11. Our Changing Landscape

We would be remiss to write a report on the long-term prospects for Vermont's tax structure without discussing some of the key social, economic, and environmental changes that will impact our state and our revenue system over the coming decade. There will invariably be others, as the current pandemic serves as all too stark of a reminder, so this section is not intended to be exhaustive. It also does not attempt to offer comprehensive analyses or forecasts. Our aim instead is to underscore the importance of having an agile tax structure and to offer thoughts on how to approach three areas of change:

- Climate Change
- Technology
- Demographics

Climate Change and the Tax Structure

Many state, national and global scientific experts have predicted the likely consequences of climate change and suggested approaches to reduce carbon emissions. The commission relied on those forecasts and tried to imagine the corresponding tax implications. First, we looked at predicted effects of climate change that might affect the tax bases and tax revenue, absent interventions. Second, we looked at approaches to mitigate and adapt to climate change that might either affect current tax bases or that might rely on new taxes, changes to existing taxes, or tax credits. We then considered the combined effect of climate change and Vermont's response on the tax structure.

Tax Related Consequences of Climate Change

Briefly, the main immediate climate consequences in Vermont are expected to be: warmer temperatures; longer summers, shorter winters, and unpredictable shoulder seasons; intense and unpredictable weather events; more precipitation in the winter but summer drought. These, in turn, will lead to stress and decline in some native species but increased productivity of some crops and weeds; spread of invasive species, ticks and tick-borne diseases; storm damages to structures, infrastructure, forests, and agriculture. In general, there will be damages to health, homes, forests, infrastructure, agriculture, labor, tourism, and supply chains. Nationally, the effect has been estimated to be a loss of 1% to 3.1% of average GDP by the end of the century.[1] The composition of Vermont's GDP by sector looks similar to that of the nation.

2019 GDP[2]	US		VT

[1] RCP8.5. T. Deryugina, S. M. Hsiang, NBER Working Paper 20750 (NBER, 2014); www.nber.org/papers/w20750

[2] BEA

All industry total (million $)	21,427,690		34,785
Agriculture, forestry, fishing and hunting	0.8%		1.2%
Mining, quarrying, and oil and gas extraction	1.5%		0.5%
Utilities	1.6%		1.9%
Construction	4.1%		3.3%
Manufacturing	11.0%		9.3%
Wholesale trade	6.0%		4.9%
Retail trade	5.5%		7.4%
Transportation and warehousing	3.2%		1.7%
Information	5.2%		2.6%
Finance, insurance, real estate, rental, and leasing	21.0%		19.4%
Professional and business services	12.8%		10.9%
Educational services, health care, and social assistance	8.8%		14.0%
Arts, entertainment, and recreation	1.1%		1.0%
Accommodation and food services	3.1%		5.3%
Other services (except government and government enterprises)	2.1%		2.3%
Government and government enterprises	12.3%		14.3%

However, there are ways in which Vermont's economy is different. The Bureau of Economic Analysis looks at outdoor recreation as a component of GDP—teasing out recreation activities from several of the traditionally tallied categories shown in the table above. In the US as a whole, outdoor recreation accounts for 2% of GDP; in Vermont it accounts for 5.2% of GDP and 4.4% of Vermont's employment.[3] This total includes not just the recreation activity itself, but also associated expenditures.

Although outdoor recreation in all seasons is important to the economy, snow sports account for nearly half of the outdoor recreation value added. A NOAA study projects Vermont will have 25-34 fewer days below freezing per year by 2080. [4] The shorter snow season will be punctuated by more interludes of rain and warmth, severely reducing the snowpack for snowmobiling and back county skiing, and challenging the ability of snowmaking to save the alpine ski season. Because the season is projected to start later, it is less likely that Vermont ski areas will be able to open during the Christmas/New Year's holidays by the second half of the century, even with significant increases in snowmaking.[5]

[3] https://www.bea.gov/news/2020/outdoor-recreation-satellite-account-us-and-states-2019

[4] https://www.climate.gov/sites/default/files/station_locations_lrg_0.png

[5] Climate Change Vulnerability of the US Northeast Winter Recreation - Tourism Sector. 2007. Daniel Scott * Department of Geography, University of Waterloo, Canada Jackie Dawson Department of Geography, University of Waterloo, Canada Brenda Jones Department of Geography, University of Waterloo, Canada

Agriculture is also more important in Vermont that in the nation as a whole. The market value of products sold in 2017 was estimated to be $780 million. [6] Just as with snow sports, agriculture is part of the Vermont brand and is the foundation of many value-added enterprises, including tourism.

According to the USDA, climate change may affect dairy not only by stressing cows, but also by changes in crop production; changes in feed-grain availability, and price; and disease and pest distributions.[7]

Maple trees will suffer as the Vermont climate changes. One Vermont study concluded "climate projections under a low emissions scenario indicated that by 2071 55% of sugar maple across the state would likely experience moderate to severe climate-driven stress relative to historic baselines, increasing to 84% under a high emissions scenario."[8] The yield and sugar content of maple sap are projected to drop due to shorter seasons, fewer freezing nights, and stressed trees.[9] And, a shorter and less predictable fall, with a diminishing pop of bright maple leaves, will dim the foliage tourist season.

Apple trees, balsam Christmas trees, and northern hardwood forests as we know them will also be stressed as their preferred climate changes and new pests, diseases, and invasive species gain foothold.

As dire as it may seem, Vermont is expected to be better off than many other parts of the US. For many crops, production is projected to increase in Vermont due to longer growing seasons and CO2 fertilization. In the southern part of the US, on the other hand, production is projected to decrease due to heat and drought.

Vermont is predicted to have a relative advantage in more than just agriculture; one national study projected climate change consequences on agriculture, energy demand, crime, labor and

[6] USDA Census of Agriculture www.nass.usda.gov/AgCensus
[7] USDA, Climate Change and Agriculture in the United States: Effects and Adaptation, USDA Technical Bulletin 1935. Washington, DC, 2012, www.usda.gov/oce/climate_change/effects_2012/effects_agriculture.htm
[8]The complex relationship between climate and sugar maple health: Climate change implications in Vermont for a key northern hardwood species. 2018. https://epscor.w3.uvm.edu/2/biblio?f%5Bauthor%5D=2498
[9] https://www.uvm.edu/femc/attachments/project/999/annualMeeting/2017/presentations/Rapp_FEMC_ImpactsOfClimateChangeOnMapleSyrupProduction_121417.pdf

mortality and showed all Vermont counties doing relatively well in comparison to other parts of the country.[10] The study results indicate a "large transfer of value northward and westward."

This may lead to what is perhaps the most significant consequence of climate change on the Vermont economy: in-migration. It is estimated that 40% of US residents live in coastal areas, which are most likely to experience flooding and hurricane damage. In neighboring Massachusetts alone, 62,069 homes are at risk of being underwater if sea levels rise by 6 feet. [11] Cities, which have concentrations of industry as well as residents, are also projected to be hotter and to have higher levels of air pollution than rural areas. Although several studies have located the houses and businesses at risk and the potential for out-migration, few have attempted to give more shape to where the migrants will go except: inland and north.

Obviously, the effects of climate change will be far ranging and substantial. However, they do not necessarily indicate a change in Vermont's tax structure. While some enterprises may decline, others, such as renewable energy, information, and construction are likely to grow--especially after considering Vermont's advantage relative to other parts of the country. While there may be reductions in property values due to storm damages and perceived risk as well as decreased demand for slope-side condominiums, reconstruction and in-migration may add new development to the property tax rolls. Consumption taxes will need ongoing revision as new services are developed to deal with changes and as consumers spend more on services and less on goods. The rooms and meals tax is likely tax to suffer disproportionately, although it is also possible that Vermont will provide a welcome escape from the hot cities, offsetting some of the loss of winter tourism.

Tax-Related Efforts to Reduce Carbon Emissions and Adapt to Consequences

The Legislature has looked at both pricing and non-pricing options for reducing climate emissions, and recently commissioned a decarbonization study to provide objective estimates to help craft the state's response.[12] Pricing options generally involve carbon taxes, or cap-and-trade programs that would increase the price of emitting carbon. Non-pricing approaches include things like incentives to purchase electric vehicles, investments in public transportation, and regulations or performance standards . For Vermont to reach its emission goals, both pricing and non-pricing initiatives are being developed.

The pricing approaches tend to be more comprehensive and more cost effective. The main difference between the types of pricing options is that a climate tax sets a price for carbon, but

[10] Hsiang, S., Kopp, R.E., Jina, A., Rising, J., Delgado M., Mohan, S., Rasmussen, D.J., Muir-Wood, R., Wilson, P., Oppenheimer, M., Larsen, K., and Houser, T. (2017). Estimating economic damage from climate change in the United States. *Science.* doi:10.1126/science.aal4369

[11] Rao, Krishna. 2017, June 2. "Climate Change and Housing: Will a Rising Tide Sink All Homes?" Zillow Research.

[12] An Analysis of Decarbonization Methods in Vermont. 2019. Marc A.C. Hafstead, Wesley Look, Amelia Keyes, Joshua Linn, Dallas Burtraw, Roberton C. Williams III

not the emission level that results. A cap and trade approach, on the other hand, sets the emission level allowed, but not the price. In addition, carbon taxes tend to apply to all carbon emissions while cap-and-trade programs tend to apply to only certain sectors such as electricity or transportation. As with taxes in general, the broader the base, the more effective and less distortionary it can be, at a lower rate.

Both pricing approaches result in revenue to the state, which can be distributed to make investments to further the goal of carbon reduction, to reduce the cost of electricity, to reduce taxes, and/or to make payments to households to help offset the cost increases due to the carbon pricing. Some of the options to return this revenue to the economy are tax related: tax credits, tax exemptions, and reductions in tax rates.

To achieve reasonably similar reductions in carbon, either approach would result in a slight reduction in GDP, which could be offset to different degrees by different uses of the resulting state revenue and non-pricing activities. A reduction in the GDP would mean a reduction in tax revenue, in addition to the reduction in gas tax revenue. However, when accounting for the environmental and health benefits, all options considered by the decarbonization study commissioned by the legislature would result in net benefits.

At the current time, Vermont is participating the in the Regional Greenhouse Gas Initiative (RGGI) that covers electricity generation, and is considering joining the Transportation Climate Initiative (TCI), a regional cap-and-trade program that covers carbon emissions in the transportation sector. While regional cap-and-trade programs increase fuel prices, they do so for all participating states. In contrast, a Vermont carbon tax on the same sectors would cause the loss of revenue to neighboring states and the perception of Vermont having higher taxes.

Pricing approaches are likely to be less successful in reducing emissions in Vermont than they would be in other areas in the country because a high proportion of our emissions come from activities that are necessary, and therefore less likely to be reduced if the price is increased. About 43% of Vermont's emissions come from transportation while only 28% of the emissions in the US do. Similarly, 24% of Vermont's emissions come from heating, while only 10% of the emission in the US do.[13] Reducing the use in these sectors is difficult unless there are viable alternatives to meeting the need. For this reason, non-pricing approaches that provide economically feasible alternatives are needed, even though in isolation they may be less cost effective than pricing approaches.

Both the Vermont Energy Action Network (EAN) and the Vermont Climate Action Commission (VCAC) have recommended numerous non-pricing actions to reduce emissions, generate energy from renewable sources, and sequester carbon. Many recommendations would provide

[13] This estimate comes from An Analysis of Decarbonization Methods in Vermont. P.14. According to Vermont's Energy Action Network, 28% of Vermont's emissions come from heating. https://www.vtenergydashboard.org/uploads/slideshow/EAN-report-2018-highres-compressed.pdf

incentives to help Vermont families transition off fossil fuels. Some of these do not require public funds. The electric utilities can provide financing for some of the investments needed by households and businesses to switch from fossil fuels to electricity.[14] This type of investment would meet the Tier 3 requirements of Vermont's Renewable Energy Standard while also increasing electricity sales. But other incentives recommended to be expanded, such as the Electric Vehicle purchase incentive and the Clean Energy Development Fund incentives, would be publicly supported. In addition, because transition investments are difficult, if not impossible, for lower income households, public funding is recommended for expanding loan programs and doubling the Weatherization Assistance Program.

Many recommended initiatives are state infrastructure projects, requiring public funding. These include state aid for school biomass projects, and expanding public transit and rail infrastructure.

While most climate change programs often focus on reduction of emissions and/or renewable generation, the VCAC notes that sequestration is also important and frequently overlooked. They recommend investments to conserve forest land not only for sequestration, but also for flood protection which is increasingly important in weathering the intense storms in the changing climate. This may be looked at as preventing emissions, as the report states: "Every acre of forest lost to development has the potential to release a hundred metric tons of carbon dioxide equivalent into the atmosphere – like adding 25 cars for a year."[15]

The most obvious effects of Vermont's responses to climate change are likely to be a reduction in the fuel-dependents sectors of the economy, an increase in the electricity and green energy sectors, a slight reduction in the GDP from pricing which may be offset by growth induced by the non-pricing actions, a reduction in the gas tax revenue, and the need for more funding for transition initiatives.

In Combination

The commission appreciates the efforts being made in mitigating and adapting to climate change. Our scope is only to consider the tax implications, and to align them with the principles adopted by the commission. We are looking only at a short-term forecast of a transition period; our assumption is that investments made during this transition period will protect the state and strengthen the economy over the long term. As such, we offer a few observations.

In combination, climate change and programs to address it, are likely to decrease GSP slightly during the transition period, and therefore reduce revenue from current taxes at current rates. The greatest hits will probably be in the Gas Tax and the Rooms and Meals tax.

[14] Vermont Climate Action Commission. 2018. http://anr.vermont.gov/about_us/special-topics/vermont-climate-action- commission
[15] VCAC Final Report. P.55

Because lower income households pay a higher percentage of their incomes in fuel, any increase in fuel prices is likely to be regressive. Whether the pricing mechanism is called a tax or not, the commission recommends returning enough of the resulting revenue to households to offset the regressivity.

The commission supports the use of tax credits and exemptions to reduce the upfront cost of some investments that will make the transition possible, even though in general the commission strives to keep the tax base as broad as possible. But it is important to also enable citizens who can't afford to make an investment at all to transition off fossil fuels. Combining an upfront incentive with a loan that can be paid off through savings in a short period of time may be helpful, although outside of the tax code.

We would like to address the apparent contradiction in our support for using the tax code to support the transition to a clean energy economy on one hand, and our recommendation to charge owners of electric cars an annual road use fee in lieu of paying gasoline taxes. Right now, the vast majority of cars on the road are gas-powered; twenty years from now, the vast majority of cars on the road will be electric. Part of our job is recommending structures that will allow us to maintain our roads during and after this transition. Another way of putting it is that we will need roads even when there are no more gas-powered cars. As noted, we support making the purchase and operation of electric cars as affordable as possible to encourage their rapid adoption, and we also believe that every vehicle should help pay for the roads it uses. Over a dozen states already have special road fees for electric vehicles, and some lower versions of the same fee for hybrid vehicles. States are also investigating the possibility of charging vehicles for the number of miles they travel each year, tying each taxpayer's contribution to the road maintenance even more closely to their actual use. We recommend that Vermont follow these developments closely.

Commented [SS1]: New paragraph added by Bram 12/5

In comparison with a Vermont-only pricing program, regional partnerships have the benefits of retaining the state's actual and perceived competitivity in the region and reducing the incentive to buy fuel or conduct business over state lines. The commission agrees that the tax structure should be responsive to interstate competition.

If the pricing mechanisms are successful, carbon emissions will drop each year, and the pricing will need recalibration to continue the progress. In this process, using the revenue from carbon pricing to replace other taxes (such as lowering the income tax rate in the lowest bracket) could destabilize the tax structure. Instead, we recommend that returns to the economy from the pricing mechanism be made in transitional payments and investments that help offset the costs of the transition. Once we reach steady state, the tax structure could be rebalanced.

While in-migration could benefit the economy and boost tax revenues, it is not clear how it would be accommodated. Much of our infrastructure is inadequate to support growth in village centers, and many of our village centers are near rivers. At the same time, we have a goal of keeping our forests intact, for multiple ecosystem benefits as well as for carbon sequestration and flood resiliency. Vermont's response to rapid development in the 1980's included the Land

Gains Tax and the Use Value Appraisal Program. Although these taxes are still in place, it is not clear to the commission that we have the right tools to direct potential development at this point in time.

The Vermont Climate Action Commission report puts it this way: "Demographic change, greenhouse gas emissions, severe weather, and financial challenges prompt a fresh look at Vermont's smart growth strategies and land use governance as means to address climate change." We agree. And we recommend that the fresh look include role of taxes in the mix.

Our Changing Landscape, the Role of Technology in the Tax Structure

Technology has changed our lives in many ways. Our Tax Structure must also keep up with these technological changes to be sustainable in the future. The financial needs of the state which are funded primarily by the taxes will continue despite this changing landscape of technology.

Changes to the Way We Travel:

As transportation technology evolves, there is less and less dependence on fossil fuels to power the vehicles that we use to travel, both locally and long-distance. More and more alternative fuel vehicles are on the road today, and that number is increasing year. This creates a positive environmental impact which is very positive. The other side of that change is the decrease in the use of fossil fuels which at present are the major source of tax revenue that is used to maintain our roadway. The same holds true for public transportation vehicles as well.

Technology is also affecting the way we book leisure time events, air travel and lodging. As more and more services for reservations become digitized, the tax structure must evolve with it and tax these items to the same extent they are at present despite the use of e-tickets and on-line booking for lodging, etc.

Changes to the Way We Live and Work:

Technology is also changing the way we live. The pandemic has shown us that many jobs can be done remotely, i.e. working from home. This presents a great opportunity for people to live in Vermont and enjoy the tremendous lifestyle it offers, while maintaining a position that may not be available with a Vermont based organization. This is something the state has been working on to begin to rebalance the demographics of the state and the aging population. This is something that will not only increase the younger population of the state, it will also increase the higher income earners, and have a positive affect on the personal income tax collections. As this evolves, the traditional nexus for the employer of having an employee working in the state will have to be revisited so it does not become a discouragement for employers with headquarters and operations in another state to allow their employees to work remotely in Vermont. This will also hold true for Vermont based employers as well. The difference here is the decrease in the demand for office space that will result from this. This will tend to depress

the value of office properties from an education funding tax and municipal property tax standpoint. It will also decrease the income from these rentals and ultimately the amount of income tax revenue collected from the property owners. The tax structure will need to contain new sources of revenue to make up for the two pieces of lost revenue mentioned in the previous sentence.

Many households in Vermont now utilize solar power and excess energy storage units as their source of electricity. This is an excellent use of renewable energy and certainly reduces our carbon footprint which is important to stop climate change and global warming. Many of these households are connected to the grid and therefore contribute to the taxes ultimately paid by the Public Utility they are connected to. The state through its tax structure must continually monitor the amount of revenue from the use of electricity in taxes and be able to replace those lost taxes with another sustainable source of revenue.

The use of landline telephone service has decreased over the years as VoIP technology develops as well as the use of cellular telephones. The Telephone Property Excise tax is a tax that, from a collection standpoint, continues to diminish every year. As mentioned in another part of this report, it and other obsolete taxes need to be phased out and new sources of tax revenue found.

Our purchasing habits have also changed due to the advances in technology. The ability to purchase on-line has increased the ability of Vermont residents to order goods from around the world on-line and have them delivered, many times in the next day. As a result of the Wayfair case, many of these transactions are presently captured by the sales tax which would be the equivalent of a resident purchasing the good at a brick and mortar store in Vermont. The tax structure must continue to monitor enforcement and take the appropriate measures to promote a high level of compliance to sustain its revenue from the sales tax. This change in purchasing habits does; however, bring a consequence to other taxes in the tax structure of the state. Lost jobs at brick and mortar stores means lost wages which means lost income tax revenue. This also leads to a decrease in the need for retailers to invest in large brick and mortar establishments to sell their product and consequently a drop in the education property tax as well as the municipal property tax. The structure must be flexible and provide new sources of revenue to make up for the lost tax revenue from these retail brick and mortar establishments.

Many of our purchases today are digital rather than tangible property, such as audible and e-books. Also, our movie watching habits have changes as well. Although people do still go to the movie theatre, that is down from years past. Movie rentals is another area that has dramatically changed. Not that many years ago, if you wanted to rent a movie, you went to the local movie rental shop, rented the movie, watched it and returned it. Today with the streaming services available, we rent them digitally streaming them over our computers and smart televisions that are connected to the internet. Music is available as well through on-line subscription services as well as in many cases for free. Not that many years ago, we purchased record albums, then tapes and finally CDs which are all tangible personal property subject to sales tax. The tax structure must be flexible to find new ways of taxing the things we always paid tax on that may be out of the reach of the tax system without adapting itself to the new technology.

These are just a few examples of how the changing landscape with respect to technology will affect the tax system, and the structure must constantly be evaluated and change to be sustainable and provide the necessary revenue that the state needs to provide the services to the residents it must provide.

As this summary points out, our changing landscape with respect to technology affects the three major tax types, Income, Sales and Use and Education Funding Property Tax/Municipal Property Tax. To preserve the sustainability of the tax structure, the legislature should study the affects technology has already had on our tax structure as well as ten years down the road, what it might look like.

Changes to Business Because of Technology:

All of the changes noted in the previous sections will also have an impact on how business is conducted because of changes in technology.

As manual tasks continue to become automated, there will be a shift in employment for those workers that perform manual tasks such as check-out clerks, receptionists. assembly and piece workers and order takers will be replaced by technology. Those displaced workers will need to be retrained to assist with the technology that replaced the, set up and maintenance.

One piece of technology that has and will continue to change business is the internet. Businesses no longer have to rely on foot traffic in their brick and mortar stores, they can now sell virtually all over the world from their location in Vermont. They will now need to employ new technology to take, process and ship orders as well as comply with federal and state tax rules. The upside of this for the state should be more revenue in the long run from sales tax and business taxes. Another upside is that after the initial shock of technology taking workers places, the retraining and reemployment of these displaced individuals should lead to higher paying jobs.

Vermont now sources revenue from services using market-based sourcing. As Vermont based service businesses branch out and remotely do work for customers in other states, unless the business is a pass through entity and all of its owners live in Vermont, the state may see a decline in tax revenue as many Vermont businesses will now be better equipped to perform services remotely to destinations all over the US. The upside of the ability of businesses to do work remotely and are based outside of Vermont, the market-based sourcing rules will subject those service providers to income tax due to market-based sourcing.

Another by-product of technology changes for businesses if the use of less paper and the need to keep paper copies of records, etc. These can be stored and accessed in the “cloud” and the business can operate in an almost paperless environment.

Long-term Decline in the Value of Commercial Real Estate:

We note another possible long-term trend driven by the trends toward more online shopping, and more remote work. These trends have the potential to make commercial real estate less valuable.

The businesses most impacted by COVID are bars and restaurants, and we are likely to see more closures before the end of the pandemic. In principle, there is no reason for bars and restaurants not to return to pre-pandemic levels in the post-pandemic world, although it is quite possible that the number of new restaurants and bars will not be as great as the number that went out of business.

Retail stores are a different story. Even pre-pandemic, bricks & mortar retail was in trouble, with thousands of brick and mortar store closures each year among retailers large and small. These closures have happened in small towns, suburbs, and big cities, and in remote malls and on Main St. This trend has been accelerated by COVID, and there is no reason to expect that the pandemic will meaningfully change the decline in bricks & mortar retail in the post-pandemic world.

This could lead to a decline in demand for retail spaces, both for food and drink and for products. That in turn would lead to a decline in the rents these spaces are able to command, which would reduce the building's cash flow, which would reduce the value of the building, which would reduce the building's appraisal, which would reduce the property taxes the state and municipality receive from it.

Similarly, to the extent that some of the work that has moved out of the office and into the home office stays in the home office, and to the extent that new businesses start with the assumption that they will not have a commercial office and that all their work will be done remotely, it is possible that demand for office space in Vermont's cities and towns will decline, leading to the same decline in value on the Grand List.

It is difficult to predict whether any of this potential decline will be offset by other factors. Will people find other ways to use former retail and former office spaces productively, creating new demand for them? Can these spaces be effectively repurposed to meet our growing needs for day care, health care, social services, and elder care? Will the trend toward smaller households and smaller homes be partially offset by the fact that new homes may all need two spaces in them that can be used as home offices?

We do not know, but we do want to raise the possibility of a long-term decline in the value of commercial real estate, and the potential need to offset that declining source of tax revenue by augmenting a different source.

Commented [SS2]: New section added by Steve 12/5

Conclusion:

As technology continues to evolve, so must the tax structure and tax laws.

Changing Landscape - Demographics

In 2019, this Commission published a report on the effects of demographic changes on Vermont's revenue system (Appendix 1, "POPULATION CHANGES AND VERMONT STATE REVENUE").

That paper reports that while Vermont's total population level is (at least temporarily) stable, the state is undergoing three large demographic trends: the population is aging; it's shifting to the Greater Burlington area and surrounds from everywhere else in the state; and it's dividing into smaller households.

We identify implications for Vermont's revenue system, ASSUMING THOSE TRENDS CONTINUE, AND ASSUMING NO CHANGES TO VERMONT'S TAX SYSTEM:

Implications of an aging population for Vermont's three major revenue sources

1. **Reduction in income taxes**

   "• Vermont has benefited in recent years from substantial income tax receipts from the large cohort of baby boomers progressing through their peak earning years.
   • Younger baby boomers (age 55-64 in 2018) currently account for more than a fifth of tax returns and more than a quarter of personal income tax dollars. As the state's most populous age cohort progresses through their senior years, their decreasing incomes will no longer contribute as disproportionately high of a share of income tax revenue." P34

2. **Reduction in consumption taxes**

   "•Compared to other age groups, seniors tend to spend more on mostly non-taxable services, such as health care, rather than the taxable goods favored by younger cohorts.
   • This drop could be partially mitigated due to seniors tending to work and spend later in life, because seniors as a whole are now wealthier than other generations, and because the state benefits from tourism by empty nesters and recent retirees from nearby states." P35

3. **Education property taxes**

   As people age, become empty nesters, and retire, they tend to downsize, so an aging population can lead to lower overall property taxes.

Implications of urbanization for Vermont's three major revenue sources

1. **Increase in income taxes**

Statistically, the urban area around Burlington provides higher-paying jobs than the rural areas, so to the extent that the population shifts to the Greater Burlington area, we expect average incomes, and income tax revenue, to increase. "The counties that are losing population are the lowest-income counties." (P 20)

2. **Increase in consumption taxes**

As incomes increase and become more concentrated in the Burlington area where there are more, and more varied, opportunities for consumption, we expect consumption to increase as well.

3. **Increase in education property taxes**

Property values tend to be higher in Greater Burlington, so to the extent that migration leads to an increase in housing units in Chittenden County, we would expect total education property tax revenue to increase.

Implications of smaller household size for Vermont's three major revenue sources

Per the paper in Appendix 1,

> "Vermont real per capita income has increased five percent while the state's median household income has fallen four percent. This divergence between per capita income and median household income is driven by two factors. First, smaller households mean fewer earners per household and total income is spread across more households. Second, greater inequality, with greater concentration of income among high-earners, serves to pull up the average more than the median. The first factor can suppress revenue to the extent that tax benefits are given at the household level (as opposed to by filing status or number of dependents), while the second factor produces increased revenue through a higher effective tax rate in a state with a progressive income tax (like Vermont)." PP20-21

All in all, we would expect that the change in household size would not greatly affect **income tax revenue.**

We would expect a very gradual increase in **consumption tax revenue** as household size decreases, since there are that many more households that need to be equipped with kitchenware, furniture, entertainment systems, etc.

As far as **property tax** is concerned, Vermont has a disproportionate number of larger houses (see P17 footnote). This is driven by the prevalence in rural and formerly rural areas of large, rambling farmhouses that grew over many decades to accommodate large farming families; large homes built in towns before the Great Depression designed to accommodate a family and their servants; and "McMansions" built in the 1980s and 1990s during a trend toward larger homes.

However, with smaller households, and the trend toward smaller, more energy-efficient and cost-efficient houses, economists expect demand for the larger houses is likely to fall, so prices will fall, and appraised value will fall, and grand list value will fall. This will be partially offset by new construction of smaller houses, growing the grand list. It is also likely that some of the larger homes will be divided into two-family homes or multi-family homes.

One of the household configurations that is growing is multi-person non-family households, so it is likely that some of these formerly single-family homes will be occupied by unrelated adults.

All in all, we would expect declining revenue from education property taxes based on the trend toward smaller households.

Why these trends might change, and implications for Vermont's tax system

External factors affecting these three trends (aging, urbanizing, shrinking households), combined with the changes we recommend to Vermont's tax system, lead to a different set of implications.

Changes in technology, the economy, and the climate all have the potential to significantly affect Vermont's demographic trends.

First, the age structure of Vermont's population is driven by births, deaths, domestic and international in-migration, and domestic and international out-migration. There is not much reason to expect Vermont's birthrate or deathrates to change, although both are certainly possible. However, there are several factors which could lead to meaningfully increased in-migration from other states:

1. There are many reasons that some people don't want to live in Vermont, the long, cold, dark winters primary among them. Vermont's winters are getting shorter and warmer, which means that:
    a. More people who live here will be willing to spend all winter here (fewer snowbirds). That means more local consumption from people who otherwise would have spent two to six months somewhere warmer.
    b. There is likely also to be a new trend of people who live in areas that become uninhabitably hot during the summer, or prone to too many violent storms during hurricane season, who are the opposite of snowbirds, who instead of fleeing south to avoid the cold and snow flee north to avoid the heat and hurricanes.
2. When surveyed, 66% of Americans say they'd like to live in a small town or rural area. "Given six choices of a type of place where they could live, 27% of Americans choose a rural area, more than any other option . . . 39% would choose a town, a small city or a suburb of a small city."[16] The barriers to their actually living in places like that include the lack of employment, the lack of good schools for their children, and the lack of cultural experiences. However, per our paper on demographics, most of Vermont's rural areas are what are called high-amenity rural areas, which is to say, rural areas with access to good schools and recreational and cultural activities.
3. Twenty years ago, we saw in-migration by people fleeing terrorist attacks on urban areas, and recently, we have seen in-migration driven by people fleeing pandemic hot-spots. These people are either moving year-round to what had been a vacation home, or simply moving to Vermont. School enrollment in Windham County is up for the first time in a very long time. "The Covid-19 pandemic is bringing a new crop of students to the state, as newly remote workers decamp from urban areas to Vermont, which has made **national headlines** for its low rates of infection."[17]

[16] https://news.gallup.com/poll/245249/americans-big-idea-living-country.aspx, 2018.
[17] https://vtdigger.org/2020/08/04/the-pandemic-is-bringing-students-to-vermont-mostly-in-towns-without-schools-%EF%BB%BF/

Advances in communication technology now mean that many people no longer need to live near their employer. This removes another one of the big barriers to moving to Vermont, which was lack of good jobs. For many people, a Vermont with mild winters and plentiful employment opportunities is a much more attractive place to live, and this is particularly true of the rural areas. People moving to Vermont tend to be younger and have (or soon give birth to) children, and to the extent that they are pursuing a rural or small-town environment, they are likely to settle outside of Greater Burlington. This may temper or reverse all three of the big trends of aging, urbanizing, and shrinking household size.

The implications for our tax system are generally positive. More people earning good incomes means more income tax revenue. More people living in Vermont means more consumption tax revenue.

Further, even if the population does continue to age, our recommendation that Vermont continue to expand the consumption tax base to include all consumer-level purchases of goods and services means that the shift in consumption caused by an aging population (purchases of fewer goods and more services, like health care services) will not erode the consumption tax base.

Our recommendation that we complete the many-decades-long process of transitioning the source of education finance from property tax to income tax means that the affect of any future trends on homestead property tax revenue will affect only local revenue, not state revenue. To the extent that people move year-round to what had been their vacation homes, the state will go from collecting non-homestead property tax to collecting income tax.

All in all, we believe that our recommendations mitigate or even neutralize the threats to Vermont's revenue system posed by the long-term changes that may arise from Vermont's changing demographics.

Underlying all our recommendations is a belief that our economy and our climate and our population are all becoming less stable, and Vermont will need to be ever-vigilant and ever-agile to be successful in continuous adaptation to a changing world.