

# GNMA Prepayment Speeds

## September 2018

### GNMA 15yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo
GNMA 15yr 2	38	0.429	23	2.5	106	74	8.0	3.9	4.2	*n.m.	6.00	11.25	8.71	0.00	0.00	0.00	0.00
2013	23	0.418	17	2.5	106	74	5.9	5.7	0.2	3%	4.65	12.76	10.63	0.00	0.00	0.00	0.00
GNMA 15yr 2.5	1,248	0.365	312	3.0	104	76	9.7	14.0	-4.3	-30%	12.54	12.50	11.58	0.00	0.27	0.25	0.39
2013	418	0.414	104	3.0	109	71	8.8	11.1	-2.3	-21%	11.75	11.41	11.06	0.00	0.14	0.23	0.58
2012	797	0.340	178	3.0	100	80	10.5	15.2	-4.8	-31%	13.05	13.19	11.98	0.00	0.29	0.24	0.29
GNMA 15yr 3	2,108	0.280	674	3.5	98	82	10.2	13.9	-3.7	-27%	12.53	12.49	12.61	0.00	0.35	0.43	0.61
2014	67	0.442	34	3.5	122	58	14.3	12.8	1.6	12%	11.17	9.31	11.67	0.00	0.00	0.50	0.99
2013	233	0.387	99	3.5	111	69	8.6	10.6	-2.0	-19%	11.37	12.86	12.53	0.00	0.60	0.69	0.83
2012	1,256	0.286	316	3.5	97	83	9.6	14.7	-5.1	-34%	12.49	12.54	12.66	0.00	0.26	0.35	0.59
2011	486	0.238	177	3.5	91	89	10.6	14.3	-3.8	-26%	12.91	12.41	12.59	0.00	0.58	0.57	0.57
2010	59	0.182	41	3.5	80	100	19.8	10.6	9.2	87%	16.91	14.87	13.83	0.00	0.00	0.00	0.00
GNMA 15yr 3.5	1,153	0.181	621	4.0	87	93	11.4	14.8	-3.4	-23%	13.36	13.26	13.12	0.00	0.37	0.47	0.66
2013	74	0.402	0.62	4.0	113	67	10.3	9.1	1.1	12%	9.36	11.08	10.31	0.00	0.27	0.75	0.50
2012	64	0.319	0.62	4.0	98	82	9.5	8.6	0.9	11%	10.55	10.38	10.68	0.62	0.00	0.28	0.90
2011	616	0.177	0.62	4.0	86	94	11.3	16.2	-4.8	-30%	14.27	13.86	13.90	0.62	0.29	0.44	0.70
2010	372	0.156	0.62	4.0	80	100	12.1	14.5	-2.3	-16%	13.01	13.01	12.72	0.62	0.52	0.46	0.52
GNMA 15yr 4	1,728	0.121	0.62	4.5	74	106	11.4	13.9	-2.5	-18%	12.72	13.19	13.37	0.62	0.62	0.63	0.83
2011	340	0.152	0.62	4.5	85	95	11.9	14.8	-2.9	-20%	13.93	14.01	13.58	0.00	0.62	0.69	0.78
2010	754	0.133	368	4.5	75	105	10.6	12.8	-2.2	-17%	11.81	12.92	13.26	0.00	0.49	0.72	0.91
2009	598	0.099	375	4.5	66	114	12.2	14.8	-2.6	-18%	13.28	12.91	13.25	0.00	0.62	0.49	0.72
GNMA 15yr 4.5	430	0.073	1001	5.0	67	113	13.0	15.0	-2.0	-13%	14.10	14.36	14.03	0.00	0.73	0.80	1.09
2010	128	0.132	147	5.0	74	106	12.3	12.5	-0.2	-2%	12.43	11.80	11.89	0.00	0.73	0.89	1.28
2009	262	0.090	354	5.0	66	114	12.4	14.7	-2.3	-15%	13.60	14.42	13.42	0.00	0.68	0.78	0.96
GNMA 15yr 5	149	0.029	1230	5.5	51	129	16.0	15.8	0.2	1%	15.70	16.63	17.34	0.00	0.52	0.93	1.47
2009	51	0.091	163	5.5	64	116	11.2	14.5	-3.3	-23%	12.54	14.27	15.12	0.00	0.54	1.90	2.20

\*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution.

This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

# GNMA Prepayment Speeds

## September 2018

### GNMA2 15yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo
<b>GNMA 2 15yr 2</b>	637	0.536	63	2.5	126	54	<b>8.8</b>	10.5	-1.7	<b>-16%</b>	10.68	10.17	9.17	0.00	0.04	0.04	0.07
2017	53	0.894	13	2.5	162	18	<b>8.2</b>	14.1	-5.9	<b>-42%</b>	9.28	6.45	4.28	0.00	0.00	0.00	0.00
2016	171	0.789	10	2.5	152	28	<b>10.1</b>	9.7	0.4	<b>4%</b>	11.59	10.01	8.68	0.00	0.00	0.00	0.00
2015	55	0.660	14	2.5	135	45	<b>2.2</b>	16.3	-14.1	<b>-86%</b>	9.50	9.23	9.22	0.00	0.00	0.00	0.00
2013	224	0.444	13	2.5	109	71	<b>9.2</b>	7.9	1.3	<b>17%</b>	11.06	10.76	9.87	0.00	0.00	0.05	0.13
2012	130	0.410	10	2.5	104	76	<b>9.7</b>	10.7	-1.0	<b>-9%</b>	9.64	11.19	10.16	0.00	0.19	0.10	0.10
<b>GNMA 2 15yr 2.5</b>	11,242	0.556	103	2.9	136	44	<b>10.8</b>	12.4	-1.6	<b>-13%</b>	11.63	11.60	10.91	0.00	0.15	0.23	0.22
2018	88	0.949	7	3.0	170	10	<b>4.9</b>	7.2	-2.3	<b>-32%</b>	5.69	4.80	-	0.00	0.00	0.00	-
2017	1,715	0.859	19	2.9	162	18	<b>10.5</b>	11.7	-1.2	<b>-10%</b>	10.30	9.05	7.28	0.00	0.07	0.18	0.15
2016	4,169	0.725	12	2.9	151	29	<b>10.9</b>	12.7	-1.8	<b>-14%</b>	11.87	11.90	11.28	0.00	0.16	0.30	0.23
2015	1,591	0.566	17	2.9	135	45	<b>13.8</b>	12.4	1.5	<b>12%</b>	13.30	13.10	12.37	0.00	0.13	0.21	0.18
2014	297	0.473	15	3.0	125	55	<b>13.1</b>	11.2	2.0	<b>18%</b>	14.12	14.63	13.54	0.00	0.30	0.21	0.26
2013	1,849	0.410	14	2.9	109	71	<b>9.6</b>	12.3	-2.8	<b>-22%</b>	10.90	11.61	11.26	0.00	0.21	0.21	0.30
2012	1,497	0.347	11	2.9	101	79	<b>9.3</b>	13.6	-4.3	<b>-32%</b>	11.47	11.77	11.28	0.00	0.14	0.19	0.22
2011	37	0.280	6	3.1	92	88	<b>7.0</b>	7.2	-0.2	<b>-3%</b>	7.55	9.11	10.12	0.00	0.00	0.25	0.13
<b>GNMA 2 15yr 3</b>	14,575	0.462	183	3.4	135	45	<b>12.2</b>	14.5	-2.3	<b>-16%</b>	13.51	13.27	13.12	0.00	0.40	0.57	0.48
2018	650	0.954	8	3.5	172	8	<b>7.2</b>	4.1	3.2	<b>*n.m.</b>	5.62	4.36	-	0.00	0.16	0.08	-
2017	3,160	0.846	14	3.5	162	18	<b>11.2</b>	12.5	-1.4	<b>-11%</b>	11.48	10.36	8.82	0.00	0.33	0.38	0.20
2016	2,478	0.655	15	3.4	149	31	<b>12.6</b>	15.3	-2.8	<b>-18%</b>	14.63	14.79	14.21	0.00	0.52	0.93	0.65
2015	2,653	0.504	22	3.4	137	43	<b>14.2</b>	17.0	-2.8	<b>-16%</b>	15.33	14.98	15.60	0.00	0.52	0.72	0.67
2014	1,635	0.392	30	3.4	125	55	<b>13.4</b>	16.9	-3.6	<b>-21%</b>	15.15	15.61	15.66	0.00	0.43	0.67	0.57
2013	1,457	0.355	14	3.4	111	69	<b>10.5</b>	12.7	-2.2	<b>-17%</b>	12.54	13.18	13.21	0.00	0.44	0.51	0.53
2012	2,142	0.267	61	3.3	98	82	<b>12.4</b>	14.9	-2.5	<b>-17%</b>	14.22	13.69	13.50	0.00	0.27	0.33	0.36
2011	389	0.226	12	3.4	91	89	<b>11.8</b>	16.7	-5.0	<b>-30%</b>	14.33	13.89	13.15	0.00	0.36	0.47	0.48
<b>GNMA 2 15yr 3.5</b>	7,567	0.461	200	3.9	148	32	<b>10.5</b>	12.0	-1.6	<b>-13%</b>	11.24	11.42	12.22	0.00	0.40	0.47	0.52
2018	2,544	0.970	13	4.0	174	6	<b>4.1</b>	6.1	-2.0	<b>-33%</b>	4.66	3.75	-	0.00	0.15	0.10	-
2017	1,991	0.823	12	3.9	163	17	<b>13.3</b>	13.6	-0.3	<b>-2%</b>	13.02	12.02	11.24	0.00	0.22	0.36	0.29
2016	305	0.617	12	3.9	150	30	<b>14.8</b>	17.7	-2.9	<b>-16%</b>	15.21	14.46	15.17	0.00	1.41	1.42	1.30
2015	451	0.481	18	3.9	138	42	<b>12.7</b>	16.7	-4.0	<b>-24%</b>	14.12	14.80	14.30	0.00	1.21	1.14	1.16
2014	784	0.338	27	3.8	123	57	<b>13.7</b>	13.2	0.5	<b>4%</b>	13.18	13.99	14.81	0.00	0.50	0.58	0.68
2013	476	0.300	27	3.9	115	65	<b>13.7</b>	14.4	-0.6	<b>-4%</b>	14.45	14.01	14.47	0.00	0.45	0.56	0.74
2012	171	0.212	55	3.9	98	82	<b>14.6</b>	14.5	0.2	<b>1%</b>	14.64	15.61	14.32	0.00	0.96	0.78	0.64
2011	581	0.162	18	3.9	90	90	<b>14.3</b>	14.5	-0.2	<b>-1%</b>	15.33	15.39	14.86	0.00	0.47	0.48	0.47
2010	261	0.161	12	3.9	81	99	<b>12.0</b>	16.6	-4.6	<b>-28%</b>	15.17	14.49	13.95	0.00	0.09	0.16	0.28
<b>GNMA 2 15yr 4</b>	1,143	0.171	150	4.4	110	70	<b>10.1</b>	12.9	-2.7	<b>-21%</b>	11.51	12.10	13.27	0.00	0.47	0.63	0.98
2018	289	0.977	10	4.4	175	5	<b>4.3</b>	7.3	-3.0	<b>-41%</b>	5.28	5.42	-	0.00	0.10	0.05	-
2017	23	0.832	9	4.3	163	17	<b>14.5</b>	3.7	10.8	<b>*n.m.</b>	12.43	13.93	13.33	0.00	0.00	0.42	1.09
2014	44	0.354	25	4.4	123	57	<b>4.2</b>	7.9	-3.7	<b>-47%</b>	7.51	9.74	13.09	0.00	1.75	1.95	1.78
2013	65	0.302	15	4.4	114	66	<b>14.9</b>	13.4	1.6	<b>12%</b>	13.42	12.14	14.07	0.00	0.78	0.57	1.73
2011	402	0.124	20	4.3	86	94	<b>11.3</b>	14.7	-3.4	<b>-23%</b>	12.99	12.39	13.22	0.00	0.58	0.67	0.76
2010	181	0.116	21	4.3	77	103	<b>13.2</b>	13.8	-0.6	<b>-4%</b>	12.98	14.08	14.77	0.00	0.54	0.51	0.93
2009	115	0.100	13	4.4	66	114	<b>13.2</b>	19.5	-6.3	<b>-32%</b>	14.80	14.96	14.05	0.00	0.00	0.64	1.02
<b>GNMA 2 15yr 4.5</b>	218	0.102	120	4.9	75	105	<b>15.4</b>	15.6	-0.2	<b>-1%</b>	14.92	13.89	15.01	0.00	1.41	1.14	1.57
2011	29	0.119	17	4.8	87	93	<b>19.6</b>	15.0	4.6	<b>31%</b>	14.28	11.64	15.27	0.00	1.90	1.39	2.07
2010	65	0.119	19	4.8	73	107	<b>16.4</b>	12.6	3.8	<b>30%</b>	15.35	14.40	13.73	0.00	1.34	1.20	1.46
2009	110	0.095	22	4.9	66	114	<b>15.1</b>	17.8	-2.7	<b>-15%</b>	15.67	14.38	15.54	0.00	1.41	1.10	1.60

\*n.m. - Not Meaningful

#### Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBSG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

# GNMA Prepayment Speeds

## September 2018

### GNMA 30yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo
<b>GNMA 30yr 2</b>	67	0.682	50	2.5	303	57	6.4	4.4	2.0	*n.m.	8.85	9.99	7.79	0.00	2.27	1.56	1.62
2016	18	0.917	12	2.5	334	26	0.1	0.0	0.0	*n.m.	4.53	3.99	3.42	0.00	4.51	3.06	2.94
2013	47	0.620	31	2.5	291	69	9.0	6.2	2.8	45%	10.84	12.57	9.49	0.00	1.53	1.07	0.98
<b>GNMA 30yr 2.5</b>	2,145	0.577	704	3.0	289	71	8.4	11.4	-3.0	-26%	9.78	10.29	9.67	0.00	0.47	0.55	0.68
2016	222	0.920	85	3.0	327	33	0.5	2.0	-1.5	*n.m.	1.80	2.07	1.90	0.00	0.95	1.10	0.68
2015	39	0.796	37	3.0	317	43	7.0	7.7	-0.7	-10%	8.60	9.39	8.06	0.00	0.00	0.81	0.63
2013	861	0.576	271	3.0	286	74	8.7	11.6	-2.9	-25%	9.57	10.90	10.18	0.00	0.46	0.54	0.67
2012	974	0.532	205	3.0	283	77	10.1	13.7	-3.6	-26%	11.84	11.67	10.97	0.00	0.42	0.40	0.64
<b>GNMA 30yr 3</b>	23,149	0.470	4855	3.5	288	72	10.5	13.5	-2.9	-22%	12.49	12.87	12.62	0.00	0.92	1.12	1.49
2017	202	0.954	99	3.5	339	21	2.3	4.1	-1.8	*n.m.	2.36	3.25	2.32	0.00	0.69	0.62	0.89
2016	663	0.898	213	3.5	330	30	5.3	8.2	-2.9	-35%	6.79	6.25	4.64	0.00	2.29	2.59	2.09
2015	1,775	0.660	398	3.5	314	46	11.1	14.0	-2.9	-21%	12.73	12.56	12.25	0.00	1.23	1.23	1.35
2014	392	0.626	184	3.5	306	54	13.3	13.2	0.1	1%	14.64	14.36	12.28	0.00	2.92	2.50	1.92
2013	10,750	0.456	1923	3.5	287	73	10.9	13.8	-3.0	-21%	12.88	13.47	13.27	0.00	0.96	1.10	1.53
2012	9,251	0.436	1835	3.5	280	80	10.4	13.5	-3.1	-23%	12.51	12.84	12.70	0.00	0.63	0.94	1.41
2011	90	0.482	173	3.5	271	89	15.9	15.9	0.0	0%	13.05	11.19	10.13	0.00	1.55	1.67	1.79
<b>GNMA 30yr 3.5</b>	22,814	0.365	7004	4.0	285	75	10.8	14.1	-3.3	-23%	12.65	12.84	13.01	0.00	1.25	1.41	1.90
2018	326	0.985	77	4.0	351	9	1.7	4.4	-2.8	*n.m.	2.23	1.31	-	0.00	0.43	0.22	-
2017	1,320	0.951	304	4.0	345	15	6.6	7.5	-0.9	-12%	5.74	4.45	3.16	0.00	0.43	0.22	-
2016	796	0.855	208	4.0	331	29	9.8	9.3	0.5	5%	8.97	8.32	7.62	0.00	1.37	1.05	0.76
2015	1,552	0.568	536	4.0	315	45	11.7	14.1	-2.3	-17%	13.47	14.04	14.63	0.00	1.70	1.90	1.79
2014	1,225	0.487	409	4.0	306	54	11.8	16.4	-4.5	-28%	14.10	14.39	14.56	0.00	2.32	2.42	2.85
2013	3,511	0.431	1262	4.0	284	76	10.5	13.5	-3.1	-23%	12.49	12.72	13.10	0.00	2.01	2.22	2.78
2012	8,523	0.324	2490	4.0	275	85	11.8	14.9	-3.1	-21%	13.59	13.87	13.89	0.00	1.33	1.60	2.26
2011	4,179	0.278	1200	4.0	269	91	11.1	15.7	-4.6	-29%	13.61	13.61	13.75	0.00	1.14	1.32	1.90
2010	1,341	0.271	469	4.0	256	104	9.4	14.7	-5.4	-36%	12.60	13.74	13.56	0.00	0.89	1.08	1.56
2009	34	0.261	34	4.0	236	124	12.2	15.9	-3.7	-23%	14.84	13.84	14.84	0.00	0.66	0.89	1.19
<b>GNMA 30yr 4</b>	27,391	0.259	8612	4.5	274	86	12.2	14.4	-2.2	-15%	13.66	13.84	14.62	0.00	1.28	1.24	2.94
2018	340	0.987	80	4.5	353	7	5.0	0.2	4.9	*n.m.	2.14	1.43	-	0.00	0.00	0.00	-
2017	917	0.939	169	4.5	344	16	4.2	6.1	-1.9	-32%	5.56	4.24	4.25	0.00	1.50	1.67	2.38
2016	1,225	0.708	267	4.5	331	29	13.5	12.7	0.8	6%	13.43	11.70	14.16	0.00	0.00	0.00	-
2015	2,626	0.451	1047	4.5	316	44	15.0	20.5	-5.5	-27%	18.97	18.13	19.69	0.00	1.33	0.87	0.79
2014	1,587	0.446	630	4.5	300	60	13.0	12.6	0.4	3%	13.63	14.25	14.56	0.00	2.77	2.20	4.56
2013	871	0.417	490	4.5	288	72	10.7	13.7	-3.0	-22%	11.90	12.38	13.06	0.00	3.85	3.63	4.67
2012	692	0.326	692	4.5	273	87	8.5	14.5	-5.9	-41%	12.59	12.97	13.86	0.00	2.26	2.83	3.92
2011	6,083	0.222	2400	4.5	266	94	13.0	14.6	-1.6	-11%	13.85	14.29	14.74	0.00	2.02	2.64	3.23
2010	10,131	0.225	1965	4.5	256	104	12.3	14.6	-2.3	-16%	13.61	14.03	14.59	0.00	1.54	1.75	3.42
2009	2,886	0.174	761	4.5	239	121	11.2	13.4	-2.2	-16%	12.92	13.26	13.72	0.00	1.17	1.46	2.13
<b>GNMA 30yr 4.5</b>	30,508	0.136	10440	5.0	253	107	13.2	15.5	-2.3	-15%	14.67	15.22	16.39	0.00	0.94	1.16	1.61
2018	197	0.992	49	5.0	354	6	0.8	0.2	0.6	*n.m.	0.35	2.78	-	0.00	0.00	0.00	-
2017	1,488	0.778	414	5.0	344	16	12.5	14.3	-1.7	-12%	13.66	16.42	19.66	0.00	1.01	1.27	1.63
2016	459	0.626	274	5.0	330	30	13.9	14.4	-0.5	-4%	15.12	13.25	16.16	0.00	1.38	1.66	2.30
2015	481	0.463	331	5.0	319	41	14.2	14.9	-0.7	-5%	15.61	16.23	19.13	0.00	0.00	0.00	-
2014	42	0.424	47	5.0	294	66	15.4	6.1	9.4	154%	12.31	16.61	14.65	0.00	2.15	2.64	2.52
2013	125	0.433	118	5.0	281	79	10.3	15.0	-4.7	-31%	11.83	11.63	11.91	0.00	4.36	3.38	4.00
2012	16	0.279	39	5.0	270	90	16.9	10.3	6.7	65%	10.75	7.62	11.33	0.00	3.59	3.30	5.78
2011	2,766	0.187	1773	5.0	263	97	13.6	16.6	-3.0	-18%	14.86	15.33	15.94	0.00	5.57	7.02	7.06
2010	8,734	0.159	2683	5.0	252	108	13.9	15.9	-2.1	-13%	15.27	15.57	16.39	0.00	2.07	2.11	3.09
2009	15,474	0.110	3297	5.0	241	119	13.1	15.4	-2.4	-15%	14.63	15.18	16.33	0.00	3.50	1.77	2.19
<b>GNMA 30yr 5</b>	18,597	0.094	12192	5.5	234	126	13.7	15.9	-2.3	-14%	14.81	15.08	15.80	0.00	2.15	2.27	2.94
2018	173	0.972	34	5.5	354	6	12.7	7.4	5.2	71%	6.92	6.69	-	0.00	0.00	0.00	-
2017	459	0.707	209	5.5	346	14	34.1	38.8	-4.7	-12%	35.28	35.51	28.95	0.00	1.20	1.57	2.22
2016	9	0.475	12	5.5	330	30	0.0	22.7	-22.7	*n.m.	8.25	22.09	23.88	0.00	1.13	1.42	2.07
2015	50	0.499	35	5.5	318	42	8.9	16.5	-7.7	-46%	12.65	13.85	15.54	0.00	1.71	2.04	2.86
2013	29	0.431	27	5.5	294	66	5.8	8.9	-3.1	-35%	12.37	11.13	10.22	0.00	0.00	0.00	-
2011	205	0.203	324	5.5	263	97	12.6	13.6	-0.9	-7%	13.71	13.70	14.20	0.00	2.33	2.90	2.68
2010	2,594	0.181	1582	5.5	250	110	12.6	15.3	-2.7	-18%	14.06	14.20	15.36	0.00	0.00	5.66	5.91
2009	10,364	0.107	3719	5.5	241	119	13.9	15.9	-2.0	-12%	14.78	14.96	15.98	0.00	3.39	7.11	7.40
<b>GNMA 30yr 5.5</b>	8,392	0.043	13889	6.0	197	163	12.3	14.9	-2.6	-17%	13.60	13.72	14.38	0.00	0.00	0.62	0.89
2010	58	0.125	189	6.0	251	109	13.9	8.5	5.4	63%	9.41	12.19	14.76	0.00	1.58	2.62	3.92
2009	933	0.106	1397	6.0	240	120	13.0	16.0	-3.0	-19%	15.00	15.36	16.18	0.00	1.86	2.17	3.22
<b>GNMA 30yr 6</b>	5,979	0.032	15755	6.5	192	168	12.1	13.9	-1.8	-13%	13.30	13.42	14.13	0.00	1.87	2.16	3.02
2009	146	0.102	516	6.5	238	122	16.4	16.2	0.1	1%	15.66	16.18	16.34	0.00	1.58	1.94	2.79

\*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBC, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

# GNMA Prepayment Speeds

## September 2018

### GNMA2 30yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo
<b>GNMA 2 30yr 2</b>	82	0.802	108	2.6	319	41	3.9	5.1	-1.2	-23%	3.98	6.05	5.59	0.00	0.00	1.01	0.89
2016	54	0.920	59	2.6	332	28	2.8	4.8	-2.0	*n.m.	2.63	3.23	2.89	0.00	0.00	0.00	0.60
<b>GNMA 2 30yr 2.5</b>	14,251	0.746	445	3.0	321	39	8.6	11.0	-2.4	-22%	9.93	9.77	9.00	0.00	1.21	0.77	0.88
2017	365	0.934	90	3.0	341	19	3.3	8.4	-5.1	-61%	5.78	5.34	4.35	0.00	0.35	0.47	0.46
2016	10,437	0.840	159	3.0	331	29	8.6	10.6	-2.0	-18%	9.52	9.20	8.46	0.00	0.62	0.92	1.29
2015	576	0.720	89	2.9	315	45	10.7	9.9	0.8	8%	10.60	9.95	9.76	0.00	6.88	6.93	4.29
2014	18	0.598	6	2.9	302	58	17.6	25.1	-7.4	-30%	28.42	23.73	17.07	0.00	0.57	0.59	1.00
2013	1,929	0.536	60	3.0	286	74	8.8	12.0	-3.1	-26%	11.72	12.03	10.95	0.00	0.48	0.55	0.86
2012	906	0.497	26	3.0	282	78	8.5	14.7	-6.1	-42%	11.63	12.70	11.91	0.00	0.74	0.94	1.11
<b>GNMA 2 30yr 3</b>	397,174	0.652	2396	3.4	318	42	10.1	12.6	-2.5	-20%	11.70	11.78	11.23	0.00	0.00	0.00	-
2018	100	0.986	52	3.4	353	7	2.9	0.4	2.5	*n.m.	1.12	1.31	-	0.00	0.65	0.80	1.10
2017	47,943	0.928	260	3.5	343	17	6.7	8.4	-1.7	-20%	7.29	6.51	5.45	0.00	0.65	0.80	1.10
2016	193,204	0.790	1113	3.4	330	30	10.2	12.6	-2.4	-19%	11.70	11.61	10.79	0.00	0.80	1.02	1.03
2015	52,174	0.613	298	3.5	316	44	11.5	14.3	-2.8	-20%	13.49	13.96	13.55	0.00	0.73	0.94	1.20
2014	7,810	0.515	94	3.5	308	52	11.9	14.6	-2.7	-19%	13.92	14.81	14.51	0.00	0.88	1.16	1.53
2013	48,925	0.472	280	3.3	288	72	10.8	13.5	-2.7	-20%	12.80	13.34	12.94	0.00	0.71	0.98	1.37
2012	46,958	0.432	282	3.4	281	79	10.6	13.8	-3.2	-23%	12.56	12.96	12.79	0.00	0.56	0.71	1.00
2011	57	0.389	9	3.6	268	92	11.8	18.5	-6.6	-36%	16.13	16.37	13.74	0.00	0.00	0.00	0.00
<b>GNMA 2 30yr 3.5</b>	621,623	0.591	10561	3.9	322	38	10.5	12.6	-2.1	-17%	11.77	11.69	12.14	0.00	1.25	1.41	1.76
2018	38,278	0.977	311	4.0	350	10	4.8	5.1	-0.3	-6%	4.82	3.42	-	0.00	0.76	0.85	0.93
2017	193,716	0.908	2643	3.9	343	17	7.6	8.5	-0.9	-10%	7.91	7.26	7.15	0.00	1.41	0.87	-
2016	118,678	0.726	3330	3.9	330	30	12.0	14.2	-2.2	-15%	13.32	13.03	13.10	0.00	0.76	0.85	0.93
2015	119,671	0.541	1860	3.9	318	42	13.2	16.2	-3.0	-19%	15.09	15.39	15.81	0.00	2.05	2.27	2.53
2014	44,861	0.397	639	3.9	305	55	13.4	16.2	-2.8	-17%	15.27	15.84	15.86	0.00	1.49	1.78	2.18
2013	37,406	0.400	608	3.8	288	72	11.9	15.0	-3.1	-21%	13.82	14.02	14.17	0.00	1.14	1.40	1.95
2012	57,272	0.340	900	3.8	277	83	11.6	14.8	-3.2	-22%	13.57	13.86	13.99	0.00	1.15	1.39	2.07
2011	10,976	0.294	161	3.9	269	91	12.0	15.0	-3.0	-20%	13.88	14.11	14.09	0.00	0.88	1.05	1.54
2010	736	0.272	80	4.0	256	104	10.0	14.6	-4.5	-31%	12.97	13.49	12.82	0.00	0.72	0.88	1.31
<b>GNMA 2 30yr 4</b>	327,247	0.512	15306	4.4	327	33	10.1	12.0	-1.9	-16%	11.42	11.90	14.77	0.00	0.94	0.90	1.23
2018	88,359	0.988	1911	4.5	354	6	2.7	2.7	0.0	*n.m.	2.72	2.02	-	0.00	2.27	2.48	2.51
2017	89,940	0.860	5450	4.4	343	17	10.5	11.3	-0.9	-8%	10.83	10.34	12.83	0.00	1.98	2.30	3.07
2016	25,009	0.652	2760	4.4	331	29	13.6	15.5	-2.0	-13%	14.61	14.13	18.53	0.00	0.53	0.30	-
2015	32,692	0.478	2380	4.4	318	42	15.2	17.8	-2.6	-15%	16.79	16.61	17.77	0.00	2.27	2.48	2.51
2014	37,454	0.325	1290	4.3	302	58	14.5	17.3	-2.7	-16%	16.25	16.46	17.39	0.00	3.31	3.52	4.13
2013	18,459	0.278	314	4.4	293	67	14.8	17.2	-2.4	-14%	16.52	16.81	17.42	0.00	3.16	3.58	4.40
2012	8,318	0.267	443	4.3	274	86	12.6	14.4	-1.8	-13%	13.93	14.34	15.01	0.00	2.56	2.95	4.17
2011	14,909	0.212	437	4.3	267	93	12.9	15.8	-2.9	-18%	14.61	14.80	15.35	0.00	1.80	2.19	2.87
2010	11,485	0.221	269	4.4	256	104	11.7	15.8	-4.2	-26%	13.79	14.09	14.69	0.00	1.67	2.07	3.04
2009	551	0.185	20	4.4	240	120	13.5	20.7	-7.2	-35%	16.78	16.51	16.21	0.00	1.26	1.48	2.16
<b>GNMA 2 30yr 4.5</b>	130,964	0.361	9541	4.9	316	44	9.5	11.4	-1.9	-17%	10.90	12.43	16.12	0.00	0.88	1.09	1.56
2018	53,344	0.992	3560	4.9	355	5	2.2	2.0	0.2	*n.m.	1.99	1.43	-	0.00	2.04	2.08	2.16
2017	19,441	0.867	2421	4.9	344	16	15.6	16.1	-0.4	-3%	14.99	14.41	13.77	0.00	1.35	1.18	1.58
2016	4,564	0.612	487	4.9	332	28	15.2	17.1	-2.0	-12%	16.27	17.47	31.65	0.00	1.47	1.88	3.11
2015	1,462	0.573	861	4.8	314	46	13.7	14.1	-0.5	-3%	14.12	14.14	16.66	0.00	0.24	0.14	-
2014	7,129	0.332	577	4.8	301	59	14.9	17.3	-2.5	-14%	16.47	17.02	19.01	0.00	2.04	2.08	2.16
2013	8,253	0.278	171	4.8	292	68	14.9	16.3	-1.4	-9%	16.17	16.49	18.07	0.00	4.05	4.58	5.53
2012	445	0.278	45	4.9	280	80	16.6	20.5	-3.9	-19%	16.70	17.75	19.90	0.00	3.44	3.83	5.75
2011	13,420	0.173	539	4.8	262	98	13.4	15.0	-1.5	-10%	14.75	15.12	16.33	0.00	3.72	4.26	6.37
2010	13,183	0.174	445	4.9	253	107	12.8	15.9	-3.1	-20%	14.66	14.87	15.87	0.00	2.78	3.25	4.92
2009	9,414	0.140	146	4.9	241	119	12.9	16.5	-3.6	-22%	14.80	15.26	16.23	0.00	2.98	4.16	6.28
<b>GNMA 2 30yr 5</b>	46,636	0.201	3964	5.4	293	67	10.5	13.2	-2.7	-20%	12.18	13.74	16.23	0.00	1.40	1.68	2.75
2018	16,510	0.993	2189	5.5	354	6	1.9	1.7	0.3	*n.m.	1.96	1.51	-	0.00	2.26	1.65	1.36
2017	3,623	0.944	225	5.4	345	15	16.2	12.4	3.8	30%	12.38	9.02	8.03	0.00	1.10	1.33	2.07
2016	745	0.790	7	5.3	331	29	35.1	45.0	-9.9	-22%	35.68	30.05	20.84	0.00	0.93	1.20	1.83
2015	639	0.703	11	5.4	320	40	23.4	33.0	-9.7	-29%	29.05	32.08	28.07	0.00	1.65	2.16	3.45
2014	329	0.580	27	5.3	305	55	14.6	20.1	-5.5	-27%	19.42	22.53	35.99	0.00	0.23	0.12	-
2013	134	0.528	32	5.3	297	63	15.5	28.9	-13.4	-46%	20.36	22.75	33.45	0.00	2.26	1.65	1.36
2012	208	0.303	3	5.4	275	85	15.0	18.6	-3.6	-20%	16.84	20.77	25.81	0.00	4.42	5.01	4.66
2011	2,400	0.194	200	5.3	263	97	14.8	17.8	-3.0	-17%	16.38	16.81	18.77	0.00	5.82	6.74	7.54
2010	9,125	0.150	273	5.3	251	109	13.7	17.6	-3.9	-22%	15.84	16.19	17.27	0.00	5.93	6.51	9.62
2009	10,093	0.118	249	5.3	243	117	13.7	16.1	-2.4	-15%	15.08	15.72	16.74	0.00	6.55	7.13	10.53
<b>GNMA 2 30yr 5.5</b>	10,792	0.070	2490	6.0	227	133	12.6	15.0	-2.4	-16%	14.12	14.69	16.01	0.00	5.50	7.36	10.80
2018	571	0.994	247	5.9	355	5	1.4	1.8	-0.5	*n.m.	1.53	0.90	-	0.00	8.93	10.41	12.80
2010	159	0.369	20	5.9	252	108	28.1	35.7	-7.6	-21%	33.19	31.88	29.92	0.00	3.59	4.16	6.45
2009	1,293	0.118	101	5.9	241	119	14.2	18.0	-3.8	-21%	16.60	17.34	18.00	0.00	1.95	2.38	3.58

\*n.m. - Not Meaningful

#### Source: Bloomberg

INTENDED

# GNMA Prepayment Speeds

September 2018

GNMA2 JUMBO 15yr/30yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo
<b>GNMA 2 Jumbo 2.5</b>	373	0.668	100	2.9	241	119	4.6	14.9	-10.3	-69%	12.85	11.89	9.89	0.00	0.43	0.22	0.42
2017	31	0.910	18	3.0	245	115	15.6	0.6	15.0	*n.m.	5.79	3.35	4.68	0.00	0.00	0.00	1.36
2016	192	0.795	24	2.9	257	103	3.1	18.8	-15.7	-83%	12.89	10.05	8.77	0.00	0.00	0.00	0.20
2015	26	0.485	14	2.9	153	207	1.7	17.6	-15.9	-90%	14.68	19.39	18.62	0.00	5.87	2.98	1.50
2013	41	0.525	21	3.0	224	136	0.5	9.8	-9.3	*n.m.	18.31	13.31	8.91	0.00	0.00	0.00	0.00
2012	77	0.551	17	3.0	245	115	6.7	6.9	-0.2	-2%	10.58	15.62	11.28	0.00	0.02	0.01	0.01
<b>GNMA 2 Jumbo 3</b>	22,379	0.670	159	3.4	325	35	8.3	11.2	-2.9	-26%	10.13	10.59	10.84	0.00	0.38	0.46	0.45
2018	348	0.969	10	3.5	350	10	4.9	0.2	4.7	*n.m.	3.16	3.88	-	0.00	0.52	0.56	-
2017	2,859	0.920	24	3.5	343	17	7.4	8.2	-0.8	-9%	7.18	6.24	5.87	0.00	0.52	0.56	-
2016	13,691	0.762	22	3.4	331	29	8.7	12.6	-4.0	-31%	10.76	11.20	11.33	0.00	0.57	0.45	0.44
2015	2,811	0.530	23	3.4	315	45	8.9	11.5	-2.6	-23%	11.65	13.08	13.68	0.00	0.40	0.51	0.45
2014	331	0.435	17	3.4	304	56	9.4	0.3	9.1	*n.m.	6.53	9.23	8.98	0.00	0.31	0.37	0.50
2013	1,195	0.416	24	3.3	287	73	6.7	10.2	-3.5	-34%	9.71	10.89	10.80	0.00	0.00	0.00	0.00
2012	1,132	0.380	26	3.4	269	91	7.8	7.7	0.0	1%	9.41	9.29	10.35	0.00	0.00	0.28	0.48
<b>GNMA 2 Jumbo 3.5</b>	24,381	0.517	151	3.9	331	29	10.0	12.1	-2.1	-17%	11.08	11.66	13.96	0.00	0.31	0.37	0.50
2018	2,751	0.977	15	4.0	352	8	4.3	4.1	0.2	*n.m.	3.82	3.04	-	0.00	0.53	0.35	-
2017	9,608	0.863	22	3.9	344	16	9.7	10.1	-0.4	-4%	9.57	9.27	10.98	0.00	0.44	0.58	0.72
2016	4,159	0.616	17	3.9	332	28	12.9	15.2	-2.3	-15%	14.01	14.63	16.41	0.00	0.53	0.35	-
2015	4,534	0.380	19	3.9	319	41	11.5	17.0	-5.6	-33%	14.70	16.34	18.96	0.00	0.23	0.33	0.33
2014	1,113	0.228	19	3.8	307	53	14.2	11.8	2.4	20%	13.49	15.23	16.65	0.00	0.67	1.07	1.28
2013	600	0.247	18	3.8	289	71	7.6	12.2	-4.7	-38%	10.47	12.22	13.22	0.00	0.57	0.81	0.98
2012	1,460	0.228	19	3.8	277	83	7.7	14.7	-7.1	-48%	11.90	12.69	13.43	0.00	0.57	0.42	1.03
2011	146	0.197	16	3.9	261	99	6.8	6.9	0.0	0%	8.02	11.02	11.53	0.00	0.58	0.56	0.89
<b>GNMA 2 Jumbo 4</b>	8,356	0.405	124	4.4	340	20	10.2	12.5	-2.3	-18%	11.39	13.74	20.84	0.00	0.54	0.60	0.63
2018	3,830	0.988	9	4.5	355	5	3.0	2.9	0.0	*n.m.	2.68	2.09	-	0.00	0.38	0.29	-
2017	2,652	0.731	13	4.4	345	15	17.1	19.6	-2.5	-13%	18.24	18.88	24.56	0.00	0.00	0.00	0.25
2016	413	0.399	11	4.4	332	28	15.3	10.3	5.0	48%	13.92	18.03	23.61	0.00	0.97	1.22	1.67
2015	511	0.225	12	4.4	320	40	17.2	22.1	-4.9	-22%	18.00	20.16	24.22	0.00	0.38	0.29	-
2014	264	0.094	13	4.3	305	55	14.0	23.1	-9.1	-39%	19.28	20.36	23.24	0.00	0.97	1.20	1.16
2013	88	0.078	8	4.4	296	64	11.4	10.4	0.9	9%	13.34	13.85	18.13	0.00	1.36	3.08	3.69
2012	104	0.107	14	4.3	275	85	8.7	17.5	-8.8	-50%	12.15	12.94	16.74	0.00	3.81	3.28	3.80
2011	177	0.083	19	4.3	265	95	13.6	22.0	-8.4	-38%	15.02	15.11	14.96	0.00	1.87	1.80	2.34
2010	303	0.113	16	4.4	257	103	9.6	11.1	-1.6	-14%	10.64	12.82	14.43	0.00	0.00	0.00	2.26
<b>GNMA 2 Jumbo 4.5</b>	1,337	0.217	101	4.9	333	27	9.8	13.6	-3.8	-28%	13.34	16.46	23.48	0.00	3.45	2.46	3.33
2018	824	0.990	6	5.0	357	3	2.5	4.8	-2.3	*n.m.	3.66	2.61	-	0.00	0.00	0.00	-
2017	155	0.646	10	4.9	345	15	30.0	36.3	-6.4	-17%	32.90	31.90	34.34	0.00	0.00	1.22	0.82
2016	34	0.437	8	4.8	333	27	30.3	20.8	9.5	46%	30.55	27.97	38.60	0.00	0.54	0.27	1.29
2015	15	0.118	11	4.9	321	39	0.1	0.2	-0.1	*n.m.	0.11	16.20	27.13	0.00	1.87	1.47	2.36
2014	39	0.071	16	4.8	305	55	0.1	34.4	-34.4	*n.m.	16.87	27.53	24.78	0.00	0.00	0.00	-
2013	21	0.067	6	4.9	296	64	0.1	0.1	0.0	*n.m.	14.39	10.78	14.58	0.00	2.63	1.32	2.39
2011	88	0.054	17	4.8	261	99	24.1	5.6	18.6	334%	12.30	12.51	18.75	0.00	11.22	8.35	7.10
2010	135	0.073	15	4.9	256	104	16.5	18.1	-1.6	-9%	18.41	16.44	19.18	0.00	0.00	0.00	2.11
<b>GNMA 2 Jumbo 5</b>	174	0.067	65	5.4	297	63	10.1	9.6	0.5	6%	16.10	20.01	24.73	0.00	9.02	9.94	7.70
2010	40	0.047	12	5.3	253	107	14.9	10.9	4.0	36%	15.51	23.96	22.10	0.00	7.73	3.94	1.99
2009	36	0.033	15	5.4	246	114	24.3	13.3	11.0	83%	21.55	14.00	18.98	0.00	0.00	0.17	1.60

\*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.