GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

Governor's Budget
Fiscal Years 2020 – 2021

Revenue Estimates
General Fund and Select Funds

Governor's Office of Budget
and Program Planning

Volume 2

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STATE OF MONTANA

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Economic Overview

Introduction

Revenue estimates are a core piece of the executive budget, informing both current and future expenditure decisions. Appropriately digesting economic data is important to understanding the intricacies of the various sectors of the economy and how that influences tax revenue for the state of Montana. In addition to knowing the details of individual sectors, it is helpful to have a big picture understanding of the economy as a whole. This section provides an overview of economic conditions in the national economy and then moves into a more detailed discussion of the current outlook for the Montana economy. The economic overview is meant to shed light on the broader economic assumptions that are consistent across all of the revenue estimates. Further detail on sector-specific economic assumptions is available in the descriptions of each individual revenue source.

National Economy

Overview

U.S. economic growth, as measured by gross domestic product (GDP), is surging. One hallmark of the U.S. economic recovery has been the economy's inability to maintain robust growth. Years of subpar growth have been the norm. Economic output began ramping up in mid-2017 and has held the pace so far into 2018. Real (inflation adjusted) GDP growth in the second quarter of 2018 reached 4.2%. This was followed by 3.5% growth in the third quarter. Fourth quarter growth is expected to be strong as well. Annual growth for 2018 is projected to finish slightly above 3%, which would be the strongest reading since 2015. Growth over the next few years is projected to stay positive but move closer to trend.

Fiscal policy has been stimulatory lately with the enactment of tax cuts in late 2017 and a new federal budget in 2018. Monetary policy remains accommodative. The Federal Reserve is steadily pushing it's target range for the federal funds rate upward and is expected to continue raising rates as it pursues policy normalization. The central bank's most recent action moved the benchmark short-term rate over the 2% threshold.

Key economic measures indicate an economy operating near full capacity. The low unemployment rate and rising wages signal a tight labor market. Consumers are enjoying rising incomes as a result, with an extra boost from the federal tax cuts. A long run-up in equity markets had added to household wealth. The labor force participation rate is ticking upward (this phenomenon is expected to be temporary) and productivity is rising. Core inflation (excludes food and energy prices) is at the Fed's 2% objective. Expectations for future inflation are anchored around the 2% level, suggesting consumers aren't concerned about price instability. Consumer and business confidence are rosy, manifest in strong consumer spending and business inventory investment.

The economic landscape starts to shift as currently supportive fundamentals begin to push back against growth beginning as soon as 2019. Fiscal and monetary policy slowly rescind their expansionary role as the stimulus created by tax cuts and federal spending dissipates and the upward march of interest rates hampers investment. The future path of federal fiscal policy is subject to new uncertainty given the now-divided Congress. Outside U.S. borders, tariffs, dollar strength, and slowing global demand all pose risks to growth. The recovery in the U.S. housing market has been robust, but cracks are starting to show. The combination of rising home prices and increased borrowing costs are putting the brakes on home sales. Recent volatility in equity markets threatens to undermine investor and consumer confidence.

On balance, the U.S. economy is expected to continue its ascent through 2021. Table 1 summarizes data for three key national economic indicators for FY 2008 through FY 2018 and shows forecasts from IHS Markit for FY 2019 through FY 2021. The pace of growth will slow as the transitory boost from policy fades and the economy runs up against capacity constraints. The unemployment rate reaches a cyclical low in FY 2020. Employment gains will continue, but at a slower pace. Inflation inches upward over the forecast period. Tight labor markets are pushing up wage inflation. Higher wages, along with some tariff-related effects in select industries, are contributing to increasing business input costs. Firms respond to rising costs by boosting prices on final sales.

Table 1
Gross Domestic Product, Unemployment, and Inflation

Fiscal Year	Real U.S. GDP $ Billions (2012)	Real U.S. GDP Change	Unemployment Rate	Inflation Rate
2008	$15,713	1.6%	4.9%	2.1%
2009	$15,321	-2.5%	7.6%	2.1%
2010	$15,379	0.4%	9.8%	2.2%
2011	$15,740	2.3%	9.3%	2.2%
2012	$16,038	1.9%	8.5%	2.3%
2013	$16,311	1.7%	7.8%	2.3%
2014	$16,662	2.1%	6.8%	2.3%
2015	$17,200	3.2%	5.7%	2.4%
2016	$17,510	1.8%	5.0%	2.4%
2017	$17,837	1.9%	4.7%	2.4%
2018	$18,295	2.6%	4.1%	2.5%
2019	**$18,849**	**3.0%**	**3.7%**	**2.5%**
2020	**$19,298**	**2.4%**	**3.5%**	**2.6%**
2021	**$19,626**	**1.7%**	**3.7%**	**2.7%**

Montana Economy

Overview

Montana's economy is strong. Growth in nominal gross state product (GSP) and personal income, two broad measures of economic health, have improved each year since FY 2016 and are projected to continue this trend in FY 2019. Table 2 presents actual data and forecasts for Montana GSP and personal income by fiscal year for the period FY 2008 – FY 2021.

Table 2
Gross State Product and Personal Income
($ millions)

Fiscal Year	Gross State Product	Percent Change	Personal Income	Percent Change
2008	$36,727	6.6%	$33,781	7.2%
2009	$36,378	-1.0%	$34,035	0.8%
2010	$37,198	2.3%	$34,392	1.0%
2011	$39,696	6.7%	$36,822	7.1%
2012	$41,915	5.6%	$39,296	6.7%
2013	$42,729	1.9%	$40,641	3.4%
2014	$44,140	3.3%	$41,499	2.1%
2015	$45,794	3.7%	$43,945	5.9%
2016	$46,182	0.8%	$45,234	2.9%
2017	$47,321	2.5%	$46,740	3.3%
2018	$48,997	3.5%	$48,822	4.5%
2019	**$51,591**	**5.3%**	**$51,269**	**5.0%**
2020	**$53,835**	**4.3%**	**$53,879**	**5.1%**
2021	**$55,994**	**4.0%**	**$56,454**	**4.8%**

Broad measures of the Montana economy paint the picture of a state in good economic health. Output is surging, incomes are rising, and unemployment remains in the basement. Slack in the real estate market has all but evaporated. Business formation is strong. Labor market tightness is boosting real wages for workers as businesses compete for qualified employees. Rising wages have sparked an increase in participation among individuals on the margins of the labor force. At a quick glance, Montana's economic situation appears rosy, and this is true; however, a deeper dive reveals some emerging risks.

Montana's constricted labor market is expected to undergo further tightening in the near-term. Employment growth is forecast to slow but wages remain strong, a development indicative of labor market that is struggling to supply the workers businesses desire. A worker shortage is a distortion in the labor market that can have far-reaching economic effects. To maintain margins in the face of rising labor costs, businesses raise prices for their goods and services. Growth in the overall price level hurts real income growth and can slow consumption. Inflation is accompanied by rising interest rates, which increases borrowing costs and reduces investment by both firms and consumers. As spending in the economy slows, output ultimately suffers.

Projections show Montana GSP growth slowing beyond FY 2019. Output growth remains strong by historical standards, but the softening pace is indicative of binding constraints in the Montana economy. The rate of employment growth is forecast to begin falling in FY 2021. Growth in Montana median household income is expected to slow in the coming years, as is consumer spending. Housing starts have eased and estimates are for this trend to continue. Home prices stay on an upward trajectory. Overall, a deceleration in growth is expected in the near-term. The effects of this shift will be dispersed differently across the various sectors of the Montana economy.

Recent growth has been strongest in Montana's more populous areas, where the state's largest industries are concentrated. Growth in the rural areas of the state is more closely linked to developments in commodity markets. The eastern portion of the state experienced incredible expansion during the period of elevated energy prices. When these prices crashed economic activity dried up quickly. Prices for important agriculture products like wheat and cattle impact the prosperity of many small communities in Montana. A closer look at the structure of Montana's economy follows.

Gross State Product by Sector

Table 3 shows Montana's nominal GSP divided into twelve sectors. Actual GSP by sector is shown for 2010 and 2014, with forecast numbers for 2018 and 2022. In addition to the dollar value of each GSP sector, the sector's share of total state GSP is also included in the table.

Table 3
Montana Gross State Product by Sector
($ millions)

	CY 2010		CY 2014		**CY 2018**		**CY 2022**	
Economic Sector	$	**%**	$	%	$	%	$	%
Other Services	$5,422	14.1%	$6,488	14.4%	**$7,721**	**15.3%**	**$9,156**	**15.4%**
Finance, Insurance, & Real Estate	$6,763	17.6%	$7,509	16.6%	**$9,551**	**19.0%**	**$11,033**	**18.6%**
Health Care & Social Assistance	$3,403	8.9%	$3,905	8.7%	**$4,929**	**9.8%**	**$5,938**	**10.0%**
State and Local Govt, Schools	$4,145	10.8%	$4,577	10.1%	**$5,070**	**10.1%**	**$5,794**	**9.8%**
Transp., Comm., & Util.	$3,725	9.7%	$4,127	9.1%	**$4,424**	**8.8%**	**$5,023**	**8.5%**
Manufacturing	$1,990	5.2%	$3,729	8.3%	**$3,159**	**6.3%**	**$3,819**	**6.4%**
Retail Trade	$2,820	7.3%	$2,886	6.4%	**$3,440**	**6.8%**	**$4,045**	**6.8%**
Construction	$2,030	5.3%	$2,490	5.5%	**$3,039**	**6.0%**	**$3,726**	**6.3%**
Wholesale Trade	$1,933	5.0%	$2,459	5.5%	**$2,767**	**5.5%**	**$3,393**	**5.7%**
Federal Government	$1,560	4.1%	$1,498	3.3%	**$1,709**	**3.4%**	**$2,079**	**3.5%**
Mining	$2,510	6.5%	$2,868	6.4%	**$2,090**	**4.1%**	**$2,417**	**4.1%**
Agriculture, Forestry, & Fishing	$1,567	4.1%	$2,079	4.6%	**$1,944**	**3.9%**	**$2,278**	**3.8%**
Military	$508	1.3%	$488	1.1%	**$513**	**1.0%**	**$623**	**1.0%**
Total	$38,374	100.0%	$45,102	100.0%	**$50,354**	**100.0%**	**$59,324**	**100.0%**

Finance, insurance, and real estate is the largest sector of the Montana economy according to GSP. This sector accounts for nearly one-fifth of the state's economic output. Its share is projected to shrink slightly from 2018 to 2022. State and local government GSP is also projected to decline as a share of total GSP, falling to under 10% by 2022. Other sectors experiencing declining output shares over the next four years include transportation/communication/utilities and agriculture/forestry/fishing. Since 2010, the mining sector has eroded the most, falling from 6.5% of GSP to an estimated 4.1% in 2018. Mining activity in Montana slowed in the wake of the crash in commodity prices that lasted from late 2014 through early 2016. This industry is projected to remain stable moving forward. The manufacturing sector also took a hit from the commodity bust, dropping from 8.3% of GSP in 2014 to 6.3% in 2018. Output from agriculture slipped over the period 2014 – 2018. Low prices for Montana's important agriculture commodities hurt the sector's value.

Sectors that have increased as a share of the total economy over time include construction, wholesale trade, health care, and other services.[1] Construction GSP surged from 2010 to 2018 as the industry recovered from the housing market crash. Montana's construction sector is projected to keep rising into 2022. Health care has been a rapidly growing industry in Montana of late. The state's aging population is increasing the demand for health care and social assistance services. Projections are for continued growth in the health care industry. It becomes the third largest sector in Montana by 2022. Growth in the other services sector has been led by the professional, scientific, and technical services sector.

Service-providing sectors gained as a share of the Montana economy from 2010 to 2018 while the goods-producing side contracted. This trend is projected to reverse heading into 2022. The resource extraction industries remain steady, but growth in the construction, retail trade, and wholesale trade sectors helps boost the goods-producing industry's' share of total state GSP. Declines in the GSP shares of the finance/insurance/real estate, transportation/communications/utilities, and state/local government sectors contribute to the erosion of the service-providing sector's share of economic output.

Wage and Salary Income by Sector

Table 4 breaks out Montana wage and salary income into fifteen sectors. Nominal income is shown for each sector along with each sector's share of total statewide wage and salary income. Actual income numbers are included for 2010 and 2014, with IHS Markit forecasts for 2018 and 2022.

Table 4
Montana Wage and Salary Income by Sector
($ millions)

	CY 2010		CY 2014		**CY 2018**		**CY 2022**	
Economic Sector	$	%	$	%	$	%	$	%
Educational & Health Services	$2,370	15.3%	$2,833	15.4%	**$3,555**	**16.6%**	**$4,236**	**16.7%**
State & Local Government, Schools	$2,574	16.6%	$2,795	15.2%	**$3,136**	**14.7%**	**$3,621**	**14.3%**
Professional & Business Services	$1,529	9.9%	$1,838	10.0%	**$2,195**	**10.3%**	**$2,774**	**10.9%**
Construction and Mining	$1,467	9.5%	$1,932	10.5%	**$2,132**	**10.0%**	**$2,799**	**11.0%**
Retail Trade	$1,334	8.6%	$1,549	8.4%	**$1,774**	**8.3%**	**$2,025**	**8.0%**
Leisure & Hospitality	$902	5.8%	$1,158	6.3%	**$1,431**	**6.7%**	**$1,655**	**6.5%**
Financial Activities	$932	6.0%	$1,099	6.0%	**$1,332**	**6.2%**	**$1,597**	**6.3%**
Transportation, Warehousing & Utilities	$806	5.2%	$1,060	5.8%	**$1,070**	**5.0%**	**$1,127**	**4.4%**
Manufacturing	$695	4.5%	$865	4.7%	**$1,047**	**4.9%**	**$1,212**	**4.8%**
Wholesale Trade	$710	4.6%	$905	4.9%	**$1,015**	**4.7%**	**$1,177**	**4.6%**
Federal Government	$851	5.5%	$824	4.5%	**$953**	**4.5%**	**$1,138**	**4.5%**
Other Services	$488	3.1%	$571	3.1%	**$692**	**3.2%**	**$773**	**3.0%**
Agriculture, Forestry & Fishing	$244	1.6%	$362	2.0%	**$407**	**1.9%**	**$471**	**1.9%**
Information	$308	2.0%	$293	1.6%	**$347**	**1.6%**	**$414**	**1.6%**
Military	$296	1.9%	$289	1.6%	**$304**	**1.4%**	**$356**	**1.4%**
Total	$15,507	100%	$18,374	100%	**$21,392**	**100%**	**$25,375**	**100%**

[1] The other services sector is comprised of professional/scientific/technical services, management services, administration services, waste management services, education services, accommodation and food services, and entertainment and recreation services.

Montana wage and salary income is projected to total $21.4 billion in 2018, an increase of almost $6 billion from 2010. Over this period, aggregate wage and salary income growth averaged 4% per year. Wages and salaries in the agriculture, forestry, and fishing sector are estimated to have grown the fastest from 2010 – 2018, averaging over 6% growth per year. The education and health services sector, the leisure and hospitality sector, and the manufacturing sector are all projected to average above 5% annual income growth for the eight years since 2010. Military and federal government incomes are estimated to have experienced the slowest income growth over the past eight years. Looking ahead, Montana wage and salary income is forecast to grow 4.4% per year from 2018 – 2022. The construction and mining industries enjoy the fastest income growth over the next four years.

Since 2010, the education and health services sector has overtaken the state and local government sector as the largest sector when measured by wage and salary income, an outcome that reflects the rising demand for healthcare in Montana. The share of income attributable to education and health services expands slightly by 2022. The income share from state and local government employment falls over the next four years, but the sector remains the second largest. Construction and mining, professional and business services, and retail trade round out the top five sectors. The five smallest sectors in Montana measured by wage and salary income are federal government, other services, agriculture, forestry and fishing, information, and military. These sectors are projected to maintain a steady share of total income from 2018 – 2022.

Income from the construction and mining sector is forecast to expand the most moving forward, growing from 10% of total income to 11%. The next fastest growing industry according to the projections is professional and business services. Nine industries are estimated to contract in terms of their share of wage and salary income by 2022. The transportation, warehousing, and utilities sector experiences the largest reduction. It declines from 5% of total income in 2018 to 4.4% in 2022. The state and local government sector's income share has been declining steadily since 2010, when it accounted for over 16% of total income. By 2022, the state and local government sector is 14.3% of statewide wage and salary income. Slow wage growth in this sector of the economy has diminished its share of the total.

Employment and Population

Table 5 shows total Montana resident employment, working age population (classified as individuals age 25-54), and total population for FY 2008 through FY 2018 along with estimates for FY 2019 through FY 2021 from IHS Markit.

Table 5
Montana Employment, Working Age and Total Population

Fiscal Year	Employment	Percent Change	Prime Working Age Population	Percent Change	Total Population	Percent Change
2008	485,285	0.9%	386,296	0.5%	972,024	1.2%
2009	474,806	-2.2%	386,241	0.0%	981,145	0.9%
2010	464,400	-2.2%	385,468	-0.2%	988,329	0.7%
2011	464,158	-0.1%	382,782	-0.7%	994,482	0.6%
2012	471,200	1.5%	379,676	-0.8%	1,001,026	0.7%
2013	480,316	1.9%	377,484	-0.6%	1,008,772	0.8%
2014	485,428	1.1%	376,195	-0.3%	1,016,928	0.8%
2015	491,295	1.2%	375,859	-0.1%	1,025,173	0.8%
2016	498,021	1.4%	376,677	0.2%	1,034,779	0.9%
2017	502,039	0.8%	379,283	0.7%	1,046,054	1.1%
2018	506,426	0.9%	381,730	0.6%	1,057,081	1.1%
2019	**514,110**	**1.5%**	**383,400**	**0.4%**	**1,065,684**	**0.8%**
2020	**522,586**	**1.6%**	**384,986**	**0.4%**	**1,072,522**	**0.6%**
2021	**528,569**	**1.1%**	**386,818**	**0.5%**	**1,078,971**	**0.6%**

Total resident employment growth in FY 2019 is expected to surge from the subdued levels realized in FY 2017 and FY 2018. It maintains this level through FY 2020. Employment growth for FY 2019 – FY 2020 is forecast to be the best two-year stretch since FY 2012 – FY 2013. Growth retreats in FY 2021 and longer-term projections show this trend continuing, a reflection of persistent tightness in the labor market. Structural shifts in labor markets that occur as workers adjust to

firms' needs take time to develop because the acquisition of new skills is not something that happens overnight. Montana's worker shortage will slowly be resolved, but in the meantime, it may pose limits to employment growth.

Montana's prime working age population contracted from FY 2010 – FY 2015, shrinking by almost 10,000 individuals. Growth in this segment of the population resumed in FY 2016. Projections are for the number of prime working age individuals to increase steadily at a rate around 0.4% - 0.5% per year. Total population growth in Montana eclipsed 1% in both FY 2017 and FY 2018, a mark not reached since FY 2008. The rate of growth slows over the forecast period.

Montana's population is aging, as evident in Table 6, which shows the census counts of Montana's population for 1990, 2000, and 2010, along with the forecast from IHS Markit for 2020. The population numbers are broken down into ten-year age groups. The number of individuals in each age group as well as each group's share of the total population is shown.

Table 6
Age Structure of Montana Population

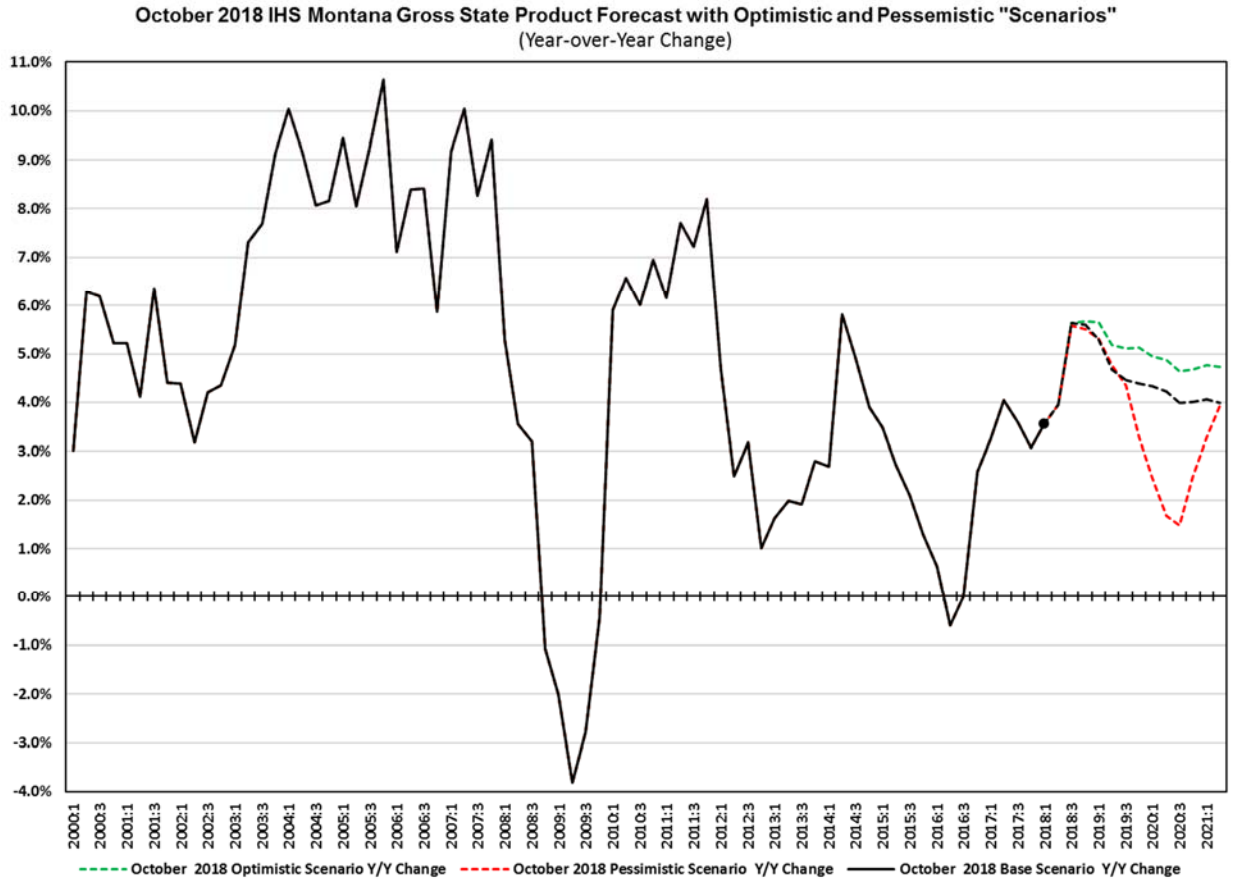
	CY 1990		CY 2000		CY 2010		**CY 2020**	
Age	Population	%	Population	%	Population	%	**Population**	**%**
0-9	125,245	15.6%	115,323	12.7%	123,276	12.4%	**129,313**	**12.0%**
10-19	120,888	15.0%	141,154	15.6%	127,582	12.8%	**129,669**	**12.0%**
20-29	104,444	13.0%	109,074	12.0%	132,233	13.3%	**140,692**	**13.0%**
30-39	134,417	16.7%	117,041	12.9%	115,047	11.6%	**137,387**	**12.7%**
40-49	105,560	13.1%	149,776	16.5%	125,985	12.7%	**119,188**	**11.1%**
50-59	72,808	9.0%	112,531	12.4%	154,797	15.6%	**133,719**	**12.4%**
60-69	67,083	8.3%	71,173	7.9%	113,119	11.4%	**147,864**	**13.7%**
70-79	49,987	6.2%	54,883	6.1%	60,958	6.1%	**92,176**	**8.5%**
80+	24,510	3.0%	34,416	3.8%	40,695	4.1%	**48,173**	**4.5%**
Total	804,942	100.0%	905,371	100.0%	993,692	100.0%	**1,078,181**	**100.0%**

The cohort of individuals age 60 years and older is growing rapidly as a share of Montana's total population. In 2000, this group of individuals represented 17.7% of the population. By 2010, this number had grown to 21.6%. The number of individuals 60 years or older is predicted to make up nearly 26% of Montana's total population by 2020. In contrast, Montana's population of individuals under 20 years of age has been consistently shrinking. Just over 30% of Montana residents were less than 20 years old in 1990. This group represented 25% of the population in 2010. Further decline in the population of young persons is projected into 2020. The shifting structure of Montana's population from young to old has economy-wide implications ranging from rising health care costs to the future of wage growth in the state.

Sensitivity of Revenue Estimates to Economic Changes

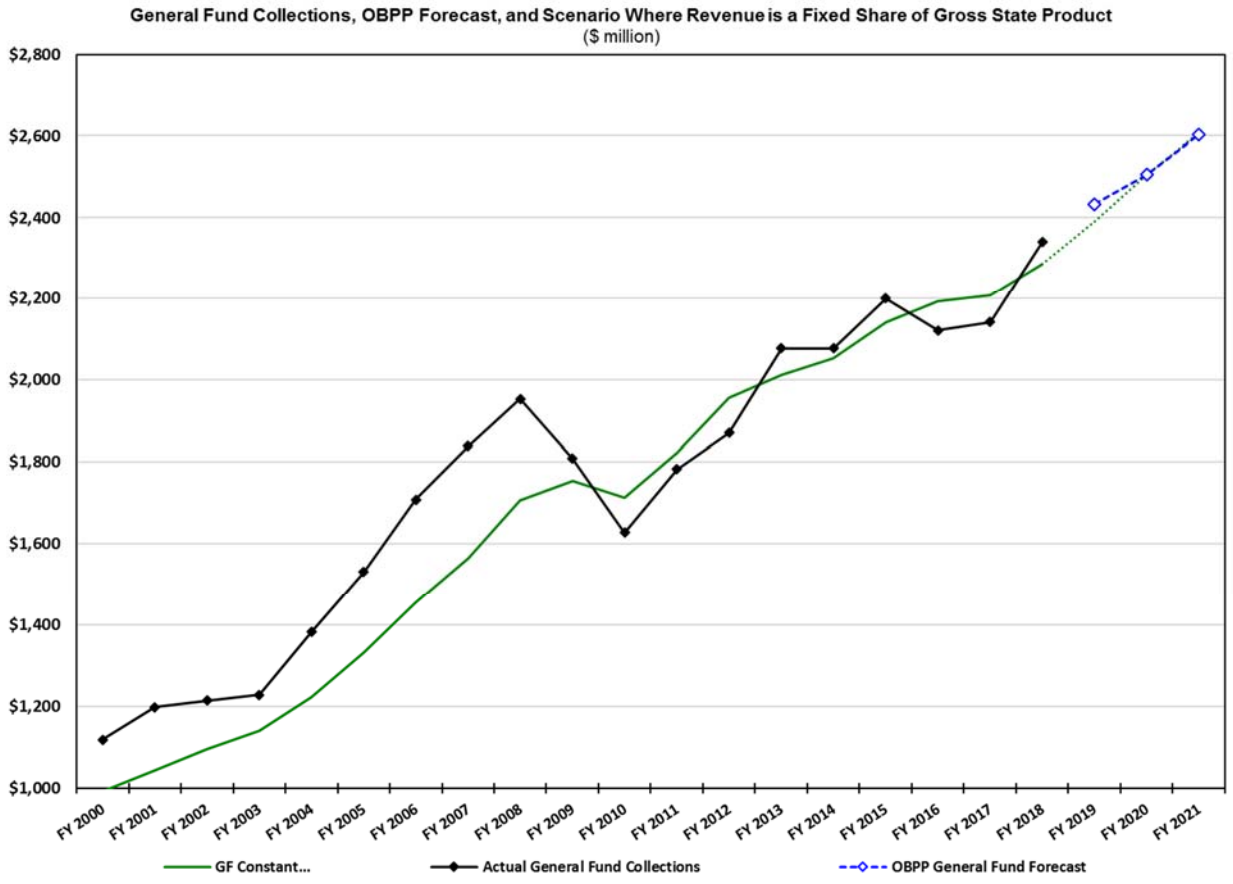
OBPP closely monitors: economic reports, changes in IHS Markit forecasts, state revenue collections, and other economic events on an ongoing basis. As a general rule, monthly changes to the IHS Markit forecasts tend to have a minor impact on the revenue estimates (generally less than +/- $5 million per fiscal year). These shifts tend to have less impact in the near-term (six months) and greater impact in the long-term. Major quarterly updates that use updated U.S. Bureau of Economic Analysis national income and product accounts data can have a larger impact (a general fund effect of roughly +/- $15 million per year).

OBPP has asked IHS Markit to produce Montana optimistic and pessimistic "scenarios" that are driven by the IHS national optimistic and pessimistic outlooks. The implied "scenarios" are not true Montana specific forecasts as they do not factor-in particular Montana specific events, but instead use the national forecast assumptions and outputs and applies them to economic sector weights and factors to shift the base Montana forecast. The growth paths of these data are presented in the following graph. The "real" data from the Bureau of Economic Analysis ends with the first quarter of 2018, after which the data reflect IHS Markit forecasts.



IHS Markit's Montana optimistic forecast a higher growth path of around 5%, slightly lower than the current pace of 5.5% growth. The pessimistic forecast in the near-term essentially follows the decelerating, but healthy, base forecast through the third quarter of CY 2019 after which it continues decelerating rapidly through the third quarter of CY 2020, the pessimistic forecast then begins recovering to the 4% growth of the base forecast at the second quarter of CY 2021. Importantly even the pessimistic forecast maintains positive nominal growth bottoming out at 1.5% in the third quarter of CY 2020.

How much general fund revenue difference might be created by the varying paths was estimated by holding the average general fund revenue share of gross state product (GSP) constant and measuring the implied positive and negative shift. Current general fund revenue is assumed to be a product of economic activity six-months prior – so the CY 2017 level of GSP is thought to produce FY 2018 general fund revenue, on average. The real processes of leading and lagging factors, policy changes, and tax behavior are therefore simplified to measure the upward and downward pressure these paths might create relative to the base revenue forecast. This analysis also shows that OBPP's general fund forecast for FY 2019, FY 2020, and FY 2021 are very consistent with what the base forecast for Montana GSP would predict. This simple model suggests that we collected about $55 million over trend in FY 2018, would be $42 million over trend in FY 2019, and essentially on target for FY 2020 and FY 2021. To some extent this may reflect tax behavior, or it could represent the effects of legislative transfers in FY 2018 and planned transfers in FY 2019. These projections are shown on the following graph:



Applying the same general fund share of GSP to scenario paths suggest that depending on the timing lag chosen, if Montana were to follow the optimistic scenario path, collections could have positive updraft pressure of between $45 million and $97 million in the 2021 biennium. In the alternative pessimistic scenario, the down draft pressure could be negative $69 million to $132 million in the 2021 biennium. The downside risk is asymmetrically greater in this comparison reflecting the fact that the economy is near full-employment and has less room to growth any faster.

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GENERAL FUND REVENUE SUMMARY SECTION 2

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

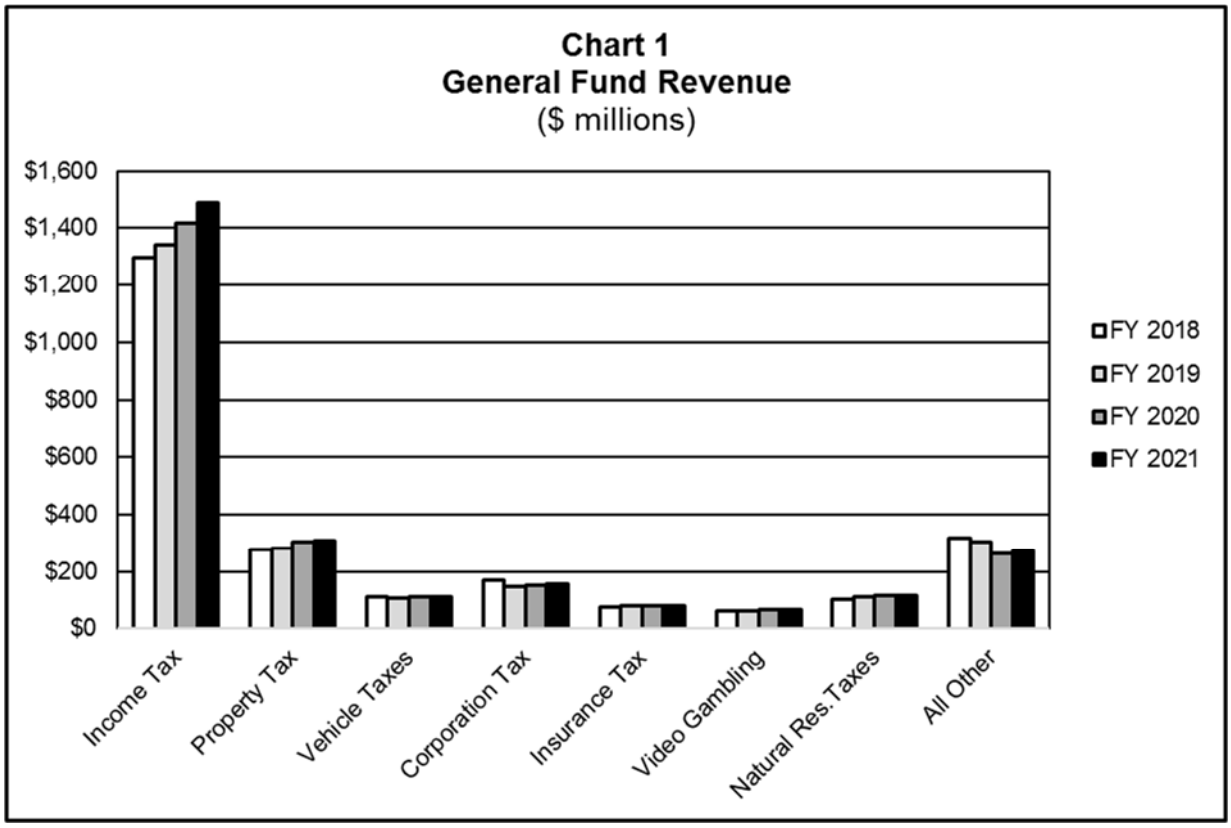
General Fund Revenue Summary

2021 Biennium

Table 1
General Fund Revenue
(Millions $)

Revenue Category	Actual FY 2018	21 Bienium Forecast FY 2019	FY 2020	FY 2021	Biennial Share
Major Taxes					
Individual Income Tax	1,297.777	1,341.149	1,418.275	1,488.166	56.9%
Property Tax	276.414	282.672	302.446	310.307	12.0%
Vehicle Taxes and Fees	109.534	108.700	109.400	110.200	4.3%
Corporation Income Tax	167.100	145.485	150.441	156.794	6.0%
Insurance Premiums Tax	75.273	78.086	79.769	81.333	3.2%
Video Gambling Tax	60.324	62.712	65.226	67.521	2.6%
Total Major Taxes	**1,986.423**	**2,018.803**	**2,125.556**	**2,214.321**	**84.9%**
Natural Resoure Taxes					
Oil and Gas Production Taxes	54.508	60.041	60.618	61.354	2.4%
U.S. Mineral Royalties	20.139	23.217	23.590	23.747	0.9%
Coal Severance Tax	14.107	14.872	17.118	17.276	0.7%
Metalliferous Mines Tax	6.291	6.591	6.755	6.927	0.3%
Electrical Energy Tax	4.302	4.097	4.581	4.775	0.2%
Wholesale Energy Transactions Tax	3.628	3.434	3.761	3.823	0.1%
Total Natural Resource Taxes	**102.976**	**112.252**	**116.423**	**117.901**	**4.6%**
Interest Earnings					
Coal Trust Interest Earnings	17.938	18.332	19.301	19.515	0.8%
Treasury Cash Account Interest	10.805	21.955	29.895	33.716	1.2%
Total Interest Earnings	**28.743**	**40.288**	**49.196**	**53.231**	**2.0%**
Liquior Taxes					
Liquor Excise and License Taxes	21.007	22.468	23.480	24.537	0.9%
Liquor Profits	12.200	12.800	13.400	14.100	0.5%
Beer Tax	3.002	2.994	2.984	2.972	0.1%
Wine Tax	2.446	2.439	2.475	2.509	0.1%
Total Liquor Taxes	**38.655**	**40.701**	**42.339**	**44.118**	**1.7%**
Tobacco Taxes					
Cigarette Tax	27.755	27.392	27.039	26.683	1.1%
Tobacco Products Tax	6.058	6.004	6.011	6.015	0.2%
Tobacco Settlement	2.778	3.156	2.759	2.654	0.1%
Total Tobacco Taxes	**36.591**	**36.553**	**35.809**	**35.352**	**1.4%**
Sales Taxes					
Telecommunications Excise Tax	13.726	12.817	11.983	11.204	0.5%
Institutional Reimbursements	13.674	11.856	11.831	11.921	0.5%
Health Care Facility Utilization Fees	4.405	4.327	4.273	4.234	0.2%
Accommodations Tax	24.091	26.113	28.261	30.746	1.2%
Rental Car Sales Tax	3.719	4.025	4.170	4.310	0.2%
Total Sales Taxes	**59.615**	**59.137**	**60.519**	**62.414**	**2.4%**
Other Taxes and Revenues					
Lottery Profits	10.699	10.454	10.930	11.038	0.4%
Highway Patrol Fines	3.754	3.699	3.726	3.780	0.1%
Investment Licenses and Permits	7.683	8.023	8.259	8.420	0.3%
Contractors' Gross Receipts Tax	4.267	4.250	4.374	4.513	0.2%
Driver's License Fee	4.581	4.306	4.504	4.655	0.2%
Rail Car Tax	3.649	3.494	3.527	3.583	0.1%
Other Revenue	117.813	92.214	40.996	41.259	1.6%
Total Other Taxes	**152.446**	**126.440**	**76.316**	**77.247**	**3.0%**
TOTAL GENERAL FUND REVENUE	**$2,405.447**	**$2,434.174**	**$2,506.157**	**$2,604.585**	**100.0%**

The state general fund accounts for all the state's financial resources, except for those legally mandated to be accounted for in another fund. Chart 1 divides general fund revenue into eight groups. The six largest taxes and the group of natural resources taxes accounted for 87% of general fund revenue in FY 2018, with each group contributing over $50 million.



Individual income tax is the largest revenue source, followed by property tax, and corporate income tax. Revenue from individual income tax is forecast to be $2,906 million for the 2021 biennium, accounting for 57% of total general fund revenue. Property tax revenue is forecast to be $613 million, representing 12% of general fund biennial revenue. Corporate license tax revenue is forecast to be $307 million for the biennium, making up 6% of general fund revenue. Vehicle revenue includes registration fees and other fees in lieu of taxes and is estimated to bring in $219 million over the biennium, just shy of 4.5% of total general fund collections. Video gambling tax revenue is projected to make up a little under 3% of general fund biennial revenue, bringing in $132 million over the two years. Insurance premiums tax is estimated to be the source of $161 million in general fund revenue for the biennium, which represents slightly over 3% of total collections for the period.

Table 1, on the previous page, shows the 33 general fund revenue categories. The six major taxes, which each bring in more than $50 million per year, are estimated to be the source of 85% of general fund revenue for the 2021 biennium. The natural resource category is comprised of oil and natural gas severance taxes, U.S. mineral royalties, coal severance tax, metalliferous mines license tax, electrical energy producer's license tax, and wholesale energy transaction tax. As a whole, the natural resource tax group is expected to generate $234 million in revenue, accounting for just over 4.5% of total general fund collections for the biennium. General fund revenue from alcohol and tobacco taxes is projected to be $157 million for the biennium, which is about 3% of total revenue. The sales tax group is forecast to generate $123 million in general fund revenue, representing 2.4% of total collections over the biennium. Interest earnings revenue is expected to contribute $102 million to the general fund and revenue from all other sources is expected to add $153 million in general fund collections, 2% and 3% of biennial revenue, respectively.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Individual Income Tax

2021 Biennium

Revenue Description

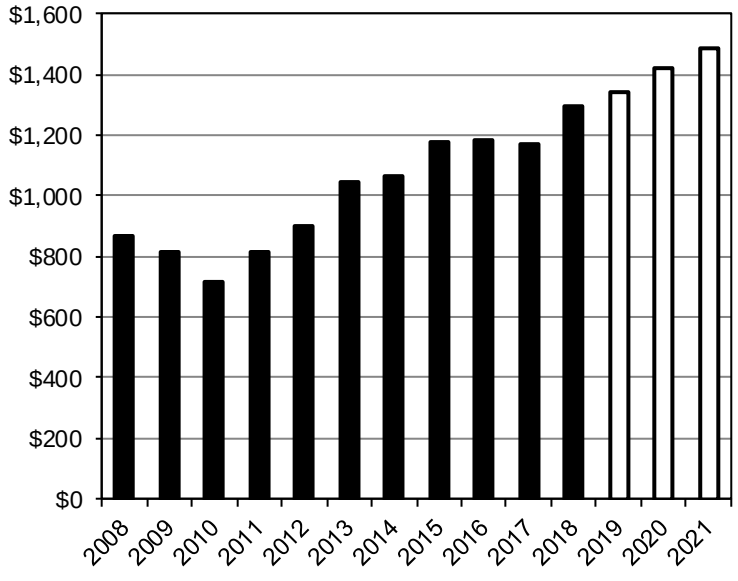
Title 15, Chapter 30, MCA, sets a graduated individual income tax ranging from 1% to 6.9% on gross income, less exemptions and deductions. A taxpayers' Montana adjusted gross income is based on their federal adjusted gross income but may be higher or lower as some types of income are taxed differently by the state. Itemized deductions for federal and state income tax are similar; however, while all state income tax may be deducted in calculating federal taxable income, the amount of federal income tax that may be deducted in calculating state taxable income is limited. Montana also allows several credits that may reduce taxpayers' liabilities.

Individual income tax is the largest source of general fund revenue, accounting for 54.0% of total general fund revenue in FY 2018. All individual income tax revenue is allocated to the general fund.

Table 1 shows actual individual income tax revenue for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021. The large variations in FY 2013 and FY 2014 demonstrate the revenue shifting induced by *The American Taxpayer Relief Act of 2012* (ATRA). To a lesser extent something similar may have happened in FY 2015 and FY 2016 due to the passage of the *Protecting Americans from Tax Hikes (PATH) Act of 2015*. As PATH reinstated tax provisions that had expired at the end of TY 2014 were made permanent. Such shifting appears to have occurred in FY 2017 and FY 2018 as taxpayers anticipated federal tax policy changes with the vote of change of presidential administration in November 2016. This may have led to deferral of capital gains realization. Federal tax policy did change with the passage of H.R.1 in December 2017 as the Tax Cuts and Jobs Act of 2017 (TCJA). A clear manifestation of this shift was a $40 million surge in income tax payments and $15 to $20 million surge in property tax receipts attributable to activity at the end of December 2017.

Table 1
Individual Income Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$866.638	4.78%
A	2009	$815.138	-5.94%
A	2010	$717.834	-11.94%
A	2011	$816.090	13.69%
A	2012	$898.851	10.14%
A	2013	$1,047.790	16.57%
A	2014	$1,063.284	1.48%
A	2015	$1,175.745	10.58%
A	2016	$1,184.828	0.77%
A	2017	$1,168.225	-1.40%
A	2018	$1,297.777	11.09%
F	**2019**	**$1,341.149**	**3.34%**
F	**2020**	**$1,418.275**	**5.75%**
F	**2021**	**$1,488.166**	**4.93%**



In FY 2019, revenues are expected to grow but decelerate from rapid growth of FY 2018 and shift toward higher than average positive business cycle growth rates by FY 2020. Income tax growth is expected to moderate as employment growth slows due to demographic forces, but wages accelerate. The broad-base recovery in consumer activity statewide keeps taking hold. A good example of this consumer-lead growth is the surge in tourism Montana has seen in recent years. The whole economy is expected to adjust to more normal monetary policy (higher interest rates) and muted labor force growth as the economy is constrained by full-employment. Ultimately, this reflects the healing from "the Great Recession".

Risks and Significant Factors

- This estimate relies on the IHS Markit baseline forecasts for much of the data used in the model. The base assumptions in the forecast are that federal policy tail winds will shift to modest headwinds in late calendar year (CY) 2019. The improvement in factors like consumer demand, employment, accelerating wages, will sustain growth. Oil prices will neither add or subtract substantially from current growth. Federal monetary policy is expected to move to a more normal stance, away from extraordinary measures that have characterized the last decade, and that higher policy rates will add some drag that will keep growth sustainable. This does not imply a recession, but simply that Montana generally will see better total economic conditions and growth will moderate.

- IHS Markit relies heavily on Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS) data from the recent past. These agencies have several standard scheduled revision points when preliminary data is updated and often revised. Significant revisions to measured changes in economic conditions and/or major economic policy changes can, and will, change IHS Markit forecast. These data have a three- to nine-month lag.

- Also contributing to the difficulty of tracking the changing dynamics of the Montana economy is the potential discrepancy between the various measures of employment activity. The most accurate data are found in the Quarterly Census of Employment and Wages (QCEW) which tracks all payroll employment in the state, and the (sample) survey measures of employment from both the Current Employment Statistics (CES) survey of payroll establishments, and the model-based estimates of total employment from the Local Area Unemployment Statistics (LAUS) system. Because the CES survey includes data on economic sector of employment, it is a key input to the IHS Markit state forecasts. Currently, the LAUS system is suggesting significant drag in the level of employment while the CES system shows otherwise. The CES data may be slightly overstated but probably reflects the economic reality better. The CES employment data and state withholding collections appear to be moving in concert, while the LAUS data is not. This forecast assumes that the CES data is more accurate.

- Income tax wage withholding collections which do not suffer a significant lag, but may have other administrative and timing data noise, suggest that the trends in the labor and gross state product measures are generally correct, but the swings in the data may be more muted than reported. Labor data will be revised in late February by BLS. Complete QCEW data for FY 2018 will become available in late November 2018. These new data points and CY withholding data available in January will help identify if these estimates will need re-centering.

- Due to the interdependence of Montana adjusted gross income with federal adjusted gross income, changes in the federal tax code could have a significant effect on Montana income tax receipts. Holding all other factors constant, lower federal tax rates (and higher deductions) result in higher state tax collections, while higher federal tax rates (and lower deductions) reduce state tax collections. The state's negative exposure to these fluctuations is dampened due to the cap on federal income tax deductions.

- The Office of Budget and Program Planning (OBPP) monitors a wide range of economic reports, changes in IHS Markit forecasts, and state revenue collections closely on an ongoing basis. Generally, monthly changes to the IHS Markit forecasts tend to have minor impact on the revenue estimates (+/- $5 million a fiscal year). These shifts tend to have less impact in the near-term (six months) and greater impact in the long term. Major quarterly updates that use BEA national income and product accounts updates can have a larger impact. Again, the impact is more noticeable two or more years into the future (a general fund effect of roughly +/- $15 million per year).

- Major economic events can change the forecast to a greater degree and on a faster time scale than has been the norm. A significant federal program promoting infrastructure and an economic stimulus package in the new Congress could increase revenue significantly as soon as the second half of FY 2020. A failure to reach a federal budget agreement for federal fiscal year 2019 that results in a significant government shut down after September 2019 could generate more policy uncertainty and could result in a decline in the revenue outlook.

- IHS Markit forecasts since the November 2016 Revenue and Transportation Interim Committee (RTIC) meeting have change significantly. Generally, there were downward revisions to CY 2016 and CY 2017 and upward revisions to CY 2018 with particularly strong upward revisions to the CY 2019 forecast. This increase in outlook should offset some of the tax timing effects of the TCJA 2017. Expiration of the Bipartisan Balance Budget Act of 2018 (BBBA 2018) poses downward risk to CY 2020 and CY 2021. IHS's assumptions are that some accommodation will be reached on federal spending and a sharp reduction in discretionary spending will be avoided, but there will be some reduction in the stimulatory effects of the BBBA 2018.

- The general tone of recent IHS forecasts is that near-term risks to the outlook have fallen (despite recent jitters in equity markets) and that there is little near-term capacity for additional robust growth. Longer-term there is growing downside risk and the base forecast is for deceleration toward more sustainable growth.

Change in Forecast Growth in GSP for Montana in Percentage Points from the Forecast Date (at October 2018)

Change	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021
Since October 2016	-0.4	-0.9	0.4	0.9	0.3	0.3
Since March 2017	-1.2	-0.8	0.2	0.9	0.1	0.0
Since August 2017	0.3	-0.3	-0.2	0.4	0.1	0.0
Net change since prior month	0.0	0.0	0.2	0.5	0.2	0.1

Income by Category

Taxpayers report income on eleven lines on the tax return and these eleven income types are forecast separately. They can be organized into five general categories: wage, salary, and tip (labor) income; ownership income; taxable retirement income; net capital gains; and interest income. Graph 1 shows these categories and their relative proportion of total taxable income.

Graph 1
Personal Income Reported by Full Year Residents for Tax Year 2017

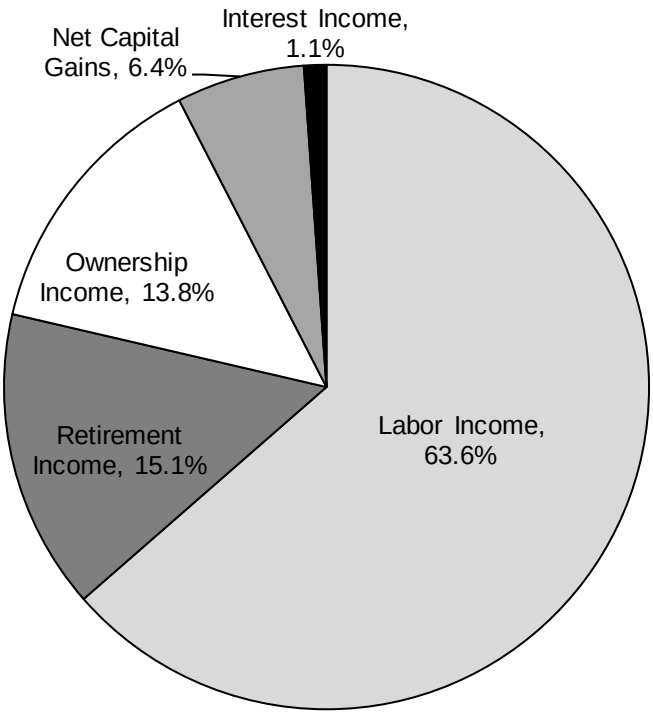


Table 2 provides more detail by showing the amount of income reported for TY 2017 by full-year residents and the percent of total reported income that category represents. The last column gives the ten-year (TY 2007 through TY 2017) average percent of total reported income for each category.

Table 2
Tax Year Income
($ millions)

Source of Income	TY 2017 Income	Distribution of TY 2017 Income	Ten Year Average Share of Income
Labor Income			
Wages, salaries, tips, etc.	**$16,791.933**	**63.57%**	**63.78%**
Ownership Income			
Rents, royalties, partnerships, etc.	$2,650.879	10.04%	9.71%
Net business income	$862.602	3.27%	3.35%
Dividend income	$690.232	2.61%	2.55%
Net farm income	-$230.849	-0.87%	-0.70%
Other income	-$322.424	-1.22%	-0.70%
Sub-Total	**$3,650.439**	**13.82%**	**14.21%**
Retirement Income			
Taxable Social Security	$981.545	3.72%	3.14%
Taxable Pensions, & IRAs	$2,998.578	11.35%	10.47%
Sub-Total	**$3,980.123**	**15.07%**	**13.61%**
Gains and Losses			
Capital gain or (loss)	$1,616.570	6.12%	6.27%
Supplemental gains or (losses)	$80.015	0.30%	0.30%
Sub-Total	**$1,696.585**	**6.42%**	**6.57%**
Interest Income	**$295.853**	**1.12%**	**1.84%**
Total	**$26,414.933**	**100.00%**	**100.00%**

Tables 3 through 11 present the historical and forecast income for above categories. Following each table, the risks and significant factors for the forecast are listed. Forecast growth rates for the income sources, deductions, reductions, and credits are summarized in Table 12. All charts depict income reported by full-year residents. **Apart from wages and salaries, the vertical scale is held constant at a range of $0 to $5 billion in taxpayer income.** This representation better reflects the relative importance of each revenue stream. **The vertical scale for wages and salary income is five times the range of the other sources of income.**

The reader is cautioned that Table 2 through Table 12 present total income before taxes.

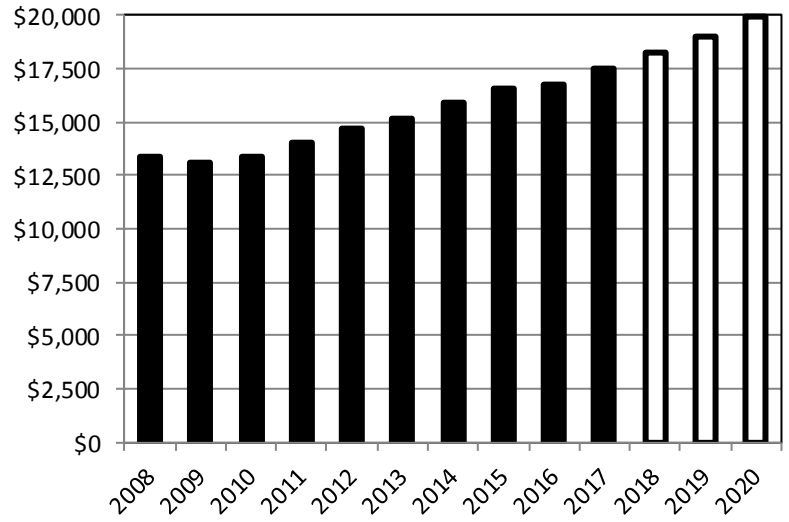
In TY 2017, on average, every $10,000 of income attributable to full-year resident individual income taxpayers generated roughly $491 in FY 2018 state individual income tax.

Labor Income

Individual income taxes on wage and salary earnings are the principal source of state government tax revenue.

Table 3
Wages, Tips, and Salary Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$13,352	5.4%
A 2009	$13,137	-1.6%
A 2010	$13,390	1.9%
A 2011	$13,996	4.5%
A 2012	$14,686	4.9%
A 2013	$15,190	3.4%
A 2014	$15,912	4.8%
A 2015	$16,520	3.8%
A 2016	$16,792	1.6%
A 2017	$17,475	4.1%
F 2018	**$18,239**	**4.4%**
F 2019	**$19,030**	**4.3%**
F 2020	**$19,891**	**4.5%**



Risks and Significant Factors

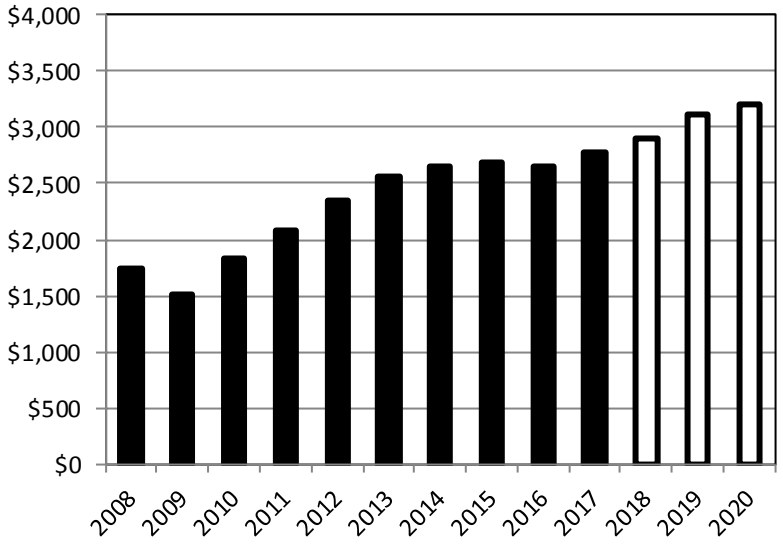
- The level of total Montana employment has a significant effect on labor income. This was particularly the case in the past. A high proportion of the Montana working-age population in the labor force match or exceed levels of the mid-2000's. This leaves little room for additional increase in the level of employment because of changing demographics. Flat to negative growth in the main (working-age) population cohort means changes in compensation will drive labor incomes.
- The level of average annual wages received by Montanans has a direct effect on the total level of taxable labor income. Increases in average wages has a positive effect on tax collections.
- The combined effects of employment growth and increasing wages and salary income are expected to raise total income and wages at a moderate rate over the forecast period.
- The chief source of Montana labor sector data used by all forecasting services is based on CES survey data. The CES survey of establishments classifies firms by economic sector. LAUS administrative record and model-based data focuses on total labor force and the employment characteristics of small areas. The CES is benchmarked annually based on the QCEW and Census population controls. QCEW data are released with a six-month lag (first quarter 2018 data was released in October 2018).
- OBPP tracks withholding collections relative to forecast wages reported on Montana resident tax forms. In January 2019 this data will be used to benchmark the TY 2018 wage data estimate and to evaluate if the income tax estimate needs to be revised.
- Estimates naturally miss by a greater margin at significant turns in the economy and with major tax policy shifts.

Ownership Income

Returns from owning property, businesses, farms, ranches, royalty rights or working interests in natural resources, processes, techniques, other intellectual property, or stock in companies and other financial instrument property generates the second largest source of taxable income. Principal among these are rents, royalties and partnership income. This is followed by net business income, dividend income, net farm income, and other miscellaneous sources of income.

Table 4
Rents, Royalties, and Partnership Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$1,735.15	-12.2%
A 2009	$1,508.40	-13.1%
A 2010	$1,823.26	20.9%
A 2011	$2,075.87	13.9%
A 2012	$2,340.91	12.8%
A 2013	$2,554.83	9.1%
A 2014	$2,650.88	3.8%
A 2015	$2,693.44	1.6%
A 2016	$2,650.88	-1.6%
A 2017	$2,777.54	4.8%
F 2018	**$2,909.08**	**4.7%**
F 2019	**$3,116.08**	**7.1%**
F 2020	**$3,197.43**	**2.6%**

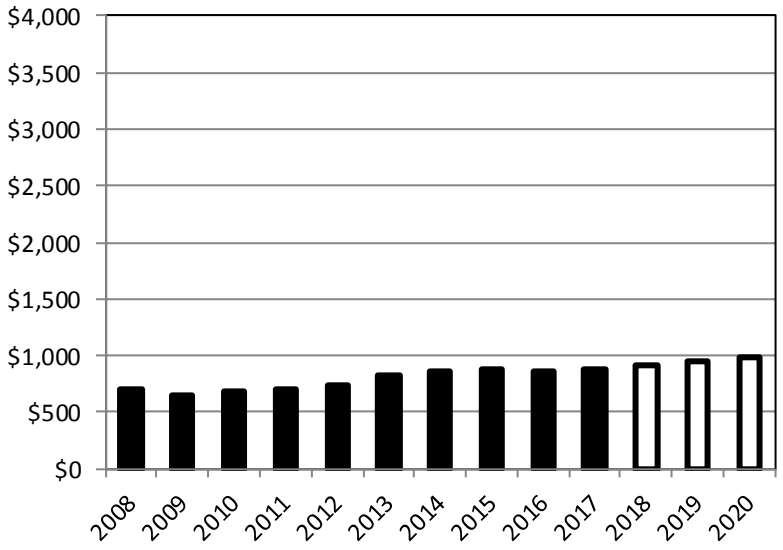


Risks and Significant Factors

- Department of Revenue work examining this income stream shows that much of this income is derived from structured payments from business or enterprise sales. A portion of these business ownership transfers are demographically driven and as such may accelerate faster than trend.
- The decline in natural resource prices have driven flattening in this income source in CY 2015 and CY 2016.
- Prices of natural resources are expected to stabilize at current moderate levels neither adding or subtracting from near-term growth.
- Other underlying sources are anticipated to continue to grow. Property values continue to rise but may moderate as interest rates increase acquisition costs.
- The growth rate of rents and royalty's income shows a strong relationship with national proprietors' income. If the economic recovery accelerates more (less) than expected, this income source would increase (decrease).
- Mineral royalties are reported in this income category. Increases in mineral, oil, and natural gas prices, as well as production, would increase growth of this income source.
- Federal policy changes in the TCJA, particularly the new 20% federal qualified income deduction may shift income into this classification of earnings and income derived from sole proprietorships, Chapter S corporations, partnerships, LLCs, and other pass-through entities. Restrictions on the type of entities eligible to claim the federal deduction will potentially offset income shifting. This shifting should have little consequence on Montana tax collections given the deduction applies to federal taxable income and not Montana taxable income.

Table 5
Net Business Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$701.31	-8.0%
A 2009	$648.19	-7.6%
A 2010	$690.83	6.6%
A 2011	$702.19	1.6%
A 2012	$740.89	5.5%
A 2013	$820.12	10.7%
A 2014	$862.60	5.2%
A 2015	$883.86	2.5%
A 2016	$862.60	-2.4%
A 2017	$886.40	2.8%
F 2018	**$918.08**	**3.6%**
F 2019	**$953.49**	**3.9%**
F 2020	**$979.40**	**2.7%**

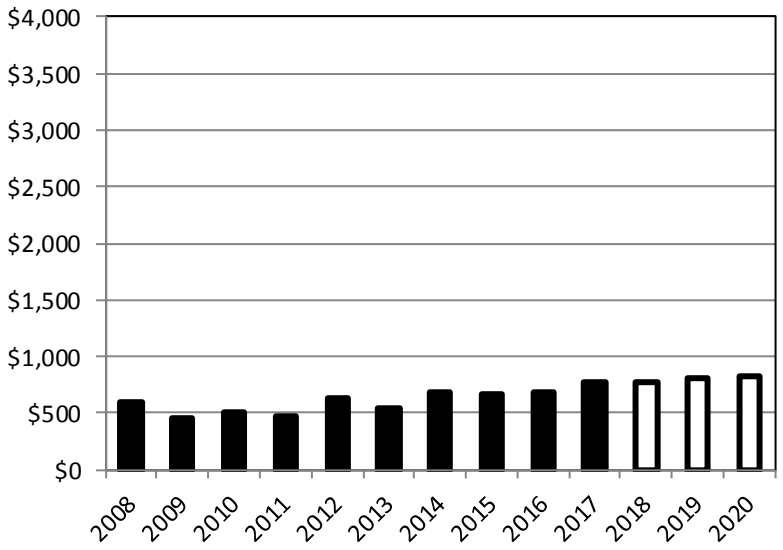


Risks and Significant Factors

- The growth in national proprietors' income is highly correlated with Montana net business income. Changes in national business income will have an impact on this source of income.
- Growth of these income streams are expected to moderate after recent surges.

Table 6
Dividend Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$592.11	-4.5%
A 2009	$462.42	-21.9%
A 2010	$504.42	9.1%
A 2011	$465.23	-7.8%
A 2012	$627.61	34.9%
A 2013	$550.14	-12.3%
A 2014	$690.23	25.5%
A 2015	$658.93	-4.5%
A 2016	$690.23	4.8%
A 2017	$774.33	12.2%
F 2018	**$775.11**	**0.1%**
F 2019	**$807.50**	**4.2%**
F 2020	**$831.89**	**3.0%**



Risks and Significant Factors

- Montana dividend income is highly correlated with the national level of dividend income. If national corporate profits are significantly different than forecast, dividend income will change accordingly.
- Corporations have experienced large increases in profits over recent years and have returned some of their cash reserves as special dividends in 2016 and 2017. The TCJA created preferential tax rates and accounting treatment for repatriated profits. Firms may have returned these profits to shareholders directly as special

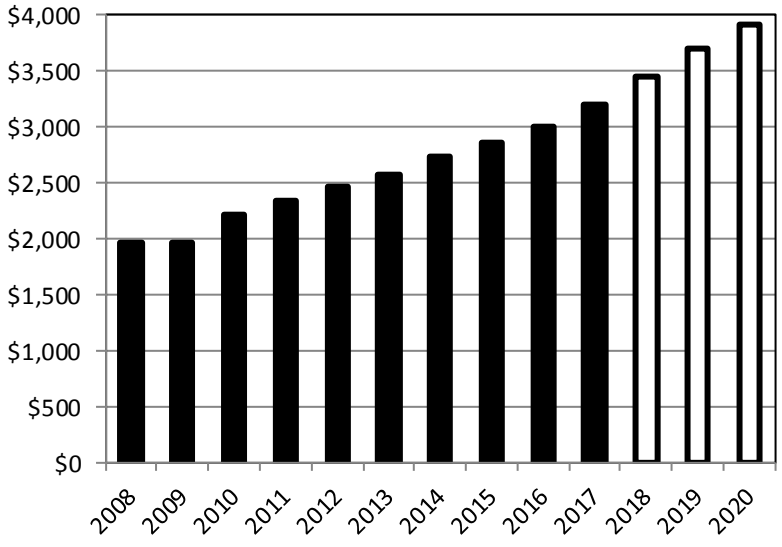
dividends (a current year taxable event) or by buying back stock (a tax event is depended on realization of the gain by the shareholder).

Retirement Income

The main components of retirement income are pension and IRA income, and the taxable portion of social security income. Pension and IRA income exceeds social security income but are more volatile. As the share of the population eligible for social security income grows, workers retire and claim retirement savings, thereby leading to acceleration in this income type.

Table 7
Pensions and IRA Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$1,960.74	77.0%
A 2009	$1,963.91	0.2%
A 2010	$2,206.83	12.4%
A 2011	$2,345.00	6.3%
A 2012	$2,459.92	4.9%
A 2013	$2,569.39	4.5%
A 2014	$2,728.70	6.2%
A 2015	$2,867.70	5.1%
A 2016	$2,998.58	4.6%
A 2017	$3,193.11	6.5%
F 2018	**$3,442.14**	**7.8%**
F 2019	**$3,695.53**	**7.4%**
F 2020	**$3,911.13**	**5.8%**

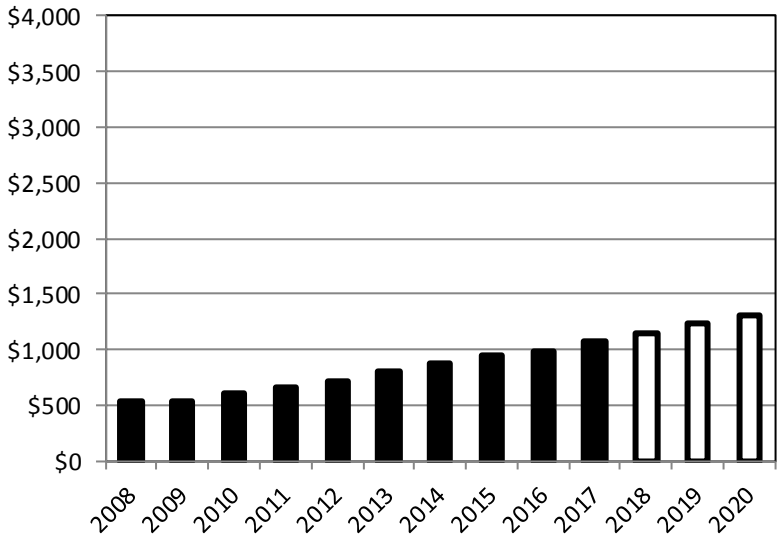


Risks and Significant Factors

- Prior years' S&P 500 stock price index and accelerating growth in the population over age 65 is expected to raise the taxable pension and IRA income stream.

Table 8
Social Security Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$527.63	3.7%
A 2009	$540.62	2.5%
A 2010	$603.83	11.7%
A 2011	$651.77	7.9%
A 2012	$721.66	10.7%
A 2013	$803.83	11.4%
A 2014	$882.27	9.8%
A 2015	$941.22	6.7%
A 2016	$981.54	4.3%
A 2017	$1,072.02	9.2%
F 2018	**$1,155.21**	**7.8%**
F 2019	**$1,231.37**	**6.6%**
F 2020	**$1,303.39**	**5.8%**



Risks and Significant Factors

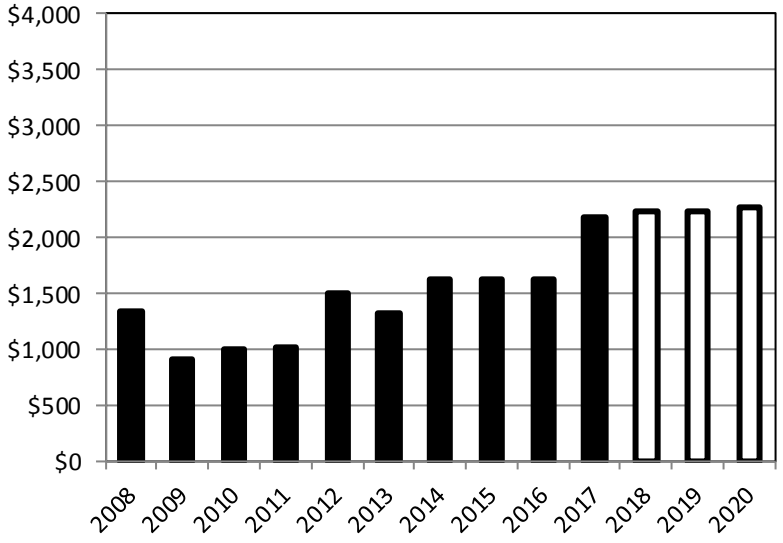
- Social security is indexed for inflation. If inflation remains lower than expected, this will have a negative effect on the growth of taxable social security income.
- Montana population age 65 and older is increasing. This increases the total amount of social security income.

Taxable Gains and Losses

Capital gains and supplemental gains are gains or losses from the sale of assets.

Table 9
Capital Gains and Losses Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$1,337.81	-35.9%
A 2009	$912.04	-31.8%
A 2010	$992.63	8.8%
A 2011	$1,015.75	2.3%
A 2012	$1,491.20	46.8%
A 2013	$1,314.18	-11.9%
A 2014	$1,616.57	23.0%
A 2015	$1,617.31	0.0%
A 2016	$1,616.57	0.0%
A 2017	$2,188.18	35.4%
F 2018	**$2,239.85**	**2.4%**
F 2019	**$2,229.25**	**-0.5%**
F 2020	**$2,275.77**	**2.1%**

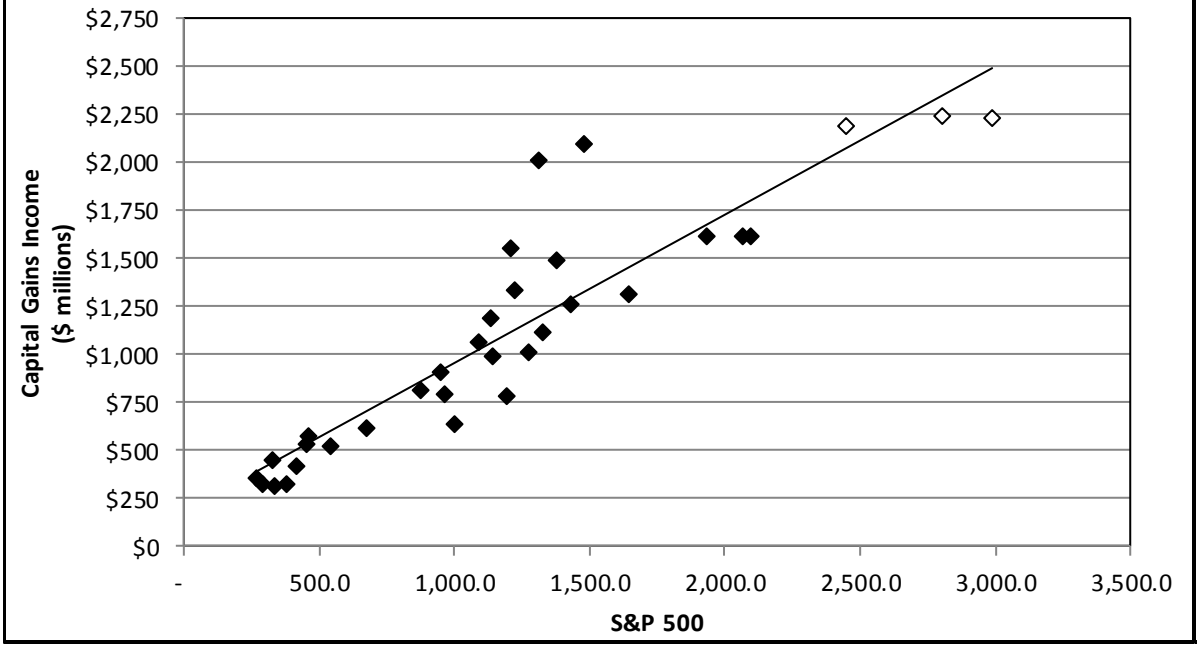


Risks and Significant Factors

- Stock prices serve as a general indicator of the value of assets; only a portion of capital gains are from sales of stocks, but stocks are assets for which reliable price data is available.
- The timing of capital gains "realizations", when taxpayers choose to liquidate or convert assets.
- Capital gains income can be highly variable, and tax planning can lead to rapid changes in capital gains income.

In Table 9, note the decline in capital gains income following the stock declines of CY 2007 and CY 2008. The relationship between stock prices and capital gains is depicted in Graph 2 (below) with the forecast points indicated by white diamonds:

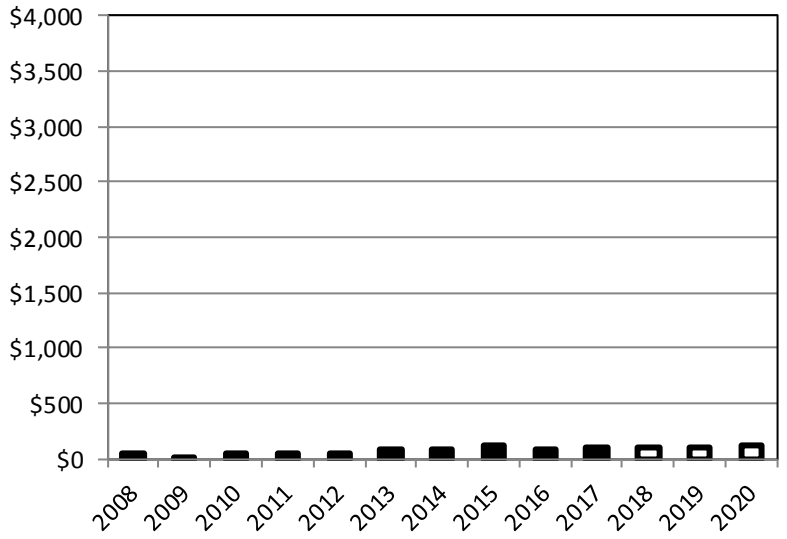
Graph 2
Capital Gains Income and the S&P 500



The capital gains forecast assumes there is a stable period of capital gains realizations.

Table 10
Supplemental Gains Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$56.74	27.8%
A 2009	$19.04	-66.4%
A 2010	$42.06	121.0%
A 2011	$41.88	-0.4%
A 2012	$53.11	26.8%
A 2013	$87.79	65.3%
A 2014	$80.01	-8.9%
A 2015	$118.25	47.8%
A 2016	$80.01	-32.3%
A 2017	$107.08	33.8%
F 2018	**$107.18**	**0.1%**
F 2019	**$111.22**	**3.8%**
F 2020	**$114.27**	**2.7%**



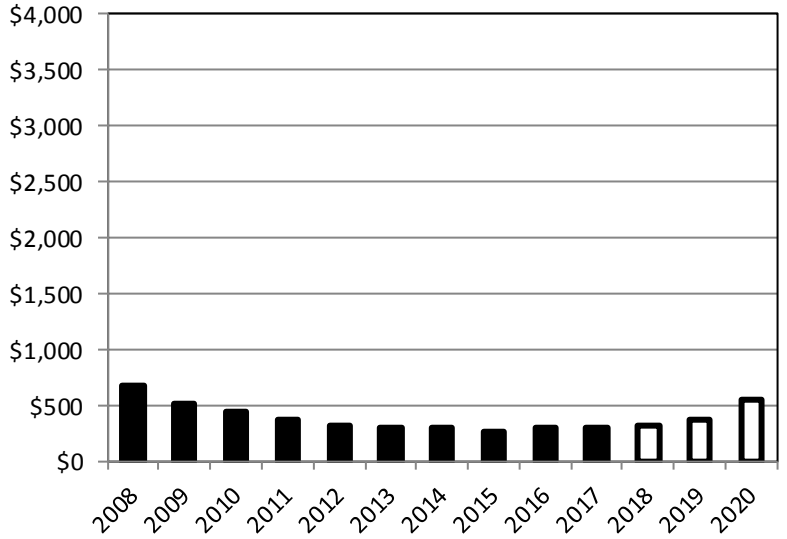
Risks and Significant Factors

- The swings in growth of supplemental gains income are tempered by the fact that it is small, contributing approximately one tenth of a percent of the taxable income stream.

Interest Income

Table 11
Interest Income
($ millions)

Tax Year	Income	Percent Change
A 2008	$674.05	11.9%
A 2009	$519.76	-22.9%
A 2010	$442.98	-14.8%
A 2011	$376.78	-14.9%
A 2012	$313.12	-16.9%
A 2013	$294.15	-6.1%
A 2014	$295.85	0.6%
A 2015	$264.05	-10.7%
A 2016	$295.85	12.0%
A 2017	$297.88	0.7%
F 2018	**$314.08**	**5.4%**
F 2019	**$368.16**	**17.2%**
F 2020	**$547.13**	**48.6%**



Risks and Significant Factors

- While there have been increases in taxpayers' savings, this has been offset by the persistence of low interest rates. Interest rates have begun to rise and are expected to continue to do so. These changes should increase this category's contribution to tax collections. However, the small share of taxable income this group represents limits its contribution to significant collections growth.

Other Sources of Income

Net taxable farm income has been on a long-term negative trend and is expected to hold that pattern.

The other income line is a catch-all for income that does not fit in the other categories. It is usually small and is forecast to grow at a rate based on historic trends.

Forecast Methodology

Income tax revenue estimates are based on a computer program that calculates tax liability for individual income tax returns. Baseline assumptions are listed in Table 12 at the end of this section.

Before program implementation:

- Growth rates for income and deductions must be estimated; and
- Future tax parameters, such as rate brackets and caps on deductions, must be calculated based on forecasts of inflation and any changes in state or federal law. The Legislative Fiscal Division (LFD) and the Office of Budget and Program Planning (OBPP) have agreed on a common set of these tax parameters.

The tax simulation program is run to project tax liability. It does so by:

- Reading each full-year resident return in the latest year's income tax returns database;
- Calculates current year's tax liability for each return; optimizing each tax unit's tax strategy to minimize tax liability.
- Applies an annual growth rate to each of the income and deduction line items and calculates the next year's tax liability; and
- Repeats the process, growing income and deductions and calculating tax liability for each year of the forecast period.

Once the simulation program has estimated future years' tax liability for full-year resident taxpayers who filed in the past year, adjustments are made outside the model to produce projected fiscal year collections for all filers.

Adjustments are made for:

- Projected growth in the number of taxpayers;
- Changes to state and federal tax law;
- Fiscal year timing of calendar year tax liability;
- An estimate of revenue from less than full-time residents;
- Reductions in tax liability due to the use of tax credits;
- Accounting for revenue from audits, penalties and interest not already included in the base calculations; and
- Other adjustments for shifts due to legislation.

Distribution

All individual income tax revenue is distributed to the general fund.

Data Sources

Revenue data is from SABHRS and the Department of Revenue. Past employment and wage data are from the Bureau of Labor Statistics. Employment, wage, interest rate, inflation, and other economic forecasts are from the U.S. and Montana IHS Markit forecast release as of October 2018.

Table 12
Actual and Projected Growth Rates for Line Items

	Actual					Forecast		
Income Item:	TY 2013	TY 2014	TY 2015	TY 2016	TY 2017	**TY 2018**	**TY 2019**	**TY 2020**
Wages, salaries, tips, etc.	3.4%	4.8%	3.8%	1.6%	4.1%	**4.4%**	**4.3%**	**4.5%**
Interest income	-6.1%	0.6%	-10.7%	12.0%	0.7%	**5.4%**	**17.2%**	**48.6%**
Dividend income	-12.3%	25.5%	-4.5%	4.8%	12.2%	**0.1%**	**4.2%**	**3.0%**
Net business income	10.7%	5.2%	2.5%	-2.4%	2.8%	**3.6%**	**3.9%**	**2.7%**
Capital gain or (loss)	-11.9%	23.0%	0.0%	0.0%	35.4%	**2.4%**	**-0.5%**	**2.1%**
Supplemental gains or (losses)	65.3%	-8.9%	47.8%	-32.3%	33.8%	**0.1%**	**3.8%**	**2.7%**
Rents, royalties, partnerships, etc.	9.1%	3.8%	1.6%	-1.6%	4.8%	**4.7%**	**7.1%**	**2.6%**
Taxable IRAs and pensions	4.5%	6.2%	5.1%	4.6%	6.5%	**7.8%**	**7.4%**	**5.8%**
Taxable portion of Soc. Sec.	11.4%	9.8%	6.7%	4.3%	9.2%	**7.8%**	**6.6%**	**5.8%**
Net farm income	2.0%	66.5%	-34.7%	53.1%	0.3%	**13.9%**	**4.1%**	**3.8%**
All other income	-0.6%	11.4%	-3.7%	3.8%	5.2%	**-4.6%**	**2.4%**	**-0.7%**
Fed. Adj. to Income:	9.6%	9.8%	-2.5%	2.6%	1.9%	**4.4%**	**3.8%**	**6.7%**
Montana Additions:	TY 2013	TY 2014	TY 2015	TY 2016	TY 2017	**TY 2018**	**TY 2019**	**TY 2020**
Interest on state & county bonds	12.3%	5.4%	-10.2%	11.4%	-6.4%	**5.7%**	**3.7%**	**3.8%**
Federal income tax refunds	-4.8%	-8.5%	1.2%	-1.2%	6.0%	**0.5%**	**0.5%**	**0.3%**
All Other additions	-5.6%	-0.1%	-1.7%	1.8%	5.5%	**-4.3%**	**2.3%**	**-0.8%**
Montana Subtractions:	TY 2013	TY 2014	TY 2015	TY 2016	TY 2017	**TY 2018**	**TY 2019**	**TY 2020**
Farm risk management account	-80.1%	119.3%	-100.0%	0.0%	-69.8%	**42.0%**	**0.0%**	**0.0%**
Exclusion for savings bonds	-13.2%	22.8%	-14.7%	17.3%	9.5%	**9.7%**	**29.5%**	**75.3%**
Unemployment income	-18.0%	-26.9%	-5.8%	6.1%	-7.7%	**-4.4%**	**-19.6%**	**1.5%**
Medical savings account exclusion	5.4%	-1.9%	0.8%	-0.8%	1.8%	**2.3%**	**2.2%**	**2.2%**
Family education account exclusion	37.2%	-66.6%	235.8%	-70.2%	294.4%	**3.7%**	**3.6%**	**3.5%**
First-time homebuyers exclusion.	0.1%	40.7%	-3.8%	4.0%	-2.0%	**1.1%**	**1.1%**	**1.1%**
Health care professional loan exclusion	11.6%	45.3%	-3.5%	3.6%	2.9%	**1.4%**	**0.7%**	**0.3%**
All other subtractions	-6.6%	2.5%	3.7%	11.0%	-0.8%	**6.0%**	**6.0%**	**6.0%**
Itemized Deductions:	TY 2013	TY 2014	TY 2015	TY 2016	TY 2017	**TY 2018**	**TY 2019**	**TY 2020**
Medical insurance premiums	5.4%	14.9%	8.1%	-7.5%	6.2%	**5.4%**	**5.4%**	**5.4%**
Medical deduction	-2.4%	-3.9%	2.0%	3.4%	4.7%	**1.4%**	**1.6%**	**1.7%**
Long-term care insurance	6.8%	5.3%	-1.6%	1.6%	-0.3%	**1.7%**	**1.6%**	**1.6%**
Balance of federal tax	43.9%	79.1%	-21.3%	27.0%	-35.6%	**8.9%**	**8.9%**	**8.9%**
Additional federal prior year tax	61.4%	-31.1%	-2.1%	2.1%	12.5%	**-1.6%**	**0.0%**	**0.0%**
Property taxes	4.8%	14.3%	-5.8%	6.2%	9.8%	**5.6%**	**5.8%**	**4.2%**
Other deductible taxes	3.2%	-21.2%	14.7%	-12.8%	-6.3%	**-2.3%**	**-2.3%**	**-2.3%**
Home mortgage interest	-3.0%	0.2%	49.8%	-33.2%	2.5%	**2.5%**	**2.5%**	**2.5%**
Deductible investment interest	19.3%	-7.4%	-6.8%	7.3%	4.3%	**3.6%**	**9.4%**	**2.1%**
Contributions	5.6%	14.5%	-16.0%	19.1%	-5.0%	**5.0%**	**5.0%**	**5.0%**
Child/dependent care expenses	-0.4%	-16.7%	-12.9%	14.8%	-9.4%	**0.0%**	**0.0%**	**0.0%**
Casualty and theft losses	-17.7%	14.9%	-20.9%	26.4%	-24.2%	**0.0%**	**0.0%**	**0.0%**
Tier I - Miscellaneous	7.1%	3.8%	-3.6%	3.7%	1.0%	**2.0%**	**2.0%**	**2.0%**
Tier II - Miscellaneous	-13.4%	41.9%	-32.7%	48.5%	-26.8%	**12.3%**	**0.0%**	**0.0%**
Gambling losses	45.2%	21.0%	6.4%	-6.1%	15.5%	**0.0%**	**0.0%**	**0.0%**
Credits	TY 2013	TY 2014	TY 2015	TY 2016	TY 2017	**TY 2018**	**TY 2019**	**TY 2020**
Total Allowable Credits	-0.4%	-16.7%	-12.9%	14.8%	-9.4%	**0.0%**	**0.0%**	**0.0%**
Full-Year Resident Returns	547,927	563,809	561,896	563,809	568,536	**570,573**	**573,682**	**577,840**

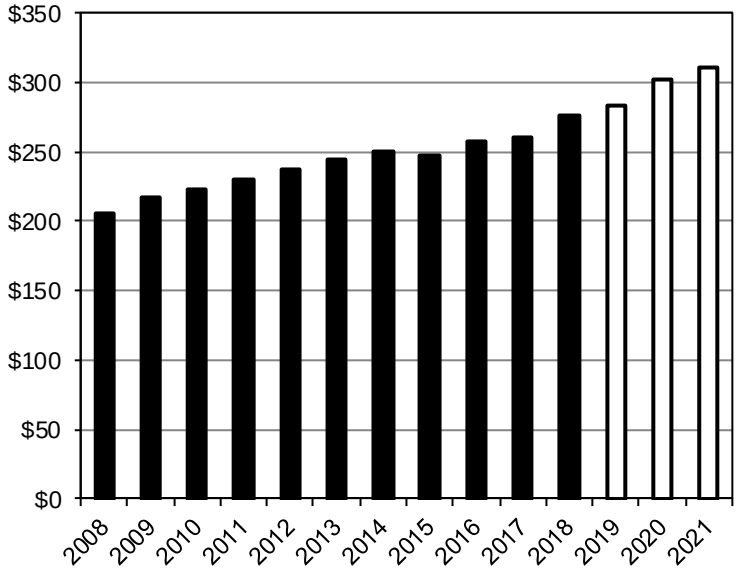
Revenue Description

Title 15, Chapter 6, Part 1, MCA, identifies the classes of property subject to taxation and the applicable tax rate. Property tax revenue is collected directly from mills levied on property and indirectly from non-levy revenue sources. The state general fund receives property tax revenue from statewide levies for: elementary school BASE funding of 33 mills (20-9-331, MCA), high school BASE funding of 22 mills (20-9-333, MCA), and the 40 mill state equalization aid levy (20-9-360, MCA), commonly referred to collectively as the 95 mill levy. In addition, there is a 1.5 mill levy on property in counties with colleges of technology (20-25-439, MCA). Non-levy revenues (principally coal gross proceeds and federal forest receipts) are shared with local taxing jurisdictions based on the proportion of state mills levied in the respective taxing jurisdictions.

Table 1 shows general fund property tax collections for FY 2008 through FY 2018 and forecast revenue for FY 2019, FY 2020, and FY 2021.

Table 1
Property Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$205.036	7.36%
A	2009	$217.042	5.86%
A	2010	$222.510	2.52%
A	2011	$229.352	3.08%
A	2012	$236.662	3.19%
A	2013	$244.607	3.36%
A	2014	$250.344	2.35%
A	2015	$247.881	-0.98%
A	2016	$257.100	3.72%
A	2017	$260.224	1.21%
A	2018	$276.414	6.22%
F	**2019**	**$282.672**	**2.26%**
F	**2020**	**$302.446**	**7.00%**
F	**2021**	**$310.307**	**2.60%**



Risks and Significant Factors

- Property taxes constitute the largest statewide tax source – the state, local governments, schools, and special districts collected over $1.855 billion in property taxes and fees in TY 2017 (FY 2018).
- The major change in property tax legislation during the 2015 session was SB 157 which changed the reappraisal cycle from a six-year cycle for agricultural, commercial, residential, and forest property, to a two-year cycle for class 3 (agriculture) and class 4 (commercial and residential) property. Class 10, forest property, remains on a six-year cycle but the valuation is now done on a 10-year average timber price basis. Tax rates were adjusted to apply to the full market value of the property with the elimination of the class 4 homestead and comstead exemptions. The Montana's Property Tax Assistance Program and Montana Disabled Veteran Property Tax Relief Programs were changed to account for the change in the class 4 residential property tax rate.
- 2017 session property tax legislation with revenue effects were HB 554 which clarified the proration of property tax assistance programs; SB 94 which caps the land value to 150% of the improvement (housing) assessed value for certain property held within the family; SB 132 which provides a ten-year exemption for certain class 5 pollution control equipment and class 15 carbon sequestration and CO_2 pipeline property; and SB 359 which created a new property tax classification (class 17) for qualified data centers with a tax rate of 0.9%.

- Misclassification of non-levy revenues on county collection reports leads to inconsistencies in the allocation of these revenues between mill levy and non-levy revenue accounts in the state accounting (SABHRS) system.
- Prior major protested property tax settlements and court decisions (*Gold Creek and AT&T v. DOR* 2013 MT 273) have established precedent that has reduced centrally assessed (class 13) valuation base. These changes and the adjudication of the definitions of gathering lines in Hiland Crude, LLC v DOR 2018 along with several settlements with wind generation companies and some oil refineries has dramatically reduced the value at risk in protested property taxes.
- Unanticipated growth in tax increment financing districts (TIFs) could lower state and local jurisdiction property tax collections.
- TY 2019 (FY 2020) marks the second two-year periodic revaluation cycle for agricultural land (class 3 property) and commercial and residential real property (class 4 property). With the exception of class 10 property all other property is assessed annually. These estimates are based on present law reappraisal statutes.

Estimate Summary

The presentation of this forecast starts with a summary of the full general fund property tax estimate (Table 2). The summary is followed by a step-by-step presentation of the methodology used to estimate each component of the estimate.

Table 2
Summary of General Fund Property Tax Revenue
($ millions)

	--- Actual ---	---------- Forecast ----------		
	FY 2018[1]	**FY 2019**	**FY 2020**	**FY 2021**
Property Tax - 95 Mill Levy	$269.460	**$271.909**	**$293.166**	**$300.214**
Property Tax - 1.5 Mill Levy	$1.337	**$1.405**	**$1.411**	**$1.524**
Net Protested Property Taxes	**-$1.100**	**-$1.100**	**-$1.100**	**-$0.550**
Net Property Mill Levy Revenue	$269.698	**$272.214**	**$293.477**	**$301.187**
Non-Levy Revenue:				
Coal Gross Proceeds	$7.110	**$7.401**	**$8.167**	**$8.299**
Federal Forest Reserves	$2.872	**$2.728**	**$0.473**	**$0.492**
All Other (last known year)	$0.329	**$0.329**	**$0.329**	**$0.329**
Subtotal Non-Levy Revenue[1]	$10.311	**$10.458**	**$8.969**	**$9.120**
Total Property Tax Revenue	$280.009	**$282.672**	**$302.446**	**$310.307**

[1] Actual collections do not tie to SABHRS totals in Table 1 because of cash vs. accrual accounting differences and account misallocations in county collections reports.

Forecast Methodology

The property tax forecast is built by estimating growth rates for tax year (TY) assessed market value for each property class and converting the assessed market value into taxable value using statutory tax rates and exemptions. This method facilitates the estimation of the underlying property growth and minimizes the need for adjustments for local property tax abatements for state millage. Adjustments are made for tax increment financing districts (TIFs) which do not transfer state equalization levies to the state (or local millage to their respective districts) on their incremental taxable value. TIFs do transfer their six-mill university levies to the state special revenue fund for the university system. The revenue due the state is then allocated to the fiscal year of receipt. A separate forecast is made for each non-levy revenue source. These estimates are summed to form the general fund property tax revenue estimate.

There are six main steps followed to calculate the state general fund property tax revenue generated from the 95 mill levy and the 1.5 mill levy:

Step 1. Estimate the growth rate for the assessed market value of each class of property.

Historical trends in valuation serve as the foundation for estimating future property value; adjustments are made for major new investments. Growth rates are determined independently for each class of property.

Table 3 is a summary of assessed market value and market value growth for all property except class 3 (agricultural land), class 4 (residential and commercial real property), class 10 (forest property), class 16 (qualifying high-voltage direct current converter property) and class 17 (qualified data centers). Classes 3, 4 and 10 will be presented in the section on cyclically reappraised property to address reappraisal timing of market value and underlying real growth in detail. The cyclically reappraised classes estimate follows the summary of all other classes of property. Classes 16 and 17 have been assigned no value during the forecast period as the creation of any new property in these classes is currently unknown.

Of note in Table 3 (below):

- **Class 1,** net proceeds of all mines assessed value (except metal mines and bentonite) is highly dependent on construction; the valuation is expected to oscillate around the long-run growth rate. The series presented is adjusted for the removal of bentonite from the class in TY 2005.
- The forecast for **Class 2**, net proceeds of metal mines, is based on the IHS Markit projection for the producer price for metals and current production. Metal mines property taxes are based on the prior calendar year's production value.
- **Class 5** (rural co-op and pollution control property) is adjusted for the effects of HB 156 (2015) and SB 132 (2017) (no growth in new pollution control subclass property) the growth of the other property in the class is assumed to continue at trend.
- **Class 8** business equipment property growth is estimated based on trend with adjustments for large one-time investments. SB 96 (2013) eliminated the taxation on the first $100,000 in assessed market value, widened the 1.5% tax bracket for the next $6 million in assessed market value, and set the tax rate for the amount over $6 million at a 3% tax rate. These changes have continued to lower the class 8 tax base. The class continues to grow but at a somewhat reduced trend rate after adjusting for settlements and pauses in investment growth following large commodity price declines. The *Hiland Crude* decision shifted property into class 8 from class 9
- **Class 9** (pipeline and electrical transmission property) is expected to revert to a long-term growth after adjusting for prior surges in pipeline property and after the *Hiland Crude* decision clarified the classification gathering lines and maintained central assessment for the class
- Centrally assessed **class 13** property valuation reductions due to prior court rulings and protested tax settlements are assumed to have been fully incorporated in the TY 2017 and TY 2018 tax base. The class is forecast to return to its long-term trend growth rate.
- **Class 14** (formerly wind generation property) expanded rapidly with a particularly large increase due to the completion of the Montana-Alberta Tie-Line. Some of this valuation was reduced after a tax protest settlement. New facilities are assumed to offset depreciation of existing facilities with few new projects of special note. The expiration of tax incentives will lead to increases in taxable value as the effective tax rate rises.
- **Class 15** includes the current pipeline supplying CO_2 for injection into the Bell Creek oil formation. No value growth is expected from certain new property due to the passage of HB 156 (2015) and SB 132 (2017).
- No value is anticipated to be added to the tax rolls for **classes 16** (high-voltage DC converter) and **17** (qualified data center) property during the forecast period.

Table 3
Summary of Assessed Market Value
($ millions)

Tax Year	Class 1 Net Proceeds		Class 2 Gross Proceeds		Class 5 Rural Co-Op & Pollution Control		Class 7 Locally Assessed Utilities		Class 8 Business Equipment (FY adjusted)		Class 9 Pipelines & Electricity Transmission	
	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change	Net Assessed Value	Percent Change	Assessed Value	Percent Change
A 2008	$4.013	4.5%	$34.858	23.0%	$1,170.260	-1.0%	$15.179	10.8%	$5,737.691	9.3%	$2,204.148	0.0%
A 2009	$4.002	-0.3%	$31.035	-11.0%	$1,251.525	6.9%	$15.822	4.2%	$6,022.510	5.0%	$2,120.180	-3.8%
A 2010	$3.181	-20.5%	$20.887	-32.7%	$1,299.811	3.9%	$16.229	2.6%	$6,238.758	3.6%	$2,338.609	10.3%
A 2011	$3.931	23.6%	$25.340	21.3%	$1,354.726	4.2%	$14.930	-8.0%	$6,464.672	3.6%	$2,535.219	8.4%
A 2012	$4.189	6.6%	$33.803	33.4%	$1,522.562	12.4%	$14.631	-2.0%	$7,024.756	8.7%	$2,687.917	6.0%
A 2013	$3.272	-21.9%	$29.723	-12.1%	$1,501.919	-1.4%	$15.023	2.7%	$7,200.080	2.5%	$2,947.230	9.6%
A 2014	$3.791	15.9%	$25.578	-13.9%	$1,485.501	-1.1%	$14.773	-1.7%	$7,088.731	-1.5%	$3,122.440	5.9%
A 2015	$3.907	3.1%	$26.517	3.7%	$1,550.769	4.4%	$14.866	0.6%	$7,250.378	2.3%	$3,587.141	14.9%
A 2016	$4.080	4.4%	$19.454	-26.6%	$1,636.805	5.5%	$14.241	-4.2%	$7,096.595	-2.1%	$3,986.808	11.1%
A 2017	$3.984	-2.4%	$17.890	-8.0%	$1,604.336	-2.0%	$14.330	0.6%	$6,664.994	-6.1%	$4,214.396	5.7%
A 2018	$4.795	20.4%	$22.274	24.5%	$1,589.441	-0.9%	$15.191	6.0%	$7,184.291	7.8%	$4,176.210	-0.9%
F 2019	**$4.789**	**-0.1%**	**$23.361**	**4.9%**	**$1,619.292**	**1.9%**	**$15.395**	**1.3%**	**$7,473.641**	**4.0%**	**$4,404.644**	**5.5%**
F 2020	**$5.084**	**6.1%**	**$23.522**	**0.7%**	**$1,649.704**	**1.9%**	**$15.601**	**1.3%**	**$7,774.855**	**4.0%**	**$4,645.573**	**5.5%**

Tax Year	Class 12 Airlines & Railroads		Class 13 Telecommunication & Electrical Generation		Class 14 Renewable Energy Production & Transmission		Class 15 CO2/Qualifying Liquid Pipeline Property		Class 16 CO2/Qualifying Liquid Pipeline Property		Class 17 Qualified Data Center	
	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change	Assessed Value	Percent Change
A 2008	$1,221.693	4.3%	$2,550.499	8.3%	$172.664	1.3%						
A 2009	$1,246.504	2.0%	$2,578.848	1.1%	$434.939	151.9%						
A 2010	$1,359.438	9.1%	$2,904.257	12.6%	$596.308	37.1%						
A 2011	$1,524.594	12.1%	$3,427.557	18.0%	$571.444	-4.2%						
A 2012	$2,067.948	35.6%	$3,435.972	0.2%	$550.740	-3.6%						
A 2013	$2,097.157	1.4%	$2,876.381	-16.3%	$1,025.784	86.3%						
A 2014	$2,197.681	4.8%	$2,831.344	-1.6%	$980.529	-4.4%	$63.931		$0.000			
A 2015	$2,221.753	1.1%	$2,974.469	5.1%	$957.970	-2.3%	$117.162	83.3%	$0.000			
A 2016	$2,503.508	12.7%	$3,030.510	1.9%	$880.904	-8.0%	$165.687	41.4%	$0.000			
A 2017	$2,843.525	13.6%	$2,992.082	-1.3%	$841.477	-4.5%	$171.450	3.5%	$0.000			
A 2018	$2,823.509	-0.7%	$2,877.270	-3.8%	$761.927	-9.5%	$151.199	-11.8%	$0.000		$0.000	
F 2019	**$2,919.847**	**3.4%**	**$2,926.184**	**1.7%**	**$798.089**	**4.7%**	**$156.457**	**3.5%**	**$0.000**		**$0.000**	
F 2020	**$3,019.473**	**3.4%**	**$2,975.929**	**1.7%**	**$835.968**	**4.7%**	**$161.899**	**3.5%**	**$0.000**		**$0.000**	

Step 2. Estimate the growth of property subject to cyclical reappraisal (classes 3, 4, and 10).

For classes 3 and 4, growth is derived by calculating the interaction of long-run trends, new property growth, future (biennial) reappraisal. Per present law, tax rates are held constant, annual new property is added at trend, and valuations are adjusted for the anticipated two-year change in estimated property value. Preliminary estimates of TY 2019 reappraisal change are based on preliminary estimates from the Department of Revenue to be presented at the November 2018 Revenue and Transportation Interim Committee (RTIC). These reappraisal estimates are approximations and not the final estimates produced by the department's statistical modeling and appraisal activities. The growth rates closely matched those implied by the IHS Markit median family home valuation estimates.

Class 3 – Agricultural Land

Agricultural land is assessed based on the production value. Production valuation is assessed based on changes in reference agricultural products (cattle for grazing land, spring wheat for crop land, and alfalfa hay for irrigated land) and average production practices adjusted for soil and climatological characteristics of the property instead of market value. Table 4 presents the estimate of class 3 production value and taxable value growth. The base growth rate of agricultural land is -0.15% during the forecast period. The negative growth rate is due to the gradual conversion of class 3 land to commercial and residential parcels. Due to reappraisal, the assessed value grows biennially based on the 10-year

Olympic average change in the reference commodity prices. The other feature of class 3 is that the applicable tax for agricultural property is higher than the statutory rate because small agricultural parcels, those that do not meet a minimum income threshold (non-qualified agricultural land), have a higher tax rate.

Table 4
Class 3 Agricultural Land
($ millions)

	TY 2017	TY 2018	**TY 2019**	**TY 2020**
Productivity Value	$6,773.15	$6,753.405	**$6,925.144**	**$6,907.831**
Statutory Tax Rate	2.16%	2.16%	**2.16%**	**2.16%**
(Applicable tax rate)	*2.26%*	*2.26%*	***2.26%***	***2.26%***
Total Taxable Value	$152.939	$152.577	**$156.457**	**$156.066**
Productivity Value Growth	7.43%	-0.29%	2.80%	0.00%
Base Growth			**-0.25%**	**-0.25%**
Taxable Value Percent Change	7.49%	-0.24%	**2.54%**	**-0.25%**

Class 4 – Residential and Commercial Real Property

Because valuations for commercial and residential property are different, each subclass is estimated and presented separately for residential and commercial property.

Class 4 Residential Real Property

Table 5 presents the forecast of market and resulting taxable value for residential class 4 property. The forecast is based on underlying residential property growth of approximately 1.4% in TY 2019 and TY 2020 (TY 2018 is known). That estimate is based on prior year estimated growth in the number of households in order to project new property. This is combined with the TY 2019 preliminary reappraisal change estimate presented by the Department of Revenue to the RTIC in November 2018. There is a reduction in taxable value for homeowners that qualify for the Property Tax Assistance Program (PTAP), the Disabled American Veterans (DAV) property tax assistance program and the valuation limitation due to SB 94 (2017). The revenue effects of these programs, unlike local property tax abatements, reduce state mill collections. The taxable value for these tax programs is assumed to be a fixed share of taxable value during the forecast period.

Table 5
Class 4 Residential Real Property
($ millions)

	TY 2017	TY 2018	**TY 2019**	**TY 2020**
Market Value	$99,309.633	$101,609.430	**$111,567.154**	**$112,905.960**
Tax Rate	1.35%	1.35%	**1.35%**	**1.35%**
Taxable Value	$1,340.680	$1,371.727	**$1,506.157**	**$1,524.230**
Est. PTAP/DAV/HB 75 Reductions	($12.4298)	($19.9659)	($21.9226)	($22.1856)
Total Taxable Value	$1,328.250	$1,351.761	**$1,484.234**	**$1,502.045**
Est. Household Formation	0.66%	1.40%	**1.40%**	**1.20%**
Housing Value Change	10.43%	0.00%	**8.40%**	**0.00%**
Taxable Value Percent Change	11.50%	1.77%	**9.80%**	**1.20%**

Class 4 Commercial Real Property

Commercial real property estimates are presented in Table 6. Starting from TY 2016 property, new property is assumed to grow biennially with growth matching the prior cycle growth. That is further assumed to occur in the reappraisal year when the bulk of new propriety tends to be identified and be zero in the subsequent year. Due to reappraisal, the market

value of property moves biennially. For this estimate the Department of Revenue, November 2018, statewide average estimate is used.

Table 6
Class 4 Commercial Real Property
($ millions)

	TY 2017	TY 2018	**TY 2019**	**TY 2020**
Market Value	$20,708.759	$20,863.838	**$23,386.276**	**$23,561.673**
Tax Rate	1.89%	1.89%	**1.89%**	**1.89%**
Calculated Taxable Value	$391.396	$394.327	**$442.001**	**$445.316**
Reductions	($4.538)	($4.296)	**($4.815)**	**($4.851)**
Total Taxable Value	$386.858	$390.031	**$437.186**	**$440.464**
Base Growth	3.21%	0.75%	**0.75%**	**0.75%**
Change in Value	3.93%	0.00%	**11.34%**	**0.00%**
Taxable Value Percent Change	7.22%	0.82%	**12.09%**	**0.75%**

Certain properties classified under 15-6-134(2)(c), MCA, are taxed at one-half of the standard class 4 tax rate. This taxable value reduction is assumed to be a constant share during the forecast period.

Class 10 Forest Land

Forest land, like agricultural land, is assessed based on its productivity value. Table 7 presents the estimate of class 10 taxable value. The base growth rate of forest land is assumed to be negative 0.15% in TY 2019 and TY 2020 as the value of class 10 property is reduced when land is converted to commercial and residential parcels or reclassified as exempt property.

Table 7
Class 10 Forest Land
($ millions)

	TY 2017	TY 2018	**TY 2019**	**TY 2020**
Productivity Value	$1,327.634	$1,323.803	**$1,321.817**	**$1,319.834**
Tax Rate	0.37%	0.37%	**0.37%**	**0.37%**
Taxable Value	$4.913	$4.898	**$4.891**	**$4.883**
Base Growth	-0.15%	-0.29%	**-0.15%**	**-0.15%**
Taxable Value Growth	-0.15%	-0.29%	**-0.15%**	**-0.15%**

Step 3. Determine the tax rate for each class of property.

As stated previously, tax rates for each class of property are set in statute. However, classes 3 and 4 have special rates which apply to sub-categories of property. In class 3, parcels of agricultural land that are less than 160 acres in size that do not generate at least $1,500 in agricultural production per year are considered “non-qualified agricultural land” and have a tax rate seven times the standard class 3 rate. Because of this, the applicable rate is higher than the standard tax rate. This increment was calculated for the forecast period.

In class 4, residential properties of individuals who meet statutory residence, income, and tenure qualifying conditions receive reduced tax rates (property tax assistance programs, disabled American veterans’ programs, and capped land valuation for certain long-held family residences). Some commercial properties are taxed at a lower than standard rate – examples are properties that receive new and expanding industry property (local) abatements and commercial golf courses (lower statutory class 4 rate). Under SB 372 (2011) and SB 96 (2013), class 8 property has a tiered tax rate. The class 8 effective statutory weighted average rate before local abatements is presented in Table 8. The table summarizes standard statutory property tax rates for TY 2015 through TY 2018 for all classes of property.

Table 8
Statutory Tax Rates by Class of Property

Tax Year	Class 1 Mine Net Proceeds	Class 2 Mine Gross Proceeds	Class 3 Ag Land[1]	Class 4 Residential	Class 4 Commercial	Class 5 Co-op & Pollution Control[4]	Class 7 Locally Assessed Utilities	Class 8 Business Equipment[3]	Class 9 Pipelines, Utility Non-Generating	Class 10 Forest land	Class 12 Airlines & Railroads[2]	Class 13 Telecomm & Electrical Generation	Class 14 Renewable Energy & Transmission	Class 15 CO_2/Cert. Liquid Pipeline[5]	Class 16 High Voltage DC	Class 17 Qualified Data Center
2017	3.00%	3.00%	2.16%	1.35%	1.89%	3.00%	8.00%	2.33%	12.00%	0.37%	3.07%	6.00%	3.00%	1.50%	2.25%	
2018	3.00%	3.00%	2.16%	1.35%	1.89%	3.00%	8.00%	2.24%	12.00%	0.37%	3.12%	6.00%	3.00%	1.50%	2.25%	0.90%
2019	**3.00%**	**3.00%**	**2.16%**	**1.35%**	**1.89%**	**3.00%**	**8.00%**	**2.24%**	**12.00%**	**0.37%**	**3.07%**	**6.00%**	**3.00%**	1.50%	**2.25%**	0.90%
2020	**3.00%**	**3.00%**	**2.16%**	**1.35%**	**1.89%**	**3.00%**	**8.00%**	**2.24%**	**12.00%**	**0.37%**	**3.07%**	**6.00%**	**3.00%**	1.50%	**2.25%**	0.90%

[1] Actual rate is higher due to the rate on non-qualified a [2] The class 12 rates is calculated as the weighed average of all commercial and industrial property in the prior year.
[3] Blended rate -- Tax on the first $100,000 in market value of business equipment property is exempt for all taxpayers, 1.5% on next $6 million, and 3.0% on all property above that level.
[4] Certain pollution control equipment (class 5) receives a10-year exempt from taxation. [5] Rate is 3.0% but new class15 carbon dioxide pipelines receive a 15 year 50% tax rate reduction starting in TY 2015.

The class 12 tax rate is calculated under the provisions of the federal 4-R Act. The specific provisions of the act prohibit state, county, and local taxing jurisdictions from assessing rail transportation property at a higher ratio of assessed value to true market value than other commercial and industrial property within the jurisdiction. Class 12 property is assessed annually and is the weighted average tax rate for all commercial and industrial property in the state. Class 4 commercial property represents over half of statewide commercial and industrial property and is assessed on a two-year cycle. In order to comply with the 4-R Act, the Department of Revenue uses commercial property sales to calculate the required adjustment to the class 4 commercial tax rate used in the class 12 weighted average. This revenue estimate assumes the class 12 rate is constant for the forecast period as class 4 commercial property is now assessed on a biennial basis instead of a six-year cycle. The tax rate for TY 2018 was published by Department of Revenue in June 2018.

Step 4. Calculate the statewide fiscal year taxable value for each class of property.

For all classes of property except class 8, the tax collected on the calendar year taxable value is the next fiscal year's revenue. That is, TY 2016 property assessments lead to FY 2017 revenue. However, class 8 business equipment property consists of two types of property each with a different billing cycle. Class 8 taxable value needs to be adjusted for the timing of payments. Personal property, not-liened-to-real property (or strict-personal property), represents about 30% of the value in the class. This property is assessed in the spring of the calendar year and bills are expected to be paid in May of the respective ongoing current fiscal year. Class 8 real property and class 8 personal property, liened-to-real property (secured permanently or legally to real property), represents 70% of the value of the class and have tax payments due in November and May. Therefore, FY 2019 taxable value is 70% of TY 2018 taxable value and 30% of TY 2019 taxable value. The class 8 taxable value presented in the summary of taxable value (Table 9) includes this adjustment.

Note: The discussion from this point forward will focus on fiscal year outcomes.

Table 9 presents the result of applying statutory tax rates (Table 8) to tax year assessed values adjusted for the expected timing of the state's property tax receipts.

Table 9
Calculated Statewide Fiscal Year Taxable Value Summary
($ millions)

Class & Property Description	FY 2018	FY 2019	FY 2020	FY 2021
1. Net Proceeds	$3.984	**$4.795**	**$4.789**	**$5.084**
2. Mine Gross Proceeds	$17.890	**$22.274**	**$23.361**	**$23.522**
3. Agricultural Land	$152.939	**$152.577**	**$156.457**	**$156.066**
4. Residential & Commercial Real Property	$1,715.108	**$1,741.792**	**$1,921.420**	**$1,942.509**
5. Rural Co-Op Utilities and Pollution Control	$48.130	**$47.683**	**$48.579**	**$49.491**
7. Non-centrally Assessed Utilities	$1.146	**$1.215**	**$1.232**	**$1.248**
8. Business Equipment (FY adjusted)	$155.339	**$161.217**	**$167.710**	**$174.469**
9. Pipelines, Electrical Transmission Lines	$505.728	**$501.145**	**$528.557**	**$557.469**
10. Forest Land	$4.913	**$4.898**	**$4.891**	**$4.883**
12. Airlines/Railroads	$86.976	**$87.932**	**$89.475**	**$92.528**
13. Telecommunication & Electrical Generation	$179.525	**$172.636**	**$175.571**	**$178.556**
14. Renewable Energy Production & Transmission	$16.958	**$16.208**	**$18.145**	**$19.614**
15. CO2/Qualifying Liquid Pipelines	$2.572	**$2.268**	**$2.347**	**$2.428**
16. High Voltage DC Converter Property	$0.000	**$0.000**	**$0.000**	**$0.000**
17. Data Server Facility		**$0.000**	**$0.000**	**$0.000**
Statewide Taxable Value	$2,891.207	**$2,916.640**	**$3,142.533**	**$3,207.867**

Table 10 presents the annual change in the forecast taxable values (from Table 9), by class, to facilitate comparability to the estimates presented by the Legislative Fiscal Division. These growth rates are important in projecting taxable value for property tax fiscal impact estimates.

Table 10
Forecast Annual Percent Change in Taxable Value

Class & Property Description	FY 2018	FY 2019	FY 2020	FY 2021
1. Net Proceeds	-2.4%	**20.4%**	**-0.1%**	**6.1%**
2. Mine Gross Proceeds (w/o Abatements)	-8.0%	**24.5%**	**4.9%**	**0.7%**
3. Agricultural Land	7.5%	**-0.2%**	**2.5%**	**-0.3%**
4. Residential & Commercial Real Property	10.5%	**1.6%**	**10.3%**	**1.1%**
5. Rural Co-Op Utilities and Pollution Control	-2.0%	**-0.9%**	**1.9%**	**1.9%**
7. Non-centrally Assessed Utilities	0.6%	**6.0%**	**1.3%**	**1.3%**
8. Business Equipment (FY adjusted)	5.5%	**3.8%**	**4.0%**	**4.0%**
9. Pipelines, Electrical Transmission Lines	5.7%	**-0.9%**	**5.5%**	**5.5%**
10. Forest Land	-0.1%	**-0.3%**	**-0.1%**	**-0.1%**
12. Airlines/Railroads	15.0%	**1.1%**	**1.8%**	**3.4%**
13. Telecommunication & Electrical Generation	-1.3%	**-3.8%**	**1.7%**	**1.7%**
14. Renewable Energy Production & Transmission	-3.9%	**-4.4%**	**12.0%**	**8.1%**
15. CO2/Qualifying Liquid Pipelines	3.5%	**-11.8%**	**3.5%**	**3.5%**
16. High Voltage DC Converter Property	0.0%	**0.0%**	**0.0%**	**0.0%**
17. Data Server Facility			**0.0%**	**0.0%**
Statewide Taxable Value Growth	8.0%	**0.9%**	**7.7%**	**2.1%**

Step 5. Determine the taxable value base for statewide mill levies and 95 mill revenue.

In order to calculate the 95 mill revenue due the state, adjustments need to be made for Tax Increment Financing Districts (TIFs). TIFs do not transfer all the 95 mill revenue generated in the district. These districts (authorized under Title 7, chapter 14, part 42, MCA) retain the taxes generated from all millage in the district (except the 6 mill university levies) on the taxable value greater than the taxable value existing in the district when it was created, commonly referred to as the

"TIF incremental value". TIFs have a finite duration, tied to the districts initial charter (generally 15 years). Districts can be extended, generally to cover bonded debt. The 95 mill revenue generated from these increments is deducted from the estimate of state property tax revenue. This estimate grows TY 2018 TIF incremental taxable value by statewide average taxable value growth. During the forecast period, only one TIF district is likely to expire.

Because the calculation of total property tax revenue is estimated by applying the standard statutory tax rates to the assessed market value property base, no adjustment is needed for locally abated property. Table 11 displays the calculation of state revenue generated from the 95 mill levies.

Table 11
Calculation of General Fund Revenue from 95 Mill Levy
($ millions)

Calculation	FY 2018	**FY 2019**	**FY 2020**	**FY 2021**
Statewide (FY) Taxable Value	$2,891.207	**$2,916.640**	**$3,142.533**	**$3,207.867**
Subtract TIF Taxable Value	($54.781)	**($54.436)**	**($56.572)**	**($47.722)**
Taxable Value for 95 Mills	$2,836.426	**$2,862.204**	**$3,085.961**	**$3,160.145**
Apply 95 Mills	0.095	**0.095**	**0.095**	**0.095**
State Revenue from 95 Mills	$269.460	**$271.909**	**$293.166**	**$300.214**

Table 12 shows the forecast for the 1.5 mill levy revenue for colleges of technology and is based on the taxable value in counties with colleges of technology after adjusted for county TIFs.

Table 12
Property Tax 1.5 Mill Levy General Fund Revenue
($ millions)

	FY 2018	**FY 2019**	**FY 2020**	**FY 2021**
COT County Taxable Value	$966.234	**$970.093**	**$1,045.226**	**$1,066.957**
COT County TIF Value	($29.741)	($29.620)	($29.433)	($30.588)
Taxable Value for 1.5 Mills	$936.493	**$940.473**	**$1,015.793**	**$1,036.369**
Apply 1.5 Mills	0.0015	**0.0015**	**0.0015**	**0.0015**
1.5 Mill Levy Revenue	$1.405	**$1.411**	**$1.524**	**$1.555**

Step 6. Calculate total general fund property tax revenue due from mill levies and non-levy revenues.

The main non-levy revenues are shared by counties and the state based on the relative distribution of state and local mills. These include coal gross proceeds (in counties that have coal production) and federal forest receipts (in counties that have national forests). Additionally, there is an assortment of miscellaneous revenues that are collected by counties that are shared with the state based on the proportionate share mills.

The base for coal gross proceeds non-levy revenue is the coal severance tax reports. The coal gross proceeds tax is a 5% levy on the gross value of coal produced. The state receives the TY 1989, elementary and high school mills (55 mill) share of coal gross proceeds tax collections. Under SB 266 (2011), the coal gross proceeds tax rate for underground mines was reduced to 2.5% for an initial period of ten years. The reduced tax rate would be available to any new underground mine for the first ten years of production. The bill also granted counties the ability to abate up to 50% of local coal gross proceeds distributions.

The 2001 federal Secure Rural Schools and Communities Act (SRS) was reauthorized and fully funded through FY 2012 under the Emergency Economic Stabilization Act of 2008. The Act was reauthorized and funded for FY 2013 by Public Law 112-141, in July 2012; reauthorized by section 524 of P.L. 114-10 extending payments through FY 2016. SRS lapsed for FY 2017 but was extended for FY 2018 and FY 2019. The Montana allocation was $14.7 million in FY 2018 and is estimated at $14 million for FY 2019 by the Bipartisan Balance Act of 2018. The expiration of SRS payments for FY 2020

means payments will revert to the 1908 Act 25% distribution of the seven-year average of federal forest receipts. Federal forest receipts are anticipated to be around $2.3 million. The state receives the 55 mill share of one-third of these Title I funds allocated to countywide school levies. In recent years, that has meant approximately 19.5% of all Title I payments accrue to the state general fund due to the proportional share of school equalization mills. These are anticipated to be about $475,000 in FY 2020 and FY 2021. The state share of the final SRS payments in FY 2019 is estimated to be $2.740 million.

All other non-levy revenues are set at the level of the last known year's total (FY 2018).

Summary

Table 13 combines the 95 mill revenue, 1.5 mill revenue, anticipated centrally assessed protested property taxes (net of known settlements) that may be allocated to the protested reserved account, and non-levy revenues. Table 13 restates the values presented earlier in the property tax estimate summary (Table 2).

Table 13
Summary of General Fund Property Tax Revenue
($ millions)

	--- Actual ---	---------- Forecast ----------		
	FY 2018[1]	**FY 2019**	**FY 2020**	**FY 2021**
Property Tax - 95 Mill Levy	$269.460	**$271.909**	**$293.166**	**$300.214**
Property Tax - 1.5 Mill Levy	$1.337	**$1.405**	**$1.411**	**$1.524**
Net Protested Property Taxes	**-$1.100**	**-$1.100**	**-$1.100**	**-$0.550**
Net Property Mill Levy Revenue	$269.698	**$272.214**	**$293.477**	**$301.187**
Non-Levy Revenue:				
Coal Gross Proceeds	$7.110	**$7.401**	**$8.167**	**$8.299**
Federal Forest Reserves	$2.872	**$2.728**	**$0.473**	**$0.492**
All Other (last known year)	$0.329	**$0.329**	**$0.329**	**$0.329**
Subtotal Non-Levy Revenue[1]	$10.311	**$10.458**	**$8.969**	**$9.120**
Total Property Tax Revenue	$280.009	**$282.672**	**$302.446**	**$310.307**

[1] Actual collections do not tie to SABHRS totals in Table 1 because of cash vs. accrual accounting differences and account misallocations in county collections reports.

Distribution

The general fund receives 100% of the 33 mill elementary equalization levy, the 22 mill high school equalization levy, and 40 mill state equalization aid levy, as well as the 1.5 mill levy for colleges of technology. Only the state general fund portion of non-levy revenues are presented in Table 13.

Data Sources

Tax collections are extracted from the state accounting system (SABHRS). The summary property tax database and other property tax reports were provided by the Department of Revenue. The Office of Public Instruction prepares the FP6b summary of county school revenues used in the estimates of "all other" non-levy revenue. The producer price index for metals is from the IHS Markit, October 2018, U.S. forecast.

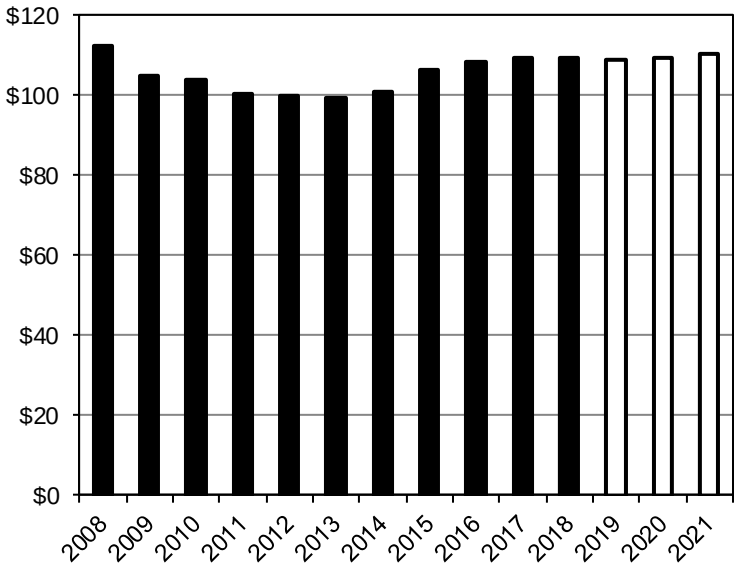
Revenue Description

Title 23 and Section 61-3-221 and 61-3-562, MCA, provide for multiple fees and fees-in-lieu of taxes on motor vehicles, which include light vehicles, heavy vehicles weighing more than one ton, motor homes, trailers, travel trailers, watercraft, motorcycles, snowmobiles, and off-highway vehicles. Fees are based on one or a combination of the following criteria: age, weight, size, and vehicle type. Registration fees for light vehicles (cars, light trucks, and sport utility vehicles) represent approximately three-fourths of general fund revenue from motor vehicle fees.

Table 1 shows actual revenue for vehicle taxes and fees to the general fund for FY 2008 - FY 2018 and forecast revenue for FY 2019 - FY 2021.

Table 1
Vehicle Taxes and Fees
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$112.486	-3.41%
A 2009	$104.678	-6.94%
A 2010	$103.858	-0.78%
A 2011	$100.569	-3.17%
A 2012	$99.763	-0.80%
A 2013	$99.144	-0.62%
A 2014	$100.968	1.84%
A 2015	$106.381	5.36%
A 2016	$108.479	1.97%
A 2017	$109.195	0.66%
A 2018	$109.534	0.31%
F 2019	**$108.700**	**-0.76%**
F 2020	**$109.400**	**0.64%**
F 2021	**$110.200**	**0.73%**



As mentioned above, the lion's share of motor vehicle general fund revenue comes from annual registration fees of light vehicles. Vehicles 0-4 years old (new age cohort) and 5-10 years old (mid age cohort) must register on an annual basis. Vehicles over the age of 10 years (old age cohort) have the option of registering annually or registering permanently. Once a vehicle undergoes permanent registration, it is no longer subject to annual fees unless it changes ownership. The stock of cars and trucks that register on an annual basis consists of approximately 820,000 vehicles. This number does not include permanent registrations, which average about 50,000 – 60,000 per year. So, within a year, there are approximately 880,000 light vehicles that pay registration fees to the State of Montana.

The age distribution of the vehicle stock influences total revenue collections because newer vehicles are subject to higher fees than older vehicles. Annual registration fee amounts range from $217 for vehicles in the new age cohort, $87 for vehicles in the mid age cohort, and $28 for vehicles in the old age cohort. The fee for permanent registration is $87.50. New vehicles generally account for about 25% of total registrations in a year, while mid vehicles account for 25% - 30%, and old vehicles consistently constitute around 40%. Permanent registrations make up the remaining 5% - 10% of total registrations. In revenue terms, vehicles in the new cohort generate between 50% and 60% of annual light vehicle registration revenue. Mid cohort vehicles account for approximately 25% of registration revenue and old cohort vehicles contribute close to 11% of revenue. Similar to their share of total registrations, vehicles registering permanently bring in about 5% - 7% of annual revenue. New cohort registrations have a disproportionate effect on revenue collections because the fee associated with this age class is over two times higher than the mid cohort fee and over seven times higher than

the old cohort fee. Consequently, the number of vehicles in the new cohort has a large impact on motor vehicle revenue and significant changes in the proportion of new cohort registrations to total registrations tend to have persistent effects on revenue collections because of the way vehicles flow through the registration system.

Registration of vehicles other than light vehicles offers a relatively stable source of revenue, accounting for between 13% and 14% of total motor vehicle revenue annually. These vehicles include heavy trucks, watercraft, trailers, off-highway vehicles, and others. A small portion of motor vehicle revenue comes from fees associated with the issuance of titles, license plates, etc. Revenue from these fees is driven primarily by the volume of new vehicle registrations requiring Montana identification. There are numerous general fund accounts into which vehicle taxes and fee revenue is recorded. Table 2 summarizes revenue collections by grouping similar fees into broad categories. These groupings include revenue from registrations of light vehicles, registrations of other vehicles, permanent registrations, fees associated with titles, license plates, and related items.

Table 2
Actual Vehicle Taxes and Fee Revenue by Grouped SABHRS Accounts
($ millions)

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Light Vehicle Registrations	$75.585	$76.533	$78.982	$81.361	$81.598	$82.277
Other Vehicle Registrations	$13.413	$13.668	$14.449	$14.321	$14.295	$14.323
Other Fees	$5.684	$6.029	$7.602	$7.299	$7.353	$6.445
of which "other fees" revenue from:						
New Plates	*$0.535*	*$0.850*	*$1.953*	*$1.484*	*$1.538*	*$0.908*
Specialty Plates	*$1.446*	*$1.441*	*$1.476*	*$1.469*	*$1.467*	*$1.457*
Titles	*$2.444*	*$2.457*	*$2.684*	*$2.791*	*$2.750*	*$2.742*
Other	*$1.259*	*$1.282*	*$1.488*	*$1.554*	*$1.598*	*$1.338*
Permanent Registrations	$4.461	$4.738	$5.348	$5.497	$5.949	$6.489
Light Vehicles	*$3.960*	*$4.220*	*$4.772*	*$4.856*	*$5.293*	*$5.806*
Motor Homes	*$0.501*	*$0.518*	*$0.576*	*$0.641*	*$0.657*	*$0.683*
Total	**$99.144**	**$100.968**	**$106.381**	**$108.479**	**$109.195**	**$109.534**

Risks and Significant Factors

- Once a vehicle is purchased, it flows through the three age cohorts over the course of its life and eventually exits the vehicle revenue base when it is permanently registered (unless it changes ownership) or is removed from service. This flow-like nature of annual registrations results in rises and falls in the population of vehicle age classes. Since these fluctuations persist in the annual registration revenue pool as vehicles move through the different age cohorts, significant shocks to new vehicle purchases can result in the growth or erosion of an age cohort's revenue base.
- Motor vehicle revenue responded to the decrease in light vehicle purchases that occurred during the most recent recession, dropping steadily from FY 2007 to FY 2013. Because of the cohort nature of motor vehicle revenue, the effects of this recession-induced decline in new light vehicle purchases (particularly in FY 2009 and FY 2010) will move through each registration category as the vehicles age. The recession eroded the revenue base for new cohort vehicles from FY 2009 through FY 2013 and started to effect registration revenue for mid cohort vehicles in FY 2014. Mid cohort registration revenue declined each year from FY 2014 – FY 2018 as the recessionary dip in vehicle purchases took full effect. Mid cohort registration revenue is expected to decline in FY 2019 before the crop of vehicles purchased in FY 2015 and FY 2016 helps lift revenue in FY 2020 and FY 2021. The effect of subdued mid cohort registrations on total motor vehicle revenue, however, is mitigated by the fact that middle-aged vehicles pay two-and-a-half times less in registration fees than new vehicles.

- Only vehicles over ten years old can register permanently, and in recent years around 5% - 7% of all annual light vehicle registration revenue comes from vehicles registering permanently. Permanently registered vehicles only re-enter the vehicle tax collection system upon a change of ownership. For a permanently registered vehicle that changes ownership, the duration of the vehicle's presence in the tax collection system depends on the decision of the new owner to either register the vehicle annually or permanently. This change in ownership of permanently registered vehicles is a source of forecasting error because it is difficult to estimate how many previously permanently registered vehicles reappear in the revenue pool.

Forecast Methodology

The method employed to forecast motor vehicle taxes and fees revenue is outlined below. There are four steps in the estimating process. The first step is to estimate the age distribution of vehicles in the registration pool, i.e. the number of vehicles registering in each of the new, mid, and old age cohorts along with permanent registrations. Second, total annual light vehicle registration revenue is calculated. Each annual registration cohort is associated with a different fee and total registration revenue for each cohort is the product of the registration count and the fee amount. Third, revenue from other vehicle registrations and fees is determined, except for permanent registrations. In the fourth step, revenue from all sources is combined along with permanent registration revenue to arrive at the amount to be deposited in the general fund.

Step 1. Age Distribution of the Motor Vehicle Stock

Table 3 presents the actual and estimated distribution of annually registering vehicles by age cohort by fiscal year. The population of the 0-4 year age group is expected to increase in FY 2019 before declining slightly throughout the rest of the forecast period due to cooling vehicles sales. The population of the 5-10 year group is expected to keep declining through FY 2019 before exhibiting growth in FY 2020 and FY 2021. The groups of vehicles entering the mid cohort during FY 2020 and FY 2021 will be enough to offset the groups exiting, leading to a net gain in the population of the mid cohort. Vehicles aging into the old cohort in FY 2019 are expected to boost the total old cohort population in the first year of the forecast window. Recessionary effects begin to impact the old cohort population in FY 2020 and this impact becomes more pronounced in FY 2021. The old cohort population is projected to decline in both of those years. Permanent registrations are expected to tick upward in FY 2019, followed by declines in FY 2020 and FY 2021 due to a drop in the population of vehicles eligible for permanent registration. Overall, the population of annually registering vehicles is projected to increase over the forecast period as new entrants into the pool exceed exits.

New Cohort. The total number of vehicles in the new cohort is estimated by first starting with the population of the new cohort in the previous year less the vehicles that will age into the mid cohort. Estimated new sales are then added to this figure. Finally, an adjustment is made to account for vehicles that enter the new age cohort for reasons other than new sales (e.g. move to Montana from out-of-state) and vehicles that exit the cohort for reasons other than switching to the mid cohort (e.g. removed from service or move out of Montana).

Mid Cohort. The population of vehicles in the mid cohort for a given year is estimated in a similar manner as above. The previous year's mid cohort population is used as a starting point. Vehicles leaving the new cohort and entering the mid cohort are added to the prior year's mid cohort population and vehicles aging out of the mid cohort are removed. The net gain or loss from vehicles moving in or out of Montana, as well as vehicles removed from service, is accounted for as well.

Old Cohort. Primary new entrants into the old cohort consist of vehicles achieving 11 years of age and moving out of the mid cohort. An estimate of this new population in the old cohort is added to the prior year's old cohort population. Estimated permanent registrations are subtracted away. An adjustment is included to capture the net effect on the old cohort population of vehicles that change ownership and re-enter the pool, move into the state, move out of the state, or are removed from service.

Permanent Registrations. Permanent registrations can occur when a vehicle ages out of the mid cohort and immediately registers as permanent, when a vehicle in the old cohort switches from annual registration to permanent registration, when a vehicle registered as permanent changes ownership and is permanently registered again by the new owner, or when a vehicle older than ten years moves to Montana and registers permanent in the state. Estimates for each of these scenarios are combined to arrive at a figure for total permanent registrations.

Table 3 shows the number of vehicles that permanently register each year as well as an estimate of the cumulative number of permanently registered vehicles in Montana. Cumulative permanent registrations are calculated by adding new permanent registrations to the existing total minus an estimate of vehicles that leave the population.

Table 3
Distribution of Light Motor Vehicle Stock by Age Class

	Estimated Population of Vehicle by Age					Estimated Registration Distribution -- Vehicles over 10 years old		
Fiscal Year	0 to 4 Years	5 to 10 Years	Over 10 Years	All	Percent Change	Annual Permanent Registrations	Cumulative Permanent Registrations Since FY 2007	Annual Registrations Vehicles over 10 Years Old
A 2015	208,938	270,515	350,717	830,170	-0.1%	54,586	293,995	350,717
A 2016	224,217	253,540	352,492	830,249	0.0%	55,597	335,829	352,492
A 2017	229,002	245,564	352,467	827,033	-0.4%	60,597	380,704	352,467
A 2018	233,710	241,684	347,435	822,829	-0.5%	66,264	429,146	347,435
F 2019	**236,737**	**240,091**	**351,644**	**828,473**	**0.7%**	**67,536**	**476,593**	**351,644**
F 2020	**235,584**	**252,358**	**345,318**	**833,260**	**0.6%**	**66,461**	**500,160**	**345,318**
F 2021	**232,513**	**272,442**	**334,200**	**839,155**	**0.7%**	**64,172**	**519,318**	**334,200**

Step 2. Annual Registration Revenue

Multiply the estimated population of each age cohort by its respective registration fee. Table 4 presents the estimated revenue from light vehicle registrations by age class. Revenue from new cohort registrations is projected to rise initially then gradually fall through FY 2021. Conversely, mid cohort revenue falls in the first year, but grows alongside the population of 5 -10 year old vehicles in the years that follow. Recessionary effects result in lower revenue from old cohort registrations by the end of the forecast period. In total, light vehicle annual registration revenue rises from $81.5 million in FY 2018 to $83.5 million in FY 2021, an average annual growth rate of about 0.8%.

Table 4
Estimate of Light Motor Vehicle Registration Revenue by Age Class
($ millions)

Fiscal Year	0 to 4 Years $217 Fee	5 to 10 Years $87 Fee	Over 10 Years $28 Fee	Annual Light Vehicle Revenue
A 2015	$45.340	$23.535	$9.820	$78.694
A 2016	$48.655	$22.058	$9.870	$80.583
A 2017	$49.693	$21.364	$9.869	$80.927
A 2018	$50.715	$21.027	$9.728	$81.470
F 2019	**$51.372**	**$20.888**	**$9.846**	**$82.106**
F 2020	**$51.122**	**$21.955**	**$9.669**	**$82.746**
F 2021	**$50.455**	**$23.702**	**$9.358**	**$83.515**

Step 3. Other Vehicle Registrations and Fees

Additional motor vehicle revenue comes from registrations other than those for light vehicles (motor homes, large vehicles, boats, etc.), as well as from licensing, plating, titling, and other fees. The other registration and fee revenue categories are expected to grow at the same rate as annual light vehicle registration revenue over the forecast period. This

information is summarized in Table 5. This method maintains the relative share each revenue category represents of total motor vehicle revenue collections net of permanent registration revenue.

Table 5
Total Vehicle Revenue Net of Permanent Registrations
($ millions)

Fiscal Year	Light Vehicle Revenue	Percent Change	Other Vehicle Registration Revenue	Percent Change	All Other Fees	Percent Change	Total (Before Permanent Registrations)	Percent Change
A 2015	$78.982	3.2%	$14.449	5.7%	$7.602	26.1%	$101.033	5.0%
A 2016	$81.361	3.0%	$14.321	-0.9%	$7.299	-4.0%	$102.982	1.9%
A 2017	$81.598	0.3%	$14.295	-0.2%	$7.353	0.7%	$103.246	0.3%
A 2018	$82.277	0.8%	$14.323	0.2%	$6.445	-12.3%	$103.046	-0.2%
F 2019	**$82.106**	**-0.2%**	**$14.294**	**-0.2%**	**$6.432**	**-0.2%**	**$102.831**	**-0.2%**
F 2020	**$82.746**	**0.8%**	**$14.405**	**0.8%**	**$6.482**	**0.8%**	**$103.632**	**0.8%**
F 2021	**$83.515**	**0.9%**	**$14.539**	**0.9%**	**$6.542**	**0.9%**	**$104.596**	**0.9%**

Step 4. Combine All Estimates

Permanent registration revenue is combined with all other vehicle taxes and fees revenue to determine total motor vehicle revenue. The results are presented in Table 6. Total revenue is expected to remain relatively flat over the forecast period.

Table 6
All Vehicle Taxes and Fees Revenue
($ millions)

Fiscal Year	Total Collections Net of Permanent Registrations	Permanent Registration Estimate	Total Revenue	Percent Change
A 2015	$101.609	$4.772	$106.381	5.4%
A 2016	$103.623	$4.856	$108.479	2.0%
A 2017	$103.902	$5.293	$109.195	0.7%
A 2018	$103.728	$5.806	$109.534	0.3%
F 2019	**$102.800**	**$5.900**	**$108.700**	**-0.8%**
F 2020	**$103.600**	**$5.800**	**$109.400**	**0.6%**
F 2021	**$104.600**	**$5.600**	**$110.200**	**0.7%**

Data Sources

Tax revenue data are from SABHRS. Detailed Montana vehicle registration data are provided by the Department of Justice Motor Vehicle Division.

Corporation Income Tax

Revenue Description

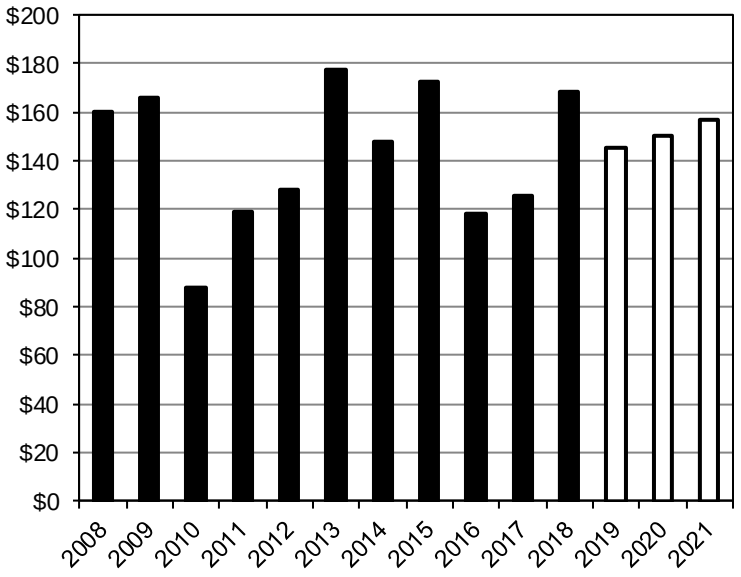
Montana imposes a corporation income tax on net corporate profits apportioned to Montana per 15-31-121, MCA. The tax is levied at a flat rate of 6.75% of net income; however, corporations making a "water's edge" election to exclude overseas net profits, are taxed at 7%. Since FY 2006, revenues have been deposited 100% in the general fund.

Corporations expecting to have tax liability of at least $5,000 are required to make quarterly estimated payments. Returns are due five months after the end of the corporate fiscal year, but a corporation may elect to take an automatic six-month extension. The Department of Revenue may grant additional extensions. Unlike individuals, corporate fiscal years do not necessarily follow the calendar year. Corporations taking an extension and expecting to have tax liability greater than their estimated payments generally make a tentative payment when their return is due. There is a minimum corporation tax of $50 per year, the overwhelming majority of the approximately 16,800 "C-Corps" registered to do business in Montana pay the minimum tax.

Table 1 shows general fund revenue from corporation income taxes for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

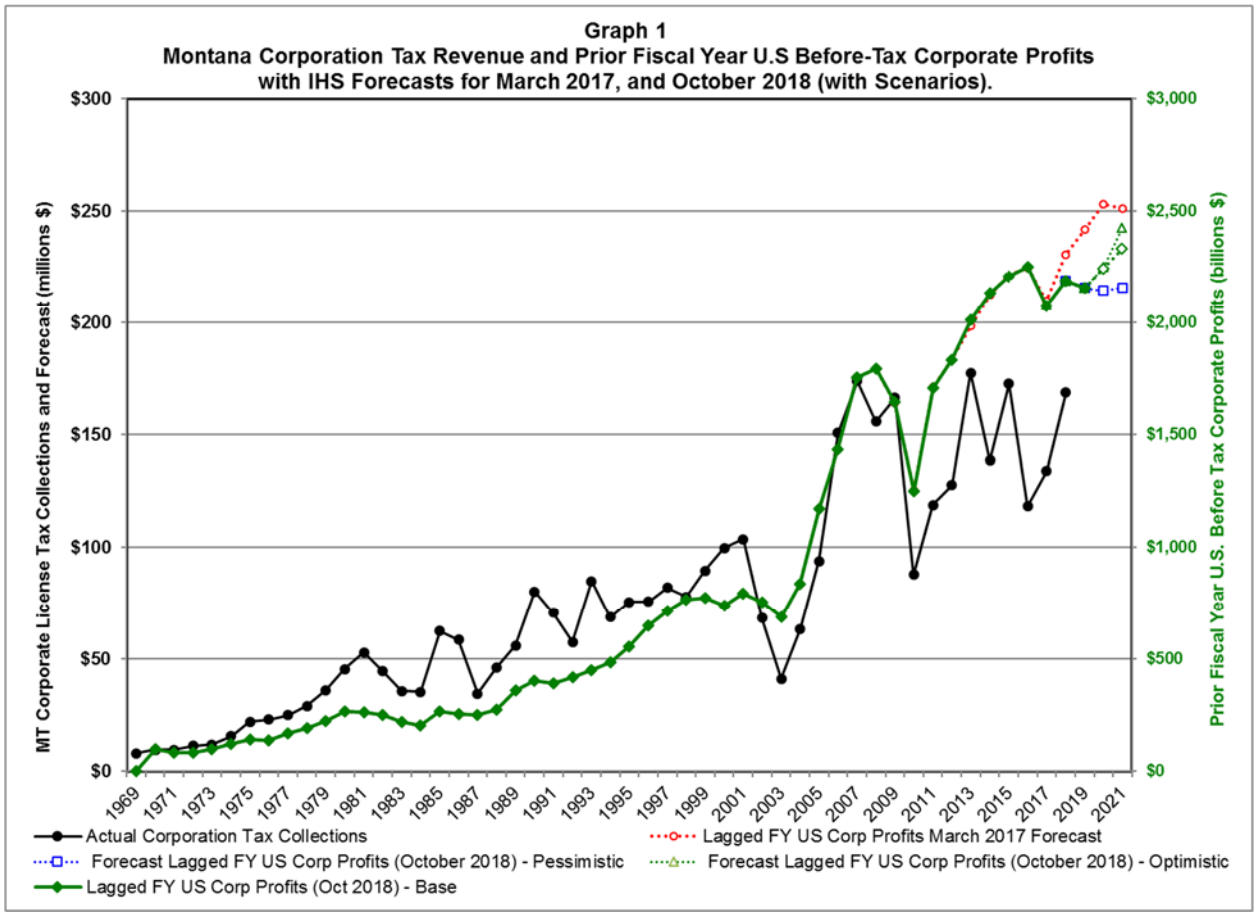
Table 1
Corporation Income Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$160.342	-9.67%
A	2009	$166.355	3.75%
A	2010	$87.901	-47.16%
A	2011	$119.044	35.43%
A	2012	$127.771	7.33%
A	2013	$177.497	38.92%
A	2014	$147.548	-16.87%
A	2015	$172.729	17.07%
A	2016	$118.387	-31.46%
A	2017	$125.992	6.42%
A	2018	$168.763	33.95%
F	**2019**	**$145.485**	**-13.79%**
F	**2020**	**$150.441**	**3.41%**
F	**2021**	**$156.794**	**4.22%**



Corporate tax revenue fell by more than 47% in FY 2010. This reflects the sharp decline in corporate profits from their 2007 peak to 2009 trough, a result of the "Great Recession". Collections recovered in FY 2011 through FY 2013. Volatility in FY 2014 through FY 2016 appears to reflect commodity price and federal tax policy changes.

Graph 1 presents the relationship between U.S. corporate profits which underpins the more detailed econometric model used to produce the Montana corporate tax revenue estimate. Actual Montana corporate tax collections (note round markers) are presented on the left axis in millions of dollars, and U.S. corporate profits (line with solid diamond markers), the IHS Markit, March 2017, profits forecast (dotted line with hollow round markers), October 2018 baseline projections (dashed line and hollow diamond markers) in billions of dollars. The March 2017 forecast is presented to show the shift in the forecast over time. The IHS Markit, October 2018, optimistic (dotted line and hollow triangles) and pessimistic (dots with hollow squares) scenarios are also presented.



Actual corporate profits grew through FY 2015 (lagged FY 2016), but not as rapidly as anticipated, creating a disconnect in the relationship between U.S. corporate profits and Montana collections. It appears that the timing effects of multiple extensions, expansions, and retroactive changes to business taxation provisions (rates, bonus depreciation and expensing) have led to much of the unanticipated change in collections during the 2015, 2017 and apparently the 2019 biennia.

Federal tax law affecting corporations has shifted frequently since 2002 leading to recurring irregular shifts in taxpaying strategies for firms. The most recent and most significant policy change is a product of the *Tax Cuts and Jobs Act of 2017* (TCJA) that passed on December 22, 2017.

The TCJA works to transition federal taxation of corporate profits to a more territorial based system and provides for a lower and flat federal corporation tax rate of 21% for profits received after December 31, 2017. Corporations with a fiscal year that span this period must prorated their profits for tax purposes. This may have shifted profit recognition into early CY 2018 (FY 2018).

Other TCJA features like the federal transition tax (IRC form 935) for repatriated profits have limited effects on Montana as income as most “water’s edge” filers get to at least 80% of that source of income and some get to deduct 100%. Worldwide filers that included any of that income in their Montana filing get to deduct 100% of that income.

Bonus depreciation under the TCJA has again been extended and expanded. The TCJA raised first-year “bonus” depreciation to 100% through CY 2022. The rate then phases down 20% each year, expiring after CY 2026. The bonus depreciation rate (50%) had been expected, under prior law, *Protecting Americans from Tax Hikes Act of 2015* (PATH), P.L. 114-113, to phase-out in CY 2019 (CY 2020 for certain long-production period property). Previously these were originally set to expire in CY 2014. The *American Taxpayer Relief Act of 2012* (ATRA) P.L. 112-240, passed as part of the “fiscal cliff” deal on January 2, 2013, appears to have affected the 2015 biennia collections. PATH passed in December 2015, has affected 2017 biennia collections. Similar shifts appear to be at play with the substantial change embodied in the TCJA.

The TCJA also further expanded Section 179 business cost expensing increasing the maximum deduction to $1 million and increasing the phase-out to $2.5 million. With each round of tax changes, these tax benefits have become more extensive than prior law. The law changes effectively broadened applicability of tax advantages retroactively on several occasions over the last 15 years. As in FY 2015, the more recent changes are likely to have contributed to the overpayments in FY 2018, compared to forecast, as adjustments to the law change were delayed. What followed in FY 2016 appears to be a significant adjustment for overpayments in FY 2015 and the retroactive extension of tax benefits at the end of CY 2015. The increase in FY 2015 was correctly identified for the 2017 session, but the extension of PATH tax provisions and losses related to overshooting of oilfield investments led to a repeat of the FY 2014 collections decline in FY 2016. FY 2015 collections were also boosted by business reorganizations that resulted in large "audit" collections. Again, similar shifting (minus the oil sector investments) appear to have affected FY 2017 and FY 2018 payments.

While U.S. corporate profits peaked in FY 2015 (lagged FY 2016 on the graph above) and then dropped, profits have been relatively flat during the last three years. They are expected to rise modestly FY 2019 through FY 2021. Recent law changes, particularly bonus deprecation rules will mute Montana corporation tax revenue recovery. The federal tax policy environment is now somewhat more certain as accelerated depreciation rules do not expire until CY 2022 and the Section 179 rules have been made permanent law.

Montana corporation tax law has also changed modestly with the passage of SB 550, which extended the period for which net operating losses (NOLs) can be carried forward from seven years to ten years. The bill also limits the amount of tax that can be offset with NOLs to $500,000 per year. The limitation applies to tax years after December 31, 2017. While the law limits carry backs, the limitation will not significantly affect state collections until corporate tax year 2020, which would flow-through to FY 2021 or FY 2022 collections, depending on the corporate fiscal year.

Risks and Significant Factors

- Corporate tax revenue is highly correlated with the profitability of corporations doing business in the United States.
- The variation in corporate tax revenue can be much greater than that of corporate profits as Montana allows:
  - Firms can accumulate net operating losses for up to ten years for use in offsetting current and prior year taxable income.
  - Corporations may amend returns (back three years) and use current losses to offset past taxes.
  - Business structures and tax treatment of expenditures and income may change.
- A series of federal changes to expensing and depreciation rules have introduced additional variation in state annual revenue collections beginning in CY 2002. These changes have been temporary law, often with retroactive applicability (and now interacting changes):
  - *The Job Creation and Worker Assistance Act of 2002* allowed 30% depreciation between September 10, 2001, and May 5, 2003.
  - The *Jobs and Growth Tax Relief Reconciliation Act of 2003* allowed for 50% depreciation between May 6, 2003, and December 31, 2004.
  - In 2008, the Bush Administration's *Economic Stimulus Act of 2008* reinstituted 50% depreciation for CY 2008.
  - Under the *American Recovery and Reinvestment Act of 2009,* 50% depreciation was extended for CY 2009.
  - *Small Business Jobs Act of 2010*, 50% bonus depreciation was extended through CY 2012.
  - The *Tax Relief, Unemployment Insurance Reauthorization of 2010* provided for 100% expensing for most property put in service before the end of CY 2011.
  - *The Job Creation Act of 2010* extended 50% depreciation for certain "long-production period" property through CY 2013 and 100% expensing was allowed if the property was placed in service by the end of CY 2012.
  - Under *The American Taxpayer Relief Act of 2012,* the provisions of the two 2010 Acts were expanded and extended through CY 2013 for most property and through CY 2014 for "long-production period" property.
  - The *Tax Increase Prevention Act of 2014* extended ATRA through 2014 and expanded the options for applying alternative minimum tax credits for firms that opted out of bonus depreciation.
  - *Protecting Americans from Tax Hikes Act of 2015* in December 2015 made the previously temporary expansion of Section 179 expensing limits permanent, extended 50% bonus depreciation through 2017, phased bonus depreciation down to 40% in 2018, and 30% in 2019 before expiring in CY 2020.
  - And the extensive changes in federal tax law in the *Tax Cuts and Jobs Act of 2017* described above.
- These changes in accounting rules regarding expensing and depreciation shift taxes into later years. The special depreciation rules are not expected to expire in the forecast period, so the effects are anticipated to be reductions. These rules are expected to reduce revenue substantially, from what would otherwise have been expected, given the anticipated level of corporate profits in the forecast period.
- Corporations may reorganize their business structures which can have significant effects on the level and allocation

of tax receipts. As an example, a change in business ownership in TY 2012 led to a one-time increase in corporation tax revenue in FY 2013. More recently, a major pipeline and energy firm consolidated and changed back into a C-Corp. structure. These changes tend to shift collections between corporation tax and individual income tax. The implications for Montana are difficult to establish in advance as Montana's total collections from these business structures are dependent on the Montana apportionment factors for corporations and the residency status for individuals and (pass-through) entities receiving partnership distributions or dividends may have different incidence.

- In recent years there have been approximately 16,800 companies that filed corporate income forms in Montana. The top 100 filers had 69% of the total tax liability. If one of these top tax-filing companies has significantly more (or less) tax liability than expected, it could have a significant impact on collections.
- The true stock of carry-forward losses is not known. Therefore, the extent that firms are able to use these losses to offset recent profits is also not well known. Greater than normal historical use of these accumulated losses may lower corporation tax collections.

In addition to the various waves of significant tax policy changes, volatility in commodity prices have added yet more unpredictability to the already challenging corporation tax estimate. With multiple back-to-back retroactive law changes, it appears that there is now an amplification of the interaction of net operating loss carry-forward offsets to current year taxable profits, amended return claw back of prior year tax payments, and rounds of investments that have received bonus depreciation tax advantages. That said, it is important to recognize that accelerated depreciation does not eliminate or reduce tax liability; rather the liability is shifted into the future.

Forecast Methodology

Step 1. Two models are run: Total corporate license tax collections (including both general fund and non-general fund revenues) for FY 1990 through FY 2018 were regressed against the prior three fiscal years of national corporate profits (before taxes), the accelerated bonus depreciation rate, and the fiscal year average price of oil. A second model is run that uses prior three fiscal years of domestic profits (as opposed to national (world-wide) profits). This produces two estimates of the relationship between Montana corporation income tax collections and U.S. corporate profits. The models were tested for serial autocorrelation bias and lagged variable bias. The relationship between worldwide and domestic U.S. corporate profits pointed to a shift in this relationship between 1985 and 1990. While the time series starting in 1969 could have been used, to not over-specify the model, the observations for 1969 to 1990 were eliminated. This widened the confidence interval of the forecast. The model produces a root mean square error of $17.5 million and a mean absolute percent error of 10.6%. (The square root of the mean squared error assigns more weight to large model estimate errors regardless of sign, and mean absolute error weighs error equality, regardless of sign). The model R^2 is 0.8718. These model fit results are less robust than in previous estimates (for instance the mean square error last biennial was $12.9 million)

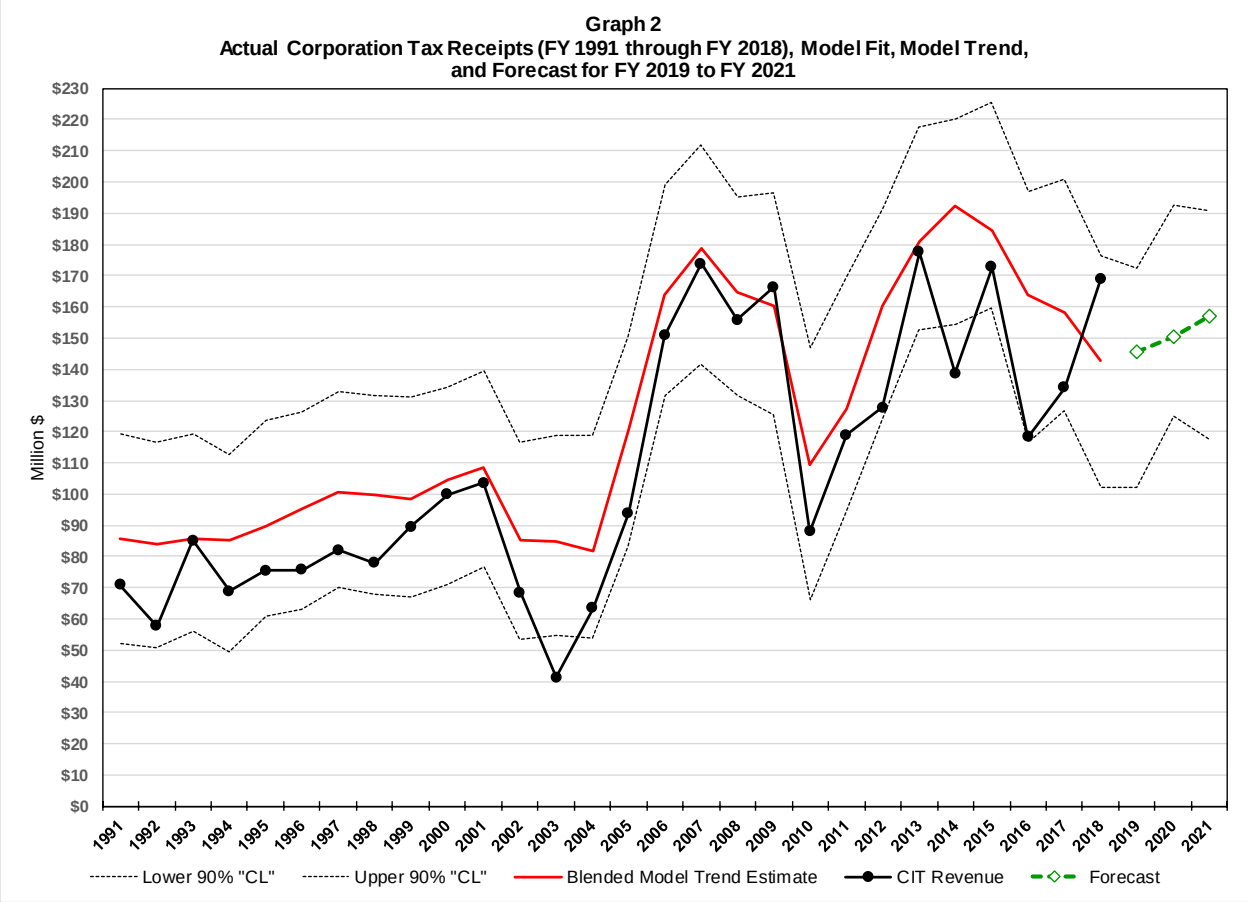
Other models were considered, including the use of West Texas Intermediate (WTI) oil prices alone, the addition of indicator variables to account for the last-minute tax changes. An important finding of this work was that U.S. corporate profits and oil prices are highly correlated. For more recent periods the simple relationship with corporation tax revenue has weakened for both corporate profits and oil prices. This weakening in the relationship is slightly more pronounced for corporate profits. This is not surprising given the changes in federal tax policy, the growing importance of oil related activities since the development of the Elm Coulee oil field in Montana, and the rapid changes in oil prices.

Step 2. The model parameters were then used with the IHS Markit (base) forecast of corporation before tax profits and the WTI oil price to project tax revenue. It also bears mentioning that lagged FY 2019 (FY 2018 actuals) U.S. corporate profits are essentially known. The tax strategies of U.S. corporations that do business in Montana are unknown but assumed to comport with period averages. The model implicitly assumes period average historical economic sector weights and tax liability with respect to the U.S. national economic sector profits; as such, the model only implicitly considers the typical economic sector deployment of Montana corporations. The fiscal year WTI price variable was added to account for input price volatility on oil manufacturing profits in Montana. It is assumed that changes in oil prices have near-term effects on corporation estimated payments.

Step 3: Because the two models reveal that FY 2018 collections appear to be significant outlier and the model seems to be over-estimating the negative effects of 100% bonus depreciation. The OBPP model bonus depreciation estimates are reduced by scaling them with the results of a Department of Revenue (DOR) study of the use of bonus depreciation by firms. The DOR data was limited to firms that file electronic returns, but the results were scaled up based on the bonus depreciation claims of the paper return filers. The study calculated the tax effects

of the new provisions of federal tax law. The dominant effect is the reduction in tax caused by bonus depreciation. The positive timing effects of bonus depreciation are not anticipated until FY 2025 and the average negative effect is minus $23 million per year in the 2021 biennium. These effects may be overstated as some of the depreciation may be allocated to pass-through entities outside the reporting group and not the corporate parent. Each model, (the domestic profits and the national profits model) is adjusted independently but effectively, $16.5 million is added back to the estimate each year. To further account for the unknown timing of corporate tax payments each model's projected trend estimate is used instead of the specific fiscal year prediction. These adjusted estimates are then averaged together.

Graph 2 shows actual collections compared to the blended and adjusted model estimates of corporation tax collections. The graph includes the implied upper and lower 90% model confidence intervals. The intervals in the forecast period, while not true forecast intervals (which are even wider), were included to help indicate the likely range of the most probable outcomes. The model fits the past given the volatility of these revenues and the successive rounds of federal tax policy changes.



Distribution

100% of the corporation tax revenue collected is distributed to the general fund.

Data Sources

Collections data were obtained from SABHRS. Revenues prior to FY 1993 are from LFD historical records, and U.S. corporation profits and forecasts are from the March 2017 and October 2018, IHS Markit forecasts. The Department of Revenue provided the corporation tax annual master files through the latest available dataset (TY 2016) and additional memos on the impact of federal tax law changes.

Insurance Premiums Tax

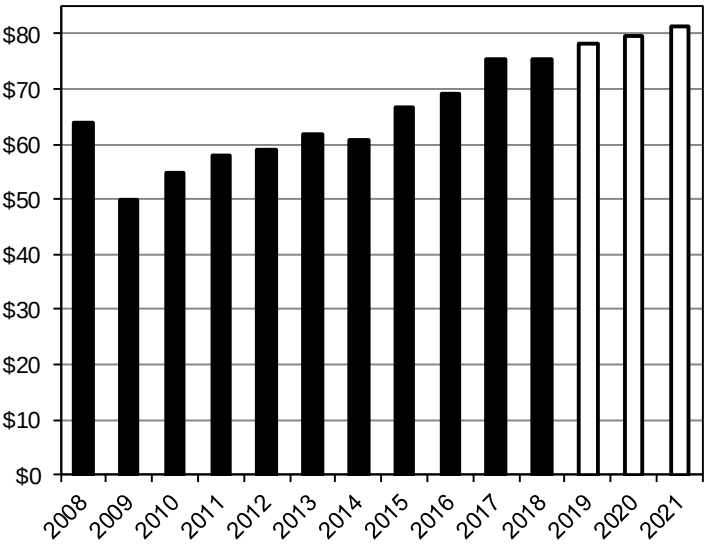
2021 Biennium

Revenue Description

Per 33-2-705, MCA, Montana levies a tax of 2.75% on net premiums on all insurance policies except those issued by health service corporations (HSCs). HSCs are exempt from all premium taxes under 33-30-203, MCA. An additional surcharge of 2.5% on premiums is collected for fire and casualty insurance on property (50-3-109, MCA). There is also a premium insurance tax for captive insurance companies levied under 33-28-201, MCA. Starting in November 2008, Initiative 155 transfers 33% of insurance premium taxes collected (under 33-2-705, MCA) to a state special revenue fund for the Healthy Montana Kids Plan Act (53-4-1101, MCA). HB 676 of the 2009 Session reduced the transfer to 16.67% for the 2011 and 2013 biennia, but the transfer returned to 33% for the 2015 biennium and beyond. The State Auditor's Office (SAO) administers the collection of these taxes.

Table 1
Insurance Premiums Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$64.004	4.80%
A	2009	$50.038	-21.82%
A	2010	$54.892	9.70%
A	2011	$57.964	5.59%
A	2012	$58.951	1.70%
A	2013	$61.678	4.63%
A	2014	$60.873	-1.31%
A	2015	$66.582	9.38%
A	2016	$69.255	4.01%
A	2017	$75.558	9.10%
A	2018	$75.273	-0.38%
F	**2019**	**$78.086**	**3.74%**
F	**2020**	**$79.769**	**2.16%**
F	**2021**	**$81.333**	**1.96%**

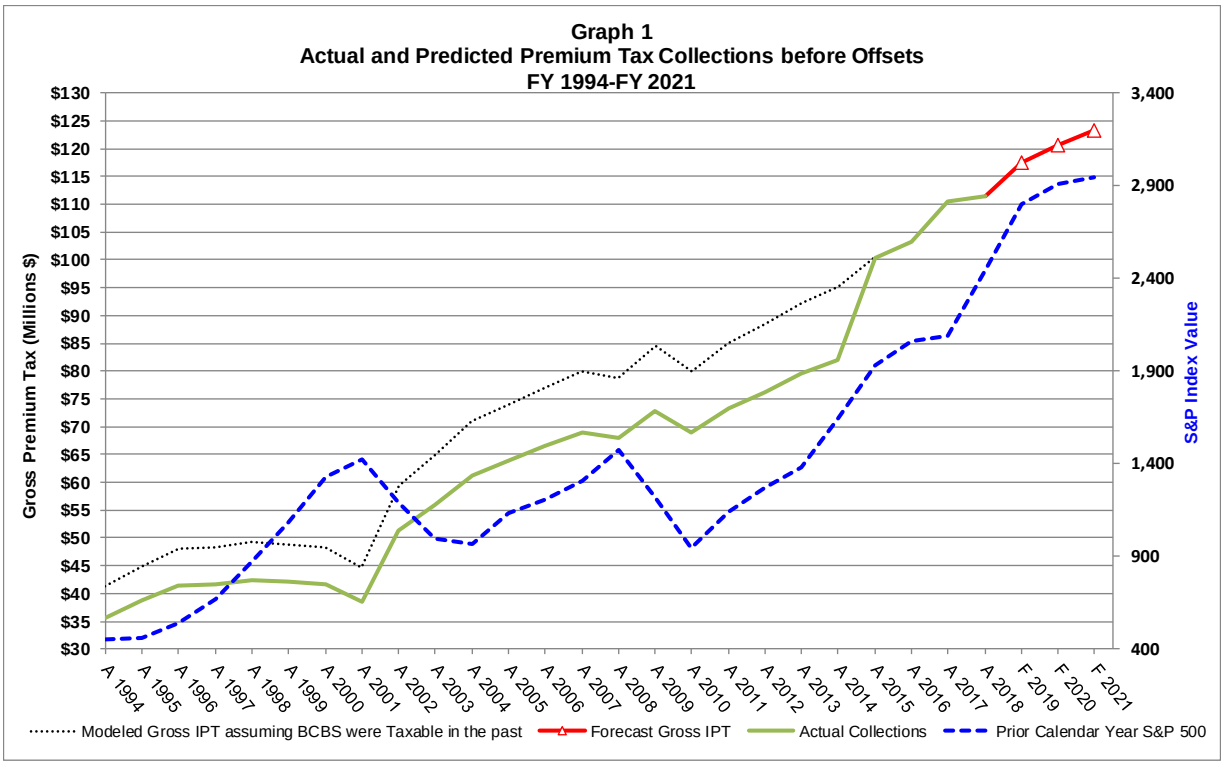


Risks and Significant Factors

- In August 2013, Health Care Services Corporation (HCSC) purchased Blue Cross Blue Shield of Montana (BCBS). As a result of the merger, premiums paid to BCBS are now taxable. As BCBS market share changes, so will taxable insurance premium.
- Beginning January 1, 2014, the individual mandate of the Affordable Care Act (ACA) became effective. As not all insurance plans are currently taxable, any changes in the tax liability of individual health plans available on the healthcare exchange will have an impact on tax collections.
- The Montana HELP Act, passed during the 2015 Legislature, expanded Medicaid effective January 2016. The HELP Act contributed to the decrease in the uninsured rate in Montana, however, the fees paid to the third-party-administrator by HELP members are not taxable.
- Financial or other turmoil raises insurer's costs; slow wage growth may reduce insurance purchases.
- Revenues may be reduced if consumers choose insurance coverage provided by non-taxable or public plans.
- Premium tax collections tend to move counter cyclically with financial markets as companies collect premiums from policy holders and pay claims from premiums and investment earnings. When investment earnings are high, insurance companies can reduce premiums charged to clients.
- Accounting changes in the past have masked underlying real consumer behavior and tax collections.

Forecast Methodology

Step 1. Insurance premium taxes forecast. Insurance premiums taxes, before offsets, are projected from a model of the relationship of insurance premium tax collections with respect to the average Standard and Poor's 500 stock index value for the prior calendar year. The effect of modeling FY 1994 through FY 2018 is presented in Graph 1. With its sale to HCSC in 2014, BCBS premiums became taxable. Over five years later, the model is able to take into account four complete fiscal years of taxable BCBS premium collections.



Step 2. Calculate insurance tax bases for distributions. Captive insurance company premiums taxes, yearly insurance premium taxes, and surplus lines taxes need to be estimated and excluded from insurance premium taxes that are the base for distributions to the Healthy Montana Kids fund. This also allows for the calculation of captive insurance company insurance premium taxes that are directed to the captive insurance company administration fund.

Captive insurance companies are regulated under Title 33, Chapter 28, of the Montana Code, (SB 373 of the 2001 Legislature). Captive insurance firms pay tax on premiums collected under 33-28-201, MCA, and were recorded in the same account as premium taxes collected under 33-2-705, MCA, until FY 2010. The 2007 Legislature, through SB 161, reserved five percent (5%) of the tax paid by captive insurance companies for the oversight of captive insurance companies. HB 160 of the 2009 Session, reduced the number of tax rate bands from four to two (with no revenue effects) and allowed for quarterly proration of initial year fees.

Step 3. Calculate fire surtax. The Fire Marshal surtax on fire and casualty insurance is projected using the growth in total estimated insurance base. Table 2 lists the actual fire/casualty (or Fire Marshall tax) and forecast collections. Surtax collections represented 6.1% of gross insurance premiums taxes in FY 2016.

Step 4. Calculate insurance licenses and permits revenue. Revenue from insurance licenses and permits represented 8.0% of gross insurance premiums taxes in FY 2018, and this percentage is held constant during the forecast period.

Step 5. Total the estimates. Total general fund insurance premiums tax revenue (net of offsets and I-155 distributions), fire/casualty insurance surtax, and licenses and permits fees are summed to determine the estimate of insurance premiums tax collections for FY 2019, FY 2020, and FY 2021.

Distribution

- Distributions to the general fund, Healthy Montana Kids fund, SAO Insurance Operations, and the Captive Insurance fund are presented in Table 2.

Table 2
Distribution of Insurance Taxes by Type and Fund
($ millions)

Tax/Fund	Fund	FY 2018	FY 2019	FY 2020	FY 2021
Captive Premium Tax		***$1.671***	***$1.706***	***$1.747***	***$1.788***
General Fund (95%)	01100	*$1.588*	*$1.621*	*$1.659*	*$1.698*
Captive Insurance Operations (5%)	02528	*$0.084*	*$0.085*	*$0.087*	*$0.089*
Other Insurance Taxes		**$5.304**	**$5.480**	**$5.598**	**$5.708**
Retaliation Tax	02235	$0.175	$0.220	$0.220	$0.220
Insurance Licenses & Permits		**$5.129**	**$5.260**	**$5.378**	**$5.488**
Of which:					
General Fund (est. 0.66%)	01100	*$0.033*	*$0.035*	*$0.036*	*$0.036*
SAO Insurance Operations (est. 97.82%)	02235	*$5.044*	*$5.148*	*$5.264*	*$5.371*
Captive Insurance Operations (est. 1.52%)	02528	*$0.052*	*$0.077*	*$0.079*	*$0.081*
Insurance Taxes and Offsets		***$12.127***	***$12.530***	***$12.800***	***$13.050***
Fire & Casualty Surtax (GF)	01100	$8.859	$9.154	$9.351	$9.534
Surplus Lines Tax	01100	$3.124	$3.228	$3.297	$3.362
Insurance Premium Tax - Yearly (GF)	01100	$0.143	$0.148	$0.151	$0.154
I-155 Premium InsuranceTax		**$92.285**	**$95.373**	**$97.424**	**$99.325**
Healthy Montana Kids Fund (33%)	02597	$30.759	31.473	32.150	32.777
General Fund (67%)	01100	$61.526	63.900	65.274	66.548
Gross Insurance Taxes, Licenses, & Fees	All Funds	**$111.387**	**$115.090**	**$117.569**	**$119.871**

Fund Distribution of All Insurance Taxes, Licenses and Fees

Fund	Fund	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	01100	$75.273	$78.086	$79.769	$81.333
SAO Insurance Operations	02235	$5.219	$5.368	$5.484	$5.591
Captive Insurance Operations	02528	$0.135	$0.163	$0.167	$0.170
Healthy Montana Kids Fund	02597	$30.759	$31.473	$32.150	$32.777
Gross Insurance Taxes, Licenses, & Fees	All Funds	**$111.387**	**$115.090**	**$117.569**	**$119.871**

Data Sources

Tax collections are from SABHRS. The Standard & Poor's 500 stock index is from IHS Markit October 2018 forecast.

Video Gambling Tax

2021 Biennium

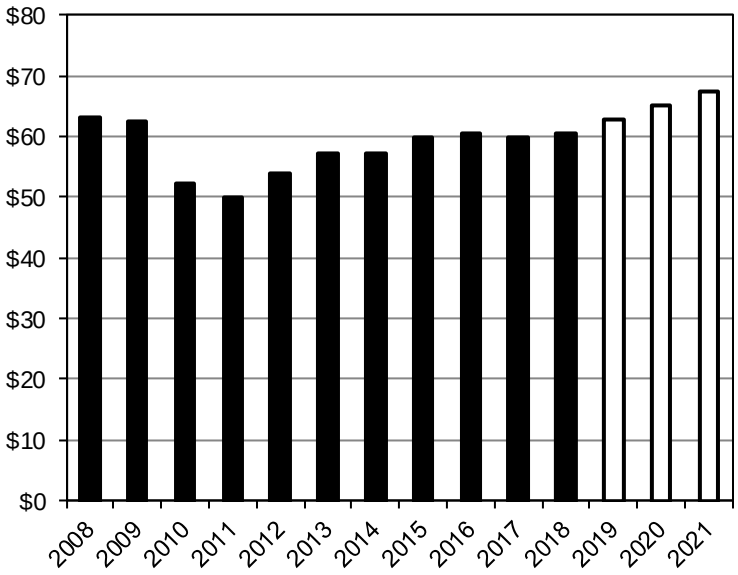
Revenue Description

In accordance with 23-5-610, MCA, a 15% tax is imposed on the gross machine income received from video gambling machines in the state of Montana. Allowable video gambling machines in Montana consist of bingo, keno, poker, line games, and multigame terminals. Gross machine income is the difference between total receipts from a machine and cash payouts. All video gambling tax collections are deposited in the general fund.

Table 1 shows actual video gambling revenue to the general fund for FY 2008 through FY 2018 and projected revenue for FY 2019 through FY 2021.

Table 1
Video Gambling Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$63.134	4.11%
A	2009	$62.458	-1.07%
A	2010	$52.396	-16.11%
A	2011	$49.824	-4.91%
A	2012	$53.824	8.03%
A	2013	$57.261	6.39%
A	2014	$57.147	-0.20%
A	2015	$59.799	4.64%
A	2016	$60.554	1.26%
A	2017	$59.956	-0.99%
A	2018	$60.324	0.61%
F	**2019**	**$62.712**	**3.96%**
F	**2020**	**$65.226**	**4.01%**
F	**2021**	**$67.521**	**3.52%**



According to the Montana Department of Justice, there are over 1,400 licensed gambling operators and locations in Montana and these establishments supply over 16,000 video gambling machines.

Video gambling revenue grew at a steady clip during the years leading up to the Great Recession, helped along by strong economic growth and rapidly rising incomes. In the six years from FY 2003 through FY 2008, total Montana disposable income grew at an average annual pace of 7%. Video gambling tax collections averaged over 6% annual growth during the same time, and consumers were spending over 7% of their disposable income on video gambling.

A dramatic shift occurred with the onset of the Great Recession. Income growth tumbled, pulling video gambling spending down with it. Tax collections declined in each of the years from FY 2009 through FY 2011. The effects of such a severe economic downturn have been long-lasting. Video gambling revenues rebounded in FY 2012 and FY 2013, but have since been relatively flat around the $60 million mark. The shock of the Great Recession created a shift in consumer spending patterns in Montana that led to a reduced allocation of income to video gambling. Video gambling expenditures have averaged just over 5% of disposable income since FY 2010, a full two percentage points lower than the average prior to the Great Recession. And, this expenditure share continues to erode; it fell under 5% in FY 2017 and FY 2018 and is forecast to slowly decline further over the next three years as video gambling expenditures aren't expected to keep pace with rising disposable incomes. This isn't to say that video gambling expenditures will not experience any growth. Healthy disposable income growth is projected to lead expenditures and tax revenue higher. Video gambling tax receipts are estimated to average 3.8% growth from FY 2019 through FY 2021.

Table 2 shows nominal Montana disposable income, total video gambling expenditures, and the ratio of expenditures to disposable income for FY 2008 through FY 2018, with estimates for FY 2019 though FY 2021.

Table 2
Video Gambling Trends
($ millions)

	Fiscal Year	Montana Disposable Income		Video Gambling Expenditures		% of Disp. Income	Tax Revenue
A	2008	$30,174	÷	$2,104	=	7.0%	$63.134
A	2009	$30,848	÷	$2,082	=	6.7%	$62.458
A	2010	$31,284	÷	$1,747	=	5.6%	$52.396
A	2011	$33,028	÷	$1,661	=	5.0%	$49.824
A	2012	$35,099	÷	$1,794	=	5.1%	$53.824
A	2013	$36,067	÷	$1,909	=	5.3%	$57.261
A	2014	$36,250	÷	$1,905	=	5.3%	$57.147
A	2015	$38,052	÷	$1,993	=	5.2%	$59.799
A	2016	$39,358	÷	$2,018	=	5.1%	$60.554
A	2017	$40,428	÷	$1,999	=	4.9%	$59.956
A	2018	$41,706	÷	$2,011	=	4.8%	$60.324
F	**2019**	**$43,875**	**÷**	**$2,090**	**=**	**4.8%**	**$62.712**
F	**2020**	**$46,029**	**÷**	**$2,174**	**=**	**4.7%**	**$65.226**
F	**2021**	**$48,015**	**÷**	**$2,251**	**=**	**4.7%**	**$67.521**

Policy changes have also impacted video gambling collections over the years. At the state level, full implementation of the Montana Clean Indoor Air Act occurred on October 1, 2009. This law required casinos and bars to enforce a no-smoking policy. This indoor smoking ban may have exacerbated the decline in video gambling revenue that occurred in FY 2010 and FY 2011. Slightly negative growth from FY 2013 to FY 2014 may be partially explained by the enactment of the federal American Taxpayer Relief Act (ATRA), which took effect on January 2, 2013. The act eliminated the reduced payroll tax rates that were put in place in 2011 and 2012 as a result of Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010. This increase in payroll taxes shaved some growth off income in 2013 and likely played a role in the slight decline of video gambling collections in FY 2014.

Risks and Significant Factors

- Video gaming revenue is impacted by the level of income in Montana as well as the share of income that individuals spend at video gambling terminals.
- Broad growth in economic activity has a positive impact on video gambling expenditures. Employment and wage gains increase the pool of individuals willing to spend money at video gambling establishments.
- Federal tax law can affect video gambling revenues insofar as it affects individuals' disposable incomes.

Forecast Methodology

Video gambling revenue is forecast using a multiple linear regression model. The model uses quarterly data, and video gambling receipts are regressed on a collection of independent variables. These independent variables include Montana disposable income and dummy variables to account for changes in legislation and economic impacts. Disposable income is income leftover after the payment of taxes. It is assumed to be a good representation of an individual's spending money, which influences an individual's willingness to pay for video gambling. The dummy variables account for the effects of the economic recession and the implementation of the smoking ban resulting from the Montana Clean Indoor Air Act.

Gambling receipts and disposable income are transformed with the natural log function. The natural log transformation straightens out any non-linearities in the raw data, allowing for better estimation using the linear regression model. Additionally, the coefficients in a log-log model are interpretable directly as elasticities.

The regression model produces coefficient estimates for the effect of income, economic recession, and the smoking ban on video gambling revenue. Each of these coefficient estimates is statistically significant with the expected sign (i.e., the direction of the impact on gambling receipts). Income has a positive effect on video gambling revenue, while the recession and the smoking ban contribute negatively to receipts.

By multiplying the estimated regression coefficients against forecast values of the independent variables, future estimates of quarterly video gambling revenue are obtained for FY 2019, FY 2020, and FY 2021. These quarterly forecasts are summed to produce annual estimated video gambling revenue for the forecast period.

Distribution

All of the revenue collected from the video gambling tax is distributed to the general fund.

Data Sources

Historic video gambling revenues were obtained from SABHRS and the Department of Justice. Historical and forecast values for Montana income were obtained from IHS Markit.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Oil and Natural Gas Production Tax

2021 Biennium

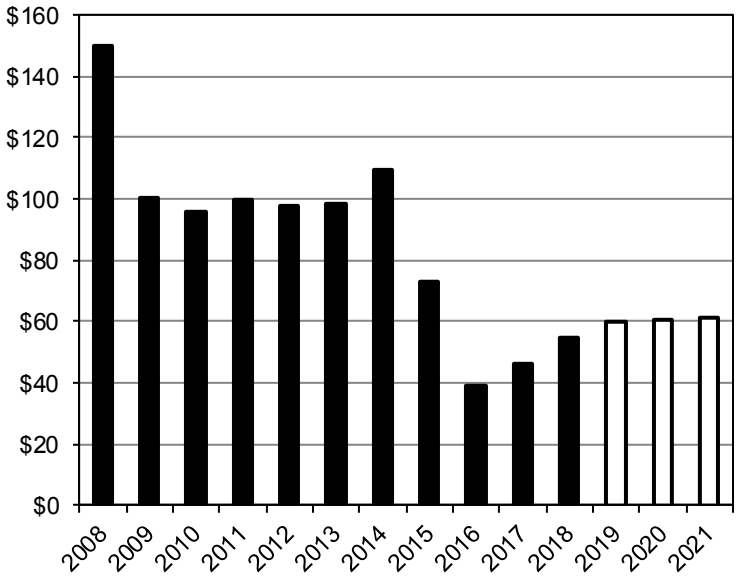
Revenue Description

In accordance with 15-36-304, MCA, Montana taxes the gross value of oil and natural gas production. The tax rates vary depending on the resource being extracted, the method of production, the age of the well, and the resource price. Working interest owners who incur the costs of production pay lower tax rates than parties that receive royalty payments from production of the oil and/or natural gas. Revenues are distributed to a variety of state and local government funds. Since FY 2006, oil and natural gas production tax deposits to the general fund have averaged about 46% of total production tax collections.

Table 1 shows actual general fund revenue from the oil and natural gas production tax for FY 2008 through FY 2018 and projected revenues for FY 2019 through FY 2021.

Table 1
Oil and Gas Production Taxes
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$149.994	55.70%
A 2009	$100.491	-33.00%
A 2010	$95.491	-4.98%
A 2011	$99.764	4.47%
A 2012	$97.560	-2.21%
A 2013	$98.683	1.15%
A 2014	$109.606	11.07%
A 2015	$73.184	-33.23%
A 2016	$39.083	-46.60%
A 2017	$46.334	18.55%
A 2018	$54.508	17.64%
F 2019	**$60.041**	**10.15%**
F 2020	**$60.618**	**0.96%**
F 2021	**$61.354**	**1.21%**



The onset of horizontal drilling and the discovery of the Elm Coulee field in the Bakken shale formation in 2000 sparked a resurgence in Montana's oil industry, which led to increased oil and natural gas production tax revenue. The boom contributed to nine years of general fund oil and natural gas tax revenue above $90 million from FY 2006 - FY 2014. Record collections occurred in FY 2008 due to strong production and exceptionally high oil and natural gas prices. FY 2009 revenue decreased significantly as prices came crashing back down. General fund revenue was relatively stable from FY 2010 - FY 2013, before experiencing another slight surge in FY 2014. Oil and natural gas prices started to decline in the summer of 2014 and continued to fall rapidly into the winter of 2015, shedding over 50% in value during that time. The steep decline in prices reduced the gross value of oil and natural gas production in Montana, which heavily impacted production tax revenue beginning in FY 2015. Prices ticked back up in the spring of 2015, before turning back down and falling to fresh lows in the winter of 2016. The full effect of the bust was apparent in FY 2016 production tax collections, as revenue fell 46% from FY 2015, and reached the lowest level since FY 1999. Shifts in the balance of demand and supply in the global oil market pushed prices higher through 2017 and the first half of 2018. This development contributed to growth in Montana oil and gas tax revenue in FY 2017 and FY 2018.

Drilling activity in Montana slowed quickly as oil prices tumbled. Both oil and natural gas production have declined steadily as a result. Significant drilling activity in the state has yet to resurface, with only a small number of new wells coming online in the past few years. Oil prices have recovered to levels that may encourage new drilling in favorable areas;

however, substantial growth in new oil and gas production is not expected to occur within the forecast period.

The production tax rates applicable for working and royalty ownership interests of a well, as established in 15-36-304, MCA, are outlined in Table 2. The production tax rates in the table reflect the statutory percentages. In addition, the combined tax rates that include the Board of Oil and Gas Conservation (BOGC) privilege and license tax (0.3%) are shown. The tax rate on royalties is constant, regardless of the tax rate on the working interest. Working interest tax rates are subject to numerous conditions that determine the tax rate applied to the gross value of production.

Table 2
Oil and Natural Gas Tax Rates by Well & Ownership Classification

		Working Interest		Royalty Interest	
Product	Well Classification	Production Tax Rate	Total Tax[1]	Production Tax Rate	Total Tax[1]
Natural Gas	**Vertical Wells**				
	First 12 Months	0.50%	0.80%	14.80%	15.10%
	After 12 Months:				
	Drilled Post-1999	9.00%	9.30%	14.80%	15.10%
	Drilled Pre-1999	14.80%	15.10%	14.80%	15.10%
	Stripper Well Drilled Pre-1999	11.00%	11.30%	14.80%	15.10%
	Horizontally Completed Wells				
	First 18 Months	0.50%	0.80%	14.80%	15.10%
	After 18 Months	9.00%	9.30%	14.80%	15.10%
Oil	**Vertical Wells**				
	First 12 Months	0.50%	0.80%	14.80%	15.10%
	After 12 Months:				
	Drilled Post-1999	9.00%	9.30%	14.80%	15.10%
	Drilled Pre-1999	12.50%	12.80%	14.80%	15.10%
	Stripper (1-10 bbls/day)	5.50%	5.80%	14.80%	15.10%
	Stripper (> 10 bbls/day)	9.00%	9.30%	14.80%	15.10%
	Stripper Exemption (WTI < $54/bbl)[2,3]	0.50%	0.80%	14.80%	15.10%
	Stripper Bonus (WTI > $54/bbl)[2,3]	6.00%	6.30%	14.80%	15.10%
	Horizontally Completed Wells				
	First 18 Months	0.50%	0.80%	14.80%	15.10%
	After 18 Months:				
	Drilled Post-1999	9.00%	9.30%	14.80%	15.10%
	Drilled Pre-1999	12.50%	12.80%	14.80%	15.10%
	Incremental Secondary Production[4,5]	8.50%	8.80%	14.80%	15.10%
	Incremental Tertiary Production[4,5]	5.80%	6.10%	14.80%	15.10%
	Horizontally Recompleted Wells				
	First 18 Months	5.50%	5.80%	14.80%	15.10%
	After 18 Months:				
	Drilled Post-1999	9.00%	9.30%	14.80%	15.10%
	Drilled Pre-1999	12.50%	12.80%	14.80%	15.10%

1 Includes BOGC privilege & license tax and oil & natural gas resource account tax

2 Applies to wells that produce 3 barrels per day or less

3 Tax rates only apply when average price of WTI < $54/bbl, otherwise taxed at primary stripper rates

4 Tax rates only apply when average price of WTI < $54/bbl, otherwise taxed at primary recovery rates

5 Applies only to the increment of increased production

Risks and Significant Factors

- **Price**
  - Oil prices are a key driver of Montana oil and natural gas production tax revenue, accounting for the majority of the variation in tax revenue in recent years. There is over 90% correlation between changes in oil prices and changes in production tax revenue.
  - The volatility of oil and natural gas prices makes it difficult to predict their future paths. Prices are determined by supply and demand, which can be affected by shocks such as technological change, extreme weather phenomena, and geopolitical events. Shocks to oil and natural gas markets can cause large, sudden dips or spikes in prices that may persist for short or long periods of time.
  - Montana oil prices are linked to national and international prices and move in tandem with these prices. West Texas Intermediate (WTI) is the U.S. benchmark oil price and Brent is the international benchmark oil price. Prices received for Montana oil are lower than these benchmark prices. The margin between the price for Montana oil and the price for WTI or Brent oil reflects the transportation costs required to get Montana's oil to major market destinations. The margin between the Montana price and the benchmark prices generally widens or narrows depending on existing transportation constraints. This margin has narrowed considerably over the past few years as declining Montana production and increased takeaway capacity reduced transportation bottlenecks.
  - The relationship between Montana natural gas prices and the U.S. benchmark Henry Hub price isn't as directly linked as it is for oil prices. There is a large network of natural gas pipelines in the U.S. and Canada, providing a much more fluid market for natural gas. This allows Montana to export natural gas relatively easier and at lower cost than oil. As a result, there is not always a pronounced margin between Montana natural gas prices and national benchmark prices.
  - Oil and gas prices have climbed back from lows reached in early 2016 due in part to stronger global demand. Global growth expectations are influential in determining the future path of oil and natural gas prices.
  - Advances in U.S. oil and natural gas production have significantly expanded the country's global market presence. The abundance of production from shale wells in the U.S., which can be brought online relatively quickly, allows the country to play the role of a marginal producer. U.S. output responds relatively quickly to fluctuations in prices, which may help soften overall price volatility.
  - The Organization of Petroleum Exporting Countries (OPEC) still wields significant power in the oil market and can affect the price of oil via changes to its production quota. Cooperation among OPEC members is key to the group's ability to manipulate oil prices. The recent reinstatement of economic sanctions against Iran is expected to reduce the country's oil output. OPEC's reaction to these sanctions will be influential in determining the path of oil prices moving forward.

- **Production**
  - Montana oil production is sourced primarily from the Bakken shale formation in the far eastern part of the state.
  - The geology of the Montana portion of the Bakken formation does not support the same level of oil and natural gas production that has been occurring in North Dakota (the heart of the Bakken shale boom). Significantly less of the Bakken formation underlies Montana and the oil-bearing rock is much thicker in North Dakota than it is in Montana.
  - Horizontal oil wells have much quicker decline rates than conventional vertical wells. This has introduced an element of volatility into Montana's oil production profile that didn't exist when conventional legacy production dominated oil output in the state. Because stability in production from horizontal wells relies on constant drilling of new wells, any change in the pace of drilling will impact the rate of oil production.
  - Since the oil price slump in late 2014, drilling activity in Montana has been minimal. A small number of new wells have been drilled in the Bakken region over the past couple years, but the state has yet to host more than two operating drilling rigs at one time since early 2015. Further advances in oil prices could spur more drilling in Montana. Total state oil and natural gas production is expected to remain flat in the near-term.
  - Oil and natural gas production can be negatively affected by harsh weather conditions, especially in the shale formations where cold temperatures and high winds can put a stop to well drilling and completion activities.
  - Exploration and production activity in other parts of Montana has not proved to be nearly as fruitful as the Bakken. Output from the historically productive Red River formation has been declining steadily. Efforts to inject CO_2 into the Bell Creek field in Powder River County have been successful in enhancing oil output from the legacy field.
  - Output from Montana's conventional natural gas wells has been declining as low prices have stymied drilling and led to some well shut-ins. Shale drilling led to a large increase in associated natural gas (a byproduct of

oil production and captured at the wellhead) production in the state, but this too has dropped off alongside the slowdown of drilling in the Bakken. The future of the state's natural gas output is partially tied to what happens in the Bakken due to those wells' ability to produce large amounts of natural gas.

Forecast Methodology

Step 1. Estimate oil and natural gas production.

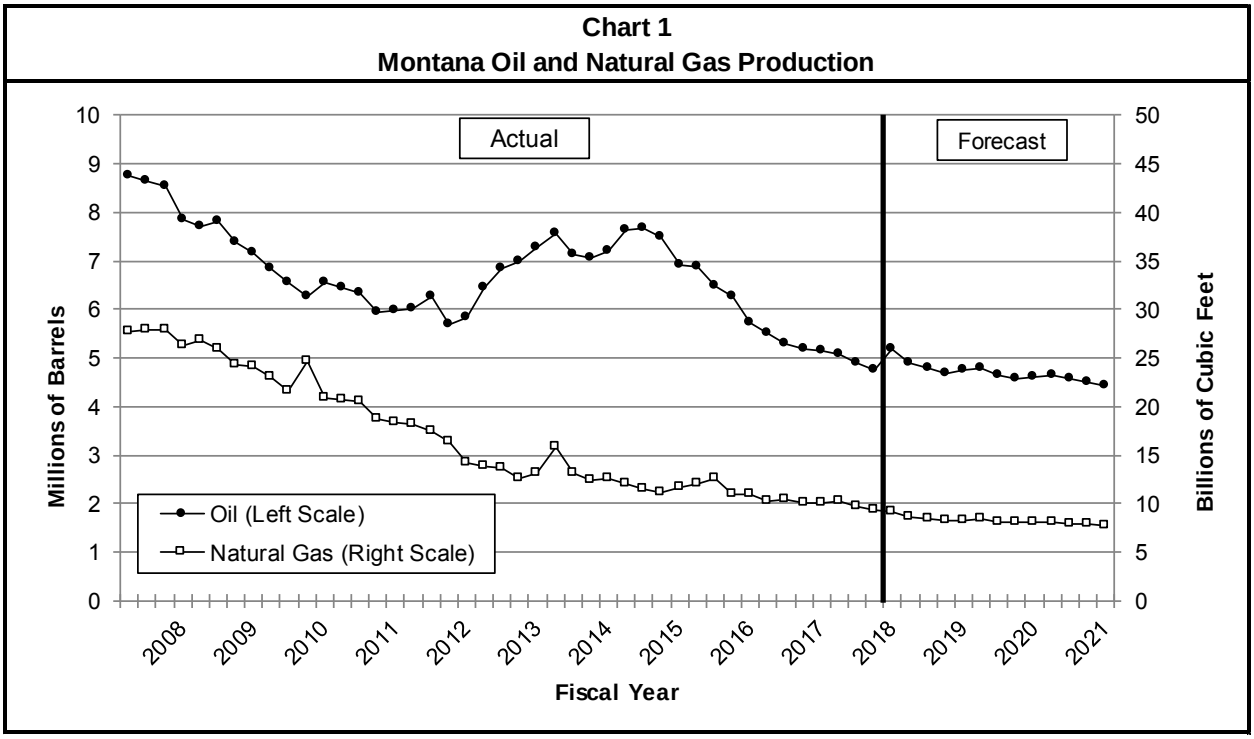
Oil Production

- Oil production is estimated on a quarterly basis. The forecast has two components, a projection for non-holiday oil production and a projection for holiday oil production. The forecast for non-holiday oil production shows the long-term trend of output from the existing stock of producing wells in Montana. This trend is downward, albeit at a decreasing rate. The recent completion of wells in the Bakken provides a slight boost to the non-holiday projection later in the forecast period when these wells lose their holiday status. The projection for holiday oil production is modeled based on a typical Bakken well's production decline rate. Aggregate Montana oil production is the sum of the non-holiday and holiday forecasts.
- The forecast for Montana oil production maintains the downward trajectory that has persisted since FY 2015; however, the rate of decline becomes less steep. Output from horizontal oil wells falls rapidly in the early stages of the well's life before leveling off after the initial steep decline. Minimal new drilling is expected over the forecast period, so the future path of Montana oil production is forecast to follow a path that reflects the general decline in output from the existing stock of horizontal wells. Total oil production is projected to decline from about 19 million barrels in FY 2019 to 18 million barrels in FY 2021.

Natural Gas Production

- Natural gas production is modeled to follow the trend in oil production. Fluctuations in natural gas output are primarily dictated by associated gas from Bakken oil wells. Forecast Montana natural gas production is estimated to decline from 33 billion cubic feet in FY 2019 to about 31.5 billion cubic feet in FY 2021.

Chart 1 shows the actual and projected quarterly production levels of oil and natural gas in Montana from FY 2008 through FY 2021.



Step 2. Estimate oil and natural gas prices.

Oil Price

- Montana oil prices are estimated based on their historical relationship with WTI prices. Movements in Montana oil prices are highly correlated with movements in WTI prices, making the price of WTI a significant determinant of the price of Montana oil. Forecast values of WTI prices through FY 2021 are used to generate projected Montana prices for the same period via an estimated discount Montana prices take to WTI.
- Montana oil prices are forecast to decline initially then rise gradually alongside WTI prices through the end of the forecast period. The margin between Montana and WTI oil prices has narrowed as oil production in the Bakken has slowed. Transportation constraints have eased, lowering the cost of shipping Montana oil to market destinations.

Natural Gas Price

- Montana natural gas prices are modeled against the benchmark Henry Hub price. Fluctuations in Henry Hub prices are generally reflected in Montana natural gas prices. Montana natural gas sells at a discount to the Henry Hub price. An estimate of this discount margin is used to project Montana prices based on forecast values of Henry Hub prices.
- Montana natural gas prices are forecast to rise in the first half of FY 2019 and decline in the second half. Prices rise slightly in FY 2020 and then level off for the remainder of the forecast period. During this time, Montana prices are estimated to remain below the Henry Hub price. This has generally been the case historically, but there have been instances where Montana prices have matched or briefly eclipsed Henry Hub prices.

Table 3 shows quarterly WTI and Montana oil prices in dollars per barrel. Actual prices are shown from FY 2008 though FY 2018 and forecast prices are shown for FY 2019 through FY 2021.

Table 3
Montana and West Texas Intermediate Oil Prices
(Dollars per Barrel)

Fiscal Year	Montana Price	WTI Price
A 2008	$88.03	$97.01
A 2009	$60.12	$69.76
A 2010	$65.40	$79.04
A 2011	$80.78	$89.42
A 2012	$85.45	$95.04
A 2013	$84.13	$92.26
A 2014	$88.69	$101.32
A 2015	$58.92	$69.33
A 2016	$34.31	$41.74
A 2017	$41.91	$48.62
A 2018	$53.78	$58.62
F 2019	**$60.43**	**$65.48**
F 2020	**$62.12**	**$67.21**
F 2021	**$63.94**	**$69.03**

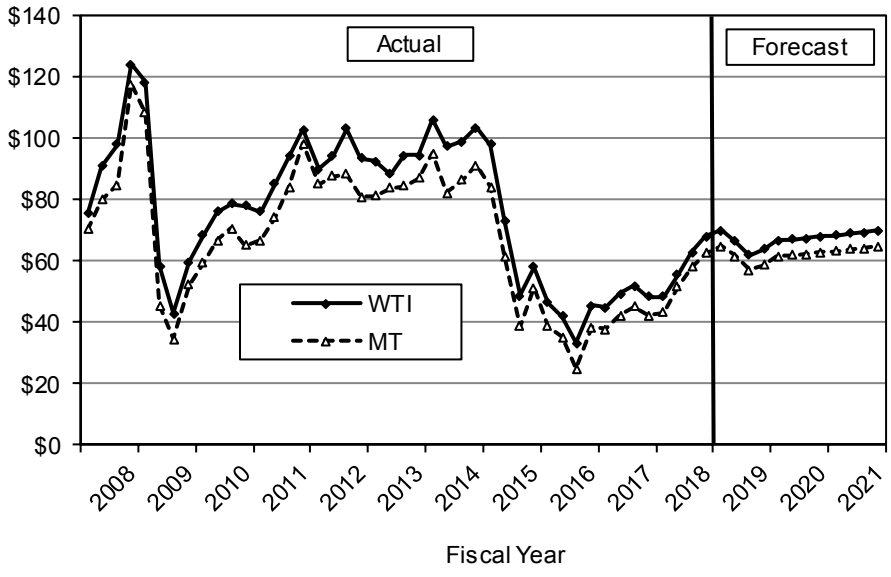
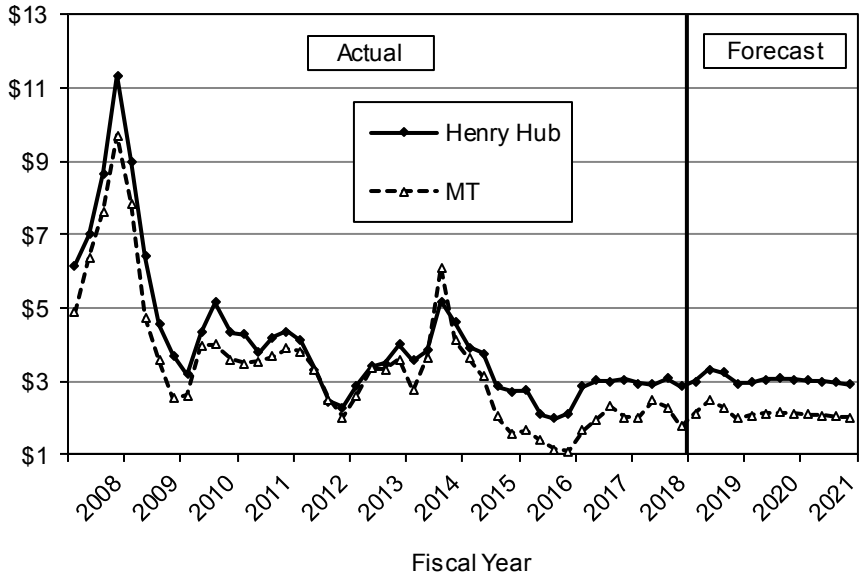


Table 4 shows quarterly Henry Hub and Montana natural gas prices in dollars per thousand cubic feet (Mcf). Actual prices are shown for FY 2008 though FY 2018 and forecast prices are shown for FY 2019 through FY 2021.

Table 4
Montana and National Natural Gas Prices
(Dollars per Mcf)

Fiscal Year	Montana Price	National Price
A 2008	$7.14	$8.30
A 2009	$4.68	$5.92
A 2010	$3.54	$4.25
A 2011	$3.64	$4.16
A 2012	$2.92	$3.04
A 2013	$3.22	$3.45
A 2014	$4.16	$4.30
A 2015	$2.60	$3.32
A 2016	$1.33	$2.24
A 2017	$1.99	$2.97
A 2018	$2.14	$2.95
F 2019	**$2.23**	**$3.13**
F 2020	**$2.12**	**$3.04**
F 2021	**$2.05**	**$2.97**



Step 3. Estimate effective tax rates for oil and natural gas production and determine tax revenue.

- Effective tax rates are estimated for both working and royalty ownership interests. The effective tax rate for the working interest portions of oil and natural gas production varies from year to year because there are different nominal tax rates for different types of working interest production. All royalty interest production is taxed at one rate, so the effective tax rate is equal to the nominal tax rate.
- A four-year moving average is used to estimate effective working interest tax rates for oil and natural gas production over the forecast period. Effective royalty tax rates are assumed to equal the nominal rates for all forecast years.
- Working interest oil tax revenue is determined by multiplying the effective working interest tax rate for oil production by the estimated gross value of working interest oil production. Tax revenue for the working interest portion of natural gas revenue is determined by the same method.
- Royalty tax revenue for oil and natural gas is calculated by applying the royalty tax rate of 15.10% to the gross royalty value of oil and natural gas production.
- Total oil and natural gas tax revenue to be distributed to the state is equal to the sum of working interest and royalty interest tax revenue from oil and natural gas production.

Table 5 shows the components that determine total tax revenue from oil production in Montana. Similarly, Table 6 summarizes how total tax revenue from natural gas production is calculated. Table 7 shows the combination of oil and natural gas tax revenue, plus audit, penalty, and interest income, to determine total tax revenue received by the state. All the tables show actual values for FY 2008 - FY 2018 and forecast values for FY 2019 - FY 2021.

Table 5
Montana Oil Revenue
($ millions)

Fiscal Year	Millions of Barrels of Oil	Gross Value		Non-Taxable Royalty Value		Taxable Value		Average Tax Rate		Tax Revenue
A 2008	33.758	$2,946.052	-	$75.143	=	$2,870.909	X	8.89%	=	$262.008
A 2009	30.083	$1,818.753	-	$47.884	=	$1,770.869	X	9.49%	=	$172.517
A 2010	26.212	$1,710.860	-	$46.919	=	$1,663.942	X	10.05%	=	$171.924
A 2011	24.707	$1,986.368	-	$52.253	=	$1,934.115	X	9.64%	=	$191.425
A 2012	23.825	$2,036.262	-	$53.975	=	$1,982.287	X	9.18%	=	$186.940
A 2013	27.517	$2,317.461	-	$60.638	=	$2,256.824	X	8.15%	=	$188.825
A 2014	28.927	$2,568.737	-	$64.304	=	$2,504.433	X	8.20%	=	$210.663
A 2015	29.700	$1,757.875	-	$46.294	=	$1,711.582	X	8.30%	=	$145.915
A 2016	25.357	$871.195	-	$24.105	=	$847.090	X	9.15%	=	$79.741
A 2017	21.165	$885.790	-	$24.684	=	$861.106	X	10.18%	=	$90.212
A 2018	19.906	$1,070.823	-	$31.730	=	$1,039.094	X	9.98%	=	$106.850
F 2019	**19.144**	**$1,157.743**	-	**$31.260**	=	**$1,126.483**	X	**10.09%**	=	**$116.868**
F 2020	**18.615**	**$1,156.222**	-	**$31.219**	=	**$1,125.003**	X	**10.22%**	=	**$118.151**
F 2021	**18.132**	**$1,159.212**	-	**$31.300**	=	**$1,127.912**	X	**10.34%**	=	**$119.886**

Table 6
Natural Gas Production Revenue
($ millions)

Fiscal Year	Billions of Cubic Feet of Gas	Gross Value		Non-Taxable Royalty Value		Taxable Value		Average Tax Rate		Tax Revenue
A 2008	109.821	$780.503	-	$32.326	=	$748.177	X	7.78%	=	$60.718
A 2009	101.130	$482.221	-	$22.644	=	$459.578	X	8.71%	=	$41.986
A 2010	90.277	$319.983	-	$14.803	=	$305.181	X	9.50%	=	$30.391
A 2011	78.024	$284.145	-	$13.467	=	$270.677	X	9.32%	=	$26.471
A 2012	66.030	$196.678	-	$8.002	=	$188.675	X	9.54%	=	$18.764
A 2013	53.227	$170.922	-	$6.430	=	$164.493	X	9.29%	=	$15.874
A 2014	54.015	$219.199	-	$8.337	=	$210.862	X	9.13%	=	$20.005
A 2015	46.551	$121.607	-	$4.977	=	$116.630	X	9.12%	=	$11.085
A 2016	46.444	$62.029	-	$2.635	=	$59.394	X	9.59%	=	$5.947
A 2017	40.726	$80.818	-	$2.565	=	$78.253	X	10.09%	=	$8.151
A 2018	38.297	$82.242	-	$2.562	=	$79.680	X	9.84%	=	$8.092
F 2019	**33.407**	**$74.364**	-	**$2.984**	=	**$71.379**	X	**9.94%**	=	**$7.388**
F 2020	**32.483**	**$68.885**	-	**$2.765**	=	**$66.121**	X	**10.01%**	=	**$6.895**
F 2021	**31.641**	**$64.985**	-	**$2.608**	=	**$62.377**	X	**10.10%**	=	**$6.563**

Table 7
Montana Oil and Gas Tax Revenue
($ millions)

Fiscal Year	Oil Revenue		Natural Gas Revenue		Audits, Penalties, & Interest		Total Revenue
A 2008	$262.008	+	$60.718	+	$3.168	=	$325.894
A 2009	$172.517	+	$41.986	+	$5.221	=	$219.723
A 2010	$171.924	+	$30.391	+	$1.395	=	$203.711
A 2011	$191.425	+	$26.471	+	$1.254	=	$219.150
A 2012	$186.940	+	$18.764	+	$0.737	=	$206.440
A 2013	$188.825	+	$15.874	+	$1.366	=	$206.065
A 2014	$210.663	+	$20.005	+	$0.864	=	$231.532
A 2015	$145.915	+	$11.085	+	-$0.605	=	$156.394
A 2016	$79.741	+	$5.947	+	$0.772	=	$86.461
A 2017	$90.212	+	$8.151	+	$0.408	=	$98.772
A 2018	$106.850	+	$8.092	+	$1.959	=	$116.901
F 2019	**$116.868**	**+**	**$7.388**	**+**	**$0.634**	**=**	**$124.890**
F 2020	**$118.151**	**+**	**$6.895**	**+**	**$0.943**	**=**	**$125.989**
F 2021	**$119.886**	**+**	**$6.563**	**+**	**$0.986**	**=**	**$127.435**

Distribution

Oil and natural gas revenue is distributed in accordance with 15-36-331, MCA.

The BOGC imposes a privilege and license tax in addition to the base oil and natural gas tax rates. This tax rate is currently set at 0.30% of the gross value of oil and natural gas production.

Total oil and gas production tax revenue in Montana is divided between the state and local governments. Prior to HB 748 (2003 session), the distribution was based primarily on property tax mill levies. After HB 748, the counties and schools were each assigned a percentage of the production tax revenue generated in their county that they would receive. Beginning in FY 2012, SB 329 (2011 session) capped the amount of oil and natural gas receipts distributed to a school district at 130% of a district's maximum general fund budget (with some exceptions), and distributed any excess revenues to various state special revenue accounts (guarantee account, state school oil and gas impact fund, and county oil and natural gas impact fund). The 2013 legislative session passed SB 175, which changed the local distribution of oil and natural gas tax revenue starting in FY 2014. The amount of oil and natural gas revenue a school district could receive was still capped at 130% of the district's maximum budget; however, school districts with budgets less than $1.5 million were allowed to keep revenue equivalent to up to 150% of their maximum budget. Per SB 175, any excess tax revenue existing in a school district after the aforementioned limits were reached was distributed outwardly to other school districts in a concentric circle pattern until all the excess revenue was exhausted. During the 2015 legislative session, SB 175 was replaced with SB 260, which did away with the concentric circle method of distribution and instead established two negotiated rulemaking committees that were tasked with determining how to allocate the excess tax revenue. Each committee was assigned the authority to portion out 50% of the available revenue. House Bill 647 from the 2017 regular session did away with the rulemaking committee distribution and changed the law so that any oil and natural gas revenue in excess of 130% of a school district's maximum budget is deposited into the guarantee fund (20-9-310, MCA).

The state share of oil and natural gas production tax revenue is divided among various funds according to the following schedule:

- 2.16% to the natural resource projects state special revenue account.
- 2.02% to the natural resource operations state special revenue account.
- 2.95% to the orphan share account.
- 2.65% to the university system.

- The remainder, 90.22%, to the general fund.

Chart 3 is a graphic illustration of how oil and natural gas production tax revenue is distributed.

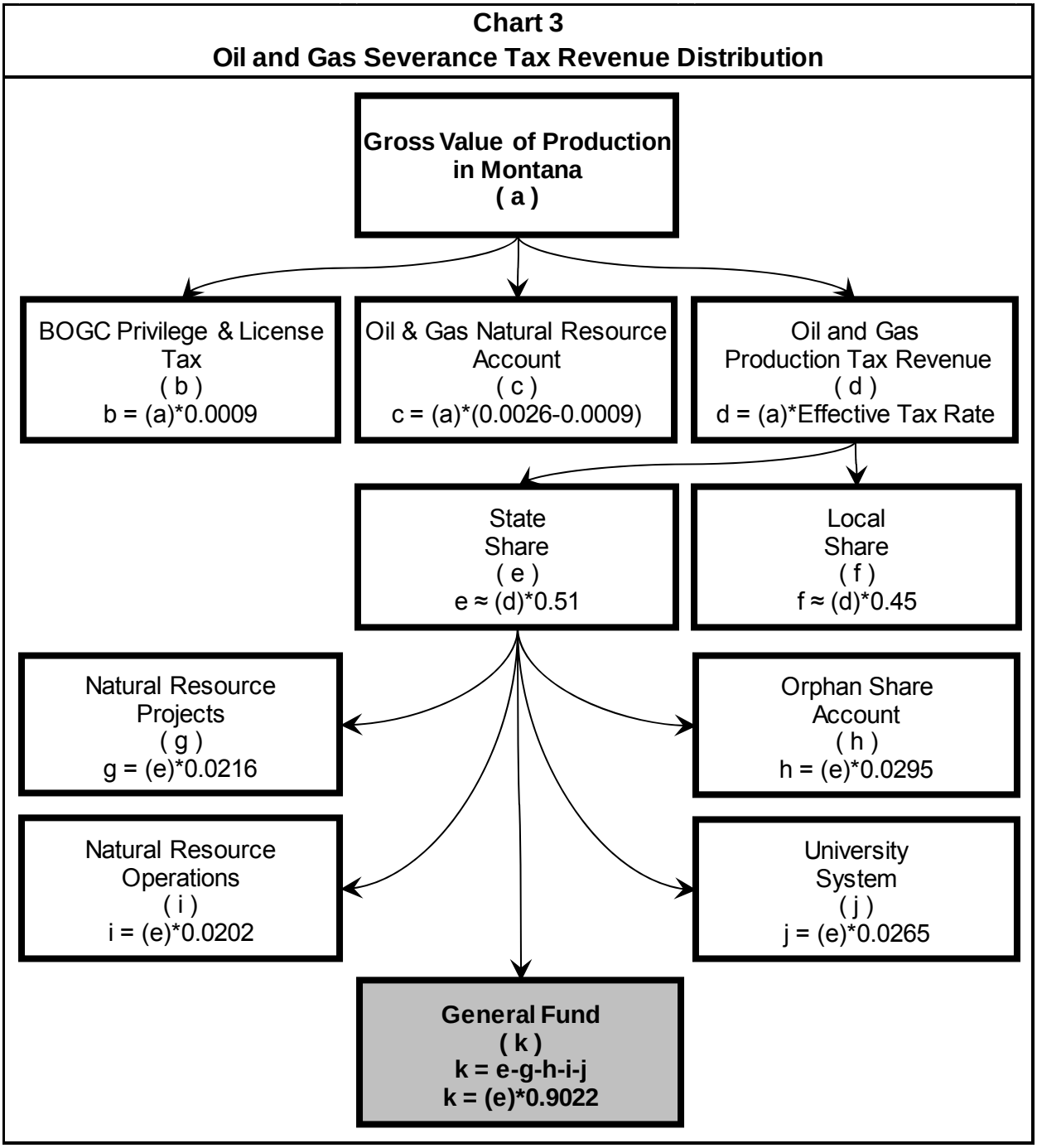


Table 8 shows the actual distribution of oil and natural gas production tax revenues for FY 2018 and forecast distributions for FY 2019 through FY 2021.

Table 8
Oil and Gas Tax Revenue Distribution
($ millions)

Entity	Fiscal Year 2018	**Fiscal Year 2019**	**Fiscal Year 2020**	**Fiscal Year 2021**
Tax Revenue	**$119.133**	**$124.890**	**$125.989**	**$127.435**
BOGC	$3.415	$3.696	$3.675	$3.673
Oil & Gas Natural Resource Acct.	$0.000	$0.000	$0.000	$0.000
Guarantee Fund	$1.683	$1.764	$1.780	$1.800
Local Share	$53.619	$52.88	$53.34	$53.96
State Share	$60.417	$66.550	$67.189	$68.005
Natural Resource Projects Acct. (2.16%)	$1.305	$1.437	$1.451	$1.469
Natural Resource Operations Acct. (2.02%)	$1.220	$1.344	$1.357	$1.374
Orphan Share Acct. (2.95%)	$1.782	$1.963	$1.982	$2.006
University System (2.65%)	$1.601	$1.764	$1.781	$1.802
General Fund Share (90.22%)	**$54.508**	**$60.041**	**$60.618**	**$61.354**

Data Sources

Montana oil and natural gas production tax data are sourced from the Montana Department of Revenue. Historic and forecast WTI prices and Henry Hub prices are from IHS Markit and the U.S. Energy Information Administration. Supplemental data are obtained from the Montana Board of Oil and Gas Conservation and the U.S. Energy Information Administration.

U.S. Mineral Royalties

2021 Biennium

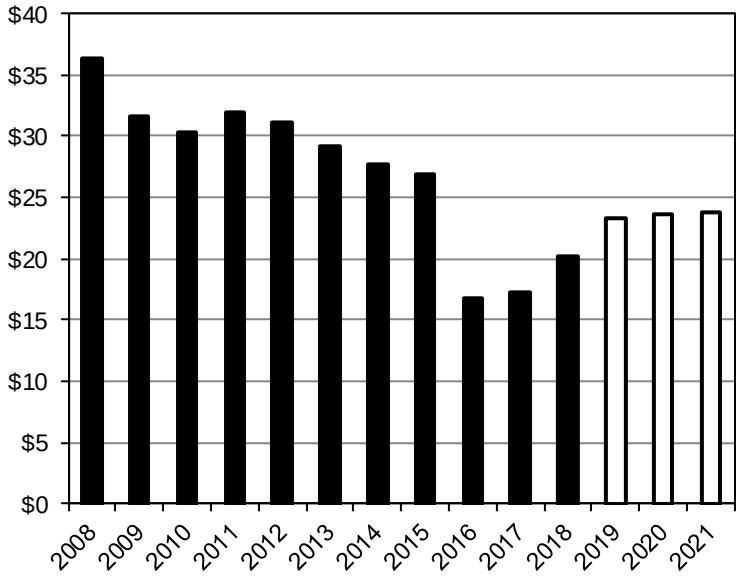
Revenue Description

In accordance with 30 USC, Section 191, a portion of the revenue from minerals extracted in Montana from federal land must be shared with the state of Montana. When the U.S. government leases public lands for mineral production, it distributes a portion of the royalty income it receives from resource extraction to the state where the leased land is located. Generally, U.S. states receive 50% of the royalty revenue from resource extraction on federal lands within the state, less 2% to account for administrative costs. Montana distributes its share of federal mineral royalty revenue 75% to the general fund and 25% to an account in the state special revenue fund. The state special revenue is for distribution to local governments with impacts from mineral extraction, per 17-3-240, MCA.

Table 1 shows actual revenue to the general fund from U.S. mineral royalties for FY 2008 through FY 2018 and forecast revenues for FY 2019 through FY 2021.

Table 1
U.S. Mineral Royalties
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$36.389	28.94%
A 2009	$31.573	-13.23%
A 2010	$30.288	-4.07%
A 2011	$31.923	5.40%
A 2012	$31.057	-2.71%
A 2013	$29.205	-5.96%
A 2014	$27.744	-5.00%
A 2015	$26.960	-2.82%
A 2016	$16.759	-37.84%
A 2017	$17.322	3.36%
A 2018	$20.139	16.26%
F 2019	**$23.217**	**15.28%**
F 2020	**$23.590**	**1.61%**
F 2021	**$23.747**	**0.66%**



General fund revenue from U.S. mineral royalties fluctuates as mineral prices and production levels change. Over the past decade, general fund revenue has ranged from a high of $36.3 million in FY 2008 to a low of $16.7 million in FY 2016. The revenue peak in FY 2008 was the result of exceptionally high oil and natural gas prices in that year. Following FY 2008, revenue was stable around $30 million through FY 2012. Slight declines occurred in the period FY 2013 – FY 2015 before a precipitous drop in FY 2016. A culmination a relatively low resource production volumes (notably coal) and significantly depressed oil and natural gas prices heavily impacted FY 2016 revenue. Oil and gas prices rebounded in FY 2017 and FY 2018 - as did coal production – helping reverse the multi-year decline in mineral royalty revenue. Further increases in oil and gas prices, along with a slight uptick in coal production and prices, will extend growth in mineral royalty collections though FY 2021. Revenue growth is strongest in FY 2019 and relatively flat in the years following due to stabilization in resource production and prices.

Coal is the leading source of U.S. mineral royalty revenue for Montana, averaging greater than 60% of total collections over the last five years. Oil is the second largest revenue source, averaging near 25% of total collections. The share of royalty collections from natural gas has declined significantly, averaging just 5% of revenue in the last five years compared to 10% in the preceding five years. Royalty revenue from other mineral sources, along with revenue from bonus and rental payments is highly variable, ranging from 22% of collections in FY 2012 to 3% of collections lately. The majority of

coal production in Montana occurs on federal land, with approximately 50%-60% of the mining occurring on federally owned property. Federal coal production in Montana is expected to remain relatively stable from FY 2019 – FY 2021. Production of oil and gas in Montana isn't as concentrated on federal lands as coal production. About 12% of oil production and 28% of natural gas production in Montana occurs on federal lands. The development of the Bakken shale formation in eastern Montana led to a shift in more oil and natural gas being produced on privately-owned land.

Risks and Significant Factors

- Most royalty revenue is calculated as a percentage of the gross value of the minerals produced. As prices fluctuate, so does royalty revenue. Oil and natural gas prices are more volatile than coal prices, and have the potential to deviate significantly from expectations over the forecast period. International coal prices influence coal mining in Montana. Elevated world thermal coal prices could bring more Montana coal production online in response to attractive export opportunities.
- As became apparent with the passage of the FY 2009 federal budget, Congress can change the amount of revenue that gets distributed to the state. Also, changes to the federal Mineral Management Service may affect the timing of revenue flows from year to year.
- The rebound in oil prices may lead to renewed drilling activity in Montana. There have only been a handful of new oil well completions (concentrated in the Bakken formation) in the past few years. This activity has not resulted in a noticeable impact on oil production or revenue collections. Well drilling and completions would have to ramp up considerably for any meaningful impact to be realized.

Forecast Methodology

Step 1. Forecast the gross value of coal, oil, and natural gas production on federal land by multiplying estimated production by estimated price. Historical proportions of resource production on federally-owned land in Montana to total state production are used to estimate future production for each resource type. Estimated federal production proportions for each resource type are then multiplied by estimated total Montana production for each resource to determine estimated federal production. Forecast federal production volumes are then multiplied by an estimated price for each resource to determine gross value. The total production and price estimates for coal, oil, and natural gas come from data contained in each resource's respective revenue estimate.

Step 2. Estimate the federal royalty rate to be applied to the gross value of each resource type. The nominal federal royalty rate for coal, oil, and natural gas production is 12.5%. The effective federal royalty rate, however, is often less than 12.5%. The effective federal royalty rate is estimated for each resource type over the forecast period. To determine estimated total royalty revenue from coal, oil, and natural gas production on federal lands in Montana, the gross value of production for each resource type is multiplied by the effective federal royalty rate.

Step 3. Calculate the average percentage of receipts that are remitted by the federal government to the state for each resource type. Although the federal government is required to return 48% of the revenue to the state, there are exceptions that may reduce the actual percentage to less than 48%. This is primarily dependent on the nature of the property where the federal lease is issued. For example, a federal lease could be on General Services Administration (GSA) land, in which case 100% of the revenue would be distributed to the U.S. Treasury. Federal leases on Indian reservations and timing issues between fiscal years can also contribute to variation. The percentage of federal royalty revenue estimated to be returned to the state is assumed to be equal to the percentage of revenue that was returned in the prior year. The state's percentage is multiplied by total federal royalty revenue to yield total state mineral royalty revenue from coal, oil, and natural gas extraction.

Step 4. Estimate revenue from sources other than coal, oil, and natural gas, as well as rental and bonus payments. Montana is assumed to receive 48% of federal rental and bonus payments, and approximately 40% of federal revenue from other sources. Add rental/bonus and other revenue to the state's share of coal, oil, and natural gas revenue to obtain total mineral royalty revenue.

Table 2 shows actual revenues, royalty rates, and state revenue from federal mineral royalties for FY 2008 through FY 2017. Due to the federal fiscal year, FY 2018 federal production and royalty revenue data are not available and so are estimated; however, the state revenue numbers are FY 2018 actuals. Forecast numbers are shown for FY 2019 through FY 2021.

Table 2
U.S. Mineral Royalty Revenue
($ millions)

Fiscal Year	Coal Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue	Oil Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue	Natural Gas Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue
A 2008	$281.414	12.15%	$34.201	50.85%	$17.393	$354.921	10.62%	$37.685	44.99%	$16.955	$186.180	10.96%	$20.414	51.23%	$10.458
A 2009	$262.330	11.96%	$31.366	62.23%	$19.518	$180.710	10.87%	$19.648	51.67%	$10.153	$120.850	10.94%	$13.226	47.95%	$6.342
A 2010	$358.895	11.61%	$41.675	49.80%	$20.754	$223.490	10.59%	$23.657	46.72%	$11.053	$95.875	11.18%	$10.721	44.85%	$4.808
A 2011	$377.500	11.62%	$43.867	49.12%	$21.546	$244.195	10.86%	$26.520	52.01%	$13.793	$68.875	11.46%	$7.895	-17.10%	-$1.350
A 2012	$383.177	11.62%	$44.508	48.28%	$21.487	$231.460	11.87%	$27.471	45.39%	$12.469	$42.430	11.61%	$4.926	46.34%	$2.283
A 2013	$363.321	11.82%	$42.946	48.28%	$20.733	$210.733	11.94%	$25.158	45.38%	11.4179	$33.151	12.93%	$4.286	44.79%	$1.920
A 2014	$362.397	11.89%	$43.107	48.28%	$20.810	$232.066	11.46%	$26.606	45.38%	$12.075	$52.529	13.96%	$7.335	44.79%	$3.285
A 2015	$376.301	11.47%	$43.148	48.28%	$20.830	$187.678	11.55%	$21.680	45.38%	$9.839	$32.634	11.91%	$3.885	44.79%	$1.740
A 2016	$270.707	11.65%	$31.549	48.28%	$15.231	$97.414	10.90%	$10.622	45.38%	$4.821	$11.242	13.14%	$1.477	44.79%	$0.661
A 2017	$285.005	11.67%	$33.265	48.28%	$16.059	$125.858	10.20%	$12.832	45.38%	$5.824	$18.613	13.00%	$2.420	44.79%	$1.084
A 2018	$366.721	11.60%	$42.531	48.28%	$20.532	$143.498	10.88%	$15.618	45.38%	$7.088	$18.863	12.68%	$2.392	44.79%	$1.071
F 2019	**$384.358**	**11.64%**	**$44.744**	**48.28%**	**$21.601**	**$153.959**	**10.66%**	**$16.414**	**45.38%**	**$7.449**	**$17.808**	**12.94%**	**$2.304**	**44.79%**	**$1.032**
F 2020	**$392.872**	**11.64%**	**$45.718**	**48.28%**	**$22.071**	**$156.145**	**10.58%**	**$16.520**	**45.38%**	**$7.498**	**$16.086**	**12.87%**	**$2.071**	**44.79%**	**$0.928**
F 2021	**$398.626**	**11.63%**	**$46.341**	**48.28%**	**$22.372**	**$154.566**	**10.71%**	**$16.552**	**45.38%**	**$7.512**	**$14.954**	**12.83%**	**$1.919**	**44.79%**	**$0.860**

Fiscal Year	Rentals and Bonuses	Royalty Rate	Revenue	State Percentage	State Revenue	Other Revenue	Royalty Rate	Other Revenue	State Percentage	State Revenue	State Coal Revenue		State Oil Revenue		State Gas Revenue		All Other Revenue		Total State Revenue
A 2008	$8.786	100%	$8.786	44.72%	3.929	$2.154	NA	$2.154	9.71%	$0.209	$17.393	+	$16.955	+	$10.458	+	$4.138	=	$48.944
A 2009	$8.906	100%	$8.906	45.11%	$4.018	$14.798	NA	$14.798	44.11%	$6.527	$19.518	+	$10.153	+	$6.342	+	$10.545	=	$46.559
A 2010	$14.046	100%	$14.046	48.18%	$6.767	$1.994	NA	$1.994	19.19%	$0.383	$20.754	+	$11.053	+	$4.808	+	$7.149	=	$43.765
A 2011	$11.954	100%	$11.954	48.11%	$5.751	$2.487	NA	$2.487	136.08%	$3.384	$21.546	+	$13.793	+	-$1.350	+	$9.134	=	$43.125
A 2012	$21.264	100%	$21.264	50.84%	$10.811	$0.300	NA	$0.300	49.46%	$0.149	$21.487	+	$12.469	+	$2.283	+	$10.959	=	$47.198
A 2013	$5.390	100%	$5.390	23.78%	$1.282	$1.929	NA	$1.929	39.06%	$0.753	$20.733	+	$11.418	+	$1.920	+	$2.035	=	$36.106
A 2014	$3.149	100%	$3.149	48.00%	$1.511	$0.791	NA	$0.791	39.06%	$0.309	$20.810	+	$12.075	+	$3.285	+	$1.820	=	$37.991
A 2015	$1.508	100%	$1.508	48.00%	$0.724	$0.924	NA	$0.924	39.06%	$0.361	$20.830	+	$9.839	+	$1.740	+	$1.085	=	$33.495
A 2016	$0.984	100%	$0.984	48.00%	$0.472	$0.380	NA	$0.380	39.06%	$0.148	$15.231	+	$4.821	+	$0.661	+	$0.621	=	$21.334
A 2017	$1.633	100%	$1.633	48.00%	$0.784	$0.742	NA	$0.742	39.06%	$0.290	$16.059	+	$5.824	+	$1.084	+	$1.073	=	$24.040
A 2018	$1.375	100%	$1.375	48.00%	$0.660	$0.682	NA	$0.682	39.06%	$0.266	$20.532	+	$7.088	+	$1.071	+	$0.926	=	$29.618
F 2019	**$1.331**	**100%**	**$1.331**	**48.00%**	**$0.639**	**$0.601**	**NA**	**$0.601**	**39.06%**	**$0.235**	**$21.601**	**+**	**$7.449**	**+**	**$1.032**	**+**	**$0.873**	=	**$30.956**
F 2020	**$1.446**	**100%**	**$1.446**	**48.00%**	**$0.694**	**$0.675**	**NA**	**$0.675**	**39.06%**	**$0.264**	**$22.071**	**+**	**$7.498**	**+**	**$0.928**	**+**	**$0.958**	=	**$31.454**
F 2021	**$1.384**	**100%**	**$1.384**	**48.00%**	**$0.664**	**$0.653**	**NA**	**$0.653**	**39.06%**	**$0.255**	**$22.372**	**+**	**$7.512**	**+**	**$0.860**	**+**	**$0.919**	=	**$31.662**

Distribution

U.S. mineral royalties are distributed to both the general fund and the mineral impact account in accordance with 17-3-240, MCA. Table 3 shows the distribution of U.S. mineral royalty revenue to the state of Montana for FY 2008 through FY 2018 along with the estimated distribution for FY 2019 through FY 2021.

Table 3
U.S. Mineral Royalty Revenue Distribution
($ millions)

Fiscal Year	General Fund (75%)	Mineral Impact (25%)	Total
A 2008	$36.389	$12.130	$48.518
A 2009	$31.573	$10.524	$42.098
A 2010	$30.288	$10.096	$40.384
A 2011	$31.923	$10.641	$42.564
A 2012	$31.057	$10.352	$41.409
A 2013	$29.205	$9.735	$38.940
A 2014	$27.744	$9.248	$36.992
A 2015	$26.960	$8.987	$35.947
A 2016	$16.759	$5.586	$22.345
A 2017	$17.322	$5.774	$23.096
A 2018	$20.139	$6.713	$26.852
F 2019	**$23.217**	**$7.739**	**$30.956**
F 2020	**$23.590**	**$7.863**	**$31.454**
F 2021	**$23.747**	**$7.916**	**$31.662**

Data Sources

General fund and mineral impact account revenue are from SABHRS. Federal mineral statistics are available from the Department of Interior's Office of Natural Resources Revenue.

Coal Severance Tax

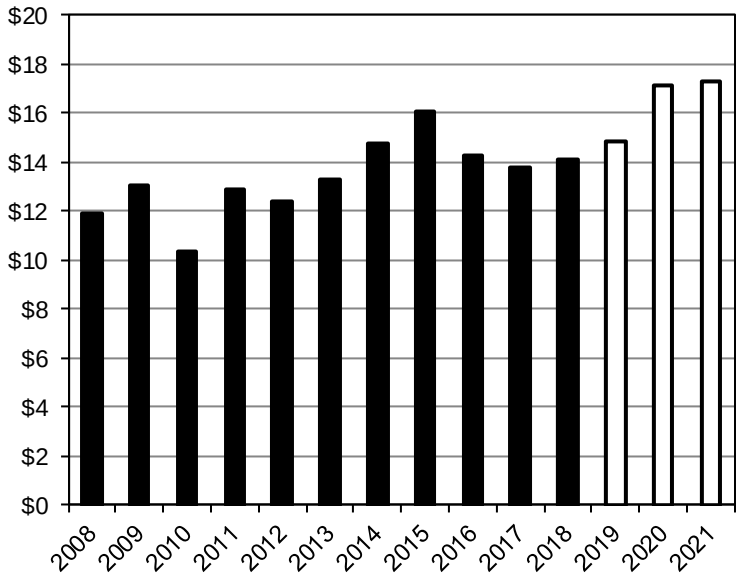
Revenue Description

In accordance with 15-35-103, MCA, Montana levies a tax on the value of coal produced in the state. The tax rate on coal varies with heat content of the coal (measured in Btu per pound) and the type of mine (open pit, auger, or underground). Each producer is exempt from tax on 20,000 tons per year. If a producer mines 50,000 tons or less per year, they are exempt from the tax entirely.

Table 1 shows actual coal severance tax revenue to the general fund for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
Coal Severance Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$11.894	8.93%
A	2009	$13.028	9.53%
A	2010	$10.322	-20.77%
A	2011	$12.883	24.81%
A	2012	$12.350	-4.13%
A	2013	$13.265	7.41%
A	2014	$14.745	11.15%
A	2015	$16.063	8.94%
A	2016	$14.236	-11.38%
A	2017	$13.799	-3.06%
A	2018	$14.107	2.23%
F	**2019**	**$14.872**	**5.42%**
F	**2020**	**$17.118**	**15.10%**
F	**2021**	**$17.276**	**0.92%**



Montana ranks seventh in U.S. coal production, making up 5% of the nation's total output. There is considerable potential for coal production growth in Montana given that the state has the largest recoverable coal reserves in the country. The majority of Montana coal is consumed domestically. Coal from the Rosebud mine is consumed almost entirely at the adjacent Colstrip power plant. Michigan and Minnesota are Montana's primary out-of-state customers. The shifting landscape of the U.S. electric power sector is adding uncertainty to coal's domestic outlook. Natural gas and renewables are becoming increasingly competitive as sources of electric power. Coal is no longer the primary source of U.S. electricity generation, surrendering its position to natural gas in 2016. Coal's competitiveness in the electric power sector is being hampered by tightening emissions regulations. Stricter air pollution controls have assisted in spurring the closure of aging coal-fired power plants across the country. Over 50 megawatts of coal-fired generation have been shuttered since 2011, and more closures are on the horizon. Montana is not immune. Colstrip Units 1 and 2 are scheduled to be closed no later than 2022. The Energy Information Administration (EIA) is projecting a steady decline in U.S. coal-fired electric generating capacity over the next few years, but an uptick in capacity utilization at these facilities. Overall, coal consumption in the domestic electric power sector is expected to continue its downward trajectory into the near future. If this occurrence reduces domestic demand for Montana coal, the state might have to turn more toward the global market.

Montana has exposure to international coal markets via exports from the Spring Creek and Bull Mountain mines. Roughly one-quarter to one-third of Montana coal production is exported. Montana exports started to ramp-up considerably in 2010 and 2011 and remained relatively stable until 2015 when international prices tumbled. Exports were down in 2016 but began to climb back in 2017 as international prices surged. Montana's export volumes are highly sensitive to

international thermal coal prices due to its position as a marginal supplier in the global market.

Coal severance tax revenue is distributed to numerous funds, many of which aid in the support of natural resource development projects and impact mitigation plans. The largest share of the coal severance tax (50%) is deposited into the coal severance tax trust fund which earns interest for the benefit of local infrastructure projects and public school facilities. For more information on the coal severance tax trust fund see section 10-3.

Risks and Significant Factors

- The timeline for the shutdown of Colstrip Units 1 and 2 doesn't specify a certain date but does say *no later* than 2022. While it isn't expected that shutdown will occur within the FY 2019 – FY 2021 forecast period, there still exists some level of risk of an earlier closure. If the timeline for the plant's closure is accelerated into the forecast window there is downside risk to coal severance tax revenues due to reduced output from the Rosebud mine (unless the company is able find another buyer).
- During most of the first quarter of FY 2019, Colstrip Units 3 & 4 were shut down for air pollution related fixes. This likely reduced coal production at the nearby Rosebud mine which will have a negative impact on severance tax collections.
- The structure of the U.S. electric power sector moving forward will shape domestic demand for Montana coal. More stringent pollution controls could boost demand for Montana's relatively clean-burning coal; however, the overall decline in electric power sector coal consumption likely has larger implications.
- International coal prices influence the viability of Montana coal exports.

Forecast Methodology

Below are the steps involved in forecasting coal severance tax revenue:

Step 1. Estimate the quarterly average price across all mines using a four-period moving average. The estimated price for the fiscal year is the four-quarter average.

Step 2. Forecast total monthly coal production from taxable mines in Montana. Total monthly production is estimated using an autoregressive model with three variables: a one-period autoregressive lag, a seasonal autoregressive lag, and the monthly Henry Hub natural gas price. The one-period lag allows the model to use last period's production to help inform the current period's production. The seasonal lag helps control for seasonality in the coal production series by using coal production twelve months prior to the current period as an explanatory variable. The natural gas price variable is included to allow the model to capture information about the fuel mix used at electric generating stations that consume Montana coal.

Step 3. Monthly coal production estimates are summed by fiscal year and then multiplied by the estimated price for that year to obtain total gross value of the coal produced.

Step 4. Estimate total deductions and exemptions for the fiscal year to determine taxable coal production. Deductions and exemptions include the first 20,000 tons produced in a year (for operator's with over 50,000 tons of production per year), and the deductions for other state and federal tax liabilities related to coal production including the black lung tax, the coal gross proceeds tax, federal reclamation tax, and others.

Step 5. Apply an estimated average tax rate to yield total coal severance tax revenue.

Table 2 shows actual coal production, average price per ton, total deductions, taxable revenue, average tax rate, and total coal severance tax revenue for FY 2016 through FY 2018, along with estimates for FY 2019 through FY 2021.

Table 2
Coal Severance Tax
(millions)

	FY 2016		FY 2017		FY 2018		**FY 2019**		**FY 2020**		**FY 2021**
Tons Produced	30.920		29.917		34.308		**34.124**		**34.827**		**35.120**
Average FOB Price	$17.27	x	$18.25	x	$20.12	x	**$20.48**	**x**	**$20.55**	**x**	**$20.57**
Gross Revenue	$534.005		$545.852		$690.360		**$698.710**		**$715.728**		**$722.272**
Exemptions	$127.559	-	$129.083	-	$144.349	-	**$173.090**	**-**	**$177.306**	**-**	**$178.927**
Taxable Revenue	$406.446		$416.768		$546.012		**$525.621**		**$538.422**		**$543.345**
Average Tax Rate	12.16%	x	12.43%	x	11.11%	x	**11.97%**	**x**	**11.97%**	**x**	**11.97%**
Tax Revenue	$49.425		$51.823		$60.682		**$62.896**		**$64.428**		**$65.017**

Distribution

Coal Severance tax is distributed in accordance with 15-35-108, MCA. Table 3 shows the distribution of actual and estimated coal severance tax revenue for FY 2018 through FY 2021. The amount shown in Table 3 for total coal severance tax revenue differs slightly from Table 2 because estimated audit, penalty, and interest payments are included in the Table 3 total.

Table 3
Coal Severance Tax Revenue Allocation by Fund
($ millions)

Entity	Percent Allocation	FY 2018 Actual	**FY 2019 Projected**	**FY 2020 Projected**	**FY 2021 Projected**
Coal Tax Trust Fund (50%)	50.00%	$30.049	**$31.649**	**$32.415**	**$32.709**
Long Range Building Program Account	12.00%	$7.212	**$7.596**	**$7.780**	**$7.850**
Basic Library Services	varies	$0.510	**$0.557**	**$0.583**	**$0.608**
Conservation Districts	varies	$2.336	**$2.424**	**$2.444**	**$2.427**
Growth Through Agriculture Act	varies	$0.432	**$0.475**	**$0.512**	**$0.536**
Coal Board (5.8% in FY 18 & FY 19)	2.90%	$3.486	**$3.671**	**$1.880**	**$1.897**
Parks Trust Fund	1.27%	$0.763	**$0.804**	**$0.823**	**$0.831**
Renewable Resource Loan Debt Service Fund	0.95%	$0.571	**$0.601**	**$0.616**	**$0.621**
Capitol Art Protection Trust Fund	0.63%	$0.379	**$0.399**	**$0.408**	**$0.412**
DEQ Mine Permitting and Restoration	$250k	$0.250	**$0.250**	**$0.250**	**$0.250**
General Fund	Remainder	$14.107	**$14.872**	**$17.118**	**$17.276**
Total Coal Severance Tax			**$60.097**	**$63.297**	**$64.829**	**$65.418**

Data Sources

Historical quarterly coal data are from the Department of Revenue. Monthly coal production data are from the Department of Labor and Industry.

Metalliferous Mines License Tax

2021 Biennium

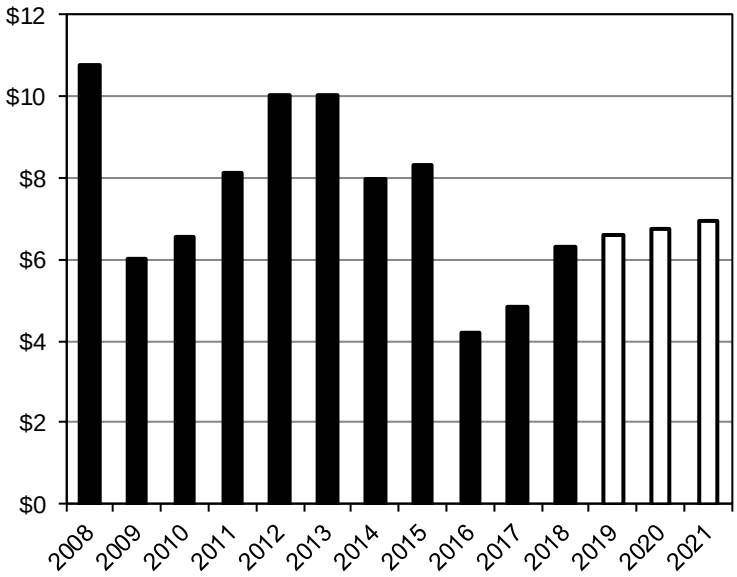
Revenue Description

Montana levies a tax on the gross value of metals mined in the state under 15-37-101, MCA. Gross value (15-23-801, MCA) is the market value of the refined product, less the costs of transporting unrefined product and its refining. The first $250,000 of gross value is not taxed; this effectively exempts small mines from this tax. The tax rate for production beyond $250,000 depends on the amount of processing. Concentrate, which is non-smelted ore, has a tax rate of 1.81%. Metals that have been separated from impurities by smelting are taxed at 1.6% (15-37-103, MCA).

Revenues from the metal mines tax are divided between the state and counties that have fiscal or economic impacts from large-scale mining per 15-37-117, MCA. From FY 2006 to FY 2015, the general fund received 57% of the total tax collected. With the passage of SB 20 (2015), the state general fund receives 47% of metal mines tax collections through FY 2026. HB 442 of the 2017 session grants the state the authority to withhold metal mine tax distributions to local governments, as offsets, if these units fail to meet financial reporting and payment remittance deadlines. Table 1 shows, actual general fund revenue for FY 2008 through FY 2018, and projected revenue for FY 2019 through FY 2021.

Table 1
Metalliferous Mines Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$10.774	19.83%
A	2009	$5.993	-44.38%
A	2010	$6.541	9.15%
A	2011	$8.097	23.77%
A	2012	$10.010	23.64%
A	2013	$10.049	0.39%
A	2014	$7.948	-20.91%
A	2015	$8.320	4.69%
A	2016	$4.221	-49.26%
A	2017	$4.839	14.62%
A	2018	$6.291	30.02%
F	**2019**	**$6.591**	**4.76%**
F	**2020**	**$6.755**	**2.49%**
F	**2021**	**$6.927**	**2.55%**



Revenue increased through FY 2008 due to production and price increases. Price declines and mine closures during FY 2009 reduced revenues. Revenue recovered with prices through FY 2013. Price declines, a mine closure, and the winding down of an existing mine led to a subsequent revenue drop. Price recovery increased collections in FY 2017 and FY 2018. Metals prices have recently declined again and are expected to be relatively flat in the forecast period.

Risks and Significant Factors

- Metal price variation is the principal source of revenue change. Price increases generate greater revenues.
- Production varies over time, but mines have cost optimal life-cycle production profiles, so production primarily varies based on the number of mines in operation, and their remaining minable reserves. Production shifts tend to be slow.
- New financing could reopen existing mines. New mines are in the planning and permitting stages, however, production attributable to new mines is not contemplated within the timeframe of this forecast.
- There are three main factors in determining the revenue from metal mines.
  - The proportional value weight of production for each type of metal. Metal production with impact are (in alphabetic order) copper, gold, molybdenum, palladium, platinum, rhodium, and silver.

- Rapid metal price shifts cause changes in overall tax revenue. Montana has benefited from significant increase in the price of palladium relative to the price of platinum. Which has reversed the historical pattern.
- Metal producers can deduct transportation, treatment, and refining costs from the gross value of production.

This estimate assumes that the mix of metals produced will remain substantially as it was in FY 2016 - FY 2018.

Forecast Methodology

There are three steps in estimating metal mines tax revenue:

Step 1. FY 2018 production and prices serve as the base for this revenue estimate. Total revenue is projected from change in the weighted average of the price forecast of three reference metals (copper, platinum, and gold). That forecast is from the *Commodity Markets Outlook* available in late-April and late-October from The World Bank. Production is adjusted for known planned changes in metal production on a value share basis.

Step 2. Transportation, refining, and treatment cost deductions are assumed to maintain their FY 2018 share of the total value of production during the forecast period. These are deducted from the gross value of the minerals.

Step 3. The average tax rate that applied during FY 2016 - FY 2018 is applied to the total net value of production to yield fiscal year tax liability.

Table 2 shows the gross value of all mined metal products in Montana, deductions taken by the producers, the average tax rate, and the total tax revenue generated for the metal mines license tax (the table presents cash collections).

Table 2
Metal Mines Production Forecast
($ millions)

Fiscal Year	Gross Value	Deductions	Net Value	Average Tax Rate	Tax Revenue
A 2018	$926.1	$80.7	$845.3	1.67%	$13.767
F 2019	**$924.9**	**$80.6**	**$844.3**	**1.66%**	**$14.023**
F 2020	**$947.6**	**$82.6**	**$865.0**	**1.66%**	**$14.372**
F 2021	**$971.1**	**$84.6**	**$886.5**	**1.66%**	**$14.738**

Distribution

Table 3 shows the 15-37-117, MCA, distribution of the metal mines tax.

Table 3
Total Collections and Allocation of Metal Mines Tax
($ millions)

Fund	Allocation Percentage	Actual FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021
General Fund (47%)	**47.0%**	$6.291	**$6.591**	**$6.755**	**$6.927**
Hard-Rock Mining Impact Trust (2.5%)	**2.5%**	$0.335	**$0.351**	**$0.359**	**$0.368**
Impacted Counties (35.0%)	**35.0%**	$4.685	**$4.908**	**$5.030**	**$5.158**
Natural Resource Operations (7.0%)	**7.0%**	$0.937	**$0.982**	**$1.006**	**$1.032**
Hard-Rock Mining Debt Service (Trust)	**8.5%**	$1.138	**$1.192**	**$1.222**	**$1.253**
Total Collections	**100.0%**	**$13.386**	**$14.023**	**$14.372**	**$14.738**

Data Sources

Production, value, and deduction data are from the Department of Revenue as of November1, 2018. Collections are from SABHRS. Price forecasts are from The World Bank's *Commodity Markets Outlook (October 2018)*.

Electrical Energy Producer's License Tax

2021 Biennium

Revenue Description

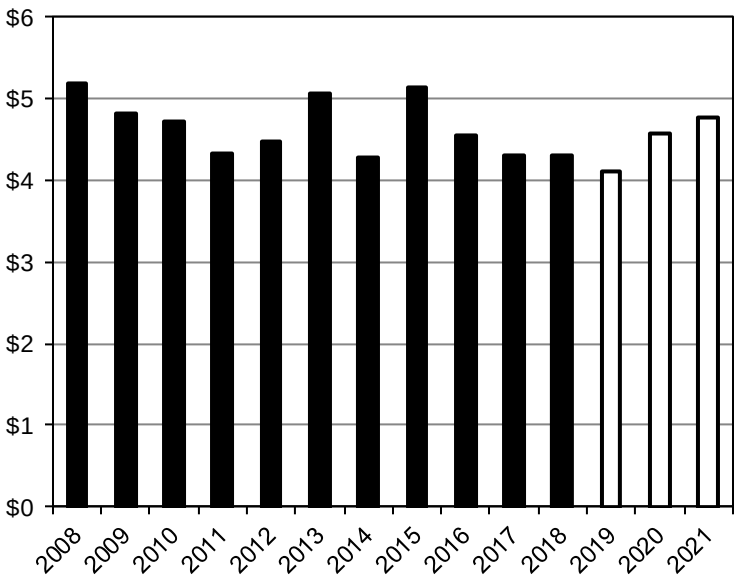
In accordance with 15-51-101, MCA, Montana levies an electrical energy producer's license tax (EET) at a rate of $0.0002 per kilowatt hour (kWh). The tax applies to all electricity generated, manufactured, or produced in Montana for barter, sale, or exchange. Electricity generated for plant use is excluded from the tax. All revenue from the electrical energy producer's license tax is allocated to the general fund.

The 2017 legislature passed Senate Bill 363 which assesses a fee on hydroelectric facilities with nameplate capacity above 1.5 megawatts. The purpose of the fee is to raise funds for the prevention and control of aquatic invasive species in Montana. Facilities that qualify for the fee must pay quarterly an amount equal to $795.76 per megawatt of Federal Energy Regulatory Commission (FERC) authorized nameplate capacity. Proceeds from the fee are deposited entirely into a state special revenue fund.

Table 1 shows actual general fund revenue collections from the electrical energy producer's license tax for FY 2008 through FY 2018, and the forecast for FY 2019 through FY 2021.

Table 1
Electrical Energy Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$5.179	13.47%
A	2009	$4.825	-6.84%
A	2010	$4.713	-2.31%
A	2011	$4.332	-8.08%
A	2012	$4.481	3.44%
A	2013	$5.067	13.06%
A	2014	$4.280	-15.53%
A	2015	$5.133	19.93%
A	2016	$4.536	-11.62%
A	2017	$4.314	-4.91%
A	2018	$4.302	-0.28%
F	**2019**	**$4.097**	**-4.75%**
F	**2020**	**$4.581**	**11.80%**
F	**2021**	**$4.775**	**4.25%**



Montana has total electrical generation capacity of about 6,200 megawatts. The state is a net exporter of electricity, shipping just as much energy out of the state as is consumed domestically. Montana electricity exports leave the state on the Colstrip transmission lines and head west to Washington and Oregon. The four-unit Colstrip power plant is Montana's largest generating facility. The plant's 2,094 MW capacity accounts for about 30 percent of the state total. Coal is the dominant source of electricity generation in Montana (50%-60% of total output), followed by hydropower (34%), and wind (7%). Natural gas and petroleum round out Montana's generation portfolio.

Colstrip is an aging plant, and its two older generators (Units 1 and 2) are scheduled for closure no later than 2022. The remaining lifespan of Colstrip Units 3 and 4 is uncertain. New additions to Montana's electrical grid will come primarily from renewable energy sources, with wind power accounting for the lion's share. Montana's significant wind resources offer potential for further development. There are a few wind projects in the works that are slated to come online within the next couple of years.

Risks and Significant Factors

- The Energy Information Administration (EIA) notes that economic growth is projected to contribute to modest growth in U.S. electricity demand over the forecast period.
- Colstrip units 1 and 2 are slated to be shuttered by 2022. The two older generators account for about 30% of the plant's electrical output. The closure isn't expected to affect tax collections in the current forecast period.
- During the first few months of FY 2019, Colstrip Units 3 and 4 were shut down due to hazardous air pollution levels. This loss in in-state electrical generation will impact FY 2019 tax collections.
- Montana continues to see steady growth in electricity generation from renewable sources, with the major contributions coming from wind resources. The completion of new wind projects is expected to influence tax collections later in the forecast period.

Forecast Methodology

Electrical energy tax revenue is forecast by multiplying projected taxable kWhs by a statutory tax rate. Electrical output subject to taxation is slightly lower than total output because producers are allowed to deduct the amount of electricity used for plant operations. Taxable kWhs are forecast on a quarterly basis and the projections are informed by the statistical properties of historical values. Quarterly observations are summed to arrive at fiscal year totals. New wind generation expected to begin operation in CY 2020 is included in forecast values for FY 2020 and FY 2021.

Estimated annual taxable kWhs are multiplied by the statutory tax rate of $0.0002 per kWh to determine tax revenue.

Table 2 shows actual electricity production and tax revenue for FY 2008 through FY 2018 and forecast values for FY 2019 through FY 2021.

Table 2
Taxable Electricity Production & Tax Revenue
($ millions)

	Fiscal Year	KWh (millions)		Tax Rate		Tax Revenue
A	2008	25,243.209	X	$0.00020516	=	$5.179
A	2009	25,973.435	X	$0.00018575	=	$4.825
A	2010	25,055.002	X	$0.00018812	=	$4.713
A	2011	25,187.250	X	$0.00017201	=	$4.332
A	2012	23,580.943	X	$0.00019004	=	$4.481
A	2013	25,021.868	X	$0.00020249	=	$5.067
A	2014	21,140.289	X	$0.00020245	=	$4.280
A	2015	25,391.141	X	$0.00020215	=	$5.133
A	2016	21,574.209	X	$0.00021027	=	$4.536
A	2017	21,423.438	X	$0.00020135	=	$4.314
A	2018	21,611.998	X	$0.00019904	=	$4.302
F	**2019**	**20,486.136**	**X**	**$0.00020000**	=	**$4.097**
F	**2020**	**22,903.857**	**X**	**$0.00020000**	=	**$4.581**
F	**2021**	**23,473.603**	**X**	**$0.00020000**	=	**$4.775**

Distribution

Pursuant to 15-51-103 and 17-2-124, MCA, the general fund receives 100% of the electrical energy tax.

Data Sources

Historical electricity data are provided by the Department of Revenue.

Wholesale Energy Transaction Tax

2021 Biennium

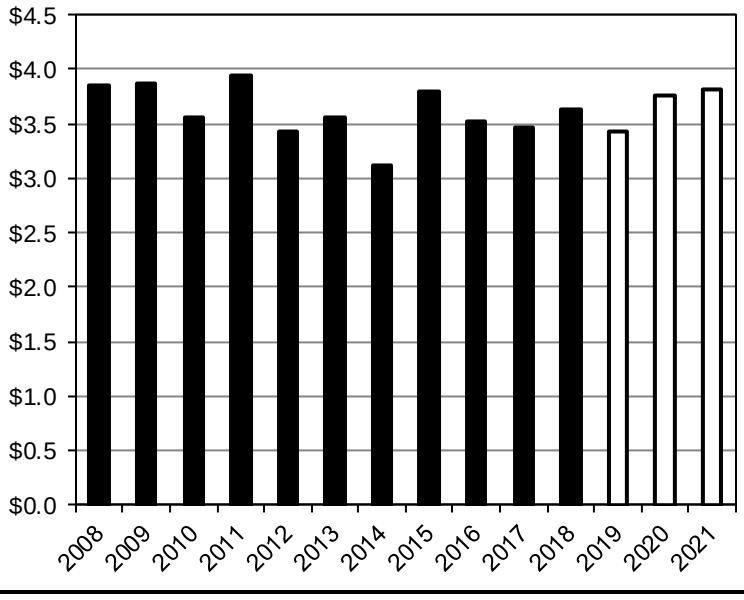
Revenue Description

In accordance with 15-72-104, MCA, Montana levies a wholesale energy transaction (WET) tax at a rate of $0.00015 per kilowatt hour (kWh) on the movement of electricity by a transmission service provider in the state. The movement of electricity includes in-state production delivered out-of-state, in-state production delivered in-state, and out-of-state production delivered in-state. This tax became effective January 1, 2000.

Table 1 shows actual general fund collections from the WET tax for FY 2008 through FY 2018 and the projected revenue for FY 2019 through FY 2021.

Table 1
Wholesale Energy Transaction Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$3.856	5.62%
A 2009	$3.865	0.22%
A 2010	$3.556	-7.99%
A 2011	$3.946	10.95%
A 2012	$3.427	-13.13%
A 2013	$3.558	3.82%
A 2014	$3.112	-12.53%
A 2015	$3.795	21.95%
A 2016	$3.516	-7.36%
A 2017	$3.464	-1.49%
A 2018	$3.628	4.74%
F 2019	**$3.434**	**-5.34%**
F 2020	**$3.761**	**9.52%**
F 2021	**$3.823**	**1.63%**



Risks and Significant Factors

- The Energy Information Administration (EIA) notes that economic growth is projected to contribute to modest growth in U.S. electricity demand over the forecast period.
- The volatility in tax collections from electrical energy transmission in Montana stems from variation in total kilowatt hours (kWhs) delivered out-of-state, which is generally more than the amount of kWhs generated for delivery in-state.
- Electricity generated at the coal-fired, 2,094 megawatt Colstrip power plant accounts for a large portion of out-of-state transmission, so fluctuations in the power output of Colstrip have a noticeable impact on tax collections.
- Colstrip units 1 and 2 are slated to be shuttered by 2022. The two older generators account for about 30% of the plant's electrical output. The closure isn't expected to affect tax collections in the current forecast period.
- During the first few months of FY 2019, Colstrip Units 3 and 4 were shut down due to hazardous air pollution levels. This loss in in-state electrical generation will impact FY 2019 tax collections.
- Montana continues to see steady growth in electricity generation from renewable sources, with the major contributions coming from wind resources. The completion of new wind projects is expected to influence tax collections later in the forecast period.

Forecast Methodology

WET tax revenue is projected using a method similar to the electrical energy tax forecast. Estimated taxable kWhs are multiplied by a statutory tax rate. For in-state generation that is sent out-of-state, the total amount of kWhs generated is reduced by 5% to account for line losses during transmission.

Taxable kWhs for out-of-state delivery and in-state delivery are estimated separately. In-state taxable kWhs are relatively stable over time, and so are forecast forward using a four-period moving average of quarterly data. Out-of-state kWhs are forecast quarterly and the projections are informed by the statistical properties of historical values. Quarterly observations are summed to arrive at fiscal year totals. New wind generation expected to begin operation in CY 2020 is included in forecast values for FY 2020 and FY 2021.

Estimated annual taxable kWhs are multiplied by the statutory tax rate of $0.00015 per kWh to determine tax revenue.

Table 2 shows actual taxable electricity production and realized tax revenue for FY 2008 through FY 2018 and forecasts for FY 2019 through FY 2021.

Table 2
Taxable kWh for Wholesale Energy Tax
($ millions)

Fiscal Year	Taxable KWh (million)		Tax Rate		Tax Revenue
A 2008	23,130.108	x	0.00017	=	$3.856
A 2009	23,225.375	x	0.00017	=	$3.865
A 2010	24,772.237	x	0.00014	=	$3.556
A 2011	24,481.526	x	0.00016	=	$3.946
A 2012	22,519.496	x	0.00015	=	$3.427
A 2013	24,838.693	x	0.00014	=	$3.558
A 2014	20,962.124	x	0.00015	=	$3.112
A 2015	24,878.014	x	0.00015	=	$3.795
A 2016	22,875.105	x	0.00015	=	$3.516
A 2017	23,129.308	x	0.00015	=	$3.464
A 2018	23,558.590	x	0.00015	=	$3.628
F 2019	**22,300.121**	**x**	**0.00015**	**=**	**$3.434**
F 2020	**24,422.294**	**x**	**0.00015**	**=**	**$3.761**
F 2021	**24,820.596**	**x**	**0.00015**	**=**	**$3.823**

Distribution

Pursuant to 15-72-106, MCA, the general fund receives 100% of the WET tax.

Data Sources

Historical electricity data are provided by the Department of Revenue.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

INTEREST REVENUE
SECTION 5

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Interest Rates Introduction

2021 Biennium

Revenue Description

Under Article VIII, Section 13 of the Montana Constitution the Legislature is required to provide for a Unified Investment Program for public funds held by both state and local government. The Montana Board of Investments (BOI) was created and given sole authority to manage the investment of state funds.

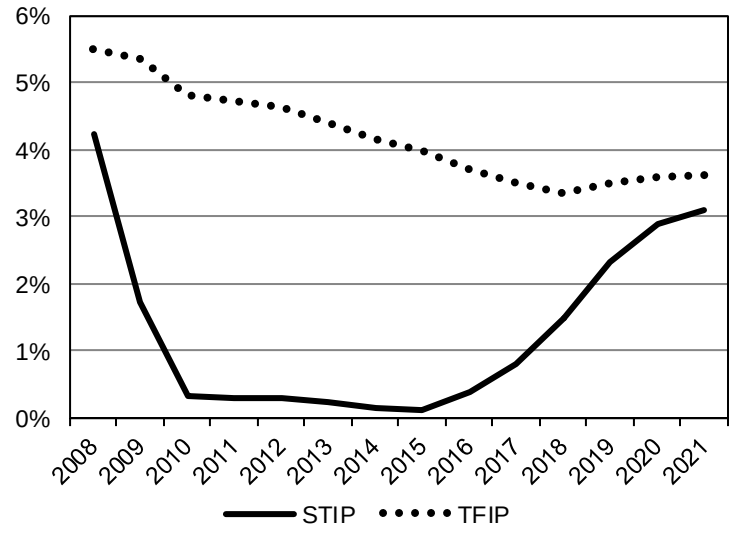
The BOI invests state cash holdings and fund balances in both short-term and long-term assets, with the investment strategy dependent on the specific needs of the account or fund. The BOI invests most agency cash and a small portion of fund balances in the short-term investment pool (STIP). Assets in the STIP have a maximum maturity of two years or less in order to maintain a high level of liquidity. In addition to maintaining liquidity, the STIP is managed in a way that aims to preserve the principle of an investment while at the same time maximizing investment income.

State trust fund balances are invested by the BOI in the Trust Fund Investment Pool (TFIP). The TFIP's portfolio is diversified among three main asset classes: investment grade fixed income assets, high-yield fixed income assets, and core real estate assets. The latter two investment classes are limited to 10% and 8% of the total TFIP portfolio, respectively. The TFIP is managed with the goal of providing a consistent and competitive stream of income to pool participants.

Estimates for the rates of return on the STIP and TFIP are used to forecast interest revenue for the treasury cash account, the common school trust, the various coal trusts, and several other funds. Table 1 shows actual annual percentage interest rates for both STIP and TFIP in FY 2008 through FY 2018, and projections for FY 2019 through FY 2021.

Table 1
Short Term Investment Pool and Trust Fund Investment Pool
Annual Rates of Return

Fiscal Year	STIP	TFIP
A 2008	4.24%	5.49%
A 2009	1.73%	5.35%
A 2010	0.34%	4.83%
A 2011	0.31%	4.73%
A 2012	0.30%	4.63%
A 2013	0.25%	4.39%
A 2014	0.14%	4.15%
A 2015	0.13%	3.96%
A 2016	0.40%	3.71%
A 2017	0.82%	3.49%
A 2018	1.48%	3.35%
F 2019	**2.33%**	**3.50%**
F 2020	**2.88%**	**3.58%**
F 2021	**3.09%**	**3.61%**



Short-term interest rates have been on an upswing since the Federal Reserve shifted course on monetary policy and began raising rates in earnest in 2016 to keep step with a strengthening U.S. economy. This activity follows years of rock-bottom rates from 2010 - 2015 as the nation grappled with the after effects of the Great Recession. The Federal Open Market Committee (FOMC) instituted unprecedented monetary easing in response to rapidly deteriorating economic conditions that began in 2008. The FOMC slashed the target level of the federal funds rate to near zero in 2009 in an effort to stimulate the economy. The federal funds rate is the interest rate banks receive on overnight loans that are used to meet daily reserve requirements. This benchmark short-term interest rate remained in the range of 0% - 0.25% for

seven years until moving up slightly in December 2015. The interest rate on STIP investments generally moves in line with the federal funds rate, and so is sensitive to changes in Federal Reserve monetary policy. Currently, the Federal Reserve is in full policy normalization mode. Economic indicators continue to signal a robust U.S. economy, and if healthy economic data keeps flowing in the FOMC will likely continue to consistently raise its target for the federal funds rate. Over the forecast period the STIP rate of return rises steadily based on expectations of continued economic growth and coinciding action by the FOMC to keep short-term rates at a level that minimizes the risk of an overheated economy.

Long-term rates suffered during the recession as investors piled into safer assets. The combination of shrinking supply and soaring demand bid up safe asset prices, reducing yields. These assets maintained low yields for years following the downturn, which resulted in a steady decline in the overall rate of return on TFIP assets over the past decade. This trend evolved as relatively high yield securities matured and were replaced in the asset pool by lower-yielding securities. The TFIP is primarily invested in medium-to-long-term investment grade assets, which are comprised of securities that are generally viewed as safe from default, such as U.S. government debt. Low yields on U.S. government debt influence yields on investment grade corporate bonds and other similar assets. Long-term yields started to reverse course in 2017 and have maintained an upward trajectory since. Economic growth and rising short-term rates are expected to fuel a continued, gradual ascent of yields on medium-to-long-term assets. The TFIP rate of return is projected to rise slowly throughout the forecast period as more favorable-yielding assets enter the investment pool.

Risks and Significant Factors

- The health of the U.S. economy shapes policy decisions and investor preferences. If indicators such as employment and inflation continue to signal economic strength, continued upward movement of interest rates is expected. Any appearance of recession warning signs has the potential to quickly alter the forward path of both short-term and long-term interest rates.
- The FOMC's interpretation of economic conditions will determine their policy approach regarding target levels of the federal funds rate. Both forward guidance by the Fed and actual rate adjustments will influence STIP interest earnings over the forecast period.
- Changes in the supply and demand of safe assets will be linked to the realized rate of return for the TFIP. Both domestic and global factors will influence the safe asset market in the years to come. Risk appetites of private investors do and will continue to play a large role in shaping the demand for these investment grade securities.
- Stock market volatility can affect both short-term and long-term interest rates. Heightened volatility can shift investment demand away from equities and toward safer securities.

Forecast Methodology

Short Term Investment Pool

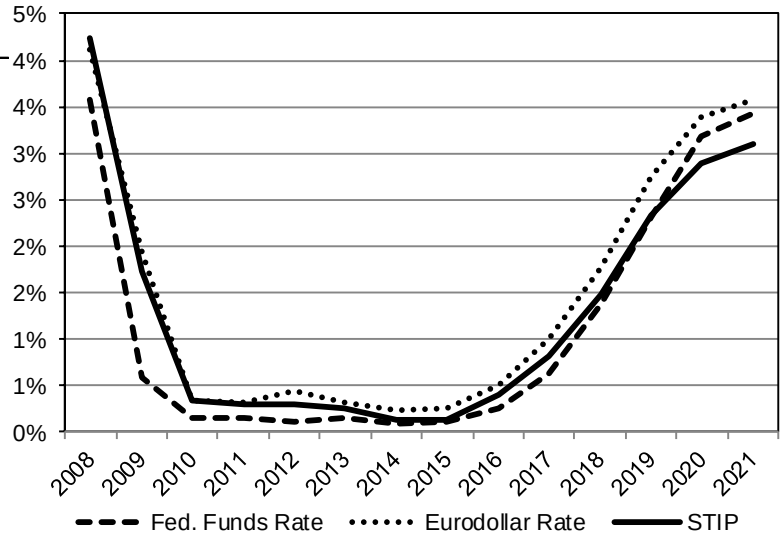
STIP interest rates are modeled against the rate on Eurodollar deposits rather than the federal funds rate. The Eurodollar rate is slightly higher than the federal funds rate and better reflects returns on the types of assets held in the STIP that generally carry a higher yield due to risk and term premiums. A large portion of STIP holdings are in short-term securities other than U.S. treasury or agency securities. U.S. government and agency debt are more closely linked to the federal funds rate.

Quarterly observations of annualized STIP rates are modeled using an autoregressive integrated moving average (ARIMA) model that includes the Eurodollar rate and a one-period lag of the STIP rate as inputs. The Eurodollar rate allows the model to capture information about movement in short-term interest rates associated with safe, highly liquid, short-term securities. To account for lingering autocorrelation in the STIP yield series, the model contains a lag component so that important information contained in past values of STIP yields is included. The model predicts that STIP rates will rise in each year of the forecast period but at a decreasing rate.

Table 2 shows actual values for the annual STIP rate, federal funds rate, and the Eurodollar rate for FY 2008 through FY 2018 and forecast values for FY 2019 through FY 2021.

Table 2
Short-Term Interest Rates
FY 2008 - FY 2021

Fiscal Year	Fed. Funds Rate	Eurodollar Rate	STIP
A 2008	3.57%	4.12%	4.24%
A 2009	0.58%	1.93%	1.73%
A 2010	0.15%	0.34%	0.34%
A 2011	0.16%	0.31%	0.31%
A 2012	0.10%	0.44%	0.30%
A 2013	0.14%	0.33%	0.25%
A 2014	0.08%	0.24%	0.14%
A 2015	0.11%	0.25%	0.13%
A 2016	0.26%	0.50%	0.40%
A 2017	0.62%	0.99%	0.82%
A 2018	1.39%	1.76%	1.48%
F 2019	**2.31%**	**2.75%**	**2.33%**
F 2020	**3.18%**	**3.38%**	**2.88%**
F 2021	**3.42%**	**3.57%**	**3.09%**

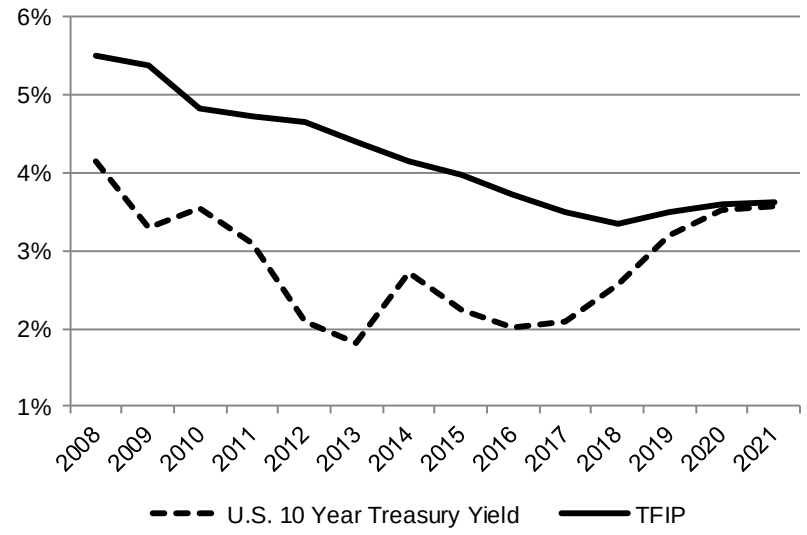


Trust Fund Investment Pool

TFIP rates of return are modeled using the same methodology (ARIMA) employed for the STIP forecast. U.S. 10-year treasury yields and a one-period lag of the TFIP rate are the explanatory variables included in the model. TFIP investments consist of medium-to-long-term securities. Inclusion of 10-year U.S. treasury yields helps the model adjust to changes in rates offered on longer term secure assets as they fluctuate with prevailing economic conditions. The one-period lag of the TFIP rate is critical to ensuring the model predictions exist in a reasonable range given historical behavior of TFIP rates. The cohort nature of the TFIP assets means it is slower to respond to changing benchmark interest rates, because enough old assets need to move out of the pool before the rate on newer assets begins to influence the overall TFIP return. The lag component of the model helps account for this phenomenon. TFIP returns rise from FY 2019 – FY 2021.

Table 3
U.S. Treasury Yields and TFIP Rates of Return
FY 2008 - FY 2021

	Fiscal Year	U.S. 10 Year Treasury Yield	TFIP
A	2008	4.14%	5.49%
A	2009	3.29%	5.35%
A	2010	3.55%	4.83%
A	2011	3.08%	4.73%
A	2012	2.08%	4.63%
A	2013	1.82%	4.39%
A	2014	2.71%	4.15%
A	2015	2.23%	3.96%
A	2016	2.02%	3.71%
A	2017	2.10%	3.49%
A	2018	2.57%	3.35%
F	**2019**	**3.19%**	**3.50%**
F	**2020**	**3.52%**	**3.58%**
F	**2021**	**3.57%**	**3.61%**



Data Sources

The State Street Bank and BOI provide monthly reports on STIP and TFIP investment earnings and balances. Federal funds rate data are from IHS Markit.

Coal Trust Interest Earnings

2021 Biennium

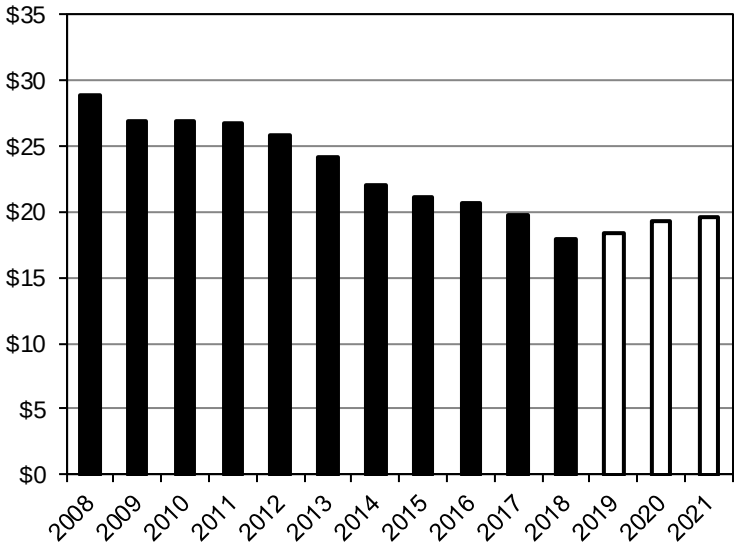
Revenue Description

Article IX, Section 5, of the Montana Constitution established the coal severance tax trust fund. The principle of this trust fund is inviolate unless acted upon by a three-fourths vote of the legislature. Under current law, 50% of the severance tax revenue from coal production in Montana is deposited into the trust fund and is dispersed among various sub-trusts. The individual trust funds are described in more detail in the *Introduction to the Coal Trust Fund* section. The largest fund within the coal tax trust fund is the coal tax permanent fund (permanent fund). Interest earnings from the permanent fund are allocated to the general fund.

Table 1 shows actual interest earnings deposited into the general fund from the coal tax trust fund from FY 2008 through FY 2018 and the forecast amounts for FY 2019 through FY 2021. The amounts in Table 1 include interest earnings from the permanent fund as well as the coal tax bond fund (which has as its balance sufficient funds to meet all principle and interest payments on coal severance tax bonds in a fiscal year), and other income minus expenses.

Table 1
Coal Trust Interest Earnings
($ millions)

	Year	Fund	Change
A	2008	$28.855	-10.76%
A	2009	$26.958	-6.57%
A	2010	$26.914	-0.16%
A	2011	$26.783	-0.49%
A	2012	$25.840	-3.52%
A	2013	$24.153	-6.53%
A	2014	$21.996	-8.93%
A	2015	$21.168	-3.76%
A	2016	$20.722	-2.11%
A	2017	$19.799	-4.45%
A	2018	$17.938	-9.40%
F	**2019**	**$18.332**	**2.20%**
F	**2020**	**$19.301**	**5.28%**
F	**2021**	**$19.515**	**1.11%**



Since FY 2007, permanent fund interest earnings deposited to the general fund have decreased every year. Declining interest earnings over the historical period reflect the impact of the Great Recession on financial markets. Bond yields dropped during the economic downturn and have remained low in the post-recessionary period. As a result, the rate of return of the trust fund investment pool (TFIP) – the primary investment pool of the permanent fund – fell as higher-yield bonds matured and lower-yield bonds took their place. These relatively low-yield bonds are expected to have a waning impact on TFIP returns moving forward due to rising bond yields stemming from a strengthening U.S. economy. New securities purchases are projected to gradually lift the overall rate of return for the TFIP over the forecast period. This is expected to contribute to increasing interest income from the coal permanent fund's TFIP investments.

The permanent fund currently does not receive any distribution from coal severance tax revenue. Of the money deposited into the coal tax trust fund, 75% is allocated to the school facilities fund (established by Senate Bill 260 during the 2017 legislative session), and 25% is allocated to the big sky economic development fund. Once the school facilities fund balance reaches $200 million, its allocation is routed back to the permanent fund. This will not occur within the current FY 2019 – FY 2021 forecast window.

The Montana Board of Investments (BOI) distributes permanent fund dollars across three main investment pools: the TFIP, the short term investment pool (STIP), and loans. The permanent fund balance is generally invested 60%-80% in the TFIP, 20%-40% in loans, and 2%-3% in the STIP. Loan balances and TFIP balances tend to move in the opposite direction of one another. The TFIP balance is used to fund loan issuances, and as loans are paid back, the money is invested in the TFIP if it is not recycled back into more loans. Looking forward, both loan balances and TFIP balances are expected to remain relatively stable. STIP balances are projected to fluctuate around a stable mean. Overall, coal trust interest earnings are predicted to grow in each year of the forecast period as interest rates continue to rise.

Risks and Significant Factors

- Actions by the Federal Open Market Committee (FOMC) regarding the target federal funds rate will affect short-term investment pool (STIP) earnings from the permanent fund. Since 2016, the FOMC has instituted six rate hikes, increasing the target range for the federal funds rate from 0.50 - 0.75 to 2.00 - 2.25. The FOMC is expected to proceed with further rate increases as long as the U.S. economy continues to grow. Income from STIP investments is a small portion of permanent fund earnings, so increases in the STIP rate of return will have little impact on total revenue.
- Interest earnings from the permanent fund are largely driven by the rate of return on long-term investments held in the fund. National economic health is a significant determinant of long-term interest rates. Sluggish economic growth since the Great Recession kept long-term interest rates muted for an extended period. This resulted in a large collection of relatively low-yield investments in the permanent fund. Long-term rates are ticking upward and are expected to continue to do so moving forward.

Forecast Methodology

There are three main steps taken to determine total interest income deposited to the general fund from the coal tax trust fund. These steps are detailed below and include estimating future balances and interest rates for each of the three investment pools (TFIP, STIP, and loans), determining annual interest income from each pool, adding in estimated income from other sources, and subtracting out expenses.

Step 1. Forecast balances and interest rates for TFIP investments, STIP investments, and loans.

TFIP: Without any distribution from coal severance tax, the balance of TFIP investments is projected to stay stable through FY 2021. The interest rate on TFIP investments is forecast to rise slightly over the forecast period as the rate on new securities purchases exceeds the rate on maturing securities.

STIP: The STIP investment balance is estimated to remain stable from FY 2019 - FY 2021. Interest rates on STIP investments are projected to rise through FY 2021 as the Federal Reserve pursues a path of monetary policy normalization.

Loans: Like TFIP and STIP balances, permanent fund loan balances are projected to remain flat. Loan interest rates are projected to rise slowly throughout the forecast period.

Step 2. Forecast interest rates for each investment pool are applied to their respective balances to determine annual income. TFIP income, STIP income, and loan income are summed for each year in the forecast period to determine total permanent fund interest income.

Step 3. Other income and administrative expenses are then estimated and added to total interest income to determine total coal trust revenue.

Table 2 shows the annual average balance, rate of return, and income for each investment category for FY 2016 through FY 2018. Forecast values are included for FY 2019 through FY 2021.

Table 2
Coal Trust Interest Income
($ millions)

Loan Income				TFIP Income			
Fiscal Year	Balance	Interest Rate	Income	Fiscal Year	Balance	Interest Rate	Income
A 2016	$118.063	3.79%	$4.480	A 2016	$366.401	3.87%	$14.171
A 2017	$131.524	3.56%	$4.679	A 2017	$345.832	3.71%	$12.838
A 2018	$141.877	3.31%	$4.703	A 2018	$354.169	3.51%	$12.417
F 2019	**$144.653**	**3.65%**	**$5.282**	**F 2019**	**$353.957**	**3.51%**	**$12.427**
F 2020	**$145.215**	**4.10%**	**$5.960**	**F 2020**	**$353.927**	**3.58%**	**$12.668**
F 2021	**$145.251**	**4.14%**	**$6.013**	**F 2021**	**$353.922**	**3.61%**	**$12.778**

STIP Income				Trust Fund Total			
Fiscal Year	Balance	Interest Rate	Income	Fiscal Year	Balance	Interest Rate	Income
A 2016	$13.084	0.40%	$0.052	A 2016	$497.548	3.76%	$18.703
A 2017	$24.067	0.84%	$0.202	A 2017	$501.423	3.53%	$17.720
A 2018	$12.499	1.45%	$0.182	A 2018	$508.545	3.40%	$17.302
F 2019	**$10.448**	**2.32%**	**$0.242**	**F 2019**	**$509.059**	**3.53%**	**$17.952**
F 2020	**$10.003**	**2.88%**	**$0.288**	**F 2020**	**$509.145**	**3.72%**	**$18.916**
F 2021	**$9.976**	**3.09%**	**$0.308**	**F 2021**	**$509.149**	**3.75%**	**$19.099**

Table 3 shows actual administrative expenses, other income, and interest income for FY 2014 through FY 2018 and forecast amounts for FY 2019 through FY 2021. The last column shows the total revenue from the coal severance tax trust fund that is deposited into the general fund.

Table 3
Coal Trust Total General Fund Revenue
($ millions)

Fiscal Year	Interest Income		Capital Gain		Other Income		Admin. Expense		Total Revenue
A 2014	$22.542	+	$0.000	+	($0.116)	+	($0.431)	=	$21.996
A 2015	$20.676	+	$0.000	+	$0.922	+	($0.430)	=	$21.168
A 2016	$18.703	+	$0.000	+	$2.555	+	($0.535)	=	$20.722
A 2017	$17.720	+	$0.000	+	$2.460	+	($0.380)	=	$19.799
A 2018	$17.302	+	$0.000	+	$0.942	+	($0.306)	=	$17.938
F 2019	**$17.952**	+	**$0.000**	+	**$0.793**	+	**($0.413)**	=	**$18.332**
F 2020	**$18.916**	+	**$0.000**	+	**$0.793**	+	**($0.408)**	=	**$19.301**
F 2021	**$19.099**	+	**$0.000**	+	**$0.793**	+	**($0.377)**	=	**$19.515**

Occasionally, permanent fund TFIP shares are sold. An example of this is the shares sold to finance the Big Sky Economic Development Fund transfer in FY 2005. About 186,000 shares were sold for a capital gain of $0.86 million. No capital gains are forecast for FY 2019 through FY 2021.

Other income is derived primarily from the following two sources: 1) interest earned on a bond fund that provides debt security for coal severance tax bonds; and 2) interest earned on the short-term investment of the coal tax income fund, which comes from the deposit of interest earnings from both the permanent fund and the bond fund into the coal tax income fund. Although the balance of the coal tax income fund is swept monthly into the general fund, it is invested in STIP during the interim. The income from this investment is returned to the income fund before being deposited into the general fund.

Data Sources

The State Street Bank and BOI provide monthly reports on the trust fund balances and income. Fiscal year end revenues and administrative expenses were obtained from SABHRS.

Treasury Cash Account Interest

2021 Biennium

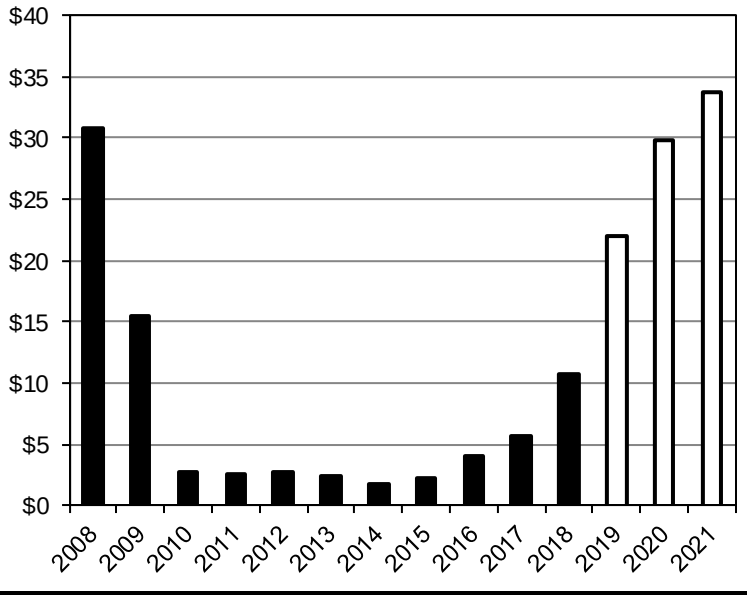
Revenue Description

Section 17-6-202(2), MCA, establishes the treasury cash account (TCA). According to the law, securities and cash in all treasury fund accounts that are not designated to specific sources are to be pooled in the TCA to be managed by the Montana Board of Investments (BOI). Included in the TCA are general fund cash balances. The interest earnings from the investment of TCA funds are deposited into the general fund.

Table 1 shows general fund revenue from TCA interest earnings for FY 2008 though FY 2018 and projected revenues for FY 2019 through FY 2021.

Table 1
Treasury Cash Account Interest
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$30.783	-9.33%
A	2009	$15.507	-49.62%
A	2010	$2.692	-82.64%
A	2011	$2.519	-6.44%
A	2012	$2.653	5.31%
A	2013	$2.465	-7.09%
A	2014	$1.756	-28.74%
A	2015	$2.164	23.24%
A	2016	$3.961	83.01%
A	2017	$5.692	43.70%
A	2018	$10.805	89.84%
F	**2019**	**$21.955**	**103.19%**
F	**2020**	**$29.895**	**36.16%**
F	**2021**	**$33.716**	**12.78%**



General fund revenue from TCA interest earnings is subject to a high degree of volatility due to the short-term nature of TCA investments. The TCA primarily features short-term investments because the account needs to maintain liquidity to ensure the availability of funds for expenditure. The TCA's relatively high exposure to short-term interest rate risk has caused dramatic changes in the account's earnings over the past decade.

Between FY 2008 and FY 2018, TCA revenue ranged from a high of $30.7 million in FY 2008 to a low of $1.7 million in FY 2014. Relatively high short-term interest rates in FY 2007 and FY 2008 supported strong earnings in those years. The onset of the Great Recession in FY 2008 sapped economic activity and created turmoil in the financial sector. Interest rates plummeted, with short-term benchmark rates such as the federal funds rate and the London Interbank Offered Rate (LIBOR) reaching levels near zero in FY 2009. Rates of return on the BOI's short-term investment pool (STIP) closely track the aforementioned benchmark interest rates and so experienced a similar rapid decline. Short-term interest rates remained near zero for a considerable time following the recession, resulting in historically low rates of return for STIP investments.

The TCA is invested heavily in the STIP, so the pool's rate of return has a large influence on TCA revenue. Advances in benchmark short-term interest rates in the last couple of years have boosted STIP rates of return. The Federal Reserve has raised its target range for the federal fund rate six times since the end of 2016. The central bank is expected to pursue further rate increases as it pursues policy normalization in the face of strengthening economic activity. There is an approximate 45-day lag between a change in market short-term interest rates and a change in the STIP interest rate.

Along with STIP, money in the TCA is also invested to a lesser degree in short/medium-term bonds. These bond investments are constrained to securities with maturities of three years or less for liquidity purposes. Interest rates on TCA bond investments also dropped significantly in the wake of the recession. There is a restriction on the total amount of bonds that can be purchased for investment of TCA funds. According to the TCA investment policy statement, bond purchases cannot exceed one-half of the projected general fund ending balance for a fiscal year. Sales are not required if total bond holdings exceed this threshold, but further purchases are not permitted. This restriction has played a role in the steady decline of TCA bond balances over the past few years. In addition, there have been favorable returns on TCA STIP investments, reducing the attractiveness of longer-term securities. Significant bond purchases are not expected moving forward due to projections of continually rising short-term rates.

Up until FY 2017, TCA investments included a cash balance that was held in an overnight bank sweep account. Money invested in this manner earned minimal interest, but was highly liquid. The BOI did away with the cash sweep account investment strategy at the start of FY 2017, instead opting to hold short-term treasury securities that offer a higher rate of return, yet still maintain the necessary level of liquidity. Because these short-term treasury holdings provided emergency liquidity, the amount of purchases is not constrained by the projected level of the general fund balance.

Risks and Significant Factors

- The STIP rate of return is tied closely to benchmark short-term market interest rates such as the federal funds rate and the LIBOR. Monetary policy aimed at changing these rates influences TCA revenue because of the account's high exposure to STIP investments.
- The balance of funds in the TCA has an impact on interest earnings generated from the account. Lower balances tend to correlate with lower earnings and vice versa. This is not always the case if interest rates are high (low) enough to offset lower (higher) asset balances. Swings in the general fund cash balance during the forecast period will heavily influence the balance of funds in the TCA available for investment.

Forecast Methodology

The amount of total TCA interest income deposited to the general fund is determined in three main steps. Details for each step of the estimation process are given below.

Step 1. Estimate the balance of funds in each investment pool within the TCA and the respective rate of return.

STIP: The balance of STIP investments is projected to rise steadily from FY 2019 through FY 2021. Interest rates on STIP assets are estimated to increase in each year of the forecast period due to improving economic conditions and the response by major monetary institutions to increase target levels of key benchmark short-term interest rates.

Bonds: The TCA bond balance is forecast to remain flat in FY 2019 and FY 2020 with a slight uptick in FY 2021. Bond yields are projected to rise steadily throughout the forecast period.

Step 2. Estimated interest rates for each investment pool in the TCA are applied to their respective balances to determine annual interest income from each asset class. STIP income and bond income are added together to come up with total TCA gross investment income.

Step 3. Estimated expenses are subtracted from gross income and the resulting net income represents the amount to be transferred to the general fund.

Table 2 shows the average annual balance, rate of return, and interest income for STIP assets, bond assets, and the account total for FY 2014 to FY 2018, along with forecast amounts for FY 2019 through FY 2021.

Table 2
TCA Balances & Rates of Return by Investment Type
($ millions)

Fiscal Year	STIP Balance	STIP Interest Rate	STIP Income	Medium Term Bonds Balance	Medium Term Bonds Interest Rate	Medium Term Bonds Income	TCA Total Balance	TCA Total Interest Rate	TCA Total Income
A 2014	$934.73	0.14%	$1.32	$44.72	0.52%	$0.23	$979.44	0.16%	$1.55
A 2015	$820.64	0.13%	$1.09	$116.36	0.74%	$0.86	$937.00	0.21%	$1.95
A 2016	$667.74	0.40%	$2.64	$139.49	0.82%	$1.15	$807.23	0.47%	$3.78
A 2017	$568.49	0.80%	$4.55	$125.32	0.93%	$1.16	$693.82	0.82%	$5.71
A 2018	$664.37	1.50%	$9.94	$72.26	1.29%	$0.94	$736.63	1.48%	$10.88
F 2019	**$883.40**	**2.37%**	**$20.98**	**$50.00**	**2.12%**	**$1.06**	**$933.40**	**2.36%**	**$22.04**
F 2020	**$987.31**	**2.89%**	**$28.49**	**$50.00**	**2.97%**	**$1.48**	**$1,037.31**	**2.89%**	**$29.98**
F 2021	**$1,009.78**	**3.09%**	**$31.19**	**$75.00**	**3.48%**	**$2.61**	**$1,084.78**	**3.12%**	**$33.80**

Table 3 shows the administrative expenses associated with the TCA for FY 2014 to FY 2018 and estimated expenses for FY 2019 through FY 2021. Future expenses are assumed to be the same as the past year's expenses.

Table 3
Net TCA Income
($ millions)

Fiscal Year	Gross Income		Expenses		Net Income
A 2014	$1.78	+	($0.02)	=	$1.76
A 2015	$2.21	+	($0.04)	=	$2.16
A 2016	$4.01	+	($0.05)	=	$3.96
A 2017	$5.73	+	($0.04)	=	$5.69
A 2018	$10.89	+	($0.08)	=	$10.81
F 2019	**$22.04**	+	**($0.08)**	=	**$21.96**
F 2020	**$29.98**	+	**($0.08)**	=	**$29.89**
F 2021	**$33.80**	+	**($0.08)**	=	**$33.72**

Data Sources

Data were obtained from SABHRS, the State Street Bank, the BOI, and the Department of Administration.

GOVERNOR
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STATE OF MONTANA

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SECTION 6

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Liquor Excise and License Tax

2021 Biennium

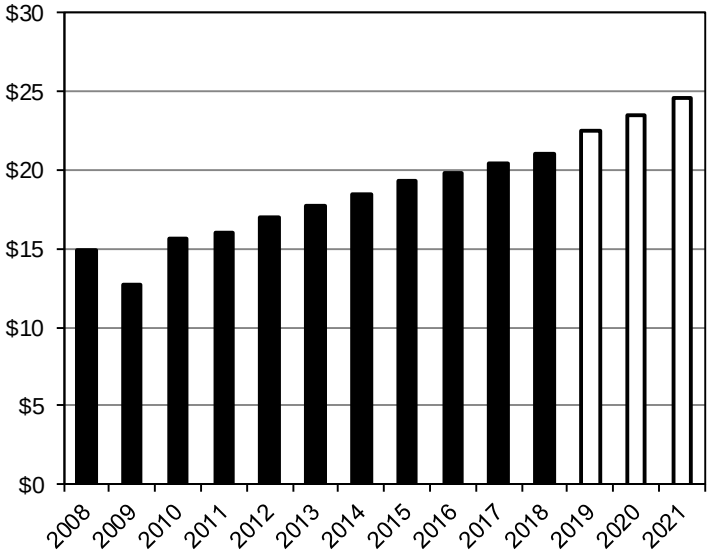
Revenue Description

According to 16-1-401 and 16-1-404, MCA, the Department of Revenue is directed to collect an ***excise*** tax of 16% and a ***license*** tax of 10% of the retail selling price on all liquor sold and delivered in the state and manufactured by distillers producing 200,000 or more proof gallons of alcohol annually. Both the excise and license tax rates are smaller for distillers that produce less than 200,000 proof gallons of alcohol. Currently, the majority of the distilled spirits sold in the state of Montana are acquired from vendors that produce more than 200,000 proof gallons annually.

Section 16-1-404, MCA, states that 65.5% of the liquor ***license*** tax is deposited to the Department of Public Health and Human Services (DPHHS) to fund treatment, rehabilitation, and prevention of alcoholism and chemical dependency. Three Indian tribes have an agreement with the state and a portion of the remaining revenue from both the excise and license tax is shared with tribes that have a revenue sharing agreement with the state. The remaining revenue, 34.5%, is deposited to the general fund.

Table 1
Liquor Excise and License Taxes
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$14.925	6.75%
A	2009	$12.651	-15.24%
A	2010	$15.626	23.52%
A	2011	$15.989	2.33%
A	2012	$17.037	6.55%
A	2013	$17.724	4.03%
A	2014	$18.418	3.92%
A	2015	$19.257	4.56%
A	2016	$19.776	2.69%
A	2017	$20.366	2.99%
A	2018	$21.007	3.14%
F	**2019**	**$22.468**	**6.96%**
F	**2020**	**$23.480**	**4.51%**
F	**2021**	**$24.537**	**4.50%**



Risk and Significant Factors

- Liquor bottles sold increased an average of 3.33% between FY 2014 and FY 2018.
- Cost per liquor bottle sold experienced an average annual increase of 0.54% between FY 2014 and FY 2018.
- The Blackfeet, Flathead, Fort Belknap, and Fort Peck Reservations have a revenue sharing agreement with the state. The revenue sharing agreement distributes revenues to the tribes based on the per capita general fund revenue multiplied by the number of enrolled tribal members. Tribal revenue is estimated to be 1.88% of the gross liquor revenue for FY 2019 through FY 2021.
- SB 5, passed during the 2017 Special Session, eliminated the lottery system that was in place for liquor, beer, and restaurant licenses, and replaced it with a competitive bidding process. Licenses become available for the bidding process for several reasons, including as a result of increased quotas, closure of a business, or lapse in payment of license fees. Revenue from the new auction system is included in the Liquor Profits analysis.

Forecast Methodology

The general fund share of the liquor excise and license tax is prepared in five steps:

Step 1. Calculate gross sales.

Step 2. Calculate retail selling value.

Step 3. Calculate gross liquor excise and license tax collections.

Step 4. Calculate tribal portion of revenue.

Step 5. Calculate liquor excise and license tax general fund revenue.

Distribution

Table 2 shows liquor license tax is first distributed to DPHHS and then revenue from the liquor excise tax is added. Finally, tribal revenues are subtracted to obtain general fund revenue.

Table 2
Liquor Excise and License Tax Revenue Allocation

Description	Actual FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021
Liquor License Tax	$11,080,745	$11,865,410	$12,421,727	$12,992,356
Less DPHHS Share (65.5%)	$7,257,888	$7,771,843	$8,136,231	$8,509,993
	$3,822,857	$4,093,566	$4,285,496	$4,482,363
Liquor Excise Tax	$17,725,391	$18,953,732	$19,800,717	$20,687,473
Non DPHHS Liquor Tax Revenue	$21,548,248	$23,047,298	$24,086,213	$25,169,836
Less Tribal Share (1.88%)	$541,637	$579,488	$605,874	$633,277
General Fund Revenue	**$21,006,610**	**$22,467,810**	**$23,480,339**	**$24,536,560**

Data Sources

Data is from the Department of Revenue monthly cost of sales report, the Department of Revenue Liquor Distribution annual financial schedules, and SABHRS. IHS Markit provided historical and projected Montana population data.

Liquor Profits

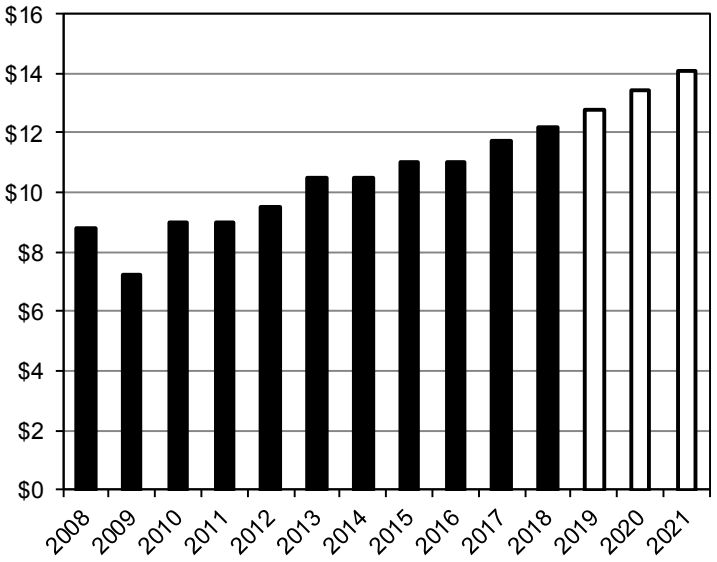
2021 Biennium

Revenue Description

Title 16, chapters 1 through 6, MCA, directs the Department of Revenue to administer liquor laws relating to alcoholic beverage control, sale, distribution, and the licensing of alcoholic beverage manufacturers, wholesalers, and retailers. Agency franchisees purchase liquor products from the state liquor warehouse. A 40.5% markup on the state's base costs covers the operating costs of the state liquor system and provides a net profit. All liquor profit net revenue is transferred to the general fund at fiscal year end.

Table 1
Liquor Profits
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$8.775	7.01%
A 2009	$7.250	-17.38%
A 2010	$9.000	24.14%
A 2011	$9.000	0.00%
A 2012	$9.500	5.56%
A 2013	$10.500	10.53%
A 2014	$10.500	0.00%
A 2015	$11.000	4.76%
A 2016	$11.000	0.00%
A 2017	$11.750	6.82%
A 2018	$12.200	3.83%
F 2019	**$12.800**	**4.92%**
F 2020	**$13.400**	**4.69%**
F 2021	**$14.100**	**5.22%**



The state privatized liquor retailing operations in FY 1996. The decreased general fund transfer in FY 2009 is attributable to a one-time transfer of $1.75 million for renovation of the State Liquor Warehouse, approved in HB 5 by the 2009 Legislature. The 2015 Legislature passed SB 193, which increased the state markup from 40.0% to 40.5%, and created a new methodology for calculating agency liquor store discount rates. The 2017 Legislature passed SB 5, which eliminated the lottery system that was in place for liquor, beer, and restaurant licenses, and replaced it with a competitive bidding process. Licenses become available for the bidding process for several reasons, including increases in license quotas, the closure of a business, or a lapse in payment of license fees. Revenue attributable to the new auction system is estimated to be $600,000 in FY 2019, $800,000 in FY 2020, and $1,000,000 in FY 2021.

Risks and Significant Factors

- Liquor gross sales have experienced an average annual increase of 5.94% between FY 2004 and FY 2014.
- Sale commissions and discounts were historically paid to store owners by the state of Montana in the form of a cost reduction for purchases. Following privatization in 1996, commission rates were determined by a bidding process for stores in communities with populations over 3,000, and a proposal process for stores in communities with a population under 3,000. Commission rates were reviewed and adjusted up to average every three years.
- Traditional discount and commission rates were eliminated with the passage of SB 193 (2015 Session). The new discount rate is based on the agency liquor store's prior calendar year liquor purchases. The new rate for an agency liquor store will fall into one of ten commissions ranging from 16% for stores that purchased less

than $250,000, to 12.15% for those stores that purchased more than $7 million. The purchase thresholds will be adjusted annually based on the consumer price index for the prior calendar year.

Forecast Methodology

The liquor profit transfer to the general fund is based on the net income from liquor operations for the fiscal year.

Step 1. Net income from liquor operations is calculated as gross liquor sales less the cost of goods sold, liquor taxes (liquor excise tax and liquor license tax), combined commissions/discounts, and liquor operating expenses.

Step 2. The calculations for gross liquor sales, cost of goods sold, and liquor taxes are ascertained through the process of forecasting Liquor Excise and License Tax general fund revenue.

Table 2 summarizes the calculations of commissions, discounts, operating expenses, and profits.

Distributions

Table 2 shows the actual liquor profit transfer for FY 2018 and projections for FY 2019 through FY 2021. Gross liquor sales are added to a small amount of other revenue. The profits are then adjusted for the changes to the net assets of the Liquor Control Division and the remainder is transferred to the general fund.

Table 2
Distribution of Forecast Liquor Profits
($ millions)

Fiscal Year	Gross Sales		License Fees/Other Revenue		Discounts		Cost of Goods Sold		Liquor Taxes		Operating Expenses		Profit		Change in Net Assets		Transfer to Genral Fund	Percent Change
A 2018	$143.966	+	$1.020	-	$18.811	-	$81.706	-	$28.694	-	$3.009	▶	$12.766	-	$0.566	=	$12.200	3.83%
F 2019	**$148.724**	**+**	**$1.744**	**-**	**$19.249**	**-**	**$84.392**	**-**	**$30.440**	**-**	**$3.115**	**▶**	**$13.273**	**-**	**$0.463**	**=**	**$12.800**	**4.92%**
F 2020	**$155.167**	**+**	**$1.918**	**-**	**$20.083**	**-**	**$88.048**	**-**	**$31.844**	**-**	**$3.224**	**▶**	**$13.887**	**-**	**$0.478**	**=**	**$13.400**	**4.69%**
F 2021	**$161.892**	**+**	**$2.095**	**-**	**$20.953**	**-**	**$91.864**	**-**	**$33.153**	**-**	**$3.337**	**▶**	**$14.681**	**-**	**$0.499**	**=**	**$14.100**	**5.22%**

Data Sources

Gross liquor sales data and other related data comes from the Department of Revenue Liquor Services Division Annual Financial Report. Other data is from SABHRS and IBARS.

Beer Tax

2021 Biennium

Revenue Description

According to 16-1-406, MCA, the Department of Revenue is directed to collect a tax on each barrel (31 gallons) of beer sold in Montana by a wholesaler at the following rates:

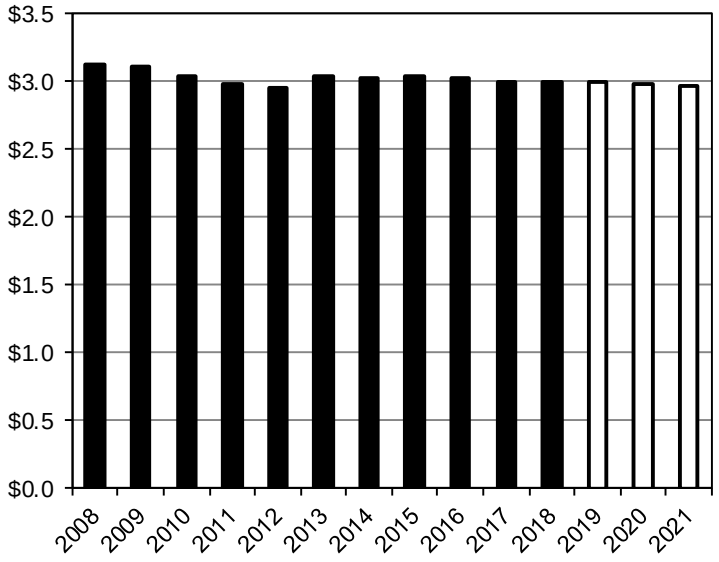
Barrels Produced by a Brewer	Tax Rate Per Barrel
Less than or equal to 5,000	$1.30
5,001 to 10,000	$2.30
Greater than 10,000	$4.30

HB 541, from the 2017 session, increased the tax from $3.30 to $4.30 per barrel for brewers producing more than 10,000 barrels of beer.

From total beer tax revenue, 76.74% is distributed to the state general fund and 23.26% is distributed to the Department of Public Health and Human Services (DPHHS) to fund alcohol treatment programs. A small portion of the beer tax revenue allocated to the general fund (approximately 2.0%) is remitted to the Blackfeet, Flathead, Fort Peck, and Fort Belknap Reservations in compliance with revenue sharing agreements with the tribes.

Table 1
Beer Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$3.124	2.97%
A	2009	$3.115	-0.30%
A	2010	$3.032	-2.66%
A	2011	$2.982	-1.65%
A	2012	$2.956	-0.86%
A	2013	$3.033	2.59%
A	2014	$3.023	-0.34%
A	2015	$3.034	0.39%
A	2016	$3.027	-0.23%
A	2017	$2.998	-0.98%
A	2018	$3.002	0.16%
F	**2019**	**$2.994**	**-0.28%**
F	**2020**	**$2.984**	**-0.34%**
F	**2021**	**$2.972**	**-0.39%**



Risks and Significant Factors

- Per capita beer consumption decreased at an annual average of -0.51% between FY 2014 and FY 2018.
- The average tax rate per barrel decreased at an annual average of -0.65% between FY 2014 and FY 2018, due to an increased proportion of total barrel production by brewers producing less than 10,001 barrels annually, which are taxed at a lower rate.
- Montana population age 20 and over experienced an average annual increase of 1.1% between FY 2014 and FY 2018.

- Montana population age 20 and over was used for this forecast because, according to a statistical analysis, this demographic tracked total beer consumption over time better than changes in other age demographics such as total population, the population between 30 and 60 years old, etc.
- Tribal revenue is estimated to be 1.97% of the non DPHHS beer revenue for FY 2019 through FY 2021.

Forecast Methodology

The general fund share of the beer tax is prepared in three steps:

Step 1. Calculate per capita consumption of beer.

Step 2. Total revenue is projected by multiplying the number of barrels sold by the average tax rate per barrel.

Step 3. Total revenue is allocated to the general fund, DPHHS, and the tribes, per the revenue sharing agreements.

Distribution

Table 2 shows the actual allocation for FY 2018 and the projected allocation of beer tax revenue to the general fund, DPHHS, and the tribes for FY 2019 through FY 2021. DPHHS revenue allocation is subtracted from total beer tax revenue to obtain total general fund and tribe share. Tribe share is then calculated and subtracted to obtain estimated beer tax revenue for the general fund.

Table 2
Beer Tax Revenue Allocation
($ Millions)

Description	FY 2018	FY 2019	FY 2020	FY 2021
Total Revenue	$ 4.015	$ 4.004	$ 3.990	$ 3.975
Less DPHHS Share (23.26%)	$ 0.934	$ 0.931	$ 0.928	$ 0.925
General Fund and Tribes' Share	$ 3.081	$ 3.073	$ 3.062	$ 3.050
Less Tribes' Share (1.97%)	$ 0.079	$ 0.079	$ 0.078	$ 0.078
General Fund	**$ 3.002**	**$ 2.994**	**$ 2.984**	**$ 2.972**

Data Sources

Department of Revenue GENTAX reports provided historical information on the number of total production by producer type. SABHRS provided historical beer tax revenue and allocation information. IHS Markit provided historical and projected Montana population data.

Wine Tax

2021 Biennium

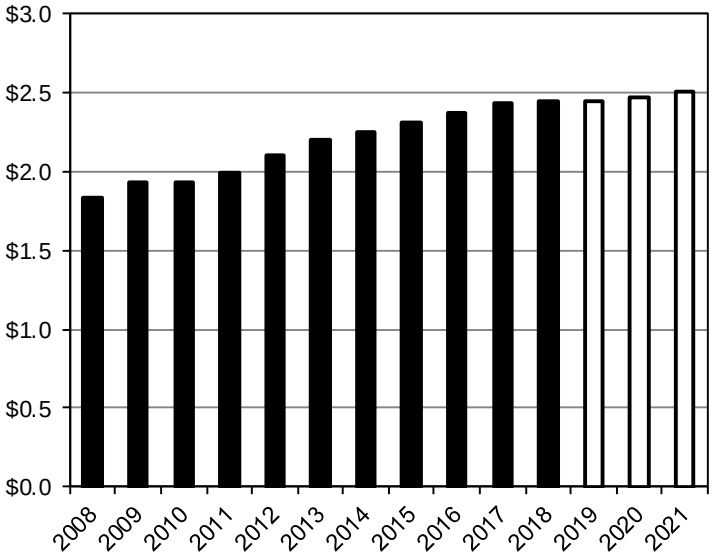
Revenue Description

According to 16-1-411, MCA, the Department of Revenue is directed to collect a tax of 27 cents on each liter of table wine and 3.7 cents on each liter of hard cider imported by a distributor or the department. Additionally, a tax of 1 cent per liter of wine is levied on table wine sold by a table wine dealer to an agent pursuant to 16-2-301, MCA.

Wine tax revenues are distributed 69% to the state general fund and 31% to the Department of Public Health and Human Services (DPHHS) for the treatment, rehabilitation, and prevention of alcoholism and chemical dependency. Approximately 2.6% of the wine tax revenue allocated to the general fund is remitted to the Blackfeet, Flathead, Fort Peck, and Fort Belknap Reservations in compliance with revenue sharing agreements with the tribes.

Table 1
Wine Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$1.829	3.07%
A 2009	$1.936	5.84%
A 2010	$1.933	-0.17%
A 2011	$1.994	3.16%
A 2012	$2.104	5.55%
A 2013	$2.195	4.31%
A 2014	$2.250	2.52%
A 2015	$2.307	2.54%
A 2016	$2.373	2.86%
A 2017	$2.429	2.34%
A 2018	$2.446	0.68%
F 2019	**$2.439**	**-0.26%**
F 2020	**$2.475**	**1.45%**
F 2021	**$2.509**	**1.41%**



This forecast projects the per capita consumption of wine in Montana will increase at an annual rate of 0.12 liters per person between FY 2019 and FY 2021.

Risks and Significant Factors

- Per capita consumption experienced an average annual increase of 0.68% between FY 2014 and FY 2018.
- Montana population age 20 and over was used for this forecast because, according to a statistical analysis, this demographic tracked total wine consumption over time better than changes in other age demographics such as total population or the population between 30 and 60 years old.
- Montana population age 20 and over experienced an average annual increase of 1.2% between FY 2015 and FY 2018.

Forecast Methodology

The general fund share of the wine tax is prepared in three steps:

Step 1. Estimate liters of per capita wine consumption for FY 2019 through FY 2021 using average per capita consumption growth from FY 2014 through FY 2018.

Step 2. Multiply the estimates of per capita consumption by population and the tax rate ($0.27/liter) to obtain estimates of total tax revenue through FY 2021.

Step 3. Determine the wine tax allocation to the general fund.

Distribution

Table 2 shows the actual allocation for FY 2018 and the projected allocation for FY 2019 through FY 2021. Of the total revenue, 31% is first distributed to the DPHHS. The tribal revenue allocation payment (2.57%) is then subtracted from the remaining revenue for FY 2019 through FY 2021. All revenue which remains after DPHHS and tribal payments have been subtracted is deposited to the general fund.

Table 2
Wine Tax Revenue Allocation
($ millions)

Description	FY 2018	FY 2019	FY 2020	FY 2021
Total Revenue	$3.635	$3.626	$3.679	$3.730
Less DPHHS Share (31%)	$1.126	$1.124	$1.140	$1.156
General Fund and Tribes' Share	$2.509	$2.502	$2.538	$2.574
Less Tribes' Share (2.57%)	$0.063	$0.063	$0.064	$0.065
General Fund	**$2.446**	**$2.439**	**$2.475**	**$2.509**

Data Sources

Department of Revenue GENTAX reports provided historical information on the number of wine liters sold. SABHRS provided historical wine tax revenue and allocation information. IHS Markit provided historical and projected Montana population data.

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STATE OF MONTANA

TOBACCO REVENUE
SECTION 7

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Cigarette Tax

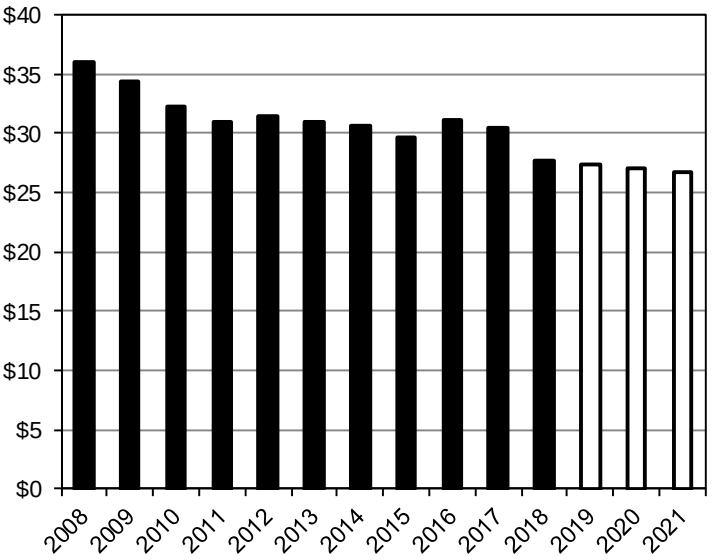
2021 Biennium

Revenue Description

According to 16-11-111, MCA, a specific tax of $1.70 is imposed on each pack of 20 cigarettes. If a pack contains more than 20 cigarettes, the tax is pro-rated by 1/20th of the $1.70 tax for each cigarette exceeding 20 cigarettes. Currently, revenue generated from the cigarette tax is distributed as follows: 45.1% to the general fund; 44.0% to the health and Medicaid initiatives account; 2.6% to the long-range building account; and the greater of 8.3% or $2 million for operation of state veterans' nursing homes.

Table 1
Cigarette Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$36.004	0.49%
A	2009	$34.320	-4.68%
A	2010	$32.218	-6.13%
A	2011	$30.992	-3.81%
A	2012	$31.483	1.59%
A	2013	$31.011	-1.50%
A	2014	$30.623	-1.25%
A	2015	$29.604	-3.33%
A	2016	$31.103	5.06%
A	2017	$30.558	-1.75%
A	2018	$27.755	-9.17%
F	**2019**	**$27.392**	**-1.31%**
F	**2020**	**$27.039**	**-1.29%**
F	**2021**	**$26.683**	**-1.32%**



Beginning May 1, 2003, SB 407 (2003 session) increased the tax on cigarettes from $0.18 to $0.70 per pack. SB 407 also changed the distribution of cigarette taxes, increasing the general fund portion to 87.4%, the long-range building account to 4.3%, and the DPHHS portion to the greater of 8.3% or $2.0 million.

Initiative 149 (I-149) further increased the tax on each pack of cigarettes to $1.70 as of January 1, 2005. I-149 also changed the allocation of total collections as follows: 45.1% to the general fund; 44.0% to the health and Medicaid initiatives account; 2.6% to the long-range building account; and the greater of 8.3% or $2 million for operation of state veterans' nursing homes.

For FY 2010 through FY 2015, the general fund portion was reduced to 43.9% and 1.2% was designated for the Southwest Montana Veterans' Home. In FY 2016, the general fund distribution returned to 45.1%.

Risks and Significant Factors

- Montana population age 15 and over, which experienced an average annual decrease of 3.6% between FY 2014 and FY 2018, was used for this forecast because, according to statistical analysis, this demographic tracked total cigarette consumption over time better than changes in other age demographics such as total population, the population between 30 and 60 years old, etc.
- According to the Center for Disease Control, the national prevalence of cigarette smoking has resumed a slow decline after stalling for several years. This model assumes a 2.0% annual decrease in per capita consumption during the forecast period.

- There are three types of arrangements for cigarette taxes with the seven Indian reservations in Montana:
  1. Currently, no Indian reservations have a tax-free quota agreement with the state.
  2. The Flathead Reservation abides by the tax-free quota law with no specific agreement with the state.
  3. The Blackfeet, Fort Belknap, Rocky Boy, Fort Peck, Crow, and Northern Cheyenne Reservations have a revenue sharing agreement with the state.
- Tribes in categories 1 and 2 receive cigarettes tax free for the enrolled tribal members residing on the reservation. Under the revenue sharing agreements, the tribe and state cigarette tax rates are the same. The tribe's share of the tax revenue is 150% of the per capita cigarette tax collected for each of the tribes' enrolled members residing on the reservation.

Forecast Methodology

The general fund share of the cigarette tax is prepared in four steps:

Step 1. Estimate taxable per capita cigarette consumption.

Step 2. Estimate cigarette tax revenue.

Step 3. Calculate tribal revenue sharing agreement payments.

Step 4. Calculate distributable state cigarette tax revenue and allocation.

Distributions

Table 2 shows the actual allocation for FY 2018 and projected state cigarette tax revenue/allocation for FY 2019 through FY 2021. The tribes' revenue allocations are subtracted from the gross cigarette tax revenue to yield total state cigarette tax revenue. Revenue is allocated to each fund by multiplying state cigarette tax revenue by the fund's share.

Table 2
Distribution of Cigarette Tax Revenue
($ million)

Calculation	FY 2018	**FY 2019**	**FY 2020**	**FY 2021**
Gross Cigarette Tax Revenue	$65.496	**$64.624**	**$63.791**	**$62.951**
Subtract Tribal Payments	$3.930	**$3.888**	**$3.838**	**$3.787**
Total Distributable State Cigarette Tax Revenue	$61.542	**$60.736**	**$59.953**	**$59.164**
Allocation				
Health and Medicaid (44.0%)	$27.078	**$26.724**	**$26.379**	**$26.032**
Long Range Building Fund (2.6%)	$1.600	**$1.579**	**$1.559**	**$1.538**
State Veterans' Nursing Homes (8.3%)	$5.108	**$5.041**	**$4.976**	**$4.911**
General Fund (45.1%)	$27.76	**$27.392**	**$27.039**	**$26.683**

Data Sources

Department of Revenue GENTAX reports provided historical information on the number of cigarette packs sold. The general fund revenue data was obtained from SABHRS. Current tribal payments are provided by DOR Revenue Sharing Agreement Quarterly Reports. Population data forecasts are from by IHS Markit.

Tobacco Products Tax

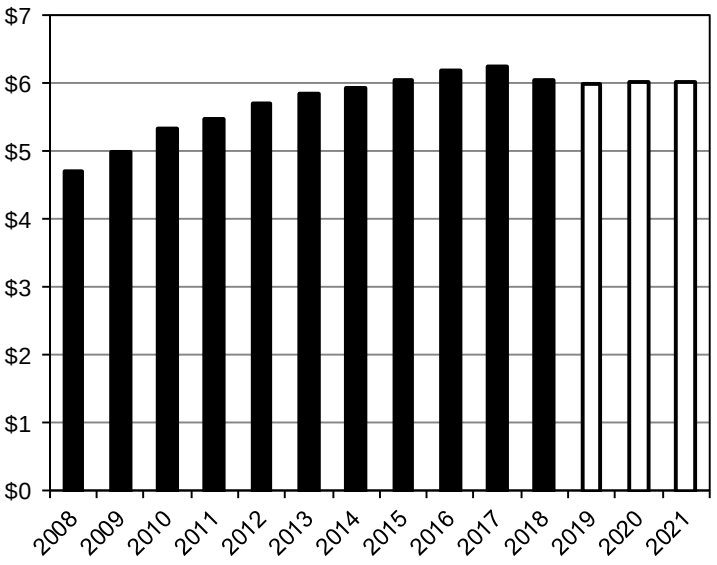
2021 Biennium

Revenue Description

According to 16-11-111, MCA, the Department of Revenue (DOR) is directed to collect a tax of 85 cents per ounce of moist snuff and 50% of the wholesale price of all other tobacco products (OTP), excluding cigarettes. Tobacco products destined for retail sale and consumption outside Montana are not subject to this tax. The general fund and the health and Medicaid initiatives account each receive 50% of the tobacco products tax revenue after payments are made as per tribal revenue sharing agreements.

Table 1
Tobacco Products Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$4.699	0.63%
A	2009	$4.990	6.21%
A	2010	$5.334	6.89%
A	2011	$5.477	2.68%
A	2012	$5.709	4.24%
A	2013	$5.853	2.51%
A	2014	$5.929	1.31%
A	2015	$6.056	2.13%
A	2016	$6.184	2.11%
A	2017	$6.247	1.02%
A	2018	$6.058	-3.03%
F	**2019**	**$6.004**	**-0.88%**
F	**2020**	**$6.010**	**0.10%**
F	**2021**	**$6.015**	**0.07%**



In FY 2004, there was a 54.5% increase in tobacco tax revenue due to SB 407 (2003 session). On May 1, 2003, SB 407 changed the tax on moist snuff from 12.5% of the wholesale price to 35 cents per ounce, an effective increase of 7 cents per ounce. SB 407 also increased the tax on all other tobacco from 12.5% of the wholesale price to 25% of the wholesale price. On January 1, 2005, Initiative 149 (I-149) changed the tax on moist snuff to 85 cents per ounce and increased the tax on all other tobacco products to 50% of the wholesale price.

Risks and Significant Factors

- Montana population age 15 and over, which experienced an average annual increase of 1.0% between FY 2014 and FY 2018, was used for this forecast because, according to statistical analysis, this demographic tracked total cigarette consumption over time better than changes in other age demographics such as total population, the population between 30 and 60 years old, etc.
- Moist snuff per capita consumption has experienced an average annual decrease of 0.1 % from FY 2014 to FY 2018. Per capita OTP consumption is projected to decrease 2.3% per year.
- The excise tax on tobacco products is imposed on retail consumers, but the tax is collected by wholesalers. In accordance with 16-11-112, MCA, wholesalers are allowed a discount equal to 1.5% of total tax collections to defray collection and administrative costs.
- Tobacco product sellers can obtain a refund credit for tobacco products that could not be sold due to defect. The average percentage of defective product credits of total collections in FY 2014 through FY 2018 was 1.5% and is used to forecast refund credits for FY 2019 through FY 2021.

- Six Indian reservations in Montana have a tobacco revenue sharing agreement with the state: Blackfeet, Fort Belknap, Rocky Boy, Fort Peck, Crow, and Northern Cheyenne Reservations. Under the revenue sharing agreements, the tribe tobacco tax and the state tobacco tax are the same. The tribe's share of the tax revenue is 150% of the per capita state tobacco tax collected for each of the tribes' enrolled members residing on the reservation.

Forecast Methodology

The tobacco tax revenue is comprised of two taxes: (1) moist snuff tax of 85 cents per ounce; and (2) other tobacco products tax of 50% of the wholesale price. The six steps in estimating tobacco tax revenues are:

Step 1. Estimate per capita moist snuff consumption and the per capita consumption of other tobacco products.

Step 2. Estimate projected gross tobacco tax revenue by multiplying the per capita consumption times the population over 15 times the tax rate.

Step 3. Calculate wholesaler discounts at 1.5% of total tobacco tax revenue.

Step 4. Calculate refunds for unsalable product.

Step 5. Calculate tribes' revenue allocation.

Step 6. Calculate state tobacco tax revenue and allocation.

Distribution

Wholesaler discounts and refund credits are subtracted from total tobacco tax revenue and tribal allocation payments are subtracted from net revenue to determine total state other tobacco tax revenue. Fifty percent of the state tobacco tax revenue goes to the general fund and 50% goes to the health and Medicaid initiatives account.

Table 2
Distribution of Tobacco Products Tax
($ million)

Calculation	FY 2018	FY 2019	FY 2020	FY 2021
Total Tobacco Tax Revenue	$13.305	$13.201	$13.215	$13.224
Subtract Discounts/Refund Credits	$0.440	$0.441	$0.442	$0.442
Subtract Tribal Payments	$0.749	$0.752	$0.752	$0.753
Total State Tobacco Tax Revenue	$12.115	$12.008	$12.021	$12.029
Allocation				
Total to Health and Medicaid (50%)	$6.058	$6.004	$6.010	$6.015
Total to General Fund (50%)	**$6.058**	**$6.004**	**$6.010**	**$6.015**

Data Sources

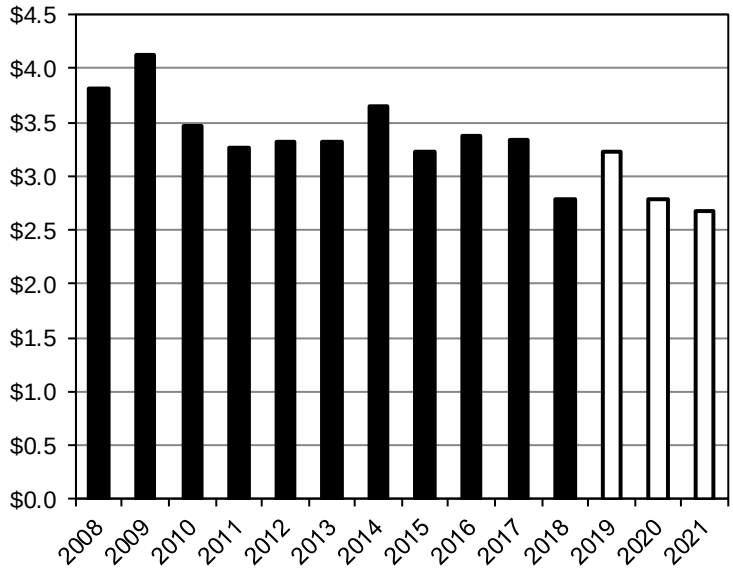
Department of Revenue GENTAX reports provided historical information on the amount of moist snuff ounces sold and the price of other tobacco products sold. General fund revenue data is from SABHRS. Current tribal payments are provided by DOR Revenue Sharing Agreement Quarterly Reports. Other data provided by DOR includes the discounts and credits applied to distributors of other tobacco products. Population data is provided by IHS Markit.

Revenue Description

In 1998, Montana, along with 45 other states, signed a settlement agreement with major tobacco companies. Pursuant to the agreement, Montana will receive approximately $832 million by the year 2025. Payments are made annually beginning in FY 2000. The schedule of payments provided for under the settlement agreement is subject to change depending on adjustment criteria specified in the agreement.

Table 1
Tobacco Settlement
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$3.808	33.07%
A 2009	$4.128	8.41%
A 2010	$3.469	-15.97%
A 2011	$3.259	-6.05%
A 2012	$3.322	1.95%
A 2013	$3.321	-0.03%
A 2014	$3.646	9.76%
A 2015	$3.225	-11.54%
A 2016	$3.371	4.54%
A 2017	$3.343	-0.84%
A 2018	$2.778	-16.91%
F 2019	**$3.228**	**16.22%**
F 2020	**$2.779**	**-13.91%**
F 2021	**$2.681**	**-3.55%**



In FY 2008, the base payment paid to states increased from $8 billion to $9 billion. This accounts for the large percentage increase from FY 2007 to FY 2008. However, the forecast payments, when adjusted for inflation, are decreasing or flat because cigarette consumption per capita (nationwide) has slightly decreased. Further, additional adjustments to the annual payments have been made since FY 2005 to compensate for changes in market share among the participating and non-participating manufacturers. These market share adjustments are forecast to continue through FY 2021.

Two major arrangements in the allocation of the tobacco settlement revenue have existed since the first payment was received in FY 2000. First, in November 2000, Montana's electorate passed Constitutional Amendment 35. The amendment required no less than 40% of tobacco settlement revenue to be deposited in a trust fund, with the remaining money deposited in the state general fund. The trust fund was established to provide a permanent source of revenue to fund the costs associated with programs for tobacco disease prevention and healthcare benefits, services, or coverage. The amendment further stated that 90% of the interest income from the trust fund could be appropriated; with 10% of the interest income from the trust fund to be deposited in the trust fund on or after January 1, 2001. The principal of the trust fund and 10% of the interest income was to be deposited in the trust fund and remain forever inviolate unless appropriated by a vote of two-thirds of the members of each house of the Legislature.

Second, in the November 2002 election, Initiative 146 (I-146) was passed. I-146 required the tobacco settlement payments received after June 30, 2003, be deposited as follows: 32% in a state special revenue account for tobacco prevention; 17% in a state special revenue account for health insurance benefits; 40% in the trust fund; and 11% in the state general fund.

Risks and Significant Factors

If Original Participating Manufacturer's (OPMs) and Subsequent Participating Manufacturers (SPMs) lose market share to Non-Participating Manufacturers (NPMs), OPMs and SPMs may be entitled to pay less by means of an NPM adjustment. The NPM adjustment is conditional upon two factors: (1) whether there has been a loss in market share by participating manufacturers to NPMs; and (2) whether that loss is attributable to disadvantages resultant from the tobacco settlement.

A specific provision of the Master Settlement Agreement (MSA), referred to as the safe harbor provision, is relevant to this adjustment. Under the safe harbor provision, a state can avoid a payment reduction due to the NPM adjustment if a qualifying statute is enacted and "diligently enforced". The qualifying statute provides for an amount to be paid into an escrow account for each cigarette sold by NPMs in the state that is equivalent to the amount that would have been paid had the NPMs participated in the settlement.

An independent auditor determined that, beginning in 2003, participating manufacturers started losing market share to NPMs. Pursuant to this finding, OPMs and SPMs can pay a portion of their tobacco settlement payments into a disputed payment account (DPA) and have routinely done so beginning in FY 2006. Withheld disputed amounts are not to be distributed to the states until the dispute is resolved.

There are numerous possible outcomes to the dispute over the NPM adjustment. The following is a short list of possible outcomes over this disputed money.

- Litigation/arbitration may extend beyond FY 2021. If this is the case, then it is likely that OPMs and SPMs will continue to place the disputed money in the separate dispute account.
- If it is found that the loss in market share for participating manufacturers was not due to disadvantages resulting from the tobacco settlement, then the monies withheld would likely be distributed to the states immediately.
- If a settlement is reached between the states and the participating manufacturers, payments could be reduced by some amount, the safe harbor statute could be revised, or some combination of the two. The fiscal impacts of such a settlement are unknown because the terms of such a settlement are uncertain.
- It may be found that the loss in market share is due to disadvantages as a result of the tobacco settlement and that every state did not "diligently enforce" their safe harbor statutes. This finding would mean that states would likely face an undetermined reduction to the settlement funds they receive.
- Many possible outcomes exist, and it is unknown at this time which scenarios are more likely. However, for purposes of this estimate, it is assumed that the dispute over the NPM adjustment will not be resolved prior to the FY 2019 payment, and that for FY 2019 through FY 2021, the participating manufacturers will continue to withhold NPM adjustment amounts proportional to those withheld in FY 2016 through FY 2018.

Beginning in FY 2018 (tobacco sales year 2017), the strategic payment to the settling states ended, while the non-strategic payment increased by a like amount. As Montana's share of the non-strategic payment is lower than the strategic payment portion, 0.4248% vs 1.0446%, the gross payment to the state is expected to decrease. Additionally, the Previously Settled States Reduction decreases from 12.237% to 11.0667%, which results in a small increase in revenue. Accounting for additional adjustments for changes in inflation and market share, the net effect on collections is difficult to estimate.

In July of 2018, the State of Montana and the Participating Manufacturers entered into a consent decree that resolved the 2004 NPM adjustment dispute between Montana and the PMs. As a result, the independent auditor released Montana's share of disputed payments related to the 2004 NPM adjustment. The $3.37 million payment is considered one-time revenue and is not expected to continue into the 2021 biennium.

Forecast Methodology

The MSA provides for complex methods and formulas to calculate annual payments made by the settling tobacco companies to each state. Several clauses in the tobacco settlement set forth the precise calculations for the adjustments to the payments due from the two categories of settling companies: (1) OPMs and (2) SPMs.

Seven major steps are used to calculate the annual amount due to Montana from tobacco companies which are parties to the MSA. These calculations are completed for both the non-strategic and strategic payments and are summarized in Table 2:

Step 1. The inflation adjustment;

Step 2. The volume adjustment to the base payment;

Step 3. The volume adjustment to the base operating income (This adjustment has not taken place since 2000);

Step 4. Previously settled states' reduction;

Step 5. SPM payments;

Step 6. Montana's share of the total payment; and

Step 7. Adjustments for NPM and other payment disputes.

Table 2
Summary Calculation of Tobacco Settlement Revenue
($ millions)

Description	FY 2018	FY 2019	FY 2020	FY 2021
Non-Strategic Base Payment	$9,000.000	$9,000.000	$9,000.000	$9,000.000
Inflation Adjustment	$7,111.588	$6,876.953	$6,876.953	$6,955.165
Net Volume Adjustment	($8,832.234)	($8,883.080)	($9,057.851)	($9,273.504)
Previously Settled States Reduction	($805.582)	($773.989)	($754.647)	($739.437)
Adjusted OPM Base Payment	**$6,473.772**	**$6,219.885**	**$6,064.455**	**$5,942.223**
Adjusted SPM Base Payment	**$487.498**	**$468.379**	**$456.675**	**$447.470**
Adjustments	($0.513)	$2.011	$2.011	$2.011
Sub-total Adjusted Base Payment	$6,960.756	$6,690.275	$6,523.141	$6,391.705
Montana's Percentage	0.4247591%	0.4247591%	0.4247591%	0.4247591%
Total Adjusted Non-Strategic Payment (IX)(c)(1)	**$29.566**	**$28.418**	**$27.708**	**$27.149**
Strategic Base Payment	$0.000	$0.000	$0.000	$0.000
Inflation Adjustment	$0.000	$0.000	$0.000	$0.000
Volume Adjustment	$0.000	$0.000	$0.000	$0.000
Adjusted OPM Base Payment	**$0.000**	**$0.000**	**$0.000**	**$0.000**
Adjusted SPM Base Payment	**$0.000**	**$0.000**	**$0.000**	**$0.000**
Adjustments	$0.000	$0.000	$0.000	$0.000
Sub-total Adjusted Base Payment	$0.000	$0.000	$0.000	$0.000
Montana's Percentage	1.0447501%	1.0447501%	1.0447501%	1.0447501%
Total Adjusted Strategic Payment (IX)(c)(2)	**$0.000**	**$0.000**	**$0.000**	**$0.000**
Total MT Payment	**$29.566**	**$28.418**	**$27.708**	**$27.149**
Total of NPM and Other Adjustment	($4.459)	($2.133)	$ (2.442)	$ (2.781)
Adjusted MT Payment	**$25.108**	**$29.35**	**$25.265**	**$24.368**

Distributions

Table 3 shows the actual allocation for FY 2018 and the projected distribution of Montana's share of the Tobacco Master Settlement Agreement for FY 2019 through FY 2021.

Table 3
Tobacco Settlement Payment Distributions
($ millions)

	FY 2018	FY 2019	FY 2020	FY 2021
Tobacco Trust Fund (40%)	10.043	11.739	10.106	9.747
Tobacco Prevention Account (32%)	8.034	9.391	8.085	7.798
Health Insurance Benefits Acc. (17%)	4.268	4.989	4.295	4.143
General Fund (11%)	2.762	3.228	2.779	2.681
Total MT Payment	**25.108**	**29.348**	**25.265**	**24.368**

Data Sources

Tobacco Settlement data was obtained from SABHRS, Price Waterhouse Coopers Tobacco Master Litigation Master Settlement website, and the Tobacco Master Settlement Agreement (MSA). Historical inflation data was obtained from the Bureau of Labor Statistics and forecast inflation was derived from IHS Markit.

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Telecommunications Excise Tax

2021 Biennium

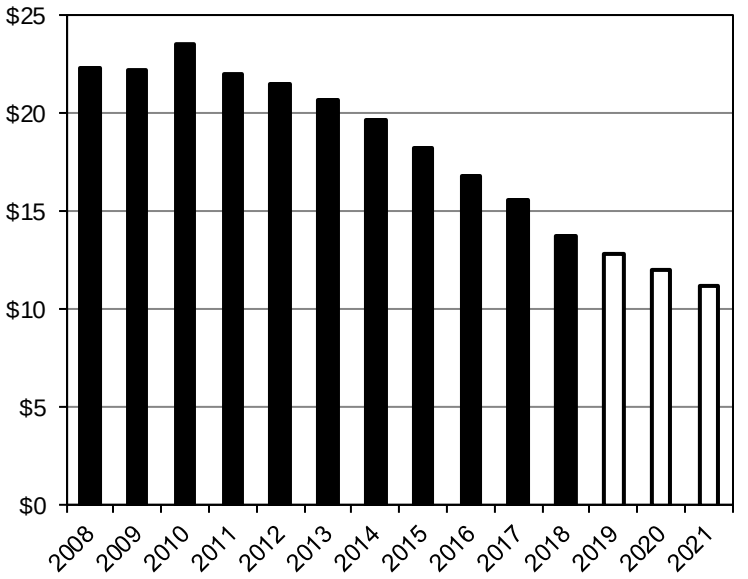
Revenue Description

Under 15-53-130, MCA, a 3.75% excise tax is assessed on retail telecommunications services. Telecommunications services are defined as two-way transmission of information over a telecommunications network that originates or terminates in the state and is billed to a customer with a Montana service address. Telecommunications service providers are required to collect the tax and make quarterly payments within 60 days after the end of each quarter.

Table 1 shows actual general fund revenue from retail telecommunications excise tax collections for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
Telecommunications Excise Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$22.350	6.10%
A 2009	$22.250	-0.45%
A 2010	$23.523	5.72%
A 2011	$22.050	-6.26%
A 2012	$21.459	-2.68%
A 2013	$20.652	-3.76%
A 2014	$19.657	-4.82%
A 2015	$18.257	-7.12%
A 2016	$16.775	-8.12%
A 2017	$15.603	-6.99%
A 2018	$13.708	-12.14%
F 2019	**$12.817**	**-6.50%**
F 2020	**$11.983**	**-6.50%**
F 2021	**$11.204**	**-6.50%**



Risks and Significant Factors

- The general trend of households and businesses eliminating wire-line services reduces the tax base as internet communications applications and services offered by telecommunications companies are free of tax.
- Audit assessments can create timing variations as the attribution of audits do not match the year tax was incurred.
- The Montana Tax Appeal Board (MTAB) ruled in July 2011, that the tax does not apply to mobile telecommunications services paid with prepaid calling cards sold by third party retailers. This has reduced collections.
- The *Internet Tax Freedom Act* became permanent in 2016, with the signing of the *Trade Facilitation and Trade Enforcement Act of 2016.* The act bans taxes on internet access services. While the Act does not ban taxes on products and services over the internet, to the extent that these services can be delivered over the internet and classified as internet access, this will reduce retail telecommunications excise tax collections.
- It is possible that the declining revenue trend may continue to accelerate. The current forecast assumes that the reduction in FY 2018 was, in part, an "extra" one-time only reduction due to the *Internet Tax Freedom Act.* This "extra" decline was incorporated in this estimate. The inclusion of FY 2018's reduction accelerates the rate of future decline by about one percentage point. A forecast omitting the extra reduction in FY 2018 would increase the three-year estimate by $750,000. Alternative models with an accelerating decline assumption (as opposed to trend) would project three-year revenues as much as $6 million dollars lower.

Forecast Methodology

The estimate is a simple projection of the long run trend since FY 2011when the current decline in collections appears to have started. Base collections are taxes due before audit, penalty, and interest assessments. The non-compounding annual growth rate between FY 2011 to FY 2018 was negative 6.5%. This period was chosen since it represents the steepest annualized decline in base collections. In the past, audit revenues were excluded from this calculation to reduce the effect of misallocating audit revenue to fiscal years. However, MTAB decisions on the non-taxable status of certain pre-paid resellers, and court decisions on the applicability of *Internet Tax Freedom Act* have resolved many issues of interpretation that had generated audit assessments. Audit revenues are assumed to be equal to the rounded value of FY 2018 audit collections ($2,000).

Table 2 illustrates actual revenue collections for the excise tax, as well as audit and penalty collections for FY 2008 through FY 2018. The forecast of total collections for FY 2019, FY 2020, and FY 2021 is presented with the associated audit revenue and the implied growth rate of the tax.

Table 2
Total Collections
($ millions)

	Fiscal Year	Excise Tax		Audits, Penalties & Interest		General Fund	Percent Change
A	2008	$21.128	+	$1.223	=	$22.350	2.70%
A	2009	$21.905	+	$0.345	=	$22.250	-0.45%
A	2010	$21.121	+	$2.402	=	$23.523	5.72%
A	2011	$21.950	+	$0.100	=	$22.050	-6.26%
A	2012	$21.199	+	$0.148	=	$21.347	-3.19%
A	2013	$20.586	+	$0.049	=	$20.635	-3.33%
A	2014	$19.636	+	$0.020	=	$19.657	-4.74%
A	2015	$18.245	+	$0.027	=	$18.272	-7.05%
A	2016	$16.766	+	$0.009	=	$16.775	-8.19%
A	2017	$15.592	+	$0.011	=	$15.603	-6.99%
A	2018	$13.707	+	$0.002	=	$13.708	-12.14%
F	**2019**	**$12.815**	**+**	**$0.002**	**=**	**$12.817**	**-6.50%**
F	**2020**	**$11.981**	**+**	**$0.002**	**=**	**$11.983**	**-6.50%**
F	**2021**	**$11.202**	**+**	**$0.002**	**=**	**$11.204**	**-6.50%**

Distribution

All telecommunications excise tax collections are allocated to the general fund pursuant to 15-53-156, MCA.

Data Sources

Revenue data is drawn from GENTAX data provided by the Department of Revenue and SABHRS.

Accommodations Tax

2021 Biennium

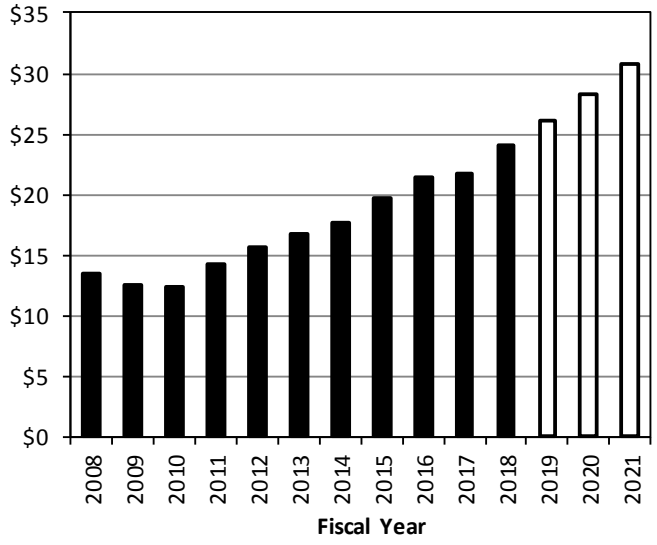
Revenue Description

In accordance with 15-68-102, MCA, a 3% accommodations **sales** tax is levied on all charges for accommodations at lodging facilities and campgrounds in the state. In accordance with 15-65-111, MCA, Montana charges a lodging facility **use** tax of 4% on all accommodations. All revenue from the **sales** tax and a portion of the **use** tax is distributed to the general fund. The majority of the **use** tax is distributed to other funds.

Table 1 shows actual revenue for the accommodations **sales** and **use** tax distributed to the general fund for FY 2008 though FY 2018 and forecast values for FY 2019 through FY 2021.

Table 1
Accommodations Sales Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$13.390	3.67%
A 2009	$12.477	-6.81%
A 2010	$12.331	-1.18%
A 2011	$14.241	15.49%
A 2012	$15.606	9.59%
A 2013	$16.720	7.13%
A 2014	$17.725	6.01%
A 2015	$19.697	11.12%
A 2016	$21.493	9.12%
A 2017	$21.780	1.34%
A 2018	$24.091	10.61%
F 2019	**$26.113**	**8.39%**
F 2020	**$28.261**	**8.23%**
F 2021	**$30.746**	**8.79%**



The accommodations **sales** tax was enacted in the 2003 session in SB 407 and was only collected for one month in FY 2003. The first full year of collections was FY 2004. As disposable income fell in FY 2009 and FY 2010, both in Montana and in the U.S., people spent less on accommodations and as a result, tax revenue declined during those years.

In November 2015, a $1.1 million settlement from the online travel companies for accommodations **sales** tax and interest was received for prior years FY 2010 through the first two quarters of FY 2015. All of this is included in FY 2016 **sales** tax collections. It is expected that an ongoing revenue from the online travel companies will grow at the same rate other accommodations **sales** taxes increase.

HB 111, 2011 Session, revised the allocation of the lodging facility **use** taxes collected from state agencies. Formerly, these taxes were distributed back to the agency that made the in-state lodging expenditures. HB 111 allocated 30% of these collections to the general fund, with the balance returned to the agency that made the in-state lodging expenditure. Any lodging **use** tax collected from state agencies paying with federal funds, was held by the Department of Revenue to be returned to the federal government. The remainder of the funds paid by state agencies for lodging facility **use** taxes was distributed to the funds in 15-65-121, MCA.

HB 477 in the 2011 Session changed the distribution of the lodging facility **use** tax, reducing the amount distributed to the Department of Commerce by 2.6% and allocating 2.6% to Montana Historical Interpretation.

HB 32, 2013 Session, revised statute to allow the lodging **use** tax paid by state agencies with federal funding to be returned to the state agency that paid the in-state lodging **use** tax.

In the 2017 regular session, SB 309, a small change of 0.5% reduced the allocation to Commerce to 64.4% and created a new fund for state tribal economic development.

Risks and Significant Factors

- Montana fire seasons can have a significant impact on accommodations tax revenues dependent on where the fires occur and the time of year. In years with many fires and lots of smoke, travel in those areas decreases reducing tax collections.
- Over the past few years, there has been an increase in available accommodations across the state with new motels and other guest accommodations coming online. Increased accommodations mean more rooms available, thus increased tax collections.
- Oil and gas production in eastern Montana ebbs and flows. During the boom, accommodations were at maximum capacity with new facilities built and costs at a premium. Now prices are down and facilities are no longer at capacity.

Forecast Methodology

There are three steps used when forecasting the accommodations **sales** and **use** taxes:

Step 1: Estimate lodging receipts.

Step 2: Estimate vendor allowances. A 5% vendor allowance is permitted, up to $1,000 for accommodations sales tax.

Step 3: Calculate the lodging facility **use** tax (4%) of the taxable value of lodging receipts plus the **sales** tax (3%) minus the vendor allowance.

Distribution

After the DOR administration, state agency, and general fund distributions are made, the remainder is distributed as follows (15-65-121, MCA):

1. 30% of the use tax revenue generated by state employees goes to the general fund.
2. The Montana heritage preservation and development account receives $400,000.
3. The remainder is distributed as follows:
    a. 1.0% to the Montana Historical Society for roadside historic sites and signs;
    b. 2.5% to the university system for tourism research;
    c. 6.5% to the Department of Fish, Wildlife and Parks for parks maintenance;
    d. 64.4% to the Department of Commerce for statewide tourism promotion;
    e. 22.5% to regional tourism promotion agencies; and
    f. 2.6% to the Montana historical interpretation state special revenue account.
    g. 0.5% to State Tribal Economic Development in Department of Commerce

Table 2 summarizes the distribution of the lodging facility **use** tax.

Table 2
Lodging Use Tax Distribution
($ millions)

	FY 2018	**FY 2019**	**FY 2020**	**FY 2021**
General Fund	$0.043	**$0.043**	**$0.043**	**$0.043**
DOR Tax Administration	$0.128	**$0.128**	**$0.128**	**$0.128**
MT Heritage Preservation Society	$0.400	**$0.400**	**$0.400**	**$0.400**
Montana Historical Society	$0.322	**$0.343**	**$0.372**	**$0.405**
University System	$0.806	**$0.858**	**$0.930**	**$1.012**
Fish, Wildlife, & Park	$2.094	**$2.231**	**$2.417**	**$2.632**
Commerce	$20.749	**$22.102**	**$23.947**	**$26.081**
Regional Travel Promotion	$7.250	**$7.722**	**$8.367**	**$9.112**
Montana Historical Interpretation	$0.838	**$0.892**	**$0.967**	**$1.053**
Tribal Economic Development	$0.162	**$0.172**	**$0.186**	**$0.202**
Total Use Tax Revenue	$32.793	**$34.892**	**$37.756**	**$41.069**

Data Sources

Fiscal year end revenues are from SABHRS MTGL0109 report. Additional data were provided by DOR's GENTAX system.

Institutional Reimbursement

2021 Biennium

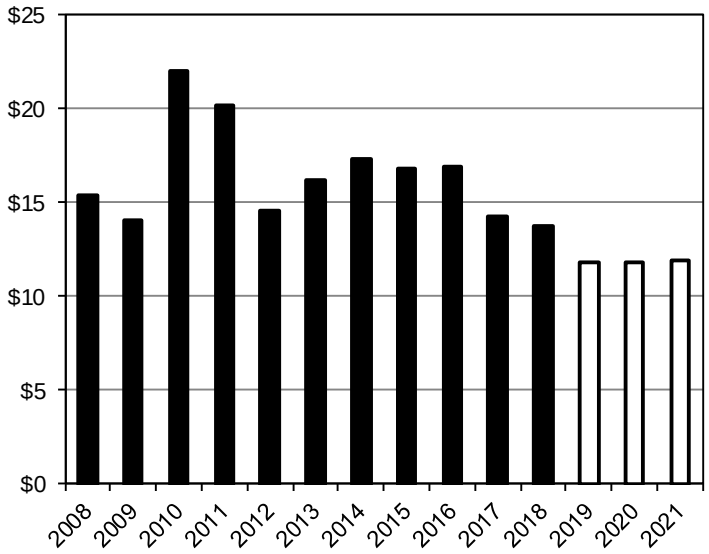
Revenue Description

The Montana Department of Public Health and Human Services (DPHHS) operates facilities to treat persons with developmental disabilities and mental illnesses. The Intensive Behavior Center (IBC) in Boulder (MDC) serves persons with developmental disabilities. The Montana State Hospital in Warm Springs (MSH) and the Montana Mental Health Nursing Care Center in Lewistown (MMHNCC) treat persons with severe mental illnesses.

The department charges patients for treatment based on cost and on their ability to pay (53-1-405, MCA). Patients and their families, patients' insurance, Medicare, and Medicaid pay these charges. Payments go first to repay MDC (through FY 2016) and MSH debt service obligations associated with the institutions' mortgages (90-7-220 and 221, MCA). After the debt service obligations are met, payments for care at the institutions are deposited in the general fund.

Table 1
Institutional Reimbursements
($ millions)

Fiscal Year		General Fund	Percent Change
A	2008	$15.335	43.73%
A	2009	$14.101	-8.05%
A	2010	$22.000	56.02%
A	2011	$20.158	-8.37%
A	2012	$14.562	-27.76%
A	2013	$16.212	11.33%
A	2014	$17.298	6.70%
A	2015	$16.819	-2.77%
A	2016	$16.910	0.54%
A	2017	$14.264	-15.65%
A	2018	$13.754	-3.58%
F	**2019**	**$11.856**	**-13.80%**
F	**2020**	**$11.818**	**-0.32%**
F	**2021**	**$11.909**	**0.76%**



Risks and Significant Factors

- The increased revenue received in FY 2010 and FY 2011 is primarily due to the enhanced Federal Medical Assistance Percentage (FMAP) rate resulting from the American Recovery and Reinvestment Act (ARRA).
- SB 411, passed by the 2015 Legislature, directed the closure of the Montana Developmental Center (MDC) by July 1, 2017. HB 387 passed by the 2017 Legislature allowed the MDC to remain open until June 30, 2019.
- Actions taken by a future legislature to keep the former MDC campus open to serve individuals with developmental disabilities could increase revenue collections.

Forecast Methodology

There are four steps to estimating general fund receipts:

Step 1. Estimate daily reimbursement rates for each type of reimbursement at each institution.

- The primary reimbursement sources are payments from patients and their families, insurance, Medicare, and Medicaid. Residents and their families are billed by DPHHS based on cost and their ability to pay. For adults in

long-term care, the primary resource for these payments is Supplemental Security Income (SSI) disability payments. Private and SSI reimbursement rates are based upon estimates provided by DPHHS.

- Insurance rates are insurance reimbursements for a few covered residents divided by the total number of care days for all residents, most of whom have no applicable coverage.
- Medicare provides coverage for medical costs for the aged and disabled. Medicare rates are set for each fiscal year by the Centers for Medicare and Medicaid Services using a formula that depends on medical cost inflation, past payments, growth in the number of persons covered, the type of health care service received, and the state and county where it is received. Medicare payments per day are based upon information provided by DPHHS.
- Medicaid pays costs that residents cannot. Therefore, the Medicaid daily rate is equal to the full cost rate less the patient/family and SSI reimbursements per day. Medicaid is a joint federal-state program so only the federal portion comes to the state as net reimbursement. Medicaid also pays some ancillary service costs that are not on a daily basis, such as medications and laboratory work. Historically, the variability in Medicaid payment rates can be attributed to, in part, changes in the FMAP rates.

Step 2. Estimate the average daily population and the number of care days for which each institution will be reimbursed.

Step 3. Multiply the reimbursement rates by the number of care days to obtain reimbursement revenue.

- Private reimbursement for a fiscal year is the average daily reimbursement times the number of care days. Medicaid reimbursement for a fiscal year is the average daily reimbursement times the number of Medicaid eligible residents times the number of days.

Step 4. Subtract the institution's debt service payments to derive the general fund revenue.

- General fund revenue is total reimbursements for IBC, MSH, and MMHNCC, plus other receipts, minus debt service payments for the MSH. Debt service payments are provided by DPHHS and are shown in Table 2.

Distributions

Table 2 shows the actual reimbursements for FY 2018 and the projection of general fund revenue from institutional reimbursements in FY 2019 through FY 2021.

Table 2
Institutional Reimbursements to the General Fund
($ millions)

	Fiscal	----------Reimbursements----------								-----Debt Service----		General
	Year	IBC		MSH		MMHNCC		Other Receipts		MSH		Fund
A	2018	$2.691	+	$7.746	+	$4.949	+	$0.030	-	$1.662	=	$13.754
F	**2019**	**$0.535**	**+**	**$8.796**	**+**	**$4.144**	**+**	**$0.022**	**-**	**$1.619**	**=**	**$11.856**
F	**2020**	**$0.020**	**+**	**$9.133**	**+**	**$4.243**	**+**	**$0.026**	**-**	**$1.578**	**=**	**$11.818**
F	**2021**	**$0.023**	**+**	**$9.145**	**+**	**$4.279**	**+**	**$0.024**	**-**	**$1.538**	**=**	**$11.909**

Data Sources

DPHHS provided actual and projected per day reimbursement rates and care days, as well as information regarding debt service for the facilities. FMAP percentages are based on OBPP estimates.

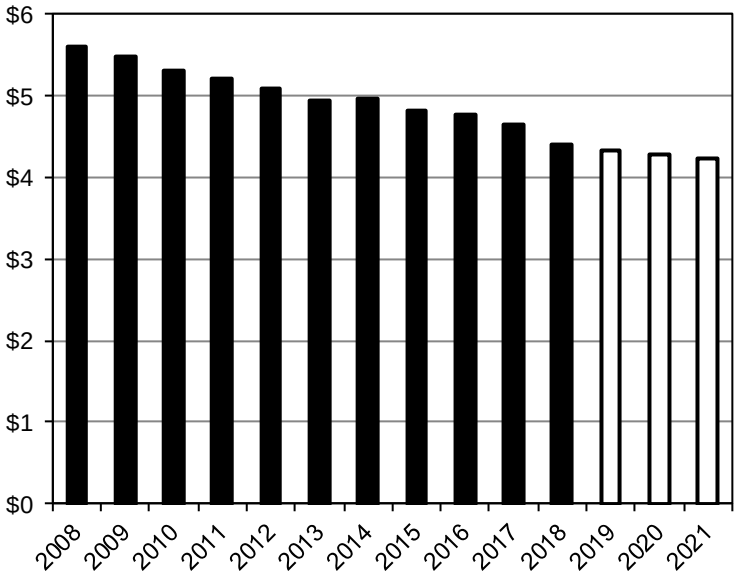
Revenue Description

Per 15-60-102, MCA, Montana imposes a per bed day fee on nursing facilities and intermediate care facilities for the developmentally disabled. The fee for nursing facilities was $2.80 per bed day through FY 2002. The fee was raised to $4.50 in FY 2004, to $5.30 in FY 2005, to $7.05 in FY 2006, and to $8.30 in FY 2007. In FY 2018, it was raised to $11.30, and will increase again to $18.30 beginning in FY 2019 (15-60-102, MCA). Through FY 2002, all fees were allocated to the general fund. Currently, $2.80 of the fee is allocated to the general fund and the remaining $15.50 is allocated to the nursing facility utilization fee special revenue account.

The fee for intermediate care facilities for the developmentally disabled is 6% of revenue (15-67-102, MCA). The only facility in Montana currently meeting this definition is the Montana Developmental Center (MDC). Fees collected from the facilities operated by the Department of Public Health and Human Services (DPHHS) are allocated 30% to the general fund and 70% to the prevention and stabilization special revenue account.

Table 1
Health Care Facility Utilization Fees
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$5.610	-1.87%
A	2009	$5.469	-2.52%
A	2010	$5.300	-3.08%
A	2011	$5.197	-1.94%
A	2012	$5.077	-2.32%
A	2013	$4.928	-2.93%
A	2014	$4.961	0.67%
A	2015	$4.810	-3.04%
A	2016	$4.764	-0.95%
A	2017	$4.635	-2.72%
A	2018	$4.405	-4.95%
F	**2019**	**$4.327**	**-1.78%**
F	**2020**	**$4.273**	**-1.23%**
F	**2021**	**$4.234**	**-0.92%**



The 2003 Legislature passed three bills that changed health care facility fees. HB 705 set the nursing facilities fee at $4.50 in FY 2004 and $5.30 beginning in FY 2005 and allocated the additional revenue to the nursing facility utilization fee account. HB 743 made the Montana Mental Health Nursing Care Center (MMHNCC) subject to the nursing facility utilization fee and allocated 30% of fees from this facility to the general fund and 70% to a new prevention and stabilization special revenue account. HB 722 created a new fee equal to 5% of charges for care that applied only to the MDC. The revenue from the new fee is allocated 30% to the general fund and 70% to the prevention and stabilization special revenue account.

In 2005, the Legislature passed two bills, HB 749 and SB 82, which changed health care facility fees. HB 749 increased the facility bed tax to $7.05 per day in FY 2006 and to $8.30 per day in FY 2007. The increased revenue from fees collected from non-state facilities is allocated to the nursing facility utilization fee account. SB 82 increased the bed tax on intermediate facilities for the developmentally disabled from 5% to 6% and amended the definition of facilities to which the 6% bed tax applies to include intermediate care facilities for the intellectually disabled. SB 82 was effective immediately on passage and was retroactive to the beginning of tax year (TY) 2005.

In 2017, the Legislature passed HB 618, which increased the facility bed tax to $11.30 per day in FY 2018 and to $18.30 for FY 2019. A portion of the increased revenue is allocated to the nursing facility utilization account to increase the

average price paid for Medicaid nursing facility services, as well as provide increased wages for certified nursing assistants working in nursing facilities by $0.25 per hour every six months.

Risks and Significant Factors

- Taxable bed days at non-state facilities declined at an average rate of 3.2% between FY 2015 and FY 2018. Revenue from non-state facilities is declining over the forecast period because fewer bed days are estimated.
- SB 411, passed by the 2015 Legislature, directed the closure of the Montana Developmental Center (MDC) by July 1, 2017. The 2017 Legislature passed HB 387 to extend the closure date for a portion of the MDC campus for two years, while also allowing the 12-bed secure unit to remain open permanently. Actions by a future legislature to allow the non-secure portion of the facility to serve individuals needing a nursing home level of care could impact revenue collections.

Forecast Methodology

Revenue is estimated separately for fees from private nursing homes, the MMHNCC and the MDC. The estimate is based on forecast bed days for the MMHNCC and budget estimates for the MDC. Forecast bed days for non-state owned facilities are based on the historic trend.

- Bed days for FY 2019 through FY 2021 for the MMHNCC are forecast by DPHHS, which operates the facility. Total collections equal the number of bed days multiplied by the fee per bed day. Thirty percent of collections are allocated to the general fund and 70% are allocated to the prevention and stabilization state special revenue account. Estimated bed days for MMHNCC are estimated to increase by 1.6% per year for the period FY 2019 through FY 2021.

- The Intensive Behavior Center, formerly the Montana Developmental Center, is the only facility in Montana subject to the intermediate care facility utilization fee. The fee is 6% of the cost of care billed to residents and third parties. The cost of care for FY 2019 through FY 2021 is estimated by DPHHS, which operates the facility, and is based on planned numbers of residents and expected costs. Thirty percent of collections are allocated to the general fund and 70% are allocated to the prevention and stabilization account.

Distributions

Total collections for each fund are calculated by summing the collections from non-state facilities and collections from the two state facilities. Table 2 shows the actual allocation for FY 2018 and the projected allocation for FY 2019 through FY 2021.

Table 2
Health Care Facilities Utilization Fee
Collections and Distribution
($ millions)

	FY 2018	FY 2019	FY 2020	FY 2021
Nursing Facility Utilization Fee Account	12.491	22.106	21.872	21.640
Prevention and Stabilization Account	0.677	0.778	0.752	0.758
General Fund	4.405	4.327	4.273	4.234
Total Collections	**17.574**	**27.210**	**26.898**	**26.633**

Data Sources

Department of Revenue GENTAX reports provided historical information on the number of taxable bed days. SABHRS provided historical tax revenue and allocation information. Future bed days and cost of care at MMHNCC and MDC are from DPHHS.

Rental Car Sales Tax

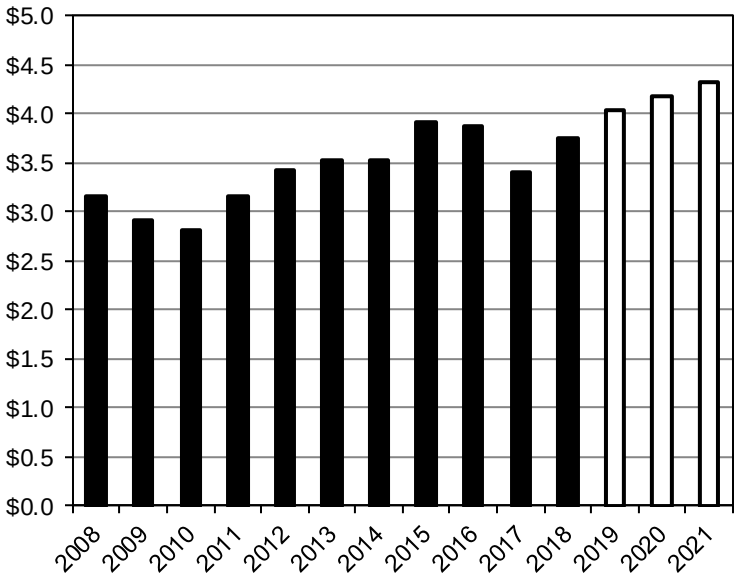
2021 Biennium

Revenue Description

Montana levies a 4% tax on base rental charges on rental vehicle sales per 15-68-102(1b), MCA. The rental vehicle sales tax collections began in FY 2004. Table 1 shows actual general fund revenue for the rental car sales tax for FY 2008 through FY 2018 and projected revenue for FY 2019 through FY 2021.

Table 1
Rental Car Sales Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$3.157	6.08%
A 2009	$2.904	-8.01%
A 2010	$2.807	-3.34%
A 2011	$3.149	12.17%
A 2012	$3.420	8.59%
A 2013	$3.523	3.02%
A 2014	$3.521	-0.05%
A 2015	$3.907	10.95%
A 2016	$3.878	-0.74%
A 2017	$3.402	-12.26%
A 2018	$3.744	10.05%
F 2019	**$4.025**	**7.51%**
F 2020	**$4.170**	**3.60%**
F 2021	**$4.310**	**3.35%**



Risks and Significant Factors

- Rental car sales tax revenue is heavily influenced by tourism and business travel.
- Nonresident visitation to Montana is at record highs.
- Deboardings at Montana airports are exhibiting strong growth.

Forecast Methodology

Step 1: Forecast the value of taxable rental car sales as a function of Montana airport deboardings.

Step 2: Apply the rental car tax rate to taxable sales to obtain total tax revenue.

Step 3: Allocate 75% of total tax revenue to the general fund.

Distribution

This tax is distributed 75% to the general fund and 25% to the state special revenue senior citizen and persons with disabilities transportation services account provided for in 7-14-112, MCA. The change to the distribution of rental car sales tax revenue is a result of SB 180 from the 2015 legislative session (prior to this the revenue was distributed 100% to the general fund).

Data Sources

Historical rental car sales tax data are from the Department of Revenue. Tourism data are from the University of Montana Institute for Tourism and Recreation Research.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Lottery Profits

2021 Biennium

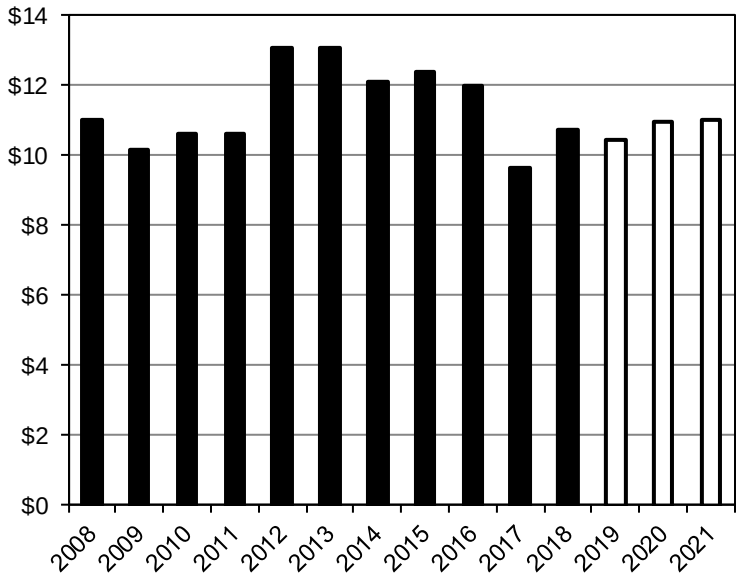
Revenue Description

In accordance with 23-7-402, MCA, net revenue from the operation of the lottery is to be deposited quarterly into the state general fund. Net revenue is equivalent to gross revenue from ticket sales, interest earnings, and minor miscellaneous sources less prize payouts, commissions, and operating expenses.

Table 1 shows actual lottery revenue transferred to the general fund for FY 2008 to FY 2018 and forecast revenues for FY 2019 through FY 2021.

Table 1
Lottery Profits
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$11.029	-3.43%
A	2009	$10.136	-8.09%
A	2010	$10.631	4.88%
A	2011	$10.636	0.05%
A	2012	$13.086	23.03%
A	2013	$13.084	-0.01%
A	2014	$12.091	-7.59%
A	2015	$12.363	2.26%
A	2016	$11.963	-3.24%
A	2017	$9.624	-19.55%
A	2018	$10.699	11.17%
F	**2019**	**$10.454**	**-2.30%**
F	**2020**	**$10.930**	**4.55%**
F	**2021**	**$11.038**	**0.99%**



Over the years, general fund lottery collections have been impacted by variable economic conditions, changes in government policy, and actions carried out by the Montana Lottery itself. Beginning in FY 2006, the chances of winning the Powerball were decreased to increase jackpot levels, leading to an increase in player participation in the years following. A rapid slowdown in disposable income growth in Montana resulting from the Great Recession contributed to depressed lottery revenue in FY 2009 - FY 2011.

Collections popped in FY 2012 due to an exceptionally large Mega Millions jackpot that increased player participation. In addition, the new placement of lottery WinStation machines in grocery stores along with the simultaneous doubling of both Powerball minimum jackpots and ticket prices also helped boost FY 2012 lottery revenue. The flat growth in FY 2013 and decline in FY 2014 tie, to some degree, to the change in the payroll tax environment brought about by changes in federal law. Payroll tax cuts enacted as part of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 were not extended when the American Taxpayer Relief Act took effect in January 2013. This increase in payroll taxes reduced individuals' disposable income and may have had an adverse effect on their willingness to pay for lottery games.

FY 2015 lottery revenue was positively affected by an accounting adjustment that resulted in misclassified prior years' expenses being included in the FY 2015 transfer to the general fund. Starting in FY 2016, HB 617 from the 2015 legislative session altered the distribution of lottery revenue to the general fund. The amount of lottery net revenue transferred to the general fund cannot exceed the amount of revenue transferred in FY 2015. Any revenue in excess of the FY 2015

level must be deposited in the Montana STEM scholarship program state special revenue account for the purpose of funding STEM scholarships.

A large Powerball jackpot led to a surge in ticket sales in FY 2016, boosting revenue that year. Lottery game revenue fell sharply in FY 2017, which, coupled with increased expenses resulting from a new vendor contract, led to a decreased general fund transfer at the end of the year. Sales revenue exhibited healthy growth in FY 2018. Expenses rose in FY 2018 as well, but the increase was more than offset by receipts from ticket sales.

Risks and Significant Factors

- Fluctuations in the share of disposable income that lottery participants allocate to the purchase of lottery games impacts gross receipts. Individuals in Montana spend, on average, between 0.14% and 0.15% of their disposable income on lottery games. If this percentage remains stable, growth in disposable income will lead to growth in lottery receipts. Lately, however, the share of disposable income allocated to lottery games has been less than 0.14% - except for FY 2016, when the large Powerball jackpot enticed individuals to buy more tickets than they otherwise would have.
- The size of lottery jackpots influences spending on lottery games. Large jackpots attract more players and encourage existing players to participate at a higher rate.
- Historical gross receipts data suggests that consumers prefer to maintain a consistent level of average annual lottery expenditures across years. This behavior is evident when comparing years with large Powerball jackpots to the years immediately following. Consumers appear to reduce lottery expenditures after a large Powerball jackpot has been won to mitigate their higher outlays when trying to win the jackpot. The result of such behavior is increased volatility in lottery gross receipts surrounding big Powerball years.
- On May 14, 2018, the United States Supreme Court ruled the Professional and Amateur Sports Protection Act (PASPA) to be unconstitutional. This decision opened the door for individual states to pursue legalization of sports betting, which had been previously prohibited under PASPA (with the exception of a few states - Montana being one). It is unclear how this change in federal law will impact Montana, but if new laws are put in place that create a larger sports betting market, it is possible that the Montana Lottery could be a primary player in managing the betting platform.

Forecast Methodology

Lottery revenue is forecast using three main steps:

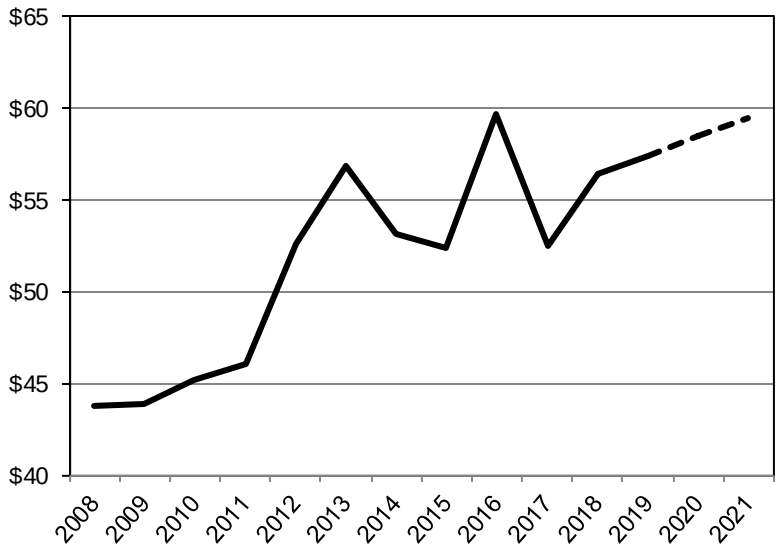
Step 1. Estimate lottery gross receipts. A linear regression model is used to predict gross receipts, which are modeled as a function of disposable income in Montana and a dummy variable to account for Powerball changes and the addition of machines at new locations that occurred in FY 2012. Disposable income is defined as the income individuals possess after income taxes have been accounted for. Income influences individuals' willingness to pay for lottery games, and gross lottery receipts are predicted to respond positively to changes in disposable income. The dummy variable that accounts for the increase in Powerball jackpots and the addition of new machines is predicted to have a positive effect on lottery gross receipts in future years. More machines increase the accessibility of lottery games, which is assumed to lead to increased participation. Additionally, larger jackpots may increase participation if individuals change their lottery risk preferences due to the possibility of a larger payout.

The results of the linear regression model show that both disposable income and Powerball changes/new machines are statistically significant predictors of lottery gross receipts. Both variables have positive coefficients, meaning increases in disposable income lead to increases in lottery revenue, and that the change to Powerball jackpots and new machine placements contributed to positive lottery revenue growth in FY 2012 and beyond. Estimated gross receipts are adjusted for past model error.

Table 2 shows actual gross receipts for FY 2008 through FY 2018 and forecast receipts for FY 2019 through FY 2021.

Table 2
Lottery Gross Receipts
($ millions)

	Fiscal Year	Gross Receipts	Percent Change
A	2008	$43.826	5.44%
A	2009	$43.841	0.03%
A	2010	$45.205	3.11%
A	2011	$46.047	1.86%
A	2012	$52.616	14.27%
A	2013	$56.821	7.99%
A	2014	$53.108	-6.53%
A	2015	$52.342	-1.44%
A	2016	$59.727	14.11%
A	2017	$52.460	-12.17%
A	2018	$56.402	7.51%
F	**2019**	**$57.356**	**1.69%**
F	**2020**	**$58.458**	**1.92%**
F	**2021**	**$59.447**	**1.69%**



Step 2. Estimate direct game costs associated with prize payouts, commissions, and vendor fees. The vendor fee piece of direct game costs is estimated separately and added to the estimate of all other direct game costs to arrive at the total. Historically, total direct games costs have generally been in the range of 65%-70% of lottery gross receipts, but lately have hovered above 70%. Prior to Lottery's vendor contract renegotiation in FY 2016, vendor fees averaged a little over 6% of gross receipts. In FY 2017 and FY 2018, vendor fees were about 8.5% of gross receipts. It is assumed the 8.5% ratio holds constant over the forecast period. It is assumed that all other direct game costs grow at a steady rate from FY 2019 – FY 2021. Total direct game costs maintain a ratio of about 73% of gross receipts for each year in the forecast period.

Table 3 shows actual direct game costs and the ratio of direct game costs to gross receipts for FY 2008 through FY 2018. Forecast values are shown for FY 2019 through FY 2021.

Table 3
Game Costs & Gross Receipts
($ millions)

	Fiscal Year	Gross Receipts		Direct Game Costs		% of Gross Receipts
A	2008	$43.826	÷	$29.330	=	66.92%
A	2009	$43.841	÷	$29.486	=	67.26%
A	2010	$45.205	÷	$32.283	=	71.42%
A	2011	$46.047	÷	$31.314	=	68.00%
A	2012	$52.616	÷	$35.733	=	67.91%
A	2013	$56.821	÷	$39.869	=	70.17%
A	2014	$53.108	÷	$36.635	=	68.98%
A	2015	$52.342	÷	$36.377	=	69.50%
A	2016	$59.727	÷	$42.019	=	70.35%
A	2017	$52.460	÷	$38.949	=	74.24%
A	2018	$56.402	÷	$41.561	=	73.69%
F	**2019**	**$57.356**	÷	**$42.378**	=	**73.88%**
F	**2020**	**$58.458**	÷	**$43.221**	=	**73.94%**
F	**2021**	**$59.447**	÷	**$44.070**	=	**74.13%**

Step 3. Add other income to gross receipts and then subtract direct game costs as well as operating expenses to determine net revenue. Include adjustments made to net revenue to arrive at the amount due to be transferred to the general fund. Other income comes primarily from short-term interest earnings on money held in the enterprise fund before it is transferred to the general fund. A three-year moving average is used to project other income forward. Projected operating expenses are estimated based on a historical average of the ratio of operating expenses to gross receipts.

Table 4 shows the breakdown of income and expenditures that are used in the calculation of lottery net revenue and final general fund revenue. The amount of net revenue shown in Table 4 does not necessarily reflect the amount that is ultimately transferred to the general fund. This is due to various expenses included in the calculation of net revenue but excluded from the calculation of the general fund transfer amount. Historically, these expenses have been comprised of equipment depreciation and post-employment benefit costs. The depreciation expenses ceased after FY 2016, but the post-employment benefit expenses remain and will continue to cause a discrepancy to exist between the amount of net revenue and the general fund transfer. Table 4 shows the historical difference between net revenue and general fund revenue as well as estimates for the forecast period.

Table 4
Total Revenue & Expenses
($ millions)

	Fiscal Year	Gross Receipts		Other Income		Direct Game Costs		Operating Expenses		Net Revenue		Other Adjustments		General Fund Revenue
A	2008	$43.826	+	$0.181	-	$29.330	-	$3.650	=	$11.026	+	$0.002	=	$11.029
A	2009	$43.841	+	$0.071	-	$29.486	-	$4.294	=	$10.131	+	$0.006	=	$10.136
A	2010	$45.205	+	$0.026	-	$32.283	-	$4.078	=	$8.870	+	$1.762	=	$10.631
A	2011	$46.047	+	$1.636	-	$31.314	-	$4.066	=	$12.303	+	-$1.692	=	$10.611
A	2012	$52.616	+	$0.013	-	$35.733	-	$4.069	=	$12.826	+	$0.259	=	$13.086
A	2013	$56.821	+	$0.010	-	$39.869	-	$4.153	=	$12.810	+	$0.274	=	$13.084
A	2014	$53.108	+	$0.020	-	$36.635	-	$4.675	=	$11.819	+	$0.271	=	$12.091
A	2015	$52.342	+	$0.041	-	$36.377	-	$4.604	=	$11.401	+	$0.962	=	$12.363
A	2016	$59.727	+	$0.051	-	$42.019	-	$4.948	=	$12.812	+	-$0.848	=	$11.963
A	2017	$52.460	+	$0.047	-	$38.949	-	$4.426	=	$9.132	+	$0.492	=	$9.624
A	2018	$56.402	+	$0.055	-	$41.561	-	$4.465	=	$10.430	+	$0.269	=	$10.699
F	**2019**	**$57.356**	+	**$0.051**	-	**$42.378**	-	**$4.845**	=	**$10.185**	+	**$0.269**	=	**$10.454**
F	**2020**	**$58.458**	+	**$0.051**	-	**$43.221**	-	**$4.897**	=	**$10.660**	+	**$0.269**	=	**$10.930**
F	**2021**	**$59.447**	+	**$0.052**	-	**$44.070**	-	**$4.930**	=	**$10.769**	+	**$0.269**	=	**$11.038**

Data Sources

Revenue and expenditure data are obtained from SABHRS and the Montana State Lottery. Montana disposable income data are sourced from IHS Markit.

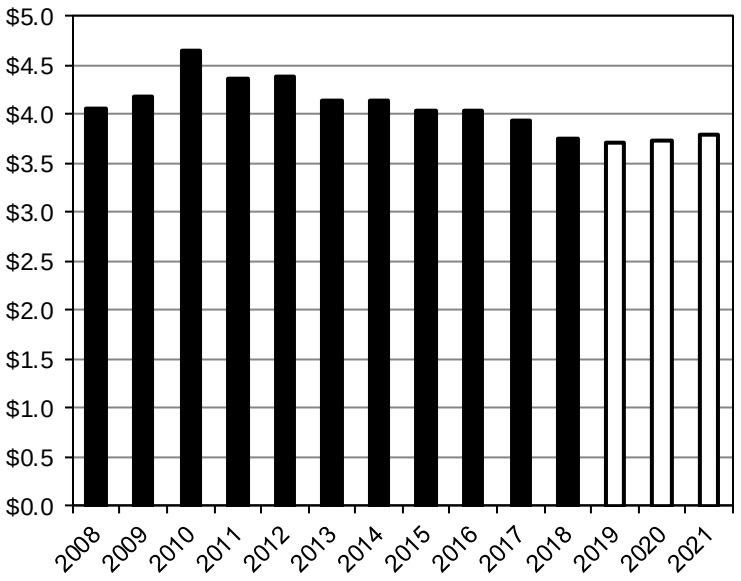
Revenue Description

Highway patrol fines are provided for in Title 61, Chapter 8, Parts 3 and 7, MCA. Fines for citations are collected in Justice Courts. Highway patrol fines are distributed 50% to the county general fund and 50% to the state general fund, pursuant to 3-10-601, MCA. One-hundred percent of fines resulting from convictions due to highway patrol officer stops for highway use or vehicle violations, processed in any other court, are collected in the state general fund (61-12-701, MCA).

Table 1 shows actual general fund revenue from highway patrol fines for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
Highway Patrol Fines
($ millions)

Fiscal Year	General Fund	Percent Change
A 2008	$4.049	-2.55%
A 2009	$4.180	3.22%
A 2010	$4.646	11.16%
A 2011	$4.359	-6.18%
A 2012	$4.385	0.59%
A 2013	$4.140	-5.58%
A 2014	$4.142	0.04%
A 2015	$4.042	-2.40%
A 2016	$4.040	-0.06%
A 2017	$3.927	-2.80%
A 2018	$3.754	-4.41%
F 2019	**$3.699**	**-1.44%**
F 2020	**$3.726**	**0.72%**
F 2021	**$3.780**	**1.46%**



The table shows that fine revenues occasionally increase (FY 2010) followed by modest annual declines. Declines are assumed to be attributable to the combined effects of changes in policy stance (e.g. emphasis on safety and visible presence), management changes (SB 264 (2005) prohibiting citation quotas), and more recently HB 375 (2015) allowing higher interstate highway speed limits and increased fine level. HB 375 appears to have led to modest annual declines in total collections. Highway patrol fine collections are forecast to drop again in FY 2019 and recover gradually thereafter.

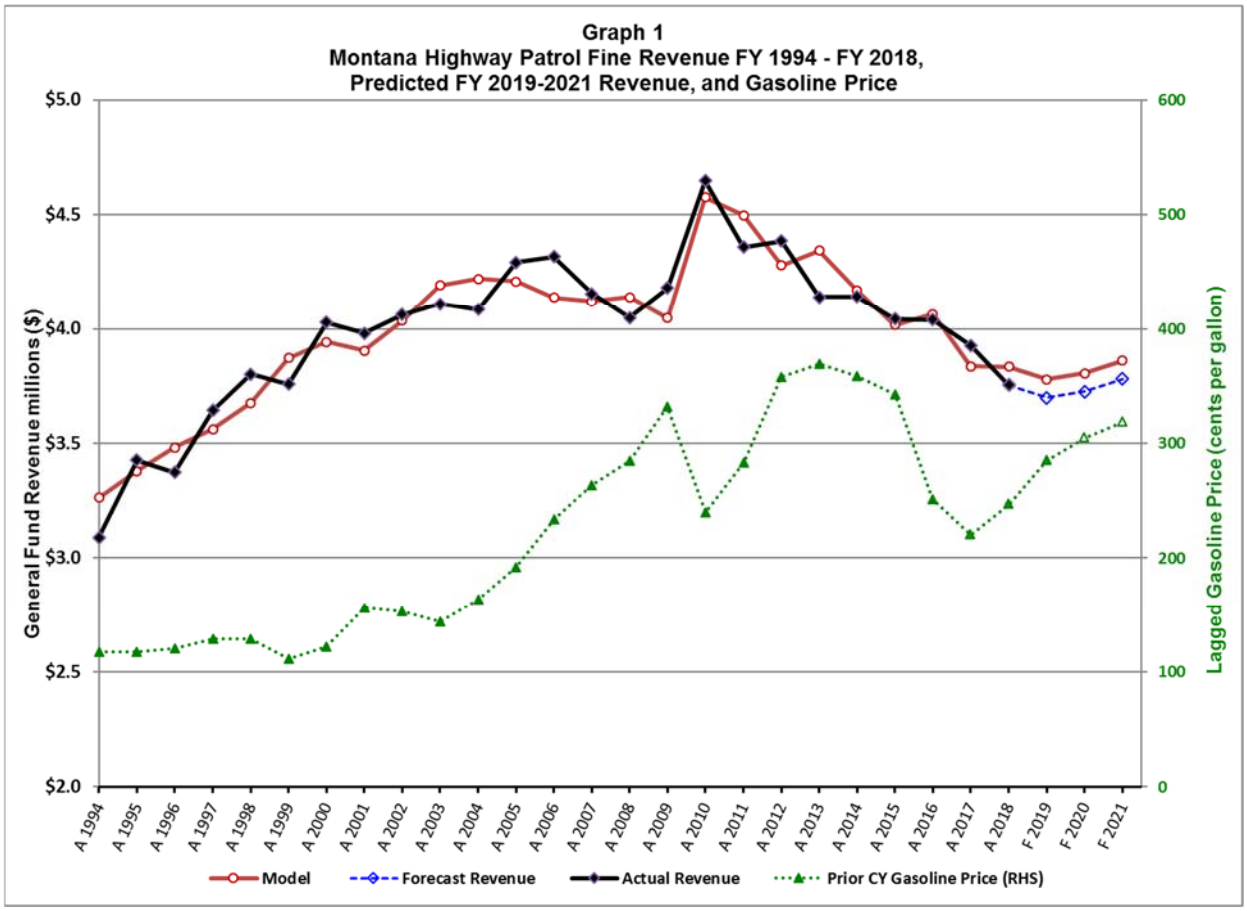
Risks and Significant Factors

- Significant changes in Highway Patrol operations, areas of enforcement focus, as well as overall economic activity may raise or lower the level of collections.
- The 2015 Legislature passed SB 375 which increased the maximum speed limit on federal interstate highways from 75 MPH to 80 MPH and increased the penalties for violating speed limits. Annual revenue increases of approximately $100,000 were anticipated, these increases do not appear to have materialized. Higher fines may have increased the incentive to use attorneys to challenge and plead-down citations. Drivers may be less inclined to speed at the higher speed limits.
- Drivers may become more accustomed to the new higher speed limits and violations and citations may increase.
- Falling gasoline prices generally lead to increased highway patrol fine revenue. A 10-cent decrease in average annual gasoline prices historically leads to about a $45,000 increase in fines.
- Highway Patrol operations reports show that enforcement effort in FY 2018, as measured by patrol miles driven, has recovered to its post-recession trend of about six million miles per fiscal year after several years of declines.

Forecast Methodology

The estimate is based on a regression model of revenue as a function of time-trend and prior calendar year average gasoline prices. Law and policy changes appear to have offset the effects of the basic model of time and gas price. Adding variables to account for the effects of eliminating the use of citation quotas and the HB 375 speed limit change appear to restore the models fit. The level of gasoline price may serve as an indicator of the marginal change (relative to trend) in traffic volume and possibly vehicle velocity. Increases in fuel prices above seasonal trend are believed to have a negative effect on discretionary travel. Structurally, collections lag citations as adjudication processes and revenue recording create natural lags in receipts.

The model fit and forecast are presented in Graph 1. Note that the forecast assumes model predicted growth path is correct and is applied to the FY 2018 actual collections. This represents a small 2% hedge — the model predicts revenues that are $80,000 per year higher — this is assumed to address recent model overshooting.



Distribution:

All highway patrol fines received by the state are directed to the general fund.

Data Sources

Historical tax revenue is from the state accounting system (SABHRS). The Highway Patrol provided fiscal year operations reports. Gasoline prices and the gasoline price forecasts are from IHS Markit national forecast (October 2018).

Revenue Description

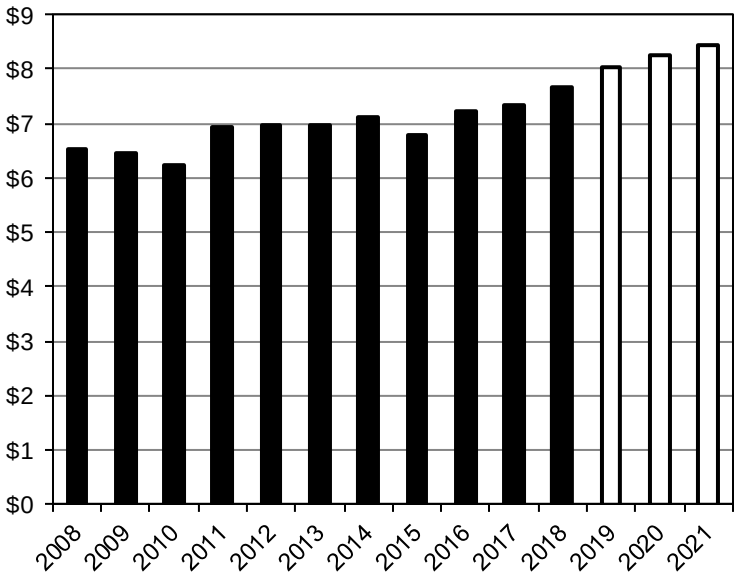
Individuals and firms who plan to sell securities in Montana must register with the State Auditor's Office (SAO) and pay fees as specified in 30-10-209, MCA. The fee to register as a broker-dealer or investment advisor is $200 a year. The fee for salespersons and representatives working for a broker-dealer or investment advisor is $50.

Newly issued securities not regulated at the federal level, or traded on official exchanges, or otherwise exempt from state regulation, must be registered with the SAO. The first year registration fees are $200 plus 0.1% of the issue value over $100,000, up to a maximum fee of $1,000. In succeeding years, the registration may be renewed for a fee of 0.1% of the value of securities offered with a minimum of $200 and a maximum of $1,000.

Table 1 shows that investment license and permit revenue has trended steadily upward with variation due to financial sector performance.

Table 1
Investment Licenses and Permits
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$6.514	6.88%
A	2009	$6.461	-0.81%
A	2010	$6.225	-3.66%
A	2011	$6.922	11.21%
A	2012	$6.961	0.56%
A	2013	$6.951	-0.15%
A	2014	$7.115	2.36%
A	2015	$6.773	-4.80%
A	2016	$7.212	6.48%
A	2017	$7.327	1.59%
A	2018	$7.683	4.86%
F	**2019**	**$8.023**	**4.41%**
F	**2020**	**$8.259**	**2.95%**
F	**2021**	**$8.420**	**1.95%**



Risks and Significant Factors

- Revenue tends to move with financial markets.
- Despite an increase in market volatility, securities brokers-dealers and their sales representatives register in Montana in increasing numbers. This is thought to be precautionary registration to avoid unlicensed securities dealing. This registration trend could change.
- All investment advisors, broker-dealers and their representatives and firm's register and pay their fees through the (national) Financial Industry Regulatory Authority (FINRA) electronic clearinghouse. This has been mandatory since 2003. Most securities agents and sales representatives registered to do business in Montana are not located in the state. Approximately 2.1% of all Montana registered broker-dealer salespeople and investment advisor representatives are physically located in Montana (around 2,350 of 113,100). Nationally there are 630,000 registrations with approximately 17.2% of them licensed to do business in Montana in 2018.
- Legislation in 2011 (HB 125) clarified that securities notice fees apply to each class of securities offered in a portfolio. This increased the revenue base by $1.5 million.
- Collections that exceed appropriated SAO securities operational expenditures, are transferred to the general fund (and recorded as "Other Revenue") at fiscal year-end.

- HB 81 (2011) created a temporary state special revenue fund for securities fraud restitution. These restitution payments are paid to victims of securities fraud subject to application, a cap, and review by a SAO panel. HB 81 (2013) directed 4.5% of total portfolio fee collections to the fund (about $400,000 per year), with a sunset after FY 2017. HB 137 (2017) moved the sunset to FY 2021 and suspended the transfer for FY 2018 and FY 2019.
- In 2017, HB 24 expanded financial exploitation protections for vulnerable persons at small, but unknown cost.

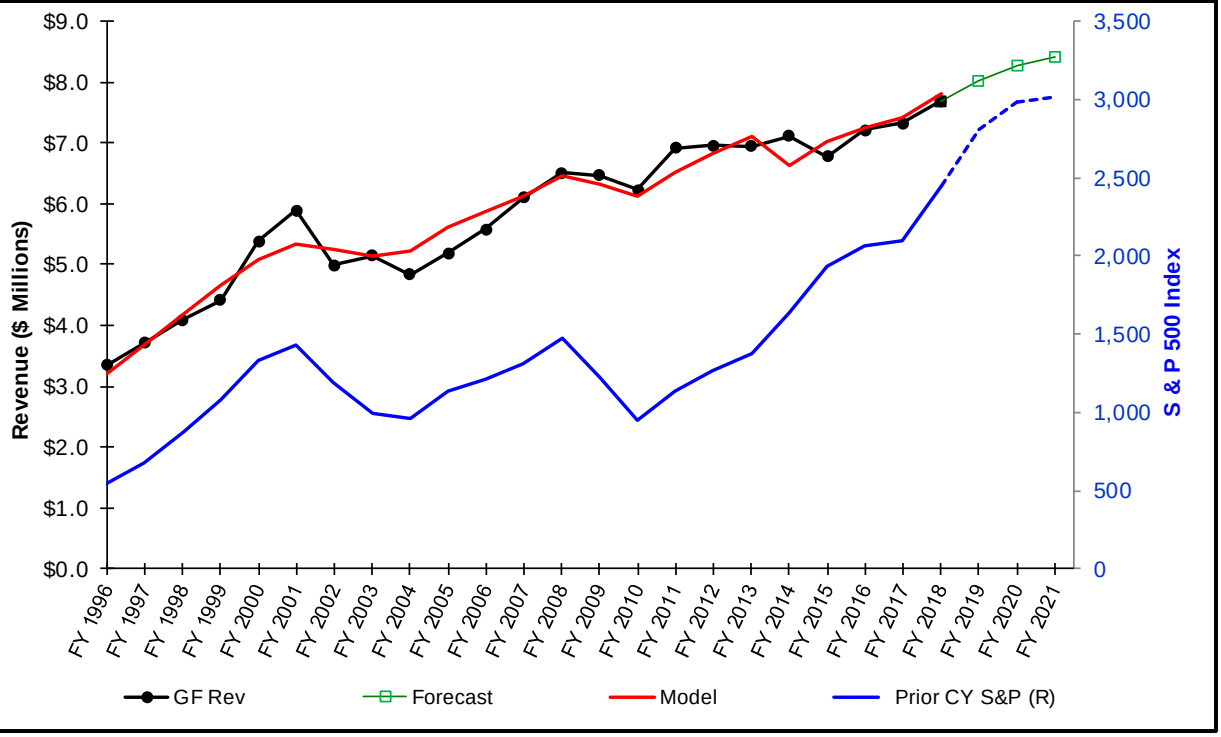
Forecast Methodology

Insurance license and permit revenue is forecast using a regression model of time, and the natural log of prior fiscal year performance of the S&P 500 index, with an indicator for FINRA registration. A dummy variable has been added to the model to account for the reclassification of certain fees as of January 2015. The accounting reclassification reduced investment license fee collections and state special revenue securities fees.

The model produces good fit (R^2 of 0.977) and with relatively narrow confidence bounds (a standard error of $280,000). A change in the Standard & Poor index of 100-points shifts collections by approximately $55,000. The typical annual revenue growth, holding all other factors constant, is approximately $150,000. The model therefore chiefly reflects the time trend and the change in the S&P 500 index forecast.

The model fit and forecast are presented in Graph 1. The graph shows that revenues move in concordance with time and financial markets.

Graph 1
Investment License Revenue and Prior Year S&P 500 Average
FY 1996 - FY 2018 and Forecast for FY 2019 - FY 2021



Data Sources

Historical tax revenue is as recorded in SABHRS. The State Auditor's Office provided state counts of registrations. National counts of FINRA registrants is from http://www.finra.org/newsroom/statistics#reps. The S&P 500 index and forecast is from IHS Markit (October 2018).

Public Contractors' Gross Receipts Tax

2021 Biennium

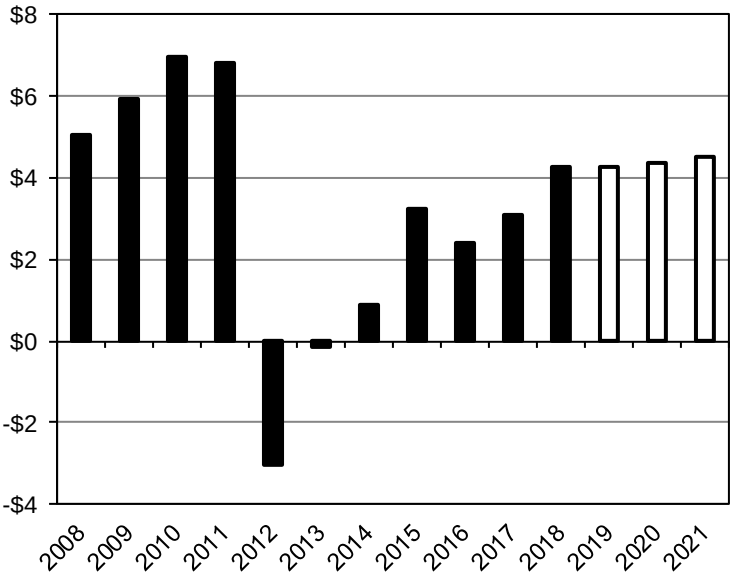
Revenue Description

In accordance with 15-50-205, MCA, a 1% tax is assessed on the gross receipts contractors receive for construction work within Montana for federal, state, or local government projects. Contractors may use the amount of gross receipts tax paid as an offset or credit against either their corporation income tax or their individual income tax. In addition, any personal property taxes paid on property located within Montana and used in the contractor's business may be used to obtain a refund of contractors' gross receipts taxes paid. Any tax not credited or refunded is allocated to the general fund.

Table 1 shows actual general fund revenue from the contractors' gross receipts tax for FY 2008 through FY 2018, and forecast revenue for FY 2019 through FY 2021. General fund revenue was elevated in FY 2009 - FY 2011, likely due to heightened spending on infrastructure projects generated by the America Recovery and Reinvestment Act. General fund receipts were negative in FY 2012 and FY 2013 as refunds outpaced payments. Revenue moved back into positive territory in FY 2014, and grew substantially in FY 2015 with the aid of lower refunds. A decrease in public contracts in FY 2016 led revenue lower in that year, but collections bounced back in FY 2017 and FY 2018.

Table 1
Contractors' Gross Receipts Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$5.063	-9.06%
A	2009	$5.930	17.13%
A	2010	$6.969	17.53%
A	2011	$6.803	-2.38%
A	2012	-$3.042	-144.71%
A	2013	-$0.138	95.48%
A	2014	$0.887	744.7%
A	2015	$3.257	267.13%
A	2016	$2.397	-26.38%
A	2017	$3.078	28.39%
A	2018	$4.267	38.61%
F	**2019**	**$4.250**	**-0.39%**
F	**2020**	**$4.374**	**2.92%**
F	**2021**	**$4.513**	**3.18%**



Risks and Significant Factors

- The level of contractors' gross receipts tax is dependent on the amount of public construction contracts available from federal, state, and local government. Federal and state contracts provide the bulk of work for public contractors. Growth in public infrastructure investment in Montana increases the size and number of public contracts and leads to higher tax collections.
- The balance between the value of the public contract and the amount of property taxes and vehicle taxes paid on the equipment used for the construction work influences the amount of gross receipts tax due to the general fund. If a lot of equipment is used for a relatively small value contract, it is possible for the contractor to receive a refund instead of owing tax, which is a negative draw on general fund revenue.
- Economic conditions and public policy influence the amount of spending governments allocate to public infrastructure. Spending can increase in both good economic times and bad economic times, and public policy is often dictated by the political makeup of governing bodies.

Forecast Methodology

There are three steps used when calculating public contractors' gross receipts tax revenue:

Step 1. Estimate gross tax receipts based on the expected value of public contracts. The total value of public contracts is divided into two categories: contracts supplied by the Montana Department of Transportation (MDT), and contracts supplied by other entities such as the federal government. MDT contracts maintained a level above $300 million annually from FY 2010 through FY 2015, then declined in FY 2016 and FY 2017 before climbing in FY 2018. Other contract payments historically have fluctuated more than MDT contract payments over the years. Payments from other contracts appear to have been heavily influenced by federal stimulus funds in FY 2009 and FY 2010.

MDT contract payments are forecast using a linear exponential smoothing model, and are estimated to grow at a consistent rate over the forecast period. Other contract payments are projected forward using a three-year moving average, and are expected to remain steady throughout the forecast period.

Step 2. Forecast total tax credits and refunds.

Step 3. Calculate the tax liability for the fiscal year and add the amount of credits and refunds to obtain general fund revenue.

Table 2 shows actual gross receipts from MDT and other contractors' payments, total credits and refunds, and general fund revenue for FY 2008 through FY 2018. Forecast values are shown for FY 2019 through FY 2021.

Table 2
Gross Receipts, Refunds, and Credits
($ millions)

Fiscal Year	MDT	Other	Credits and Refunds	General Fund
A 2008	$271.91	$424.51	($1.90)	$5.06
A 2009	$290.29	$538.45	($2.36)	$5.93
A 2010	$327.79	$560.46	($1.91)	$6.97
A 2011	$329.75	$350.58	$0.00	$6.80
A 2012	$368.23	$138.58	($8.11)	($3.04)
A 2013	$306.05	$110.11	($4.30)	($0.14)
A 2014	$324.84	$115.88	($3.52)	$0.89
A 2015	$335.65	$112.45	($1.22)	$3.26
A 2016	$295.29	$152.84	($2.08)	$2.40
A 2017	$266.98	$151.81	($1.11)	$3.08
A 2018	$284.64	$185.64	($0.44)	$4.27
F 2019	**$305.19**	**$163.43**	**($0.44)**	**$4.25**
F 2020	**$314.07**	**$166.96**	**($0.44)**	**$4.37**
F 2021	**$322.95**	**$172.01**	**($0.44)**	**$4.51**

Data Sources

Gross tax receipts, tax credits, refunds, and net general fund collections were obtained from SABHRS.

Driver's License Fees

2021 Biennium

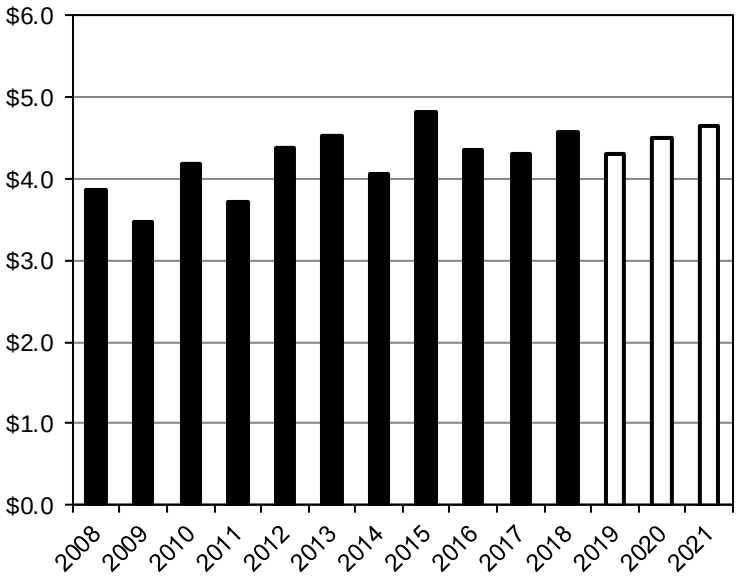
Revenue Description

Fees for driver's licenses, commercial driver's licenses, and motorcycle endorsements are set in 61-5-111, MCA. The fee for replacing a lost or destroyed license is set in 61-5-114, MCA. The distribution of revenue from driver's license fees is set in 61-5-121, MCA. County Treasures offices in ten of the least populated counties with limited-service driver license exam stations retain a small percentage of the fees they collect on behalf of the Motor Vehicle Division (MVD).

Table 1 shows general fund revenue from driver's license fees for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
Driver's License Fees
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$3.866	-16.15%
A	2009	$3.478	-10.02%
A	2010	$4.169	19.86%
A	2011	$3.711	-10.99%
A	2012	$4.369	17.72%
A	2013	$4.527	3.61%
A	2014	$4.051	-10.51%
A	2015	$4.811	18.76%
A	2016	$4.345	-9.69%
A	2017	$4.308	-0.84%
A	2018	$4.581	6.32%
F	**2019**	**$4.306**	**-5.99%**
F	**2020**	**$4.504**	**4.60%**
F	**2021**	**$4.655**	**3.34%**



Basic fees for driver's licenses are five dollars per year of validity. Additional fees are charged for motorcycle endorsements ($0.50 per year). Commercial driver's licenses ($10 per year for inter-state and $8.50 per year for intra-state licenses) are valid for a five-year period and include basic driving privileges that run concurrently with the commercial license. Reduced fees are available to active military personnel for basic driver's licenses and motorcycle endorsements. Replacement licenses are $10. A $0.50 renewal notice fee is charged at issue of a license.

Most license fees were revised by the 2003 Legislature. During the 2005 session the validity of commercial drivers' licenses was reduced to five years in conformity with federal transportation regulations and HB 192 revised fee distributions. There was a correction to the distribution of fees by the 2007 Legislature in HB 23. SB 393 (2015) provided for web-based drivers' licensing renewal system and expanded eligibility for mail renewals with no revenue effect as online and mail renewals supplant exam station renewals.

In 2017, SB 366 provided a federal REAL ID compliant licensure option when the current Montana drivers' licenses will be insufficient for travel identification by the Transportation Security Administration. Montana's licenses are expected be valid through September 2020. The REAL ID compliant IDs are expected to cost the standard replacement fee (generally $5 per year of validity) plus an additional $25 if renewed within the normal renewal cycle. Outside the standard renewal period the fee for a REAL ID compliant license is an additional $50. The REAL ID fees are state special revenue collections. HB 650 (in coordination with HB 473) created a 3% administrative fee, effective January 1, 2018, on all Title 61, MCA, fees, including the drivers' license fees in 61-5-111 & 61-5-114, MCA. The 3% fee works like a surcharge and is directed to the MVD administration state special revenue fund.

Risks and Significant Factors

- Revenue swings between fiscal years are principally due to the continued effects of the transition from four-year to eight-year licensing. The amplitude grew with fee changes in FY 2003. These effects have persisted.
- First year restrictions for drivers 18 years of age and under, which began in FY 2006, have lengthened the transition to full licensure and reduced the number of drivers age 16 and under.
- The average driver's age in Montana is rising. The growth of the cohort of eight-year licensed drivers (drivers age 20 through 74 years of age) is slowing. This groups growth has slowed from 1.1% per year in 2017 to an expected 0.3% per year by the end of FY 2021.
- REAL ID could lead to more replacement licensing which would increase revenue in FY 2019 and FY 2020. Doubling of replacement licenses would increase collections about $400,000 per year.
- REAL ID could shift basic and commercial licenses renewals in FY 2019 and FY 2020, a 10% increase in license renewal to take advantage of the lower REAL ID costs in the regular renewal period, would increase revenue approximately $500,000. This would be a timing shift from subsequent fiscal years.
- REAL ID uptake, particularly before October 2020, could crowd-out the basic and standard CDL licensing as DOJ reports REAL ID licenses take 66% longer to issue (25 minutes versus 15 minutes). The crowd-out effect could lower general fund collections - a 15% reduction would reduce collections around $650,000.

Forecast Methodology

Forecasting general fund driver's license fee revenue:

Step 1: Calculate the average effective licensing fee for basic licenses by dividing the number of renewal notices by the basic license collections**.** The estimate of the number of driver's licenses issued in any given year, is proxied by the renewal notices issued each fiscal year starting in FY 2006.

Step2: Forecast the number of licenses to be issued. The estimate of fiscal year drivers' licenses' to be issued is calculated by taking the average of the prior sixth and seventh year of the licensing cycle and growing the number by the expected age-cohort growth rate.

Step 3: Project the effective average licensing fees for basic drivers' licenses. This is done by taking the three-year moving average.

Step 4: Project total basic driver's license revenue by multiplying projected driver's licenses by expected fees.

The results of Steps 1 through 4 are summarized in Table 2:

Table 2
Estimate of Basic Driver's License Collections

Fiscal Year	Standard Driver's License Fees		Effective Average Fee		Renewal Notices		Forecast Std. License Total Revenue
A 2009	$3,542,739	÷	$32.95	=	107,517		
A 2010	$4,238,408	÷	$32.48	=	130,477		
A 2011	$3,579,561	÷	$30.89	=	115,866		
A 2012	$4,157,011	÷	$30.68	=	135,507		
A 2013	$4,496,604	÷	$31.44	=	143,000		
A 2014	$4,147,865	÷	$32.66	=	127,015		
A 2015	$4,948,388	÷	$31.55	=	156,849		
A 2016	$4,292,889	÷	$31.61	=	135,801		
A 2017	$4,154,439		$30.81	=	134,841		
A 2018	$4,548,243		$31.19	=	145,826		
F 2019			**$31.20**	x	**137,370**	**=**	**$4,286,442**
F 2020			**$31.07**	**x**	**144,294**	**=**	**$4,482,894**
F 2021			**$31.15**	**x**	**148,687**	**=**	**$4,632,146**

Step 5: Estimate revenue from other licenses. Commercial driver's license, motorcycle endorsement, and replacement license revenues are projected based on their respective seven-year olympic average proportions relative to

basic driver's license revenue. These estimates are reported in Table 3. In ten smaller counties, that do not have a full MVD exam station, a portion of the driver's license fee is retained for the county general fund, this retention is not reported in SABHRS, the amount is estimated and added back to the calculation of total license and fee revenue based on the FY 2018 proportion.

Table 3
Driver's License Total Revenue by Fee Type
($ millions)

Fiscal Year	Basic Driver's Licenses	Commercial Licenses	Motorcycle Endorsements	Replacement Licenses	Renewal Fee	Total Revenue	Estimate of county retention
A 2012	$4.157	$0.841	$0.050	$0.328	$0.068	$5.444	$0.018
A 2013	$4.497	$0.699	$0.052	$0.331	$0.071	$5.650	$0.018
A 2014	$4.148	$0.425	$0.040	$0.341	$0.064	$5.017	$0.009
A 2015	$4.948	$0.557	$0.055	$0.359	$0.078	$5.998	$0.014
A 2016	$4.293	$0.623	$0.045	$0.374	$0.068	$5.402	$0.014
A 2017	$4.154	$0.691	$0.044	$0.389	$0.067	$5.347	$0.013
A 2018	$4.548	$0.617	$0.049	$0.406	$0.073	$5.693	$0.015
Relative Proportion							
A 2012	1.000	0.202	0.012	0.079	0.016	1.3096	0.0044
A 2013	1.000	0.155	0.012	0.074	0.016	1.2564	0.0040
A 2014	1.000	0.102	0.010	0.082	0.015	1.2096	0.0023
A 2015	1.000	0.113	0.011	0.073	0.016	1.2121	0.0028
A 2016	1.000	0.145	0.010	0.087	0.016	1.2584	0.0033
A 2017	1.000	0.166	0.011	0.094	0.016	1.2870	0.0032
A 2018	1.000	0.136	0.011	0.089	0.016	1.2518	0.0032
Olympic Avg. Proportion		**0.145**	**0.011**	**0.082**	**0.016**	**1.254**	**0.0033**
All Fund Revenue by License Type							
A 2012	$4.157	$0.841	$0.050	$0.328	$0.068	$5.444	$0.018
A 2013	$4.497	$0.699	$0.052	$0.331	$0.071	$5.650	$0.018
A 2014	$4.148	$0.425	$0.040	$0.341	$0.064	$5.017	$0.009
A 2015	$4.948	$0.557	$0.055	$0.359	$0.078	$5.998	$0.014
A 2016	$4.293	$0.623	$0.045	$0.374	$0.068	$5.402	$0.014
A 2017	$4.154	$0.691	$0.044	$0.389	$0.067	$5.347	$0.013
A 2018	$4.548	$0.617	$0.049	$0.406	$0.073	$5.693	$0.015
F 2019	**$4.286**	**$0.622**	**$0.047**	**$0.350**	**$0.068**	**$5.374**	**$0.015**
F 2020	**$4.483**	**$0.650**	**$0.050**	**$0.366**	**$0.071**	**$5.620**	**$0.015**
F 2021	**$4.632**	**$0.672**	**$0.051**	**$0.379**	**$0.074**	**$5.807**	**$0.015**

Step 6: Allocate statutory distributions of revenue to the state traffic education and state motorcycle safety accounts, by type of licensing revenue. The remainder is distributed to county or state general funds. The basis for distributing fees for each license is shown in Table 4 as set by 61-5-121, MCA.

Table 4
Driver's License Fee Allocation

	Basic Driver's License	Commercial Licenses	Motorcycle Endorsement	Replacement License
State General Fund (remainder)	76.80%	80.56%	33.20%	87.50%
State or County General Fund[1]	2.50%	2.50%	3.34%	3.75%
Traffic Safety Education	20.70%	16.94%	0.00%	8.75%
Motorcycle Safety Training	0.00%	0.00%	63.46%	0.00%
	100.00%	100.00%	100.00%	100.00%

[1] County general fund receives the distribution if the license is issued at a county office (vs. a MVD office).

The estimates from the bottom of Table 3 are multiplied by the corresponding distribution percentage listed in Table 4 to estimate driver's license receipts allocated to each state special revenue account and to the state general fund. Counties only receive a distribution if they issue the license. The county retention is estimated to be less than $500. The state special revenue distributions along with the general fund are presented in Table 5. The three percent (3%) administrative charge enacted in HB 650, attributable to driver's license fees, are calculated separately based on the total revenue calculation and are also presented in Table 5. The general fund portion is also presented in Table 1.

Table 5
Allocation of Driver's License Fee Revenue
($ millions)

Fiscal Year	General Fund	Traffic Safety Education	Motorcycle Safety Training	County Retention	Total
A 2018	$4.566	$1.082	$0.031	$0.015	$5.693
F 2019	**$4.306**	**$1.023**	**$0.030**	**$0.015**	**$5.374**
F 2020	**$4.504**	**$1.070**	**$0.031**	**$0.015**	**$5.620**
F 2021	**$4.655**	**$1.106**	**$0.033**	**$0.015**	**$5.807**

Data Sources

Historical revenue data by license type is from SABHRS. Montana population estimates are from the IHS Markit, October 2018 state forecast.

Rail Car Tax

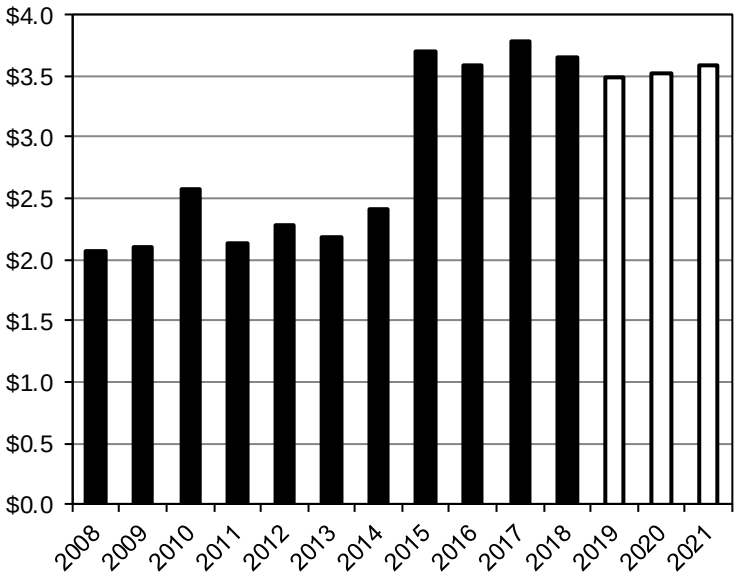
Revenue Description

Title 15, Chapter 23, Part 2, MCA provides for the central assessment of rail car companies' operating properties and their taxation. The tax is computed by multiplying the assessed value of the allocated Montana share of the national rail car fleet by the class 12 tax rate and the statewide average mill levy for commercial and industrial property.

Table 1 presents actual general fund revenue from the rail car tax for FY 2008 though FY 2018 and forecast for FY 2019 through FY 2021. (FY 2019 revenues are essentially known since the FY 2019 tax bills were issued in October 2018).

Table 1
Rail Car Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2008	$2.064	27.84%
A	2009	$2.099	1.72%
A	2010	$2.579	22.85%
A	2011	$2.130	-17.41%
A	2012	$2.273	6.72%
A	2013	$2.179	-4.15%
A	2014	$2.418	10.97%
A	2015	$3.706	53.28%
A	2016	$3.594	-3.02%
A	2017	$3.790	5.45%
A	2018	$3.649	-3.73%
F	**2019**	**$3.494**	**-4.25%**
F	**2020**	**$3.527**	**0.95%**
F	**2021**	**$3.583**	**1.58%**



Risks and Significant Factors

- The national economic recovery and increasing train traffic has led to a recent increase in tax billings. Investment in new rolling stock is growing the value of the national fleet.
- Traffic increases Montana's share (in value terms) of the national rail car fleet as general trade, grain, coal, and oil expands. Reduction in commodity prices, coal demand, and oil pipeline expansion can reduce traffic.
- The class 12 tax rate is the effective weighted average rate that applies to all commercial and industrial property in the state. Therefore, the rate is affected by commercial and industrial property tax reductions. Recent reductions including the *Gold Creek* Supreme court decision on intangible personal property, class 13 protest settlements, biennial reappraisal of class 4 commercial property, along with the SB 372 (2011) and SB 96 (2013) reductions to class 8 tax rates, these changes are anticipated to stabilize the variation in the class 12 tax rate to changes with biennial class 4 commercial property reappraisal causing annual shifts.
- The tax reductions may also raise statewide average commercial and industrial mill rates. The trend, statewide commercial and industrial average mill levy growth rate (0.6%) is used in this estimate. If tax rate reductions raise mill levies more than anticipated, they would increase state general fund rail car tax revenue.
- Because tax year (TY) 2018 rail car tax bills are mailed in October, the tax liability for FY 2019 is essentially known but subject to protests, penalties, audits, and rail car company reporting errors.

Forecast Methodology

Step 1. Forecast the allocated market value of rail car companies operating in Montana. The (outlier adjusted) trend growth adds about $2 million per year to national rail car fleet value allocated to Montana.

Step 2. Apply the estimates of class 12 tax rates. These are estimated based on the recent biennial rate changes. This decouples the estimate from the property tax class 12 tax rate estimate. The class 12 tax rate incorporates the effective weighted average of the tax rates that apply to all commercial and industrial property statewide after correcting for the biennial reappraisal of class 4 commercial property.

Step 3. Estimate the average statewide mill levy for commercial and industrial property. Mills are expected to grow at trend rates in the future (0.7%).

Step 4. Calculate general fund revenue. Table 2 presents the forecast of allocated market value, class 12 tax rate, the estimated statewide average commercial and industrial property mill levy, and the resulting general fund tax revenue forecast. Rail car tax collections show the recent surge for FY 2015 then return to the long-term trend over the forecast period.

Table 2
Calculation of Rail Car Tax Revenue
($ millions)

Description	FY 2017 Actual	FY 2018 Actual	**FY 2019 Billed**	**FY 2020 Projected**	**FY 2021 Projected**
Total Montana Allocated Value	$238.379	$218.639	**$200.798**	**$204.847**	**$206.825**
Multiplied by Class 12 Tax Rate	3.04%	3.07%	**3.12%**	**3.07%**	**3.07%**
Taxable Value	$7.247	$6.712	**$6.265**	**$6.289**	**$6.35**
Multiplied by Mill Levy	538.090	545.930	**557.430**	**560.830**	**564.251**
Calculated Tax	$3.899	$3.664	$3.492	**$3.527**	**$3.583**
General Fund Revenue	$3.864	$3.637	**$3.494**	**$3.527**	**$3.583**

Distribution

The general fund receives 100% of rail car tax revenue.

Data Sources

Historical tax revenue is from SABHRS. The summary rail car tax database (TY 2003 – TY 2018), class 12 tax rates for TY 2003 – TY 2018, and statewide average commercial and industrial mill levies for TY 2003 – TY 2018 were provided by the Department of Revenue.

Other Revenue

2021 Biennium

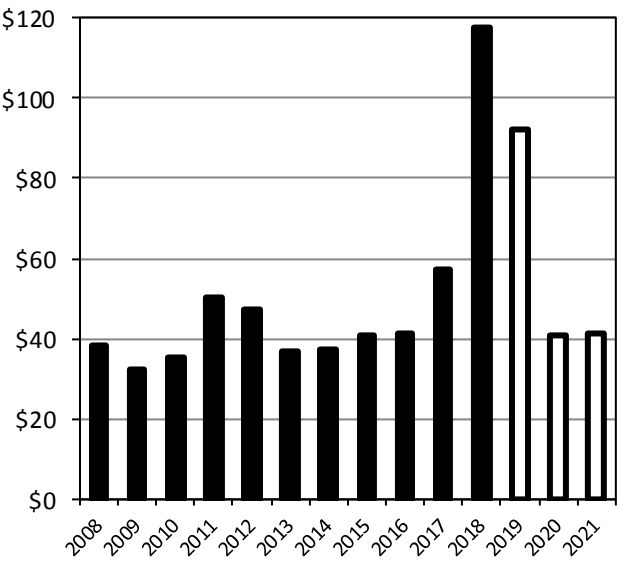
Revenue Description

Other revenue represents the sources of general fund revenue that do not have an individual line item in the revenue estimating resolution. Other revenue includes some one-time revenue that has been as large as $16.3 million in FY 2011 and $8.4 million in FY 2008. The FY 2018 one-time revenue includes $38.4 million 2017 regular session transfers and $22.4 million 2017 special session transfers to the general fund. FY 2019 one-time revenue includes $10.24 million from HB 6, (2017 special session) transfers; $15 million receipts from Core Civic; $15.084 million from State Fund management fees; and $1.64 million from tourism transfers. An average of $1.8 million per year is used to forecast one-time revenue going forward.

Table 1 shows actual general fund revenue from FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
Other Revenue
($ millions)

Fiscal	Year	Total Revenue	Percent Change
A	2008	$38.566	36.87%
A	2009	$32.141	-16.66%
A	2010	$35.454	10.31%
A	2011	$50.420	42.21%
A	2012	$47.486	-5.82%
A	2013	$36.785	-22.53%
A	2014	$37.321	1.46%
A	2015	$40.822	9.38%
A	2016	$41.444	1.52%
A	2017	$57.338	38.35%
*A	2018	$117.813	105.47%
**F	2019	$92.214	-21.73%
F	2020	$40.996	-55.54%
F	2021	$41.259	0.64%



*FY 2018 includes $38.4M 2017 Reg Session transfers; $22.4M 2017 Special Session transfers
**FY2019 includes $164 2017 Reg Session transfers; $10.24 million 2017 Special Session transfers; $15M Core Civic; $15.084 State Fund Mgmt Fee

Risks and Significant Factors

- State legislative and national congressional action may have a significant impact on “other revenue”.
- Many small variances over a large number of revenue categories may have a significant aggregate effect.

Forecast Methodology

The general fund “other revenue” is forecast in four steps:

Step 1. Estimate future one-time revenue.

- In FY 2019, Hospital Community Benefits Assessments and TPA Premiums will continue at approximately $9.5 million, but are not included in FY 2020 or FY 2021 estimates.
- Additionally, HB 6, 2017 special session transfers will occur totaling $10.24 million in FY 2019.

- In FY 2017, FY 2018, and FY 2019, approximately $9.5 million per year in revenue from the Hospital Community Benefit Assessment and from TPA (Third-Party Administrator) Premiums were included in "Other Revenue" receipts.

Step 2: Isolate and estimate large sources of other revenue.

- The sale of abandoned property is from financial accounts that have gone dormant and are forwarded to the state.
- In FY 2008, the sale of the armory in Missoula for $3.5 million; unused funds from the *Jobs and Growth Tax Relief Act* totaling $2.5 million, and HB 4 (May 2007 special session) funded $2.5 million for the Miles City Readiness Center from the long-range building fund. The Department of Military Affairs received funding from the federal government and as a result of specific wording in HB 4, $2.4 million was returned to the general fund in FY 2008.
- In FY 2010, there was a non-budgeted transfer from the Department of Administration for $0.371 million. However, this transfer was largely overshadowed by a negative $1.2 million accounting correction made by the Department of Justice related to the implementation of the MERLIN system.
- In FY 2018, receipts included $38.4 million from 2017 regular session and SB 261 transfers and $22.4 million in 2017 special session transfers.

Step 3: Isolate and estimate smaller sources of revenue.

- There are many small sources of revenue that are forecast individually. These sources are projected like the larger sources of revenue; they are assessed for law changes and forecast based on trends or discussions with agencies.

Step 4: Estimate the remaining revenue as a group and sum the four categories. The general fund revenue that is not classified in one of the three previous groups is estimated as a single group.

Table 2 shows revenue to the general fund that is categorized as one-time revenue.

Table 2
One Time General Fund Revenue
($ millions)

Fiscal Year	One Time Revenue	Percent Change
A 2008	$8.387	8570.78%
A 2009	$0.464	-94.47%
A 2010	-$0.863	-285.94%
A 2011	$16.324	1991.41%
A 2012	$3.450	-78.87%
A 2013	$2.030	-41.16%
A 2014	$0.649	-68.04%
A 2015	$0.588	-9.32%
A 2016	$1.330	126.19%
A 2017	$1.384	4.00%
A 2018	$69.628	4932.60%
F 2019	**$43.796**	**-37.10%**
F 2020	**$1.832**	**-95.82%**
F 2021	**$1.832**	**0.00%**

One-time revenue is anticipated to be $1.82 million each year for FY 2019 through FY 2021 and FY 2019 also includes: $10.24 million from HB 6, (2017 special session) transfers; $15 million receipts from Core Civic; $15.084 million from State Fund management fees; and $1.64 million from tourism transfers.

Table 3 shows additional large sources of other revenue. Collections are projected by examining historical deposits to determine whether there is a trend or other pattern in receipts.

Table 3
Large Individual Sources of Other Revenue
($ millions)

Source of Revenue	FY 2018	**FY 2019**	**FY 2020**	**FY 2021**
Fire Reimbursement	$0.000	**$0.000**	**$0.000**	**$0.000**
Abandoned Property	$10.703	**$10.703**	**$10.703**	**$10.703**
Clerk of Court Fees	$3.375	**$3.375**	**$3.375**	**$3.375**
Vet's Home Transfer	$2.924	**$2.924**	**$2.924**	**$2.924**
Portfolio Transfer	$6.814	**$7.111**	**$7.293**	**$7.467**
Vehicle and Driving Records	$2.696	**$2.696**	**$2.696**	**$2.696**
SWCAP	$2.864	**$2.864**	**$2.864**	**$2.864**
HB 536 Criminal Surcharge	$1.254	**$1.254**	**$1.254**	**$1.254**
Bentonite Production	$0.274	**$0.274**	**$0.274**	**$0.274**
Estate Tax	$0.000	**$0.000**	**$0.000**	**$0.000**
Driver's License Reinstatement	$1.123	**$1.123**	**$1.123**	**$1.123**
Implementation of Stimulus	$0.000	**$0.000**	**$0.000**	**$0.000**
DOA Administrative Expense	$1.763	**$1.816**	**$1.870**	**$1.926**
Total	$33.789	**$34.139**	**$34.376**	**$34.606**

Table 4 shows the four different revenue categories that make up general fund other revenue for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 4
All Other Revenue Sources
($ millions)

Fiscal Year	One Time	Large Sources	Smaller Sources	Estimated as a group	Total
A 2008	$8.387	$22.873	$6.935	$0.371	$38.566
A 2009	$0.464	$24.401	$6.652	$0.623	$32.141
A 2010	($0.863)	$29.890	$5.679	$0.749	$35.454
A 2011	$16.324	$27.516	$3.934	$2.661	$50.434
A 2012	$3.450	$29.693	$4.840	$1.677	$39.660
A 2013	$2.030	$26.449	$4.585	$3.797	$36.861
A 2014	$0.649	$31.291	$4.431	$0.973	$37.344
A 2015	$0.588	$32.039	$4.003	$4.225	$40.855
A 2016	$1.330	$30.468	$5.148	$4.583	$41.529
A 2017	$1.384	$32.464	$12.830	$10.704	$57.381
A 2018	$69.628	$33.789	$3.502	$10.893	$117.813
F 2019	**$43.796**	**$34.139**	**$3.457**	**$10.821**	**$92.214**
F 2020	**$1.832**	**$34.376**	**$3.428**	**$1.360**	**$40.996**
F 2021	**$1.832**	**$34.606**	**$3.460**	**$1.360**	**$41.259**

Data Sources

SABHRS Report MTGL0109 and SABHRS Data Mine provided historical revenue.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

NON-GENERAL FUND REVENUE SECTION 10

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

School Trust Land Interest and Income

2021 Biennium

Revenue Description

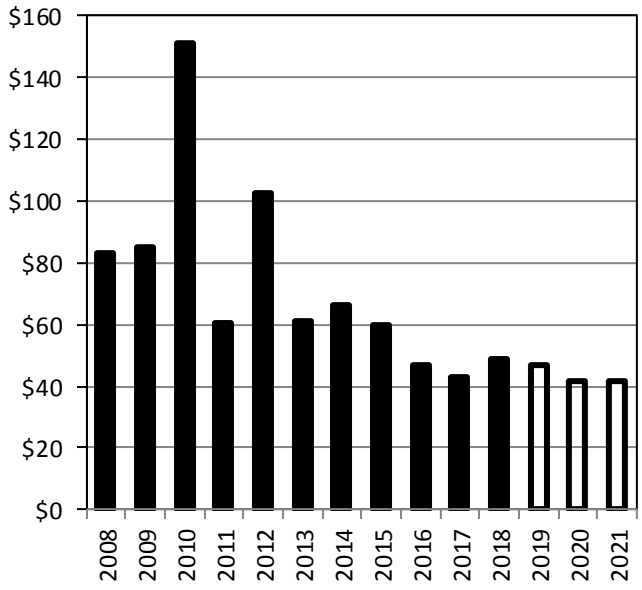
The United States Congress granted public lands to the State of Montana by the Enabling Act in 1889 to provide income to support public schools. The Enabling Act also granted smaller amounts of land to other state institutions (School for the Deaf and Blind, colleges and universities). The land grants have been supplemented over time through gifts to the state, reversions of unclaimed property, and subsequent acts.

Proceeds from property sales of the granted land are deposited into an inviolate trust fund; thus, the proceeds are non-distributable. The trust fund is invested, almost exclusively, in the Trust Fund Bond Pool (TFBP). Of the interest income and other income from the trust lands, 5% percent is retained by the trust fund corpus, and 95% of the interest earned by the trust fund is considered distributable. The distributable income from the common school trust land is deposited in the state special revenue guarantee account for spending on public schools. The distributable income from the other trust lands goes to state special revenue accounts. Costs of administering state lands are deducted from allocations of the income. An amount is also deducted and put into a reserve fund in the event revenues do not meet the required expenses in a given fiscal year, but will be greater than the costs given a longer time period.

Table 1 shows actual distributable income from the Common School Trust plus additional revenue directed to the account for FY 2008 through FY 2018 and forecast revenue for FY 2019 through FY 2021.

Table 1
School Trust Land Interest and Income
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$83.026	17.89%
A	2009	$85.385	2.84%
A	2010	$151.034	76.88%
A	2011	$60.144	-60.18%
A	2012	$102.391	70.24%
A	2013	$61.098	-40.33%
A	2014	$66.194	8.34%
A	2015	$59.833	-9.61%
A	2016	$47.053	-21.36%
A	2017	$43.132	-8.33%
A	2018	$49.036	13.69%
F	**2019**	**$46.693**	**-4.78%**
F	**2020**	**$41.566**	**-10.98%**
F	**2021**	**$41.907**	**0.82%**



The large increase in revenue in FY 2010 is due to the bonus payment of the Otter Creek coal tracks. The lower level in FY 2011 is due to the changing distribution of mineral royalties to the trust fund corpus rather than common schools. This change became effective toward the end of FY 2010.

Funding deposited in the state special revenue guarantee account in addition to the state lands revenues include: SB 175, 2013 session, transferred $22.95 million general fund at the end of FY 2013 to the state special revenue Montana support for schools account to be equally distributed to the state special revenue guarantee account at the beginning of each fiscal year FY 2014 and FY 2015; and the 2017 special legislative session transferred $3.4 million in FY 2018 and $4.8 million in FY 2019 via HB 6 from the state special revenue school facility and technology account to the guarantee account.

School interest and income was deposited in the general fund through FY 2001. A new state special revenue account, the guarantee account, was created in SB 495 (2001 Session) and amended in HB 7 (2002 Special Session) to be statutorily appropriated. Beginning in FY 2002, school trust interest and income has been deposited in the guarantee account rather than the general fund.

Revenue increased in FY 2002, because SB 495 resulted in a loan of $46 million from the coal trust to the school trust fund. The higher school trust fund balance increased interest earnings. SB 495 also allowed $138.9 million in net mineral royalties to be distributed to common schools rather than to the trust fund corpus. That limit was reached in FY 2010 and mineral royalty revenue is now deposited into the trust fund corpus to generate interest revenue.

HB 152 (2009 session) directed all revenue generated from timber harvested in the state on common school trust lands over 18 million board feet, as well as 95% of the revenue from river bed leases, be deposited in the state special revenue school facility and technology improvement account. However, the change in distribution of revenue from riverbed rents did not take effect until FY 2015.

SB 65 (2009 session) consolidated four accounts that were used to pay for the administration of the trust fund into a single account. It also allowed the diversion of up to 25% of the prior year's distributable revenue to be deposited into the trust administration account (TAC) for the Department of Natural Resources and Conservation (DNRC) administrative costs. In the event costs were less than what was distributed to the TAC, then up to one-third of the excess would be deposited into a newly created reserve account. Money in the reserve account would then be used to cover administrative costs in the event there were inadequate funds in the TAC account to cover all costs. The remaining revenue would be deposited in the trust fund corpus to generate interest. The balance in the earnings reserve fund may not exceed 200% of the appropriation to the TAC account from the prior fiscal year.

Risks and Significant Factors

- Trust revenue is net of administration costs of DNRC. If DNRC's costs vary from expectations, then common school revenue could also be greater or less than anticipated.
- Revenue to the account can vary depending on legislative action depositing more or less revenue to the account.
- Mineral Management revenue varies according to mineral prices and changes in mineral rights leases.
- The price of timber, along with decisions about the amount of land to be harvested, could have an effect on trust land revenue.

Forecast Methodology

Step 1. Total interest earnings from the trust and legacy fund are based on interest rate forecasts described in the *Interest Rate Introduction* section.

Step 2. The Common School portion of the total trust fund is then estimated and applied to yield interest income.

Step 3. Agricultural and grazing rentals are determined based on projections provided by the DNRC and historical projection patterns.

Step 4. School trust non-royalty mineral income is based on projections provided by the DNRC and historical projection patterns.

Step 5. Timber revenue is based on projections by DNRC, long-term trends, and executive budget recommendations.

Step 6. Mineral revenue is calculated based on projections provided by the DNRC and historical projection patterns.

Step 7. All other revenue to the common school trust is forecast based on communication with DNRC, long-term trends, and legislative actions.

Step 8. All components are added together and distributed appropriately.

Table 2 shows actual revenue for FY 2018 and forecast gross revenue, estimated administrative expenses, common schools distribution, other anticipated revenue, and net revenue to schools for FY 2019 through FY 2021.

Table 2
School Trust Income Allocation and Distribution
($ millions)

Fiscal Year	FY 2018	FY 2019	FY 2020	FY 2021
Investment Income	$21.329	**$21.285**	**$21.285**	**$21.285**
Agriculture and Grazing Rents	$24.580	**$25.200**	**$24.500**	**$25.000**
Mineral Management	$3.147	**$2.170**	**$2.418**	**$2.663**
Forest Management	$2.423	**$2.373**	**$2.529**	**$2.244**
Licenses and Other Income	$3.483	**$2.668**	**$2.544**	**$2.514**
Subtotal	**$54.963**	**$53.696**	**$53.276**	**$53.706**
Expenses				
Trust Land Administration Account	$10.554	**$11.487**	**$11.417**	**$11.509**
Subtotal	**$44.408**	**$42.209**	**$41.859**	**$42.197**
Permanent Fund				
5% to permanent fund	$2.203	**$2.110**	**$2.093**	**$2.110**
Total Common Schools Distribution	**$42.206**	**$40.099**	**$39.766**	**$40.087**
Other Revenue to Guarantee Account				
HB 6, 2017 Special Session transfer	$3.400	**$4.800**		
Excess Oil and Gas (HB 647)	$3.366	**$1.764**	**$1.780**	**$1.800**
Excess school funding remitted (SB 175)	$0.064	**$0.030**	**$0.020**	**$0.020**
Total Revenue to Guarantee Account	**$49.036**	**$46.693**	**$41.566**	**$41.907**

Data Sources

Interest income information was collected from SABHRS and other projections were obtained from DNRC.

Tobacco Settlement Trust Interest

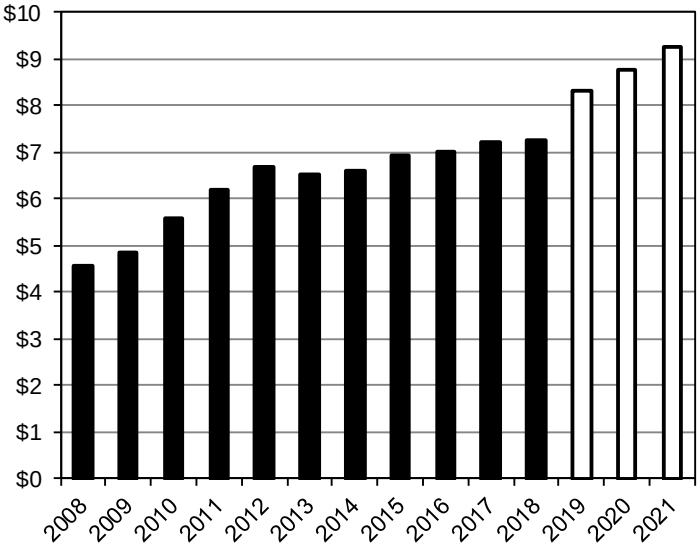
2021 Biennium

Revenue Description

Montana receives payments from a multi-state settlement with tobacco companies. Forty percent of the receipts from this settlement are deposited in the tobacco settlement trust. Ten percent of interest earnings from this trust fund are retained in the trust and 90% are deposited in a state special revenue account and may be appropriated by the legislature for tobacco prevention and health care programs (17-6-603, MCA).

Table 1
Tobacco Settlement Trust Interest
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$4.546	8.0%
A	2009	$4.825	6.1%
A	2010	$5.599	16.0%
A	2011	$6.173	10.3%
A	2012	$6.701	8.6%
A	2013	$6.526	-2.6%
A	2014	$6.592	1.0%
A	2015	$6.916	4.9%
A	2016	$7.009	1.3%
A	2017	$7.217	3.0%
A	2018	$7.259	0.6%
F	**2019**	**$8.296**	**14.3%**
F	**2020**	**$8.782**	**5.9%**
F	**2021**	**$9.239**	**5.2%**



The tobacco settlement trust was established in January 2001, following passage of Constitutional Amendment 35 in the November 2000 election. Spendable interest is the portion of tobacco trust interest that is not retained by the trust. Tobacco trust interest revenue grows because the trust fund balance increases with the settlement payments made each year.

Forecast Methodology and Significant Factors

Strategic contribution payments to states from participating manufacturers ended after the 2017 sales year. Historically, the strategic payment has amounted to about over $12 million per year transferred to the corpus of the trust.

There are three steps to forecasting interest revenue from the tobacco trust fund:

Step 1. The annual average balance of the fund is projected. The fund balance increases yearly as 40% of the tobacco settlement payments and 10% of the interest earned on the fund balance are deposited into the trust fund.

Step 2. The annual average balance by investment type is projected. The fund balance is invested in the short-term investment pool (STIP) and the trust fund bond pool (TFBP). STIP and TFBP are managed by the Board of Investments (BOI) and forecasts of annual rates of return for STIP and TFBP are explained in the *Interest Rates Introduction*.

Step 3. Interest earnings are forecast by multiplying the tobacco trust fund balance by the projected average interest rate. The STIP and TFBP interest rates are expected to change throughout the 2021 biennium, as described in the *Interest Rates Introduction*. To the extent that increasing interest rates are realized, total tobacco trust fund income will continue to increase each year.

Distributions

Table 2 summarizes actual and projected interest earnings and the allocation of interest earnings from FY 2007 through FY 2021. Ten percent of tobacco trust earnings are retained by the trust and 90% are allocated to a state special revenue account.

Table 2
Tobacco Trust Interest Revenue Distribution
($ millions)

Fiscal Year	Reinvested Revenue (10%)		Remaining Revenue (90%)		Total Interest Revenue
A 2007	$0.421	+	$3.787	=	$4.208
A 2008	$0.455	+	$4.091	=	$4.546
A 2009	$0.483	+	$4.343	=	$4.825
A 2010	$0.560	+	$5.039	=	$5.599
A 2011	$0.617	+	$5.556	=	$6.173
A 2012	$0.670	+	$6.031	=	$6.701
A 2013	$0.653	+	$5.873	=	$6.526
A 2014	$0.659	+	$5.933	=	$6.592
A 2015	$0.692	+	$6.224	=	$6.916
A 2016	$0.701	+	$6.308	=	$7.009
A 2017	$0.722	+	$6.495	=	$7.217
A 2018	$0.726	+	$6.533	=	$7.259
F 2019	**$0.830**	**+**	**$7.467**	**=**	**$8.296**
F 2020	**$0.878**	**+**	**$7.904**	**=**	**$8.782**
F 2021	**$0.924**	**+**	**$8.315**	**=**	**$9.239**

Data Sources

Tobacco trust balances and earnings are obtained from the BOI and SABHRS. Projections of tobacco settlement deposits are from the *Tobacco Settlement* revenue estimate. Projections of the STIP and TFBP interest rates are from *Interest Rates Introduction.*

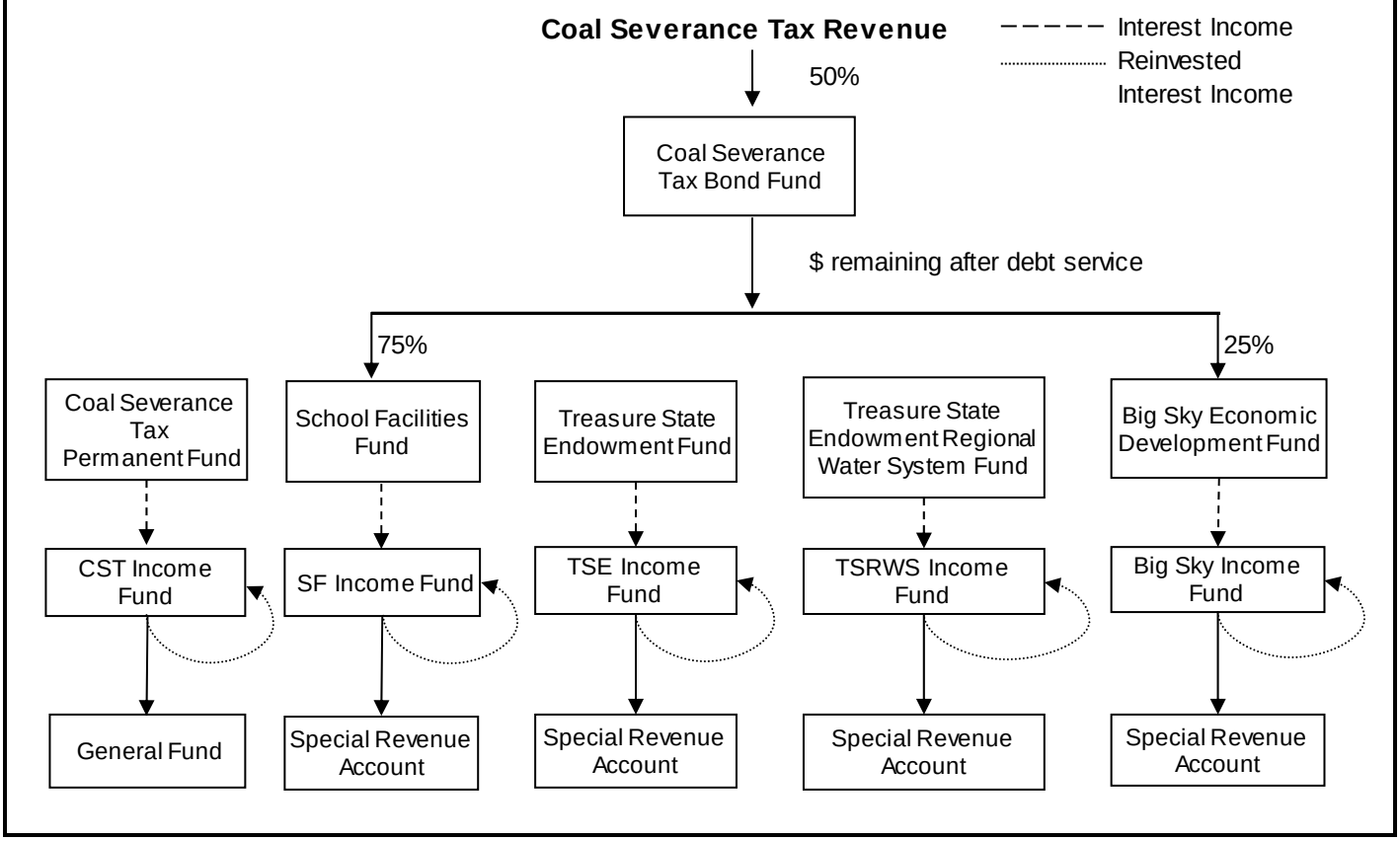
Revenue Description

Article IX, Section 5, of the Montana Constitution established a permanent trust fund into which at least half of coal severance tax revenue must be deposited as principal. Interest income from this principal may be appropriated, but the principal itself is inviolate unless approved by three-fourths of the members of each house in the legislature. Under current law, 50% of coal severance tax revenue is deposited in the trust fund, which is divided into the following funds described in 17-5-703, MCA.

- Coal severance tax bond fund
- Coal severance tax permanent fund
- Treasure state endowment fund (TSE)
- Treasure state endowment regional water system fund (TSRWS)
- Big sky economic development fund (BSED)
- School facilities fund

The coal severance tax revenue allocated to the trust is initially deposited in the coal severance tax bond fund, which provides for debt service on the state's coal severance tax bonds. The amount remaining after debt service payments is distributed as shown in Figure 1.

Figure 1: Distribution of Coal Severance Tax



Coal Severance Tax Bond Fund

The coal severance tax revenue deposited into the coal severance tax bond fund (bond fund) secures state issued bonds referred to as coal severance tax bonds. The tax bonds are issued to finance loans through the Department of Natural Resources and Conservation (DNRC). The Department of Revenue (DOR) administers the bond fund, and at the beginning of the fiscal year, DNRC informs DOR of the amount necessary to meet all principal and interest payments on coal severance tax bonds for the next twelve months. This amount is maintained as a reserve balance in the bond fund.

A portion of the reserve balance in the bond fund is invested in the short-term investment pool (STIP). This investment averages about $6 million per year, and the interest earnings are deposited in the coal severance tax income fund. The coal severance tax income fund balance is transferred monthly to the general fund, but the balance is invested in STIP during the interim with the reinvested interest income returning to the fund.

The coal severance tax revenue that is not reserved in the bond fund is allocated 25% to the BSED fund and 75% to the school facilities fund. The TSE fund and TSRWS fund no longer receive distributions from the bond fund; however, these two funds retain their existing balances and continue to generate interest earnings to fund infrastructure projects around the state.

Risks and Significant Factors

- The Federal Reserve has been raising the target level of the federal funds rate consistently over the past couple of years as it pursues policy normalization. Further increases are likely as the U.S. economy continues to strengthen. A rising federal funds rate will boost interest earnings from the coal trust fund's STIP investments.
- Coal trust fund balances are primarily invested in the trust fund investment pool (TFIP), so rates of return on assets held in the TFIP are a large determinant of trust fund interest earnings.
- Market interest rates on the class of investment-grade assets that make up the TFIP are gradually rising from historically low levels that persisted in the wake of the Great Recession. Low-yield securities are maturing and being replaced with higher-yielding assets. This process will slowly push up the overall rate of return on TFIP investments.
- For the trust funds that receive distributions from the coal severance tax (currently the BSED fund and the school facilities fund), growth in their fund balances is linked directly to the amount of coal severance tax collected. All else equal, greater principle growth will lead to higher interest earnings. Shifts in coal markets that impact coal production and/or price in Montana will flow through to effect distributions to and interest earnings from the coal trust funds.

Forecast Methodology

Interest earnings from the TSE fund, TSRWS fund, BSED fund, and school facilities fund are forecast in two main steps.

Step 1. Estimate the investment composition of the balance in each trust fund (i.e. the allocation between STIP and TFIP assets).

Step 2. Apply the appropriate interest rate to each investment balance. Details about the STIP and TFIP are discussed in the *Interest Rate Introduction* section.

The following sections discuss the revenue outlook for each individual trust.

Coal Severance Tax Permanent Fund

The coal severance tax permanent fund is the original coal tax trust fund. Generally, the permanent fund is not a recipient of coal severance tax revenue, but with the elimination of the bond fund distributions to the TSE fund and TSRWS fund at the beginning of FY 2017, the permanent fund received 75% of the coal severance tax revenue allocated to the trust fund in that year. Starting in FY 2018, the school facilities fund became the recipient of the 75% distribution that was previously allocated to the permanent fund. The average balance of the permanent fund for FY 2018 was $508 million, and the investment composition of the fund included 28% in loans, 2% in the STIP, and the remaining 70% in the TFIP. The interest earnings from the permanent fund are deposited into the coal severance tax income fund and are ultimately

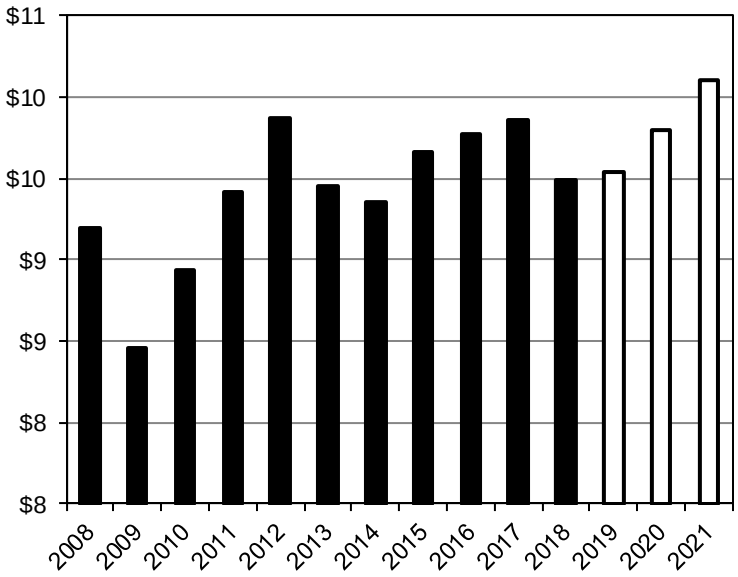
transferred to the general fund. Permanent fund interest earnings allocated to the general fund are discussed in the *Coal Trust Interest Earnings* section.

Treasure State Endowment Fund

The TSE fund is used for local government projects that include improvements to drinking water systems, wastewater treatment facilities, sewer systems, solid waste disposal systems, and bridges. The coal tax contributions to the TSE have varied across years. In FY 2002 and FY 2003, the trust fund received 75% of the distribution from the coal bond fund. Deposits to the trust fund declined in FY 2004 as the TSE fund's share of the bond fund allocation was reduced to 50% of distributable revenue (SB 10, 2003 session). From FY 2004 through FY 2016, the distribution from the coal bond fund to the TSE fund remained at 50%. The TSE fund no longer receives a piece of coal severance tax revenue.

Table 1
Treasure State Endowment Fund Interest
($ millions)

Fiscal Year		Revenue	Percent Change
A	2008	$9.194	-0.33%
A	2009	$8.450	-8.09%
A	2010	$8.940	5.79%
A	2011	$9.416	5.33%
A	2012	$9.866	4.78%
A	2013	$9.448	-4.24%
A	2014	$9.356	-0.98%
A	2015	$9.656	3.21%
A	2016	$9.767	1.15%
A	2017	$9.853	0.88%
A	2018	$9.484	-3.75%
F	**2019**	**$9.534**	**0.53%**
F	**2020**	**$9.798**	**2.77%**
F	**2021**	**$10.108**	**3.17%**



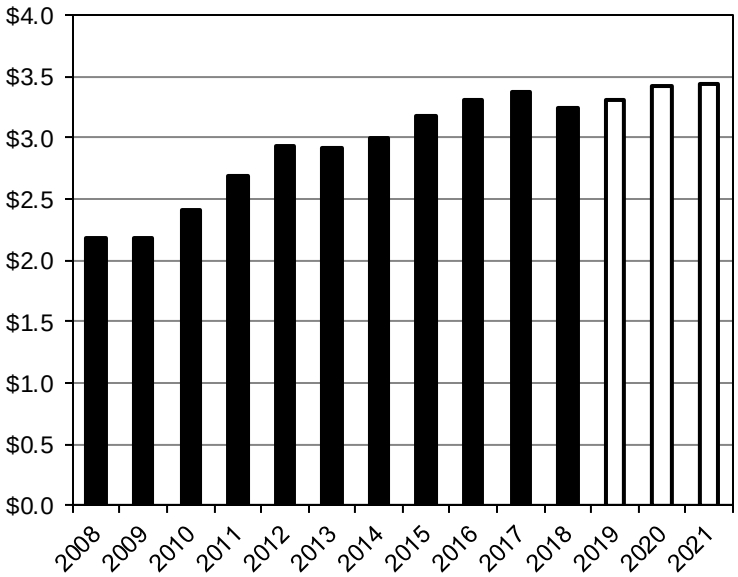
The total balance in the TSE fund at the end of FY 2018 was $271 million. The TSE fund is invested heavily in the TFIP (over 98%). A little over 1% of the fund is invested in the STIP, and less than 0.1% is held in loans. The interest income from the TSE fund is deposited in the TSE income fund, which earns interest income from STIP investments which is then reinvested. The money needed for local government projects is transferred from the income fund to a state special revenue account for distribution. As mentioned above, the TSE fund ceased receiving coal severance tax revenue starting in FY 2017.

Treasure State Endowment Regional Water System Fund

The TSRWS fund was established by the 1999 Legislature through SB 220. The TSRWS fund provides support for regional water projects. Allocations from the TSRWS fund may be used to match funds for construction of water systems, pay debt service on water system bond obligations, pay administrative expenses of state and local entities, and provide interim funding to state or local entities pending receipt of grants or loans. Historically, the TSRWS fund received 25% of the distributable revenue from the coal bond fund. Beginning in FY 2017 the fund no longer receives revenue from the bond fund, but the principle remains in place and continues to earn interest.

Table 1
Treasure State Endowment Regional Water System Fund Interest
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$2.175	9.9%
A	2009	$2.179	0.2%
A	2010	$2.419	11.0%
A	2011	$2.685	11.0%
A	2012	$2.937	9.4%
A	2013	$2.912	-0.9%
A	2014	$2.994	2.8%
A	2015	$3.178	6.2%
A	2016	$3.307	4.0%
A	2017	$3.379	2.2%
A	2018	$3.246	-4.0%
F	**2019**	**$3.316**	**2.2%**
F	**2020**	**$3.416**	**3.0%**
F	**2021**	**$3.447**	**0.9%**



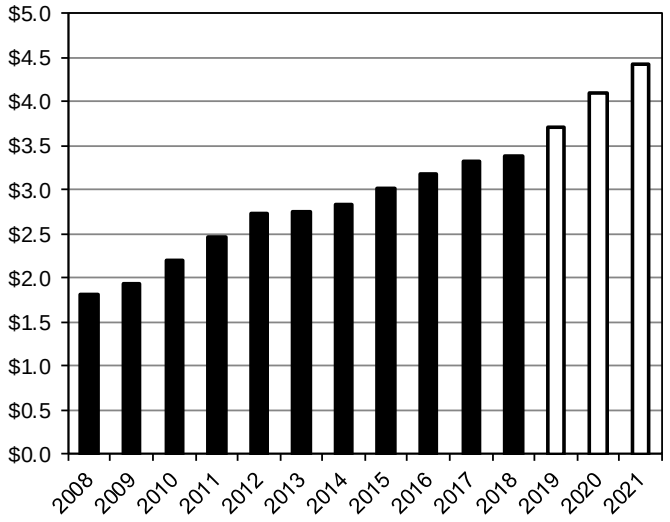
The TSRWS fund balance at the end of FY 2018 was $94.8 million. The balance is invested 99% in the TFIP and 1% in the STIP. The interest income from the TSRWS fund is deposited in the TSRWS income fund, the balance of which is invested in the STIP. Interest earnings from STIP investments in the income fund are reinvested. Funds needed for projects are transferred to a state special revenue account for distribution. Like the TSE fund, the TSRWS fund stopped receiving its coal severance tax distribution beginning in FY 2017.

Big Sky Economic Development Fund

The BSED fund was created by HB 249 during the 2005 Legislature. At the beginning of FY 2006, $20 million was taken from the permanent fund to create the BSED fund. The interest income from the BSED fund provides financial assistance to local governments and certified regional development corporations for the purposes of economic development. The BSED fund currently receives a 25% distribution from the coal bond fund and is slated to maintain this allocation through FY 2025.

Table 1
Big Sky Economic Development Fund Interest
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$1.801	15.53%
A	2009	$1.925	6.88%
A	2010	$2.196	14.06%
A	2011	$2.472	12.57%
A	2012	$2.731	10.48%
A	2013	$2.745	0.51%
A	2014	$2.822	2.79%
A	2015	$3.022	7.09%
A	2016	$3.171	4.96%
A	2017	$3.326	4.88%
A	2018	$3.387	1.83%
F	**2019**	**$3.702**	**9.31%**
F	**2020**	**$4.102**	**10.78%**
F	**2021**	**$4.418**	**7.73%**



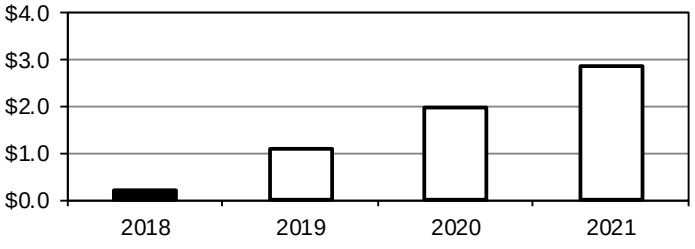
The year-end balance for the BSED fund in FY 2018 was $102.2 million. This balance is invested 96% in the TFIP and 4% in STIP. Income from the fund's investments is transferred to a state special revenue account to fund program expenditures. Income not needed for program expenditures remains in the BSED fund and earns interest. Current law dictates that the BSED fund will continue to receive coal severance tax revenue through FY 2025.

School Facilities Fund

The school facilities fund was established by SB 260 during the 2017 regular legislative session. Beginning in FY 2018, this fund receives 75% of the distributable revenue from the coal bond fund until its balance reaches $200 million. Once the $200 million cap is achieved, the 75% distribution returns to the permanent fund. Interest earnings from the school facilities fund are transferred to a state special revenue account and can only be used for legislatively authorized school facilities projects.

Table 1
School Facilities Fund Interest
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2018	$0.193	
F	**2019**	**$1.074**	**456.19%**
F	**2020**	**$1.968**	**83.25%**
F	**2021**	**$2.866**	**45.63%**



At the end of FY 2018, the balance of the school facilities fund was $13 million, with about 19% invested in the STIP and 81% invested in the TFIP. The investment balance is expected to become more concentrated in the TFIP moving forward. Any interest earnings not transferred to the state special fund account for school facilities projects will remain in the trust fund.

Data Sources

Trust fund balances and earnings were obtained from the Board of Investments and SABHRS. Establishment and legal description of the coal trusts is discussed in 17-5-701 through 17-5-731, MCA.

Resource Indemnity Tax

2021 Biennium

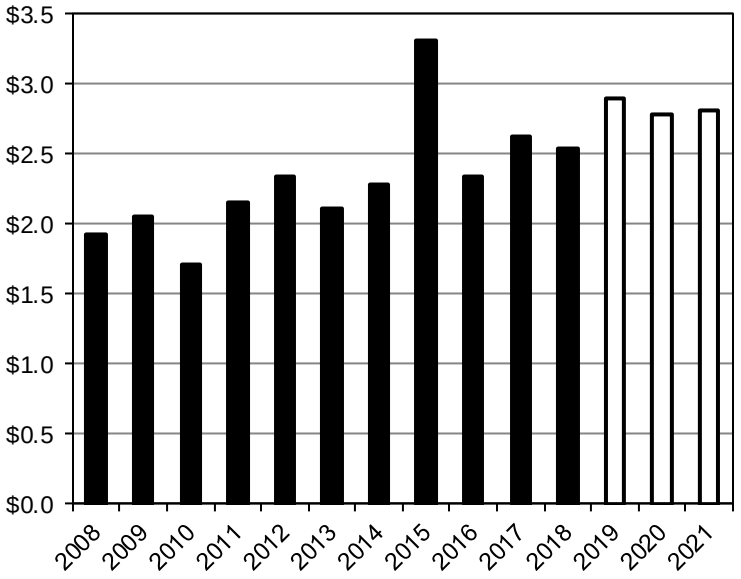
Revenue Description

Title 15, Chapter 38, MCA, created a resource indemnity and groundwater assessment tax. The resource indemnity tax (RIT) was initially enacted to provide for the creation of a resource indemnity trust fund, where 50% of the proceeds from the tax went toward building up the principle of the trust fund until it reached the cap of $100 million. The trust fund balance eclipsed $100 million in December 2001, and consequently the RIT distribution ceased. Currently, the tax provides revenue for groundwater assessment and resource development programs for the benefit of the state and its citizens. The purpose of the RIT is to indemnify the citizens of Montana for depletion of the state's natural resources and for environmental damage caused by mineral development.

Table 1 shows actual RIT revenues for FY 2008 through FY 2018 and forecast revenue for FY 2019 though FY 2021.

Table 1
Resource Indemnity Tax
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$1.926	16.9%
A	2009	$2.054	6.6%
A	2010	$1.712	-16.7%
A	2011	$2.147	25.4%
A	2012	$2.344	9.2%
A	2013	$2.112	-9.9%
A	2014	$2.279	7.9%
A	2015	$3.303	44.9%
A	2016	$2.335	-29.3%
A	2017	$2.623	12.3%
A	2018	$2.531	-3.5%
F	**2019**	**$2.896**	**14.4%**
F	**2020**	**$2.788**	**-3.7%**
F	**2021**	**$2.809**	**0.8%**



The tax rates for RIT vary depending on the type of mineral being extracted.

- Talc's tax rate is $25 plus an additional 4% of the gross value of the talc produced in excess of $625 in the prior calendar year.
- Coal's tax rate is $25 plus an additional 0.4% of the gross value of the coal produced in excess of $6,250 in the prior calendar year.
- Vermiculite's tax rate is $25 plus an additional 2% of the gross value of the vermiculite produced in excess of $1,250 in the prior calendar year.
- Limestone's tax rate is $25 plus an additional 10% of the gross value of the limestone produced in excess of $250 in the prior calendar year.
- Industrial garnets and its associated byproducts tax rate is $25 plus an additional 1% of the gross value of product in excess of $2,500 in the prior calendar year.
- All other mineral's tax rate (excluding metals, oil, and natural gas) is $25 and an additional 0.5% of the gross value of the product in excess of $5,000 in the prior calendar year.

Forecast Methodology

Step 1. Estimate the amount of RIT revenue from coal mines in the state.

Step 2. Estimate the amount of RIT revenue from all other mineral mines in the state.

Table 2 shows the actual and forecast RIT revenues from coal production and other mineral production.

Table 2
Resource Indemnity Tax
($ millions)

Fiscal Year	Coal Tax Revenue		Other Minerals Tax Revenue		Total
A 2008	$1.215	+	$0.711	=	$1.926
A 2009	$1.262	+	$0.792	=	$2.054
A 2010	$1.362	+	$0.350	=	$1.712
A 2011	$1.915	+	$0.232	=	$2.147
A 2012	$1.759	+	$0.585	=	$2.344
A 2013	$1.962	+	$0.151	=	$2.112
A 2014	$2.224	+	$0.055	=	$2.279
A 2015	$2.090	+	$1.213	=	$3.303
A 2016	$1.800	+	$0.535	=	$2.335
A 2017	$2.090	+	$0.533	=	$2.623
A 2018	$1.903	+	$0.628	=	$2.531
F 2019	**$2.303**	**+**	**$0.593**	**=**	**$2.896**
F 2020	**$2.360**	**+**	**$0.428**	**=**	**$2.788**
F 2021	**$2.381**	**+**	**$0.428**	**=**	**$2.809**

Distribution

RIT revenue is allocated to several state special revenue accounts. These include the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) match debt service fund (75-10-622, MCA), the ground water assessment account (85-2-905, MCA), the water storage account (85-1-631, MCA), the Hazardous Waste/CERCLA state special revenue account (75-10-621, MCA), the Environmental Quality Protection Fund (75-10-704, MCA), and the Natural Resource Projects state special revenue account (15-38-302, MCA). The allocations are made in the specific order described below.

First, the CERCLA match debt service fund must allocate the required amount to pay the principal, redemption premiums, and interest on CERCLA bonds, after transfers from the CERCLA cost recovery account (75-10-631, MCA).

Second, $0.366 million is distributed to the groundwater assessment account.

Third, at the beginning of the biennium (even numbered years), $0.150 million is allocated to the water storage state special revenue account.

Lastly, 25% of the remaining revenue is distributed to the Hazardous Waste /CERCLA state special revenue account, 25% is distributed to the Environmental Quality Protection Fund, and 50% to the Natural Resource Projects state special revenue account.

Table 3 shows the actual and forecast distribution of RIT revenue for FY 2016 through FY 2021.

Table 3
Resource Indemnity Tax Revenue Allocation
($ millions)

	Fiscal Year	CERCLA Match Debt Service Fund	Groundwater Assessment	Water Storage	Environmental Quality Protection	Hazardous Waste / CERCLA	Natural Resources Projects	Total
A	2016	$0.270	$0.366	$0.150	$0.387	$0.387	$0.774	$2.335
A	2017	$0.148	$0.366	$0.000	$0.527	$0.527	$1.054	$2.623
A	2018	$0.144	$0.366	$0.150	$0.468	$0.468	$0.936	$2.531
F	**2019**	**$0.146**	**$0.366**	**$0.000**	**$0.596**	**$0.596**	**$1.192**	**$2.896**
F	**2020**	**$0.146**	**$0.366**	**$0.150**	**$0.531**	**$0.531**	**$1.063**	**$2.788**
F	**2021**	**$0.146**	**$0.366**	**$0.000**	**$0.574**	**$0.574**	**$1.149**	**$2.809**

Data Sources

RIT revenue and distribution amounts were obtained from the Department of Revenue and SABHRS.

Resource Indemnity Trust Interest

2021 Biennium

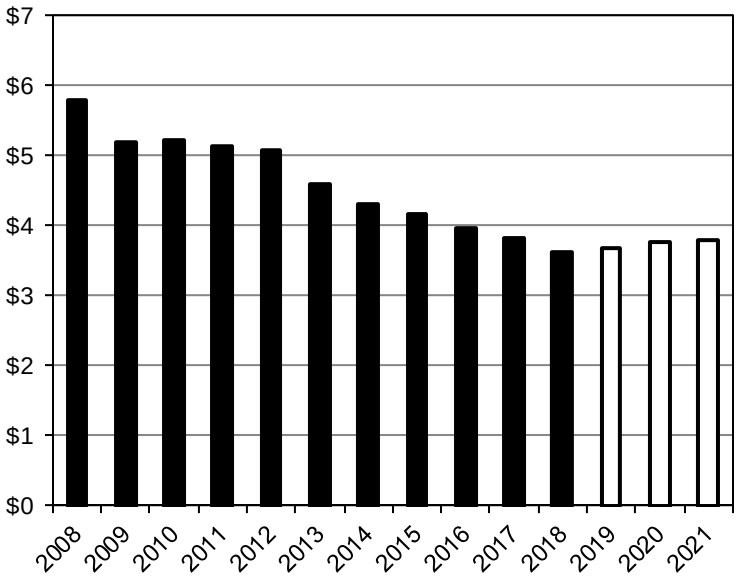
Revenue Description

Title 15, Chapter 38, MCA, created a Resource Indemnity Trust (RIT) fund to indemnify the citizens of Montana for depletion of the state's natural resources and for the environmental damage due to mineral development. The trust was funded with proceeds from the Resource Indemnity Tax until the trust balance reached $100 million, which occurred in December 2001. Deposits from the Resource Indemnity Tax ceased at that point and the balance has remained steady at slightly over $100 million.

Table 1 shows actual interest income from the RIT trust fund from FY 2008 through FY 2018 and forecast income for FY 2019 through FY 2021.

Table 1
Resource Indemnity Trust Interest
($ millions)

	Fiscal Year	Revenue	Percent Change
A	2008	$5.801	-6.7%
A	2009	$5.197	-10.4%
A	2010	$5.213	0.3%
A	2011	$5.135	-1.5%
A	2012	$5.064	-1.4%
A	2013	$4.602	-9.1%
A	2014	$4.296	-6.6%
A	2015	$4.176	-2.8%
A	2016	$3.973	-4.9%
A	2017	$3.818	-3.9%
A	2018	$3.618	-5.2%
F	**2019**	**$3.664**	**1.3%**
F	**2020**	**$3.749**	**2.3%**
F	**2021**	**$3.782**	**0.9%**



Interest earnings from the RIT fund have been declining steadily since FY 2008. Since the principle of the RIT fund is fixed, interest earnings from the fund are determined solely by changes in yield of the fund's assets. The fund is invested primarily in the trust fund investment pool (TFIP) which consists of long-term securities and is managed by the Montana Board of Investments (BOI). The financial turmoil caused by the Great Recession sent interest rates plummeting. Rates remained subdued for an extended period after the crisis, which resulted in a build-up of relatively low-yield assets in the TFIP – the reason behind the steady decline in TFIP returns. The recent turnaround in interest rates is expected to gradually lift the overall yield of TFIP assets. Low-yield securities will mature and be replaced by higher-yield versions.

Forecast Methodology

Step 1. Estimate the balances of short- and long-term investments in the RIT fund.

Step 2. Estimate the yields on RIT fund investments and apply these rates to the estimated RIT fund balances.

Distribution

The distribution of RIT interest earnings is defined in section 15-38-202, MCA. Some of the funds receive a fixed allocation per biennium, some funds receive a fixed allocation per fiscal year, and some funds receive a percentage each fiscal year

of remaining revenue after the fixed allocations have been made. If there isn't enough interest revenue to cover the fixed allocations for all the funds, then each fund gets a percentage of the available revenue. This percentage is equal to the proportion a fund's fixed allocation is to the total revenue needed to cover the fixed allocations for all funds.

In the first year of each biennium the following funds receive these fixed allocations:

- $650,000 to the oil and gas production damage mitigation account unless the unobligated cash balance equals or exceeds $1 million (82-11-161, MCA).
- $500,000 to the water storage account (85-1-631, MCA).
- $175,000 to the environmental contingency account unless the unobligated cash balance equals or exceeds $750,000 (75-1-1101, MCA).

Each fiscal year the following accounts receive these fixed allocations:

- $3.2 million to the natural resource projects account for grants (15-38-302, MCA).
- $300,000 to the groundwater assessment account (85-2-905, MCA).
- $500,000 to the Department of Fish, Wildlife, and Parks for the trout habitat enhancement program (87-1-283, MCA).

Each fiscal year any money remaining after all fixed allocations have been made is distributed to the following accounts in these proportions:

- 65% to the natural resource operations account (15-38-301, MCA).
- 26% to the hazardous waste/CERCLA account (75-10-621, MCA).
- 9% to the environmental quality protection fund (75-10-704, MCA).

Table 2 shows the distribution of RIT interest for FY 2018 and the forecast distribution for FY 2019 through FY 2021.

Table 2
Resource Indemnity Trust Interest Allocation
($ millions)

Entity	FY 2018	FY 2019	FY 2020	FY 2021
Total Revenue	**$3.618**	**$3.664**	**$3.749**	**$3.782**
Biennial Fixed Allocations				
Oil & Gas Damage Mitigation	$0.131	**$0.000**	**$0.458**	**$0.000**
Environmental Contingency	$0.131	**$0.000**	**$0.123**	**$0.000**
Water Storage	$0.373	**$0.000**	**$0.352**	**$0.000**
Annual Fixed Allocation				
Natural Resources Projects	$2.387	**$2.931**	**$2.253**	**$3.026**
Ground Water Assessment	$0.224	**$0.275**	**$0.211**	**$0.284**
Future Fisheries	$0.373	**$0.458**	**$0.352**	**$0.473**
Remainder	**$0.000**	**$0.000**	**$0.000**	**$0.000**
Annual Percentage Allocations				
Natural Resource Operations (65%)	$0.000	**$0.000**	**$0.000**	**$0.000**
Hazardous Waste/CERCLA (26%)	$0.000	**$0.000**	**$0.000**	**$0.000**
Environmental Quality Protection (9%)	$0.000	**$0.000**	**$0.000**	**$0.000**

Data Sources

Investment balances and interest rate data were obtained from the Board of Investments and SABHRS.

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

SUMMARY OF MAJOR ASSUMPTIONS SECTION 11

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GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Personal Income Tax	TY 2017	TY 2018	TY 2019	TY 2020
Full Year Resident Returns (Annual)	568,536	570,573	573,682	577,840
Full Year Resident Returns (Growth)	0.4%	0.4%	0.5%	0.7%
Income Items	TY 2017	TY 2018	TY 2019	TY 2020
Wages, salaries, tips, etc.	4.1%	4.4%	4.3%	4.5%
Interest income	0.7%	5.4%	17.2%	48.6%
Dividend income	12.2%	0.1%	4.2%	3.0%
Net business income	2.8%	3.6%	3.9%	2.7%
Capital gain or (loss)	35.4%	2.4%	-0.5%	2.1%
Supplemental gains or (losses)	33.8%	0.1%	3.8%	2.7%
Rents, royalties, partnerships, etc.	4.8%	4.7%	7.1%	2.6%
Taxable IRAs and pensions	6.5%	7.8%	7.4%	5.8%
Taxable portion of Soc. Sec.	9.2%	7.8%	6.6%	5.8%
Net farm income	0.3%	13.9%	4.1%	3.8%
All Other income	5.2%	-4.6%	2.4%	-0.7%
Fed. Adj. to Income:	1.9%	4.4%	3.8%	6.7%
Montana Additions	TY 2017	TY 2018	TY 2019	TY 2020
Interest on state, county, bonds	-6.4%	5.7%	3.7%	3.8%
Federal income tax refunds	6.0%	0.5%	0.5%	0.3%
All Other additions	5.5%	-4.3%	2.3%	-0.8%
Montana Subtractions	TY 2017	TY 2018	TY 2019	TY 2020
Farm risk management account	-69.8%	42.0%	0.0%	0.0%
Exclusion for savings bonds	9.5%	9.7%	29.5%	75.3%
Unemployment income	-7.7%	-4.4%	-19.6%	1.5%
Medical savings account excl.	1.8%	2.3%	2.2%	2.2%
Family education account excl.	294.4%	3.7%	3.6%	3.5%
First-time homebuyers acct. excl.	-2.0%	1.1%	1.1%	1.1%
Health Care Prof. Loan Pmt. excl.	2.9%	1.4%	0.7%	0.3%
All Other Subtractions	-0.8%	6.0%	6.0%	6.0%
Itemized Deductions	TY 2017	TY 2018	TY 2019	TY 2020
Medical insurance premiums	6.2%	5.4%	5.4%	5.4%
Medical deduction	4.7%	1.4%	1.6%	1.7%
Long-term care insurance	-0.3%	1.7%	1.6%	1.6%
Balance of federal tax	-35.6%	8.9%	8.9%	8.9%
Additional federal back year tax	12.5%	-1.6%	0.0%	0.0%
Property taxes	9.8%	5.6%	5.8%	4.2%
Other Deductible taxes	-6.3%	-2.3%	-2.3%	-2.3%
Home mortgage interest	2.5%	2.5%	2.5%	2.5%
Deductible investment interest	4.3%	3.6%	9.4%	2.1%
Contributions	-5.0%	5.0%	5.0%	5.0%
Child/dependent care expenses	-9.4%	0.0%	0.0%	0.0%
Casualty and theft losses	-24.2%	0.0%	0.0%	0.0%
Tier I - Miscellaneous	1.0%	2.0%	2.0%	2.0%
Tier II - Miscellaneous	-26.8%	12.3%	0.0%	0.0%
Gambling Losses	15.5%	0.0%	0.0%	0.0%

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Credits	TY 2017	TY 2018	TY 2019	TY 2020
Total Allowable Credits	4.0%	4.0%	4.0%	4.0%
PIT Other	2018	2019	2020	2021
Est. FY Liability ($ million)	$1,160.7	$1,236.8	$1,319.9	$1,396.0
Audit Collections($ million)	$31.1	$33.7	$36.6	$39.4
Penalties and Interest ($ million)	$9.0	$10.7	$11.7	$12.5
Prior Year Amended Returns ($ million)	$4.1	$5.1	$5.1	$5.3
Calculated Collections ($ million)	$1,205.0	$1,286.3	$1,373.4	$1,453.3
SABHRS/ Base Adj ($ million)	$92.8	$54.9	$44.9	$34.9
SABHRS/ Adjusted Collections ($ million)	$1,297.8	$1,341.1	$1,418.3	$1,488.2
Property Tax				
Mill Levy Revenue (millions $)				
Property Tax - 95 Mill Levy	$269.460	$271.909	$293.166	$300.214
Property Tax - 1.5 Mill Levy	$1.337	$1.405	$1.411	$1.524
Protested Property Taxes	($1.100)	($1.100)	($1.100)	($0.550)
Total Mill Levy Revenue (millions $)	$269.698	$272.214	$293.477	$301.187
Non-Levy PT Revenue (millions $)				
Coal Gross Proceeds	$7.110	$7.401	$8.167	$8.299
Federal Forest Reserves	$2.872	$2.728	$0.473	$0.492
All Other (by residual)	$0.329	$0.329	$0.329	$0.329
Total Non-Levy PT Revenue	$10.311	$10.458	$8.969	$9.120
Statewide TV by Class (millions) - Fiscal Year				
1. Net Proceeds	3.984	4.795	4.789	5.084
2. Gross Proceeds (w/o Abatements)	17.890	22.274	23.361	23.522
3. Agricultural Land	152.939	152.577	156.457	156.066
4. Res./Comm... Real Property	1,715.108	1,741.792	1,921.420	1,942.509
5. Rural Co-Op/Poll. Control	48.130	47.683	48.579	49.491
7. Non-centrally Assessed Util.	1.146	1.215	1.232	1.248
8. Business Equipment (FY adjusted)	155.339	161.217	167.710	174.469
9. Pipelines, Electrical Transmission	505.728	501.145	528.557	557.469
10. Forest Land	4.913	4.898	4.891	4.883
12. Airlines/Railroads	86.976	87.932	89.475	92.528
13. Telecomm./Elec Generation	179.525	172.636	175.571	178.556
14. Renewable Energy Prod.& Trans.	16.958	16.208	18.145	19.614
15. CO2/Qualifying Liquid Pipelines	2.572	2.268	2.347	2.428
16. High Voltage DC Converter	-	-	-	-
17. Data Server Facility			-	-
Statewide Taxable Value (millions)	3.984	4.795	4.789	5.084

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Statewide TV Growth by Class - Fiscal Year				
1. Net Proceeds	-2.4%	20.4%	-0.1%	6.1%
2. Gross Proceeds (w/o Abatements)	-8.0%	24.5%	4.9%	0.7%
3. Agricultural Land	7.5%	-0.2%	2.5%	-0.3%
4. Res./Comm... Real Property	10.5%	1.6%	10.3%	1.1%
5. Rural Co-Op/Poll. Control	-2.0%	-0.9%	1.9%	1.9%
7. Non-centrally Assessed Util.	0.6%	6.0%	1.3%	1.3%
8. Business Equipment (FY adjusted)	5.5%	3.8%	4.0%	4.0%
9. Pipelines, Electrical Transmission	5.7%	-0.9%	5.5%	5.5%
10. Forest Land	-0.1%	-0.3%	-0.1%	-0.1%
12. Airlines/Railroads	15.0%	1.1%	1.8%	3.4%
13. Telecomm./Elec Generation	-1.3%	-3.8%	1.7%	1.7%
14. Renewable Energy Prod.& Trans.	-3.9%	-4.4%	12.0%	8.1%
15. CO2/Qualifying Liquid Pipelines	3.5%	-11.8%	3.5%	3.5%
16. High Voltage DC Converter	0.0%	0.0%	0.0%	0.0%
17. Data Server Facility			0.0%	0.0%
Statewide Taxable Value Growth	**8.0%**	**0.9%**	**7.7%**	**2.1%**
Taxable Value in TIF districts (millions)	(54.781)	(54.436)	(56.572)	(47.722)
Taxable value for COT Counties	966.234	970.093	1,045.226	1,066.957
TIF Taxable Value in COY Counties	(29.741)	(29.620)	(29.433)	(30.588)
Taxable Value for 1.5 Mills	936.493	940.473	1,015.793	1,036.369
1.5 mill Revenue ($ million)	$1.405	$1.411	$1.524	$1.555
Vehicle Taxes and Fees				
Annual vehicle registrations by age class				
0 to 4 Years	231,070	236,737	235,584	232,513
5 to 10 Years	241,684	240,091	252,358	272,442
Over 10 Years	347,435	351,644	345,318	334,200
All	820,189	828,472	833,260	839,155
Registrations of Vehicles over 10 years of age				
Permanent Registrations	66,264	67,536	66,461	64,172
Annual Registrations Vehicles over 10 years old	347,435	351,644	345,318	334,200
Cumulative Permanent Registrations	429,146	476,593	500,160	519,318
Annual Light Vehicle Revenue (million $)	$81.47	$82.11	$82.75	$83.52
Other Vehicle Registration revenue (million $)	$14.32	$14.29	$14.51	$14.54
All Other Fees (million $)	$6.45	$6.43	$6.48	$6.54
Permanent Registration Revenue (million $)	$5.81	$5.90	$5.80	$5.60
Corporate Income Tax				
FY Lagged (1) U.S. Corp Profits Bn $	$2,187	$2,156	$2,242	$2,331
FY Lagged (2) U.S. Corp Profits Bn $	$2,076	$2,187	$2,156	$2,242
FY Lagged (3) U.S. Corp Profits Bn $	$2,251	$2,076	$2,187	$2,156
FY Bonus Depreciation	88%	100%	100%	100%
FY WTI Oil Price	$53.69	$70.85	$72.93	$75.75
Insurance Premiums Tax				
Estimated Gross Insurance Premium Tax (millions)	$111.387	$115.090	$117.569	$119.871
Prior Calendar Year S&P 500 Index Average	2,448	2,797	2,912	2,797

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Video Gambling				
Net machine Income (million $)	$402.161	$418.079	$434.837	$450.137
Oil and Natural Gas				
WTI Oil Price per Barrel	$58.62	$65.48	$67.21	$69.03
MT Oil Price per Barrel	$53.78	$60.43	$62.12	$63.94
Oil Production (millions bbl)	19.91	19.14	18.62	18.13
Oil Effective Tax Rate	9.98%	10.09%	10.22%	10.34%
Henry Hub Natural Gas Price per MCF	$3.02	$3.13	$3.04	$2.97
MT Natural Gas price per MCF	$2.14	$2.23	$2.12	$2.05
Natural Gas Production (thousands of MCF)	38.30	33.41	32.48	31.64
Natural Gas Effective Tax Rate	9.84%	9.94%	10.01%	10.10%
US Mineral Royalties				
Coal Royalty Income	$366.721	$384.358	$392.872	$398.626
Oil Royalty Income	$143.498	$153.959	$156.145	$154.566
Natural Gas Royalty Income	$18.863	$17.808	$16.086	$14.954
Other US Mineral Royalty Income (Rentals & Bonuses)	$1.375	$1.331	$1.446	$1.384
Coal Severance Tax				
Tons Produced	34.308	34.124	34.827	35.120
Price Per Ton	$20.12	$20.48	$20.55	$20.57
Exemptions	$144.35	$173.09	$177.31	$178.93
Tax Rate	11.11%	11.97%	11.97%	11.97%
Metal Mines Tax				
Gross Value	$926.058	$924.943	$947.587	$971.108
Deductions	$80.712	$80.615	$82.589	$84.639
Average Tax Rate	1.67%	1.66%	1.66%	1.66%
Total Tax Revenue	13.767	14.023	14.372	14.738
World Bank FY Change in Gold Price	base	-0.50%	-1.12%	-1.13%
World Bank FY Change in Platinum Price Change	base	-1.95%	4.59%	4.66%
World Bank FY Change in Copper Price	base	2.92%	0.62%	0.62%
Electrical Energy Producers Tax				
kWh (millions)	21,612	20,486	22,903	23,473
Wholesale Energy Tax				
Taxable kWh (million)	23,559	22,300	24,422	24,820
Coal Trust Interest Earnings				
Balance	$508.5	$509.1	$509.1	$509.1
Return	3.40%	3.53%	3.72%	3.75%
TCA Interest Earnings				
Balance	$736.6	$933.4	$1,037.3	$1,084.8
Return	1.48%	2.36%	2.89%	3.12%

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Liquor Excise and License Tax				
FY Pre-Tax Sales (millions)	$114.178	$117.905	$122.945	$128.212
FY Tribal Distributions (millions)	$0.542	$0.579	$0.606	$0.633
Liquor Profits				
FY Gross Liquor Sales (millions)	$143.966	$148.724	$155.167	$161.892
FY Cost of Goods Sold (millions)	$81.706	$84.392	$88.048	$91.864
FY Liquor Discounts and Commissions (millions)	$18.811	$19.249	$20.083	$20.953
FY Liquor Operating Costs (millions)	$3.009	$3.115	$3.224	$3.337
Telecommunications Excise Tax				
ExciseTax	$13.707	$12.815	$11.981	$11.202
Audits, Penalties & Interest	$0.002	$0.002	$0.002	$0.002
Growth rate	-12.1%	-6.5%	-6.5%	-6.5%
Health Care Facility Utilization Fees				
FY Bed Days (millions)	1.473	1.458	1.443	1.429
FY Intermediate Care Expenditures (millions)	$9.628	$8.827	$8.074	$8.063
Beer Tax				
FY Beer Barrels (millions)	1.005	1.009	1.011	1.012
FY Tribal Distribution (millions)	$0.079	$0.079	$0.078	$0.078
FY Effective Tax Per Barrel ($)	$3.991	$3.970	$3.991	$3.927
Wine Tax				
FY Wine Liters (millions)	13.201	13.418	13.613	13.804
FY Tribal Distribution (millions)	0.063	0.063	0.064	0.065
Cigarette Tax				
FY Cigarette Packs (millions)	39.021	38.592	38.095	37.593
FY Effective Tax Rate per Pack (dollars)	$1.70	$1.70	$1.70	$1.70
FY Tribal Distribution (millions)	$3.930	$3.888	$3.838	$3.787
Tobacco Tax				
FY Value of Other Tobacco Products (millions)	$6.096	$5.999	$5.834	$5.735
FY Snuff Ounces (millions)	13.161	13.595	12.116	12.185
FY Tribal Distribution (millions)	$0.984	$1.005	$0.752	$0.753
Tobacco Settlement				
FY CPI Change (Percent Change)	3.00%	3.03%	3.00%	3.00%
FY Cumulative CPI Change (Percent Change)	79.02%	84.44%	89.97%	95.67%
Montana NPM Adjustment (millions)	-$4.260	-$2.691	-$2.624	-$3.018
Institutional Reimbursements				
Reimbursements - MDC (millions)	$1.504	$0.535	$0.033	$0.035
Reimbursements - MSH (millions)	$8.555	$8.816	$9.154	$9.167
Reimbursements - MMHNCC (millions)	$4.840	$4.144	$4.243	$4.279
Highway Patrol Fines				
Prior CY Gasoline Price (cents per gal)	246.87	285.02	304.89	318.46

Revenue Assumptions Executive Budget - 2021 Biennium

General Fund Assumption Item	Actual 2018	Forecast 2019	2020	2021
	(Fiscal year unless otherwise stated)			
Investment License Permits				
Prior FY S&P 500 average	2,448	2,805	2,987	3,014
Drivers License Fees				
Effective Average Fee	$31.19	$31.20	$31.07	$31.15
Basic Drivers licenses issued	145,826	137,370	144,294	148,687
Revenue by type (million $)				
Basic Driver's Licenses	$4.548	$4.286	$4.483	$4.632
Commercial Licenses	$0.617	$0.622	$0.650	$0.672
Motorcycle Endorsements	$0.049	$0.047	$0.050	$0.051
Replacement Licenses	$0.406	$0.350	$0.366	$0.379
Renewal Fee	$0.073	$0.068	$0.071	$0.074
License Revenue	$5.693	$5.374	$5.620	$5.807
Estimate of County retention	$0.015	$0.015	$0.015	$0.015
Rail Car Tax				
Total Montana Allocated (market) Value (million $)	$218.639	$200.798	$204.847	$206.825
Class 12 Tax Rate	3.07%	3.12%	3.07%	3.07%
Taxable Value (million $)	$6.712	$6.265	$6.289	$6.350
Commercial & Industrial Mill Levy	545.93	557.43	560.83	564.25
Non-General Fund Assumption Item				
Property Tax				
University 6 Mill Levy TV (millions)	2,891.207	2,916.640	3,142.533	3,207.867
University 6 Mil levy revenue (million $)	$17.35	$17.50	$18.86	$19.25
University 6 mill non-levy revenue				
Coal Gross Proceeds (estimated)	$0.870	$1.017	$1.122	$1.140
Other Non-Levy Revenue	$0.019	$0.019	$0.019	$0.019
Protested University Mills	($0.068)	($0.068)	($0.068)	($0.034)
Total Non-Levy (million $)	$0.820	$0.968	$1.073	$1.125
Total PT 6 mill (million $)	$18.17	$18.47	$19.93	$20.37
Oil & Gas University Revenue (million $)	$1.060	$1.764	$1.781	$1.802
Bentonite University Revenue ($)	17,000	17,000	17,000	17,000

GOVERNOR
STEVE BULLOCK

STATE OF MONTANA

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GOVERNOR'S OFFICE OF
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