

Single-Family Rental Research

Performance Summary Covering All DBRS Morningstar-Rated Securitizations

November 2019

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Introduction

The blended rent change for single-borrower, single-family rental securitizations rated by Morningstar Credit Ratings, LLC (DBRS Morningstar) increased by 3.9% in October, down from a 4.3% increase in September, the lowest in the past three quarters. The average vacancy rate reached its highest level of the trailing 12 months: 5.0% in October from a revised 4.9% in September. The average retention rate for expiring leases decreased to 78.9% in September, the latest month for which data is available, from a revised 79.8% in August. Among the top 20 metropolitan statistical areas (MSAs), the Denver-Aurora MSA continued to have the highest vacancy rate at 7.6%, followed by the Dallas-Plano-Irving MSA with a 6.6% vacancy rate. The Sacramento MSA has the highest blended rent growth at 7.5%, followed by the Phoenix MSA at 7%. The Houston and Fort Lauderdale MSAs experienced the lowest blended rent growth at 1.4% and 2.0%, respectively. Rents for properties included in single-family rental securitizations are within 5.0% of the RentRange rents for properties located in the same MSAs with the exception of Denver-Aurora at 10.3%, Phoenix at 7.4%, and Tampa MSA, with a 5.2% variance from RentRange rents. With HPA 2019-2 and TAH 2019-SFR1 now reporting their monthly property schedules, the November Single-Family Rental Performance Summary includes data on 25 single-borrower deals with close to 82,800 properties.

DBRS Morningstar publishes its performance summary to provide market participants detailed property-level information on each single-family rental securitization that DBRS Morningstar has rated. The data below summarizes issuer-reported property-level information through October. Page 6 includes a summary of the multiborrower transactions. For deals

seasoned at least one year, we provide DBRS Morningstar Surveillance Analysis reports, available on our website, www.morningstar.com/learn/dbrs.

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Single-Borrower Performance

Lease expirations declined to 5.8% in October, down from 6.1% in September. Among seasoned transactions, PRD 2018-SFR1 continued to have the highest lease expirations at 11.8%, followed by HPA 2017-1 at 8.2%. HPA 2019-1 had the lowest percentage of lease expirations at 0.6%. The decrease in lease expirations on single-family rental properties continues to follow seasonal trends of increasing in the spring and summer months before starting to decline in the fall.

The average retention rate on full-term leases increased to 78.9% in September, the latest month for which data is available, from a revised 79.8% in August. The overall monthly turnover rate decreased to 2.8% in September, the latest month available, from 3.4% in August. The average delinquency rate decreased by 0.5%. HPA 2019-1 and HPA 2018-1 transactions reported a delinquency rate of 2.5% and 1.6%, respectively. Please note that any review of delinquency should be viewed within the context of the delinquency definitions in Table 8.

Chart 1 shows that the rent gains for securitized properties in October trailed rent gains for three- and four-bedroom properties; the RentRange rent change for three-bedroom properties was 6.1%, down from 7.1% in September, and the RentRange rent change for four-bedroom properties was 5.3%, down from 6.2% in September. The RentRange benchmarks track the year-over-year change on three- and four-bedroom median rents, weighted by MSA to match the geographic concentration of the DBRS Morningstar database.

Chart 2 shows the rental change of renewals versus vacant-to-occupied properties. For September, the latest month for which data is available, the rent change for renewal properties stayed at 4.5%. Rent growth for vacant-to-occupied properties decreased by 2.5%. Chart 4 shows the MSA-level blended rent change. MSAs with rent changes above the 3.9% average are in blue, while those below are in red. The size of the circle indicates the percentage of properties by count from a given MSA in DBRS Morningstar's database. Table 4 exhibits the MSA-level blended rent change for the past 12 months.

Multiborrower Performance

In October, the number of loans decreased to 921. The number of loans 30-59 days delinquent decreased to 21 from 28, the number of loans 60-89 days delinquent increased to 12, and loans at least 90 days delinquent increased to 28 from 26. Loans in foreclosure increased to nine, and loans in special servicing increased to 42 from 40.

Table 1 – Multiborrower Loan Performance by Percentage of Balance

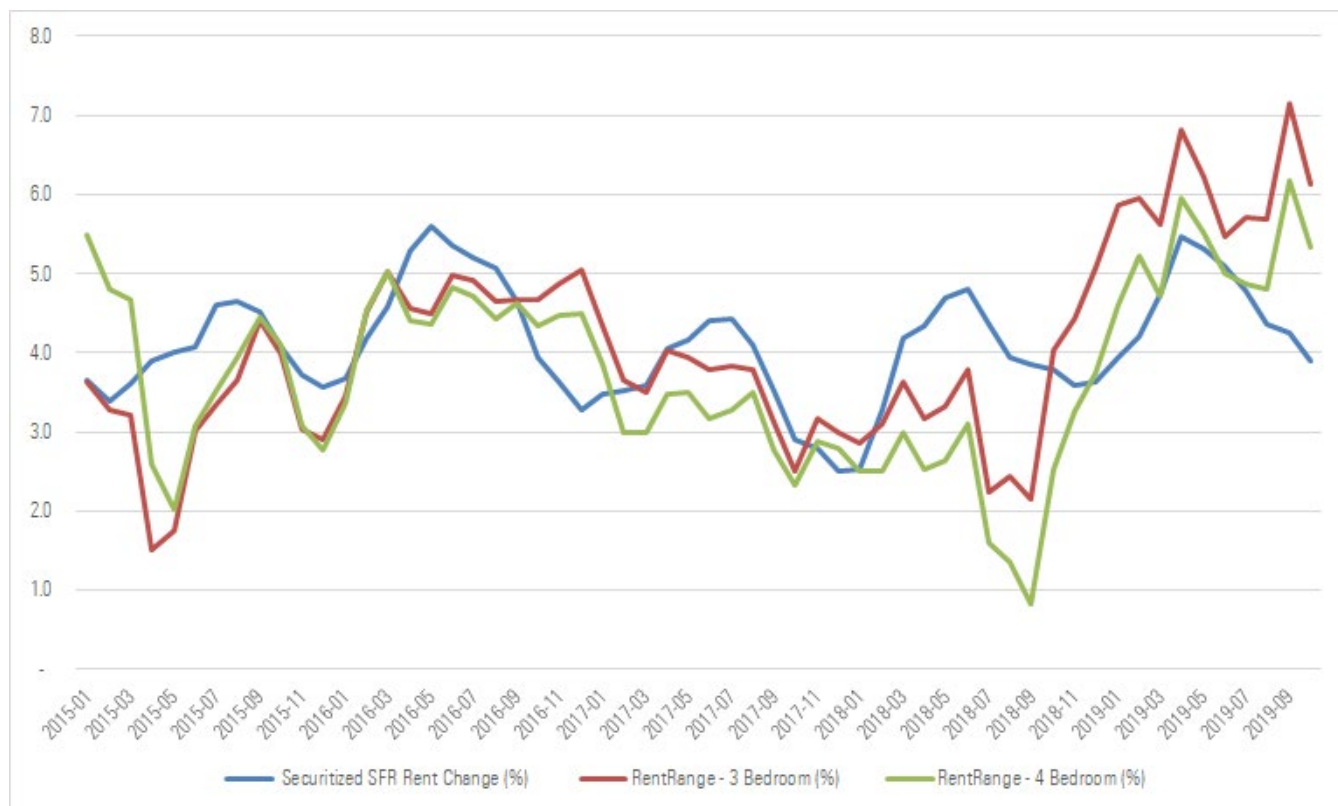
	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	2.85	1.65	0.02	0.02	0.00	3.11
FKL 2015-SFR1	0.00	0.00	0.00	0.00	0.00	0.00
CAF 2015-1	0.00	0.00	3.11	0.00	0.00	11.96
B2R 2015-2	0.53	0.41	1.79	0.54	0.00	1.45
CAF 2016-1	1.10	0.00	2.82	0.75	0.00	2.87
B2R 2016-1	2.11	0.95	2.51	0.79	0.00	2.82
CAF 2016-2	0.00	4.83	1.42	3.24	0.00	4.70
CAF 2017-1	0.38	4.33	1.01	0.00	0.38	5.75
CAF 2018-1	1.78	0.98	2.54	0.64	0.62	2.65
CAF 2018-2	1.45	0.32	0.84	0.00	0.00	1.16
CAF 2019-1	1.63	0.00	0.00	0.00	0.00	0.00

Table 2 – Multiborrower Loan Performance by Loan Count

	Total Loans	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	89	5	1	1	1	0	4
FKL 2015-SFR1	2	0	0	0	0	0	0
CAF 2015-1	31	0	0	2	0	0	3
B2R 2015-2	164	2	1	6	3	0	8
CAF 2016-1	58	1	0	2	1	0	2
B2R 2016-1	145	5	3	7	1	0	8
CAF 2016-2	56	0	3	2	2	0	4
CAF 2017-1	74	1	2	2	0	1	5
CAF 2018-1	113	2	1	4	1	2	5
CAF 2018-2	115	3	1	2	0	0	3
CAF 2019-1	74	2	0	0	0	0	0
Overall	921	21	12	28	9	3	42

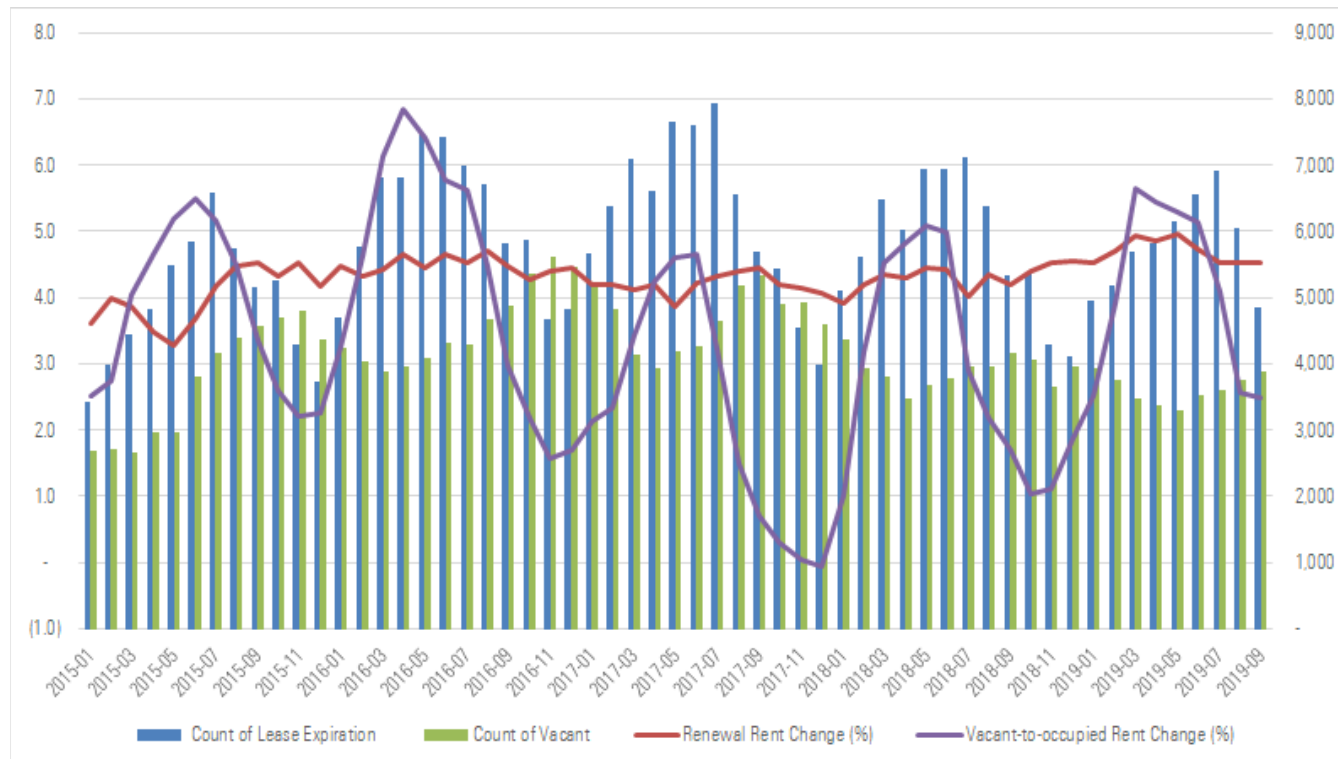
Single-Borrower Charts and Tables

Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change



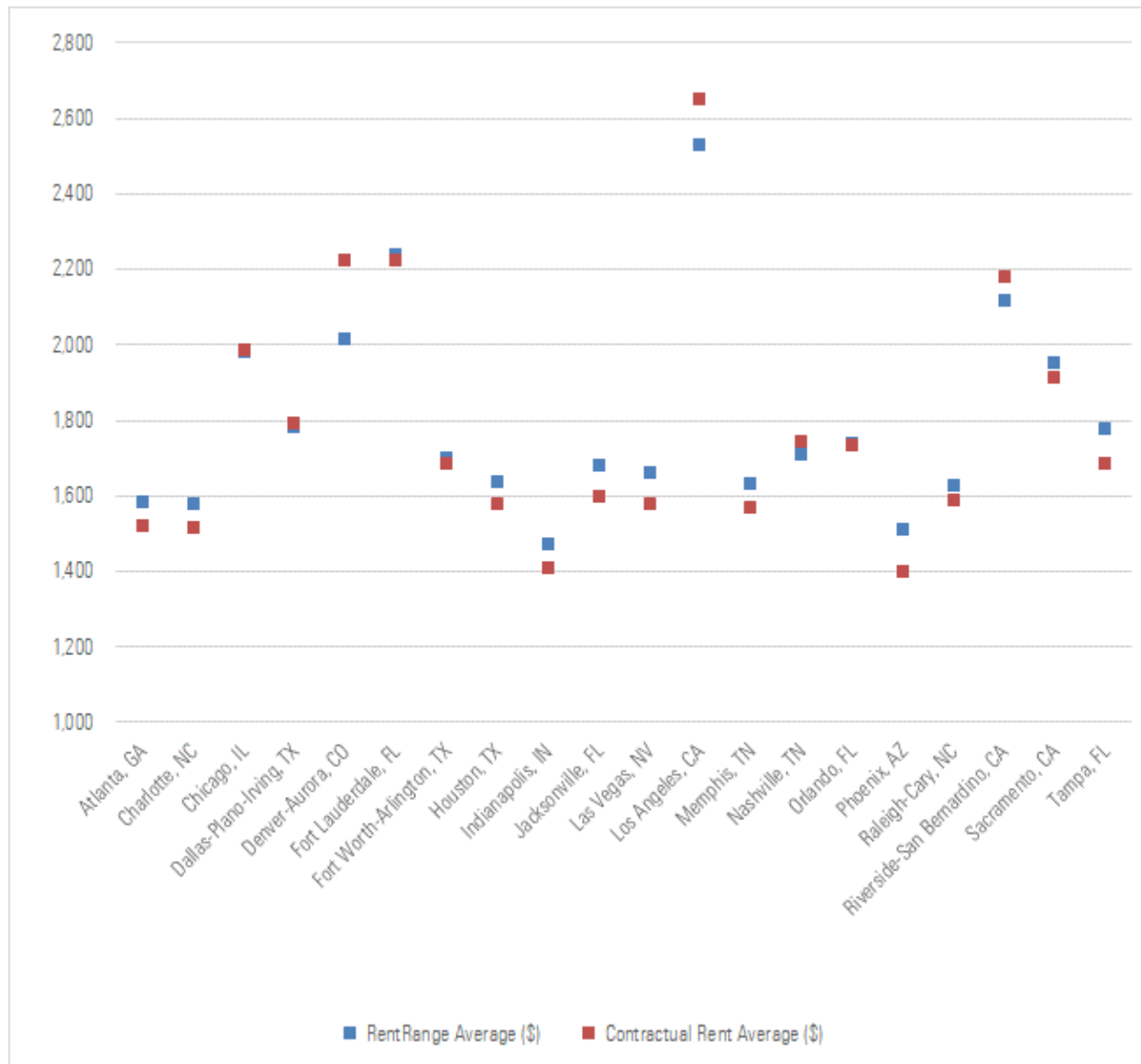
Sources: DBRS Morningstar and RentRange

Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties



Source: DBRS Morningstar

Chart 3 – October Average Contractual Rent Versus Property-Level RentRange Estimate by MSA



Sources: DBRS Morningstar and RentRange

Table 3 – Difference between Average Contractual Rent and Property-Level RentRange Rent (by Percentage) - Top MSAs





















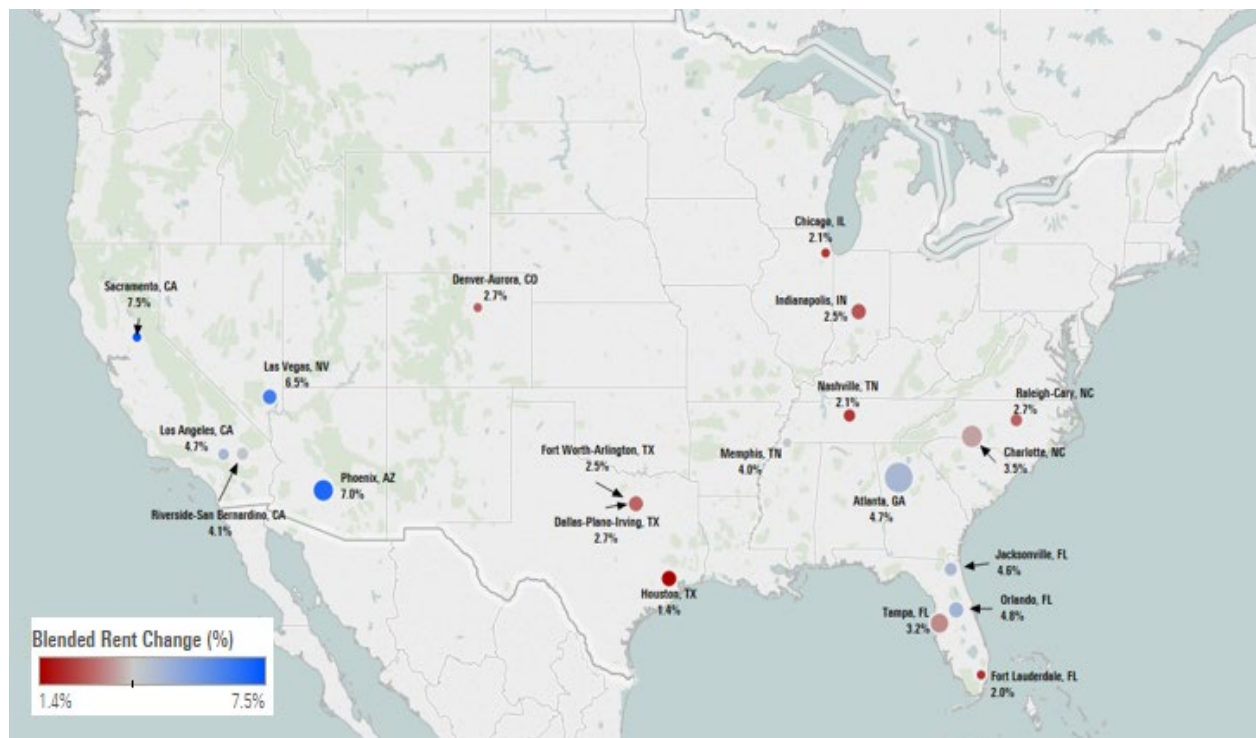
		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Atlanta, GA		-0.3	0.2	1.3	2.0	1.6	1.6	-2.4	-3.3	-2.9	-2.2	-3.2	-4.0
Charlotte, NC		-0.1	0.3	0.6	1.6	1.2	0.9	-2.8	-4.4	-4.0	-3.7	-4.0	-4.0
Chicago, IL		11.3	10.7	13.7	11.2	11.3	12.0	4.3	2.5	2.7	3.0	2.9	0.4
Dallas-Plano-Irving, TX		0.3	0.2	0.0	0.4	0.5	0.8	-1.6	-2.7	-2.6	-2.3	-2.9	0.6
Denver-Aurora, CO		3.5	2.1	2.0	2.1	2.2	2.7	2.7	1.3	2.0	3.1	2.9	10.3
Fort Lauderdale, FL		-3.7	-3.3	-0.2	-0.2	0.0	0.2	-4.1	-4.9	-4.3	-4.0	-3.7	-0.5
Fort Worth-Arlington, TX		1.0	1.2	0.9	1.5	1.3	1.5	-0.3	-1.5	-1.4	-1.3	-1.6	-0.8
Houston, TX		-1.7	-2.0	-3.7	-1.6	-1.6	-1.9	-2.2	-2.9	-2.8	-2.4	-2.8	-3.6
Indianapolis, IN		2.3	1.0	1.7	2.2	2.3	2.6	-0.6	-2.1	-1.8	-1.9	-1.8	-4.1
Jacksonville, FL		-1.0	-0.4	1.2	1.4	1.1	1.0	-2.3	-3.4	-2.7	-2.8	-2.9	-5.0
Las Vegas, NV		-0.8	0.1	-1.1	-0.4	-0.8	-0.3	-3.4	-4.6	-4.0	-3.8	-4.5	-4.9
Los Angeles, CA		0.8	0.8	1.9	1.7	1.8	2.0	1.4	0.2	1.0	1.8	1.2	4.7
Memphis, TN		9.5	3.0	2.4	2.9	2.9	2.8	-0.2	-0.7	0.1	-0.5	-0.7	-4.1
Nashville, TN		1.8	1.7	0.2	1.7	1.6	1.8	-0.6	-1.6	-1.4	-2.6	0.2	2.0
Orlando, FL		1.9	1.5	2.2	2.3	2.4	2.7	-0.7	-2.1	-1.5	-1.0	-1.9	-0.4
Phoenix, AZ		-1.5	-1.7	-1.4	-1.0	-1.2	-1.0	-3.3	-4.9	-4.5	-3.8	-4.7	-7.4
Raleigh-Cary, NC		3.1	3.9	3.8	3.3	3.1	3.1	-0.1	-1.3	-1.1	-0.7	-1.0	-2.4
Riverside-San Bernardino, CA		5.2	5.0	5.6	5.9	6.6	6.7	2.7	2.0	2.7	3.4	4.0	3.0
Sacramento, CA		4.1	3.9	4.9	6.6	7.5	7.6	-0.3	0.2	0.6	1.5	1.4	-2.0
Tampa, FL		1.3	1.2	1.9	2.3	1.9	1.8	-6.3	-7.4	-7.1	-6.6	-7.1	-5.2

Chart 4 – MSA-Level Blended Rent Change*



Sources: DBRS Morningstar and Tableau Software

*The size of the circles represents the total percentage (by count) of properties in each MSA, ranging from 1.35% to 14.93%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind the Dallas-Plano-Irving, Texas, MSA.

Table 4 – Blended Rent Change (by Percentage) - Top MSAs

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Atlanta, GA		4.5	4.6	4.1	4.1	4.7	6.0	6.3	6.3	5.1	5.2	4.8	4.7
Charlotte, NC		2.5	2.8	3.2	3.5	3.9	4.8	4.3	4.0	4.6	3.4	3.1	3.5
Chicago, IL		2.0	1.1	-1.8	0.7	2.7	3.1	3.3	3.5	3.6	2.3	2.3	2.1
Dallas-Plano-Irving, TX		1.8	2.0	2.5	3.2	3.7	4.2	4.1	3.2	3.1	2.9	3.3	2.7
Denver-Aurora, CO		2.2	2.8	3.6	3.8	4.3	6.9	5.6	4.9	5.1	4.5	4.8	2.7
Fort Lauderdale, FL		2.4	3.5	4.0	2.5	3.2	3.1	2.6	2.5	3.3	2.1	2.3	2.0
Fort Worth-Arlington, TX		2.4	2.7	3.3	3.8	4.7	4.5	4.2	4.8	4.1	3.3	2.7	2.5
Houston, TX		1.7	1.4	1.8	1.8	2.9	3.4	3.4	2.6	2.3	2.2	2.8	1.4
Indianapolis, IN		2.5	0.7	1.5	4.1	3.3	5.4	4.1	4.7	4.4	3.6	3.8	2.5
Jacksonville, FL		3.2	3.0	3.8	4.4	4.3	5.7	4.5	5.7	4.9	3.6	3.5	4.6
Las Vegas, NV		5.5	5.6	6.8	6.2	7.1	8.5	7.3	7.0	7.2	6.7	6.5	6.5
Los Angeles, CA		5.3	4.9	6.2	5.5	7.1	7.2	7.2	5.8	5.5	5.2	6.2	4.7
Memphis, TN		3.6	3.2	3.8	2.5	4.5	6.1	4.9	5.5	5.3	5.0	3.2	4.0
Nashville, TN		1.7	2.4	3.4	3.1	3.6	4.1	4.2	3.8	3.8	3.5	2.6	2.1
Orlando, FL		5.0	4.6	4.8	4.9	5.8	5.7	6.1	5.6	5.5	4.4	4.6	4.8
Phoenix, AZ		5.4	5.9	7.0	7.2	7.4	8.2	8.6	7.9	8.1	7.3	7.5	7.0
Raleigh-Cary, NC		2.4	3.4	3.6	3.1	3.1	4.3	4.3	4.0	3.7	4.1	3.8	2.7
Riverside-San Bernardino, CA		5.5	4.5	5.7	5.5	6.6	7.0	7.4	6.6	5.8	5.5	5.7	4.1
Sacramento, CA		6.0	6.2	7.7	10.0	7.6	8.4	9.2	6.5	7.0	7.0	6.8	7.5
Tampa, FL		3.1	4.0	3.3	3.5	4.1	4.7	4.1	4.5	4.2	3.9	3.8	3.2

Table 5a – Month-End Vacancy (by Count)

		Year 2018		Year 2019										Count
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
AH4R 2014-SFR2		172	184	197	184	158	138	145	198	192	185	192	211	4,544
AH4R 2014-SFR3		252	239	230	202	169	171	144	152	189	201	201	207	4,587
AH4R 2015-SFR1		236	236	228	221	172	176	140	167	160	183	204	220	4,696
AH4R 2015-SFR2		191	187	173	147	143	157	149	174	169	180	192	170	4,175
HPA 2017-1		94	92	95	88	75	69	56	59	69	81	98	97	1,283
HPA 2018-1		145	126	106	84	91	89	87	95	106	119	123	131	1,675
HPA 2019-1											8	17	29	1,182
HPA 2019-2													57	1,266
IH 2017-SFR2		171	164	161	167	157	159	166	192	194	212	219	224	4,292
IH 2018-SFR1		187	192	196	192	207	198	200	226	255	281	262	240	4,170
IH 2018-SFR2		269	241	233	219	228	237	200	255	261	246	244	263	5,355
IH 2018-SFR3		284	281	291	295	259	279	274	290	297	294	279	284	6,519
IH 2018-SFR4			253	271	290	260	272	280	328	330	340	349	327	5,289
PRD 2015-SFR3		132	141	134	118	104	109	129	161	150	149	164	166	3,144
PRD 2017-SFR1		130	131	129	117	105	93	101	96	107	124	131	139	2,707
PRD 2018-SFR1		132	115	85	53	42	50	56	67	62	82	105	133	2,111
PRD 2018-SFR2		56	99	116	110	87	82	97	86	62	60	70	81	2,116
PRD 2019-SFR2								106	102	113	119	119	137	2,459
PRD 2019-SFR3											92	92	103	2,268
SWH 2017-1		179	171	195	243	219	248	240	252	263	258	244	243	4,314
TAH 2016-SFR1		163	180	156	146	151	164	174	142	142	155	194	193	3,397
TAH 2017-SFR1		110	160	162	149	129	107	110	71	96	86	140	145	3,475
TAH 2017-SFR2		98	114	87	90	83	68	106	80	86	95	119	116	2,619
TAH 2018-SFR1		99	109	125	88	77	83	86	66	68	92	128	109	2,509
TAH 2019-SFR1													134	2,627
Overall SFR		3,100	3,415	3,370	3,203	2,916	2,949	3,046	3,259	3,371	3,642	3,886	4,159	82,779

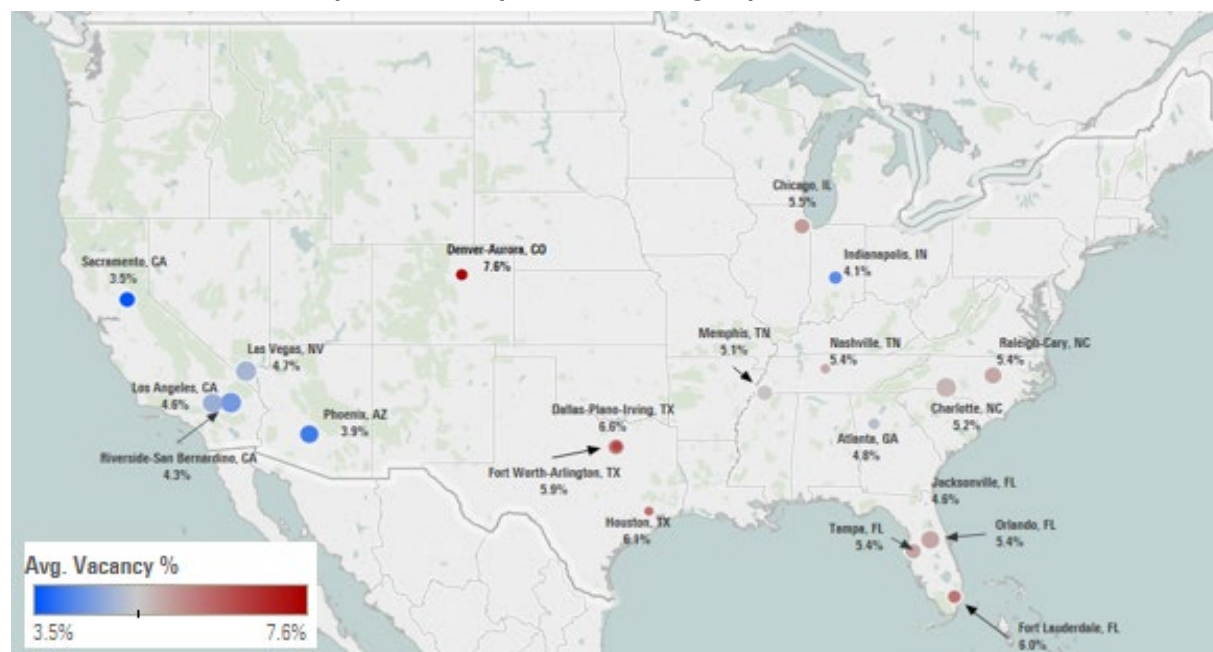
Table 5b – Month-End Vacancy (by Percentage)

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
AH4R 2014-SFR2		3.8	4.0	4.3	4.0	3.5	3.0	3.2	4.4	4.2	4.1	4.2	4.6
AH4R 2014-SFR3		5.5	5.2	5.0	4.4	3.7	3.7	3.1	3.3	4.1	4.4	4.4	4.5
AH4R 2015-SFR1		5.0	5.0	4.9	4.7	3.7	3.7	3.0	3.6	3.4	3.9	4.3	4.7
AH4R 2015-SFR2		4.6	4.5	4.1	3.5	3.4	3.8	3.6	4.2	4.0	4.3	4.6	4.1
HPA 2017-1		7.1	6.9	7.2	6.6	5.7	5.3	4.3	4.5	5.3	6.3	7.6	7.6
HPA 2018-1		8.2	7.2	6.0	4.8	5.2	5.1	5.0	5.5	6.2	7.0	7.3	7.8
HPA 2019-1											0.7	1.4	2.5
HPA 2019-2													4.5
IH 2017-SFR2		3.9	3.8	3.7	3.8	3.6	3.7	3.8	4.4	4.5	4.9	5.1	5.2
IH 2018-SFR1		4.4	4.5	4.6	4.5	4.9	4.7	4.7	5.4	6.1	6.7	6.3	5.8
IH 2018-SFR2		4.9	4.4	4.3	4.0	4.2	4.4	3.7	4.7	4.8	4.6	4.5	4.9
IH 2018-SFR3		4.3	4.2	4.4	4.5	3.9	4.2	4.2	4.4	4.5	4.5	4.3	4.4
IH 2018-SFR4			4.7	5.0	5.4	4.8	5.1	5.2	6.1	6.2	6.4	6.6	6.2
PRD 2015-SFR3		4.2	4.5	4.3	3.7	3.3	3.5	4.1	5.1	4.8	4.7	5.2	5.3
PRD 2017-SFR1		4.8	4.8	4.8	4.3	3.9	3.4	3.7	3.5	4.0	4.6	4.8	5.1
PRD 2018-SFR1		6.2	5.4	4.0	2.5	2.0	2.4	2.7	3.2	2.9	3.9	5.0	6.3
PRD 2018-SFR2		2.6	4.7	5.5	5.2	4.1	3.9	4.6	4.1	2.9	2.8	3.3	3.8
PRD 2019-SFR2								4.3	4.1	4.6	4.8	4.8	5.6
PRD 2019-SFR3											4.1	4.1	4.5
SWH 2017-1		4.1	3.9	4.4	5.5	5.0	5.7	5.5	5.8	6.1	6.0	5.6	5.6
TAH 2016-SFR1		4.7	5.2	4.5	4.3	4.4	4.8	5.1	4.2	4.2	4.6	5.7	5.7
TAH 2017-SFR1		3.2	4.6	4.7	4.3	3.7	3.1	3.2	2.0	2.8	2.5	4.0	4.2
TAH 2017-SFR2		3.7	4.4	3.3	3.4	3.2	2.6	4.0	3.1	3.3	3.6	4.5	4.4
TAH 2018-SFR1		3.9	4.3	5.0	3.5	3.1	3.3	3.4	2.6	2.7	3.7	5.1	4.3
TAH 2019-SFR1													5.1
Overall SFR		4.5	4.6	4.6	4.3	4.0	4.0	4.0	4.3	4.5	4.6	4.9	5.0

Table 5c – Month-End Vacancy (by Percentage) – Top MSAs

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Atlanta, GA		4.8	4.7	4.8	4.7	4.4	4.1	4.4	4.4	4.1	4.2	4.8	4.8
Charlotte, NC		4.2	4.5	4.3	4.3	4.2	4.7	4.7	4.1	4.5	4.8	5.4	5.2
Chicago, IL		5.7	5.6	4.1	3.7	3.0	2.4	2.3	3.5	4.2	4.3	5.9	5.5
Dallas-Plano-Irving, TX		5.8	5.5	5.3	4.9	4.7	4.6	4.7	5.4	5.2	5.7	5.7	6.6
Denver-Aurora, CO		6.0	5.7	5.8	5.8	5.6	5.2	5.5	7.6	8.1	8.7	8.8	7.6
Fort Lauderdale, FL		3.9	4.9	6.1	5.2	5.8	6.5	7.2	6.4	7.0	6.4	7.0	6.0
Fort Worth-Arlington, TX		4.9	4.6	4.0	3.5	4.1	4.5	4.2	4.1	4.7	5.3	5.4	5.9
Houston, TX		6.8	6.5	6.4	5.8	5.2	5.4	4.2	4.7	4.9	4.8	6.0	6.1
Indianapolis, IN		6.0	5.8	5.0	5.1	3.8	3.3	3.4	3.5	3.4	4.0	4.2	4.1
Jacksonville, FL		4.7	4.5	4.4	4.5	3.7	4.3	3.9	4.5	4.5	3.7	4.0	4.6
Las Vegas, NV		3.2	2.8	3.4	3.5	3.1	2.6	3.0	3.3	4.0	4.5	4.6	4.7
Los Angeles, CA		4.7	4.5	4.0	4.2	4.4	4.1	4.7	5.1	5.5	4.9	5.1	4.6
Memphis, TN		4.9	4.9	5.8	4.6	3.7	3.4	3.7	4.7	3.7	3.9	3.8	5.1
Nashville, TN		4.6	4.5	5.0	4.2	4.1	4.1	4.7	4.4	4.3	4.3	4.4	5.4
Orlando, FL		3.9	4.1	4.4	4.5	4.3	3.4	3.6	3.8	4.0	5.1	5.3	5.4
Phoenix, AZ		2.9	3.1	2.9	2.8	2.7	2.7	2.8	3.3	3.4	3.8	3.9	3.9
Raleigh-Cary, NC		4.8	4.7	4.5	3.6	3.1	4.5	4.7	4.6	4.6	5.1	4.9	5.4
Riverside-San Bernardino, CA		3.8	2.8	3.9	4.5	4.6	4.9	5.2	4.9	4.6	5.2	4.8	4.3
Sacramento, CA		2.9	3.2	3.7	3.3	2.9	3.0	2.8	4.3	4.5	3.6	3.7	3.5
Tampa, FL		4.3	4.6	4.7	4.3	3.9	3.8	4.3	4.3	4.1	4.4	4.8	5.4

Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count)*



Sources: DBRS Morningstar and Tableau Software

*The size of the circles represents the past three months of lease expirations by count as a percentage of each MSA, ranging from 16.977% to 21.721%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind the Dallas-Plano-Irving, Texas, MSA.

Table 6a – Lease Expiration (by Count)

		Year 2018												Total Count
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
AH4R 2014-SFR2		200	172	245	306	345	405	491	459	445	415	257	231	4,544
AH4R 2014-SFR3		198	161	263	275	297	381	419	454	536	441	267	259	4,587
AH4R 2015-SFR1		252	231	341	359	391	298	352	406	425	416	292	252	4,696
AH4R 2015-SFR2		173	153	198	250	296	349	455	504	463	380	194	177	4,175
HPA 2017-1		139	99	101	78	94	96	76	47	73	88	86	105	1,283
HPA 2018-1		73	71	69	71	105	113	133	171	186	145	125	74	1,675
HPA 2019-1											0	1	7	1,182
HPA 2019-2													33	1,266
IH 2017-SFR2		197	183	218	256	275	273	302	372	377	338	252	269	4,292
IH 2018-SFR1		251	206	280	285	293	292	357	355	396	324	350	293	4,170
IH 2018-SFR2		306	276	320	353	395	338	335	342	384	355	292	352	5,355
IH 2018-SFR3		401	324	428	410	452	441	387	416	458	467	341	392	6,519
IH 2018-SFR4			250	292	363	345	379	457	514	526	430	368	333	5,289
PRD 2015-SFR3		140	149	126	142	139	203	214	282	359	259	239	183	3,144
PRD 2017-SFR1		232	231	179	152	146	147	122	154	215	158	175	190	2,707
PRD 2018-SFR1		379	85	21	29	56	81	67	88	165	170	202	250	2,111
PRD 2018-SFR2		8	279	345	258	160	181	220	202	78	38	41	32	2,116
PRD 2019-SFR2								147	202	259	243	219	124	2,459
PRD 2019-SFR3											98	151	119	2,268
SWH 2017-1		195	164	285	307	336	418	459	390	398	338	240	250	4,314
TAH 2016-SFR1		135	137	122	154	174	245	215	208	255	228	206	189	3,397
TAH 2017-SFR1		168	162	225	229	263	192	191	195	205	243	228	229	3,475
TAH 2017-SFR2		111	113	155	153	182	135	174	170	170	201	147	169	2,619
TAH 2018-SFR1		112	119	151	125	156	135	137	148	144	188	181	161	2,509
TAH 2019-SFR1													142	2,627
Overall SFR		3,670	3,565	4,344	4,555	4,900	5,102	5,710	6,079	6,517	5,963	4,854	4,815	82,779

Table 6b – Lease Expiration (by Percentage)

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
AH4R 2014-SFR2		4.4	3.8	5.4	6.7	7.6	8.9	10.8	10.1	9.8	9.1	5.7	5.1
AH4R 2014-SFR3		4.3	3.5	5.7	6.0	6.5	8.3	9.1	9.9	11.7	9.6	5.8	5.6
AH4R 2015-SFR1		5.4	4.9	7.3	7.6	8.3	6.3	7.5	8.6	9.0	8.9	6.2	5.4
AH4R 2015-SFR2		4.1	3.7	4.7	6.0	7.1	8.4	10.9	12.1	11.1	9.1	4.6	4.2
HPA 2017-1		10.4	7.4	7.6	5.9	7.1	7.3	5.8	3.6	5.6	6.8	6.7	8.2
HPA 2018-1		4.1	4.0	3.9	4.0	6.0	6.5	7.7	9.9	10.9	8.5	7.4	4.4
HPA 2019-1											0.0	0.1	0.6
HPA 2019-2													2.6
IH 2017-SFR2		4.5	4.2	5.0	5.9	6.3	6.3	7.0	8.6	8.7	7.9	5.9	6.3
IH 2018-SFR1		5.9	4.8	6.1	6.7	6.9	6.9	8.4	8.4	9.4	7.7	8.4	7.0
IH 2018-SFR2		5.6	5.0	5.9	6.5	7.3	6.2	6.2	6.3	7.1	6.6	5.4	6.6
IH 2018-SFR3		6.0	4.9	6.5	6.2	6.8	6.7	5.9	6.3	7.0	7.1	5.2	6.0
IH 2018-SFR4			4.6	5.4	6.7	6.4	7.1	8.5	9.6	9.9	8.1	6.9	6.3
PRD 2015-SFR3		4.4	4.7	4.0	4.5	4.4	6.4	6.8	9.0	11.4	8.2	7.6	5.8
PRD 2017-SFR1		8.6	8.5	6.6	5.6	5.4	5.4	4.5	5.7	7.9	5.8	6.5	7.0
PRD 2018-SFR1		17.9	4.0	1.0	1.4	2.7	3.8	3.2	4.2	7.8	8.1	9.6	11.8
PRD 2018-SFR2		0.4	13.2	16.3	12.2	7.6	8.6	10.4	9.5	3.7	1.8	1.9	1.5
PRD 2019-SFR2								6.0	8.2	10.5	9.9	8.9	5.0
PRD 2019-SFR3											4.3	6.7	5.2
SWH 2017-1		4.4	3.7	6.5	7.0	7.7	9.5	10.5	8.9	9.2	7.8	5.5	5.8
TAH 2016-SFR1		3.9	4.0	3.6	4.5	5.1	7.2	6.3	6.1	7.5	6.7	6.1	5.6
TAH 2017-SFR1		4.8	4.7	6.5	6.6	7.6	5.5	5.5	5.6	5.9	7.0	6.6	6.6
TAH 2017-SFR2		4.2	4.3	5.9	5.8	6.9	5.2	6.6	6.5	6.5	7.7	5.6	6.5
TAH 2018-SFR1		4.5	4.7	6.0	5.0	6.2	5.4	5.5	5.9	5.7	7.5	7.2	6.4
TAH 2019-SFR1													5.4
Overall SFR		5.4	4.8	5.9	6.2	6.7	6.9	7.5	8.0	8.6	7.5	6.1	5.8

Table 6c – Lease Expiration (by Percentage) – Top MSAs

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Atlanta, GA		5.0	4.8	5.5	5.8	6.4	7.4	6.9	7.7	7.3	6.9	6.6	5.1
Charlotte, NC		4.7	4.0	5.2	5.2	6.2	7.5	7.8	8.5	10.0	8.8	6.4	6.1
Chicago, IL		3.1	3.9	5.3	5.5	7.5	10.1	11.1	10.6	8.6	7.9	7.0	4.6
Dallas-Plano-Irving, TX		5.4	5.0	5.3	6.8	6.3	7.0	7.3	8.3	8.5	7.0	6.1	5.3
Denver-Aurora, CO		4.8	4.5	7.9	5.6	5.7	5.8	7.9	11.9	11.0	8.8	4.6	5.0
Fort Lauderdale, FL		5.1	5.5	8.0	5.8	6.1	8.1	6.0	6.4	7.0	7.0	5.7	6.1
Fort Worth-Arlington, TX		5.3	5.5	5.6	5.8	7.3	7.2	8.1	7.6	8.5	7.2	6.1	6.0
Houston, TX		5.8	5.0	5.4	6.7	6.9	7.0	6.0	6.4	8.4	6.0	6.9	5.1
Indianapolis, IN		4.6	3.9	5.6	5.5	6.5	8.5	10.1	8.2	9.4	7.4	6.6	4.8
Jacksonville, FL		6.0	5.3	5.8	5.7	6.4	6.9	8.5	8.3	8.2	6.3	5.0	5.7
Las Vegas, NV		5.0	5.0	5.8	8.8	7.0	6.1	6.6	7.6	7.4	8.5	6.2	6.9
Los Angeles, CA		5.0	3.5	4.6	5.2	6.8	5.4	9.6	8.4	8.7	7.7	7.0	6.6
Memphis, TN		6.3	6.6	7.0	5.3	5.1	8.2	6.7	7.6	7.3	5.4	7.9	6.4
Nashville, TN		4.1	5.2	6.1	5.6	6.0	8.0	8.5	9.8	10.5	7.1	5.3	5.7
Orlando, FL		5.6	4.9	5.9	5.6	6.0	6.4	7.6	8.5	9.4	8.4	6.2	6.3
Phoenix, AZ		5.9	5.5	6.6	7.2	7.1	7.4	7.2	7.4	7.9	7.5	6.2	6.9
Raleigh-Cary, NC		7.3	5.1	4.9	5.5	5.4	8.0	9.0	10.0	10.1	8.1	6.1	5.9
Riverside-San Bernardino, CA		6.1	3.9	6.4	5.3	6.5	7.8	8.5	7.1	9.3	7.1	7.3	7.1
Sacramento, CA		4.7	3.4	5.0	6.6	7.1	6.3	7.0	7.8	8.5	8.3	5.5	5.7
Tampa, FL		5.5	5.2	6.0	5.7	6.6	6.4	6.5	8.2	8.1	7.7	5.5	6.3

Table 7a – Historical Total Months of Vacancy for October Vacancies (by Count)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		24	27	46	40	26	20	16	3	3	1	1	4	211
AH4R 2014-SFR3		23	24	34	39	23	26	13	10	5	4	3	3	207
AH4R 2015-SFR1		22	36	38	40	31	22	13	13	2	1	0	2	220
AH4R 2015-SFR2		28	23	37	27	21	19	10	0	2	0	0	3	170
HPA 2017-1		18	24	17	22	5	7	1	2	0	0	1	0	97
HPA 2018-1		24	39	29	22	7	7	2	1	0	0	0	0	131
HPA 2019-1		15	10	3	1									29
HPA 2019-2		45	12	0	0	0	0	0	0	0	0	0	0	57
IH 2017-SFR2		62	61	46	18	20	9	2	0	2	1	2	1	224
IH 2018-SFR1		70	51	51	25	22	9	1	4	1	2	3	1	240
IH 2018-SFR2		99	67	48	28	11	2	1	5	1	0	0	1	263
IH 2018-SFR3		108	77	41	24	11	6	8	1	4	1	0	3	284
IH 2018-SFR4		88	91	79	30	14	7	3	5	4	0	5	1	327
PRD 2015-SFR3		21	34	24	36	14	15	8	6	1	4	1	2	166
PRD 2017-SFR1		31	27	38	19	11	8	4	0	0	0	0	1	139
PRD 2018-SFR1		69	29	23	7	2	0	2	0	0	0	1	0	133
PRD 2018-SFR2		35	19	17	7	3	0	0	0	0	0	0	0	81
PRD 2019-SFR2		104	6	13	7	3	3	1						137
PRD 2019-SFR3		91	1	3	8									103
SWH 2017-1		53	62	38	32	22	14	10	3	6	3	0	0	243
TAH 2016-SFR1		35	31	34	35	24	5	14	7	2	4	0	2	193
TAH 2017-SFR1		41	51	24	15	7	4	2	1	0	0	0	0	145
TAH 2017-SFR2		45	30	17	7	4	7	0	0	2	2	0	2	116
TAH 2018-SFR1		36	37	15	7	5	5	0	0	1	0	0	3	109
TAH 2019-SFR1		130	4											134
Overall SFR		1,318	875	718	500	291	201	118	69	45	33	28	29	4,159

Table 7b – Historical Total Months of Vacancy for October Vacancies (by Percentage)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		11.4	12.8	21.8	19.0	12.3	9.5	7.6	1.4	1.4	0.5	0.5	1.9	100.0
AH4R 2014-SFR3		11.1	11.6	16.4	18.8	11.1	12.6	6.3	4.8	2.4	1.9	1.4	1.4	100.0
AH4R 2015-SFR1		10.0	16.4	17.3	18.2	14.1	10.0	5.9	5.9	0.9	0.5	0.0	0.9	100.0
AH4R 2015-SFR2		16.5	13.5	21.8	15.9	12.4	11.2	5.9	0.0	1.2	0.0	0.0	1.8	100.0
HPA 2017-1		18.6	24.7	17.5	22.7	5.2	7.2	1.0	2.1	0.0	0.0	1.0	0.0	100.0
HPA 2018-1		18.3	29.8	22.1	16.8	5.3	5.3	1.5	0.8	0.0	0.0	0.0	0.0	100.0
HPA 2019-1		51.7	34.5	10.3	3.4									100.0
HPA 2019-2		78.9	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
IH 2017-SFR2		27.7	27.2	20.5	8.0	8.9	4.0	0.9	0.0	0.9	0.4	0.9	0.4	100.0
IH 2018-SFR1		29.2	21.3	21.3	10.4	9.2	3.8	0.4	1.7	0.4	0.8	1.3	0.4	100.0
IH 2018-SFR2		37.6	25.5	18.3	10.6	4.2	0.8	0.4	1.9	0.4	0.0	0.0	0.4	100.0
IH 2018-SFR3		38.0	27.1	14.4	8.5	3.9	2.1	2.8	0.4	1.4	0.4	0.0	1.1	100.0
IH 2018-SFR4		26.9	27.8	24.2	9.2	4.3	2.1	0.9	1.5	1.2	0.0	1.5	0.3	100.0
PRD 2015-SFR3		12.7	20.5	14.5	21.7	8.4	9.0	4.8	3.6	0.6	2.4	0.6	1.2	100.0
PRD 2017-SFR1		22.3	19.4	27.3	13.7	7.9	5.8	2.9	0.0	0.0	0.0	0.0	0.7	100.0
PRD 2018-SFR1		51.9	21.8	17.3	5.3	1.5	0.0	1.5	0.0	0.0	0.0	0.8	0.0	100.0
PRD 2018-SFR2		43.2	23.5	21.0	8.6	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
PRD 2019-SFR2		75.9	4.4	9.5	5.1	2.2	2.2	0.7						100.0
PRD 2019-SFR3		88.3	1.0	2.9	7.8									100.0
SWH 2017-1		21.8	25.5	15.6	13.2	9.1	5.8	4.1	1.2	2.5	1.2	0.0	0.0	100.0
TAH 2016-SFR1		18.1	16.1	17.6	18.1	12.4	2.6	7.3	3.6	1.0	2.1	0.0	1.0	100.0
TAH 2017-SFR1		28.3	35.2	16.6	10.3	4.8	2.8	1.4	0.7	0.0	0.0	0.0	0.0	100.0
TAH 2017-SFR2		38.8	25.9	14.7	6.0	3.4	6.0	0.0	0.0	1.7	1.7	0.0	1.7	100.0
TAH 2018-SFR1		33.0	33.9	13.8	6.4	4.6	4.6	0.0	0.0	0.9	0.0	0.0	2.8	100.0
TAH 2019-SFR1		97.0	3.0											100.0
Overall SFR		31.7	21.0	17.3	12.0	7.0	4.8	2.8	1.7	1.1	0.8	0.7	0.7	100.0

Table 7c – Consecutive Months of Vacancy for October Vacancies (by Count)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		97	59	39	12	3	0	0	0	0	0	0	1	211
AH4R 2014-SFR3		93	60	35	14	4	0	0	0	0	0	0	1	207
AH4R 2015-SFR1		108	58	40	12	2								220
AH4R 2015-SFR2		69	48	31	15	4	1	0	0	0	0	0	2	170
HPA 2017-1		31	31	18	11	3	1	2						97
HPA 2018-1		47	33	31	9	7	3	1						131
HPA 2019-1		15	10	4										29
HPA 2019-2		57												57
IH 2017-SFR2		105	60	33	11	4	3	2	0	2	1	2	1	224
IH 2018-SFR1		95	56	49	14	12	5	1	2	2	1	2	1	240
IH 2018-SFR2		133	67	36	16	3	1	3	3	0	0	0	1	263
IH 2018-SFR3		122	80	33	20	7	6	7	1	4	1	0	3	284
IH 2018-SFR4		115	89	59	30	11	6	2	5	4	1	5	0	327
PRD 2015-SFR3		85	42	17	15	3	3	1	0	0	0	0	0	166
PRD 2017-SFR1		71	29	29	5	1	2	1	0	0	0	0	1	139
PRD 2018-SFR1		85	31	15	2									133
PRD 2018-SFR2		45	22	9	3	2								81
PRD 2019-SFR2		110	0	15	5	3	4							137
PRD 2019-SFR3		92	0	0	3	3	2	0	1	0	0	1	1	103
SWH 2017-1		101	47	38	20	14	9	6	2	4	2			243
TAH 2016-SFR1		91	42	29	15	2	4	4	4	1	1			193
TAH 2017-SFR1		79	43	17	3	2	1							145
TAH 2017-SFR2		63	23	15	5	1	5	0	0	1	1	0	2	116
TAH 2018-SFR1		51	35	13	2	1	4	0	0	0	0	0	3	109
TAH 2019-SFR1		134												134
Overall SFR		2,095	967	608	246	97	66	37	26	27	18	21	17	4,159

Table 7d – Consecutive Months of Vacancy for October Vacancies (by Percentage)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total	
AH4R 2014-SFR2		46.0	28.0	18.5	5.7	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	100.0
AH4R 2014-SFR3		44.9	29.0	16.9	6.8	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	100.0
AH4R 2015-SFR1		49.1	26.4	18.2	5.5	0.9									100.0
AH4R 2015-SFR2		40.6	28.2	18.2	8.8	2.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	100.0
HPA 2017-1		32.0	32.0	18.6	11.3	3.1	1.0	2.1							100.0
HPA 2018-1		35.9	25.2	23.7	6.9	5.3	2.3	0.8							100.0
HPA 2019-1		51.7	34.5	13.8											100.0
HPA 2019-2		100.0													100.0
IH 2017-SFR2		46.9	26.8	14.7	4.9	1.8	1.3	0.9	0.0	0.9	0.4	0.9	0.4		100.0
IH 2018-SFR1		39.6	23.3	20.4	5.8	5.0	2.1	0.4	0.8	0.8	0.4	0.8	0.4		100.0
IH 2018-SFR2		50.6	25.5	13.7	6.1	1.1	0.4	1.1	1.1	0.0	0.0	0.0	0.4		100.0
IH 2018-SFR3		43.0	28.2	11.6	7.0	2.5	2.1	2.5	0.4	1.4	0.4	0.0	1.1		100.0
IH 2018-SFR4		35.2	27.2	18.0	9.2	3.4	1.8	0.6	1.5	1.2	0.3	1.5			100.0
PRD 2015-SFR3		51.2	25.3	10.2	9.0	1.8	1.8	0.6							100.0
PRD 2017-SFR1		51.1	20.9	20.9	3.6	0.7	1.4	0.7	0.0	0.0	0.0	0.0	0.7		100.0
PRD 2018-SFR1		63.9	23.3	11.3	1.5										100.0
PRD 2018-SFR2		55.6	27.2	11.1	3.7	2.5									100.0
PRD 2019-SFR2		80.3	0.0	10.9	3.6	2.2	2.9								100.0
PRD 2019-SFR3		89.3	0.0	0.0	2.9	2.9	1.9	0.0	1.0	0.0	0.0	1.0	1.0		100.0
SWH 2017-1		41.6	19.3	15.6	8.2	5.8	3.7	2.5	0.8	1.6	0.8				100.0
TAH 2016-SFR1		47.2	21.8	15.0	7.8	1.0	2.1	2.1	2.1	0.5	0.5				100.0
TAH 2017-SFR1		54.5	29.7	11.7	2.1	1.4	0.7								100.0
TAH 2017-SFR2		54.3	19.8	12.9	4.3	0.9	4.3	0.0	0.0	0.9	0.9	0.0	1.7		100.0
TAH 2018-SFR1		46.8	32.1	11.9	1.8	0.9	3.7	0.0	0.0	0.0	0.0	0.0	2.8		100.0
TAH 2019-SFR1		100.0													100.0
Overall SFR		31.7	21.0	17.3	12.0	7.0	4.8	2.8	1.7	1.1	0.8	0.7	0.7		100.0

Table 8 – Delinquency Definition

Issuer	Definition
American Homes 4 Rent	Past due one calendar month or more (not dependent on day count) and owing \$200 or more
Invitation Homes/Starwood Waypoint Homes	Past due 30 days or more (not dependent on calendar month) and owing 25% of one month's rent or more
Home Partners of America	Past due 30 days or more (not dependent on calendar month) and owing \$500 or more
Progress Residential	Past due 30 days or more (not dependent on calendar month) and owing \$200 or more ¹
Tricon American Homes	Past due 30 days or more (not dependent on calendar month) and owing \$500 or more ²

¹ Includes Section 8 rent, pet fees, and MTM fees, but excludes late fees and damage fees.

² Based on total receivables.

Table 9a – Month-End Delinquency (by Count)

		Year 2018												Total Count
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
AH4R 2014-SFR2		21	22	18	17	18	8	17	26	21	19	10	1	4,544
AH4R 2014-SFR3		7	15	13	8	9	8	11	15	19	16	20	2	4,587
AH4R 2015-SFR1		17	26	21	25	16	13	13	21	22	23	26	0	4,696
AH4R 2015-SFR2		13	12	15	23	15	8	9	18	25	26	37	2	4,175
HPA 2017-1		21	20	20	14	11	12	11	16	19	18	22	19	1,283
HPA 2018-1		17	24	23	22	10	19	19	18	21	28	24	27	1,675
HPA 2019-1											19	29	29	1,182
HPA 2019-2													11	1,266
IH 2017-SFR2		40	65	52	23	31	40	42	30	31	37	44	41	4,292
IH 2018-SFR1		41	65	22	28	22	17	21	26	31	26	18	16	4,170
IH 2018-SFR2		48	92	58	61	44	37	48	45	41	41	32	42	5,355
IH 2018-SFR3		87	134	70	48	73	59	65	62	66	69	57	60	6,519
IH 2018-SFR4			65	42	38	33	28	28	39	33	36	25	22	5,289
PRD 2015-SFR3		25	19	16	36	27	21	22	18	20	23	29	25	3,144
PRD 2017-SFR1		22	18	23	19	11	16	12	14	17	19	27	20	2,707
PRD 2018-SFR1		7	4	10	13	15	10	16	14	19	14	0	2	2,111
PRD 2018-SFR2		15	7	10	14	10	12	9	16	23	29	35	29	2,116
PRD 2019-SFR2								12	19	16	20	26	13	2,459
PRD 2019-SFR3											25	29	29	2,268
SWH 2017-1		29	87	29	20	20	14	19	19	15	20	7	11	4,314
TAH 2016-SFR1		7	1	18	1	3	7	14	2	9	13	10	15	3,397
TAH 2017-SFR1		9	0	9	1	2	6	14	0	7	2	7	14	3,475
TAH 2017-SFR2		5	2	11	1	3	6	9	0	4	5	12	9	2,619
TAH 2018-SFR1		7	0	8	0	6	4	7	1	3	3	9	3	2,509
TAH 2019-SFR1													9	2,627
Overall SFR		438	678	488	412	379	345	418	419	462	531	535	451	82,779

Table 9b – Month-End Delinquency (by Percentage)

		Year 2018	Year 2019											
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
AH4R 2014-SFR2		0.5	0.5	0.4	0.4	0.4	0.2	0.4	0.6	0.5	0.4	0.2	0.0	
AH4R 2014-SFR3		0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.0	
AH4R 2015-SFR1		0.4	0.6	0.4	0.5	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.0	
AH4R 2015-SFR2		0.3	0.3	0.4	0.6	0.4	0.2	0.2	0.4	0.6	0.6	0.9	0.0	
HPA 2017-1		1.6	1.5	1.5	1.1	0.8	0.9	0.8	1.2	1.5	1.4	1.7	1.5	
HPA 2018-1		1.0	1.4	1.3	1.3	0.6	1.1	1.1	1.0	1.2	1.6	1.4	1.6	
HPA 2019-1											1.6	2.4	2.5	
HPA 2019-2													0.9	
IH 2017-SFR2		0.9	1.5	1.2	0.5	0.7	0.9	1.0	0.7	0.7	0.9	1.0	1.0	
IH 2018-SFR1		1.0	1.5	0.5	0.7	0.5	0.4	0.5	0.6	0.7	0.6	0.4	0.4	
IH 2018-SFR2		0.9	1.7	1.1	1.1	0.8	0.7	0.9	0.8	0.8	0.8	0.6	0.8	
IH 2018-SFR3		1.3	2.0	1.1	0.7	1.1	0.9	1.0	0.9	1.0	1.1	0.9	0.9	
IH 2018-SFR4			1.2	0.8	0.7	0.6	0.5	0.5	0.7	0.6	0.7	0.5	0.4	
PRD 2015-SFR3		0.8	0.6	0.5	1.1	0.9	0.7	0.7	0.6	0.6	0.7	0.9	0.8	
PRD 2017-SFR1		0.8	0.7	0.8	0.7	0.4	0.6	0.4	0.5	0.6	0.7	1.0	0.7	
PRD 2018-SFR1		0.3	0.2	0.5	0.6	0.7	0.5	0.8	0.7	0.9	0.7	0.0	0.1	
PRD 2018-SFR2		0.7	0.3	0.5	0.7	0.5	0.6	0.4	0.8	1.1	1.4	1.7	1.4	
PRD 2019-SFR2								0.5	0.8	0.7	0.8	1.1	0.5	
PRD 2019-SFR3											1.1	1.3	1.3	
SWH 2017-1		0.7	2.0	0.7	0.5	0.5	0.3	0.4	0.4	0.3	0.5	0.2	0.3	
TAH 2016-SFR1		0.2	0.0	0.5	0.0	0.1	0.2	0.4	0.1	0.3	0.4	0.3	0.4	
TAH 2017-SFR1		0.3	0.0	0.3	0.0	0.1	0.2	0.4	0.0	0.2	0.1	0.2	0.4	
TAH 2017-SFR2		0.2	0.1	0.4	0.0	0.1	0.2	0.3	0.0	0.2	0.2	0.5	0.3	
TAH 2018-SFR1		0.3	0.0	0.3	0.0	0.2	0.2	0.3	0.0	0.1	0.1	0.4	0.1	
TAH 2019-SFR1													0.3	
Overall SFR		0.6	0.9	0.7	0.6	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.5	

Table 10 – Monthly Retention Rate of Expiring Leases (by Percentage)

		Year 2018	Year 2019											
			Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug		
AH4R 2014-SFR2		79.0	69.8	82.9	78.4	83.5	82.2	74.7	73.9	75.7	76.6	73.2	TBD	
AH4R 2014-SFR3		71.7	78.3	78.7	79.3	76.4	77.7	76.8	76.2	74.1	76.6	74.5	TBD	
AH4R 2015-SFR1		81.3	79.7	78.0	79.4	79.8	78.5	75.0	70.0	73.2	78.6	75.3	TBD	
AH4R 2015-SFR2		76.3	68.0	80.8	78.8	74.0	76.8	75.4	75.6	72.8	77.6	76.8	TBD	
HPA 2017-1		79.1	83.8	84.2	82.1	76.6	76.0	75.0	80.9	71.2	73.9	74.4	TBD	
HPA 2018-1		79.5	85.9	79.7	77.5	80.0	78.8	75.9	73.1	74.7	71.0	79.2	TBD	
HPA 2019-1												100.0	TBD	
HPA 2019-2													TBD	
IH 2017-SFR2		81.7	88.5	81.2	80.9	86.5	78.8	76.8	79.0	80.9	76.0	79.0	TBD	
IH 2018-SFR1		78.9	81.6	84.2	78.6	80.5	83.9	82.9	80.0	84.8	73.1	85.1	TBD	
IH 2018-SFR2		77.5	83.7	80.6	78.2	75.9	78.1	78.8	77.5	79.2	80.0	80.5	TBD	
IH 2018-SFR3		81.5	80.9	78.5	78.3	80.8	75.3	76.0	74.8	79.9	83.3	81.8	TBD	
IH 2018-SFR4			78.0	83.6	81.8	77.7	80.5	78.1	75.3	78.1	85.6	78.8	TBD	
PRD 2015-SFR3		71.4	70.5	71.4	75.4	81.3	76.8	72.9	76.6	76.3	76.8	76.2	TBD	
PRD 2017-SFR1		78.4	77.1	79.3	71.1	72.6	73.5	73.8	79.2	77.7	74.1	80.6	TBD	
PRD 2018-SFR1		74.4	76.5	81.0	72.4	73.2	80.2	77.6	71.6	78.8	72.4	76.7	TBD	
PRD 2018-SFR2		50.0	78.5	81.7	76.4	80.6	76.8	78.6	81.2	74.4	73.7	70.7	TBD	
PRD 2019-SFR2								76.9	79.2	78.8	82.7	73.1	TBD	
PRD 2019-SFR3											87.8	76.2	TBD	
SWH 2017-1		76.9	81.7	82.1	74.9	80.4	78.0	80.0	74.4	78.6	86.4	81.3	TBD	
TAH 2016-SFR1		78.5	81.8	85.2	87.7	83.9	80.8	83.7	87.0	84.3	82.9	85.4	TBD	
TAH 2017-SFR1		82.1	78.4	79.6	81.7	87.1	87.5	84.3	91.8	84.9	87.2	79.8	TBD	
TAH 2017-SFR2		81.1	81.4	83.9	85.6	87.9	87.4	88.5	86.5	92.4	86.6	86.4	TBD	
TAH 2018-SFR1		83.9	82.4	79.5	93.6	87.8	83.7	90.5	85.1	89.6	81.9	82.3	TBD	
TAH 2019-SFR1													TBD	
Overall SFR		78.3	79.3	80.8	79.4	80.4	79.3	78.2	77.3	78.5	79.8	78.9	TBD	

TBD – To Be Determined

Table 11 – Monthly Retention Rate of MTM Leases (by Percentage)

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
AH4R 2014-SFR2		85.6	86.1	85.9	89.1	86.8	83.2	78.2	82.3	82.7	84.4	80.8	TBD
AH4R 2014-SFR3		88.1	92.0	92.7	88.5	85.1	86.7	83.8	80.4	85.6	84.8	84.9	TBD
AH4R 2015-SFR1		80.9	84.1	91.6	88.2	80.9	87.9	78.5	83.3	81.0	84.9	86.7	TBD
AH4R 2015-SFR2		78.9	83.3	88.3	84.9	84.2	83.0	83.9	79.8	74.4	78.9	78.5	TBD
HPA 2017-1													TBD
HPA 2018-1													TBD
HPA 2019-1													TBD
HPA 2019-2													TBD
IH 2017-SFR2		76.8	85.7	89.8	88.5	86.4	80.0	77.6	74.5	80.0	82.5	81.3	TBD
IH 2018-SFR1		83.6	86.6	88.9	81.4	85.2	89.1	80.3	81.2	81.2	86.2	86.4	TBD
IH 2018-SFR2		94.0	87.5	83.5	89.5	83.7	82.5	81.3	78.8	83.0	88.9	83.7	TBD
IH 2018-SFR3		87.3	81.9	84.2	82.6	82.6	87.4	81.6	82.0	80.5	85.6	84.6	TBD
IH 2018-SFR4			82.1	87.2	89.8	86.2	78.0	82.6	82.1	74.5	88.2	85.4	TBD
PRD 2015-SFR3		67.6	80.0	84.0	75.9	74.2	78.6	75.0	82.6	58.6	63.0	81.0	TBD
PRD 2017-SFR1		92.1	80.5	83.3	71.8	90.6	84.8	90.3	72.7	80.6	80.0	84.6	TBD
PRD 2018-SFR1		66.7	66.7	78.9	85.7	69.2	77.8	71.4	55.6	80.0	46.2	100.0	TBD
PRD 2018-SFR2		88.9	100.0	64.3	71.4	76.7	67.9	80.0	73.1	95.5	95.2	80.0	TBD
PRD 2019-SFR2								66.7	63.2	82.4	91.3	71.4	TBD
PRD 2019-SFR3											83.3	68.4	TBD
SWH 2017-1		78.3	74.1	85.5	87.2	78.3	80.9	76.6	69.0	76.2	75.8	91.7	TBD
TAH 2016-SFR1		93.2	95.3	92.8	95.9	92.5	91.6	97.4	89.5	90.5	83.0	85.7	TBD
TAH 2017-SFR1		84.8	88.9	93.2	87.3	89.9	90.0	95.6	83.8	95.5	83.6	86.4	TBD
TAH 2017-SFR2		86.4	87.8	94.3	90.8	89.7	70.9	95.2	90.8	89.5	81.7	85.7	TBD
TAH 2018-SFR1		97.4	81.2	93.7	90.9	90.0	76.5	96.8	91.3	92.6	89.2	95.4	TBD
TAH 2019-SFR1													TBD
Overall SFR		85.7	86.0	89.0	87.6	85.6	83.8	83.7	81.5	82.5	83.6	84.3	TBD

TBD – To Be Determined

Table 12a – MTM Tenants (by Count)



		Year 2018		Year 2019										Total Count
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
AH4R 2014-SFR2		157	164	152	163	174	190	218	212	204	195	186	163	4,544
AH4R 2014-SFR3		168	155	159	172	192	189	209	231	218	212	195	193	4,587
AH4R 2015-SFR1		160	148	145	174	203	213	214	213	213	210	211	186	4,696
AH4R 2015-SFR2		141	141	125	146	169	179	197	233	237	202	170	165	4,175
HPA 2017-1		0	0	0	0	0	0	0	0	0	0	0	0	1,283
HPA 2018-1		0	0	0	0	0	0	0	0	0	0	0	0	1,675
HPA 2019-1											0	0	0	1,182
HPA 2019-2													0	1,266
IH 2017-SFR2		69	63	59	61	119	140	136	146	134	134	121	109	4,292
IH 2018-SFR1		67	67	63	86	85	89	118	125	122	117	104	104	4,170
IH 2018-SFR2		84	96	85	86	148	158	169	158	126	124	133	138	5,355
IH 2018-SFR3		118	116	101	109	179	193	202	190	167	166	176	168	6,519
IH 2018-SFR4			84	86	108	129	131	147	169	145	129	132	142	5,289
PRD 2015-SFR3		48	40	43	43	42	45	48	51	55	46	34	31	3,144
PRD 2017-SFR1		57	54	52	54	46	50	41	50	43	43	35	43	2,707
PRD 2018-SFR1		74	38	21	18	17	14	15	11	21	26	18	36	2,111
PRD 2018-SFR2		9	23	43	53	41	45	41	39	28	25	23	17	2,116
PRD 2019-SFR2								32	31	33	36	38	31	2,459
PRD 2019-SFR3											25	31	24	2,268
SWH 2017-1		60	54	55	86	71	86	114	115	111	95	82	72	4,314
TAH 2016-SFR1		232	205	194	179	184	187	168	182	173	162	144	131	3,397
TAH 2017-SFR1		111	100	83	81	92	98	81	92	76	73	76	86	3,475
TAH 2017-SFR2		112	101	95	91	92	95	68	92	87	84	76	75	2,619
TAH 2018-SFR1		88	90	88	85	88	92	64	78	70	75	69	76	2,509
TAH 2019-SFR1													45	2,627
Overall SFR		1,755	1,739	1,649	1,795	2,071	2,194	2,282	2,418	2,263	2,179	2,054	2,035	82,779

Table 12b – MTM Tenants (by Percentage)

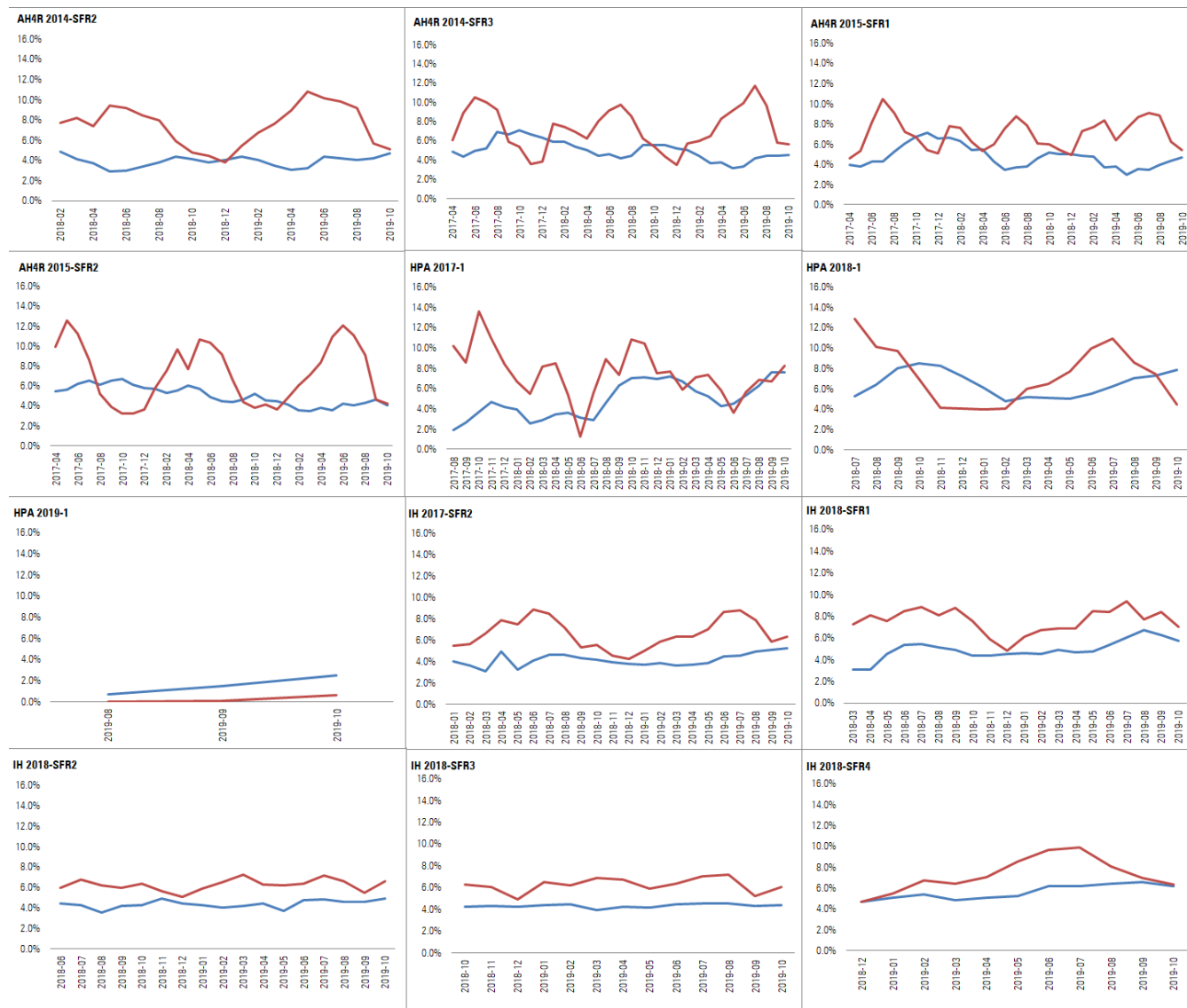
		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
AH4R 2014-SFR2		3.5	3.6	3.3	3.6	3.8	4.2	4.8	4.7	4.5	4.3	4.1	3.6
AH4R 2014-SFR3		3.7	3.4	3.5	3.7	4.2	4.1	4.6	5.0	4.8	4.6	4.3	4.2
AH4R 2015-SFR1		3.4	3.2	3.1	3.7	4.3	4.5	4.6	4.5	4.5	4.5	4.5	4.0
AH4R 2015-SFR2		3.4	3.4	3.0	3.5	4.0	4.3	4.7	5.6	5.7	4.8	4.1	4.0
HPA 2017-1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HPA 2018-1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HPA 2019-1											0.0	0.0	0.0
HPA 2019-2													0.0
IH 2017-SFR2		1.6	1.4	1.4	1.4	2.7	3.2	3.1	3.4	3.1	3.1	2.8	2.5
IH 2018-SFR1		1.6	1.6	1.5	2.0	2.0	2.1	2.8	3.0	2.9	2.8	2.5	2.5
IH 2018-SFR2		1.5	1.8	1.6	1.6	2.7	2.9	3.1	2.9	2.3	2.3	2.5	2.6
IH 2018-SFR3		1.8	1.7	1.5	1.6	2.7	2.9	3.1	2.9	2.5	2.5	2.7	2.6
IH 2018-SFR4			1.6	1.6	2.0	2.4	2.4	2.7	3.2	2.7	2.4	2.5	2.7
PRD 2015-SFR3		1.5	1.3	1.4	1.4	1.3	1.4	1.5	1.6	1.7	1.5	1.1	1.0
PRD 2017-SFR1		2.1	2.0	1.9	2.0	1.7	1.8	1.5	1.8	1.6	1.6	1.3	1.6
PRD 2018-SFR1		3.5	1.8	1.0	0.9	0.8	0.7	0.7	0.5	1.0	1.2	0.9	1.7
PRD 2018-SFR2		0.4	1.1	2.0	2.5	1.9	2.1	1.9	1.8	1.3	1.2	1.1	0.8
PRD 2019-SFR2								1.3	1.3	1.3	1.5	1.5	1.3
PRD 2019-SFR3											1.1	1.4	1.1
SWH 2017-1		1.4	1.2	1.3	2.0	1.6	2.0	2.6	2.6	2.6	2.2	1.9	1.7
TAH 2016-SFR1		6.8	6.0	5.7	5.2	5.4	5.5	4.9	5.3	5.1	4.8	4.2	3.9
TAH 2017-SFR1		3.2	2.9	2.4	2.3	2.6	2.8	2.3	2.6	2.2	2.1	2.2	2.5
TAH 2017-SFR2		4.3	3.9	3.6	3.5	3.5	3.6	2.6	3.5	3.3	3.2	2.9	2.9
TAH 2018-SFR1		3.5	3.6	3.5	3.4	3.5	3.7	2.6	3.1	2.8	3.0	2.8	3.0
TAH 2019-SFR1													1.7
Overall SFR		2.6	2.4	2.2	2.4	2.8	3.0	3.0	3.2	3.0	2.8	2.6	2.5

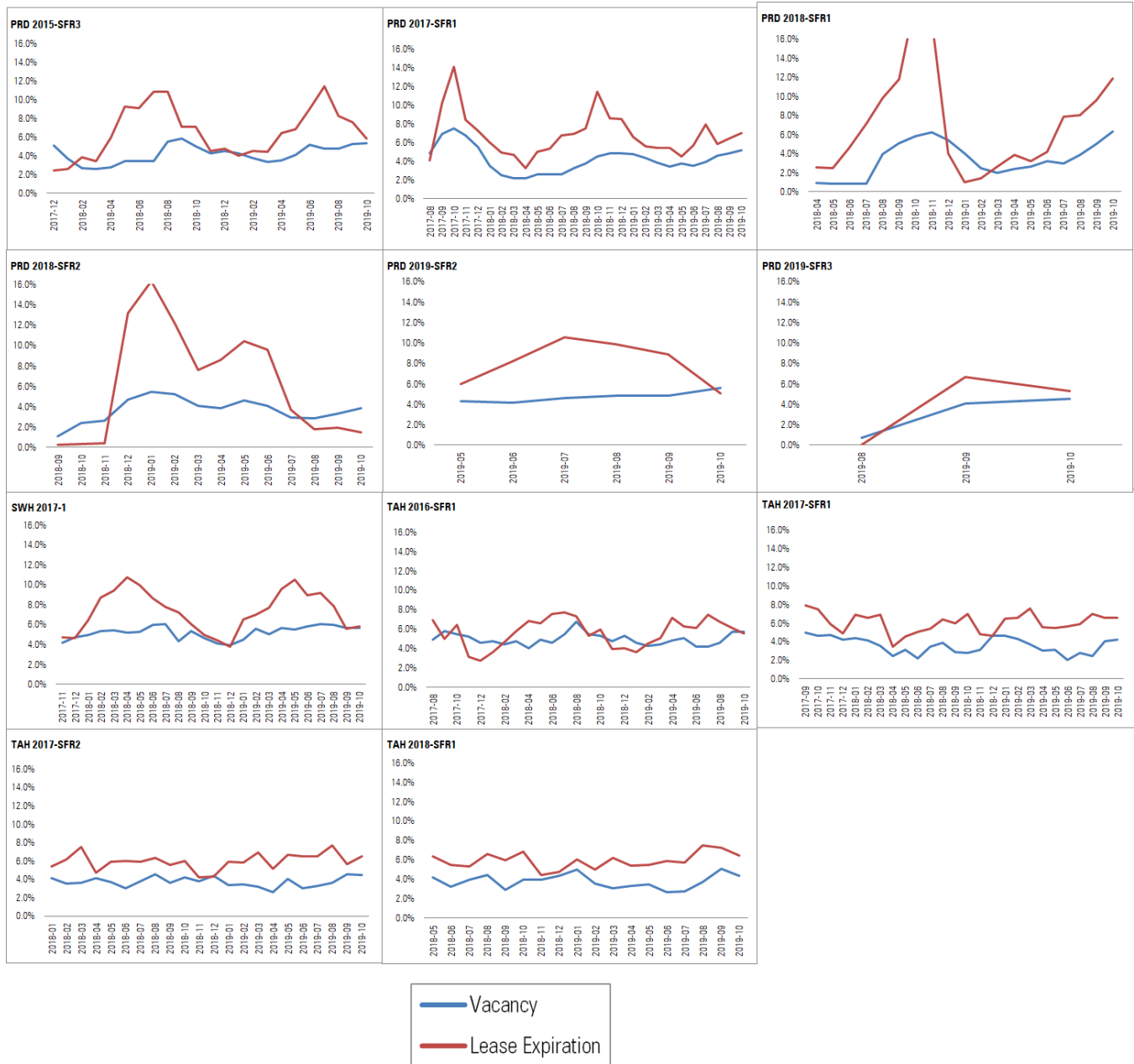
Table 13 – Monthly Turnover Rate (by Percentage)

		Year 2018		Year 2019									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
AH4R 2014-SFR2		2.0	2.3	2.2	2.4	2.5	2.9	4.1	4.4	4.2	3.7	2.9	TBD
AH4R 2014-SFR3		2.6	2.1	2.2	2.0	2.9	2.9	3.8	3.6	4.2	4.2	2.9	TBD
AH4R 2015-SFR1		2.3	2.6	2.7	2.4	3.1	2.7	3.6	4.4	3.9	3.7	3.0	TBD
AH4R 2015-SFR2		2.3	2.4	1.9	2.3	3.0	3.5	4.4	4.8	5.1	4.2	2.7	TBD
HPA 2017-1		3.1	2.0	2.9	2.5	2.4	3.1	2.8	2.3	3.5	3.6	3.2	TBD
HPA 2018-1		2.4	1.5	1.5	1.8	2.8	2.5	3.4	4.6	4.0	4.1	2.7	TBD
HPA 2019-1											0.4	1.3	TBD
HPA 2019-2													TBD
IH 2017-SFR2		1.7	1.7	1.9	2.1	2.0	2.2	2.8	3.5	3.7	3.5	2.8	TBD
IH 2018-SFR1		2.5	2.0	2.5	1.9	3.0	2.4	2.4	2.9	3.2	3.8	2.5	TBD
IH 2018-SFR2		2.6	2.1	2.1	2.0	3.0	2.8	2.6	3.2	3.5	3.1	2.3	TBD
IH 2018-SFR3		2.6	2.2	2.4	2.3	2.6	2.7	2.7	3.1	3.2	3.0	2.4	TBD
IH 2018-SFR4			2.1	2.2	2.3	2.8	2.7	3.1	3.5	3.7	3.4	3.0	TBD
PRD 2015-SFR3		2.6	2.7	2.6	2.4	2.3	2.8	3.5	3.9	5.0	4.2	3.7	TBD
PRD 2017-SFR1		3.9	3.5	3.0	2.7	3.1	2.4	2.8	3.1	3.9	4.2	3.4	TBD
PRD 2018-SFR1		6.5	3.7	1.3	1.5	2.3	2.5	2.4	2.9	3.6	4.6	4.4	TBD
PRD 2018-SFR2		1.9	4.8	4.3	4.2	3.6	3.6	4.5	4.0	3.3	1.9	2.3	TBD
PRD 2019-SFR2								7.3	3.8	4.4	4.1	3.3	TBD
PRD 2019-SFR3											3.8	2.8	TBD
SWH 2017-1		2.0	1.7	2.4	2.8	2.7	3.3	2.8	3.6	3.6	3.2	2.3	TBD
TAH 2016-SFR1		2.0	1.8	1.8	1.8	3.0	2.2	2.8	1.5	3.3	2.9	2.5	TBD
TAH 2017-SFR1		2.2	3.0	2.0	2.5	3.3	1.5	2.1	1.6	2.6	1.8	3.1	TBD
TAH 2017-SFR2		2.2	2.2	1.4	2.1	3.4	1.6	2.5	5.0	1.3	2.6	2.1	TBD
TAH 2018-SFR1		1.9	2.1	2.1	2.4	2.7	1.8	2.4	2.1	2.2	2.8	2.7	TBD
TAH 2019-SFR1													TBD
Overall SFR		2.5	2.3	2.2	2.3	2.8	2.6	3.2	3.5	3.6	3.4	2.8	TBD

TBD – To Be Determined

Appendix I – Vacancy Versus Lease Expiration





Appendix II – Description of Analysis

DBRS Morningstar tracks key metrics to gauge the performance of single-borrower, single-family rental transactions that DBRS Morningstar rates. There are several ways to view these metrics. For example, the vacancy rate might be calculated based on property count, by cash flow, or by days of occupancy. To account for different reporting across issuers, DBRS Morningstar seeks commonality across the single-borrower issuers' monthly reporting to derive its calculations.

Multiborrower deals are similar to single-borrower transactions in that the underlying collateral is generally single-family rental properties. They differ, though, in that single-borrower deals are backed by one loan, while multiborrower deals have many loans. As such, the monthly reporting for multiborrower deals is different from the data reported in the single-borrower sector. For example, delinquency reported in Tables 8a and 8b are tenants that are past due on rental payments at a property level. For multiborrower transactions, delinquency is measured by borrowers that are past due on payments at the loan level.

Table 1 – Multiborrower Loan Performance by Percentage of Balance

To calculate the percentage of loans delinquent, in foreclosure, and/or in special servicing, DBRS Morningstar takes the respective balance divided by the current deal balance.

Table 2 – Multiborrower Loan Performance by Loan Count

DBRS Morningstar shows the total loan count in a securitization and the number of loans 30-59 days delinquent, 60-89 days delinquent, over 90 days delinquent, in foreclosure, real estate owned, and in special servicing.

Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change

To calculate the rent change across single-borrower, single-family rental transactions, DBRS Morningstar isolated the leases starting in a given period and compared the contractual rent in that period with the prior occupied contractual rent. DBRS Morningstar then compared this rent change with the year-over-year change in three- and four-bedroom median rents from RentRange. DBRS Morningstar weighted the RentRange median rents by geography to match the MSA concentration of the DBRS Morningstar single-family rental database.

Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties

DBRS Morningstar calculated the rent change using the contractual rent for the corresponding period versus the prior occupied contractual rent. To determine the lease expiration sample, DBRS Morningstar used the logic outlined in the Tables 6a, 6b, and

6c – Lease Expiration section. DBRS Morningstar then looked at the property tape to determine the renewed properties and compared that contractual rent with the prior contractual rent. For vacant properties subsequently occupied by new tenants, DBRS Morningstar isolated those properties that were vacant in a given month and occupied in the next month and again compared the current contractual rent with the prior contractual rent.

Chart 3 – October Average Contractual Rent Versus Property-Level RentRange Estimate by MSA

Chart 3, which shows some of the MSAs most frequently found in single-family rental securitizations, takes a snapshot of the contractual rents in the DBRS Morningstar single-family rental database and compares these rents with their property-specific rent estimates from RentRange.

Table 3 - Difference between Average Contractual Rent Versus Property-Level RentRange

Table 3 shows the percentage difference between contractual rents in the DBRS Morningstar single-family rental database and the property-specific estimated rents from RentRange. DBRS Morningstar calculated the percentage difference by subtracting the RentRange estimated rent from the contractual rent and dividing that figure by the estimated RentRange rent.

Chart 4 – MSA-Level Blended Rent Change

Chart 4 shows the blended rent change of some of the MSAs frequently found in single-family rental securitizations. The size of each circle represents the percentage of properties by count in each MSA from DBRS Morningstar's database. MSAs in red are below the overall average rent change for the month, while those in blue are above.

Table 4 – Blended Rent Change (by Percentage) – Top MSAs

Table 4 shows the MSA-level blended rent change for the past 12 months using the same rent change calculation used in Chart 1 and Chart 4.

Tables 5a, 5b, and 5c – Month-End Vacancy

Table 5a displays deal-level vacancy by the month-end count of empty properties. Table 5b shows the deal-level vacancy as a percentage of the total properties in each pool. Table 5c shows the MSA-level vacancy percentage for some of the MSAs frequently found in single-family rental securitizations. The vacancy rate is heavily influenced by the number of lease expirations in each month. Generally, the more leases expiring in a given month, the higher the vacancy rate will be. Because each transaction or MSA has a distinct lease expiration schedule, the vacancy rate should not be viewed at one point in time,

but rather in the context of its lease expiration cycle, as reported in Tables 6a, 6b, and 6c and as seen in the charts in Appendix I.

Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count)

Chart 5 shows the vacancy rate of some of the MSAs frequently found in single-family rental securitizations. The size of each circle represents the percentage of leases expiring in the past three months. MSAs in red are above the overall average vacancy percentage for the month, while those in blue are below. Typically, the more leases expiring, the higher the vacancy rate.

Tables 6a, 6b, and 6c – Lease Expiration

Because lease expiration profiles change over time as tenants renew or new tenants occupy vacant properties, DBRS Morningstar seeks to rely on more recently published reporting of lease expirations, rather than solely using the lease expiration schedule from the cutoff date. To determine October lease expirations, DBRS Morningstar looks for all October lease expirations in the August property tape. DBRS Morningstar looks three months back to set a lease expiration sample that more accurately captures tenants who renew their leases in months before their scheduled lease expiration. Certain issuers have indicated that they proactively work to renew tenants a few months before the lease expiration date. Because DBRS Morningstar is looking three months back to determine its sample, there are instances when tenants vacate properties between the time DBRS Morningstar determines its sample and the month in which the tenant must make a decision to stay in the property. DBRS Morningstar excludes those vacated properties from its lease expiration sample and its retention rate calculation in Table 10. In the current example, properties that become vacant or that have move out dates in either August or September are removed from the October lease expiration count.

Tables 7a and 7b – Total Historical Months of Vacancy

Tables 7a and 7b show the number of months of vacancy the October unoccupied properties have experienced. In other words, if a property is unoccupied as of the October property tape, these tables summarize the number of total months the property has been vacant since the transaction cutoff date. Depending on the length of performance history, the overall vacancy may be in line with the number of consecutive vacant months, but this might not always be the case for those properties that have gone through multiple leasing cycles. Table 7a shows historical months of vacancy by count, and Table 7b is as a percentage of the October vacancies.

Tables 7c and 7d – Consecutive Months of Vacancy

Table 7c and 7d show the consecutive number of months an unoccupied property has been vacant since it was last occupied. For example, if a property is unoccupied as of October property tape, these tables reflect the number of consecutive months the property has been vacant and does not consider the number of vacant months prior to the most recent occupancy. Table 7c shows consecutive months of vacancy by count and Table 7d is as a percentage of the October vacancies.

Table 8 – Delinquency Definition

DBRS Morningstar's calculation of delinquency is based on the number of properties flagged as delinquent in the monthly property-level data. Each issuer uses its own criteria for classifying a tenant as delinquent. Table 8 summarizes the delinquency definition for each issuer and contains details on the length of time that must pass from a tenant's due date to be considered delinquent. The length of time is either based on a count of 30 days or is based on the calendar month. The slight distinction, for example, either results in a property with payment due on May 1 considered as delinquent after 30 days or as delinquent on June 1. None of the issuers factor a grace period into their delinquency definition, meaning their respective measures of past due begin if payment has not been received by the stated due date. In addition to timing, these conditions can also differ by the total dollar threshold an issuer uses to classify a tenant as delinquent and by the types of overdue payments that the issuer uses to count toward that threshold. For example, most issuers use only base rent to determine the dollar amount of delinquency. However, Tricon American Homes counts total receivables to determine the past due amount. Progress Residential includes certain fees above base rent but not total receivables.

Tables 9a and 9b – Month-End Delinquency

Table 9a shows the month-end count of delinquencies based on the definition in Table 8, and Table 9b shows delinquency as a percentage of the total number of properties in each pool. Any review of delinquency should be viewed within the context of the delinquency definitions in Table 8.

Table 10 – Monthly Retention Rate of Expiring Leases

When evaluating an issuer's ability to keep tenants in a property, DBRS Morningstar considers a retention rate. Once again, differences in monthly reporting affect the calculation that DBRS Morningstar uses. Typically, a renewal rate would review those tenants who signed a full-term lease. Considering the different methods issuers use to designate tenants with either a renewal or an MTM status, DBRS Morningstar opted to report the retention rate instead of the renewal rate. The retention rate is defined as those properties that retained previous tenants, whether on full-term or MTM leases, divided by the total number

of leases due to expire in that period, as reported in Table 6a and explained in Appendix II. If there is not enough seasoning in the deal to look three months back to determine the lease expiration sample, DBRS Morningstar relies on the cutoff tape lease expiration profile. As a result, the first three months of retention rate reported in Table 10 will use the cutoff tape to find the sample of lease expirations. After isolating the applicable lease expiration sample, DBRS Morningstar looks at the most recent property tape to determine the lease status of the properties. In this report, DBRS Morningstar uses the October property tape to determine the lease status for September expirations. DBRS Morningstar relies on the issuer's labeling of vacant, renewal, new lease, or MTM, to the extent that these notations are available in each tape.

Table 11 – Monthly Retention Rate of MTM Leases

In Table 11, DBRS Morningstar reviews the retention rate of those properties in an MTM status. This table looks at previous tenants who went to an MTM status and either renewed or remained in the property on an MTM basis. For the MTM retention rate, DBRS Morningstar looks for MTM tenants in the previous month's property tape, and then looks to the current month for their occupancy status. For example, the September 2019 retention rates are the September statuses of August MTM tenants.

Tables 12a and 12b – MTM Tenants

In Tables 12a and 12b, DBRS Morningstar shows the count and percentage of properties with MTM tenants. Securitizations with higher concentrations of MTM tenants typically report higher retention rates of their MTM leases. MTM tenants are usually subject to a monthly fee, which may encourage them to eventually sign full-term leases.

Table 13 – Monthly Turnover Rate

In evaluating how effective an issuer is at retaining tenants, DBRS Morningstar considers the monthly turnover rate. For this metric, DBRS Morningstar strives to apply a consistent calculation given the differences in issuers' reporting. DBRS Morningstar considers a property turned over if it meets one of three criteria:

- The property is vacant but was occupied in the previous month and the move-out date, if available, is on or after the first day of the current month;
- The move-out date is on or after the first day of the current month, including the last day of the current month; or
- The property was occupied in the prior month and a tenant has signed a new lease that starts on or after the second day of the current month.

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