

# Real Estate Sales of Andover Town in Connecticut

The research paper is the analysis of the real estate sales that are recorded from 1999-2017.

Vivansha Bherwani  
Bachelor's of Business Administration  
Narsee Monji Institute of Management Studies  
Mumbai, India

**Abstract:-** The research paper consists of the analysis of the real estate (property) sales that were recorded each year in the town of Andover in Connecticut. It helps to compare the change in sales over the years. A series of statistical tools are used for the same.

## I. INTRODUCTION

The research is about the real estate sales record in Andover in Connecticut from the year 1999 to 2017. The aim is to display the gradual change in the total amount of sales of real estate properties each year and to find the future trends of the same. The secondary data has been sourced from the research set consisting of real estate sales of all the towns in Connecticut, out of which 767 records belonging to Andover town were extracted out. The statistical tools used for the analysis are "Moving Average", "Least square trend line" and "Correlation".

## II. DATA

Date Recorded	Year	SaleAmount
04-05-1999	1999	252500
07/20/2010	2010	99000
01/14/2015	2015	190000
01/21/2009	2009	138900
11/30/2015	2015	50000
04/24/2003	2003	189900
08-01-2001	2001	238000
04/19/2004	2004	80000
10/18/2004	2004	446639
11/19/2007	2007	425000
05/23/2005	2005	440000
06/16/2014	2014	165000
04-01-2005	2005	184000
09/28/2015	2015	128368
03/16/2006	2006	215000
07/15/2004	2004	218000
08-10-2015	2015	230000
12/14/2009	2009	248500
08/18/2005	2005	279900
01-06-2004	2004	314867
02-02-2004	2004	220000
09/28/2016	2016	226000

03-04-2003	2003	146000
08/23/2001	2001	430500
03/17/2014	2014	164000
08/16/2004	2004	449900
07-11-2011	2011	450000
10-12-2004	2004	381900
10/28/2014	2014	48000
08-07-2006	2006	215000
05/29/2008	2008	400000
07-11-2006	2006	465000
04/29/2008	2008	350000
05-05-2003	2003	129000
06/13/2008	2008	800000
06/30/2009	2009	177900
01-04-2016	2016	332900
08/23/2004	2004	182500
03/28/2013	2013	204000
08-09-2010	2010	133833
04/30/2004	2004	189900
03/28/2005	2005	150000
09/23/2014	2014	154000
01-03-2006	2006	142000
12-05-2011	2011	218000
09/22/2015	2015	11000
04-01-2004	2004	80000
03/31/2004	2004	125000
06/30/2015	2015	16869
06-02-2008	2008	172500
03/18/2005	2005	455625
06-04-2015	2015	131600
07-07-2009	2009	156000
07-06-2004	2004	315000
03/27/2014	2014	249900
08/26/2010	2010	227500
07-03-2008	2008	160000
11/14/2012	2012	245000
01/22/2004	2004	169900
08/30/2004	2004	220000

03/23/2006	2006	12000
06/30/2005	2005	225000
05/31/2011	2011	85000
05/13/2005	2005	190000
06/25/2013	2013	322000
06/19/2014	2014	230000
10/27/2010	2010	205000
06-02-2011	2011	145500
06/18/2003	2003	69900
08-02-2008	2008	183500
10/22/2004	2004	104000
04-01-2005	2005	143000
04/19/2004	2004	89900
07/28/2014	2014	239900
05-07-2010	2010	369001
07/13/2010	2010	215000
07-01-2015	2015	75000
04-04-2016	2016	550000
06/30/2005	2005	105000
06/30/2006	2006	298000
05/28/2013	2013	234900
10/13/2010	2010	280500
10/14/2004	2004	105000
06-03-2015	2015	366000
11-10-2003	2003	35000
09/21/2006	2006	247000
06/20/2005	2005	248000
08-03-2009	2009	265000
07/29/2008	2008	239000
10/17/2005	2005	75000
10/17/2005	2005	350000
12/31/2007	2007	177100
05-10-2010	2010	242000
10/22/2007	2007	217500
02/22/2010	2010	211250
11/13/2013	2013	185000
08-07-2008	2008	250000
07/25/2005	2005	105000

01/14/2004	2004	78000
06/30/2004	2004	169900
08/15/2011	2011	175000
05-01-2006	2006	223000
09-01-2004	2004	105000
02-08-2005	2005	435100
06/14/2016	2016	97000
07-07-2010	2010	165000
10/13/2009	2009	221000
08-04-2014	2014	325000
09-04-2014	2014	58647
09-09-2004	2004	75000
07/14/2014	2014	74500
08/13/2015	2015	273000
06/16/2003	2003	116000
08/14/2010	2010	201000
05-09-2011	2011	80000
04-09-2012	2012	392000
10/21/2002	2002	340912
08-06-2013	2013	175000
04/17/2014	2014	198000
07-05-2005	2005	104000
03/26/2009	2009	257000
04/19/2016	2016	147000
10/20/2004	2004	105000
02/27/2006	2006	379900
03/24/2009	2009	320000
01-03-2013	2013	79000
09/25/2014	2014	625000
12/17/2007	2007	148000
09-04-2013	2013	39000
05-02-2016	2016	545000
01-08-2015	2015	60750
10/19/2015	2015	70000
01-12-2015	2015	194000
05-01-2013	2013	335000
09/27/2004	2004	95000
09/22/2005	2005	459900

07/18/2011	2011	142225
07/23/2004	2004	339900
09/14/2014	2014	169950
03/19/2005	2005	429900
08/20/2014	2014	54000
09/28/2015	2015	219000
07-03-2006	2006	245000
10-01-2012	2012	77000
08/15/2005	2005	675000
03-04-2015	2015	170750
08-01-2005	2005	330000
11-03-2014	2014	207700
11/23/2005	2005	229900
05/23/2016	2016	256000
05/19/2003	2003	218000
11/14/2014	2014	660000
07-01-2008	2008	325000
04-01-2015	2015	252000
01-06-2015	2015	140000
01-03-2005	2005	440500
08-04-2008	2008	224900
08/28/2006	2006	399000
03-04-2004	2004	203000
12/15/2014	2014	290000
06-01-2015	2015	58000
01/25/2016	2016	55000
06-01-2005	2005	289900
05-03-2010	2010	274000
12-02-2002	2002	219900
12/14/2014	2014	150000
09/24/2003	2003	40000
03-03-2004	2004	302193
05-03-2010	2010	359900
03-01-2005	2005	215000
12/29/2008	2008	210000
08/13/2015	2015	245000
06-07-2006	2006	339900
10-01-2007	2007	267000

07/27/2006	2006	163000
06-12-2006	2006	235000
07-01-2013	2013	255000
08-04-2008	2008	221000
02-11-2015	2015	394550
08-10-2006	2006	320000
12-11-2012	2012	287000
10/29/2004	2004	376500
02/21/2006	2006	375000
03/28/2013	2013	260000
11-07-2005	2005	107500
01-03-2006	2006	215000
09-09-2010	2010	194819
02/14/2011	2011	129900
04/28/2006	2006	408000
11/18/2002	2002	340850
01-05-2015	2015	550000
01-06-2014	2014	32500
12/16/2004	2004	105000
07-07-2006	2006	460000
06/23/2009	2009	270000
02/23/2005	2005	80000
01/25/2015	2015	135000
01-09-2003	2003	294000
07/15/2005	2005	314000
06-05-2015	2015	260000
05/19/2003	2003	164900
06/15/2015	2015	265000
06-09-2003	2003	348000
09/15/2004	2004	391000
06/25/2015	2015	205000
06/20/2013	2013	205000
07/16/2003	2003	130000
07/23/2015	2015	121500
06-01-2010	2010	251000
02/23/2016	2016	475000
11/28/2007	2007	410930
05-02-2016	2016	410000

12-06-2010	2010	434575
03-07-2011	2011	175000
12-09-2002	2002	275000
02/28/2016	2016	64000
08/18/2005	2005	245000
06/18/2009	2009	277500
05-10-2010	2010	252108
06-01-2016	2016	390000
01-02-2004	2004	466631
05/23/2003	2003	69900
07/31/2016	2016	440000
08-01-2016	2016	334800
08/30/2016	2016	205000
05/31/2005	2005	285000
01-03-2017	2017	195000
12/21/2012	2012	252000
09-02-2005	2005	99250
09/27/2004	2004	495000
10-08-2008	2008	90000
07/28/2009	2009	305000
10/18/2004	2004	280000
02/13/2003	2003	85000
01-05-2017	2017	148500
05-06-2008	2008	365000
11-06-2012	2012	270000
04/20/2015	2015	159900
08-03-2004	2004	123500
08/18/2008	2008	170000
08/22/2005	2005	153500
06/17/2009	2009	142000
11/22/2010	2010	150000
04/18/2005	2005	2349
02/17/2004	2004	40000
09/20/2004	2004	105000
04-01-2013	2013	405000
08/31/2015	2015	385000
07-12-2004	2004	159500
12/20/2002	2002	215000

01-10-2017	2017	385000
05/13/2013	2013	160000
05-02-2016	2016	377500
06-02-2011	2011	220000
03/22/2006	2006	250000
05/16/2011	2011	177000
05/19/2010	2010	63750
05/19/2010	2010	21250
06/30/2015	2015	20000
08/18/2014	2014	179335
03/30/2009	2009	340000
08/14/2006	2006	347500
10/30/2007	2007	299900
01/16/2017	2017	135000
03/15/2010	2010	230000
05-01-2003	2003	233000
01/17/2017	2017	60000
03-06-2014	2014	85750
11/26/2013	2013	85000
03/29/2005	2005	329000
04/30/2014	2014	292500
03/28/2005	2005	440000
06/24/2008	2008	407000
01-06-2003	2003	137000
01/23/2017	2017	5000
11-05-2013	2013	210000
11-09-2005	2005	265000
08/30/2004	2004	160000
07/25/2016	2016	250000
02-06-2017	2017	265000
03/26/2013	2013	75000
06-02-2003	2003	125000
02/20/2017	2017	392500
02-11-2016	2016	364500
07/18/2005	2005	171000
03-04-2008	2008	179770
11-03-2008	2008	102000
08-09-2006	2006	230000



05/18/2016	2016	194900
08-04-2016	2016	222000
08-04-2016	2016	222000
03/29/2010	2010	287000
06-10-2008	2008	180000
10/30/2002	2002	230000
02/20/2017	2017	3000000
06-01-2006	2006	192500
12-08-2008	2008	195500
02/20/2017	2017	3000000
05/28/2003	2003	240000
02/20/2017	2017	3000000
09/22/2016	2016	260000
01/26/2004	2004	138500
07/16/2014	2014	150000
08-08-2008	2008	175000
12/22/2011	2011	144000
11/22/2011	2011	185000
05/14/2014	2014	98000
12-01-2014	2014	184000
08-01-2011	2011	449000
10/15/2013	2013	240000
11/29/2010	2010	232900
06-02-2003	2003	157000
02/23/2017	2017	645000
03/13/2003	2003	15000
07/14/2006	2006	289000
03/31/2008	2008	382500
10-08-2015	2015	362500
04/29/2005	2005	650000
08/22/2005	2005	389000
07/14/2015	2015	170000
01/17/2006	2006	283800
02/28/2017	2017	250000
03-05-2017	2017	470250
08-06-2003	2003	235500
06/30/2008	2008	285000
03/30/2015	2015	245000

03-06-2017	2017	75500
08-09-2016	2016	230000
01/16/2003	2003	219900
12-11-2007	2007	282000
03/19/2017	2017	392000
08/30/2010	2010	209266
05-02-2011	2011	208000
04/15/2004	2004	197000
09/29/2010	2010	182000
06/23/2003	2003	191000
03/20/2017	2017	60000
05/22/2013	2013	377500
02-02-2009	2009	505000
06/27/2006	2006	1875
08/15/2011	2011	2856
07/15/2008	2008	595000
02/27/2012	2012	470000
12/19/2002	2002	189900
03/26/2017	2017	175000
04/14/2010	2010	220790
09/22/2010	2010	140000
01-07-2010	2010	309000
01-09-2006	2006	175000
06/20/2016	2016	255000
07-06-2010	2010	130000
12/26/2012	2012	185000
11-03-2008	2008	150000
09-08-2016	2016	136000
01/25/2016	2016	145000
11/23/2009	2009	244900
07/30/2004	2004	174900
12/15/2010	2010	80000
07/18/2005	2005	248000
08-03-2004	2004	219000
12-02-2005	2005	183000
12/17/2012	2012	190000
12/21/2015	2015	155000
01/29/2004	2004	364197

08-04-2014	2014	377500
09-08-2004	2004	397000
01/20/2016	2016	128000
02/25/2015	2015	675000
09-02-2015	2015	255000
04-06-2017	2017	4700000
07-01-2005	2005	407000
05/16/2011	2011	129000
05/27/2009	2009	106000
02-06-2013	2013	320000
03/13/2008	2008	391500
07/20/2004	2004	239000
06-12-2014	2014	180000
08/20/2014	2014	177500
06/13/2005	2005	387000
08-01-2003	2003	154000
04-12-2017	2017	439000
08/25/2004	2004	350000
03/31/2009	2009	230000
03/31/2009	2009	230000
05-04-2005	2005	249900
05/16/2016	2016	180000
01-08-2003	2003	170000
04/17/2017	2017	132000
08-09-2016	2016	265000
11-02-2009	2009	283000
03-05-2013	2013	72300
02/18/2003	2003	429500
04/17/2017	2017	145000
10/30/2005	2005	350500
12/28/2015	2015	155900
11-03-2011	2011	215000
09/24/2008	2008	260000
01/29/2009	2009	245000
08/15/2005	2005	220000
05-10-2010	2010	155000
12-03-2007	2007	1080
01/25/2016	2016	159000

02/25/2005	2005	280000
06/15/2015	2015	220000
12/16/2009	2009	166000
03/16/2009	2009	695000
01-05-2006	2006	437000
07/22/2003	2003	385000
12-11-2002	2002	69900
04/23/2017	2017	110000
03/19/2009	2009	380000
11-07-2011	2011	180000
08-10-2009	2009	210000
01/22/2004	2004	84500
06-08-2005	2005	424500
09/25/2008	2008	420000
05/31/2006	2006	185000
02/26/2008	2008	231000
08-09-2010	2010	370000
01-05-2010	2010	220000
08/19/2015	2015	135000
08-11-2015	2015	235000
03/13/2006	2006	259900
06-07-2005	2005	199900
01/30/2004	2004	187000
04/30/2017	2017	345000
04-04-2016	2016	62000
11/13/2012	2012	240000
12-02-2005	2005	260000
12/20/2010	2010	175000
03-01-2006	2006	292500
11-10-2014	2014	215000
07-07-2005	2005	197500
08/23/2006	2006	210000
10-01-2009	2009	185000
10/28/2004	2004	155000
01/28/2008	2008	170000
08-06-2004	2004	177000
07-01-2014	2014	270000
04/17/2006	2006	449900

09/30/2014	2014	415000
05/31/2016	2016	413000
08-03-2009	2009	291000
11/27/2012	2012	80000
02/29/2016	2016	485000
07/14/2003	2003	235000
09-12-2006	2006	310000
05-01-2017	2017	2544000
07-03-2013	2013	260000
12-05-2005	2005	280000
09-07-2005	2005	228000
08-11-2003	2003	319900
05/14/2017	2017	570000
05/23/2011	2011	265000
05/23/2011	2011	265000
07-05-2006	2006	187000
06/30/2015	2015	53000
09-06-2016	2016	263000
05/16/2017	2017	98500
07-07-2016	2016	150000
11-06-2008	2008	250000
10/22/2014	2014	226000
06/27/2003	2003	150000
05/20/2010	2010	193000
05/21/2017	2017	320000
12/17/2007	2007	371000
05-04-2015	2015	275000
06/30/2003	2003	168000
05/25/2017	2017	95000
03-02-2015	2015	147500
05-07-2009	2009	159000
10/31/2002	2002	138780
06-04-2017	2017	206000
10/29/2007	2007	345000
11/25/2009	2009	206000
09-09-2005	2005	180000
05/22/2013	2013	207500
08-05-2005	2005	217000

11-03-2005	2005	220000
05/31/2005	2005	217900
01/21/2016	2016	21500
01/21/2016	2016	21500
01/21/2016	2016	21500
06-02-2003	2003	236900
06-05-2017	2017	349900
07/21/2010	2010	134900
05/18/2010	2010	240320
10/28/2002	2002	262000
07-10-2014	2014	272500
06/26/2017	2017	174000
06/30/2005	2005	295000
06/27/2017	2017	410000
03/30/2005	2005	176000
06/27/2017	2017	120123
04/30/2004	2004	225000
02/28/2006	2006	596000
01/27/2003	2003	157000
06/28/2017	2017	70000
03/31/2005	2005	105000
09-07-2004	2004	265000
11/23/2004	2004	249999
06/28/2017	2017	1050000
11-12-2013	2013	260000
10-09-2012	2012	17460
08-01-2013	2013	148324
01/18/2005	2005	180000
05-06-2010	2010	236000
11-02-2015	2015	273000
05/13/2003	2003	165000
07/17/2017	2017	173000
08/21/2003	2003	235300
01-10-2005	2005	253000
07/30/2017	2017	70000
08/31/2006	2006	339000
05-01-2003	2003	250000
08-02-2017	2017	419900

12/23/2002	2002	235000
08/27/2017	2017	239000
08/27/2017	2017	200000
08/30/2017	2017	140000
09-10-2008	2008	213750
05/31/2016	2016	205000
04/30/2003	2003	167000
09-05-2017	2017	294000
03/18/2015	2015	194900
10-01-2015	2015	235000
08-05-2013	2013	275000
04-11-2005	2005	33000
04/17/2006	2006	139000
03/16/2009	2009	226780
08/21/2003	2003	130000
09/17/2017	2017	385000
04-11-2003	2003	395293
09/19/2017	2017	310000
01/31/2011	2011	178000
08/13/2009	2009	78000
02/16/2010	2010	460000
03-04-2013	2013	43000
11-01-2004	2004	105000
10/27/2004	2004	23500
12/21/2009	2009	148200
04/24/2003	2003	357000
09/27/2017	2017	169000
05-12-2014	2014	69900
11/26/2012	2012	209000
08/26/2003	2003	289000
11-05-2002	2002	277500
10-01-2017	2017	58000
10-01-2017	2017	150000
07-06-2011	2011	350000
12-12-2013	2013	315000
11-07-2012	2012	160500
01/21/2016	2016	237000
07/16/2003	2003	0

10-01-2017	2017	160000
06-01-2006	2006	125000
06-02-2008	2008	306200
04-11-2011	2011	285000
08-05-2015	2015	140000
03-11-2013	2013	349900
12/16/2013	2013	327900
06/23/2003	2003	230000
10-02-2017	2017	82000
12/23/2015	2015	294800
08-04-2004	2004	282500
09/19/2005	2005	347000
11/22/2010	2010	226500
06/29/2005	2005	270000
02/24/2005	2005	390000
08-02-2016	2016	137500
08/30/2010	2010	168000
11-08-2005	2005	215000
03/27/2003	2003	210000
10-02-2017	2017	138000
09-02-2008	2008	270600
01-11-2016	2016	303000
03/15/2004	2004	450000
11/19/2008	2008	175000
07-03-2006	2006	284000
05-02-2003	2003	177500
10-02-2017	2017	192800
08-09-2004	2004	288000
06-01-2016	2016	250000
11/16/2009	2009	275000
07-08-2008	2008	260000
08-03-2015	2015	255000
02/16/2016	2016	112350
07-12-2016	2016	187500
04/19/2011	2011	367500
05-12-2016	2016	181700
08/25/2003	2003	240000
10-02-2017	2017	129000



10-02-2017	2017	127500
03-04-2013	2013	313000
10-02-2017	2017	174000
06-02-2005	2005	70000
06/25/2003	2003	40000
06/25/2003	2003	40000
02/18/2004	2004	95000
05/23/2013	2013	145000
07-09-2013	2013	74500
04/30/2013	2013	75000
04-01-2014	2014	231750
07/20/2015	2015	6000
10-02-2017	2017	278000
10/25/2004	2004	250000
08/26/2014	2014	250000
05/19/2005	2005	50000
06-02-2003	2003	12000
12/30/2003	2003	20194
10-02-2017	2017	199000
02/21/2006	2006	25200
11/28/2005	2005	87000
05-12-2014	2014	60000
06/24/2003	2003	65000
10-02-2017	2017	785000
10/17/2007	2007	83000
10-02-2017	2017	161850
10-02-2017	2017	161850
02-10-2003	2003	5100
02-10-2003	2003	42500
09/30/2005	2005	76000
06-02-2005	2005	85000
03-02-2006	2006	86000
01-05-2015	2015	12500
08/22/2006	2006	140000
02-10-2006	2006	50000
12-10-2015	2015	84000
07-01-2004	2004	63500
03/29/2005	2005	78000

04/29/2005	2005	63000
04/20/2011	2011	62000
05/14/2009	2009	71500
10/27/2008	2008	40250
11-09-2009	2009	150000
12/21/2011	2011	20000
04/18/2011	2011	6996
12/21/2011	2011	20000
01-06-2009	2009	40000
12/21/2011	2011	20000
07/21/2010	2010	4000
08/17/2015	2015	5000
07/21/2010	2010	4000
06/24/2010	2010	37000
02-02-2009	2009	8450
04/19/2016	2016	47619
04/25/2003	2003	34500
10-02-2017	2017	161850
01/21/2003	2003	63000
07-06-2004	2004	84500
04/19/2004	2004	80000
10-02-2017	2017	161850
03/15/2005	2005	4000
03/24/2006	2006	4500
08-02-2004	2004	175000
04/29/2005	2005	20000
07/20/2005	2005	13000
05/31/2006	2006	151000
10/19/2004	2004	170000
10-02-2017	2017	190000
07-06-2004	2004	82000
02/19/2013	2013	59000
04/29/2004	2004	79900
02/14/2005	2005	43000
07-11-2005	2005	70000
06-03-2003	2003	5000
02/13/2003	2003	50269
02/13/2003	2003	50269

10/15/2003	2003	269900
10-02-2017	2017	290000
10-02-2017	2017	443200
10-02-2017	2017	140000
10-02-2017	2017	215000
10-02-2017	2017	241150
10-02-2017	2017	370000
08/26/2005	2005	80000
07-12-2004	2004	105000
04/17/2002	2002	116000
11-03-2009	2009	149900
09/14/2007	2007	163000
10-09-2003	2003	256000
07-11-2005	2005	462600
05/15/2006	2006	277000
03/28/2006	2006	265000
04-12-2005	2005	295000
04/14/2010	2010	150000
09/26/2007	2007	335000
10-04-2001	2001	160000
07-07-2004	2004	235000
09/18/2006	2006	255000
06/18/2002	2002	180000
01/17/2002	2002	259900
04/30/2004	2004	314000
07-03-2012	2012	299000
05/31/2006	2006	209000
02/24/2012	2012	70000
12/14/2016	2016	7116000
07-06-2017	2017	266500
06-09-2006	2006	235000
08/24/2015	2015	152500
07-01-2010	2010	265000
06/28/2010	2010	204900
09-06-2012	2012	169900
01/30/2002	2002	132000
05/30/2007	2007	304000
02/25/2015	2015	165000

03/24/2005	2005	345000
07/31/2007	2007	387000
06/27/2002	2002	74500
10-02-2017	2017	248000
08-01-2016	2016	50000
04/19/2006	2006	325000
08-10-2004	2004	379000
05/21/2012	2012	60000
02-08-2006	2006	57000
02/28/2006	2006	399900
01-07-2004	2004	290000
05/22/2017	2017	97900
06/29/2017	2017	73888
11-02-2009	2009	255000
07/23/2015	2015	119500
07/23/2015	2015	119500
06/22/2007	2007	153333
11-06-2006	2006	243000
12-02-2004	2004	210000
09/25/2012	2012	265000
10-11-2001	2001	131000
09/24/2012	2012	95000
08-01-2016	2016	258000
12/23/2004	2004	187000
06-03-2015	2015	193000
02/22/2002	2002	20000
04/29/2002	2002	168000
09/20/2004	2004	226000
09-03-2002	2002	186500
08/18/2017	2017	233000
09/21/2004	2004	215000
11-12-2015	2015	155000
07/28/2006	2006	239900
11/17/2004	2004	227900
11-02-2005	2005	280000
03/27/2017	2017	247000
06-01-2016	2016	214000
10/20/2014	2014	87000

10/31/2016	2016	104500
05/20/2004	2004	260000
12-05-2005	2005	297500
07/26/2016	2016	265000
06/14/2002	2002	190000
01/28/2014	2014	205000
09-12-2016	2016	186000
02/21/2014	2014	189000
11/22/2016	2016	224000
04-05-2007	2007	220000
03/24/2005	2005	350000
11/16/2009	2009	365000
08/31/2004	2004	184000
02-05-2015	2015	43000
11/19/2001	2001	85000
09-10-2007	2007	220000
08/28/2009	2009	270000

Table 1

### III. PIVOT TABLE

A pivot table is a table of statistics that summarizes the data of a more extensive table (such as from a database, spreadsheet, or business intelligence program). This summary might include sums, averages, or other statistics, which the pivot table groups together in a meaningful way. The data has been arranged year wise against the sum of sales of real estate in that particular year.

Row Labels	Sum of Sales Amount
1999	252500
2001	1044500
2002	4121642
2003	9794125
2004	16352526
2005	19873624
2006	13903275
2007	4809843
2008	9800970
2009	9292530
2010	9615062
2011	5349977
2012	4033860
2013	7091824
2014	8311832
2015	10908887
2016	19433269
2017	33108511
<b>Grand Total</b>	<b>187098757</b>

Table 2

### IV. MOVING AVERAGE

A moving average (rolling average or running average) is a calculation to analyse data points by creating a series of averages of different subsets of the full data set. It is also called a moving mean (MM) or rolling mean and is a type of finite impulse response filter. Variations include: simple, and cumulative, or weighted forms.

Year	Sales	Moving Average
1999	252500	#N/A
2000	0	#N/A
2001	1044500	432333.3333
2002	4121642	1722047.333
2003	9794125	4986755.667
2004	16352526	10089431
2005	19873624	15340091.67
2006	13903275	16709808.33
2007	4809843	12862247.33
2008	9800970	9504696
2009	9292530	7967781
2010	9615062	9569520.667
2011	5349977	8085856.333
2012	4033860	6332966.333
2013	7091824	5491887
2014	8311832	6479172
2015	10908887	8770847.667
2016	19433269	12884662.67
2017	33108511	21150222.33

Table 3

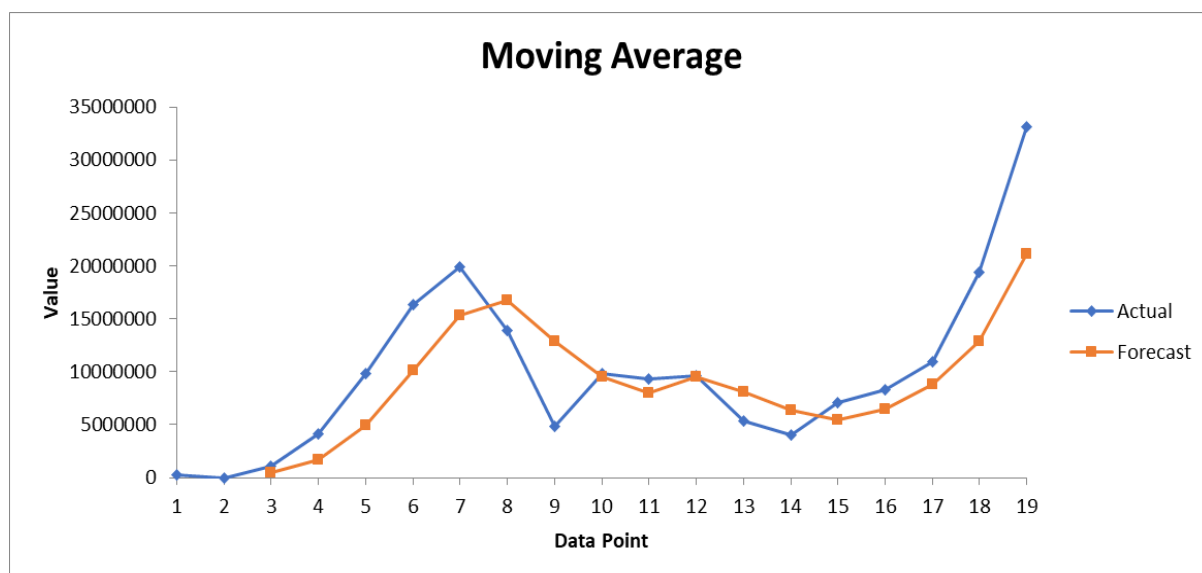


Fig 1

➤ *Interpretation*

The moving average indicates that the sales of the real estate in Andover town gradually increased from 1999 to the year 2017.

**V. CORRELATION**

Correlation or dependence is any statistical relationship, whether causal or not, between two random variables or bivariate data. In the broadest sense correlation is any statistical association, though it commonly refers to the degree to which a pair of variables are linearly related. Familiar examples of dependent phenomena include the correlation between the physical statures of parents and their offspring, and the correlation between the price of a good and the quantity the consumers are willing to purchase, as it is depicted in the so-called demand curve.

	<b>Column 1</b>	<b>Column 2</b>
<b>Column 1</b>	1	
<b>Column 2</b>	0.529759	1

Table 4

➤ *Interpretation*

The correlation between the sum of sales and the year is 0.52976 and represents negative imperfect correlation.

**VI. REGRESSION**

Regression analysis is a set of statistical processes for estimating the relationships between a dependent variable (often called the 'outcome variable') and one or more independent variables (often called 'predictors', 'covariates', or 'features'). The most common form of regression analysis is linear regression, in which a researcher finds the line (or a more complex linear combination) that most closely fits the data according to a specific mathematical criterion.

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.529758955							
R Square	0.280644551							
Adjusted R Square	0.238329524							
Standard Error	7073465.122							
Observations	19							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	3.32E+14	3.32E+14	6.632267	0.019657			
Residual	17	8.51E+14	5E+13					
Total	18	1.18E+15						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	10228804.1	1629512	6.27722	8.35E-06	6790835	13666773	6790835	13666773
X Variable 1	763002.1947	296274.9	2.575319	0.019657	137916.9	1388087	137916.9	1388087

Table 5

**VII. ESTIMATED VALUE**

Year	Sales	X=(Year-Middle Year)	Y=a+bx
1999	252500	-9.5	2980283.25
2000	0	-8.5	3743285.44
2001	1044500	-7.5	4506287.64
2002	4121642	-6.5	5269289.83
2003	9794125	-5.5	6032292.03
2004	16352526	-4.5	6795294.22
2005	19873624	-3.5	7558296.42
2006	13903275	-2.5	8321298.61
2007	4809843	-1.5	9084300.81
2008	9800970	-0.5	9847303
2009	9292530	0.5	10610305.2
2010	9615062	1.5	11373307.4
2011	5349977	2.5	12136309.6
2012	4033860	3.5	12899311.8
2013	7091824	4.5	13662314
2014	8311832	5.5	14425316.2
2015	10908887	6.5	15188318.4
2016	19433269	7.5	15951320.6
2017	33108511	8.5	16714322.8
2018		9.5	17477324.9
2019		10.5	18240327.1
2020		11.5	19003329.3

Table 6

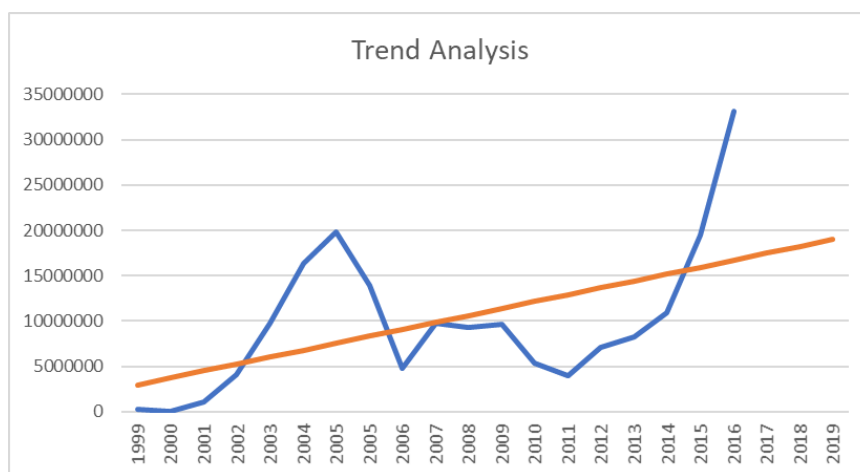


Fig 2

➤ Interpretation

The least square method of time series displays an increasing slope indicating that the sales have gone up gradually over the years. It started from a sum of \$ 252500 in the year 1999 to \$33108511 in 2017. On the basis of this trend, the future sales are predicted to increase.

**REFERENCES**

[1]. [https://catalog.data.gov/dataset?q=Real+estate+sales&sort=score+desc%2C+name+asc&as\\_sfid=AAAAAXw9FZ2Cj4F2C515NkhyDzLsELFhInUU7gC5H5Rr06bTCa43YwaA2GJNcLrKxk\\_tKB00xBNsRgxDhoYYA17LvR1xNG5WO5VKJqt2w4p50GuAsboZ\\_wK6Ux15hrVITTNkK4%3D&as\\_fid=fb2842b4bbd6bb1f784a3b04e6f0415fbf28d032&ext\\_location=&ext\\_bbox=&ext\\_prev\\_extent=-99.84374999999999%2C39.90973623453719%2C-99.84374999999999%2C39.90973623453719](https://catalog.data.gov/dataset?q=Real+estate+sales&sort=score+desc%2C+name+asc&as_sfid=AAAAAXw9FZ2Cj4F2C515NkhyDzLsELFhInUU7gC5H5Rr06bTCa43YwaA2GJNcLrKxk_tKB00xBNsRgxDhoYYA17LvR1xNG5WO5VKJqt2w4p50GuAsboZ_wK6Ux15hrVITTNkK4%3D&as_fid=fb2842b4bbd6bb1f784a3b04e6f0415fbf28d032&ext_location=&ext_bbox=&ext_prev_extent=-99.84374999999999%2C39.90973623453719%2C-99.84374999999999%2C39.90973623453719)