

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of Policy Development and Research

Research and Technology

SUMMARY OF RESOURCES

(Dollars in Thousands)

	Enacted/ Requested	Carryover	Supplemental/ Rescission	Total Resources	Obligations	Net Outlays
2021 Appropriation	108,000	59,296	-	167,296	118,553	73,000
2022 Annualized CR	105,000	47,718	-	152,718	111,718	97,600
2023 President's Budget	145,000	41,000	-	186,000	108,000	127,000
Change from 2022	40,000	(6,718)	-	33,282	(3,718)	29,400

a/ 2021 Enacted includes \$3 million transferred from Treasury for Technical Assistance for the Emergency Rental Assistance program.

b/ 2021 Carryover includes \$805 thousand transferred from Department of Justice for BJA Pay for Success and \$7.2 million in prior year recaptures.

c/ 2022 Carryover excludes \$2 million in anticipated recaptures.

d/ 2023 Carryover includes \$41 million anticipated carryover and excludes \$2 million in anticipated recaptures.

PROGRAM PURPOSE

The Research and Technology (R&T) account, administered by the Office of Policy Development and Research (PD&R), provides fundamental evidence to support the mission of the Department through policy analysis, research, surveys, and program evaluations, as authorized in Title V of the Housing and Urban Development Act of 1970, as amended. R&T funds the research and evaluation function and leverages it through data infrastructure development, information management, and technical assistance. PD&R's work enables the Secretary, the Congress, and principal staff at HUD and other agencies to make informed decisions on budget and legislative proposals and to strengthen housing and community development policy. In addition to sustaining Core R&T data collection and research dissemination, the requested level reflects new priority research identified in HUD's 2022 – 2026 Learning Agenda. Technical assistance provided through the R&T account helps improve implementation of most of HUD's existing programs, as well as launching new programs and program expansions so HUD's partners and customers have the knowledge, skills, tools, capacity, and systems needed to successfully implement HUD programs and be effective stewards of Federal funding. The 2023 Budget provides increased support for agency-wide technical assistance as this account is the only source of TA resources for many HUD programs.

BUDGET OVERVIEW

The 2023 President's Budget requests \$145 million for Research and Technology, which is \$40 million more than the 2022 annualized CR level. The requested funding level for R&T provides support for three critical functions with growing importance:

1. Core R&T includes up to \$70 million to support the American Housing Survey and other national surveys, knowledge management, data acquisition, research dissemination, building technology, and public-private research;
2. Research, Evaluation, and Demonstrations includes up to \$25 million to support experimental demonstrations of innovative program concepts, evaluations of current programs, and other policy-focused research; and
3. Technical Assistance includes no less than \$50 million to ensure that HUD program partners and practitioners have access to research-informed guidance in effective

practice for better accountability, efficiency, and outcomes for all of HUD's programs and customers.

The requested amount for R&T will enable PD&R to address priority research needs by successfully completing evaluations of ongoing program demonstrations, implementing the HUD Learning Agenda more fully, and strengthening systematic evidence-building for the Department as envisioned by the Foundations for Evidence-Based Policymaking Act of 2018 ("Evidence Act"). R&T investments are a cornerstone of an increasingly robust internal institutional capacity to accomplish HUD's mission and leverage diverse external partnerships.

Housing-related challenges can trigger significant mental health distress. Resources available to the Department for technical assistance, as well as any grant amounts available for a grantee's own training efforts, will be used to support HUD's department-wide effort to reduce the impacts of housing-related challenges on mental and emotional well-being and improve the experience of the Department's customers. HUD will coordinate validated, evidence-based training for front-line housing professionals on the signs and symptoms of emotional distress and mental health challenges. This training will help housing professionals connect customers who are experiencing emotional distress with appropriate local resources.

JUSTIFICATION

Core Research and Technology

Core R&T requires the largest share of R&T resources, with a request of up to \$70 million for 2023, and comprises three components that are each described below: Housing Data Infrastructure; Knowledge Management, Dissemination, and Outreach; and Technical Expertise and Innovation.

The increase of \$11.0 million in the 2023 Budget for Core R&T above the 2022 annualized CR level is needed to fund higher survey costs and to increase funding for data acquisition and housing technology research. The Core R&T budget also continues funding for Knowledge Management/HUDUSER, housing finance research, research partnerships with Historically Black Colleges and Universities (HBCUs), and innovation events.

Core R&T makes significant contributions to Presidential priorities. Generating reliable evidence about market conditions helps document the needs of underserved communities and inform better policy to promote homeownership and the production of affordable housing. Housing equity is advanced by investing in research collaborations with HBCUs that are engaged in their communities and in underserved communities where they have a long-standing tradition of providing capacity-building and program supports; generating and disseminating data on the incidence and demographics of housing instability; and investing in housing technology innovations that improve affordable housing choices by supporting greater durability, resilience, and energy efficiency.

Housing Data Infrastructure: The largest component of Core R&T is support for the surveys that constitute the backbone of the nation's housing data infrastructure. Reliable and well-structured housing survey datasets inform policymakers about homeowner and rental units, HUD-assisted and unassisted populations, and the nature of affordable housing problems. These data sources are widely used within the private sector and are essential for an efficient housing market—which in the fourth quarter of 2021 totaled \$2.8 trillion of housing and utilities consumption and \$1.1 trillion

of residential fixed investment, together accounting for 16.4 percent of gross domestic product.¹ The largest of these data sources is the American Housing Survey (AHS). Information from the biennial AHS covers the nation's housing stock, housing finance, and characteristics of markets, neighborhoods, and occupants, and supports national, regional, and metropolitan area estimates. Other surveys funded under Core R&T provide important data necessary to monitor housing needs, housing finance topics, and local housing market conditions. These surveys include the Survey of Construction (SOC), the Survey of Market Absorption of Apartments (SOMA), the Manufactured Homes Survey (MHS), and the Rental Housing Finance Survey (RHFS). In addition, funding will support other timely and innovative surveys such as the Census Bureau's Household Pulse Survey, which has provided important insights into housing stability and eviction and foreclosure risk over the course of the coronavirus pandemic.

Housing Data Infrastructure also includes the acquisition of private sector data, and other data such as Low-Income Housing Tax Credit and U.S. Postal Service vacancy data, that are used in PD&R research and for numerous policy-relevant purposes. Important information technology systems supported by the separate IT account that are managed and used by PD&R staff to make our research and data analysis possible are the Policy Analysis and Research Information System (PARIS) and the Enterprise Geographic Information System (eGIS) systems, as well as the Geocode Service Center (GSC) system that provides shared services for cross-agency missions requiring spatially enhanced data.

HUD's survey activities are overseen by HUD's Statistical Official, who is also PD&R's Deputy Assistant Secretary for Economic Affairs. PD&R's staff expertise leverages the housing data assets by facilitating linkage with administrative data and external surveys and by conducting analysis to provide key program parameters such as income limits and fair market rents and to inform key policy initiatives. PD&R's Office of the Chief Data Officer (OCDO) is strengthening HUD's data governance, enhancing privacy protections, and generating open data. OCDO is establishing structures, identifying stakeholders, defining policies and processes that are aligning data governance with how HUD does business. PD&R is also engaged in numerous partnerships with Federal agencies to link and analyze complementary administrative data—activities that greatly enhance the value of these public investments.

Knowledge Management, Dissemination, and Outreach: The second component of Core R&T supports knowledge management, a multidisciplinary effort to ensure that knowledge is created, organized, and shared effectively to advance HUD's mission. It supports the dissemination of research to inform evidence-based policy and ensure equitable access to knowledge, as well as the convening of stakeholders for shared learning opportunities. Key beneficiaries of knowledge management activities include HUD program staff, HUD grantees, researchers and policy analysts, and policy makers at all levels—local, state, national, and international. Along with formal research reports and the *Cityscape* journal, several shorter-format periodicals such as U.S. Housing Market Conditions, The Edge, and Evidence Matters make data and research freely accessible to broad audiences. The Comprehensive Housing Market Analyses produced by PD&R economists provide in-depth looks at economic, demographic, and housing inventory trends of specific housing markets to guide builders, lenders, and others. PD&R makes available more than 10,000 research reports, articles, books and data sources; during fiscal year 2021, users downloaded an average of 827,000 files per month from the HUDUSER.gov research portal. In addition to providing new research and data, PD&R will continue to scan historical reports and research from its library and make them available for download on HUDUSER.gov.

¹ Annual averages of seasonally adjusted quarterly data from the Federal Reserve Bank of St. Louis, (<https://fred.stlouisfed.org/>).

Technical Expertise and Innovation: Core R&T also supports building technology research and dissemination of information on new technologies; housing finance research, including analysis that reduces risk to the FHA Mutual Mortgage Insurance Fund and supports housing finance reform discussion; and the Research Partnerships program that complements HUD's direct research efforts by providing matching funds for external researchers who present unique research opportunities.

Through the Research Partnerships program, HUD encourages support for research conducted by HBCUs and Minority Serving Institutions (MSIs), helping to advance equity in funding for housing research. Research Partnerships support projects on topics that address the Department's goals and that draw on novel research approaches, including big data analytics, machine learning, and artificial intelligence. For example, an ongoing Research Partnerships study will produce a novel set of comprehensive climate vulnerability and resilience capacity indexes for enhancing urban recovery in Detroit and Cincinnati, two major Midwestern cities at high future climate risk. This project advances HUD's goal of advancing sustainable communities. Research Partnerships with HBCUs and MSIs are advancing housing technology as well as understanding of challenges facing underserved populations.

Also within Core R&T are funds for innovation activities such as the Innovative Housing Showcase on the National Mall. Stakeholders for these efforts include HUD program offices, Federal agencies, state and local policy makers, researchers and practitioners, and the housing industry.

Research, Evaluation, and Demonstrations

R&T funding of up to \$25 million for Research, Evaluation, and Demonstrations (RED) will allow PD&R to continue existing multi-year evaluations of programs and initiatives that advance Departmental priorities and to conduct new evaluations, demonstrations, and policy-focused research that respond to Congressional directives, address Departmental priorities, and advance strategic evidence-building priorities.

PD&R's discretionary research and evaluation is guided by HUD's 2022-2026 Learning Agenda, a part of HUD's Strategic Plan which provides a long-term framework for evidence-building through research, data collection, and data-driven policy analysis. PD&R develops the Learning Agenda by consulting with stakeholders to ensure that the research function is forward-looking, systematic, and well-structured to take advantage of HUD's comparative advantages. The priority research questions that form the core of the Learning Agenda are addressed with preliminary research proposals.

The R&T funding will allow HUD to continue work on three critical multi-year research projects: the Housing Choice Voucher Mobility Demonstration, the Moving to Work (MTW) Demonstration, and the HUD-Department of Justice Pay for Success Permanent Supportive Housing Demonstration. Together, these research efforts will produce rigorous evidence to support program and policy decisions for HUD's core rental assistance and homelessness assistance programs, including decisions about how best to support asset-building among HUD-assisted households.

HUD will work with the Congress to identify the specific new research and evaluation projects to be supported by the 2023 Budget requests. Based on the Learning Agenda, these could include research on land use policies and other regulatory factors and their effect on rents and production of affordable rental units; research into supporting health among assisted households, including maternal and child health in HUD's homelessness programs; a study of the effectiveness of homeowner rehab programs at improving individual quality of life and neighborhood quality; a study of the housing protections provided under the Violence Against Women Act (VAWA) targeting assistance to victims of domestic violence, dating violence, sexual assault and stalking; an evaluation of the long-term outcomes of the Section 811 Housing for Persons with Disabilities program; and

studies that build evidence on strategies for increasing the supply of affordable and accessible housing. There are also important priorities from the 2022 Budget related to evaluating Federal efforts to provide emergency housing vouchers and rental assistance for eviction diversion that remain critical priorities as HUD seeks to learn how to support underserved communities and increase access to affordable housing. PD&R anticipates that up to \$5 million of the requested RED funding will be dedicated to climate-related research, which could include studies of opportunities to mitigate the risk to HUD properties and HUD-assisted households from climate change and natural disasters, evaluations of existing programs supporting recovery from and resilience to environmental threats, and research on energy efficiency and environmental justice.

Technical Assistance

Funding of no less than \$50 million for the Technical Assistance (TA) program will equip HUD's partners and customers with the knowledge, skills, tools, capacity, and systems needed to successfully implement HUD programs and be effective stewards of Federal funding. TA resources provided through this account are the only source of TA funds for most programs at HUD. This funding will allow HUD to address the extraordinary needs that continue to arise from the response and recovery from the COVID-19 pandemic. It will also help grantees address challenges in implementing regular HUD programs as grantee attention diverts to implementation of the influx in pandemic response funding.

With this funding, HUD will provide more focused expertise to low- and moderate-income communities to recover fully from the pandemic's effects and to build resilience to any future stresses or shocks, including climate change and economic downturns. HUD grantees will need significant support to build their capacity to respond to the current situation and future crises as the saturation of Federal program funding has created back logs and slow launch times indicating capacity issues ripe for technical assistance. These TA resources will help build an understanding of various HUD program flexibilities and efficient administration of HUD resources to enable more effective and timely program implementation and spending.

In addition, every program area at HUD has identified a need to provide more in-depth implementation support to grantees, including support to: build internal capacity around affordable housing planning and development; develop program designs and operational policies and procedures; improve grantees' understanding of how to combine Federal, state, and local funding sources in projects; effectively integrate Federal cross-cutting requirements such as Environmental Review, Uniform Relocation Act, and the new Section 3 requirements into programs and projects; and make effective use of new funding for high performance, energy-efficient and climate resilient buildings.

In support of the President's strategy to address our national mental health crisis, TA funds will be used to support a national effort to train housing counselors, housing-based services coordinators, and Fair Housing grantee staff to recognize the signs of emotional distress and to connect residents with mental health resources.

HUD will continue awarding TA funds on a competitive basis through a two-year (2022 and 2023) Community Compass Notice of Funding Opportunity (NOFO) because of the balance it offers between stability, flexibility, and administrative burden. HUD will also award a portion of these funds through a separate TA NOFO to continue to support TA to units of general local government experiencing long-term economic hardship, whose residents have been underserved due to limited local capacity.

Information Technology

Within the Information Technology Fund, the Budget requests \$2 million for Enterprise Geographic Information System (eGIS) and \$500 thousand for PD&R's Disaster Recovery Portal.

- **Enterprise Geographic Information System (eGIS)**

Program Pain Point

Decision makers at all levels rely on the examination of accurate data for the effective development and implementation of data-driven housing policies. To that end, the Office of Policy Development and Research (PD&R) conducts mission-critical analyses of priority housing and community development issues while developing and maintaining the data required for that work. HUD's Enterprise Geographic Information System (eGIS) program was established in PD&R to manage day to day operations of the Department's shared geospatial business solution which satisfies the common requirement for geospatial data and analytical capabilities in support of the Department's mission and strategic objectives. When brought to bear, these data and tools allow personnel to develop and apply actionable intelligence used to craft effective housing policies that are data-driven and equitable in scope. Unfortunately, HUD's existing enterprise geospatial solution now falls short of what is required to support robust housing and community analysis moving forward, and the inability of public to interface with HUD offices and data sources.

The increasingly obsolete architecture of HUD's existing system limits the scale and scope of the work that program analysts and policy developers engage in. In its current state, analysts cannot effectively use the solution to collaborate with one another on mission-critical assignments that require the examination of sensitive geospatial housing data. This limitation impedes the progress of collaborative projects requiring robust geospatial study and remains a source of considerable frustration for analysts and leadership alike.

Mission Benefits

Development, modernization, and enhancement (DME) of HUD's geospatial business solution and enterprise applications will significantly improve the Department's analytical capabilities allowing for greater insights into national housing issues. Improved performance of the updated system will provide expanded access to rich datasets which remain largely unavailable to Departmental staff due to the shortcomings of the current platform. Modernization of HUD's geospatial resources will likewise improve the security posture of the system enabling HUD's program analysts and policy developers to collaborate on assignments requiring the analysis of sensitive (i.e., PII) geospatial data. The proposed upgrade will also empower HUD's program analysts to create analytical reporting tools and standalone applications required by stakeholders, but which cannot currently be developed due to existing system constraints. In addition, HUD's Community Planning and Development (CPD) will benefit from this upgrade to support its mission objectives by modernizing its customer self-service portal as well as improve its data collection and process automation capabilities. The impacted systems for CPD that require updates are: CART (Community Assessment Reporting System), HRL (Housing Resource Locator), TDAT (Tribal Directory Assessment Tool), and CPD-MAPS (Community Planning & Development Maps).

In addition, improvements of the existing system architecture will obviate the current requirement to maintain project-related geospatial data in a cloud-based software as a service (SaaS) environment thus resulting in substantial cost savings for the Department. For example, proposed improvements to HUD's existing geospatial solution include the implementation of a business facing GIS user portal deployed within HUD's network. User activity will take place within HUD's network thereby eliminating the cost required to accommodate collaborative work and data storage in a SaaS environment. Furthermore, enhanced capabilities for application development enabled by system modernization will allow for the in-house creation of new applications. This eliminates the current

need to earmark funds for new application development as well as protracted contract negotiations required to secure a vendor for such work.

Target Functionality

Modernization of the Department's geospatial business solution and enterprise applications will result in:

- Substantial improvements to system security, performance, user access, and resource management.
- Significantly enhanced capacity for analysis, collaboration, application development, and the crafting of actionable intelligence.
- Considerable cost savings for the Department.

Projected Cost Savings

Improving HUD's existing geospatial business solution will allow the Department to realize significant cost savings associated with the storage and maintenance of project-related geospatial data. Moreover, improved capacity for in-house application development will eliminate the need to engage in the prolonged contract negotiations and costs required to secure commercial vendors to provide those services.

- **Disaster Recovery Portal**

Program Pain Point

HUD has identified the need for a new process and tools for data sharing with the Federal Emergency Management Agency (FEMA) and CDBG-DR grantees. This project will eliminate the need for Individual Assistance Information Sharing Access Agreements (ISAAs) between FEMA and HUD also with FEMA and CDBG-DR grantees as it will make that data readily available to grantees through the Disaster Recovery Data Portal (DRDP) application. It will also eliminate the need for requesting data from FEMA to perform the CDBG-DR allocations process when congressional funds are appropriated.

While data being shared is similar, or in fact the same, it requires multiple resources from multiple program areas within HUD and FEMA to request and process data sets. If the bidirectional data exchange process was in a completed stage that data could be shared within HUD to multiple resources/programs in a fashion designed to only make available, the necessary program data to only those with a valid need to know and manage one data set for multiple users. This would also ensure that all users are accessing the same data and would eliminate a misunderstanding of the data as well and ensure all areas are utilizing the same data.

Mission Benefits

Real time data sharing enables decision making that is focused on elimination of duplication of benefits, adequate assistance value to the customer, ability for multiple programs to utilize one standard data set, correct and accurate FEMA data for HUD and HUD CDBG-DR grantee use, enhanced disaster survivor support functions and enhance data security across multiple federal agencies.

The Disaster Recovery Portal (DRDP) is within HUD's purview of the project and HUD will share the 'new processes' aspect with FEMA. FEMA will solely fund their efforts' development needs. In addition, DRDP will provide the ability to avoid duplication of benefits between FEMA, HUD, and SBA assistance; the ability to identify geographical areas that are the most at risk due to high level of unmet needs; the ability to complete early determination of projects at the CDBG-DR grantee level that will provide/return disaster survivors to long term sustainable housing; and reduction in duplication of efforts by multiple federal agencies in similar processes. This in turn will reduce the need for multiple touch points with applicants that are related to similar cross agency processes.

RESEARCH AND TECHNOLOGY

Hence, this project has the capability to enhance the disaster survivor experience as mandated in the Disaster Recovery Reform Act of 2018. HUD’s cost to FEMA is approximately \$415 thousand over the next seven years, but will increase once any further development begins.

Target Functionality

DRDP will result in:

- Real time data sharing to enable informed and immediate decision making
- Ability for multiple programs to utilize one standard data set
- Provide correct, accurate, and the most up to date available data

Projected Cost Savings

As this is a cross agency effort between FEMA and HUD therefore the overall federal benefit is shown below:

DRDPD and the new processes will result in significant cost savings to both agencies. We estimate that HUD grantees pay approximately \$13 million average annual housing repair or rehabilitation assistance payments to homeowners who are also reimbursed for these costs by FEMA. By providing timely and automated matching and delivery of data, we estimate that at least one half of these duplicate payments will be avoided and reduces the need for labor intensive and time-consuming efforts to recover the excess payments. We also estimate that FEMA will save approximately \$900 thousand annually.

For additional information regarding HUD’s Information Technology investments, please see the Information Technology Fund justification.

SUMMARY OF RESOURCES BY PROGRAM

(Dollars in Thousands)

Budget Activity	2021 Budget Authority	2020 Carryover Into 2021	2021 Total Resources	2021 Obligations	2022 Annualized CR	2021 Carryover Into 2022	2022 Total Resources	2023 President's Budget
Core R&T	59,050	10,267	69,317	60,736	59,050	8,581	67,631	70,000
Technical Assistance	32,800	29,875	62,675	35,551	32,800	26,100	58,900	50,000
Research, Evaluations and Demonstrations	13,150	18,349	31,499	18,462	13,150	13,037	26,187	25,000
BJA Pay for Success	-	805	805	804	-	-	-	-
TA for ERA	3,000	-	3,000	3,000	-	-	-	-
Total	108,000	59,296	167,296	118,553	105,000	47,718	152,718	145,000

a/ Research, Evaluations, and Demonstrations 2020 Carryover into 2021 includes \$7.2 million in prior year recaptures.

b/ BJA Pay for Success 2020 Carryover into 2021 includes \$805 thousand transferred from the Department of Justice.

LEGISLATIVE PROPOSALS AND GENERAL PROVISIONS

General Provisions

PD&R re-proposes the following general provision that was enacted in the 2021 appropriations bill and submitted for consideration in the 2022 President's Budget request:

Unobligated Research Funds:

This provision gives HUD the ability to re-obligate research funds left unexpended at the conclusion of an agreement. (2023 President's Budget, Sec. 219).

APPROPRIATIONS LANGUAGE

The 2023 President's Budget includes the proposed appropriation language listed below.

For contracts, grants, and necessary expenses of programs of research and studies relating to housing and urban problems, not otherwise provided for, as authorized by title V of the Housing and Urban Development Act of 1970 (12 U.S.C. 1701z-1 et seq.), including carrying out the functions of the Secretary of Housing and Urban Development under section 1(a)(1)(i) of Reorganization Plan No. 2 of 1968, and for technical assistance, \$145,000,000, to remain available until September 30, 2024: Provided, That with respect to amounts made available under this heading, notwithstanding section 203 of this title, the Secretary may enter into cooperative agreements with philanthropic entities, other Federal agencies, State or local governments and their agencies, Indian Tribes, tribally designated housing entities, or colleges or universities for research projects: Provided further, That with respect to the preceding proviso, such partners to the cooperative agreements shall contribute at least a 50 percent match toward the cost of the project: Provided further, That for non-competitive agreements entered into in accordance with the preceding two provisos, the Secretary shall comply with section 2(b) of the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282, 31 U.S.C. note) in lieu of compliance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989 (42 U.S.C. 3545(a)(4)(C)) with respect to documentation of award decisions.

Note.—A full-year 2022 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2022 (Division A of P.L. 117-43, as amended). The amounts included for 2022 reflect the annualized level provided by the continuing resolution.