Market Value Analysis

The Market Value Analysis (MVA) is an analytic tool to guide community revitalization, stabilization, and investment efforts. The analysis for an MVA is performed at a Census block group boundary, which offers insight into the variation in market strength and weakness within and between traditional neighborhood boundaries.[1] Where market types meet on the map becomes instructive about the potential direction of market change.

Since 2001, Reinvestment Fund has created over 40 MVAs for municipal, regional and state geographies. Government, philanthropic and private investors use information from the MVA to better design programs or target interventions to stimulate private market activity and capitalize on larger revitalization efforts.[2]

The MVA yields a data-driven foundation for restoring market viability and wealth in distressed markets. To create an MVA, Reinvestment Fund begins by collecting, geocoding, and analyzing data on the physical conditions of residential property within each Census block group in a municipality. The analysis typically relies on administrative data, which varies from place to place, but generally describes the following indicators and characteristics:

- Foreclosure activity
- Home sales prices
- Resident tenure
- Housing vacancy
- Incidence of code violations
- Housing density
- Presence of subsidized rental housing
- Construction and renovation activity

Once data has been assembled, analyzed, and geocoded, Reinvestment Fund uses a statistical technique known as cluster analysis to complete the MVA. A cluster analysis identifies groups of observations (in this case block groups) that have similar characteristics as measured by the descriptors, noted above. The goal in this stage of the analysis is to form distinct clusters of block groups which are very similar to one another within each cluster, but very different from block groups in other clusters.[3]

Using this technique, the MVA condenses vast amounts of data for the universe of all residential properties to a manageable, meaningful typology of market types that can inform area-appropriate programs and decisions regarding the allocation of resources.

The 2022 Greater Richmond MVA was made possible through generous funding and project support from Richmond Memorial Health Foundation and PlanRVA.

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[1] A Census block group is a geographic designation representing an area that is typically about one-fifth the size of a Census tract.

[2] To learn more about the MVA and how cities use the tool, See: https://www.reinvestment.com/initiatives/market-value-analysis/

[3] Depending upon the size of the area, MVA results can generate from five to eleven distinct market types.

Market Indicators Employed in the 2022 Greater Richmond MVA

In preparing the Greater Richmond 2022 MVA, most market indicators were obtained directly from the City of Richmond, Chesterfield and Henrico counites or other publicly available sources. The only non-public data source used was Multiple Listing Service (MLS) for sales transactions. All data were cleaned and geocoded to Census block groups. The data used were:

- Residential Real Estate Sales (2019 – 2021Q3) price and variance from the Multiple Listing Service (courtesy of the Virginia MLS CoOp);
- Banks Sales (2019 – 2021Q3) residential property transactions where the seller is a bank from the Multiple Listing Service data (courtesy of the Virginia MLS CoOp) ;
- Building Renovation and Construction (2019 – 2021Q3) from the Chesterfield County Department of Building Inspection, County of Henrico's Department of Building, Construction and Inspections and City of Richmond's Planning and Development Review, Permits and Inspections Office;
- Vacant Residential Properties (2020) from Housing and Urban Development's United States Postal Service data;
- Housing Units per Acre (2021) from U.S. Census 2010 Decennial Census and municipal parcel files;
- Residential Parcels Built 2008 on, from U.S. Census, American Community Survey, 2015 – 2019;
- Subsidized Housing Units (i.e., public housing developments, multi-family assistance properties, and housing choice vouchers) obtained from HUD's Picture of Subsidized Housing.
- Owner Occupancy from U.S. Census, American Community Survey, 2015 – 2019.

Reinvestment Fund performed a Market Value Analysis in Greater Richmond in 2017. In most cases, 2022 MVA relied on the same indicators refreshed with updated data. The one exception was vacancy, the 2017 MVA used data from Valassis; the 2022 MVA used United States Postal Service data from the U.S. Department of Housing and Urban Development. The 2022 MVA was validated by a Steering Committee of local experts who viewed maps and data summaries of each component variable and the MVA model and provided feedback on the project on five occasions. Indicator data and models were also validated by a Resident Engagement Subcommittee and Data/Market Validation subcommittee which met prior to each Steering Committee meeting. Experts were provided with data and a mapping application that allowed them to focus in on areas of the city and county with which they had greatest familiarity. Reinvestment Fund also conducted two validation trips to ensure the quality of the underlying indicator data and quality of the MVA model.

Methodology for Creating the MVA

Once data components are verified, a statistical cluster analysis was conducted to identify areas (i.e., block groups) that share a common data profile. The cluster analysis segments block groups into clusters (in this case, a total of nine) based on sharing like characteristics on the market indicators listed above. The cluster analysis therefore creates a typology of market types that share characteristics even when geographically located in different places within Greater Richmond.

Regionwide Findings

According to the 2022 Greater Richmond MVA, the average home sales price of the study area's block groups is about $292,885 (compared to $207,826 in 2017). Greater Richmond block groups have more homeowners than renters (62% vs. 38%). The typical block group has 4% of residential parcels with a home built since 2008. On average, 2% of residential parcels are vacant, and for 7% of residential sales, a bank is selling the home. Subsidized rental housing makes up 17% of the average block group's total rental housing stock. The average block group has 5.3 housing units per acre.

The table and descriptions below present the indicators used in the 2022 Greater Richmond MVA. The table is organized so each market type is described by the block group average for each indicator. Note that 16 block groups were not assigned to a market type due to insufficient home sales data. The 2015-2019 American Community Survey shows that those 16 areas are home to 8,093 housing units and 23,502 people – representing approximately 3% of the housing units and 3% of the population of the Greater Richmond study area. The table also includes information from 19 split block groups. Block groups are split when component indicators vary significantly and are clustered within a block group. For instance, sales prices on one side of a large road in the center of a block group may be much higher or much lower than home sales prices on the other side of the road.

Average Characteristics for Richmond Area Market Types

	Number of Block Groups*	Median Sales Price 2019-2021	Sales Price Variance, 2019-2021	Percent Bank Sales, 2019-2021	Owner Occupancy, 2015-19	Percent Subsidized Rental, 2021	Percent Vacant Residential, 2021	Housing Units per Acre, 2015-19	Percent Residential Parcels Built 2008-up	Percent Residential Parcels with Permits 2019-21
A	49	$576,635	0.63	2%	86%	1%	0%	2.8	12%	17%
B	32	$478,570	0.94	4%	29%	22%	2%	21.9	2%	10%
C	97	$327,392	0.37	4%	84%	3%	1%	3.1	4%	9%
D	60	$258,893	0.80	6%	34%	6%	1%	8.0	5%	8%
E	102	$ 227,432	0.37	7%	81%	5%	0%	2.5	3%	6%
F	18	$209,868	0.50	23%	59%	9%	7%	4.9	3%	15%
G	44	$209,328	0.81	11%	44%	96%	3%	5.0	5%	10%
H	41	$130,615	0.77	12%	42%	9%	3%	5.3	2%	5%
I	14	$103,375	1.07	10%	23%	95%	4%	5.7	4%	6%
Block Group Avg.	457	$292,885	0.60	7%	62%	17%	2%	5.3	4%	9%

*Totals include block groups that were split to better categorize the market

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Market Characteristics for Each Identified Cluster

Robust Markets

- "A" markets have the highest housing values, the highest share of homes constructed from 2008 on, the highest share of permit activity, the highest owner occupancy levels, and experience little housing distress (such as residential vacancy and bank-owned sales).

- "B" markets have elevated housing values, are the highest density markets, and have above average levels of subsidized rental housing. They have more renters than owners, and experience little housing distress.
- "C" markets have above average housing values, high levels of owner occupancy, below average levels of housing distress indicators like vacancy.

Steady Markets

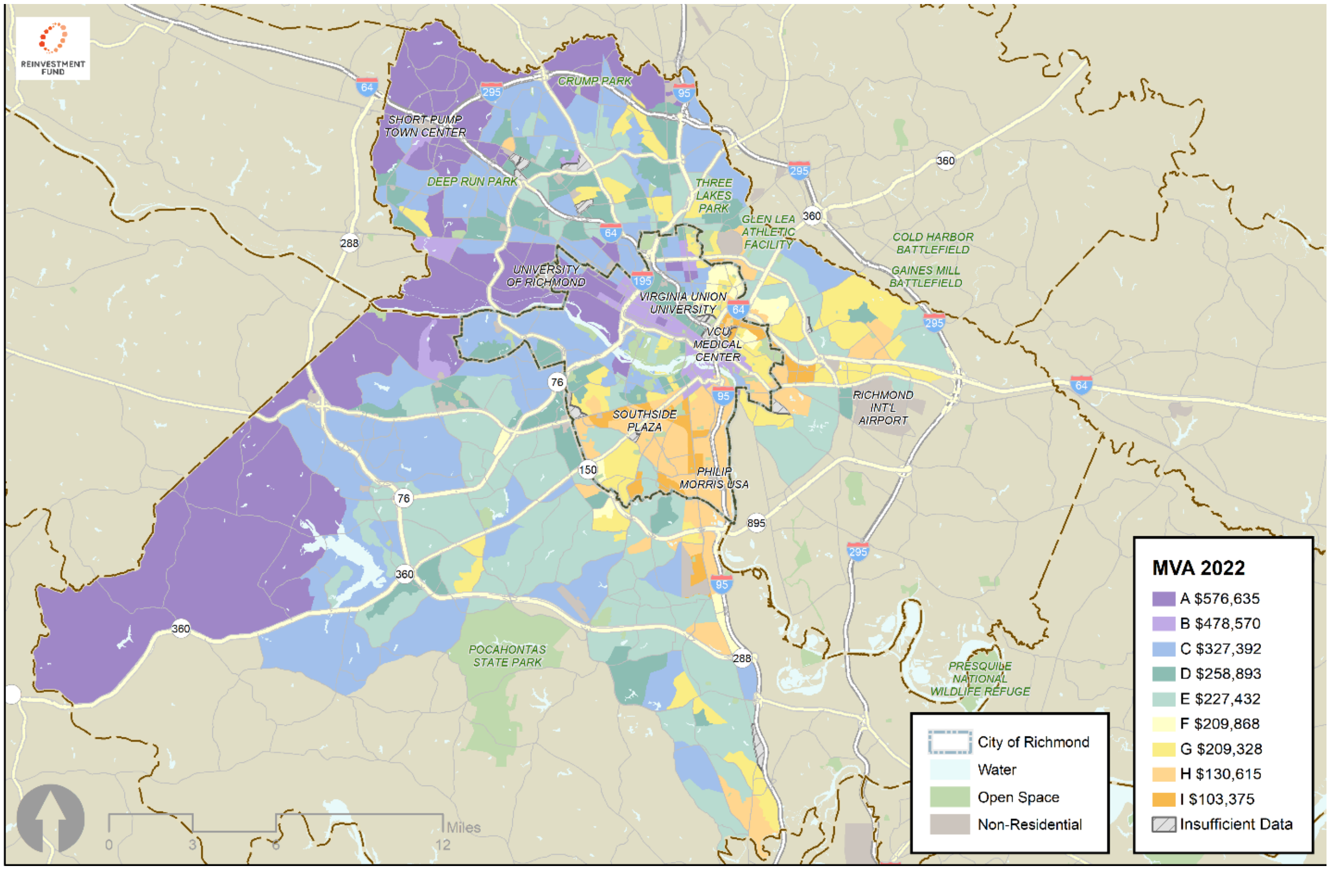
- "D" markets have housing values just below the regional average, have more renters than owners, experience just below average levels of bank-owned sales, and have low levels of vacancy.
- "E" markets have lower than average housing values, have experienced little new construction since 2008, have high levels of owner occupancy, and average levels of bank owned sales.

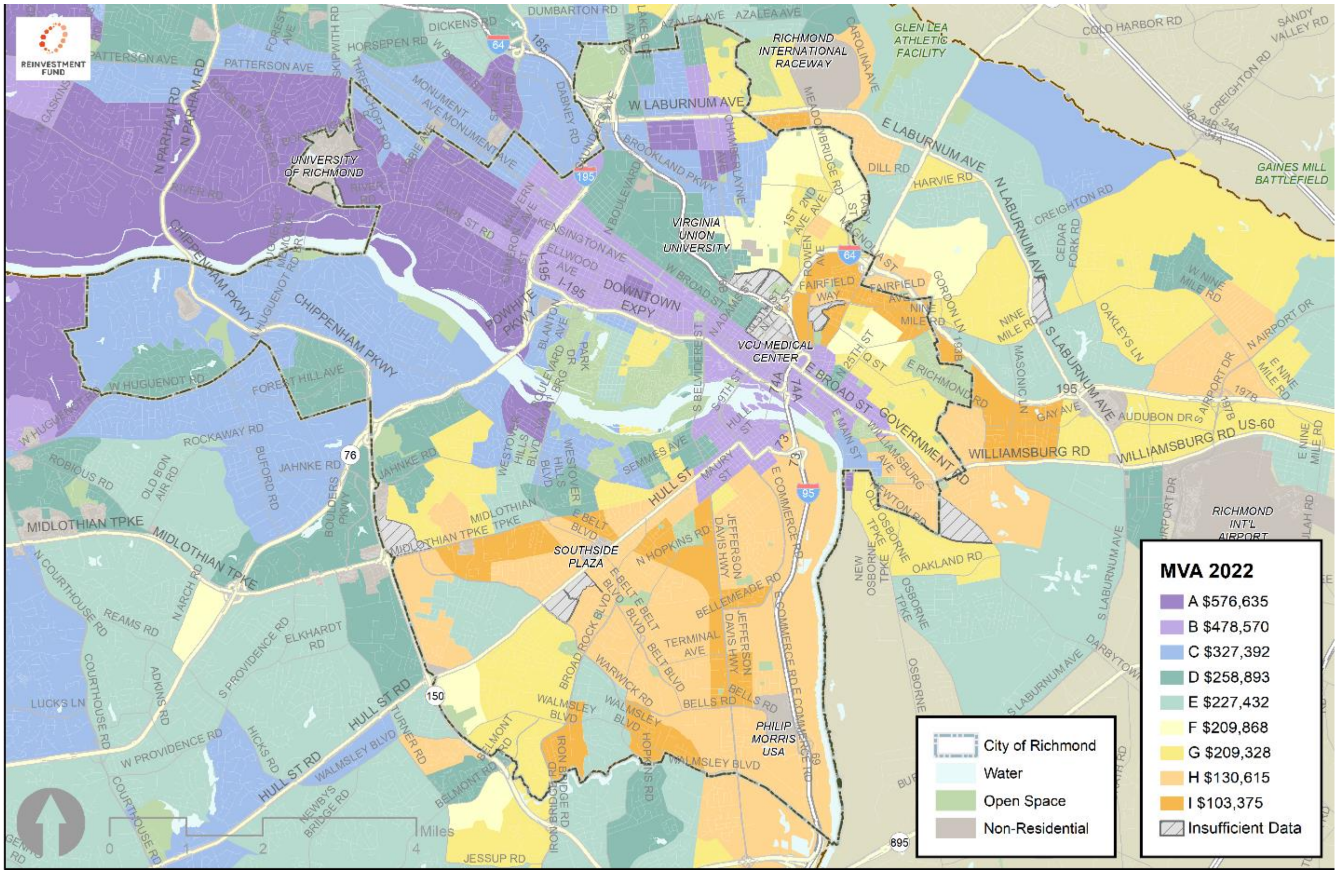
Transitional Markets

- "F" markets have lower than average housing values, experience above average amounts bank-owned sales and permitting activity and more owners than renters.
- "G" markets have below average housing values, just above average amounts of new construction, more renters than owners, and experience above average levels of bank owned sales and residential vacant properties.

Stressed Markets

- "H" markets have housing values well below the regional average, experience little new construction, slightly more renters than owners, high levels of bank owned sales and above average levels of residential vacancy.
- "I" markets have the lowest housing values, experience average amounts new construction, the highest share of renters with a subsidy, experience the highest levels of residential vacancy, and elevated shares of bank owned sales.


SHORT PUMP TOWN CENTER
DEEP RUN PARK
CRUMP PARK
THREE LAKES PARK
GLEN LEA ATHLETIC FACILITY
COLD HARBOR BATTLEFIELD
GAINES MILL BATTLEFIELD
UNIVERSITY OF RICHMOND
VIRGINIA UNION UNIVERSITY
VCU MEDICAL CENTER
RICHMOND INT'L AIRPORT
SOUTHSIDE PLAZA
PHILIP MORRIS USA
POCAHONTAS STATE PARK
PRESQUILE NATIONAL WILDLIFE REFUGE
City of Richmond
Water
Open Space
Non-Residential
MVA 2022
A $576,635
B $478,570
C $327,392
D $258,893
E $227,432
F $209,868
G $209,328
H $130,615
I $103,375
Insufficient Data
Miles
0
3
6
12



Population, Race, and Ethnicity by 2022 MVA Market Type

About 41% of Greater Richmond residents live in Robust market types, about 35% of residents in Steady markets, 11% live in Transitional markets, and 10% live in in Stressed markets. Robust and Steady housing markets have prices near or above the region's average, are a mix of highly owner occupied and mixed tenure areas, and show few signs of housing distress. Most Black residents live in Steady (36%) and Transitional (24%) markets. Twenty percent of Black and Hispanic residents live in Stressed (20%) markets compared to just 3% of White residents. Stressed markets have seen the greatest increases in home sales prices, which may have a destabilizing effect on current residents. Homeowners who want to benefit from the increase in their home value may want to sell and move. Homeowners who want to stay may have trouble paying the associated increases in property taxes as their home's assessed value increases. And renters may find it difficult to stay if their rents increase in tandem with home values.

	# Block Groups	Population	% Population	% Asian	% Black	% Hispanic	% White	% Other
A	49	112,406	14%	34%	3%	6%	20%	9%
B	32	54,335	7%	9%	4%	3%	8%	10%
C	97	167,328	21%	22%	9%	11%	29%	16%
D	60	110,236	14%	14%	15%	17%	12%	16%
E	102	171,974	21%	12%	22%	28%	21%	22%
F	18	16,682	2%	1%	5%	2%	1%	2%
G	44	73,544	9%	2%	19%	6%	4%	10%
H	41	56,802	7%	2%	13%	16%	3%	8%
I	14	21,608	3%	0%	7%	4%	0%	2%
Insufficient Data	16	23,502	3%	5%	4%	8%	1%	4%
Totals	473	808,417	100%	100%	100%	100%	100%	100%

Changes Since the 2017 MVA

Across all market types, sale prices have increased since the 2017 MVA. In general, market types with lower sale prices in 2017 had larger price increases (as a percentage) from 2015-2016 to 2019-2021. The Stressed markets experienced the most dramatic proportionate rise in typical sale prices. The price increases put homeownership increasingly out of reach for the lower income households resident in these communities, but they remain relatively affordable to households at the area median income. Sale price increases in all market types outstripped inflation. In the Greater Richmond area, each market type experienced at least a 12% percent sale price increase, including very large increases (both proportionate and raw) in the South Side, East End and Highland Park neighborhoods of Richmond.

	Median Sales Price 2015-2016	Median Sales Price 2019-2021	% Change 2015-16, 2019-21
A	$501,292	$576,635	15%
B	$425,851	$478,570	12%
C	$274,479	$327,392	19%
D	$195,175	$258,893	33%
E	$182,686	$227,432	24%
F	$140,358	$209,868	50%
G	$117,611	$209,328	78%
H	$63,465	$130,615	106%
I	$53,597	$103,375	93%

Displacement Risk Ratio

The Displacement Risk Ratio (DRR) is a test of whether the typical household living in an area at the outset of the analysis (2010) could afford to buy a home in the same area at a later time. By comparing the income of long-term residents with changes in home prices, the analysis seeks to evaluate the *involuntary* aspect of displacement: (a) households that are forced to leave their homes and neighborhoods due to circumstances beyond their control such as rapidly rising taxes, rent increases, or the conversion of rental property into owner occupied stock; or (b) an inability of people of similar economic means to those longer term residents to affordably locate in an area.

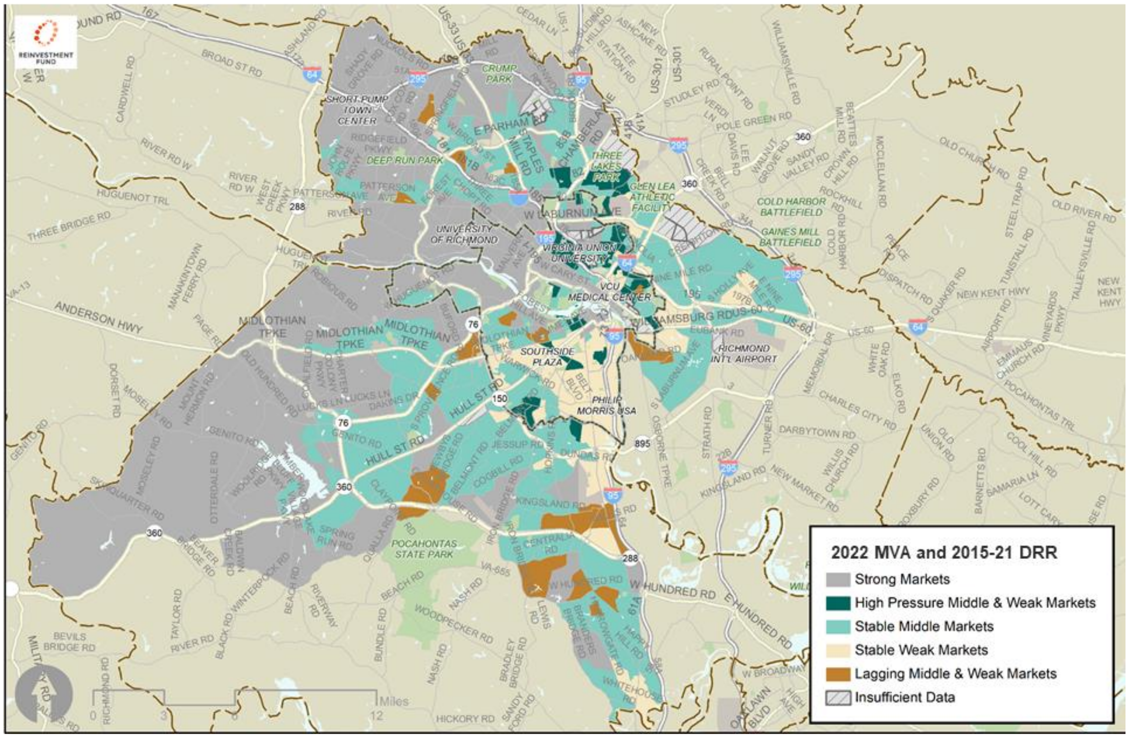
The DRR can illuminate what types of displacement pressures may be happening in Greater Richmond's communities. The tool can also help investigate related issues like how much home prices have changed in an area, to what extent displacement pressure is common in Greater Richmond's communities, and how communities compare to other neighborhoods in the region.

The DRR is calculated as the ratio of an area's median sales price in one period to the median family income in the same area at the start period. Family incomes are adjusted for inflation using the consumer price index. Ratios for individual block groups are differenced from the municipal average ratio to account for area trends.

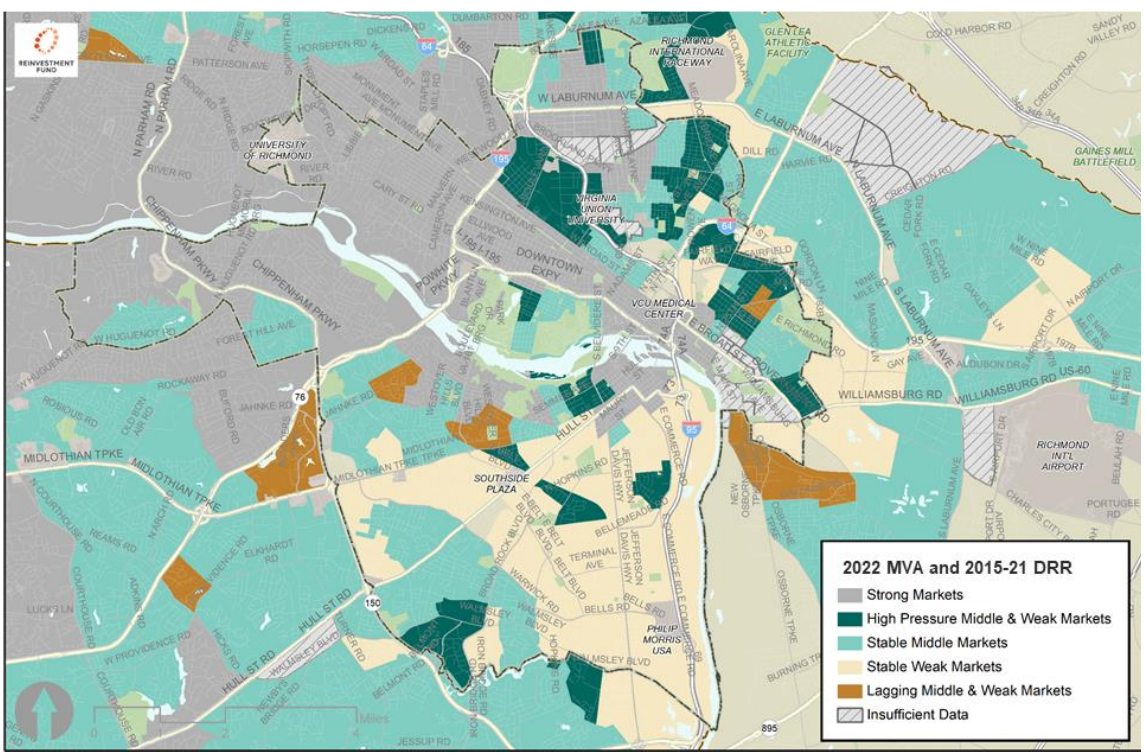
In areas with high positive DRR values, longtime residents or new residents with incomes like those of legacy residents, may be experiencing displacement pressure associated with elevated housing prices. A score over 3.0 is considered unaffordable, and a negative value, which can result from the index's adjustment for municipal price trends, indicates deep affordability but also signals the potential for displacement due to disinvestment.

Areas of greatest concern are high pressure middle and weak markets (in dark green in the maps below) and lagging middle and weak markets (in brown in the maps below). High pressure weak and middle markets might see residents unable to keep up with rent or property tax increases associated with escalating sales prices while lagging middle and weak markets may have homes that are depreciating and therefore not helping residents build wealth through their homes.

2022 MVA and 2015-21 DRR



MVA and DRR



Affordability

Reinvestment Fund calculated the number of affordable block groups within each market cluster. A block group is affordable if the median sales price is less than three times the median household income of the county in which it is situated. Calculations were made this way because of the sizable differences among the median household incomes for Chesterfield County ($96,484), Henrico County ($99,496) and the City of Richmond ($46,528). So an "H" block group in Richmond is affordable at 120% of median household income if its median sales price is $111,110 or less. An "H" block group in Chesterfield County is affordable at 120% of median household income if its median sales price is $258,214.

The table below shows affordability by market type for Chesterfield, Henrico and Richmond counties for households earning the median household income in each county. In all three counties, most robust markets ("A", "B" and "C") are unaffordable for residents earning their county's median household income. Steady Markets ("D" and "E") markets are more affordable, though there is considerable variation by county. In Chesterfield, 46% of all "D" markets and 66% of "E" markets are affordable for households earning the median household income or more. In Henrico, 13% of "D" markets and 41% of "E" markets are affordable to a resident earning the median household income. In Richmond, there are no affordable "D" markets, but 43% of "E" markets are within the reach of households earning the median income. Most if not all "H" and "I" markets are affordable for the median earning resident in all three counties.

	Areas Affordable at 100% Median HHINC Chesterfield: $82,599	Areas Affordable at 100% Median HHINC Henrico: $70,307	Areas Affordable at 100% Median HHINC Richmond: $47,250
A	0%	0%	0%
B	0%	33%	0%
C	0%	3%*	0%
D	46%	13%	0%
E	66%	41%	43%
F	67%	100%	29%*
G	50%*	59%*	19%*
H	100%	100%	92%
I	100%	100%	100%

** In the aggregate markets earlier in the alphabet have a higher median sales price than those later in the alphabet. But due to variation within each market and the mix of markets in each county, it is possible for there to be more affordable block groups in what is usually a higher priced market (e.g., more affordable F markets than G markets).*

Investor Transactions

Reinvestment Fund categorized all residential sales transactions by investor involvement. Sales were placed into one of four categories: 1) owner occupants selling to owner occupants, 2) owner occupants selling to investors, 3) investors selling to owner occupants, and 4) investors selling to investors.

At least three quarters of sales in “A”, “B”, “C”, ”D” and “E” markets are what one usually thinks of as a home sale: one owner occupant selling to another owner occupant. These markets saw some sales from investors to owner occupants, many of which were sales of new housing units – either newly constructed or converted from another use. One third of sales in “F” markets are from investors to owner occupants. Thirteen percent of residential sales in “F” markets are from owner occupants to investors. “F” markets also have the highest share of bank owned sales, saw sizable increases in median sales price and experienced a decline in non-Hispanic Black population. This constellation of characteristics indicates markets that are in flux and experiencing churn in their residents that might be associated with displacement and certainly have altered the demographics of these markets.

“G”, “H” and “I” markets have higher share of sales from investors to owner occupants. In “G” markets few owner occupants are selling from owner occupants to investors. “H” and “I” markets also had the two highest shares of residential sales from owner occupants to investors. Given that these markets experienced rapid appreciation in home prices between 2015-2016 and 2019-21 it is important to make sure that owner occupants are capturing the full value of their homes if they choose to sell and have access to resources to stay in place if they do not wish to sell.

What do Investor Sales Look Like Across Market Types?

2022 MVA Category	Share of Sales from Owner Occupant to Owner Occupant	Share of Sales from Owner Occupant to Investor	Share of Sales from Investor to Owner Occupant	Share of Sales from Investor to Investor
A	82%	3%	13%	2%
B	78%	6%	12%	4%
C	82%	3%	14%	1%
D	78%	5%	13%	4%
E	76%	5%	16%	3%
F	47%	13%	33%	8%
G	60%	8%	26%	6%
H	51%	18%	23%	8%
I	39%	25%	21%	14%

Home Mortgage Lending

Access to financing for a home purchase is the lifeblood of a neighborhood. Without access to a mortgage, most households are unable to purchase a home. The tables below show the patterns of mortgage lending within Greater Richmond. Mortgage approval rates are just around 81% for all borrowers across markets. However, looking at approval rates by race reveals approval rates for Black applicants tend to be about 10 percentage points lower than approval rates for White applicants in all MVA markets.

Reinvestment Fund estimates the number of homes purchased without a mortgage by comparing the number of home sales with the number of mortgages granted during the same period. About three quarters of home sales are associated with a mortgage in Purple (“A” and “B”), Blue (“C”) and Green (“D” and “E”) markets. In Yellow (“F” and “G”) markets this share drops to 61% and in Orange (“H” and “I”) markets fewer than half of all sales are associated with a mortgage. The prevalence of all cash sales in Greater Richmond’s most affordable markets raises concerns about the ability of lower income residents to access housing financing and attain homeownership.

The table below shows mortgage outcomes from Home Mortgage Disclosure Application filings. The share of cash sales are estimated by comparing the number of originated loans with the number of residential transactions.

Mortgage Application Outcomes Vary Substantially Across MVA Market Types

	*Home Purchase Application Outcomes, 2019-20**				*Applications per Households, 2019-20*		*Estimated Sales with Mortgages, 2019-20*		
	Originated Loans	Rejected Apps	Withdrawn Apps	Total Apps	Total Households	App per 100 Owner Occupied Households	Originated Loans	Total Sales, 19-20	Estimated Mortgage Sales
Purple Markets	6,469	353	1,182	8,004	58,448	14	6,469	8,388	77%
	81%	4%	15%	100%					
Blue Markets	7,262	398	1,113	8,773	51,347	17	7,262	9,833	74%
	83%	5%	13%	100%					
Green Markets	9,606	804	15,50	11,960	92,655	13	9,606	13,194	73%
	80%	7%	13%	100%					
Yellow Markets	2,242	199	417	2,858	22,315	13	2,242	3,666	61%
	78%	7%	15%	100%					
Orange Markets	925	105	150	1,180	19,857	6	925	2,103	44%
	78%	9%	13%	100%					
All Markets	26,504	1,859	4,412	32,775	244,622	13	26,504	37,184	71%
	81%	6%	13%	100%					

*Only Includes first lien, home purchase applications for owner-occupied single-family homes

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*Home Purchase Application Outcomes for White Applicants, 2019-20**

	Originated Loans	Rejected Apps	Withdrawn Apps	Total Apps
Purple Markets	4,337	185	660	5,182
	84%	4%	13%	100%
Blue Markets	4,911	185	641	5,737
	86%	3%	11%	100%
Green Markets	5,665	314	776	6,755
	84%	5%	11%	100%
Yellow Markets	1,159	75	215	1,449
	80%	5%	15%	100%
Orange Markets	441	21	59	521
	85%	4%	11%	100%
All Markets	16,513	780	2,351	19,644
	84%	4%	12%	100%

*Home Purchase Application Outcomes for Black Applicants, 2019-20**

	Originated Loans	Rejected Apps	Withdrawn Apps	Total Apps
Purple Markets	361	47	83	491
	74%	10%	17%	100%
Blue Markets	845	103	160	1,108
	76%	9%	14%	100%
Green Markets	2,048	300	425	2,773
	74%	11%	15%	100%
Yellow Markets	624	80	122	826
	76%	10%	15%	100%
Orange Markets	299	59	52	410
	73%	14%	13%	100%
All Markets	4,177	589	842	5,608
	74%	11%	15%	100%

*Home Purchase Application Outcomes for Applicants Where Race Not Reported, 2019-20**

	Originated Loans	Rejected Apps	Withdrawn Apps	Total Applications
Purple	861	54	209	1124
Blue	970	67	199	1236
Green	1,215	127	223	1565
Yellow	296	35	57	388
Orange	144	19	32	195
All Markets[17]	3,486	302	720	4,508

*Home Purchase Application Outcomes for Applicants (all other races), 2019-20**

	Originated Loans	Rejected Apps	Withdrawn Apps	Total Applications
Purple	947	68	236	1251
Blue	563	43	118	724
Green	641	62	120	823
Yellow	136	9	18	163
Orange	41	6	7	54
All Markets	2,328	188	499	3,015

*Only Includes first lien, home purchase applications for owner-occupied single-family homes

Residential Property Assessments

Homes in Greater Richmond experienced rapid appreciation in price between 2015-16 and 2019-21. Transitional ("F" and "G") and Stressed ("H" and "I") markets saw the biggest increases in median home sales prices. These markets also experienced the biggest increases in property tax assessment values, particularly the "H" and "I" markets which saw 29.4% and 26.5% increases respectively. Homeowners in these markets, especially those who are long-time residents, may have difficulty keeping up with associated increases in property taxes, increasing the risk of displacement pressure.

2022 MVA Category	Average Median Sales Price 2015-16	Average Median Sales Price 2019-21	Percent Change in Median Sales Price 2015/16-2019/20	Average Percent Change in Assessments 2021/2022
A	$ 448,307	$ 576,635	28.6%	6.6%
B	$ 350,946	$ 478,570	36.4%	11.3%
C	$ 253,726	$ 327,392	29.0%	12.7%
D	$ 186,877	$ 258,893	38.5%	14.0%
E	$ 168,471	$ 227,432	35.0%	18.2%
F	$ 112,469	$ 209,868	86.6%	16.9%
G	$ 130,281	$ 209,328	60.7%	18.9%
H	$ 79,647	$ 130,615	64.0%	29.4%
I	$ 58,813	$ 103,375	75.8%	26.5%