

MAD RIVER VALLEY

2017 ANNUAL DATA REPORT



Acknowledgments

This report was authored by Kristine Keeney, Community Planner at the Mad River Valley Planning District with assistance from Executive Director Joshua Schwartz.

Our thanks to the Towns of Waitsfield, Warren and Fayston, Mad River Valley Ambulance Service, Sugarbush Resort, Mad River Glen, Friends of the Mad River, Green Mountain Power, and the Mad River Watershed Conservation Partnership for supplying local data.

Cover Photograph: Waitsfield's Lovett Park Ribbon Cutting Ceremony on 8/23/17, captured by Barrie Fisher Photo.

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INTRODUCTION

This report was prepared by the Mad River Valley Planning District to address the requirements of its [1998 Memorandum of Understanding](#) (MOU), and provide information for community planning purposes. Information used in this report was publicly available, except where noted. Sugarbush Resort provided data in conjunction with the MOU. This report utilizes the most recent data available as of October 2017, which includes both the 2016 calendar year and 2017 data where available, as well as Sugarbush Resort data collected from the 2016-2017-ski season. This report was finalized on November 9th, 2017.

HISTORY

The Towns of Fayston, Waitsfield and Warren created the Mad River Valley Planning District in 1985. The Purpose of the Planning District is to *carry out a program of planning for the future of the Mad River Valley. The planning program shall be directed toward the physical, social, economic, fiscal, environmental, cultural and aesthetic well being of the member Towns and its inhabitants* ([MRVPD Articles of Agreement](#), March 1985).

The Mad River Valley Planning District is staffed by an Executive Director and a Community Planner. The District is governed by a Steering Committee consisting of a Selectboard Member and a Planning Commission member from each of its three member Towns, a business representative from the Mad River Valley Chamber of Commerce, and a non-voting representative from Sugarbush Resort. The Central Vermont Regional Planning Commission (CVRPC) holds a non-voting ex-officio seat. The three towns and Sugarbush Resort fund the Mad River Valley Planning District equally.

SECTION I: ECONOMICS

Includes Items #35 & 36 from the Memorandum of Understanding

TOURISM & HOSPITALITY

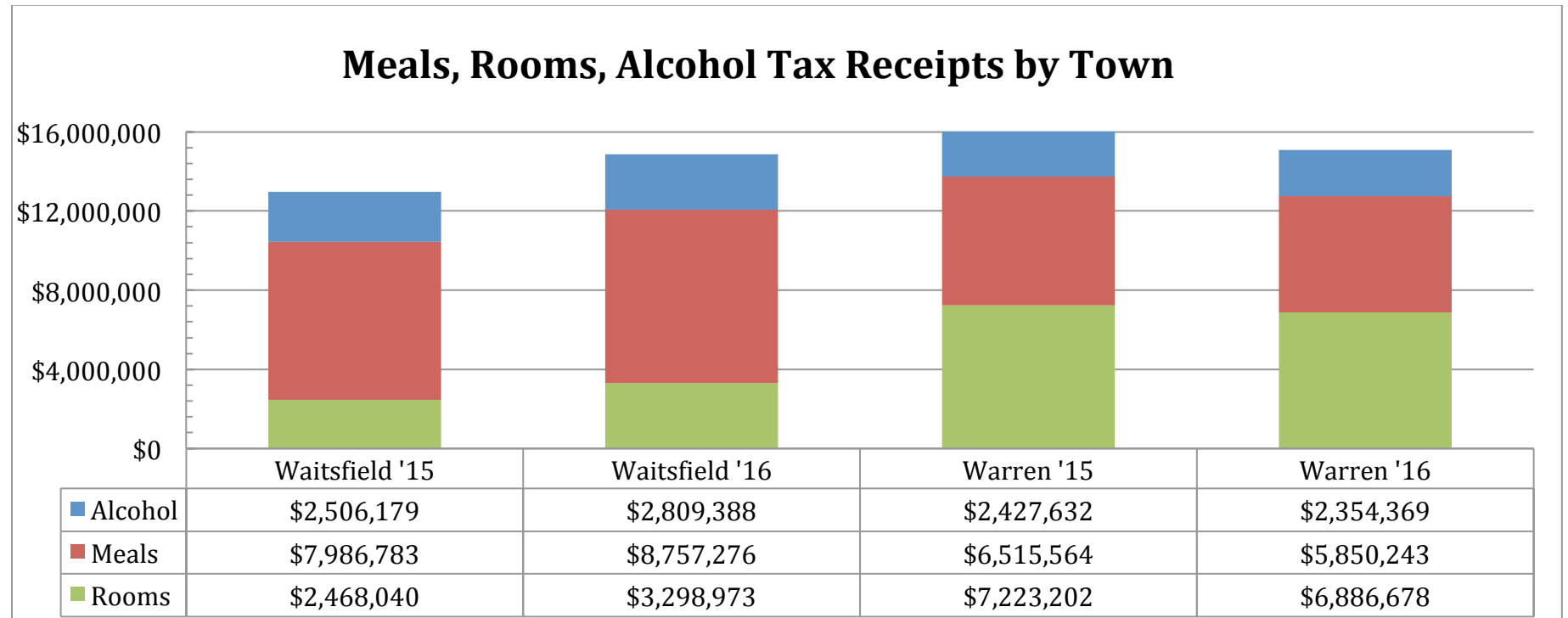


FIGURE 1- SOURCE: VT DEPT. OF TAXES

A comparison of 2016 tax receipts by town¹ in **Figure 1** illustrates a predominance of meals revenue in Waitsfield and lodging revenue in Warren.² Compared to 2015, Waitsfield experienced increased tax receipts for all three categories, while Warren

¹ "Meals" includes prepared and restaurant meals. "Rooms" includes lodging and meeting rooms. "Alcohol" includes beverages served in restaurants.

experienced a decrease in all three categories. Waitsfield saw Rooms receipts increase by 34%, Alcohol receipts increase by 12%, and Meals receipts increased by 10%. In Warren, Rooms receipts decreased by 5%, Alcohol receipts decreased by 3%, and Meals receipts decreased by 10%.

An inflation adjusted comparison of Meals, Rooms, and Alcohol tax receipts, **Figure 2**, underscores the MRV's mixed results for 2016 compared to 2015.³ The MRV saw an 8% drop in Meals receipts, its first reduction since 2012. There was a small 3% increase in Alcohol receipts in 2016, which has generally been on an upward trajectory since 2012. Rooms receipts remained stable, with less than a 1% increase in 2016. Tax revenue trends illuminate the relative health of the MRV's primary tourist industries - skiing, foliage and weddings, which impact each of these sectors.

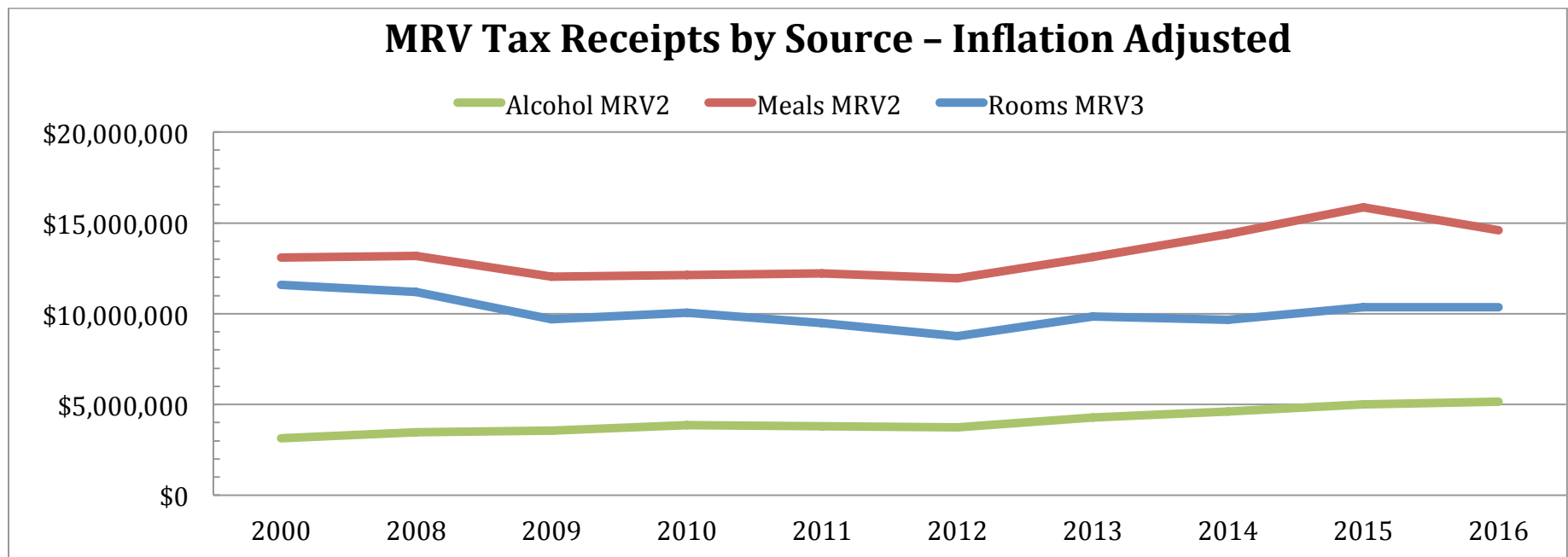


FIGURE 2- SOURCE: VT DEPT. OF TAXES

² Fayston contributes to Meals, Rooms, & Alcohol tax receipts, however, due to the small number of businesses (fewer than 10 establishments reporting) the data is suppressed due to confidentiality thresholds at the Dept. of Taxes.

³ MRV3 refers to the towns of (Waitsfield, Warren, & Fayston), while MRV2 includes just Warren & Waitsfield.

A comparison of Waitsfield and Warren's combined inflation adjusted Meals, Rooms, and Alcohol tax receipts in **Figure 3** illustrates the continued gains in Waitsfield since 2012, and an increase in all three categories of 13% in 2016 over the previous year. Warren experienced an upward trend since 2003, peaking in 2015, but saw an overall decrease of 8% in 2016. Interestingly, the difference between Waitsfield and Warren's overall tax receipts in all three categories was only \$225,653. Year to year Waitsfield's change has been more consistent, while Warren has experienced dramatic swings – likely a reflection of corresponding ski seasons.

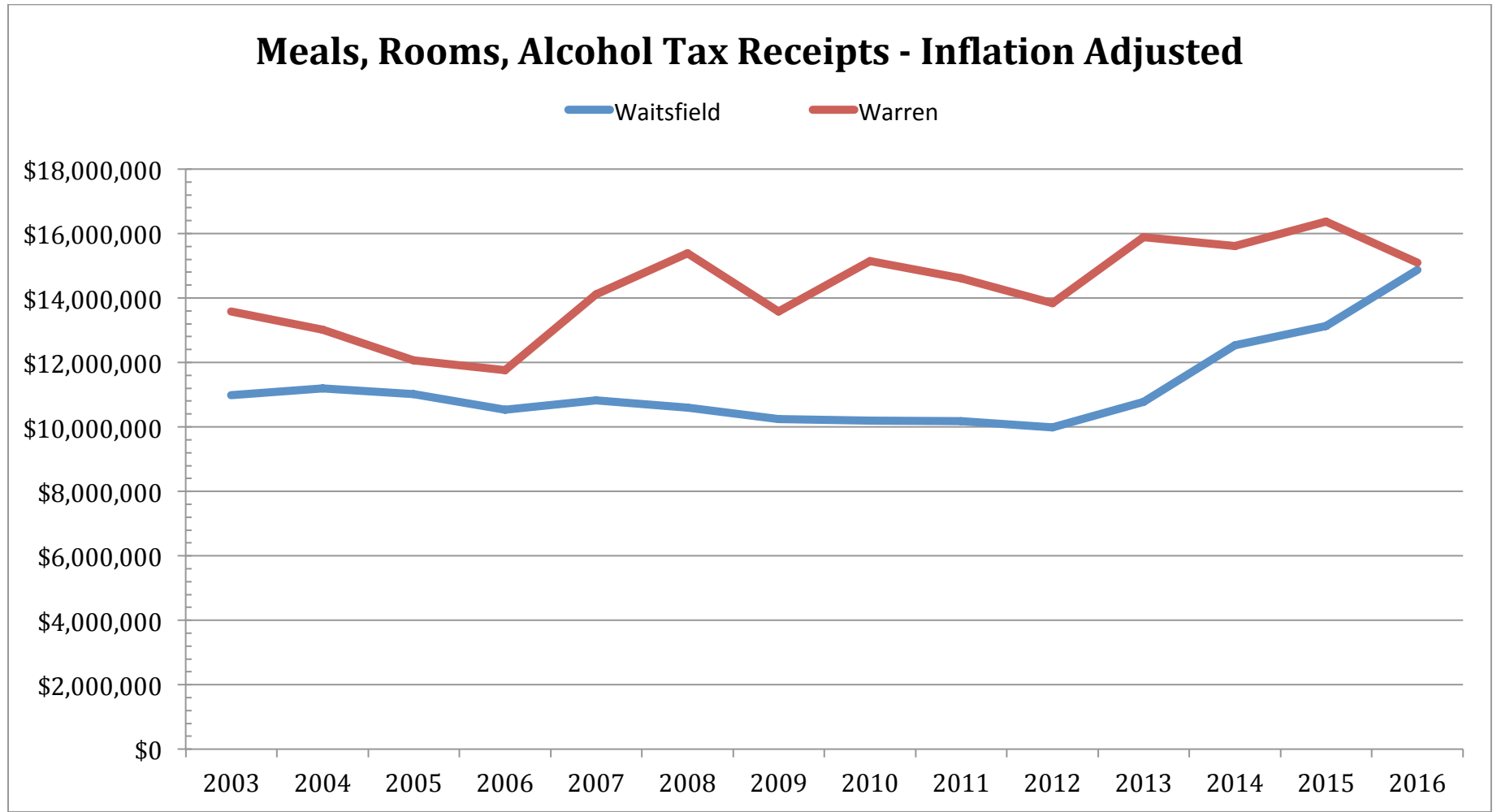


FIGURE 3- SOURCE: VT DEPT. OF TAXES

Figure 4 provides a regional perspective on the health of the hospitality sector over time, showing upward trends for Montpelier, Waitsfield, and Waterbury, a leveling off in Barre City in the most recent year, and a downward trend in Warren compared to the previous year.

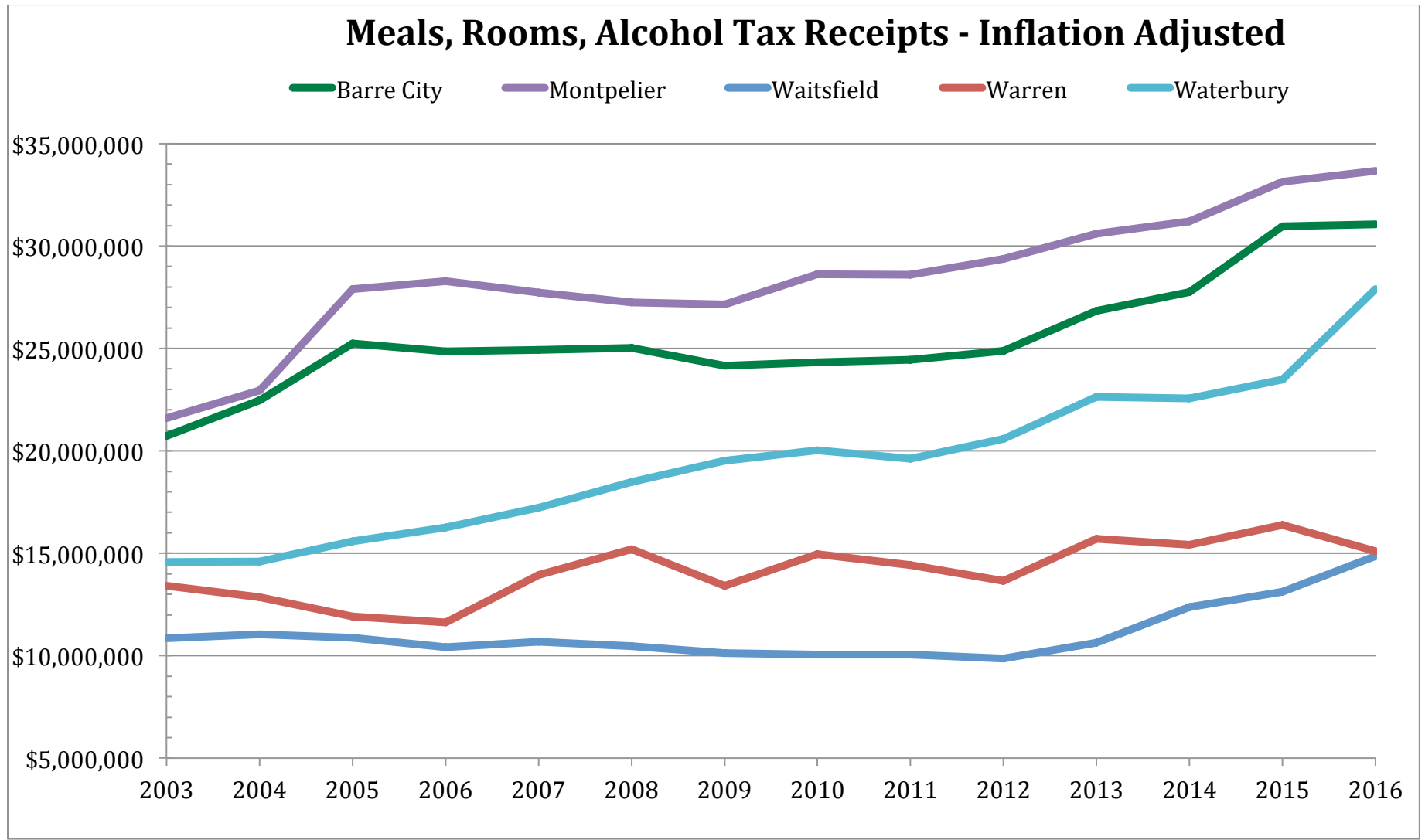


FIGURE 4- SOURCE: VT DEPT. OF TAXES

The robustness of the winter and summer tourist seasons can be approximated by using quarterly tax receipt data, though the quarters (First: January–March, Third: July–September) omit a percentage of the actual seasons. **Figure 5** shows greater volatility in first quarter receipts compared to the relatively steady increases seen in the third quarter (summer months). This is likely related to the impact weather plays on winter revenues during the first quarter.

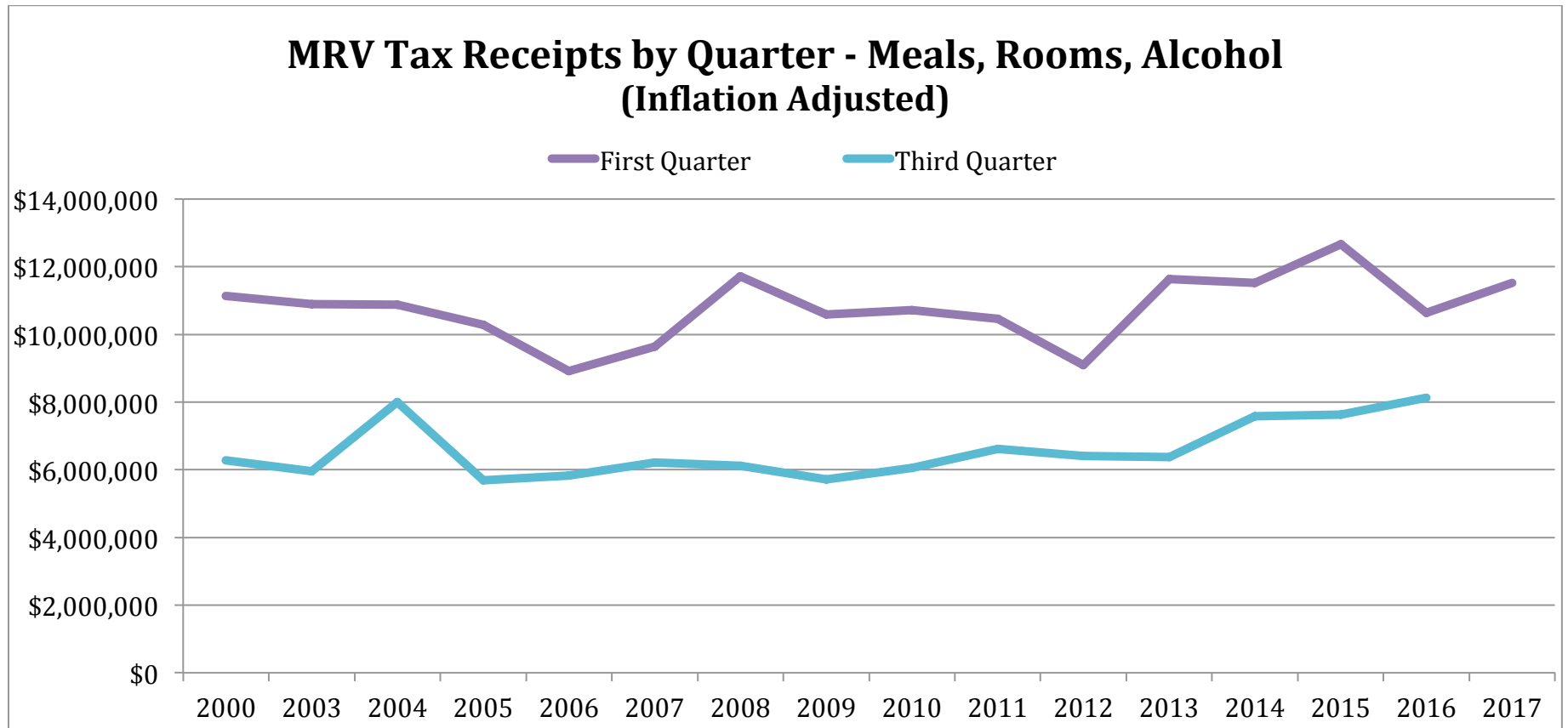


FIGURE 5- VT DEPT. OF TAXES

Tax receipts for the first quarter of 2017 showed a 8% improvement over the previous year, and the third quarter of 2016 saw a 7% increase in summer activity compared to the same period in 2015.

A comparison of monthly tax revenue during the month of October in **Figure 6** provides further insight into the fall tourist and wedding season. 2016 saw a 17% increase in October tax revenue in Waitsfield over the previous year, with strong rooms and alcohol revenues (up 39% and 17% over 2015, respectively). Tax receipts for both rooms and alcohol have increased dramatically between 2014 to 2016 in Waitsfield (up 70% and 60%, respectively).

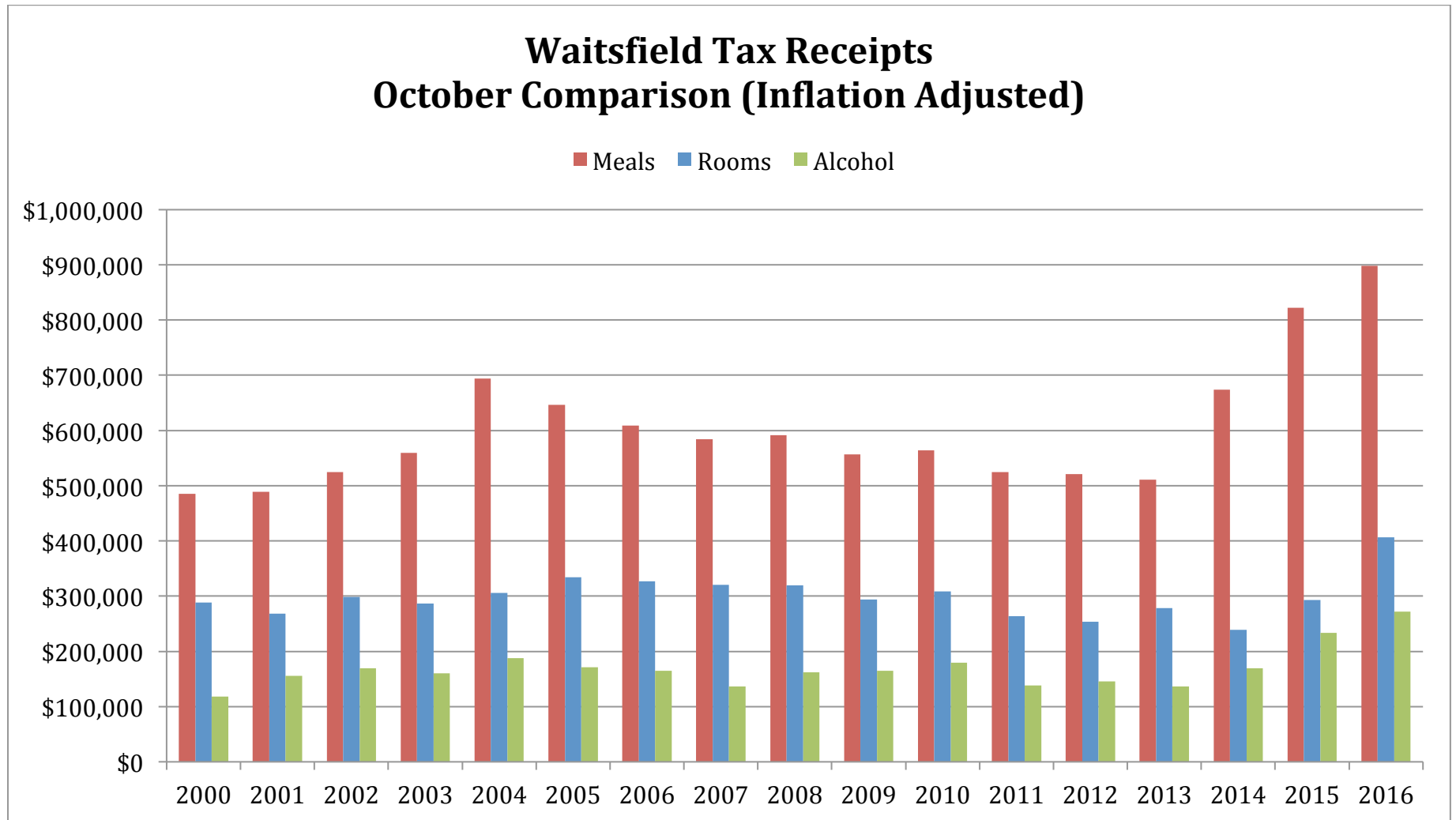
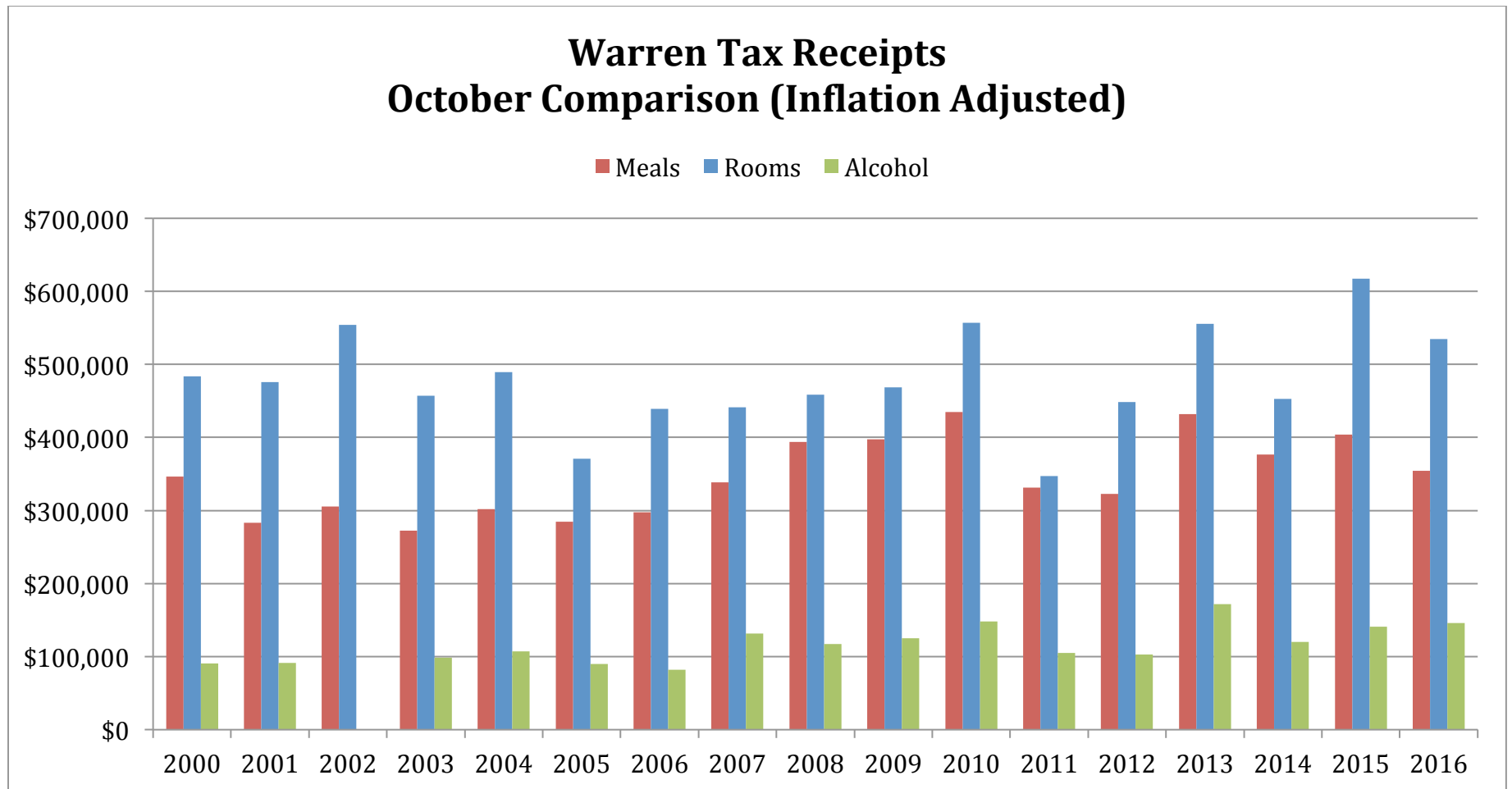


FIGURE 6- SOURCE: VT DEPT. OF TAXES

**FIGURE 7- VT DEPT. OF TAXES**

2016 saw an overall decrease of Warren's Meals, Rooms, and Alcohol receipts by 11% compared to the previous year, with both meals and rooms receipts experiencing declines of 12% and 13%, respectively. Alcohol revenue increased by 3% over the previous year, and 21% when compared to 2014.

Weddings provide significant revenue across the state and within the MRV. The Town Clerks in Waitsfield, Warren, and Fayston issued 74 marriage licenses between January and October 2017, versus 79 in 2016 and 73 in 2015.

RETAIL SECTOR

Figure 8 provides a comparison of 2016 Gross Sales tax receipts by town⁴, illustrating a predominance of sales tax revenue in Waitsfield and confirming Waitsfield's role as the MRV's commercial center.⁵

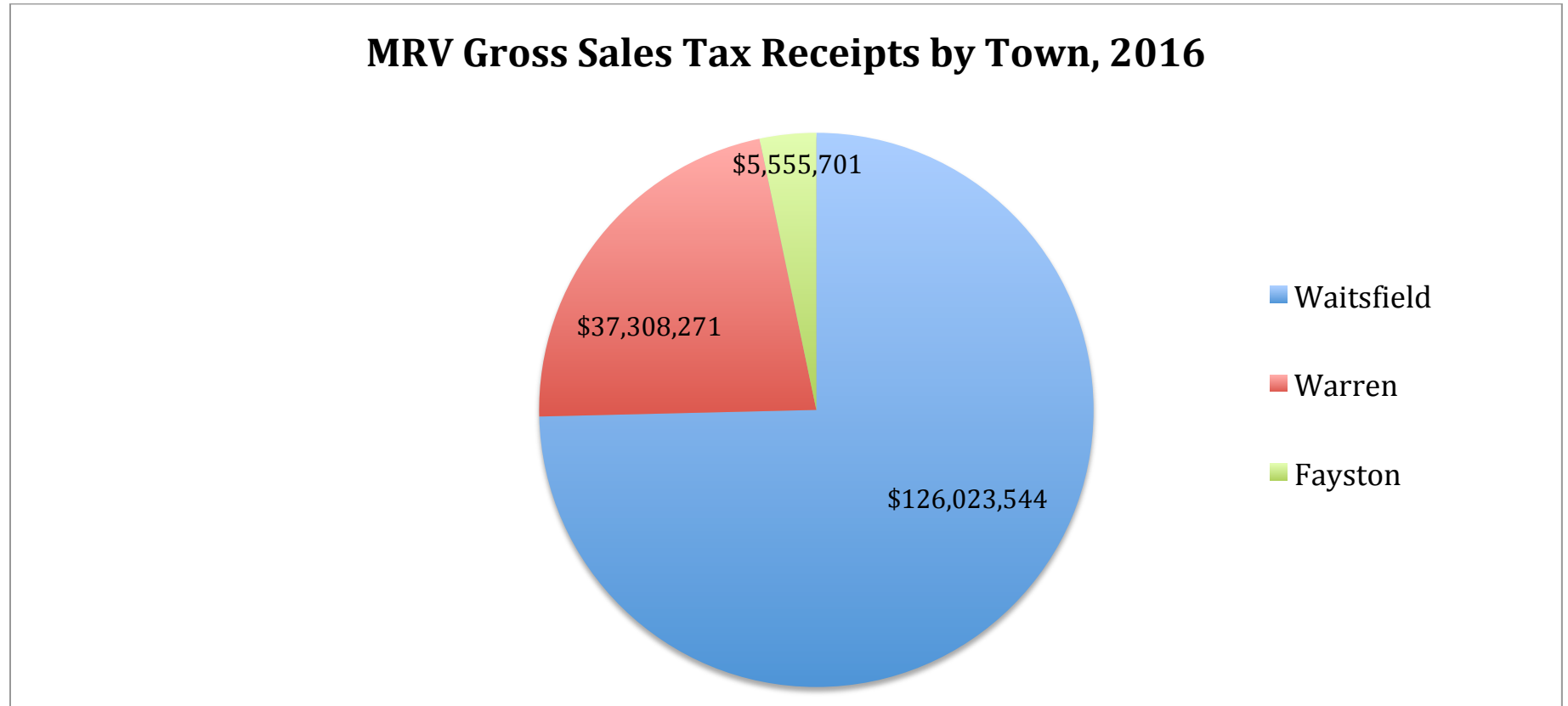


FIGURE 8- VT DEPT. OF TAXES

⁴ "Gross" receipts may or may not include sales subject to exemptions. This category can be thought of as the sum of all sales that happen in a municipality. This may include both taxable sales (toys, tools, etc) and nontaxable sales (clothing, food products, etc.) but will not include the sales for which Use tax is remitted by businesses in that town.

An inflation adjusted comparison of Gross Sales and Retail tax receipts in **Figure 8** underscores the MRV's mixed results since 2005.⁶ Gross sales experienced a downward trend between 2005-2009, partially rebounding following the recession, but has since been on a downward trajectory. Overall, MRV Gross Sales Tax Receipts have fallen 29% since 2005 (inflation adjusted). Retail receipts, on the other hand, have been relatively stable over time, and surprisingly did not take a major hit even during the recessionary period of 2007-2009.

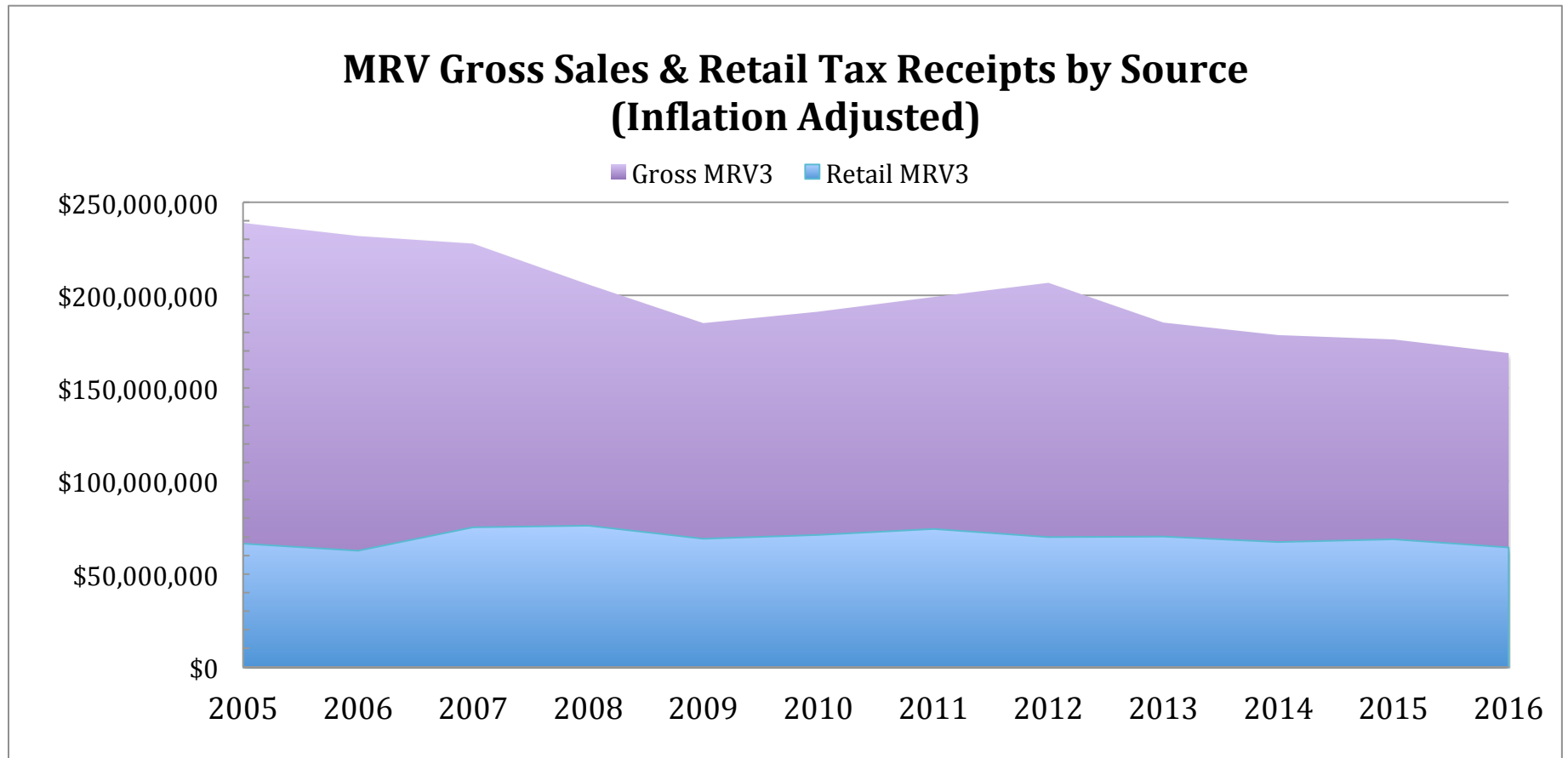


FIGURE 9- VT DEPT. OF TAXES

⁶ Gross Sales tax receipts include Retail tax receipts (i.e. taxable sales); they are shown here separately for visualization purposes.

Figure 10 provides insight into the MRV's Gross Sales tax receipts by breaking them out by town. The majority of the decrease found in the MRV can be attributed to Waitsfield, which has experienced a 40% decrease in receipts since 2005. While a much smaller volume, Warren has experienced an upward trend during this same time period, an increase of 50%. Fayston has been relatively flat, up 4%. Despite Warren's gains, Waitsfield is responsible for a majority of the Sales receipts in the MRV, and therefore has a larger impact on overall sales trends.

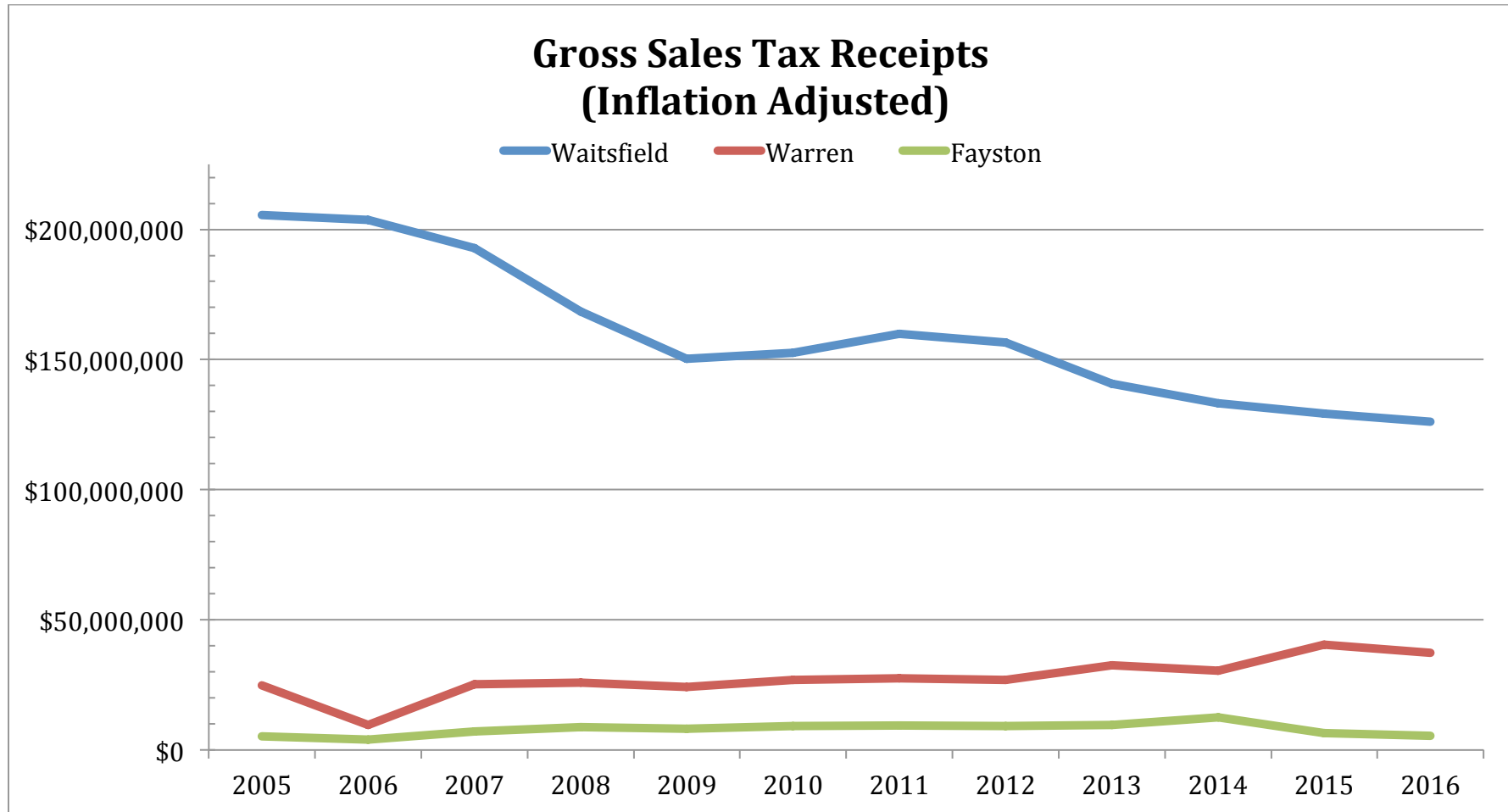


FIGURE 10- VT DEPT. OF TAXES

Skier Visits

In Vermont overall, the 2016-17 ski season was a welcomed improvement with 3.9 million skier visits, an approximate 21% increase over the previous season.⁷ Sugarbush Resort experienced a larger improvement in skier visits over the previous season, an increase of 32% as shown in **Figure 11** below. Sugarbush Resort reported 363 inches of natural snowfall through the 2016-2017 season, much higher than their annual average of 269 inches.

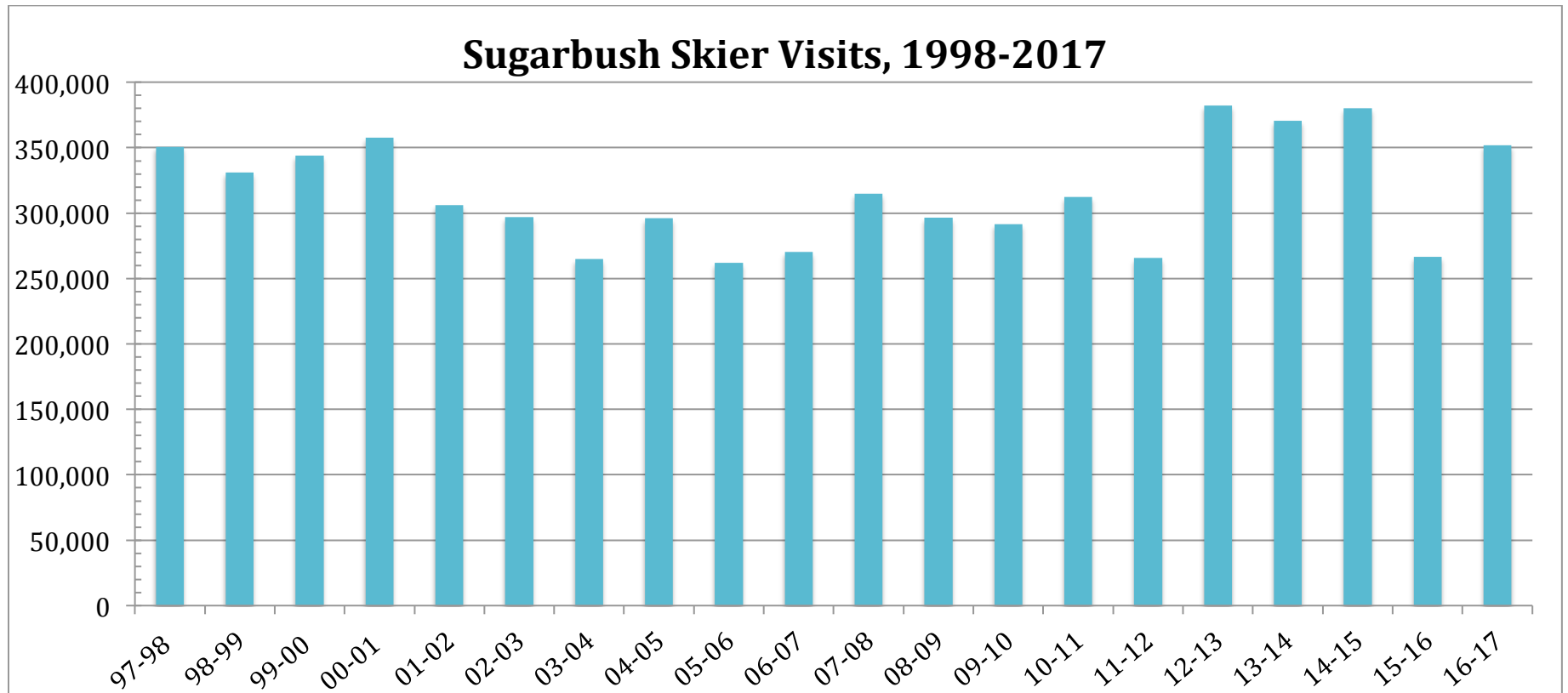


FIGURE 11- SOURCE: SUGARBUSH RESORT

⁷ Vermont Ski Areas Association

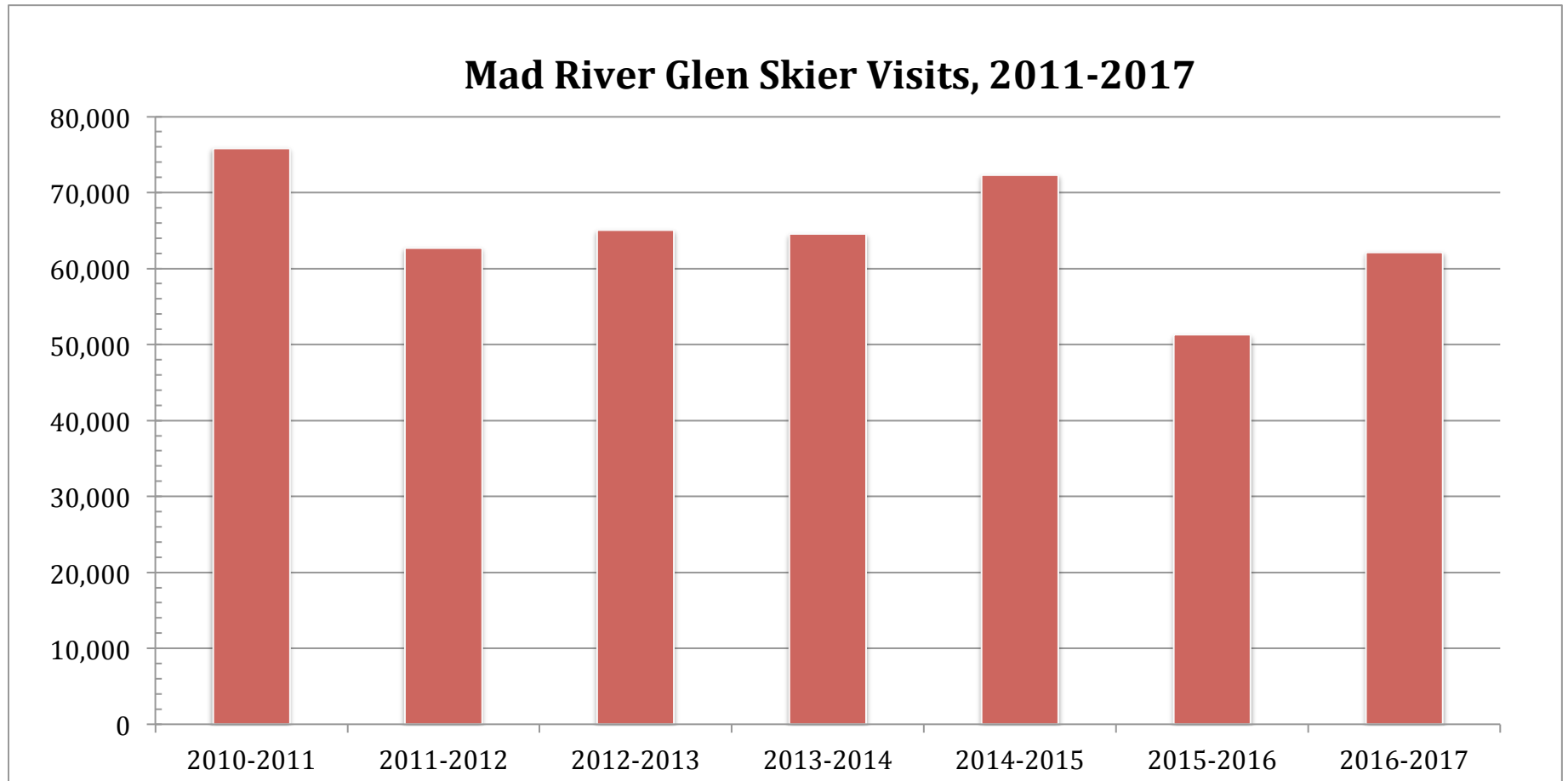


FIGURE 12- SOURCE: MAD RIVER GLEN

Mad River Glen is not part of the MOU, but its skier visit data is included in **Figure 12** to provide a snapshot of its annual activity. The 2016-2017 season saw 62,150 skier visits, a 21% increase in total visits from the previous season. This reflects the percentage increase experienced by the industry as a whole in Vermont over the 2015-2016 season.

Snowfall depth data collected at Mount Mansfield provides a visual comparison of the 2015-16 ski season (light brown line) compared to the 2016-2017 ski season (black line) and average snowfall depth (green), **Figure 13** below. Snowfall was almost consistently above normal during the 2016-2017, which positively affected skier visits at resorts statewide.

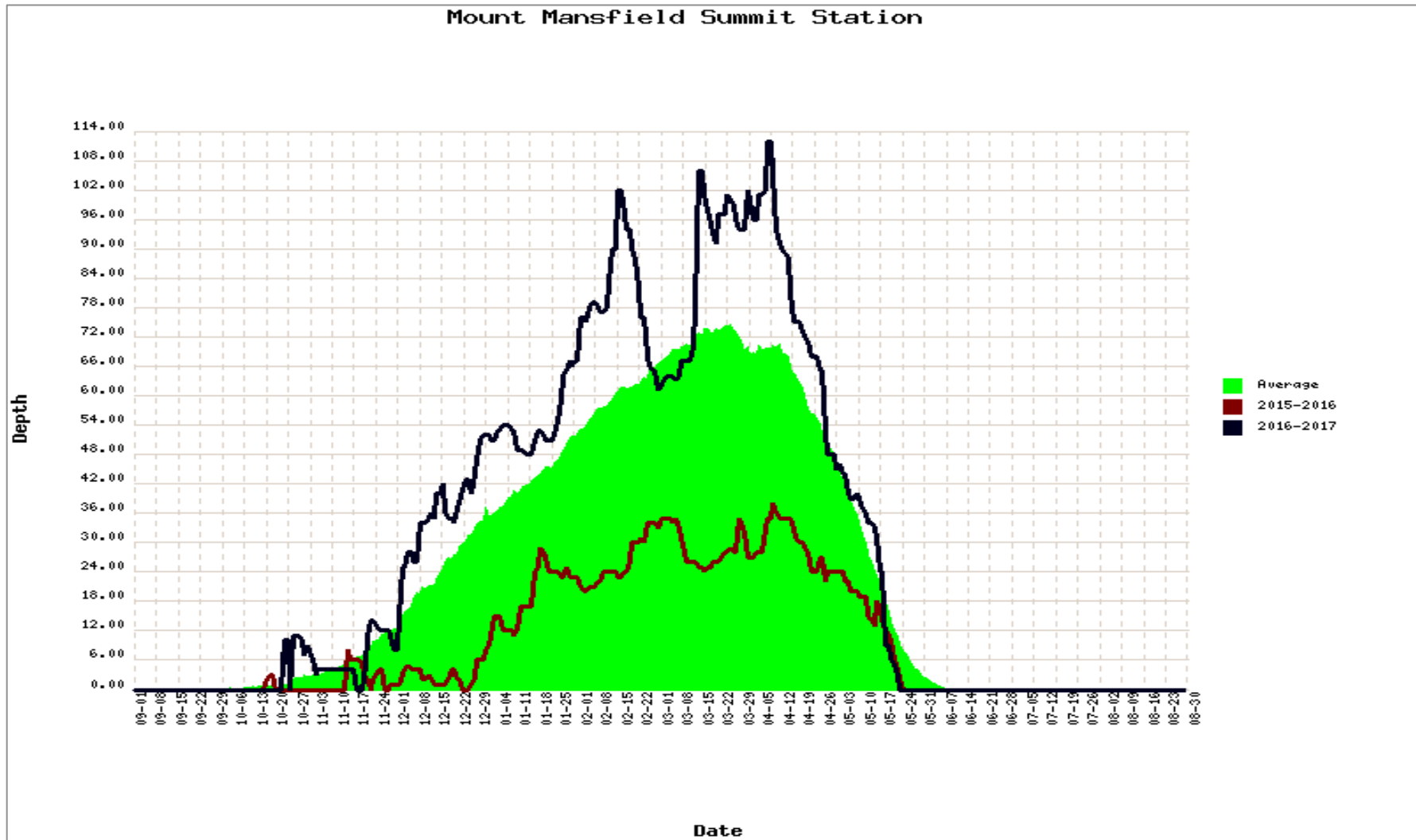


FIGURE 13- SOURCE: UVM ECO INFO PROJECT

SECTION II: POPULATION & HOUSING

Includes Items #29, 30, 35 from the Memorandum of Understanding

POPULATION

This report reviews several MRV indicators to analyze population trends, including population projections, death and birth rates, school enrollment, and age of residents.

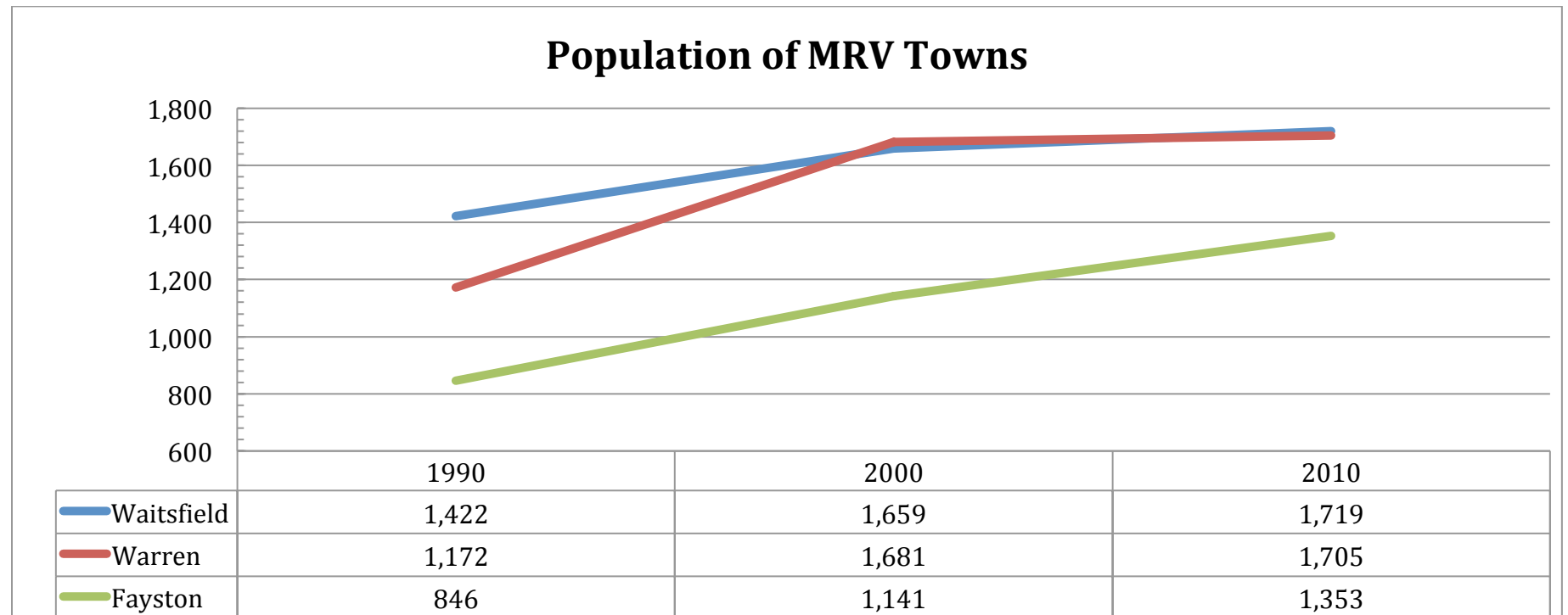


FIGURE 14- SOURCE: U.S. CENSUS BUREAU

Figure 14 shows a 7% increase in the combined population of the three MRV towns between 2000 and 2010. This is more than twice the growth rate experienced at the state level in the same time period (3%). The majority of population growth in the Mad River Valley has taken place in Fayston, at a rate of 19% between 2000 and 2010 and 35% between 1990 and 2000. These percentage increases are higher than previous estimates [the MRV was expected to see its population increase by 4% and Vermont by 2%].

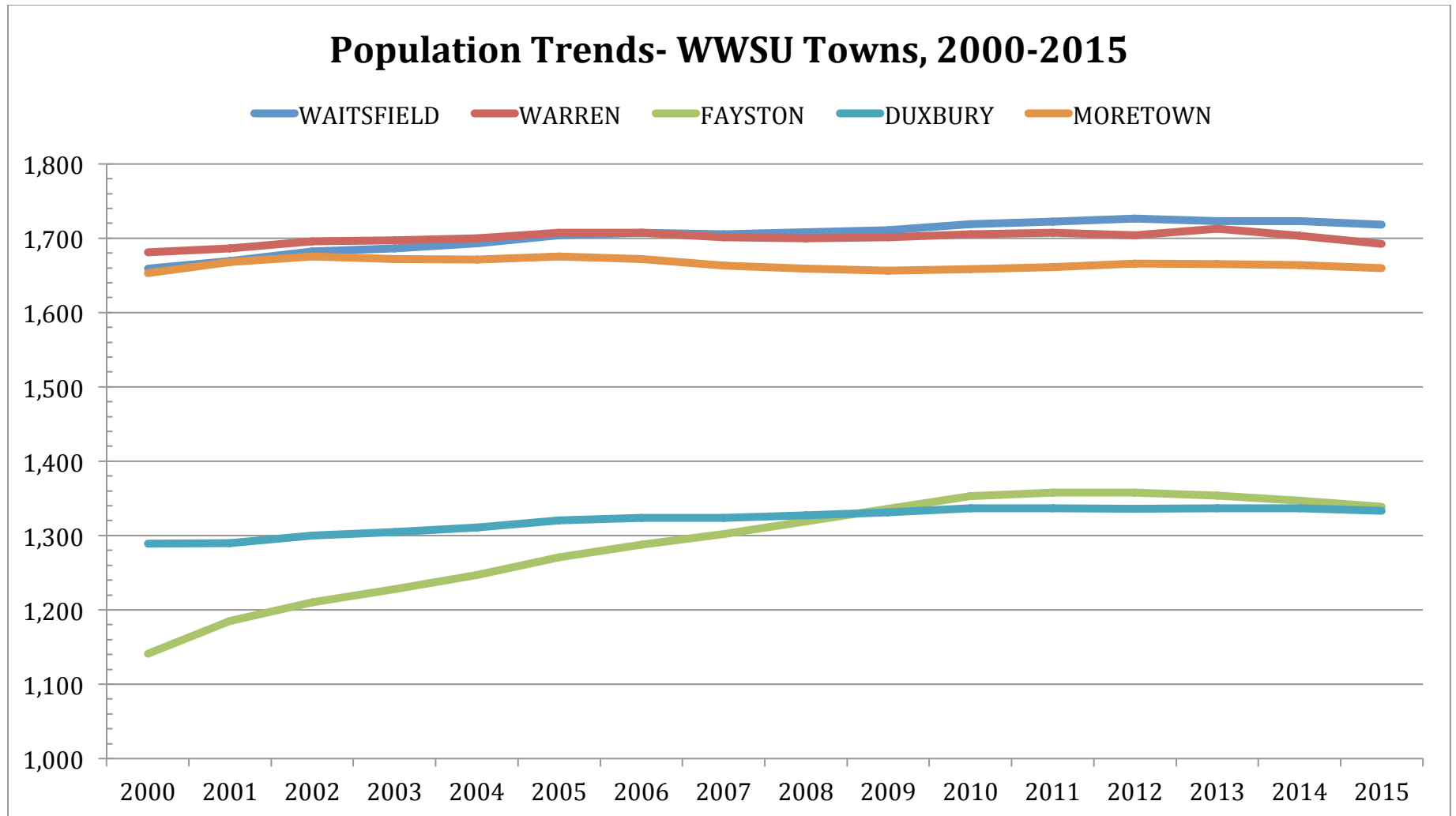


FIGURE 15- SOURCE: VT DEPT. OF HEALTH

Figure 15 provides a broader perspective on the population of towns that make up the MRV's school district, Washington West Supervisory Union. Population across the five towns has largely leveled off since 2010, with slight decreases between 2014 and 2015. This data has not been updated due to the fact that data for 2016 is not available until Dec. 2017.

Figures 16 & 17 provide a perspective on population estimates for Washington County as a whole, and its workforce population, based on high (Scenario A) and low (Scenario B) estimates that include birth rate and migration variables⁸.

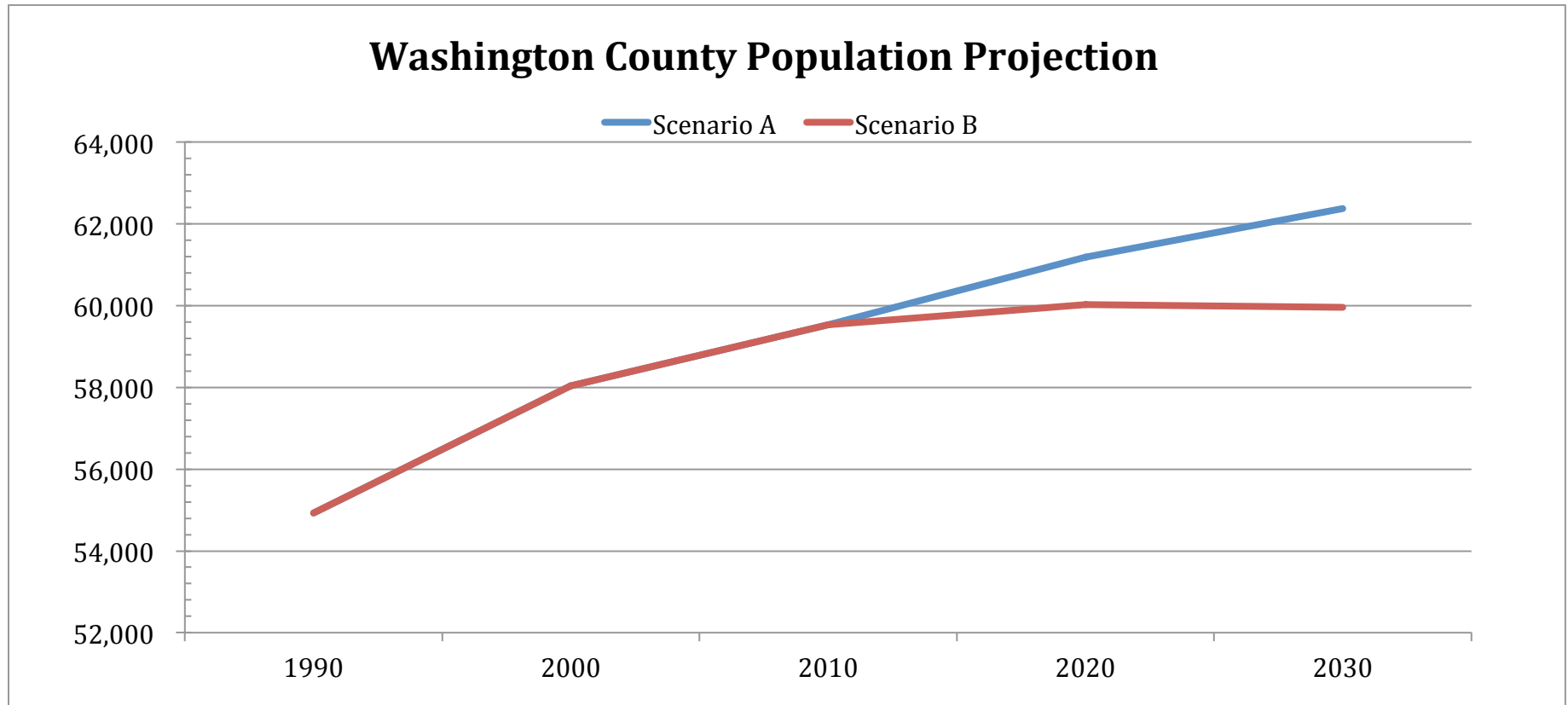


FIGURE 16- SOURCE: VT AGENCY OF COMMERCE & COMMUNITY DEVELOPMENT

⁸ "Vermont Population Projections, 2010 - 2030, Vermont Agency of Commerce and Community Development, August 2013", <http://dail.vermont.gov/dail-publications/publications-generalreports/vt-population-projections-2010-2030>

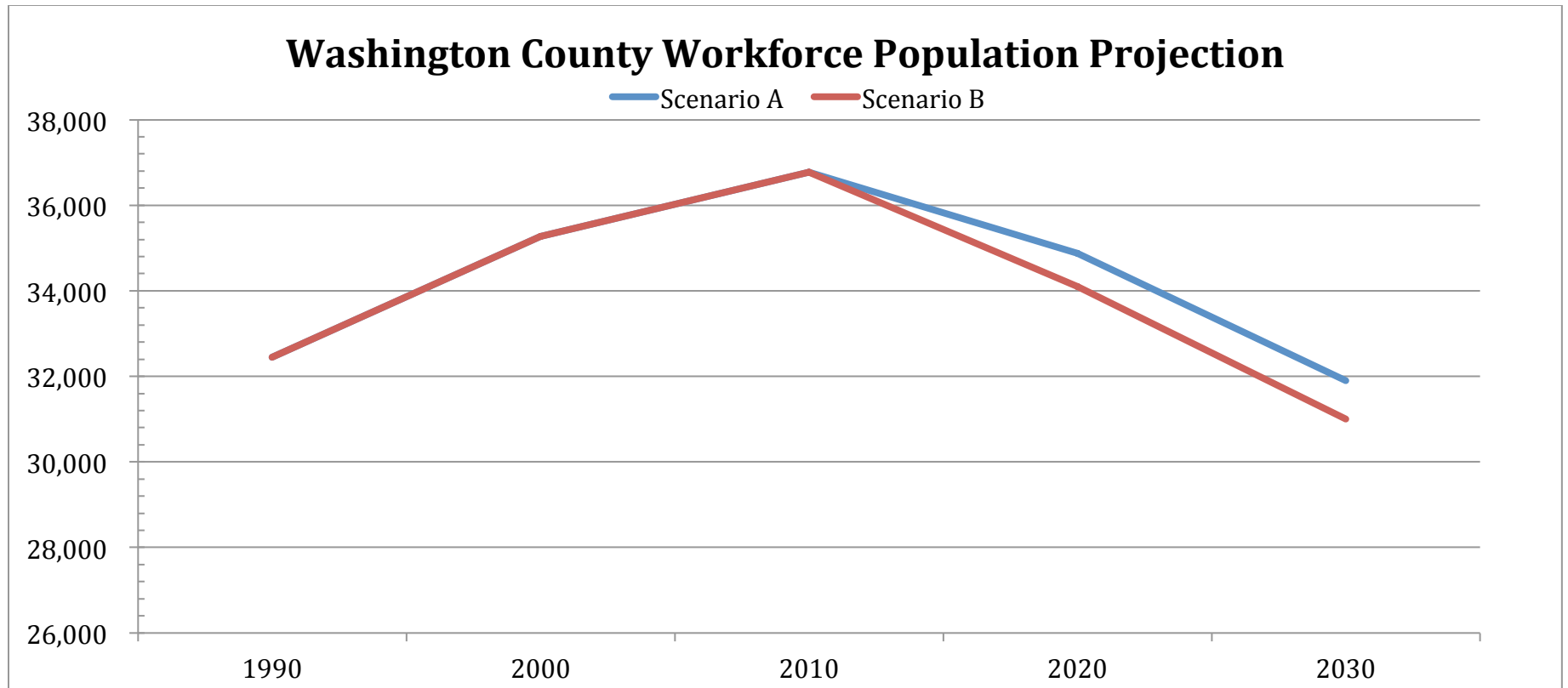


FIGURE 17- VT AGENCY OF COMMERCE & COMMUNITY DEVELOPMENT

The table below provides two-scenario population estimates for MRV towns, compared to neighboring towns and the county as a whole. With stable birth rates, we can assume that expected in-migration to the MRV drives the higher projections presented below.

		Low Growth Estimate				High Growth Estimate			
	2010 Census	2020 Estimate	2030 Estimate	2010-'20 Growth	2010-'30 Growth	2020 Estimate	2030 Estimate	2010-'20 Growth	2010-'30 Growth
FAYSTON	1,353	1,561	1,706	15%	26%	1,590	1,772	18%	31%
WAITSFIELD	1,719	1,781	1,808	4%	5%	1,815	1,880	6%	9%
WARREN	1,705	1,860	1,947	9%	14%	1,895	2,023	11%	19%

Figure 18 shows birth and death numbers as recorded by municipal town clerks.

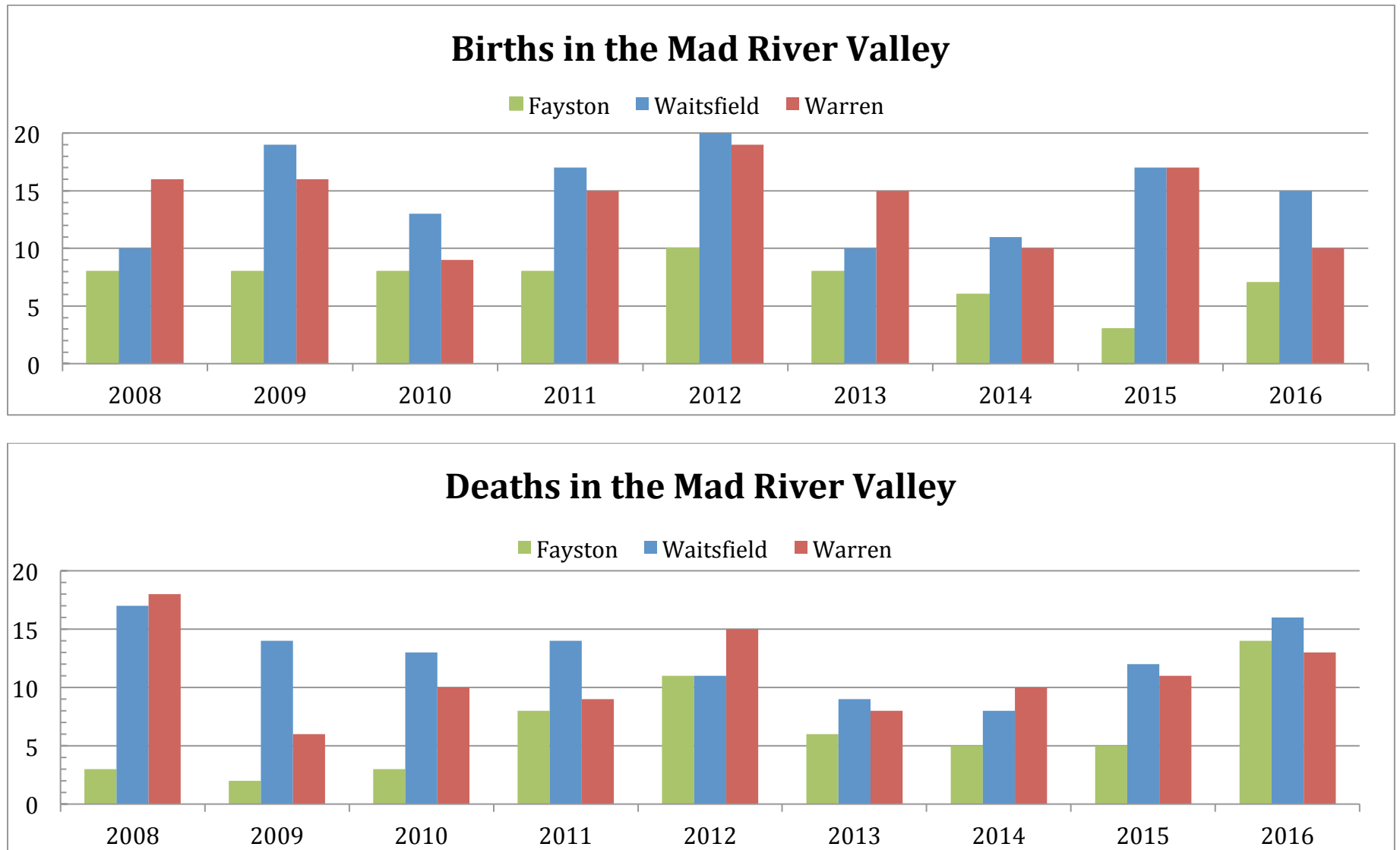


FIGURE 18- SOURCE: FAYSTON, WAITSFIELD, WARREN TOWN CLERKS

Figure 16 indicates fairly stable school enrollment in the region's elementary and middle schools over the past decade, but a downward trend at the high school.⁹ Harwood Middle and Crossett Brook were the only schools in the area experiencing increased enrollment over the most recent school year (8% and 9%, respectively).

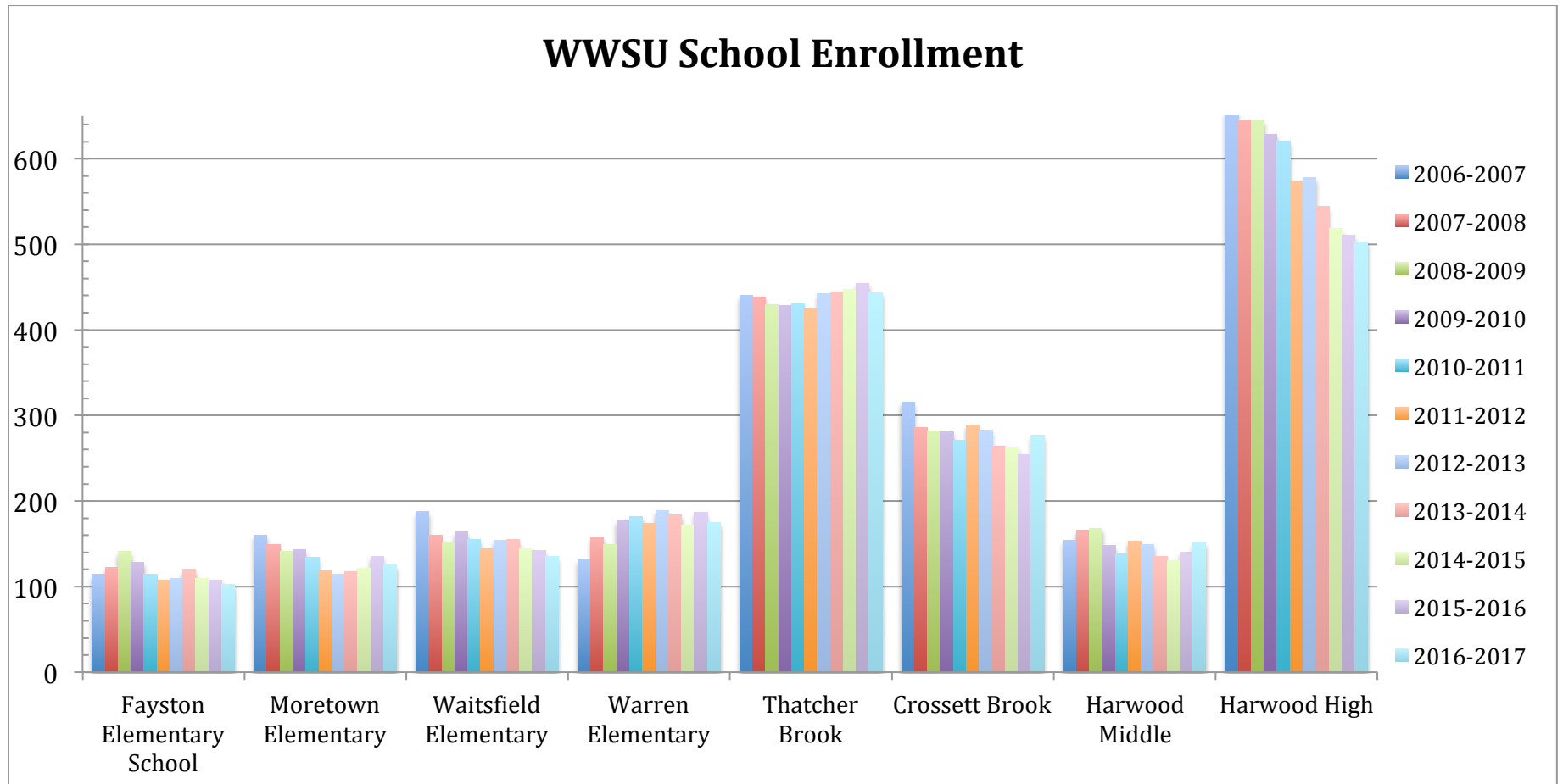


FIGURE 16- SOURCE: VT AGENCY OF EDUCATION

⁹ 2017-2018 enrollment data was not available at the time of printing for this year's report.

Figure 17 provides a comparison of enrollment declines in the state and county, showing a similar trend in comparison to the local school district. Overall, WWSU enrollment has shrunk by 12.8% over the time period.

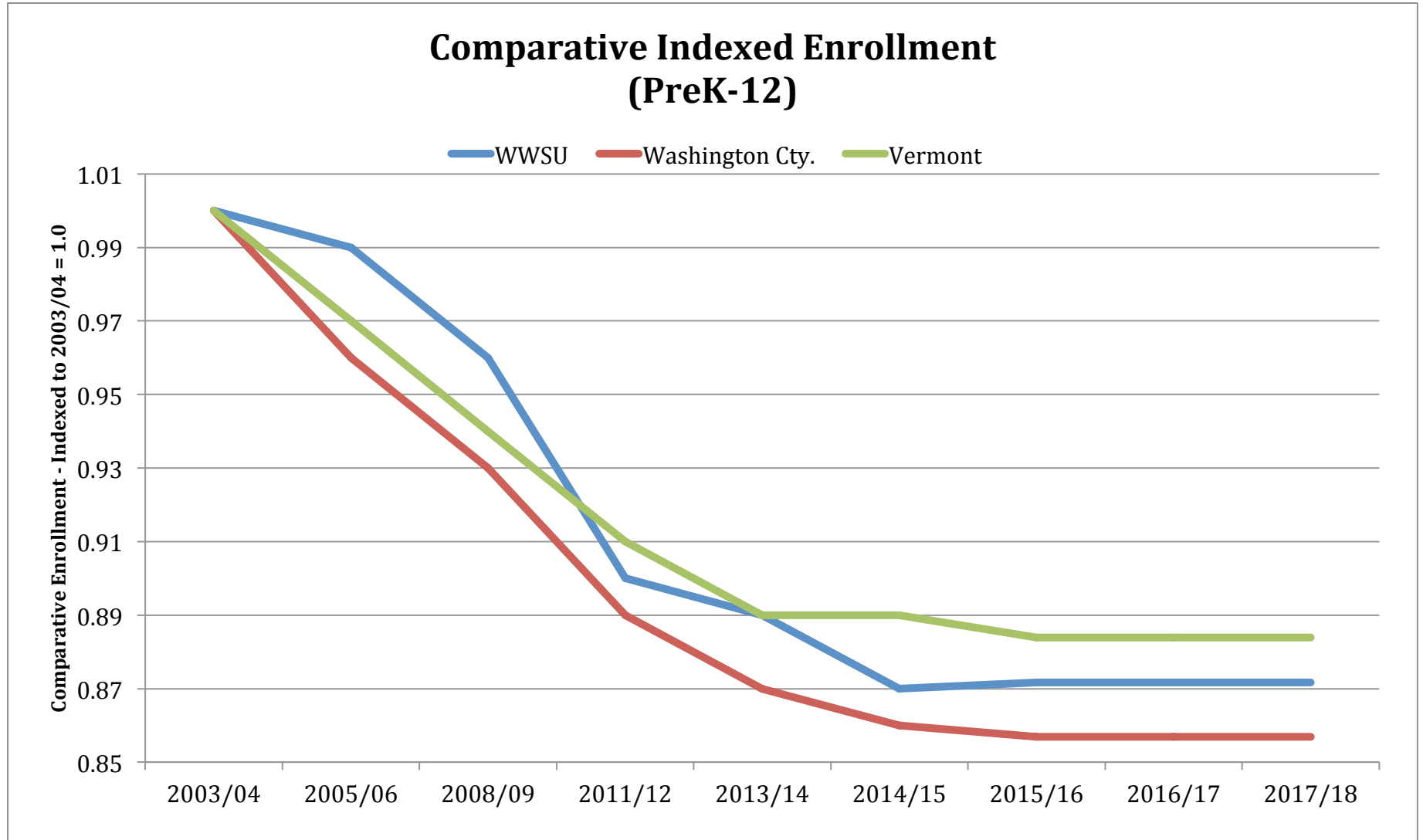


FIGURE 17- SOURCE: VT AGENCY OF EDUCATION

Another useful piece of information is the median age of the population by town, **Figure 18**. MRV towns continue to be older than Vermont overall, and much older than the nation. Waitsfield has an older population than the other two MRV towns. The median age in the Valley was 47 years old as of 2015, versus 40 years in 2000 (an increase of 17.5%).

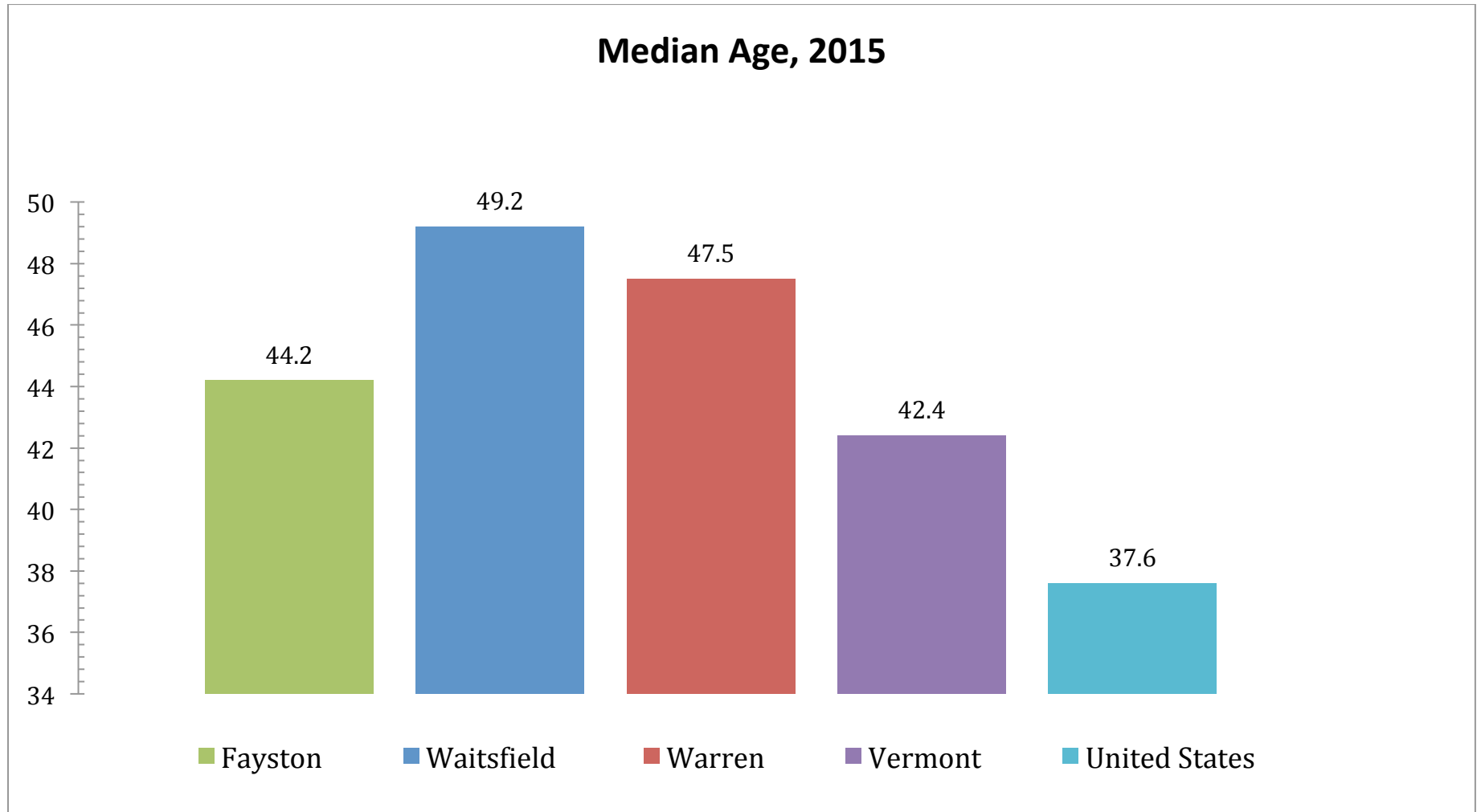


FIGURE 18- SOURCE: 2015 AMERICAN COMMUNITY SURVEY

HOUSING

The number and type of homes sold in the MRV provides another view of growth patterns and trends.

Figure 19 shows the number of primary homes sold has declined since its peak in the early 2000s. In 2016, however, Waitsfield and Fayston both saw small decreased sales, while Warren saw a strong uptick in primary residences sold. There were 15 primary residences sold in Waitsfield (down 1), 11 in Fayston (down 3) and 26 in Warren (up 12). Statewide, primary home sales increased to 6,834 in 2016 from 6,473 in 2015.

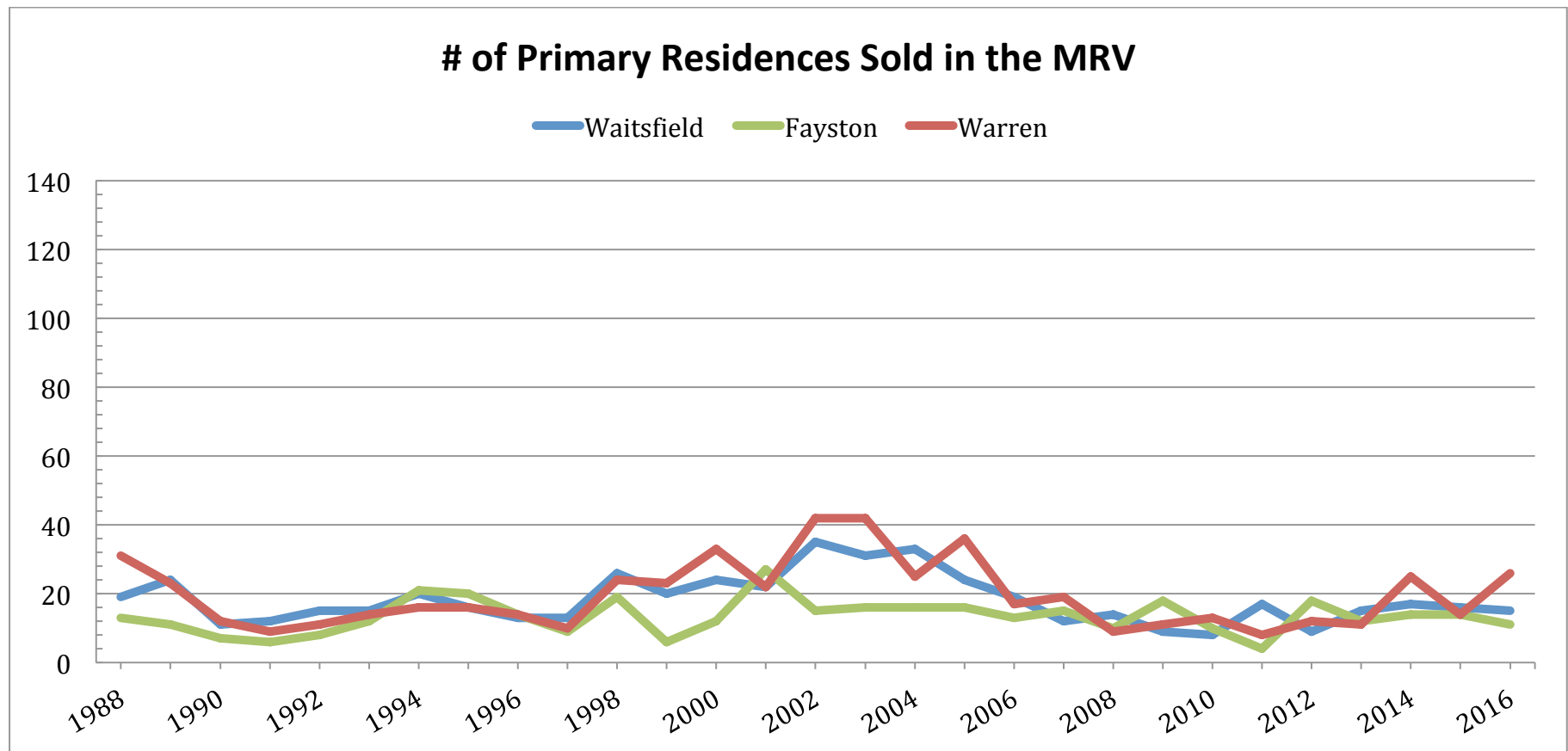


FIGURE 19- SOURCE: VT HOUSING DATA

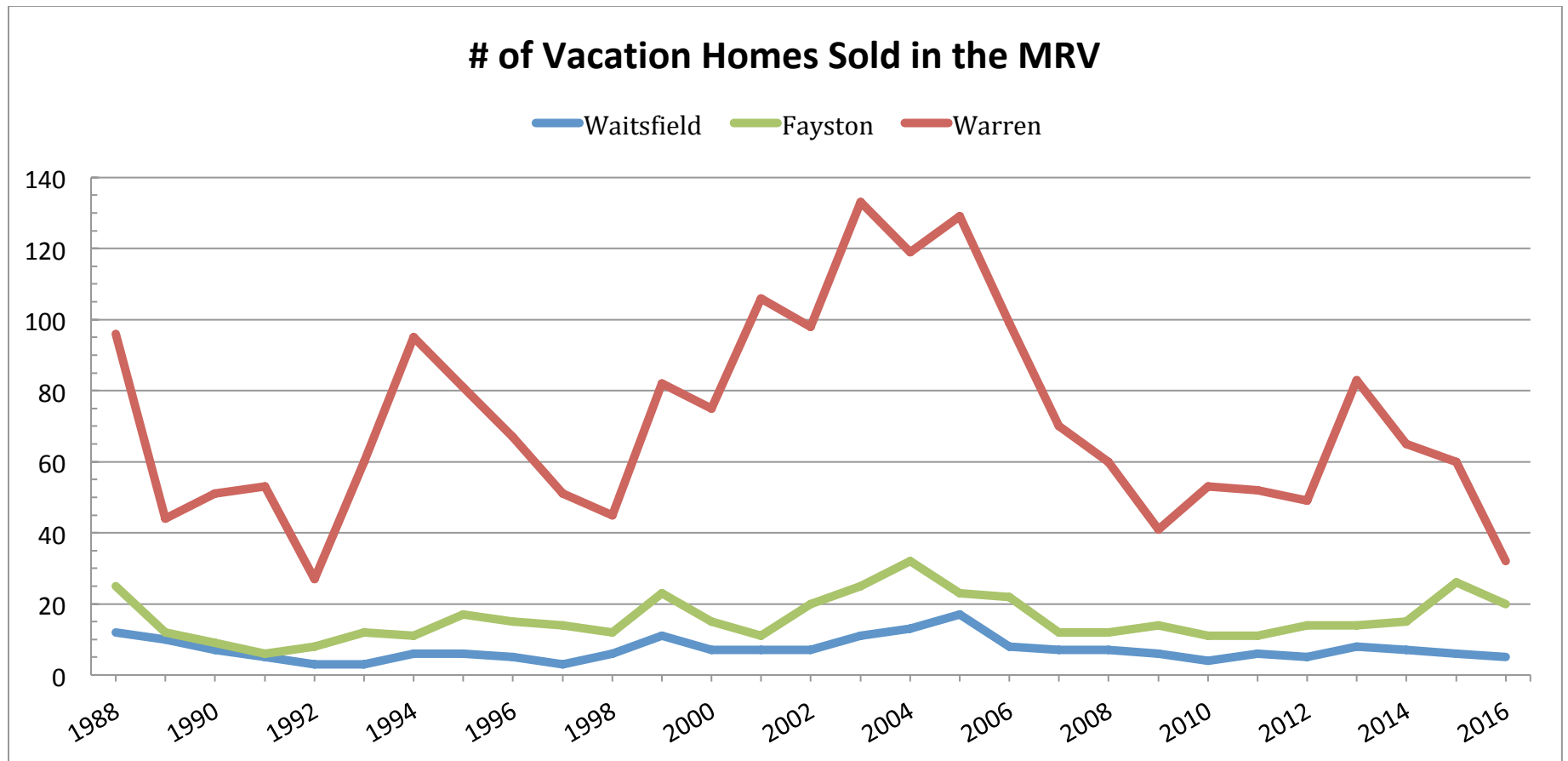


FIGURE 20- SOURCE: VT HOUSING DATA

Figure 20 shows Warren with the greatest overall volume of vacation homes sold across the MRV, while sales remain relatively flat in Waitsfield and Fayston. However, 2016 saw declines across the MRV, the greatest in Warren. Warren experienced the steepest post-recession declines, which had recovered in 2013 (although not to pre-recession levels), but has since experienced declines. Vacation homes include condominiums that are not primary residences, as well as other non-primary residences. Most of these vacation homes are found closer to Sugarbush Resort. In Warren, only 32 vacation homes were sold in 2016 (versus 60 the previous year); Fayston and Waitsfield had 20 and 5 sales, respectively, compared to 26 and 6 in 2015. 1,418 vacation homes were sold statewide in 2016, down from 1,877 the previous year.

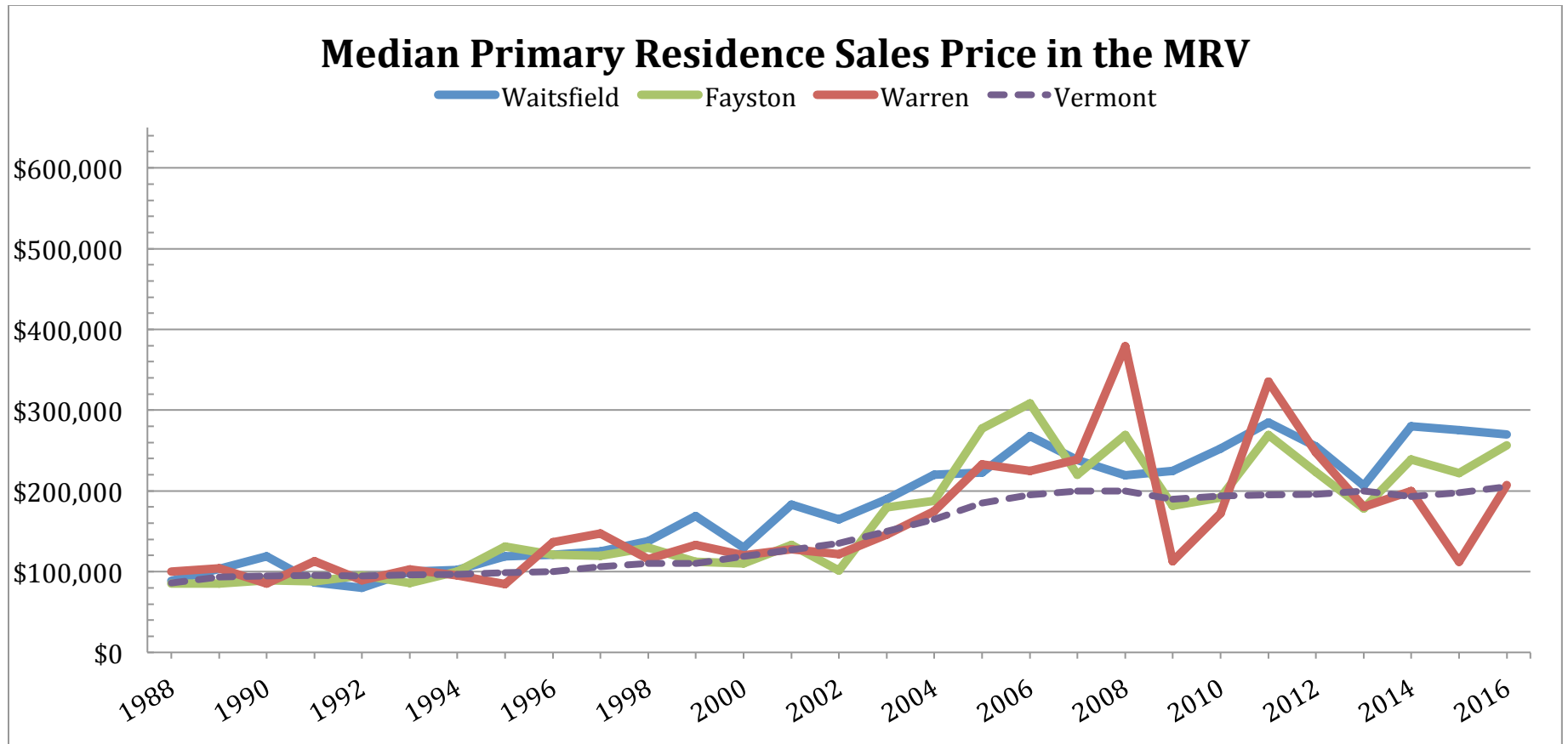


FIGURE 21- SOURCE: VT HOUSING DATA

Overall, **Figure 21** indicates primary residence sales prices in the MRV experiencing a recovery since 2009, with Fayston and Warren both experiencing increased sales prices from 2015 to 2016. The median home in Fayston was \$256,250 in 2016 (vs. \$221,750 in 2015) and \$207,500 in Warren (vs. \$112,500 in 2015), while Waitsfield's median home price was \$270,000 in 2016 (vs. \$275,000).

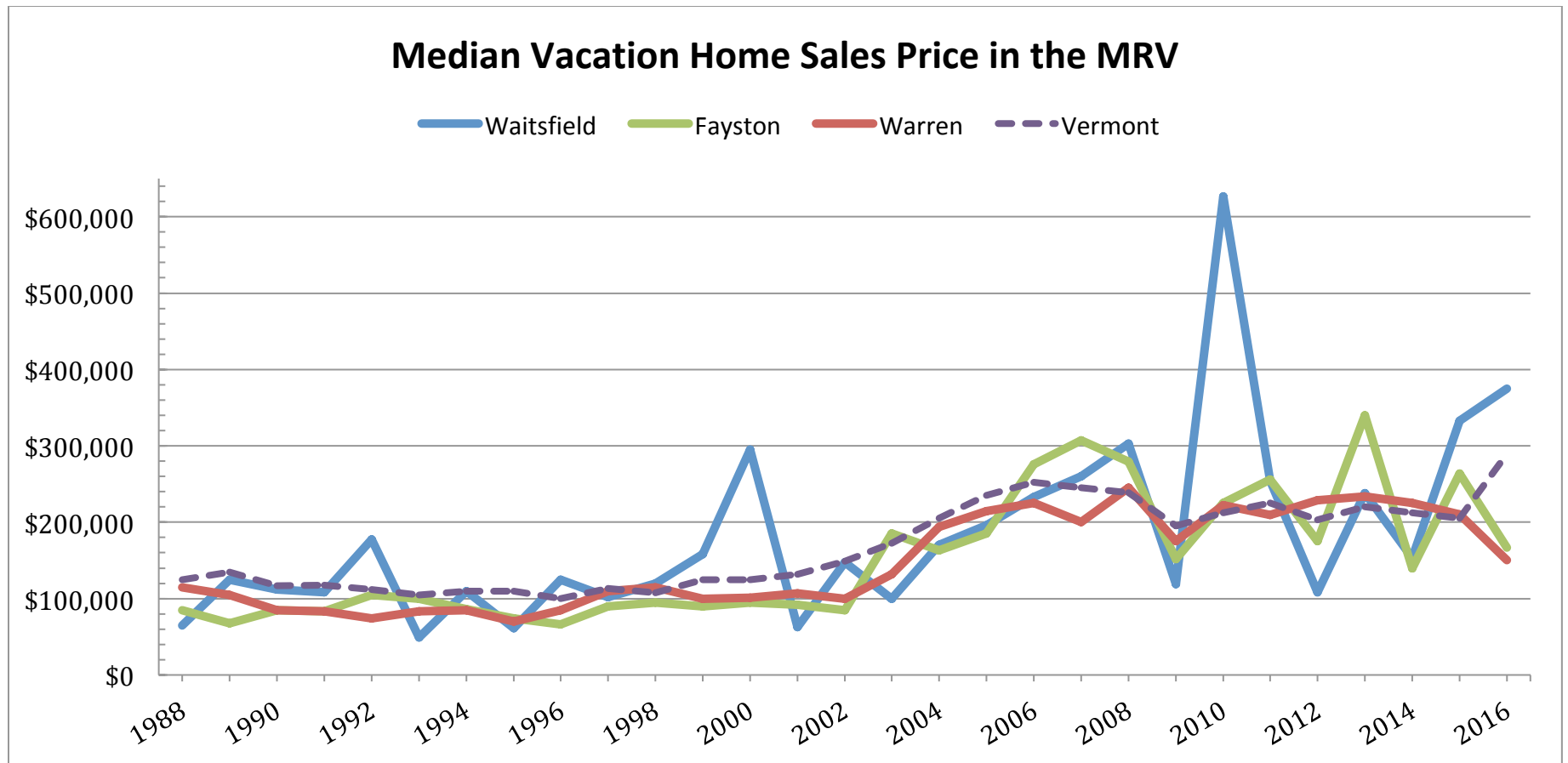


FIGURE 22- SOURCE: VT HOUSING DATA

Figure 22 shows Waitsfield's median vacation sales price of \$375,000 in 2016 largely following the upward trend in the state, with Warren and Fayston seeing lower sales prices (at \$150,000 and \$167,000, respectively). Because of the relatively low number of vacation homes sold in Waitsfield and Fayston, outliers more easily influence their median sales prices. Vermont's median vacation home sales price increased from \$205,000 to \$280,547 between 2015 and 2016.

Zoning permits serve as a leading indicator of new home construction. **Figure 23** shows a large increase of zoning permits in 2016 issued for single-family homes in Warren, and less single-family home permits for Waitsfield and Fayston compared to 2015.¹⁰

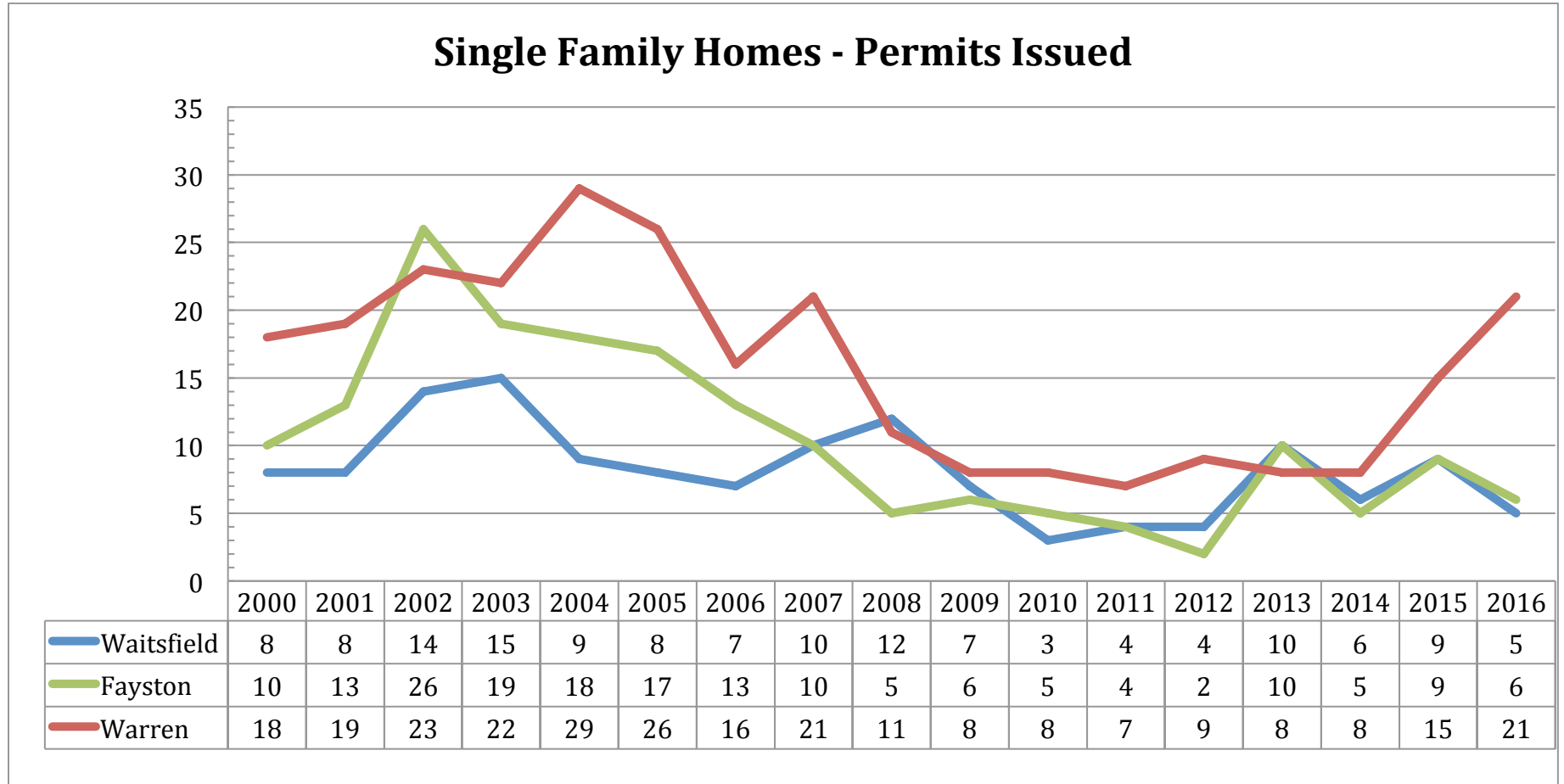


FIGURE 23- SOURCE: U.S. CENSUS BUREAU, ANNUAL TOWN REPORTS

¹⁰ Permit numbers for this graph in past years were found in the [US Census Building Permits Survey](#). In 2017, all of the permit numbers in the graph were updated using the Annual Town Report from all three towns in order to increase accuracy of the data.

The issuance of permits for single-family homes in the MRV has charted a similar course to the statewide trend, **Figure 24** below.¹¹

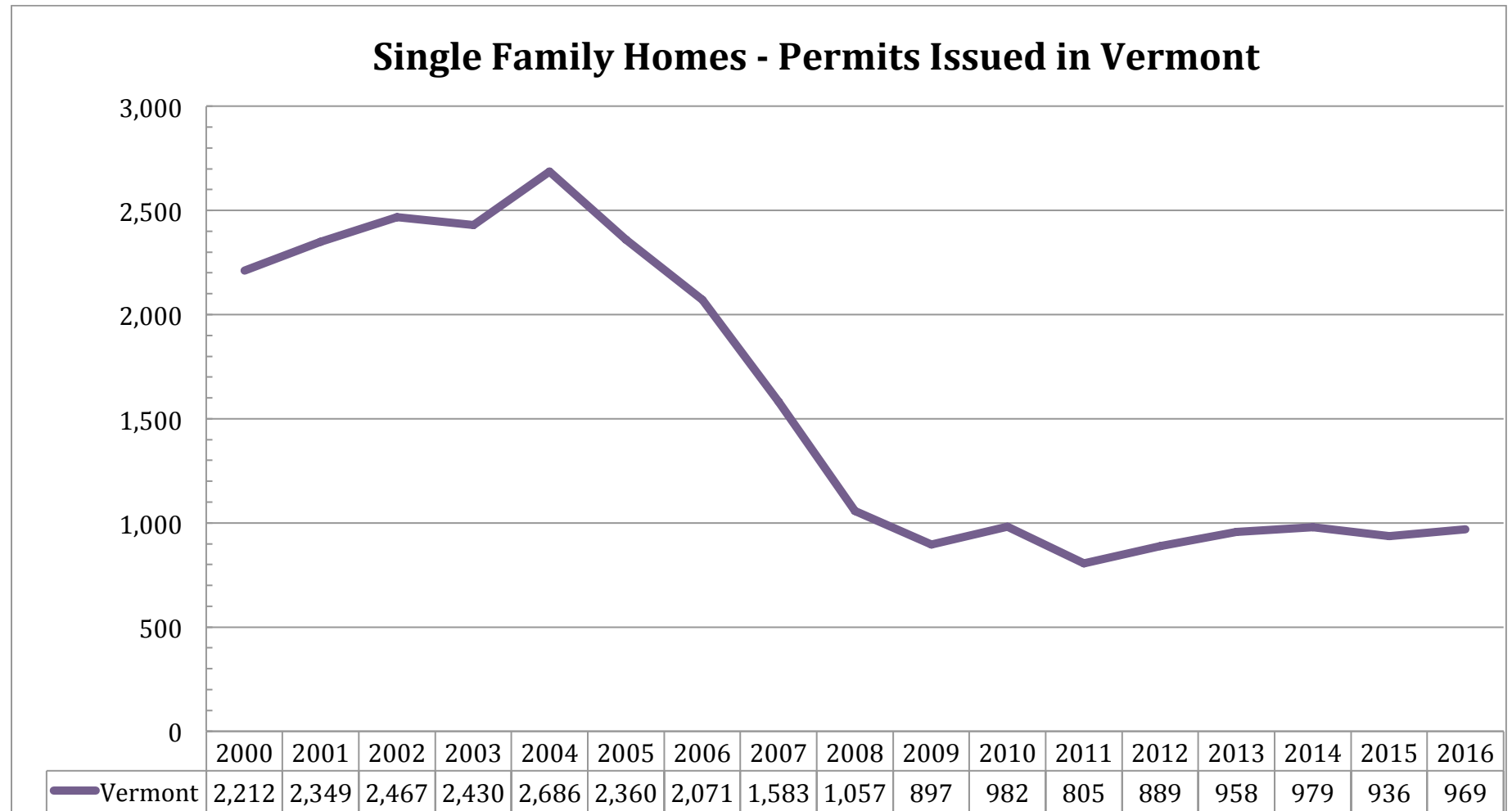


FIGURE 24- SOURCE: U.S. DEPARTMENT OF HOUSING & URBAN DEVELOPMENT

¹¹ Permit numbers for this graph in past years were found in the [US Census Building Permits Survey](#). In 2017, all of the permit numbers in the graph were updated using the Department of Housing & Urban Development's Building Permit Database in order to streamline data collection.

When the permit data is indexed to 2003 levels, **Figure 25** shows the local trend in construction activity generally following the state trend until 2009, when its decrease continued. However, construction activity in the MRV has bounced back more robustly than in the state as a whole.

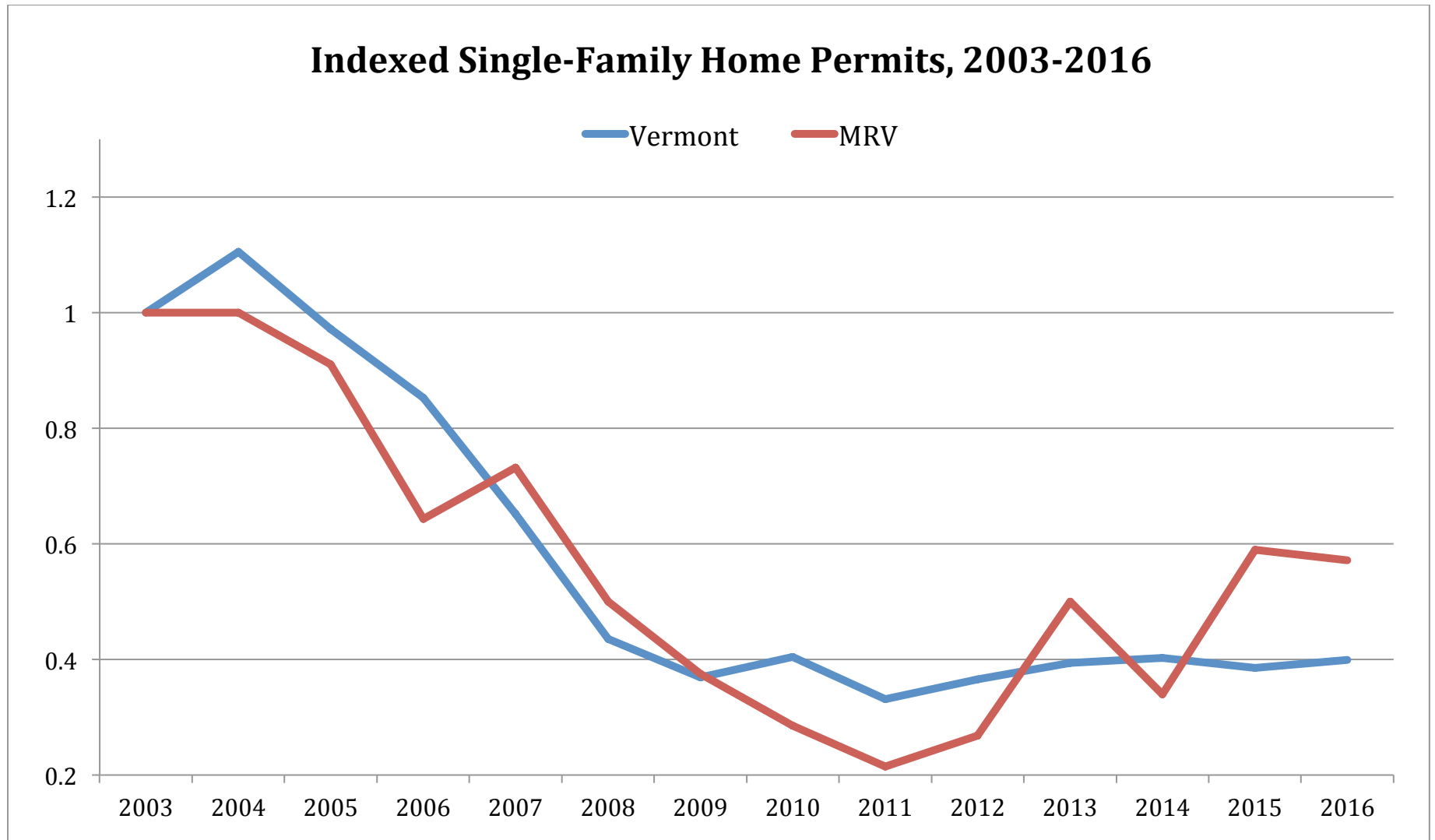


FIGURE 25- SOURCE: U.S. DEPARTMENT OF HOUSING & URBAN DEVELOPMENT

While the raw number of single-family homes permitted is important, the total dollars attributed to those permits is also an important figure.¹² **Figure 26** shows an increase in the cost of construction for Single Family Homes in both Fayston and Warren in 2016, while decreasing slightly in Waitsfield compared to the previous year. Warren's significant increase is consistent with a similar trend in the number of single-family home permits issued in 2016.

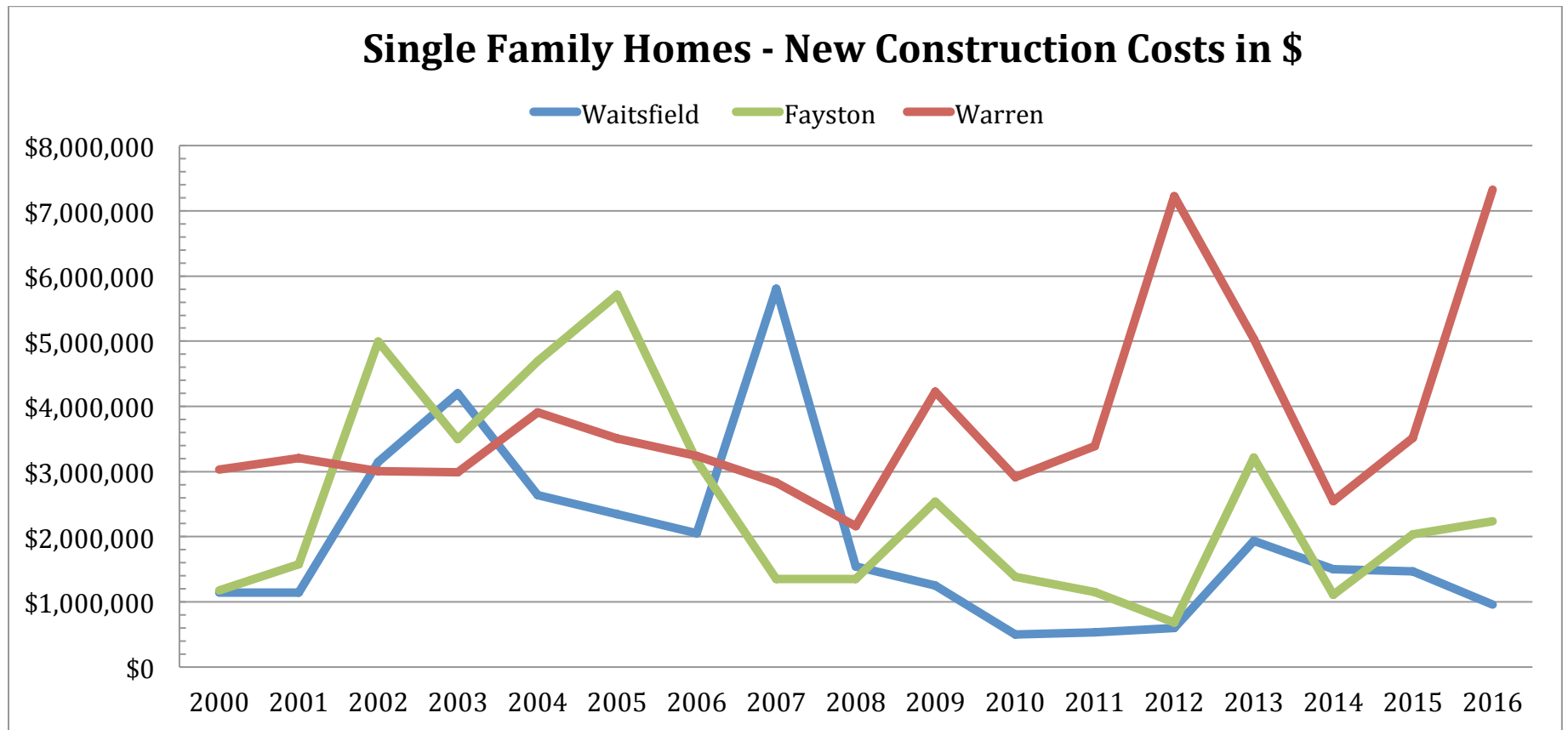


FIGURE 26- SOURCE: U.S. CENSUS BUREAU, TOWN ZONING ADMINISTRATORS AND/OR LISTERS

¹² In the past, this data was based on the [US Census Building Permits Survey](#), but due to discrepancies with the Annual Town Reports, all of the data was updated using the Annual Town Reports and/or zoning administrators and listers in 2016.

A snapshot of available housing in **Figure 27** shows a majority of housing units in the MRV to be seasonal or vacation homes (53%), compared to primary residences (44%), and a small percentage of vacant units (3%). The number of seasonal homes has increased as a percentage of total MRV housing units between 2010 and 2015, from 48% to 53%.

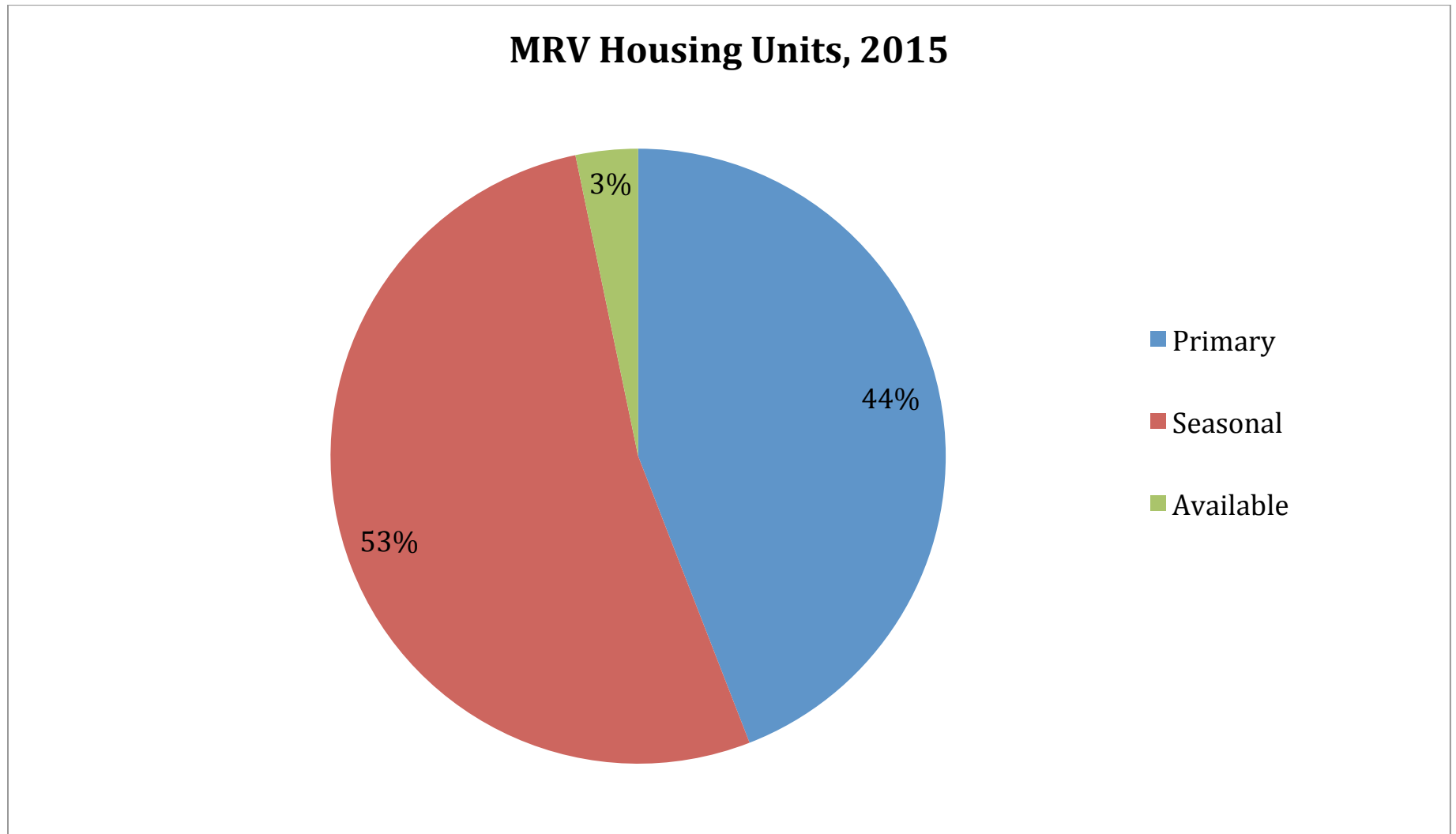


FIGURE 27- SOURCE: 2015 AMERICAN COMMUNITY SURVEY

HOUSING AFFORDABILITY

Sugarbush Resort collects data annually via surveys given to its seasonal and year-round employees. The data in **Figure 28** indicates where Sugarbush employees lived during the 2016/2017 ski season. Overall, the number of employees (year-round and seasonal) who live in one of the three MRV towns is slightly less than half (47% in 2016-2017 season, versus 46% in 2015-2016 season). 45.5% of seasonal staff reported residing in Fayston, Waitsfield or Warren, while 53.4% of the year round staff call one of these three towns home (compared to 42% for seasonal staff and 68% of year round staff, respectively, during the previous season).

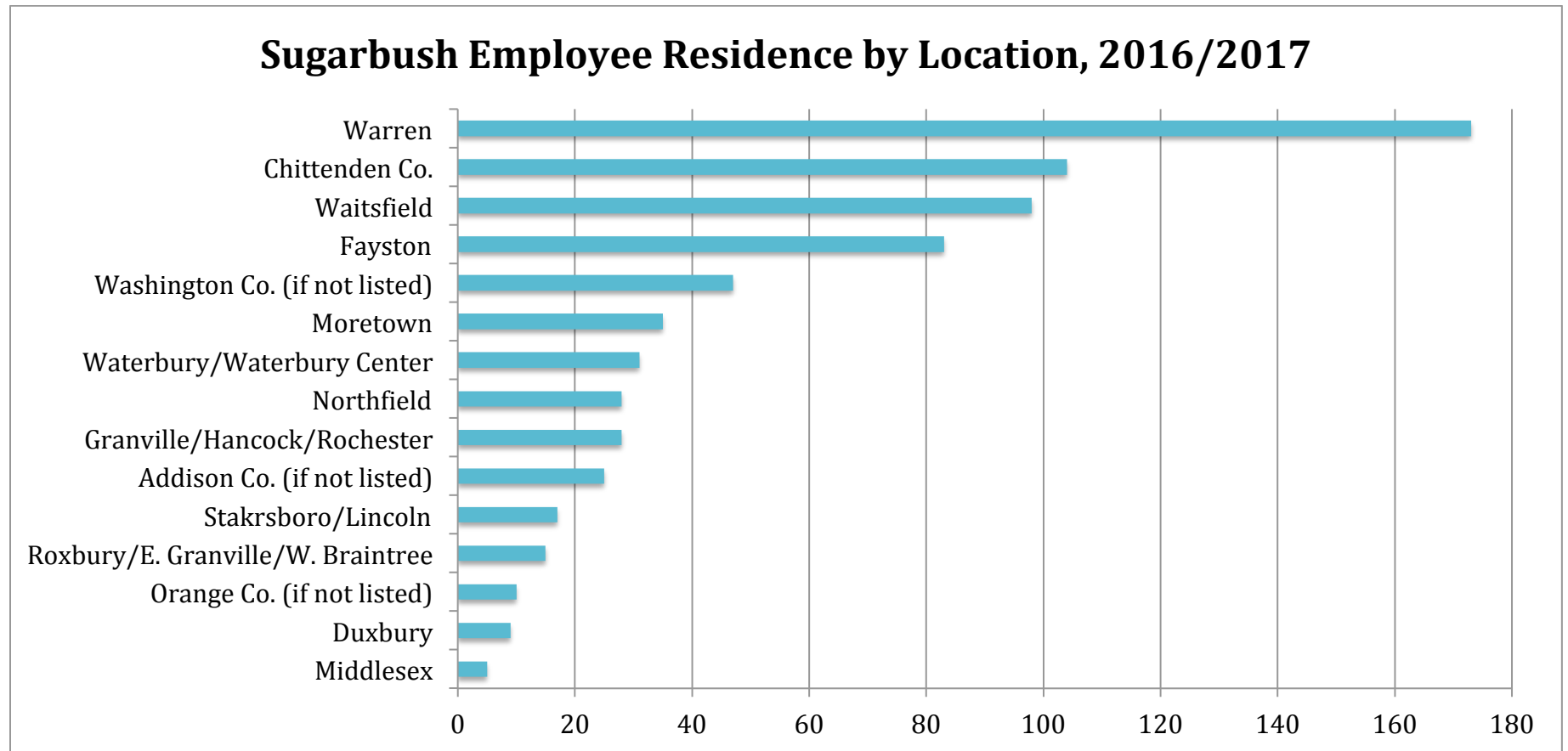


FIGURE 28- SOURCE: SUGARBUSH RESORT

Figure 29 identifies the type of housing situations that Sugarbush employees lived in during the 2016/2017 season.¹³ The largest percentage of employees own their residence (40%), followed by rent (37%), live with family (9%), live in employee housing (1%), and stay at a motel/inn/B&B or in a camper/vehicle/tent (less than 1%).

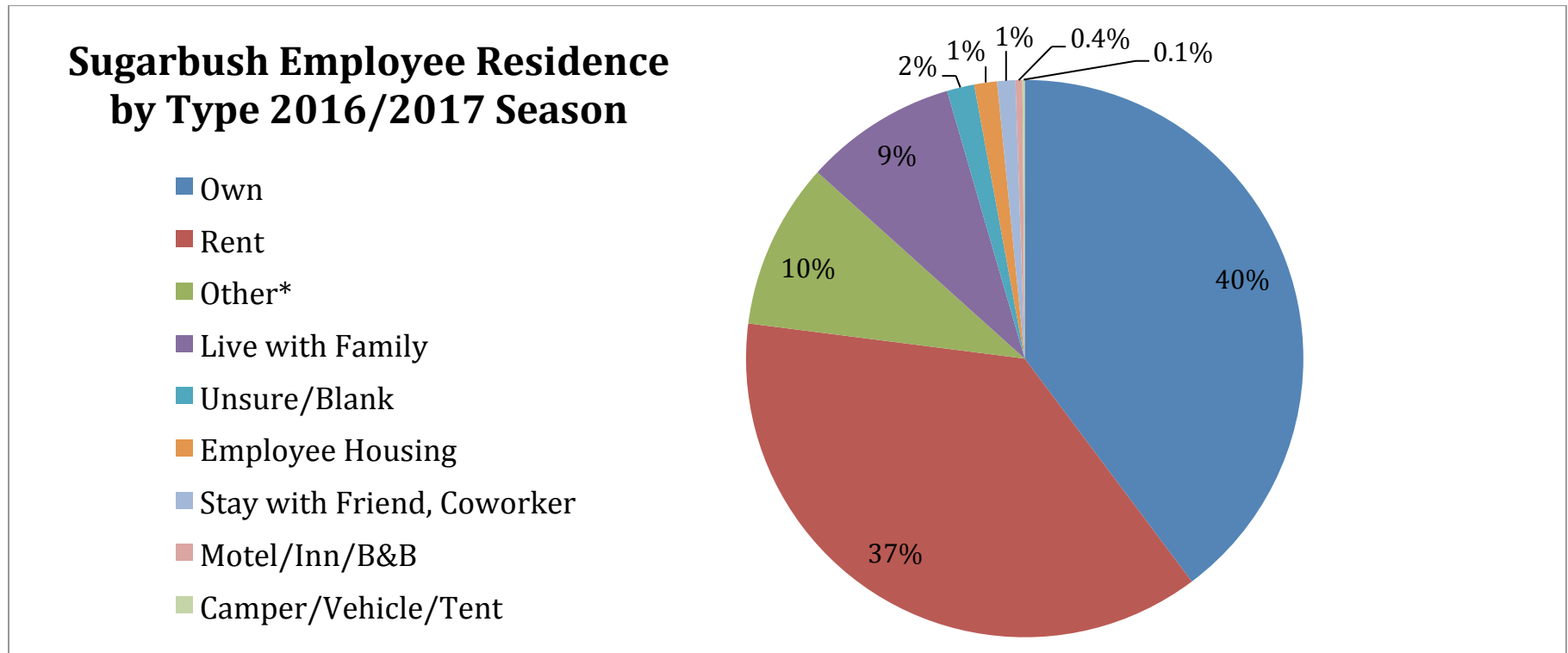


FIGURE 29- SOURCE: SUGARBUSH RESORT

¹³ 2016/2017 saw a revamped Sugarbush Employee Housing Survey. As the transition to the new version of the survey happened, some employees completed the older version of the survey (360 employees), while the remainder completed the newer version (427 employees). The data presented in this table are from a combination of the older survey and the new survey. Any inconsistencies are expected to be cleared up next year.

An analysis of housing costs reveals fewer housing options available at \$0-299 and \$600-899/month housing costs in the MRV in 2015 as compared to the county and state, as seen in **Figure 30** below. A greater percentage of households in the MRV are also spending upwards of \$2,000/month on housing costs compared to the county and state.

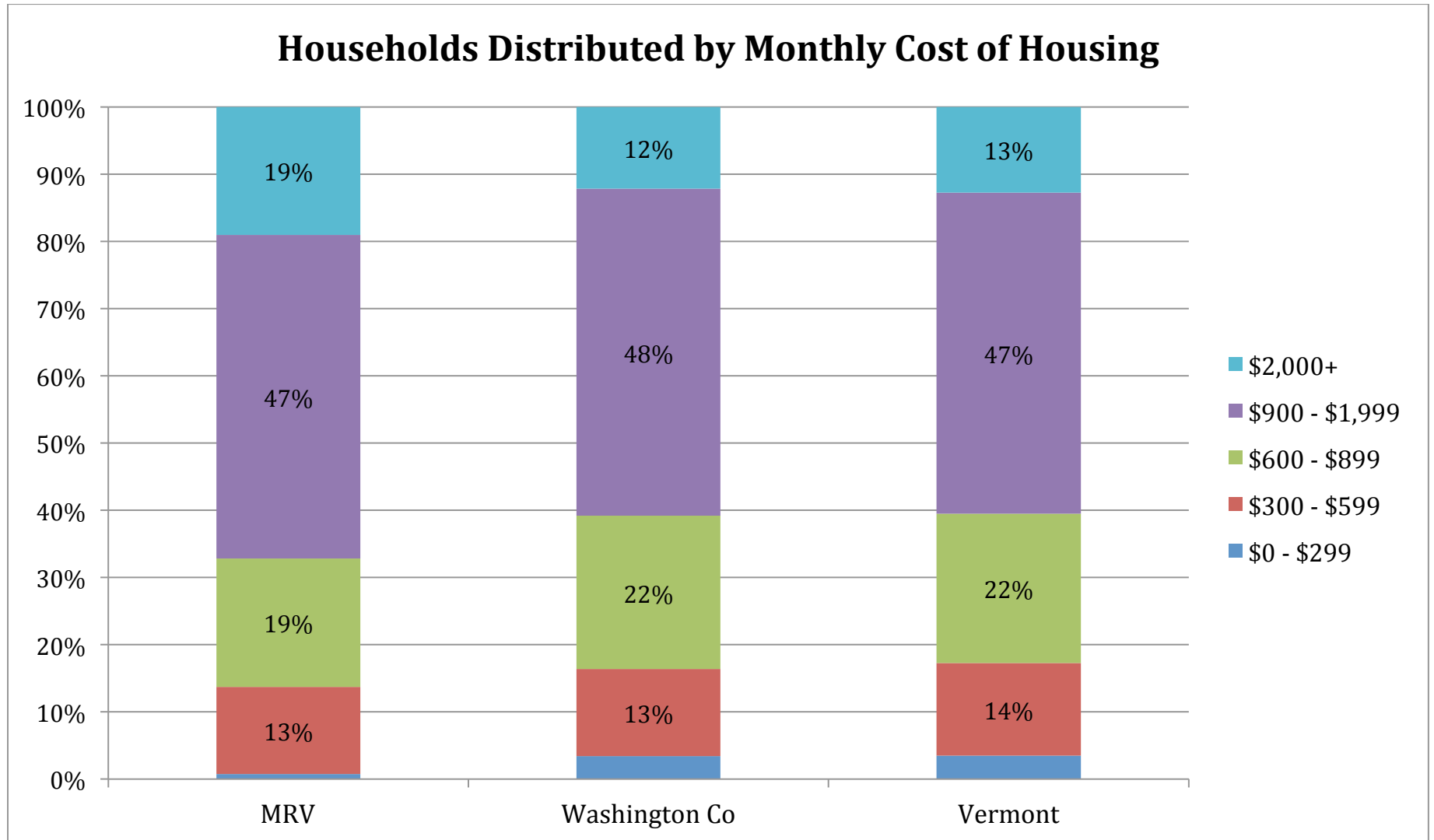


FIGURE 30- SOURCE: 2015 AMERICAN COMMUNITY SURVEY

Figure 31 compares median gross rent (including utilities) in the three MRV towns as compared to surrounding communities. The average median gross rent in the three MRV towns was \$1,053 in 2015, up from \$994 in 2014. The three highest median gross rents in 2015 are in Waitsfield, Fayston & Moretown. Comparing median gross rent over time in the MRV towns shows a substantial increase in rents in Waitsfield between 2010 and 2015. Warren has the most affordable rent, continuing to track below the statewide average.

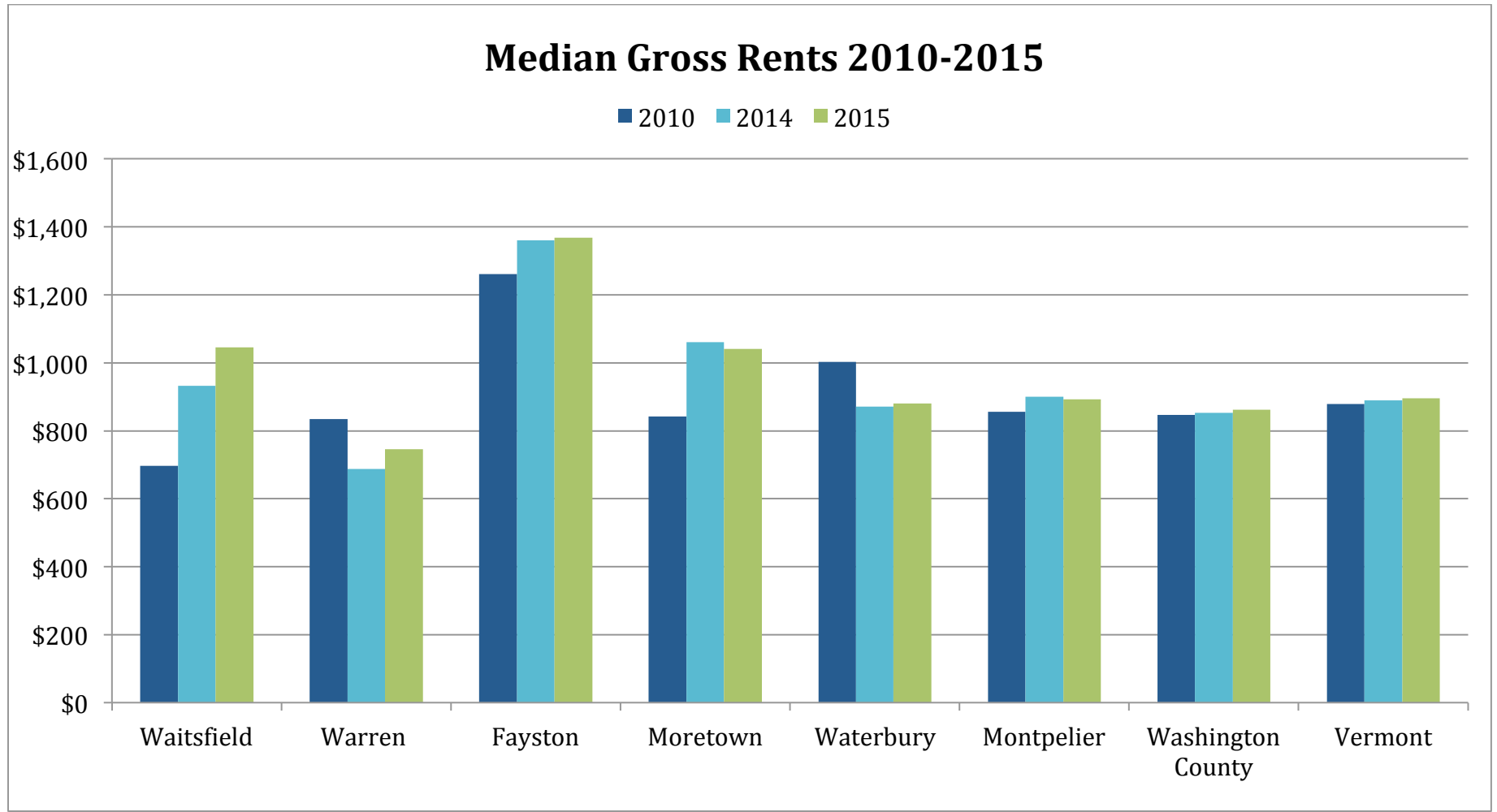


FIGURE 31- SOURCE: 2015 AMERICAN COMMUNITY SURVEY

Fair Market Rent (FMR) is defined as typical rents paid for units in the middle of the price range in the local market. Comparing the median-market rate rents available in the MRV to Washington County's Fair Market Rent in the table on the right shows median rents for all unit sizes in the MRV to be above FMR, with the exception of studios.

2016	Studio	1 Bed	2 Beds	3+ Beds
Market-rate Avg. Rent				
MRV	\$650	\$1,115	\$1,000	\$1,918
Fair Market Rent				
Washington County	\$732	\$737	\$986	\$1,224+

Figure 32 shows the change in the number of renter-occupied housing units in Waitsfield, Warren, and Fayston from 1990 to 2015. Since 2010, the MRV has seen a 18% reduction in the number of renter-occupied housing units. This could be related to the rise in popularity of online short-term rental websites, but there is not sufficient data to prove causation at this time.

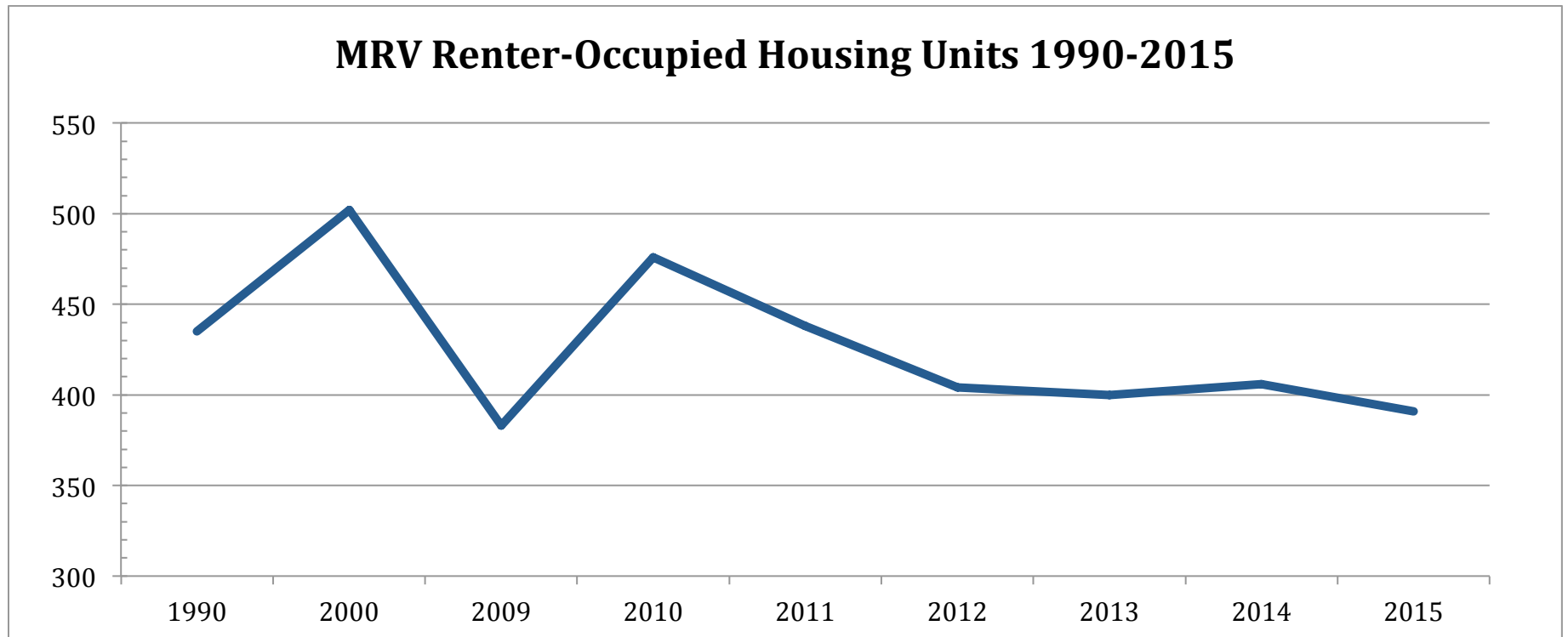


FIGURE 32- SOURCE: U.S. CENSUS BUREAU 2000 & 2010, AMERICAN COMMUNITY SURVEY 2009 & 2011-2015, VT HOUSING DATA

SECTION III: EMPLOYMENT

Includes Items #35 & 36 from the Memorandum of Understanding

Industry categories are described below, as reflected in the [Quarterly Census of Employment and Wages](#) (QCEW), which provides for all firms covered by unemployment insurance in Vermont. Data includes monthly employment level and wages at each worksite.

Descriptions of each industry is as follows¹⁴:

- Agriculture includes forestry, fishing, and hunting
- Construction industry includes building construction, engineering and contractors
- Manufacturing includes manufacturers of durable (wood products, mineral products, transportation equipment, furniture, etc.) and non-durable goods (food, beverage, tobacco, and printing)
- Retail trade includes sellers of motor vehicles and parts, furniture, home furnishings, electronics, appliances, building materials, garden supplies, food and beverages, personal care, gasoline, clothing, sporting goods, books, music and general merchandise
- Information industry includes publishing, motion picture, sound recording, broadcasting and some telecommunications
- Financial activities include financial services, insurance, credit services, securities and other investments, real estate services
- Professional and business services includes professional services, technical services, administrative services, and other support services
- Educational services include non-government schools, technical or trade schools. Since this data is suppressed for our LMA towns, the info depicted in the subsequent graphs is for government (public) elementary and secondary schools.
- Health care includes outpatient, ambulatory care, nursing services and facilities, social assistance
- Leisure and hospitality includes art, entertainment, recreation, performing arts, spectator sports, gambling, accommodation, food services, drinking places
- Other services include repair and maintenance, personal services, laundry services, membership associations
- Local government as represented in the subsequent graphs includes public administration.

¹⁴ A full list of industries by North American Industry Classification System (NAICS) code is available at https://www.bls.gov/iag/tgs/iag_index_naics.htm.

Total annual average employment data¹⁵ from the Vermont Department of Labor's Economic & Labor Market Information (VTLMI) shows an employment peak in 2005, with stable numbers since 2010, in **Figure 33** below.

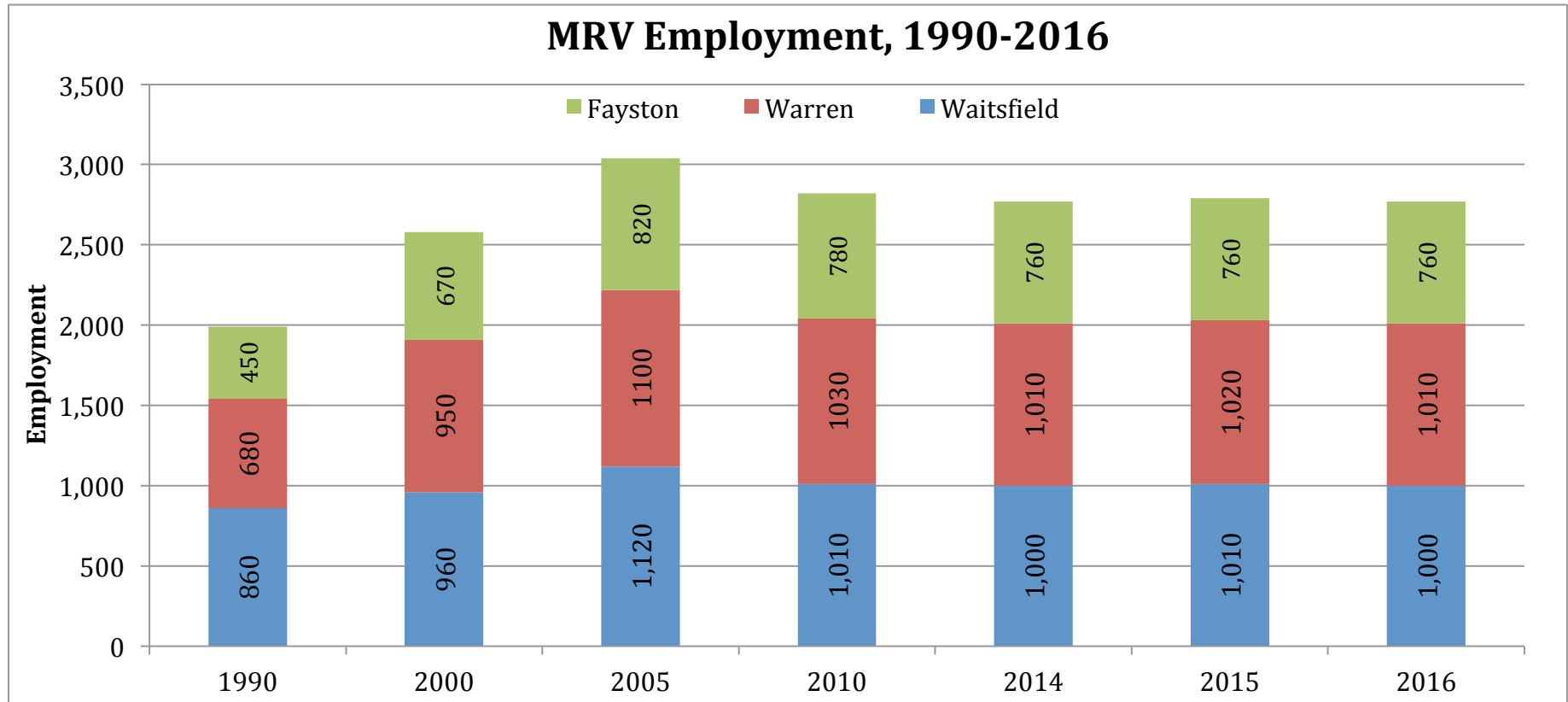


FIGURE 33- SOURCE: VT DEPT. OF LABOR, ECONOMIC & LABOR MARKET INFORMATION (VTLMI)

¹⁵ **Employment (total)** - A count of all civilians 16 years of age or older who worked for compensation in a business or on a farm during the week which included the 12th day of the month; or worked at least 15 hours (during the week which includes the 12th day of the month) as unpaid workers in a family business; or had jobs from which they were temporarily absent due to illness, bad weather, vacation, or labor-management dispute. This count is based on the residence of the workers, and each worker is counted only once, even if they hold more than one job. Therefore, this is sometimes referred to as employment "by place of residence." The [Vermont Department of Labor's Local Area Unemployment Statistics \(LAUS\)](#) staff compiles total employment data.

The trend in MRV Employment shows a greater growth rate relative to the county and state over the past 16 years, as shown in **Figure 34** below.

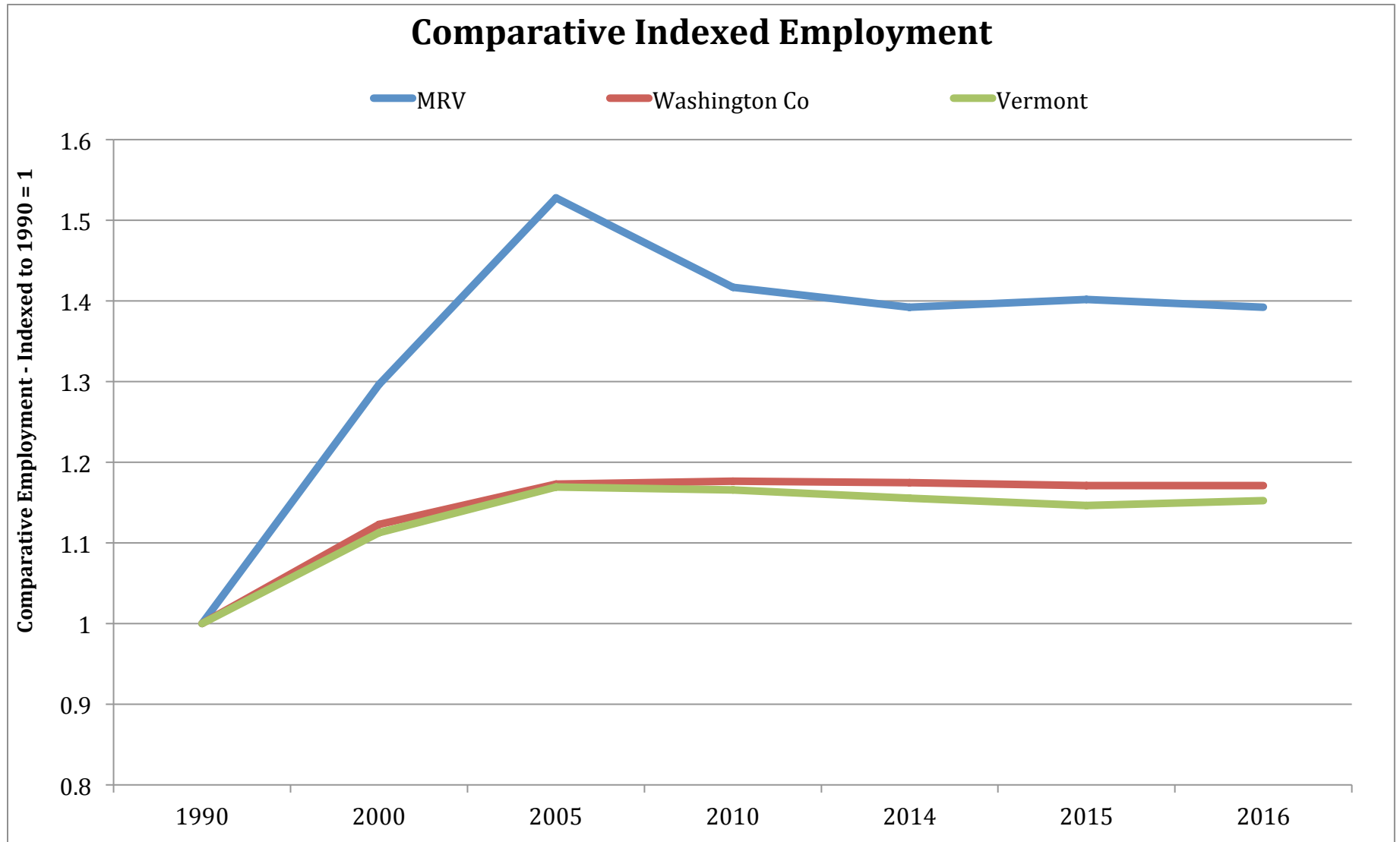


FIGURE 34- SOURCE: VTLMI

INDUSTRIES

Figure 35 shows more gains than losses in terms of the number of businesses between 2015 and 2016 in the MRV. Industries that gained businesses include Agriculture, Construction, Health Care & Social Assistance, Information, Manufacturing, and Professional & Business Services. The number of Retail businesses remained the same compared to the previous year.

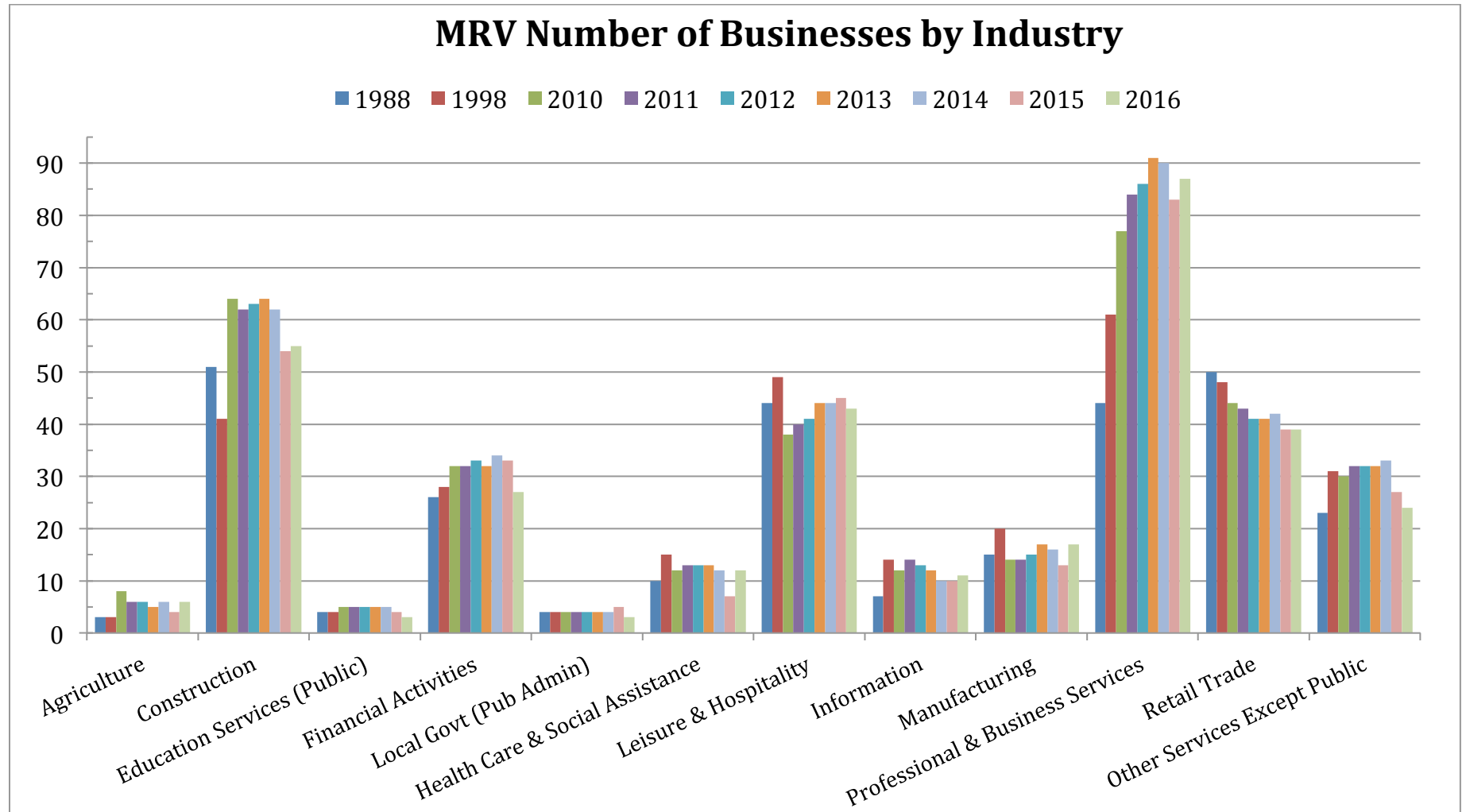


FIGURE 35- SOURCE: VTLMI

While the MRV has attracted businesses from most major sectors, **Figure 36** below depicts the dominant role of the Leisure & Hospitality sector in terms of number of employees. The employment numbers are an aggregate including part-time and seasonal jobs, which contribute significantly to this sector. The only industries to add jobs in 2016 are the Agriculture, Construction, and Education Services (Public) sectors.

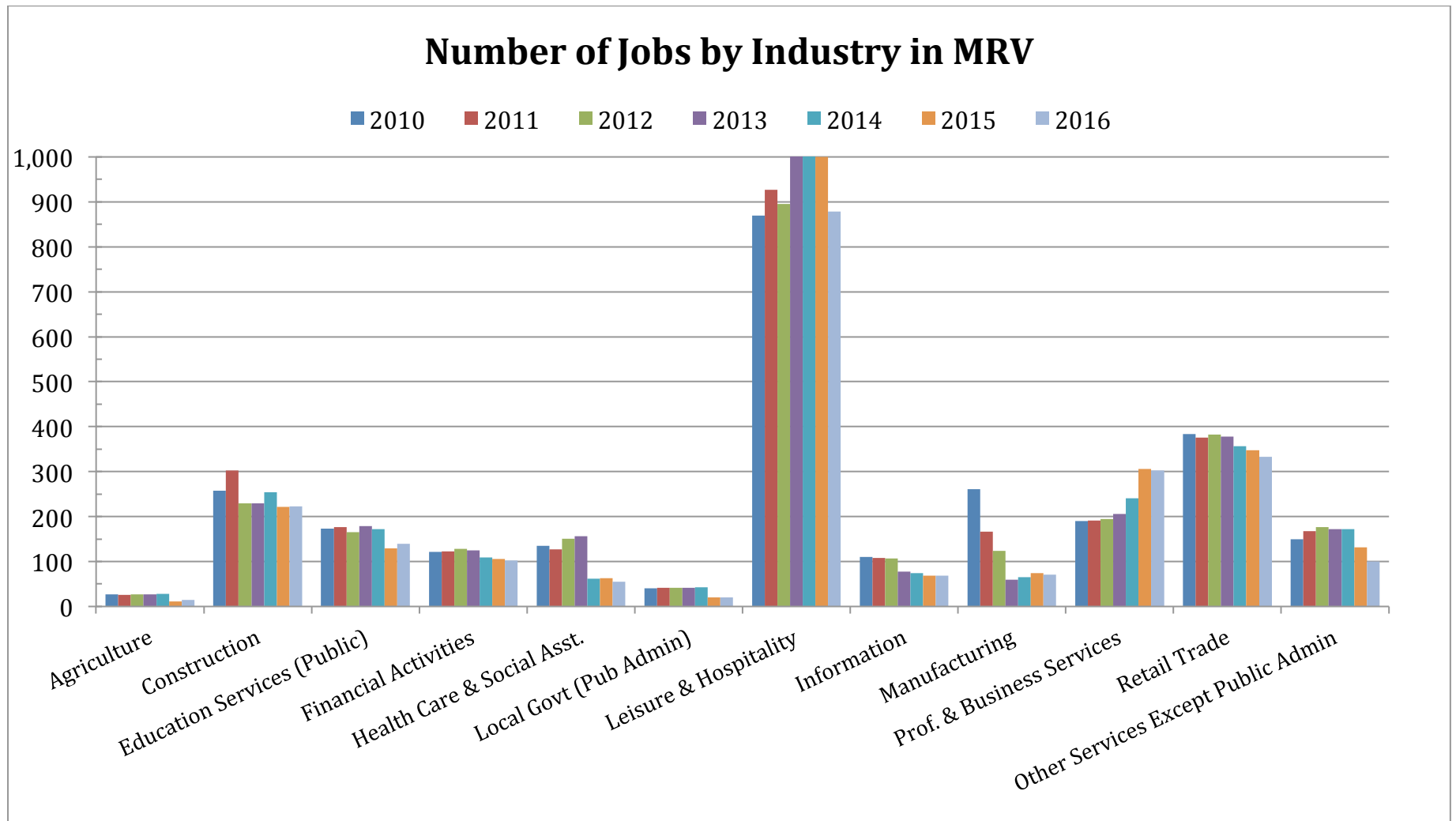


FIGURE 36- SOURCE: VTLM

The continued strength of the Professional & Business Services sector's total wages, as depicted in **Figure 37**, suggests the retention or creation of higher paying jobs in the MRV. The Leisure & Hospitality industries saw a bounce in total annual wages compared to the previously poor year. 2016 saw losses in total annual wages for the Education Services (Public), Health Care & Social Assistance, Information, Manufacturing, and Retail Trade sectors.

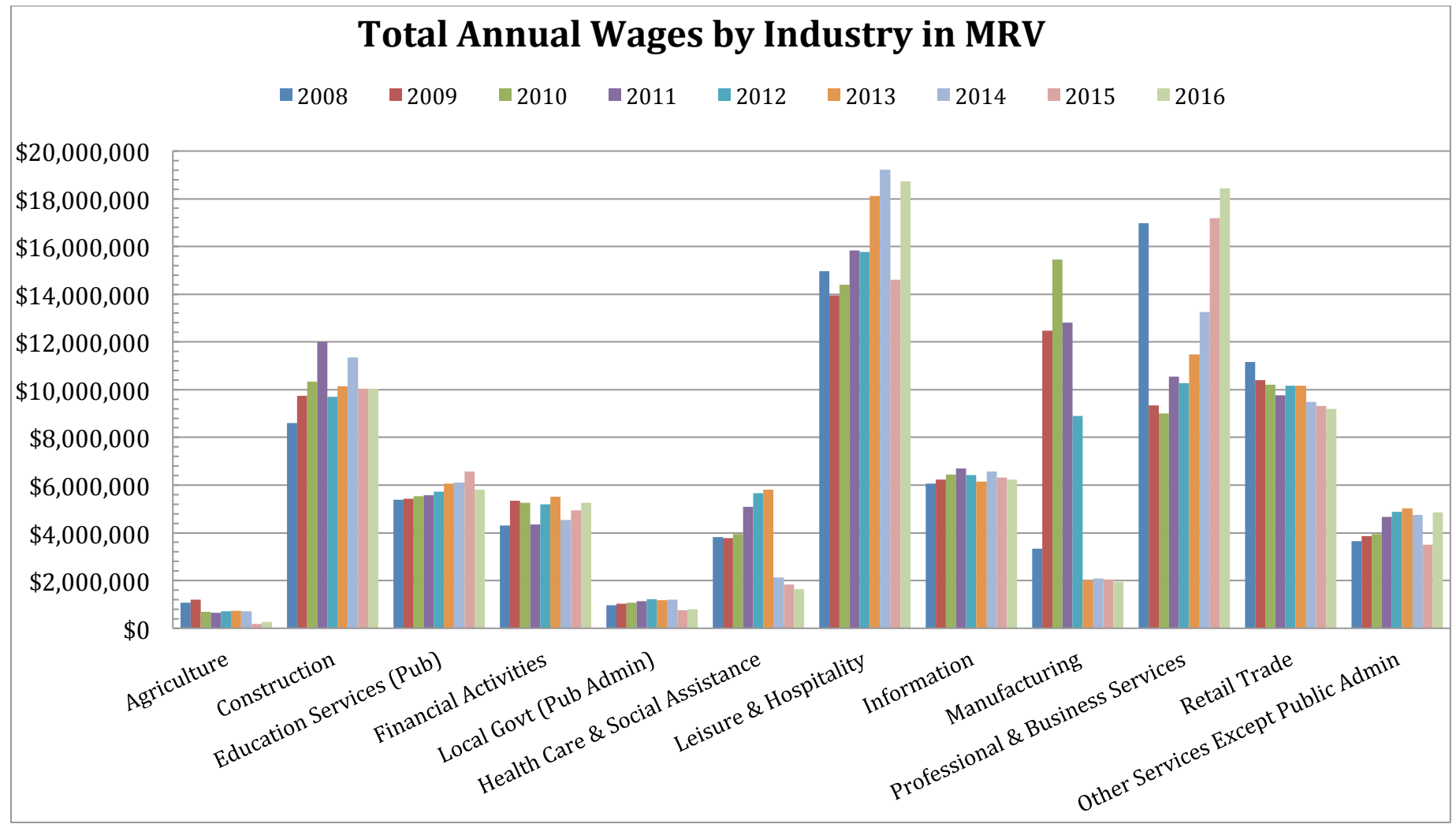


FIGURE 37- SOURCE: VTLM

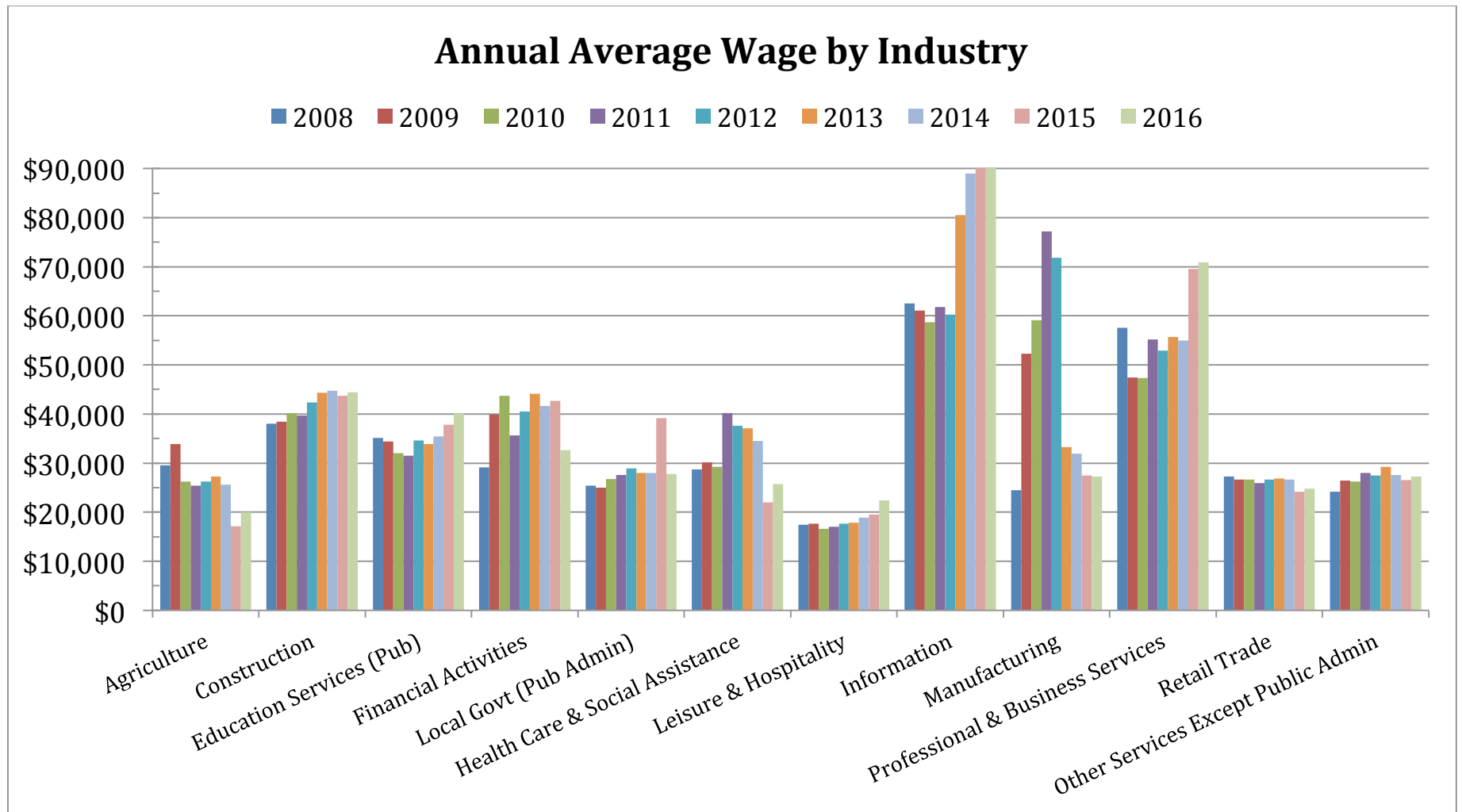


FIGURE 38- SOURCE: VTLM

Figure 38 shows the average annual wage in the MRV ranging from \$20,000 in the Agricultural sector to over \$90,000 in the Information sector. Wages increased by over 15% from 2015 to 2016 across several sectors, including Agriculture (\$20,003 vs. \$17,094), Health Care & Social Assistance (\$25,761 vs. \$22,022), and Leisure & Hospitality (\$22,427 vs. 19,560). Average wages are affected by the proportion of part-time and seasonal jobs, which lowers the annual average compared to full-time jobs.

Figure 39 shows that the unemployment rate has continued to drop in the MRV since 2009. Fayston is the only exception, which has continued to track much lower than average. Of the three MRV towns, Waitsfield has the highest unemployment rate (4.1%). The overall MRV average (2.8%) is lower than that of the county (3.2%) and state (3.3%).

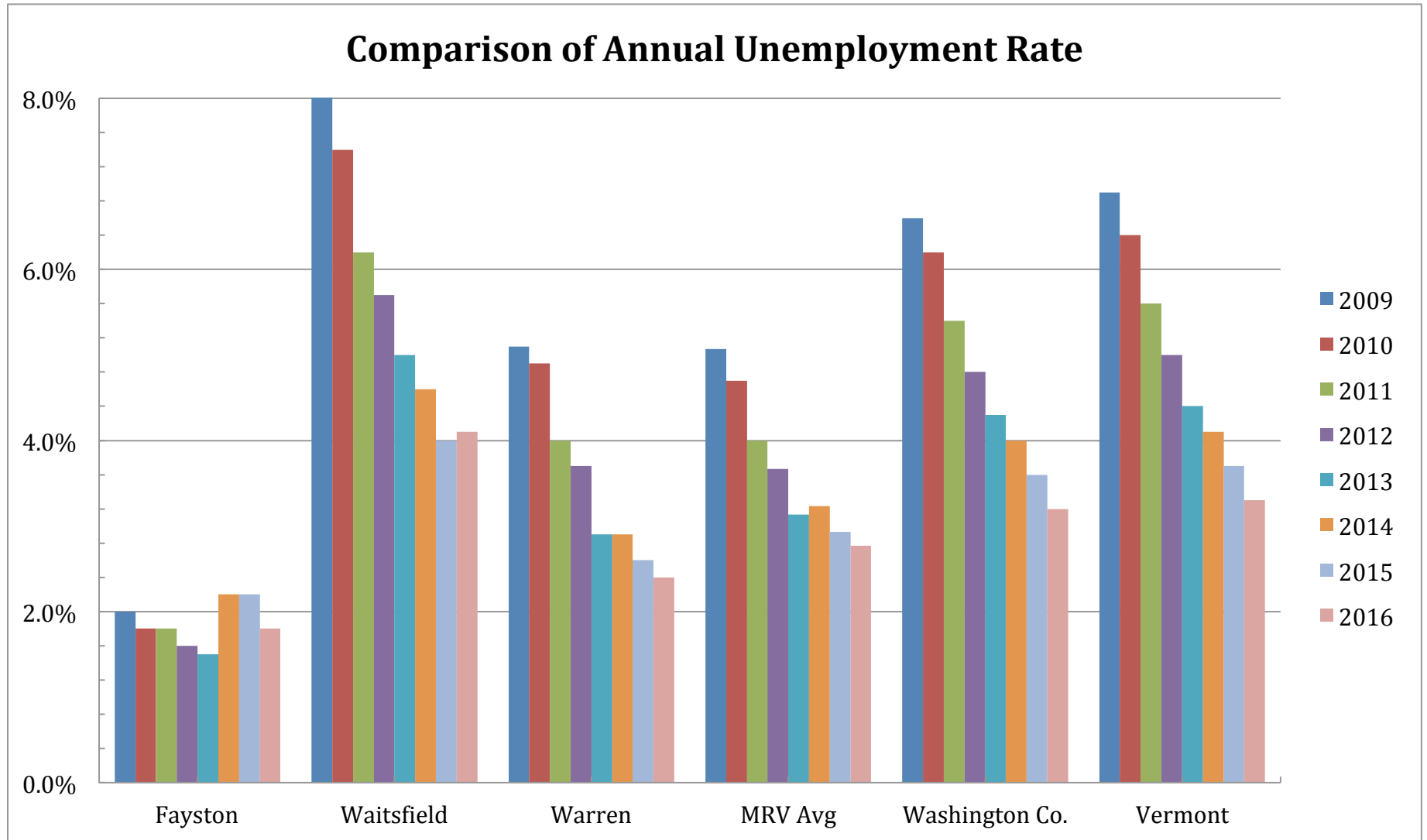
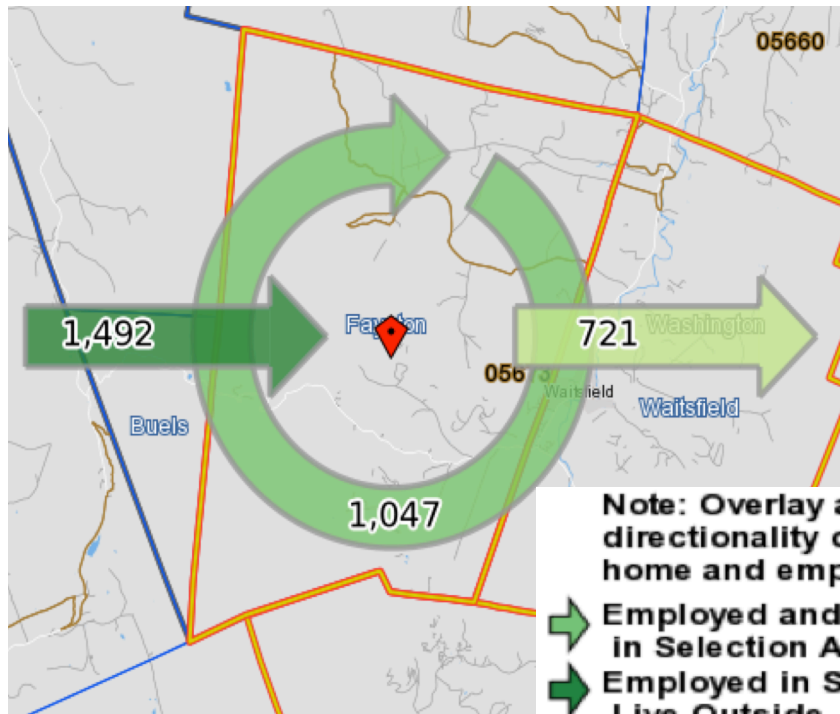


FIGURE 39- SOURCE: VTLMI

WORKER FLOW

2015 worker flow data in **Figure 40** shows more people commuting into the MRV than those commuting out. When compared to 2005, the percentage of those commuting in has decreased by 8%, commuting out increased 40%, and there's been a slight decrease by 4% of those who both live and work in the MRV. This data does not capture self-employment.¹⁶

MRV Commuting Patterns, 2005



Note: Overlay arrows do not indicate directionality of worker flow between home and employment locations.

- ➡ Employed and Live in Selection Area
- ➡ Employed in Selection Area, Live Outside
- ➡ Live in Selection Area, Employed Outside

MRV Commuting Patterns, 2015

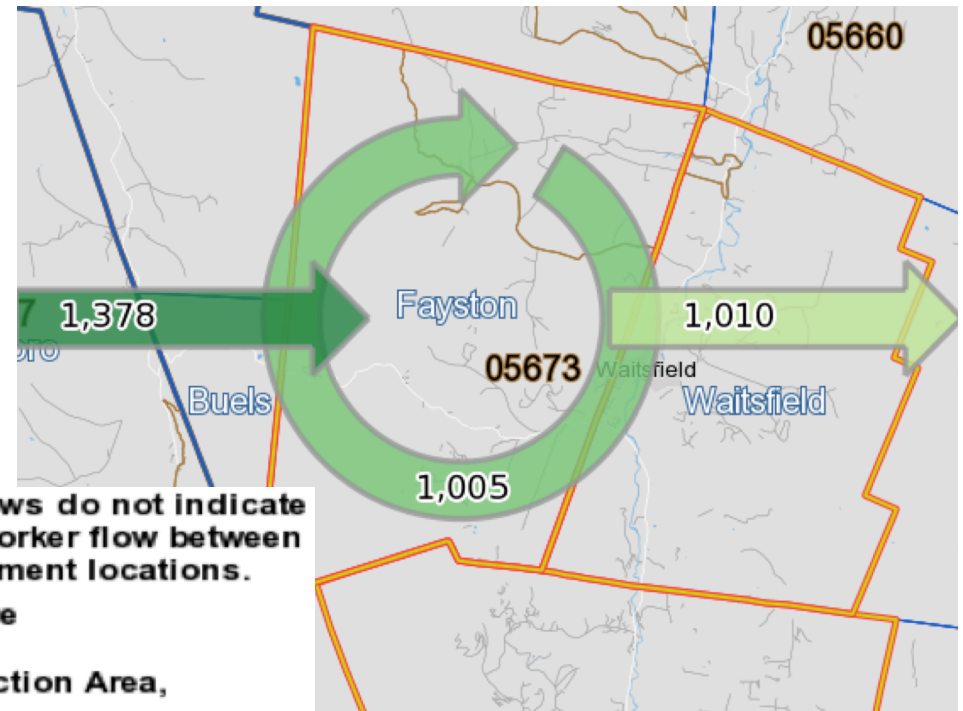


FIGURE 40- SOURCE: U.S. CENSUS BUREAU, ON THE MAP

¹⁶ 2014's MRV Economic Study estimated self-employment income in the MRV at 13% in 2012, nearly twice that of the state.

Figure 41 shows the commuting habits over time. The majority of workers continue to commute into the MRV, but those commuting out have seen the greatest change since 2002.

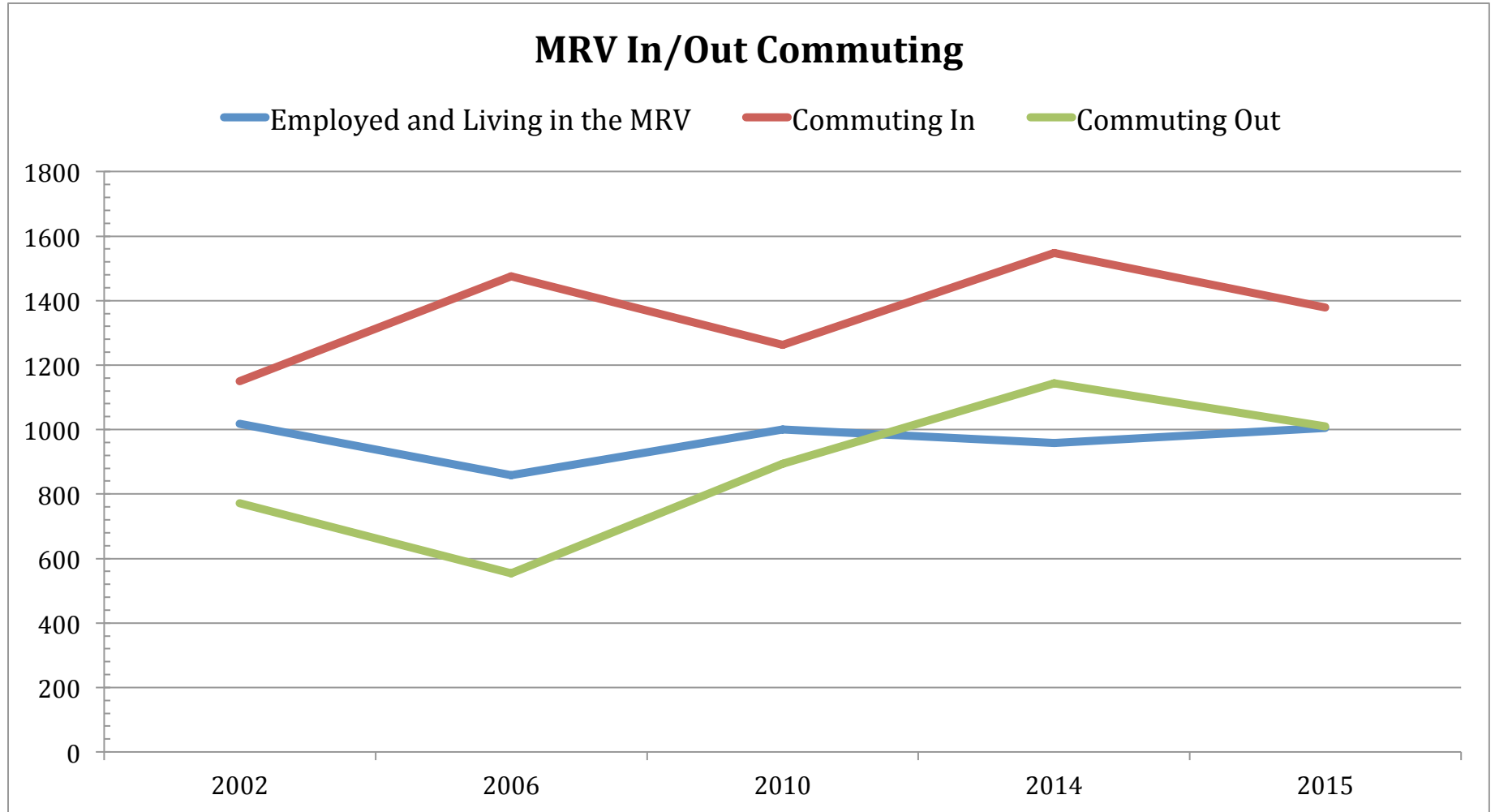


FIGURE 41- SOURCE: U.S. CENSUS, ON THE MAP

SECTION IV: TRAFFIC & TRANSIT

Includes Items #24, 25 & 32 from the Memorandum of Understanding.

ANNUAL TRAFFIC SUMMARY

As specified in the 1998 MOU, this report contains data from traffic counters in the following key locations: the intersection of Route 100 and Route 17, the Sugarbush Access Road north of the Sugarbush Inn, and Route 17 west of German Flats Road. The counter located on the Sugarbush Access Road west of Route 100 has been deactivated and is not included in this analysis. **Figure 42 & 43** describe the Average Annual Daily Traffic (AADT) from 1997 to 2016 (and 2017 where data is available). AADT is the total volume of traffic on a highway segment for one year divided by the number of days in the year.

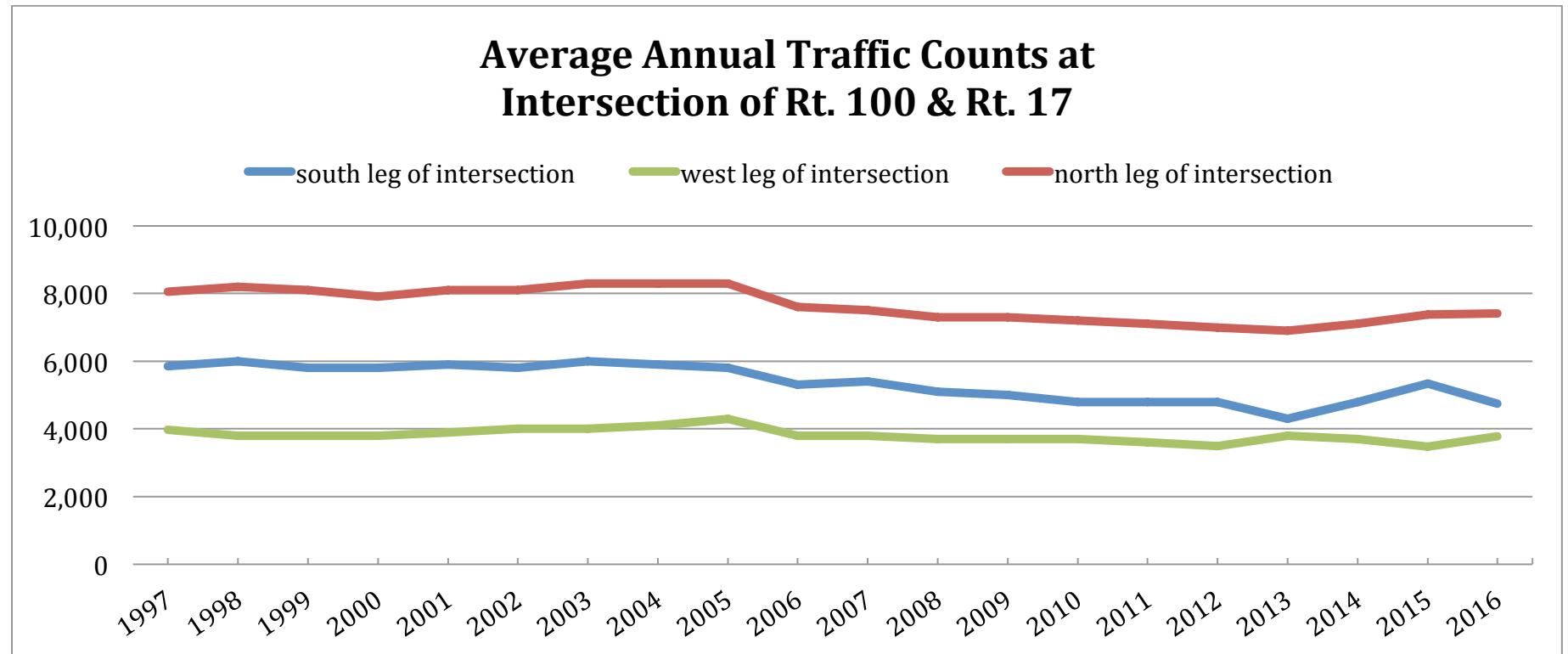


FIGURE 42- SOURCE: VTRANS

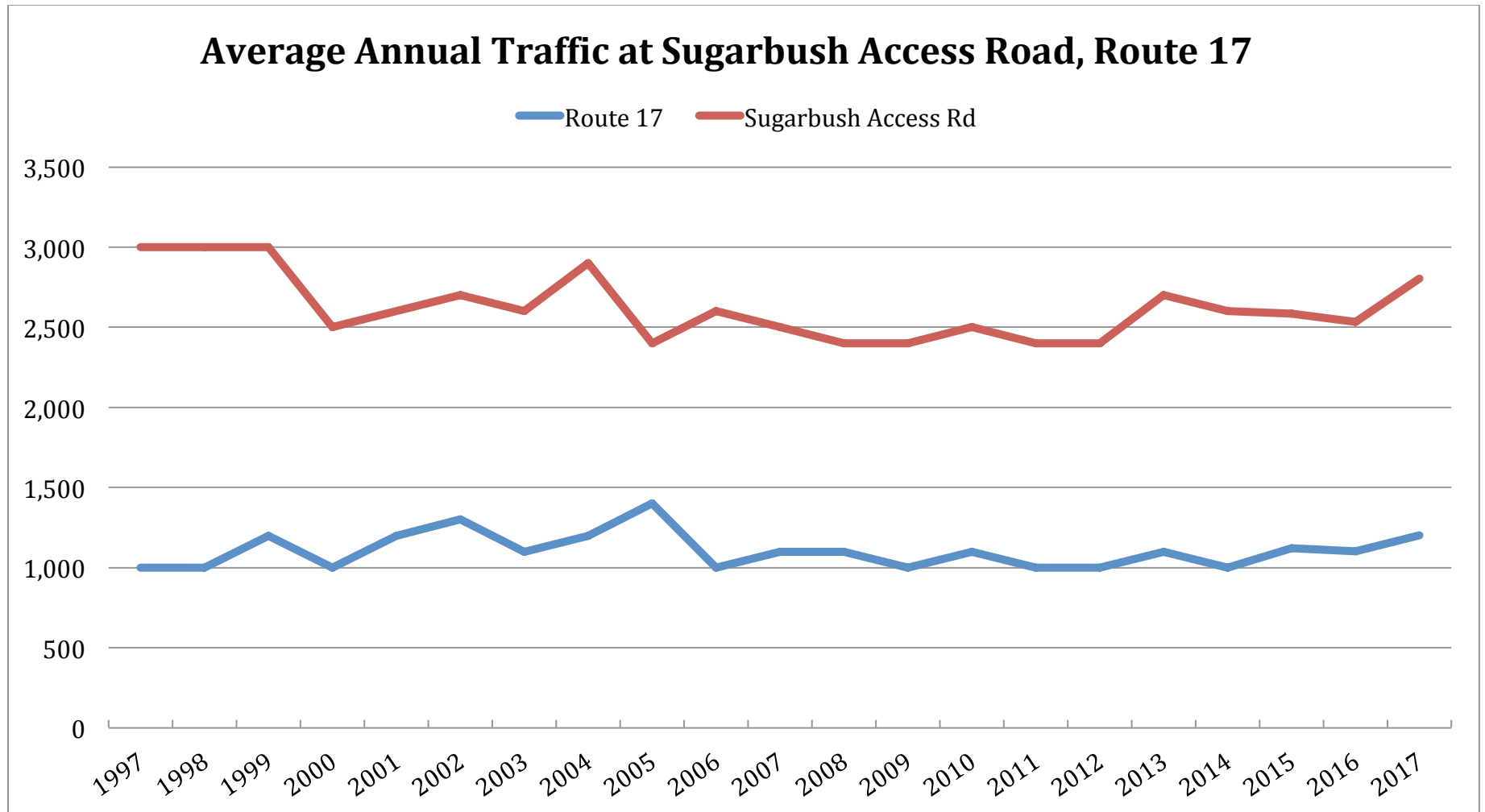


FIGURE 43- SOURCE: VTRANS

During the 1990s, Sugarbush Access Road experienced higher traffic counts, whereas more recent annual vehicle trips have settled lower. However, 2017 saw Access Road traffic volumes bounce back up to volumes last seen in 2004. Average annual daily traffic measured on Route 17 west of German Flats Road increased by more than 100% over 30 years, from 680 in 1976 to a high of 1,400 in 2005; since that time traffic volumes have been relatively stable (1,202 in 2017).

TRANSIT

Green Mountain Transit (GMT) began operating service in the Mad River Valley in late 2003 under the name Mad Bus. Year-round service of the Valley Floor route (connecting Warren, Waitsfield and Lincoln Peak) was offered from October 2003 until April 2005, after which it was scaled back to winter season service (Nov-March) due to low ridership. The **Figure 44** below shows ridership between FY2003 - FY2017. GMT operated 6 Mad Bus routes during FY17, all free-of-charge except the SnowCap Commuter. FY17 shows a 26% drop in ridership compared to the previous fiscal year.

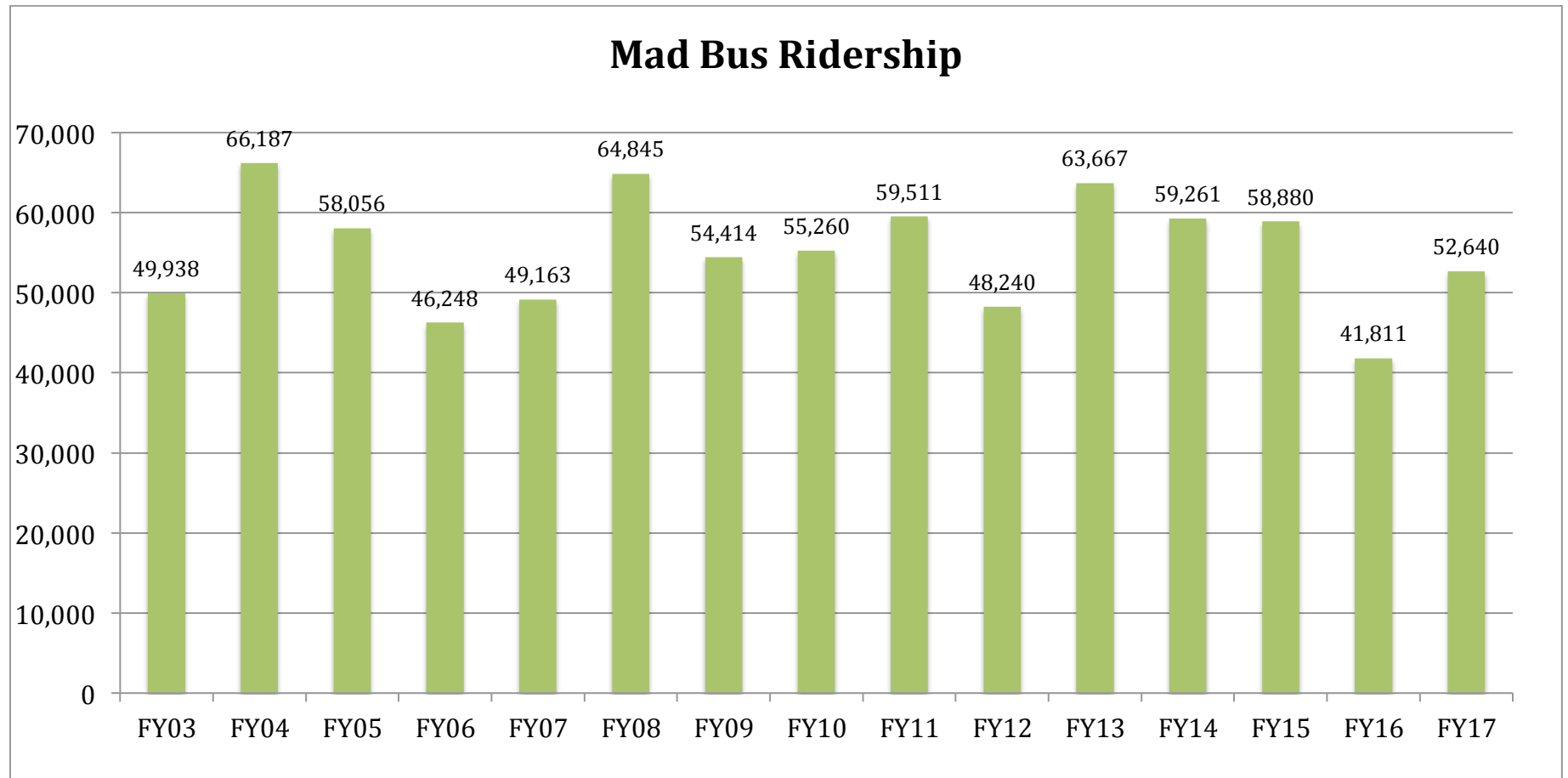


FIGURE 44- SOURCE: GREEN MOUNTAIN TRANSIT (GMT)

SECTION V: TOWN INFRASTRUCTURE

Includes Items #27 & 35 from the Memorandum of Understanding

EMERGENCY SERVICES

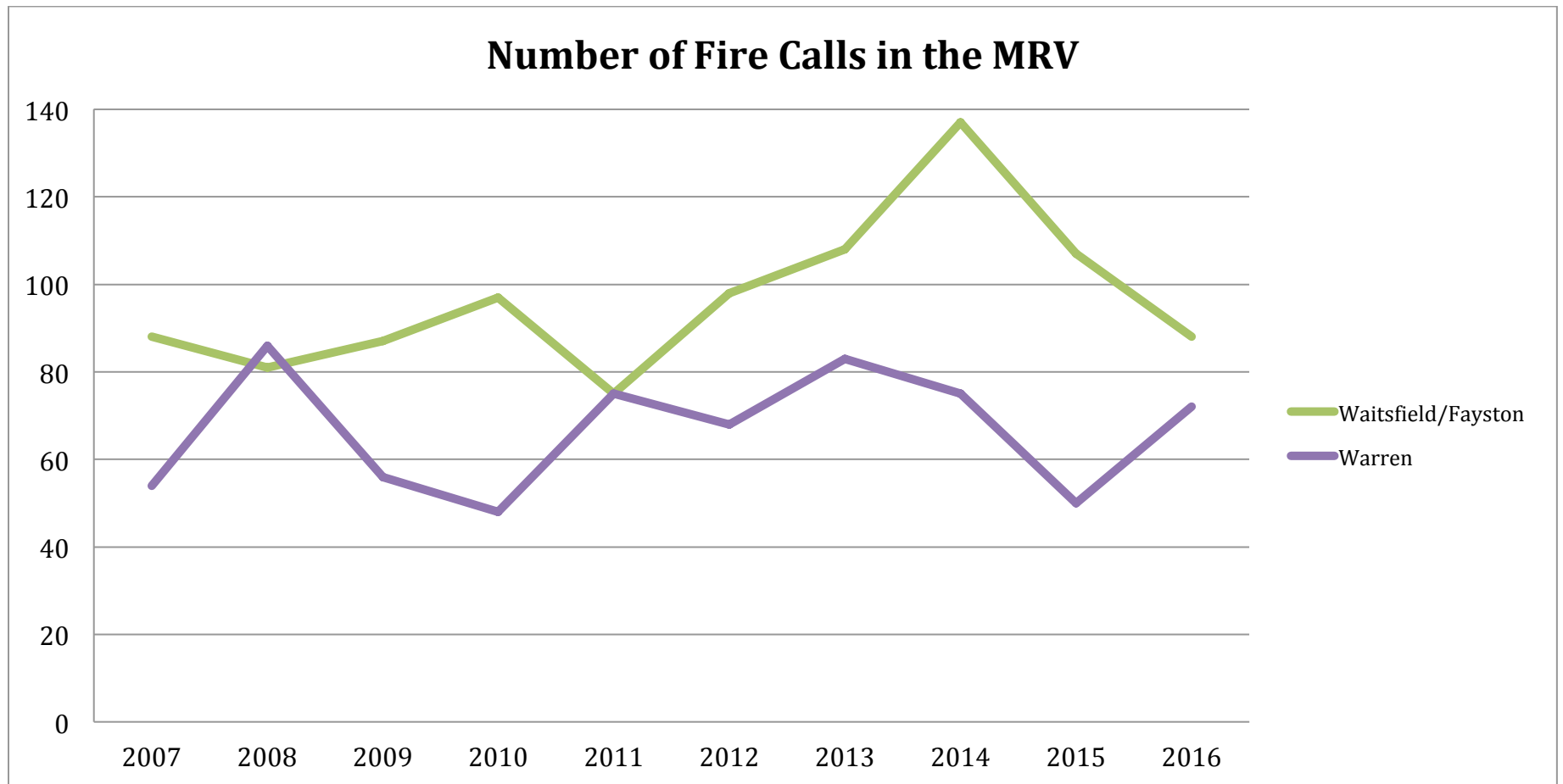


FIGURE 45- SOURCE: WAITSFIELD-FAYSTON & WARREN FIRE DEPARTMENTS

Emergency call activity shows a reduction in the number of calls in Waitsfield/Fayston for 2016 and an increase in Warren over the previous year, **Figure 45**.

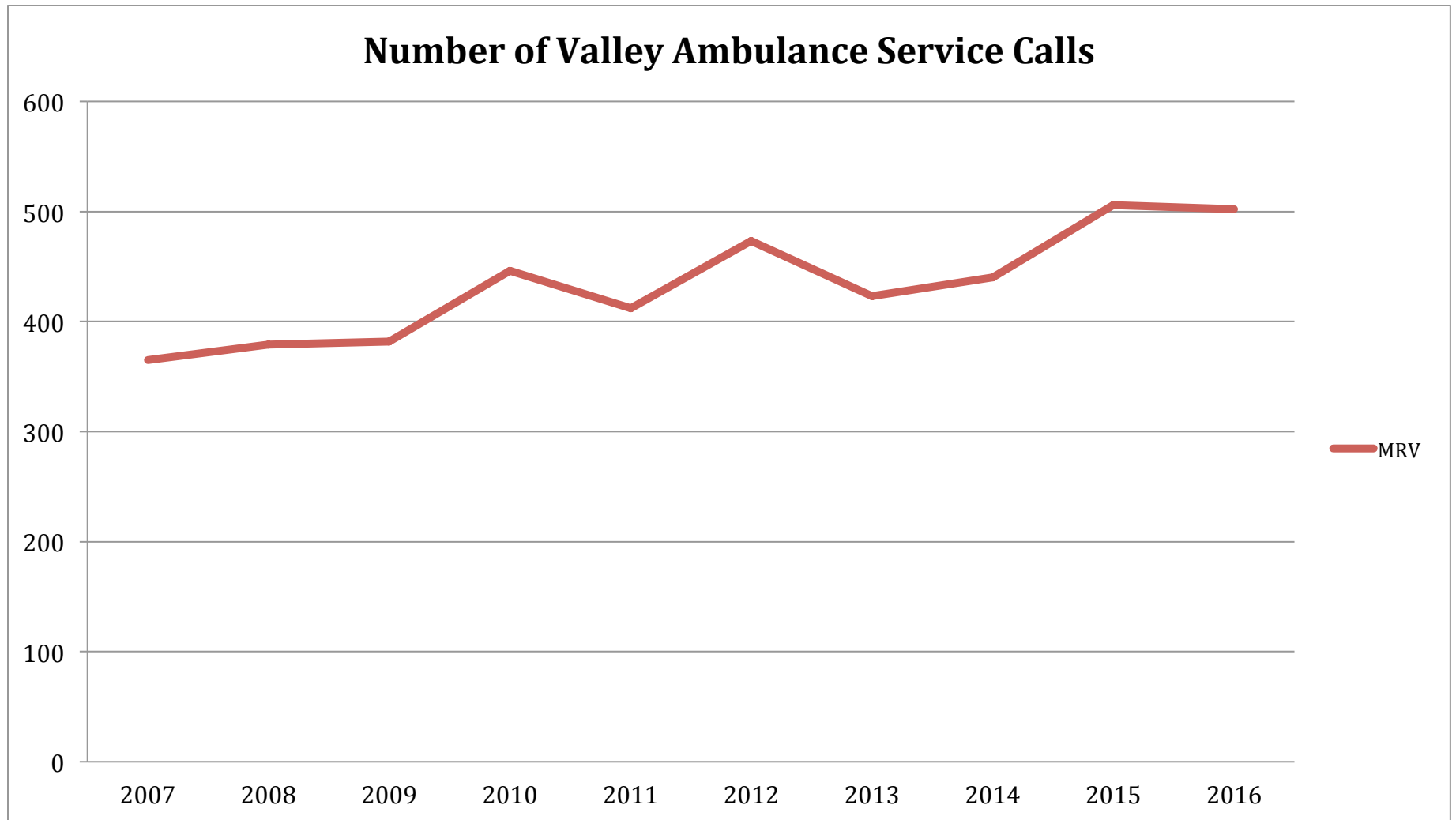


FIGURE 46- SOURCE: MAD RIVER VALLEY AMBULANCE SERVICE (MRVAS)

In 2016, the Mad River Valley Ambulance Service (MRVAS) provided data on the total of MRV calls, 502, showing a small decrease over the previous year, **Figure 46**.

CRIME

Figure 47 shows that the number of crimes has steadily fallen or remained the same over the last decade across all three towns, as reported by the Vermont Crime Information Center. See the next page for info by town.¹⁷

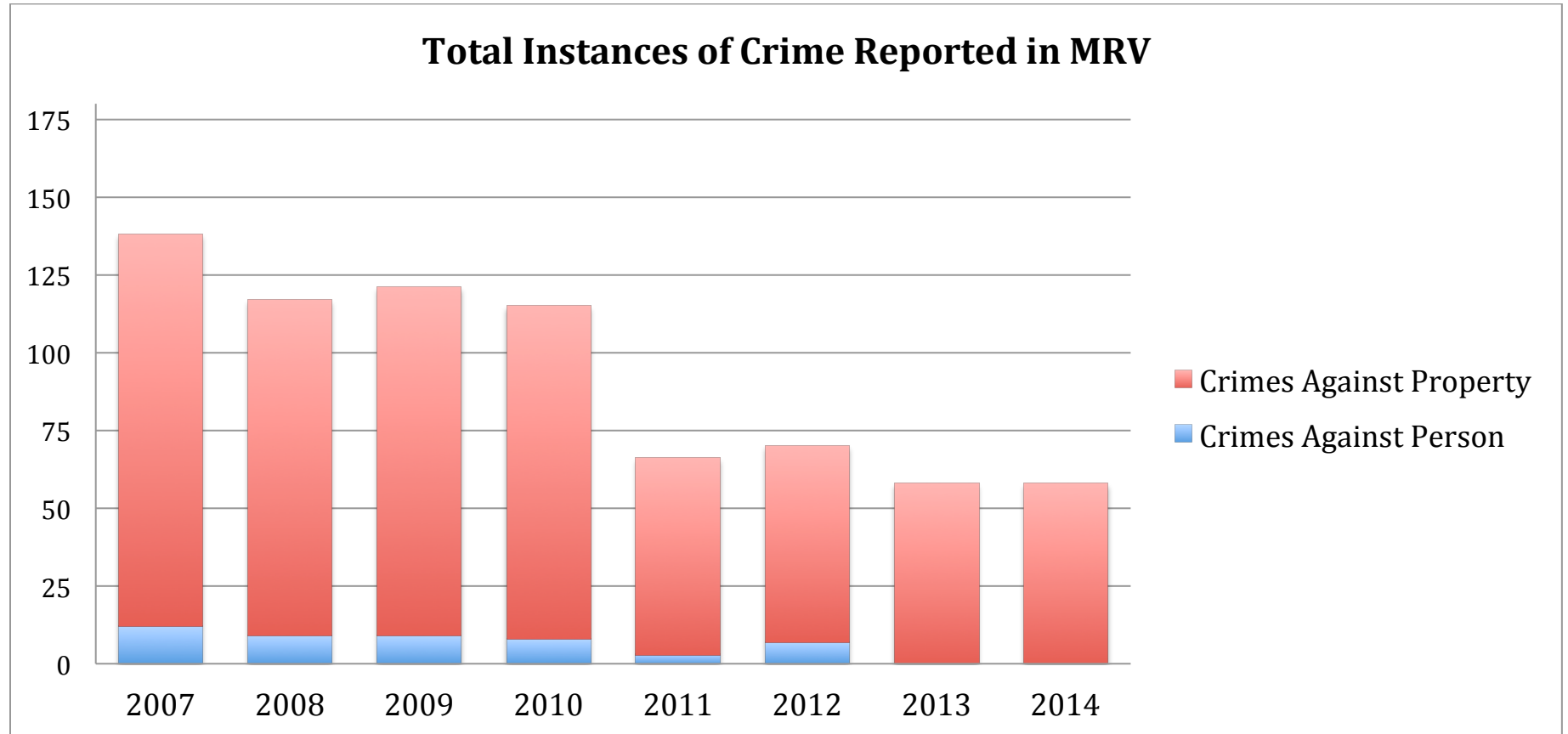


FIGURE 47- SOURCE: VT DEPT. OF PUBLIC SAFETY, VT CRIME INFORMATION CENTER

¹⁷ Crimes against property include arson, bribery, burglary, embezzlement, vandalism, theft, and drug violations. Crimes against person include murder, kidnapping, robbery, rape, and assault.

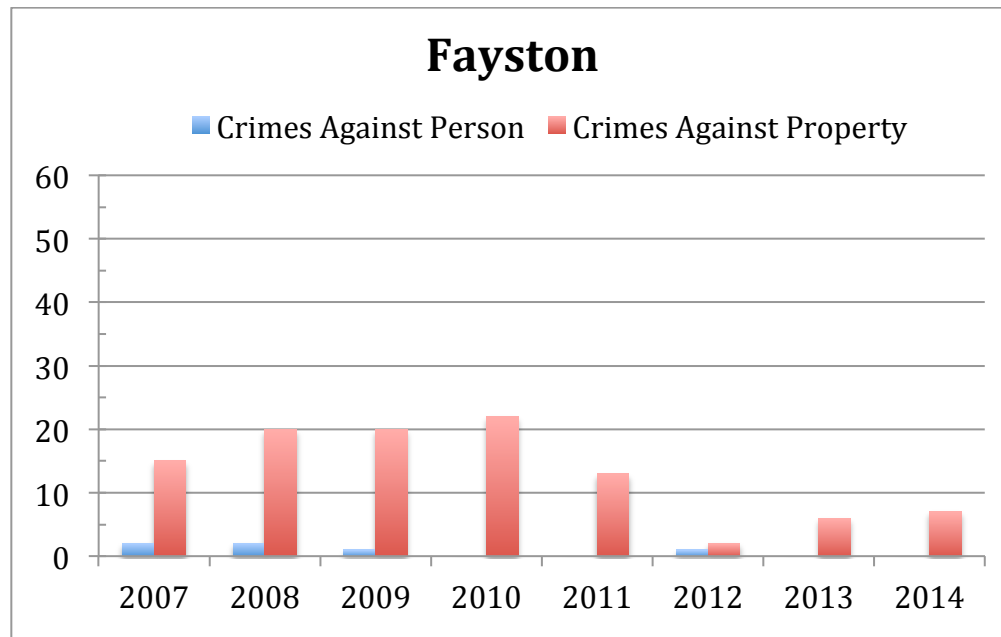
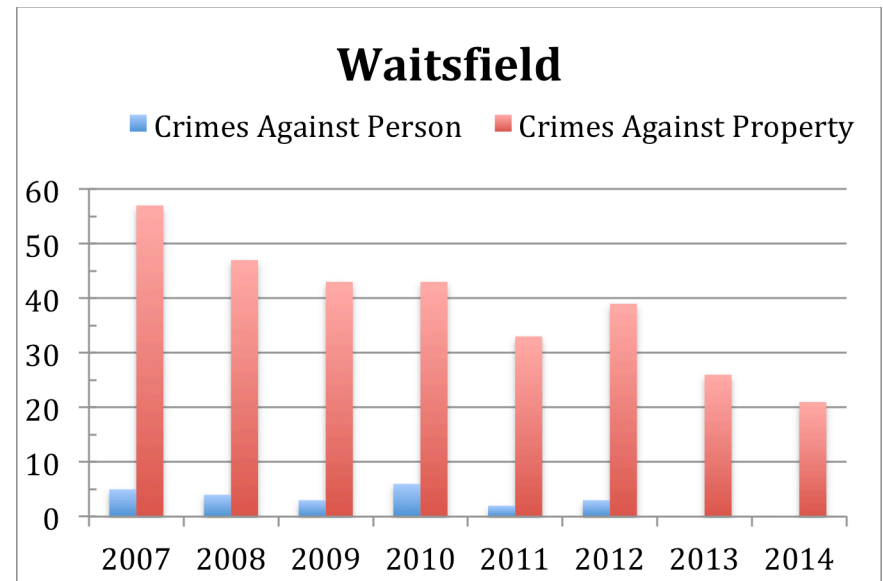
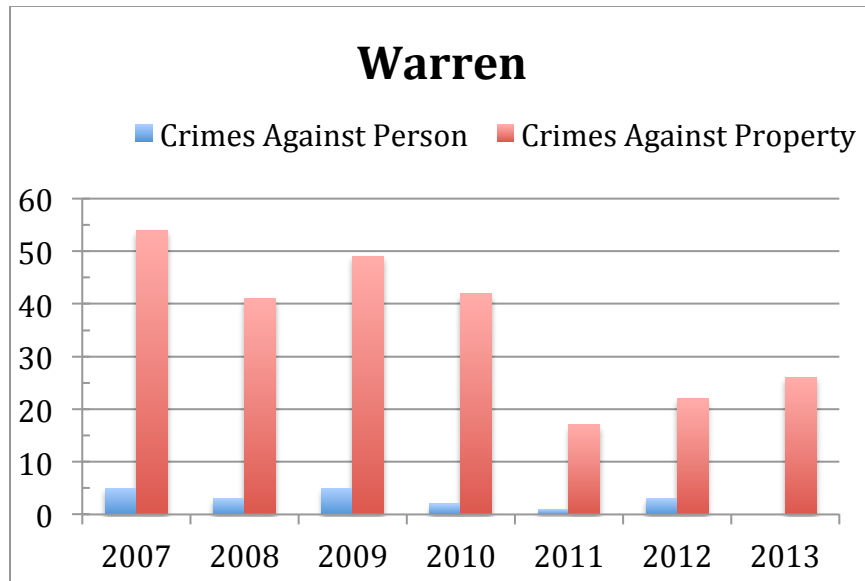


Figure 48 shows the Grand List for the Towns of Fayston, Waitsfield, Warren, and Moretown. There were only slightly changes since 2016; Warren, Waitsfield, and Moretown saw less than 1% increases, while Fayston experienced a 1.4% decrease.

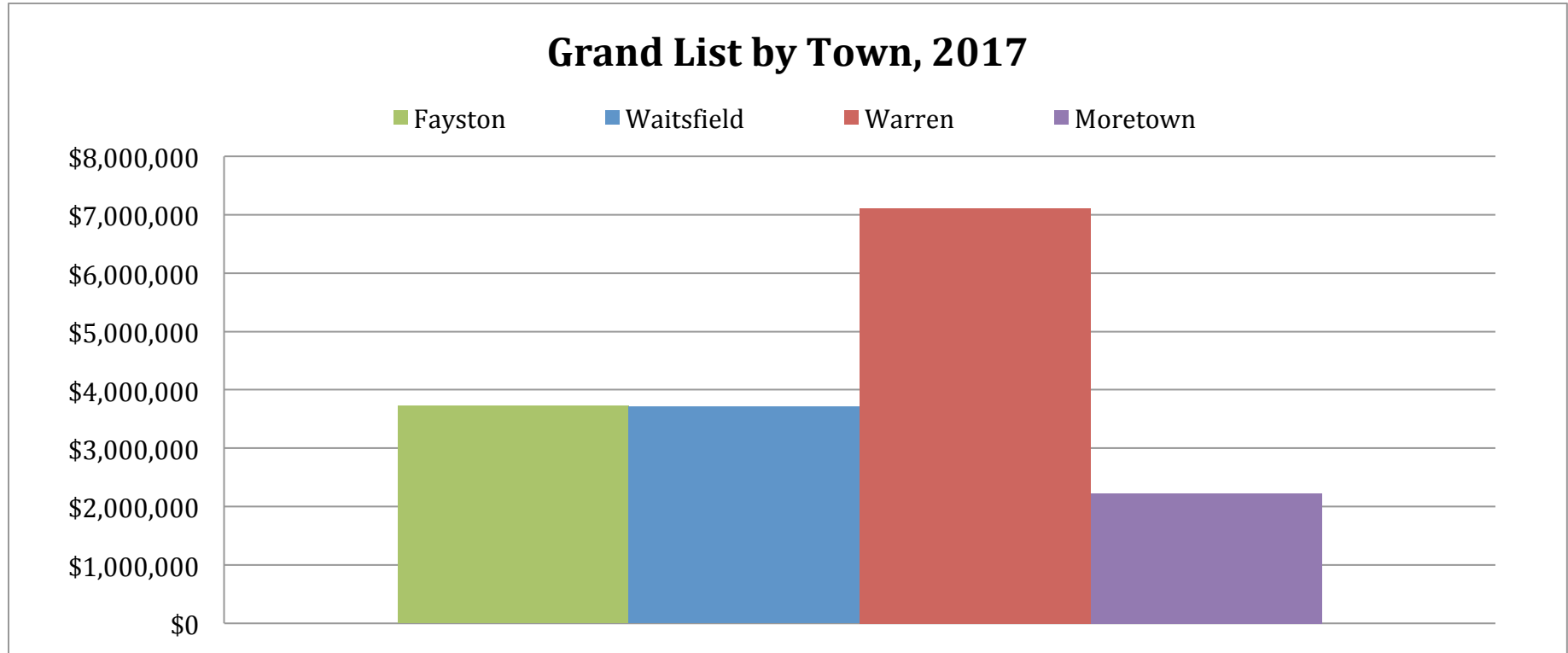


FIGURE 48- SOURCE: TOWNS OF FAYSTON, WAITSFIELD, WARREN, & FAYSTON

2017 Tax Rates				
	Homestead Tax Rate	Municipal Tax Rate	Non-Residential Tax Rate	Common Level of Appraisal
Fayston	1.5000	.2203	1.4829	105.21%
Waitsfield	1.5458	.3813	1.5283	103.47%
Warren	1.5737	.5100	1.5558	98.00%
Moretown	1.7274	.2580	1.4855	98.52%

SECTION VI: ENVIRONMENT

Includes items #26, 31, 33 & 34 from the Memorandum of Understanding

ENERGY

The table below identifies MRV energy consumption in the first three quarters of 2017 in terms of electricity use.¹⁸

Figure 49 details the breakdown between residential electrical versus commercial & industrial consumption by town. The MRV's total annual consumption by commercial/industrial (50.3%) and residential (49.7%) customers is nearly equal. Of the three towns, Warren usage is the highest, at almost twice that of Waitsfield in both categories.

MRV Electrical Consumption (Q1-Q3 2017)						
	Residential (MWh)		Commercial & Industrial (MWh)		Total (MWh)	% of Total
Fayston	2,969	16%	1,236	6%	4,205	11%
Waitsfield	5,442	29%	6,012	31%	11,454	30%
Warren	10,484	55%	11,871	62%	22,355	59%
Total MRV	18,895	100%	19,118	100%	38,014	100%

FIGURE 49- SOURCE: GREEN MOUNTAIN POWER

Waitsfield and Warren have similar splits between residential and commercial customers; Fayston is primarily residential. Overall electrical energy consumption is depicted in **Figures 50 & 51** on the following page, showing a downward trend since 2008 (2017 will likely reflect similar usage to 2016 once data for the entire year is available).

¹⁸ Electrical consumption data was provided directly by Green Mountain Power (GMP) and does not include the northern portion of Fayston serviced by Washington Electric Cooperative (WEC).

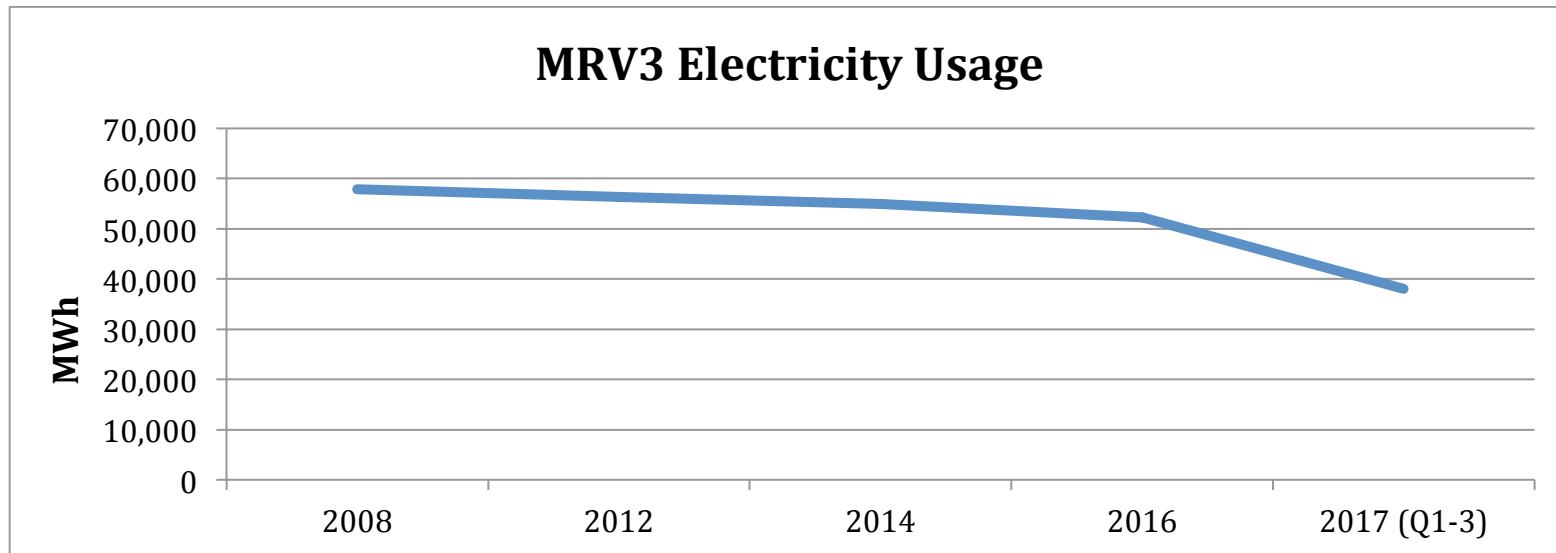
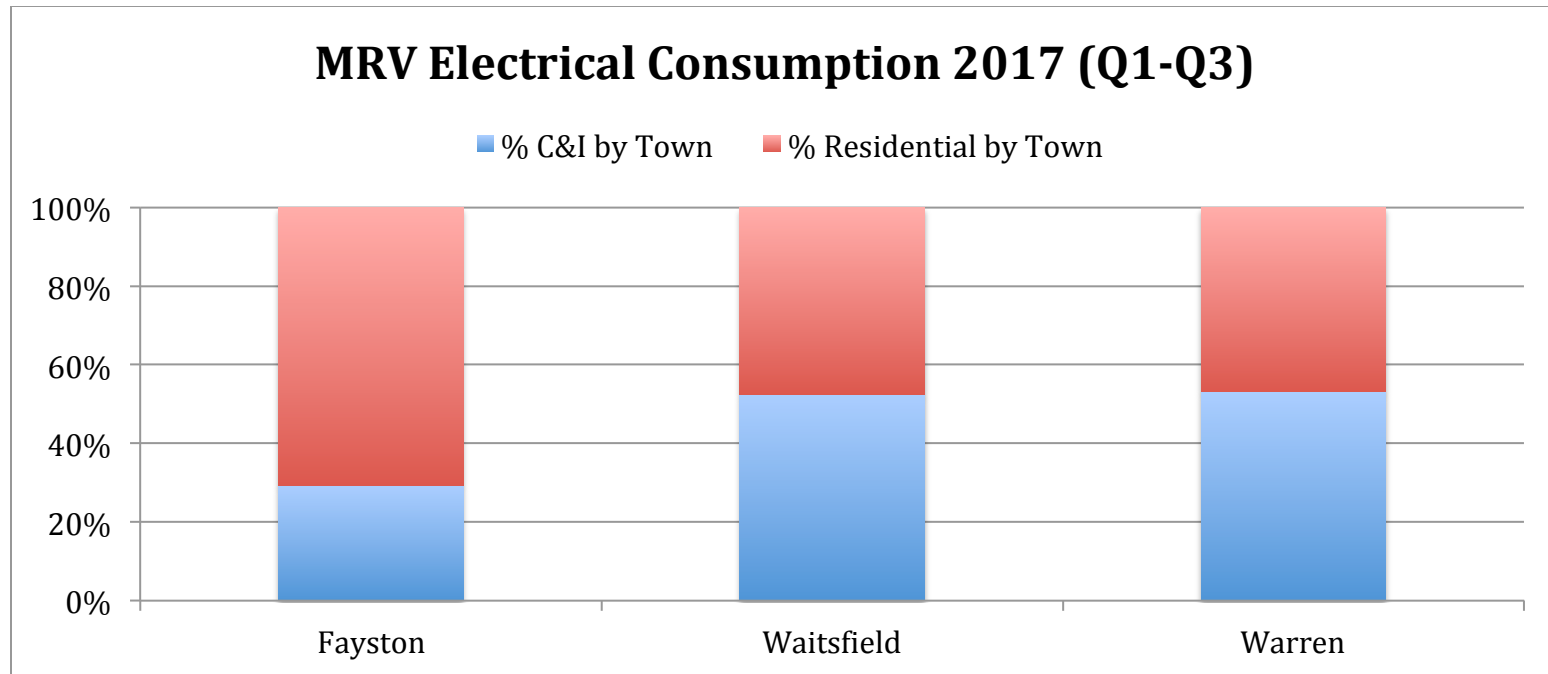


FIGURE 50 & 51- SOURCE: GREEN MOUNTAIN POWER

Sugarbush Resort's monthly peak energy demand for the 2016-2017 season indicates the startup of snowmaking in November as it did during the previous season, but with decreased overall energy usage, **Figure 52**. Peak demand was lower for every month compared to the previous year except March, likely due to a significant thaw that took place at the end of February. The peak use figures continue to reflect reduced energy use due to snowmaking infrastructure energy efficiency upgrades, as well as updated building and site lighting and motor/pump upgrades.

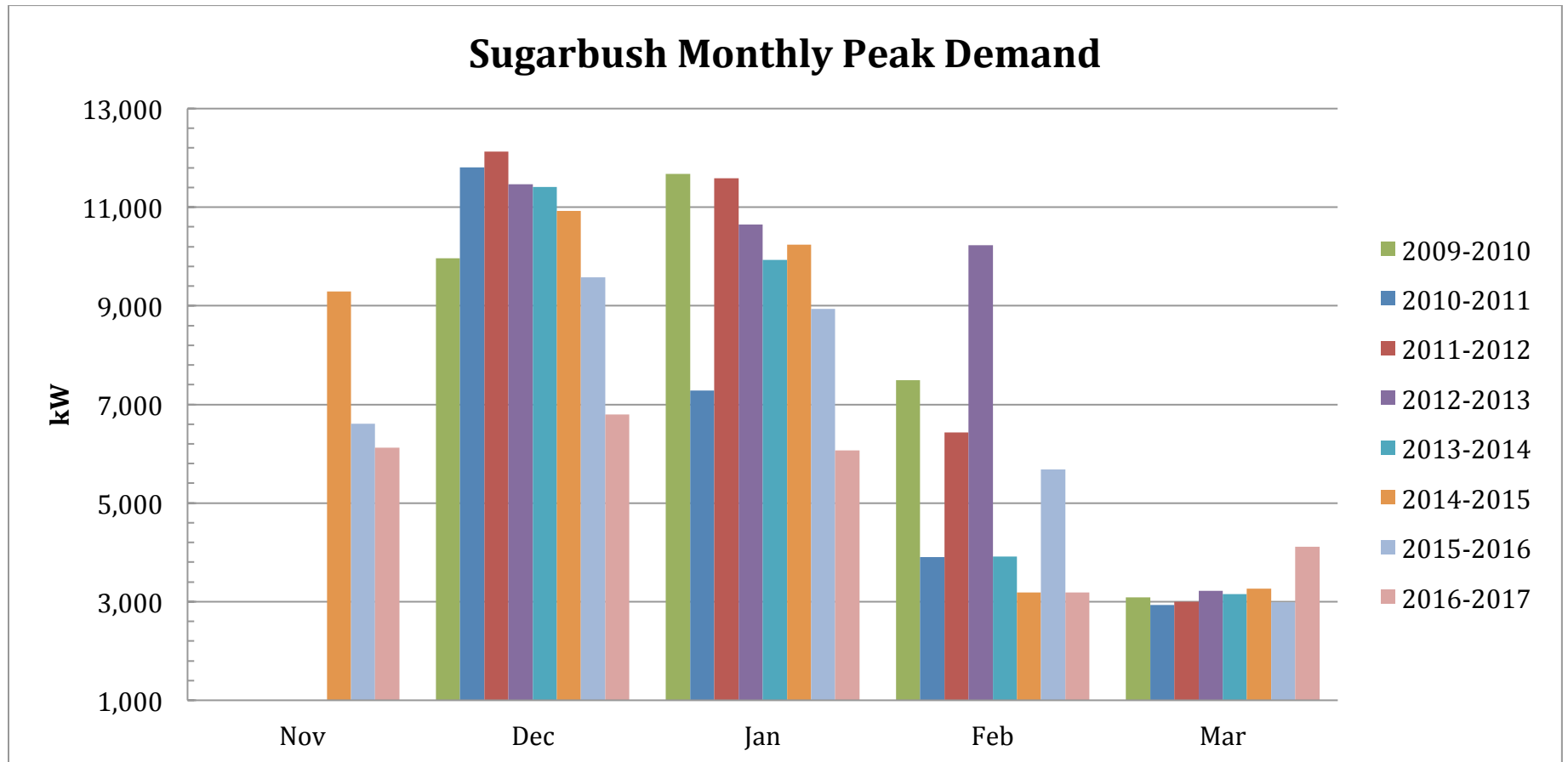


FIGURE 52- SOURCE: SUGARBUSH RESORT

WATER QUALITY

Since 1985, Friends of the Mad River has been monitoring *E. coli* bacteria levels at approximately 30 sites along the main stem and major tributaries throughout the watershed, as part of its Mad River Watch program. *E. coli* is an indicator of pollution from fecal matter (livestock, wildlife, human); a high level of *E. coli* indicates the likelihood of a high level of disease-causing pathogens that can sicken swimmers, paddlers, and anglers. *E. coli* is a valuable indicator of the health and safety of surface waters, especially in areas highly prized for recreational uses. The state health protective level for recreational waters for *E. coli* is 235 colonies of *E. coli* per 100 mL water. It is estimated that at this level, approximately 8 out of every 1,000 swimmers are likely to contract a water borne illness.

In 2015 & 2016, Friends of the Mad River engaged a research scientist to analyze historical data, identify persistent water quality problems, and make recommendations for the Mad River Watch program moving forward. Based on that analysis, Friends redesigned the 2016 Mad River Watch program to gradually transition away from monitoring water quality equally across the watershed, to targeting areas to better identify and resolves problematic land uses.

Figure 53 shows that in general *E. coli* counts over the last nine years increased consistently from upstream to downstream areas and were markedly higher from Waitsfield Village downstream in Moretown. The impact of severe rainfall events is evident in 2010. Of the twelve sites that were tested in 2016, half saw increases in bacteria levels compared to the previous year. At Meadow Road Bridge in Waitsfield, *E. coli* counts showed marked increases over time during the past nine years. The positive relationship between *E. coli* and stream flow at many of these sites suggested that the source(s) of the *E. coli* may be related to surface and stormwater runoff, especially from areas contaminated by manure or leakage/overflows of septic systems.

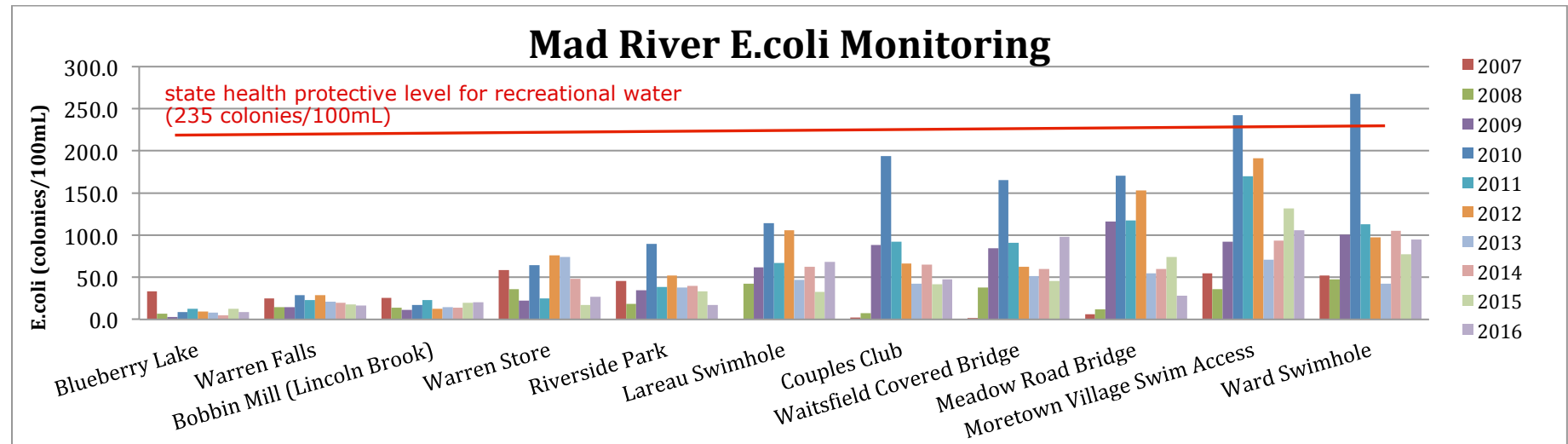


FIGURE 53- SOURCE: FRIENDS OF THE MAD RIVER

LAND CONSERVATION

The Mad River Valley has a long history of participating in land conservation efforts. Beginning in the 1980's, with the inception of the Mad River Valley Planning District and the creation of the Rural Resource Protection Plan, the conservation of agricultural, scenic, historic, ecological and riparian resources was identified as an important planning goal. As a result, there is an exceptional portfolio of public lands and conserved private lands in the MRV. This collaborative effort has involved non-profit organizations and entities such as the Vermont Land Trust, Mad River Watershed Conservation Partnership, Trust for Public Land, local municipalities, state agencies, and recreational organizations such as the Catamount Trail Association, Mad River Path Association, Mad River Riders, and Mad River Valley Recreation District (MRVRD).

This portfolio of national and state lands, town forests, family farms, productive forestlands, and riparian lands contribute to the quality of life and economic vitality in the MRV. These protected private and public lands also help to sustain key economic sectors identified in the 2014 MRV Economic Study, including Agriculture and Food Production, Dining and Lodging, and Health Care and Wellness.

The Mad River Valley towns represented by the Mad River Valley Planning District encompass 68,544 acres. Approximately 4,379 acres (6% of the total land area in the three towns) of privately owned land is protected by conservation easements. An additional 11,565 acres (17% of land area in three towns) are in public ownership by municipalities, the State of Vermont or the USFS. Collectively, these conserved lands and public resources comprise 15,944 acres, or 23% of the landscape in this three town area.

In 2017, two new properties were acquired by MRV municipalities for community recreation and open space protection. The Town of Waitsfield purchased 110 acres of forestland adjoining the Scrag Town Forest. Town ownership of this land will expand protection of forestland, wildlife habitat, and upland streams, as well as improve public recreational access. Additionally, the MRV Recreation District purchased Mad River Park, a ten-acre site located in Waitsfield with recreational fields vital to youth sports programs and recreation.

2017	Total Acres	State/Federal Land	Municipal Conserved or "Open Space"	Privately-owned Conserved	Total Conserved or State/Federal Ownership	% of Town Conserved or State/Federal Ownership
Fayston	24,192	2,998	73	1,914	4,985	20%
Waitsfield	16,960	550	816	1,212	2,578	15%
Warren	27,392	6,995	133*	1,253	8,381	31%
Three Town Total	68,544	10,543	1,022	4,379	15,944	23%

**Warren parcels include Eaton Parcel (78 acres), Riverside Park (5 acres) and former Jacobs parcel (50 acres). These parcels are not subject to a conservation easement, although they are managed for public use and natural resource protection goals.*