



Meeting Date: February 05, 2020  
Contact: Ivan Burton, Planner/EDO  
613-646-2282 iburton@whitewaterregion.ca

**Title:**

Growth Projections - Growth Study/DC By-law Review

**Recommendation:**

That Development & Planning Committee recommend Council of the Township of Whitewater Region receive this report for information purposes as it pertains to the growth projections from the Growth Study and Development Charges By-law Review.

**Background:**

In 2019, the Township received funding from the Government of Ontario to improve service delivery and efficiency. A portion of these funds was allocated for the Village and Hamlet Growth Study and the Development Charges By-law Review.

The Growth Study, being prepared by WSP Canada Group Ltd. and Metro Economics, is examining the Township settlement areas to consider possible boundary expansions and/or adjustments in accordance with the Provincial Policy Statement. The DC By-law is being prepared by Watson and Associates Economist Ltd. and is examining opportunities to finance future growth related capital projects.

Both studies involve taking past and existing population and employment conditions and forecasting future residential and non-residential growth figures. Both consulting firms have been working together in order to achieve accurate growth projections for the Township until 2040/2041. Find attached the results of both assessments.

**Analysis:**

Staff are presenting this data for Council's information because these findings will be used in each project moving forward. These findings will impact the outcomes to the possible boundary expansions and/or adjustments for the Growth Study and an applicable rate for development charges, if Council decides to proceed with charges.

Some of the highlights of the projections are the following:

- Population in 2041: 7,462 (low scenario), 7,924 (base) and 8,410 (high).
- Population Increase in 2041: 319 (4.5%), 781 (10.9%) and 1,267 (17.7%)
- Increase of Residential Units by 2041: 722 (635 single/ 75 multiple/ 12 apart.)
- Employment/ Non-Residential Gross Floor Area Increase: 400/ 239,800 sq. ft.

You will note that the projections vary slightly from one another due to the proprietary matrix being used by each consulting firm. Staff have held a telephone conference with the firms, and this has led to a decrease in the inconsistencies. Staff are acceptable to these minor discrepancies and note that each project will exclusively use their projections. The outcomes will not be affected by these minor variations.

**Financial Implications:**

There are no financial implications by receiving this information report.

**Next Steps:**

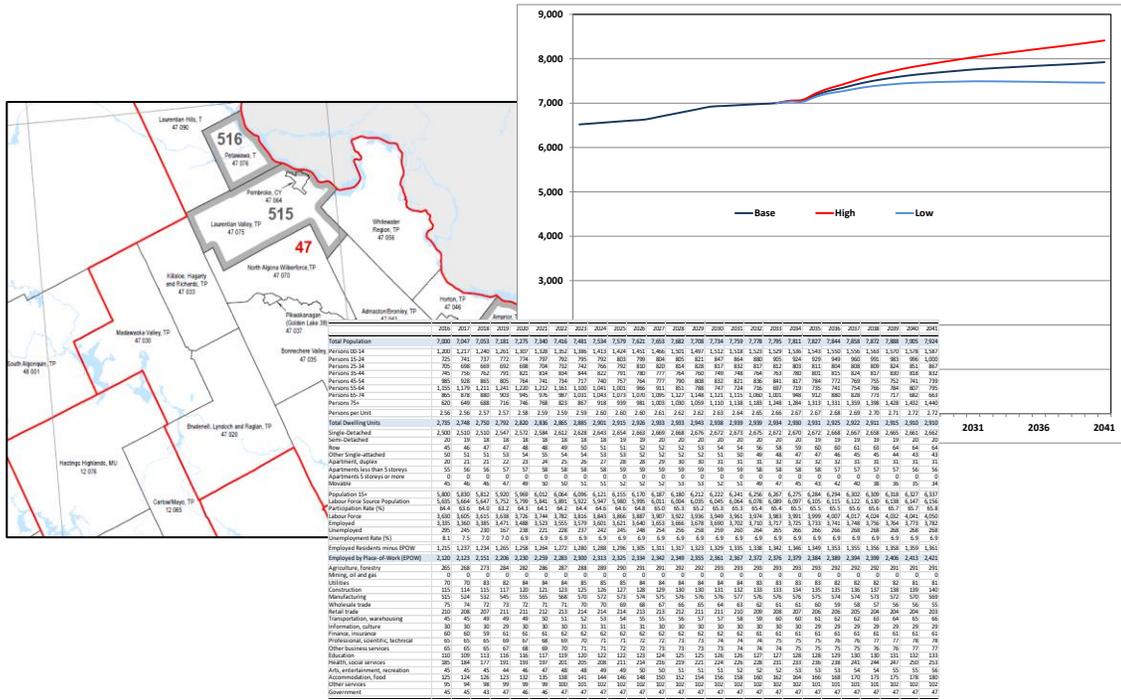
Communicate with each consulting firm. The projects are progressing according to their original schedule and are anticipated to be complete in Feb/March 2020.

Distribute the findings to Brenda Powers-Ross, Director of Whitewater Bromley Community Health Centre, to assist in their process to increase services in the area.

Prepared by:	Ivan Burton, Planner/EDO
--------------	--------------------------

Reviewed by:	Robert Tremblay
--------------	-----------------

# Whitewater Region Township Growth Prospects to 2041



January 2020

## **Whitewater Region Township Growth Prospects to 2041**

This report assesses Whitewater Region Township's prospects for population, dwelling and employment growth to 2041 considering national, provincial and regional trends and the Township's unique geographic location in eastern Ontario.

### **The Geographic Context of Whitewater Region Township**

Whitewater Region Township is one of 19 municipalities (Census Sub-Divisions, or CSDs using Census terminology) that collectively define Renfrew County (Census Division 3547, or CD). Politically Renfrew County includes only 17 of the 19 municipalities; the City of Pembroke, the county seat of Renfrew, is a separated municipality; and Pikwakanagan (Golden Lake 39) is a First Nations Reserve. For the purposes of this report, however, Renfrew County will refer to CD 3547 including Pembroke and Pikwakanagan.

The population of Renfrew County grew by 1.1 percent or by 1,068 people between 2011 and 2016, from 101,326 to 102,394, and it grew by 7.6 percent or 7,256 people between 2001 and 2016. The County includes three Census Agglomerations (CAs). A CA is a municipality or a group of contiguous municipalities with a population of 10,000 or more identified by Statistics Canada as being economically and socially integrated and interdependent (based primarily on commuter patterns). The three CAs are:

- Pembroke CA (population of 23,269) including Pembroke (13,882) and Laurentian Valley (9,387);
- Petawawa CA (population of 17,187) including Petawawa only; and
- Arnprior CA (population of 15,973) including Arnprior (8,795) and McNab/Braeside (7,178).

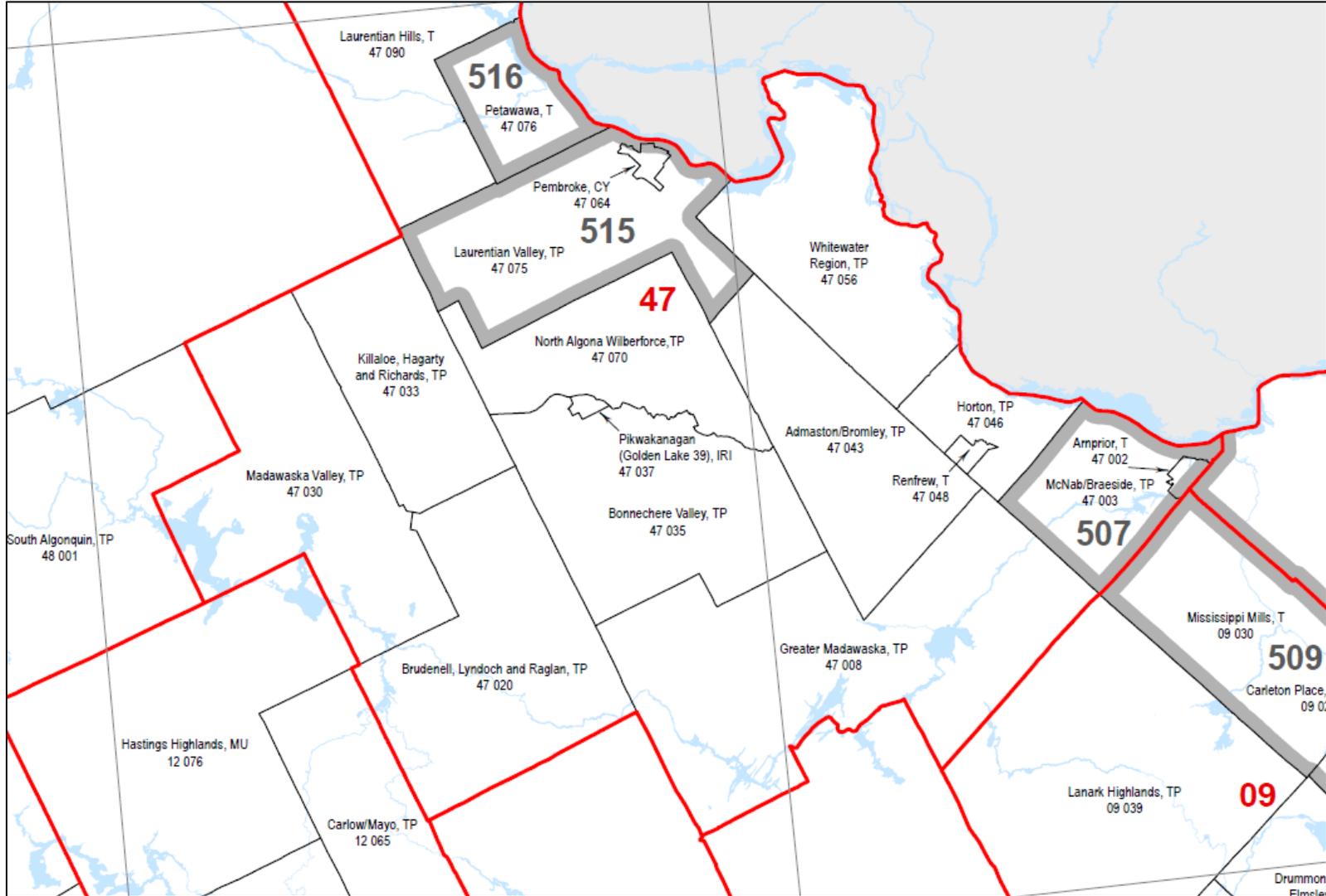
Exhibit 1 on the following page shows the location of the 19 municipalities within the County and identifies those that define the three CAs.

Exhibit 2 on the subsequent page tabulates the population of the CD by constituent CA and municipality for every fifth year from 2001 to 2016 and provides the absolute and percent changes in population for each from 2001 to 2016 and from 2011 to 2016.

The three CAs collectively account for 56,429 people or for 55 percent of the total population of the County. The population of the Petawawa CA (see Exhibit 2) grew by 7.5 percent between 2011 and 2016 and by 19.4 percent between 2001 and 2016; the population of the Arnprior CA grew by 3.2 percent and 13.8 percent over those two periods; in contrast, the population of the Pembroke CA fell by 3.1 percent over the last five years but was nevertheless higher in 2016 than it had been in 2001 by 4.7 percent. Excluding the three CAs the population of the County grew by 0.3 percent between 2011 and 2016 and by 3.3 percent between 2001 and 2016.

Though Whitewater Region is contiguous to the Pembroke CA it is not considered by StatCan to be a constituent municipality of that CA. Whitewater Region's population grew by 1.3 percent between 2011 and 2016, from 6,921 to 7,009, or by 88 people, and it grew by 7.5 percent or 489 between 2001 and 2016 (Exhibit 2). Whitewater Region is the most populated municipality within Renfrew County among the municipalities that are not part of a CA.

**Exhibit 1**  
**Map of Renfrew Census Division 3547 Constituent Municipalities**



Source: Statistics Canada

## Exhibit 2

## Total Population of Renfrew Census Division 3547 by Constituent Municipality

CD-CSD#	Name	Type	CMA	Population				Change 01-16		Change 11-16	
				2001	2006	2011	2016	Absolute	Percent	Absolute	Percent
3547	Renfrew County Census Division	CD		95,138	97,545	101,326	102,394	7,256	7.6	1,068	1.1
	Pembroke CA	CA	515	22,223	23,195	24,017	23,269	1,046	4.7	-748	-3.1
	Arnprior CA	CA	507	14,035	14,380	15,485	15,973	1,938	13.8	488	3.2
	Petawawa CA	CA	516	14,398	14,651	15,988	17,187	2,789	19.4	1,199	7.5
	Rest of the CD			44,482	45,319	45,836	45,965	1,483	3.3	129	0.3
3547002	Arnprior	Town	507	7,192	7,158	8,114	8,795	1,603	22.3	681	8.4
3547003	McNab/Braeside	Township	507	6,843	7,222	7,371	7,178	335	4.9	-193	-2.6
3547008	Greater Madawaska	Township		2,290	2,751	2,485	2,518	228	10.0	33	1.3
3547020	Brudenell, Lyndoch and Raglan	Township		1,565	1,497	1,658	1,503	-62	-4.0	-155	-9.3
3547030	Madawaska Valley	Township		4,406	4,381	4,282	4,123	-283	-6.4	-159	-3.7
3547033	Killaloe, Hagarty and Richards	Township		2,492	2,550	2,402	2,420	-72	-2.9	18	0.7
3547035	Bonnechere Valley	Township		3,591	3,665	3,763	3,674	83	2.3	-89	-2.4
3547037	Pikwakanagan (Golden Lake 39)	Indian reserve		443	406	432	440	-3	-0.7	8	1.9
3547043	Admaston/Bromley	Township		2,824	2,716	2,844	2,935	111	3.9	91	3.2
3547046	Horton	Township		2,567	2,803	2,719	2,887	320	12.5	168	6.2
3547048	Renfrew	Town		7,942	7,846	8,218	8,223	281	3.5	5	0.1
3547056	Whitewater Region	Township		6,520	6,631	6,921	7,009	489	7.5	88	1.3
3547064	Pembroke	City	515	13,490	13,930	14,360	13,882	392	2.9	-478	-3.3
3547070	North Algona Wilberforce	Township		2,729	2,840	2,873	2,915	186	6.8	42	1.5
3547075	Laurentian Valley	Township	515	8,733	9,265	9,657	9,387	654	7.5	-270	-2.8
3547076	Petawawa	Town	516	14,398	14,651	15,988	17,187	2,789	19.4	1,199	7.5
3547090	Laurentian Hills	Town		2,750	2,789	2,811	2,961	211	7.7	150	5.3
3547096	Deep River	Town		4,135	4,216	4,193	4,109	-26	-0.6	-84	-2.0
3547098	Head, Clara and Maria	Township		228	228	235	248	20	8.8	13	5.5

Source: Statistics Canada

## The Economy of Whitewater Region Township

*metroeconomics'* standard approach to assessing the economic potential of an area is to carry out a Location Quotient (LQ) assessment of the jobs provided locally by industry to separate the jobs into those that are export based and those that are community based. This process begins with a comparison of the ratio of jobs by place-of-work by industry per 1,000 residents (the Location Quotient or LQ) of the subject community to the province-wide ratios for each industry (see Exhibit 3 below). All jobs in agriculture and forestry, in mining and quarrying, and in manufacturing are assumed to be export based jobs (since the goods they produce are primarily shipped to consumers and businesses outside of the local area). Across all the service industries it is assumed that, where the LQ in an industry locally exceeds the provincial LQ, the implied "excess" jobs must be beyond local needs; thus they must be providing services to non-residents of, or visitors to, the community. As such these service jobs are considered to be export based.

### Exhibit 3

#### Whitewater Region Township Location Quotient Assessment Employment by Place-of-Work (EPOW) in 2016 Economic Base and Community Base Components

	Whitewater Region		Ontario		Economic	Community
	EPOW	per 1,000	EPOW	per 1,000	Base	Base
Total population	7,009		13,448,494			
Total employment by place-of-work	2,120	302	5,867,270	436	831	1,289
Agriculture, other primary	265	38	88,450	7	265	0
Mining, oil and gas	0	0	24,705	2	0	0
Utilities	70	10	43,785	3	47	23
Construction	115	16	213,400	16	4	111
Manufacturing	515	73	624,260	46	515	0
Wholesale trade	75	11	238,335	18	0	75
Retail trade	210	30	707,530	53	0	210
Transportation, warehousing	45	6	232,090	17	0	45
Information, culture	30	4	153,455	11	0	30
Finance, insurance	60	9	483,235	36	0	60
Professional, scientific, technical services	65	9	497,790	37	0	65
Other business services	65	9	234,280	17	0	65
Education	110	16	460,690	34	0	110
Health, social services	185	26	680,110	51	0	185
Arts, entertainment, recreation	45	6	119,330	9	0	45
Accommodation, food	125	18	420,400	31	0	125
Other services	95	14	257,000	19	0	95
Government	45	6	388,425	29	0	45

Source: Statistics Canada and *metroeconomics*

The sum of the export based goods jobs and the export based services jobs define the total export base of the local community. Export based jobs are those that "underpin" the local economy. The existence and growth potential of export based jobs drives the growth potential of the area overall.

Most service industries jobs provide services to the community's residents; therefore they are not export based services. These population serving jobs grow only if the population grows, and the population grows – in most cases – only if the economic base jobs grow. Hence the overall growth potential of an area, in most cases, is linked to the potential for growth in its economic base jobs.

In 2016 employers provided a total of 2,120 jobs (both economic base and community base) within Whitewater Region on a place-of-work basis. The decomposition of these jobs in Exhibit 3 reveals that – outside of its jobs in agriculture and manufacturing – the area provides only a few non-traditional export based jobs (47 in utilities and 4 in construction). This approach reveals that 831 out of the 2,120 jobs provided in Whitewater Region in 2016 can be considered economic base jobs (or 39 percent of the total). Economic base jobs typically account for between 20 and 25 percent of the total number of jobs in communities. So Whitewater Region is relatively well endowed in the economic base job department.

However, the Township's 831 economic base jobs are primarily accounted for by 515 jobs in manufacturing and 265 in agriculture (plus the 47 in utilities and 4 in construction). Manufacturing jobs in the Township fell from 735 in 2001 to 515 today, or by 30 percent, while agriculture jobs fell from 425 in 2001 to 265 today, or by 38 percent. Jobs declined in these two industries just about everywhere in Canada over that span, including throughout the rest of Renfrew County. *metroeconomics* projects that communities throughout Canada, at best, will barely sustain the number of jobs they have today in both of these industries. More likely their number will decline further. In other words the Township's economic base is on a precarious footing.

The Township's overall activity rate of 302 jobs per 1,000 residents (2,120 jobs divided by 7,009 residents times 1,000, not shown in Exhibit 3) is well below the provincial average of 436. The Township's low activity rate is not due to a below average number of economic base jobs per capita in the Township (as noted above). Rather it is due to a below average number of community base (population serving) jobs per capita.

The greatest population serving deficiencies in the Township are in professional services (28 fewer per 1,000 residents), finance and insurance (27 fewer), health and social services (24 fewer), retail trade (23 fewer) and government services (22 fewer). These lower than average ratios mean Whitewater Region residents must travel to Pembroke or other nearby centres to obtain these services.

On balance the 2016 Census data indicate that the economy of the Township is heavily endowed with economic base jobs – mainly in agriculture and manufacturing – but that it is underrepresented in community base jobs.

As already noted, generally speaking agriculture and manufacturing are not expected to generate many jobs anywhere in Canada or Ontario in the future. However, the GlassHouse Botanics Inc. cannabis development currently underway in Whitewater Region is expected to provide 75 jobs at full build-out of which 30 will be seasonal. To account for the impacts of this new facility on the future population of, and number of jobs in, the Township, *metroeconomics* has assumed the facility will ultimately employ the equivalent of 60 full-time full-year workers, that 15 will be employed in agriculture and 45 in manufacturing, and that the jobs are being introduced gradually over the five year span from 2016 to 2021.

## **The Working Population of Whitewater Region**

Census data reveal that 3,335 of the Township's total of 7,009 residents held jobs in 2016. Thus the number of job-holding residents of the Township exceeded the 2,120 jobs provided by employers in the Township by 1,115. Of the 3,335 working residents of the Township, 425 had no fixed workplace address (sales, repair and construction workers mostly account for this group) while 620 worked in Whitewater Region.

Census data reveal that 1,700 of the remaining 2,290 working residents of Whitewater Region commuted to nearby centres each day as follows:

- 620 work in the City of Pembroke
- 340 work in the Town of Renfrew
- 255 work in the Township of Laurentian Valley
- 150 work in the Township of Petawawa
- 100 work in the Town of Laurentian Valley
- 85 work in the City of Ottawa
- 65 work in the Town of Arnprior
- 45 work in the Township of Bonnechere Valley
- 40 work in the Township of Adamston/Bromley

The data above suggest that working residents of the Township fill only a small share of the 2,120 jobs provided by employers in Whitewater Region (620 Township residents work in the Township) and that the economic wellbeing of the employed residents of Whitewater Region is provided mostly by employers outside of the Township.

Given that the Township's economic base industries are not growing (with the exception of the cannabis facility), the prospects for population growth in the Township mostly depend on the job creation prospects of communities within commuting distance of Whitewater Region.

## **Population, Dwelling and Employment by Place-of-Work Prospects for Whitewater Region**

Our sub-provincial projection system works as follows:

- Growth in the number of employed residents drives population growth.
- Each new employed resident typically arrives with 1 or more dependents.
- Growth in the number of employed residents is driven by an expansion of jobs in the local economy and/or an expansion in the number of commuter job opportunities.
- The Baby Boom retirement phenomenon – affecting every community throughout Canada between 2011 and 2031 – means the Boomers must be replaced by in-migrants as they retire; this is so because the Boomers did not replace themselves; the total fertility rate has been well below the required natural replacement rate since the mid-1960s.
- Migrants are mostly between the ages of 18 and 39.
- National rates of net international migration have already been increased and will be increased further from now through to the mid-2030s to meet this need.
- Our projection system links the economic need for workers locally to the supply of working aged people locally to determine whether in-migration or out-migration will occur.

To develop projections of the population and dwellings in Whitewater Region – which depend on expectations regarding the number of employed residents in the Township – we drew on our national and provincial base case employment by place-of-work projections for those municipalities employing the largest numbers of Whitewater Region commuters.

Our projections indicate that jobs in Ottawa, Petawawa and Arnprior will grow most quickly in the area in the future; but these three job centres collectively account for only 300 of the Township’s commuters. Our projections indicate that jobs in Pembroke, Renfrew and Laurentian Valley will grow only modestly in the future; but these three job centres account for more than 1,200 of the Township’s daily commuters.

This system has been used to develop three projection alternatives for Whitewater Region; all three include the impacts of the new cannabis facility:

- The Base Case is based on the assumption that economic base jobs in Whitewater Region will grow in the future at the rates projected by *metroeconomics* for such jobs province-wide, and that the number of residents commuting to jobs nearby will grow at the rates we project for job growth in those nearby communities in our Base Case projections.
- The High Case is based on the assumption that economic base jobs in Whitewater Region will grow 0.25 percentage points faster each year than we project province-wide and that commuters will grow 0.25 percentage points faster each year than the rates we project for job growth in those nearby communities in our Base Case projections.
- The Low Case is based on the assumption the future growth rates of growth will be lower than those we assumed for the Base Case by 0.25 percentage points each year.

Exhibits 4, 5 and 6 illustrate the historical path (2001 to 2016) and the three projected paths (2017 to 2041) for the total population, the total number of jobs on a place-of-work basis and the total number of dwellings in Whitewater Region.

Exhibits 7, 8 and 9 provide detailed projections for the population by major age group, dwellings by structural type and employment by place-of-work by industry for each projection alternative for each year from 2016 to 2041.

## **Conclusion**

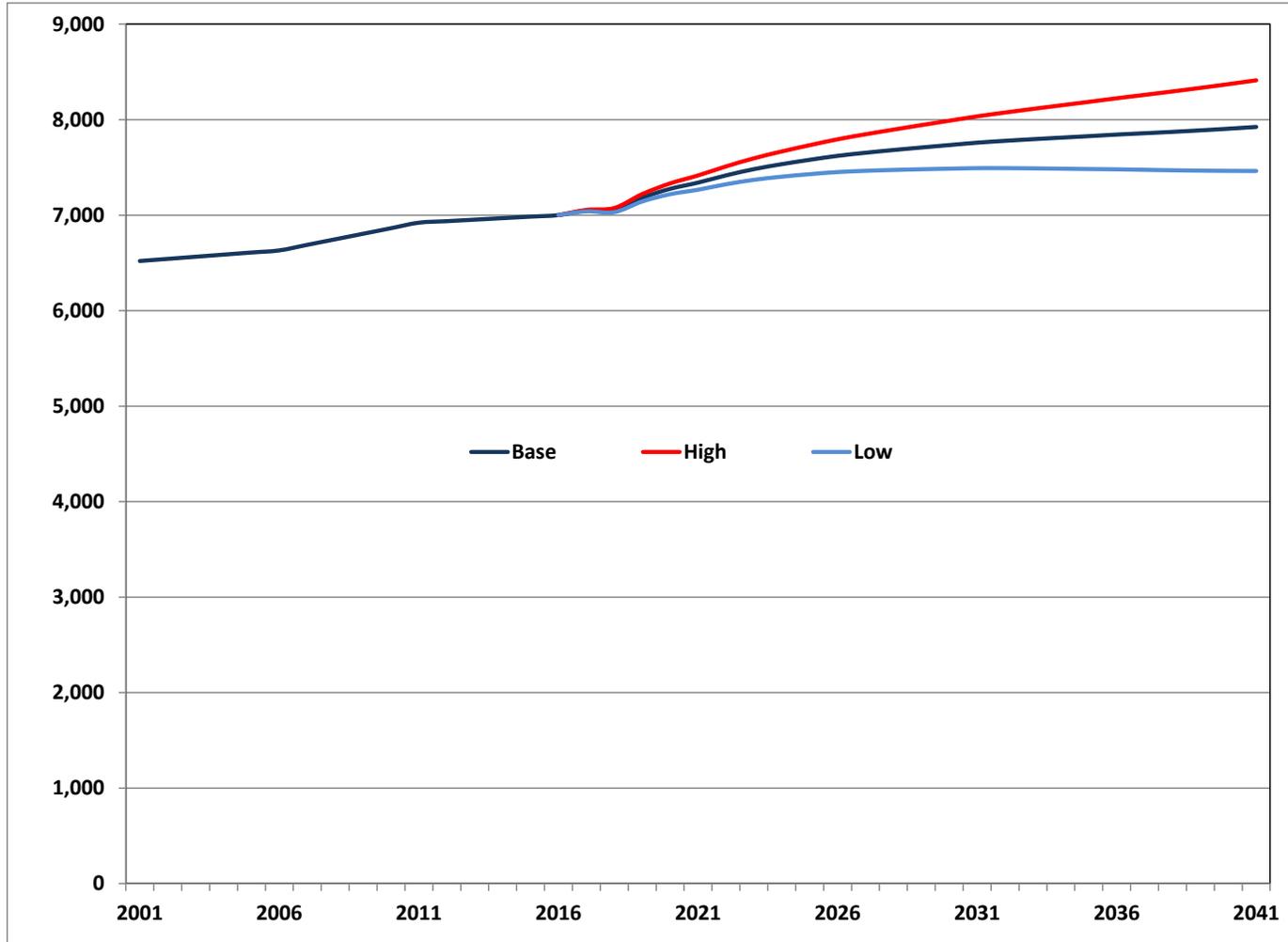
It is our understanding that the previous projections prepared for Whitewater Region called for the Township’s total population to increase from 6,921 in 2011 to 8,447 in 2036 in the Low Case and to 8,876 in 2036 in the High Case. *metroeconomics*’ projections here foresee the Township’s total population in 2036 reaching 7,480 in the Low Case and 8,224 in the High Case. *metroeconomics* High Case projection for 2036 is lower than the earlier Low Case projection for 2036 by 223.

The population projections for Whitewater Region underpinning the recent development charges study call for its population to reach 8,960 in 2039. *metroeconomics*’ projections foresee the Township’s total population in 2039 reaching 7,888 in the Base Case, 8,333 in the High Case and 7,466 in the Low Case. All three *metroeconomics* projections suggest less potential population for the Township in 2039 than the projection underpinning the recent development charge report.

To reach either the population totals projected earlier, or the total projected by the recent development charges report, Whitewater Region Township will need to attract more employers or more commuters to the Township in the future than *metroeconomics* considers likely in the decades ahead.

The DC report's projection for the Township's total population in 2039 of 8,960 is 7.5 percent higher than the population we project for that year in our High Case alternative.

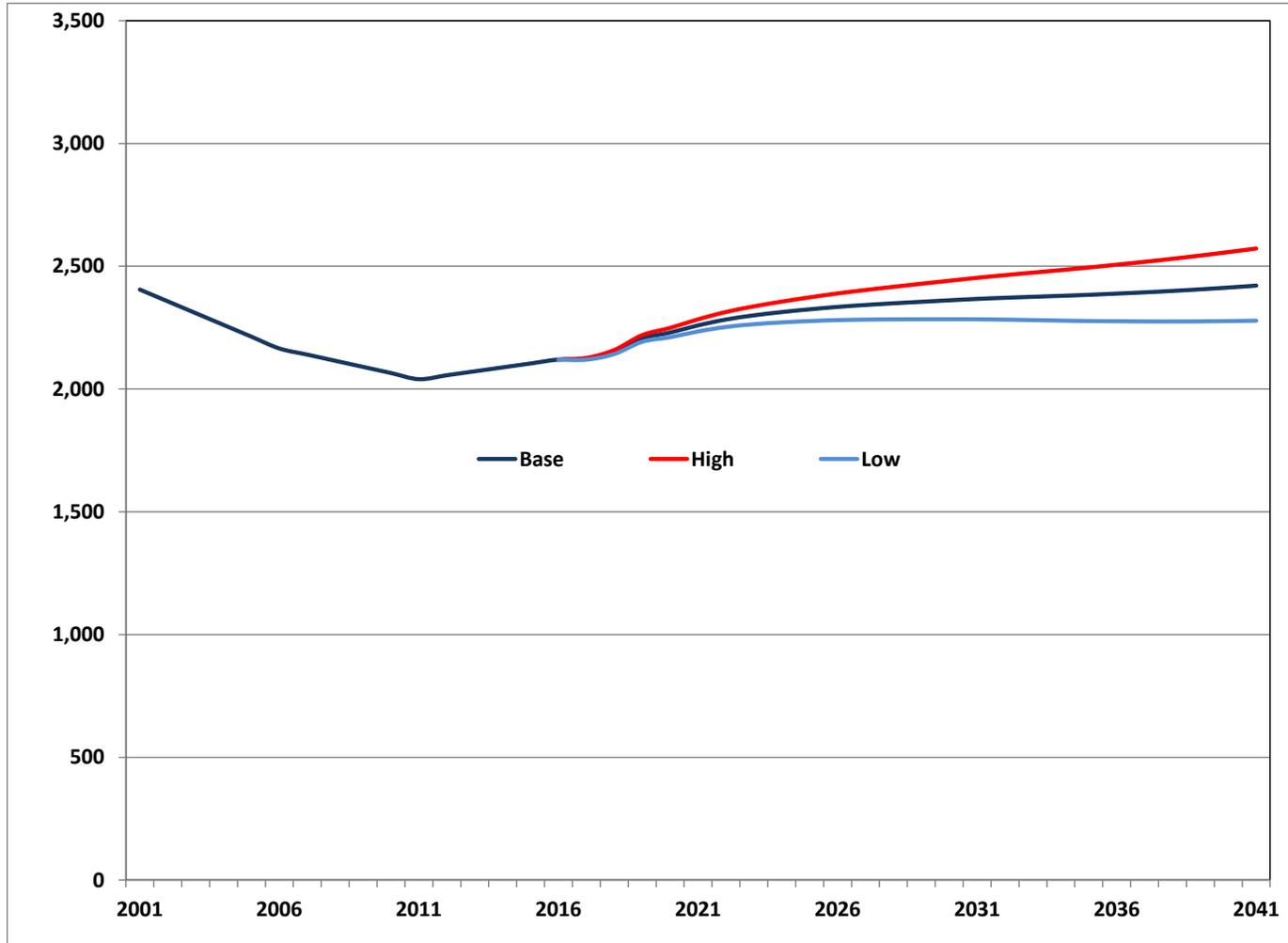
**Exhibit 4**  
**Whitewater Region Township Total Population**  
**Base, High and Low Projections Comparison**  
**Actual 2001 to 2016, Estimated and Projected 2017 to 2041**



Source: Statistics Canada and *metroeconomics*

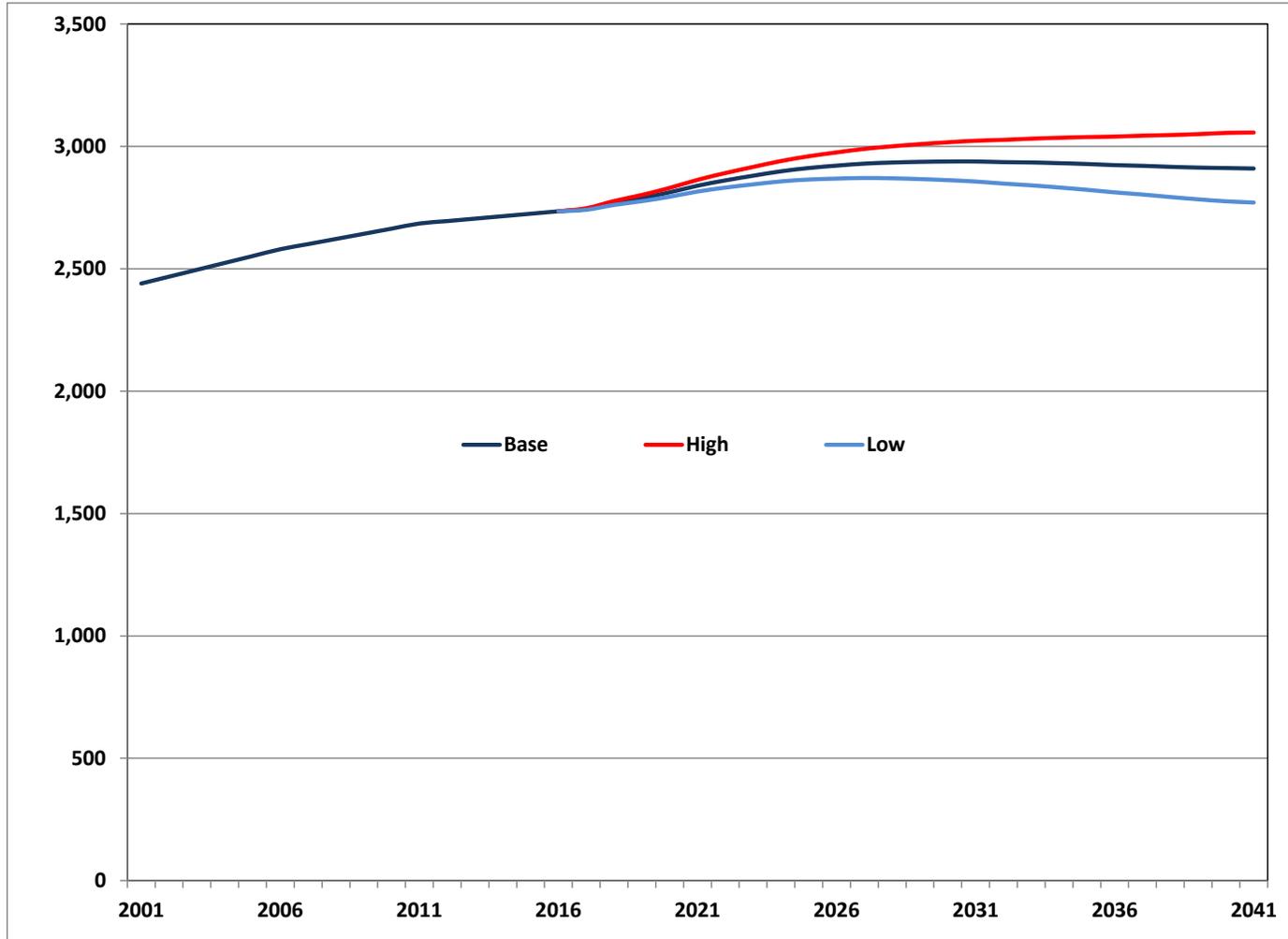
**Exhibit 5**

**Whitewater Region Township Total Employed by Place-of-Work  
Base, High and Low Projections Comparison  
Actual 2001 to 2016, Estimated and Projected 2017 to 2041**



Source: Statistics Canada and *metroeconomics*

**Exhibit 6**  
**Whitewater Region Township Total Dwellings**  
**Base, High and Low Projections Comparison**  
**Actual 2001 to 2016, Estimated and Projected 2017 to 2041**



Source: Statistics Canada and *metroeconomics*

### Exhibit 7 Whitewater Region Township Base Case Projection Details

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
<b>Total Population</b>	7,000	7,047	7,053	7,181	7,275	7,340	7,416	7,481	7,534	7,579	7,621	7,653	7,682	7,708	7,734	7,759	7,778	7,795	7,811	7,827	7,844	7,858	7,872	7,888	7,905	7,924
Persons 00-14	1,200	1,217	1,240	1,261	1,307	1,328	1,352	1,386	1,413	1,424	1,451	1,466	1,501	1,497	1,512	1,518	1,523	1,529	1,536	1,543	1,550	1,556	1,563	1,570	1,578	1,587
Persons 15-24	725	741	737	772	774	797	792	795	792	803	799	804	805	821	847	864	880	905	924	929	949	960	991	983	996	1,000
Persons 25-34	705	698	669	692	698	704	732	742	766	792	810	820	814	828	817	832	817	812	803	811	804	808	809	824	851	867
Persons 35-44	745	756	762	791	821	814	834	844	822	791	780	777	764	760	749	748	764	763	780	801	815	824	817	830	818	832
Persons 45-54	985	928	865	805	764	741	734	717	740	757	764	777	790	808	832	821	836	841	817	784	772	769	755	752	741	739
Persons 55-64	1,155	1,179	1,211	1,241	1,220	1,212	1,161	1,100	1,041	1,001	966	911	851	788	747	724	716	697	719	735	741	754	766	784	807	795
Persons 65-74	865	878	880	903	945	976	987	1,031	1,043	1,073	1,070	1,095	1,127	1,148	1,121	1,115	1,060	1,001	948	912	880	828	773	717	682	663
Persons 75+	620	649	688	716	746	768	823	867	918	939	981	1,003	1,030	1,059	1,110	1,138	1,183	1,248	1,284	1,313	1,331	1,359	1,398	1,428	1,432	1,440
Persons per Unit	2.56	2.56	2.57	2.57	2.58	2.59	2.59	2.59	2.60	2.60	2.60	2.61	2.62	2.62	2.63	2.64	2.65	2.66	2.67	2.67	2.68	2.69	2.70	2.71	2.72	2.72
<b>Total Dwelling Units</b>	2,735	2,748	2,750	2,792	2,820	2,836	2,865	2,885	2,901	2,915	2,926	2,933	2,933	2,943	2,938	2,939	2,939	2,934	2,930	2,931	2,925	2,922	2,911	2,915	2,910	2,910
Single-Detached	2,500	2,510	2,510	2,547	2,572	2,584	2,612	2,628	2,643	2,654	2,663	2,669	2,668	2,676	2,672	2,673	2,675	2,672	2,670	2,672	2,668	2,667	2,658	2,665	2,661	2,662
Semi-Detached	20	19	18	18	18	18	18	18	18	19	19	20	20	20	20	20	20	20	20	19	19	19	19	19	20	20
Row	45	46	47	47	48	48	49	50	51	51	52	52	52	53	54	54	56	58	59	60	60	61	63	64	64	64
Other Single-attached	50	51	51	53	54	55	54	54	53	53	52	52	52	52	51	50	49	48	47	47	46	45	45	44	43	43
Apartment, duplex	20	21	21	22	23	24	25	26	27	28	28	29	30	30	31	31	31	32	32	32	32	31	31	31	31	31
Apartments less than 5 storeys	55	56	56	57	57	58	58	58	58	59	59	59	59	59	59	59	58	58	58	58	57	57	57	57	56	56
Apartments 5 storeys or more	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Movable	45	46	46	47	49	50	50	51	51	52	52	52	53	53	52	51	49	47	45	43	42	40	38	36	35	34
<b>Population 15+</b>	5,800	5,830	5,812	5,920	5,969	6,012	6,064	6,096	6,121	6,155	6,170	6,187	6,180	6,212	6,222	6,241	6,256	6,267	6,275	6,284	6,302	6,309	6,318	6,327	6,337	6,337
Labour Force Source Population	5,635	5,664	5,647	5,752	5,799	5,841	5,891	5,922	5,947	5,980	5,995	6,011	6,004	6,035	6,045	6,064	6,078	6,089	6,097	6,105	6,115	6,122	6,130	6,138	6,147	6,156
Participation Rate (%)	64.4	63.6	64.0	63.2	64.3	64.1	64.2	64.4	64.6	64.6	64.8	65.0	65.3	65.2	65.3	65.3	65.4	65.4	65.5	65.5	65.5	65.6	65.6	65.7	65.7	65.8
Labour Force	3,630	3,605	3,615	3,638	3,726	3,744	3,782	3,816	3,843	3,866	3,887	3,907	3,922	3,936	3,949	3,961	3,974	3,983	3,991	3,999	4,007	4,017	4,024	4,032	4,041	4,050
Employed	3,335	3,360	3,385	3,471	3,488	3,523	3,555	3,579	3,601	3,621	3,640	3,653	3,666	3,678	3,690	3,702	3,710	3,717	3,725	3,733	3,741	3,748	3,756	3,764	3,773	3,782
Unemployed	295	245	230	167	238	221	228	237	242	245	248	254	256	258	259	260	264	265	266	266	266	268	268	268	268	268
Unemployment Rate (%)	8.1	7.5	7.0	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Employed Residents minus EPOW	1,215	1,237	1,234	1,265	1,258	1,264	1,272	1,280	1,288	1,296	1,305	1,311	1,317	1,323	1,329	1,335	1,338	1,342	1,346	1,349	1,353	1,355	1,356	1,358	1,359	1,361
<b>Employed by Place-of-Work (EPOW)</b>	2,120	2,123	2,151	2,206	2,230	2,259	2,283	2,300	2,313	2,325	2,334	2,342	2,349	2,355	2,361	2,367	2,372	2,376	2,379	2,384	2,389	2,394	2,399	2,406	2,413	2,421
Agriculture, forestry	265	268	273	284	282	286	287	288	289	290	291	291	292	292	293	293	293	293	293	293	292	292	292	291	291	291
Mining, oil and gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	70	70	83	82	84	84	84	85	85	85	84	84	84	84	84	84	83	83	83	83	82	82	82	82	81	81
Construction	115	114	115	117	120	121	123	125	126	127	128	129	130	130	131	132	133	133	134	135	135	136	137	138	139	140
Manufacturing	515	524	532	545	555	565	568	570	572	573	574	575	576	576	576	577	576	576	576	575	574	574	573	572	570	569
Wholesale trade	75	74	72	73	72	71	71	70	70	69	68	67	66	65	64	63	62	61	61	60	59	58	57	56	56	55
Retail trade	210	208	207	211	211	212	213	214	214	214	213	213	212	211	211	210	209	208	207	206	206	205	204	204	204	203
Transportation, warehousing	45	45	49	49	49	50	51	52	53	54	55	55	56	57	57	58	59	60	60	61	62	62	63	64	65	66
Information, culture	30	30	30	29	30	30	30	31	31	31	31	30	30	30	30	30	30	30	29	29	29	29	29	29	29	29
Finance, insurance	60	60	59	61	61	61	62	62	62	62	62	62	62	62	62	62	61	61	61	61	61	61	61	61	61	61
Professional, scientific, technical	65	65	65	69	67	68	69	70	71	71	72	72	73	73	74	74	74	75	75	75	76	76	77	77	78	78
Other business services	65	65	65	67	68	69	70	71	71	72	72	73	73	73	73	74	74	74	75	75	75	75	76	76	77	77
Education	110	109	113	116	116	117	119	120	122	122	123	124	125	125	126	126	127	127	128	128	129	130	130	131	132	133
Health, social services	185	184	177	191	193	197	201	205	208	211	214	216	219	221	224	226	228	231	233	236	238	241	244	247	250	253
Arts, entertainment, recreation	45	45	45	44	46	47	48	48	49	49	50	50	51	51	51	52	52	53	53	53	54	54	55	55	56	56
Accommodation, food	125	124	126	123	132	135	138	141	144	146	148	150	152	154	156	158	160	162	164	166	168	170	173	175	178	180
Other services	95	94	98	99	99	100	101	102	102	102	102	102	102	102	102	102	102	102	102	101	101	101	101	102	102	102
Government	45	45	43	47	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

Source: Statistics Canada and *metroeconomics*

**Exhibit 8  
Whitewater Region Township High Case Projection Details**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
<b>Total Population</b>	7,000	7,054	7,074	7,220	7,332	7,415	7,510	7,595	7,667	7,732	7,794	7,847	7,896	7,943	7,989	8,034	8,075	8,113	8,150	8,186	8,224	8,260	8,296	8,333	8,372	8,412
Persons 00-14	1,200	1,218	1,245	1,269	1,319	1,345	1,374	1,413	1,445	1,463	1,496	1,518	1,559	1,561	1,583	1,596	1,607	1,620	1,634	1,646	1,659	1,670	1,682	1,693	1,706	1,719
Persons 15-24	725	743	740	777	781	806	802	807	805	818	816	823	825	843	871	890	908	935	957	964	989	1,003	1,038	1,035	1,053	1,061
Persons 25-34	705	701	676	704	715	726	759	773	801	830	851	864	859	875	865	882	867	864	856	865	860	866	867	885	913	932
Persons 35-44	745	757	765	797	831	827	851	864	848	821	815	817	809	810	804	807	827	830	851	874	891	902	896	911	900	916
Persons 45-54	985	929	866	808	768	746	741	726	750	769	778	793	808	829	856	848	867	876	856	828	821	823	814	815	809	812
Persons 55-64	1,155	1,180	1,213	1,244	1,223	1,217	1,166	1,107	1,048	1,009	975	921	863	801	760	739	732	715	738	756	764	778	793	813	839	831
Persons 65-74	865	878	881	905	948	979	991	1,036	1,049	1,080	1,078	1,104	1,137	1,159	1,132	1,127	1,073	1,015	963	928	897	845	792	736	702	685
Persons 75+	620	649	689	717	747	770	825	869	921	942	986	1,008	1,035	1,065	1,117	1,146	1,192	1,258	1,295	1,325	1,344	1,373	1,413	1,444	1,449	1,458
Persons per Unit	2.56	2.56	2.57	2.57	2.58	2.59	2.59	2.60	2.61	2.61	2.62	2.62	2.63	2.63	2.65	2.66	2.66	2.68	2.69	2.69	2.70	2.71	2.73	2.73	2.74	2.75
<b>Total Dwelling Units</b>	2,735	2,751	2,756	2,804	2,838	2,860	2,895	2,920	2,943	2,963	2,980	2,993	2,999	3,015	3,016	3,024	3,030	3,031	3,033	3,041	3,042	3,045	3,041	3,052	3,054	3,060
Single-Detached	2,500	2,513	2,516	2,559	2,589	2,607	2,640	2,662	2,682	2,699	2,714	2,726	2,731	2,745	2,746	2,754	2,762	2,764	2,768	2,776	2,778	2,783	2,780	2,793	2,796	2,804
Semi-Detached	20	19	18	18	18	18	18	18	19	20	20	20	20	21	21	21	21	21	21	21	21	21	21	21	21	21
Row	45	46	47	47	48	48	49	50	51	51	52	53	53	55	55	57	59	60	61	62	63	64	65	66	66	66
Other Single-attached	50	51	52	53	54	55	54	54	54	53	53	53	52	51	51	50	49	48	48	48	47	46	45	45	45	45
Apartment, duplex	20	21	21	22	23	24	25	26	27	28	28	29	30	31	31	32	32	32	32	32	32	32	32	32	31	31
Apartments less than 5 storeys	55	56	56	57	57	58	58	59	59	59	59	60	60	59	59	59	59	59	59	59	59	59	59	58	58	58
Apartments 5 storeys or more	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Movable	45	46	46	47	49	50	50	52	52	52	52	53	53	54	52	52	50	47	45	44	43	41	39	37	36	35
Population 15+	5,800	5,836	5,830	5,951	6,013	6,071	6,136	6,182	6,221	6,269	6,298	6,329	6,336	6,381	6,405	6,439	6,467	6,493	6,516	6,540	6,566	6,589	6,614	6,640	6,666	6,694
Labour Force Source Population	5,635	5,670	5,664	5,782	5,842	5,898	5,961	6,006	6,044	6,091	6,119	6,149	6,156	6,200	6,223	6,256	6,283	6,308	6,331	6,354	6,379	6,402	6,426	6,451	6,477	6,503
Participation Rate (%)	64.4	63.6	63.9	63.2	64.2	64.1	64.2	64.4	64.6	64.7	64.9	65.1	65.4	65.3	65.5	65.5	65.6	65.6	65.7	65.8	65.8	65.9	65.9	66.0	66.0	66.0
Labour Force	3,630	3,605	3,622	3,654	3,751	3,778	3,826	3,870	3,906	3,940	3,972	4,002	4,027	4,051	4,074	4,098	4,121	4,140	4,159	4,178	4,197	4,217	4,236	4,255	4,275	4,295
Employed	3,335	3,367	3,399	3,494	3,519	3,564	3,605	3,639	3,670	3,699	3,728	3,751	3,773	3,795	3,817	3,839	3,857	3,874	3,892	3,910	3,928	3,946	3,963	3,982	4,001	4,021
Unemployed	295	238	223	160	231	214	222	231	236	241	244	251	254	256	257	259	264	266	267	268	269	272	272	273	274	274
Unemployment Rate (%)	8.1	7.5	7.0	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Employed Residents minus EPOW	1,215	1,240	1,241	1,275	1,271	1,280	1,291	1,302	1,314	1,326	1,338	1,348	1,357	1,367	1,376	1,386	1,393	1,400	1,408	1,415	1,422	1,428	1,433	1,438	1,443	1,449
<b>Employed by Place-of-Work (EPOW)</b>	2,120	2,126	2,159	2,219	2,249	2,284	2,314	2,337	2,356	2,373	2,389	2,403	2,416	2,429	2,441	2,453	2,464	2,474	2,484	2,495	2,506	2,518	2,530	2,544	2,558	2,572
Agriculture, forestry	265	269	274	286	284	289	291	293	295	297	298	299	301	302	303	304	305	305	306	307	307	308	308	309	309	309
Mining, oil and gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	70	70	83	83	85	85	86	86	86	86	86	87	87	87	87	87	87	87	87	86	86	86	86	86	86	86
Construction	115	114	115	118	121	122	125	127	128	130	131	132	133	134	135	137	138	139	140	141	142	143	144	146	147	149
Manufacturing	515	525	534	549	560	572	577	580	583	586	588	591	593	595	596	598	600	601	602	603	603	604	605	605	605	605
Wholesale trade	75	74	73	74	72	72	71	71	71	70	70	69	68	67	66	66	65	64	63	62	62	61	60	60	59	58
Retail trade	210	209	208	212	212	214	216	217	218	218	218	218	218	218	217	217	217	216	216	216	216	215	216	216	216	216
Transportation, warehousing	45	45	49	50	50	51	52	53	54	55	56	57	58	59	59	60	61	62	63	64	65	66	67	68	69	70
Information, culture	30	30	30	29	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Finance, insurance	60	60	59	61	61	62	62	63	63	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Professional, scientific, technical	65	65	65	69	68	69	70	71	72	73	74	74	75	75	76	77	77	78	78	79	79	80	81	82	82	83
Other business services	65	65	65	68	69	70	71	72	72	73	74	74	75	75	76	76	77	77	78	78	79	79	80	81	81	82
Education	110	109	113	116	117	118	121	122	124	125	126	127	128	129	130	131	132	133	133	134	135	136	137	139	140	141
Health, social services	185	184	178	192	195	199	204	208	212	215	218	222	225	228	231	234	237	240	243	246	250	253	257	261	265	269
Arts, entertainment, recreation	45	45	45	44	46	47	48	49	50	50	51	51	52	52	53	54	54	55	55	56	57	57	58	58	59	59
Accommodation, food	125	124	126	124	133	137	140	143	146	149	152	154	157	159	161	164	166	169	171	174	176	179	182	185	188	191
Other services	95	94	98	99	100	100	102	103	103	104	104	105	105	105	105	106	106	106	106	106	106	107	107	108	108	
Government	45	45	43	47	46	47	47	48	48	48	48	48	48	49	49	49	49	49	49	49	49	49	49	49	49	50

Source: Statistics Canada and *metroeconomics*

**Exhibit 9  
Whitewater Region Township Low Case Projection Details**

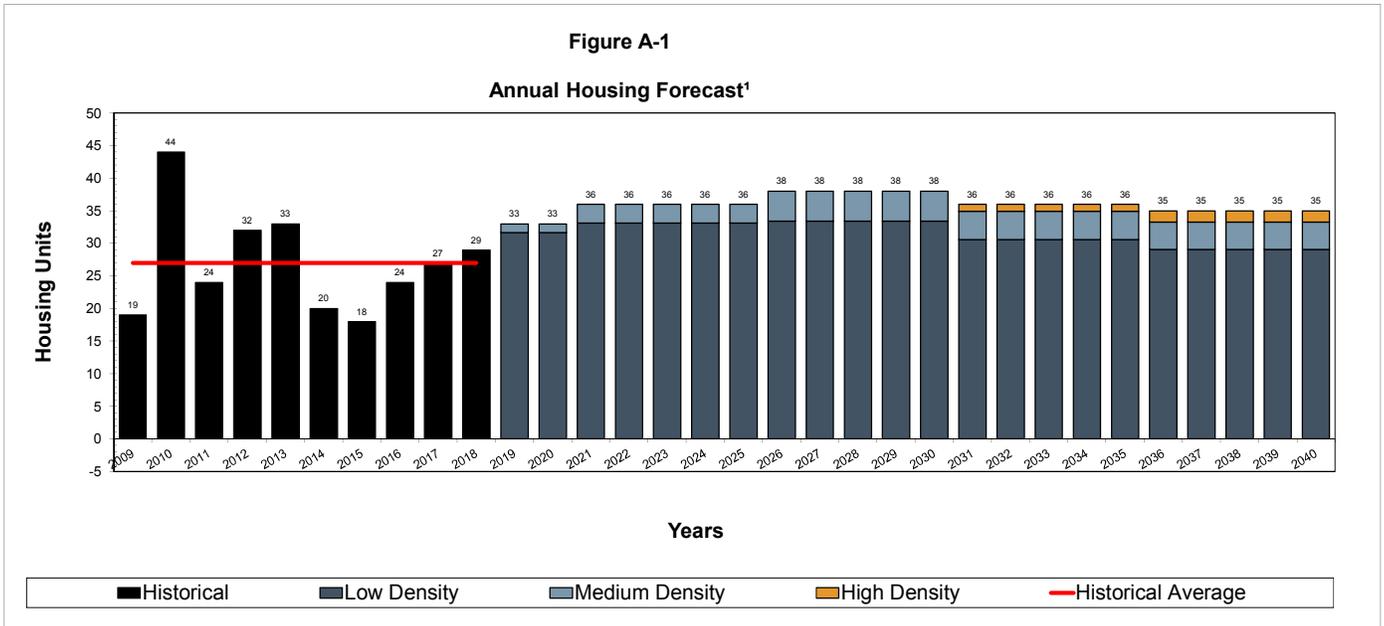
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
<b>Total Population</b>	7,000	7,039	7,031	7,143	7,219	7,266	7,323	7,369	7,403	7,429	7,451	7,464	7,473	7,480	7,486	7,492	7,492	7,490	7,486	7,483	7,480	7,475	7,470	7,466	7,464	7,462
Persons 00-14	1,200	1,215	1,236	1,253	1,295	1,312	1,331	1,359	1,380	1,386	1,407	1,416	1,445	1,434	1,443	1,442	1,441	1,440	1,442	1,443	1,445	1,447	1,450	1,453	1,458	1,463
Persons 15-24	725	740	734	767	768	789	782	783	778	788	782	786	785	799	824	839	853	876	892	894	912	919	946	934	943	941
Persons 25-34	705	696	662	680	680	682	706	711	731	754	770	778	770	783	770	785	768	763	753	759	752	755	754	768	793	808
Persons 35-44	745	755	758	785	812	801	818	823	797	761	745	738	720	711	696	690	702	698	712	730	743	750	741	753	741	754
Persons 45-54	985	928	863	802	760	736	728	709	730	745	751	761	771	787	808	794	806	807	779	742	725	717	699	691	676	670
Persons 55-64	1,155	1,179	1,210	1,239	1,216	1,208	1,155	1,094	1,033	993	957	900	840	776	733	709	700	680	701	715	720	730	740	755	775	761
Persons 65-74	865	878	879	901	943	972	983	1,026	1,037	1,067	1,062	1,087	1,118	1,138	1,110	1,103	1,048	988	934	897	865	812	756	699	663	643
Persons 75+	620	649	688	716	745	766	821	864	915	935	977	998	1,024	1,052	1,103	1,130	1,174	1,238	1,274	1,302	1,319	1,346	1,384	1,413	1,416	1,422
Persons per Unit	2.56	2.56	2.56	2.57	2.58	2.58	2.58	2.59	2.59	2.59	2.59	2.60	2.61	2.60	2.62	2.62	2.63	2.64	2.65	2.65	2.66	2.67	2.68	2.68	2.69	2.70
<b>Total Dwelling Units</b>	2,735	2,746	2,743	2,780	2,802	2,812	2,836	2,849	2,860	2,868	2,873	2,874	2,868	2,872	2,861	2,857	2,852	2,840	2,830	2,825	2,814	2,805	2,788	2,786	2,774	2,767
Single-Detached	2,500	2,508	2,503	2,536	2,555	2,562	2,584	2,595	2,603	2,609	2,613	2,613	2,606	2,609	2,599	2,596	2,592	2,583	2,575	2,572	2,563	2,556	2,542	2,543	2,533	2,529
Semi-Detached	20	19	18	18	17	17	17	17	18	18	19	19	19	19	19	19	19	19	19	19	18	18	18	18	18	18
Row	45	46	47	47	48	48	49	49	50	51	52	52	52	52	53	54	55	57	58	59	59	60	61	62	63	63
Other Single-attached	50	51	51	53	53	54	54	53	53	53	52	51	51	50	49	48	47	46	45	44	43	42	42	42	42	41
Apartment, duplex	20	21	21	22	23	24	25	26	27	27	28	29	29	30	31	31	31	31	31	31	31	31	31	31	31	30
Apartments less than 5 storeys	55	56	56	57	57	58	58	58	58	58	58	58	58	58	58	58	57	57	57	56	56	56	55	55	55	54
Apartments 5 storeys or more	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Movable	45	46	46	47	49	50	50	51	51	52	51	52	53	53	51	51	48	46	44	42	41	39	37	35	34	33
Population 15+	5,800	5,824	5,795	5,890	5,924	5,954	5,992	6,011	6,022	6,043	6,045	6,048	6,028	6,047	6,044	6,050	6,051	6,049	6,044	6,039	6,035	6,027	6,020	6,013	6,006	5,999
Labour Force Source Population	5,635	5,658	5,630	5,722	5,756	5,785	5,822	5,840	5,851	5,871	5,873	5,876	5,857	5,875	5,872	5,878	5,879	5,877	5,872	5,867	5,863	5,856	5,849	5,842	5,835	5,829
Participation Rate (%)	64.4	63.7	64.1	63.3	64.3	64.1	64.2	64.4	64.6	64.6	64.8	64.9	65.2	65.1	65.2	65.1	65.2	65.2	65.2	65.2	65.3	65.3	65.4	65.4	65.5	65.5
Labour Force	3,630	3,605	3,608	3,622	3,701	3,710	3,739	3,763	3,780	3,793	3,805	3,815	3,820	3,823	3,826	3,829	3,832	3,831	3,829	3,827	3,826	3,825	3,822	3,820	3,819	3,819
Employed	3,335	3,353	3,370	3,448	3,456	3,483	3,505	3,521	3,534	3,544	3,554	3,558	3,561	3,564	3,567	3,569	3,568	3,567	3,565	3,564	3,563	3,560	3,559	3,557	3,557	3,557
Unemployed	295	252	237	175	245	227	234	242	246	249	251	257	258	259	260	260	264	264	264	264	264	264	264	263	264	262
Unemployment Rate (%)	8.1	7.5	7.0	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Employed Residents minus EPOW	1,215	1,234	1,228	1,255	1,245	1,248	1,252	1,257	1,262	1,267	1,273	1,275	1,278	1,280	1,283	1,285	1,286	1,286	1,286	1,287	1,287	1,285	1,284	1,282	1,280	1,278
Employed by Place-of-Work (EPOW)	2,120	2,120	2,142	2,192	2,211	2,235	2,253	2,264	2,271	2,277	2,281	2,283	2,284	2,284	2,284	2,284	2,283	2,281	2,279	2,277	2,276	2,275	2,275	2,276	2,277	2,278
Agriculture, forestry	265	267	271	282	279	282	283	283	284	284	284	284	283	283	283	282	282	281	280	279	278	277	276	275	274	273
Mining, oil and gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	70	70	83	82	83	83	83	83	83	83	82	82	82	81	81	81	80	80	79	79	78	78	77	77	77	76
Construction	115	114	115	117	119	120	122	123	124	125	126	126	127	127	127	127	128	128	128	128	129	129	130	130	131	132
Manufacturing	515	523	529	541	549	559	560	561	561	561	560	560	559	558	557	556	554	553	551	549	547	545	542	540	537	535
Wholesale trade	75	74	72	73	71	70	69	68	68	67	65	64	63	62	61	60	59	58	57	56	55	54	53	53	53	52
Retail trade	210	208	206	209	209	210	211	210	209	209	208	206	205	204	203	201	200	199	197	196	195	194	193	192	192	192
Transportation, warehousing	45	45	49	49	49	50	51	51	52	53	53	54	55	55	56	56	57	57	58	58	59	59	60	61	61	62
Information, culture	30	30	30	29	30	30	30	30	30	30	30	30	30	29	29	29	29	28	28	28	28	28	28	28	27	27
Finance, insurance	60	60	59	60	60	60	61	61	61	61	61	61	60	60	60	59	59	59	58	58	58	58	57	57	57	57
Professional, scientific, technical	65	65	64	68	67	67	68	69	70	70	70	71	71	71	71	71	71	72	72	72	72	72	72	73	73	74
Other business services	65	65	64	67	68	68	69	70	70	70	71	71	71	71	71	71	71	71	71	71	72	72	72	72	72	73
Education	110	109	112	115	115	116	118	119	119	120	121	121	121	122	122	122	122	122	123	123	123	123	124	124	125	125
Health, social services	185	184	176	189	192	195	199	202	204	207	209	211	213	215	216	218	220	222	223	225	227	229	231	234	236	239
Arts, entertainment, recreation	45	45	45	43	46	46	47	48	48	48	49	49	49	49	49	50	50	50	50	51	51	51	51	52	52	52
Accommodation, food	125	124	125	122	131	134	137	139	141	143	145	147	148	150	151	153	154	156	157	159	160	162	164	166	168	170
Other services	95	94	97	98	98	99	99	100	100	100	100	100	99	99	99	98	98	98	97	97	97	96	96	96	96	96
Government	45	45	43	47	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	44	44	44	44	44	44

Source: Statistics Canada and *metroeconomics*

Schedule 1  
Township of Whitewater Region  
Residential Growth Forecast Summary

Year	Population (Including Census Undercount) <sup>1</sup>	Excluding Census Undercount			Housing Units						Person Per Unit (P.P.U.): Total Population/ Total Households	
		Population	Institutional Population	Population Excluding Institutional Population	Singles & Semi-Detached	Multiple Dwellings <sup>2</sup>	Apartments <sup>3</sup>	Other	Total Households	Equivalent Institutional Households		
Historical	Mid 2006	6,810	6,631	151	6,480	2,415	15	135	20	2,585	137	2.565
	Mid 2011	7,110	6,921	166	6,755	2,492	35	150	10	2,687	151	2.576
	Mid 2016	7,200	7,009	179	6,830	2,535	95	70	70	2,770	163	2.530
Forecast	Late 2019	7,380	7,188	185	7,003	2,621	106	70	70	2,867	168	2.508
	Late 2029	8,160	7,945	204	7,741	2,951	138	70	70	3,229	185	2.461
	Late 2039	8,960	8,725	224	8,501	3,256	181	82	70	3,589	204	2.431
Incremental	Mid 2006 - Mid 2011	300	290	15	275	77	20	15	-10	102	14	
	Mid 2011 - Mid 2016	90	88	13	75	43	60	-80	60	83	12	
	Mid 2016 - Late 2019	180	179	6	173	86	11	0	0	97	5	
	Late 2019 - Late 2029	780	757	19	738	330	32	0	0	363	17	
	Late 2019 - Late 2039	1,580	1,537	39	1,498	635	75	12	0	722	36	

Source: Population forecast derived from County of Renfrew Official Plan (O.P.A. No. 25) for the Township of Whitewater Region, by Watson & Associates Economists Ltd., 2019.  
<sup>1</sup> Census undercount estimated at approximately 2.7%. Note: Population including the undercount has been rounded.  
<sup>2</sup> Includes townhouses and apartments in duplexes.  
<sup>3</sup> Includes bachelor, 1-bedroom and 2-bedroom+ apartments.



Source: Historical housing activity derived from Township of Whitewater Region building permit data, 2009 to 2018, by Watson & Associates Economists Ltd., 2019.  
 1. Growth forecast represents calendar year.

**Schedule 2**  
**Township of Whitewater Region**  
**Estimate of the Anticipated Amount, Type and Location of**  
**Residential Development for Which Development Charges Can Be Imposed**

Development Location	Timing	Single & Semi-Detached	Multiples <sup>1</sup>	Apartments <sup>2</sup>	Total Residential Units	Gross Population In New Units	Existing Unit Population Change	Net Population Increase, Excluding Institutional	Institutional Population	Net Population Including Institutional
Urban	2019 - 2029	112	32	0	144	377	(68)	309	19	328
	2019 - 2039	235	75	12	322	824	(122)	702	39	741
Full Services <sup>3</sup>	2019 - 2029	57	19	0	76	197	(32)	165	10	175
	2019 - 2039	120	45	12	177	442	(57)	385	21	406
Partial Services (Water) <sup>4</sup>	2019 - 2029	55	13	0	68	180	(36)	144	9	153
	2019 - 2039	115	30	0	145	382	(64)	317	18	335
Rural	2019 - 2029	218	0	0	219	609	(181)	429	0	429
	2019 - 2039	400	0	0	400	1,116	(320)	796	0	796
Township of Whitewater Region	2019 - 2029	330	32	0	363	987	(249)	738	19	757
	2019 - 2039	635	75	12	722	1,940	(442)	1,498	39	1,537

Source: Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Includes townhouses and apartments in duplexes.

<sup>2</sup> Includes accessory apartments, bachelor, 1-bedroom and 2-bedroom+ apartments.

<sup>3</sup> Includes the Village of Cobden.

<sup>4</sup> Includes the Village of Beachburg and Haley Townsite.

**Schedule 3**  
**Township of Whitewater Region**  
**Current Year Growth Forecast**  
**Mid 2016 to Late 2019**

		Population
<b>Mid 2016 Population</b>		<b>7,009</b>
Occupants of New Housing Units, Mid 2016 to Late 2019	<i>Units (2)</i>	97
	<i>multiplied by P.P.U. (3)</i>	2.950
	<i>gross population increase</i>	285
		<b>285</b>
Occupants of New Equivalent Institutional Units, Mid 2016 to Late 2019	<i>Units</i>	5
	<i>multiplied by P.P.U. (3)</i>	1.100
	<i>gross population increase</i>	5
		<b>5</b>
Decline in Housing Unit Occupancy, Mid 2016 to Late 2019	<i>Units (4)</i>	2,770
	<i>multiplied by P.P.U. decline rate (5)</i>	-0.040
	<i>total decline in population</i>	-111
		<b>-111</b>
<b>Population Estimate to Late 2019</b>		<b>7,188</b>
<b>Net Population Increase, Mid 2016 to Late 2019</b>		<b>179</b>

- (1) 2016 population based on Statistics Canada Census unadjusted for Census undercount.
- (2) Estimated residential units constructed, Mid-2016 to the beginning of the growth period assuming a six-month lag between construction and occupancy.
- (3) Average number of persons per unit (P.P.U.) is assumed to be:

Structural Type	Persons Per Unit <sup>1</sup> (P.P.U.)	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	3.037	89%	2.702
<i>Multiples (6)</i>	2.254	11%	0.249
<i>Apartments (7)</i>	1.500	0%	0.000
<b>Total</b>		<b>100%</b>	<b>2.950</b>

<sup>1</sup> Based on 2016 Census custom database

<sup>2</sup> Based on Building permit/completion activity

- (4) 2016 households taken from Statistics Canada Census.
- (5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.
- (6) Includes townhouses and apartments in duplexes.
- (7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

**Schedule 4  
Township of Whitewater Region  
Ten Year Growth Forecast  
Late 2019 to Late 2029**

		Population
<b>Late 2019 Population</b>		<b>7,188</b>
Occupants of New Housing Units, Late 2019 to Late 2029	<i>Units (2)</i>	363
	<i>multiplied by P.P.U. (3)</i>	2,722
	<i>gross population increase</i>	987
		<b>987</b>
Occupants of New Equivalent Institutional Units, Late 2019 to Late 2029	<i>Units</i>	17
	<i>multiplied by P.P.U. (3)</i>	1,100
	<i>gross population increase</i>	19
		<b>19</b>
Decline in Housing Unit Occupancy, Late 2019 to Late 2029	<i>Units (4)</i>	2,867
	<i>multiplied by P.P.U. decline rate (5)</i>	-0.087
	<i>total decline in population</i>	-249
		<b>-249</b>
<b>Population Estimate to Late 2029</b>		<b>7,945</b>
<b>Net Population Increase, Late 2019 to Late 2029</b>		<b>757</b>

(1) Late 2019 Population based on:

2016 Population (7,009) + Mid 2016 to Late 2019 estimated housing units to beginning of forecast period (97 x 2.925 = 285) + (5 x 1,100 = 5) + (2,770 x -0.040 = -111) = 7,188

(2) Based upon forecast building permits/completions assuming a lag between construction and occupancy.

(3) Average number of persons per unit (p.p.u.) is assumed to be:

Structural Type	Persons Per Unit <sup>1</sup> (P.P.U.)	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.790	91%	2.542
<i>Multiples (6)</i>	2.021	9%	0.180
<i>Apartments (7)</i>	1.352	0%	0.000
<i>one bedroom or less</i>	0.937		
<i>two bedrooms or more</i>	1.578		
<b>Total</b>		<b>100%</b>	<b>2.722</b>

<sup>1</sup> Persons per unit based on adjusted Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Late 2019 households based upon 2,770 (2016 Census) + 97 (Mid 2016 to Late 2019 unit estimate) = 2,867

(5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(6) Includes townhouses and apartments in duplexes.

(7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

**Schedule 5  
Township of Whitewater Region  
Twenty Year Growth Forecast  
Late 2019 to Late 2039**

		Population
<b>Late 2019 Population</b>		<b>7,188</b>
Occupants of New Housing Units, Late 2019 to Late 2039	<i>Units (2)</i>	722
	<i>multiplied by P.P.U. (3)</i>	2,687
	<i>gross population increase</i>	1,940
Occupants of New Equivalent Institutional Units, Late 2019 to Late 2039	<i>Units</i>	36
	<i>multiplied by P.P.U. (3)</i>	1,100
	<i>gross population increase</i>	39
Decline in Housing Unit Occupancy, Late 2019 to Late 2039	<i>Units (4)</i>	2,867
	<i>multiplied by P.P.U. decline rate (5)</i>	-0.154
	<i>total decline in population</i>	-442
<b>Population Estimate to Late 2039</b>		<b>8,725</b>
<b>Net Population Increase, Late 2019 to Late 2039</b>		<b>1,537</b>

(1) Late 2019 Population based on:

2016 Population (7,009) + Mid 2016 to Late 2019 estimated housing units to beginning of forecast period (97 x 2.925 = 285) + (5 x 1.100 = 5) + (2,770 x -0.040 = -111) = 7,188

(2) Based upon forecast building permits/completions assuming a lag between construction and occupancy.

(3) Average number of persons per unit (p.p.u.) is assumed to be:

Structural Type	Persons Per Unit <sup>1</sup> (P.P.U.)	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.790	88%	2.454
<i>Multiples (6)</i>	2.021	10%	0.211
<i>Apartments (7)</i>	1.352	2%	0.022
<i>one bedroom or less</i>	0.937		
<i>two bedrooms or more</i>	1.578		
<b>Total</b>		100%	2.687

<sup>1</sup> Persons per unit based on Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Late 2019 households based upon 2,770 (2016 Census) + 97 (Mid 2016 to Late 2019 unit estimate) = 2,867

(5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(6) Includes townhouses and apartments in duplexes.

(7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

**Schedule 6**  
**Township of Whitewater Region**  
**Historical Residential Building Permits**  
**Years 2009 to 2018**

Year	Residential Building Permits			
	Singles & Semi Detached	Multiples <sup>1</sup>	Apartments <sup>2</sup>	Total
2009	19	0	0	19
2010	40	4	0	44
2011	24	0	0	24
2012	29	3	0	32
2013	33	0	0	33
Sub-total	145	7	0	152
<b>Average (2009 - 2013)</b>	<b>29</b>	<b>1</b>	<b>0</b>	<b>30</b>
% Breakdown	95.4%	4.6%	0.0%	100.0%
2014	20	0	0	20
2015	15	3	0	18
2016	21	3	0	24
2017	27	0	0	27
2018	22	7	0	29
Sub-total	105	13	0	118
<b>Average (2014 - 2018)</b>	<b>21</b>	<b>3</b>	<b>0</b>	<b>24</b>
% Breakdown	89.0%	11.0%	0.0%	100.0%
2009 - 2018				
Total	250	20	0	270
<b>Average</b>	<b>25</b>	<b>2</b>	<b>0</b>	<b>27</b>
% Breakdown	92.6%	7.4%	0.0%	100.0%

Source: Historical housing activity derived from Township of Whitewater Region building permit data, 2009 to 2018, by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Includes townhouses and apartments in duplexes.

<sup>2</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

**Schedule 7a**  
**Township of Whitewater Region**  
**Persons Per Unit By Age and Type of Dwelling**  
**(2016 Census)**

Age of Dwelling	Singles and Semi-Detached						25 Year Average	25 Year Forecast <sup>1</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	-	3.000	-	<b>3.037</b>		
6-10	-	-	-	2.680	-	<b>3.032</b>		
11-15	-	-	-	2.571	-	<b>2.480</b>		
16-20	-	-	-	2.667	-	<b>2.519</b>		
20-25	-	-	-	2.839	-	<b>2.658</b>	2.745	2.790
25-35	-	-	1.917	2.436	-	<b>2.463</b>		
35+	-	-	1.677	2.521	4.150	<b>2.427</b>		
<b>Total</b>	-	-	<b>1.822</b>	<b>2.583</b>	<b>4.417</b>	<b>2.526</b>		

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	-	-	-	3.000	-	<b>3.037</b>
6-10	-	-	-	2.792	-	<b>2.939</b>
11-15	-	-	-	2.571	-	<b>2.407</b>
16-20	-	-	-	2.450	-	<b>2.483</b>
20-25	-	-	-	2.848	-	<b>2.571</b>
25-35	-	-	1.833	2.500	-	<b>2.317</b>
35+	-	1.600	1.684	2.523	4.200	<b>2.373</b>
<b>Total</b>	-	<b>1.522</b>	<b>1.778</b>	<b>2.587</b>	<b>4.297</b>	<b>2.455</b>

<sup>1</sup> PPU has been forecasted based on 2001-2016 historical trends.

*Note: Does not include Statistics Canada data classified as 'Other'*

*P.P.U. Not calculated for samples less than or equal to 50 dwelling units, and does not include institutional population.*

**Schedule 7b  
Renfrew County  
Persons Per Unit By Age and Type of Dwelling  
(2016 Census)**

Age of Dwelling	Multiples <sup>1</sup>						25 Year Average	25 Year Forecast <sup>3</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	1.762	2.553	-	<b>2.254</b>		
6-10	-	-	1.750	2.037	-	<b>1.868</b>		
11-15	-	-	-	-	-	<b>1.882</b>		
16-20	-	-	-	2.136	-	<b>2.000</b>		
20-25	-	-	1.813	2.056	-	<b>1.833</b>	1.967	2.275
25-35	-	-	1.720	2.259	-	<b>1.982</b>		
35+	-	1.148	1.887	2.615	-	<b>2.255</b>		
<b>Total</b>	-	<b>1.429</b>	<b>1.826</b>	<b>2.447</b>	-	<b>2.128</b>		

Age of Dwelling	Apartments <sup>2</sup>						25 Year Average	25 Year Forecast <sup>3</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	-	-	-	<b>1.500</b>		
6-10	-	-	-	-	-	<b>1.500</b>		
11-15	-	-	1.429	-	-	<b>1.333</b>		
16-20	-	-	1.417	-	-	<b>1.250</b>		
20-25	-	1.077	1.577	-	-	<b>1.298</b>	1.376	1.352
25-35	-	1.083	1.418	-	-	<b>1.281</b>		
35+	-	1.141	1.634	2.582	-	<b>1.477</b>		
<b>Total</b>	<b>1.100</b>	<b>1.126</b>	<b>1.568</b>	<b>2.493</b>	-	<b>1.426</b>		

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	-	1.211	1.741	2.763	4.710	<b>2.627</b>
6-10	-	2.000	1.851	2.794	4.211	<b>2.740</b>
11-15	-	1.444	1.797	2.740	4.040	<b>2.571</b>
16-20	-	1.294	1.688	2.642	3.833	<b>2.499</b>
20-25	-	1.132	1.789	2.658	3.500	<b>2.432</b>
25-35	-	1.128	1.695	2.502	3.625	<b>2.264</b>
35+	-	1.239	1.757	2.476	3.406	<b>2.227</b>
<b>Total</b>	<b>0.909</b>	<b>1.240</b>	<b>1.754</b>	<b>2.545</b>	<b>3.694</b>	<b>2.320</b>

<sup>1</sup> Includes townhouses and apartments in duplexes.

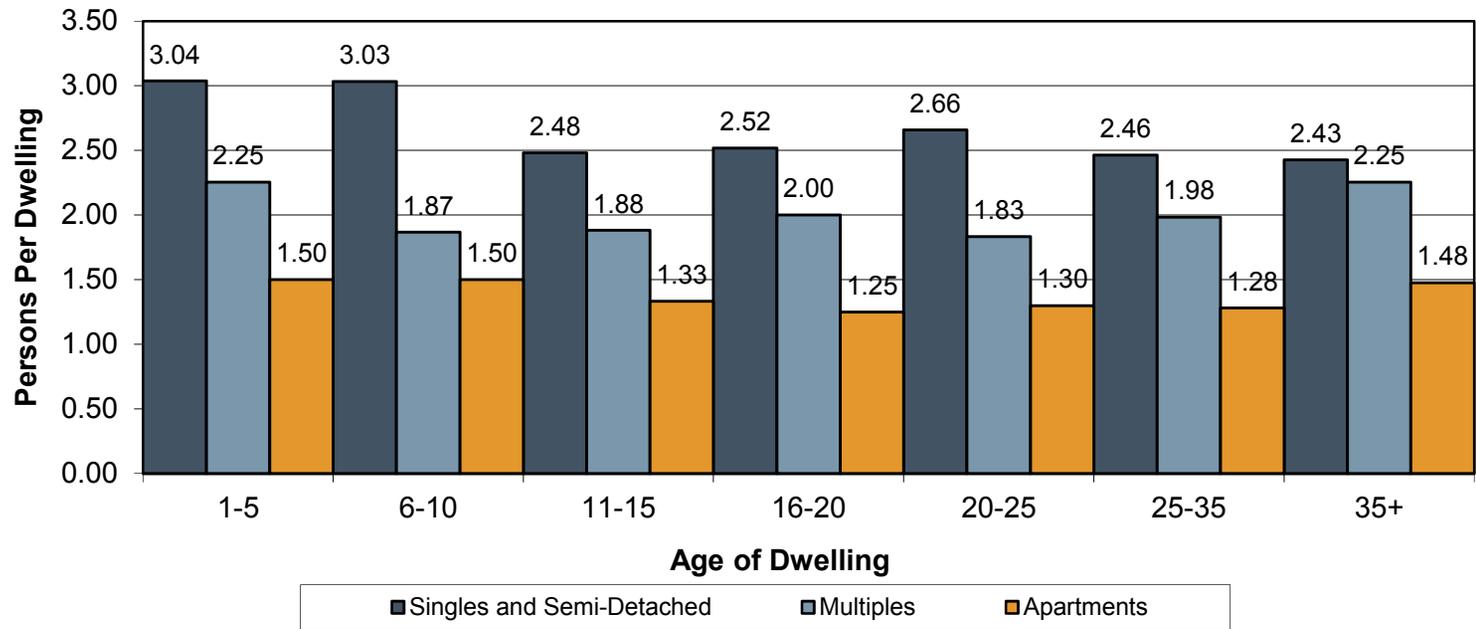
<sup>2</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

<sup>3</sup> PPU has been adjusted and forecast based on 2001-2016 County and Provincial historical trends.

*Note: Does not include Statistics Canada data classified as 'Other'*

*P.P.U. Not calculated for samples less than or equal to 50 dwelling units, and does not include institutional population.*

**Schedule 8  
Township of Whitwater Region  
Persons Per Unit By Structural Type and Age of Dwelling  
(2016 Census)**



Multiple and Apartment P.P.U.s are based on Renfrew County.

**Schedule 9a  
Township of Whitewater Region  
Employment Forecast, 2019 to 2039**

DRAFT

Period	Population	Activity Rate								Employment								Employment Total (Excluding Work at Home and N.F.P.O.W.)
		Primary <sup>1</sup>	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W. <sup>2</sup>	Total Including NFPOW	Primary <sup>1</sup>	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W. <sup>2</sup>	Total Employment (Including N.F.P.O.W.)	
Mid 2006	6,631	0.019	0.075	0.107	0.077	0.046	0.323	0.041	0.364	125	500	708	508	305	2,145	270	2,415	1,645
Mid 2011	6,921	0.013	0.053	0.137	0.050	0.043	0.297	0.057	0.354	90	370	948	348	300	2,055	395	2,450	1,685
Mid 2016	7,009	0.006	0.072	0.111	0.072	0.041	0.302	0.061	0.362	40	505	780	505	285	2,115	425	2,540	1,610
Late 2019	7,215	0.006	0.072	0.109	0.072	0.041	0.300	0.061	0.361	45	520	790	520	293	2,168	437	2,605	1,648
Late 2029	8,029	0.014	0.074	0.102	0.075	0.041	0.306	0.063	0.369	115	591	821	603	326	2,456	503	2,959	1,865
Late 2039	8,725	0.020	0.076	0.097	0.077	0.041	0.311	0.065	0.376	171	664	850	672	355	2,712	568	3,280	2,048
<b>Incremental Change</b>																		
Mid 2006 - Mid 2011	290	-0.006	-0.022	0.030	-0.026	-0.003	-0.027	0.016	-0.010	-35	-130	240	-160	-5	-90	125	35	40
Mid 2011 - Mid 2016	88	-0.0073	0.0186	-0.0256	0.0218	-0.0027	0.0048	0.0036	0.0084	-50	135	-168	158	-15	60	30	90	-75
Mid 2016 - Late 2019	206	0.0005	0.0000	-0.0018	0.0000	0.0000	-0.0013	0.0000	-0.0013	5	15	10	15	8	53	12	65	38
Late 2019 - Late 2029	814	0.0081	0.0016	-0.0072	0.0030	0.0000	0.0055	0.0020	0.0075	70	71	31	83	33	288	66	354	217
Late 2019 - Late 2039	1,510	0.0134	0.0040	-0.0121	0.0050	0.0000	0.0103	0.0045	0.0148	126	144	60	152	62	544	131	675	400
<b>Annual Average</b>																		
Mid 2006 - Mid 2011	58	-0.00117	-0.00439	0.00604	-0.00526	-0.00053	-0.00531	0.00327	-0.00204	-7	-26	48	-32	-1	-18	25	7	8
Mid 2011 - Mid 2016	18	-0.0015	0.0037	-0.0051	0.0044	-0.0005	0.0010	0.0007	0.0017	-10	27	-34	32	-3	12	6	18	-15
Mid 2016 - Late 2019	69	0.0002	0.0000	-0.0006	0.0000	0.0000	-0.0004	0.0000	-0.0004	2	5	3	5	3	18	4	22	13
Late 2019 - Late 2029	81	0.00081	0.00016	-0.00072	0.00030	0.00000	0.00055	0.00020	0.00075	7	7	3	8	3	29	7	35	22
Late 2019 - Late 2039	76	0.00067	0.00020	-0.00061	0.00025	0.00000	0.00052	0.00022	0.00074	6	7	3	8	3	27	7	34	20

Source: Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Primary industry includes cannabis growing operation related employment.

<sup>2</sup> Statistics Canada defines no fixed place of work (N.F.P.O.W.) employees as "persons who do not go from home to the same work place location at the beginning of each shift". Such persons include building and landscape contractors, travelling salespersons, independent truck drivers, etc.

**Schedule 9b  
Township of Whitewater Region  
Employment & Gross Floor Area (G.F.A) Forecast, 2019 to 2039**

Period	Population	Employment					Gross Floor Area in Square Feet (Estimated) <sup>1</sup>				
		Primary <sup>2</sup>	Industrial	Commercial/ Population Related	Institutional	Total	Primary - Non- Bona Fide Farming <sup>3</sup>	Industrial	Commercial/ Population Related	Institutional	Total
Mid 2006	6,631	125	708	508	305	1,645					
Mid 2011	6,921	90	948	348	300	1,685					
Mid 2016	7,009	40	780	505	285	1,610					
Late 2019	7,215	45	790	520	293	1,648					
Late 2029	8,029	115	821	603	326	1,865					
Late 2039	8,725	171	850	672	355	2,048					
<b>Incremental Change</b>											
Mid 2006 - Mid 2011	290	-35	240	-160	-5	40					
Mid 2011 - Mid 2016	88	-50	-168	158	-15	-75					
Mid 2016 - Late 2019	206	5	10	15	8	38	19,000	15,000	10,500	5,600	50,100
Late 2019 - Late 2029	814	70	31	83	33	217	266,000	46,500	58,100	23,100	393,700
Late 2019 - Late 2039	1,510	126	60	152	62	400	478,800	90,000	106,400	43,400	718,600
<b>Annual Average</b>											
Mid 2006 - Mid 2011	58	-7	48	-32	-1	8					
Mid 2011 - Mid 2016	18	-10	-34	32	-3	-15					
Mid 2016 - Late 2019	69	2	3	5	3	13	6,333	5,000	3,500	1,867	16,700
Late 2019 - Late 2029	81	7	3	8	3	22	53,200	4,650	5,810	2,310	39,370
Late 2019 - Late 2039	76	6	3	8	3	20	23,940	4,500	5,320	2,170	35,930

Source: Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Square Foot Per Employee Assumptions  
 Primary - Non-Bona Fide Farming      3,800  
 Industrial                                      1,500  
 Commercial/ Population Related        700  
 Institutional                                    700

<sup>2</sup> Primary industry includes cannabis growing operation related employment.

<sup>3</sup> Non-bona fide farming is defined as cannabis growing operation related employment for G.F.A. purposes in Schedules 9b and 9c.

\* Reflects Late 2019 to Late 2039 forecast period

**Schedule 9c**  
**Township of Whitewater Region**  
**Estimate of the Anticipated Amount, Type and Location of**  
**Non-Residential Development for Which Development Charges can be Imposed**

Development Location	Timing	Primary - Non-Bona Fide Farming <sup>1 2</sup>	Industrial G.F.A. S.F. <sup>1</sup>	Commercial G.F.A. S.F. <sup>1</sup>	Institutional G.F.A. S.F. <sup>1</sup>	Total Non-Residential G.F.A. S.F.	Employment Increase <sup>3</sup>
Urban	2019 - 2029	-	24,000	40,600	23,100	87,700	107
	2019 - 2039	-	45,000	74,200	43,400	162,600	198
Full Services <sup>4</sup>	2019 - 2029	-	12,000	30,800	17,500	60,300	77
	2019 - 2039	-	22,500	56,000	32,900	111,400	142
Partial Services (Water) <sup>5</sup>	2019 - 2029	-	12,000	9,800	5,600	27,400	30
	2019 - 2039	-	22,500	18,200	10,500	51,200	56
Rural	2019 - 2029	266,000	22,500	17,500	-	40,000	110
	2019 - 2039	478,800	45,000	32,200	-	77,200	202
Township of Whitewater Region	2019 - 2029	266,000	46,500	58,100	23,100	127,700	217
	2019 - 2039	478,800	90,000	106,400	43,400	239,800	400

Source: Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Square feet per employee assumptions:

Primary - Non-Bona Fide Farming	3,800
Industrial	1,500
Commercial	700
Institutional	700

<sup>2</sup> Non-bona fide farming is defined as cannabis growing operation related employment for G.F.A. purposes in Schedules 9b and 9c.

<sup>3</sup> Employment increase does not include No Fixed Place of Work.

<sup>4</sup> Includes the Village of Cobden.

<sup>5</sup> Includes the Village of Beachburg and Haley Townsite.

\* Reflects Late 2019 to Late 2039 forecast period

Note: Numbers may not add to totals due to rounding.

**Schedule 10  
Township of Whitewater Region  
Non-Residential Construction Value  
Years 2007 to 2016  
(000's 2018 \$)**

YEAR	Industrial				Commercial				Institutional				Total			
	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total
2007	1,237	118	3,492	4,847	146	50	0	196	146	0	466	611	1,528	168	3,958	5,654
2008	1,033	50	0	1,083	972	307	0	1,279	285	0	0	285	2,290	357	0	2,647
2009	2,692	94	0	2,785	84	1,433	0	1,516	0	40	0	40	2,775	1,566	0	4,341
2010	292	1,244	0	1,536	97	81	0	178	2	30	0	32	391	1,356	0	1,747
2012	393	102	0	495	162	66	0	228	0	6	0	6	555	175	0	730
2013	0	0	0	0	202	257	0	459	29	32	0	61	231	288	0	520
2014	176	0	0	176	289	114	0	402	0	76	0	76	465	190	0	655
2015	0	0	0	0	21	83	0	104	0	0	0	0	21	83	0	104
2016	533	40	0	573	261	107	0	369	179	0	0	179	974	147	0	1,121
<b>Subtotal</b>	<b>7,007</b>	<b>1,751</b>	<b>3,492</b>	<b>12,250</b>	<b>4,084</b>	<b>2,738</b>	<b>0</b>	<b>6,822</b>	<b>872</b>	<b>195</b>	<b>466</b>	<b>1,532</b>	<b>11,963</b>	<b>4,684</b>	<b>3,958</b>	<b>20,605</b>
<b>Percent of Total</b>	<b>57%</b>	<b>14%</b>	<b>29%</b>	<b>100%</b>	<b>60%</b>	<b>40%</b>	<b>0%</b>	<b>100%</b>	<b>57%</b>	<b>13%</b>	<b>30%</b>	<b>100%</b>	<b>58%</b>	<b>23%</b>	<b>19%</b>	<b>100%</b>
<b>Average</b>	<b>876</b>	<b>250</b>	<b>3,492</b>	<b>1,531</b>	<b>408</b>	<b>274</b>	<b>#DIV/0!</b>	<b>682</b>	<b>145</b>	<b>32</b>	<b>466</b>	<b>170</b>	<b>1,196</b>	<b>468</b>	<b>3,958</b>	<b>2,060</b>
2007 - 2011 Period Total				11,005				5,261				1,210				17,475
<b>2007 - 2011 Average</b>				<b>2,201</b>				<b>1,052</b>				<b>242</b>				<b>3,495</b>
% Breakdown				63.0%				30.1%				6.9%				100.0%
2012 - 2016 Period Total				1,245				1,562				323				3,130
<b>2012 - 2016 Average</b>				<b>249</b>				<b>312</b>				<b>65</b>				<b>626</b>
% Breakdown				39.8%				49.9%				10.3%				100.0%
2007 - 2016 Period Total				12,250				6,822				1,532				20,605
<b>2007 - 2016 Average</b>				<b>1,225</b>				<b>682</b>				<b>153</b>				<b>2,060</b>
% Breakdown				59.5%				33.1%				7.4%				100.0%

Source: Statistics Canada Publication, 64-001-XIB

Note: Inflated to year-end 2017 (January, 2018) dollars using Reed Construction Cost Index

## Schedule 11

## Township of Whitewater Region

## Employment to Population Ratio by Major Employment Sector, 2006 to 2016

NAICS		Year			Change		Comments
		2006	2011	2016	06-11	11-16	
<b>Employment by industry</b>							
	<b>Primary Industry Employment</b>						
11	<i>Agriculture, forestry, fishing and hunting</i>	375	355	265	-20	-90	Categories which relate to local land-based resources
21	<i>Mining and oil and gas extraction</i>	0	0	0	0	0	
<b>Sub-total</b>		<b>375</b>	<b>355</b>	<b>265</b>	<b>-20</b>	<b>-90</b>	
	<b>Industrial and Other Employment</b>						
22	<i>Utilities</i>	60	100	70	40	-30	Categories which relate primarily to industrial land supply and demand
23	<i>Construction</i>	80	95	115	15	20	
31-33	<i>Manufacturing</i>	560	630	515	70	-115	
41	<i>Wholesale trade</i>	60	90	75	30	-15	
48-49	<i>Transportation and warehousing</i>	50	40	45	-10	5	
56	<i>Administrative and support</i>	13	8	33	-5	25	
<b>Sub-total</b>		<b>823</b>	<b>963</b>	<b>853</b>	<b>140</b>	<b>-110</b>	
	<b>Population Related Employment</b>						
44-45	<i>Retail trade</i>	120	85	210	-35	125	Categories which relate primarily to population growth within the municipality
51	<i>Information and cultural industries</i>	25	50	30	25	-20	
52	<i>Finance and insurance</i>	55	35	40	-20	5	
53	<i>Real estate and rental and leasing</i>	15	0	20	-15	20	
54	<i>Professional, scientific and technical services</i>	50	30	65	-20	35	
55	<i>Management of companies and enterprises</i>	0	0	0	0	0	
56	<i>Administrative and support</i>	13	8	33	-5	25	
71	<i>Arts, entertainment and recreation</i>	95	105	45	10	-60	
72	<i>Accommodation and food services</i>	110	15	125	-95	110	
81	<i>Other services (except public administration)</i>	145	90	95	-55	5	
<b>Sub-total</b>		<b>628</b>	<b>418</b>	<b>663</b>	<b>-210</b>	<b>245</b>	
	<b>Institutional</b>						
61	<i>Educational services</i>	115	60	110	-55	50	
62	<i>Health care and social assistance</i>	180	165	180	-15	15	
91	<i>Public administration</i>	25	95	45	70	-50	
<b>Sub-total</b>		<b>320</b>	<b>320</b>	<b>335</b>	<b>0</b>	<b>15</b>	
<b>Total Employment</b>		<b>2,145</b>	<b>2,055</b>	<b>2,115</b>	<b>-90</b>	<b>60</b>	
<b>Population</b>		<b>6,631</b>	<b>6,921</b>	<b>7,009</b>	<b>290</b>	<b>88</b>	
<b>Employment to Population Ratio</b>							
<b>Industrial and Other Employment</b>		<b>0.12</b>	<b>0.14</b>	<b>0.12</b>	<b>0.02</b>	<b>-0.02</b>	
<b>Population Related Employment</b>		<b>0.09</b>	<b>0.06</b>	<b>0.09</b>	<b>-0.03</b>	<b>0.03</b>	
<b>Institutional Employment</b>		<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.00</b>	<b>0.00</b>	
<b>Primary Industry Employment</b>		<b>0.06</b>	<b>0.05</b>	<b>0.04</b>	<b>-0.01</b>	<b>-0.01</b>	
<b>Total</b>		<b>0.32</b>	<b>0.30</b>	<b>0.30</b>	<b>-0.03</b>	<b>0.00</b>	

Source: Statistics Canada Employment by Place of Work

Note: 2006-2016 employment figures are classified by North American Industry Classification System (NAICS) Code