Visualizing Data for Operational Impact

Ohio Housing Finance Agency

Management Innovation: Operations

HFA Staff Contact

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Background

Understanding our data in real time is a key challenge for the Ohio Housing Finance Agency's (OHFA) operations. Information related to our programs, such as the number and types of loan reservations, shapes decisions ranging from workflow and resource allocation, to larger policy and programmatic decisions. Yet, we found it challenging to ensure that everybody at the agency had a firm grasp on each piece of data that they needed to manage their own workflow, and make informed decisions.

Intervention

OHFA worked internally to create a series of interactive dashboards, which aggregate and streamline agency data in real time. Using Tableau as a platform, the Offices of Housing Policy, Homeownership, and Information Technology created an interactive dashboard for viewing and managing the data necessary for daily workflow. All information is updated on a daily basis, and the data can be easily filtered by the user, so they can hone in on specific time periods, loan types, borrower types, etc. Each dashboard also uses tool tips, which allow the user to see specific data items by hovering over a table or map (Figure 1).

The Dashboard consists of five separate screens used by the Office of Homeownership, each of which provides information necessary for daily and monthly decision making throughout the Office of Homeownership.

- The first (Figure 1) includes loan data organized by county, type, lender, down payment assistance level, and total loan number and amount.
- The second (Figure 2) provides information on borrowers, including loans by race, marital status, and details on the loan, such as average sale price and loan amount, household income, FICO score, age, and household size.
- The third (Figure 3) provides a breakdown of the number and amount of loans broken out by different categories, such as government and conventional.
- The fourth (Figure 4) shows how the current fiscal year compares to the prior five years by month for volume. We have indicators to show the percent change year over year.
- The fifth (Figure 5) is a lender report, which details the number and amount of loans from specific lenders and the percentage of those that are conventional or government.

The Dashboard also includes two automatically generated emails to the Homeownership office: a daily reservation report and a monthly report. The daily report (Figure 6) arrives every morning and includes a summary of reservations, cancellations, a comparison to last month's reservations and cancellations, level of down payment

assistance, type of reservation, reservation and cancellation trends over the last six weeks, and average statistics for the fiscal year to date. The monthly report (Figure 7) arrives on the first of every month and includes data on gross reservation volume, conventional loan share, and year over year change for the past five fiscal years, broken out by month.

Impact

The effects of the dashboard have been multi-fold. First, the dashboard more tightly connects the agency's annual goals with the Office of Homeownership's daily management. The dashboard allows the office to create monthly progress reports, which benchmark the progress on yearly goals. These metrics are used to present to the OHFA Board and senior staff to demonstrate progress.

Second, the dashboards help streamline relationships with partners. Lenders frequently inquire about volume, and using the Dashboards allows OHFA staff to provide accurate, up-to-the-minute information to groups that need accurate information. This also helps provide details to partners who want to better understand OHFA's portfolio.

Finally, the dashboards help the agency change policy goals and priorities. For example, a few years ago OHFA set a goal of increasing conventional loans. This tool has helped the Office of Homeownership track progress on that goal, and better understand where and when they may be falling short.

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Management Innovations: Operations
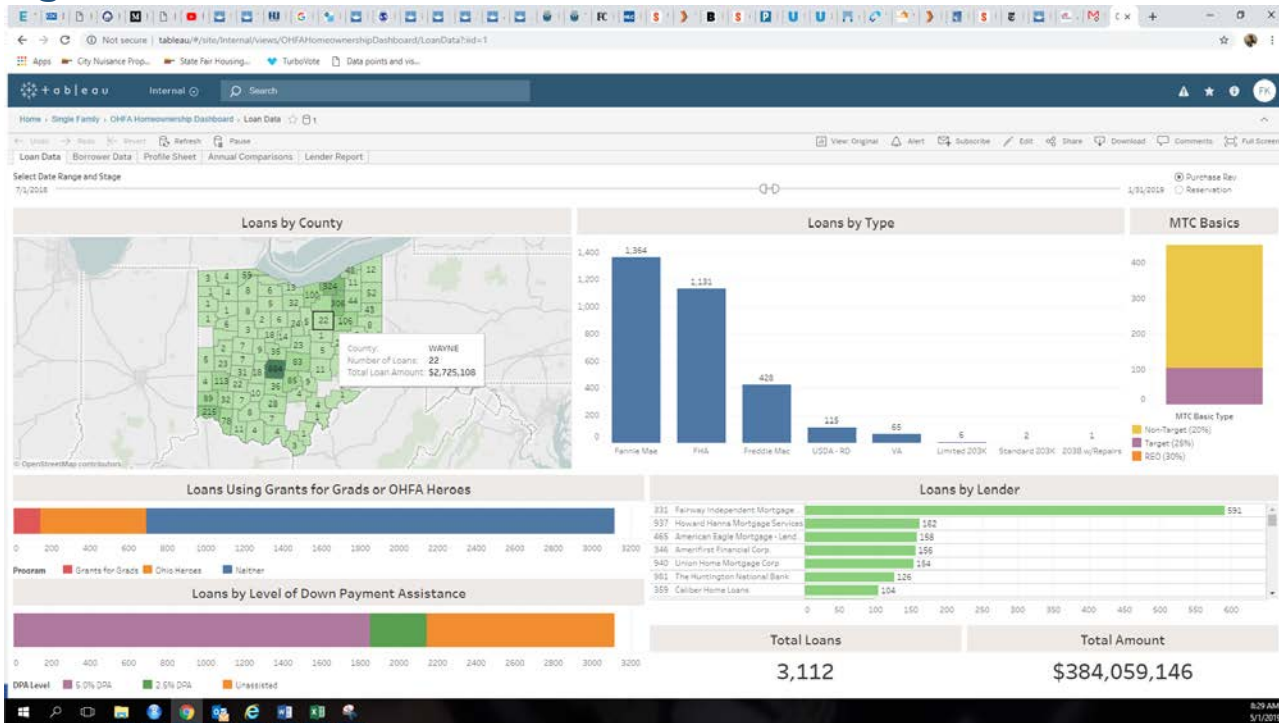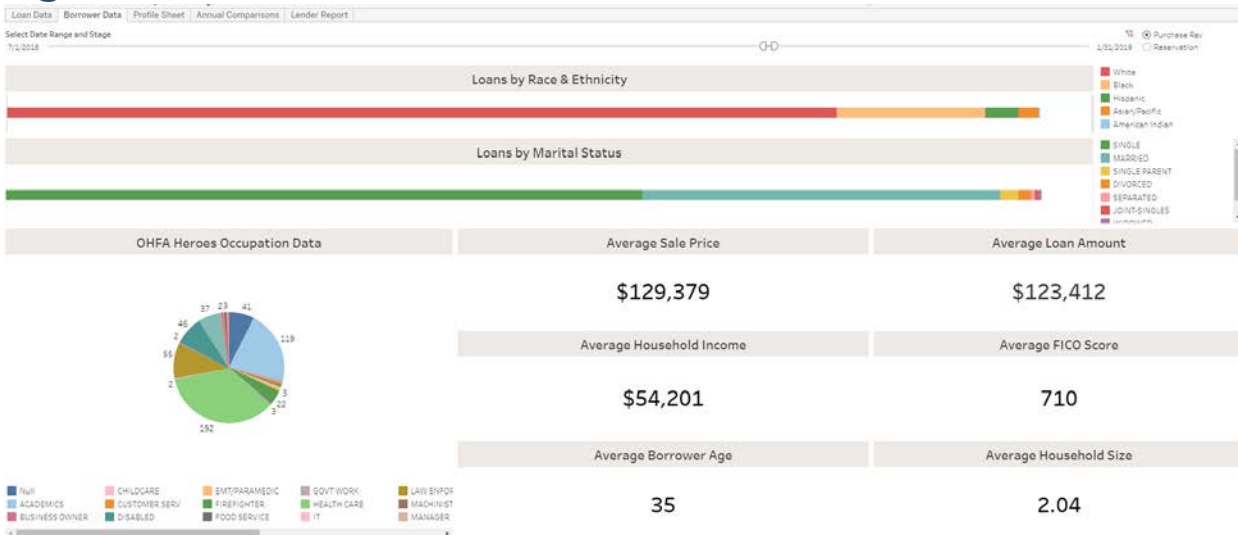

Figure 1: Loan Data
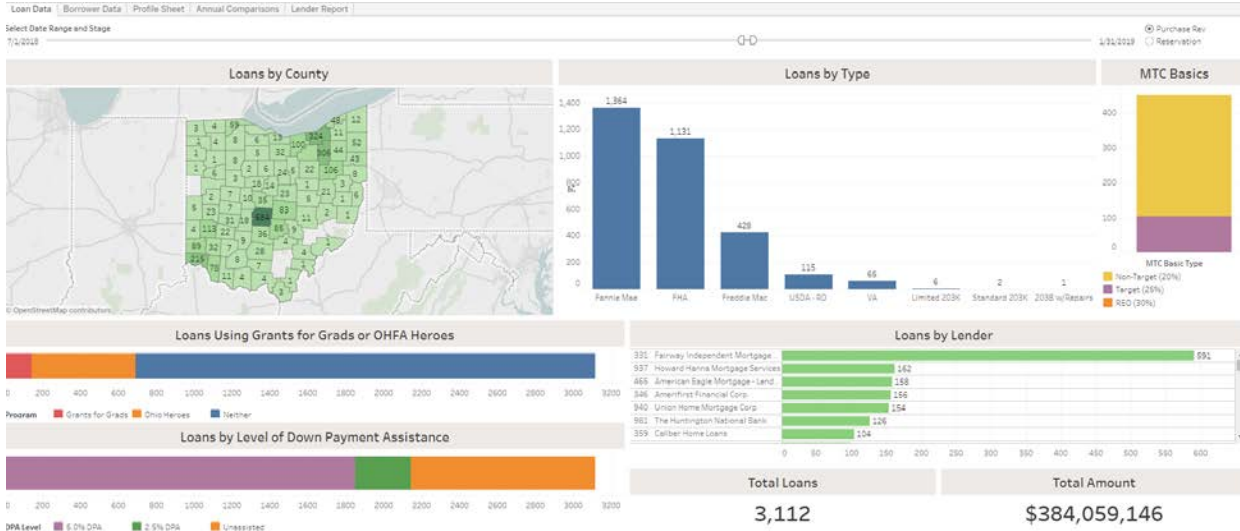

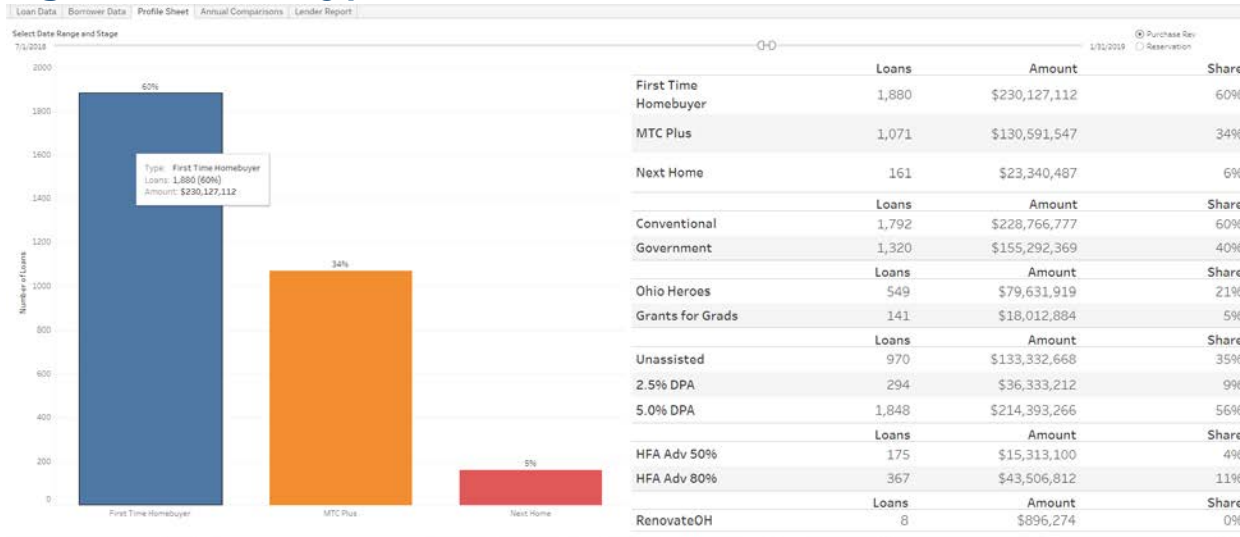# Figure 2: Borrower Information

Figure 3: Loan Types – Conventional, Government
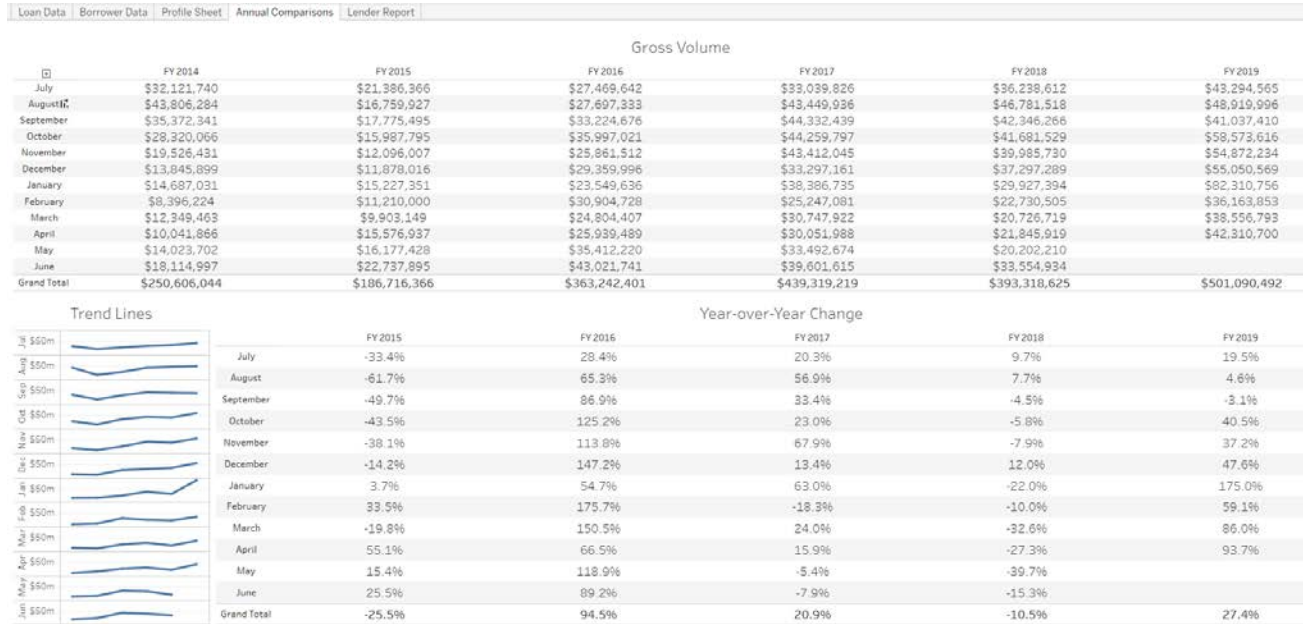
Figure 4: Volume Comparison over five years

Loan Data | Borrower Data | Profile Sheet | Annual Comparisons | Lender Report

Gross Volume

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
July	$32,121,740	$21,386,366	$27,469,642	$33,039,826	$36,238,612	$43,294,565
August	$43,806,284	$16,759,927	$27,697,333	$43,449,936	$46,781,518	$48,919,996
September	$35,372,341	$17,775,495	$33,224,676	$44,332,439	$42,346,266	$41,037,410
October	$28,320,066	$15,987,795	$35,997,021	$44,259,797	$41,681,529	$58,573,616
November	$19,526,431	$12,096,007	$25,861,512	$43,412,045	$39,985,730	$54,872,234
December	$13,845,899	$11,878,016	$29,359,996	$33,297,161	$37,297,289	$55,050,569
January	$14,687,031	$15,227,351	$23,549,636	$38,386,735	$29,927,394	$82,310,756
February	$8,396,224	$11,210,000	$30,904,728	$25,247,081	$22,730,505	$36,163,853
March	$12,349,463	$9,903,149	$24,804,407	$30,747,922	$20,726,719	$38,556,793
April	$10,041,866	$15,576,937	$25,939,489	$30,051,988	$21,845,919	$42,310,700
May	$14,023,702	$16,177,428	$35,412,220	$33,492,674	$20,202,210	
June	$18,114,997	$22,737,895	$43,021,741	$39,601,615	$33,554,934	
Grand Total	$250,606,044	$186,716,366	$363,242,401	$439,319,219	$393,318,625	$501,090,492

Trend Lines

Year-over-Year Change

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
July	-33.4%	28.4%	20.3%	9.7%	19.5%
August	-61.7%	65.3%	56.9%	7.7%	4.6%
September	-49.7%	86.9%	33.4%	-4.5%	-3.1%
October	-43.5%	125.2%	23.0%	-5.8%	40.5%
November	-38.1%	113.8%	67.9%	-7.9%	37.2%
December	-14.2%	147.2%	13.4%	12.0%	47.6%
January	3.7%	54.7%	63.0%	-22.0%	175.0%
February	33.5%	175.7%	-18.3%	-10.0%	59.1%
March	-19.8%	150.5%	24.0%	-32.6%	86.0%
April	55.1%	66.5%	15.9%	-27.3%	93.7%
May	15.4%	118.9%	-5.4%	-39.7%	
June	25.5%	89.2%	-7.9%	-15.3%	
Grand Total	-25.5%	94.5%	20.9%	-10.5%	27.4%

Figure 5: Lender Report

Loan Data | Borrower Data | Profile Sheet | Annual Comparisons | Lender Report

Select Date Range and Stage

7/1/2018

				Conventional	Government
012	Homeside Financial , LLC	80	$10,100,933	69%	31%
013	Tidewater Mortgage Services	3	$319,074	67%	33%
015	HomeBridge Financial	12	$1,709,526	42%	58%
016	HomeServices Lending, LLC	2	$299,621	50%	50%
017	NTFN, Inc dba Premier Nationwide Lending	64	$8,347,423	67%	33%
019	Residential Mortgage Services, Inc - RMS	14	$1,912,583	79%	21%
021	Finance of America Mortgage	3	$386,635		100%
022	Hometown Lenders LLC	24	$2,670,468	4%	96%
023	First Community Mortgage	3	$378,716	33%	67%
024	New Rez LLC	10	$1,388,360	10%	90%
026	Interlinc Mortgage Services, LLC	1	$131,920	100%	
027	Rapid Mortgage	5	$662,257		100%
029	Waterstone Mortgage Corporation	42	$4,138,963	31%	69%
031	Gateway Mortgage LLC	4	$494,289		100%
034	MainSource Bank	1	$119,600	100%	
035	Movement Mortgage	2	$250,381		100%
036	Congressional Bank	3	$194,314	33%	67%
038	Chemical Bank	10	$919,987	40%	60%
039	Sterns Lending, LLC	3	$381,695	100%	
040	NFM INC DBA NPM Lending	34	$4,946,312	71%	29%
041	Cincinnati Federal	1	$140,600	100%	
043	BBMC Mortgage	2	$217,221	50%	50%
044	Paramount Residential Mortgage Grp	8	$955,944	63%	38%
045	Stockton Mortgage Corp	11	$1,496,004	27%	73%
046	Independent Bank	1	$152,700	100%	
047	First Ohio Home Finance, Inc	94	$12,573,647	89%	11%
048	First Commonwealth Bank	2	$297,573	50%	50%
050	Partners United Financial, LLC	65	$8,071,093	46%	54%
051	Security National Mortgage Company	1	$157,102		100%
052	Ruoff Mortgage Company, Inc.	69	$8,598,996	74%	26%
053	Reliance First Capital, LLC	11	$1,348,324	64%	36%
056	E Mortgage Management LLC	2	$180,541	50%	50%
057	Peoples Mortgage Company	1	$113,975	100%	
058	Loan Depot.Com LLC	3	$384,524	33%	67%
059	Union Bank, The	5	$1,103,769	60%	40%

Figure 6: Daily Report

OHIO **HOUSING**
FINANCE AGENCY
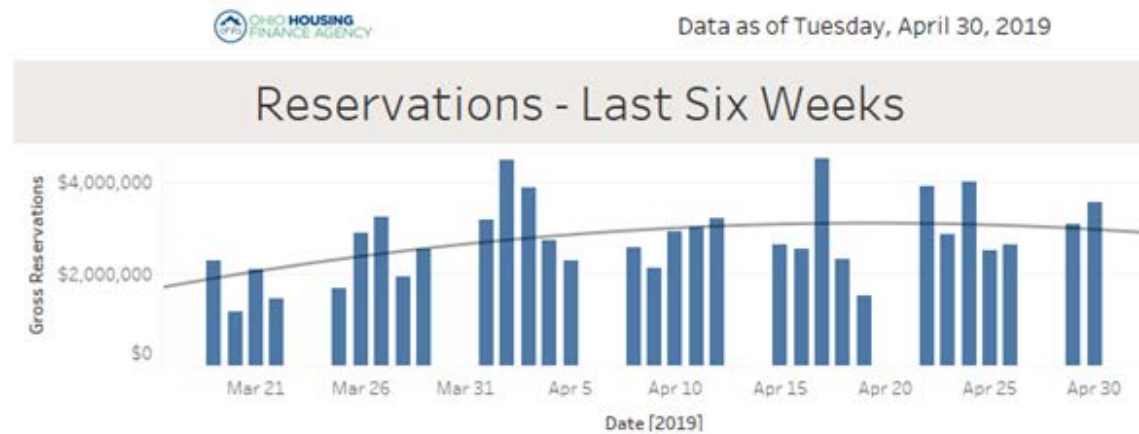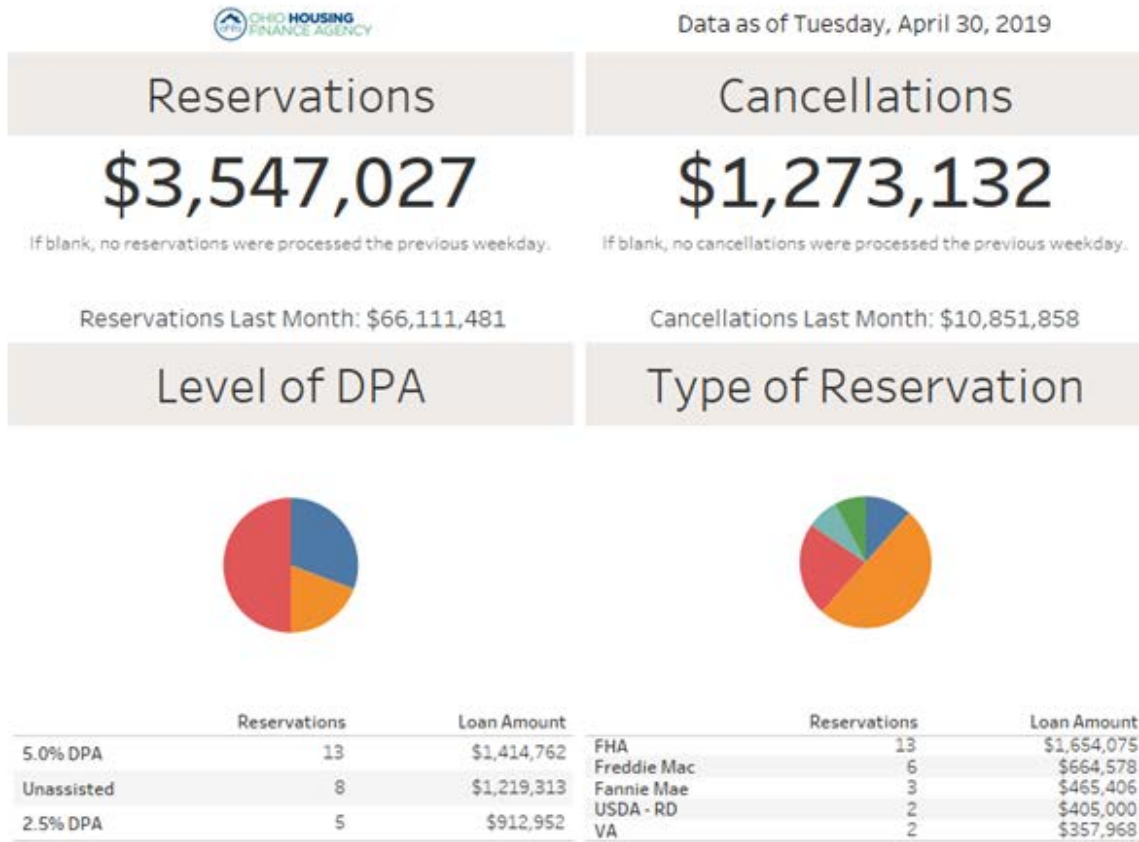
Cancellations - Last Six Weeks
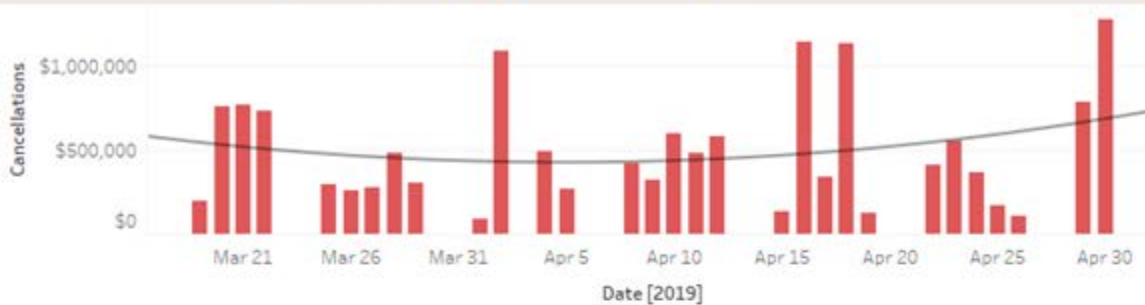
Data as of Tuesday, April 30, 2019

Average Reservation Amount, FY19 YTD

$123,372

| Number of Loans Approved for Purchase, FY19 YTD	Loan Volume Approved for Purchase, FY19 YTD
4,087	$501,090,492
Number of Loans Approved for Purchase, FY18 Final	Loan Volume Approved for Purchase, FY18 Final
3,386	$393,318,625
Number of Loans Approved for Purchase, FY17 Final	Loan Volume Approved for Purchase, FY17 Final
3,792	$439,319,219

Figure 7: Monthly Report

Gross Reservation Volume

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
July	$43,847,129	$23,140,000	$38,327,328	$42,235,763	$45,012,142	$67,306,425
August	$39,749,677	$20,181,127	$37,443,909	$51,072,982	$52,743,122	$71,068,780
September	$24,429,140	$19,293,194	$35,358,774	$42,713,550	$41,534,880	$63,485,843
October	$20,256,094	$17,003,568	$38,235,963	$39,219,594	$49,052,113	$82,087,367
November	$10,443,089	$15,398,215	$43,043,058	$37,524,340	$36,571,097	$68,941,476
December	$12,727,534	$14,550,263	$21,865,945	$32,505,466	$27,554,102	$53,195,920
January	$12,344,973	$14,804,976	$22,678,822	$30,359,653	$26,939,698	$51,596,120
February	$13,728,618	$17,039,885	$32,960,167	$34,465,544	$29,210,789	$43,628,676
March	$16,300,246	$24,060,263	$46,622,551	$50,260,540	$28,514,468	$49,527,517
April	$19,660,869	$30,005,692	$55,617,732	$38,773,904	$43,627,073	$66,111,481
May	$25,363,925	$32,867,866	$53,691,767	$58,385,843	$54,297,997	
June	$21,089,867	$35,300,229	$50,823,049	$55,231,334	$57,068,902	
Grand Total	$259,941,161	$263,645,278	$476,669,065	$512,748,513	$492,126,383	$616,949,605

Conventional Loan Share

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
July	18% ($8M)	10% ($2M)	6% ($2M)	15% ($6M)	27% ($12M)	54% ($37M)
August	14% ($6M)	6% ($1M)	8% ($3M)	18% ($9M)	23% ($12M)	54% ($38M)
September	10% ($2M)	6% ($1M)	8% ($3M)	16% ($7M)	27% ($11M)	57% ($36M)
October	18% ($4M)	6% ($1M)	7% ($3M)	19% ($7M)	31% ($15M)	62% ($51M)
November	11% ($1M)	13% ($2M)	5% ($2M)	19% ($7M)	29% ($11M)	61% ($42M)
December	15% ($2M)	18% ($3M)	18% ($4M)	17% ($5M)	38% ($10M)	66% ($35M)
January	17% ($2M)	10% ($1M)	17% ($4M)	17% ($5M)	31% ($8M)	57% ($29M)
February	13% ($2M)	10% ($2M)	12% ($4M)	19% ($7M)	31% ($9M)	54% ($23M)
March	11% ($2M)	10% ($2M)	16% ($7M)	20% ($10M)	46% ($13M)	50% ($25M)
April	13% ($2M)	9% ($3M)	15% ($8M)	19% ($7M)	47% ($20M)	52% ($34M)
May	11% ($3M)	7% ($2M)	14% ($8M)	26% ($15M)	55% ($30M)	
June	10% ($2M)	8% ($3M)	14% ($7M)	24% ($13M)	53% ($30M)	
Grand Total	14% ($36M)	9% ($24M)	12% ($55M)	20% ($101M)	37% ($182M)	57% ($352M)

Trends
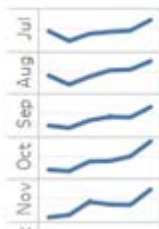
Year-over-Year Change

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
July	-47.2%	65.6%	10.2%	6.6%	49.5%
August	-49.2%	85.5%	36.4%	3.3%	34.7%
September	-21.0%	83.3%	20.8%	-2.8%	52.8%
October	-16.1%	124.9%	2.6%	25.1%	67.3%
November	47.4%	179.5%	-12.8%	-2.5%	88.5%