio of percentages of white and black Pittsburghers who live in a neighborhood that applied for a Love Your Resilient Block minigrant.
Technology and communications	77	Lack of a home computer	Ratio of percentages of black and white households who do not have a computer at home.
	78	Lack of home internet connectivity	Ratio of percentages of black and white households who do not have high-speed Internet at home.
	79	Library availability	Ratio of percentages of white and black Pittsburghers who live in a neighborhood with a public library.
	80	Lack of a smartphone	Ratio of percentages of blacks and whites who do not have a smartphone.

Appendix C: Technical Notes on Indicator Calculations

#	Indicator	Technical notes
1	Lack of health insurance	The 2016 ACS, 1-Year Estimates were used to find data about residents with or without health insurance.
2	Access to primary care facilities	The most recent data on the location of primary care facilities was collected in 2014.
3	SNAP participation	The 2016 ACS, 1-Year Estimates were used to find data about residents' use of SNAP.
4	Very low food security	Data about the food security of residents was found using the 2016 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 are from 2014.
6	Opioid overdose deaths	The data for this indicator cover the period of October 2016 to September 2017. Data are reported for low- and high-income neighborhoods, which are defined as neighborhoods where the median income is in the bottom 20% and top 20% of Pittsburgh's income distribution. Neighborhood median income was calculated using data on census tracts within the borders of those neighborhoods. Additionally, these data only refer to neighborhoods that experienced greater than 4 deaths due to opioid overdose during this period. Data are masked for neighborhoods experiencing 1-4 opioid deaths.
7	Diabetes	Data on diabetes diagnoses are 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% of the county's insured population. 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 are from 2015.
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 are 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% of the county's insured population. 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 are from 2015.
9	Infant mortality	Information about infant mortality is from the Pennsylvania Death Certificate dataset for 2016.
10	Low birth weight	Pennsylvania Department of Health keeps track of live birth data, including birth weight. The data for this indicator are from 2015.
11	Asthma 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 are from 2014.
12	Association with the child welfare system	The data for this indicator cover the period of the 2017 calendar year (January through December).
13	Arrests	The data for this indicator cover the period of October 2016 to September 2017.

14	Use of force	The Pittsburgh Bureau of Police's use of force report uses a formula that divides the ratio of expected black-to-white Subject Resistance Report (SRR) rates based only on arrest disproportionality by the ratio of black-to-white SRR rates actually observed in order to determine the fraction of racial disproportionality in arrests not explained by differential arrest involvement. In this way, the use of force indicator controls for differences in arrest rates by race. Other metrics used for the Pittsburgh Equity Indicators do not utilize these techniques to control for factors beyond subgroup membership that may influence disparities. Data are from 2015.
15	Currently incarcerated population	The data for this indicator cover the period of October 2016 to September 2017.
16	Multiple incarcerations	The data for this indicator cover the period of October 2016 to September 2017.
17	Domestic violence	The Pennsylvania Uniform Crime Reporting System collects monthly data concerning domestic violence. The data for this indicator cover the period of October 2016 to September 2017.
18	Homicides	The Pennsylvania Uniform Crime Reporting System collects monthly data concerning homicides. The data for this indicator cover the period of October 2016 to September 2017.
19	Property crime victimization	Includes charges of Burglary, Theft/Larceny, Motor Vehicle Theft, Arson, and Vandalism. Data are from 2017.
20	Traffic accidents involving bikes or pedestrians	One limitation of this dataset is that an accident is only recorded if a police report is made, therefore the data does 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 due to shared infrastructure knowledge, meaning that many cyclists and pedestrians may avoid the more commonly known dangerous routes due to knowledge of existing dangers. Analysis excluded crashes in the Central Business District (Downtown Pittsburgh). Data are from 2016.
21	Access to quality child care	"Quality child care" is defined as child care facilities that achieved a Keystone STAR rating of 3+ in 2017. 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.
22	Public school capture	School-level indicators use school demographic data to compare the highest percent black and highest percent white schools in PPS. The universe of public schools for the capture rate indicator does not include charter or alternative schools. Data are from the 2016–2017 school year.
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 Pittsburgh Public School district continuously since at least the beginning of 9th grade. • Be a resident of the City of Pittsburgh continuously since at least the beginning of 9th grade. • Graduate with a minimum cumulative, unweighted grade point average of 2.5 • Graduate with a minimum attendance record of 90% Students who do not meet one of these requirements may appeal and be granted eligibility in certain cases. Data are from 2017.
24	Student stability	School-level indicators use school demographic data to compare the highest percent black and highest percent white schools in PPS. Data are from the 2016–2017 school year.

25	Reading at grade level (third grade)	Reading proficiency of third graders was determined based on PPS PSSA data from 2017.
26	Five-year high school graduation	The five-year graduation rate includes 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 are from 2017.
27	Pittsburgh Promise Scholar college graduation rates	Data about Pittsburgh Promise Scholar college graduation rates are for the Class of 2012 and count those who graduated from college within five years (by May 2017) of graduating from high school.
28	Suspension	Suspensions in PPS are for the period of 2016–2017.
29	Employment in high-paying sectors	Median salary data was obtained from the American Community Survey 1-Year Estimates and "management, business, science, and arts" was selected as the highest paying cluster of sectors in the dataset. Specific occupations in these sectors include: computer; education; architecture and engineering; life, physical, and social sciences; business and financial; management occupations Other sector clusters include "Service occupations", "Sales and office occupations", "Natural resources, construction, and maintenance occupations", and "Production, transportation, and material moving occupations". Data are from 2016.
30	Job turnover	Job turnover was determined using data from the U.S. Census Bureau, Center for Economic Studies, LEHD and Quarterly Workforce Indicators for 2015.
31	Labor force participation	The 2016 ACS, 1-Year Estimates were used to find data about labor force participation.
32	Unemployment	The 2016 ACS, 1-Year Estimates were used to find data about unemployment rates.
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 Section 2). Data are from 2015.
34	Business ownership	Business ownership was determined using the "class of worker" (COW) 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 are from 2016.
35	CTE enrollment	STEM-related programs offered in PPS include: Engineering, Health Careers, Info Tech, Multimedia Production And Coding (M-PAC), Finance, RHVAC, Carpentry, Emergency Response Technology, Business Administration, Sports & Entertainment (B.A.S.E.), Auto Body, Auto Tech, and Machine Operations. Program and class offerings differ by school. Data are from the 2017-2018 school year.
36	Low educational attainment	The 2016 ACS, 1-Year Estimates were used to find data about educational attainment.
37	Use of banking services	Data about residents' use of banking services was found using the 2015 Current Population Survey Unbanked/Underbanked Supplement.
38	Median household income	The 2016 ACS, 1-Year Estimates were used to find data about median household income.
39	Below middle class	Area median income by household size was obtained from the American Community Survey 1-Year Estimates. Using a Pew Research Center[34] 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 classify each respondent based on household size and household income variables into below middle class, middle class, or above middle class. Data are from 2016.
40	Poverty	The 2016 ACS, 1-Year Estimates were used to find data about poverty.

41	Home loan denials	The HMDA collects financial data from various sources to report data about home loan and mortgage approval and denials. The information for this indicator is from 2015.
42	Home ownership	The 2016 ACS, 1-Year Estimates were used to find data about home ownership.
43	Housing cost burden for renters	The 2016 ACS, 1-Year Estimates were used to find data about housing cost burden for renters.
44	Homelessness	The data for this indicator cover the period of October 2016 to September 2017 and includes all unduplicated individuals who utilized Allegheny County 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 selected monthly owner costs greater than 30 percent of household income (2015), or gross rent as a percentage of household income (2015) of greater than 30 percent. The 2016 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 was collected by the City of Pittsburgh Department of Finance and Allegheny County Department of Court Records.
47	Capital project budgets by location	Data on planned capital budget projects are updated as needed and published weekly. Data used for this indicator were updated November 11, 2017 and represent projects planned or implemented in the 2017 fiscal year.
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. Data are from 2016.
49	Market strength	The URA of Pittsburgh conducts MVA, which utilizes a variety of datasets to determine the market strength of individual census blocks within the city.[35] Market strength is calculated using cluster analysis, such that groups of census blocks 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 upon the average percent of populations living in census tract with an MVA cluster of A, B, or C ("high market value). The data for this indicator are from 2016.
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 data for this indicator are from 2016.
51	CDBG areas	The City of Pittsburgh tracks areas of Pittsburgh designated for HUD Community Development Block Grants. The data for this indicator is from 2017.
52	Racial segregation index	The racial segregation index chosen for the Equity Indicators is The Index of Dissimilarity,[36] 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 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 ACS Public Use Microdata Sample (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 HFTN	The Center for Neighborhood Technology (CNT) AllTransit maps track information about stops, routes, schedules, and frequency of service. The data used in this indicator are from 2017.
55	Use of a car	The 2016 ACS, 1-Year Estimates were used to find data about use of a car.
56	Walkability	The Allegheny County Walk Scores data for walkability were measured in 2014.
57	Utilities burden	The data about household utilities burden is from the U.S. Census Bureau 2015 American Housing Survey data.
58	Air quality	Data on PM2.5 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 researchers between 2011 and 2014 using a mobile air quality laboratory. Air quality data was 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 was mapped to census blocks, and blocks were categorized into majority black or majority white using data from the IPUMS National Historical Geographic Information System.[37]
59	Access to green space	Spatial analysis of green space access defines green space is here 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 which has slope of less than or equal to a 5% grade and is accessible via a path or road. Data are from 2016.
60	Blood lead levels	Universal childhood blood lead testing will begin in Allegheny County in 2018. We will use a new data source for BLL for future rounds of analysis for the Equity Indicators. Data for this reporting year are from 2012–2016.
61	Representation among social service providers	The 2011–2015 ACS, 5-Year Estimates were used to find data about representation in social services. These were the most recent estimates available for Pittsburgh and disaggregated by race.
62	Representation in education professions	The 2011–2015 ACS, 5-Year Estimates were used to find data about representation in education professions. These were the most recent estimates available for Pittsburgh and disaggregated by race.
63	Representation in local government	The information about local government officials, including city and county officials, used for this indicator is based on municipal personnel data reported to Pennsylvania Department of Community & Economic Development for 2017.
64	Representation in police force	The most recent available data about Pittsburgh Bureau of Police personnel by rank, gender, and race were from 2015.
65	Registered voters	Data about residents who are registered to vote were found using the 2016 Current Population Survey Voting and Registration Supplement.
66	Diversity of candidates on the ballot in local elections	Ability to find demographic information about all candidates on the ballot was limited. Due to 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 excludes Judges of Election and Inspectors of Election due to lack of available demographic data. Data are from 2017.
67	Voter turnout for local elections	Voter turnout data are available at the precinct level, which do not align cleanly with census tracts. In order to assign voter turnout data to census tracts we • Determined what percent of the area of a census tract falls inside a given precinct. • Determine the percent 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 are from 2017.
68	Voter turnout for national elections	Voter turnout data are available at the precinct level, which do not align cleanly with census tracts. In order to assign voter turnout data to census tracts we • Determined what percent of the area of a census tract falls inside a given precinct. • Determine the percent 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 are from 2016.
69	Public meeting attendance	Data about residents who attend public meetings were found using the 2015 Current Population Survey Volunteer Supplement.
70	Opportunities for volunteering	The City of Pittsburgh Department of Public Works tracks the number of organizations and volunteer ranges for each by neighborhood based on data reported to the department. The data used for the indicators were from 2017.
71	Volunteering	Data about residents who volunteer were found using the 2015 Current Population Survey Volunteer Supplement.
72	Worked on neighborhood improvements	Data about residents who work on neighborhood improvements were found using the 2015 Current Population Survey Volunteer Supplement.
73	Applications to Civic Leadership Academy	Information about all individuals who applied for 2017 Civic Leadership Academy, including information about those accepted, was provided by the City of Pittsburgh Office of Community Affairs.
74	Police-Community outreach	The City of Pittsburgh Department of Public Safety and Pittsburgh Bureau of Police keep track of community outreach events attended by police. The data used for the indicators were from 2016.
75	Participation in Beautify Our Burgh	Information about Beautify Our Burgh groups by neighborhood and outreach method for 2017 was provided by the City of Pittsburgh.
76	Participation in Love Your Resilient Block	Location and information about LYRB project applications for 2017 was provided by the City of Pittsburgh.
77	Lack of a home computer	The 2016 ACS, 1-Year Estimates were used to find data about home computer availability.
78	Lack of home internet connectivity	The 2016 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.
80	Lack of a smartphone	Information on smartphone ownerships was collected in the 2016 ACS Public Use Microdata Sample (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: 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: Lawson V, Drummond J, DeWolf E, Bowling J, Zhang Q. *Equality Indicators: 2017 Annual Report* 2017. Available at:
http://equalityindicators.org/wp-content/uploads/2017/12/Equality-Indicators-Annual-Report-2017.pdf

Appendix E: Detailed Findings by Indicator

Health, Food, and Safety
Domain equality score: 43

Access and prevention
Topic equality score: 44

Indicator 1: Lack of health insurance

Equality score: 48

Indicator definition	Ratio of percentages of blacks and whites without any health insurance.
Results	Black: 6.0% (3,934 people) White: 3.3% (7,257 people) **Black-to-white ratio = 1.818, score 48**
Geography	City
Description of results and context	The percentage of black Pittsburghers without any health insurance was 6.0%, the highest among single racial and ethnic groups, followed closely by Asians (5.9%). Hispanic/Latino Pittsburghers had the highest proportion uninsured of any racial group (11.6%), while white residents had the lowest percentage of individuals of a single racial and ethnic group without any health insurance at 3.3%. Rates of those uninsured also varied by level of educational attainment, with the number of those uninsured decreasing as education increased. The pattern is similar across work experience, employment status, and ratio of income to poverty level. Overall, a small proportion of Pittsburghers are uninsured (4.3%). It is important to note that this data covers a period during which people may have enrolled in health insurance exchanges under the Affordable Care Act. With any change in health care policy related to the Affordable Care Act, we may see shifts in the number of uninsured people in the City of Pittsburgh.
Data source	ACS, 1-Year estimates, 2016

Indicator 2: Access to primary care facilities

Equality score: 69

Indicator definition	Ratio of percentages of whites and blacks with a primary care facility in their census tract.
Results	White: 55.1% (108,277 people) Black: 41.4% (30,369 people) **White-to-black ratio = 1.331, score 69**
Geography	City (census tract)
Description of results and context	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 (55.1% with) than black Pittsburghers (41.4% with). Asians were the most likely to have access to a primary care facility within their census tract (63.4% with). 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.[38]
Data source	Allegheny County Primary Care Access, 2014

Indicator 3: SNAP participation

Equality score: 23

Indicator definition	Ratio of percentages of black and white households that participate in the federal SNAP.
Results	Black: 41.1% (12,814 households) White: 9.0% (8,685 households) **Black-to-white ratio = 4.567, score 23**
Geography	City
Description of results and context	A larger percentage of black households in the City of Pittsburgh participate in the federal SNAP as compared to white households. SNAP is the federal nutrition program that helps low-income families pay for groceries (formerly called food stamps), and differential rates of SNAP participation reflect underlying economic disparities in a community. Comparing within households by racial and ethnic groups in the City of Pittsburgh, 41.1% of black households participated in SNAP while only 9.0% of white households participated in SNAP. Disparities by disability status are also stark: 32.1% of households where one or more people live with a disability participated in SNAP (9,852 of 30,686). In those households with no persons with a disability, 11.8% participated in SNAP (12,490 of 105,614). Of the total 136,300 households in the City of Pittsburgh, 16.4% participated in SNAP.
Data source	ACS, 1-Year estimates, 2016

Indicator 4: Very low food security

Equality score: 36

Indicator definition	Ratio of percentages of blacks and whites reporting very low food security.
Results	Black: 7.7% (5,636 people) White: 2.9% (5,609 people) **Black-to-white ratio = 2.655, score 36**
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, the percentage of black residents who reported **very low** food security (7.7%) (those reporting 5-8 food insecure conditions) was higher than that of white residents (2.9%). Similarly, the percentage of black residents who reported **low** food security (16.0%) (those reporting 2-4 food insecure conditions) was also higher than that of white residents (6.5%). Only 1.7% of Asians reported **very low** food security, and none reported **low** food security. The percentage of people who reported **high** food security also varied by educational attainment. As education increased so did the percentage of people with **high** food security.
Data source	Current Population Survey: Food Security Supplement, 2016

Health status and outcomes
Topic equality score: 68

Indicator 5: Heart attack hospitalizations

Equality score: 74

Indicator definition	Ratio of the rates of blacks and whites hospitalized for heart attack.
Results	Black: 18.9 (per 10,000 people) White: 15.4 (per 10,000 people) **Black-to-white ratio = 1.227, score 74**
Geography	County
Description of results and context	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. Combining both males and females of all ages, the rate for blacks per 10,000 people was 18.9 compared to 15.4 for whites. This trend was similar between genders as well: black men were hospitalized at a rate of 23.8 per 10,000 while white men were hospitalized at a rate of 21.1, and black women were hospitalized at a rate of 15.1 per 10,000 people while white women were hospitalized at a rate of 10.8. All rates across race and gender doubled or almost doubled when looking exclusively at the population of those aged

	35 and older. The rate of hospitalization for heart attack is higher for black Pittsburghers than for the United States population as a whole: in 2013, the national rate was 15.6 per 10,000.[39] Findings related to heart attack hospitalizations reflect underlying disparities in cardiovascular health between different populations in Pittsburgh.
Data source	Pennsylvania Department of Health, Division of Health Informatics; Enterprise Data Dissemination Informatics Exchange (EDDIE), 2014

Indicator 6: Opioid overdose deaths

Equality score: 48

Indicator definition	Ratio of opioid overdose death rates in low-income and high-income neighborhoods.
Results	Low-income neighborhoods: 205.8 (per 100,000 people) High-income neighborhoods: 113.7 (per 100,000 people) **Low-to-high ratio = 1.81, score 48**
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 reveals a disparity by neighborhood income level. Low-income neighborhoods, or neighborhoods where the median income falls in the bottom quintile (bottom 20%) of neighborhoods relative to Pittsburgh's overall median income, experienced a greater rate of opioid overdose deaths as compared to high-income neighborhoods, neighborhoods where the median income falls in the top quintile (top 20%). Low-income neighborhoods had a rate of 205.8 opioid deaths whereas high-income neighborhoods had a rate of 113.7 per 100,000 people living in those neighborhoods. Rates per 100,000 by racial and ethnic group indicate that white Pittsburghers experienced a higher rate of death due to opioid overdose than black Pittsburghers. The rate for whites is 104.8, whereas for blacks the rate is 73.6. Rates per 100,000 by gender indicate that males were more likely to die due to opioid overdose than females, with the rate for males at 126.6 and the rate for females at 47.4. 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.[40] Pennsylvania experienced a drug overdose rate of 37.9 per 100,000 from June 2016 to June 2017, while the national rate was 16.3 per 100,000.[41] 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.[42]
Data source	Allegheny County Department of Human Services, 2017

Indicator 7: Diabetes

Equality score: 72

Indicator definition	Ratio of percentages of residents with Type 2 diabetes in low-income and high-income census tracts.
Results	Low-income tracts: 10.5% (1,911 people) High-income tracts: 8.3% (3,089 people) **Low-to-high ratio = 1.265, score 72**
Geography	City (census tract)
Description of results and context	Low-income census tracts were home to a slightly larger percentage of individuals living with Type 2 diabetes (10.5%) than high-income census tracts (8.3%). Majority-black census tracts also had more residents living with Type 2 diabetes (11.1%) than majority-white census tracts (9.3%). Nationwide, approximately 7.2% of the population was diagnosed with diabetes nationwide (95% of those diagnoses are for type 2 diabetes), and prevalence increases in older age groups. Approximately 20.8% of people over 65 in the United States were diagnosed with diabetes.[43] Diabetes is a metabolic condition that puts people at risk for heart disease, eye conditions, and kidney disease, and can be expensive to treat.[44]
Data source	Allegheny County Health Department DASH data from Gateway Health Plan, Highmark Health, and UPMC Health Plan, 2015

Indicator 8: Hypertension

Equality score: 76

Indicator definition	Ratio of percentages of residents with hypertension in low-income and high-income census tracts.
Results	Low-income tracts: 22.3% (4,036 people) High-income tracts: 18.6% (6,890 people) **Low-to-high ratio = 1.199, score 76**
Geography	City (census tract)
Description of results and context	The percentage of residents with hypertension (high blood pressure) was greater in low-income census tracts than high-income census tracts: 22.3% of residents in low-income tracts were diagnosed with hypertension, whereas 18.6% of residents in high-income tracts have a diagnosis. Additionally, when examined by racial and ethnic group, the percentage of black residents with hypertension (22.9%) was greater than that of white residents (20.1%). The prevalence of hypertension calculated for census tracts in Pittsburgh is somewhat lower than national prevalence: 33.5% of people nationwide had measured high blood pressure or were taking medication for high blood pressure between 2013 and 2014.[45] Hypertension puts people at risk for heart attack, stroke, and other cardiovascular diseases.[46] 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.[47]
Data source	Allegheny County Health Department DASH data from Gateway Health Plan, Highmark Health, and UPMC Health Plan, 2015

Childhood health and wellbeing

Topic equality score: 24

Indicator 9: Infant mortality

Equality score: 24

Indicator definition	Ratio of infant mortality rates for black and white babies.
Results	Black babies: 14.9 (per 10,000 births) White babies: 3.3 (per 10,000 births) **Black-to-white ratio = 8.115, score 8**
Geography	County
Description of results and context	There is a large disparity between rates of infant mortality for black babies and white babies in Allegheny County. Infant mortality for black babies occurred at a rate of 14.9 per 10,000 births while the rate for white babies was 3.3. Put another way, of the 78 babies who died in Allegheny County, 38 of them (49%) were black. 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 14.0 per 10,000 compared to 4.8 per 10,000 for white babies.[48] This stark disparity suggests a need to intervene early with adequate prenatal care, risk monitoring systems, and other evidence-based interventions.[49]
Data source	Pennsylvania Death Certificate Dataset, 2016

Indicator 10: Low birth weight

Equality score: 38

Indicator definition	Ratio of percentages of black and white babies born with low birth weight.
Results	Black: 12.7% (326 people) White: 5.5% (523 people) **Black-to-white ratio = 2.309, score 38**
Geography	County
Description of results and context	A higher percentage of black babies in Allegheny County are born with low birth weight as compared to white babies. Across all races in 2015, 7.2% of babies were born with low birth weight. During the same period, 12.7% of black babies and 5.5% of white babies were born with low birth weight. Rates of low birth weight in Allegheny County are slightly lower than statewide rates, though the disparity exists in Pennsylvania as a whole: Between 2012 and 2016, 13.8% of black babies and 6.8% of white

	babies in Pennsylvania were born with low birth weight.[50] 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.[19]
Data source	Pennsylvania Department of Health Live Birth Data, 2015

Indicator 11: Asthma hospitalization rates

Equality score: 16

Indicator definition	Ratio of rates of black and white children, ages 0-17, hospitalized for asthma.
Results	Black: 37.2 (per 10,000 people) White: 6.2 (per 10,000 people) **Black-to-white ratio = 6, score 16**
Geography	County
Description of results and context	Black children, ages 0-17, were hospitalized for asthma at a significantly higher rate than white children. In Allegheny County, the overall rate of hospitalization for asthma in children was 9.1 per 10,000. The rate for black children was much higher at 37.2 and slightly lower for white children at 6.2 (per 10,000 people). For white children, this trend was similar between genders. However, a disparity existed between male and female black children. Black male children had the highest rate of hospitalization for asthma at a rate of 44.8 whereas black female children had a rate of 29.3 (per 10,000). 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.[51]
Data source	Pennsylvania Department of Health, Division of Health Informatics; EDDIE, 2014

Indicator 12: Association with the child welfare system

Equality score: 19

Indicator definition	Ratio of rates of black and white parents who are associated with a child welfare allegation, investigation or case.
Results	Black: 2,373.4 (per 100,000 people) White: 442.7 (per 100,000 people) **Black-to-white ratio = 5.361, score 19**
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. Disparities exist in rates of association with the child welfare system, with black parents experiencing a rate of 2,373.4 per 100,000 compared to a rate of 442.7 per 100,000

	for white parents. Rates for other racial/ethnic groups were also lower than for black parents at 1009.7 for Hispanics/Latinos and 241.1 for Asians. Male parents also had a higher rate of being associated with a child welfare case at a rate of 5,102.3 compared to the female rate of 1,589.5 (per 100,000). While an important indicator of child wellbeing, 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.[52] Allegheny County recently implemented a screening algorithm called the Allegheny Family Screening Tool in order to better assess risk and screen calls concerning child and family welfare. After 16 months of use, the tool has reduced the low-risk case load for caseworkers, helped screen in more high-risk calls, and increased consistency in treatment of black and white families.[53]
Data source	Allegheny County Department of Human Services, 2017

Policing and criminal justice
Topic equality score: 42

Indicator 13: Arrests

Equality score: 28

Indicator definition	Ratio of blacks' and whites' arrest rates.
Results	Black: 7,697.5 (per 100,000 people) White: 1,978.8 (per 100,000 people) **Black-to-white ratio = 3.89, score 28**
Geography	City
Description of results and context	The arrest rate for black Pittsburghers is considerably higher than that of white Pittsburghers. The arrest rate in the City of Pittsburgh was 3,307.64 per 100,000 people. In the same period, the arrest rate for black Pittsburghers was 7,697.5 whereas the arrest rate for white Pittsburghers was 1,978.8 (per 100,000 people). Males also had a much higher rate of arrest (5,102.3) than females (1,589.5). The overall rate for serious crimes, including violent and property crimes, such as homicide, rape, robbery, motor vehicle theft, and arson was 722.72 per 100,000 people. In the same period, the overall rate for less serious crimes, such as fraud, vandalism, disorderly conduct, and prostitution was 2331.59 (per 100,000 people). 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, incarcerated, and to receive more severe sentences for similar crimes than their white counterparts.[54]
Data source	Allegheny County Department of Human Services, 2017

Indicator 14: Use of force

Equality score: 91

Indicator definition	Disproportionality in use of force explained by disproportionality in arrests by race.
Results	Disproportionality in use of force between black and white subjects: 0.91 **Equality Score 91**
Geography	City
Description of results and context	The Pittsburgh Bureau of Police produced a report on the use of force in arrests that covered the period of 2010–2015 and included analysis of the use of force by race. The use of force report uses a formula that divides the ratio of expected black-to-white SRR rates based only on arrest disproportionality by the ratio of black-to-white SRR rates actually observed in order to determine **the fraction of racial disproportionality in arrests not explained by differential arrest involvement**. Therefore, the result that indicates the least amount of racial discrimination in use of force is 1.0, meaning that all differences in the number of times that force was used by race are **the same** as the differences in the number of arrests by race. The report demonstrated that disproportionality in use of force in arrests by race has been steadily decreasing in Pittsburgh since 2012 and is currently at its lowest rate. In this case, that means that the disproportionality in arrests, which was 0.91 in 2015, was the closest to 1.0 than it had been in the five years prior.
Data source	Pittsburgh Bureau of Police, 2015

Indicator 15: Currently incarcerated population

Equality score: 20

Indicator definition	Ratio of blacks' and whites' incarceration rates.
Results	Black: 2,606.5 (per 100,000 people) White: 521.1 (per 100,000 people) **Black-to-white ratio = 5.002, score 20**
Geography	City
Description of results and context	Black Pittsburghers were five times more likely to be incarcerated (2,606.5) than white Pittsburghers (521.1) per 100,000 people. Across all races, males were almost four times more likely to be incarcerated (1,594.0) than females (408.2) per 100,000 people. Many formerly incarcerated individuals struggle with finding employment after being released from jail.[55] 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.[20]
Data source	Allegheny County Department of Human Services, 2017

Indicator 16: Multiple incarcerations

Equality score: 27

Indicator definition	Ratio of rates of blacks and whites with multiple incarcerations.
Results	Black: 692.5 (per 100,000 people) White: 172.0 (per 100,000 people) **Black-to-white ratio = 4.026, score 27**
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 four times as likely to have multiple incarcerations (692.5) than white Pittsburghers (172.0) per 100,000 people. The trend of incarceration was also similar for multiple incarcerations between genders. Males were four times more likely to have multiple incarcerations (467.7) than females (105.1) per 100,000 people. 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.[56]
Data source	Allegheny County Department of Human Services, 2017

Public safety
Topic equality score: 44

Indicator 17: Domestic violence

Equality score: 28

Indicator definition	Ratio of blacks' and whites' family-related violence victimization rates.
Results	Black: 51.8 (per 100,000 people) White: 13.2 (per 100,000 people) **Black-to-white ratio = 3.924, score 28**
Geography	City
Description of results and context	The Pennsylvania Uniform Crime Reporting System publishes monthly data to track reported crimes, such as domestic violence. In the City of Pittsburgh, black Pittsburghers were almost four times more likely to be victims of family-related violence (51.8) than white Pittsburghers (13.2) per 100,000 people. Additionally, a disparity existed between the rate of reported female and male domestic violence victimization. Females were slightly more likely to be the victim of domestic violence (24.4) than males (18.1) per 100,000 people.
Data source	PA Uniform Crime Reporting System monthly data, 2017

Indicator 18: Homicides

Equality score: 1

Indicator definition	Ratio of blacks' and whites' homicide victimization rates.
Results	Black: 58.6 (per 100,000 people) White: 4.6 (per 100,000 people) **Black-to-white ratio = 12.739, score 1**
Geography	City
Description of results and context	There was a substantial disparity between the homicide victimization rates for black and white Pittsburghers. Black Pittsburghers were almost thirteen times as likely to be the victim of homicide (58.6) than white Pittsburghers (4.6) per 100,000 people. The homicide rate for black residents is only slightly lower than the overall 2015 homicide rate of St. Louis, MO (59.3 per 100,000), the city with the highest rate of homicide in the country.[57] The data collected also demonstrated a significant disparity between males and females who were the victims of homicide. Males were ten times as likely to be the victim of homicide (32.2) compared to females (3.8) per 100,000 people. The equality score for homicide rates is the lowest of all the indicators measured for this effort, indicating significant work to be done to close the gap between black and white Pittsburghers.
Data source	PA Uniform Crime Reporting System monthly data, 2017

Indicator 19: Property crime

Equality score: 71

Indicator definition	Ratio of blacks' and whites' property crime victimization rates.
Results	Black: 320.8 (per 10,000 people) White: 247.1 (per 10,000 people) **Black-to-white ratio = 1.298, score 71**
Geography	City
Description of results and context	The Pennsylvania Uniform Crime Reporting System monthly dataset 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 320.8 per 10,000 people, compared to a rate of 247.1. While a disparity was detected between racial and ethnic groups, there was a much smaller difference between property crime victimization between males and females. Females were only slightly more likely to be the victims of property crime (243.6) than males (239.0) per 10,000 people.
Data source	PA Uniform Crime Reporting System monthly data, 2017

Indicator 20: Traffic accidents involving bikes or pedestrians

Equality score: 75

Indicator definition	Ratio of traffic accidents per capita involving bikes or pedestrians in low-income and high-income census tracts.
Results	Low-income tracts: 99.2 (per 100,000 people) High-income tracts: 82.4 (per 100,000 people) **Low-to-high ratio = 1.204, score 75**
Geography	City (census tracts)
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 upon data from police reports. The data show that the rate of reported accidents was greater in low-income census tracts (99.2) than in high-income census tracts (82.4) per 100,000 people. Overall, rates of bicycle and pedestrian related traffic accidents in Pittsburgh were lower than for the other major city in the state. In 2016, Pittsburgh experienced an overall rate of 94.9 crashes per 100,000 while Philadelphia experienced a rate of 139.6 crashes per 100,000. 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

Education, Workforce Development, and Entrepreneurship
Domain equality score: 54

Educational opportunities
Topic equality score: 60

Indicator 21: Access to quality child care

Equality score: 55

Indicator definition	Ratio of percentages of whites and blacks with at least one high-quality child care center in their neighborhood.
Results	White: 24.0% (47,162 people) Black: 14.7% (10,783 people) **White-to-black ratio = 1.633, score 55**
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 child care center with a rating of 3 STARS (out of 4) or more is considered a high-quality center. In the City of Pittsburgh, access to a high-quality child care center was very low across racial and ethnic groups. 24.0% of white Pittsburghers and only 14.7% of black Pittsburghers had access to this type of quality child care within their neighborhood. Lack of access to quality child care may have an impact on

	early childhood development and success in pre-kindergarten. 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

Indicator 22: Public school capture

Equality score: 72

Indicator definition	Ratio of school capture rates in highest percent white and highest percent black schools.
Results	Highest percent white: 50.2% (205 students) Highest percent black: 39.5% (461 students) **White-to-black ratio = 1.271, score 72**
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. 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 from PPS showed that in elementary schools with the highest percentage of black students (e.g., Faison K-5), 39.5% of students attended the school that they were assigned to. This is compared to 50.2% of students attending their assigned school in elementary schools with the highest percentage of white students (e.g., Pittsburgh West Liberty K-5).
Data source	PPS, 2016–2017 school year

Indicator 23: Promise eligibility

Equality score: 71

Indicator definition	Ratio of white and black students' Pittsburgh Promise eligibility rates.
Results	White: 82.1% (519 students) Black: 63.2% (526 students) **White-to-black ratio = 1.299, score 71**
Geography	City
Description of results and context	The Pittsburgh Promise offers post-secondary scholarships to Pittsburgh Public School students who meet eligibility standards for attendance, grade point average, and residency. For the class of 2017, 82.1% of white students and 63.2% of black students were eligible for the Pittsburgh Promise scholarship. Within racial and ethnic groups, small disparities existed between males and females, with females more likely to be eligible for a scholarship: 85.6% of white females compared to 78.2% of white males and 66.1% of black females compared to 59.9% of black males. The Pittsburgh Promise has a goal of "Grow[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.[58]
Data source	Pittsburgh Promise Data, 2017

Indicator 24: Student stability

Equality score: 43

Indicator definition	Ratio of rates of students transferring at least once during the school year in highest percent black and highest percent white schools.
Results	Highest percent black: 11.4% Highest percent white: 5.9% **Black-to-white ratio = 1.932, score 43**
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 school year. During the 2016–2017 school year, a higher percentage of students transferred at least once during the school year from elementary schools that contained the highest percentage of black students (11.4%) as compared to a lower percentage of student transfers from elementary schools with the highest percentage of white students (5.9%). Consistency is especially important for building a strong foundation in a child's early education. Changing schools during a school year 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 school year

Student success and discipline
Topic equality score: 52

Indicator 25: Reading at grade level (third grade)

Equality score: 54

Indicator definition	Ratio of percentages of white and black PPS third graders who scored reading proficient or higher on state accountability assessments.
Results	White: 71.8% (356 students) Black: 43.3% (395 students) **White-to-black ratio = 1.658, score 54**
Geography	City
Description of results and context	State accountability assessment scores reveal significant inequality between white and black Pittsburgh Public School third graders. A larger percentage of white third grade students (71.8%) scored reading proficient or higher as compared to less than half of black third grader students in the same district (43.3%). 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 school year

Indicator 26: Five-year high school graduation

Equality score: 82

Indicator definition	Ratio of white students' and black students' five-year cohort graduation rates from .
Results	White: 84.2% (1,138 students) Black: 77.2% (1,043 students) **White-to-black ratio = 1.091, score 82**
Geography	City
Description of results and context	A small disparity exists between the percentages of white and black students' five-year graduation rates from PPS. The percentage of white students who graduated within five years was slightly higher (84.2%) than that of their black peers (77.2%). A similar disparity exists between male and female students, as well. A higher percentage of female students graduated within five years (84.0%) than their male peers (75.1%). Individuals who fail to complete high school earn significantly less than those who graduate, and have significantly higher unemployment rates.[59]
Data source	Pennsylvania Department of Education, 2017

Indicator 27: Pittsburgh Promise Scholar college graduation rates

Equality score: 38

Indicator definition	Ratio of rates of white and black Promise Scholars earning a two- or four-year degree within five years.
Results	White: 46.9% (211 students) Black: 19.3% (87 students) **White-to-black ratio = 2.43, score 38**
Geography	City
Description of results and context	In addition to monitoring the success of and administering scholarships to Pittsburgh Public School students, the Pittsburgh Promise also follows student success in college and other postsecondary schooling, including all eligible Promise Scholarship students who enrolled in and graduated from two- or four-year institutions within five years. (61.8% of Promise scholars enrolled in four-year bachelor's degree programs.) Within the class of 2012 Promise Scholars, a disparity existed between the percentage of white students (46.9%) who graduated from a two- or four-year post-secondary institution within five years as compared to their black student peers (19.3%). A smaller disparity also existed between female students and male students: 35.7% of females and 29.7% of males graduated within five years. 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.[60]
Data source	Pittsburgh Promise Data, 2017

Indicator 28: Suspension

Equality score: 35

Indicator definition	Ratio of black and white Pittsburgh Public School students' suspension rates.
Results	Black: 18.3% (2,253 students) White: 6.6% (442 students) **Black-to-white ratio = 2.773, score 35**
Geography	City
Description of results and context	There is a disparity in the percentages of black and white students with a least one suspension in the school year. A higher percentage of black Pittsburgh Public School students (18.3%) as compared to white students (6.6%) were suspended from school at least once during the school year. Suspensions have been shown to negatively impact students' academic achievement and graduation rates.[61] In December 2017, the PPS School Board voted to institute a moratorium on suspensions of kids in pre-K through second grade.[62]
Data source	PPS, 2016–2017 school year

Employment
Topic equality score: 56

Indicator 29: Employment in high-paying sectors

Equality score: 56

Indicator definition	Ratio of percentages of whites and blacks employed in high-demand, high-paying occupations (in management, business, science, and arts).
Results	White: 53.7% (60,968 people) Black: 33.2% (9,165 people) **White-to-black ratio = 1.617, score 56**
Geography	City
Description of results and context	The U.S. Census Bureau's occupation category, "Management, business, science, and arts occupations" 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.[63] About half of white Pittsburghers (53.7%) compared to approximately a third of black Pittsburghers (33.2%) were employed in these high-demand, high-paying occupations. These disparities have impacts on earnings by race: The median annual salary for these occupations was $52,333 for men (and only $44,492 for women,

	reflecting a gender disparity within these sectors). Similarly, men in service occupations earned $23,861 annually at the median, while women earned $16,175 per year.
Data source	ACS 1-Year Estimates, 2016

Indicator 30: Job turnover

Equality score: 54

Indicator definition	Ratio of blacks' and whites' job turnover rates.
Results	Black: 12.4% White: 7.5% **Black-to-white ratio = 1.654, score 54**
Geography	County
Description of results and context	Quarterly job turnover rates illustrate the stability or lack of stability of employment in the City of Pittsburgh. Instability in employment can have a spillover effect on other important indicators of economic wellbeing, such as paying for housing and food security. Differences in the average annual quarterly job turnover rate show that black Pittsburghers changed jobs (turnover rate of 12.4%) more frequently than their white peers (turnover rate of 7.5%). In addition, Asian Pittsburghers had a quarterly job turnover rate of 9.2%. 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.[64]
Data source	U.S. Census Bureau, Center for Economic Studies, LEHD program; Quarterly Workforce Indicators, 2015

Indicator 31: Labor force participation

Equality score: 73

Indicator definition	Ratio of whites' and blacks' labor force participation rates.
Results	White: 67.6% (123,659 people) Black: 53.8% (31,145 people) **White-to-black ratio = 1.257, score 73**
Geography	City
Description of results and context	Labor force participation is the percent of people 16 or older in a population who are employed. Labor force participation varied by racial and ethnic groups, as well as relationship to the poverty level. Approximately two thirds of white Pittsburghers (67.6%) and just over half of black Pittsburghers (53.8%) participated in the labor force. Greater disparity existed in labor force participation between those below the poverty level (51.9%) and those at or above the poverty level (86.0%). In general, Pittsburgh's overall labor participation rate is slightly higher than that of the United States (63.6% in Pittsburgh compared to 63.1% in the United States in 2016).[17]
Data source	ACS, 1-Year estimates, 2016

Indicator 32: Unemployment

Equality score: 40

Indicator definition	Ratio of blacks' and whites' unemployment rates.
Results	Black: 11.4% (6,600 people) White: 5.4% (9,615 people) **Black-to-white ratio = 2.111, score 40**
Geography	City
Description of results and context	The unemployment rate for black Pittsburghers (11.4%) was more than twice the rate of unemployment for white Pittsburghers (5.4%). Rates by relationship to the poverty level demonstrated a much larger disparity between those Pittsburghers below the poverty level (24.3%) and those at or above the poverty level (3.3%). The unemployment rate does not include those individuals who are not currently looking for work or have left the labor force. Extended unemployment has been found to have economic, social, and health impacts.[22]
Data source	ACS, 1-Year estimates, 2016

Entrepreneurship and workforce development
Topic equality score: 61

Indicator 33: Loans to small businesses

Equality score: 79

Indicator definition	Ratio of number of small business loans per capita issued in majority-white and majority-black census tracts.
Results	Majority-white tracts: 22.0 (per 1,000 people) Majority-black tracts: 19.6 (per 1,000 people) **White-to-black ratio = 1.122, score 79**
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 business 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 (22.00 per 1,000 people) than majority-black census tracts (19.60 per 1,000 people). The disparity between small business loans issued per capita was greater between low-income census tracts (16.8 per 1,000 capita) and high-income census tracts (25.8 per 1,000 capita). 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	FFIEC CRA Aggregate Reports, 2015

Indicator 34: Business ownership

Equality score: 45

Indicator definition	Ratio of whites' and blacks' business ownership rates.
Results	White: 1.7% (3,573 people) Black: 0.9% (658 people) **White-to-black ratio = 1.889, score 45**
Geography	City
Description of results and context	The ACS PUMS data categorizes business owners as the class of worker who report 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 those of different racial and ethnic groups, sexes, and citizenship status. Between racial and ethnic groups, black Pittsburghers are the least likely to be business owners at 0.9% of respondents, followed by white Pittsburghers at 1.7%, and Asian Pittsburghers were most likely to be business owners at 3.3%. Females (1.2%) were less likely than males (2.0%) to be businesses owners. Those Pittsburghers who were foreign-born were the most likely to own a business (5.9%) as compared to those born in the U.S. (1.5%). 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 well-being.[23]
Data source	ACS PUMS data, 2016

Indicator 35: CTE enrollment

Equality score: 59

Indicator definition	Ratio of male and female students' participation rates in STEM-related CTE courses or programs.
Results	Male: 60.4% (307 students) Female: 39.6% (201 students) **Male-to-female ratio = 1.525, score 59**
Geography	City
Description of results and context	Science, Technology, Engineering, and Math (STEM)-related CTE is a growing field of programming across the U.S. Students at PPS can participate in multiple STEM-related CTE programs, including Engineering, Health Careers, Information Technology, M-PAC, and Finance. In PPS, there is a disparity in the representation of male (60.4%) and female (39.6%) students who participated in these courses and programs. This gap is illustrated in the data for specific programming: there are four times as many male students enrolled in Engineering programming as female students. 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 school year

Indicator 36: Low educational attainment

Equality score: 60

Indicator definition	Ratio of percentages of black and white city residents who do not have any post-secondary education (high school degree or lower).
Results	Black: 45.7% (21,244 people) White: 30.3% (43,485 people) **Black-to-white ratio = 1.508, score 60**
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. While more than half of black residents attended some college or pursued further post-secondary education (54.3%), a significant percentage attained a high school degree or lower (45.7%). On the other hand, more than two thirds of white Pittsburghers attended some college or pursued further post-secondary education (69.7%) with a far lower percentage had a high school degree or less (30.3%).
Data source	ACS, 1-Year estimates, 2016

Income and poverty
Topic equality score: 42

Indicator 37: Lack of use of banking services

Equality score: 15

Indicator definition	Ratio of percentages of blacks and whites without a checking or savings account.
Results	Black: 17.7% (5,482 people) White: 2.8% (12,977 people) **Black-to-white ratio = 6.321, score 15**
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 wellbeing. Black Pittsburghers were significantly unbanked or underbanked (17.7%), without a checking or savings account, as compared to their white peers (2.8%). The disparity is smaller between males and females. Females were slightly less likely to not have a checking or savings account (4.1%) than their male peers (4.4%). In addition, lack of a checking or savings account decreased as

	educational attainment increased, with only 0.8% of those with a bachelor's degree or higher without a checking or savings account.
Data source	Current Population Survey: Unbanked/Underbanked Supplement, 2015

Indicator 38: Median household income

Equality score: 40

Indicator definition	Ratio of the median annual income of white and black households.
Results	White: $54,366 Black: $26,853 **White-to-black ratio = 2.025, score 40**
Geography	City
Description of results and context	Significant inequality exists in the median annual income between white and black households in the City of Pittsburgh. White households had a median annual income of $54,366, which is just over twice that of black households at $26,853. Asian and Hispanic or Latino households were also less than that of white households at $34,385 and $37,490 respectively. A disparity also existed between single parent householders by gender: female single parent householders had a median annual income of $33,509 compared to $41,077 for male single parent householders. Nationwide, the median household income was $57,617 in 2016, higher than the median income for white Pittsburghers and significantly 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.[65]
Data source	ACS, 1-Year estimates, 2016

Indicator 39: Below middle class

Equality score: 69

Indicator definition	Ratio of percentages of black and white households whose income puts them below the threshold for middle class.
Results	Black: 73.4% (43,236 people) White: 55.6% (102,039 people) **Black-to-white ratio = 1.32, score 69**
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.[66] For a family of four in Pittsburgh, middle class families earn between $57,800 and $173,400 annually. Black households were more likely to be below this the threshold for middle class than white households. In black households, 73.4% were considered below middle class, compared to 72.1% of Asian households, and 55.6% of white households. Disparities by citizenship and disability status also exist. Of those Pittsburghers who

	were not U.S. citizens, 71.5% fell below the threshold, while 60.1% of those born in the U.S. fell below the threshold for middle class. Pittsburghers without a disability (57.9%) were less likely to fall below the threshold for middle class than those Pittsburghers with a disability (73.5%).
Data source	ACS PUMS data, 2016

Indicator 40: Poverty

Equality score: 45

Indicator definition	Ratio of percentages of blacks and whites living below the poverty line.
Results	Black: 28.6% (18,396 people) White: 15.1% (28,581 people) **Black-to-white ratio = 1.894, score 45**
Geography	City
Description of results and context	The poverty line income differs by the number of persons in the family or household. For a family of four in Pittsburgh, the poverty guideline in 2016 was an annual income of lower than $24,250 in 2015. In the City of Pittsburgh, the percentage of black Pittsburghers living below the poverty line (28.6%) was almost twice that of white Pittsburghers (15.1%). About 27.8% of Asian Pittsburghers and 24.6% those of two or more races had incomes below the poverty threshold. A slight difference existed between males and females, with females slightly more likely to live below the poverty line (20.1%) than their male peers (18.3%).
Data source	ACS, 1-Year estimates, 2016

Housing, Transportation, Infrastructure, and Environment
Domain equality score: 57

Housing affordability and stability
Topic equality score: 28

Indicator 41: Home loan denials

Equality score: 36

Indicator definition	Ratio of percentages of black and white applicants who applied for and were denied loans for home purchases.
Results	Black: 14.1% (138 loans) White: 5.2% (824 loans) **Black-to-white ratio = 2.712, score 36**
Geography	County
Description of results and context	In Allegheny County, white residents applied for and were denied a home loan at a much lower rate (5.2%) than black residents (14.1%) and a slightly lower rate than Asian residents (5.7%). Compared to rates of home loan originations—the loans that individuals apply for and

	ultimately take out from lending institutions—the rate of denial showed that black residents who apply for loans are denied at a disproportionate rate. White residents of Allegheny County were only slightly more likely to have applied for and originated home loans (71.3%) than black residents (65.6%) and Asian residents (66.1%). A smaller difference existed between male (71.3%) and female applicants (69.5%). Similar to the difference in origination rates, the difference in the rates of denial for males (5.3%) and females (6.5%) was very small. The Home Mortgage Disclosure Act was designed to identify potentially discriminatory lending patterns that could contribute to disparities in home ownership.[67] 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

Indicator 42: Home ownership

Equality score: 39

Indicator definition	Ratio of percentages of higher-income and lower-income residents who are homeowners.
Results	Higher-income: 54.7% (55,956 people) Lower-income: 24.6% (8,358 people) **High-to-Low ratio = 2.224, score 39**
Geography	City
Description of results and context	A sharp disparity exists in the percentages of higher-income and lower-income residents who are homeowners. Higher-income residents were more than two times as likely to be homeowners (54.7%) than lower-income residents (24.6%). This trend continued when looking at annual household income across income brackets: as annual household income increased, so did the percentage of residents within each income bracket who owned a home. When examined by racial and ethnic groups, white residents were the most likely to own a home (55.7%), followed by Hispanic resients of any race (34.8%), black residents (29.0%), and Asian residents (18.3%).
Data source	ACS, 1-Year estimates, 2016

Indicator 43: Housing cost burden for renters

Equality score: 35

Indicator definition	Ratio of percentages of lower-income and higher-income residents paying more than 30% of their annual income on rent.
Results	Lower-income: 72.0% (18,485 people) Higher-income: 25.8% (11,942 people) **Low-to-high ratio = 2.791, score 35**
Geography	City

Description of results and context	Lower-income residents of Pittsburgh were almost three times as likely to pay 30% or more of their annual income on rent (72.0%) than higher-income residents (25.8%). Within the lower income bracket (with an annual household income of less than $19,999), the largest subset of residents (57.5%) paid 50% 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 (42.0%) paid less than 20% of their annual income on rent. The supply of affordable housing in the region has been a concern among decision-makers for a number of years.[68] 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.[69]
Data source	ACS, 1-Year estimates, 2016

Indicator 44: Homelessness

Equality score: 2

Indicator definition	Ratio of rates of blacks and whites utilizing emergency shelters.
Results	Black: 1,216.9 (per 100,000 people) White: 128.1 (per 100,000 people) **Black-to-white ratio = 9.5, 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 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 unstably housed across Pittsburgh, but is limited to only those who use homelessness services. The use of emergency shelters across ethnic and racial groups showed a severe disproportion in rates between black Pittsburghers and white Pittsburghers. Black Pittsburghers were significantly more likely to use emergency shelters (1,216.9) than white Pittsburghers (128.1) per 100,000 people. 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

Infrastructure quality and investment
Topic equality score: 51

Indicator 45: Housing stock with conditions

Equality score: 38

Indicator definition	Ratio of percentages of renter- and owner-occupied homes with "conditions".
Results	Renter occupied: 22.1% (30,057 homes) Owner occupied: 9.1% (12,359 homes) **Rent-to-own ratio = 2.429, score 38**
Geography	City
Description of results and context	The U.S. Census Bureau defines "conditions" as a lacking complete plumbing facilities, lacking complete kitchen facilities, having more than 1.01 persons per room, and costing owners greater than 30% of household income per month or costing renters gross rent as a percentage of household income of greater than 30% per month. There is inequality in the percentages of renter- and owner-occupied homes with conditions. Renter-occupied homes were more than two times as likely to have "conditions" (22.1%) than owner-occupied homes (9.1%). Pittsburgh's aging infrastructure and large population of renters (52.8% percent of Pittsburghers rent) has elevated the concern of improving the stock of healthy and affordable housing.
Data source	ACS, 1-Year estimates, 2016

Indicator 46: Properties with tax delinquency

Equality score: 40

Indicator definition	Ratio of percentages of tax delinquent properties in majority-black and majority-white census tracts.
Results	Majority-black tracts: 17.8% (8,758 properties) Majority-white tracts: 8.4% (8,292 properties) **Black-to-white ratio = 2.119, score 40**
Geography	City (census tract)
Description of results and context	Majority-black census tracts contained a larger percentage of tax delinquent properties (17.8%) compared to majority-white census tracts (8.4%). A difference in tax delinquent properties as a percent of all properties also existed between low-income census tracts (17.5%) and high-income census tracts (4.4%). Majority-black census tracts and majority-white census tracts account for a larger number of tax delinquent properties across Pittsburgh than the low-income (or bottom 20% of income) and high income (or top 20% of income) census tracts. Tax delinquency reflects financial instability in a community and has spillover effects on neighborhood property values.[70]
Data source	Allegheny County, Department of Court Records; City of Pittsburgh, Department of Finance, 2017

Indicator 47: Capital project budgets by location

Equality score: 88

Indicator definition	Ratio of percentages of whites and blacks with a city capital project being planned or implemented in their neighborhood.
Results	White: 76.5% (150,330 people) Black: 72.0% (52,815 people) **White-to-black ratio = 1.063, score 88**
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. A small gap existed between the percentage of black (72.0%), Asian (75.8%), and white (76.5%) Pittsburghers with a city capital project being planned or implemented in their neighborhood in 2017. Capital projects include repairs to existing facilities, construction of new facilities, installation of public infrastructure, and creation of community gardens.
Data source	City of Pittsburgh, Office of Management and Budget, 2017

Indicator 48: Index of distress

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.
Results	Black: 56.7% (42,038 people) White: 22.3% (45,164 people) **Black-to-white ratio = 2.543, score 37**
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 to identify particularly distressed or healthy housing markets in the City of Pittsburgh. More than half of black Pittsburghers lived in a census tract with at least one distressed block (56.7%) as compared to less than one quarter of white Pittsburghers (22.3%). Asian Pittsburghers were the least likely to live in a census tract with at least one distressed block (10.7%).
Data source	Market Value Analysis, Urban Redevelopment Authority, 2016

Neighborhood composition and opportunity
Topic equality score: 41

Indicator 49: Market strength

Equality score: 39

Indicator definition	Ratio of the average percentages of white and black Pittsburghers who live in a "high market value" census tract.
Results	White: 23.8% Black: 10.7% **White-to-black ratio = 2.224, score 39**
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. The average percent of white Pittsburghers living in a high market value census tract (23.8%) was higher than the percent of black Pittsburghers (10.7%) living in a high-market value tract. At the same time, Asian Pittsburghers had the highest likelihood of living in a high market value census tract (40.7%). MVA is recommended for use by HUD to help match neighborhood needs with investment opportunities.
Data source	Market Value Analysis, Urban Redevelopment Authority, 2016

Indicator 50: Parcels in poor or worse condition

Equality score: 33

Indicator definition	Ratio of percentages of parcels in poor or worse condition in majority-black and majority-white census tracts.
Results	Majority-black tracts: 6.5% (N/A) Majority-white tracts: 2.1% (N/A) **Black-to-white ratio = 3.095, score 33**
Geography	City (census tract)
Description of results and context	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. Majority-black census tracts (6.5%) were three times more likely to contain parcels in poor or worse condition than majority-white census tracts (2.1%). The percentage of parcels in poor or worse condition also differed by low-income and high-income census tracts, with low-income tracts containing a larger percentage of these parcels (6.6%) than high-income census tracts (1.0%). Neighborhood blight has been found to impact physical and mental health outcomes, economic development opportunities, and overall community wellbeing.[25]
Data source	Market Value Analysis, Urban Redevelopment Authority, 2016

Indicator 51: CDBG areas

Equality score: 48

Indicator definition	Ratio of percentages of black and white Pittsburghers living in census tracts eligible for Community Development Block Grants.
Results	Black: 74.6% (55,295 people) White: 41.2% (83,319 people) **Black-to-White ratio = 1.811, score 48**
Geography	City (census tract)
Description of results and context	HUD distributes CDBGs to communities to address a specific community need. Eligibility for CDBGs is determined by HUD based factors such as, population, age of housing, level of poverty, and overcrowding. The percentage of black Pittsburghers living in census tracts eligible for CDBGs (74.6%) was almost twice that of white Pittsburghers (41.2%) and more than twice that of Asian Pittsburghers (35.3%). CDBG eligibility is often used as a proxy for communities with the highest development needs.[24]
Data source	City of Pittsburgh CDBG areas data, 2017

Indicator 52: Racial segregation index

Equality score: 42

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.
Results	The proportion of white Pittsburghers who could remain living in their census tracts to eliminate residential segregation in the city: 42% **Equality score: 42**
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 significant: 42% of white Pittsburghers could remain living in their census tracts, meaning that the majority would need to move to eliminate residential segregation. The level of residential segregation between white and Asian Pittsburghers was slightly less, though still significant: 52% of white Pittsburghers could remain living in their census tracts.
Data source	ACS, 1-Year estimates, 2016

Transportation
Topic equality score: 85

Indicator 53: Commute time

Equality score: 73

Indicator definition	Ratio of black and white Pittsburghers' average commute times.
Results	Black: 32.4 minutes White: 26.1 minutes **Black-to-white ratio = 1.241, score 73**
Geography	City
Description of results and context	The ACS PUMS data showed a slight difference in average commute times for black and white Pittsburghers. Black Pittsburghers had an average commute time that was six minutes greater (32.4 minutes) than that of white Pittsburghers (26.1 minutes) and five minutes greater than that of Asian Pittsburghers (27.5 minutes). A smaller difference (0.1 minutes) existed between the average commute time for Pittsburghers with (26.7 minutes) and without a disability (26.8 minutes). Additionally, length of average commute time increased as educational attainment increased with the three-minute difference between Pittsburghers with less than a high school diploma or equivalency (25.3 minutes) and Pittsburghers with a bachelor's degree or higher (28.7 minutes). 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.[71]
Data source	ACS PUMS data, 2016

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

Equality score: 100

Indicator definition	Ratio of percentages of white and black Pittsburghers living in census tracts with no HFTN during rush hour.
Results	White: 10.8% (8,007 people) Black: 14.0% (28,349 people) **Black-to-white ratio = 0.771, score 100**
Geography	City (census tract)
Description of results and context	HFTNs are transit routes that serve a stop at least every 15 minutes. The percentage of Pittsburghers living in census tracts with no access to a HFTN during rush hour (weekday mornings and evenings) was almost equal between white (10.8%) and black (14.0%) Pittsburghers. This trend was also observed between white and black Pittsburghers with access to one HFTN (difference of 0.3%) and two or more HFTNs (difference of 3.0%) during rush hour. Asian Pittsburghers were much less likely to live in a census tract with no HFTN during rush hour (5.0%), with the majority (64.2%) living in a census tract with two or more HFTN

	available during rush hour. Results indicate that access to HFTN is relatively equitable citywide and will be an important metric to track as the transportation sector experiences rapid change in the city.
Data source	AllTransit, 2017

Indicator 55: Use of a car

Equality score: 71

Indicator definition	Ratio of percentages of whites and blacks who commute by driving alone.
Results	White: 58.2% (64,894 people) Black: 45.4% (12,351 people) **White-to-black ratio = 1.282, score 71**
Geography	City
Description of results and context	White Pittsburghers were more likely to use a car to commute as compared to black Pittsburghers. More than half of white Pittsburghers (58.2%), half of Hispanic and Latinos (50.8%), less than half of black Pittsburghers (45.4%), and one third of Asian Pittsburghers (34.2%) commuted by driving alone. This indicator was selected as a proxy for car ownership. 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.[72]
Data source	ACS, 1-Year estimates, 2016

Indicator 56: Walkability

Equality score: 95

Indicator definition	Ratio of average walk scores in majority-white and majority-black census tracts.
Results	Majority-white tracts: 60.0 Majority-black tracts: 58.5 **White-to-black ratio = 1.026, score 95**
Geography	City (census tract)
Description of results and context	Allegheny County Walk Scores measure the walkability of an area using distance to amenities by sub-categories, 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. The average walk scores in majority-white (60.0) and majority-black (58.5) census tracts were almost equal in the City of Pittsburgh. A small difference was also observed between low-income (61.3) and high-income (62.8) census tracts. 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 source	Allegheny County Walk Scores, 2014

Environment and sustainability
Topic equality score: 83

Indicator 57: Utilities burden

Equality score: 59

Indicator definition	Ratio of blacks' and whites' utilities costs relative to annual income.
Results	Black: 7.5% of income White: 4.9% of income **Black-to-white ratio = 1.539, score 59**
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 utilities (gas, water, electric) costs. The ratio of utilities payment to income was highest for black Pittsburghers (7.57%), followed by white (4.92%) and Asian (2.90%) Pittsburghers. A difference in ratio of utility payment to income also existed between native-born U.S. citizens (5.07%) and non-citizens (3.00%). 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.[73]
Data source	American Housing Survey, 2015

Indicator 58: Air quality

Equality score: 93

Indicator definition	Ratio of percentages of majority-black and majority-white census tracts with annual average PM2.5 values of above 12.0.
Results	Majority-black tracts: 27.3% Majority-white tracts: 26.3% **Black-to-white ratio = 1.038, score 93**
Geography	City (census tract)
Description of results and context	CAPS collects data on PM2.5 and other air quality metrics. The Air Quality Index classifies the levels of PM2.5 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. A difference of one percent existed between the percent of majority-black (27.3%) and majority-white (26.3%) census tracts that had average annual PM2.5 values of above 12.0. However, the pattern reversed for average annual air pollution, calculated to be 11.6 in majority-white census tracts and 11.1 in majority-black census tracts. Overall, the citywide range of average annual PM2.5 by tract was between 9.79 and 18.87, indicating there are tracts in the city that do experience moderate air quality, likely driven by some poor air quality days throughout the year. When analyzed by income, the average PM2.5 value was 11.2 for low-income census tracts and 10.8 for high-income census tracts. At the same time, 7.7% of low-income census tracts and 15.4% of high-income census tracts had average annual PM2.5 values above 12.0. However, 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. To analyze the data at a smaller level of geographic granularity, we used census block-level data from the 2010 Census (the newest block-level data available).[37] At this smaller level of granularity, within city boundaries the pattern was reversed and the difference between majority-black and --white blocks was more extreme: Majority-white census blocks had a higher average PM2.5 (11.2) than majority-black census blocks (10.9) and a greater percent of majority-white blocks had average annual PM2.5 higher than 12.0 (28.9%) than majority-black census blocks (21.6%). Given the historically poor air quality observed in areas outside of the City of Pittsburgh in Allegheny County (e.g., the Monongahela River Valley), we also conducted a county-wide, block-level analysis. At the county level, the expected racial disparities were observed: the average PM2.5 was higher for majority-black census blocks (11.3) than majority-white blocks (11.1) in Allegheny County. Additionally, a greater percent of majority-black census blocks had an average PM2.5 of higher than 12.0 (29.9%) than majority-white census blocks (25.7%).
Data source	CAPS data, 2017

Indicator 59: Access to green space

Equality score: 100

Indicator definition	Ratio of percentages of white and black residents living within 1/4 mile of a green space.
Results	White: 91.0% (178,824 people) Black: 93.5% (68,586 people) **White-to-black ratio = 0.973, score 100**
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 ¼ of a mile of green space, is generally good in Pittsburgh. Access varied slightly between racial and ethnic groups: black residents were slightly more likely to be living within ¼ mile of green space (93.5%) than white residents (91.0%) and much more likely than Asian residents (77.6%). These findings indicate that black residents may have better access to parks and urban forests than their white and Asian counterparts. When analyzed by low-income and high-income census tracts, 92.3% of low-income census tracts and 88.5% of high-income census tracts were within a ¼ mile of a green space, meaning that residents living in low-income census tracts may have slightly greater access to green space than residents living in high-income census tracts. Note that this simple analysis does not take into account the quality or specific amenities available at a given green space location.
Data source	City of Pittsburgh Department of Public Works, Operations Division green spaces inventory, 2016

Indicator 60: Blood lead levels

Equality score: 80

Indicator definition	Ratio of the average childhood BLL of children tested in majority-black and majority-white census tracts.
Results	Majority-black tracts: 0.0502 µg/dL Majority-white tracts: 0.0454 µg/dL **Black-to-white ratio = 1.116, score 80**
Geography	City (census tract)
Description of results and context	A small difference existed in average childhood blood lead levels of children tested in majority-black (average BLL=0.0502 µg/dL) and majority-white (average BLL=0.0454 µg/dL) census tracts. A larger difference existed between average childhood blood lead levels (of children tested) from low-income (0.0436 µg/dL) and high-income (0.0277 µg/dL) census tracts. Blood lead levels greater than or equal to 5 µg/dL are considered to be elevated, however the Pennsylvania Department of Health does not consider any level of lead in the blood to be safe. Disparities by race are likely attributable to differences in housing age and condition experienced by these two groups. Due to 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 6 months and 2 years will start in January 2018. Consequently, we anticipate a different source for this dataset in the future.
Data source	Pennsylvania Department of Health, PA National Electronic Disease Surveillance System, 2012–2016

Civic engagement and Communications
Domain equality score: 65

Representation
Topic equality score: 51

Indicator 61: Representation among social service providers

Equality score: 69

Indicator definition	Ratio of percentages of the white and black workforce employed in social service professions.
Results	White: 17.5% (34,303 people) Black: 13.2% (9,688 people) **White-to-black ratio = 1.326, score 69**
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. A higher percentage of the white workforce (17.5%) was employed in social service professions as compared to the black workforce (13.2%). At the same time, 24.3% of the Asian workforce was employed in social service professions. Females (20.4%) were more likely than males (11.6%) to be employed in social services professions. Data analyzed for the other indicators in this report (e.g., participation in SNAP (indicator 3) and poverty rates (indicator 40)) indicate that a higher percentage of black Pittsburghers utilize social service programs than their white peers. Therefore the racial and ethnic groups who require and use services are not well-represented in those professions, though gender representation appeared to be better.
Data source	5-Year ACS data, 2011–2015

Indicator 62: Representation in education professions

Equality score: 39

Indicator definition	Ratio of representativeness of the white and black workforce employed in education professions.
Results	White: 8.3% (16,359 people) Black: 3.7% (2,686 people) **White-to-black ratio = 2.243, score 39**
Geography	City
Description of results and context	Representation in education professions varied by racial and ethnic group. A significant difference existed between the percentages of the Asian (15.2%), white (8.3%), Hispanic of any race (6.8%), and black (3.7%) workforce employed in education professions. A smaller difference existed between males (6.7%) and females (7.8%) in these professions. By way of comparison, Pittsburgh Public School students are 56.8% black compared to 3.7% of all educational professionals in the city. 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	5-Year ACS data, 2011–2015

Indicator 63: Representation in local government

Equality score: 59

Indicator definition	Ratio of percentages of male and female local government officials
Results	Males: 60.7% (17 employees) Females: 39.3% (11 employees) **Male-to-female ratio = 1.545, score 59**
Geography	City
Description of results and context	Municipal personnel data reported to the Pennsylvania Department of Community & Economic Development shows more males (60.7%) were employed than females (39.3%) as local government officials in the City of Pittsburgh. Local government officials include those employees with titles such as Council Member, Controller, Director of Public Safety, Mayor, and Police Chief. Lack of representation across gender or racial and ethnic 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.[29]
Data source	Municipal personnel data reported to Pennsylvania Department of Community & Economic Development, 2017

Indicator 64: Representation in police force

Equality score: 37

Indicator definition	Ratio of representativeness of white and black police officers.
Results	White: 394.9 (per 100,000 people) Black: 160.9 (per 100,000 people) **White-to-black ratio = 2.454, score 37**
Geography	City
Description of results and context	A large disparity exists in the representation of Pittsburgh police officers by racial and ethnic group, as well as by sex. White police officers were the most represented (394.9), followed by black officers (160.9), Hispanic officers of any race (115.6), and Asian officers (41.7) per 100,000 people. A disparity also existed in female and male representation, with males (513.2) considerably more represented than females (93.6) per 100,000 people. The pattern in Pittsburgh reflects national trends of misalignment in the demographic characteristics 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.[74]
Data source	Pittsburgh Bureau of Police personnel data, 2015

Political participation
Topic equality score: 71

Indicator 65: Registered voters

Equality score: 100

Indicator definition	Ratio of percentages of whites and blacks who are registered to vote.
Results	White: 83.4% (163,889 people) Black: 85.8% (62,938 people) **White-to-black ratio = 0.972, score 100**
Geography	County
Description of results and context	The difference in percentages of Allegheny County residents who are registered to vote was almost equal across racial and ethnic groups and sexes. Black residents were the most likely to be registered to vote (85.8%), followed by Asian residents (85.7%) and white residents (83.4%). A small difference in percentage existed between males (83.8%) and females (82.9%) in Allegheny County as well. The percentage of Allegheny County residents registered to vote increased as educational attainment increased; 58.4% of those residents with less than a high school education were registered to vote as compared to 97.2% of residents with a bachelor's degree or higher. Voter registration is a common metric of community engagement, and these data show there is room for improvement in voter registration across subgroups county-wide.
Data source	Current Population Survey: Voting and Registration Supplement, 2016

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

Equality score: 60

Indicator definition	Ratio of representativeness of male and female candidates on the ballot in local elections.
Results	Male: 60.3% (38 candidates) Female: 40.0% (25 candidates) **Male-to-female ratio = 1.508, score 60**
Geography	City
Description of results and context	Local primary election results demonstrated a disproportionate representation of candidates on the ballot by sex. Male candidates (60.3%) outnumbered female candidates (40.0%) on the ballot in the last local primary election (November 2017). Positions analyzed for this indicator included Justice of the Pennsylvania Supreme Court, Judge of the Superior Court, Sheriff, Mayor, Member of Council, and Magisterial District Judge. Local efforts to improve representation of women in public office include trainings to prepare women for political campaigning and elections.[75]
Data source	Local Primary Election Results, 2017

Indicator 67: Voter turnout for local elections

Equality score: 47

Indicator definition	Ratio of average percentages of registered voters who voted in local elections in high income and low income census tracts.
Results	High-income tracts: 27.5% Low-income tracts: 14.9% **High-to-Low ratio = 1.846, score 47**
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 (27.5%) than in low-income census tracts (14.9%). A smaller disparity existed between majority-white (21.4%) and majority-black (19.5%) census tracts. 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 General Election Results, 2017

Indicator 68: Voter turnout for national elections

Equality score: 75

Indicator definition	Ratio of average percentages of registered voters who voted in national elections in high income and low income census tracts.
Results	High-income tracts: 70.7% Low-income tracts: 58.5% **High-to-Low ratio = 1.209, score 75**
Geography	City (census tract)
Description of results and context	Voter turnout was much higher for national elections than local elections, though similar disparities existed between low- and high-income and majority-white and black census tracts. High-income census tracts had a higher average percentage of registered voters who voted in the national election (70.7%) than low-income census tracts (58.5%). Registered voters in majority-white census tracts (65.9%) were only slightly more likely to vote than registered voters in majority-black census tracts (63.7%).
Data source	National Election Results, 2016

Grassroots engagement
Topic equality score: 77

Indicator 69: Public meeting attendance

Equality score: 86

Indicator definition	Ratio of percentages of whites and blacks who attended any public meetings in the last year.
Results	White: 9.1% (90,272 people) Black: 8.5% (13,565 people) **White-to-black ratio = 1.071, score 86**
Geography	County
Description of results and context	A small percentage of Allegheny County residents reported attending any public meetings in the last year. The percentage was almost equal by racial and ethnic group and by sex. White residents were slightly more likely to attend a public meeting (9.1%) than black residents (8.5%). In the same period, male residents were slightly less likely (8.4%) than female residents (9.2%) to attend a public meeting. Greater variation existed when educational attainment was considered. Residents with a bachelor's degree of higher were the most likely to have attended a public meeting in the last year (13.9%). The City of Pittsburgh often uses public meetings as opportunities for community input on planning activities and investments and strives to increase the diversity of meeting attendees.
Data source	Current Population Survey: Volunteer Supplement, 2015

Indicator 70: Opportunities for volunteering

Equality score: 75

Indicator definition	Ratio of percentages of white and black Pittsburghers who have access to organized volunteer opportunities in their neighborhoods.
Results	White: 62.1% (122,033 people) Black: 51.4% (37,704 people) **White-to-black ratio = 1.208, score 75**
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. A comparison of access to neighborhood-organized volunteer opportunities by racial and ethnic groups showed that Asian (62.7%) and white Pittsburghers (62.1%) had greater access to these opportunities than black Pittsburghers (51.4%). Opportunities for volunteering not only impact social cohesion, but may reflect larger patterns of neighborhood empowerment and community mobilization around shared priorities.[76]
Data source	City of Pittsburgh, volunteer project tracking, 2017

Indicator 71: Volunteering

Equality score: 100

Indicator definition	Ratio of percentages of whites and blacks who volunteered in the last year.
Results	White: 25.4% (251,969 people) Black: 27.6% (44,047 people) **White-to-black ratio = 0.92, score 100**
Geography	County
Description of results and context	The U.S. Census Bureau estimates the number of people who have worked on neighborhood improvements, mentored or coached, fundraised, or performed work at a church as examples of volunteer activities. White and black residents of Allegheny County reported volunteering at approximately the same rate in the last year. Black residents were slightly more likely to volunteer (27.6%) than white residents (25.4%). Asian residents were significantly more likely to have volunteered in the last year (60.7%). Female residents were more likely (30.7%) than males (21.9%) to have volunteered in the last year. Additionally, by level of educational attainment, residents with a bachelor's degree or higher were the most likely to have volunteered in the last year. Volunteerism is an important element of civic engagement, and many community-based organizations and city programs rely on volunteers to help them meet their missions.
Data source	Current Population Survey: Volunteer Supplement, 2015

Indicator 72: Worked on neighborhood improvements

Equality score: 46

Indicator definition	Ratio of percentages of whites and blacks who worked with their neighbors on a neighborhood volunteer project.
Results	White: 5.6% (55,552 people) Black: 3.0% (4,788 people) **White-to-black ratio = 1.867, score 46**
Geography	County
Description of results and context	The Current Population Survey: Volunteer Supplement fields a question about working with neighbors to fix or improve something in the neighborhood. Findings showed little variation across racial and ethnic group, sex, and educational attainment in percentages of Allegheny County residents who have worked with their neighbors on a volunteer project. White residents were more likely to have worked with their neighbors (5.6%) than black residents (3.0%). Female residents were more likely to have worked with their neighbors (6.2%) than male residents (4.3%). In addition, participation increased as educational attainment increased; those with a bachelor's degree or higher were most likely to have participated in neighborhood improvements.
Data source	Current Population Survey: Volunteer Supplement, 2015

City-led engagement
Topic equality score: 70

Indicator 73: Applications to Civic Leadership Academy

Equality score: 37

Indicator definition	Ratio of representativeness of white and black applicants to the city's Civic Leadership Academy program.
Results	White: 61.1 (per 100,000 people) Black: 24.5 (per 100,000 people) **White-to-black ratio = 2.494, score 37**
Geography	City
Description of results and context	The City of Pittsburgh's Civic Leadership Academy program provides training to residents with the goals of developing community leaders and to improving citizens' knowledge of local government. The Civic Leadership Academy collects demographic information from applicants, including racial and ethnic group and sex. White applicants were represented at a much higher rate (61.1) than black applicants (24.5) and Asian applicants (23.8) per 100,000 people. Tracking representation of these populations in Civic Leadership Academy applications may help monitor progress toward attracting a representative group of local leaders and may have downstream effects on representation among future civic leaders.
Data source	City of Pittsburgh, Civic Leadership Academy application data, 2017

Indicator 74: Police-Community outreach

Equality score: 72

Indicator definition	Ratio of the average number of community outreach events organized or attended by Pittsburgh Police in majority-white and majority-black census tracts.
Results	Majority-white tracts: 5.2 Majority-black tracts: 4.1 **White-to-black ratio = 1.268, score 72**
Geography	City (census tract)
Description of results and context	Pittsburgh Police organize and attend community outreach events to help build and improve relationships with residents and communities. Criminal justice research indicates that outreach events like these may promote greater trust in police. The average number of community events organized and attend by Pittsburgh Police varied by majority-white and black and low- and high-income census tracts. The average number was higher in majority-white (5.2) and high-income census tracts (4.5), as compared to majority-black (4.1) and low-income census tracts (3.7).
Data source	City of Pittsburgh, Police Bureau, Dept. of Public Safety, 2017

Indicator 75: Participation in Beautify Our Burgh

Equality score: 100

Indicator definition	Ratio of percentages of white and black Pittsburghers whose neighborhoods have an organized Beautify Our Burgh effort.
Results	White: 11.2% (22,009 people) Black: 18.2% (13,350 people) **White-to-black ratio = 0.615, score 100**
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 the City of Pittsburgh, black residents (18.2%) and Asian residents (22.9%) were more likely to live in a neighborhood participating in BOB efforts than white residents (11.2%). Participation in neighborhood efforts, such as Beautify Our Burgh, can indicate a sense of pride and social cohesion in Pittsburgh neighborhoods. While equitable participation is less of an issue for this indicator, there is generally low participation in BOB, and potential to increase the reach of the program.
Data source	City of Pittsburgh, Beautify Our Burgh data, 2017

Indicator 76: Participation in Love Your Resilient Block

Equality score: 69

Indicator definition	Ratio of percentages of white and black Pittsburghers who live in a neighborhood that applied for a Love Your Resilient Block minigrant.
Results	White: 29.4% (57,774 people) Black: 22.1% (16,211 people) **White-to-black ratio = 1.33, score 69**
Geography	City (neighborhood)
Description of results and context	The City of Pittsburgh government distributes LYRB minigrants to neighborhoods to promote strong partnerships, engage residents, and provide a platform for residents to submit creative plans for community improvement. Application data indicated that white Pittsburghers were more likely to live in a neighborhood that had submitted an LYRB minigrant (29.4%) than black Pittsburghers (22.1%). Asian Pittsburghers were the most likely of all racial groups to live in a neighborhood that had submitted a minigrant (31.3%). Beyond benefits gleaned from the implementation of neighborhood improvement activities, the ability to develop an idea, organize a group, and develop and submit an LYRB application may be a proxy for community capacity. Moreover, residents who live in neighborhoods that are more engaged may feel a greater sense of community or safety.
Data source	City of Pittsburgh, Love Your Resilient Block application data, 2017

Technology and communications
Topic equality score: 58

Indicator 77: Lack of a home computer

Equality score: 46

Indicator definition	Ratio of percentages of black and white households who do not have a computer at home.
Results	Black: 13.7% (8,812 households) White: 7.4% (13,510 households) **Black-to-white ratio = 1.851, score 46**
Geography	City
Description of results and context	Lack of a home computer varied between black and white households in Pittsburgh. Black households were less likely to have a computer at home (13.7% without a computer) than white households (7.4% without a computer). Asian households were the least likely to not have a computer at home (2.1% without a computer). Lack of availability of a home computer was also tied to educational attainment; as educational attainment increased, the lack of a home computer decreased. A sharp disparity existed in home computer availability between households where householders had less than a high school education (36.5%) and households where householders had a bachelor's degree or higher

	(2.6%). Lack of access a computer at home may have downstream effects on employment and educational outcomes.
Data source	ACS, 1-Year estimates, 2016

Indicator 78: Lack of home internet connectivity

Equality score: 39

Indicator definition	Ratio of percentages of black and white households who do not have high-speed internet at home.
Results	Black: 27.6% (17,698 households) White: 12.2% (22,414 households) **Black-to-white ratio = 2.262, score 39**
Geography	City
Description of results and context	A disparity exists between black and white households who have no access to high-speed internet at home. Black households were more than two times more likely to lack high-speed internet at home (27.6%) than white households (12.2%). Asian households were the least likely to lack high-speed internet (4.7%). Similar to home computer availability, a large gap in internet access existed by level educational attainment, with access increasing as educational attainment increased. The majority of households where the householder had less than a high school education lacked access (51.0%) as compared to households where the householder had a bachelor's degree or higher (6.7%). 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.[33]
Data source	ACS, 1-Year estimates, 2016

Indicator 79: Library availability

Equality score: 64

Indicator definition	Ratio of percentages of white and black Pittsburghers who live in a neighborhood with a public library.
Results	White: 29.0% (56,988 people) Black: 20.4% (14,964 people) **White-to-black ratio = 1.422, score 64**
Geography	City (neighborhood)
Description of results and context	The Carnegie Public Library system lists the neighborhoods where libraries are located. Spatial analysis showed that black Pittsburghers were less likely to live in a neighborhood with a Carnegie Public Library (20.4%) than white (29.0%) and Asian (32.6%) Pittsburghers. 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

Indicator 80: Lack of a smartphone

Equality score: 82

Indicator definition	Ratio of percentages of blacks and white Pittsburghers who do not have a smartphone.
Results	Black: 23.5% (17,270 people) White: 21.5% (42,347 people) **Black-to-white ratio = 1.093, score 82**
Geography	City
Description of results and context	A small difference existed between the percentages of black and white Pittsburghers who did not have a smartphone. Black Pittsburghers were slightly more likely to not have a smartphone (23.5% without a smartphone) compared to white Pittsburghers (21.5% without a smartphone). Asian Pittsburghers were least likely to not have a smartphone (6.2% without a smartphone). 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. 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.
Data source	ACS PUMS data, 2016

Appendix F: Report References and Related Local Reports

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