

MOVING TO WORK

FY 2018 ANNUAL REPORT

KING COUNTY HOUSING AUTHORITY

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It is now 22 years since Congress authorized the Moving to Work (MTW) Demonstration Program. The underlying premise of the legislation was that the provision of increased flexibility to Public Housing Authorities could yield stronger local partnerships, more efficient programs, and improved and broadened housing and household outcomes. Despite the strong sense by participating housing authorities and their community partners that this program has been a tremendous success, ongoing questions seem to linger on the national level as to the program's effectiveness.

The Moving to Work reports that participating housing authorities are required to submit annually to HUD provide compelling answers to these questions. The proof is in the results. This year marks the King County Housing Authority's 15th year of participation in the MTW program and I'm pleased to submit our Annual Report for 2018.

Concerns have been raised regarding the diversion of HUD funding by MTW Housing Authorities from serving households under the Housing Choice Voucher (HCV) program to other allowable purposes – resulting in fewer families being served. In fact, KCHA's HCV block grant utilization rate was at 103.8 percent of our HUD baseline at year's end. This does not include the 102 households assisted through our "sponsor-based" housing assistance programs designed to assist chronically homeless adults and homeless youth secure and retain housing, nor does it include our short-term rental assistance program, administered in partnership with two local school districts, which rapidly re-housed 70 households with 129 homeless students in 2018. Our HCV over-leasing, and local programs tailored to addressing specific housing challenges for our region's homeless households, are only possible due to flexibility provided under our Moving to Work contract.

Questions have also been raised about whether Moving to Work Housing Authorities are actively working to expand geographic choice for program participants. Presently, 29 percent of extremely low-income households with children participating in KCHA's HUD funded programs live in high-opportunity neighborhoods – a percentage significantly above the national average. This has been accomplished through the use of locally designed small area payment standards, through program efficiencies that have enabled us to reposition staff to work directly and intensively with the landlord community, and through changes in policies that make the HCV program more customer friendly for participants and landlords alike. Again, innovations made possible through our MTW flexibility. Shopping success rates for our voucher program participants increased to 76.8 percent at 240 days this year – no small accomplishment in this region's tight rental market. The 2019 goal is to raise this metric to 80 percent.

The ability to flexibly use MTW block grant funding to assure the quality of our public housing

has also been critical. In an era where much of the public housing inventory nationally is struggling with recapitalization needs, KCHA has significantly reduced its backlog of repairs and life cycle replacements through creatively leveraging outside investments in partnership with MTW funding. In 2018, KCHA's average REAC inspection score was 95.8 and the occupancy level for our federally subsidized housing was 99.64 percent. The reputation of our public housing inventory is sufficiently strong that when we recently acquired existing buildings in the very high-income neighborhoods of Mercer Island and Kirkland and turned on public housing subsidies, no community concerns were raised.

The most profound impact of the Moving to Work program, however, is the ability to tailor housing programs that meet the needs of our local community. Utilizing a streamlined project-basing process has enabled KCHA to partner with 27 non-profits to provide housing tailored to the needs of a wide array of homeless and disabled populations, and to support the development of a pipeline of permanent supportive housing. Working in partnership with our legal services and social equity partners, we have established low barrier admission policies and upped our focus on early intervention and supportive services, contributing to persistently low eviction and program termination rates. When KCHA's Moving to Work contract was up for renewal, the directors of 55 community-based organizations in King County signed an appeal to HUD requesting that this local flexibility be maintained. This flexibility and these partnerships are essential as KCHA seeks to aggressively expand its programs in the face of the Seattle region's growing homelessness challenge.

While there will always be a need for additional analysis and evaluation, and while every program can continuously be improved, the results detailed in this report, as well as those documented in the Annual Reports of the other 38 Moving to Work Housing Authorities, provide compelling evidence. Increased regulatory flexibility and local decision-making, within a frame of accountability for results, truly does work. It fulfills the initial legislative intent of Congress to utilize regulatory relief to create efficiencies, encourage self-sufficiency, and increase housing choice. The successes of MTW need to be expanded more broadly, both through preserving the original program's flexibility in proposed contracts for the new cohort of Moving to Work agencies and, more broadly and critically, through comprehensive deregulation and the replacement of prescriptive and overly rigid program requirements for all public housing authorities.

The successes and lessons learned from KCHA and the other Moving to Work Housing Authorities clearly demonstrate the effectiveness of a framework that holds housing authorities accountable for outcomes while simultaneously providing local communities the flexibility necessary to design programs and administer funds in ways that reflect local housing challenges and opportunities. Only through intelligent deregulation will we be able to adequately address the complex local housing challenges both HUD and public housing authorities are committed to solving, and advance housing solutions that prove instrumental in helping end poverty in our nation.

Sincerely,

Stephen Norman
Executive Director

SECTION I

INTRODUCTION

A. OVERVIEW OF SHORT-TERM MTW GOALS AND OBJECTIVES

In 2018, King County Housing Authority (KCHA) focused on using its Moving to Work (MTW) flexibility to ensure that our housing assistance targeted our community's most vulnerable households, create operational efficiencies that enabled us to serve additional households, coordinate housing with high quality services, and expand social impact initiatives that advanced family self-sufficiency and life outcomes for our residents. KCHA's highlights from this year include the following:

- **INCREASED THE NUMBER OF EXTREMELY LOW-INCOME HOUSEHOLDS WE SERVE.**

KCHA employed multiple strategies to expand our reach: property acquisitions; use of banked Annual Contributions Contract (ACC) authority; the lease-up of new incremental vouchers; issuing vouchers beyond HUD's Housing Choice Voucher (HCV) baseline; and the continuation of "sponsor-based," flexible, and stepped subsidy programs for specific populations. Our federally subsidized programs continued to surpass operational goals, allowing us to house 14,056 families in 2018.¹ The occupancy rate for our on-line owned units averaged 99.64 percent and the utilization rate for our HCV block grant never dropped below 100 percent, averaging 104 percent. Although securing an apartment remained a challenge in King County's exceptionally tight and competitive rental market, we also increased our HCV clients shopping success rates through a variety of strategies that included dedicated landlord liaisons, client deposit assistance, and expedited lease approval and inspections processes.

- **EXPANDED OUR PORTFOLIO OF HOUSING IN HIGH-OPPORTUNITY NEIGHBORHOODS.**

KCHA continued to actively seek out property acquisitions in strategic areas of King County, including current and emerging high-opportunity neighborhoods and transit-oriented development sites, in order to ensure that low-income families can access the benefits these areas afford. In 2018, we purchased Houghton Court in Kirkland, adding 15 units in this high-opportunity community to our public housing portfolio and went under contract for an additional 844 units of housing, scheduled to close in 2019. By year's end, KCHA's portfolio had grown to 10,215 units, almost half of which are situated in high-opportunity neighborhoods.

¹ This number does not include the 3,223 port-in vouchers that we administered in 2018.

- **FOSTERED PARTNERSHIPS THAT ADDRESSED THE MULTI-FACETED NEEDS OF THE MOST VULNERABLE POPULATIONS IN OUR REGION.**

Nearly half of all households that entered our federally assisted programs in 2018 were homeless or living in temporary or emergency housing immediately prior to receiving KCHA assistance. Our programs serve a diverse population with varying needs: veterans with disabilities; individuals living with behavioral health needs; those involved with the criminal justice system; youth who are experiencing homelessness or transitioning out of foster care; and homeless families with children engaged with the child welfare system. In 2018, KCHA was awarded one of the country's largest allocations of new special purpose vouchers, including: 197 Veterans Affairs Supportive Housing (VASH) vouchers for homeless veterans; 61 additional Family Unification Program (FUP) vouchers for families and youth involved with the child welfare system; and 99 mainstream vouchers that target people with disabilities. These additional 357 subsidies enable KCHA to support cross-system efforts to combat housing instability and homelessness among our community's most vulnerable households.

- **EXPANDED ASSISTANCE TO HOMELESS AND AT-RISK HOUSEHOLDS THROUGH INNOVATIVE PROGRAMS.**

Working closely with our service provider partners, KCHA continued to expand strategies that utilize federal housing resources to address our region's homelessness crisis. In 2018, we expanded our Student and Family Stability Initiative (SFSI) partnership with the Highline School District to the Tukwila School District, serving a combined total of 39 schools and successfully rehousing 70 homeless families through a short-term rental assistance subsidy. We also entered into a cross-system collaborative partnership with the Department of Children, Youth, and Families (DCYF), Catholic Community Services, Building Changes, and other local government agencies to initiate the Keeping Families Together initiative – an innovative supportive housing model that serves families and youth involved in the child welfare system and homeless system. KCHA's 61 new FUP vouchers are dedicated to supporting this effort, which will be evaluated by the Urban Institute.

- **INCREASED GEOGRAPHIC CHOICE.**

KCHA continued to use a multi-pronged approach to broaden our residents' geographic choices with a particular focus on access to high-opportunity neighborhoods across King County. Strategies included: use of a six-tier, ZIP Code-based, payment standard; outreach and engagement efforts by dedicated landlord liaisons; expedited inspections; deposit assistance; and targeted new property acquisitions and subsidy project-basing in high-opportunity communities. Currently, 29 percent of

KCHA's HUD-subsidized households with children live in high- or very high-opportunity neighborhoods, supporting KCHA's goal of 30 percent by the end of 2020. In 2018, KCHA, in partnership with Seattle Housing Authority (SHA) and a national interdisciplinary research team headed by Harvard economist Raj Chetty, launched the intervention phase of the Creating Moves to Opportunity (CMTO) initiative, a multi-year randomized control trial to identify and test effective strategies for expanding access to high-opportunity neighborhoods for families with young children. Results from the initial phase of this initiative should be available by next year.

■ **DEEPENED PARTNERSHIPS WITH LOCAL SCHOOL DISTRICTS TO IMPROVE EDUCATIONAL OUTCOMES.**

More than 15,172 children lived in KCHA's federally subsidized housing during 2018. KCHA's strategies to support these children's academic success are the cornerstones of our efforts to prevent multi-generational cycles of poverty and to promote long-term socioeconomic mobility. In 2018, we focused heavily on early learning interventions to ensure that children who live in KCHA housing or whose families receive a housing voucher are primed with information and supports that will enhance their children's cognitive development and, ultimately, their readiness for kindergarten. Our approach strengthened connections between early education providers, elementary schools, families with young children, and a variety of programs. Those programs include KCHA-sponsored Baby Academies in three school districts, play and learn groups, and Head Start and early Head Start programs. KCHA also continued to partner with families, school districts, and local education stakeholders across King County to advance other key outcomes, including housing and classroom stability, increased parental engagement, access to quality afterschool programs, mentorship opportunities, and high school graduation rates.

■ **SUPPORTED FAMILIES IN GAINING GREATER ECONOMIC SELF-SUFFICIENCY.**

During 2018, KCHA assisted close to 300 Public Housing and HCV households in the Family Self-Sufficiency (FSS) program and graduated 25 of these families from the program. The FSS program advances families toward economic self-sufficiency through individualized case management, supportive services, and program incentives including a monthly contribution to an escrow account when a family experiences an increase in earned income. This year, we also served an additional 77 families living in Public Housing through the Resident Opportunities and Self-Sufficiency (ROSS) program, which encourages housing authorities to develop local strategies that increase economic independence among residents. 28 of these residents engaged in additional, optional services on top of the ROSS program's basic requirements. The additional services included adult basic

education, career guidance, financial education, housing retention, and GED and college preparation services.

- **INVESTED IN THE ELIMINATION OF ACCRUED CAPITAL REPAIR AND SYSTEM REPLACEMENT NEEDS IN OUR FEDERALLY SUBSIDIZED HOUSING INVENTORY.**

In 2018, KCHA invested more than \$13.6 million in major repairs to our federally subsidized housing stock, ensuring that quality housing is available to low-income families for years to come. This investment improved resident safety, reduced maintenance costs and energy consumption, and extended the life expectancy of these affordable homes. Under our current Energy Performance Contract, KCHA also began upgrading aging elevators in our federally subsidized housing portfolio, investing an additional \$2.8 million in the replacement of hydraulic jacks, cabs, and electrical equipment at two of our senior and disabled properties, Boulevard Manor and Munro Manor, which serve 130 households. Replacement of an additional 16 elevators is scheduled for 2019. The average Real Estate Assessment Center (REAC) score for KCHA's Public Housing inventory inspected in 2018 was 95.6.

- **CREATED MORE COST-EFFECTIVE PROGRAMS BY STANDARDIZING LEADERSHIP PRACTICES, STREAMLINING BUSINESS PROCESSES, AND LEVERAGING TECHNOLOGY IN CORE BUSINESS FUNCTIONS.**

KCHA continued to foster a culture of continuous improvement that supports and encourages employees to enhance work quality at all levels and to increase the efficiency of KCHA's operations. One focus of this effort is the development of leadership skills necessary to support staff and manage change. The intent is to deliver better, faster, and less intrusive services to our residents, landlords, and community partners, and to make the best use of limited resources. In 2018, 80 staff members were trained in the A3 approach to problem solving and continuous improvement.

- **REDUCED THE ENVIRONMENTAL IMPACT OF KCHA'S PROGRAMS AND FACILITIES.**

In 2018, KCHA entered the second year of our five-year Resource Management Plan. The plan includes: goals for reduced energy and water consumption in the 10,215 units of housing that we own; increased diversion of materials from the waste stream; safe handling and reductions in hazardous waste; and the promotion of conservation awareness among our residents. In addition, we completed a greenhouse gas inventory that provided us with a comprehensive metric for our environmental impact and greenhouse gas generation, which will be integrated into broader agency strategies around sustainability. Finally, through our Energy Performance Contract, we installed \$5.6 million in conservation measures in 2018, measures that will drive ongoing performance

improvements related to consumption.

■ **STRENGTHENED OUR MEASUREMENT, LEARNING, AND RESEARCH CAPACITIES.**

KCHA continued to increase its internal capacity for program design and evaluation, and data management and analysis, while also expanding external partnerships that advance our long-term research agenda. In 2018, we began field implementation of the CMTO mobility study in collaboration with research partners from Harvard, Massachusetts Institute of Technology, Johns Hopkins, and other universities; completed a housing and health data collaboration with Public Health Seattle-King County (this report is included in appendix D); began a data sharing and intervention design process with UnitedHealthcare Inc.; continued collaborations with the University of Washington to understand the characteristics and experiences of incoming resident populations; and conducted internal assessments of several of our programs. These efforts support the MTW program's mission to pilot and assess new approaches that more effectively and efficiently address the housing needs and improve life outcomes for our communities' low-income residents.

B. OVERVIEW OF LONG-TERM MTW GOALS AND OBJECTIVES

Through our participation in the MTW demonstration program, KCHA is able to address a wide range of affordable housing needs in the Puget Sound region. We use the single-fund and regulatory flexibility provided through MTW to support our overarching strategic goals:

- **STRATEGY 1:** Continue to strengthen the physical, operational, financial, and environmental sustainability of our portfolio of more than 10,200 affordable housing units.
- **STRATEGY 2:** Increase the supply of housing in the region that is affordable to extremely low-income households – those earning below 30 percent of Area Median Income (AMI) – through the development of new housing and the preservation of existing housing, as well as through expansion in the size and reach of our rental subsidy programs.
- **STRATEGY 3:** Affirmatively Further Fair Housing and provide greater geographic choice for low-income households, including residents with disabilities, elderly residents with mobility impairments, and families with young children, so that our clients have the opportunity to live in neighborhoods with high-performing schools and convenient access to support services, health care, transit, and employment.
- **STRATEGY 4:** Coordinate closely with behavioral health and other social services systems to increase the supply of supportive housing for people who have been chronically homeless and/or have special needs, with the goal of making homelessness rare, brief, and one-time in King County.
- **STRATEGY 5:** Engage in the revitalization of King County’s low-income neighborhoods, with a focus on housing and other services, amenities, institutions, and partnerships that create strong, healthy communities.
- **STRATEGY 6:** Work with King County government, regional transit agencies and suburban cities to support sustainable and equitable regional development by integrating new affordable housing into regional growth corridors aligned with current and planned mass transit investments.
- **STRATEGY 7:** Expand and deepen partnerships with local school districts, Head Start programs, after-school program providers, public health departments, community colleges, the philanthropic community and our residents, with the goal to improve educational and life outcomes for the low-income children and families we serve.
- **STRATEGY 8:** Promote greater economic independence for families and individuals living in

subsidized housing by addressing barriers to employment and facilitating access to training and education programs, with the goal of enabling moves to market-rate housing at the appropriate time.

- **STRATEGY 9:** Continue to develop institutional capacity and efficiencies at KCHA to make the most effective use of federal resources.
- **STRATEGY 10:** Continue to reduce KCHA's environmental footprint through energy conservation, renewable energy generation, waste stream diversion, green procurement policies, water usage reduction, and fleet management practices.
- **STRATEGY 11:** Develop our capacity as a learning organization that incorporates research and evaluation in decision-making and policy formulation.

SECTION II

GENERAL HOUSING AUTHORITY OPERATING INFORMATION

A. HOUSING STOCK INFORMATION

i. Actual New Project-based Vouchers

Property Name	Planned Number of Vouchers	Actual Number of Vouchers	Status at End of 2018	RAD?	Description of Project
Arcadia	0	5	Committed	No	These vouchers, originally committed in 2015, are dedicated to Nexus Youth and Families' new construction development in Auburn that will serve young adults between the ages of 18 and 25 who are experiencing homelessness. Completion of this project has been delayed due to property development delays experienced by the project sponsor.
Kent Permanent Supportive Housing	0	36	Committed	No	KCHA awarded 36 project-based VASH vouchers to Catholic Housing Services' permanent supportive housing complex in Kent. These units will serve veterans who are experiencing homelessness.
Kent Permanent Supportive Housing	Up to 50 vouchers	44	Committed	No	As part of the 2018 King County Combined Funders NOFA, KCHA awarded 44 project-based vouchers to Catholic Housing Services' permanent supportive housing complex in Kent. These units will serve people with disabilities who are also experiencing homelessness.
Somerset Gardens	8	0	N/A	No	KCHA will project-base eight units at its 198-unit family complex in Bellevue. The project-basing of these units is delayed until 2019.
Highland Village	27	0	N/A	No	The project-basing of 27 vouchers at our 76-unit family complex in Bellevue has been delayed.
Total Vouchers Newly Project-based	85	85			

ii. Actual Existing Project-based Vouchers

See appendix C for a list of KCHA's existing project-based voucher contracts.

iii. Actual Other Changes to the Housing Stock in 2018

In 2018, KCHA purchased Houghton Court in Kirkland, preserving this complex and adding 15 public housing units in this high-opportunity community. At the end of the year, KCHA's total inventory stood at 10,215 units.

iv. General Description of Actual Capital Fund Expenditures During 2018

KCHA continued to improve the quality and long-term viability of our aging affordable housing inventory by investing more than \$13.6 million in capital repairs, unit upgrades, capital construction, and non-routine maintenance. These investments ensure that our housing stock is available and livable for years to come.

- **UNIT UPGRADES (\$3.3 MILLION).** KCHA's ongoing efforts to significantly upgrade the interiors of our affordable housing inventory as units turn over continued in 2018. KCHA's in-house, skilled workforce performed the renovations, which include installation of new flooring, cabinets, and fixtures that extended the useful life of 115 additional units by 20 years.
- **SITE IMPROVEMENTS (\$2.5 MILLION).** This year the Burien Vets House (Burien) underwent site improvements to eliminate water ponding that was occurring near the front entrance. Second phase site improvement work, including new lighting, walkways, retaining walls, drainage improvements, and patio repairs, was completed at Lake House (Shoreline). We completed a third phase of site improvement work at Valli Kee (Kent), which included a newly paved parking lot, new sidewalks and gutters, and construction of a bus turnout. Site improvements at Forest Glen (Redmond) were deferred to 2019.
- **BUILDING ENVELOPE AND RELATED COMPONENTS UPGRADES (\$4.8 MILLION).** Boulevard Manor (Burien), Burien Vets House (Burien), and Kirkland Place (Kirkland) all received new roofs in 2018. To correct for settlement occurring at one end of the building, Kirkland Place underwent leveling of its building structure. Decks were repaired or replaced, depending on the condition, at Northwood Apartments (Kenmore). Paramount House (Shoreline) received a complete envelope upgrade including new roofs, siding, doors, windows, and decks. A roof replacement project at Casa Juanita (Kirkland) was deferred to 2019.

- **DOMESTIC WASTE AND WATER LINE WORK (\$620,000).** The waste and water lines at Ballinger Homes (Shoreline) were relined in 2018.
- **“509” INITIATIVE IMPROVEMENTS (\$2.4 MILLION).** In 2018, significant capital improvements were completed at properties included in the 2013 conversion of 509 scattered-site public housing units to project-based HCV subsidies. New siding, doors, windows, and decks were installed at Greenleaf (Kenmore), and Juanita Trace (Kirkland) received new siding, doors, and windows. A new major walkway and handicapped-accessible ramp were constructed at Juanita Court (Kirkland), connecting the upper and lower sections of the site.

In addition to these Capital Fund projects, as part of our Energy Performance Contract, KCHA installed \$5.6 million in conservation measures across our portfolio of Public Housing.

B. LEASING INFORMATION

i. Actual Number of Households Served²

Over the course of 2018, KCHA served more than 14,000 households through a combination of our traditional federal housing programs, Public Housing and HCV, and locally designed, non-traditional programs, including the sponsor-based supportive housing program for individuals experiencing chronic homelessness, a stepped rent program for young adults exiting homelessness, and SFSI that serves homeless students and their families.

Number of Households Served Through:	Number of Unit Months Occupied/Leased		Number of Households Served	
	Planned	Actual	Planned	Actual
MTW Public Housing Units Leased	28,800	30,432	2,400	2,536
MTW Housing Choice Vouchers (HCV) Utilized	119,088	135,828	9,924 ³	11,319 ⁴
Local, Non-traditional: Tenant-based	2,256	2,412	188	201
Local, Non-traditional: Property-based	N/A	N/A	N/A	N/A
Local, Non-traditional: Homeownership	N/A	N/A	N/A	N/A
Planned/Actual Totals	150,144	168,672	12,512	14,056

Local, Non-traditional Category	MTW Activity Number/Name	Number of Unit Months Occupied/Leased		Number of Households Served	
		Planned	Actual	Planned	Actual
Tenant-based	Activity 2014-1: Stepped Down Assistance for Homeless Youth	300	348	25	29
Tenant-based	Activity 2013-2: Flexible Rental Assistance	600	840	50	70
Tenant-based	Activity 2007-6: Develop a Sponsor-based Housing Program	1,356	1,224	113	102
Planned/Actual Totals		2,256	2,412	188	201

² These numbers reflect a cumulative count of the total number of households served between January 1 and December 31, 2018. This number does not include the 3,223 port-in vouchers that we administered in 2018.

³ KCHA previously had projected this number as a point in time, which does not capture the dynamics of turnover and port-out voucher absorption that take place over the course of a year.

⁴ This number includes both block grant and special purpose voucher households. It is made up of tenant-based households (8,226), Project-based Section 8 households (2,442), and Port-out households (651).

ii. Description of Any Issues and Solutions Related to Leasing

Housing Program	Description of Leasing Issues and Solutions
Public Housing	The program did not encounter leasing issues in 2018.
Housing Choice Vouchers (HCV)	King County continued to have one of the most competitive rental markets and lowest vacancy rates in the nation. Despite this, KCHA saw improvements to its shopping success rate because of the innovative policies and practices we have put into place. First, we continued to use a tiered ZIP Code-based payment standard system that more closely matches area submarkets, reducing economic barriers to housing. We also continued to provide deposit assistance to searching households. The assignment of HCV staff caseloads by Zip Code provided landlords with a single and consistent point of contact that improved customer service and satisfaction. Also in 2018, our Landlord Liaison team was expanded from one staff member to three, leading to increased landlord participation. We continued to explore additional measures to support voucher holders in securing a home, including: unit holding fees; expedited lease-up processes for preferred landlords; ongoing re-evaluation of payment standards; and flexible funding to assist participants with back rent and utilities, application fees, and deposits. For families that received their vouchers in 2018, their shopping success rate was 76.8 percent at 240 days of searching.
Local, Non-traditional	Successfully leasing an apartment and maintaining housing stability in a tight rental market with a population that already faces multiple barriers remained a challenge for our local, non-traditional programs in 2018. Working closely with our community partners, we continued to explore the use of additional resources, such as landlord engagement, housing search navigation services, and housing stability support to improve shopping success rates. For our sponsor-based supportive housing program, a key strategy for housing individuals facing multiple barriers, KCHA provided additional technical assistance around landlord engagement to our provider partners.

C. WAIT LIST INFORMATION

i. Waiting List Information at End of 2018

Waiting List Name	Description	Number of Households on Waiting List	Waiting List Open, Partially Open, or Closed	Was the Waiting List Opened During 2018?
Housing Choice Voucher	Community-wide	1,930	Closed	No
Public Housing	Other: Regional	8,750	Open	Yes
Public Housing	Site-based	7,865	Open	Yes
Project-based	Other: Regional	3,152	Open	Yes
Public Housing - Conditional Housing	Program-specific	28	Open	Yes

ii. Changes to the Waiting List in 2018

KCHA did not make any changes to our waiting lists in 2018.

D. INFORMATION ON STATUTORY OBJECTIVES AND REQUIREMENTS

i. 75% of Families Assisted Are Very Low-income

Income Level	Number of Local, Non-Traditional Households Admitted in 2018
50%-80% Area Median Income	5
30%-49% Area Median Income	26
Below 30% Area Median Income	72

ii. Maintain Comparable Mix

Baseline Mix of Family Sizes Served (Upon Entry to MTW)

Family Size	Occupied Public Housing Units	Utilized HCVs	Non-MTW Adjustments	Baseline Mix Number	Baseline Mix Percentage
1 Person	1,201	1,929	N/A	3,130	34.05%
2 Person	674	1,497	N/A	2,171	23.62%
3 Person	476	1,064	N/A	1,540	16.75%
4 Person	360	772	N/A	1,132	12.32%
5 Person	250	379	N/A	629	6.84%
6+ Person	246	344	N/A	590	6.42%
Total	3,207	5,985	N/A	9,192	100%

Explanation for Baseline Adjustments

KCHA did not make any adjustments to our baseline mix of family sizes served.

Mix of Family Sizes Served⁵

	1 Person	2 Person	3 Person	4 Person	5 Person	6+ Person	Totals
Baseline Mix Percentage	34.05%	23.62%	16.75%	12.32%	6.84%	6.42%	100%
Number of Households Served in 2018	6,136	3,182	1,750	1,269	738	780	13,855
Percentages of Households Served in 2018	44.29%	22.97%	12.63%	9.16%	5.33%	5.63%	100%
Percentage Change	10.24%	-0.65%	-4.12%	-3.16%	-1.51%	-0.79%	0%
Justification and Explanation for Any Variances of Over 5% from the Baseline Percentages	<p>For more than a decade, KCHA has been an active partner in addressing our region's homelessness crisis and has aggressively pursued new incremental special purpose vouchers being made available by HUD. A large portion of these vouchers target homeless veterans and disabled households, populations largely comprised of single adults. According to the most recent point-in-time count, more than three-quarters of individuals experiencing homelessness were living in single adult households.⁶ KCHA's family mix has shifted accordingly over time. In 2018, KCHA's special purpose voucher households made up 33 percent of all one-bedroom households served.</p>						

⁵ This table does not include the 201 households served through KCHA's local, non-traditional programs.

⁶ Count Us In 2018: Seattle/King County Point-in-Time Count of Persons Experiencing Homelessness. <http://allhomekc.org/wp-content/uploads/2018/05/FINALDRAFT-COUNTUSIN2018REPORT-5.25.18.pdf>.

iii. Number of Households Transitioned to Self-sufficiency by Fiscal Year-end

Activity Name/#	Number of Households Transitioned	Agency Definition of Self-sufficiency
Stepped-down Assistance for Homeless Youth (2014-1)	20	Maintain housing
Passage Point Re-entry Housing Program (2013-1)	29	Positive move to Public Housing or other independent housing
EASY & WIN Rent (2008-10, 2008-11)	179	Positive move from KCHA to unsubsidized housing
Develop a Sponsor-based Housing Program (2007-6)	102	Maintain housing
Households Duplicated Across Activities/Definitions	0	
ANNUAL TOTAL NUMBER OF HOUSEHOLDS TRANSITIONED TO SELF-SUFFICIENCY	330	

In 2018, 330 households in KCHA's federally subsidized housing programs achieved self-sufficiency milestones. Of those, 179 achieved self-sufficiency by moving to non-subsidized housing and 151 maintained stable housing after experiencing homelessness or incarceration.

SECTION III

PROPOSED MTW ACTIVITIES

New activities are proposed in the annual MTW Plan.

SECTION IV

APPROVED MTW ACTIVITIES

A. IMPLEMENTED ACTIVITIES

The following table provides an overview of KCHA's implemented activities, the statutory objectives they aim to meet, and the page number in which more detail can be found for each.

Year-Activity #	MTW Activity	Statutory Objective(s)	Page Number
2018-1	Encouraging the Successful Lease-up of the Housing Choice Voucher Program	Housing Choice	19
2016-2	Conversion of Former Opt-out Developments to Public Housing	Cost-effectiveness	20
2015-2	Reporting on the Use of Net Proceeds from Disposition Activities	Cost-effectiveness	21
2014-1	Stepped-down Assistance for Homeless Youth	Self-sufficiency	23
2014-2	Revised Definition of "Family"	Housing Choice	24
2013-1	Passage Point Re-entry Housing Program	Housing Choice	25
2013-2	Flexible Rental Assistance	Housing Choice	27
2009-1	Project-based Section 8 Local Program Contract Term	Housing Choice	28
2008-1	Acquire New Public Housing	Housing Choice	28
2008-10 & 2008-11	EASY and WIN Rent Policies	Cost-effectiveness	30
2008-21	Public Housing and Housing Choice Voucher Utility Allowances	Cost-effectiveness	31
2007-6	Develop a Sponsor-based Housing Program	Housing Choice	33
2007-14	Enhanced Transfer Policy	Cost-effectiveness	34
2005-4	Payment Standard Changes	Housing Choice	35
2004-2	Local Project-based Section 8 Program	Cost-effectiveness Housing Choice	36
2004-3	Develop Site-based Waiting Lists	Cost-effectiveness Housing Choice	39
2004-5	Modified Housing Quality Standards (HQS) Inspection Protocols	Cost-effectiveness	40
2004-7	Streamlining Public Housing and Housing Choice Voucher Forms and Data Processing	Cost-effectiveness	41
2004-9	Rent Reasonableness Modifications	Cost-effectiveness	43
2004-12	Energy Performance Contracting	Cost-effectiveness	44
2004-16	Housing Choice Voucher Occupancy Requirements	Cost-effectiveness	45

ACTIVITY 2018-1: Encouraging the Successful Lease-up of the Housing Choice Voucher Program

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2018

IMPLEMENTED: 2018

CHALLENGE: King County's rental vacancy rate, currently at a historic low, coupled with the large in-migration of an affluent and skilled workforce, make it difficult for KCHA's voucher holders to compete in the private market.

SOLUTION: To address this issue, KCHA is working to preserve and increase the number of housing options available by recruiting and retaining landlords in the HCV program. In order to secure units, KCHA is exploring the implementation of incentive payments to landlords who agree to lease a recently vacated unit to another voucher holder, not to exceed one month of the Housing Assistance Payment (HAP). These payments will serve as an incentive for landlords to continue their participation in the HCV program by minimizing the owner's losses typically experienced during turnover. KCHA is seeking to streamline its Housing Quality Standards (HQS) protocol even further by conducting pre-qualifying unit inspections and deferring initial inspections, to be completed within 30 days of the signing of the HAP contract, at low-risk properties with a positive inspection record and where a significant number of KCHA residents already live at the property (additional criteria will be determined during program planning). If a unit fails inspection and the landlord does not make the necessary repairs or corrections within 15 days, KCHA will abate the first HAP payment and disqualify that particular landlord from additional pre-inspections. These efficiencies will enable faster lease-up times and cause less disruption for landlords while also ensuring program compliance.

In addition to strategies to improve landlord recruitment and retention, KCHA continues to invest in strategies to aid voucher holders in leasing a unit – especially efforts that increase access to high-opportunity neighborhoods, which often are financially out of reach for low-income households. Examples of previously implemented activities include: providing access to a security deposit assistance fund; use of multi-tiered, ZIP Code-based payment standards; and continuing to focus on landlord customer service. In addition, KCHA continues to support and participate in the Creating Moves to Opportunity (CMTO) research partnership, which tests new strategies for empowering HCV families with young children to access high-opportunity neighborhoods.

PROGRESS AND OUTCOMES: In 2018, KCHA’s Landlord Liaison team expanded from one to three staff members. As a result of this strategy and previously implemented strategies, our shopping success rate increased to 76.8 percent at 240 days of searching.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$0 saved	\$0 saved	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours ⁷	0 hours saved	0 hours saved	0 hours saved	Achieved
Increase housing choices	HC#7: Number of households receiving services aimed to increase housing choice	Shopping Success Rate: 70% at 240 days	80% at 240 days	76.8% at 240 days	In Progress

ACTIVITY 2016-2: Conversion of Former Opt-out Developments to Public Housing

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2016

IMPLEMENTED: 2016

CHALLENGE: The process to convert a property’s subsidy model from project-based Section 8 to Public Housing is slow, burdensome, and administratively complex.

SOLUTION: This policy allows KCHA to convert entire project-based Section 8 opt-out properties to Public Housing at once. Under current federal guidelines, units convert only when the original resident moves out with a voucher. This transition is gradual, and at properties that house seniors or residents with disabilities, turnover of units tends to be especially slow. In the meantime, two sets of rules – project-based Section 8 and Public Housing – simultaneously govern the management of the development, adding to the administrative complexity of providing housing assistance.

This activity builds on KCHA’s previously approved initiative (2008-1) to expand housing through use of banked Public Housing ACC units. KCHA can convert former project-based “opt-out” sites to Public Housing through the development process outlined in 24 CFR 905, rather than through the typical gradual transition. As a result, this policy greatly streamlines operations and increases administrative efficiency.

⁷ This activity does not save staff hours or other resources.

With transition to Public Housing subsidy, current enhanced voucher participants retain protections against future rent increases in much the same manner as previously provided. As a Public Housing resident, these households pay an affordable rent (based on policies outlined in KCHA's Public Housing Admissions and Continued Occupancy Policy [ACOP]) and therefore remain protected from a private owner's decision to increase the contract rent. At the same time, KCHA's MTW-enhanced Transfer Policy ensures that former enhanced voucher recipients retain the same (if not greater) opportunity for mobility by providing access to transfer to other subsidized units within KCHA's portfolio or use a general HCV should future need arise.

KCHA works with affected residents of selected former opt-out properties, providing ample notification and information (including the right to move using a general voucher for current enhanced voucher participants) in order to ensure the development's seamless transition to the Public Housing program.

PROGRESS AND OUTCOMES: KCHA did not convert any opt-out developments to Public Housing in 2018.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$1,320 ⁸ saved	N/A	N/A
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved	40 hours saved	N/A	N/A

ACTIVITY 2015-2: Reporting on the Use of Net Proceeds from Disposition Activities

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2015

IMPLEMENTED: 2016

CHALLENGE: The reporting process for the use of net proceeds from KCHA's disposition activities is duplicative and burdensome. The reporting protocol for the MTW program aligns with the Section 18 disposition code reporting requirements, allowing for an opportunity to simplify this process.

SOLUTION: KCHA reports on the use of net proceeds from disposition activities in the annual MTW report. This streamlining activity allows us to realize time-savings and administrative efficiencies while

⁸ This figure was calculated by multiplying the median hourly wage and benefits (\$33) of staff who oversee this activity by the number of hours saved. The number is a monetization of the hours saved through the implementation of this program.

continuing to adhere to the guidelines outlined in 24 CFR 941 Subpart F of Section 18 demolition and disposition code.

We use our net proceeds from the last HOPE VI disposition, Seola Gardens, in some of the following ways, all of which are accepted uses under Section 18(a)(5):

1. Repair or rehabilitation of existing ACC units.
2. Development and/or acquisition of new ACC units.
3. Provision of social services for residents.
4. Implementation of a preventative and routine maintenance strategy for specific single-family scattered-site ACC units.
5. Modernization of a portion of a residential building in our inventory to develop a recreation room, laundry room, or day-care facility for residents.
6. Leveraging of proceeds in order to partner with a private entity for the purpose of developing mixed-finance Public Housing under 24 CFR 905.604.

We report on the proceeds' uses, including administrative and overhead costs, in the MTW reports. The net proceeds from this project are estimated to be \$5 million.

PROGRESS AND OUTCOMES: In 2018, KCHA received net sale proceeds of \$1.9 million from the disposition of the Eastside Regional Maintenance building. The proceeds covered a part of the purchase price for the 15-unit Houghton Court (Kirkland).

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	Estimated \$11,840 ⁹ saved	Estimated \$11,840 saved	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved	Estimated 160 hours saved	Estimated 160 hours saved	Achieved

⁹ This figure was calculated by multiplying the median hourly wage and benefits (\$74) of the staff member who oversees this activity by the number of hours saved. This number represents a hypothetical estimate of the dollar amount that could be saved in staff hours by implementing this activity.

ACTIVITY 2014-1: Stepped-down Assistance for Homeless Youth

MTW STATUTORY OBJECTIVE: Increase Self-sufficiency

APPROVAL: 2014

IMPLEMENTED: 2014

CHALLENGE: During the January 2018 point-in-time homeless count in King County, 1,518 youth and young adults were identified as homeless or unstably housed.¹⁰ Local service providers have identified the need for a short-term, gradually diminishing rental subsidy structure to meet the unique needs of these youth.

SOLUTION: KCHA has implemented a flexible, “stepped-down” rental assistance model in partnership with local youth service providers. Our provider partners find that a short-term rental subsidy, paired with supportive services, is the most effective way to serve homeless youth, as a majority of them do not require extended tenure in a supportive housing environment. By providing limited-term rental assistance and promoting graduation to independent living, more youth can be served effectively. KCHA is partnering with Valley Cities Counseling and Consultation to operate the Coming Up initiative. This program offers independent housing opportunities to young adults (ages 18 to 25) who are either exiting homelessness or currently living in service-rich transitional housing. With support from the provider, participants move into housing in the private rental market, sign a lease, and work with a resource specialist who prepares them to take over the lease after a period of being stabilized in housing.

PROGRESS AND OUTCOMES: As the rental market continues to escalate at an unprecedented rate across King County, KCHA and Valley Cities Counseling are closely monitoring the outcomes of young adults exiting the Coming Up program model to ensure it remains an effective tool in setting up young adults to maintain their housing by program completion.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase self-sufficiency	SS #1: Average earned income of households affected by this policy	\$0/month	\$200/month	\$932/month	Exceeded
Increase self-sufficiency	SS #3: Employment status for heads	(1) Employed Full-time	4 participants	6 participants	Partially Achieved

¹⁰ Count Us In 2018: Seattle/King County Point-in-Time Count of Persons Experiencing Homelessness. <http://allhomekc.org/wp-content/uploads/2018/05/FINALDRAFT-COUNTUSIN2018REPORT-5.25.18.pdf>

	of household	0 participants			
	(2) Employed Part-time				
		0 participants	7 participants	15 participants	
	(3) Enrolled in an Educational Program				
		0 participants	4 participants	5 participants	
	(4) Enrolled in Job-training Program				
		0 participants	1 participant	0 participants	
	(5) Unemployed				
		0 participants	0 participants	8 participants	
	(6) Other				
		0 participants	0 participants	6 participants ¹¹	
Increase self-sufficiency	SS #5: Number of households receiving services	0 households	25 households	29 households	Exceeded
Increase self-sufficiency	SS #7: Tenant rent share	0 households	7 households paying \$200 or more toward contract rent	8 households paying \$200 or more toward contract rent	Exceeded
Increase self-sufficiency	SS #8: Households transition to self-sufficiency ¹²	0 households	14 households	17 households	Exceeded

ACTIVITY 2014-2: Revised Definition of “Family”

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2014

IMPLEMENTED: 2014

CHALLENGE: According to the January 2018 point-in-time count, 2,624 individuals experiencing homelessness in King County were in families with children.¹³ Thousands more elderly and people with disabilities, many with severe rent burdens, are homeless or on our waiting lists.

¹¹ Receiving entitlement benefits.

¹² Self-sufficiency for this activity is defined as securing and maintaining housing.

¹³ Count Us In 2018: Seattle/King County Point-in-Time Count of Persons Experiencing Homelessness. <http://allhomekc.org/wp-content/uploads/2018/05/FINALDRAFT-COUNTUSIN2018REPORT-5.25.18.pdf>

SOLUTION: This policy directs KCHA’s limited resources to populations facing the greatest need: elderly and near-elderly households; households with people with disabilities; and families with minor children. We modified the eligibility standards outlined in the Public Housing ACOP and HCV Administrative Plans to limit eligible households to those that include at least one senior or person with a disability, or a minor/dependent child. The current policy affects only admissions and does not affect the eligibility of households currently receiving assistance. Exceptions will be made for participants in programs that target specialized populations such as domestic violence victims or individuals who have been chronically homeless.

PROGRESS AND OUTCOMES: KCHA continued to apply this policy to new applicants, sustaining a reduced HCV wait list time of 20 months.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase housing choices	HC #3: Average applicant time on HCV wait list (in months)	29 months	25 months	20 months	Exceeded
Increase housing choices	HC #4: Number of households at or below 80% AMI that would lose assistance or need to move	0 households	0 households	0 households	Achieved

ACTIVITY 2013-1: Passage Point Re-entry Housing Program

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2013

IMPLEMENTED: 2013

CHALLENGE: In 2018, 1,497 individuals in King County returned to the community after a period of incarceration.¹⁴ Nationally, more than half of all inmates are parents who will face barriers to securing housing and employment upon release due to their criminal record or lack of job skills.¹⁵ Without a home or employment, many of these parents are unable to reunite with their children.

SOLUTION: Passage Point is a unique supportive housing program that serves parents trying to reunify with their children following a period of incarceration. KCHA provides 46 project-based Section 8 vouchers while the YWCA provides property management and supportive services. The YWCA identifies

¹⁴ Washington State Department of Corrections. Number of Prison Releases by County of Release. <https://www.doc.wa.gov/docs/publications/reports/200-RE001.pdf>

¹⁵ Glaze, L E and Maruschak, M M (2008). Parents in Prison and Their Minor Children. <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=823>

eligible individuals through outreach to prisons and correctional facilities. In contrast to typical transitional housing programs that have strict 24-month occupancy limits, Passage Point participants may remain in place until they have completed the reunification process, are stabilized in employment, and can demonstrate their ability to succeed in a less service-intensive environment. Passage Point participants who complete the program and regain custody of their children may apply to KCHA's Public Housing program and receive priority placement on the wait list.

PROGRESS AND OUTCOMES: In 2018, 55 families lived and participated in services at Passage Point, and 34 children were successfully reunified with their parents. By the end of the year, 29 of these families had graduated to permanent housing.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #4: Amount of funds leveraged in dollars	\$0	\$500,000	\$623,333	Exceeded
Increase housing choices	HC #5: Number of households able to move to a better unit ¹⁶	0 households	40 households	55 households	Exceeded
Increase housing choices	HC #7: Number of households receiving services aimed to increase housing choice	0 households	40 households	55 households	Exceeded
Increase self-sufficiency	SS #1: Average earned income of households affected by this policy	\$0	\$3,584	\$2,739	In Progress
Increase self-sufficiency	SS #3: Employment status for heads of household	(1) Employed Full-time			Partially Achieved
		0	15	20	
		(2) Employed Part-time			
		0	15	11	
		(3) Enrolled in an Educational Program			
		0	15	13	
		(4) Enrolled in Job Training Program			
		0	12	10	
		(5) Unemployed			
		0	0	19	
		(6) Other: engaged in services			

¹⁶ Better unit is defined as stable housing.

		0	0	0	
Increase self-sufficiency	SS #8: Number of households transitioned to self-sufficiency ¹⁷	0 households	5 households	29 households	Exceeded

ACTIVITY 2013-2: Flexible Rental Assistance

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2013

IMPLEMENTED: 2013

CHALLENGE: The one-size-fits-all approach of traditional housing programs does not provide the flexibility needed to quickly and effectively meet the needs of low-income individuals facing distinct housing crises. In many of these cases, a short-term rental subsidy paired with responsive, individualized case management can help a family out of a crisis situation and into safe and stable housing.

SOLUTION: This activity, developed with local service providers, offers tailored flexible housing assistance to families and individuals in crisis. KCHA provides flexible financial assistance, including time-limited rental subsidy, security deposits, rent arrears, and funds to cover move-in costs, while our partners provide individualized support services. The Student and Family Stability Initiative (SFSI) pairs short-term rental assistance with housing stability and employment navigation services for families experiencing or on the verge of homelessness. School-based McKinney-Vento liaisons identify and connect these families with community-based service providers while caseworkers have the flexibility to determine the most effective approach to quickly stabilize participants in housing.

PROGRESS AND OUTCOMES: The SFSI program was expanded to the Tukwila School District at the start of the 2017-18 school year, bringing the total number of schools served in south King County to 39. In 2018, KCHA provided flexible rental assistance to 70 formerly homeless families with 129 school-aged children.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase housing choices	HC #5: Number of households able to move to a better unit	0 households	50 households	70 households	Exceeded
Increase housing choices	HC #7: Number of households receiving services aimed to increase housing choice	0 households	100 households	112 households	Exceeded

¹⁷ Self-sufficiency in this activity is defined as graduating to Public Housing or other independent housing.

ACTIVITY 2009-1: Project-based Section 8 Local Program Contract Term

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2009

IMPLEMENTED: 2009

CHALLENGE: Prior to 2009, our nonprofit development partners faced difficulties securing private financing for the development and acquisition of affordable housing projects. Measured against banking and private equity standards, the Housing Assistance Payments (HAP) contract term set by HUD is too short and hinders underwriting debt on affordable housing projects.

SOLUTION: This activity extends the allowable term for Project-based Section 8 contracts up to 30 years for the initial HAP term and a 30-year cumulative maximum contract renewal term not to exceed 60 years total. The longer term assists our partners in underwriting and leveraging private financing for development and acquisition projects. At the same time, the longer-term commitment from KCHA signals to lenders and underwriters that proposed projects have sufficient cash flow to take on the debt necessary to develop or acquire affordable housing units.

PROGRESS AND OUTCOMES: KCHA continued to save 20 hours of staff time per contract.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$880 saved	\$880 saved per contract ¹⁸	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved per contract	20 hours saved per contract	20 hours saved per contract	Achieved

ACTIVITY 2008-1: Acquire New Public Housing

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2008

IMPLEMENTED: 2008

CHALLENGE: In King County, 41 percent of households earning less than 80% of AMI pay more than 50 percent of their income each month on rent and utilities. For the lowest income families in our region, those earning less than 30% of AMI, a staggering 65 percent are paying more than half of their income

¹⁸ This figure was calculated by multiplying the median hourly wage and benefits (\$44) of the staff member who oversees this activity by the number of hours saved. The number is a monetization of the hours saved through the implementation of this program.

on rent.¹⁹ In the context of these challenges, KCHA's Public Housing wait lists continue to grow. Given the gap between available affordable housing and the number of low-income renters, KCHA must continue to increase the inventory of units affordable to extremely low-income households.

SOLUTION: KCHA's Public Housing ACC is currently below the Faircloth limit in the number of allowable units. These "banked" Public Housing subsidies allow us to add to the affordable housing supply in the region by acquiring new units. This approach is challenging, however, because Public Housing units cannot support debt. We continued our innovative use of MTW working capital, with a particular focus on the creation or preservation of units in high-opportunity neighborhoods.²⁰

We further simplify the acquisition and addition of units to our Public Housing inventory by partnering with the local HUD field office to streamline the information needed to add these units to the PIH Information Center system and obtain operating and capital subsidies. We also use a process for self-certification of neighborhood suitability standards and Faircloth limits, necessitating the flexibility granted in Attachment D, Section D of our MTW Agreement.²¹

PROGRESS AND OUTCOMES: In 2018, KCHA purchased Houghton Court (Kirkland), preserving 15 affordable units in this high-opportunity community.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase housing choices	HC # 1: Number of new housing units made available for households at or below 80% AMI	0 units (2004)	700 units	458 cumulative units	In Progress
Increase housing choices	HC #2: Number of housing units at or below 80% AMI that would not otherwise be available	0 units	700 units	458 cumulative units	In Progress
Increase housing choices	HC #5: Number of households able to move to an opportunity neighborhood	0% of new units	50% of new units	100%	Exceeded

¹⁹ 2017 one-year ACS estimates.

²⁰ Neighborhood opportunity designations are from the Puget Sound Regional Council and Kirwan Institute's Opportunity Mapping index (<https://www.psrc.org/opportunity-mapping>).

²¹ Some Public Housing units might be designated MTW Neighborhood Services units over this next year upon approval from the HUD field office.

ACTIVITY 2008-10 and 2008-11: EASY and WIN Rent Policies

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness and Self-sufficiency

APPROVAL: 2008

IMPLEMENTED: 2008

CHALLENGE: The administration of rental subsidies under existing HUD rules can be complex and confusing to the households we serve. Significant staff time was being spent complying with federal requirements that do not promote better outcomes for residents, safeguard program integrity, or save taxpayer money. The rules regarding deductions, annual reviews and recertifications, and income calculations were cumbersome and often hard to understand. Many of our households live on fixed incomes that change only when there is a Cost of Living Adjustment (COLA), making annual reviews superfluous. For working households, HUD's rent rules include complicated earned-income disregards that can manifest as disincentives to income progression and employment advancement.

SOLUTION: KCHA has two rent reform policies. The first, EASY Rent, simplifies rent calculations and recertifications for households with elderly residents and persons with disabilities that derive 90 percent of their income from a fixed source (such as Social Security, Supplemental Security Income [SSI], or pension benefits), and are enrolled in our Public Housing, HCV, or project-based Section 8 programs. Rents are calculated at 28 percent of adjusted income with deductions for medical- and disability-related expenses in \$2,500 bands, with the cap on deductions at \$10,000. EASY Rent streamlines KCHA operations and simplifies the burden placed on residents by reducing recertification reviews to a three-year cycle and rent adjustments based on COLA increases in Social Security and SSI payments to an annual cycle.

The second policy, WIN Rent, was implemented in FY 2010 to encourage increased economic self-sufficiency among households where individuals are able to work. WIN Rent is calculated on a series of income bands and the tenant's share of the rent is calculated at 28.3 percent of the lower end of each income band. This tiered system – in contrast to existing rent protocols – does not punish increases in earnings, as the tenant's rent does not change until household income increases to the next band level. Additionally, recertifications are conducted biennially instead of annually, allowing households to retain all increases in earnings during that time period without an accompanying increase to the tenant's share of rent. The WIN Rent structure also eliminates flat rents, income disregards, and deductions (other than childcare for eligible households), and excludes the employment income of household members under age 21. Households with little or no income are given a six-month reprieve during which they are able to

pay a lower rent or, in some cases, receive a credit payment. Following this period, a WIN Rent household pays a minimum rent of \$25 regardless of income calculation.

In addition to changes to the recertification cycle, we also have streamlined processing and reviews. For example, we limit the number of tenant-requested reviews to reduce rent to two occurrences in a two-year period in the WIN Rent program. We estimate that these policy and operational modifications have reduced the relevant administrative workloads in the HCV and Public Housing programs by 20 percent.

PROGRESS AND OUTCOMES: KCHA continues to realize significant savings in staff time and resources through the simplified rent calculation protocol, saving more than 6,100 hours in 2018.

MTW Statutory Objective	Unit of Measurement	Baseline ²²	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$116,787 saved ²³	\$201,993 saved	Exceeded
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved	3,000 HCV staff hours saved; 450 PH staff hours saved	4,869 HCV staff hours saved; 1,251 PH staff hours saved	Exceeded
Increase self-sufficiency	SS #1: Average income of households (EASY)	HCV: \$10,617 PH: \$10,514	2% increase	HCV: \$12,157 PH: \$11,402	Exceeded
Increase self-sufficiency	SS #1: Average earned income of households (WIN)	HCV: \$7,983 PH: \$14,120	3% increase	HCV: \$21,279 PH: \$22,812	Exceeded
Increase self-sufficiency	SS #8: Households transition to self-sufficiency ²⁴	0 households	25 households	179 households	Exceeded

ACTIVITY 2008-21: Public Housing and Housing Choice Voucher Utility Allowances

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2008

IMPLEMENTED: 2010

CHALLENGE: KCHA would spend an estimated \$23,700 in additional staff time to administer utility allowances under HUD's one-size-fits-all national guidelines. HUD's national approach fails to capture average consumption levels in the Puget Sound area.

²² 2010 earned income baseline from Rent Reform Impact Report, John Seasholtz.

²³ This figure was calculated by multiplying the median hourly wage and benefits (\$33) of the staff members who oversee this activity by the number of hours saved. This number is a monetization of the hours saved through the implementation of this program.

²⁴ Self-sufficiency is defined as a positive move from subsidized housing.

SOLUTION: This activity simplifies the HUD rules on Public Housing and HCV Utility Allowances by applying a universal methodology that reflects local consumption patterns and costs. Before this policy change, allowances were calculated for each individual unit and household type with varied rules under the HCV and Public Housing programs. Additionally, HUD required an immediate update of the allowances with each cumulative 10 percent rate increase made by utility companies. Now, KCHA provides allowance adjustments annually when the Consumer Price Index produces a change (decrease or increase) of more than 10 percent rather than each time an adjustment is made to the utility equation. We examined data from a Seattle City Light study completed in 2009, which allowed us to identify key factors in household energy use and project average consumption levels for various types of units in the Puget Sound region. We used this information to set a new utility schedule that considers various factors: type of unit (single vs. multi-family); size of unit; high-rise vs. low-rise units; and the utility provider. We also modified allowances for units where the resident pays water and/or sewer charges. KCHA's Hardship Policy, adopted in July 2010, allows KCHA to respond to unique household or property circumstances and documented cases of financial hardship, including utility rate issues.

PROGRESS AND OUTCOMES: KCHA continued to set utility allowances to the streamlined regional utility schedule, allowing us to save more than 300 hours of staff time this past year.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$22,116 saved ²⁵	\$23,788 saved	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved	291 hours saved	313 hours saved	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 minutes saved per HCV file and 0 minutes saved per PH file	2.5 minutes saved per HCV file and 5 minutes saved per PH file	2.5 minutes saved per HCV file and 5 minutes saved per PH file	Achieved

²⁵ This figure was calculated by multiplying the median hourly wage and benefits (\$76) of the staff member who oversees this activity by the number of hours saved. The number is a monetization of the hours saved through the implementation of this program.

ACTIVITY 2007-6: Develop a Sponsor-based Housing Program

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2007

IMPLEMENTED: 2007

CHALLENGE: According to the January 2018 point-in-time count, 12,112 individuals in King County were experiencing homelessness.²⁶ Of those, 3,552 people were chronically homeless. Many landlords are hesitant to sign a lease with an individual who has been chronically homeless, usually due to that person's poor or non-existent rental history, lack of consistent employment, or involvement with the criminal justice system. Most people who have been chronically homeless require additional support, beyond rental subsidy, to secure and maintain a safe and stable place to live.

SOLUTION: In the sponsor-based housing program, KCHA provides housing funds directly to our behavioral health care partners, including Sound, Navos Mental Health Solutions, and Valley Cities Counseling and Consultation. These providers use the funds to secure private market rentals that are then subleased to program participants. The programs operate under the "Housing First" model of supportive housing, which couples low-barrier placement in permanent, scattered-site housing with intensive, individualized services that help residents maintain long-term housing stability. Recipients of this type of support are referred through the mental health system, street outreach teams, and King County's Coordinated Entry for All system. Once a resident is stabilized and ready for a more independent living environment, KCHA offers a move-on strategy through a tenant-based non-elderly disability voucher.

PROGRESS AND OUTCOMES: In 2018, we continued to serve the hardest-to-house populations through a Housing First model that coordinates across the housing, mental health, and homeless systems. We worked closely with our partners to help them retain and recruit landlords in order to ensure housing opportunities remain available for this vulnerable population.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase housing choices	HC #1: Number of new units made available for households at or below 80% AMI	0 units	95 units	117 units	Exceeded

²⁶ Count Us In 2018: Seattle/King County Point-in-Time Count of Persons Experiencing Homelessness. <http://allhomekc.org/wp-content/uploads/2018/05/FINALDRAFT-COUNTUSIN2018REPORT-5.25.18.pdf>

Increase housing choices	HC #5: Number of households able to move to a better unit	0 households	95 households	102 households	Exceeded
Increase self-sufficiency	SS #5: Number of households receiving services aimed to increase self-sufficiency	0 households	95 households	102 households	Exceeded
Increase self-sufficiency	SS #8: Number of households transitioned to self-sufficiency	0 households	90 households	102 households	Exceeded

ACTIVITY 2007-14: Enhanced Transfer Policy

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2007

IMPLEMENTED: 2007

CHALLENGE: HUD rules restrict a resident from moving from Public Housing to HCV, or from HCV to Public Housing, which hampers our ability to meet the needs of our residents. For example, PBS8 residents may need to move if their physical abilities change and they can no longer access their second-story, walk-up apartment. A Public Housing property may have an accessible unit available. Under traditional HUD regulations, this resident would not be able to move into this available unit.

SOLUTION: Under existing HUD guidelines, a resident cannot transfer between the HCV and Public Housing programs regardless of whether a more appropriate unit for the resident is available in the other program. This policy allows a resident to transfer among KCHA's various subsidized programs and expedites access to Uniform Federal Accessibility Standards (UFAS)-rated units for mobility-impaired households. In addition to mobility needs, a household might grow in size and require a larger unit with more bedrooms. The enhanced transfer policy allows a household to move to a larger unit when one becomes available in either program. In 2009, KCHA took this one step further by actively encouraging over-housed or under-housed residents to transfer when an appropriately sized unit becomes available. The flexibility provided through this policy allows us to swiftly meet the needs of our residents by housing them in a unit that suits their situation best, regardless of which federal subsidy they receive.

PROGRESS AND OUTCOMES: In 2018, 40 households that traditionally would not have been eligible for a change of unit were able to move to a more suitable unit.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Increase housing choices	HC # 5: Number of households able to move to a better unit and/or opportunity neighborhood	0 households	10 households	40 households	Exceeded

ACTIVITY 2005-4: Payment Standard Changes

MTW STATUTORY OBJECTIVE: Increase Housing Choice

APPROVAL: 2005

IMPLEMENTED: 2005

CHALLENGE: Currently, 31.5 percent of KCHA’s tenant-based voucher households live in high-opportunity neighborhoods of King County, which means about 70 percent may be unable to reap the benefits that come with residing in such an area. These benefits include improved educational opportunities, increased access to public transportation, and greater economic opportunities.²⁷ Not surprisingly, high-opportunity neighborhoods also have more expensive rents. According to recent market data, a two-bedroom rental unit at the 40th percentile in east King County – typically a high-opportunity area – costs \$609 more than the same unit in lower opportunity areas of south King County.²⁸ To move to high-opportunity areas, voucher holders need sufficient resources, which are not available under traditional payment standards. Conversely, broadly applied payment standards that encompass multiple housing markets – low and high – result in HCV rents “leading the market” in lower-priced areas.

SOLUTION: This initiative develops local criteria for the determination and assignment of payment standards to better match local rental markets, with the goals of increasing affordability in high-opportunity neighborhoods and ensuring the best use of limited financial resources. We develop our payment standards through an analysis of local submarket conditions, trends, and projections. This approach means that we can provide subsidy levels sufficient for families to afford the rents in high-opportunity areas of the county and not have to pay market-leading rents in less expensive neighborhoods. As a result, our residents are less likely to be squeezed out by tighter rental markets and therefore have greater geographic choice. In 2005, KCHA began applying new payment standards at the time of a resident’s next annual review. In 2007, we expanded this initiative and allowed approval of

²⁷ Neighborhood opportunity designations are from the Puget Sound Regional Council and Kirwan Institute’s Opportunity Mapping index (<https://www.psrc.org/opportunity-mapping>).

²⁸ Apartment Insights, King County Rental Data Report for the 4th Quarter of 2018.

payment standards of up to 120 percent of Fair Market Rent (FMR) without HUD approval. In early 2008, we decoupled the payment standards from HUD’s FMR calculations entirely so that we could be responsive to the range of rents in Puget Sound’s submarkets. Current payment standards for two-bedroom apartments range from 84 percent to 132 percent of the regional HUD FMR.

In 2016, KCHA implemented a five-tiered payment standard system based on ZIP Codes. We arrived at a five-tiered approach by analyzing recent tenant lease-up records, consulting local real estate data, holding forums with residents and staff, reviewing small area FMR payment standard systems implemented by other housing authorities, and assessing the financial implications of various approaches. In designing the new system, we sought to have enough tiers to account for submarket variations but not so many that the new system became burdensome and confusing for staff and residents. At the end of 2017, we implemented an additional sixth payment standard tier to more closely account for variations in a local housing market.

PROGRESS AND OUTCOMES: In 2018, we implemented a biannual review of market conditions to ensure our payment standards were keeping pace with the rapidly changing submarkets in King County.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0	\$0	\$0	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete the task in staff hours	0 hours	0 hours	0 hours ²⁹	Achieved
Increase housing choices	HC # 5: Number of households able to move to an opportunity neighborhood ³⁰	21% of HCV households live in high-opportunity neighborhoods	30% of HCV households live in high-opportunity neighborhoods	31.5% of HCV households live in high-opportunity neighborhoods	Exceeded

ACTIVITY 2004-2: Local Project-based Section 8 Program

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness and Housing Choice

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: Current project-basing regulations are cumbersome and present multiple obstacles to serving high-need households, partnering effectively and efficiently with nonprofit developers, and

²⁹ This activity is net neutral in terms of hours or dollars saved. Workload remained the same, however staff changed the timing of when they were applying payment standards.

³⁰ All tenant-based voucher households.

promoting housing options in high-opportunity areas. Some private-market landlords refuse to rent to tenants with imperfect credit or rental history, especially in tight rental markets such as ours.

Meanwhile, nonprofit housing acquisition and development projects that would serve extremely low-income households require reliable sources of rental subsidies. The reliability of these sources is critical for the financial underwriting of these projects and successful engagement with banks and tax-credit equity investors.

SOLUTION: The ability to streamline the project-based Section 8 program is an important factor in addressing the distribution of affordable housing in King County and coordinating effectively with local initiatives. KCHA places project-based Section 8 subsidies in high-opportunity areas of the county in order to increase access to these desirable neighborhoods for low-income households.³¹ We also partner with nonprofit community service providers to create housing targeted to special needs populations, opening new housing opportunities for people experiencing chronic homelessness, behavioral health issues, or a disability, as well as homeless young adults and families traditionally not served through our mainstream Public Housing and HCV programs. Additionally, we coordinate with county government and suburban jurisdictions to underwrite a pipeline of new affordable housing developed by local nonprofit housing providers. MTW flexibility granted by this activity has helped us implement the following policies.

CREATE HOUSING TARGETED TO SPECIAL-NEEDS POPULATIONS BY:

- Assigning project-based Section 8 subsidy to a limited number of demonstration projects not qualifying under standard policy in order to serve important public purposes. (FY 2004)
- Modifying eligibility and selection policies as needed to align with entry criteria for nonprofit-operated housing programs. (FY 2004)

SUPPORT A PIPELINE OF NEW AFFORDABLE HOUSING BY:

- Prioritizing assignment of PBS8 assistance to units located in high-opportunity census tracts, including those with poverty rates lower than 20 percent. (FY 2004)
- Waiving the 25 percent cap on the number of units that can be project-based on a single site. (FY 2004)

³¹ Neighborhood opportunity designations are from the Puget Sound Regional Council and Kirwan Institute's Opportunity Mapping index (<https://www.psrc.org/opportunity-mapping>).

- Allocating PBS8 subsidy non-competitively to KCHA-controlled sites or other jurisdictions and using an existing local government procurement process for project-basing Section 8 assistance. (FY 2004)
- Allowing owners and agents to conduct their own construction and/or rehab inspections, and having the management entity complete the initial inspection rather than KCHA, with inspection sampling at annual review. (FY 2004)
- Modifying eligible unit and housing types to include shared housing, cooperative housing, transitional housing, and high-rise buildings. (FY 2004)
- Allowing PBS8 rules to defer to Public Housing rules when used in conjunction with a mixed finance approach to housing preservation or when assigned to a redeveloped former Public Housing property. (FY 2008)
- Partnering with local municipalities to develop a local competitive process that pairs project-based assistance with local zoning incentives. (FY 2016)

IMPROVE PROGRAM ADMINISTRATION BY:

- Allowing project sponsors to manage project wait lists as determined by KCHA. (FY 2004).
- Using KCHA's standard HCV process for determining Rent Reasonableness for units in lieu of requiring third-party appraisals. (FY 2004)
- Allowing participants in "wrong-sized" units to remain in place and pay the higher rent, if needed. (FY 2004)
- Assigning standard HCV payment standards to PBS8 units, allowing modification with approval of KCHA where deemed appropriate. (FY 2004)
- Offering moves to Public Housing in lieu of an HCV exit voucher (FY 2004) or allowing offer of a tenant-based voucher for a limited period as determined by KCHA in conjunction with internal Public Housing disposition activity. (FY 2012)
- Allowing KCHA to modify the HAP contract. (FY 2004)
- Eliminating the procedure of temporarily removing units from the HAP contract in cases in which a PBS8 resident is paying full HAP (2004).
- Using Public Housing preferences for PBS8 units in place of HCV preferences. (FY 2008)
- Allowing KCHA to inspect units at contract execution rather than contract proposal. (FY 2009)
- Modifying the definition of "existing housing" to include housing that could meet HQS within 180 days. (FY 2009)

- Allowing direct owner or provider referrals to a PBS8 vacancy when the unit has remained vacant for more than 30 days. (FY 2010)
- Waiving the 20 percent cap on the amount of HCV budget authority that can be project-based, allowing KCHA to determine the size of our PBS8 program. (FY 2010)

PROGRESS AND OUTCOMES: KCHA continued to see efficiencies through streamlined program administration and modified business processes, saving and redirecting an estimated 45 hours per contract for each issued RFP.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved per contract	\$1,980 saved per contract ³²	\$1,980 saved per contract	Achieved
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved per contract for RFP	45 hours saved per contract for RFP	45 hours saved per contract for RFP	Achieved
Increase housing choices	HC #3: Average applicant time on wait list in months (decrease)	0 months	29 months	43 months ³³	In Progress
Increase housing choices	HC #5: Number of households able to move to a better unit and/or neighborhood of opportunity	0 households	45% of project-based units in high-opportunity neighborhoods	49.6% of project-based units in high-opportunity neighborhoods	Exceeded

ACTIVITY 2004-3: Develop Site-based Waiting Lists

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness and Housing Choice

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: Under traditional HUD wait list guidelines, an individual can wait more than two-and-a-half years for a Public Housing unit. This wait is too long. And once a unit does become available, it might not meet the family's needs or preferences, such as proximity to a child's school or access to local service providers.

SOLUTION: Under this initiative, we have implemented a streamlined wait list system for our Public Housing program that provides applicants additional options for choosing the location where they want

³² This figure was calculated by multiplying the median hourly wage and benefits (\$44) of the staff member who oversees this activity by the number of hours saved. The number is a monetization of the hours saved through the implementation of this program.

³³ KCHA calculated this figure differently than in past years. We took the weighted average of the wait time for applicant households currently on these lists. In the past, we calculated the wait time for those who entered housing in the fiscal year.

to live. In addition to offering site-based wait lists, we also maintain regional wait lists and have established a list to accommodate the needs of graduates from the region's network of transitional housing facilities for homeless families. In general, applicants are selected for occupancy using a rotation between the site-based, regional, and transitional housing applicant pools, based on an equal ratio. Units are not held vacant if a particular wait list is lacking an eligible applicant. Instead, a qualified applicant is pulled from the next wait list in the rotation.

PROGRESS AND OUTCOMES: This streamlined process continued to save an estimated 172 hours of staff time annually.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$4,176 saved ³⁴	\$4,988 saved	Exceeded
Reduce costs and achieve greater cost-effectiveness	CE#2: Total time to complete task in staff hours	0 hours saved	144 hours saved	172 hours saved	Exceeded
Increase housing choices	HC #3: Average applicant time on wait list in months (decrease)	0 months	28 months	75 months ³⁵	In Progress
Increase housing choices	HC #5: Number of households able to move to a better unit and/or opportunity neighborhood	0% of applicants	100% of Public Housing and project-based applicants housed from site-based or regional wait lists	100% of Public Housing and project-based applicants housed from site-based or regional wait lists	Achieved

ACTIVITY 2004-5: Modified Housing Quality Standards (HQS) Inspection Protocols

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: HUD's HQS inspection protocols often require multiple trips to the same neighborhood, the use of third-party inspectors, and blanket treatment of diverse housing types, adding more than \$93,000 to annual administrative costs. Follow-up inspections for minor "fail" items impose additional burdens on landlords, who in turn may resist renting to families with HCVs.

³⁴ This figure was calculated by multiplying the median hourly wage and benefits (\$29) of the staff member who oversees this activity by the number of hours saved. The number is a monetization of the hours saved through the implementation of this program.

³⁵ KCHA calculated this figure differently than in past years. We took the weighted average of the wait time for applicant households currently on these lists. In the past, we calculated the wait time for those who entered housing in the fiscal year.

SOLUTION: Through a series of HCV program modifications, we have streamlined the HQS inspection process to simplify program administration, improve stakeholder satisfaction, and reduce administrative costs. Specific policy changes include: allowing the release of HAP payments when a unit fails an HQS inspection due to minor deficiencies (applies to both annual and initial move-in inspections); geographically clustering inspections to reduce repeat trips to the same neighborhood or building by accepting annual inspections completed eight to 20 months after initial inspection, allowing us to align inspection of multiple units in the same geographic location; and self-inspecting KCHA-owned units rather than requiring inspection by a third party. KCHA also piloted a risk-based inspection model that places well-maintained, multi-family apartment complexes on a biennial inspection schedule.

After closely monitoring the outcomes from the risk-based inspection pilot, KCHA decided to expand the program and move all units in multi-family apartment complexes to a biennial inspection schedule.

PROGRESS AND OUTCOMES: Our streamlined processes included in this activity allow KCHA to save more than 3,300 hours of staff time annually.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0	\$58,000 saved ³⁶	\$109,560 saved	Exceeded
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved	1,810 hours saved	3,320 hours saved	Exceeded

ACTIVITY 2004-7: Streamlining Public Housing and Housing Choice Voucher Forms and Data Processing

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: Duplicative recertifications, complex income calculations, and strict timing rules cause unnecessary intrusions into the lives of the people we serve and expend limited resources for little purpose.

³⁶ This figure was calculated by multiplying the median inspector hourly wage and benefits (\$33) by the number of hours saved. This figure is a monetization of the hours saved through the implementation of this program. Inspectors will instead undertake more auditing and monitoring inspections, assist the fraud investigator, provide landlord trainings, and speed up the timeline for new move-in inspections. It is a monetization of the hours saved through the implementation of this program.

SOLUTION: After analyzing our business processes, forms, and verification requirements, we have eliminated or replaced those with little or no value. Through the use of lean engineering techniques, KCHA continues to review office workflow and identify ways that tasks can be accomplished more efficiently and intrude less into the lives of program participants, while still assuring program integrity and quality control. Under this initiative, we have made a number of changes to our business practices and processes for verifying and calculating tenant income and rent.

CHANGES TO BUSINESS PROCESSES:

- Modify HCV policy to require notice to move prior to the 20th of the month in order to have paperwork processed during the month. (FY 2004)
- Allow applicant households to self-certify membership in the family at the time of admission. (FY 2004)
- Modify HQS inspection requirements for units converted to project-based subsidy from another KCHA subsidy, and allow the most recent inspection completed within the prior 12 months to substitute for the initial HQS inspection required before entering the HAP contract. (FY 2012)
- Modify standard PBS8 requirements to allow the most recent recertification (within last 12 months) to substitute for the full recertification when tenant's unit is converted to a PBS8 subsidy. (FY 2012)
- Allow Public Housing applicant households to qualify for a preference when household income is below 30 percent of AMI. (FY 2004)
- Streamline procedures for processing interim rent changes resulting from wholesale reductions in state entitlement programs. (FY 2011)
- Modify the HQS inspection process to allow streamlined processing of inspection data. (FY 2010)
- Establish a local release form that replaces the HUD form 9986 and is renewed every 40 months. (FY 2014)

CHANGES TO VERIFICATION AND INCOME CALCULATION PROCESSES:

- Exclude payments made to a landlord by the state Department of Social and Health Services (DSHS) on behalf of a tenant from the income and rent calculation under the HCV program. (FY 2004)
- Allow HCV residents to self-certify income of \$50 or less received as a pass-through DSHS childcare subsidy. (FY 2004)
- Extend to 180 days the term over which verifications are considered valid. (FY 2008)
- Modify the definition of "income" to exclude income from assets with a value less than \$50,000, and income from Resident Service Stipends less than \$500 per month. (FY 2008)

- Apply any decrease in Payment Standard at the time of the next annual review or update, rather than using HUD's two-year phase-in approach. (FY 2004)
- Allow HCV residents who are at \$0 HAP to self-certify income at the time of review. (FY 2004)

PROGRESS AND OUTCOMES: These streamlined processes saved the agency more than 2,100 hours in staff time this year.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0	\$58,000 saved ³⁷	\$61,596 saved	Exceeded
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete the task in staff hours	0 hours saved	2,000 hours saved	2,124 hours saved	Exceeded

ACTIVITY 2004-9: Rent Reasonableness Modifications

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: Under current HUD regulations, a housing authority must perform an annual Rent Reasonableness review for each voucher holder. If a property owner is not requesting a rent increase, however, the rent does not fall out of federal guidelines and does not necessitate a review.

SOLUTION: KCHA now saves close to 1,000 hours of staff time annually by performing Rent Reasonableness determinations only when a landlord requests an increase in rent. Under standard HUD regulations, a Rent Reasonableness review is required annually in conjunction with each recertification completed under the program. After reviewing this policy, we found that if an owner had not requested a rent increase, it was unlikely the current rent fell outside of established guidelines. In response to this analysis, KCHA eliminated an annual review of rent levels. By bypassing this burdensome process, we intrude in the lives of residents less and can redirect our resources to more pressing needs. Additionally, KCHA performs Rent Reasonableness inspections at our own properties, rather than contracting with a third party, allowing us to save additional resources.

³⁷ This figure was calculated by multiplying the median Property Management Specialist hourly wage and benefits (\$29) by the number of hours saved. It is a monetization of the hours saved through the implementation of this program.

PROGRESS AND OUTCOMES: With the elimination of this non-essential regulation, KCHA has been able to adopt a policy that is less disruptive to residents while saving an estimated 1,000 hours in staff time each year.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$33,000 saved ³⁸	\$35,046 saved	Exceeded
Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 staff hours saved	1,000 staff hours saved	1,062 staff hours saved	Exceeded

ACTIVITY 2004-12: Energy Performance Contracting

MTW STATUTORY OBJECTIVE: Increase Cost Effectiveness

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: KCHA could recapture up to \$4 million in energy savings per year if provided the upfront investment necessary to make efficiency upgrades to its aging housing stock.

SOLUTION: KCHA employs energy conservation measures and improvements through the use of Energy Performance Contracts (EPC) – a financing tool that allows PHAs to make needed energy upgrades without having to self-fund the upfront necessary capital expenses. The energy services partner (in this case, Johnson Controls) identifies these improvements through an investment-grade energy audit that is then used to underwrite loans to pay for the measures. Project expenses, including debt service, are then paid for out of the energy savings while KCHA and its residents receive the long-term savings and benefits. Upgrades may include: installation of energy-efficient light fixtures, solar panels, and low-flow faucets, toilets, and showerheads; upgraded appliances and plumbing; and improved irrigation and HVAC systems. In 2016, we extended the existing EPC for an additional eight years and implemented a new 20-year EPC for incremental Public Housing properties to make needed improvements.

PROGRESS AND OUTCOMES: In 2018, we began upgrading aging elevators in our federally subsidized properties, investing more than \$2.8 million in the replacement of the hydraulic jacks, cabs, and

³⁸ This figure was calculated by multiplying the median Inspector hourly wage and benefits (\$33) by the number of hours saved. These positions are not eliminated so this is a hypothetical estimate of the amount that could be saved in staff hours by implementing this activity. Inspectors will instead undertake more auditing and monitoring inspections, assist the fraud investigator, provide landlord trainings, and perform new move-in inspections. It is a monetization of the hours saved through the implementation of this program.

electrical equipment at Boulevard Manor and Munro Manor. Overall, we saw energy savings of more than \$2.9 million as a result of our EPC upgrade work.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0 saved	\$800,000 saved	\$2,900,000 saved	Exceeded

ACTIVITY 2004-16: Housing Choice Voucher Occupancy Requirements

MTW STATUTORY OBJECTIVE: Increase Cost-effectiveness

APPROVAL: 2004

IMPLEMENTED: 2004

CHALLENGE: More than 20 percent of tenant-based voucher households move two or more times while receiving subsidy. Moves can be beneficial if they lead to gains in neighborhood or housing quality for the household, but moves can also be burdensome to residents because they incur the costs of finding a new unit through application fees and other moving expenses. KCHA also incurs additional costs in staff time through processing moves and working with families to locate a new unit.

SOLUTION: Households may continue to live in their current unit when their family size exceeds the standard occupancy requirements by just one member. Under standard guidelines, a seven-person household living in a three-bedroom unit would be considered overcrowded and therefore be required to move to a larger unit. Under this modified policy, the family may remain voluntarily in its current unit, avoiding the costs and disruption of moving. This initiative reduces the number of processed annual moves, increases housing choice among these families, and reduces our administrative and HAP expenses.

PROGRESS AND OUTCOMES: By eliminating this rule, KCHA saves an estimated 491 hours in staff time each year while helping families avoid the disruption and costs of a move.

MTW Statutory Objective	Unit of Measurement	Baseline	Benchmark	Outcome	Benchmark Achieved?
Reduce costs and achieve greater cost-effectiveness	CE #1: Total cost of task in dollars	\$0	\$8,613 saved ³⁹	\$16,203 saved	Achieved

³⁹ This dollar figure was calculated by multiplying the median Property Management Specialist hourly wage and benefits (\$33) by the number of hours saved.

Reduce costs and achieve greater cost-effectiveness	CE #2: Total time to complete task in staff hours	0 hours saved per file	87 hours saved	491 hours saved ⁴⁰	Exceeded
Increase housing choices	HC #4: Number of households at or below 80% AMI that would lose assistance or need to move	0 households	150 households	171 households	Achieved

⁴⁰ According to current program data, 171 families currently exceed the occupancy standard. At three hours saved per file, we estimate that KCHA continues to save 480 hours annually.

B. NOT YET IMPLEMENTED ACTIVITIES

Activities listed in this section are approved but have not yet been implemented.

ACTIVITY 2015-1: Flat Subsidy for Local, Non-traditional Housing Programs

APPROVAL: 2015

This activity provides a flat, per-unit subsidy in lieu of a monthly HAP and allows the service provider to dictate the terms of the tenancy (such as length of stay and the tenant portion of rent). The funding would be block-granted based on the number of units authorized under contract and occupied in each program. This flexibility would allow KCHA to better support a “Housing First” approach that places high-risk homeless populations in supportive housing programs tailored to nimbly meet an individual’s needs. This activity will be reconsidered for implementation in 2019 when KCHA has more capacity to develop the program.

ACTIVITY 2010-1: Supportive Housing for High-need Homeless Families

APPROVAL: 2010

This activity is a demonstration program for up to 20 households in a project-based Family Unification Program (FUP)-like environment. The demonstration program currently is deferred, as our program partners opted for a tenant-based model this upcoming fiscal year. It might return in a future program year.

ACTIVITY 2010-9: Limit Number of Moves for an HCV Participant

APPROVAL: 2010

This policy aims to increase family and student classroom stability and reduce program administrative costs by limiting the number of times an HCV participant can move per year or over a set time. Reducing household and classroom relocations during the school year is currently being addressed through a counseling pilot. This activity is currently deferred for consideration in a future year, if the need arises.

ACTIVITY 2010-11: Incentive Payments to HCV Participants to Leave the Program

APPROVAL: 2010

KCHA may offer incentive payments to families receiving less than \$100 per month in HAP to voluntarily withdraw from the program. This activity is not currently needed in our program model but may be considered in a future fiscal year.

ACTIVITY 2008-3: FSS Program Modifications

MTW STATUTORY OBJECTIVE: Increase Self-sufficiency

APPROVAL: 2008

KCHA is exploring possible modifications to the FSS program that could increase incentives for resident participation and income growth. These outcomes could pave the way for residents to realize a higher degree of economic independence. The program currently includes elements that unintentionally act as disincentives for higher income earners, the very residents who could benefit most from additional support to exit subsidized housing programs. To address these issues, KCHA is exploring modifying the escrow calculation in order to avoid punishing higher earning households unintentionally.

This activity is part of a larger strategic planning process with local service providers that seeks to increase positive economic outcomes for residents.

ACTIVITY 2008-5: Allow Limited Double Subsidy between Programs (Project-based Section 8/Public Housing/Housing Choice Vouchers)

APPROVAL: 2008

This policy change facilitates program transfers in limited circumstances, increases landlord participation and reduces the impact on the Public Housing program when tenants transfer. Following the initial review, this activity was tabled for future consideration.

C. ACTIVITIES ON HOLD

There are no activities on hold.

D. CLOSED-OUT ACTIVITIES

Activities listed in this section are closed out, meaning they never have been implemented, that we do not plan to implement them in the future, or that they are completed or obsolete.

ACTIVITY 2016-1: Budget-based Rent Model

APPROVAL: 2016

CLOSEOUT YEAR: 2018

This activity allows KCHA to adopt a budget-based approach to calculating the contract rent at its Project-based Section 8 developments. Traditionally, HUD requires Public Housing Authorities to set rent in accordance with Rent Reasonableness statutes. These statutes require that a property's costs reflect the average costs of a comparable building in the same geographic region at a particular point in time. However, a property's needs and purpose can change over time. This set of rules does not take into consideration variations in costs, which might include added operational expenses, necessary upgrades, and increased debt service to pay for renovations. This budget-based rent model allows KCHA to create an appropriate annual budget for each property from which a reasonable, cost-conscious rent level would derive.

This policy is no longer under consideration.

ACTIVITY 2013-3: Short-term Rental Assistance Program

APPROVAL: 2013

CLOSEOUT YEAR: 2015

In partnership with the Highline School District, KCHA implemented the Student and Family Stability Initiative (SFSI), a Rapid Re-housing demonstration program. Using this evidence-based approach, our program paired short-term rental assistance with housing stability and employment connection services for families experiencing or on the verge of homelessness. This activity is ongoing but has been combined with Activity 2013-2: Flexible Rental Assistance, as the program models are similar and enlist the same MTW flexibilities.

ACTIVITY 2012-2: Community Choice Program

APPROVAL: 2012

CLOSEOUT YEAR: 2016

This initiative was designed to encourage and enable HCV households with young children to relocate to areas of the county with higher achieving school districts and other community benefits. In addition to

formidable barriers to accessing these neighborhoods, many households are not aware of the link between location and educational and employment opportunities. Through collaboration with local nonprofits and landlords, the Community Choice Program offered one-on-one counseling to households in deciding where to live, helped households secure housing in their community of choice, and provided ongoing support once a family moved to a new neighborhood. Lessons learned from this pilot are informing Creating Moves to Opportunity (CMTO), KCHA's new research partnership that seeks to expand geographic choice.

ACTIVITY 2012-4: Supplemental Support for the Highline Community Healthy Homes Project

APPROVAL: 2012

CLOSEOUT YEAR: 2012

This project provided supplemental financial support to low-income families not otherwise qualified for the Healthy Homes project but required assistance to avoid loss of affordable housing. This activity is completed. An evaluation of the program by Breyse *et al* was included in KCHA's 2013 Annual MTW Report.

ACTIVITY 2011-1: Transfer of Public Housing Units to Project-based Subsidy

APPROVAL: 2011

CLOSEOUT YEAR: 2012

By transferring Public Housing units to Project-based subsidy, KCHA preserved the long-term viability of 509 units of Public Housing. By disposing these units to a KCHA-controlled entity, we were able to leverage funds to accelerate capital repairs and increase tenant mobility through the provision of tenant-based voucher options to existing Public Housing residents. This activity is completed.

ACTIVITY 2011-2: Redesign the Sound Families Program

APPROVAL: 2011

CLOSEOUT YEAR: 2014

KCHA developed an alternative model to the Sound Families program that combines HCV funds with state Department of Social and Health Services funds. The goal was to continue the support of at-risk, homeless households in a FUP-like model after the completion of the Sound Families demonstration. This activity is completed and the services have been incorporated into our existing conditional housing program.

ACTIVITY 2010-2: Resident Satisfaction Survey

APPROVAL: 2010
CLOSEOUT YEAR: 2010

KCHA developed its own resident survey in lieu of the requirement to comply with the Resident Assessment Subsystem portion of HUD's Public Housing Assessment System (PHAS). The Resident Assessment Subsystem is no longer included in PHAS so this activity is obsolete. KCHA nevertheless continues to survey residents on a regular basis.

ACTIVITY 2010-10: Implement a Maximum Asset Threshold for Program Eligibility

APPROVAL: 2010
CLOSEOUT YEAR: 2016

This activity limits the value of assets that can be held by a family in order to obtain (or retain) program eligibility. This policy is no longer under consideration.

ACTIVITY 2009-2: Definition of Live-in Attendant

APPROVAL: 2009
CLOSEOUT YEAR: 2014

In 2009, KCHA considered a policy change that would redefine who is considered a "Live-in Attendant." This policy is no longer under consideration.

ACTIVITY 2008-4: Combined Program Management

APPROVAL: 2008
CLOSEOUT YEAR: 2009

This activity streamlined program administration through a series of policy changes that ease operations of units converted from Public Housing to Project-based Section 8 subsidy or those located in sites supported by mixed funding streams. This policy change is completed.

ACTIVITY 2008-6: Performance Standards

APPROVAL: 2008
CLOSEOUT YEAR: 2014

In 2008, KCHA investigated the idea of developing performance standards and benchmarks to evaluate the MTW program. We worked with other MTW agencies in the development of the performance standards now being field-tested across the country. This activity is closed out as KCHA continues to collaborate with other MTW agencies on industry metrics and standards.

ACTIVITY 2008-17: Income Eligibility and Maximum Income Limits

APPROVAL: 2008
CLOSEOUT YEAR: 2016

This policy would cap the income that residents may have and also still be eligible for KCHA programs. KCHA is no longer considering this activity.

ACTIVITY 2007-4: Housing Choice Voucher Applicant Eligibility

APPROVAL: 2007
CLOSEOUT YEAR: 2007

This activity increased program efficiency by removing eligibility for those currently on a federal subsidy program. This activity is completed.

ACTIVITY 2007-8: Remove Cap on Voucher Utilization

APPROVAL: 2007
CLOSEOUT YEAR: 2014

This initiative allowed us to award HCV assistance to more households than was permissible under the HUD-established baseline. Our savings from a multi-tiered payment standard system, operational efficiencies, and other policy changes have been critical in helping us respond to the growing housing needs of the region's extremely low-income households. This activity is no longer active as agencies are now permitted to lease above their ACC limit.

ACTIVITY 2007-9: Develop a Local Asset Management Funding Model

APPROVAL: 2007
CLOSEOUT YEAR: 2007

This activity streamlined current HUD requirements to track budget expenses and income down to the Asset Management Project level. This activity is completed.

ACTIVITY 2007-18: Resident Opportunity Plan (ROP)

APPROVAL: 2007
CLOSEOUT YEAR: 2015

An expanded and locally designed version of FSS, ROP's mission was to advance families toward self-sufficiency through the provision of case management, supportive services, and program incentives, with the goal of positive transition from Public Housing or HCV into private market rental housing or home ownership. KCHA implemented this five-year pilot in collaboration with community partners, including Bellevue College and the YWCA. These partners provided education and employment-focused case management, such as individualized career planning, a focus on wage progression, and asset-

building assistance. In lieu of a standard FSS escrow account, each household received a monthly deposit into a savings account, which continued throughout program participation. Deposits to the household savings account were made available to residents upon graduation from Public Housing or HCV subsidy. After reviewing the mixed outcomes from the multi-year evaluation, KCHA decided to close out the program and re-evaluate the best way to assist families in achieving economic independence.

ACTIVITY 2006-1: Block Grant Non-mainstream Vouchers

APPROVAL: 2006

CLOSEOUT YEAR: 2006

This policy change expanded KCHA's MTW Block Grant by including all non-mainstream program vouchers. This activity is completed.

ACTIVITY 2005-18: Modified Rent Cap for Housing Choice Voucher Participants

APPROVAL: 2005

CLOSEOUT YEAR: 2005

This modification allowed a tenant's portion of rent to be capped at up to 40 percent of gross income upon initial lease-up rather than 40 percent of adjusted income. *Note: KCHA may implement a rent cap modification in the future to increase mobility.*

ACTIVITY 2004-8: Resident Opportunities and Self-Sufficiency (ROSS) Grant Homeownership

APPROVAL: 2004

CLOSEOUT YEAR: 2006

This grant funded financial assistance through MTW reserves with rules modified to fit local circumstances, modified eligibility to include Public Housing residents with HCV, required minimum income and minimum savings prior to entry, and expanded eligibility to include more than first-time homebuyers. This activity is completed.

SECTION V

SOURCES AND USES OF MTW FUNDS

A. SOURCES AND USES OF MTW FUNDS

i. Actual Sources and Uses of MTW Funds

In accordance with the requirements of this report, KCHA has submitted our unaudited information in the prescribed FDS file format through the Financial Assessment System – PHA. The audited FDS will be submitted in September 2019.

ii. Activities that Used Only MTW Single-fund Flexibility

KCHA strives to make the most efficient, effective, and creative use of our single-fund flexibility while adhering to the statutory requirements of the MTW program. Our ability to blend funding sources gives us the freedom to implement new approaches to program delivery in response to the varied housing needs of low-income people in the Puget Sound region. With MTW flexibility, we have assisted more of our county’s households – and among those, more of the most vulnerable and lowest income households – than would have been possible under HUD’s traditional funding and program constraints.

KCHA’s single fund activities demonstrate the value and effectiveness of this flexibility in practice:

- **KCHA’S HOMELESS HOUSING INITIATIVES.** These initiatives addressed the varied and diverse needs of the most vulnerable populations experiencing homelessness – those living with chronic behavioral health issues, individuals with criminal justice involvement, young adults and foster youth experiencing homelessness, and students and their families living on the streets or in unstable housing. The traditional housing subsidy programs have failed to reach many of these households and lack the supportive services necessary to meet their complex needs. In 2018, KCHA invested nearly \$40 million in housing-related resources into these programs, including sponsor-based housing support, special purpose vouchers, flexible rental subsidies, short-term housing assistance, and stepped rent programs.
- **HOUSING STABILITY FUND.** This fund provided emergency financial assistance to qualified residents to cover housing costs, including rental assistance, security deposits, and utility support. Under the program design, a designated agency partner disburses funding to qualified program participants and screens for eligibility according to the program’s guidelines. In 2018, we awarded emergency assistance to 53 families through this process. As a result of this

assistance, all of these families were able to maintain their housing, avoiding the far greater safety net costs that could occur if they became homeless.

- **EDUCATION INITIATIVES.** KCHA continued to actively partner with local education stakeholders to improve outcomes for the 15,172 children who lived in our federally assisted housing in 2018. Educational outcomes, including improved attendance, grade-level performance, and graduation, are an integral part of our core mission. By investing in the next generation, we intend to combat intergenerational cycles of poverty that can persist among the families we serve. In 2018, we expanded the Baby Academy initiative from Highline to two additional sites in Bellevue and Kent. The initiative connects young families with evidence-based early learning programs, enhances home-based learning opportunities, and ultimately closes gaps in kindergarten readiness.
- **REDEVELOPMENT OF DISTRESSED PUBLIC HOUSING.** With MTW's single-fund flexibility, KCHA continued to undertake the repairs necessary to preserve our inventory of some 3,600 units of federally subsidized housing over the long term. For example, this flexibility enabled effective use of the five-year increments of Replacement Housing Factor funds from the former Springwood and Park Lake I and II developments, as well as the disposition of 509 scattered-site Public Housing units, to finance the redevelopment of the Birch Creek and Green River complexes. Following HUD disposition approval in 2012, KCHA used MTW flexibility to successfully address the substantial deferred maintenance needs of those 509 former public housing units, which are in 22 different communities. Utilizing MTW authorizations, we have transitioned those properties to the project-based Section 8 program and leveraged \$18 million from the Federal Home Loan Bank (FHLB) on extremely favorable terms for property repairs. As the FHLB requires such loans to be collateralized by cash, investments, and/or underlying mortgages on real property, we continued to use a portion of our MTW working capital as collateral for this loan.
- **ACQUISITION AND PRESERVATION OF AFFORDABLE HOUSING.** We continued to use MTW resources to preserve affordable housing that is at risk of for-profit redevelopment and to create additional affordable housing opportunities in partnership with state and local jurisdictions. When possible, we have been acquiring additional housing adjacent to existing KCHA properties in emerging and current high-opportunity neighborhoods where banked public housing subsidies can be utilized. In 2018, in partnership with the City of Kirkland, we acquired

and “turned-on” public housing subsidies at Houghton Court, a 15-unit property located just blocks from the Google campus.

- **LONG-TERM VIABILITY OF OUR GROWING PORTFOLIO.** KCHA used our single-fund flexibility to reduce outstanding financial liabilities and protect the long-term viability of our inventory. Single-fund flexibility allows us to make loans in conjunction with Low Income Housing Tax Credit (LIHTC) financing to recapitalize properties in our federally subsidized inventory. MTW working capital continued to support the redevelopment of the Greenbridge HOPE VI site through infrastructure financing that will be retired with proceeds from land sales as the build-out of this 100-acre, 900-unit site continues. MTW funds also supported energy conservation measures as part of our EPC project, with energy savings over the life of the contract repaying the loan. MTW working capital also provided an essential backstop for outside debt, addressing risk concerns of lenders, enhancing our credit worthiness, and enabling our continued access to private capital markets.
- **REMOVAL OF THE CAP ON VOUCHER UTILIZATION.** This initiative enables us to utilize savings achieved through MTW initiatives to over-lease and provide HCV assistance to more households than normally permissible under our HUD-established baseline. Our cost containment from a multi-tiered, ZIP Code-based payment standard system, operational efficiencies, and other policy changes have been critical in helping us respond to the growing housing needs of the region’s extremely low-income households. Despite ongoing uncertainties around federal funding levels, we continue to use MTW program flexibility to support housing voucher issuance above HUD baseline levels.

B. LOCAL ASSET MANAGEMENT PLAN

Has the PHA allocated costs within statute during the plan year?	No
Has the PHA implemented a local asset management plan (LAMP)?	Yes
Has the PHA provided a LAMP in the appendix?	Yes

In FY 2008, as detailed in the MTW Annual Plan for that year and adopted by our Board of Commissioners under Resolution No. 5116, KCHA developed and implemented our own local funding model for Public Housing and HCV using our MTW block grant authority. Under our current agreement, KCHA's Public Housing Operating, Capital, and HCV funds are considered fungible and may be used interchangeably. In contrast to 990.280 regulations, which require transfers between projects only after all project expenses are met, KCHA's model allows budget-based funding at the start of the fiscal year from a central ledger, not other projects. We maintain a budgeting and accounting system that gives each property sufficient funds to support annual operations, including allowable fees. Actual revenues include those provided by HUD and allocated by KCHA based on annual property-based budgets. As envisioned, all block grants are deposited into a single general ledger fund.

SECTION VI

ADMINISTRATIVE

A. HUD REVIEWS, AUDITS, OR PHYSICAL INSPECTION ISSUES

A recent Management Review of KCHA's HCV program resulted in two findings. The first concerned our administrative plans and their compliance with HUD requirements or current agency practices. KCHA immediately updated its administrative plans to reflect current practices and to further align with HUD requirements. The second finding was the result of a software system coding issue and was also corrected in a timely manner.

All other monitoring visits, physical inspections, and oversight activities did not identify any deficiency findings.

B. RESULTS OF LATEST KCHA-DIRECTED EVALUATIONS

We continued to expand and enhance our research and evaluation capacities in 2018. In partnership with Public Health–Seattle and King County and Seattle Housing Authority, KCHA completed a data integration project that links housing authority data to Medicaid claims data. The report provides a baseline understanding of the health service utilization patterns of our residents relative to the general Medicaid population. In addition, ORS Impact completed an evaluation of KCHA's education initiatives. The assessment summarizes preliminary outcomes among students, their families, and the institutions that serve them.

Reports for these evaluations can be found attached in Appendix D.

C. MTW STATUTORY REQUIREMENT CERTIFICATION

Certification is attached as Appendix A.

D. MTW ENERGY PERFORMANCE CONTRACT (EPC) FLEXIBILITY DATA

EPC data is attached as Appendix F.

APPENDIX A

CERTIFICATION OF STATUTORY COMPLIANCE



Certification of Statutory Compliance

On behalf of the King County Housing Authority (KCHA), I certify that the Agency has met the three statutory requirements of the Restated and Amended Moving to Work Agreement entered into between the Department of Housing and Urban Development (HUD) and KCHA on March 13, 2009, and extended on September 19, 2016. Specifically, KCHA has adhered to the following requirements of the MTW demonstration during FY 2018:

- At least 75 percent of the families assisted by KCHA are very low-income families, as defined in section 3(b)(2) of the 1937 Act;
- KCHA has continued to assist substantially the same total number of eligible low-income families as would have been served absent participation in the MTW demonstration; and
- KCHA has continued to serve a comparable mix of families (by family size) as would have been served without MTW participation.


STEPHEN J. NORMAN
Executive Director

4/12/19
DATE

APPENDIX B

KCHA'S LOCAL ASSET MANAGEMENT PLAN

As detailed in KCHA's FY 2008 MTW Annual Plan and adopted by the Board of Commissioners under Resolution No. 5116, KCHA has implemented a Local Asset Management Plan that considers the following:

- KCHA will develop its own local funding model for Public Housing and Section 8 using its block grant authority. Under its current agreement, KCHA can treat these funds and CFP dollars as fungible. In contrast to 990.280 regulations, which require transfers between projects after all project expenses are met, KCHA's model allows budget-based funding at the start of the fiscal year from a central ledger, not other projects. KCHA will maintain a budgeting and accounting system that gives each property sufficient funds to support annual operations, including allowable fees. Actual revenues will include those provided by HUD and allocated by KCHA based on annual property-based budgets. As envisioned, all block grants will be deposited into a single general ledger fund. This will have multiple benefits.
- KCHA gets to decide subsidy amounts for each public housing project. It's estimated that HUD's new funding model has up to a 40% error rate for individual sites. This means some properties get too much, some too little. Although funds can be transferred between sites, it's simpler to determine the proper subsidy amount at the start of the fiscal year rather than when shortfalls develop. Resident services costs will be accounted for in a centralized fund that is a sub-fund of the single general ledger, not assigned to individual programs or properties.
- KCHA will establish a restricted public housing operating reserve equivalent to two months' expenses. KCHA will estimate subsidies and allow sites to use them in their budgets. If the estimate exceeds the actual subsidy, the difference will come from the operating reserve. Properties may be asked to replenish this central reserve in the following year by reducing expenses, or KCHA may choose to make the funding permanent by reducing the unrestricted block grant reserve.

- Using this approach will improve budgeting. Within a reasonable limit, properties will know what they have to spend each year, allowing them autonomy to spend excess on “wish list” items and carefully watch their budgets. The private sector doesn’t wait until well into its fiscal year to know how much revenue is available to support its sites.
- Reporting site-based results is an important component of property management and KCHA will continue accounting for each site separately; however, KCHA, as owner of the properties will determine how much revenue will be included as each project’s subsidy. All subsidies will be properly accounted for under the MTW rubric.
- Allowable fees to the central office cost center (COCC) will be reflected on the property reports, as required. The MTW ledger won’t pay fees directly to the COCC. As allowable under the asset management model, however, any subsidy needed to pay legacy costs, such as pension or terminal leave payments and excess energy savings from the Authority’s ESCO, may be transferred from the MTW ledger or the projects to the COCC.
- Actual Section 8 amounts needed for housing assistance payments and administrative costs will be allotted to the Housing Choice Voucher program, including sufficient funds to pay asset management fees. Block grant reserves and their interest earnings will not be commingled with Section 8 operations, enhancing budget transparency. Section 8 program managers will become more responsible for their budgets in the same manner as public housing site managers.
- Block grant ledger expenses, other than transfers out to sites and Section 8, will be those that support MTW initiatives, such as the South County Pilot or resident self-sufficiency programs. Isolating these funds and activities will help KCHA’s Board of Commissioners and its management keeps track of available funding for incremental initiatives and enhances KCHA’s ability to compare current to pre-MTW historical results with other housing authorities that do not have this designation.
- In lieu of multiple submissions of Operating Subsidy for individual Asset Management Projects, KCHA may submit a single subsidy request using a weighted average project expense level (WAPEL) with aggregated utility and add-on amounts.

APPENDIX C

ACTUAL EXISTING PROJECT-BASED VOUCHERS

Project-based Voucher Contracts

Property Name	Number of Project-based Vouchers	Status as of End of 2018	Population Served	RAD?
Parkview Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Parkview Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Parkview Group Home	1	Leased	Disabled Individuals	No
Parkview Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Inland Empire Group Home	1	Leased	Disabled Individuals	No
Petter Court	4	Leased	Homeless Families	No
Kensington Square	6	Leased	Homeless Families	No
Villa Esperanza	23	Leased	Homeless Families	No
Villa Capri	5	Leased	Homeless Families	No
Plum Court	10	Leased	Low Income Families	No
Creston Point	15	Leased	Homeless Families	No
Enumclaw Fourplex	5	Leased	Homeless Families	No
Friends of Youth Shared Housing	2	Leased	Homeless Young Adults	No
The Willows	15	Leased	Homeless Families	No
Chalet	5	Leased	Low Income Families	No
Francis Village	10	Leased	Homeless Young Families	No
Independence Bridge	24	Leased	Homeless Young Adults	No
Chalet	4	Leased	Homeless Families	No
August Wilson Place	8	Leased	Homeless Veterans	No
Lauren Heights	5	Leased	Homeless Families	No
City Park Townhomes	11	Leased	Homeless Families	No
Burien Heights	15	Leased	Homeless Young Adults	No

Project-based Voucher Contracts

Evergreen Court Apartments	15	Leased	Low Income Seniors	No
Village at Overlake Station	8	Leased	Disabled Individuals	No
Summerfield Apartments	13	Leased	Low Income Families	No
Phoenix Rising	24	Leased	Homeless Young Adults	No
Sophia's Home - Timberwood	2	Leased	Homeless Individuals	No
Sophia's Home - Woodside East	4	Leased	Homeless Individuals	No
Woodland North	10	Leased	Homeless Veterans	No
<u>Passage Point</u>	<u>46</u>	<u>Leased</u>	<u>Homeless Families</u>	<u>No</u>
Family Village	10	Leased	Homeless Families	No
Discovery Heights	10	Leased	Homeless Individuals	No
Unity Village of White Center	6	Leased	Homeless Families	No
Andrew's Glen	10	Leased	Low Income Families	No
Eernisse	13	Leased	Low Income Families	No
Avondale Park	43	Leased	Homeless Families	No
Woodside East	23	Leased	Low Income Families	No
Landmark Apartments	28	Leased	Low Income Families	No
Timberwood	20	Leased	Low Income Families	No
Newporter Apartments	22	Leased	Low Income Families	No
Village at Overlake Station	12	Leased	Low Income Families	No
Harrison House	48	Leased	Low Income Seniors	No
Valley Park East & West	12	Leased	Homeless Families	No
Valley Park East & West	16	Leased	Low Income Families	No
Valley Park East & West	2	Leased	Disabled Individuals	No
Heritage Park	15	Leased	Homeless Families	No
August Wilson Place	8	Leased	Homeless Families	No
Appian Way	6	Leased	Homeless Families	No
Seola Crossing I & II	63	Leased	Low Income Families	No
Rose Crest	10	Leased	Homeless Families	No
Rose Crest	9	Leased	Homeless Families	No
Copper Lantern	4	Leased	Homeless Individuals	No
Copper Lantern	7	Leased	Low Income Families	No
Summerwood	25	Leased	Low Income Families	No

Project-based Voucher Contracts

Creston Point	5	Leased	Homeless Families	No
Joseph House	10	Leased	Low Income Seniors	No
Johnson Hill	8	Leased	Low Income Families	No
Velocity Apartments	8	Leased	Homeless Families	No
Compass Housing Renton	58	Leased	Homeless Veterans	No
Family Village	26	Leased	Low Income Families	No
William J. Wood Veterans House	44	Leased	Homeless Veterans	No
Timberwood Apartments	16	Leased	Homeless Veterans	No
Francis Village	10	Leased	Homeless Veterans	No
Bellepark East	12	Leased	Low Income Families	No
Laurelwood Gardens	8	Leased	Low Income Families	No
Woodland North	5	Leased	Low Income Families	No
Carriage House	21	Leased	Homeless Veterans	No
Villages at South Station	16	Leased	Homeless Veterans	No
Cove East Apartments	16	Leased	Homeless Veterans	No
Ronald Commons	8	Leased	Homeless Veterans	No
Velocity Apartments	8	Leased	Homeless Veterans	No
Providence John Gabriel House	8	Leased	Low Income Seniors	No
Kirkland Avenue Townhomes	2	Leased	Homeless Veterans	No
Athene	8	Leased	Low Income Seniors	No
Francis Village	3	Leased	Low Income Families	No
Houser Terrace	25	Leased	Homeless Veterans	No
NIA Apartments	42	Leased	Low Income Seniors	No
Spiritwood Manor	128	Leased	Low Income Families	No
Birch Creek	262	Leased	Low Income Families	No
Salmon Creek	9	Leased	Low Income Families	No
Newport	23	Leased	Low Income Families	No
Eastbridge	31	Leased	Low Income Families	No
Hidden Village	78	Leased	Low Income Families	No
Heritage Park	36	Leased	Low Income Families	No
Alpine Ridge	27	Leased	Low Income Families	No
Bellevue House # 1	1	Leased	Homeless Families	No

Project-based Voucher Contracts

Eastridge House	40	Leased	Low Income Seniors/Disabled	No
Evergreen Court	30	Leased	Low Income Families	No
Green Leaf	27	Leased	Low Income Families	No
Avondale Manor	20	Leased	Low Income Families	No
Bellevue House # 2	1	Leased	Homeless Families	No
Bellevue House # 3	1	Leased	Homeless Families	No
Bellevue House # 4	1	Leased	Homeless Families	No
Bellevue House # 5	1	Leased	Homeless Families	No
Bellevue House # 6	1	Leased	Homeless Families	No
Bellevue House # 7	1	Leased	Homeless Families	No
Bellevue House # 8	1	Leased	Homeless Families	No
Campus Court I	12	Leased	Low Income Families	No
Campus Court II (House)	1	Leased	Low Income Families	No
Cedarwood	25	Leased	Low Income Families	No
Federal Way House #1	1	Leased	Low Income Families	No
Federal Way House #2	1	Leased	Low Income Families	No
Federal Way House #3	1	Leased	Low Income Families	No
Forest Grove	25	Leased	Low Income Families	No
Glenview Heights	10	Leased	Low Income Seniors/Disabled	No
Juanita Court	30	Leased	Low Income Families	No
Juanita Trace I & II	39	Leased	Low Income Families	No
Kings Court	30	Leased	Low Income Families	No
Kirkwood Terrace	28	Leased	Low Income Families	No
Pickering Court	30	Leased	Low Income Families	No
Riverton Terrace I	30	Leased	Low Income Families	No
Shoreham	18	Leased	Low Income Families	No
Victorian Woods	15	Leased	Low Income Families	No
Vista Heights	30	Leased	Low Income Families	No
Wellswood	30	Leased	Low Income Families	No
Young's Lake	28	Leased	Low Income Families	No
Sophia's Home - Bellepark East	1	Leased	Homeless Individuals	No
Green River Homes	59	Leased	Low Income Families	No

Project-based Voucher Contracts

Bellevue Manor	66	Leased	Low Income Seniors/Disabled	No
Vashon Terrace	16	Leased	Low Income Seniors/Disabled	No
Northwood Square	24	Leased	Low Income Families	No
Patricia Harris Manor	41	Leased	Low Income Seniors/Disabled	No
Gilman Square	25	Leased	Low Income Families	No
Woodcreek Lane	20	Leased	Low Income Families	No
Southwood Square	104	Leased	Low Income Families	No
Foster Commons	4	Leased	Homeless Families	No
Linden Highlands	3	Leased	Homeless Families	No
Arcadia	5	Issued through AHAP	Homeless Young Adults	No
Renton Commons	12	Issued through AHAP	Homeless Families	No
Renton Commons	14	Issued through AHAP	Homeless Veterans	No
30Bellevue	20	Issued through AHAP	Homeless Families & Individuals	No
30Bellevue	8	Issued through AHAP	Low Income Families	No
Kent PSH	36	Issued through AHAP	Homeless Veterans	No
Kent PSH	44	Issued through AHAP	Homeless and Disabled	No

APPENDIX D

EVALUATIONS

King County Data Across Sectors for Housing and Health, 2018

APRIL 2018



Public Health
Seattle & King County



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Acknowledgements

King County Housing Authority

Sarah Oppenheimer, Alexis Warth

Seattle Housing Authority

Denille Bezemer, Aara Shaikh

Public Health-Seattle & King County

Roxana Chen, Amy Laurent, Alastair Matheson, Lin Song

King County Accountable Communities of Health: Healthier Here

Betsy Lieberman

Additional thanks:

*Mohannad Aladwan, Gloria Albetta, Kate Allen, Cicily Nordness,
Dani Fitts, Eric Swenson, Marguerite Ro, Huan Zhao*

Robert Wood Johnson Foundation (RWJF)

Data Across Sectors for Health (DASH)

Illinois Public Health Institute (IPHI)

Michigan Public Health Institute (MPHI)

Washington State Health Care Authority

Please note that figures created in the report are subject to change as new data are added or data are amended. See the [online dashboard](#) for the most up-to-date data.



Executive summary

Although housing is an essential component of the social determinants of health, the relationship between subsidized housing and health is only minimally understood. This limited understanding of how health and housing are linked has been fueled in part by data siloes that limit comprehensive insights into whole-person health. In an effort to overcome such limitations and to provide a stronger foundation for a growing regional (and national) focus on health and housing intersections, in 2016, the King County Housing Authority (KCHA), Seattle Housing Authority (SHA), and Public Health – Seattle and King County (PHSKC) joined to form the Data Across Sectors for Health and Housing (DASHH) partnership, focused on creating a unique and sustainable dataset containing linked health and housing administrative data.¹ Key goals for DASHH were to use linked data to inform and measure future interventions, including policy, outreach, and programming to improve the health of King County residents, as well as to share this actionable data with key health and housing stakeholders.

Approach

Housing data provided by KCHA and SHA were matched with Medicaid enrollment and claims data to create a longitudinal dataset of housing and healthcare utilization data from 2012-2016.² This merged dataset allows exploration of population overlaps between the Medicaid and Public Housing Authority (PHA) service systems. To ensure that linked data was easily accessible and interpretable for cross-sector users, the DASHH dataset was built into a dynamic, web-based dashboard that allows exploration by condition, housing subpopulation, and time period. This platform is designed to be a sustainable (and updatable) resource, and new health and housing data will be incorporated into the dataset as it becomes available.

Key Findings

Preliminary DASHH analyses highlight broad patterns in the health of PHA residents relative to Medicaid enrollees who are not living in subsidized housing. Data only indicates the number of times an individual interacted with the health service system. Additional examination is needed to understand the driving factors behind varying levels of service utilization, in part to identify if patterns are due to the prevalence of a given condition, differences in care-seeking behaviors, or for other reasons.

High levels of overlap between the PHA and Medicaid populations in King County

In 2012, 74% of PHA residents were enrolled in Medicaid; by 2016, this enrollment rate had increased to 83%, largely due to the expansion of Medicaid in 2014 under the Affordable Care Act. Enrollment rates vary by PHA population groups, with children (ages 0-17) having the highest enrollment (91%) and young adults (ages 18-24) having the lowest enrollment (77%). Overall, **PHA residents represent 11% of the Medicaid population within King County**. Given this magnitude and the unique and ongoing relationships PHAs have with residents, there is significant potential for cross-sector efforts to improve population health and lower health care costs by targeting education, resources, and supports to PHA residents.

PHA residents are more likely to receive care for chronic conditions than the non-PHA Medicaid population

Across all years, **PHA residents were more likely to engage with the healthcare system than the non-PHA Medicaid population for all chronic conditions** included in this analysis (e.g., hypertension, asthma, diabetes). For example, in 2016, the rate of service utilization for hypertension among people aged 45-61 years was 2.0 times higher in the KCHA population and 1.6 times higher in the SHA population as compared to the non-PHA Medicaid population. Further analyses will explore whether these patterns are due to higher chronic disease prevalence in the PHA population and if more frequent chronic care service utilization is due to prevention, condition management, or acute/emergency purposes.

¹ This effort was supported by funding from the Robert Wood Johnson Foundation (RWJF) Data Across Sectors for Health (DASH) grant; for more information, see www.dashconnect.org.

² Both KCHA and SHA provided data for residents living in Housing and Urban Development (HUD) funded subsidized housing programs including Public Housing and the Housing Choice Voucher Program.

PHA residents are more likely to seek acute care than the non-PHA Medicaid population

Rates of emergency department (ED) visits dropped dramatically among non-PHA population adults aged 25–64 following Medicaid expansion in 2014, likely due to changes in who was enrolled in Medicaid. However, a corresponding drop was not seen among the PHA population where rates remained similar before and after expansion. For all years, **PHA women had higher rates of both ED and avoidable ED visits compared to non-PHA women** suggesting opportunities for targeted innovation pertaining to health systems navigation among PHA residents.

Well-child visits are more frequent among PHA residents than non-PHA Medicaid enrollees

Well-child checks for children ages 3-6 are a crucial aspect of early child health. **A higher proportion of PHA resident children had well-child checks than non-PHA Medicaid enrollees** (61–64% among PHA children compared to 57% among non-PHA Medicaid children).

Demographic differences may explain some service utilization patterns

This project allows for the identification of trends and discrepancies in enrollment and service engagement within both PHA and non-PHA Medicaid populations. **Some patterns may be due to demographic differences across PHAs or in comparisons between PHA and non-PHA Medicaid enrollees.** The DASHH [interactive dashboard](#)³ supports more detailed subpopulation comparisons in order to discern whether population characteristics or other factors may be underlying these differences.

Medicaid data alone cannot provide insights into the health of elderly residents

Though a majority (79%) of PHA residents aged 65 and older are enrolled in Medicaid, almost all (over 98%) are also enrolled in Medicare. Most health encounters in the 65+ age group are covered by Medicare and do not appear in the Medicaid claims data. **Integrating Medicare data is a high priority future project** in order to gain insights into health and housing patterns among older adults in King County.

Data regarding behavioral and mental health among the Medicaid population is limited

While depression and mental health conditions are included in the DASHH analysis and are critical health conditions to consider in health and housing intersections, Medicaid claims data alone provides an incomplete picture of behavioral health service utilization, and therefore limits the utility of these indicators. Results from just Medicaid claims indicate that **rates of service utilization for depression and other mental health conditions are higher for PHA than non-PHA populations.** However, additional data integration efforts are necessary to gain a better understanding of mental and behavioral health within both of these groups.

Next steps

Additional years of Medicaid and PHA data will be added to the current dataset as they become available, improving the ability to examine time trends. Given that service utilization does not necessarily equate to poorer health outcomes or higher condition prevalence (but rather may reflect regular engagement with the healthcare system for positive reasons), future analyses will also focus on gaining a better understanding of the causes and nature behind service utilization. As noted above, subsequent DASHH data integration will focus on adding Medicare and behavioral health data to provide a more comprehensive picture of health for all PHA residents.

This continued development and expansion of the DASHH dataset and dashboard will serve as a critical resource for strengthening cross-sector partnerships in pursuit of a better understanding of how housing plays a role in health, how policy and system changes impact health, and how linked and actionable data can be used to improve the health of vulnerable King County residents.

³ www.kingcounty.gov/health-housing

Key findings

Demographics and Medicaid enrollment

Most public housing authority (PHA) residents are enrolled in Medicaid

In 2012, approximately 74% of Seattle Housing Authority (SHA) and King County Housing Authority (KCHA) residents were enrolled in Medicaid at some point during their time at the PHA. By 2016, this increased to around 83%, largely due to expansion of Medicaid in 2014 under the Affordable Care Act (Figure 1).

Among the PHA resident population, Medicaid enrollment rates (as of 2016) are:

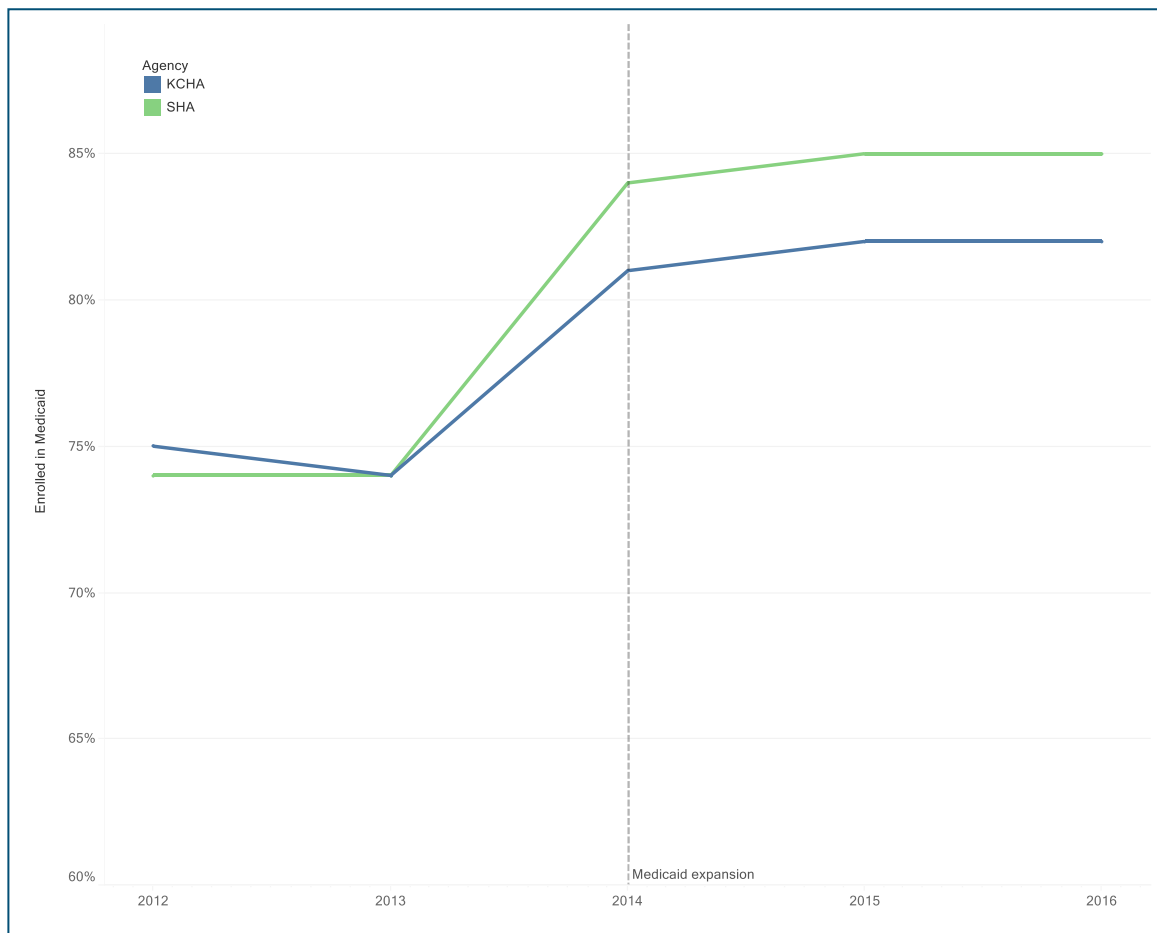
- Highest among youth (under 18 years of age) (91%)
- Lowest among young adults (18-24) (77%)
- Similar between genders
- Varied by race/ethnicity, ranging from around 65% enrolled among multiple-race residents to 88% among American Indians/Alaskan Native residents

Medicaid data alone cannot tell us much about the health of elderly PHA residents

Though a majority (79%) of PHA residents aged 65+ are enrolled in Medicaid, the vast majority of this group (over 98%) are also enrolled in Medicare (people enrolled in both programs are termed dual eligible). As Medicaid is the payer of last resort, most health encounters in the 65+ age group are covered by Medicare and do not appear in the Medicaid claims data. This limits the ability to identify health outcomes for elderly housing residents so they are not included in this report or accompanying dashboard.

PUBLIC HOUSING AGENCIES HOUSE A SIGNIFICANT NUMBER OF LOW-INCOME PEOPLE WHO ARE ALSO RECEIVING MEDICAID. LINKING HOUSING AND MEDICAID DATA SETS ALLOWS PHAS TO BETTER UNDERSTAND THE HEALTH CONDITIONS AND SERVICE UTILIZATION OF THEIR CLIENTS.

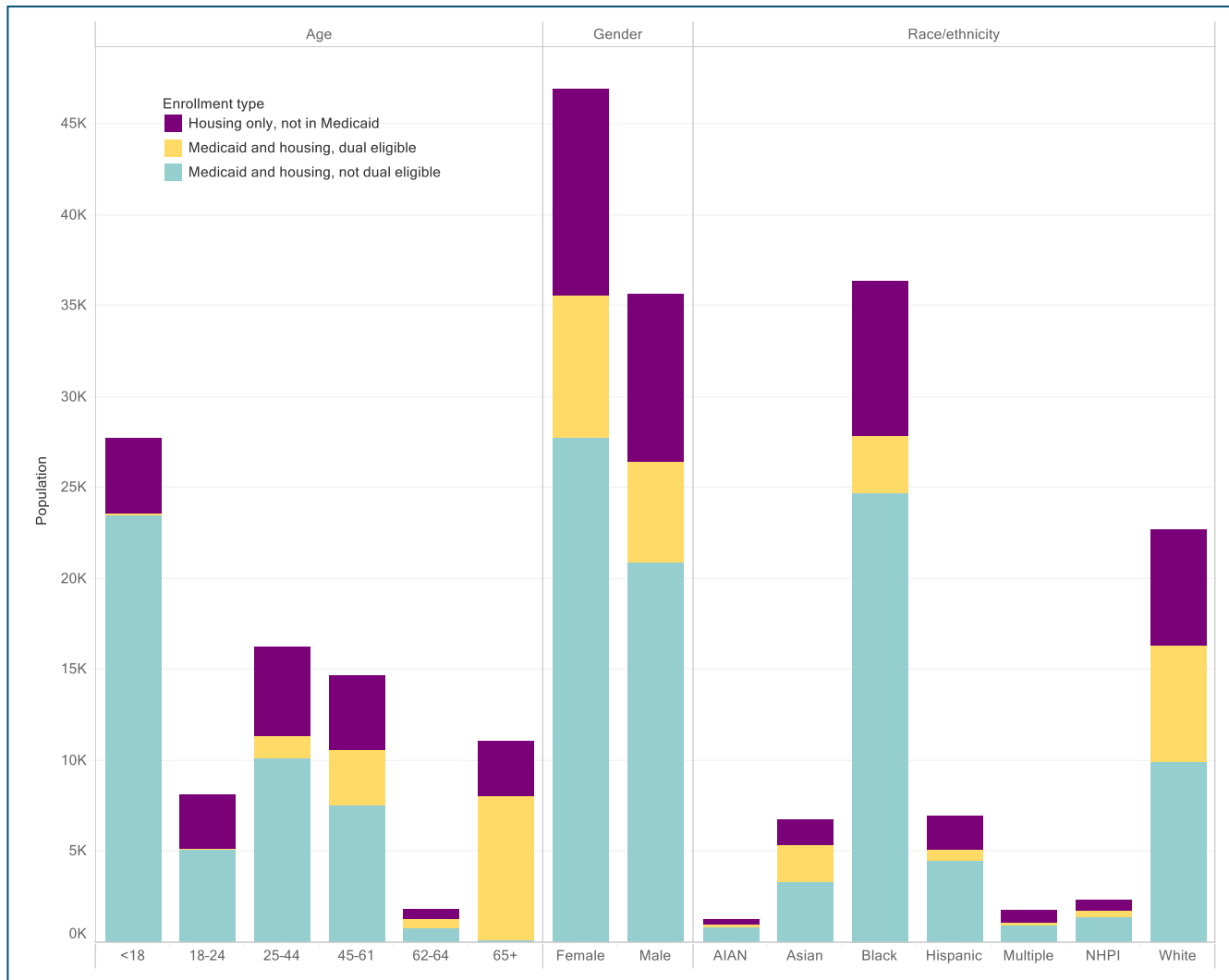
Figure 1: Medicaid expansion substantially increased the proportion of PHA residents enrolled in Medicaid



Housing authority residents make up a substantial proportion of King County Medicaid recipients

In 2012, approximately 14% of all Medicaid recipients in King County were supported by the Seattle or King County Housing Authorities. By 2016, despite Medicaid expansion increasing the number of adults on Medicaid by over 100,000, PHA residents still accounted for over 1 in 10 of all Medicaid enrollees in King County. The overlap between the Medicaid and PHA service systems suggests that efforts to improve the health of PHA residents could have a noticeable impact on the overall health of the low-income King County population, many of whom live in areas with high prevalence of chronic conditions.

Figure 2: Enrollment in Medicaid, including concurrent enrollment in Medicare (dually eligible), among KCHA and SHA residents combined, 2016 (note that people may be counted in multiple categories of enrollment)



Medicaid recipients in PHA housing are younger, more likely to be female, and less likely to be White than the rest of the Medicaid population

In 2016, Medicaid recipients in KCHA and SHA housing who were not also receiving Medicare (i.e., not dual eligible) compared to the rest of the Medicaid, non-Medicare population were:

- More likely to be younger than the rest of the Medicaid, non-Medicare population
- More likely to be female
- More likely to identify as Black or African American
- Less likely to be White or Latino/Hispanic
- More likely to be dually enrolled in Medicaid AND Medicare than the non-PHA Medicaid population

Table 1: Demographics of Medicaid recipients (enrolled at any time in this group in 2016 and not also enrolled in Medicare (dual eligible))

	KCHA	SHA	non-PHA
	N = 27,616	N = 21,000	N = 446,302
Gender			
Female	58.7%	55.1%	51.7%
Male	41.3%	44.9%	48.3%
Race/ethnicity*			
American Indian/Alaska Native	1.6%	1.9%	1.6%
Asian	4.7%	9.5%	10.5%
Black/African American	45.1%	58.4%	12.5%
Latino/Hispanic	10.9%	7.1%	16.8%
Multiple race	2.4%	1.4%	1.2%
Native Hawaiian or Pacific Islander	3.2%	2.5%	4.8%
White	25.2%	14.2%	37.1%
Other/unknown	7%	5.1%	15.5%
Age			
Median	17.8 years	19.9 years	23.7 years
Mean	23.6 years	26.4 years	25.5 years
<17	50.5%	45.6%	40.6%
18–24	11.2%	9.6%	10.1%
25–44	21%	20.7%	29.7%
45–61	13.4%	18.1%	14.1%
62–64	1.3%	2.3%	1.5%
65+	0.3%	0.4%	0.7%
Unknown	2.4%	3.3%	3.4%
Dual eligibility (also enrolled in Medicare)	18.7%	25.0%	9.4%
	(n = 33,976)	(n = 27,993)	(n = 492,357)

* Latino/Hispanic was collected as a separate field. If a person indicated Hispanic ethnicity they are only included in that group regardless of other race/ethnicity groups selected. All other race/ethnicity groups are non-Latino.

Understanding health conditions using Medicaid data

Higher rates of care for chronic conditions are not necessarily a negative outcome

Medicaid claims are the first block in building a broader, more holistic understanding of PHA resident health. Medicaid claims are best used as one measure of health service utilization—i.e., what types of health care people are accessing. Medicaid claims data provide useful insight into a person's health care service interactions, but it is important to remember that medical claims data for chronic conditions such as asthma and diabetes are only defined by a person accessing health care and receiving a particular diagnosis. Individuals who seek care but don't find it, or who choose not to seek care, cannot be counted using this data source. While the rates of chronic conditions seen in this data may reflect a higher prevalence of certain conditions among PHA residents, it might also be due to a higher level of engagement with the health care system due to supports provided by PHAs.

Acute events such as emergency department (ED) visits, hospitalizations, and injuries are less susceptible to care-seeking biases. Higher rates are more likely to be indicative of a conditions that could be managed through preventive care and environmental conditions that lead to more injuries.

PHA residents were more likely to receive care for most conditions compared to non-PHA Medicaid enrollees

Compared to the non-PHA Medicaid population, PHA residents on Medicaid had higher rates for many of the chronic and mental health conditions analyzed. For example, in 2016, hypertension (high blood pressure) among people aged 45–61 years was 2.0 times higher in the KCHA population and 1.6 times higher in the SHA population compared to the non-PHA Medicaid population. Even accounting for demographic differences between the PHA and non-PHA Medicaid populations, PHA residents showed higher levels among many conditions. The reasons for higher rates of health conditions between PHA and non-PHA Medicaid recipients is unclear. Previous studies have found that health care utilization may increase when a person is able to obtain stable housing but further investigation is required to determine whether that explanation applies to King County's PHA residents.

KCHA residents seem to have higher rates of most conditions than SHA residents but this is often driven by differences in demographic composition

Overall, KCHA residents have higher rates of health conditions than SHA residents. For example, across most age groups, a higher proportion of KCHA-housed Medicaid recipients met the definition for ischemic heart disease than SHA-housed Medicaid recipients. However, drilling into the rates and looking at specific PHA populations (e.g., black males, white females), the differences largely disappear and sometimes reverse. This highlights that an apparent difference in rate of a condition between the overall PHA populations can be driven by the demographic composition of each PHA. Future analyses will need to adjust for these differences when comparing residents' health statuses between PHAs.

Acute conditions

Hospitalization rates were similar between non-PHA Medicaid enrollees and PHA residents on Medicaid

There was no notable difference in rates of overall hospitalization when comparing non-PHA, KCHA, and SHA Medicaid enrollees. Within specific sub-populations where an agency's rate did appear substantially different from the others in that group, the sample size of residents with a hospitalization was typically small, making it difficult to draw firm conclusions. For all three groups, hospitalization rates increased with age, from around 10 per 1,000 person-years (p-y) among minors (<18-year olds) to between 90 and 138 per 1,000 p-y among 62–64-year-olds. Rates were slightly higher among males for SHA and non-PHA enrollees, but lower for male KCHA residents. Hospitalization also varied by subsidy type: residents in units where the housing subsidy was tied to the property (hard units) had higher hospitalization rates than residents who received a voucher subsidy (soft units) at SHA (33.6 vs. 22.6 per 1,000 p-y), while the reverse was true at KCHA (20.1 per 1,000 p-y in hard units vs. 28.2 in soft units).

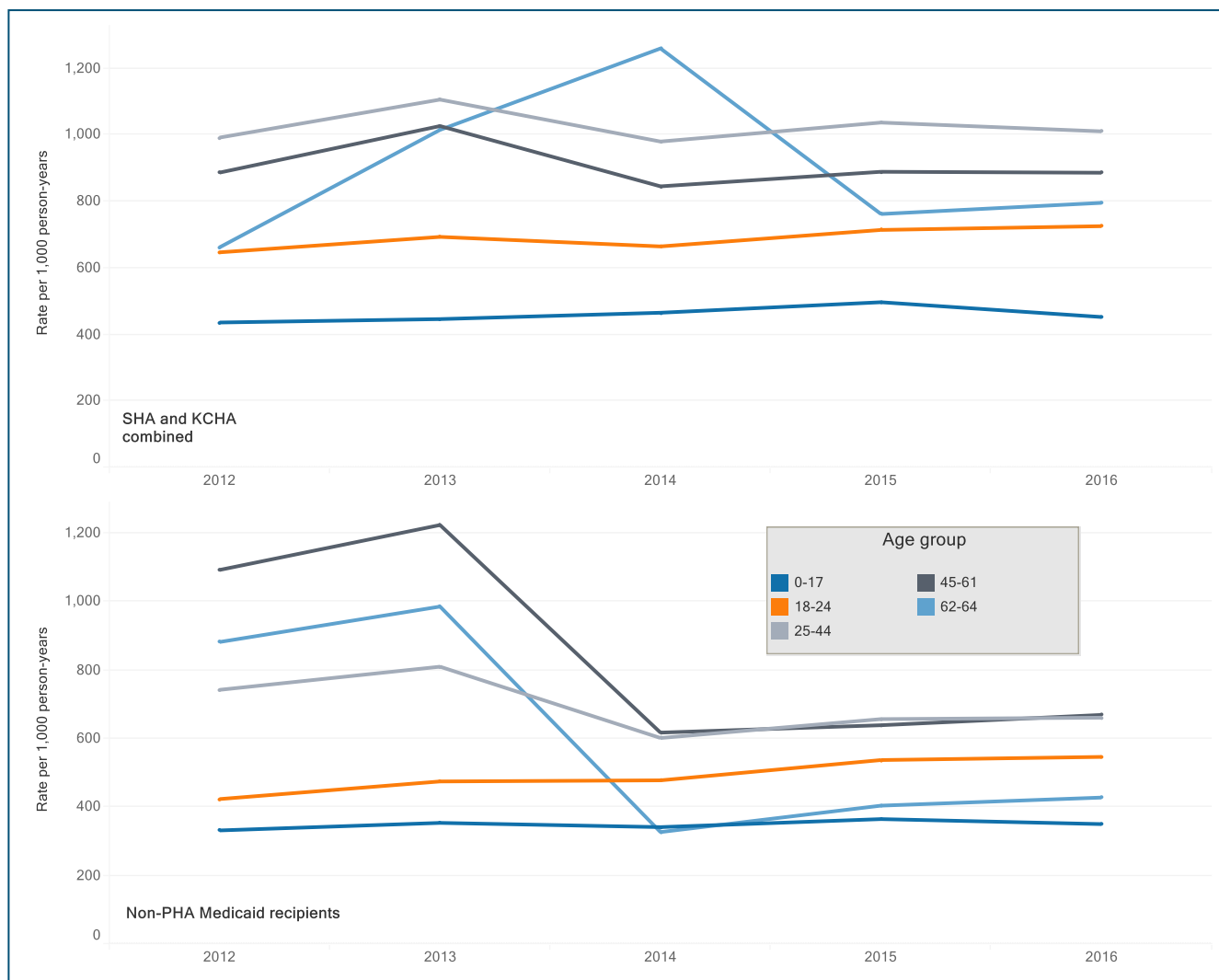
Rates of hospitalizations remained static among minors (<18 year olds) across all three population groups from 2012 to 2016. Rates for the 18–24 and 25–44-year-old groups were fairly consistent among KCHA residents, but showed signs of increasing among SHA residents and non-PHA Medicaid recipients. Among older adults (62–64-year-olds), Medicaid expansion in 2014 resulted in a substantial decrease in hospitalization rates.

Emergency department (ED) visit rates were largely unchanged over time for PHA residents but decreased substantially among non-PHA Medicaid recipients after Medicaid expanded

Rates of ED visits were higher among PHA residents than non-PHA Medicaid recipients in 2016, particularly for females. However, this gap between PHA and non-PHA Medicaid recipients was largely a result of a substantial decrease in ED visit rates among older non-PHA Medicaid recipients after Medicaid expanded in 2014. For example, among non-PHA 45–61-year-olds, the rate of ED visits was 1,222.5 per 1,000 p-y in 2013 but decreased to 667.9 per 1,000 p-y in 2016. Similar drops were recorded for 25–44-year-olds and 62–64-year-olds, while younger groups had static or increasing rates. Among KCHA and SHA residents on Medicaid, rates fluctuated but tended to remain flat over time (Figure 3). ED utilization rates did not show major differences between subsidy types at either PHA.

A similar pattern emerged for *avoidable* ED visits; there was an initial large drop in the non-PHA group from 2013 to 2014 but no obvious change among PHA residents (though in both groups, rates increased again from 2014 to 2016). Avoidable ED visits are costly, and are considered to be signs of poor care management or inadequate access to primary health care. Rates of avoidable ED visits were higher in both KCHA and SHA across all age groups when compared to the non-PHA Medicaid population, with the highest rates seen in KCHA females. Rates were slightly higher among KCHA females in soft units than those in hard units but there was no difference by gender among SHA residents.

Figure 3: Rates of emergency department visits by age for SHA and KCHA combined (top panel) vs. non-PHA Medicaid recipients (lower panel)



There was a strong age gradient for rates of unintentional injuries among SHA residents but not so among KCHA residents and non-PHA Medicaid recipients

Among SHA residents, rates of unintentional injuries were nearly three times higher for men aged 62–64 than males aged under 18 (292.5 vs. 111.2 per 1,000 p-y), and over four times higher for women (384.6 vs. 87.4 per 1,000 p-y). This strong age gradient was not evident among KCHA residents or non-PHA Medicaid recipients.

Like hospitalizations and ED visits, rates of unintentional injuries declined substantially between 2013 and 2014 among non-PHA Medicaid recipients aged over 45 but remained static or increased among younger age groups and PHA residents of all ages. Though there appeared to be a sharp increase in rates

of injuries starting in 2015 and continuing in 2016, this is likely driven by a change in the diagnostic coding system used in claims data that took place in October 2015.⁴

Chronic conditions

PHA residents were much more likely to receive care for asthma than non-PHA Medicaid recipients

PHA residents of all ages, genders, and races/ethnicities were much more likely to have met the definition for asthma than non-PHA Medicaid recipients. The proportion was consistently 2–3 times higher in PHA residents when looking across age and gender. It is unclear whether the higher proportion seen represents greater prevalence of asthma among PHA residents or higher levels of care seeking. The proportion also increased with age among both PHA and non-PHA Medicaid enrollees.

White individuals were more likely than Black/African American individuals to meet the definition for chronic obstructive pulmonary disorder (COPD) for both PHA and non-PHA Medicaid recipients

As expected, the proportion of people meeting the definition of COPD increased with age. Even accounting for age, there were some differences in proportions by race/ethnicity. The proportion for Black/African American individuals aged 45–61 ranged from 12.9 per 1,000 in the non-PHA group to 31.1 per 1,000 at KCHA. For white individuals in the same age group, rates ranged from 18.5 per 1,000 (non-PHA) to 58.8 per 1,000 (SHA). The difference was less pronounced among the 62–64-year-old group.

KCHA residents were more likely to meet the definition for diabetes than SHA residents

For most demographic subgroups, a higher proportion of KCHA residents met the definition for diabetes than SHA residents. This was particularly true for males aged 62–64 (169.2 vs. 111.6 per 1,000), Black/African American individuals aged 45–61 (134.5 vs. 108.1 per 1,000), and tenant-based voucher residents aged 62–64 (189.7 vs. 124.0 per 1,000). Both PHAs had a higher proportion of people meeting the definition for diabetes than non-PHA Medicaid recipients (1.5–3 times higher).

More detailed analyses may be viewed online

The best way to explore the health status of PHA residents is to use an [interactive visualization](#)⁵ hosted by King County. The online tool allow users to navigate between viewing conditions by demographics and housing types, looking at time trends, and looking at specific housing portfolios or ZIP codes. Any new analyses will be updated.

⁴ The switch from the ninth revision of the International Classification of Diseases, Clinical Modification (ICD-9-CM) to the tenth revision (ICD-10-CM) makes it difficult to compare across time for conditions that are defined by ICD codes, like unintentional injuries. Work is underway nationally to create mappings between the two systems for specific conditions. Though the provisional mapping was used in the analysis for injuries, the approach has not yet been fully validated caution should be taken when comparing over time.

⁵ <http://www.kingcounty.gov/health-housing>

Background

Housing profiles/types

Federally subsidized housing

PHAs administer federal, state and locally funded long-term affordable rental housing and rental assistance that serve low-income people and their families. Subsidized housing is important for avoiding poor housing conditions that impact health, such as unsafe living conditions, high rent burdens, frequent moves and displacement of communities, and overcrowding. There are 3 main types of housing assistance:

- Housing Choice Vouchers (HCV, formerly called Section 8)—used by voucher recipients to rent a unit on the private housing market.
- Public housing properties and units that are managed and owned by PHAs
- Project-based vouchers (voucher): Housing units that are subsidized by PHAs.

Throughout this report and online [dashboard⁶](#), subsidy types are categorized as either “hard” or “soft” units. A “hard” unit refers to subsidies that are tied to specific housing units, which include subsidies administered through both the Public Housing and Project-based voucher programs. A “soft” unit refers to a subsidy administered through the HCV (Section 8) program, which is used by the voucher holder to lease a unit on the private housing market.

SHA and KCHA are the largest affordable housing providers in King County. Collectively, KCHA and SHA provide access to decent, safe, and sanitary housing for 26,000 households (57,000+ individuals) in the county. They do so primarily through two federally funded programs—low-income public housing (LIPH) and voucher (Section 8)—where households generally pay 30%-40% of their income for rent.

SHA owns and operates more than 8,000 apartments and single family homes at nearly 400 sites throughout Seattle through LIPH, Seattle Senior Housing Program, and additional housing. SHA also administers over 6,900 tenant-based HCV (Section 8), and subsidizes 3,700 units operated by local providers (“collaborative units”)

KCHA provides rental housing and rental assistance to more than 19,000 households across 33 cities in King County, excluding Seattle and Renton. KCHA owns and manages 4,269 units of federally funded housing for families, the elderly, and people with disabilities. An additional 6,000 units of low- and moderate-income housing are financed through tax credits or tax-exempt bonds. KCHA also administers housing assistance through the HCV (Section 8) program to over 12,000 households who rent affordable housing on the private market.

⁶ <http://www.kingcounty.gov/health-housing>

Housing as a platform for health, well-being and success

Intergenerational poverty, where children of low-income parents become low-income adults, also can result in a cycle of vulnerability for poor health outcomes. In order to break these cycles, a comprehensive, cross-sector response is needed to understand the relationship between social factors that create the best opportunities for improved health. No sector can create effective and lasting changes in a vacuum and this has brought a call to break down policy and programmatic siloes. For affordable housing providers, "housing as a platform for health" is an outgrowth of this perspective shift on poverty alleviation. This view expands the role of housing providers beyond the development and maintenance of buildings and rental subsidies. Instead, it reframes housing assistance as providing the stability that serves as an essential springboard for engagement and success in other sectors including education, health, employment, and longer-term asset building.

Both PHAs recognize that housing is only one component in a constellation of necessary supports and have looked to systems-level partnerships to improve the stability and well-being of residents and the broader community. Over the past five years, both KCHA and SHA have prioritized the use of housing as a platform to improve quality of life, including enhancing programming and services that impact the health of residents. Good behavioral and physical health are necessary for people to move towards stability and self-sufficiency, and roughly 60 percent of health is determined by social factors, including housing and neighborhood resources (i.e., social determinants of health).⁷

AS AN EXAMPLE OF HOUSING AS A PLATFORM FOR HEALTH, THE MERCY HOUSING NORTHWEST COMMUNITY HEALTH WORKER INITIATIVE FOUND INCREASED RESIDENT ENGAGEMENT WITH HEALTHY BEHAVIORS, PARTICULARLY IN NON-ENGLISH SPEAKING RESIDENTS. ⁵

Concurrently, there has been an increased focus on health system transformation nationally and locally; specifically using cross-sector, systems-level partnerships to improve service delivery, improve population health and address health inequities while driving down health care costs. PHAs are the primary affordable housing providers for people eligible for Medicaid—including seniors, people with disabilities and families with children. PHAs have unique, ongoing relationships with residents that offer various opportunities to engage people around health, particularly in those areas of King County that have high rates of chronic health conditions.

With continued and expanded cross-sector opportunities to link housing data to other datasets, health and housing systems have an opportunity to improve the health and well-being of the broader community through the ACH, and to design data-driven integrated policy and program design. This

⁷ https://www.mercyhousing.org/file/1570_MHNV_FinalHealthHousingReport_v7.pdf, accessed 2/2017

requires a clear understanding of what the specific health needs are within and across different resident populations and programs.

Data to drive decision-making towards policy/program design, evaluation and impact

Both the PHAs and the broader health system have made a commitment to design, implement and evaluate policies/programs based on sound information. Historically, PHA and health partnerships have relied on an incomplete picture, relying primarily on anecdotal understandings and assumptions of specific health conditions and baseline service engagement among and across different PHA populations or programs. Data comes from separate programs or agencies, such as administrative datasets or ad-hoc surveys; and integrated data across programs, agencies and sectors have remained elusive. Without effective cross-sector data integration efforts, it remains difficult to accurately define and identify issues and service gaps, understand the interconnectedness of service systems, and measure returns on investments in system changes. Additional work toward achieving integrated data systems is needed to address the large inequities in our county through innovative cross-sector initiatives, and align health, housing and social services systems to address multiple determinants of health. Phase I of the Medicaid and PHA data integration will:

1. Provide the PHAs and partners with baseline understanding of health conditions and service utilization among and across different PHA populations or program.
2. Inform current and future cross-sector efforts aimed at eliminating health inequities among low income residents of PHAs

More broadly, this project provides a scaffold on which to build a broader integrated data system with additional data from other sectors and agencies. More data and more comprehensive information will allow capacity for more rigorous and precise evaluation of the programs and policies, measure costs and savings associated with initiatives, identify disparities, and inform new initiatives and partnerships.

Primary questions

A growing national evidence base shows that high quality, stable housing improves health; permanent supportive housing is an effective strategy to end homelessness, improve mental health and substance use. Does King County have the same experience? With linked data, health and housing policy makers can examine questions about service utilization and engagement, health conditions, and can design programs to reduce illness and accidents. How do housing clients fare? How frequently do PHA residents use Medicaid? Is the pattern of health conditions or health care utilization different from non-PHA housed Medicaid clients? Are there ways that a PHA can provide programs or services that can maintain or improve health among their residents? There is a need to verify the anecdotal stories heard by PHAs and to add to the evidence of how housing impacts health.

Who is included?

In the analysis and report, population and counts of conditions or events numbers are restricted to individuals under the age of 65 who were on Medicaid from 2012 forward, in the PHA at some point between 2004 and 2016, and who were not dual enrolled in Medicare. Medicaid is considered to be the “payer of last resort,” meaning that individuals or families who have other medical coverage would have claims go to the other coverage first, so the claim may not appear in Medicaid data. Adults over age 65 are almost all covered by Medicare, which would pay before Medicaid.

What conditions are currently examined?

The primary focus of this report allows each PHA to look at their data, and compare patterns to the overall non-PHA Medicaid population and to the other PHA. It provides descriptive statistics on Medicaid claims data and service utilization. The focus is on conditions and service utilization patterns where there are opportunities for a policy, system, or environment change that can support the health of PHA residents. Are there conditions where PHA residents seem to be doing better or worse than non-PHA assisted Medicaid enrollees? Questions that are relevant to the policies and programs within the PHAs also help to inform the Accountable Community of Health triple aim goal of improving health care quality, reducing health care costs, and improving population health.

Future questions

This pilot study provides many rich insights about the PHA and non-PHA population. It also leads to other important questions that may not be able to be answered using the current data sources, including: How did resident usage patterns change after moving into public housing? Does integrated data support the idea that stable housing can reduce costs within the health care system? How do demographic and health patterns vary for those who are dual eligible for Medicaid and Medicare? How does the health status of residents in federally funded (HUD) housing compare to residents in other forms of subsidized housing? What is the interaction of behavioral health with housing? These are all areas for future exploration.

Methods

Overview

This section provides a brief overview of the steps taken to produce a linked PHA and Medicaid dataset that could be analyzed to identify health needs among PHA residents. Additional details are located in the technical appendix. Most code used is publicly available on PHSKC's GitHub page⁸.

Data sources

Housing enrollment data came from data reported to the US Department of Housing and Urban Development (HUD) on the Moving to Work version of the 50058 form (50058)⁹. This data source was used because it is common to both PHAs, contains the majority of desired data elements, and creates the potential for this work to be expanded to other PHAs around the country also using the form. While the data elements and basic data collection procedures were similar across the PHAs, the PHA data needed substantial understanding and manipulation before linking to Medicaid data. This clean-up process, as well as limitations within the data sources, are described further in this section, the *Limitations* section, and the technical appendix.

USING HUD 50058 DATA SIMPLIFIED COMBINING DATA FROM TWO PHAs AND MAKES IT EASIER FOR OTHERS TO ADAPT THIS WORK TO THEIR REGION.

Medicaid enrollment and claims data were supplied by the Washington Health Care Authority (HCA), which administers the Medicaid program for Washington State. Enrollment data provided details on who was enrolled in Medicaid at a given time and the claims data showed services for which Medicaid paid.

Data processing and linkage

Housing data came in the form of cross-sectional records from 2004 to 2016. Data from each PHA was consolidated into a single longitudinal file and then joined into a combined PHA file. We used probabilistic linking to clean identifying information and a series of logic rules to create a longitudinal record for each individual.

The Medicaid enrollment data were also processed to produce a single row per individual per contiguous time enrolled in Medicaid. The longitudinal PHA data were joined with the Medicaid enrollment data in two stages. First, linkages were made by matching on Social Security Number (SSN), name, and date of birth. For PHA residents without a recorded SSN, probabilistic matching used name and date of birth.

⁸ <https://github.com/PHSKC-APDE/Housing>

⁹ https://www.hud.gov/program_offices/public_indian_housing/systems/pic/50058/mtw

Medicaid claims data were coded to conditions based on procedure, place, or diagnosis code, based on standard definition sets. One major caveat is that in October 2015, the diagnosis code system changed and added many more codes. This means that many conditions can't be compared across time until crosswalks have been developed to account for the impact of additional codes. Even for indicators where we are presenting rates across time, caution is advised when interpreting this data. More detailed information is available in the technical appendix.

Analyses

Descriptive statistics were produced for the PHA demographic data. This consisted primarily of assessing the number of PHA residents for each month broken down by factors of interest such as PHA, type of housing program, age, gender, race, disability, and location. Health outcomes were displayed as incidence rates or prevalence, depending on the condition.

How are conditions calculated?

People may not stay in one place through the course of the year, and may have situations that change their eligibility/enrollment in Medicaid. Since this project is looking at data over time, and not just a snapshot of one period, circumstances where an individual's housing and/or Medicaid enrollment status changed at some point during the covered time period needed to be addressed. Details of the variation of these calculation can be found in the technical appendix.

Limitations

It is important to note some limitations to the conclusions that can be drawn from the current Medicaid-PHA linked dataset. The claims data are derived from reimbursement information from when a provider billed and Medicaid paid that bill. Conditions must be diagnosed to be billed; some diseases such as hypertension, depression, and diabetes might be underdiagnosed and therefore underrepresented in the Medicaid claims dataset. Medicaid is the last payer of medical bills; people with Medicaid plus another insurance may not have their claims represented in this data. This is particularly relevant for the PHA population over age 65, which are likely covered exclusively by Medicare or by Medicaid AND Medicare (dual enrolled). Dual enrolled individuals are not included in these analyses. More detailed limitations are included in the technical appendix.

Rates of health conditions shown cannot be considered to be the prevalence, or the number of people who have an existing condition, because claims data only reflects instances where someone seeks and receives treatment for their condition. For example, if a person with asthma did not seek care for their condition during a given calendar year, or they were treated by someone who did not bill to Medicaid, that person will not appear in the results. When someone is identified in the claims file as having a chronic disease, such as asthma or diabetes, there is no information about how long they have had that condition. Claims data also do not include care that is needed but not received, even if a patient was seen by a medical provider and diagnosed with a particular health condition. Services that providers know may be denied for payment may also be inconsistently submitted. The current data set may also miss services for which claims are not submitted (for example, immunizations from a grocery store clinic). Having a higher rate of care utilization may not be a negative outcome; for chronic diseases that are well-managed, more primary care visits and medication adherence result in better health care outcomes.

HAVING A HIGHER RATE OF CARE UTILIZATION MAY NOT BE A NEGATIVE OUTCOME; FOR CHRONIC DISEASES THAT ARE WELL-MANAGED, MORE PRIMARY CARE VISITS AND BETTER MEDICATION ADHERENCE RESULTS IN IMPROVED HEALTH OUTCOMES

In 2014, the Affordable Care Act (ACA) expansion for adult eligibility for Medicaid began in WA State. In addition to increasing adult coverage in King County, the number of adult PHA residents on Medicaid also increased. Newly enrolled individuals may have different health care utilization patterns than ones with previous coverage.

At this time, conditions cannot be compared across time. On October 1, 2015, health care providers switched to a new system of coding when billing Medicaid for services; definitions for a condition have changed and expanded. So while there are questions about how utilization changed after expansion of the ACA, those cannot yet be answered. This report and dashboard, only include conditions over time

for health outcomes that appear not affected by the transition. Future work will include a focus on understanding the impacts of coding changes for the ability to look at patterns over time.

PHA data systems changed a number of times over the time period reflected in this data set, and varying data structures led to some data quality issues that required decision rules on how to address the issues, which were amplified in more historical data. PHA recertification¹⁰ dates were not routinely captured until more recently, potentially inflating the number of individuals who appeared to be in the PHA programming. In addition, individuals and families may move between PHAs (called a “port”), which can occur during a calendar year. This movement can impact the count of individuals within each PHA population, as well as where a health condition might be assigned.

¹⁰ The recertification process is used at PHAs to update and confirm key program data for each subsidized household. The certification timeline varies by PHA and as policies change over time, but occurs regularly anytime between a one-three year cycle. Households can submit interim certifications, as circumstances (such as income and household composition) change between regularly scheduled certifications.

Impact and next steps

The information contained in the dashboard are the beginning steps to start examining patterns that are seen. Through continued conversations to promote additional understanding, the data could enhance the PHA and health system ability to use sound information to design, implement and evaluate policies/programs. PHA residents on Medicaid are demographically different and are experiencing a different set of health conditions and utilization patterns compared to non-PHA Medicaid residents. PHA staff can explore the data to see whether it fits the anecdotal stories they have heard, and if it measures up to resident experience. When 2017 housing data and Medicaid data become available, the dashboard will be updated, keeping it timely and relevant.

When data show unexpected events, such as a high rate of avoidable ED utilization, a more detailed look into the data might be able to shed light on the “why.” In some cases, it might be a condition impacting a specific population that could be an opportunity for outreach and education. Some data points may not be answered with a deeper dive into the existing information; it may require additional analysis, qualitative data, community feedback, or different data points.

Beyond the PHAs and Public Health, it is also an opportunity for the ACH to consider leveraging the partnership to be able to reach target goals and to potentially reach a large number of the Medicaid population. National discourse talks about the potential for catapulting the housing as a platform for health by leveraging Medicaid dollars for investment in affordable housing or related services. One example of this could be to add to the increasing evidence base of Community Health Workers (CHW) or Resident Service Coordinators (RSCs) impact on improved health outcomes.

While this baseline linkage enhances knowledge, it brings up additional data gaps that still need to be addressed. How conditions are changing over time is a key variable to measure progress: additional work around how to interpret data over code changes will continue. Since we lack information about health care utilization for people age 65 and older as well as the dual eligible population, obtaining identified Medicare data would greatly add to the picture and bolster evidence-based *Aging in Place* programs. Outside of HUD-funded housing, King County also has other major non-profit housing assistance programs that report to the Finance Commission and Department of Commerce using the Web-Based Annual Reporting System (WBARS). Together, WBARS and identified Medicare data provide a much more robust picture of health and housing in low-income King County residents. Behavioral health is a key factor in stable housing, and PHAs are interested in leveraging other on-going data integration work to expand knowledge of the relationships of behavioral health and homelessness on health. These cross-sector partnerships could result in rich information that allows for understanding of how housing plays a role in health; how policy, system, and environment change impacts health; and provide actionable data to help improve the health of some of the most vulnerable King County residents.

Appendices

Appendix I: Technical documentation

This appendix delves into the nuances of the PHA enrollment, Medicaid enrollment and claims, limitation of the PHA and Medicaid data and the methods used for processing and linking the datasets. As new methods are developed or applied to the health-housing linked data, this appendix will be updated.

Data sources

PHA data came from the Housing and Urban Development (HUD) 50058 Moving to Work form (50058). However, data structures and systems changed in the PHAs. The King County Housing Authority (KCHA) 50058 data were stored in two different databases with slightly different structures (one spanning data from 2004–2015 and the other with data from 2016 onward). Data were in a wide format with one row per household. Seattle Housing Authority (SHA) 50058 data also originated from multiple systems: one covering public housing data from 2004–2012, one for public housing data from 2012 onward, and a final one with housing choice voucher data from 2006 onward. Data were structured with one row per individual and the method for identifying household members varied by system.

Medicaid enrollment data were structured as a single row per person per month of enrollment and was available from 2012 onward. Medicaid claims data contained elements such as diagnosis codes that were necessary to identify acute events and chronic conditions. Claims data were linked to Medicaid enrollment by a unique Medicaid ID number.

All data sets contained individual identifying information such as name, date of birth, and Social Security Number (SSN), which was essential for linking data from each source.

PHA data processing and joining

The 50058 data consists of point-in-time records of who lives where but does not consistently provide records of when individuals move in and out of housing. The goal of processing the PHA data was to produce a combined, longitudinal record of each person's time as a PHA resident. The following steps were taken to achieve this (each step has a link to the specific code used on a GitHub repository but note that code may have been updated since this report was written):

1. [Combine KCHA data into a single file and reshape to have one row per individual per time point.](#)
2. [Combine SHA data into a single file.](#)
3. [Process KCHA and SHA data to have the same variable names and formats.](#)
4. [Combine into a single PHA file.](#)
5. [Deduplicate records and fix inconsistencies in demographic data.](#)
6. [Set up demographic groups of interest.](#)
7. [Clean addresses](#) and [geocode data](#).

8. [Address conflicting data \(e.g., people appearing in multiple PHA programs simultaneously\) and apply rules for people who move between PHAs \(port in and port out\).](#)
9. [Set up final elements to be used in analyses.](#)

Steps 1–4 are outlined in Figure 1 below. The end result for data from 2004–2016 was 162,377 unique individuals in 65,466 distinct households. The deduplication and demographic standardization process (step 5) used a six phases of probabilistic linking based on SSN, name, date of birth, and PHA-given ID. We used the RecordLinkage package in R for the linking process¹¹. After the deduplication process, there were 152,420 unique individuals in 65,934 distinct households at 91,300 addresses. After address cleaning (step 7), there were 71,967 unique addresses.

A series of unique rules was derived to address conflicting information. For example, when a person or household moved from one PHA to another, data often continued to be entered in the original PHA’s database. In order to avoid double counting these people, they were assigned to the PHA they had moved to. Other data issues included households appearing in multiple programs within a PHA, no record of a household exiting a program or PHA, and auto-generated recertifications that obscured when a household exited a program. After addressing these issues, there were 147,914 unique individuals in 62,283 households and 360,100 records (Figure 2).

Medicaid data processing

Medicaid enrollment data were reshaped to have the same format as the PHA data, with a single from- and to- date per contiguous coverage period per individual. The code used to complete this is also available online¹². After consolidating the data, there were 864,843 unique individuals on Medicaid with 1,150,021 records (Figure 2).

PHA and Medicaid linkage

We used two rounds of probabilistic matching to link the PHA and Medicaid datasets¹³. Of the 103,494 individuals in the PHA with data from 2012 onward, 88,351 (85.3%) were successfully linked to the Medicaid data, though not everyone had housing and Medicaid coverage simultaneously. The Medicaid recorded value for age, gender, and race/ethnicity fields was used as the default as it was deemed to be more reliable and it allowed for comparisons to the non-PHA Medicaid population. There was a very high degree of concordance between the PHA and Medicaid data for age and gender when the field was non-missing in both datasets (96.6% and 98.7% matched, respectively). Race data were more variable, but 74.0% of non-missing records still matched (35.9% of the mismatched data could be explained by the presence of an ‘other’ option in the Medicaid data that was not available in the PHA data).

¹¹ <https://cran.r-project.org/web/packages/RecordLinkage/index.html>

¹² https://github.com/PHSKC-APDE/Medicaid/blob/master/eligibility%20cleanup/elig_overall_process.sql

¹³ https://github.com/PHSKC-APDE/Housing/blob/master/processing/pha_medicaid_join.R

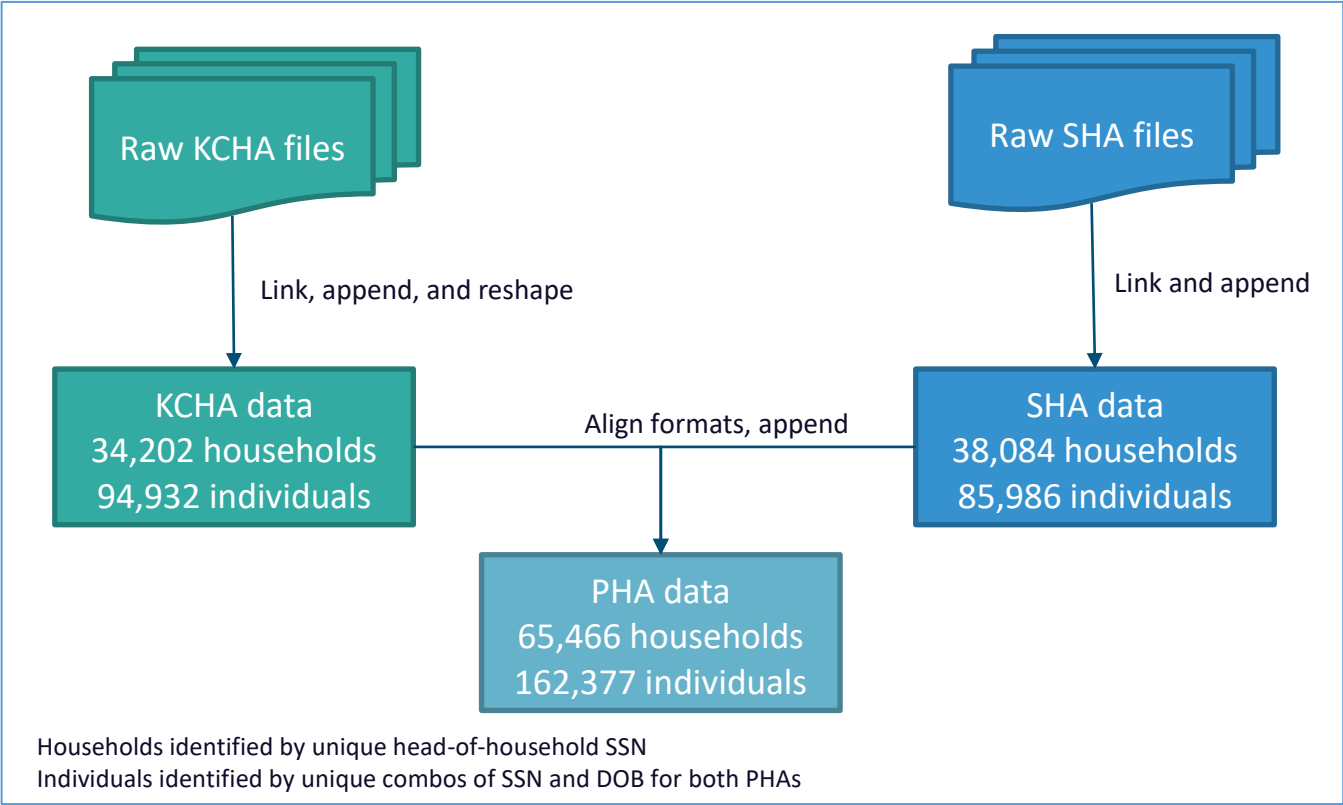


Figure 1: Processing and combining PHA data

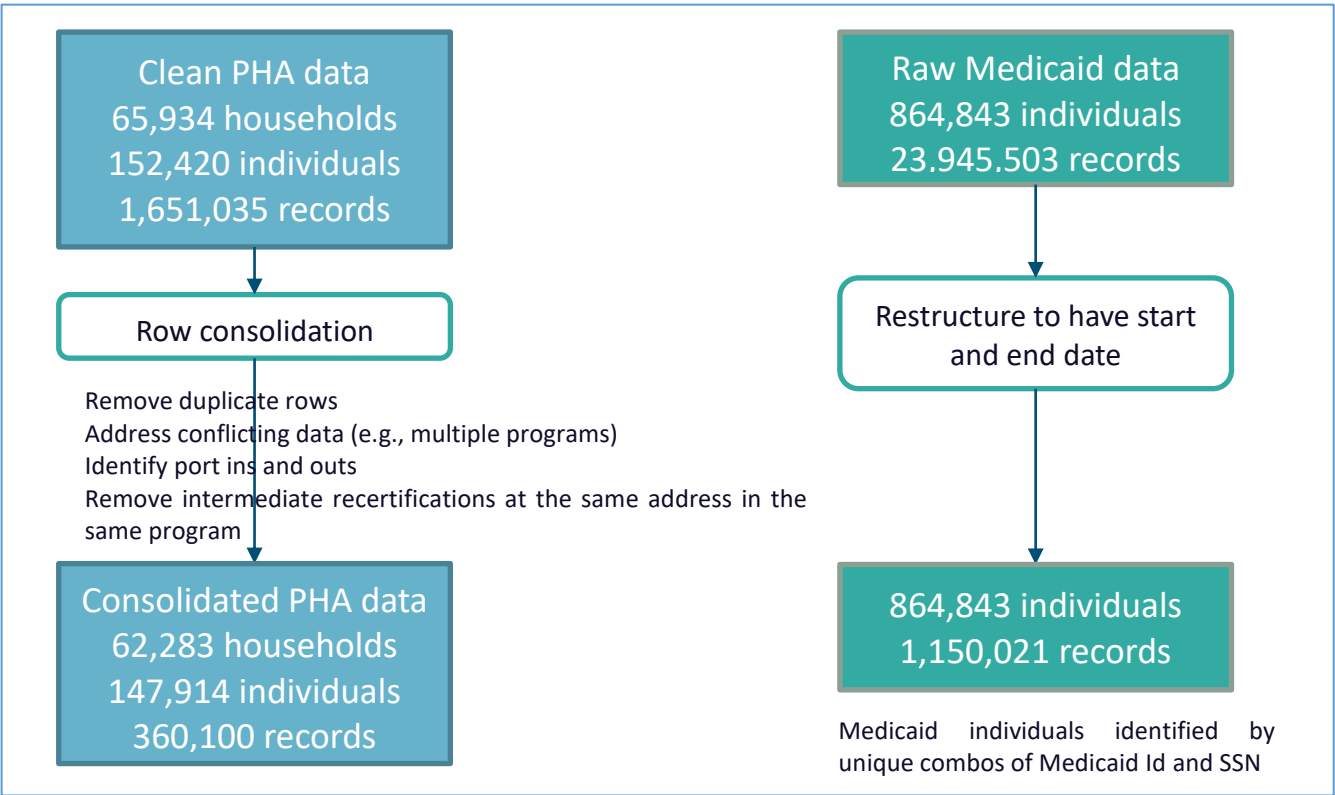


Figure 2: PHA and Medicaid data consolidation

Calculating rates and proportions

Definitions for urgent health care utilization and chronic condition measures in the Medicaid and public housing populations involve looking at both the numerator (counts of events) and the denominator (the number of potential people impacted, or person-time).

Denominators

People move in and out of different housing situations (e.g., someone may move from Seattle Housing Authority (SHA) to King County Housing Authority (KCHA), or from being supported by a tenant-based voucher to living in public housing). People also move on and off Medicaid as their circumstances change. When calculating rates of health outcomes for a calendar year, it is necessary to assign people to a particular combination of PHA and other demographics.

For acute events (ED visits, hospitalizations, and unintentional injuries), people were allocated to a given group in proportion to the number of days spent in that combination (person-time). For example, if a Medicaid recipient was not in public housing from January through March of 2015, moved into a public housing program on April 1 and remained both there and on Medicaid for the remainder of 2015, they would contribute 90 days to the non-PHA (Medicaid only) group and 275 days to the PHA group.

For chronic conditions (e.g., asthma, hypertension), people are allocated to the housing group they spent the most time in for that calendar year. Using the example above, the person would be included only in the public housing group for 2015. The exception to this is if the person spent time in both KCHA and SHA, in which case they are counted in both agencies. If a person was only enrolled in Medicaid and not housing that year, they are included in the non-PHA group.

Numerators

Claims data have a variety of definitions that could be used to describe conditions. Depending on the definition, the number of individuals with the condition could vary wildly; in some cases, definitions rely on exclusion or having coverage for a certain length of time. This section tries to illuminate how much a single definition can impact counts (and therefore, rates). While there may be other sources for King County Medicaid population conditions, the numbers presented in this report will not exactly match those as we are using different definitions. Comparisons among groups in this report are valid. Conditions are diagnosed using claim type, procedure information, and International Classification of Disease, Clinical Modification (ICD-CM) diagnosis codes.

Hospitalizations:

1. Total number of hospitalizations.
2. Persons with 1+ hospitalizations.

Hospitalizations are identified by the inpatient claim type (claim type 31 or 33). Based on the Health Plan Employer Data and Information Set (HEDIS) inpatient utilization measure, the following hospitalizations were excluded:

1. Where mental health or chemical dependency is the principal diagnosis

2. A principal diagnosis for infant delivery
3. A principal diagnosis for maternity care
4. A DRG code in the maternity MS-DRG value set
5. A non-acute inpatient stay revenue code

In addition, based on the Agency for Health care Research and Quality's (AHRQ) Prevention Quality Indicators (PQIs), the following hospitalizations were excluded:

6. Transfers from another hospital or health care facility (based on admission source field).
7. If the patient died (discharge status) during the hospitalization.

For example, in 2015, without applying any of the exclusion criteria, 18,396 distinct persons had 1+ hospitalizations, for a total of 22,899 hospitalizations. If we implemented the exclusion criteria, the number of persons excluded would be: (1) 493 (3%), (2) 3,658 (20%), (3) 3,364 (18%), (4) 125 (1%), (5) 0 (0%), (6) 2,243 (12%), and (7) 151 (1%), respectively. When all seven exclusion criteria are applied, 10,027 (55%) were excluded. For this report, hospitalizations were defined with all exclusions applied.

Emergency department (ED) visits:

1. Total number of ED visits.
2. Persons with 1+ ED visits.
3. Total number of avoidable ED visits.

We defined ED visits using an adaptation of the definition provided by the Healthier Washington Medicaid Transformation project (<https://www.hca.wa.gov/assets/program/mtp-measurement-guide.pdf>):

- Claim or encounter is a outpatient claim type (including hospital outpatient) AND
- One or more of the following criteria is met:
 - Revenue code in the set ('0450', '0451', '0452', '0456', '0459', '0981')
 - Procedure code in the set ('99281', '99282', '99283', '99284', '99285', '99288')
 - Place of service code = emergency department AND procedure codes in the set from 10021 to 69990.

We did not exclude any conditions based on diagnosis codes.

Potentially avoidable ED visits are based on a list of 174 ICD-9-CM and 140 ICD-10-CM codes for the principal diagnosis identified by the Medi-Cal Statewide Collaborative Quality Improvement Project specifications¹⁴ and adopted by the Washington Health Alliance. Potentially avoidable ED visits excludes members younger than 12 months.

¹⁴ <http://partnershiphp.org/Providers/Quality/Documents/PCPQIP1516Spec2.pdf>, last accessed 3/2018

Unintentional injuries:

Unintentional injury is based on the Clinical Classifications Software (CCS) classification of ICD-CM codes.¹⁵ We used a provisional mapping of ICD-9-CM to ICD-10-CM codes produced by the Council of State and Territorial Epidemiologists to account for the switch in ICD systems in October 2015.

Chronic conditions (diabetes, asthma, chronic obstructive pulmonary disorder (COPD), depression, hypertension, ischemic heart disease (IHD), and mental health conditions):

The chronic conditions are based on algorithms developed for the Centers for Medicare and Medicaid Services (CMS) Chronic Conditions Data Warehouse (CCW).¹⁶ In general, they are based on certain types of claims with a defined list of ICD-CM codes either for any diagnosis or the first and second diagnoses during a reference period. For mental health conditions, the ICD codes selected are based on the HEDIS mental health diagnosis value set.

For asthma, for example, an eligible claim is defined as having at least one inpatient, skilled nursing facility, or home health agency claim or at least two hospital outpatient claims or “carrier” claims with an asthma diagnosis.

Rate calculations

For the rate of acute events such as hospitalizations or injuries, rates were calculated as the total number of events that occurred while people were in that subgroup divided by the total amount of time people spent in that subgroup **while they were also enrolled in Medicaid**. The rate is expressed as X per 1,000 person-years, which can be interpreted as the number of events one would see if 1,000 people were in that subgroup for one year.

For the proportion of persons with ED visits or hospitalizations, the numerator was again the total number of events that occurred while people were in that subgroup and the denominator was the total number of people who spent any time in that subgroup in the year. The proportion is expressed as X per 1,000 people.

For chronic conditions where we are describing an individual rather than an event (e.g., an asthmatic person), people were placed in one or two subgroups based on the following rules:

- If a person was not in a PHA at any time during their Medicaid enrollment that year, they are placed in the non-PHA Medicaid recipient group. This is regardless of whether or not the person was enrolled with a PHA that year when they were NOT on Medicaid.
- If a person spent time enrolled in both a PHA and Medicaid simultaneously, they were placed in the PHA group, even if that person also spent time that year only enrolled in Medicaid.
- If a person spent time in both PHAs in a year, while also enrolled in Medicaid at both PHAs, they are counted twice, once under each PHA.

¹⁵ <https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>

¹⁶ <https://www.ccwdata.org/web/guest/condition-categories>, last accessed 2/2018

Chronic conditions are expressed as the number of members who met the definition for that condition during a calendar year per 1,000 members who were allocated to that group for that year.

The following people were excluded from both the denominator and numerator when calculating rates:

- People who were in public housing but not on Medicaid at any point during a year, because data on their health measures do not exist in the Medicaid claims data.
- People with Medicaid/Medicare dual eligibility.

Note: some measures are only or more meaningful when they are restricted to certain age groups. For example, cardiovascular disease (CVD) is rare among children and young adults; comparison between the PHAs who have different populations (SHA tends to have an older population than KCHA) may create the illusion of major differences in rates. Instead of looking at the total population, restricting the analysis to the population over age 45 would provide a more accurate comparison.

Data suppression

In the Tableau visualization, the rate for a measure is suppressed if the numerator or denominator is less than 5 but greater than 0. This is to protect confidentiality as well as provide sufficient numbers to report data.

Health data interpretation limitations

Compared to traditional population health survey measures, such as the Behavioral Risk Factor Surveillance Survey, chronic disease rates based on Medicaid claims data are lower. Rather than interpreting the Medicaid claims information as a prevalence (number of individuals with a given condition), these are best viewed as the service utilization rate for the chronic condition. Even for service utilization, the rate may be under-reported if the member had dual or third party coverage. This is a major issue for individuals who are dual covered by Medicaid and Medicare, and so those were excluded from many of the analyses. See below for more information.

Trends over time: One major question about all data is whether it is getting better or worse over time. Complicating that answer is the ICD-CM switch. Starting in October 1, 2015, the diagnosis and procedure codes in the Medicaid claims data switched from ICD-9 CM to ICD-10 CM. For many conditions, ICD-9-CM and ICD-10-CM do not have an exact match in terms of diagnostic codes. As a result, when examining data across years, starting from 2014, a change in the rate could be due to, at least partially, the ICD code transition.

Comparing results to other studies/publications: Even for the same type of service utilization or chronic disease, multiple definitions may exist with different algorithms for coding and different inclusion and exclusion criteria. A measure that was defined based on a particular data source may not be application to another data source. Therefore, the results of this study may not be comparable to those from other studies or publications. Careful examination of the definitions between two rates are needed before making comparisons.

Other measures that are not included: For this project, we only included a limited number of measures for urgent care utilization and health conditions that we think are most applicable to the public housing population. Nevertheless, there are a wide array of measures that can be included in the future such as those developed or presented by the HEDIS, the chronic disease data warehouse, and the Healthier Washington Medicaid Transformation project.

PHA data limitations

Longitudinal data system changes

While household and subsidy information is collected and submitted to HUD using a standard form across all PHAs (HUD Form 50058), the data systems used to store data changed multiple times at both SHA and KCHA during the time period of interest for this report. Each data system stores and exports variables in slightly different ways, creating the need for a standardization process in order to achieve any longitudinal data set. These differences in data structure led to data quality and consistency issues that required the creation of relevant decision-rules and code to address.

Missing data

Due to the longitudinal nature of the data set, there were cases of missing data in the PHA records, in particular among the earlier extracts. Subsidized households complete a regular certification process to re-confirm a number of characteristics, including household composition and income, which occur either annually or every two to three years (depending on the time period and PHA). In order to identify households that exited subsidized housing, but did not have the expected 'end of participation' certification, it was necessary to create a decision-rule and corresponding code to estimate a move-out date for what were **labeled "inactive" households**.

In addition to missing end-of-participation data, it was also necessary to create estimated move-out dates for household members who exited subsidized housing while the remainder of the household remained housed. If a household does not complete an interim certification to inform the PHA that a member has moved out, the only way to identify the exited individual is to compare the household composition lists between the two most recent certifications. In order to estimate a move-out date for a household member who exited at some point between the two certification dates, code was written to calculate the mid-point between the certification dates. This mid-point was then used as the estimated move-out date for the individual(s) who left the subsidized household.

Port households

A household receiving a subsidy through the Tenant-Based Voucher program at most PHAs has the option to use their voucher to "port" to another PHA's jurisdiction (specific port rules and regulations vary by PHA). There are a number of indicators used by PHAs to identify (1) a household that has ported in or out of a given PHA's jurisdiction, (2) the "originating" and "receiving" PHAs associated with the port household, and (3) the dates the port was active. Due to data quality issues, particularly in the older data sets, it was necessary to develop code to identify port households and the effective

date range of any port activity. It was also necessary to develop code to identify subsidized households that were absorbed by the receiving PHA.

Property categorization

In previous data systems used by the PHAs, the name of the PHA owned and/or managed properties were not recorded (no longer an issue in later data systems). For households missing property names, address data was used to match and identify relevant property information for categorization purposes.

Data structure

For a majority of PHA operations, subsidies are categorized, identified, and tracked on the household level, as opposed to the individual level. While individual data is collected for household composition and subsidy determination purposes, the longevity and activity of the subsidy is attached to the household (as are any unique subsidy and/or household identifiers). Since health data is collected on an individual level, it was necessary to be able to accurately and consistently identify an individual as they interacted with both the PHA and Medicaid systems. In the newer data systems used at both SHA and KCHA, the data system automatically generates unique individual/member identifiers, in addition to the traditional unique household/subsidy identifier. This was not the case in previous data systems, creating a need to develop an individual level unique identifier within the PHA data using other methods. Since name, date of birth, and SSN are collected from all household members, the unique identifier of SSN could be used for a majority of PHA affiliated individuals. For individuals who did not have a SSN recorded, a combination of name and date of birth was used to identify unique individuals. Confidence in an individual level unique identifier was necessary not only for the matching process with Medicaid data, but also to accurately track an individual's experience within the PHA system (especially for individuals who may have moved between households/subsidies/PHAs).

Appendix II: Process evaluation

KING COUNTY-DATA ACROSS SECTORS FOR HOUSING AND HEALTH (KC-DASHH) PROCESS EVALUATION SUMMARY

November, 2017



Introduction

Housing is an important component and determinant of health, but little is known about the health conditions experienced by individuals who are living in subsidized housing. Connecting data across health and housing has the potential to improve the health of residents living in low-income housing in King County through providing Public Housing Authorities with information to target programming and policy decisions for healthier outcomes. Public Health – Seattle & King County (PHSKC) and local housing authorities (King County and Seattle Housing Authorities) partnered to link housing data (Housing and Urban Development (HUD) 50058 form) with Medicaid enrollment and claims records to create de-identified data that provide important information about health issues residents might be facing. This approach is part of King County’s Accountable Community of Health (ACH)—a regional partnership committed to working in new ways to improve health and health care. The King County Data Across Sectors for Housing and Health (KC-DASHH) was a Robert Wood Johnson Foundation grant in the Data Across Sectors for Health (DASH) national portfolio. This document summarizes the process evaluation conducted during the project. The evaluation’s objective was to document and describe what worked for the cross-sector partnership around data integration. The evaluation sought to identify factors contributing to success, how barriers were addressed, whether activities proceeded as intended, provide key takeaways, outline next steps following the end of the grant, and provide a “lessons learned” document for others interested in pursuing similar work.

The data included in this report are based on a series of group and one-on-one discussions with core members of the KC-DASHH team over the course of this project, with a focus from April through November 2017, to document lessons learned throughout this project. The questions asked were based on those asked by the DASH National Program Office and questions the KC-DASHH team determined as important for historical documentation and potential replication by others. This information was collected by an internal evaluator staffing the KC-DASHH team, who synthesized the feedback to identify overarching key themes or takeaways, which were summarized by the team.

Key takeaways

Champions for change

Cross-sector partnerships are never an easy endeavor, even with enthusiastic and interested partners. It takes willingness at multiple levels of the organizations to find the time and funds to work together to share data and develop shared language around the data. In addition to data access, other people inside and outside the organization are needed to drive change and handle barriers. In some cases, those champions are needed in order to gain access to the data and facilitate progress when data sharing agreements might get stalled. When people can bridge sectors (have experience and/or trust in multiple sectors), they enhance the capacity of the team to move work forward. These facilitators for change can also be instrumental in the dissemination of the work as well. If an outside, independent party is involved, like the King County Accountable Community of Health (ACH) was for this project, it provides another avenue to impact change and address issues that may arise. Placing this project under the ACH brought further local attention and visibility to the project, in addition to

providing vision for the potential to tap into Medicaid transformation work. In the background, the increasing narrative around housing as a platform for health also continues to drive interest in how to get the right data to drive action.

Factors that were essential to success

Cross-sector partnerships can be difficult to get off the ground when relationships are in their infancy. Having a trusted housing advocate on board was instrumental; since she spanned health and housing realms and was able to make cross-sector connections where they were needed. PHSKC and the PHAs have a history of partnering together on asthma-reducing homes (e.g., the Breathe Easy project) and prohibiting tobacco use in PHA residences. But all the previous work had been a one-time or one-off project as compared to the focus of the KC-DASHH work, which is designed to be an ongoing data exchange. The PHAs had a history of developing data sharing agreements (DSAs) with other partners, which facilitated the data-sharing partnership with PHSKC. PHSKC also has an experienced Grants and Contracts group that routinely works with DSAs as well, and a Privacy Officer who helps review and consider issues that might arise. The Research and Data Analysis unit in the state Department of Social and Human Services had also performed some one-time linkages that spurred additional questions the PHAs wanted to answer. Funding the PHAs for some FTE/staff time (although they spent more in-kind time) helped bring the PHA analysts to the data table to work through the nuances of the PHA data. Both PHAs were “Moving to Work” (MTW) agencies, which gave them additional funding for looking at policy change opportunities. Having regular team meetings for feedback and to work through data issues kept partners engaged and on the right track. The Medicaid DSA was in place prior to the inception of the project with the Health Care Authority (HCA), the state agency in charge of the program.

To accomplish the work, some basic assets are needed:

1. DSAs – between the PHAs; between PHAs and PHSKC; and between PHSKC and HCA;
2. Understanding data risks and mitigating privacy concerns and accidental disclosure
3. Including language in lease forms for residents that clarify the potential for the data to be shared
4. Right tools for the analysts: understanding linking methodology; statistical programs and capacity for data cleaning; technical ability (staff and software) to link data;
5. Documentation of datasets
6. Tools for data visualization and reporting out of information.

Barriers

At this time, the relationship between DASHH partners is informal, brought together by the RWJF funding opportunity. It lacks a formal governance structure, which is a risk to future work as it may rely too heavily on specific individuals engaged in the work versus institutional commitment for data sharing and participation. When the grant ends, there is no contractual obligation to share data, although all partners have expressed a continued willingness and commitment to advancing this work.

Although our grant award included some funding for FTE at the PHAs, we did not request funding for the HCA, who holds the Medicaid data. In retrospect, it would have been beneficial to have some FTE support from HCA to help elevate the priority of our questions, help understand the data, or request additional data pulls. The quality of the data pulls would have benefitted from more PHSKC and HCA project management and documentation of issues and resolution of those issues.

Sharing housing data can be a gray area; the PHAs modified their leases to add clarification of how data collected from residents would be used. The newness of the datasets provided challenges to the analysts. In addition, even though the Medicaid enrollment, claims, and the HUD 50058 (PHA) forms are considered to be standardized datasets, respectively, both the PHA and Medicaid datasets required a fair amount of cleaning and restructuring of the data, beyond what was originally anticipated. A key lesson learned was not to underestimate the amount of time it might take for data preparation of large datasets. Since the data cleaning and integration piece took so long, we fell behind on the dissemination piece for results, missing out on some stakeholder feedback.

Lessons learned through the data

Medicaid data cover a large proportion of individuals in the public housing data. For those who are covered only by Medicaid, it provides a fairly comprehensive view of their health care utilization. However, solely using Medicaid claims paints an incomplete picture for residents who are dual covered, i.e., covered by more than one health insurance, such as Medicare, TriCare, or private insurance. Since Medicaid is the payer of last resort, we are missing some claims information if other insurance paid for the utilization. About 20% of the PHA population are over age 65, and are likely to be covered by Medicare (or dual covered). Since our linkage would be missing data on the majority of those individuals, analyses should be limited to those under 65, and those who are not dual covered. We also found that prevalence data of chronic conditions such as asthma or diabetes as measured by population health surveys is higher than the estimates of those same conditions in our Medicaid population, so the data provided through this project are likely an undercount of the actual conditions. Related to that, claims data applies only to people who have sought or utilized health care. Therefore, we are unable to discern people who are experiencing health issues but not seeking care. This is a limitation of using health claims data as a proxy for health status, as any analyses based on claims data will omit those experiencing health issues but not seeking care. More will be discovered as we delve further into the health data. Even so, the data provide an interesting and robust glimpse of health care utilization for this population.

What is needed to sustain KC-DASHH

A one-time linkage provides only enough information to whet appetites. **Regular data sharing and linkage on a routine and expected basis must occur**, in order for the project to be useful for monitoring trends or evaluating the impact of programs, policies, or services. Without a mandate to create an integrated system, it will be key for the analysts at PHSKC and PHAs and for DASHH partners to prioritize carving out time, political will, and dedicated analyst staff to pull and analyze data. In addition, having a data sharing agreement (DSA) that lasts for a few years vs one that needs to be renewed every year is helpful, as well as having the support of privacy officers and legal staff. Ideally,

continued advocacy for housing funding that elevates the importance of housing as a platform for health can continue driving things forward. Beyond sustaining this current effort, all partners have an interest in seeing the data linkage options grow (e.g., education, Medicare, and work force development).

Usefulness and application of data linkage

A pilot project linking health and housing data together provides a good framework for PHAs to think about how to prioritize or use limited funds for policy or program implementation. With the right narrative, it also provides a vehicle to make connections (and data linkages) with other stakeholders and sectors, such as education. In addition, if the data linkage methods are well documented, they can be transferred to other partnerships who are also working with housing data. However, concern remain around whether there is enough understanding about the caveats of using Medicaid claims data, what conclusions are appropriate based on Medicaid claims data, and if that language is approachable by non-analysts. In addition, some residents may feel the data findings do not represent their health scenario (e.g. population 65 and older or dual covered residents).

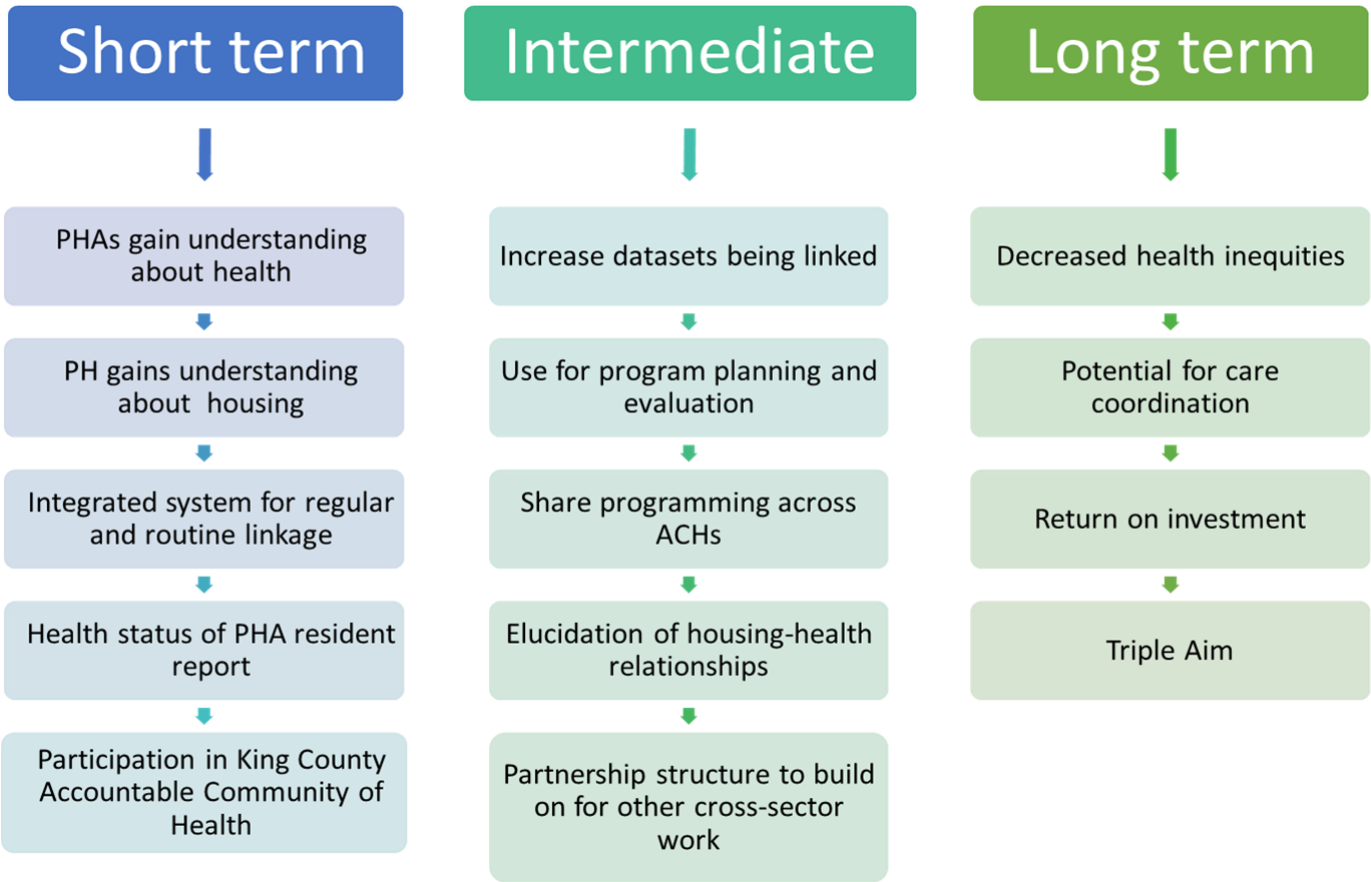
Lasting changes/outcomes

There are some anticipated infrastructure changes that will remain to sustain this work: Both PHAs and PHSKC are planning for 2018 and beyond; tapping into other King County work and data cross-sector pieces and looking for additional funding. Tableau visualizations will be shared to help others see the value of this partnership between health and housing around data sharing. Telling the story about the connection between health and housing helps maintain the momentum and buy-in so that this remains a priority among leadership across sectors.

Dissemination

When others hear about the DASHH project, it generates a lot of individual and organizational interest and excitement. Crafting the story from the data depends on getting the framing right for each type of stakeholder. Any data visualizations and associated narratives need to be easy enough for people who are not data savvy to understand and will ideally address “deeper dive” questions as well. It’s important to have narratives and interpretation of the data so that key takeaways and caveats don’t get lost. This can be challenging when both datasets (Medicaid and housing administrative data) are new to an organization, and underscores the importance of having the data providers and analysts at the table to help develop the analytics, which drive the messaging. Additional documentation needs to be developed and disseminated for others to adopt the methods used. We have a GitHub account that contains the R code for processing the PHA data, and Tableau dashboards will allow for some [interactive](#) exploration of the data. However, champions are needed to maintain momentum at both the PHA and PHSKC leadership levels to continue to connect the dots between health and housing, recognize emerging opportunities, and take action.

Appendix III: Anticipated outcomes





King County Housing Authority Greenhouse Gas 2017 Inventory Report

By Scott Percival & Sukirti Vinayak

September, 2018

I. Project Introduction

In the summer of 2018, King County Housing Authority (KCHA) hired an Environmental Defense Fund Climate Corps Fellow¹ to develop a greenhouse gas (GHG) inventory for the year 2017. KCHA's Resource Conservation team, which has set goals to reduce energy and water consumption and increase solid waste diversion in two sustainability plans (2011-2015 and 2016-2021), added a goal in the second plan to reduce GHG emissions from the energy consumption of buildings. The goal was relatively simplistic and didn't take into consideration emissions from materials and solid waste, staff commuting, and the actual energy mix of the two energy utilities in the area. This project provided KCHA with a broader understanding of its GHG impact, and introduced a method for GHG accounting which will be integrated into their currently sustainability plan metrics.

The project entailed the following objectives:

- a. Quantify KCHA's GHG footprint
- b. Develop a realistic and non-cumbersome method for tracking and reporting relevant data
- c. Help align to King County's Strategic Climate Action Plan
- d. Make recommendations to reduce GHG footprint

¹ Environmental Defense Fund (EDF) has been developing a Climate Change Corps since 2008, recruiting graduate students every year with past project management experiences in the energy and environment sectors.

II. Basics of GHG Inventory

Climate change has come to the forefront as a key issue that both impacts and is impacted by sustainable development². In fact, climate change is now increasingly being viewed as a “threat multiplier”³. Many governments⁴ across the world are taking steps to reduce GHG emissions through policies, like emissions trading programs, carbon taxes, regulations, and standards on energy efficiency and emissions. As a result, organizations are acting to understand their GHG risks to ensure long-term success and readiness for future national or regional climate policies.

A GHG inventory estimates the quantity of GHG emissions associated with community sources and activities taking place during a chosen analysis year. Local government organizations typically choose to develop a community GHG emissions inventory report for the following reasons:

- Inform climate action planning
- Demonstrate accountability and leadership
- Track GHG emissions performance over time
- Motivate community action
- Recognize GHG emissions performance relative to similar communities
- Enable aggregation of GHG emissions data across regions, and
- Demonstrate compliance with regulations, voluntary agreements, and market standards (where applicable)

Quantifying Emissions

Accounting for GHG emissions can be tricky. Primarily, there are many kinds of GHGs that each interact with the climate in different degrees and durations. Additionally, organizations have varying levels of ownership and responsibility for these emissions which in turn calls for a method which segregates these emissions appropriately.

Organizational boundaries are determined using either an “equity share” or “control” approach. Under the equity share approach, the reporting organization is only responsible for the emissions proportional to the amount of equity they have in the operation. Under the control approach, the organization accounts for 100% of the emissions from operations over which it has either financial or operational control. For KCHA it becomes important to consider this issue when evaluating certain sources of emissions, like energy consumption, where GHG impacts are due to both technology and management efficiencies. For example, though common area energy bills are paid by KCHA, the agency doesn’t have direct control over residents’ consumption. However, given that decisions about capital improvement and major appliances are made by KCHA, opportunities do exist for the agency to reduce emissions from residential units’ daily use. Since data is not entirely available at this segregated level, this GHG inventory assumes KCHA has operational control over the entirety of their properties and thus all emission sources accounted for are assumed to be fully under KCHA control.

² https://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch2s2-1-3.html

³ <https://unfccc.int/news/climate-change-threatens-national-security-says-pentagon>

⁴ <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

Operational boundaries are based on the emissions generated as a direct or indirect result of the organization's operations. Due to the different types of emissions associated with different kinds of activities and varying control over these emissions, they can be classified into scopes for further consideration. According to the GHG Protocol, operational boundaries can be divided up into three scopes:

- Scope 1: Direct emissions owned or controlled sources. For example, emissions from company vehicles.
- Scope 2: Indirect emissions from generation of purchased energy. For example, emissions from purchased electricity.
- Scope 3: Upstream and downstream emission activities. Emissions associated before and after the creation of a product, such as transportation or capital goods.

Scope 1 and 2 are relatively easy to identify and estimate, since data for these emissions are often accessible. Organizations leading their industries in GHG inventory are now also accounting for Scope 3 emissions; however they are generally much more difficult to quantify. Figure 1 provides a visual representation of these scopes with additional examples.

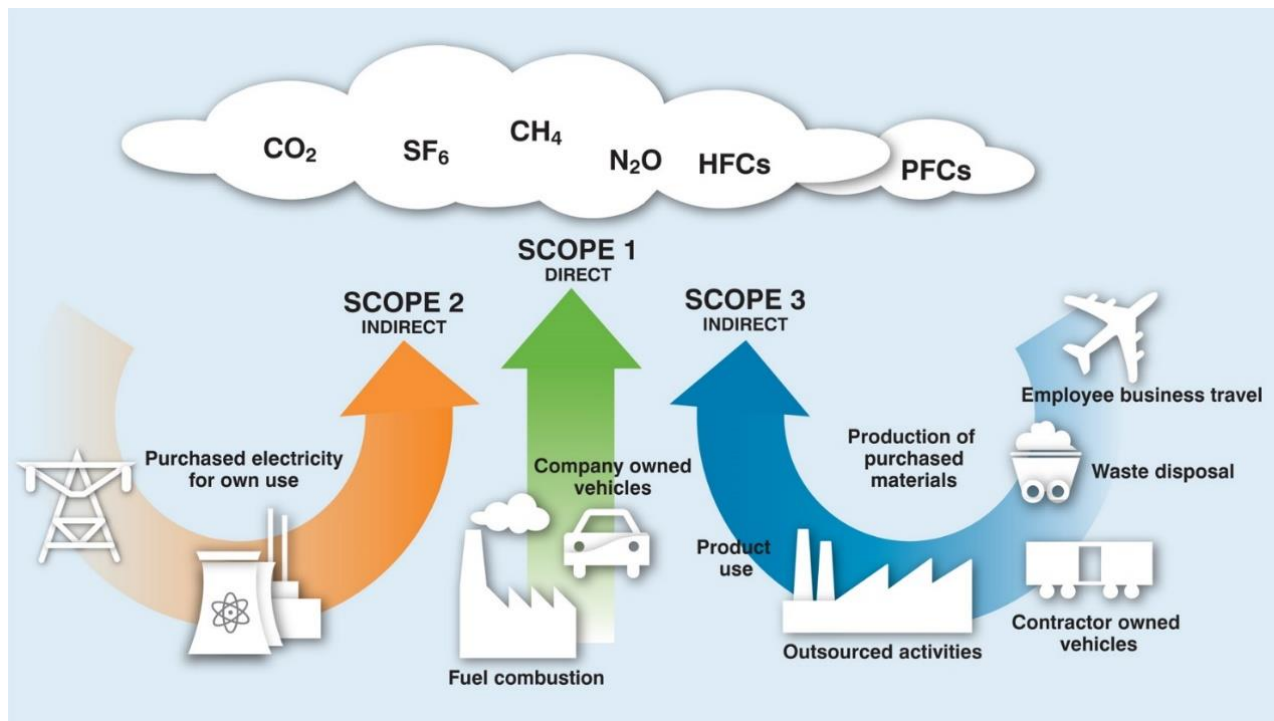


Figure 1 - Diagram of Scope 1, 2, and 3 of GHG Emissions

Greenhouse Gases (GHGs)

GHGs trap heat in the atmosphere. They absorb and reemit radiant energy in the thermal infrared range which in turn warms the planet. Carbon dioxide (CO₂) is the most abundant GHG in the atmosphere, followed by methane, nitrous oxide and fluorinated gases:

- Carbon dioxide (CO₂): Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement).
- Methane (CH₄): Methane emissions result from fossil fuel extraction and transportation, livestock byproduct and other agricultural practices, and by the decay of organic waste in municipal solid waste landfills.
- Nitrous oxide (N₂O): Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Fluorinated gases are synthetic, powerful GHGs emitted from different industrial processes. They are used inside products like refrigerators, air-conditioners, foams, and aerosol cans. These are typically emitted in smaller quantities but are very potent atmospheric gases. Their measurement needs greater scientific attention and precision before reliable emission factors can be developed for wider use by organizations for updating their GHG inventory.

Global Warming Potential

GHGs warm the planet by absorbing and reemitting radiant energy that would otherwise pass through the atmosphere and escape into space. Different gases interact with radiant energy (most commonly solar energy) differently⁵, depending on their ability to absorb energy (radiative efficiency) and the duration they stay in the atmosphere (lifetime)⁶.

The concept of global warming potential (GWP) was developed to allow for comparisons and to help standardize impacts of these different gases. More specifically, it is a measurement of how much energy one ton of a GHG will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide⁷ (CO₂). The larger the GWP, the more heat that gas traps in the atmosphere over that period of time. The standard time period used for GWPs is 100 years. GWPs provide a common unit of measurement, which allows for adding emissions' estimates of different gases.

The U.S. Environmental Protection Agency (EPA) considers GWP estimates presented in the most recent IPCC scientific assessment to be accurate. The GWP assumptions this piece of work utilizes (listed in Table 1 - Common GHGs and their global warming potential (GWP), below) are from the IPCC's Fifth Assessment Report, published in 2014.

⁵ <https://www.esrl.noaa.gov/research/themes/forcing/>

⁶ United States Environmental Protection Agency (EPA)

⁷ United States Environmental Protection Agency (EPA)

Greenhouse gas	Global warming potential (GWP)	Normalized equivalence
Carbon dioxide (CO ₂)	1	1 metric ton (MT) of CO ₂ = 1 MT of CO ₂ e
Methane (CH ₄)	28	1 MT of CH ₄ = 28 MT of CO ₂ e
Nitrous oxide (N ₂ O)	265	1 MT of N ₂ O = 265 MT of CO ₂ e

Table 1 - Common GHGs and their global warming potential (GWP)

Boundaries of KCHA Inventory

Defining the boundaries of a GHG inventory study is perhaps the most critical and difficult task. Every object we use in our daily lives, directly or indirectly, has a GHG footprint. Every object uses energy in its manufacturing process, operational lifetime, or disposal/decomposition. For a housing authority, release of GHG is associated with materials and energy consumption related to residential and commercial property development and management, employee activities, and all supporting activities to provide affordable housing. More specifically, this includes electricity and gas consumption at KCHA properties and central offices, consumption of fuel in employee commute, disposal of solid waste at landfills, and consumption of construction materials, among others.

Figure 2 offers specifics of what is included in this analysis and what is not included.

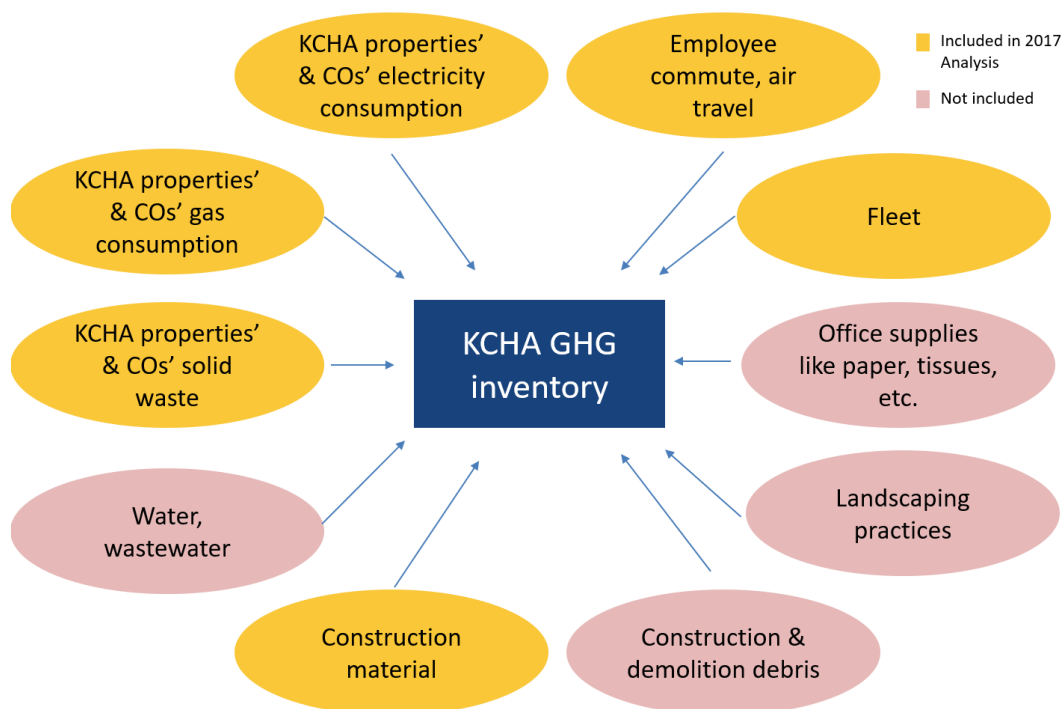


Figure 2 - Sources of GHG Emissions at KCHA

Based on internal KCHA interviews in the first two weeks of the study, the boundaries for this project were decided after consulting department heads and identifying what information is available, what can be collated in a few weeks and what cannot be measured at all or without a certain degree of confidence given the prevailing data management mechanisms. The year 2017 was chosen as the baseline year as it's the most recent year for which KCHA has complete information about its energy use among other categories. Seattle Housing Authority (SHA) was consulted to understand the boundary-setting process and methodology when they conducted their own GHG inventory study. King County's Senior Climate Change Specialist Matt Kuharic was consulted for finalizing the scope of work⁸.

⁸ KCHA 2017 GHG inventory excludes water and waste water related emissions as Matt Kuharic suggested that these emissions are almost insignificant

III. Methodology & Findings

Quantifying emissions from each GHG source was done using a different methodology specific to each category of emissions. For conceptual clarity and assumptions (where KCHA specific data wasn't available), this work relies on International Council for Local Environmental Initiatives (ICLEI) Community Protocol for Accounting and Reporting of GHG.

The purpose of the 12 week effort was to assess and quantify KCHA's GHG emissions using 2017 as the baseline year. As accuracy of data reporting improves and as coverage of sources of GHG emissions increases, results may change.

KCHA's 2017 total GHG inventory stands at 46,706 metric tons of carbon dioxide equivalent (MT CO₂e). Not surprisingly, KCHA's largest source of GHG emissions (Figure 3 - KCHA GHG inventory, 2017 (MT CO₂e) is energy consumption at properties and offices, followed by employee commute.

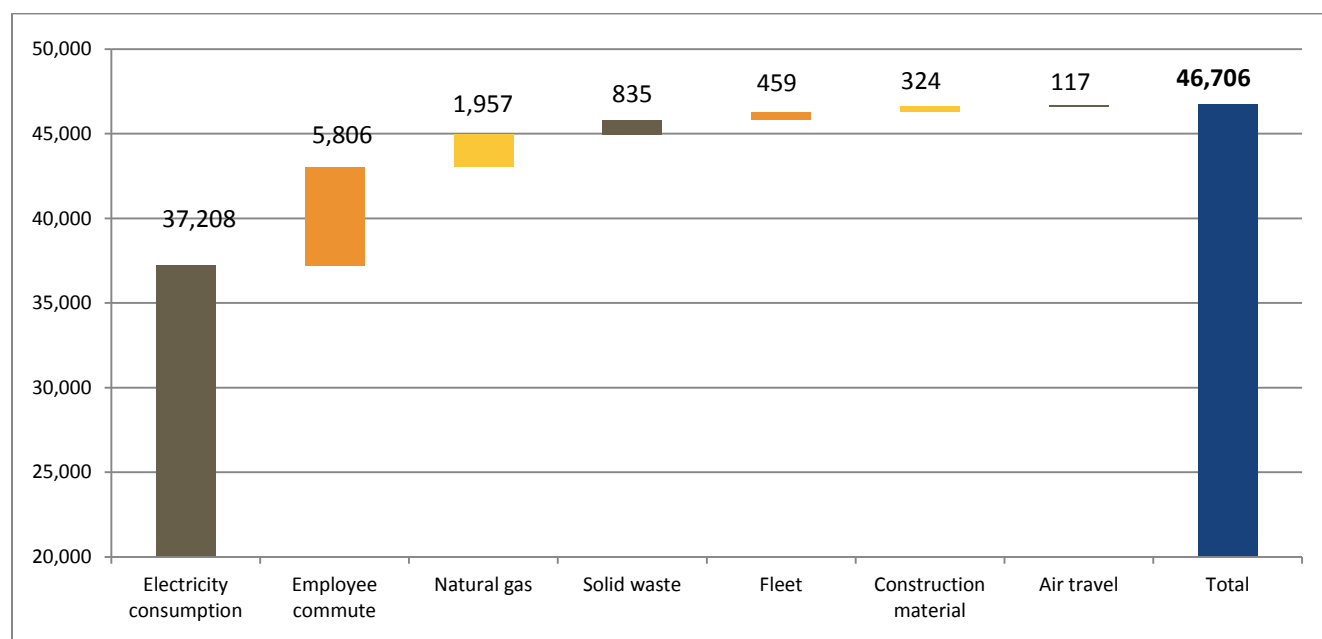


Figure 3 - KCHA GHG inventory, 2017 (MT CO₂e)

While the GHG analyses for these individual sources of emission are explained later in this section, it is important to consider these emissions from an operational boundary perspective. Disaggregating these emissions into Scope 1, 2 and 3 (Table 2 - KCHA 2017 GHG Emissions, by Scope (MT CO₂e) allows an organization to get a more holistic sense of their emissions and the degree of control they have over its emissions.

Sector	Scope 1	Scope 2	Scope 3
Electricity	-	37,208	-
Natural gas	1,957	-	-
Employee commuting	-	-	5,806
Solid waste	-	-	835
Fleet	459	-	-
Construction material	-	-	324
Air travel	-	-	117
Total	2,416	37,208	7,082

Table 2 - KCHA 2017 GHG Emissions, by Scope (MT CO₂e)

Scope 2 emissions make up the largest scope of emissions for KCHA with electricity consumption being the largest source of GHG emissions. While KCHA residents and employees do have some control over consumption, they do not control the fuel mix utilities use to produce its electricity, which determines the emissions emitted from the electricity generation. This is covered in detail in the Whole Property Energy section below.

Whole Property Energy Consumption

Methodology

The GHG emissions associated with power and heating were calculated using KCHA whole property energy consumption data, and carbon contents from utility fuel mix disclosure reports. Energy usage data was shared by the utilities with Energy Star Portfolio Manager, which collects energy consumption data on a whole building level.

Findings

Energy consumption related to the power and heating of KCHA properties makes up the vast majority of its GHG emissions (39,165 MT CO₂e). These emissions are necessary to its operations. The two most impactful factors for whole property energy GHG emissions are the overall energy consumption and the utility's electricity production method. KCHA operates in two electric utility territories. Seattle City Light (SCL), a public utility providing electricity primarily in Seattle city limits, generates nearly all of its electricity through hydropower. Puget Sound Energy (PSE), a private electric and gas utility spanning the Puget Sound region, uses a variety of renewable and fossil fuel sources to produce its electricity. Since over 85% of its properties are located in PSE territory, KCHA's GHG emissions are very closely tied to PSE's electricity supply fuel mix (Figure 4 - KCHA Building Energy Utility Mix).

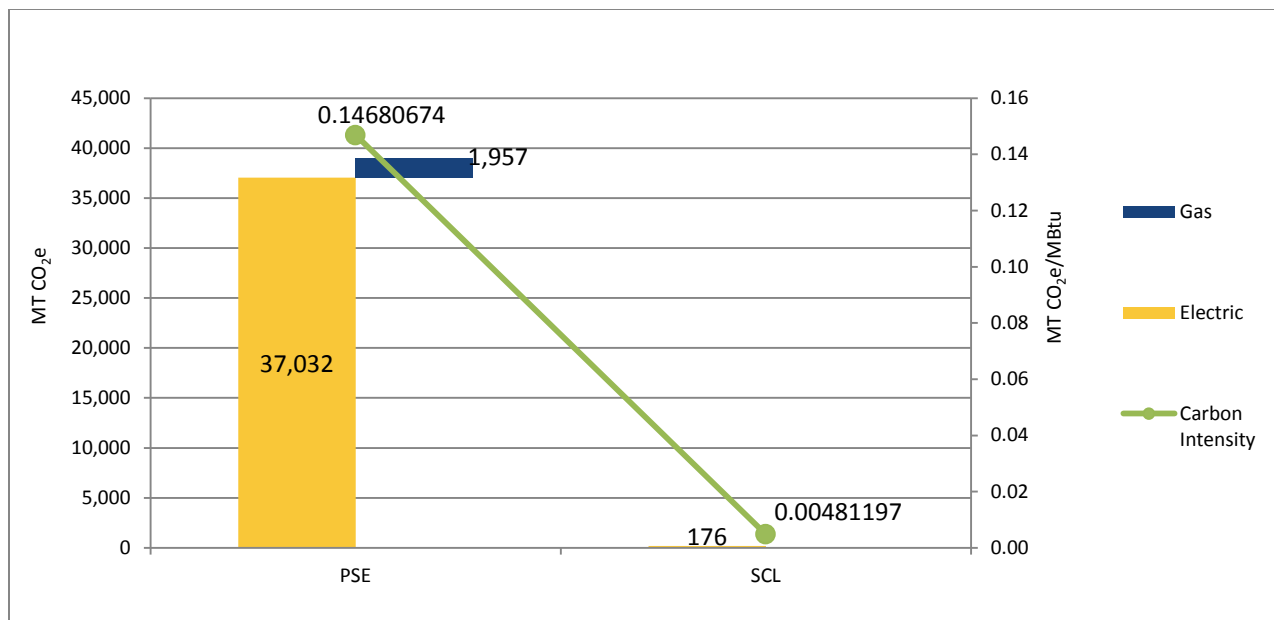


Figure 4 - KCHA Building Energy Utility Mix

We examined GHG emissions on a square foot (Figure 5 - Energy related GHG emissions per sq. ft. by building type) and a per resident (Figure 6 - GHG emissions per resident, by building type) basis, across seven different building type designations. The most and least efficient building types per square foot are apartments and semi-detached homes, respectively; while our most and least efficient buildings types per resident are semi-detached and houses, respectively. However, apartment GHG efficiency can in part be attributed to a several apartment properties using SCL electricity, while all KCHA houses, manufactured housing, or semi-detached homes receive their electricity from PSE.

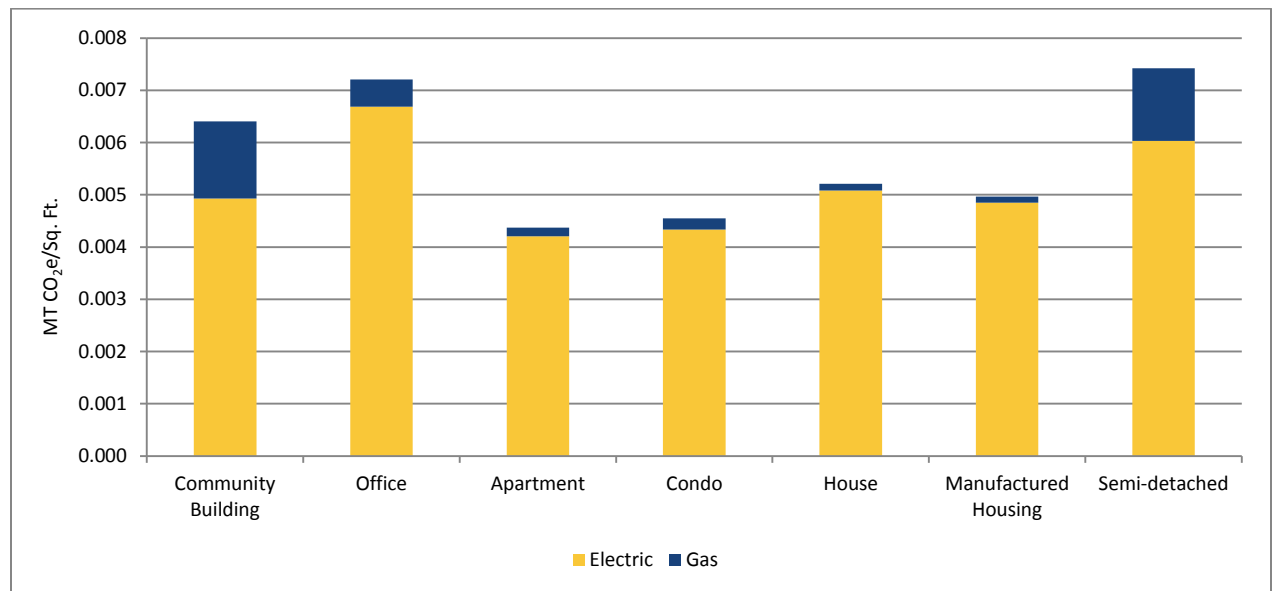


Figure 5 - Energy related GHG emissions per sq. ft. by building type

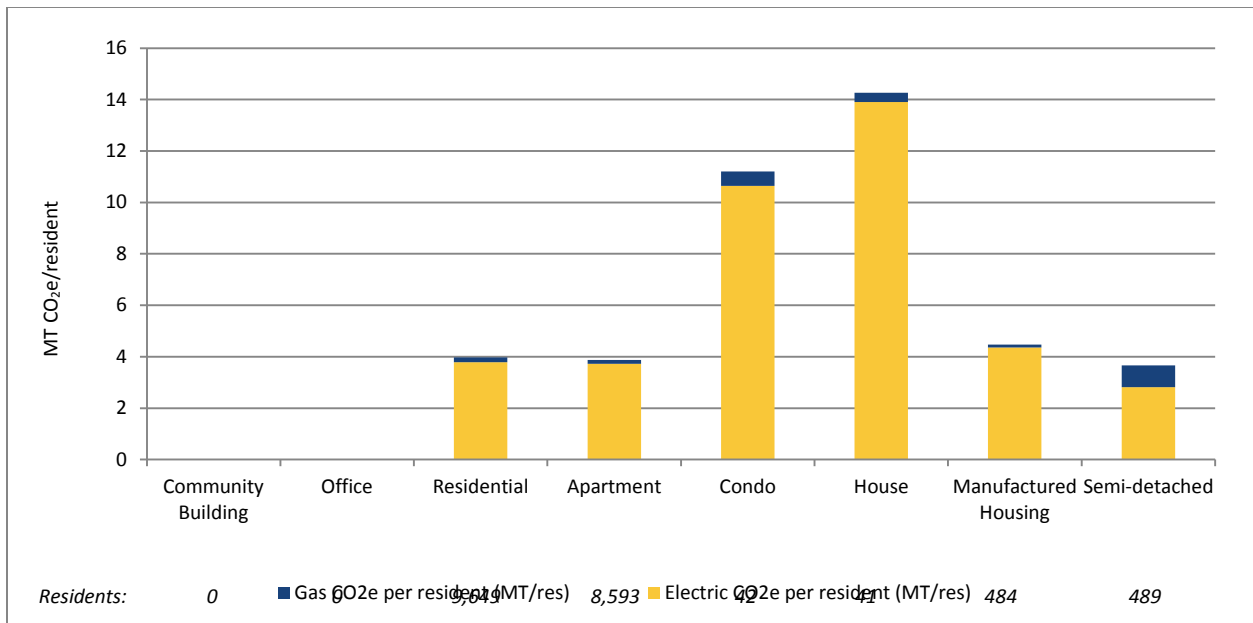


Figure 6 - GHG emissions per resident, by building type

Employee Commuting

Methodology

In order to better understand employee commuting characteristics, employees were asked to complete an online survey. The survey results revealed how far employees typically commute, and what modes of transportation they use.

Findings

Employees overwhelmingly use their personal vehicles as their primary mode of commuting—likely due to KCHA office locations and ample parking provided at properties (Figure 7 – KCHA employee trips per week by transportation mode, 2017). However, a few do use a combination of public transit services including buses, Link light rail, Sounder train, and Washington State Ferries. Additionally, some employees use carbon neutral options like cycling, walking, and telecommuting.

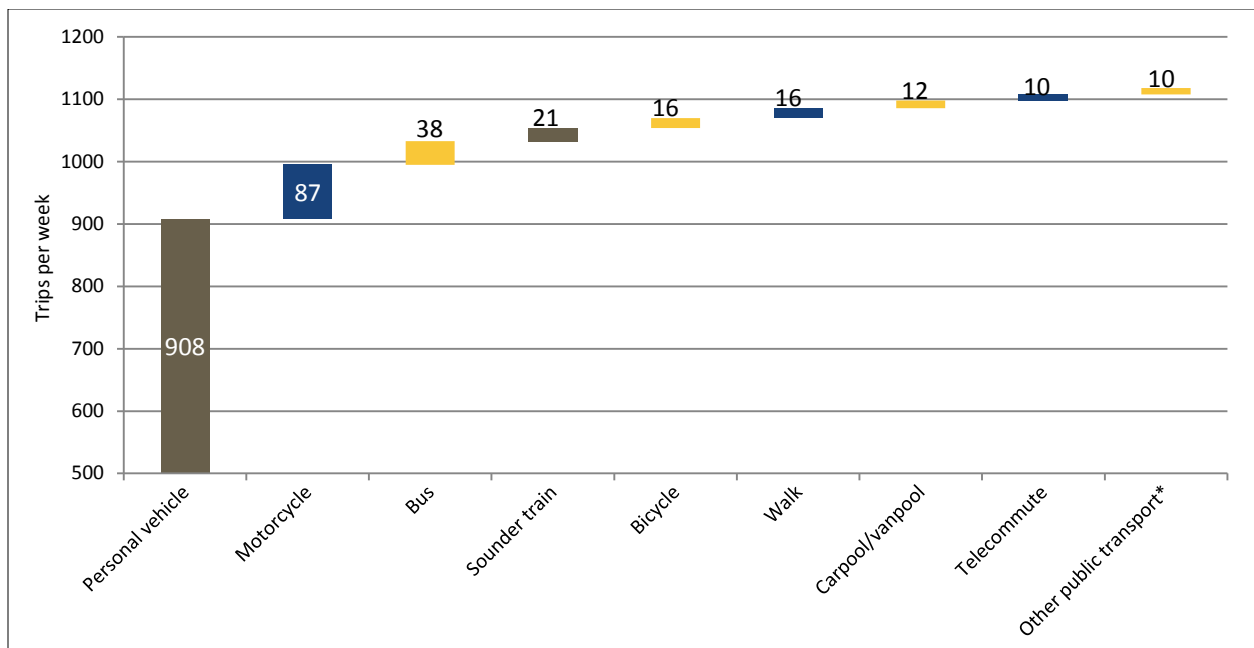


Figure 7 – KCHA employee trips per week by transportation mode, 2017

Over 5,800 MT of CO₂e annually is produced by KCHA employee commutes (Figure 8 - Weekly GHG emissions from KCHA employee trips by transportation mode, 2017). Due to the low emissions fuel and energy efficiency of alternative transit options, the vast majority of those GHG emissions are from personal vehicle travel. Telecommuting, while rarely utilized by KCHA employees, prevents nearly 192 additional MT of CO₂e by replacing personal vehicle commutes.

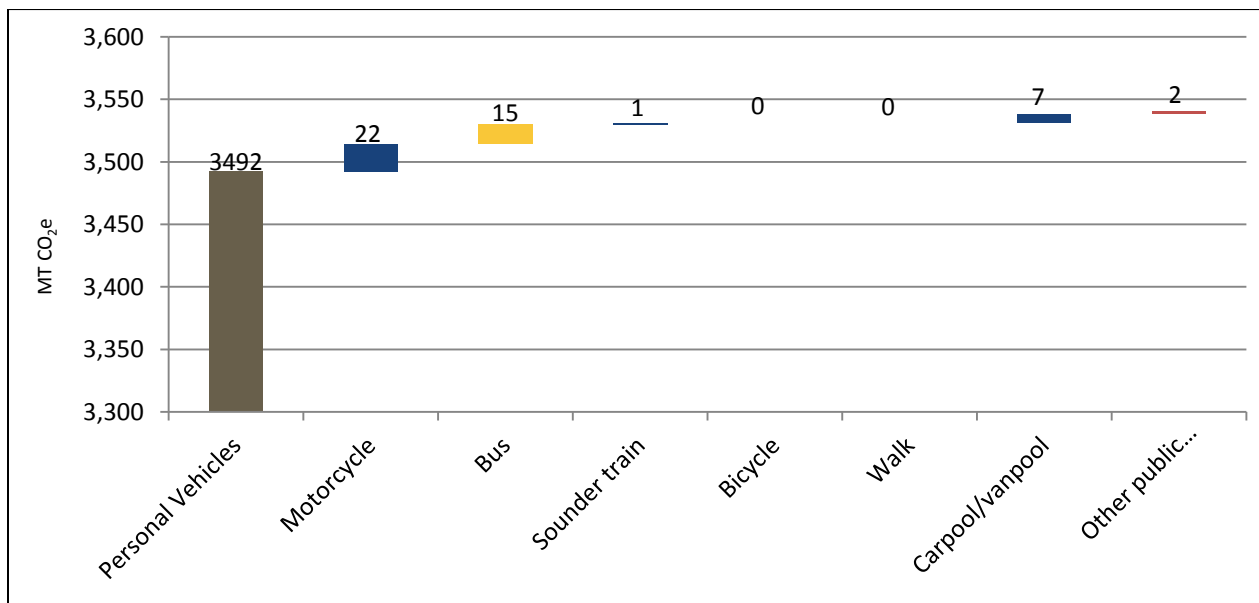


Figure 8 - Weekly GHG emissions from KCHA employee trips by transportation mode, 2017

Solid Waste

Methodology

The Resource Conservation department maintains solid waste collection schedules and container size records for all properties. Ideally, actual waste tonnage receipts would be collected from the various haulers who serve KCHA properties. However, in the absence of solid waste tonnage data, container volume and service frequency were used to extrapolate an estimate of solid waste tonnage and transportation distances. An emissions factor assumption for solid waste tonnage was based on the International Council for Local Environmental Initiatives (ICLEI).

Findings

Resident and employee generated solid waste is another significant source of GHG emissions, accounting for 835 MT CO₂e. These emissions are largely due to decomposition of solid waste that take place at Cedar Hills landfill. In addition to some carbon dioxide, methane is the important GHG released when this solid waste decomposes and is captured for further electricity generation. Methane is 28 times more potent for global warming than carbon dioxide, which is why even with 92% gas capture efficiency⁹ at the Cedar Hills facility, 722 MT CO₂e emissions are still taking place.

A total of 4,996 metric tons of garbage was estimated from KCHA properties and Central Offices. This excludes the recyclable and yard waste that is diverted away from going to landfills. In fact, current diversion rate of ~45% prevented ~670 MT CO₂e of emissions. Interestingly, at current levels of solid waste every additional 1% annual diversion is equivalent to a reduction of ~20,500 miles driven by a typical passenger vehicle.

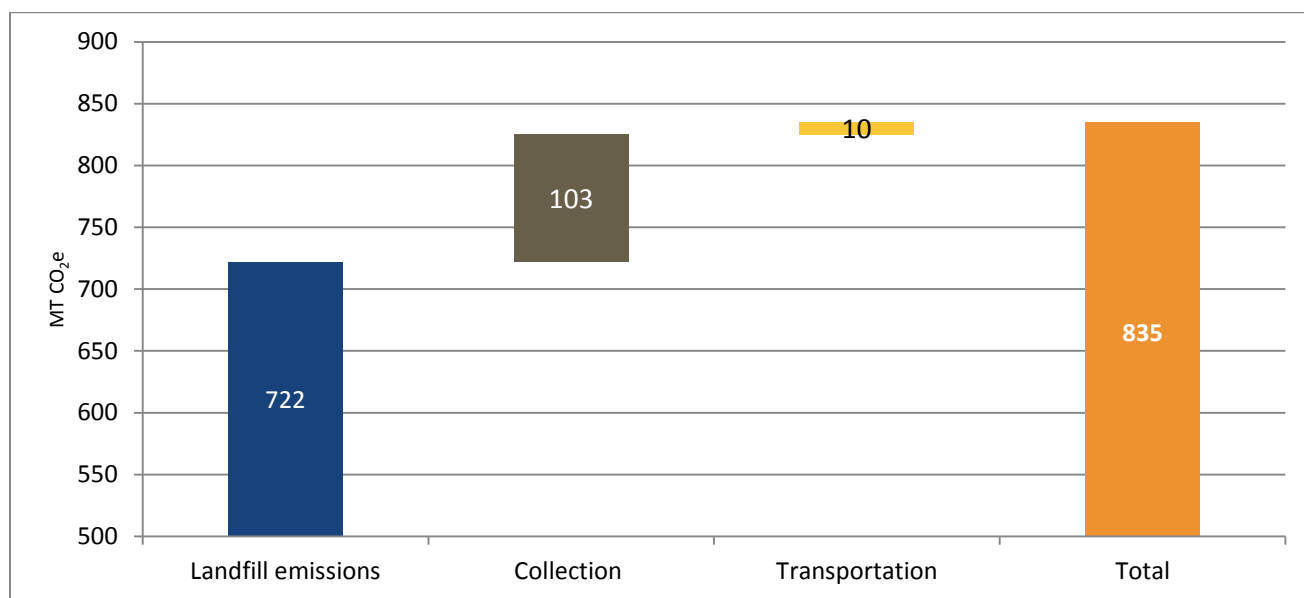


Figure 9 - Solid waste related GHG emissions, 2017 (MT CO₂e)

⁹ ICLEI recommends using 75% as the gas collection efficiency in the absence of data from the requisite facility.

Fleet

Methodology

The emissions associated with KCHA fleet, was calculated with information from ARI Fleet Manager, a subscription-based on-line portal, which successfully captures fuel consumption for all the different vehicles. Suitable emission factors were used for different car segments and methane and nitrous oxide emissions were estimated using EDF-NAFA¹⁰ Fleet GHG Emissions Calculator.

Findings

The KCHA fleet, which comprises of light duty trucks, vans, SUVs, passenger cars and non-road vehicles like lawn mowers, etc. accounts for ~459 MT CO₂e in 2017 (Figure 10 - Fleet related GHG emissions, 2017 (MT CO₂e)). Roughly 77% of the fuel consumption was for light duty trucks, vans and SUVs - as a category.

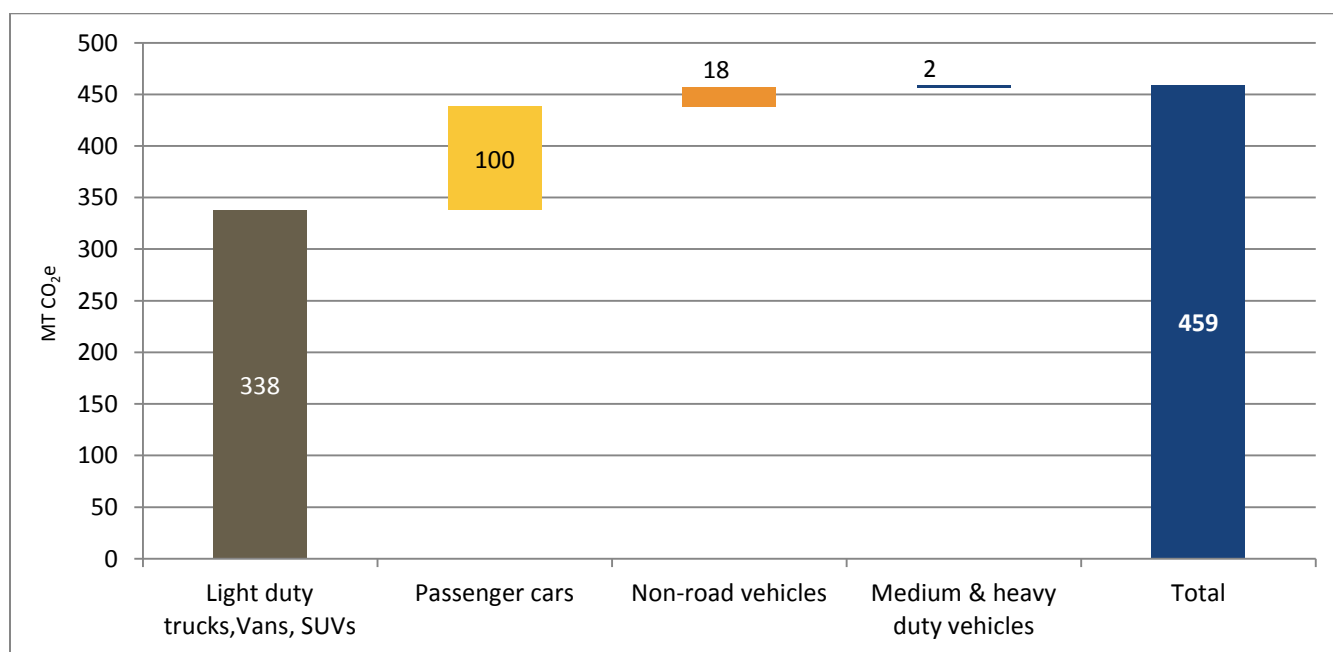


Figure 10 - Fleet related GHG emissions, 2017 (MT CO₂e)

Construction Material

Methodology

Construction material is a fairly tough category for capturing emissions, given the way material is procured and the range of materials being used by Capital Construction and Asset Management teams. Large projects are awarded based on lump sum bids, which are naturally tied to value of the whole project and not the sum of amount of each material being used. This causes a fundamental problem in collecting disaggregated information about the amount of cement, paint, doors, windows, siding, asphalt, etc. that are used by KCHA contractors in building, renovating or refurbishing residential units.

¹⁰ NAFA Fleet Management Association

After several discussions with the Capital Construction and Asset Management teams, it was decided that they would compile information from some of their larger projects in 2017 and estimate quantities used by contractors. To provide a sense of the share of the total construction material being covered through these selected projects, the teams calculated the share of these construction materials' cost in the total money spent on construction material for Capital Construction (~30% of the project's total cost) and Asset Management (~27% of the project's total cost).

Findings

Construction materials, accounted for 324 MTCO₂e emissions (Figure 11 - Construction material related GHG emissions, 2017 (MT CO₂e)). This is based on incomplete data and is likely to be a much bigger emissions category as KCHA improves data reporting and management for this category. Siding and concrete are leading contributors due to their cement content, and windows and paint are also key contributors.

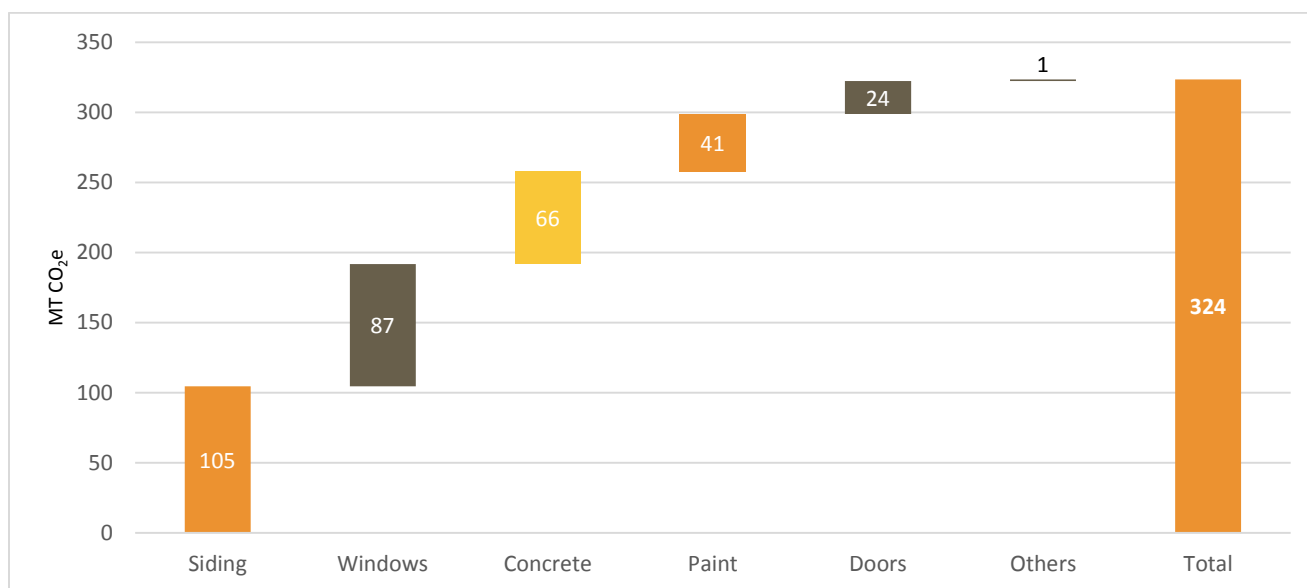


Figure 11 - Construction material related GHG emissions, 2017 (MT CO₂e)

Following are the quantities estimated for a few big projects for the most used 5-6 materials for each of the two departments.

Material	Quantity ('000 lbs.)
Siding	759
Windows	75
Concrete	970
Paint	32
Doors	20
Others ¹¹	256

Table 3 - Construction materials included and quantity

¹¹ Includes roofing material (largely gravel) and asphalt (~95% reused material)

Given that there isn't an exhaustive inventory of materials being consumed in construction, maintenance, and the weatherization of residential units, it is hard to ascertain whether the most polluting material per unit and/or the most polluting material at an aggregate level have been assessed definitely. As more data is collected about building materials, a better understanding of its impacts will become known.

Air Travel

Methodology

Emissions from flight travel were calculated using the MyClimate Flight Emission Calculator, available online for free. The website calculates GHG emissions on a per person basis using airport coordinates, distance traveled, fuel consumed and typical plane size. Full details behind MyClimate's methodology are available online.¹²

Findings

Air travel makes up a small portion (117 MT CO₂e) of KCHA's GHG emissions. Air travel GHG emissions were assessed on a per seat-mile basis using an air travel GHG calculator, available online. Nearly 200 flights were taken by employees, with roughly 80% east of the Mississippi river (Figure 12 - Flight routes of KCHA air travel, 2017). For more details on frequently traveled flight routes, see Table 4 - Most frequent flight routes of KCHA air travel, 2017 below.



Figure 12 - Flight routes of KCHA air travel, 2017

¹² https://www.myclimate.org/fileadmin/myc/files_myc_perf/12_flight_calculator_documentation_EN.pdf

Destination	# of Flights	Round-trip Miles Traveled	MT CO ₂ e	MT CO ₂ e per Seat Mile
Washington, DC	26	78,166	36.4	0.00047
Orlando, FL	14	20,380	21	0.00103
Las Vegas, NV	11	4,330	6.35	0.00146
Lexington, KY	11	11,928	13.2	0.00110
Boston, MA	7	14,913	10.5	0.00070

Table 4 - Most frequent flight routes of KCHA air travel, 2017

IV. Next Steps

KCHA's 2017 GHG inventory project serves as a starting point for selecting a GHG tracking methodology and calculating emissions. As organizations and local governments compile their GHG inventory in phases, methodologies will evolve and improve with time. KCHA's inventory has helped KCHA (i) understand directionally what categories of emissions need to be targeted, (ii) understand how to approach compiling a GHG inventory, and (iii) internalize what needs to be done at departmental levels to improve the estimation precision within these categories. This section describes what needs to be done to improve KCHA's understanding of emissions within each category, and provides some basic recommendations which are intended to offer some directional advice.

Inventory information collecting, like case studies

Next Steps for GHG Inventory Development

- *Energy Consumption* – KCHA is dedicated to improving the energy efficiency of its building stock. KCHA collects energy consumption by common area and whole-building/property data. While this is done on a monthly basis, it is recommended to utilize interval data (i.e. daily or 15 minute meter readings collected via smart metering systems), where possible, in order to better understand the energy consumption patterns of various buildings. Interval data is helpful in identifying energy conservation opportunities in buildings where automated building management systems control heating/cooling and lighting for occupancy, and for identifying out of the ordinary common area energy. Some interval data is available from utilities, and should be used to manage and fine-tune energy consumption when available.
- *Employee Commuting* – Response rate was 61% despite significant steps taken to get a higher rate. Anecdotally, survey fatigue was highlighted by KCHA employees as a major reason for this. Need to sharpen strategy for future surveys to better understand employee commuting decisions.
- *Solid Waste* – KCHA should work to receive actual solid waste tonnage from its waste haulers where feasible. While it may not be a realistic expectation to collect all tonnage data, KCHA should pursue opportunities to collect real tonnage data whenever possible, in order to verify the accuracy of our estimates. There is a need to understand why this data is not being reported where it is supposed to be (particularly contracted haulers) to be done to ensure as much information as realistically possible is captured and shared with KCHA.

- *Construction Material* – KCHA’s construction material associated GHG emissions are expected to be much higher than the 2017 analysis reflects. Asset Management and Capital Construction teams need to devise ways to report the consumption of various materials by their contractors.
- *Purchase of Electronic Appliances and Office Supplies* – KCHA controls the type and make of equipment like electric range, refrigerator, washer, etc. which are set up in residential units. While KCHA vendors provided a list of appliances bought and their quantity, they were unable to provide us with GHG emissions associated with these specific appliances. Additionally, some of the most commonly used office items like printing paper, tissue paper, plastic cutlery, etc. need to be factored in to this inventory but only after developing a simple reporting mechanism. Need to follow up on both these fronts.

While building on this piece of work and refining the GHG inventory further is expected to be a continuous task, KCHA should consider focusing on some specific sources of GHG emission and design specific approaches to reduce emissions.

Recommendations for Reducing GHG Emissions

Whole Property Energy Consumption

- Continue the energy conservation upgrade projects (e.g. EPIC) to reduce GHG emissions associated with building operations. EPIC is estimated to reduce GHG emissions from building energy consumption by 40%, annually, at participating properties. Consider integrating additional energy savings measures into existing maintenance/renovation projects whenever convenient, such as when siding is removed from exterior walls or when electrical work requires opening of wall cavities.
- Develop and regularly execute a retro-commissioning program to ensure that all mechanical, electrical, and controls systems are performing optimally. Retro-commissioning typically comes at a low cost, while delivering high energy savings.
- Consider installation of on-site renewable energy, where appropriate. Where on-site renewable energy is not feasible, consider purchasing low-carbon or renewable energy from the utility.

Employee Commuting

- Implement a telecommuting pilot program to encourage employees to use telecommuting options over driving to work. It is important to include a reporting mechanism to support the evaluation its GHG emissions savings potential across different KCHA departments.
- Identify and address barriers to commuting using public transit options. If existing public transit options are deemed incomplete to complete commuting routes, KCHA should consider creating last-mile solutions, such as a commuting-hour shuttle to/from nearby transit hubs.
- Assess impact of any employee commute related initiatives being implemented by KCHA.

Solid Waste

- Increase composting and recycling capacity and utilization across properties, where appropriate. Improve data collection for construction and demolition waste disposal.

Fleet

- Continue and expedite the transition of KCHA fleet from gasoline-powered to hybrid or electric vehicles. Currently prioritize the use of hybrid or electric vehicles over gasoline-powered vehicles.

Construction Material

- Prioritize the purchase and use of materials that have longer lifespans and are made locally to reduce emissions associated with transportation.

Air Travel

- Prioritize conferences and events that are shorter distances to limit fuel consumption per trip, or establish guidelines that encourage virtual attendance of events and conferences instead of air travel.

Other

- While it was not included in this study, land use change is a major driver of GHG emissions. KCHA should be cognizant of its decisions that directly and/or indirectly result in the removal of wooded areas and other (biodiverse) green spaces.
- Add more arboreal spaces to mitigate the impacts of the urban heat island effect, and increase on-site carbon sequestration.

A photograph of a woman with dark, curly hair wearing an orange sweater, sitting and reading a book to a young child with curly hair wearing a striped shirt. They are in a bright room with a window in the background. A white storage bin with toys is in the foreground.

Advancing Sustainable Partnerships Between Public Housing Authorities and School Districts

August 2018

The Bill & Melinda Gates Foundation | PNW Initiative



Executive Summary

In 2014, the Bill & Melinda Gates Foundation initiated a five-year investment focused on cross-sector partnerships between public housing authorities and school districts. Through this initiative, the Gates Foundation provided support to three public housing authorities in the Pacific Northwest, who partnered with five school districts to improve outcomes for shared students and families:

- King County Housing Authority, partnered with Bellevue School District, Highline Public Schools, and Kent School District
- Seattle Housing Authority, partnered with Seattle Public Schools
- Tacoma Housing Authority, partnered with Tacoma Public Schools

Each partnership approached collaboration differently, identifying objectives and strategies that the best fit specific contexts. ORS Impact (ORS) was engaged to collect, synthesize, and share data that further a collective understanding of what productive and sustainable housing and education partnerships look like. To that end, ORS worked with partners to clarify and assess outcomes for students and families, along with changes in systems and structures that are crucial to broad, durable impact. The tables below summarize **student and family outcomes** (Table 1), along with key **structural and systemic outcomes** (Table 2) realized through partners’ efforts so far.

Table 1 | Summary of Student and Family Outcomes

STUDENT AND FAMILY OUTCOMES		
Strategy	Summary of Results	Example
King County		
Kindergarten Readiness Programs	Positive outcomes among children and parents/caregivers that participated in GLEA (Highline Public Schools)	<ul style="list-style-type: none">• Children met or exceeded standards on an average of 5.1 out of 6 TS Gold domains on their latest assessments, increased from 4.7 domains in initial assessments.• Caregivers reported more confident, more effective engagement with their children.
Attendance Initiatives	School-wide chronic absenteeism decreased and attitudes towards attendance improved in three schools (Highline Public Schools, Kent School District).	<ul style="list-style-type: none">• At White Center Heights & Pine Tree Elementary Schools, the proportion of chronically absent students decreased in 2018 to 8% and 15%, respectively, from 15% and 22% in 2017.



Seattle		
Attendance Initiatives	Attendance initiatives have contributed to positive outcomes	<ul style="list-style-type: none">• Among SHA students, chronic absenteeism during the first 20 days decreased by 24% in 2017-18 compared to the first 20 days the previous school year.• Among 810 SHA students who attend five schools implementing attendance initiatives, rates of chronic absence dropped from 19% in 2017 to 15% in 2018.
Tacoma		
Elementary School Housing Assistance Program (ESHAP)	Data revealed mixed results regarding student turnover and academic outcomes, though parent and family living conditions have improved, potentially benefiting students' academic performance over the long term.	<ul style="list-style-type: none">• Students showed gains in reading during the first program year, however ESHAP students' reading levels were similar to other McCarver students in subsequent years.• Parents reported greater stability and increased engagement in children's education.

Table 2 | Summary of Structural and Systemic Outcomes

STRUCTURAL AND SYSTEMIC OUTCOMES		
KCHA	Seattle	Tacoma
<ul style="list-style-type: none">• Data-sharing agreements• Established framework to guide housing/education efforts• Supportive internal policies• Strengthened multi-stakeholder partnerships	<ul style="list-style-type: none">• Data sharing agreement• Joint strategic plan and governance, and dedicated staff• Expanded, more visible, and more deeply embedded cross-institutional partnership• Improved and aligned approaches to engage families in support of student success	<ul style="list-style-type: none">• Data sharing agreement in development• Interlocal agreement and MOU re: programs• Regular communications between institutional leaders and ley staff• Expanded partnership and increased alignment

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Introduction

Overview of the Housing and Education Initiative

The Bill & Melinda Gates Foundation’s Pacific Northwest strategy recognizes the potential for public housing authorities (PHAs) and school districts to effectively collaborate towards a shared goal of improved educational outcomes. Because PHAs and school districts serve many of the same students and families, the Foundation believes that coordination and alignment of systems, services, practices, and policies will support academic success of their shared students.

In addition, partnership across the sectors of housing and education has the potential to be instrumental in disrupting the intergenerational cycle of poverty. While the goal of student success was at the heart of the Foundation’s investment, grants were intended to influence the systems that surround families who live in subsidized housing. The Foundation’s bet is that institutionalized and effective partnerships are key to overcoming barriers associated with achievement of educational successes.

In 2014, PNW announced a five-year investment in the housing and education cross-systems partnership work, or the “space between the seams”—that is, the space between the Foundation’s portfolios focused on ensuring quality education and reducing family homelessness. This initiative established the expectation that housing authorities and school districts would plan and implement grants collaboratively and build successful, sustainable institutional partnerships to drive improved educational outcomes for students. These partnerships can be especially beneficial for students and families living in subsidized housing, as this population is more likely to experience outcome gaps due to their low income and prior experiences of homelessness, among other issues.

Three PHAs received support via the Bill & Melinda Gates Foundation’s initiative, and a total of five partnerships:

- King County Housing Authority, partnering with Bellevue School District, Highline Public Schools, and Kent School District
- Seattle Housing Authority, partnering with Seattle Public Schools
- Tacoma Housing Authority, partnering with Tacoma Public Schools

Each partnership has a unique journey story, focus areas, and success measures, and each has approached collaboration differently. Partnerships’ focus areas and development reflect the different environments in which they work and the approaches that best fit each context. In most cases, partners initially found it useful to coordinate or cooperate, such as by planning and implementing joint programming to better serve shared students, while perhaps exploring deeper institutional alignment. The Seattle partnership was the only one to intentionally begin by developing and aligning the infrastructure and systems supports that were believed to foster effective cross-institutional efforts. However, all five partnerships are now focused on cross-institutional collaboration, including planning, implementing, expanding, and scaling joint initiatives.



Too often, existing systems lack coordination and fail to focus sufficiently on root causes so they can try to prevent problems before they happen.

- Bill & Melinda Gates Foundation

What We Do: US Programs, Washington State Strategy Overview



Overview of the Learning Effort

ORS Impact (ORS) was engaged to collect, synthesize, and share data that further a collective understanding of what productive and sustainable housing and education partnerships look like, and how these partnerships contribute to positive impacts for students and families. ORS worked with partners to clarify the expected outcomes of their collaborative efforts, including those that reflect the growth and development of partnerships – i.e., the institutional infrastructure, characteristics, and functions necessary for productive partnership – as well as the student and family outcomes expected to result from joint initiatives.

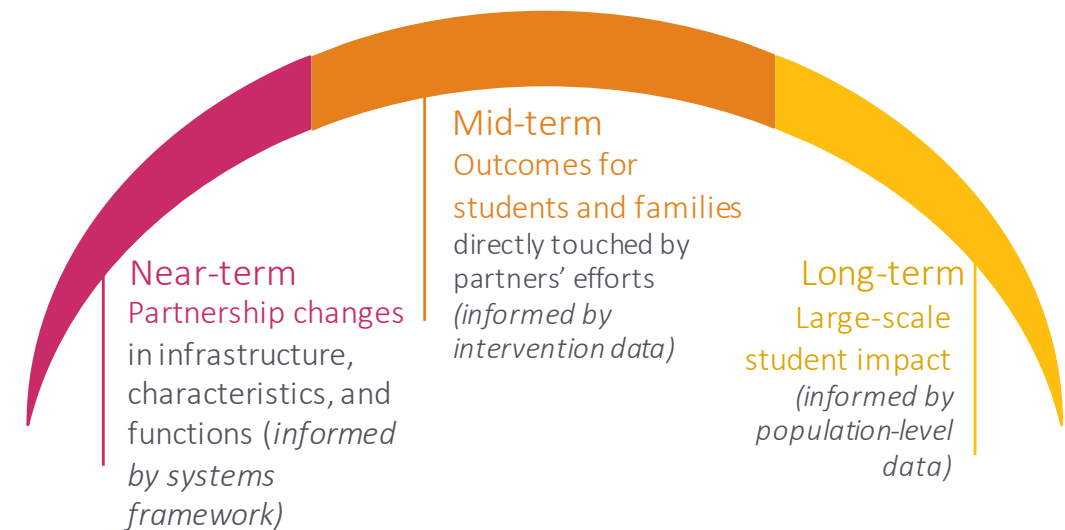
The questions that guided inquiry in 2017-18 included:

- What are notable outcomes experienced by students and families directly touched by partners' efforts? Is there evidence of progress towards outcomes at scale?
- What are notable indicators of partners' strong, stable infrastructure and function?
- How are partners' aligned and coordinated efforts contributing to broad and meaningful change for students and families?
- What are partners doing together? How have partnerships developed and evolved over the past five years?
- What are lessons and considerations emerging from partners' efforts?

Embedded in ORS' inquiry is an assumption about the nature of systems-level work. Recognizing that achieving student outcomes requires shifts in systemic and structural variables, the initial results of housing and education partnerships were changes in these areas, e.g., staffing, policies, practices, relationships, and initiatives. While sometimes marginalized as external factors or process measures, these types of changes are, in reality, hard-won achievements given the complexity of the effort. Changes in partnerships' infrastructure, characteristics, and functions create the enabling conditions for student and family outcomes. In terms of impact for students and families, changes are first

expected among those directly touched by partners' joint efforts; over time, program-level student and family outcomes are expected to be followed by large-scale student impact as the influence of partners' efforts expands (see Figure 1).¹

Figure 1 | Housing-Education Partnerships' Arc of Change



Measurement efforts have tracked the development of partnerships as well as student and family outcomes. Measurement has also explored the connections between partnerships' structure, characteristics, and function and student/family outcomes as a means to better understand what can be achieved via cross-system partnerships in different contexts. This report documents student and family outcomes realized by partners' efforts to date, and the systems-level outcomes that characterize partners' development and progression over the course of the initiative. Findings highlight the value proposition for sustained investment in cross-sector efforts. The methodological approach is detailed in Appendix A.

¹ To help conceptualize the dimensions of change and progression of housing and education partnerships, ORS has drawn on systems-change frameworks, including I2L2 (Reisman, Gienapp, and

Kelly, 2015), a systems change framing tool developed by Spark Policy Institute, and a framework describing partnership typology developed by ORS Impact. See Appendix B for more information.



Student & Family Outcomes

This section describes outcomes for the students and families directly touched by partners’ joint initiatives and presents emerging evidence of broader outcomes for shared students and families resulting from partners’ expanded influence.

King County Housing Authority

Context

King County Housing Authority’s (KCHA) aim in engaging with school districts is to support schools’ efforts to ensure positive outcomes for all students. According to Ted Dezember, Senior Manager of Educational Initiatives and Youth Programs at KCHA, the broadness of that goal allows KCHA to be a different kind of partner to school districts and schools. Instead of approaching schools with its own agenda and goals, KCHA’s intent is always to align its efforts with the objectives already established by school districts. By bringing its connections to families and students, staff capacity, and natural convening abilities, KCHA is well positioned to help advance school districts’ goals.

KCHA currently partners with three school districts, each serving a concentration of students living in subsidized housing: Highline Public Schools (HPS), Bellevue School District (BSD), and Kent School District (KSD). Joint initiatives are summarized in Table 3.

Table 3 | KCHA-School District Joint Initiatives

Highline Public Schools	<ul style="list-style-type: none">• Kindergarten readiness program (GLEA), implemented at White Center Heights and Mount View Elementary Schools• Attendance campaign• Attendance-focused professional learning communities at White Center Heights and Midway Elementary Schools
Bellevue School District	<ul style="list-style-type: none">• Kindergarten readiness program (BELA, in development)• Attendance campaign, in partnership with Eastside Pathways• Previously, KCHA and BSD together with the Bellevue Boys & Girls Club, implemented an after-school academic support program for middle school students, Club 678
Kent School District	<ul style="list-style-type: none">• Kindergarten readiness program (CARE Academy, in development)• Attendance-focused initiatives• Previously, partners implemented an after-school academic enrichment program, STEAM into Middle School (SIMS)



Kindergarten readiness programs

In 2015, KCHA and HPS began implementing the Graduates of Learning and Engagement Academy (GLEA) program, a kindergarten readiness program serving families with young children that provides sequenced interventions throughout children’s early years.² GLEA’s main goal is to “improve kindergarten readiness among children living in KCHA-supported housing.”³ GLEA includes the following elements:

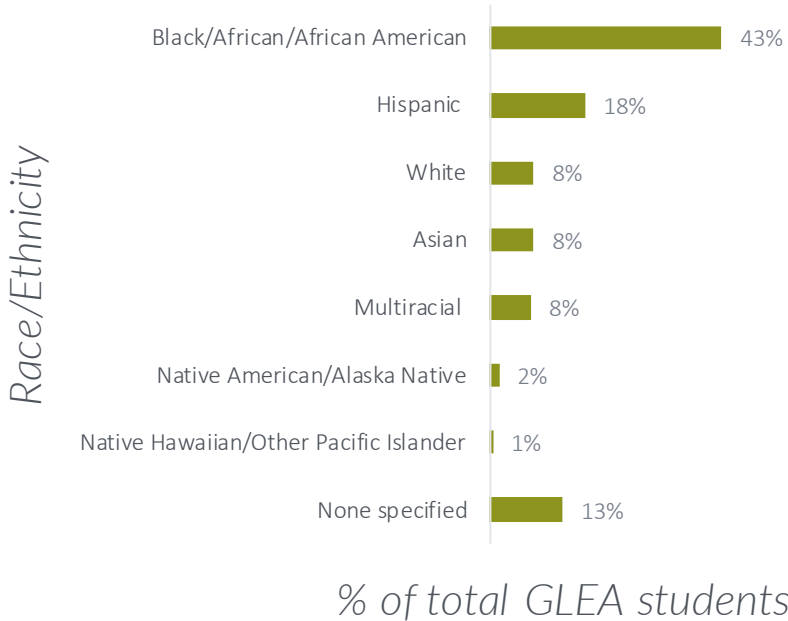
- A nine-week Baby Academy for parents of children 0-3, with group classes, home visits, and support from a specialized team of early childhood educators
- Booster programming to graduates of Baby Academy, with the goal of supporting families until children enter kindergarten
- Other supports for families such as transportation vouchers, referrals to community resources, and assistance with preschool applications

To date, GLEA has served six cohorts and 171 children and their parents or caregivers. Of those, 128 children (75%) have completed the program.⁴ As Figure 2 shows, GLEA participants are racially and ethnically diverse, reflecting partners’ deliberate efforts to engage all children living in subsidized housing, and children and families less likely to access evidence-based early learning programs.

² The program model for GLEA is based on a one developed at the Harlem Children’s Zone in New York City.

³ Berk Consulting (2017). Graduates of Learning and Engagement Academy (GLEA) Program Summary.

Figure 2 | GLEA Students by Race (n=171)



Signs of GLEA’s success inspired KCHA to seek expansion of the program model in the Bellevue and Kent school districts. In Bellevue, partners in the Eastside Pathways collective impact initiative (including KCHA and BSD) have developed the Bellevue Early Learning Academy (BELA) program, which will be implemented at Lake Hills Elementary School beginning in September 2018. In Kent, KCHA, KSD, and other community-based organizations have developed the Child-Adult Relationship Education (CARE) Academy, also scheduled to

⁴ Source: Internal KCHA report on GLEA performance data, 2018. Program completion entails attending at least five of the nine classes in the nine-week course.



begin in September 2018. All kindergarten readiness programs include the nine-week Baby Academy and other early learning supports and have been designed to align with the unique needs of families in each school district.

Outcomes from kindergarten readiness programs

For most GLEA participants, it is too soon to measure kindergarten readiness as children are still a few years from entering school. However, KCHA and HPS staff have identified interim outcomes for GLEA participants that allow partners to understand progress towards kindergarten readiness, as shown in Table 4. A more detailed analysis of each indicator follows.

Among GLEA participants, the majority have enrolled their children in evidence-based early education experiences. KCHA identified early learning enrollment as a key interim outcome; the hope is that as children graduate from the Baby Academy and are old enough, caregivers will enroll them in evidence-based early learning programs.⁵ Data indicate that across all GLEA cohorts, 83% of children age 3 or older have enrolled in an evidence-based early learning program. Of the 30 children in cohorts 1 and 2 who are over age 3, 25 are now enrolled in early learning programs.⁶

⁵Berk Consulting (2017). Graduates of Learning and Engagement Academy (GLEA) Program Summary. While acknowledging the availability of such programs in the area as a direct influence on this outcome, the GLEA program summary states that there are high-quality, formal early education opportunities in the White Center area.

Table 4 | GLEA: Interim Outcomes, Indicators, and Summary of Results

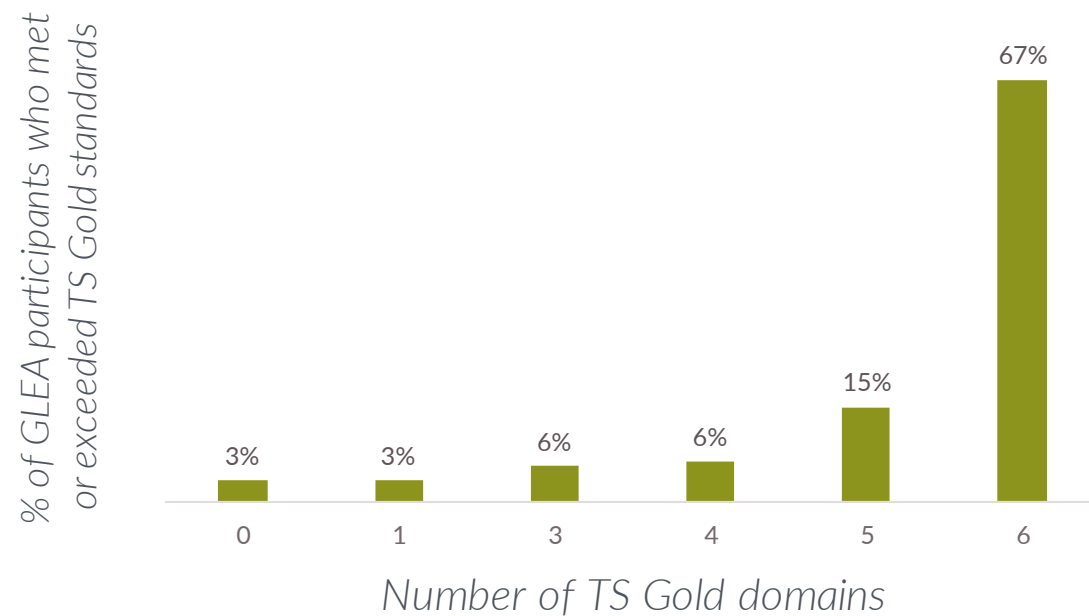
Interim Outcome	Indicator	Summary of Results
GLEA graduates participate in formal early education experiences.	% of GLEA graduates enrolled in other early learning program(s)	83% of GLEA participants who are age three or older have enrolled in an evidence-based early learning program.
Children achieve developmental milestones between ages 0 and 5.	GLEA participants’ TS Gold assessment scores	GLEA participants met or exceeded standards on an average of 5.1 out of 6 domains in their latest assessments, an increase from 4.7 domains in their initial assessments.
Improved parent and caregiver knowledge, attitudes, skills, and behaviors.	Parents’/caregivers’ self-reported benefits from participation in GLEA	Parents/caregivers reported improvements across all aspects of engagement with children.
Families are connected to broader networks of peer families and education opportunities.	Parents’/caregivers’ self-reported connections to networks and community resources	Parents/caregivers reported increased connections to other parents and to community resources around education and health services.

⁶ Source: Internal KCHA report on GLEA performance data, 2018. Data by cohort show that the proportion ranges from 67% in Cohort 6 to 90% in Cohort 5.



GLEA participants are achieving developmental milestones. TS Gold assessment data shows that 67% of GLEA students met or exceeded standards in all six domains, while an additional 15% met or exceeded standards in five of the six domains in their latest TS Gold assessment (Figure 3).

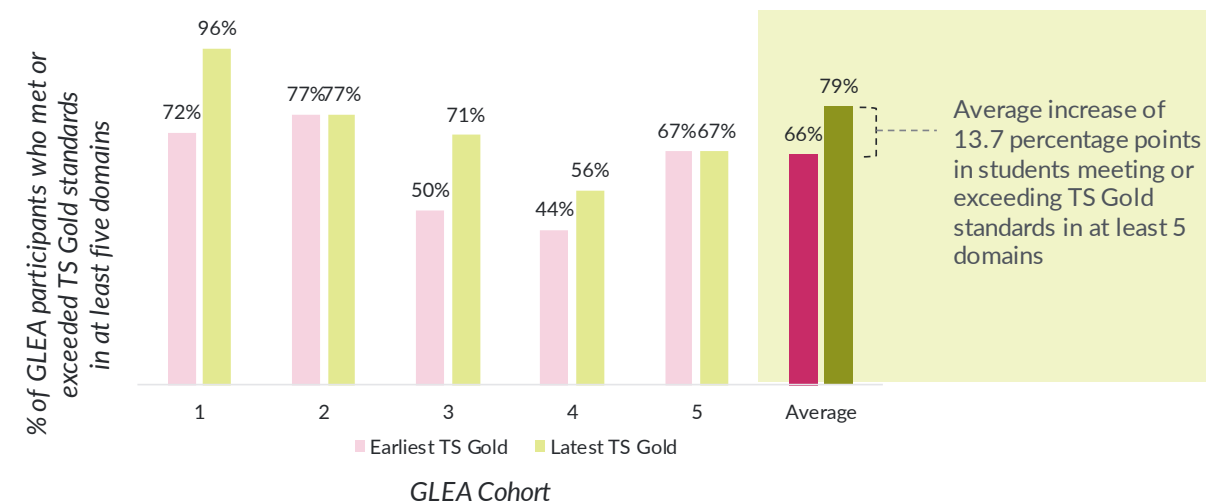
Figure 3 | Percentage of GLEA Participants who Met or Exceeded Standards in their Latest TS Gold assessment (n=127 students who have completed at least one TS Gold Assessment)



⁷ Ibid.

Seventy-three GLEA participants have completed at least two TS Gold assessments, which provides data for comparisons over time. These 73 students met or exceeded standards on an average of 4.7 out of 6 domains in their initial assessment (conducted upon program completion). The same students met or exceeded standards in an average of 5.1 domains in their latest assessment, showing a slight improvement. In addition, 79.5% of these students met or exceeded standards on at least 5 domains in their latest TS Gold assessments, an increase of 13.7 percentage points from the initial assessment, where only 65.8% had met or exceeded standards on at least 5 domains. Among the cohorts, the largest increase in the proportion of students meeting or exceeding standards in at least 5 domains between their first and last assessment was in cohort 1 (24), while cohorts 2 and 5 remained constant (Figure 4).⁷

Figure 4 | Differences in the Percent of GLEA Participants who Met or Exceeded Standards on At Least Five TS Gold Domains in their Initial vs. Latest TS Gold Assessment (n=73)⁸



⁸ No students in cohort 6 have completed at least two TS Gold assessments so time comparisons are not possible.



GLEA graduates are beginning to enter kindergarten; to date, six graduates from Cohort 1 and two from Cohort 2 are enrolled in HPS. As more GLEA graduates enter kindergarten in 2018, it will be possible to assess whether gains observed during program participation are sustained over time, and whether GLEA students are entering kindergarten ready to succeed in school.

Qualitative data from parent interviews reveal parents' perceptions that their children have benefited from participating in GLEA. Parents noted in particular that their children gained social and emotional skills.

Parent and caregivers have increased knowledge, confidence, and connections to broader family support and early education opportunities. ORS conducted in-person interviews with five GLEA parent participants to explore changes experienced as a result of their participation in the program. All parents indicated that GLEA improved their ability to:

- Communicate effectively with children, raising them in peace and with patience.

“ [GLEA taught me] to be brave in teaching my children, how to be their first teacher, and to teach them with an open heart. -GLEA Participant

- Teach children early learning-related subjects, acting as the children's first teachers to encourage their mental development.

“ They helped me realize that it's not just my child achieving milestones, I have to help her achieve them. -GLEA Participant

- Understand how a child's mind works and have clear expectations about their development at each stage.

“ GLEA helped me realize what is going through my daughter's head, gave me ideas of activities to do with her, and clarified expectations of what appropriate development is at each age. -GLEA Participant

- Connect with helpful parenting resources that provide guidance and ideas for activities to do with children.

“ GLEA guided me about what to research, what to learn. -GLEA Participant

Parents also mentioned that GLEA has connected them to early learning programs, along with other community resources including health care, speech therapy, the public library system, Play & Learn groups, and networks of fellow parents.

Attendance initiatives

KCHA has engaged in attendance-focused initiatives in all three school districts, which are described in greater detail below.

Professional learning communities

KCHA partnered with the Puget Sound Educational Service District (PSESD) to facilitate attendance-focused professional learning communities (PLCs) in six elementary schools in HPS and KSD. PLCs engage multiple school and community staff in the design and implementation of family-focused attendance interventions and the use of data to track



student attendance. In addition, school teams receive professional development and technical assistance to support their attendance efforts.

The schools aim to increase interactions with families to share attendance information, listen to family stories to better understand the underlying reasons why students miss school, and provide supports to encourage improved attendance. One key element of KCHA’s approach is encouraging schools to look at *chronic absenteeism* as an attendance measure instead of the more typical average daily attendance, which often masks chronic absenteeism.

Three elementary schools participating in PLCs have a significant population of families living in subsidized housing, including White Center Heights (HPS), Midway (HPS), and Pine Tree (KSD). Examples of attendance-focused activities at these schools include regular workshops with school staff; family conferences; “nudge letters” (letters reminding families about the importance of school attendance); incentives for students; and, in some cases, home visits or attendance monitoring.

Schools participating in PLCs receive a \$2,500-\$3,000 flexible grant to support their attendance work. These funds pay for staff time, incentives for students, high-quality materials for families, and other necessary resources. Schools describe these grants as essential because they don’t have those funds in their own budgets.

“KCHA is sensitive to the business of a school. [Their funds] can provide student incentives that we can’t fund. -Attendance PLC Staff Member

⁹ Source: KCHA internal report on attendance outputs in BSD.

¹⁰ A student is chronically absent when having more than 18 absences from school during the school year.

Attendance campaigns

KCHA launched an attendance campaign in HPS in 2016. Coupled with September rent statements, KCHA mailed information to families of students living in subsidized housing about the negative impacts of school absences and how to reduce absences, and a tool to track absences. KCHA designated September as Attendance Month and engaged with housing community staff as well as other stakeholders representing youth development, K-12 education, early learning, health, housing, and community and cultural groups. These stakeholders planned attendance campaign kick-off events, targeting schools with a large proportion of students living in KCHA-supported housing.

KCHA is working with BSD and a range of community organizations to tackle attendance jointly with Eastside Pathways, a collective impact initiative working to advance educational outcomes in the Bellevue and Lake Washington school districts. KCHA staff lead and facilitate the Eastside Pathways attendance initiative and have helped stakeholders to imagine what is possible. Partners launched a planning session for an Attendance Awareness Month, and engaged 31 people from organizations representing youth development, K-12 education, early learning, health, housing, and community and cultural groups.⁹ Data about these efforts will be available once attendance initiatives are fully underway.

Outcomes from attendance initiatives

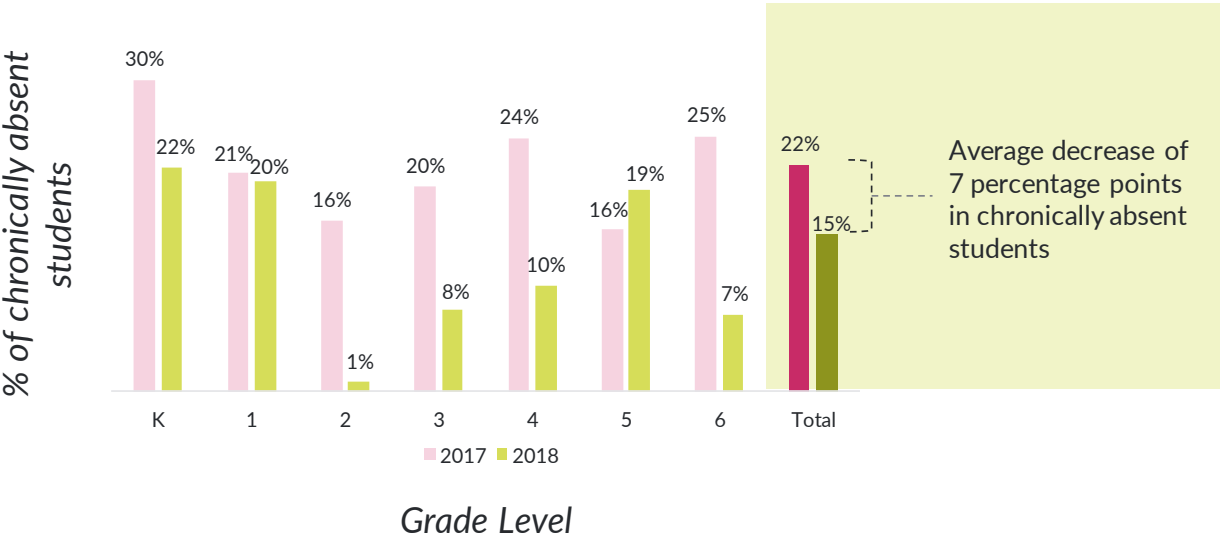
At White Center Heights Elementary, data show positive attendance outcomes, 76.7% of elementary students met the goal of having nine absences or less in 2018. In addition, the proportion of students who are chronically absent dropped to 8% in 2018, compared to 15% in 2017 and 19% in 2016.^{10, 11}

¹¹ Source: FEAT Presentation Attendance WCH. KCHA, 2018.



Pine Tree Elementary School, another of the PLC schools, had the goal of decreasing chronic absenteeism by 10% via its family engagement and targeted interventions. Chronic absenteeism was an average of seven percentage points lower in 2018 than in 2017. As Figure 5 shows, chronic absenteeism decreased in all grades except 5th, and decreases ranged from 1 percentage point in 1st grade to 17.2 points in 6th grade.¹²

Figure 5 | Chronic Absenteeism in 2017 and 2018 at Pine Tree Elementary School, by Grade



At Midway Elementary School, the goal is to reduce chronic absenteeism in kindergarten by 15%. The attendance team is still working on a systematic way to track data but have

observed improvements in attendance among kindergarten students. Midway staff also see the focus on attendance gaining traction.

“ At Midway, attendance has become a thing – it is super exciting.
-Midway Elementary School Staff

¹² Source: FEAT Presentation Attendance Data for Pine Tree Elementary School. KCHA, 2018. Data refers to all Pine Tree Elementary School students; however, no “n” was specified.



Seattle Housing Authority

Context

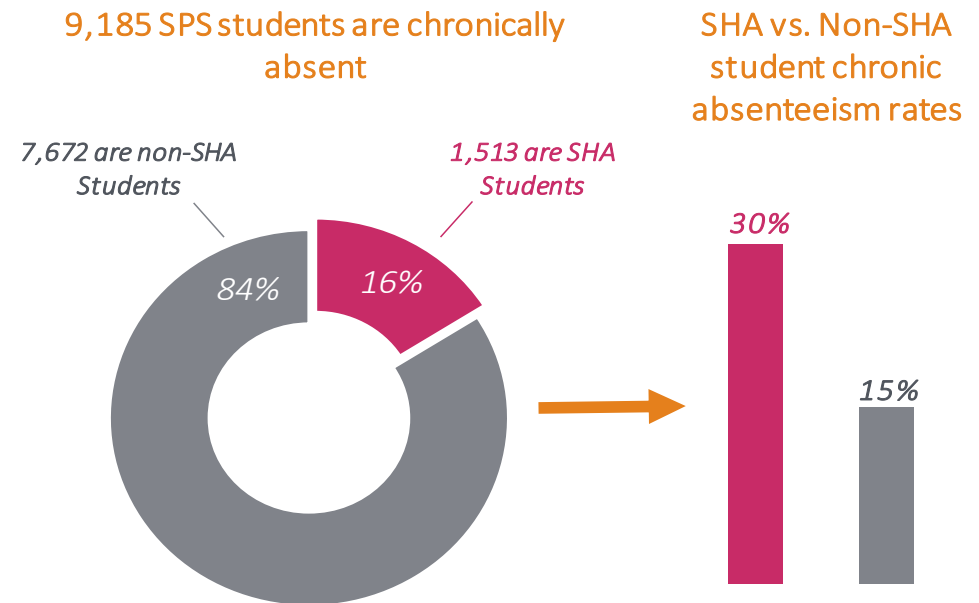
Seattle Housing Authority (SHA) recognizes that their housing services are a platform, and that families need additional supports and opportunity pathways so students can achieve education milestones that help interrupt intergenerational poverty. Seattle Public Schools (SPS) recognizes that an unacceptable opportunity gap persists between white students and students of color, and is committed to improving achievement for all students, while also providing opportunities for engagement and leadership as well as full access to services and supports that all students need to significantly raise the achievement of historically underserved student populations. SHA and SPS are working towards the common goal of educational success for shared students.

Attendance initiatives

In SPS, about one in 10 students (just over 5,500 students) live in subsidized housing. Data reveals that SPS/SHA shared students are more likely to be chronically absent, and that the rates of chronic absenteeism are higher than for non-SHA students (Figure 6). Given that chronic absenteeism is a key factor that inhibits student success, SHA and SPS have focused their joint efforts on attendance.¹³

¹³ Chronic absenteeism is defined as missing 10% of school days, about 18 days per school year, or about 2 days per month. For more about the correlation between chronic absenteeism and academic

Figure 6 | Number and Percent of SPS and SHA Students who are Chronically Absent



SHA/SPS joint attendance initiatives are research-based and leverage the strengths and infrastructure of each institutional partner. Approaches center on family engagement, community supports, and systems alignment. In the 2017-18 school year, SHA and SPS implemented:

- District-wide “nudge letters” to notify students and families about the number of school days missed

risk, see: https://www.ecs.org/wp-content/uploads/Chronic_Absenteeism_-_A_key_indicator_of_student_success.pdf



- Attendance partnerships between SHA, SPS, and five elementary and middle schools in the district where a significant proportion of students who live in subsidized housing are enrolled
- Family visits for families of students transitioning into elementary, middle, or high school
- Expanded communications with families, such as SPS educators attending community events hosted by SHA to build positive relationships with families
- Alignment with youth service providers

Partners are also implementing a pilot project at Bailey Gatzert Elementary School. SHA staff worked with homeless families whose students attended the school to address and mitigate housing instability, with the hope of improving attendance and academic outcomes. SHA and school staff coordinate to ensure students attend school, and that students and families are able to address immediate, basic needs that could otherwise interfere with students' school success.

Outcomes from attendance initiatives

Preliminary data from the 2017-18 school year show promising outcomes regarding student attendance.¹⁴

- Among SHA students, chronic absenteeism during the first 20 days decreased by 24% in 2017-18 when nudge letters were sent, compared with attendance during the first 20 days in the previous school year.
- All five elementary and middle schools implementing attendance partnerships in 2017-18 met their City of Seattle levy goals regarding attendance. Of the 810 SHA

students who attend those five schools, the percentage of chronically absent students dropped from 19% in 2016-17 to 15% in 2017-18. At one school, Asa Mercer International Middle School, chronic absenteeism among SHA students dropped from 30% in 2016-17 to 21% in 2017-18.

Leaders at participating schools affirm the SHA/SPS partnership's role in advancing these outcomes:

“ Our attendance has improved significantly overall and for our students who live in SHA housing as a result of this partnership.
– School Principal

“ The attendance challenges [supported by the partnership] have helped to increase attendance school wide. – School Principal

SHA and SPS will continue to monitor data regarding student attendance and track improvements resulting from joint initiatives. Partners will also document other outcomes resulting from joint initiatives aimed at students' educational success including:

- Increased student participation in out-of-school-time programming
- Improved family-school relationships and greater two-way communication
- Increased formal opportunities for families to engage in their child's education

¹⁴ Additional outcome data from the Bailey Gatzert pilot will be available in the fall of 2018.



Tacoma Housing Authority

Context

Tacoma Housing Authority (THA) and Tacoma Public Schools (TPS) began implementing the Elementary School Housing Assistance Program (ESHAP) at McCarver Elementary School in 2011 and it remains active. ESHAP initially focused on improving educational outcomes across a school’s population by stabilizing housing and reducing the overall student mobility rate for formerly homeless families.¹⁵ In 2015, the partners began implementing an additional joint initiative, the College Savings Account (CSA) program, to “spur [students’] aspiration to go to college, prepare for it, pay for it, and feel they belong when they go [to college].”¹⁶

Outcome data presented below are considered preliminary as THA and TPS are still working out issues regarding identification of shared students and unified academic indicators. The findings may change as data sharing improves and generates more valid and reliable results.

ESHAP initiative

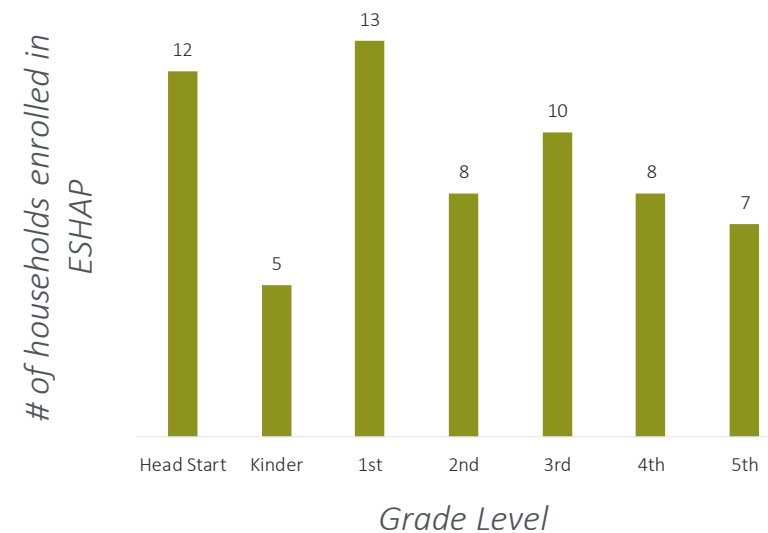
Partners identified McCarver as a vulnerable school due to high poverty and extreme mobility rates among the student population. THA, TPS, and school staff designed ESHAP to support families whose children attended McCarver, serving a cohort of families each year. When the program began, there was a concentration of subsidized housing in the neighborhood around McCarver. Over time, neighborhood changes and gentrification affected the housing supply. However, as families moved farther away, students still attended McCarver to receive the school-based family and educational supports.

¹⁵ Mobility rate refers to the frequency with which students change classrooms, schools, and/or housing.

Results of a five-year evaluation completed in 2016 revealed that ESHAP’s primary benefits were family stabilization, which made a difference for those students; however, school-wide changes in educational outcomes that had been hoped for were not realized. In response, the program model shifted in 2017-18; the current cohort of participating families can attend their neighborhood school. This shift reflects both the realities of the subsidized housing market and the program’s focus on stabilizing students and families rather than on school-level outcomes. ESHAP staff worked with school administrators to coordinate families’ transfers to their neighborhood schools and to ensure a smooth transition.

The current ESHAP cohort includes 37 racially diverse households with 63 children at different grade levels (see Figures 7 and 8).

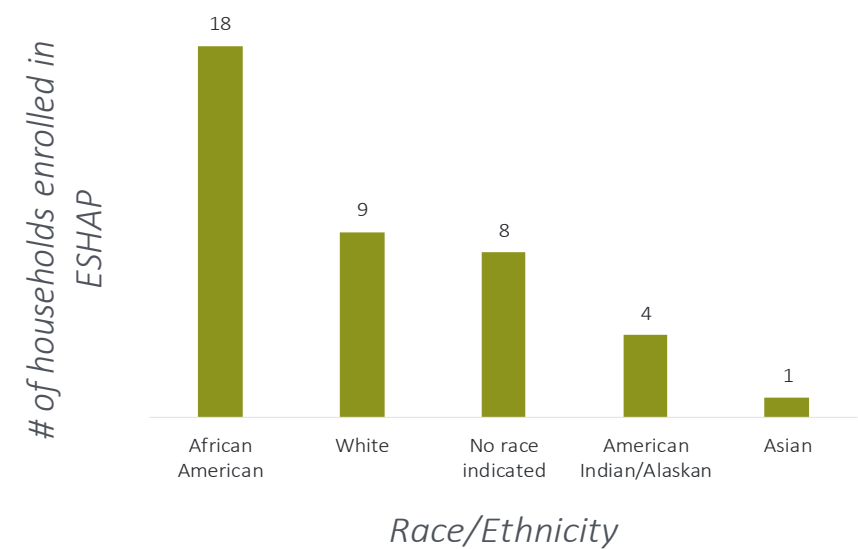
Figure 7 | ESHAP Enrollees 2017-18, by Grade (n=63)



¹⁶ See: CSA redesign memo, prepared by THA in 2018.



Figure 8 | ESHAP Enrollees 2017-18, by Race¹⁷ (n=63)



Outcomes of ESHAP initiative

Results of a five-year program evaluation found that students served by ESHAP had lower turnover compared to other McCarver students.¹⁸ ESHAP students’ turnover rate ranged from 2.7% to 13.3% in the first four years and increased to 23.3% in Year 5. Even with the increase in Year 5, turnover was lower than for non-enrolled students, whose turnover rate was 99.7% in the same year. In 2017-2018, ESHAP students’ turnover rate was 26%, compared to 37% for the entire McCarver student population, and 23% district-wide. The five-year evaluation also showed a median attendance rate of 92% in Year 5, which was lower than other McCarver students (93%) but higher than other homeless students at that school (91%). For the 2017-18 cohort, the median attendance rate increased to 95%.

¹⁷ Three households indicated two or more races.
¹⁸ Tacoma Housing Authority McCarver Elementary School Housing Assistance Program Year Five Evaluation Report. GEO Education and Research, 2017. Years include: Year 1 (2011-2012 school year),

The five-year evaluation compared ESHAP students’ academic measures with those of: other McCarver students, non-THA homeless students at McCarver, and other homeless students in TPS. Findings show mixed results; students served by ESHAP “showed significant gains in reading in the first year of the program,” though in subsequent years, reading levels were similar to other McCarver students. ESHAP students outperformed other, non-THA homeless students at McCarver in reading assessments in Years 3 and 4 but fell slightly behind in Year 5. Math assessments revealed that ESHAP students were behind non-THA homeless students at McCarver in math in Year 3 but did better than this group in Years 4 and 5. In the 2017-2018 cohort, the proportion of students who met reading and math standards (as measured by i-Ready scores) is lower for ESHAP students than for other THA students living in subsidized housing (see Table 5).¹⁹

Table 5 | Proportion of Students Meeting Standards in Reading and Math i-Ready Scores, 2017-2018

TPS Performance Metrics	Non-ESHAP, THA Students	ESHAP
i-Ready Reading (n=30)	36%	23%
i-Ready Math (n=34)	34%	18%

ESHAP was designed to benefit parents in a variety of ways. The five-year program evaluation found that “parents appreciate the program and acknowledge that it has given them a unique opportunity.” In reflecting on their experience, parents from the 2017-18 cohort mentioned the benefits of family stabilization, specifically regarding higher-education

Year 2 (2012-2013 school year), Year 3 (2013-2014 school year), Year 4 (2014-2015 school year), Year 5 (2015-2016 school year).
¹⁹ Not all ESHAP students received i-Ready Math and Reading assessments



attainment, employment support, financial stability, improved health and mental health, and their ability to spend more time with their children.

“ I started school within the last few months to finish up my pre-nursing degree. I wasn’t doing that before because I had to stop due to the fact that I was homeless and was going through a lot of stuff. And I was working part time, but now I work a full-time job and going to school full time. – ESHAP Participant

“ I paid off 2 or 3 things that [were] on my collections, in a couple of months I will finish paying off my student loans and I will get to go back to school finally. I got a better paying job with better hours for my kids and I’m building my credit now. – ESHAP Participant

“ We moved here and [my son] went through a pretty traumatic thing with his dad and the divorce. We were able to get him into counseling...and being able to get out of my mom’s basement, his room was a cement room, like a jail cell. He gets his own room now and he’s happy. He loves school and he even gets mad at me at the chance of even being late to school. – ESHAP Participant

“ I can sit with her and help her do homework, instead of being too busy or too tired to look or check her work. Now we literally have homework time and I’m more involved. After that first year, we now have a place to go home to and now I can think about the future. – ESHAP Participant

CSA program

The College Savings Account (CSA) program began in 2015, serving low-income children in East Tacoma’s Salishan neighborhood, THA’s largest housing community. The CSA program currently provides matched savings accounts deposits for elementary school students and incentive-based savings for middle and high school students. In addition, it seeks to increase financial inclusion by promoting banking practices among unbanked families, and to “unite the region’s most diverse community by eliciting and enlisting its common expectation and hope that its children will succeed.”²⁰

Outcomes of CSA

In the past three years, 140 students from 107 families have participated in the CSA program, making up 33.3% of all eligible students. Eighty-one percent of participants live in THA subsidized housing. Elementary and middle school students have received more than \$36,000 in matched savings deposits, with an average student account balance of \$165. In addition, 1,034 students have participated in financial education courses. However, CSA enrollment has steadily decreased each year. One possible reason for low enrollment during the initial years of the program is the challenge that families face with accessing a bank branch. However, THA staff are hopeful that a new bank branch opening nearby will encourage higher enrollment.

Future outcome measurement

TPS and THA will continue to monitor student and family outcomes related to the ESHAP and CSA programs through a data-sharing agreement that is currently in design. At this time, data sharing is ad hoc and somewhat vulnerable to discrepancies as both institutions work on

²⁰ CSA Program Report, May 2018.



creating the necessary mechanisms to generate valid and reliable findings. TPS is creating a data-sharing platform that would allow THA and other partners to instantly access relevant and legally appropriate student data, thus lowering the burden on TPS to comply with data requests from multiple partners. As this ambitious data-sharing project develops, THA and TPS are working on establishing a bilateral agreement whereby designated THA staff will have secure access to student-level data from TPS — including attendance, discipline, and academic performance data like grades and test scores — to measure student outcomes.

Emerging Population-Level Outcomes

There is emerging evidence of widespread improvements in school attendance as a result of partners’ efforts, most notably in Seattle and Highline school districts. In both districts, school-based attendance-focused joint interventions have resulted in school-wide decreases in chronic absenteeism. Further, there is evidence that stronger aligned systems and coordination between SHA and SPS contributed to improved family engagement.

In their partnerships, PHAs and schools have emphasized development of relationships with families; for example, PHAs and educators have co-developed or co-hosted family and community events, such as attendance campaign kick-offs in White Center, and welcome back to school events held in SHA communities that were also attended by SPS department staff, community partners, and school staff. The SPS Department of Early Learning also leveraged these SHA-sponsored events to facilitate preschool and kindergarten registration for SHA families. PHAs have also conducted attendance celebrations to show support and recognition for students who were attending school, and school staff attended these events as well.

In Seattle, opportunities for organizations to engage with families often helped to catalyze partners’ joint efforts. One example is SHA’s and SPS’s co-development of customized educational materials for Somali families. With the help of the Somali Family Safety Taskforce

and Seattle Public Library, Somali families were engaged to create a children’s alphabet book, which was printed and is now available in classrooms, schools, libraries, and SHA housing communities. The book is also being purchased across the country by other housing and education partners. In another example, jointly engaging with families also helped surface that there were some concerns among SHA families about a school principal transition. To address families’ concerns, SPS and SHA coordinated to ensure that SHA parents and SHA staff were on the interview panel for the new principal.

In Seattle, schools have relied on SHA to help convey important information to families, such as dates or deadlines, and for more ad hoc and responsive communications. In Seattle, for example, SHA staff were able to provide information to families about the SPS school bus driver strike in the spring of 2018. PHAs also help to distribute newsletters or other important information to families, often translating information into multiple home languages.

School staff also observed that partnerships have helped them strengthen relationships with families. In Seattle, for example, SHA has facilitated opportunities for school and district staff to meet with families at SHA properties to make connections easier. Meeting in housing communities gives parents and school staff an opportunity to sit down and talk in a place where families may feel more comfortable. This allows school staff to hear and address family concerns and build trust. Partnerships between PHAs and schools have resulted in schools connecting with families and students in ways that they would not have been able to do on their own.

“ Partnership between the schools, SHA and SPS central offices has created more trust between families and schools. I hope this continues to grow. – SPS Staff

“ The improved relationships and communication we have with families [because of the partnership] is huge. – School Staff



The expansion of school/family relationships and the increased visibility of partnerships have also enabled quick responses to family emergencies. For example, when an SHA family had a fire in their apartment, Seattle partners were able to quickly coordinate and provide support. The SHA community builder contacted school staff, who immediately coordinated with SPS' McKinney-Vento office to arrange for transportation so that the affected family's students could attend school without interruption. Without the alignment and connections between SHA and SPS, the students could have missed several days of school while their housing situation was addressed.

Expanding relationships and the visibility of partnerships have also led to engagement with other housing providers. In Seattle, a school that had engaged with SHA around attendance noticed that a new low-income apartment complex was being built near the school campus. School staff mentioned this to the SPS liaison, who reached out to the non-profit housing developer and established a meeting with staff from the neighboring elementary and middle schools. This interaction resulted in the schools' ability to share lease application information with low-income families before the school year ended. The housing developer, in turn, will share important information from SPS with families, and offer a change of address form at the time of leasing in hopes of expediting the school enrollment process. The experience has since catalyzed even more connections; the SPS liaison has discussed partnership opportunities with four other affordable housing providers interested in supporting their residents' education in similar ways to the SHA partnership.

While it is still early to see robust population-level outcomes, these examples provide a glimpse of the ways in which strong cross-sector partnerships can influence outcomes at scale.



Structural and Systemic Outcomes

Cross-sector partnerships are complex; successful partnership results from the dynamic interaction of multiple factors. As noted earlier in this report, part of ORS' measurement has focused on documenting partnerships' infrastructure, characteristics, and functions, and how these have developed and strengthened over time.

These structural and systemic elements of partnerships include, for example, how partners communicate and make decisions, share data, or implement new or adapted institutional practices and policies to facilitate joint work. This section describes significant structural and systemic outcomes that have enabled partners to successfully advance outcomes for students and families.

King County Housing Authority

Data-sharing agreements

KCHA and HPS have a data-sharing agreement which has facilitated both recruitment of GLEA participants and tracking of GLEA and attendance-related outcomes. The ability to share data has also facilitated productive discussions about shared goals and informed program improvement efforts. Data sharing was also expressed as instrumental to engaging families in the GLEA program.

“KCHA helped us identify families with kids aged 0-2 who were also living in subsidized housing. School districts don't traditionally have access to data on students until they are registered for kindergarten, or maybe preschool. So, we have no way to find families to invite them to participate in a program like GLEA. The partnership with KCHA was perfect to bring two agencies together with lots of great information, but not the same information. -HPS Director of Early Learning

In both Kent and Bellevue, reestablishing these types of data-sharing agreements has been more challenging due to factors including the lack of staff capacity to maintain and analyze data, software migration issues, and confidentiality issues and mandates. Still, there are plans in place to reestablish data-sharing agreements with both BSD and KSD in the 2018-19 school year, which is expected to enhance early learning and attendance-focused efforts.

Tools to support collaboration with educational partners

In 2016, KCHA established the Education Partnership Framework, a blueprint for how a PHA can contribute to advancing student outcomes to which schools are also committed. The Education Partnership Framework reflects KCHA's wisdom and insights gained from its efforts to date and clarifies how KCHA is best positioned to facilitate interventions at the school, community, and household levels. The Framework has helped KCHA to better make the case for housing-education partnerships and has begun to usefully shape KCHA's relationships with schools and districts.



Regular communication and coordination to align joint efforts

Through regular communication and coordination, KCHA has deepened its relationships with education providers, including leaders, decision makers, and those who work directly with students. KCHA and education partners (district staff, school staff, and community-based organizations) have engaged in intentional efforts to plan, coordinate, and align their focus and service delivery regarding high-leverage issues such as early learning and attendance. Regular joint planning between KCHA and education partners has ensured better service delivery for program beneficiaries while fostering continuous learning and improvement. For example, KCHA and HPS have coordinated closely about GLEA, which allowed staff to see that GLEA participants may need many touchpoints during children’s early years to ensure that parents get acquainted with the school system and become more engaged in their children’s education before children start kindergarten.

“*[While we were planning GLEA and the Baby Academy] we met all the time – and we still meet to talk about the development of the program, how we can establish a continuum of support beyond [the program].*” – HPS Director of Early Learning

Through Eastside Pathways, KCHA is involved in joint planning with BSD and Lake Hills Elementary School staff as they design and plan to implement the BELA early learning program. KCHA staff have also been facilitating discussions among KSD staff, East Hill Elementary School staff, and community partners regarding the development and implementation of CARE Academy.

Joint planning has also been crucial in attendance initiatives, as each school works with KCHA to develop appropriate interventions for their own contexts. Partnering on attendance efforts has provided opportunities for KCHA and schools to consider attendance issues from different perspectives, which has enriched joint initiatives.

Supportive internal policies

Like other regional housing authorities, KCHA recognizes that students whose families live in subsidized housing face educational opportunity and outcome gaps, which perpetuate the likelihood of generational poverty. To help interrupt that cycle, KCHA has formally adopted education as a part of its mission as a housing provider. According to Stephen Norman, Executive Director of KCHA, certain policy changes were particularly important to facilitating these efforts, including:

- **Subsidized housing in high-opportunity neighborhoods.** Research shows that students do better when they grow up in high-opportunity neighborhoods, and KCHA’s policies aim to make this possible for more students. KCHA created six different payment standards and can offer families subsidies that cover housing costs in high-opportunity neighborhoods, which makes it possible for students to attend high-performing schools and accrue other benefits of growing up in these communities.
- **Re-aligned definition of homelessness.** For its education partnerships, KCHA adopted the Department of Education’s definition of homelessness, which is broader than the one used by the Department of Housing and Urban Development. Using the broader definition allows KCHA to provide immediate supports to students whose housing is unstable so that they are less likely to face interruptions in their school attendance due to homelessness.
- **Commitment to engage those with educational expertise as advisors.** Recognizing the need for multi-level cross-sector engagement, KCHA recruited the PSESD Superintendent to serve on its Board of Commissioners. Bringing educational experience and leadership to its Board ensures that education remains an integral and effective aspect of KCHA’s mission.



Strengthened multi-stakeholder partnerships

KCHA has become increasingly involved with the Eastside Pathways initiative, and KCHA staff have taken a leadership role within the initiative’s early learning and attendance work groups, helping to set the agenda and organize stakeholders in their joint work. KCHA also works closely with The Road Map Project, a similar collective impact initiative in South Seattle and South King County. Leaders from both initiatives recognize KCHA as a crucial partner in their work, given its influence and capacity for action, the access it provides to families that school districts would not reach otherwise, and the potential for cross-sector collaboration.

Seattle Housing Authority

Well-established, stable infrastructure includes an Executive Steering Committee, dedicated staff liaisons, and data sharing

A strong and well-established collaboration infrastructure between SHA and SPS is believed to be key to advancing outcomes for students and families. SHA-SPS joint initiatives are grounded in their leaders’ commitments to shared goals as well as institutional agreements about data sharing, staffing, and resources, all of which have been key to ensuring aligned practices and service delivery.

At the core of the partnership, leaders and department heads from both SHA and SPS are involved in an Executive Steering Committee, which has met quarterly for the past three years. In addition, each institution has a designated a full-time staff liaison dedicated to ensuring smooth and productive communication and coordination efforts between the partners, developing and leading initiatives, and identifying key opportunities for systems alignment. The liaisons participate in the Executive Steering Committee and also meet with one another regularly regarding the development and implementation of joint initiatives. This

infrastructure helped SHA and SPS do two important things: develop and adopt a joint strategic plan, and work out a data-sharing agreement, which many expressed as *“foundational to our programming ... all of our initiatives hinge on [shared data].”*

Working out the mechanics of data sharing was a significant effort that took about a year. However, once data were available that showed how SHA students compared with the full SPS population, the partnership’s infrastructure enabled useful discussion about where to prioritize – leading to the focus on chronic absenteeism, and the design and implementation of joint initiatives.

“Sharing data is critical to any partnership such as this one ... [and], you also need to know how to use the data. – SHA Staff

The dedicated staff liaisons have also been critical for successful partnership efforts. As one SHA staff member said, *“You need staff who are champions and who will promote [partner efforts] and convince the rest of the organization to go along.”* An initial focus for the liaisons was to facilitate alignment by helping to clarify roles and operationalize shared goals and agreements. Currently, their work is more focused on building and implementing programs. Liaisons also serve as conduits, keeping their eyes and ears open for more ways to connect and align efforts across the organizations.

Expanded and more visible cross-institutional partnerships

The liaisons have met with multiple departments within their organizations to explain the partnership’s goals and theory of action, and pursue expanded coordination and deepened institutional relationships and alignment. SPS department staff and school staff are seeing the added value that housing providers bring to their own goals and projects by facilitating stronger connections and engagement with families. Staff across SHA and SPS now understand even more profoundly how important the liaison positions are for identifying and



leveraging the strengths and needs of historically underserved populations living in affordable housing, and finding ways to improve existing services and systems to be responsive to their shared families and students, and to scale impact to all the families they aim to serve. School staff have also leveraged SHA and SPS liaisons to amplify the message that school attendance is important, build positive relationships with families, and make it easier for families to access educational services.

Improved and aligned approaches to engage families and support student success

The focus on attendance-focused initiatives led SHA and SPS to investigate the experience of their shared students and families, revealing a variety of reasons why students are absent from school, including not having their basic needs met, lacking transportation, or lacking a positive connection with their school. Student attendance can also be interrupted when families cannot easily navigate the educational system, for example to locate after-school support for their children or work out issues related to their child's classroom experiences. SHA and SPS families expressed confusion and difficulty navigating the educational system, which is potentially exacerbated by the fact that SHA and SPS staff have different modes of communication, relationships, and outlets to support families with their particular needs or questions. SHA and SPS are now more aligned in their understanding of families' experiences, and the organizations have pursued multiple responses to ensure a caring and welcoming educational experience for students and families.

A key area of alignment is professional development. SHA staff have been invited to attend professional development trainings arranged by SPS at no cost, and many SHA staff have participated. This overlapping professional development has helped SHA and SPS staff to be aware of frameworks or approaches in use across the two institutions, promoted shared values, and informed aligned efforts. For example, SHA aligned with SPS' dual-capacity

framework for family engagement, which emphasizes bringing family voices forward, then used it to develop SHA's approach of engaging families to co-design family-centered attendance and academic support efforts.

This growing cross-pollination between SHA and SPS staff appears to be encouraging a tipping point in improved and aligned approaches. For example, SHA staff now sit on SPS task forces, and vice versa. SPS staff recently asked SHA staff to present a Housing 101 seminar so that district staff could be better prepared to respond in an aligned and useful way when families came to them with housing issues. As another example, an SHA community builder is a volunteer mentor in a program being implemented by the middle school that serves students living in the housing community where she works. This growing coordination helps strengthen relationships between adults and students, and between families and schools, and amplifies the potency of school-based, SHA community-based, and joint initiatives.

SHA and SPS have also worked to align their goals, efforts, and resources with those of other organizations. For example, youth-serving organizations that provide services to SHA students were informed about the attendance-focused initiatives and have received regular updates about school attendance for the students they serve through their programming. With that information, youth-serving organizations were able to coordinate their own efforts aimed at improving and recognizing students' school attendance.

Expanded, more deeply embedded partnership

In addition to the Executive Steering Committee and dedicated staff liaisons, the partnership includes those representing multiple internal departments at SHA and SPS, as well as those from schools and youth-serving organizations that provide services at SHA housing sites. Reflecting on a partnership mapping exercise done in early 2016, SHA and SPS staff noted how the partnership had broadened and deepened since then. A partnership survey implemented by SHA was sent to 106 stakeholders in 2017, and to a larger sample of 161



individuals in 2018, reflecting an increase in the number of stakeholders engaged in joint efforts. Partnership survey data affirmed staff perceptions of broadened and deepened alignment. The 54 partnership survey respondents in 2018 reflected 13 SPS departments, six schools, seven SHA departments, and three youth-serving organizations. Of the respondents:

- 70% said they understand the partnership’s vision and goals well or very well, and over 60% said they understood their organization’s role in the partnership well or very well.
- 74% agreed that the partnership has helped draw needed attention to the issue of chronic absenteeism.
- 70% said that their department or organization had taken steps to align with the partnership’s goals.
- Almost 75% said the partnership has helped them to become more successful in their jobs.

“The partnership was beneficial in formatting collaborations between SHA residents and our school community, especially since 80% of the students at our school are SHA residents. – SPS School Staff

“Bringing awareness to SHA staff that chronic absenteeism has serious negative impacts on a child’s education and that SHA youth are absent more than others has highlighted the need for community builders and other staff to engage in positive interactions with families to encourage them to prioritize getting their children to school. – SHA Community Builder

Tacoma Housing Authority

Strong and stable infrastructure includes an interlocal agreement, leadership engagement, and designated staff

THA and TPS adopted an interlocal agreement in 2017 which reflects a formal policy change as the organizations outline their common goals and ways of engaging with each other. The agreement indicates that they both have envisioned sharing and using data to design, adjust, evaluate, and identify program needs. Though data sharing has taken longer than anticipated, it is finally moving forward. The partnership has commissioned an evaluation of their data systems to better understand the technical modifications necessary to ensure effective and confidential data sharing. The results of this evaluation will be presented in 2018 as the first step towards establishing a data-sharing calendar with aligned metrics and clearer roles for THA and TPS in the data exchange process.

In addition, intentional and recurrent leadership involvement by THA’s Executive Director and the TPS Superintendent has secured greater alignment and effectiveness. Leaders have consistently held regular meetings to discuss and plan the partnership’s focus and activities. Currently, leaders meet monthly and express deep commitment to their ongoing relationship around the partnership.

The partnership began with a programmatic focus and included THA-designated program managers to lead ESHAP and CSA and coordinate with school and district staff. Despite staff turnover, expectations regarding roles and responsibilities of the THA program managers has remained fairly constant. ESHAP and CSA program managers primarily engaged with school staff; to enhance alignment, TPS appointed a liaison, Thu Ament, in 2017. Thu has become a critical point of contact, and his director-level role has facilitated coordination regarding



service delivery and data sharing. Thu, THA program managers, and THA Deputy Director April Black meet regularly for joint decision-making purposes.

Expanded partnership and increased alignment

The appointment of a director-level liaison from TPS has served as a conduit; THA staff have since engaged with many other TPS departments, which has enhanced program coordination and service delivery. Reflecting on a partnership network map that was created in 2016, THA staff reported that touchpoints with TPS have more than doubled in the past two years, from 20 to 48 individual connections. More robust inter-institution connections have included TPS Department Directors serving as advisors on a recent redesign of ESHAP and CSA, which focused on ensuring that the goals of the two programs and measures were aligned with what TPS was already committed to tracking.

Engagement with external stakeholders has also grown in the past two years, from 49 to 108 connections. Broader engagement also fostered alignment regarding the expansion and scale of ESHAP and CSA programs.



Looking Across Partnerships

Partnership History

Each of the five partnerships had a different starting point and has followed a different trajectory. These different journeys reflect the different contexts of the work. This section includes brief descriptions of each partnership's starting point, their guiding frameworks, and some key developments that have occurred over the five-year initiative.

Guiding Frameworks

Over the past five years, all of the PHAs have developed strategic frameworks to guide their partnership efforts with schools and districts. The frameworks have helped to institutionalize partnerships and articulate how PHAs contribute to advancing educational outcomes.

King County Housing Authority

Demonstrating that a commitment to education is an important aspect of the organization's mission, KCHA's Executive Director Stephen Norman established an Education Initiatives unit with two new staff positions. While in the past, KCHA's attempts to engage school districts did not always receive reciprocal energy and support, the Bill & Melinda Gates Foundation's grant provided an opportunity to create tangible programs, which was a hook that helped jump-start partnerships with the Bellevue, Highline, and Kent school districts.

KCHA met each school district where it was and brainstormed ideas, thinking about how to marry the unique assets of each organization. KCHA already had a nearly 20-year relationship with HPS. Together, HPS leaders and KCHA staff immediately identified early learning as a focus area and created the GLEA program. In Bellevue and Kent, however, relationships were newer. To get started, KCHA worked with BSD and KSD to implement after-school programs that provided academic enrichment and tutoring to middle school students. Over time, KCHA

recognized that joint programming had limitations in terms of scaling and sustainability and sought to more clearly describe where a PHA can be instrumental to advancing educational outcomes.

In 2016, KCHA developed an Education Partnership Framework outlining four key areas for its joint work with school districts: kindergarten readiness, attendance, college access, and out-of-school time. In addition, the Framework identified a range of potential interventions at the school, community, and household levels and now informs KCHA's current and future efforts.

Seattle Housing Authority

Both SHA and SPS were motivated to strategically align and saw value in partnering, so there wasn't the same need for a hook to get them started. Early in their partnership, they developed a strategic plan that outlined agreements regarding governance, staffing, and data sharing. While this was admittedly not a very glamorous era of the partnership, partners viewed this early work as necessary to building a solid foundation for successful joint efforts.

“It was frustrating because ... other partnerships were getting programs going and having results – it was like ‘what are you doing?’ We were setting up check-ins, having conversations, getting data agreements. That was a lot of initial effort and frustration with how long that took to get in place. But it was really important. – SHA Staff

“I entered into this position at the end of 2016, after the difficult work of developing the staffing model and steering committee structure, data-sharing agreement, and grant applications were completed. This important work has helped us develop and implement projects with more ease because the relationships and data-sharing processes were already established. – SPS Staff



Tacoma Housing Authority

Like King County, THA initiated a partnership with TPS via two place-based programs: ESHAP, implemented at McCarver Elementary School, and CSA, implemented in the Salishan housing community. Focusing on these two programs was viewed as a starting point; the programs offered clear benefits to schools and families and facilitated THA's efforts to form relationships with schools, gain awareness about how to partner most effectively, and establish traction towards broader partnership.

The THA-TPS partnership is rooted in a formal interlocal agreement, which was catalyzed via support from the Bill & Melinda Gates Foundation.

“ When we started to develop the interlocal agreement [in 2012 or so], there was really no model for an agreement between a housing authority and a school district. THA and TPS leaders were making it up as they went along – it was building the plane while flying it. – THA Staff

The agreement outlines the scope of the partnership, which includes but extends beyond the two place-based programs, as well as expectations about staffing, resources, and data sharing. While there has been significant progress towards data sharing, partners are still finalizing the details. The agreement has facilitated better coordination and deepening of the relationship between THA and TPS.

“ The [agreement] is a way to draw on both institutions' expertise and resources, and better link our strengths. For example, THA is contracting with TPS to provide a spring break camp at Salishan, with the aim of bringing in diverse programming. – THA Staff



Key Developments

Table 6 | Key Developments Across Partnerships

	King County	Seattle	Tacoma
Staffing	<ul style="list-style-type: none">Hired Educational Initiatives staff, 2014-2015	<ul style="list-style-type: none">SHA and SPS hire liaisons to facilitate and coordinate partnership efforts (2015)Staffing transition: new liaisons hired (2017)	<ul style="list-style-type: none">THA assigns staff to build and manage partnership (2015)TPS assigns staff to coordinate with THA (2017)
Joint Initiatives	<ul style="list-style-type: none">Launched GLEA, HPS (2015)Launched Club 678, BSD, and SIMS, KSD (2015)Launched Attendance Awareness Campaign, HPS (2015)Development of BELA program in BSD (2018)Development of CARE Academy in KSD (2018)	<ul style="list-style-type: none">Attendance interventions piloted (2015-16)Suite of attendance initiatives launched in 2017-18	<ul style="list-style-type: none">ESHAP launched at McCarver Elementary School (2011)CSA launched (2015)Partners jointly redesign ESHAP and CSA to align with other TPS programs and to be scaled across the district (2017)

Data Sharing	<ul style="list-style-type: none">Data-sharing agreement with HPS (2017)	<ul style="list-style-type: none">Data-sharing agreement established (2016)	<ul style="list-style-type: none">Interlocal agreement established; includes data sharing (2016)
Other	<ul style="list-style-type: none">Emergence of Eastside PathwaysBSD superintendent transition (2016)Pivot away from after-school program and focus on early learning and attendance across partnerships (2017)KSD financial crisis and layoffs (2017)	<ul style="list-style-type: none">Executive Steering Committee established (2015)SPS superintendent transition (2018)	<ul style="list-style-type: none">THA hires TPS deputy-superintendent to manage inter-institutional relations (2010)

Looking Forward

The Bill & Melinda Gates Foundation was an important catalyst of partnerships between PHAs and school districts; grant funding has largely supported institutions’ capacity to engage in joint planning and implementation of initiatives, and organizational development. And, because regional PHAs have formally embedded education into their missions, KCHA, THA, and SHA leaders all affirmed that partnership with schools and districts will continue to be a priority.



The past five years have demonstrated that relationships with school districts can be affected by leader transitions and resource challenges, which have the potential to affect schools' attention and commitment to partner. The transition of BSD's superintendent creates an opportunity yet has also slowed efforts to secure a data-sharing agreement. KSD's current financial crisis resulted in a large number of layoffs of key district personnel and has also led to a slowdown in partnership development efforts. SPS' leadership and resources have been more stable, and the partnership with SHA has begun to be institutionalized. SPS has started to craft job descriptions for key positions, such as the SPS Attendance Manager, that explicitly state the expectation to work closely with SHA, ensuring that the partnership can be sustained regardless of staff turnover.

“ *The fact that we're building this partnership into job descriptions will help with sustainability.* – SPS Staff

Additionally, the former SPS liaison is now writing the transition plan for the incoming SPS superintendent and has included the partnership with SHA as a key feature.

“ *The superintendent will understand that our partnership with SHA is something that should be celebrated, something that's unique, and something that is cutting edge. SPS is seen as an innovator, nationally and regionally. This partnership is one example of innovation, and people will look to us to see how we did the work and the superintendent will want to share that.* – SPS Staff

To sustain cross-institutional relationships, PHA staff recognize the need to develop and foster relationships at multiple levels within the education system, including with district leaders and decision makers, as well as with school leaders and staff. To sustain partnerships and advance student outcomes, PHAs also identified opportunities to go beyond bilateral relationships with school districts and engage a wider group of stakeholders around a shared

vision of success. KCHA staff cited the potential to engage and align stakeholders through collective impact efforts such as Eastside Pathways and the Road Map Project. KCHA's partnership with BSD was catalyzed by the Bill & Melinda Gates Foundation's grant, though now operates within the umbrella of the Eastside Pathways collective impact initiative.

“ *In the collective impact approach, all hundred community-based organizations, the PHA, and the school district are at the same table as equals thinking about how to tackle the same problem with an aligned approach rather than competing for each other's' attention.* – KCHA Staff

THA staff are also pursuing deeper and broader partnerships with a range of stakeholders, including the City of Tacoma, the United Way, and regional community colleges. These broader partnerships bring players who have skin in the game to the table, allowing for better alignment of a variety of resources and often alleviating power dynamics that sometimes arise in bilateral PHA-school district partnerships, where PHAs are often bringing resources.



Takeaways Across Partnerships

The Bill & Melinda Gates Foundation’s PNW housing and education initiative has yielded useful insights about how PHAs and educational institutions can work together to effectively influence student and family outcomes. These insights will be examined in greater depth in a forthcoming brief. This section summarizes some key takeaways.

PHA leaders have committed to an expansion of their missions, focusing on students’ educational success as a long-term strategy to reduce the number of families that face housing instability, which adds to the sustainability of educational partnerships | PHA leaders have demonstrated their commitment by adapting institutional policies, hiring staff, connecting with school district leaders, and engaging in the governance and coordination of partners’ efforts. PHAs have also been able to demonstrate what they have to offer regarding education outcomes.

“ [PHAs] don’t have skin in game; we’re not competing for funding, we’re not an education system. [PHAs’] agenda is simply better outcomes for our kids. [Therefore,] it’s easier to bring resources to the table. – KCHA staff

The Foundation’s grant was an important catalyst; school districts typically have fewer flexible financial resources, so grant funding helped to draw districts into initial planning conversations.

Strategic alignment and institutional connections encompassing key decision-making nodes are important for the development and sustainability of partnerships | PHAs initiated partnerships differently. While SHA initially sought strategic systems alignment, KCHA began with programs, as that seemed like an easier “hook” for school districts. THA had both goals in mind, and started with programs though partnership efforts have included

systems alignment from the beginning, e.g., THA created a description of roles to guide institutions’ joint efforts. Over time, KCHA has come to recognize that to sustain partnerships, it is important to emphasize systems’ alignment, e.g., for KCHA to align with school districts’ strategic plans. KCHA staff recognized that when the focus is primarily on programs, joint efforts are not as likely to get attention and support from school district administrators or the right school district decision makers.

“ [Just implementing programs was eventually problematic], because when we came back and said ‘we aren’t getting the outcomes we’d hoped for, should we re-think this?’ the decision-making process just was not clear. – KCHA staff

All of the regional PHAs are now working to align with school districts’ strategic plans and goals; this reflects the maturity of efforts and lessons learned. While project or program connections were an easy and natural starting place, just jointly implementing a program is limiting in terms of outcome achievement. However, building relationships, aligning strategic work, and being clear about decision making helps to accelerate the work and the potential for outcome achievement. The more that joint efforts are aligned with school districts’ strategy and goals, the easier it is to coordinate efforts and the quicker the on-ramps to deeper partnership.

“ That is a lesson learned – be clear about decision making, and who [needs to be connected to the work]. Who is going to keep in touch with who? Where is there overlap? Where are the decision-making nodes? How can we get data to help us know where we should focus? Not many of those conversations happened up front. We had to go back and do that. It’s critical for decision-making nodes at each institution to be connected to one another. – KCHA staff



While all regional partners continue to work to align and coordinate their efforts for shared students, new Superintendents in BSD and SPS may put the durability of partnerships to the test.

For housing and education partnerships, there are notable sweet spots | Regional partnerships show how PHAs and schools can effectively leverage one another's assets. Specifically, working with PHAs allows schools and districts to interact more closely with families and better understand and respond to families' needs. This, in turn, helps schools improve educational services for students. PHAs can boost and align resources to meet students' educational needs, address opportunity gaps, and ensure greater equity of access to support. Partnership efforts focused on early learning and kindergarten readiness, attendance, and after-school academic enrichment are good examples of ways to leverage partners' assets.

Greater visibility of partnerships within PHAs and across school districts has catalyzed an expansion of coordination and alignment | Galvanizing the structural and systemic elements required for effective and sustained cross-institutional partnership takes time. However, as these elements have become firmer, partnership efforts have solidified, and efforts have become stronger and more visible within the respective institutions. This has helped to increase the number of institutional touch points which has contributed to expanded alignment. In Seattle, examples of more organic connections and collaboration across the institutions are starting to emerge, and coordination no longer has to occur through the staff liaisons. This type of engagement creates the potential for outcomes at scale.

Regional partnerships have influenced state and national dialogue and policy | Housing and education partnerships in the Pacific Northwest represent a visionary approach; all three PHAs funded by the Foundation have incorporated education into their mission and are

committed to advancing student outcomes as a way to disrupt the cycle of poverty that fuels demand for subsidized housing.

Programmatic successes across KCHA, SHA, and THA have spurred dialogue and, in some cases, policy action. At the state level, THA Executive Director Michael Mirra has been involved in drafting and passing legislation to establish statewide programs based on the ESHAP and CSA models. At the national level, PNW partnerships have informed dialogue and the pursuit of more intentional housing and educational alignment within the Council of Large Public Housing Authorities (CLPHA).

Conclusion

The Bill & Melinda Gates Foundation's investment in the PNW housing and education partnerships initiative has resulted in the development of solid cross-institutional infrastructure, creating the conditions for improved services and supports for shared students and the advancement of student and family outcomes. Data show evidence of promising results for students and families; there have been positive changes in school attendance (reduction of chronic absenteeism), kindergarten readiness, and reading and math test scores as a result of partners' joint efforts. Partners' efforts continue to develop, including creating data-sharing processes necessary to track key outcomes. Beyond outcomes resulting from partners' joint initiatives, there is also evidence of more widespread change resulting from expanded collaboration and the growing cross-institutional alignment.

Outcomes are promising, though continued investment is likely to be required to maintain the infrastructure for PHAs and schools' work. In particular, investments that support staff and governance will be important to ensure that partnerships can weather transitions and rough patches, such as leadership changes or funding uncertainties.



Appendix A: Methodology

Series of Meetings and Communications with Key Partnership Representatives

ORS Impact communicated regularly and met periodically with grant leads and key partner representatives between October 2017 and June 2018. These conversations were opportunities to hear about and document partnership history, current activities, and outcomes. In addition, grant leads and partner representatives provided resource materials related to partners' efforts, and contact information for supplementary interviews.

Interviews with Institutional Leaders

ORS Impact conducted interviews with Executive Directors at KCHA, SHA, and THA. Interviews were also conducted with key staff in partner school districts, including executive leaders and departmental directors or managers.

Interviews and Focus Groups with Stakeholders and Program Data Collection

ORS Impact conducted phone and in-person interviews and focus groups with program stakeholders, including staff at schools implementing attendance initiatives or other joint initiatives, parents of students served by partners' joint initiatives, or community-based partners engaged in PHAs' and schools' joint efforts. ORS Impact also attended and observed program planning meetings and events to learn about partnerships infrastructure, characteristics, functions, and impacts.

Network Mapping Reflection

In May and June 2018, ORS Impact engaged grant leads and key partner representatives in a reflection on a partnership network mapping exercise initially completed in 2016. Participants included staff from housing authorities and school districts that have primary responsibility for carrying out the intent of the Foundation's grant. Partners reflected on how the network maps created two years prior had changed and evolved – e.g., how connections among key actors had increased or deepened in some cases, and how the actors involved had changed in some cases.

Review of Impact Data

ORS Impact reviewed secondary data collected and reported by partners for inclusion in this report.



Appendix B: Frameworks for Conceptualizing and Naming Structural and Systemic Changes

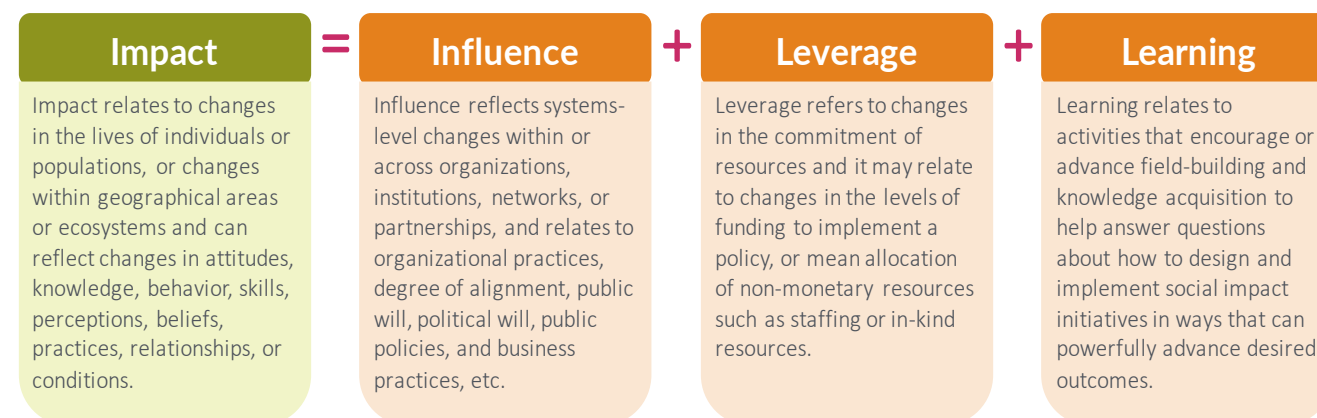
Impact, Influence, Leverage, and Learning (I2L2)

Most social change efforts are (appropriately) focused on the extent to which investments, initiatives, or activities directly affect the health, livelihood, education, and other spheres of wellbeing for individuals or populations. However, the success of social change efforts often depends on the extent to which investments, initiatives, or activities influence the structures and systems that surround individuals or populations, and that promote or enable positive outcomes. In many cases, those investing in initiatives such as the Bill & Melinda Gates Foundation’s PNW Housing and Education Partnerships acknowledge that systems changes are necessary to advancing change among individuals or populations. However, these crucial systems-level outcomes are often left out of standard measurement and evaluation approaches, and investors or funders sometimes fail to consider or acknowledge the significance of structural or systemic changes. The Impact, Influence, Leverage, and Learning (I2L2) framework posits that structural and systemic outcomes are often important catalysts of durable, lasting change and the framework identifies these types of outcomes. Naming structural and systemic outcomes helps make them visible, which facilitates measurement of meaningful change. Naming these outcomes also helps illuminate how and why systems-level changes are so important to complex social change efforts.

The I2L2 framework identifies impact as the durable, lasting change for individuals or populations. The framework divides systems-level outcomes into two categories: Influence and Leverage. Influence refers to the broad set of changes that may occur within organizations, institutions, networks, norms, partnerships, policies, or practices. Leverage refers to changes in the commitment of resources. Learning refers to the set of activities and habits that encourage adaptation and improvement of social change efforts or contribute to field-building or other knowledge acquisition. Together, influence, leverage, and learning can enable, accelerate, or amplify the impact of a given initiative. Figure 9 describes the I2L2 framework’s elements in more detail.²¹

As we conducted data analysis for this report, we drew on the I2L2 framework to consider the types of structural and systemic outcomes that are resulting from PHAs’ and school districts’ partnerships, and how these changes have contributed to student and family outcomes and are setting the stage for larger-scale and sustainable population-level outcomes in the future.

Figure 9 | I2L2 framework summary



²¹ “I2L2: A formula for change.” Reisman, Gienapp, and Kelly (2015). ORS Impact. http://orsimpact.com/DirectoryAttachments/132018_23544_635_I2L2_LAYOUT_FINAL.pdf



Partnership Typology Framework

As part of evaluation efforts related to the Bill & Melinda Gates Foundation’s Housing and Education Partnerships Initiative, ORS Impact created a partnership typology to highlight the range of characteristics, practices, and other factors that describe ways housing authorities and school districts could work together.²² The framework recognizes that partnerships between housing authorities and school districts may emerge from different stimuli, e.g., a particular need or opportunity such as better serving a certain group of people, or reducing service duplication, or a clear and mutual shared vision. The framework encompasses a set of systems-related elements shown to contribute to partners’ strong functionality and sustainability (Figure 10), along with a typology that describes different degrees of inter-institutional interaction, ranging from ad hoc interactions in a partnership primarily focused on information sharing, to more robust, built-in, and continuous collaborative interactions (Figure 11).

The framework was intended to help PHA and school district partners, the Bill & Melinda Gates Foundation, and other stakeholders better understand the characteristics of Housing Authority-School District partnerships, illustrate how partnerships are similar and different, and contextualize how partners are working together. Thus, the framework can also help surface considerations regarding how partners’ efforts might be expected to generate student impacts. For example, if partners are primarily coordinating implementation of

programs, it may be reasonable to expect outcomes for students or families touched by those programs but not necessarily reasonable to expect population-level changes.

In 2016, reviewing the partnership typology with PHA and school district staff helped partners to reflect on their strengths and opportunities for continued development. Reflection helped to facilitate realization that while partnerships can be effective and productive through information sharing, developing a more robust partnership that encompasses systems-level alignment can facilitate the scaling up of efforts and a greater likelihood of advancing population-level impact as well as a increased likelihood of sustainability. For this report, we drew on the partnership typology framework to assess partnership development over the course of the past two years. All partners referenced the importance of the factors noted within the Collaboration category of the framework and are undertaking efforts to move towards more collaborative partnerships. Thus, while the framework was not initially intended as a continuum, partners’ experience over five years suggests the need for a conceptual shift. Partners may begin by sharing information, cooperating, or coordinating their efforts, but may ultimately seek systems-level collaboration to advance outcomes at scale.

²² ORS Impact’s framework draws on the following:

- Wilder Collaboration Inventory. See: Mattessich, P., Murray-Close, M., & Monsey, B. (2001). Wilder Collaboration Factors Inventory. St. Paul, MN: Wilder Research. Wilder Collaboration Factors Inventory measurement tool: <http://www.wilder.org/Wilder-Research/Research-Services/Documents/Wilder%20Collaboration%20Factors%20Inventory.pdf>

- Himmelman Collaboration Matrix. See: Himmelman, A. (1999) “Collaborating for Change: Definitions, Decision Making Models, Roles, and Collaboration Process Guide.” White paper available at: http://www.dttac.org/services/DPCP_101/pdfs/Collaboration_for_a_Change.pdf
- National Network for Collaboration Framework. See: <http://www.uvm.edu/extension/community/nnco/collab/framework.html#framework>
- Partners in Excellence (2003). “Creating Effective Strategic Partnerships.” Available at: <http://www.excellenc.com/Partnerships.htm>



Figure 10 | Elements of strong partnerships

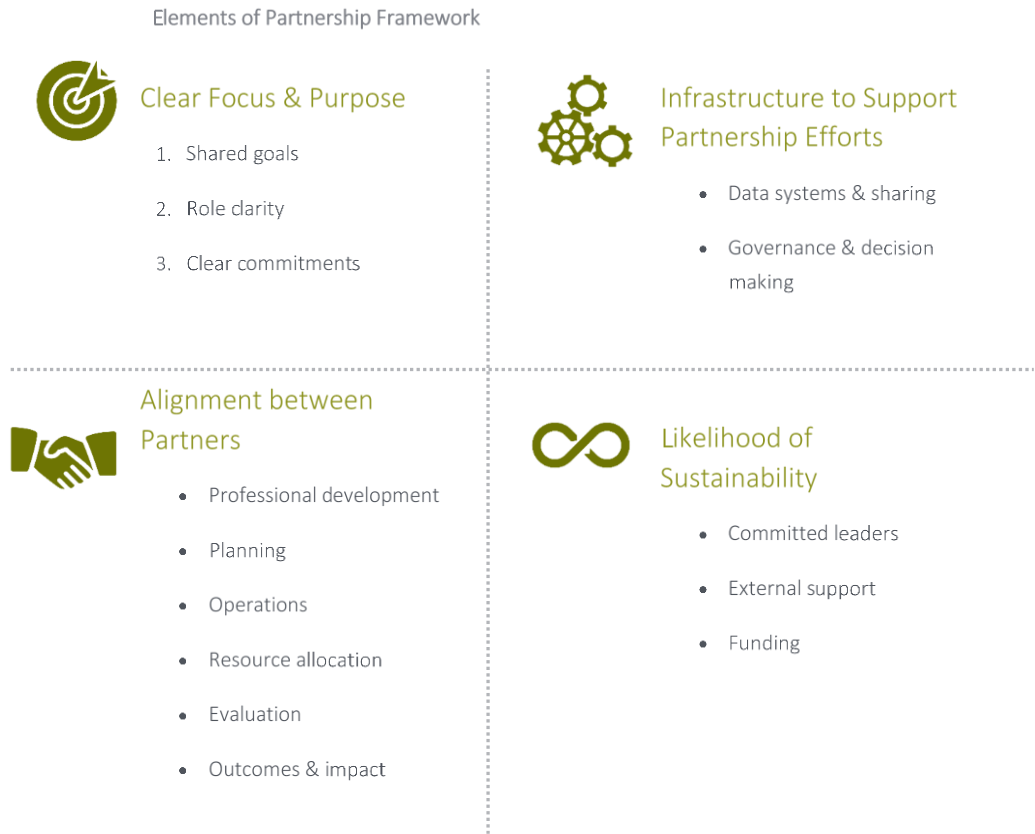
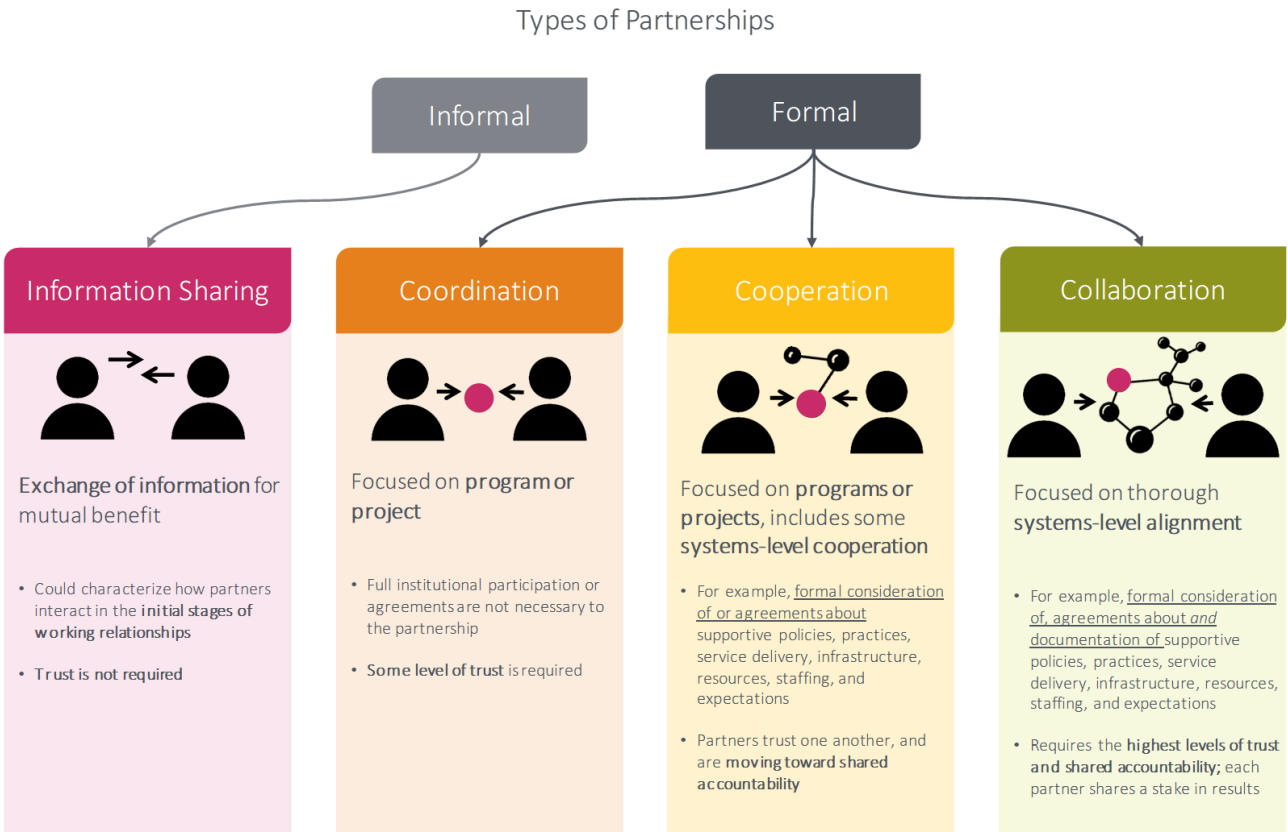


Figure 11 | Partnership typology



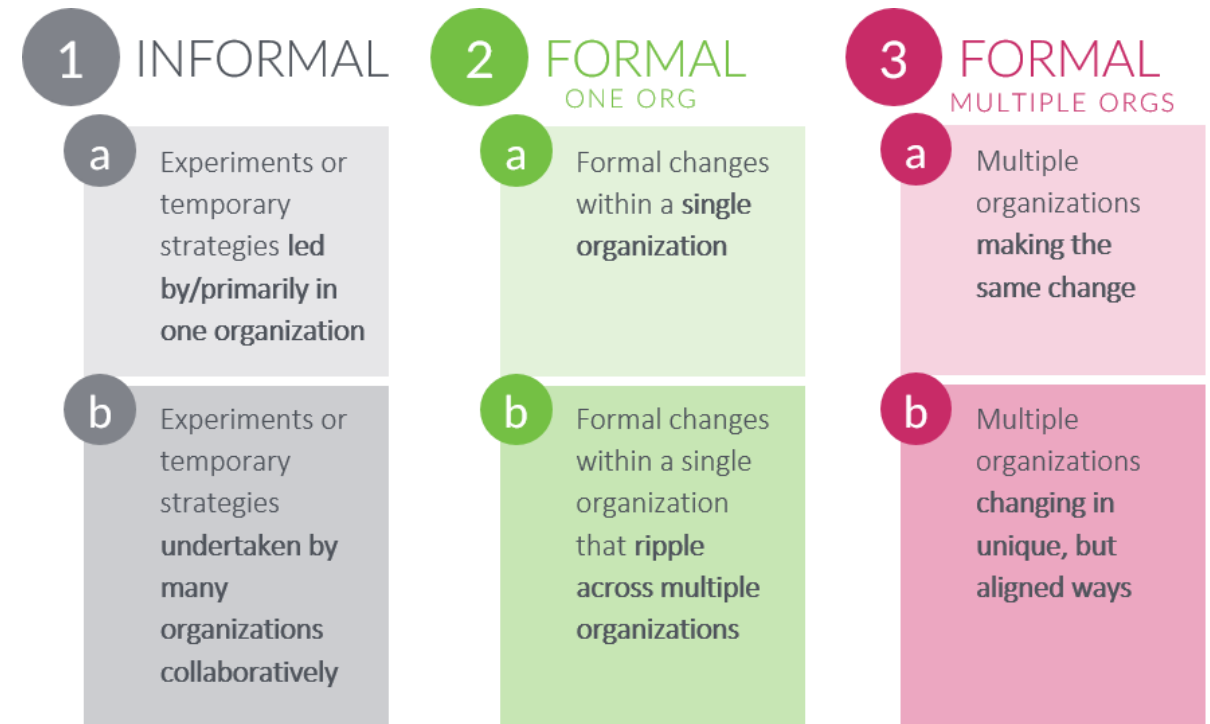


Categories of Systems Change Framework

ORS Impact drew on an emergent systems change framework being developed by Spark Policy Institute. This framework distinguishes informal and formal systems-level changes, as well as whether change occurs in one organization or across multiple organizations. Per the framework, informal changes include early experiments, temporary shifts, or ad hoc adjustments. Formal changes include changes in rules, policies, and practices. These changes can occur within one organization operating in a partnership or network, across multiple organizations, or even be extrapolated to other organizations that are more loosely related to the partnership or network (Figure 12).

We used this framework to better understand and categorize the types of systemic changes within or across housing-education partners. Viewing systems changes through the lens of this framework allowed us to better understand how partners interact. In addition, we considered how different informal and formal changes relate to critical systems-level changes that help advance population-level impact, i.e., influence and leverage outcomes. An example of informal systems change that occurred in both PHAs and school districts is the ad hoc data-sharing practices between THA and TPS. Data sharing reflects a systemic change, but the informal way in which partners are currently sharing data is a temporary experiment that is vulnerable to staff changes among other issues. An example of a formal change within one organization is KCHA’s development of the Education Partnership Framework to help guide their engagement with school district and schools as partners. Finally, an example of a formal change among multiple organizations is the hiring of liaison positions by SHA and SPS to drive their partnership’s engagement both at a systemic and programmatic level.

Figure 12 | Categories of systems change



APPENDIX E

COLLATERALIZED FUNDS

APPENDIX RELATED TO MTW FUNDS PLEDGED AS COLLATERAL

GREEN RIVER HOMES

Project Description:

- Number of separate housing sites: 1
- Type of Residents: Family
- Number and Type of Units: 59 units total
 - 1-bedroom-8 units
 - 2-bedroom-30 units
 - 3-bedroom-16 units
 - 4-bedroom-4 units
 - 5-bedroom-1 unit
 - Non-dwelling space: none

Financing Terms:

- Pro forma-see Attachment A
- Amortization schedule-see Attachment B

Certification: See Attachment C

Bank Statement: See Attachment D

MOVING KING COUNTY RESIDENTS FORWARD

Project Description:

- Number of separate housing sites: 22
- Type of Residents: Family and Senior
 - Family units-469
 - Senior units-40
- Number and Type of Units: 509 total
 - 1-bedroom-43 units
 - 2-bedroom-256 units
 - 3-bedroom-197 units
 - 4-bedroom-11 units
 - 5-bedroom-2 unit
 - Non-dwelling space: none

Financing Terms:

- Pro forma-see Attachment E
- Amortization schedule-see Attachment F

Certification: See Attachment G

Bank Statement: See Attachment H

ATTACHMENT A



RBC Capital Markets®

ATTACHMENT A

Project Financial Projections

Green River Homes Auburn, WA

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Revised: 11/22/11

These projections do not guarantee actual operating results. Information herein may be revised based upon changes to assumptions and third-party information. Inapplicable schedules may be omitted. This information is proprietary and may be shared only with RBC's prior consent.

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OPM Version 4-4s, January 28, 2011

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Page 1

Historic Tax Credits	Yes
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Prime Interest Rate
Applicable Federal Rate

Green River Homes

Page 2

Capital Contributions		
Monthly Construction Draw	Various	0.00% \$
Partnership Closing: AHAP	11/1/2011	10.34% 900,000
		0.00%
		0.00%
		0.00%
		0.00%
		0.00%
		0.00%
		0.00%
		0.00%
100% QC: LISA IER; Final Contrib: FCO; HAP; 7/1/2013	7/1/2013	80.76% 4,384,970
		0.00%
		0.00%
		0.00%
Total		<u>\$ 4,894,970</u>
Tax Exempt Bond Proceeds	9,500,000	
Less: Non-Exempt Units Funded by Bonds		
Other Adjustments		
Other Adjustments		
Total Bond Proceeds	<u>9,500,000</u>	
Aggregate Basis and Land	17,138,000	
Other Adjustments		
Total Aggregate Basis and Land	<u>17,138,000</u>	
	35.47%	

Uses	Total	High-Rise	Flag	Planned	Non-Planned	Aggregate
	\$	\$	\$	\$	\$	\$
Land	908,842	-	-	-	908,842	908,842
Acquisition Building	3,622,958	3,622,958	3,622,958	-	-	3,622,958
Subtotal	4,531,799	-	-	-	-	-
Hard Costs - Const Contracts	7,134,801	7,134,801	7,134,801	-	-	7,134,801
Construction Contingency	831,339	831,339	831,339	-	-	831,339
Builder's Overhead & Profit	321,264	321,264	321,264	-	-	321,264
Hard Costs - Other	1,710,381	1,710,381	1,710,381	-	-	1,710,381
Subtotal	10,007,785	-	-	-	-	-
Soft Costs	1,652,282	1,652,282	1,652,282	10,000	13,000	1,675,282
Tax Credit Form	48,075	-	-	48,075	-	48,075
Soft Cost Contingency	25,000	-	-	-	35,000	60,000
Subtotal	1,725,357	-	-	-	-	-
Construction Loan Interest - Paid	16,800	16,800	16,800	7,945	-	24,745
Construction Loan Interest - Accrued	42,820	42,820	42,820	12,380	-	55,200
Subtotal	59,620	-	-	-	-	-
Permanent Loan Fees	70,632	-	-	70,632	-	70,632
Construction Loan Fees	5,000	5,000	5,000	-	-	10,000
Subtotal	75,632	-	-	-	-	-
Organization	25,700	-	-	33,300	-	59,000
Syndication Costs	30,000	-	-	-	30,000	60,000
Marketing and Leasing	20,000	-	-	12,000	10,000	42,000
Start up Expense	-	-	-	-	-	-
Subtotal	75,700	-	-	-	-	-
Developer Fee	500,000	500,000	500,000	-	17,500	517,500
Subtotal	500,000	-	-	-	-	-
Replacement Reserves	-	-	-	-	-	-
Operating Reserves	-	-	-	-	-	-
Debt Service Reserves	-	-	-	-	-	-
Real Estate Tax/Insurance Reserve	-	-	-	-	-	-
Start up Reserve	-	-	-	-	-	-
Deferred Development Reserves	211,256	-	-	-	211,256	422,512
Subtotal	211,256	-	-	-	-	-
Total Uses	\$ 17,673,799	\$ 16,819,460	\$ 16,819,460	\$ 195,531	\$ 1,232,788	\$ 17,247,749

Credit Calculation Schedule
Green River Homes

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Low Income Housing Tax Credit Calculation

Item	Rehabilitation	Acquisition
Eligible Basis	\$ 16,019,460	
Less:		
Acquisition Cost	(3,623,958)	3,623,958
Residential Historic Tax Credits	-	-
Grants	-	-
Other Credits adjustment	-	-
Dev. Fee in acquisition	(123,060)	123,060
Relocation	(42,660)	-
Ineligible Soft Costs	(23,750)	-
	<u>12,206,032</u>	<u>3,747,018</u>
DDA/QCT Adjustme	No	100%
Eligible Basis	<u>12,206,032</u>	<u>3,747,018</u>
Basis Limitation	-	-
Total Eligible Basis	<u>12,206,032</u>	<u>3,747,018</u>
Low Income Percentage	<u>100.00%</u>	<u>100.00%</u>
Qualified LIHTC Basis	<u>12,206,032</u>	<u>3,747,018</u>
Tax Credit Percentage	<u>3.19%</u>	<u>3.19%</u>
LIHTC Calculated	508,902	389,372
LIHTC Reservation	508,902	389,372
Allowable LIHTC	508,902	389,372

Historic Tax Credit Calculation

Item	Federal Historic Rehabilitation Credit		
	Residential	Commercial	Total
Depreciable Basis	\$ -	\$ -	\$ -
Less:			
Acquisition Cost	-	-	-
Personal Property	-	-	-
Sitework	-	-	-
Bldg Additions/(Demo)	-	-	-
Ineligible Interest	-	-	-
Other Ineligible Costs	-	-	-
Grants	-	-	-
Historic Tax Credit Basis	<u>-</u>	<u>-</u>	<u>-</u>
Historic Tax Credit %	0%	0%	
Total Historic Tax Credit	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Tax Credit Delivery			
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-

State LIHTC	No
Eligible Basis	-
Adjustments	-
Adjustments	-
Adjustments	-
Total Basis	-
Credit Percentage	0%
Tax Credits	-

State Historic	No
Depreciable Basis	-
Adjustments	-
Adjustments	-
Adjustments	-
Total Basis	-
Credit Percentage	0%
Tax Credits	-

Other Credits	
Basis	-
Adjustments	-
Adjustments	-
Adjustments	-
Total Basis	-
Credit Percentage	0%
Tax Credits	-

Summary of Operating Partnership Benefits

Green River Homes

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Year	Equity Contribution	Projected Taxable Income (Loss)	Deduct Sourced Cash Flow 100.00%	Projected Tax Benefits 35.00%	Projected Federal Housing Tax Credits	Projected Historic Rehab Tax Credits	Projected Other Tax Credits	Projected State Tax Credits	Federal Tax Effect on State Credits Yes	Projected Total Tax Benefits	0.00% Projected Cash Flow	Total Investing L.P. Benefits
2011	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2012	-	(545,526)	-	190,934	146,619	-	-	-	-	337,553	-	337,553
2013	4,384,970	(396,481)	-	138,768	508,851	-	-	-	-	647,619	-	647,619
2014	-	(370,295)	-	129,603	508,851	-	-	-	-	638,454	-	638,454
2015	-	(353,781)	-	123,823	508,851	-	-	-	-	632,674	-	632,674
2016	-	(342,627)	-	119,919	508,851	-	-	-	-	628,770	-	628,770
2017	-	(331,320)	-	115,962	508,851	-	-	-	-	624,813	-	624,813
2018	-	(329,467)	-	115,313	508,851	-	-	-	-	624,164	-	624,164
2019	-	(335,423)	-	117,398	508,851	-	-	-	-	626,249	-	626,249
2020	-	(319,619)	-	111,867	508,851	-	-	-	-	620,718	-	620,718
2021	-	(308,185)	-	107,865	508,851	-	-	-	-	616,716	-	616,716
2022	-	(303,306)	-	106,157	362,232	-	-	-	-	468,389	-	468,389
2023	-	(360,618)	-	126,216	-	-	-	-	-	126,216	-	126,216
2024	-	-	-	-	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-	-	-	-	-
2026	-	-	-	-	-	-	-	-	-	-	-	-
2027	-	-	-	-	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-	-	-
Totals	4,884,970	(4,296,648)	-	1,503,825	5,088,510	-	-	-	-	6,592,335	-	6,592,335
Sale	N/A	(588,322)	N/A	205,913	N/A	N/A	N/A	N/A	N/A	205,913	-	205,913
Totals	\$ 4,884,970	\$ (4,884,970)	\$ -	\$ 1,709,738	\$ 5,088,510	\$ -	\$ -	\$ -	\$ -	\$ 6,798,248	\$ -	\$ 6,798,248

The equity contributions have been adjusted for the Limited Partners share of the 1602 exchange funds in the amount of \$

L.P. Income (Loss) %

99.99%

L.P. Cash Flow %

99.99%

L.P. Tax Credit %

99.99%

Rental Income
Green River Homes

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Base year: 2012

Rental Income

PER UNIT															
Building	Unit Type		% of AMI	Average Sq. Ft. per Unit	# of Units	Tenant Paid	Subsidy	Net Rent	Monthly Income	Annual Rental Income	Utility Allowance	Max LIHTC: MET Rent	% Discount to Max TC	Market	% Discount to Market
Low Income Units															
1	1	Section 8	50.00%	677	4	200	564	764	3,056	36,672	56	758	-0.79%	810	5.68%
2	1	Section 8	50.00%	881	15	200	676	876	13,140	157,680	71	906	3.31%	925	5.30%
3	2	Section 8	50.00%	1,146	8	200	999	1,199	9,592	115,104	88	1,040	-15.29%	1,155	-3.81%
4	2	Section 8	50.00%	1,333	2	200	1,121	1,321	2,642	31,704	112	1,146	-15.27%	1,330	0.68%
5	2	Section 8	50.00%	1,836	1	200	1,343	1,543	1,543	18,516	112	1,277	-20.83%	1,600	3.56%
1	1	Section 8	60.00%	677	4	200	564	764	3,056	36,672	56	921	17.05%	810	5.68%
2	1	Section 8	60.00%	881	15	200	676	876	13,140	157,680	71	1,102	20.51%	925	5.30%
3	2	Section 8	60.00%	1,146	8	200	999	1,199	9,592	115,104	88	1,266	5.29%	1,155	-3.81%
4	2	Section 8	60.00%	1,333	2	200	1,121	1,321	2,642	31,704	112	1,398	5.51%	1,330	0.68%

Total Low Income Units

Market Rate Units

Subtotal - Market Units

Manager's Unit

Total Units

Vacancy Rate LIHTC:
Vacancy Rate Market:
Rental Income Inflation %

5.0% 5.0%
5.0% 5.0%
102.00% 102.00%

Rental Subsidy Inflation 102.00% 102.00%
Last Date of Rental Subsidy 1/1/2023
Rental Subsidy Vacancy 5.0% 5.0%

Other Income

	Other Income	Per Unit	Per Unit/ Month
Garage \ Carport	\$	\$	\$
Parking	-	-	-
Storage	-	-	-
Laundry	-	-	-
Washer \ Dryer Rental	-	-	-
Fees \ Charges	-	-	-
Other \ Misc.	-	-	-
Total Other Income	\$	\$	-
Average Other Income /unit/month:	-	-	-
Other Income Vacancy:	5.0%	5.0%	-
Other Income Inflation %	102.00%	102.00%	-

Leaseup and Expenses

Green River Homes

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LEASEUP

	2012				2013			
	LI Units	Market Units	Units	Percent Leased	LI Units	Market Units	Units	Percent Leased
January	-	-	-	0.00%	59	-	59	100.00%
February	-	-	-	0.00%	59	-	59	100.00%
March	-	-	-	0.00%	59	-	59	100.00%
April	-	-	-	0.00%	59	-	59	100.00%
May	-	-	-	0.00%	59	-	59	100.00%
June	-	-	-	0.00%	59	-	59	100.00%
July	9	-	9	15.25%	59	-	59	100.00%
August	19	-	19	32.20%	59	-	59	100.00%
September	29	-	29	49.15%	59	-	59	100.00%
October	39	-	39	66.10%	59	-	59	100.00%
November	49	-	49	83.05%	59	-	59	100.00%
December	59	-	59	100.00%	59	-	59	100.00%
Total	204		204		708		708	

	2014				2015			
	LI Units	Market Units	Units	Percent Leased	LI Units	Market Units	Units	Percent Leased
January	59	-	59	100.00%	59	-	59	100.00%
February	59	-	59	100.00%	59	-	59	100.00%
March	59	-	59	100.00%	59	-	59	100.00%
April	59	-	59	100.00%	59	-	59	100.00%
May	59	-	59	100.00%	59	-	59	100.00%
June	59	-	59	100.00%	59	-	59	100.00%
July	59	-	59	100.00%	59	-	59	100.00%
August	59	-	59	100.00%	59	-	59	100.00%
September	59	-	59	100.00%	59	-	59	100.00%
October	59	-	59	100.00%	59	-	59	100.00%
November	59	-	59	100.00%	59	-	59	100.00%
December	59	-	59	100.00%	59	-	59	100.00%
Total	708		708		708		708	

OPERATING EXPENSES

Expenses:	Expense	Per Unit	Per Unit/Month
Variable Expenses			
Administrative	\$ 24,190	\$ 410	\$ 34
Repairs and Maintenance	51,330	870	73
Utilities	25,960	440	37
Water and Sewer	47,200	800	67
Payroll	129,800	2,200	183
Subtotal Variable Expenses	278,480	4,720	\$ 393
Fixed Expenses			
Insurance	20,000	339	1,667
Other	2,656	45	221
Real Estate Taxes - Total	-	-	-
Subtotal Variable & Fixed	301,136	5,104	
Management Fee	46,606	790	66
Total Operating Expense	347,742	5,894	
Replacement Reserve	17,700	300	1,475
Total Expenses & R.R.	\$ 365,442	\$ 6,194	
Expense Inflation %	103.00%	103.00%	
Real Estate Tax inflation %	103.00%	103.00%	
Real Estate Tax Abatement	No		
Management Fee			
Percentage of EGI	7.000%	46,606	
Min Monthly Fee	\$ -	-	
Fee / unit / month	\$ -	-	
Inflation	103.00%	103.00%	
Replacement Reserve			
Start Date	7/1/2013		
RBC	Per Unit \$ 300	Annual \$ 17,700	Inflation 103.00%
Lender	-	-	100.00%

Projected Cash Flow
Green River Homes

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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Revenue																			
Gross LHFC Rental Revenue	\$	\$ 40,800	\$ 144,432	\$ 147,324	\$ 150,364	\$ 153,272	\$ 156,358	\$ 159,165	\$ 162,654	\$ 165,907	\$ 169,225	\$ 172,610	\$ 176,104	\$ 179,906	\$ 184,525	\$ 184,475	\$ 181,765	\$ 179,599	\$ 172,348
Gross Market Rental Revenue	-	-	(2,440)	(2,322)	(2,366)	(2,512)	(2,664)	(2,812)	(2,972)	(3,137)	(3,307)	(3,481)	(3,659)	(3,841)	(4,027)	(4,216)	(4,408)	(4,603)	(4,801)
Less: Vacancies	-	-	(2,440)	(2,322)	(2,366)	(2,512)	(2,664)	(2,812)	(2,972)	(3,137)	(3,307)	(3,481)	(3,659)	(3,841)	(4,027)	(4,216)	(4,408)	(4,603)	(4,801)
Net Rental Revenue	-	38,360	122,210	128,058	142,791	145,660	148,521	151,493	154,921	157,612	160,763	163,979	167,231	170,561	174,498	178,259	181,357	184,996	188,547
Rental Subsidy (Net)	-	153,180	543,899	552,740	563,707	575,064	586,579	598,308	610,268	622,472	634,922	647,621	660,569	673,767	687,215	699,914	712,863	726,062	739,510
Other Income (Net)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commodities Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Effective Gross Income	-	191,540	819,149	833,538	854,265	866,384	875,420	885,301	895,709	906,594	917,949	929,779	942,090	954,896	968,213	981,173	994,780	1,008,938	1,023,647
Operating Expenses																			
Variable Expenses	-	101,330	286,326	295,140	303,296	311,452	319,608	327,764	335,920	344,076	352,232	360,388	368,544	376,700	384,856	393,012	401,168	409,324	417,480
Insurance	-	10,000	20,000	21,220	21,864	22,510	23,156	23,802	24,448	25,094	25,740	26,386	27,032	27,678	28,324	28,970	29,616	30,262	30,908
Management Fee	-	13,420	17,532	18,480	19,436	20,447	21,456	22,465	23,474	24,483	25,492	26,501	27,510	28,519	29,528	30,537	31,546	32,555	33,564
Other	-	1,330	2,776	2,920	2,964	3,009	3,053	3,097	3,141	3,185	3,229	3,273	3,317	3,361	3,405	3,449	3,493	3,537	3,581
Rent Estate Taxes + Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abandonment of Real Estate Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Operating Exp.	-	184,987	527,714	567,977	578,523	589,578	600,633	611,687	622,742	633,797	644,852	655,907	666,962	678,017	689,072	700,127	711,182	722,237	733,292
NOI Before Replacement Reserves	-	86,553	291,435	265,561	275,742	276,806	274,787	273,614	272,979	272,815	272,651	272,487	272,323	272,159	271,995	271,831	271,667	271,503	271,339
Replacement Reserves	-	-	8,850	16,221	16,778	17,341	17,904	18,467	19,030	19,593	20,156	20,719	21,282	21,845	22,408	22,971	23,534	24,097	24,660
Net Operating Income	-	86,553	291,435	265,561	275,742	276,806	274,787	273,614	272,979	272,815	272,651	272,487	272,323	272,159	271,995	271,831	271,667	271,503	271,339
Plus Other Cash Sources																			
Interest on Reserve Assets	-	264	3,169	3,302	3,375	3,437	3,498	3,559	3,619	3,679	3,739	3,799	3,859	3,919	3,979	4,039	4,099	4,159	4,219
Other	-	264	3,169	3,302	3,375	3,437	3,498	3,559	3,619	3,679	3,739	3,799	3,859	3,919	3,979	4,039	4,099	4,159	4,219
Total Other Cash Sources	-	528	6,338	6,604	6,752	6,874	6,957	7,017	7,078	7,139	7,199	7,259	7,319	7,379	7,439	7,499	7,559	7,619	7,679
Subtotal	-	87,081	297,773	272,165	282,494	283,680	281,744	280,631	279,657	278,954	278,850	278,746	278,642	278,538	278,434	278,330	278,226	278,122	278,018
Less Other Cash Requirements																			
Construction Loan Interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asset Management Fee	-	(710)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)
Cash Flow Prior to Final Closing	-	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)	(6,434)
Repay Loans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deferred Development Fee	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP Loan (Net carry costs \$9.50m and amortize bonds \$3.00m)	-	-	(292,662)	(301,330)	(304,259)	(310,616)	(317,136)	(323,879)	(330,844)	(338,031)	(345,441)	(353,074)	(360,930)	(369,007)	(377,305)	(385,824)	(394,564)	(403,524)	(412,704)
Subtotal	-	-	(292,662)	(301,330)	(304,259)	(310,616)	(317,136)	(323,879)	(330,844)	(338,031)	(345,441)	(353,074)	(360,930)	(369,007)	(377,305)	(385,824)	(394,564)	(403,524)	(412,704)
Financed from Reserves																			
Financed by Operating Deficit Guarantee	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash Flow Available for Distribution																			
LP Cash Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash Flow to Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumulative Cash Flow to Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Income to Expense Ratio	N/A	1.82	1.45	1.79	1.76	1.76	1.75	1.73	1.72	1.70	1.69	1.67	1.67	1.65	1.64	1.62	1.61	1.60	1.58

Green River Homes

Green River Health		Periods: 1/22/2011 to 12/31/2030																		Page 6
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
MDI Before Replacement Reserve	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Other Taxable Income:																				
Interest on Reserve Assets	-	264	1,187	3,342	3,593	3,857	978	1,377	308	625	951	1,288	1,634	357	724	1,103	1,493	1,894		414
Other Income	-																			
Total Other Income	-	264	1,187	3,342	3,593	3,857	978	1,377	308	625	951	1,288	1,634	357	724	1,103	1,493	1,894		414
Other Deductible Expenses:																				
Construction Loss Interest	-																			
Asset Management Fee	-																			
Costs Prior to Final Closing	-	1705	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)	(8,454)		
Replenish Operating Reserves	-																			
Rampy Taxes	-																			
Deferred Development Fee	-																			
GP Lease Fee (except bonds \$4.5mm and taxable bonds \$3.8mm)	(932)	(41,185)	125,257	173,346	(71,979)	170,547	(67,980)	(66,461)	(64,959)	(63,519)	(62,081)	(60,643)	(59,205)	(57,768)	(56,330)	(54,893)	(53,455)	(52,018)	(50,580)	(49,143)
Less Capitalized Interest	-																			
Total Deductible Expenses	-	114,280	(83,711)	(11,898)	(69,853)	(79,038)	(76,358)	(74,913)	(73,475)	(71,973)	(70,587)	(69,197)	(67,807)	(66,417)	(65,027)	(63,637)	(62,247)	(60,857)	(59,467)	(58,077)
Amortization Fixed Expenses	-	21,435	26,422	12,129	12,129	12,129	8,999	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069	5,069
Depreciation	-	296,971	418,052	604,126	592,345	580,619	568,893	557,167	545,441	533,715	521,989	510,263	498,537	486,811	475,085	463,359	451,633	439,907	428,181	416,455
Total Other Expenses	-	618,686	679,279	816,550	804,974	797,776	786,517	775,257	764,000	752,743	741,486	730,229	718,972	707,715	696,458	685,201	673,944	662,687	651,430	640,173
Total Income (Loss)	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Pre-Admission Income (Loss)	-	(343,726)	(296,851)	(274,205)	(255,791)	(242,627)	(231,738)	(220,267)	(208,317)	(195,823)	(182,819)	(169,285)	(155,214)	(140,618)	(125,453)	(109,727)	(93,451)	(76,625)	(59,249)	(41,873)
Initial Income Loss to LP	-																			
Restoration of Losses to GP	-																			
Taxable Income (Loss) to Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Cumulative Taxable Income (Loss)	-	(545,526)	(842,387)	(1,116,592)	(1,366,383)	(1,598,010)	(1,809,748)	(2,000,986)	(2,182,917)	(2,354,930)	(2,516,244)	(2,666,263)	(2,804,497)	(2,931,456)	(3,047,741)	(3,153,874)	(3,250,467)	(3,338,220)	(3,416,843)	(3,486,146)
Total Tax Credits																				
LHHC - Federal	-	146,834	348,982	584,903	548,902	579,902	588,902	548,902	588,902	501,902	388,902	362,368	-	-	-	-	-	-	-	-
To the Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Minerals - Federal	-																			
To the Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Other Credits	-																			
To the Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
LHHC - State	-																			
To the Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Minerals - State	-																			
To the Fund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Total State Tax Credits	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

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1993/1994	Report Due Date	Actual Period	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	299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Cash Flow / Mortgage Amortization Schedules
Green River Homes

Schedules 1 to 5

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1		rate		NOTE	
Loan Amount	\$1	Commencement Date	Interest	Payment	
Interest Rate	0.000% Compound	Month (MM)	Year (YYYY)	Cumulative Cash Flow	
Asset Term (years)	0				
Monthly Payment	N/A				
Year	2011	2012	2013	2014	2015
Total Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Outstanding Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Deferred expenses	\$ -	\$ -	\$ -	\$ -	\$ -

2		rate		NOTE	
Loan Amount	\$1	Commencement Date	Interest	Payment	
Interest Rate	0.000% Compound	Month (MM)	Year (YYYY)	Cumulative Cash Flow	
Asset Term (years)	0				
Monthly Payment	N/A				
Year	2011	2012	2013	2014	2015
Total Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Outstanding Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Deferred expenses	\$ -	\$ -	\$ -	\$ -	\$ -

3		rate		NOTE	
Loan Amount	\$1	Commencement Date	Interest	Payment	
Interest Rate	0.000% Compound	Month (MM)	Year (YYYY)	Cumulative Cash Flow	
Asset Term (years)	0				
Monthly Payment	N/A				
Year	2011	2012	2013	2014	2015
Total Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Outstanding Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Deferred expenses	\$ -	\$ -	\$ -	\$ -	\$ -

4		rate		NOTE	
Loan Amount	\$1	Commencement Date	Interest	Payment	
Interest Rate	0.000% Compound	Month (MM)	Year (YYYY)	Cumulative Cash Flow	
Asset Term (years)	0				
Monthly Payment	N/A				
Year	2011	2012	2013	2014	2015
Total Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Outstanding Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Deferred expenses	\$ -	\$ -	\$ -	\$ -	\$ -

Annual Management Fee		AMF		rate		NOTE	
Loan Amount	\$1	Commencement Date	Interest	Payment			
Interest Rate	0.000% Compound	Month (MM)	Year (YYYY)	Cumulative Cash Flow	Yes	No	
Asset Term (years)	12						
Monthly Payment	N/A						
Year	2011	2012	2013	2014	2015	2016	2017
Total Payment	\$ -	\$ 701	\$ 8,454	\$ 8,454	\$ 8,454	\$ 8,454	\$ 8,454
Interest Expense	-	701	8,454	8,454	8,454	8,454	8,454
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Outstanding Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Deferred expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Cash Flow / Mort
Green River Homes

Schedules 8 to 10

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Green River Moths

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Replacement Reserve	7/1/2013	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Interest Short																				
Balance at beginning of year	\$	-	\$	-	\$ 8,800	\$ 27,081	\$ 43,858	\$ 63,260	\$ 83,132	\$ 101,514	\$ 116,634	\$ 133,423	\$ 153,845	\$ 178,939	\$ 21,787	\$ 48,288	\$ 73,324	\$ 98,517	\$ 126,280	\$ 21,576
Deposits from initial sale	2013	-	-	-	131	466	608	978	1,277	318	625	931	1,288	1,634	357	724	1,103	1,493	1,894	414
Current year interest income	1.50%	-	-	-	131	466	608	978	1,277	318	625	931	1,288	1,634	357	724	1,103	1,493	1,894	414
Current year deposits from contributions		-	-	1,800	18,231	18,778	19,341	19,922	20,519	21,135	21,769	22,422	23,094	23,787	24,501	25,236	25,993	26,773	27,576	28,403
Less interest income included in CP	Yes	-	-	(133)	(466)	(608)	(978)	(1,277)	(318)	(625)	(931)	(1,288)	(1,634)	(357)	(724)	(1,103)	(1,493)	(1,894)	(2,394)	(414)
Less expenditures made from account		-	-	-	-	-	-	-	(63,112)	-	-	-	(116,139)	-	-	-	-	-	(126,280)	-
Other Additions		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Balance at end of year	\$	-	\$	-	\$ 8,800	\$ 27,081	\$ 43,858	\$ 63,260	\$ 83,132	\$ 101,514	\$ 116,634	\$ 133,423	\$ 153,845	\$ 178,939	\$ 21,787	\$ 48,288	\$ 73,324	\$ 98,517	\$ 126,280	\$ 21,576

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	2012/2013	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010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Green River Homes

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Green River Homes

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Source	Payment Commencement Date	Month	FIRMAL CO																	
			1 11/1/2011	2 11/1/2012	3 11/2013	4 11/2013	5 11/2013	6 11/2013	7 11/2013	8 11/2013	9 11/2013	10 11/2013	11 11/2013	12 11/2013	13 11/2013	14 11/2013	15 11/2013	16 11/2013	17 11/2013	18 11/2013
Seller Carryback/Master Lease Fee			4,434,800																	
Construction Loan 4																				
Construction Loan 5																				
RBC Loan																				
	7/1/2013																			
	7/1/2013																			
	7/1/2013																			
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	7/1/2013																			
GP Loan (on account bonds \$9.5)	12/1/2012		1,000,000	1,000,000	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155
	7/1/2013																			
	7/1/2013																			
	7/1/2013																			
	7/1/2013																			
Accrued unpaid interest during construction				932	1,700	1,948	2,111	2,277	2,342	2,398	2,474	2,529	2,585	2,641	2,697	2,753	2,809	2,865	2,921	2,977
Client (preliminary at build)																				
Client (preliminary at build)																				
Other																				
Capital - General Partner																				
Capital - Limited Partner (LPA)			100,000																	
Capital - Special Limited Partner																				
Capital - State Credit, Limited Partner																				
Special Promote																				
Construction Reserve																				
Reserves																				
Total Reserves			\$ 4,434,800	\$ 1,000,000	\$ 1,000,000	\$ 932,328	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155	\$ 931,155
Uses	Constructive % Complete		0.00%	0.00%	10.10%	27.20%	36.30%	45.40%	54.50%	63.60%	72.70%	81.80%	90.90%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Land		\$ 900,000	\$ 4,434																	
Acquisition Building		3,600,000	23,950																	
Hard Costs - Construction				648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618	648,618
Construction Contingency				77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394	77,394
Builder's Overhead & Profit				47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308	47,308
Hard Costs - Other				155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482	155,482
Soft Costs		1,675,342																		
Trist Credit Fees		48,075																		
Soft Cost Contingency				2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373	2,373
Permanent Loan Fees		70,632																		
Construction Loan Fees		5,000																		
Organization		35,300																		
Relocation Costs																				
Marketing and Leasing		20,000																		
Rest up Expenses																				
Developer Fee				164,900																
Replacement Reserves																				
Operating Reserves																				
Data Services Reserves																				
Road Expense Tax/Insurance Reserve																				
Rest up Reserves																				
Deferred Development Reserves																				
Total Uses before Interest			4,520,000	1,064,300	1,006,001	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155	931,155
Construction Loan Interest - Paid					932	1,800	1,948	2,111	2,277	2,342	2,398	2,474	2,529	2,585	2,641	2,697	2,753	2,809	2,865	2,921
Construction Loan Interest - Accrued					932	1,800	1,948	2,111	2,277	2,342	2,398	2,474	2,529	2,585	2,641	2,697	2,753	2,809	2,865	2,921
Total Interest					932	1,800	1,948	2,111	2,277	2,342	2,398	2,474	2,529	2,585	2,641	2,697	2,753	2,809	2,865	2,921
Total Uses			\$ 4,520,000	\$ 1,064,300	\$ 1,006,933	\$ 932,057	\$ 932,101	\$ 932,106	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107	\$ 932,107
Check Figures																				

Green River Horned

Green River Homes											Period: 11/25/2011 1:33:29 PM								Page 18
Transaction	Month	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
Transaction Date		11/20/11	11/21/11	11/22/11	11/23/11	11/24/11	11/25/11	11/26/11	11/27/11	11/28/11	11/29/11	11/30/11	12/1/11	12/2/11	12/3/11	12/4/11	12/5/11		
Borrow																			
Subj: Carryover/Master Lease Fee																			
Construction Loan 4																			
Construction Loan 5																			
ABC Loan																			
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
GP Loan (122 average) bonds 99.5r	12/1/2012																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
	7/1/2013																		
Accrued capital/stock interest during construction																			
Grant retention of bonds																			
Grant the retention of bonds																			
Other																			
Capital - General Partner																			
Capital - Limited Partner (LPA)																			
Capital - Special Limited Partner																			
Capital - State Credit Limited Partner																			
Grant Proceeds																			
Construction Interest																			
Interest																			
Total Interest																			
Uses																			
Land																			
Acquisition Building																			
Hard Costs - Construction																			
Construction Contingency																			
Builder's Overhead & Profit																			
Hard Costs - Other																			
Soft Costs																			
Tax Credit Fees																			
Soft Cost Contingency																			
Permitted Loan Fee																			
Construction Loan Fee																			
Organization																			
Systematic Costs																			
Marketing and Leasing																			
Real up Support																			
Developer Fee																			
Replacement Reserve																			
Operating Reserve																			
Debt Service Reserve																			
Red Rising Tax/Interest Error																			
Real up Reserve																			
Deferred Development Reserve																			
Total Uses before Interest																			
Construction Loan Interest - Paid																			
Construction Loan Interest - Accrued																			
Total Interest																			
Total Uses																			
Check Figures																			

Construction Interest Schedule
Green River Homes

Page 13

Green River Homes		FISCAL YEAR																			
	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Outstanding Loan Balance		11/1/2011	12/1/2011	1/1/2012	2/1/2012	3/1/2012	4/1/2012	5/1/2012	6/1/2012	7/1/2012	8/1/2012	9/1/2012	10/1/2012	11/1/2012	12/1/2012	1/1/2013	2/1/2013	3/1/2013	4/1/2013	5/1/2013	
Seller Carryback/Mortgage Loan Part		4,031,100	4,031,085	4,031,070	4,031,055	4,031,040	4,031,025	4,031,010	4,030,995	4,030,980	4,030,965	4,030,950	4,030,935	4,030,920	4,030,905	4,030,890	4,030,875	4,030,860	4,030,845	4,030,830	
Construction Loan 4																					
Construction Loan 5																					
RBC Loan																					
CP Loan (for exempt) bonds 39.5mm			1,864,349	2,960,170	3,891,413	4,432,300	5,257,375	6,461,200	7,616,845	8,549,200	9,476,735	10,409,510	11,340,645	12,271,830	13,201,830	14,130,830	15,059,830	15,988,830	16,917,830	17,846,830	
Interest	Rate																				
Seller Carryback/Mortgage Loan Pt	6.100%	Paid	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Construction Loan 4	6.100%	Paid																			
Construction Loan 5	6.100%	Paid																			
RBC Loan	6.100%	Paid																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
CP Loan (for exempt) bonds 39.5	6.100%	Accrued		932	1,480	1,946	2,411	2,877	3,342	3,808	4,274	4,739	5,205	5,670	6,136						
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
	6.100%	Paym - only																			
Total Interest			932	1,480	1,946	2,411	2,877	3,342	3,808	4,274	4,739	5,205	5,670	6,136							
Construction Expense																					
Interest Expense	6.100%																				
GIC Income	6.100%																				
Units Placed in Service		2011	2011	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	
Capitalized Interest	Paid	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	
Capitalized Interest	Accrued																				
Expensed Interest	Paid																				
Expensed Interest	Accrued																				
			Total	Capitalized	Expensed	GIC Income		Capitalized	Capitalized		Expensed	Expensed									
		2011	2,612	2,612				1,601	932		2,965	13,965									
		2012	21,899	35,483	16,483			7,170	39,368		2,965	13,965									
		2013	8,040		5,040						5,040										
		2014																			
		2015																			
			\$ 96,620	\$ 36,066	\$ 21,523			\$ 8,858	\$ 30,240		\$ 2,965	\$ 13,965									

Green River Highway

[illegible]

ATTACHMENT B

Attachment B
Green River Loan, Collateralized
Amortization Schedule

Month	Beginning Balance	Interest Rate	Interest Charge	Principal	Ending Balance
Jun-11	9,500,000	0.00%	0	0	9,500,000
Dec-11	9,500,000	0.00%	0	0	9,500,000
Jun-12	9,500,000	0.00%	0	0	9,500,000
Dec-12	9,500,000	0.00%	0	0	9,500,000
Jun-13	9,500,000	0.75%	35,625	0	9,500,000
Dec-13	9,500,000	0.75%	35,625	0	9,500,000
Jun-14	9,500,000	1.00%	47,500	0	9,500,000
Dec-14	9,500,000	1.00%	47,500	863,636	8,636,364
Jun-15	8,636,364	1.00%	43,182		8,636,364
Dec-15	8,636,364	1.00%	43,182	863,636	7,772,728
Jun-16	7,772,728	1.00%	38,864		7,772,728
Dec-16	7,772,728	1.00%	38,864	863,636	6,909,092
Jun-17	6,909,092	1.50%	51,818		6,909,092
Dec-17	6,909,092	1.50%	51,818	863,636	6,045,456
Jun-18	6,045,456	1.50%	45,341		6,045,456
Dec-18	6,045,456	1.50%	45,341	863,636	5,181,820
Jun-19	5,181,820	1.50%	38,864		5,181,820
Dec-19	5,181,820	1.50%	38,864	863,636	4,318,184
Jun-20	4,318,184	2.00%	43,182		4,318,184
Dec-20	4,318,184	2.00%	43,182	863,636	3,454,548
Jun-21	3,454,548	2.00%	34,545		3,454,548
Dec-21	3,454,548	2.00%	34,545	863,636	2,590,912
Jun-22	2,590,912	2.00%	25,909		2,590,912
Dec-22	2,590,912	2.00%	25,909	863,636	1,727,276
Jun-23	1,727,276	2.00%	17,273		1,727,276
Dec-23	1,727,276	2.00%	17,273	863,636	863,640
Jun-24	863,640	2.00%	8,636		863,640
Dec-24	863,640	2.00%	8,636	863,640	0

ATTACHMENT C

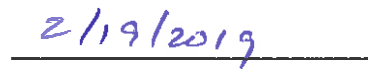
Attachment C

GREEN RIVER HOMES CERTIFICATION

I, Craig Violante, Director of Finance for the King County Housing Authority (KCHA), do hereby certify that whenever funds held in trust by the Bank of America as collateral against the loan from the Bank of America to KCHA which funded the Green River Homes re-development project are released as collateral, all such funds will be used for an eligible MTW activity or purpose that KCHA has received approval for through its MTW Plan.

A handwritten signature in blue ink, appearing to read "Craig Violante", is written over a horizontal line.

Craig Violante, Director of Finance,
King County Housing Authority

A handwritten date "2/19/2019" in blue ink is written over a horizontal line.

Date

ATTACHMENT D

Account Number
416870

TABLE OF CONTENTS

Account Summary	1
Disclosure Statement	2
Income and Expense Summary	3
Transaction Activity Summary	3
Transaction Activity	3
Income and Expense Activity	3
Announcements	4

Bank of America, N.A.
P.O. Box 2010
Lakewood, NJ 08071

Attachment D

Office Servicing Your Account:
540 MADISON ST
IL4-540-28-01
CHICAGO, IL 60661
Fax: 980.233.7103

Account Representative:
CHRIS SCHUER
CHRISTOPHER.C.SCHUER@BAML.COM

KING COUNTY HOUSING
AUTHORITY GR2 PLEDGE ACCOUNT
600 ANDOVER PARK WEST
SEATTLE, WA 98188

0 - 1/4: 3359

Account Statement

Account Summary

Current Period Ending Value	\$0.00
Net Income and Expenses	\$97,105.10

Client Statement
12/01/2018 to 12/31/2018

Account Number
416870

Bank of America, N.A.
P.O. Box 2010
Lakewood, NJ 08071



Transaction Activity Summary

Description	Amount
Interest	\$97,105.10
Other Transaction Activity	\$6,045,454.00

Income and Expense Summary

The Income data is provided for informational purposes only. Regularly scheduled payments are reported in the section. Interest income from products which pay interest only at maturity are not reflected.

Description	Reportable Month-to-Date	Non-Reportable Month-to-Date	Total Income Month-to-Date
Money Market Interest	\$97,105.10	\$0.00	\$97,105.10
TOTAL INCOME AND EXPENSES	\$97,105.10	\$0.00	\$97,105.10

Transaction Activity




Date	CUSIP/ Security #	Description	Transaction	Quantity	Price	Net Amount
12/31/2018	337265853	BANK OF AMERICA N A CERTIFICATE OF DEPOSIT	Maturity	6,045,454	0.00	6,045,454.00
TOTAL TRANSACTION ACTIVITY						\$6,045,454.00

Income and Expense Activity

The Income data is provided for informational purposes only. Regular scheduled payments are reported in the section. Interest income from products which pay interest only at maturity are not reflected.

Date	Description	Transaction	Tax Withheld	Reportable	Non-Reportable	Net Amount
12/31/2018	BANK OF AMERICA N A CERTIFICATE OF DEPOSIT	Interest	\$0.00	\$97,105.10	\$0.00	\$97,105.10
TOTAL INCOME AND EXPENSE ACTIVITY			\$0.00	\$97,105.10	\$0.00	\$97,105.10

RE: KCHA CD at Bank of America

From: Scott, Craig E
To: Michael Larson
Cc: Molnar, Susan, Johnston, Alex, Scott, Craig E, Scott, Craig E
Sent: 2/20/2019 11:09:03 AM
Attachments:  [KCHA NOV.PDF](#)  [KCHA Dec.pdf](#)  [KCHA JAN.PDF](#)

Michael:

I've attached the November, December and January statements. Per our Global Liquidity Investment Solutions team, please note the following:

The Dec 31 maturity was held in suspense until we could obtain the signatures needed to release a portion of the maturing CD. The adjusted amount was invested 1/08/19 to mature 12/31/19. The bank currently has \$5,181,818.00 held as pledged in acct 416870.

Please let me know if you have any questions.

Thanks,

Craig Scott

Assistant Vice President
Sr. Sales Support Associate
Global Banking & Markets | Public Sector Banking
Bank of America, N.A.
Merrill Lynch, Pierce, Fenner & Smith, Incorporated
OR1-129-17-01, 121 NW Morrison St , Portland, OR 97204-3117
T: 503.795.6454 F: 206.585.8977
craig.e.scott@baml.com

The power of global connections™

Bank of America 
Merrill Lynch

WE ARE NOT YOUR MUNICIPAL ADVISOR OR FIDUCIARY. Merrill Lynch, Pierce, Fenner & Smith Incorporated and Bank of America, N.A. and its subsidiaries and affiliates are not acting as your "municipal advisor" within the meaning of Section 15B of the Securities Exchange Act of 1934, as amended (the "Act") and do not owe a fiduciary duty to you pursuant to the Act with respect to the information and material contained in this communication.

From: Michael Larson [mailto:MichaelL@kcha.org]
Sent: Wednesday, February 20, 2019 8:49 AM
To: Scott, Craig E <craig.e.scott@baml.com>
Cc: Molnar, Susan <susan.molnar@baml.com>; Johnston, Alex <alex.johnston@baml.com>
Subject: RE: KCHA CD at Bank of America

Craig, I need a statement dated 12/31/2018 for our auditors that shows the exact amount of cash held by Bank of America in account #416870 after the \$6,045,454.00 certificate of deposit matured and the \$97,105.10 interest was paid.

Michael Larson | Senior Accountant
600 Andover Park W., Seattle, WA 98188
Phone: 206-826-5329 | Fax: 206-574-1104 | TTY: 7-1-1 | michaell@kcha.org

ATTACHMENT E

Attachment E
Moving King County Residents Forward Pro Forma

Initial Loan Balance	\$18,000,000		
Interest Rate on LOC	6.00%		
Amort Term (Yrs)	20	Net Transaction Costs	
DSCR (stabilized)	1.96	Legal	\$50,000
Net Trans. Costs not available for Rehab	\$1,175,661	Misc	\$125,000
Minimum Rehab needed (\$51K/Unit)	\$25,959,000	Underwriting	\$216,000
Total Rehab needed (\$65,000/Unit)	\$33,085,000	Debt Reserve (6 m	\$784,661
Add'l Capital in 2021 adjusted for infl	\$9,576,748		

Rental Income	Ave Rent per Unit		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Lease Revenue	1.00%		\$7,329,600	\$7,402,896	\$7,476,925	\$7,551,694	\$7,627,211	\$7,703,483	\$7,780,518	\$7,858,323	\$7,936,907	\$8,016,276	\$8,096,438	\$8,177,403	\$8,259,177	\$8,341,769	\$8,425,186
Vacancy due to rehab			-\$3,371,616	-\$2,442,956													
Vacancy	-2.5%		-\$98,950	-\$123,999	-\$186,923	-\$188,792	-\$190,680	-\$192,587	-\$194,513	-\$196,458	-\$198,423	-\$200,407	-\$202,411	-\$204,435	-\$206,479	-\$208,544	-\$210,630
Total Net Rental Income			\$3,859,034	\$4,835,942	\$7,290,002	\$7,362,902	\$7,436,531	\$7,510,896	\$7,586,005	\$7,661,865	\$7,738,484	\$7,815,869	\$7,894,027	\$7,972,968	\$8,052,697	\$8,133,224	\$8,214,557
Expenses	Expense Trend %	3.5%															
Existing Operating Expense	\$6,500		\$3,308,500	\$3,424,298	\$3,544,148	\$3,668,193	\$3,796,580	\$3,929,460	\$4,066,991	\$4,209,336	\$4,356,663	\$4,509,146	\$4,666,966	\$4,830,310	\$4,999,371	\$5,174,349	\$5,355,451
Add'l Base Cost	\$100		\$50,900	\$52,682	\$54,525	\$56,434	\$58,409	\$60,453	\$62,569	\$64,759	\$67,026	\$69,371	\$71,799	\$74,312	\$76,913	\$79,605	\$82,392
Add'l costs due to structure	\$250		\$127,250	\$131,704	\$136,313	\$141,084	\$146,022	\$151,133	\$156,423	\$161,898	\$167,564	\$173,429	\$179,499	\$185,781	\$192,283	\$199,013	\$205,979
Replacement Reserves	\$400		\$203,600	\$210,726	\$218,101	\$225,735	\$233,636	\$241,813	\$250,276	\$259,036	\$268,102	\$277,486	\$287,198	\$297,250	\$307,654	\$318,421	\$329,566
Total Expenses			\$ 3,690,250	\$ 3,819,409	\$ 3,953,088	\$ 4,091,446	\$ 4,234,647	\$ 4,382,859	\$ 4,536,259	\$ 4,695,029	\$ 4,859,355	\$ 5,029,432	\$ 5,205,462	\$ 5,387,653	\$ 5,576,221	\$ 5,771,389	\$ 5,973,387
Net Operating Income			168,784	1,016,533	3,336,914	3,271,456	3,201,884	3,128,037	3,049,746	2,966,837	2,879,129	2,786,437	2,688,565	2,585,314	2,476,476	2,361,835	2,241,169
Debt Payments			0.11 (\$1,569,322)	0.65 (\$1,569,322)	2.13 (\$1,569,322)	2.08 (\$1,569,322)	2.04 (\$1,569,322)	1.99 (\$1,569,322)	1.94 (\$1,569,322)	1.89 (\$1,569,322)	1.83 (\$1,569,322)	1.78 (\$1,569,322)	1.71 (\$1,569,322)	1.65 (\$1,569,322)	1.58 (\$1,569,322)	1.51 (\$1,569,322)	1.43 (\$1,569,322)
Cash flow available for def'd capital needs/(Shortfall)			(1,400,538)	(552,789)	1,767,592	1,702,134	1,632,562	1,558,715	1,480,424	1,397,515	1,309,807	1,217,115	1,119,243 \$9,576,748	1,015,992	907,154	792,513	671,847
Add'l Capital needs not funded from Debt			\$8,743,661							18							
Balance to cover from Cash Flow	3.00%		\$10,144,199	\$11,001,314	\$9,563,761	\$8,148,540	\$6,760,434	\$5,404,533	\$4,086,245	\$2,811,318	\$1,585,850	\$416,311	\$8,873,816	\$7,857,823	\$6,950,669	\$6,158,156	\$5,486,309

bal. outstanding

ATTACHMENT F

Lending Strength

Advance Confirmation Advice

King County Housing Authority
600 Andover Park W
Seattle, WA 98188

Transaction Date: 08/26/13
Docket: 99007
TPS transaction: 5
Note Number: 11541

Note Number	Current Rate	Advance Type	Principal	Accrual Basis	Requestor
11541	3.97000	AMO	18,000,000.00	ACT/ACT	CONSTANCE
			Principal to Amortize per attached schedule		

Effective Date	Maturity Date	Payment Date(s)	Bus Day Convention
08/26/13	08/26/33	First business day of every month	New York

This advance is granted under the terms of Advance Master Note 1.1.
The details of the advance are specified above and will be considered
accurate and binding unless the Seattle Bank is notified otherwise within
ten (10) business days of the transaction date.

Lending Strength

Advance Confirmation Advice

King County Housing Authority
600 Andover Park W
Seattle, WA 98188

Transaction Date: 08/26/13
Docket: 99007
TPS transaction: 5
Note Number: 11541

The Seattle Bank shall charge prepayment fees on advances in the event of any voluntary or involuntary payment of all or part of the principal of such advance prior to the originally scheduled maturity thereof; including without limitation payments that become due as a result of an acceleration by the Seattle Bank pursuant to the terms of the advances agreement between the Seattle Bank and the borrower; provided, however, that a prepayment fee shall not be charged if the advance is terminated by the Seattle Bank at the end of the Initial Lockout Period or as of an Optional Termination Date. All prepayment fees shall be due at the time of the prepayment. The prepayment fee charged will be in an amount, calculated in accordance with the methodology set forth below, that is sufficient to make the Seattle Bank financially indifferent to the borrower's decision to repay the advance prior to its maturity date by enabling the Seattle Bank to obtain approximately the same investment yield that the Seattle Bank would have received had the Seattle Bank received all payments as originally provided in the advance that is being prepaid. The calculations and determinations of the Seattle Bank in this regard shall be in its sole and absolute discretion. Notwithstanding the above and the prepayment fee calculation methodology set forth below, in no event will a prepayment fee be less than zero unless the advance confirmation advice issued in connection with an advance expressly provides otherwise. In addition all prepayments and prepayment fees shall be governed by the provisions of the Seattle Bank's Member Products Policy and Financial Products and Services User Guide.

Prepayment fee calculation methodology: The Seattle Bank will calculate and charge a prepayment fee equal to the present value of the difference between: (i) the scheduled interest payments due in connection with the amount of the advance being prepaid, and (ii) the interest payments due in connection with a Federal Home Loan Bank (FHLBank) debt obligation or instrument, as of the date of the prepayment, of equivalent amount, term to maturity and other provisions as the advance that is being prepaid. The debt obligation or instrument referred to in (ii) above may, at the sole and absolute discretion of the Seattle Bank, be created synthetically via the derivative market for purposes of determining the prepayment fee calculation and need not be actual instrument, debt obligation, consolidated obligation, or liability of the Seattle Bank, another FHLBank or the FHLBank System.

In determining the present value of the difference between (i) and (ii) above, the Seattle Bank will discount the cashflows using the rate(s) on debt obligation or instrument described in (ii). The prepayment fee calculation will also be adjusted, as may be appropriate, to reflect the special financing characteristics of the advance that is being prepaid and (if applicable) any cost to modify, terminate, or offset the hedges associated with the advance (e.g., in the case of a puttable advance, the embedded cost of the put option.) In some cases this adjustment will result in interest payments referred to in (ii) above that are lower than those due on FHLBank consolidated obligations or debt obligations of the Seattle Bank with similar terms to maturity, which may produce a higher prepayment fee.

Questions regarding this confirmation may be directed to Member Services
Seattle (206) 340-8691
Toll Free (800) 340-3452

Lending Strength

Customer: 99007 King County Housing Authority
Advance Original Principal: 18,000,000.00
Advance term in years: 20
Advance effective date: 08/26/13

Amortizing Schedule
Advance Note Nbr: 11541

Payment Date	Principal Payment	Advance Balance
-----	-----	-----
09/2013	12,096.75	17,987,903.25
10/2013	75,000.00	17,912,903.25
11/2013	75,000.00	17,837,903.25
12/2013	75,000.00	17,762,903.25
01/2014	75,000.00	17,687,903.25
02/2014	75,000.00	17,612,903.25
03/2014	75,000.00	17,537,903.25
04/2014	75,000.00	17,462,903.25
05/2014	75,000.00	17,387,903.25
06/2014	75,000.00	17,312,903.25
07/2014	75,000.00	17,237,903.25
08/2014	75,000.00	17,162,903.25
09/2014	75,000.00	17,087,903.25
10/2014	75,000.00	17,012,903.25
11/2014	75,000.00	16,937,903.25
12/2014	75,000.00	16,862,903.25
01/2015	75,000.00	16,787,903.25
02/2015	75,000.00	16,712,903.25
03/2015	75,000.00	16,637,903.25
04/2015	75,000.00	16,562,903.25
05/2015	75,000.00	16,487,903.25
06/2015	75,000.00	16,412,903.25
07/2015	75,000.00	16,337,903.25
08/2015	75,000.00	16,262,903.25
09/2015	75,000.00	16,187,903.25
10/2015	75,000.00	16,112,903.25
11/2015	75,000.00	16,037,903.25
12/2015	75,000.00	15,962,903.25
01/2016	75,000.00	15,887,903.25
02/2016	75,000.00	15,812,903.25
03/2016	75,000.00	15,737,903.25
04/2016	75,000.00	15,662,903.25
05/2016	75,000.00	15,587,903.25
06/2016	75,000.00	15,512,903.25
07/2016	75,000.00	15,437,903.25
08/2016	75,000.00	15,362,903.25
09/2016	75,000.00	15,287,903.25
10/2016	75,000.00	15,212,903.25
11/2016	75,000.00	15,137,903.25
12/2016	75,000.00	15,062,903.25
01/2017	75,000.00	14,987,903.25
02/2017	75,000.00	14,912,903.25
03/2017	75,000.00	14,837,903.25
04/2017	75,000.00	14,762,903.25
05/2017	75,000.00	14,687,903.25
06/2017	75,000.00	14,612,903.25
07/2017	75,000.00	14,537,903.25
08/2017	75,000.00	14,462,903.25

Lending Strength

Customer: 99007 King County Housing Authority
Advance Original Principal: 18,000,000.00
Advance term in years: 20
Advance effective date: 08/26/13

Amortizing Schedule
Advance Note Nbr: 11541

Payment Date	Principal Payment	Advance Balance
-----	-----	-----
09/2017	75,000.00	14,387,903.25
10/2017	75,000.00	14,312,903.25
11/2017	75,000.00	14,237,903.25
12/2017	75,000.00	14,162,903.25
01/2018	75,000.00	14,087,903.25
02/2018	75,000.00	14,012,903.25
03/2018	75,000.00	13,937,903.25
04/2018	75,000.00	13,862,903.25
05/2018	75,000.00	13,787,903.25
06/2018	75,000.00	13,712,903.25
07/2018	75,000.00	13,637,903.25
08/2018	75,000.00	13,562,903.25
09/2018	75,000.00	13,487,903.25
10/2018	75,000.00	13,412,903.25
11/2018	75,000.00	13,337,903.25
12/2018	75,000.00	13,262,903.25
01/2019	75,000.00	13,187,903.25
02/2019	75,000.00	13,112,903.25
03/2019	75,000.00	13,037,903.25
04/2019	75,000.00	12,962,903.25
05/2019	75,000.00	12,887,903.25
06/2019	75,000.00	12,812,903.25
07/2019	75,000.00	12,737,903.25
08/2019	75,000.00	12,662,903.25
09/2019	75,000.00	12,587,903.25
10/2019	75,000.00	12,512,903.25
11/2019	75,000.00	12,437,903.25
12/2019	75,000.00	12,362,903.25
01/2020	75,000.00	12,287,903.25
02/2020	75,000.00	12,212,903.25
03/2020	75,000.00	12,137,903.25
04/2020	75,000.00	12,062,903.25
05/2020	75,000.00	11,987,903.25
06/2020	75,000.00	11,912,903.25
07/2020	75,000.00	11,837,903.25
08/2020	75,000.00	11,762,903.25
09/2020	75,000.00	11,687,903.25
10/2020	75,000.00	11,612,903.25
11/2020	75,000.00	11,537,903.25
12/2020	75,000.00	11,462,903.25
01/2021	75,000.00	11,387,903.25
02/2021	75,000.00	11,312,903.25
03/2021	75,000.00	11,237,903.25
04/2021	75,000.00	11,162,903.25
05/2021	75,000.00	11,087,903.25
06/2021	75,000.00	11,012,903.25
07/2021	75,000.00	10,937,903.25
08/2021	75,000.00	10,862,903.25

Lending Strength

Customer: 99007 King County Housing Authority
 Advance Original Principal: 18,000,000.00
 Advance term in years: 20
 Advance effective date: 08/26/13

Amortizing Schedule
 Advance Note Nbr: 11541

Payment Date	Principal Payment	Advance Balance
-----	-----	-----
09/2021	75,000.00	10,787,903.25
10/2021	75,000.00	10,712,903.25
11/2021	75,000.00	10,637,903.25
12/2021	75,000.00	10,562,903.25
01/2022	75,000.00	10,487,903.25
02/2022	75,000.00	10,412,903.25
03/2022	75,000.00	10,337,903.25
04/2022	75,000.00	10,262,903.25
05/2022	75,000.00	10,187,903.25
06/2022	75,000.00	10,112,903.25
07/2022	75,000.00	10,037,903.25
08/2022	75,000.00	9,962,903.25
09/2022	75,000.00	9,887,903.25
10/2022	75,000.00	9,812,903.25
11/2022	75,000.00	9,737,903.25
12/2022	75,000.00	9,662,903.25
01/2023	75,000.00	9,587,903.25
02/2023	75,000.00	9,512,903.25
03/2023	75,000.00	9,437,903.25
04/2023	75,000.00	9,362,903.25
05/2023	75,000.00	9,287,903.25
06/2023	75,000.00	9,212,903.25
07/2023	75,000.00	9,137,903.25
08/2023	75,000.00	9,062,903.25
09/2023	75,000.00	8,987,903.25
10/2023	75,000.00	8,912,903.25
11/2023	75,000.00	8,837,903.25
12/2023	75,000.00	8,762,903.25
01/2024	75,000.00	8,687,903.25
02/2024	75,000.00	8,612,903.25
03/2024	75,000.00	8,537,903.25
04/2024	75,000.00	8,462,903.25
05/2024	75,000.00	8,387,903.25
06/2024	75,000.00	8,312,903.25
07/2024	75,000.00	8,237,903.25
08/2024	75,000.00	8,162,903.25
09/2024	75,000.00	8,087,903.25
10/2024	75,000.00	8,012,903.25
11/2024	75,000.00	7,937,903.25
12/2024	75,000.00	7,862,903.25
01/2025	75,000.00	7,787,903.25
02/2025	75,000.00	7,712,903.25
03/2025	75,000.00	7,637,903.25
04/2025	75,000.00	7,562,903.25
05/2025	75,000.00	7,487,903.25
06/2025	75,000.00	7,412,903.25
07/2025	75,000.00	7,337,903.25
08/2025	75,000.00	7,262,903.25

Lending Strength

Customer: 99007 King County Housing Authority
Advance Original Principal: 18,000,000.00
Advance term in years: 20
Advance effective date: 08/26/13

Amortizing Schedule
Advance Note Nbr: 11541

Payment Date	Principal Payment	Advance Balance
09/2025	75,000.00	7,187,903.25
10/2025	75,000.00	7,112,903.25
11/2025	75,000.00	7,037,903.25
12/2025	75,000.00	6,962,903.25
01/2026	75,000.00	6,887,903.25
02/2026	75,000.00	6,812,903.25
03/2026	75,000.00	6,737,903.25
04/2026	75,000.00	6,662,903.25
05/2026	75,000.00	6,587,903.25
06/2026	75,000.00	6,512,903.25
07/2026	75,000.00	6,437,903.25
08/2026	75,000.00	6,362,903.25
09/2026	75,000.00	6,287,903.25
10/2026	75,000.00	6,212,903.25
11/2026	75,000.00	6,137,903.25
12/2026	75,000.00	6,062,903.25
01/2027	75,000.00	5,987,903.25
02/2027	75,000.00	5,912,903.25
03/2027	75,000.00	5,837,903.25
04/2027	75,000.00	5,762,903.25
05/2027	75,000.00	5,687,903.25
06/2027	75,000.00	5,612,903.25
07/2027	75,000.00	5,537,903.25
08/2027	75,000.00	5,462,903.25
09/2027	75,000.00	5,387,903.25
10/2027	75,000.00	5,312,903.25
11/2027	75,000.00	5,237,903.25
12/2027	75,000.00	5,162,903.25
01/2028	75,000.00	5,087,903.25
02/2028	75,000.00	5,012,903.25
03/2028	75,000.00	4,937,903.25
04/2028	75,000.00	4,862,903.25
05/2028	75,000.00	4,787,903.25
06/2028	75,000.00	4,712,903.25
07/2028	75,000.00	4,637,903.25
08/2028	75,000.00	4,562,903.25
09/2028	75,000.00	4,487,903.25
10/2028	75,000.00	4,412,903.25
11/2028	75,000.00	4,337,903.25
12/2028	75,000.00	4,262,903.25
01/2029	75,000.00	4,187,903.25
02/2029	75,000.00	4,112,903.25
03/2029	75,000.00	4,037,903.25
04/2029	75,000.00	3,962,903.25
05/2029	75,000.00	3,887,903.25
06/2029	75,000.00	3,812,903.25
07/2029	75,000.00	3,737,903.25
08/2029	75,000.00	3,662,903.25

Lending Strength

Customer: 99007 King County Housing Authority
Advance Original Principal: 18,000,000.00
Advance term in years: 20
Advance effective date: 08/26/13

Amortizing Schedule
Advance Note Nbr: 11541

Payment Date	Principal Payment	Advance Balance
09/2029	75,000.00	3,587,903.25
10/2029	75,000.00	3,512,903.25
11/2029	75,000.00	3,437,903.25
12/2029	75,000.00	3,362,903.25
01/2030	75,000.00	3,287,903.25
02/2030	75,000.00	3,212,903.25
03/2030	75,000.00	3,137,903.25
04/2030	75,000.00	3,062,903.25
05/2030	75,000.00	2,987,903.25
06/2030	75,000.00	2,912,903.25
07/2030	75,000.00	2,837,903.25
08/2030	75,000.00	2,762,903.25
09/2030	75,000.00	2,687,903.25
10/2030	75,000.00	2,612,903.25
11/2030	75,000.00	2,537,903.25
12/2030	75,000.00	2,462,903.25
01/2031	75,000.00	2,387,903.25
02/2031	75,000.00	2,312,903.25
03/2031	75,000.00	2,237,903.25
04/2031	75,000.00	2,162,903.25
05/2031	75,000.00	2,087,903.25
06/2031	75,000.00	2,012,903.25
07/2031	75,000.00	1,937,903.25
08/2031	75,000.00	1,862,903.25
09/2031	75,000.00	1,787,903.25
10/2031	75,000.00	1,712,903.25
11/2031	75,000.00	1,637,903.25
12/2031	75,000.00	1,562,903.25
01/2032	75,000.00	1,487,903.25
02/2032	75,000.00	1,412,903.25
03/2032	75,000.00	1,337,903.25
04/2032	75,000.00	1,262,903.25
05/2032	75,000.00	1,187,903.25
06/2032	75,000.00	1,112,903.25
07/2032	75,000.00	1,037,903.25
08/2032	75,000.00	962,903.25
09/2032	75,000.00	887,903.25
10/2032	75,000.00	812,903.25
11/2032	75,000.00	737,903.25
12/2032	75,000.00	662,903.25
01/2033	75,000.00	587,903.25
02/2033	75,000.00	512,903.25
03/2033	75,000.00	437,903.25
04/2033	75,000.00	362,903.25
05/2033	75,000.00	287,903.25
06/2033	75,000.00	212,903.25
07/2033	75,000.00	137,903.25
08/2033	75,000.00	62,903.25

Lending Strength

Customer: 99007 King County Housing Authority
 Advance Original Principal: 18,000,000.00
 Advance term in years: 20
 Advance effective date: 08/26/13

Amortizing Schedule
 Advance Note Nbr: 11541

Payment Date -----	Principal Payment -----	Advance Balance -----
Final	62,903.25	0.00

ATTACHMENT G

Attachment G

MOVING KING COUNTY RESIDENTS FORWARD COLLATERAL CERTIFICATION

I, Craig Violante, Director of Finance for the King County Housing Authority (KCHA), do hereby certify that whenever the minimum collateral balance requirement of the "MKCRF" loan between KCHA and the Federal Home Loan Bank declines and investments purchased with MTW funds that are pledged as collateral against this loan are de-pledged, any released funds will be used for an eligible MTW activity or purpose that KCHA has received approval for through its MTW Plan. This loan was used to finance rehabilitation projects at 509 former public housing units disposed of by KCHA and now owned by Moving King County Residents Forward (MKCRF).



Craig Violante, Director of Finance,
King County Housing Authority




Date

ATTACHMENT H

Attachment H

Below is the current outstanding amount borrowed by the King County Housing Authority (KCHA) from the Federal Home Loan Bank (FHLB) and then loaned to Moving King County Residents Forward (MKCRF):

**eAdvantage**

Housing Authority Of The County Of King #8404
Michael8404

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Summary of Account Balances

Account Profile

Data Updated : 02/22/2019 11:46 AM

Deposit Accounts

840420	Daily Time Non-Member Int/Non-Int	\$0.00
681084173	Demand Non-Member Interest Bearing	\$29,368.44
Term Time Ledger Balance		\$0.00
Term Time Pledged Amount		\$0.00

Advances

Advances	\$13,112,903.25
Letters of Credit	\$0.00
MPF Credit Enhancement	\$0.00
Current FHLB Indebtedness	\$13,112,903.25
Forward Starting Advances	\$0.00
Total FHLB Indebtedness	\$13,112,903.25

100% of the Total FHLB Indebtedness of \$13,112,903.25 must be collateralized by KCHA.

First KCHA pledged the loan between KCHA and MKCRF. This loan currently has an outstanding balance of \$15,074,909.16 but is assigned a market value of \$14,643,652.75. Its Advance Equivalent is 63.3% of the market value, or \$9,269,432.19.

Collateral Summary

Data Updated: 02-22-2019 11:43 AM

APSA Date: 04-13-2015

Collateral Status: Delivery APSA


Loans Pledged

Collateral Type	Unpaid Principal	Market Value / Adjusted Unpaid	Adv Equivalent	# of Items	LTV
1109 Multi-Family 1st Mtg	\$15,074,909.16	\$14,643,652.75	\$9,269,432.19	1	63
Total Loans Pledged:	\$15,074,909.16	\$14,643,652.75	\$9,269,432.19	1	
Export Loans Pledged					

As the minimum collateral requirement is \$13,112,903.25 and the Advance Equivalent of the collateralized loan is \$9,269,432.19, there is a collateral gap of \$3,843,471.06. To fill this gap, KCHA pledged investments purchased with MTW funds. For these investments, the FHLB calculated the

Advance Equivalent to be 92% of the Fair Market Value. At 12/31/2018, the Fair Market Value of the investments was \$4,942,166.00 and the Advance Equivalent \$4,546,792.72. The table shows the inventory of pledged investments.

Securities

Collateral Type	Unpaid Principal	Market Value	Adv Equivalent	# of Items	LTV
6010 Agency Debt-Discount Note/Debenture	\$5,000,000.00	\$4,942,166.00	\$4,546,792.72	5	92
Total Securities/Term Time Pledged:	\$5,000,000.00	\$4,942,166.00	\$4,546,792.72	5	
Securities/Term Time Pledged 					

The Advance Equivalent of \$4,546,792.72 exceeds the collateral gap of \$4,177,686. KCHA considers the amount of MTW funds pledged as collateral to be equal to the collateral gap, or \$4,177,686.

APPENDIX F

ENERGY PERFORMANCE CONTRACT REPORT

2019 - EPC I Extension: Savings by Incentive Type

AMP	Property Name	Units	Frozen	RPUI	Total Savings by AMP	Total Savings by AMP per Unit
101	Ballinger Homes	140	\$ 135,980	\$ -	\$ 135,980	\$ 971
150	Paramount House	70	\$ 1,738	\$ -	\$ 1,738	\$ 25
152	Briarwood & Lake House	140	\$ 148,511	\$ -	\$ 148,511	\$ 1,061
153	Northridge I & Northridge II	140	\$ 138,700	\$ -	\$ 138,700	\$ 991
201	Forest Glen	40	\$ 19,324	\$ -	\$ 19,324	\$ 483
203	College Place & Eastside Terrace	101	\$ 128,138	\$ -	\$ 128,138	\$ 1,269
251	Casa Juanita	80	\$ 113,484	\$ -	\$ 113,484	\$ 1,419
350	Boulevard Manor	70	\$ 55,047	\$ -	\$ 55,047	\$ 786
352	Munro Manor & Yardley Arms	127	\$ 73,229	\$ -	\$ 73,229	\$ 577
354	Brittany Park & Riverton Terrace	105	\$ 129,075	\$ -	\$ 129,075	\$ 1,229
401	Valli Kee	115	\$ 202,745	\$ -	\$ 202,745	\$ 1,763
403	Cascade Apartments	108	\$ 145,146	\$ -	\$ 145,146	\$ 1,344
450	Mardi Gras	61	\$ 47,803	\$ -	\$ 47,803	\$ 784
503	Firwood Circle	50	\$ 64,117	\$ -	\$ 64,117	\$ 1,282
504	Burndale Homes	50	\$ 57,212	\$ -	\$ 57,212	\$ 1,144
550	Gustaves Manor & Wayland Arms	102	\$ 42,755	\$ -	\$ 42,755	\$ 419
551	Plaza Seventeen	70	\$ 23,184	\$ -	\$ 23,184	\$ 331
552	Southridge House	80	\$ 111,556	\$ -	\$ 111,556	\$ 1,394
553	Casa Madrona	70	\$ 88,798	\$ -	\$ 88,798	\$ 1,269
Total		1,719	\$ 1,726,541	\$ -	\$ 1,726,541	

2019 - EPC II: Savings by Incentive Type

AMP	Property Name	Units	Frozen	RPUI	Total Savings by AMP	Total Savings by AMP per Unit
101	Ballinger Homes (RPUI Only) & Peppertree	140	\$ 16,594	\$ 205,019	\$ 221,613	\$ 1,583
105	Park Royal	23	\$ 12,879	\$ 11,070	\$ 23,949	\$ 1,041
150	Paramount House	70	\$ 7,196	\$ 29,730	\$ 36,927	\$ 528
152	Briarwood & Lake House	140	\$ -	\$ 100,120	\$ 100,120	\$ 715
153	Northridge I & Northridge II	140	\$ 2,308	\$ 109,867	\$ 112,175	\$ 801
156	Westminster	60	\$ 13,747	\$ -	\$ 13,747	\$ 229
180	Brookside Apartments	16	\$ 14,377	\$ -	\$ 14,377	\$ 899
191	Northwood	34	\$ 18,518	\$ 15,766	\$ 34,284	\$ 1,008
201	Forest Glen	40	\$ -	\$ 41,215	\$ 41,215	\$ 1,030
203	College Place & Eastside Terrace	101	\$ -	\$ 144,811	\$ 144,811	\$ 1,434
210	Kirkland Place	9	\$ 2,002	\$ 3,664	\$ 5,666	\$ 630
213	Island Crest	17	\$ 16,713	\$ 7,520	\$ 24,232	\$ 1,425
251	Casa Juanita	80	\$ 1,163	\$ -	\$ 1,163	\$ 15
290	NorthLake House	38	\$ 21,061	\$ 11,755	\$ 32,817	\$ 864
344	Zephyr	25	\$ 11,169	\$ 7,045	\$ 18,214	\$ 729
345	Sixth Place	24	\$ 6,250	\$ 23,937	\$ 30,188	\$ 1,258
350	Boulevard Manor	70	\$ -	\$ 50,888	\$ 50,888	\$ 727
352	Munro Manor & Yardley Arms	127	\$ (1,211)	\$ 77,977	\$ 76,766	\$ 604
354	Brittany Park, Riverton Terrace, & Pacific Court	105	\$ 35,682	\$ 41,964	\$ 77,646	\$ 739
390	Burien Park	102	\$ 30,120	\$ 21,346	\$ 51,466	\$ 505
401	Valli Kee	115	\$ 39,492	\$ 112,912	\$ 152,404	\$ 1,325
403	Cascade Apartments	108	\$ -	\$ 141,164	\$ 141,164	\$ 1,307
409	Shelcor	8	\$ 722	\$ 2,829	\$ 3,551	\$ 444
450	Mardi Gras	61	\$ 10,695	\$ 28,656	\$ 39,352	\$ 645
503	Firwood Circle	50	\$ 34,063	\$ 43,839	\$ 77,902	\$ 1,558
504	Burndale Homes	50	\$ 29,161	\$ 55,164	\$ 84,325	\$ 1,686
550	Gustaves Manor & Wayland Arms	102	\$ 6,450	\$ 32,898	\$ 39,349	\$ 386
551	Plaza Seventeen	70	\$ -	\$ -	\$ -	\$ -
552	Southridge House	80	\$ 14,343	\$ 17,639	\$ 31,982	\$ 400
553	Casa Madrona	70	\$ 3,692	\$ 37,918	\$ 41,609	\$ 594
TBD	Northwood Square	24	\$ -	\$ -	\$ -	\$ -
Total		2,099	\$ 347,185	\$ 1,376,714	\$ 1,723,900	