

# How Data and Market Analytics Support Strategic Code Enforcement; Mt Vernon, NY

In 2019, the city of Mount Vernon partnered with the Ash Center for Democratic Governance and Innovation, Tolemi, and Reinvestment Fund through the Cities for Responsible Investment and Strategic Enforcement initiative (Cities RISE) to begin implementing a strategic code enforcement system guided by robust data and market analytics. Lessons offered in this case study of Mount Vernon can help inform other communities looking to leverage data into meaningful operational and policy changes.

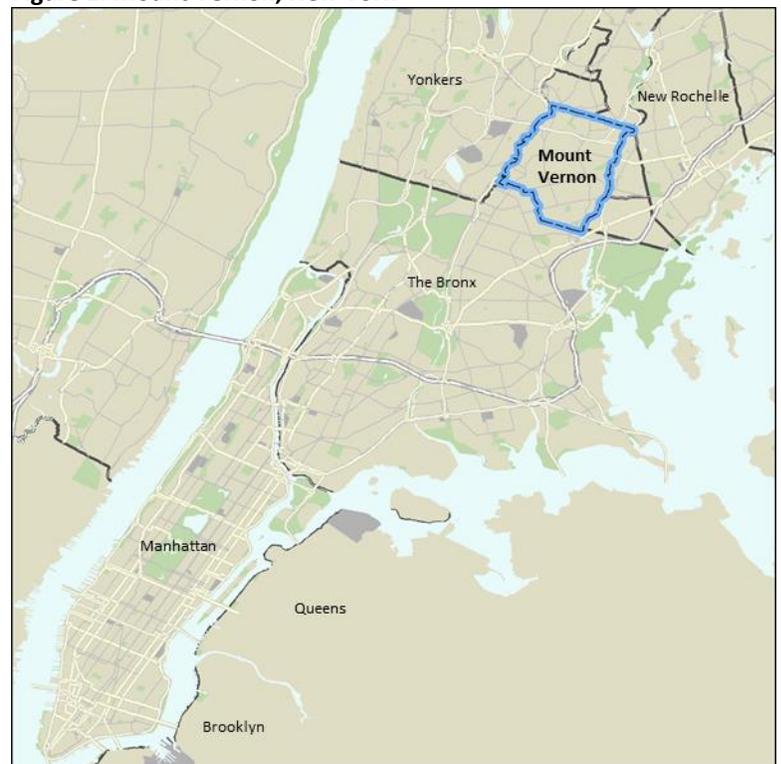
## Cities RISE and Mount Vernon

Cities RISE was launched in 2017 by the New York State Attorney General’s Office. The initiative was designed to build capacity within select New York municipalities to implement strategic code enforcement practices as they dealt with the aftermath of the housing crisis. The program, administered by Enterprise Community Partners on behalf of the Attorney General, provides expert technical assistance, data analysis and tools, change management facilitation, and community engagement support. Funding for the program comes from a settlement negotiation between the State Attorney General’s Office and large banks following the financial crisis of 2008. The funds are intended to rebuild communities and to address the problems of property abandonment, distress, and unsafe housing conditions.

Cities RISE is being implemented through three phases: (1) technology modernization, which allowed participating cities to build a data baseline for strategic operations; (2) technical assistance in neighborhood revitalization and community engagement, which provides targeted leadership development training to mayors and city leaders, encourages meaningful participation by community stakeholders, and culminates in the creation of a city developed comprehensive strategy to address the issues of housing distress and advances strategic code enforcement goals; (3) civic innovation, which provides grant funding and implementation support for creative problem solving and forward thinking initiatives to address distressed properties and abandonment.

Mount Vernon, New York, following a competitive application process, was selected for participation in Cities RISE. The city, which is located just outside of New York City, experiences property distress and abandonment in ways that other upstate participants, where demand for real estate is often suppressed by the lack of job

**Figure 1: Mount Vernon, New York**



opportunities and low wages, do not. Among the Cities RISE participants, Mount Vernon has one of the lowest vacancy rates and among the highest rents. Over sixty percent of all residents are renters, and the majority of those (57%) are rent-burdened. A third of all residents in the city are foreign-born.

Overcrowding in the rental housing stock is a persistent concern and many units lacks basic safety requirements. Fire officials noted in a recent interview that the risk of fire in Mount Vernon is ten times higher than in nearby New Rochelle, something they credit to poor property maintenance and enforcement of local codes.

As part of their participation in Cities RISE, the city identified the following areas of priority:

1. Developing institutional capacity for more proactive code enforcement operations.
2. Integrating code enforcement operations as a tool to support community development and planning investments.
3. Using housing market data and fact-based assessments of problem properties to drive operational improvements, target efforts, and complement public and private investments.
4. Providing transparency in government operations, by using data and a clear, accessible, and freely open framework to make decisions and take the politics out of operations.

**Community Profile: Mount Vernon, New York**

	Mount Vernon	Westchester County	New York State
<b>Race and Ethnicity</b>			
<i>White</i>	16%	54%	56%
<i>Black</i>	63%	13%	14%
<i>Hispanic</i>	17%	24%	19%
<i>Asian</i>	2%	6%	8%
<i>Other</i>	2%	2%	3%
<b>Foreign Born</b>	32%	26%	23%
<b>Median Household Income</b>	\$57,109	\$92,758	\$65,323
<b>Homeowners</b>	38%	61%	54%
<b>Families in Poverty</b>	12%	6%	11%
<b>Housing Cost Burden</b>			
<i>Renters</i>	57%	52%	50%
<i>Owners</i>	46%	33%	29%

Source: American Community Survey, Five-Year Estimates, 2014-2018

Beginning in June 2017, Mount Vernon partnered with Tolemi, Reinvestment Fund, and the Ash Center to begin implementing its Cities RISE initiatives.

## Building an Integrated Data System for Mount Vernon

In the first phase of Cities RISE, Mount Vernon worked with Tolemi to develop an integrated data system, called BuildingBlocks, which could enable more data-informed decision making.

### The BuildingBlocks Application

The BuildingBlocks application was created to help local governments unlock a wealth of municipal data and to empower cities to be more strategic, efficient, and evidence-based. Tolemi was borne out of policy work at the Harvard Kennedy School of Government that explored hidden municipal assets in the downturn following the 2008 Financial Crisis. The ‘data exhaust’ being created across various departments was identified as one of those high-potential—yet largely untapped—resources that could significantly enhance local government’s ability to ensure safe housing and strengthen neighborhoods.

The work of organizations like Reinvestment Fund, the Center for Community Progress, and local initiatives such as Detroit Future City, demonstrate the power of bringing together data from various agencies and departments. The health of a property, a block, a neighborhood, and a city can only be

accurately measured when data is brought together that reveal the physical, financial, and public safety indicators of distress or strength.

Yet the federated nature of local government presents an obstacle to the kind of data integration that is needed for holistic comprehension of communities. Departments and agencies have traditionally operated independent of one-another, so databases are not routinely shared. Procurement decisions regarding records and case management systems that various departments use are similarly siloed, so a typical local government relies upon a patchwork of software and databases tracking information.

BuildingBlocks sits on top of these disparate systems and integrates records at the property-level from any department or agency that is tracking location-based information. In Mount Vernon, this included property attributes drawn from records reflecting the tax assessment, ownership, property sales, building permits, code violations, police incidents, fire incidents and inspections, citizen complaints, property tax arrears, utility usage and shut-offs, and a number of geographic overlays. This integration process is automated and runs nightly so that city staff and leadership can access up-to-date records and analysis through a map-based analytical tool. The 'building block' of BuildingBlocks is the Property Profile, a web page for every single parcel in the City of Mount Vernon that includes every record that any participating department is tracking.

#### Building a Holistic Information System in Mount Vernon

As with most cities that use BuildingBlocks, the launch of the application in 2018 was the first time that Mount Vernon's departments were able to access holistic property information in a single portal. Initially, the primary benefit was situational awareness and time-savings for staff. For instance, instead of having to look across multiple systems and phone colleagues in other departments, a code enforcement officer can field a citizen complaint on a property and immediately access a comprehensive profile of the property. Has it has been cited for substandard housing issues multiple times in the past year? Is it routinely visited by police for disturbances? Is it owned by a landlord with multiple problem properties throughout the City? And is it a candidate for tax foreclosure?

As the City's cross-departmental coordinator for vacant and distressed properties, Hans Marshalleck saw an opportunity to use BuildingBlocks to take a more proactive approach for at-risk properties. He set up an alert to flag homes with a structure fire that had not pulled a permit for rehab work within a year. "We have more fires than any city in Westchester county, and we suspect some people are taking advantage of fires to lower their assessment so they can squat on the houses with reduced tax burden," explained Marshalleck. "By proactively tracking where these fires occur and whether the owners are actually doing the work to put them back into productive use, we can monitor them for blight and track the impact on our supply of naturally occurring affordable housing."

Additionally, Marshalleck was keen to know who was acquiring properties—particularly distressed assets—in Mount Vernon. Turning to the Owner Profile in BuildingBlocks, which lists a full history of all properties owned by a given taxpayer, he was able to monitor which LLC's were acquiring multi-family properties with a history of code violations. And because BuildingBlocks also scans multiple data sources to suggest potentially affiliated owners based on shared registered mailing addresses, similar registered names, or common utility billing information, he was able to piece together a handful of New York City-based developers that were rapidly growing their real estate portfolio in Mount Vernon. Some of these entities had a history of flipping subsidized housing to market rate, others routinely managed

substandard properties, and still others were likely to transform naturally occurring affordable housing into group homes. While the City does not always have recourse to intervene, maintaining an understanding of who and what is behind the transformation of Mount Vernon's property stock is critical to developing and applying policy tools to maintain safe, affordable, and fair housing.

## Advancing Data-Informed Decisions with a Market Value Analysis

As the City's capacity to use data evolved, leadership began to ask how this integrated information could be used not only to streamline operations within departments, but also to inform broader strategic objectives. Just as certain tools and approaches available to code enforcement officers are more or less applicable based on a comprehensive understanding of properties, leadership believed that certain policies and strategies could be honed and applied based on submarket dynamics within Mt. Vernon's neighborhoods.

In September 2018, Mount Vernon was selected along with ten other cities to participate in the second phase of Cities RISE. Phase two of Cities RISE was intended to advance each city's code enforcement initiatives with additional resources to leverage data into operational and policy changes. Reinvestment Fund was brought in as a partner to help the city develop a comprehensive understanding of the housing market conditions within the city.

### Reinvestment Fund's Market Value Analysis

One of the keys to creating vibrant neighborhoods is understanding where and how to invest public resources. Since 1985, Reinvestment Fund has been working with the public, nonprofit and private sectors to identify the best investment approaches for improving the quality and value of local real estate markets and, in turn, strengthening communities.

The Market Value Analysis (MVA) is a data-based tool to inform community revitalization and to manage neighborhood change. It provides stakeholders with a common understanding of market types, and allows public, nonprofit, and community organizations to engage in a productive dialogue around the creation of a coordinated investment and service-delivery strategy. Reinvestment Fund developed the first MVA in Philadelphia in 2001 and has replicated the analysis in cities around the country from Akron, Ohio to Wilmington, Delaware.

An MVA defines a set of housing market types, which characterize the level of market strength or distress in housing submarkets within a community. These market types are identified through a statistical analysis based on a package of

### How cities are using their MVA to guide policy and interventions

- **State of Delaware:** Awarding points for LIHTC proposals in the QAP; Equitable development.
- **Bethlehem, PA:** Targeting blight mitigation strategies.
- **Dallas, TX:** Assessments of fair housing; Identifying target development areas.
- **Pittsburgh, PA:** People, Planet, Place, Performance metrics (p4) – an initiative to create a new model of urban growth that is innovative, inclusive and sustainable.
- **New Orleans, LA:** Landbank disposition strategies.
- **Philadelphia, PA:** Landbank strategic acquisition/disposition strategy.
- **Baltimore, MD:** Targeted code enforcement.
- **Richmond, VA:** Advancing discourse around the connection of health and housing.
- **St Louis, MO:** Support CDBG Consolidated Planning efforts.

quantitative market indicators, drawn primarily from administrative data sources and secondarily from other public data (e.g., Census' American Community Survey).

Darren M. Morton, Mount Vernon Commissioner of Planning and Community Development and Treasurer of the Mount Vernon Urban Renewal Agency was one of the early participants in the Mount Vernon MVA. Like many participants in the process, Dr. Morton already had sense of the local dynamics of the housing market, having lived in the city for many years, "We always had a general idea of what was happening. We have lots of anecdotal and qualitative data about our market, but we didn't have quantitative data to supplement that for confirmation. This analysis helps us do that." Understanding the characteristics of each housing submarket and where those markets are similar or different, helps stakeholders better understand the contours, needs, and opportunities for intervention in their communities. "Having the MVA gives us a baseline for understanding the current state of our market," Dr. Morton explained. "That will help us from a comprehensive perspective to do some laser focused planning and marketing to broader constituents." Cities can then use this information to better target resources and services as well as tailor development and investment strategies for specific market types.

A number of Tolemi's partner cities had worked with Reinvestment Fund to develop an MVA and integrated the insights into the BuildingBlocks application, so Tolemi had seen first-hand how this process enabled local governments to quickly apply an understanding of changing market dynamics to neighborhood revitalization strategies.

### Developing the Market Value Analysis

Creating an MVA is an intensive process that includes field validation of data and resulting models, as well as the engagement of local stakeholders as partners in the endeavor to identify and validate housing market data.

The first step in the MVA process is acquiring, cleaning, and geocoding administrative datasets from the various agencies involved in housing and community development. The foundation of each MVA is a set of market indicators that describe the characteristics of each city's residential housing market. From city to city – Selma, AL to Houston, TX – the components of the MVA may vary, but the basic elements remain the same. In Mount Vernon, the process was greatly accelerated by the availability of the city's BuildingBlocks platform, which owing to Tolemi's engagement with the city, had already brought together data on property transactions, code violations, building permits, utility usage, and property ownership into a single platform. In creating the BuildingBlocks platform, and because it had been up and running for several months before the MVA began, all of the data had been assigned to its proper location and subject to months of user-testing and on-the-ground validation by city officials.

With so much of the City's administrative data living in a single platform, the study team was able to quickly acquire and processes the necessary housing market indicators used in an MVA.<sup>1</sup> Data on individual home sales, building permits, and blight were collected and aggregated to describe conditions within each of the 54 census block groups in the city—a small sub-neighborhood geography roughly equivalent to six city blocks.

Once a robust and validated database of market indicators has been created, the next step in developing an MVA is to use a cluster analysis to identify the housing submarkets within the city. A cluster analysis

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<sup>1</sup> In a more typical MVA engagement in cities, this process can sometimes extend a few months.

is a statistical procedure that creates similar groupings of block groups. Each grouping represents a distinct submarket that shares a common constellation of market characteristics. The groupings are generally designed to maximize the similarity of cases (i.e., block groups as represented by their market characteristics) within groups and maximize the differences across groups.

This phase in the process involves close collaboration with local stakeholders to review and validate the results of the cluster analysis. The selection of indicators used in the cluster analysis and the ways in which each indicator is scaled or specified can produce substantially different results. Early versions of the analysis were shared with local stakeholders through webinars to evaluate how well the results captured the housing conditions in the city and to identify elements of the market that may have been missed.

Reinvestment Fund conducted a validation trip on December 16, 2020 to meet with stakeholders in person and manually inspect the results of two candidate MVA models. With a group of city representatives, the team drove through nearly every residential block in the city, comparing the classification of the area according to the data with conditions on the ground.

The validation process provides an opportunity to ground truth the analysis, but it also provides an important opportunity to convene stakeholders around a common understanding of their housing market: its challenges and opportunities. Deputy Commissioner of Planning and Community Development, Marlon Molina, helped organize the validation process, and saw value in including stakeholders outside of the code enforcement process. “Part of the value was that city hall stakeholders started to look at this as a group exercise.” Mr. Molina explained. “We had a zombie properties taskforce, but we were coming at it from a code enforcement perspective. This conversation was different because we were looking at it in terms of attracting investment and understanding what was already happening in our neighborhoods.”

## The Mount Vernon Market Value Analysis

The 2020 MVA for Mount Vernon was based on the following indicators: (1) median home sales price, (2) percent of homes permitted for substantial renovations, (3) owner occupancy, (4) foreclosure filings and tax sales as a share of owner-occupied homes, (5) percent of vacant homes, (6) share of home sales to investors, (7) share of homes with code violations, (8) housing density, and (9) share of rental units with a subsidy.

Figure 2 maps the location of each MVA market in the city. Stronger markets, shaded in purple and blues, represent the most stable housing markets in Mount Vernon, where vacancy is low and private market activity is stronger. The yellow markets are more distressed, with higher levels of blight, foreclosure, and vacancy.

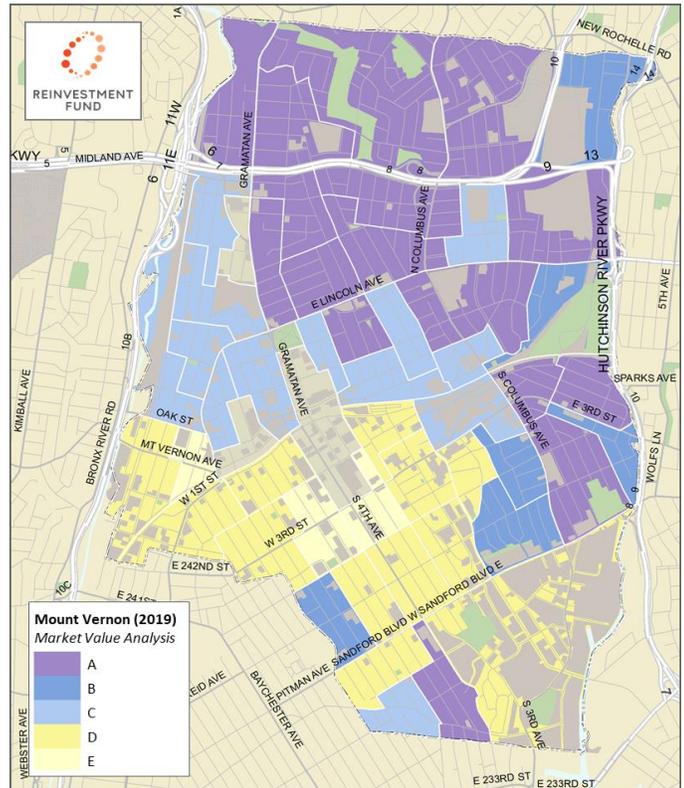
## Integrating Property Level and Market Level Data

Combining property level and market data provides a powerful way to understand the landscape of issues and opportunities available to municipal and community leaders. The ability to identify individual problem properties and quickly diagnose the market conditions in which those properties exist, helps inform the identification of effective intervention strategies.

Integrating the MVA into Mount Vernon’s BuildingBlocks application allows city officials to identify, for example, the differential rate at which investor ownership is changing in relatively stable owner-occupied housing sub-markets, like the MVA’s A and B markets, and weaker more distressed areas, like the MVA’s D and E markets.

Combining a view of vacant properties with their MVA market types creates the opportunity to identify which vacant homes are in areas where market values likely support redevelopment without public subsidy and where public subsidy, or additional resources, are likely needed for redevelopment – something other cities with MVAs do.

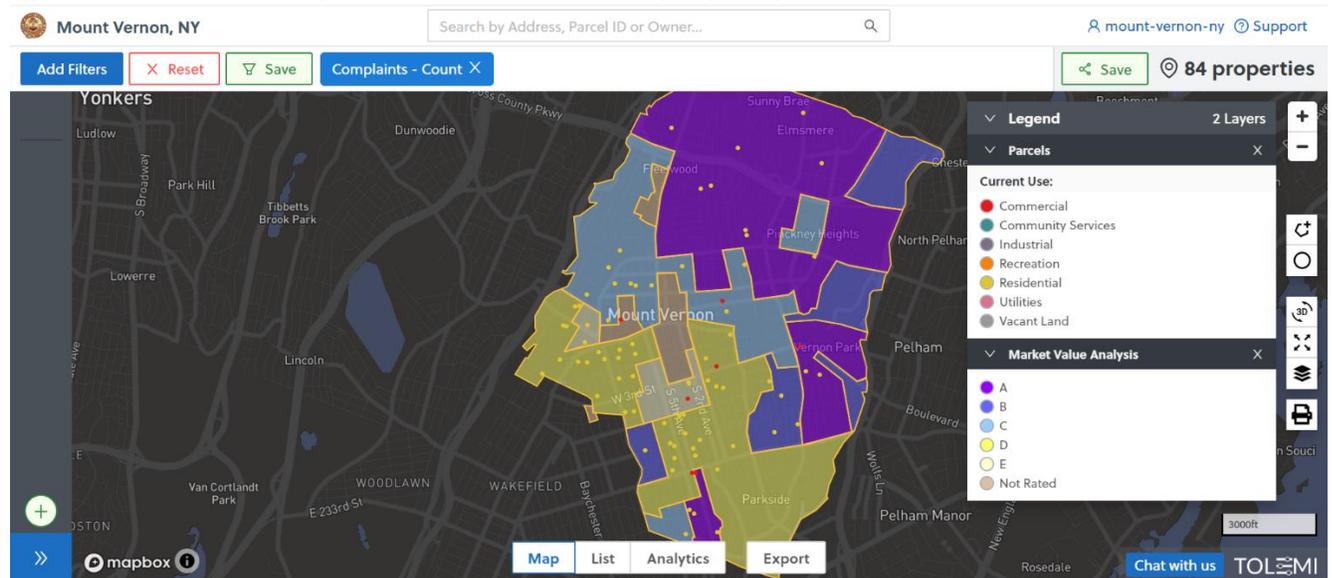
**Figure 2: Mount Vernon Market Value Analysis**



*Selected Market Characteristics from Mount Vernon MVA*

	Median Sales, 17-19	Permits (>\$5k)	Home Owners	Distr Sales	Vacancy	Code Viols	Investor Sales	Sub. HH
<b>A</b>	\$457,428	9.64%	63.27%	1.78%	2.02%	2.14%	53%	3%
<b>B</b>	\$368,791	9.20%	67.30%	1.54%	3.13%	3.88%	63%	68%
<b>C</b>	\$359,097	7.93%	31.15%	2.12%	4.30%	6.15%	71%	7%
<b>D</b>	\$296,114	10.64%	33.68%	5.25%	6.32%	6.98%	86%	22%
<b>E</b>	\$240,512	9.77%	6.20%	12.19%	7.89%	15.55%	94%	50%
<b>City Average</b>	<b>\$369,495</b>	<b>9.13%</b>	<b>42.64%</b>	<b>3.07%</b>	<b>4.84%</b>	<b>6.73%</b>	<b>69%</b>	<b>19%</b>

**Figure 3: Market Value Analysis and Location of Vacant Property Complaints**



## Using an MVA and Market Data to Guide a City Goals

The BuildingBlocks platform and MVA data provide a wealth of resources for city officials. Stakeholders in Mount Vernon have begun to take advantage of these opportunities to target and support public investments, prioritize code enforcement operations, and improve transparency in government.

### Targeting and Supporting Public Investments

The MVA is a useful tool for identifying ways to allocate community development and blight remediation resources more efficiently and effectively. The MVA can help the City of Mount Vernon develop strategies to assist development activities particularly in south and west sides where there is a concentration of low- and moderate-income households and the city's highest minority concentrations.

The MVA provides a framework for directing funds in both daily operations and long-term planning. Activities can be targeted for city revitalization through home-buyers assistance programs, owner rehabilitation programs, and construction or renovation programs, with a particular focus on areas with high risks of resident displacement.

For Mayor Shawyn Patterson-Howard, the tool will provide an opportunity to bring new stakeholders to the table, "We have to make sure we're positioning ourselves. We have an opportunity to sit-down with our real estate community and share this data. To work with them to develop a strategy to market our community. It creates the opportunity to engage in a public-private partnership to help recharge certain neighborhoods." The MVA will help identify nodes for development where the City of Mount Vernon can most effectively partner with for-profit and non-profit investors to impact the localized needs, and supports a comprehensive city-wide strategy. It provides a framework to not just support that strategy, but to target specific redevelopment efforts where equitable housing solutions may be identified at the lowest relative cost.

"In the past," Mayor Patterson-Howard noted, "we have been more reactive than proactive, and more crisis oriented than vision oriented. Not a pie in the sky vision, but real vision with real benchmarks and partnerships to get things done. Not just something we're talking about for a new site or political

campaign but something we're digging and drilling down into." The relevant and validated baseline of market data in the city's new MVA will be helpful for tracking community progress and moving the city from a reactive to more proactive orientation.

### Prioritizing Code Operations

Mount Vernon has traditionally had an extremely limited code enforcement function and the city is working to aggressively establish new leadership and capacity to become more responsive to residents' complaints and more proactive in identifying and responding to code challenges before they grow into more significant issues. The MVA will be used to prioritize proactive inspections to ensure that inspectional and enforcement capacity is targeted to geographic areas where it is most needed, can encourage and contribute to existing investments, and will be responsive to and help mitigate the negative impacts of community displacement.

The MVA equips code officials and municipal leaders with a clear, concise, and data-driven way to segment and differentiate their response and enforcement efforts based upon market conditions and economic realities. This will translate to a focus on more traditional enforcement of quality of life issues and exterior conditions within strong markets, and a more nuanced and restorative approach into depressed markets, which houses the city's most vulnerable residents and those most at risk of displacement. It will also allow the department to identify and target key buildings and community assets in need of redevelopment that might be holding back more substantial and transformative private investments. Mount Vernon can look to several other cities who rely on the MVA to guide their own code operations, including Baltimore and New Orleans.

The relatively high proportion of renters within Mount Vernon, along with the significant regional housing pressures from nearby New York City, makes low income renters a particularly vulnerable population within Mount Vernon. The MVA will contribute to how the city will operationalize their efforts to support safe and affordable rental housing through targeted and proactive rental inspections. Rental inspectors should focus increasing inspectional capacity on those block groups where the greatest pressures exists and transitioning neighborhoods where changing conditions and pressure from investors drive vulnerable populations into the most unsafe conditions. More detailed information about displacement allows the city to anticipate the need and consider additional investments in affordable housing, preferably before private investors drive prices up. A well-informed and market-based tool to assess housing market demands can ensure inspectional capacity is used most efficiently and effectively to reduce displacements and improve housing conditions for renters.

### Improving Transparency in government

Trust in Mount Vernon's government is exceptionally low among residents. The previously elected mayor (Richard Thomas) pled guilty to stealing campaign funds and filing a false disclosure report; he resigned as part of a plea deal with the state Attorney General.<sup>2</sup> Moody's recently withdrew its credit rating for the city due to insufficient financial data.<sup>3</sup> The comptroller is being investigated for nepotism and has seemingly ignored Freedom of Information Law requests.<sup>4</sup> At a time of such low trust in the local government, the MVA provides a clear, data-driven, and transparent way for city leaders to

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<sup>2</sup> See: <https://on.ny.gov/2U3n0Rp>

<sup>3</sup> See: <https://bit.ly/3eLnPX1>

<sup>4</sup> See: <https://bit.ly/3gSG2np>

allocate resources and target enforcement efforts. Along with data integrated within Building Blocks, the MVA offers policy makers a way to avoid perceptions of political favoritism, particularly when substantial public investments are placed in one geographic region over another. Transparency in that process is critical, and the MVA offers an accessible way to achieve that.

The MVA also provides a useful tool for community groups, stakeholders, and residents to understand and visualize market dynamics and how that helps to guide policy decisions. In situations where resources are scarce and investments in more equitable outcomes involves difficult tradeoffs, the MVA offers a reasoned, defensible, and apolitical lens to help communities have voice in and understand the basis upon which these tradeoffs are made.

Mayor Patterson-Howard noted, “This data gives us a clear indication about where we need to do better. These were things that we instinctually as a community knew, but when you have real data, that’s incontrovertible. We’re moving from supposition to, ‘this data supports this,’ and that will help create a foundation that informs us as we move forward.” Community engagement and restoring trust in local government is a cornerstone of the Mount Vernon Cities RISE grant award, and the MVA will directly support these efforts.



Reinvestment Fund is a national mission-driven financial institution that creates opportunity for underserved people and places through partnerships. We marshal the capital, analytics, and expertise necessary to build strong, healthy, and more equitable communities.



Tollemi believes smart, effective, efficient governance can and must be fact-based and data-driven. We are inspired by our relentless optimism of government as well as the dedication and commitment of our public servants.



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