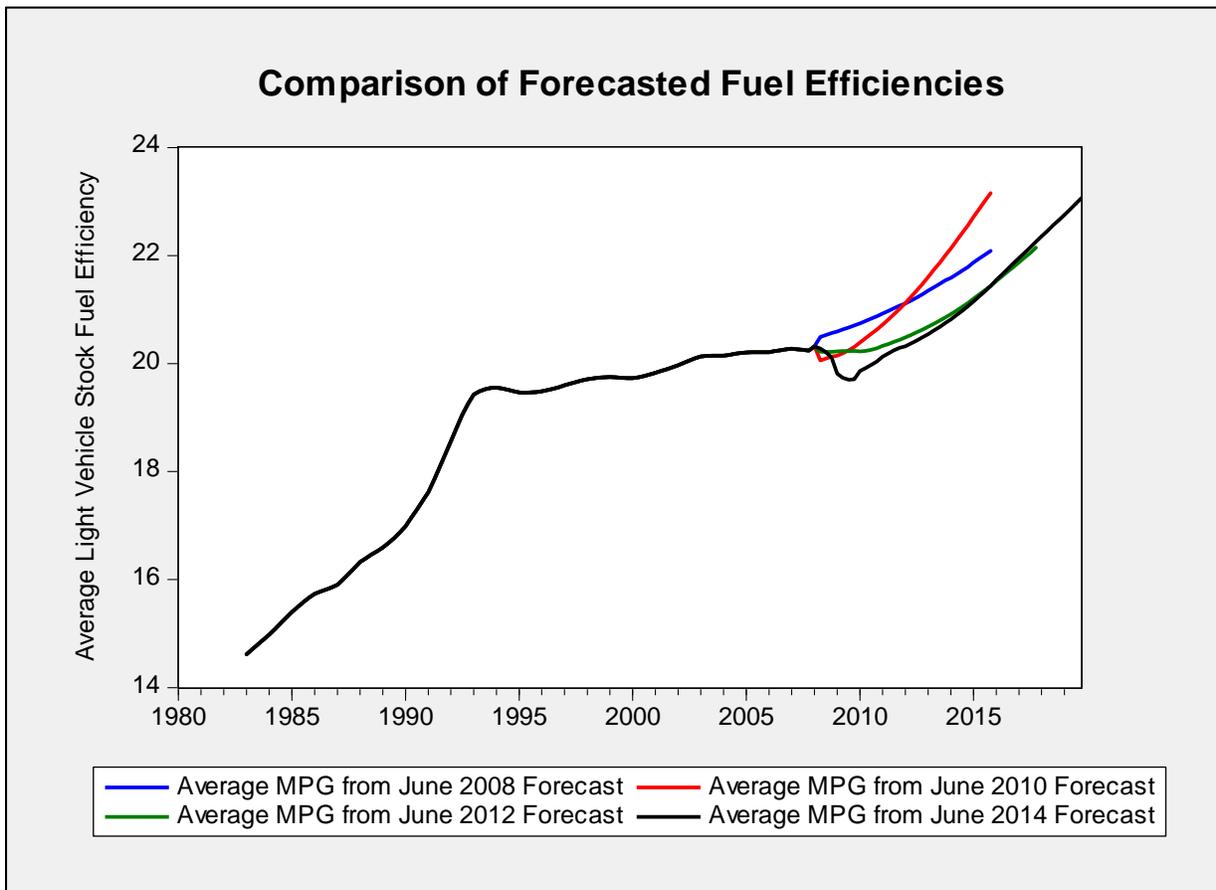




SUMMARY OF TRANSPORTATION ECONOMIC AND REVENUE FORECASTS



FOREWORD

This summary report presents a selection of Other Funds Revenue forecasts for the Oregon Department of Transportation. It is published twice a year to assist in financial planning, the formulation of transportation budgets, and to support other decision-making activities. The forecast is consistent with the Department of Administrative Services' *Oregon Economic & Revenue Forecast (Vol. XXXV, No. 2, May 2015)* and the associated baseline macroeconomic forecast from *IHS Global Insight Inc. (GII)*.

<http://www.oregon.gov/ODOT/TD/EA/pages/revenueforecasts.aspx> and scroll down to "Transportation Revenue Forecasts."

Questions and comments should be directed to:
David C. Kavanaugh, Ph. D.
State Transportation Economist
Economics and Financial Analysis
ODOT Transportation Development
(503) 986-5362
555 13th Street NE
Salem, OR 97301

This document is also available online at:

On the Cover:

Technological advances have always been a mainstay for both economic growth and rising living standards. While the mechanisms of this dynamic are not perfectly understood (does it just fall like manna from the sky or is it embodied in equipment and techniques endogenously? And what is the exact process?), the top line result is that it can account for as much as one-half of observed growth. Population growth – or more accurately employment growth - is the other significant contributor to economic gains.

There has always been a strong tendency for the anticipated pace of technical innovations to be overly optimistic; that is, new technology being adopted at blazing rates. Technological advances emanating from mandates to increase the fuel efficiency of new passenger vehicles are a case in point of this tendency. As an outgrowth, increases in the fuel efficiency of cars and light trucks/SUVs is a relevant factor affecting fuel consumption and, hence, for the determination of highway fund revenues from fuel-based taxes. So, the consequences of how new fuel standards necessitate technological advances are not insignificant.

The chart on the cover page illustrates the point that actual adoption of new technical advances may occur at slower rates than what observers anticipate. The graph on the cover page charts the assumed miles per gallon forecast of the entire light duty vehicle fleet for a selection of economic forecasts going back to June 2008. Forecasts for June 2010, June 2012, and for June 2014 are highlighted, as well.

It is very evident that projected MPGs get revised downward as the forecasts are updated and re-calibrated. June 2014's outlook is everywhere below 2008's by about 4-5 percent across the board. The cross-over in 2010 is attributable to the more stringent CAFE standards

promulgated by executive mandate, coupled again with an optimistic rate of adoption. Nevertheless, 2012 is again everywhere below 2010, by an even larger gap of 5-7 percent. Why does there seem to be a persistent overstatement of the gains from fuel efficiency improvements?

First, EPA estimates reported on the window stickers of new vehicles are well known to be biased upward or overstated. Actual driving conditions and patterns use more fuel on average than the OEM-run laboratories indicate for the EPA numbers. So, the EPA MPG numbers and the CAFÉ standards are overly sanguine in real world driving conditions and habits.

Second, the market penetration of new vehicles trumps mandates governing how much fuel a car or light truck/SUV should use. Consumer choice in the market place is governed, however, by household economics and preferences. Advances in fuel efficiency come with higher capital cost and reduced operating costs, but the paybacks can be quite long –especially under lower fuel prices. Manufacturing quality seems to always be improving; so the median age of the light duty fleet is always getting longer – approaching nearly 12 years presently. The stock of the entire fleet of light duty vehicles therefore changes very slowly, with new car standards having only a small effect overall. And the trend of an aging fleet continues, at an average rate of 1.5 percent per year. Moreover, while car and light truck/SUV buyers have mobility in mind at acceptable running costs, they also value highly the utility of the vehicle. With expanding recreational uses, utility may trump economy in purchasing decisions.

A recent link is a good example of this frequently encountered phenomenon:
<http://www.bloomberg.com/graphics/2015-auto-sales/>

The car-buying and automobile research firm Edmunds also reported recently that high MPG electric and hybrid sales are in sizable declines across the board, and that fewer alternative fuel vehicles are replaced with similar vehicles; a growing share of which are instead SUVs. This is a further reflection of the role of the market place and consumer choice driving the overall fuel efficiency of the light vehicle fleet.

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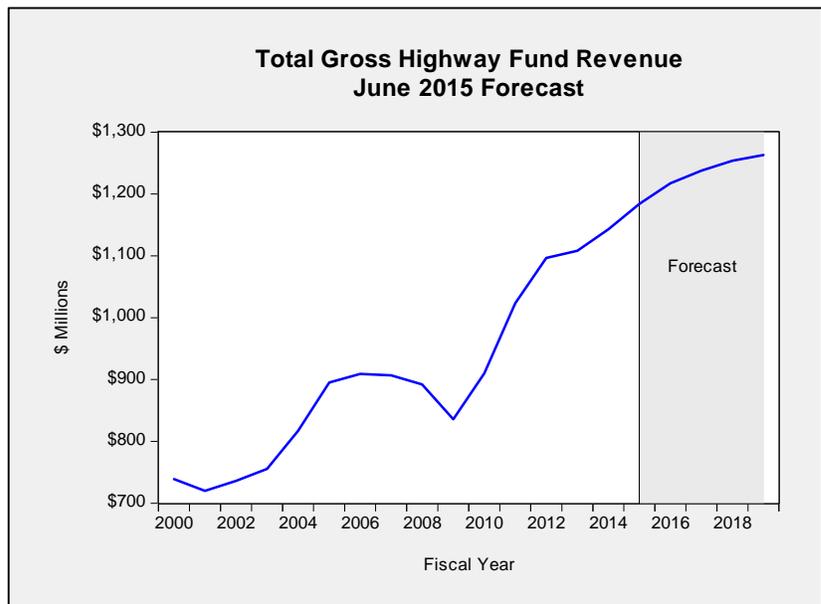
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THE REVENUE OUTLOOK IN BRIEF

The picture for projected revenues to the State Highway Fund continues to show modest improvement over prior forecasts of late. In contrast to the December 2014 forecast, for example, revenues are forecast to be about \$22 million more per year. For the next two biennia combined, revenues are projected to be \$89 million higher. Since the forecast from a year ago in June 2014, the outlook has been elevated considerably: approximately \$130 million in additional revenues are projected for the combined biennia. The origins for the improvement come uniformly across the board: gains in fuel tax revenue, heavy truck taxes, and from drivers' and vehicle fees.

The improvements come strictly from fundamentals, meaning that no tax increases or fee increases occur in the forecast period. There have not been major increases in any user taxes or fees since the *Jobs and Transportation Act* (JTA) enacted by the Legislature in 2009.

While some improvement has occurred in revenue levels, the forecast growth patterns going forward are still quite gradual. Total gross revenues are projected to rise annually at a rate of only 2.0 percent. The adjacent chart depicts this modest growth in the post-JTA years. The sources of revenue growth are, however, somewhat uneven. Fuel tax proceeds and heavy truck revenues expand at similar rates: 2.6 percent and 2.4 percent, respectively. However, driver and vehicle fee revenues very nearly do not grow at all. These are expected to increase at only a 0.2 percent annual rate. Since driver and vehicle fee revenues are linked to the state's demographics, the growth drivers here are traditionally more muted than the pace of economic activity which drives fuel usage and freight movements.



The net resources available to ODOT for maintaining/repairing and enhancing the highway network are reduced by collection and administrative costs, dedicated transfers out of the Highway Fund, and by apportionments to counties and municipalities for their local roads. Once these are all captured, the net revenue growth diminishes to 1.7 percent annually. This

is largely a reflection of the reality that costs are escalating at a faster pace than gross revenues, in lieu of any transportation funding initiatives.



What drives the revenue outlook for the Highway Fund? The revenue forecast models are based on empirical relationships that tie together a multitude of factors. These generally fall into two broad categories: demographics and the pace of economic activity by Oregon households and businesses at large. For fuel taxes and heavy truck weight-mile taxes (“usage” taxes), revenues are highly correlated with employment, personal income largely from wages and salaries, manufacturing activity, price of motor fuels, and with vehicle fuel efficiency. Higher employment levels and rising incomes (adjusted for inflation) are the fundamental determinants of overall travel demand.

Most revenue tied to fees from drivers and vehicle registrations are linked closely with Oregon’s demographic makeup. However, there still some links to economic activity; for instance, revenues linked to title fees for new car and light truck purchases.

The revenue forecast models are directly and closely linked to the state economic forecast and to a macroeconomic forecasting service. Combined, these represent all the economic and demographic assumptions at both the state and national level that are used in producing the Highway Fund Forecast.

Presently, the Oregon employment and personal income outlook is somewhat mixed. While both are somewhat more robust currently, they still pale compared with prior economic rebound going back a number of decades. Moreover, the pace of growth diminishes in the years farther out in the forecast horizon. There is, however, the caveat that the more distant forecasts are subject to substantially more uncertainty.



The balance of the report is comprised of an **Executive Summary** which highlights the assumptions for the Oregon economy and the macroeconomic backdrop associated with it. This section also provides a summary of the Highway Fund revenue outlook, along with any legislative developments, if applicable. The summary section is followed by more detailed narratives on the **National Economic Outlook** and on the **Oregon Economic Outlook**. With these as a backdrop, the report turns to detailed discussions of the forecast ingredients for the leading sources of revenues: **Motor Fuel Usage**, heavy truck transactions (“**Motor Carrier**”), and **Driver and Motor Vehicle** transactions (“**DMV**”). Finally, forecast quantities are reconstituted as revenues to the State Highway Fund in the section **Highway Fund Revenue Forecast**.

EXECUTIVE SUMMARY

National Economy

Similarly to 2014, extremely severe weather again trumped economic growth in 2015Q1, although not with as potent of an economic punch for some reason. The economy contracted at an annualized rate of -0.2 percent in the first quarter (versus -2.2 percent in 2014Q1). This broke a string of 3 consecutive quarters in which the economy displayed its best performance in the post-recession recovery stretching back to 2010.

However, unlike last year it doesn't seem that a sharp rebound is in the offing. A number of subpar readings on a range of important indicators suggests mostly tepid advances for the remainder of 2015. Retail sales, stagnant industrial production in the first 5 months of 2015, and weak net exports (strong imports over weakening exports), and subpar fixed investment spending on business equipment are some to the indications that a sharp rebound should not be counted upon.

Despite the bad weather at the start of 2015, consumer spending was the only fundamental component that contributed to growth. Inventory investment (goods produced but not sold) was a positive too. Government (mostly state and local), fixed investment spending by businesses, and negative net exports more than offset the gains personal consumption and inventory expansion. Since the recovery began in 2010, the economy grew at only an annual average rate of 2.2 percent. 2014 and 2010 produced the best progress at 2.4 percent and 2.5 percent, respectively.

Nevertheless, some growth in production of goods and services augers well for employment growth and for job market conditions overall. Job gains in 2014 were also the best since 2010 when the recovery began. Overall total non-farm employment

grew 1.9 percent in 2014, up from the 1.2, 1.7, and 1.7 percent gains in 2011, 2012, and 2013, respectively. The average monthly job gains also displayed a less erratic pattern in 2014, while averaging nearly 220,000 per month – the best rate in a considerable time. However, the quality of these jobs overall (part-time hours rather than full-time, over-qualified workers for the jobs that were taken, and stagnant compensation) still tarnishes this job recovery somewhat.

The current rate of unemployment nationwide has been reduced gradually to 5.3 percent (June, 2015) from 6.1 percent a year earlier in June 2014. Thus, only modest improvement has occurred over the past 12 months on this key labor market indicator. For all of 2014, it has averaged 6.2 percent, down from 7.4 percent in the year prior. While seemingly good progress, this masks the fact that there are still a large number of people who have dropped out of the civilian labor force that would not have occurred had job prospects been better. (Retiring baby boomers, however, would be an exception to this phenomenon.) The comparatively low labor force participation rate of the working age population could start to reverse itself with sustained job growth at rates of 2 percent or more. However, sustaining that pace may prove challenging over the intermediate term in the baseline outlook.

Recent Developments in Crude Oil Markets and Fuel Prices and the Macro Outlook

An overview of the U. S. economy would hardly be complete without the recognition of the dramatic changes that continue in the oil and gas sectors the past year. As fleshed out in more detail at several sections in this report (at pages 2-3 and at pages 17-18) events have

been unfolding extremely quickly and things have not completely settled.

In a nutshell, the crash in crude oil and motor fuel prices represents a net stimulus to economic activity of roughly \$75 billion annually. The jury is still out about the degree of stimulus on personal consumption so far, however. Nevertheless, the effect may be with us for a while (3-5 years) given the new economics from wells drilled in non-conventional, shale formations of North America. The positive implications for the economy and growth going forward are, however, will undoubtedly be tempered by evident weakness in the exploration-production and the oil service industries. This will affect somewhat overall business capital spending until prices come back up. In addition, there are tertiary effects from the ongoing shakeout in the “oil patch,” which are not too dissimilar to those we saw in the mid- to late ‘eighties in oil producing states (real estate boom-bust and the S & L meltdown.)

The present outlook for the nation’s economy is a little mixed from the winter forecast in December 2014. The outlook for all of 2015 is a little stronger in the current forecast, but slightly weaker in the remaining years for a number of economic barometers. The improvement in the very near term is largely due to the net stimulus to economic activity arising from the precipitous decline in oil and fuel prices. However, despite the very large drop in oil prices, the effect is still comparatively modest on the rate of growth. While GDP growth is bumped up slightly for 2015 to 2.8 percent, the boost is short-lived with growth ratcheting down to a 2.7 percent rate in 2016 and 2017, compared to 2.9 and 3.1 percent in the prior outlook, respectively. The slower pace is largely an outgrowth of weaker capital spending on oil and natural gas equipment and structures as well as less robust consumer spending on durables.

The picture for job growth largely mirrors the growth of economic output, but with a bit of inertia as labor markets continue to lag real output. Total non-farm employment is now forecast to rise at a 2.1 percent clip in 2015, up slightly from the pace of 1.8-1.9 percent from twelve months ago. Job gains lose a little momentum in 2016 at a 1.5 percent rate, but by 2017 job growth slackens to just 1.2 percent. The pattern persists farther out in the forecast at about 1 percent for 2018-2019.

Overall personal income, adjusted for inflation, behaves similarly to GDP and employment. It is projected to expand at a stronger clip in 2015, but then to advance at lower rate for all the years beyond.

Oregon Economy

Oregon’s economy tends to vary somewhat more than the national economy in both contractions and economic expansions. Thus, our job losses and job gains are more than proportional to those incurred nationally. In addition, Oregon’s economy displays a tendency to lag the nation by a quarter or two and sometimes more. Unless net-migration into the state continues to be significantly affected during the current economic recovery, these patterns are expected to be preserved in the current business cycle.

Since the previous forecast, Oregon’s economic growth has picked up significantly. Strong growth in employment and personal income has outpaced previous forecasts and has produced growth rates more in line with expectations from the emergence from a severe recession. In addition, Oregon’s GDP increased 3.6 percent in 2014, making it the sixth fastest growing state nationwide.

Going forward, the job gains are expected to sustain rates of 3.1 percent per year through 2017, and then to weaken somewhat to only a 1.3 percent rate by 2019. There is still some growth, nevertheless, and at rates that exceed

that of the nation as a whole. Thus, we expect the historical patterns to be preserved.

A large component of this growth resides with a growing population in the state, largely driven by comparatively strong in-migration. Population growth is expected to rebound to 1.2 percent per year on average, up from rates of less than half of this in the early recovery period. However, the population projections do approach the rates witnessed in the 1990-2005 span of years.

As a result of job and population gains above the national average, aggregate personal income in the state is expected to “outperform” personal income nationwide. Going forward, Oregon’s personal income adjusted for inflation rises at an annual average rate of 4.4 percent, compared to 3.2 percent annually for the national average. Again, this preserves the customary relationships of the state vis-à-vis the country since the decline of the state’s rural, natural resource industry over twenty-five years back.

Highway Fund Revenue Outlook

The sharp economic contraction in jobs and real personal incomes from the 2007-2009 global financial crisis, and its resulting deep recession, had fairly predictable impacts on the state’s Highway Fund revenues. Not only was travel demand pummeled, but even vehicle fee revenues were severely impacted. The deterioration overall was the most significant since the recession in 1980-1982, which also hit the state especially hard. What was more difficult to divine, however, was how fast and how long the economic recovery would take to restore normalcy in Highway Fund revenues?

The economic backdrop and State Highway Fund revenue forecast are somewhat more robust than in December 2014. This is a net result of lower crude oil prices and significantly reduced fuel prices which serve

to quicken the pace of economic activity, as well as Oregon’s overall tendency to be resilient in rebounds, finally.

The contrast of the current forecast with our prior one is highlighted below:

- For the 2015-17 biennium, gross revenues are now projected to be \$48.2 million higher, or roughly 2.0 percent more than in December 2014.
- The forecast for 2017-19 reflects a significant upward revision as well: \$41.0 million higher, an incremental gain of 1.7 percent over the prior revenue outlook.

From this highly aggregated view, the revenue outlook has continued to improve. Table ES.1 highlights the changes in the forecast by major revenue source. The gains in revenue are uniformly shared by all three major revenue groups.

Table ES.1 Gross Revenues – Change from Prior Forecast [\$millions / { % change }]

	2015-17 BI	2017-19 BI
TOTAL	+\$48.2 MM {1.9 %}	\$41.0 MM {1.7 %}
<u>DMV:</u>	+\$14.8 MM	+\$17.3 MM
<u>MCTD:</u>	+\$21.2 MM	+\$21.2 MM
<u>Fuels Tax</u>	+\$12.2 MM	+\$7.6 MM

In the current forecast, DMV revenues from driver and vehicle fees are somewhat higher than the December 2014 forecast. On average for the current and next biennia, they are \$8.0 million more, or nearly 2.5 percent higher. The annual growth rate in gross DMV revenues is very nearly flat at just 0.2 percent per year, as was the case in the prior outlook.

Heavy truck weight-distance tax revenues and heavy vehicle fee revenues are higher in the updated forecast. On average for the present biennium and the next, they are \$10.6 million more per year than the December 2014 projection. In relative terms the improvement is 3 percent higher. The year-over-year growth in total MCTD revenues is 2.3 percent, up from the 1.8 percent pace in the December 2014 2014 forecast.

Over the first half of this year, there has been considerable media coverage about the loss of container ships at the Port of Portland’s Terminal 6 (principally the Hanjin Line). The various undercurrents of how this may affect freight movement and weight-mile tax receipts have been difficult to discern from the data so far. Weight-mile tax revenues have been stronger than projected of late, but it is too early to say to what degree the loss of the container ship business is affecting this source of revenue.

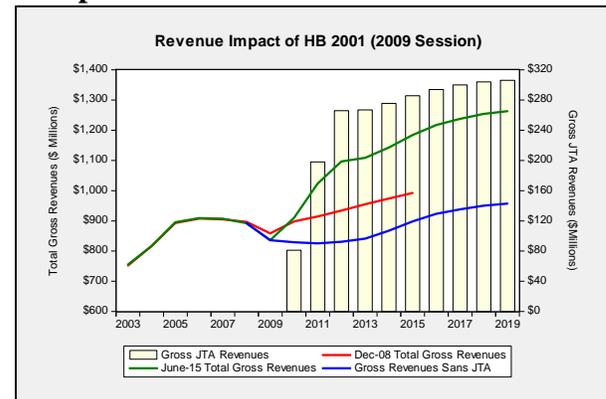
The final major component – and indeed the single largest – is for the motor fuels tax revenue on gasoline and diesel used in vehicles up to 26,000 pounds. Due to improved economic conditions in 2015-16, motor fuel revenues get a boost of \$3.7 million on average annually in each of the current and next biennia. This amounts to a 0.7 percent increment over the prior forecast. The projected annual rate of growth is now 2.1 percent going forward to FY19; a somewhat slower pace than the 2.6 percent reported in the December 2014 revenue outlook.

These comparatively robust numbers for taxable fuel usage are confirmed by national data on vehicle miles of travel (“VMT”) maintained by FHWA for the nation and, as well, for states and regions of the country. For the year to date, total VMT nationwide is 3.4 percent higher than for the comparable period in 2014. For the individual month of May 2015, VMT nationwide was 2.7 percent

above May 2014’s. On a regional basis, the West Region (13 western states including Alaska and Hawaii), May 2015 was 3.2 percent stronger, well above the nation as a whole. Even more noteworthy, Oregon tied the state of Washington with the strongest year-over-year growth at 4.6 percent among the 11 lower-48 states in the region.

Figure ES.1 charts the current gross revenue outlook, with special recognition given to the impacts stemming from the Jobs and Transportation funding bill from 2009 (HB 2001).

Figure ES-1: Gross Revenue Forecast Comparison



Legislation from the 2015 Regular Session

There were no major transportation funding initiatives from the State Legislature in the 2015 regular session, which recently adjourned on July 6, 2015. However, there are several bills that are remnants of the 2013 session which continue to pique the attention of observers.

HB 2435 Bio-Diesel Tax Exemption

HB 2435 exempts vehicles up to 26,000 pounds (gross vehicle weight) from paying the use-fuel excise tax if the vehicle is fueled using B20 biodiesel (made up of 1 part bio-fuel and 4 parts traditional petro-diesel). The fuel tax rate is 30 cents per gallon for petro-diesel. While biodiesel can be formulated

from a variety of feed stocks, the legislation limits it to used cooking oil, which belongs to a large group of Fatty Acid Methyl Esters (FAME's). The tax exemption commenced on January 1, 2014, and is set to sunset on December 31, 2019 under this bill.

While the biodiesel tax exemption program languished somewhat at the outset, it has recently expanded at a rapid rate. The volume of B20 gallons has ramped up to rates of over 1 million gallons per month, and seems to be stabilizing at that level. This represents about \$4.3 million at an annual rate in foregone fuel tax revenues.

SB 810 Road User Charge (RUC) Project

SB 810 from the 2013 regular session instituted a road user tax based on miles driven in Oregon, rather than a fuels tax charge for gallons consumed. The bill essentially authorizes the creation of a pilot program of charging voluntary participants using the state's highway/roads network 1.5 cents per mile of travel, instead of the statutory fuel tax of 30 cents per gallon. The mileage rate is based on the average fuel efficiency of the light duty vehicle fleet, and,

thus, is approximately revenue neutral for purposes of the present program.

The bill authorized a spending limitation to put the necessary administrative rules and supporting infrastructure in place, which began in the fall of 2013. The legislation directs the operational phase of the initiative to be up and running by July 1, 2015 – or the beginning of FY16. ODOT began implementation of the pilot effective July 1, 2015.

The program caps the voluntary participation at 5,000 light duty vehicles (those less than 10,001 pounds). The 5,000 participation limit is segmented into three vehicle groups: Up to 1,500 eligible vehicles with fuel efficiency capabilities less than 17 miles per gallon (MPG); up to 1,500 eligible vehicles of 17 to 22 MPG; and the balance (up to 2,000) with fuel efficiencies in excess of 22 MPG. Generally, vehicles with an efficiency of less than 17 MPG would pay lower user taxes under the RUC than what would be paid under the fuels tax structure. Those with efficiencies in excess of 22 MPG would pay more under a RUC tax structure than would be incurred under the fuels tax. The RUC applies only to those miles driven in Oregon.

NATIONAL ECONOMIC OUTLOOK

Like 2014, bad weather again trumped economic growth in 2015Q1, albeit not anywhere as severely. The economy contracted at an annualized rate of -0.2 percent in the first quarter (versus -2.2 percent in 2014Q1). This disrupted a string of 3 consecutive quarters in which the economy displayed its best performance in the post-recession recovery stretching back to 2010.

However, unlike last year it doesn't seem that a sharp rebound is in the cards. A number of subpar readings on a swath of indicators strongly suggests mostly tepid advances for the remainder of 2015. Retail sales, stagnant industrial production in the first 5 months of 2015, and weak net exports (strong imports over weakening exports), and subpar fixed investment spending on business equipment are some to the indications that a sharp rebound should not be counted upon.

Despite the adverse weather at the start of 2015, consumer spending was the only fundamental component that contributed to growth. Inventory investment (goods produced but not sold) was a positive too. Government (mostly state and local), fixed investment outlays by businesses, and negative net exports more than offset the gains personal consumption and inventory expansion. Since the recovery began in 2010, the economy grew at only an annual average rate of 2.2 percent. 2014 and 2010 produced the best progress at 2.4 percent and 2.5 percent, respectively.

Nevertheless, growth in the production of goods and services bodes well for employment growth and for job market conditions overall. Job gains in 2014 were also the best since 2010 when the recovery began. Overall total non-farm employment grew 1.9 percent in 2014, up from the 1.2,

1.7, and 1.7 percent gains in 2011, 2012, and 2013, respectively. The average monthly job gains also displayed a less erratic pattern in 2014, while averaging nearly 220,000 per month – the best rate in a considerable time. However, the quality of these jobs overall (part-time hours rather than full-time, over-qualified workers for the jobs that were taken, and stagnant compensation) still tarnishes this job recovery somewhat.

On a quarterly, year-over-year basis, the labor markets' improving momentum is evident, as well. Year-over-year growth is now running at a 2.2-2.3 percent clip, up from 1.6-1.7 percent seen in 2012-13.

It is typical for employment gains to lag gains in output, as firms meet growing product and service demands by expanding hours of existing employees in lieu of new hires, increasing capacity utilization, and strong productivity gains. However, total labor input (the combination of workers and hours of work – “nonfarm aggregate hours”) may have passed an inflection point of indicating stronger demand for new hires going forward, especially since the summer of 2014. Year-over-year growth in aggregate hours is presently running at a clip of nearly 3 percent, up considerably from the rate of 1.9 percent in period spanning the last half of 2013 through the first half of 2014, although it has recently contracted a bit from that pace of late.

The current rate of unemployment nationwide has dropped to 5.3 percent (June, 2015) from 6.1 percent a year earlier in June 2014. Thus, only modest improvement has been made over the past 12 months on this particular labor market metric. For all of 2014, it has averaged 6.2 percent, down from 7.4 percent in the year prior. While seemingly good progress, this masks the fact that there are still a large number of people who have dropped

out of the civilian labor force that would not have occurred had job prospects been better. (Retiring baby boomers, however, would be an exception to this phenomenon.) The comparatively low labor force participation rate of the working age population could start to reverse itself with sustained job growth at rates of 2 percent or more.

Recent Developments in Crude Oil Markets and Fuel Prices

As discussed in several of our recent narratives for the revenue forecast, developments in crude oil and petroleum products have been in a very major transition since 2010. At page 15 in in the June 2014 report):

http://www.oregon.gov/ODOT/TD/EA/reports/Jun_2014_Forecast.pdf

At page 13 in the December 2013 forecast narrative:

http://www.oregon.gov/ODOT/TD/EA/reports/Dec_2013_Forecast.pdf

The so-called “renaissance” described in the earlier reports has currently manifested itself in a crash of crude prices, both domestically and globally. And with the cratering of crude, gasoline and diesel prices have followed, to the delight of drivers and households. However, the declines have been so substantial and rapid, that the energy sector is slipping quickly into the doldrums. It had been the singularly most potent source of economic growth in the U. S. recovery.

During the early fall of last year, the predicted glut in domestic crude had driven prices down from \$107 a barrel to the low- to mid- \$80s. This represented a relative decline of roughly 25 percent, a major decline by any standard. However, the expected gluts (domestic as well as globally) were not met with production cuts by OPEC producers and other large producers such as Russia. Such a reaction would have sacrificed market share

to North American producers (U.S. oil shale and Canadian oil sands) in order to maintain prices at least at the \$75-\$80 level. [This is thought to be approximately the fiscal breakeven range for the major – and swing – producer of OPEC, Saudi Arabia.]

However, at the OPEC meeting in Vienna in late November 2014, members (predominately Saudi Arabia) decided that market share had to be preserved. This precipitated the only market adjustment possible: a further decline in prices for all crude, essentially driving North American producers to do the cutting based on their higher cost production. Domestic crude fell to \$45 per barrel, for an overall bear market move of nearly 60 percent in less than six months. It currently seems as if prices are settling down at roughly the \$50-\$60 level, though there are some observers who are predicting further deterioration to as low as the \$25-\$30 level.

The upshot for the macroeconomic outlook is threefold. First, and foremost, American households have received a very nice “tax cut.” Retail gas prices have declined by roughly \$1.25 per gallon to less than \$2 in many states, so far. Typical households are likely to spend \$500-\$750 less per year on motor fuels at these levels. Most of this money will now be diverted to more discretionary spending. With roughly 120 million households in the U.S., that represents a \$75 billion stimulus to annual consumer spending. Unfortunately, these effects are proving to be somewhat elusive. Consumers so far don’t seem to be spending the windfall as widely expected.

Second, it has been observed that American households display a very positive correlation between fuel prices and consumer sentiment that may factor into spending decisions. Lower gas prices foster optimism and more spending, and high prices engender pessimism and more restrained spending. So,

persistently low gas prices may start help household regain some spending momentum.

The third element of the sharp decline in crude and product prices is less conducive in stimulating economic expansion. Reduced production carries with it oil-field worker layoffs. In addition, cuts in capital spending by the oil and gas exploration and production sector adversely affect the oil services industry. Slowdowns here, and in the magnitude anticipated, will dampen the pace of economic activity to some extent.

What is the probable duration for this new period of lower fuel prices and the attendant broad-base economic stimulus it represents? While that could be anyone's guess, the short answer is that it could last at least 3 to 5 years – or until the world demand for oil grows enough to catch up with over-abundant supplies. This would not be too dissimilar to the events which began in 1985-86, and that low-price era endured until 1999. So, this was a period of cheap oil and gas that spanned 13-14 years, excluding the brief time around Operation Desert Storm in the Middle East.

It is likely not to be similar to the price collapse of 2008-09, which had a rather sharp rebound, for the simple reason that horizontal drilling and hydraulic fracturing were really in their nascent stages of commercial production.

Current National Economic Outlook

The present outlook for the nation's economy has not materially changed since the winter forecast. There is a slight improvement, however, and this is largely attributable the net stimulus to economic activity arising from the continued weakness in oil and fuel prices. However, the effect is now quite muted on the rate of growth and jobs gains overall, in contrast to the crash in oil prices from last fall.

The picture for job growth largely mirrors the growth of economic output, but with a bit of inertia as labor markets continue to lag real output. Total non-farm employment is now forecast to rise at a 2.1 percent clip in 2015, up only very slightly from the pace of 2.0 percent from six months ago. Job gains lose a little momentum in 2016 at a 1.5 percent rate, and, moreover, by 2017 job growth slackens to just 1.2 percent. The pattern persists farther out in the outlook at about 1 percent for 2018-2019.

The slightly mixed picture between economic growth and job gains would seem a bit paradoxical. However, they are tightly connected through worker productivity. This refers to output per work-hour; so, the connection is actually intuitive. Output growth is the combination of the growth in employment and the growth in output per work-hour. Productivity gains have been low since 2010 and are expected to start a pronounced uptrend by 2016 at rates of 2% going forward to 2019. As a result, real growth of only 2.5 percent can be attained with only having job gains of 0.5 percent or slightly more. A wildcard that causes the connection to slip is what happens to business spending on equipment and structures and how that affects labor productivity. Vigorous capital spending engenders healthy productivity gains. On the other hand, weak spending softens it, which would necessitate more hiring, all else equal.

Of course, Oregon's economic condition is strongly connected with the nation's, and the pace of economic activity regionally is what dictates largely the usage and capacity demands placed on the state highway system and its local roads and bridges. It also has a very direct bearing on the revenues generated from fees and user taxes to maintain and enhance the state's road/bridge infrastructure. Thus, the risks to the highway revenue forecast largely reside with those at the

national level, and those are themselves linked somewhat to global risks.

Some issues still continue which pose obstacles toward accelerating the recovery in a major way, especially since it may have reached a fairly mature stage. Some of these headwinds from the past, however, seem to be shifting toward tailwinds that could spark positive surprises going forward into 2016 and 2017.

- Business fixed investment spending, which has softened as of late, may be less robust than usual unless capacity utilization rates rise significantly, or foreign demand for our exports gains serious momentum. The last four years saw some weakness in capital goods and plant spending, and healthier growth is not expected until the last half of 2015, albeit at rather subdued rates for this point of a cyclical recovery.
- The European Union weathered the sovereign financial crisis of 2011, but monetary stimulus by the ECB is still proving to be largely inadequate in generating economic expansion and making a significant dent on unemployment levels. With stagnant economies and sporadic signs of deflation, the European Central Bank (“ECB”) has now leashed a trillion euro quantitative easing program of its own in March 2015 (equivalent to roughly \$1.1 trillion). It is not too dissimilar to the Fed’s QE program of the past six years, the results of which are still to be determined.

The recent sovereign debt crisis in Greece exacerbates the seriousness of the situation in Europe and any spillover to markets globally. How well events unfold here, and for Euro-

zone as a whole, will largely set the stage for the fiscal travails in Spain and Italy.

- The previous bullet point underscores a new twist in central bank coordination globally since the crisis in 2008. Rather than collaborative and reinforcing policies, there is now a divergence in direction, although coordination is still retained. Europe and Japan are in QE mode and other countries are turning to monetary ease to stave off recession (Canada, Australia among others), while the U. S. has ended QE and is on the brink of normalizing monetary conditions. This is new, uncharted territory with a hopefully happy ending, but it probably won’t be without some hiccups, at best.
- It will be hard to sustain a strong recovery going forward unless the financial sector continues to mend and uncertainties mitigated. Although Fed policy had been extremely favorable on this front, the new regulations stemming from the Dodd-Frank financial industry legislation are creating a vastly different landscape for financial institutions to navigate. This has perpetuated excessive reluctance in lending practices and asset management in general that detract from growth.
- There does not seem to be an end to continual flare ups – both old and new - in geo-political tensions. These pose a risk to solid economic growth globally.
- There is the potential for policy missteps – either at the federal fiscal level or at the monetary policy level (no one is perfectly sure how the Fed’s

steps to “normalization” will turn out), or both – that could pose some headwinds to a sustained recovery and full employment growth.

- For a number of countries, currency depreciation is becoming the preferred growth strategy. For those nations with thin capital and foreign exchange markets, the prospects for financial instability rise considerably. Collateral with this would be a strengthening U.S. dollar, which hinders our exports and impedes growth somewhat. It also tempers price inflation on our imports, which makes the Fed’s achievement of its inflation targets a little more difficult.

As mentioned earlier, some headwinds identified in prior reports seem to be shifting somewhat. These may now be positive elements in the outlook going forward:

- The economy could be on the verge of escape velocity after 6 years of slow growth. Thus, it is less susceptible to derailment into a contraction should any of the risk factors enumerated above play out.
- Housing related activity is said to account for roughly one-seventh of total economic activity. While 2010-2012 saw improvement in this sector across all regions of the country, it had slowed down measurably for the past two years. Affordability has been improving since mortgage rates came down from their spike in mid-2013, which emanated from the Fed’s mention of its intention of “tapering” its quantitative easing strategy. In addition, lending restrictions and sub-

par income growth that served to impede the growth are slowly starting to improve.

- With vastly improved balance sheets and modest improvement in real disposable income, households are propelling housing and, in particular, purchases of consumer durables (i.e. cars and light trucks). Both of these are significant levers in boosting growth.
- Nonfinancial corporation’s balance sheets are heavily cash laden, and borrowing has continued to be very cheap in capital markets. Progress out of Washington D.C. to effectively repatriate foreign retained earnings would further boost these catalysts to growth.
- The renaissance in the country’s oil and natural gas sectors has rather potent consequences for economic activity and for energy prices to stimulate economic growth. Recent developments, however, may shave a little off this boost going forward.

Table 1 summarizes several national economic indicators upon which the forecasts are based. The transportation revenue forecast is consistent with Department of Administrative Services’ May 2015 *Oregon Economic & Revenue Forecast* and the associated baseline macroeconomic forecast from *IHS-Global Insight Inc. (IHS-GII)*. In addition, detailed excerpts on the national outlook from IHS-GII, as well as the complete state economic outlook are available at the web site of the Office of Economic Analysis, <http://www.oea.das.state.or.us>.

OREGON ECONOMIC OUTLOOK

Since the previous forecast, Oregon's economic growth has picked up significantly. Strong growth in employment and personal income has outpaced previous forecasts and has yielded growth rates more in line with expectations coming out of a severe recession. In addition Oregon's GDP increased 3.6 percent in 2014, the sixth fastest growth rate in the nation.

The unemployment rate, which had stagnated through much of 2014 at around 7.0 percent, started dropping towards the end of the year. The beginning of 2015 through April has seen the rate fall rapidly to 5.2 percent as the number of unemployed continues to decline. Another factor and unfortunately not a positive one in the unemployment rate drop is the declining labor force. As noted in previous forecasts, the large Baby Boomer generation is entering their retirement years and leaving the labor force. This gap will present new challenges for the Oregon economy as these knowledgeable professionals move on and potentially change how they interact in Oregon's economy. However, as these individuals leave the labor force this opens up opportunities for the generations that follow.

Oregon's exports grew sharply in 2014, rising 12.2 percent over 2013 marking a new high of over \$20 billion in value. The recent growth has been led by high-tech products destined for Asian countries, with China our biggest trading partner. Additionally an increase in agricultural product exports is the other significant driver for growth in total exports. Going forward the decrease in container shippers at the Port of Portland may have an impact on continued growth, however much of the high-tech products are already shipped by air.

Housing is still on the recovery track as housing starts totaled 15,600 in 2014, an increase of 9.4 percent over 2013. This is a big improvement over the lows of 2009 and 2010 but still with room to grow compared to a high of 31,000 experienced in 2005. Growth is expected to steadily continue throughout the forecast, reaching 22,900 by 2019 as population increases and underbuilding during the recession catches up.

Another sign of growth is the increase in the number of surrendered licenses. As people move into Oregon from other states they turn in their old license and get a new Oregon one. Growth stagnated during 2009-2012, matching the recession nationwide and the sluggish expansion. As the economy began to recover, surrendered licenses grew by nine percent in 2013. 2014 finished even stronger at ten percent growth. Currently growth is on track to match our strongest growth experienced during the tech boom in 1996.

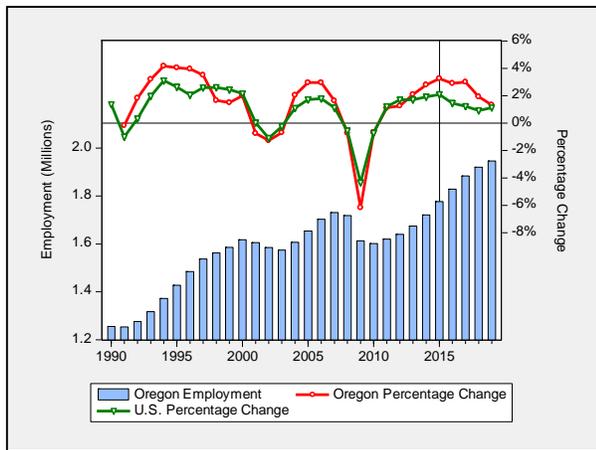
Total Non-Farm Employment peaked in the first quarter of 2008 at 1,738,000 and declined to 1,592,000 in the first quarter of 2010, a loss of nearly 150,000 jobs. The state's job growth resumed in the second quarter of 2010, but growth has been inconsistent, albeit positive through 2012. Beginning in the first quarter of 2013 growth has consistently increased at rates exceeding 2 percent on an annualized basis reaching a high of 4.0 percent in fourth quarter of 2014.

Oregon's employment outlook is significantly stronger than the previous forecast. Growth is expected to average 3.3 percent in 2015, falling slightly to 3.0 percent by 2017 before slowing in the out years of the forecast.

Historically, average employment growth in Oregon is stronger than in the U.S., although during recessionary periods Oregon's industry

mix can lead to larger losses than the U.S. as a whole. While both the U.S. and Oregon have experienced negative growth in aggregate employment during 2008-2010, Oregon shed relatively more jobs throughout the recent downturn. However, Oregon's employment growth is expected to outpace the national average throughout the forecast period. Oregon's employment is expected to grow at an average rate of 2.3 percent through 2019, while the U.S. employment is expected to grow 1.2 percent during the same period.

Figure 1: Oregon and U.S. Employment Trends



The pace of economic activity has a direct and significant influence on tax revenues derived from usage of the state highway system. A more detailed look at specific industries in Oregon can shed light on where the strengths and weaknesses currently reside, and what the outlook is for these sectors.

Figure 2: Oregon Employment by Selected Sector, 2008-2014

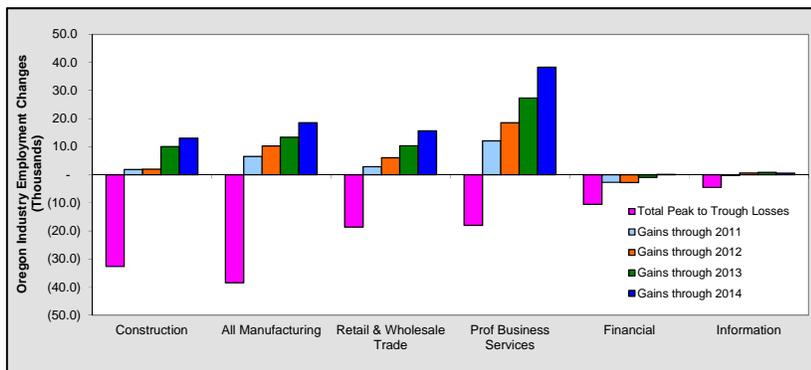


Figure 2 highlights some of the industry sectors which have special significance in this regard. They are **Construction**, **Manufacturing** (both durable goods and non-durables) and **Retail & Wholesale Trade**, along with **Professional and Business Services**, **Finance**, and **Information** sectors.

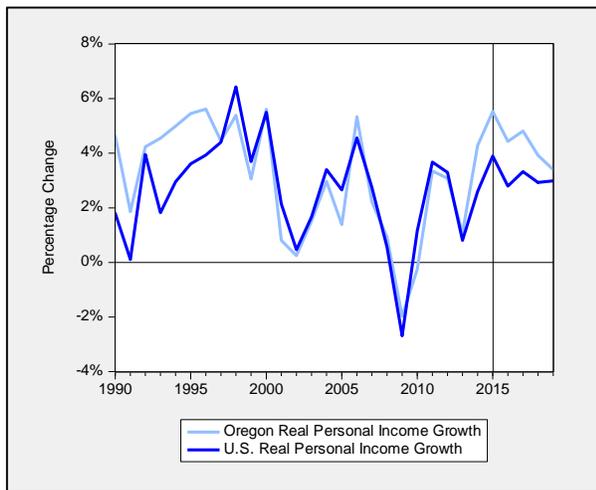
As noted above, total employment losses from the peak employment in the first quarter of 2008 to trough employment in the first quarter of 2010 was a net loss of almost 150,000 jobs. The key sectors underpinning commercial travel demand on the state's highway and roads network [**Construction**, **Manufacturing**, and **Retail & Wholesale Trade**] accounted for sixty-one percent of the job losses. However, these sectors only account for 31 percent of overall growth in jobs through 2014, which is not encouraging news for strong growth in motor fuel and weight-mile taxes.

Professional and business services, among one of the larger industries in the state, reveals one of the more potent rebounds. It is one the few large sectors leading the economic recovery along with **Health Services** (not contained in the chart).

The relative growth rates projected for some of these sectors along with other indicators are reported in Table 2 on page eight.

Oregon’s **real personal income** growth has rebounded mildly after experiencing declines in 2009 and 2010. Personal income, about 50 percent of which is derived from wages and salaries, was inconsistent through 2013 but growth has stabilized above 4 percent in 2014, peaking in the first quarter of 2015 at 7.4 percent. In general, as shown in Figure 3, Oregon’s recent progress mirrors that of the U.S. Going forward, the forecast predicts growth for Oregon to outpace that of the U.S., averaging 4.2 percent through 2019 on an annualized basis, while the U.S. averages 3.0 percent, a wider gap than predicted in the prior forecast.

Figure 3: Oregon and U.S. Real Personal Income Growth Trends



In summary, both income and employment growth have struggled over the past several years to gain consistent traction. However, 2013 was a turning point and 2014 has shown solid gains in both income and employment growth. 2015 has started off even stronger and growth is expected to continue throughout the forecast albeit at slower rates.

There are a couple risks to continued strong growth in the Oregon economy. While not exhaustive, these are a few of the risks that could pose as headwinds to growth.

- Federal fiscal policy – Uncertainty regarding federal budgets and the Highway Trust Fund could mean reductions in federal staffing levels, matching funds for construction, and transfer payments. This would lead to a diminution in economic activity in the state.
- European financial markets – Sovereign debt and austerity concerns have increased following the recent vote by Greece, which could drive down demand for Oregon’s exports to Europe.
- A continued slowdown in the Chinese economy and further fallout from equity markets could soften import demand from Oregon.

Oregon’s population growth has stabilized in 2014 at 1.2 percent following several years of sub one percent growth. This increase in recent years is driven by net migration, as more people move into Oregon than leave the state. Going forward population growth is expected to hold steady at 1.2 percent through the remainder of the forecast as net migration growth slows substantially. However, note that these rates are considerably below those experienced during the 1990’s expansion and are also lower than rates prior to the recent recession, as reflected in Figure 4.

Figure 4: Annual Growth Rate in Oregon’s Population

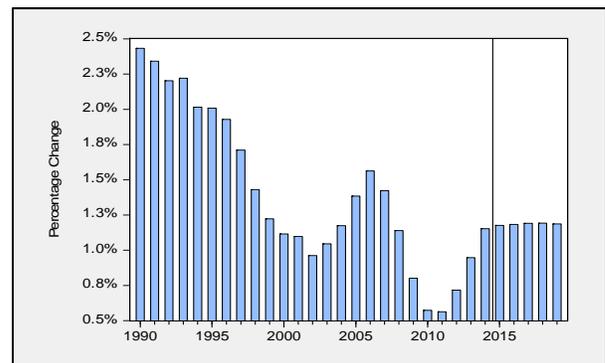


Table 1: National Economy, Percentage Change in Key Variables

	Actual				Forecast				
	CY 11	CY 12	CY 13	CY 14	CY 15	CY 16	CY 17	CY 18	CY 19
CONSUMER PRICE INDEX (CPI)	3.1%	2.1%	1.5%	1.6%	-0.4%	2.1%	2.4%	2.6%	2.5%
EMPLOYMENT	1.2%	1.7%	1.7%	1.9%	2.1%	1.5%	1.2%	0.9%	1.1%
HOUSING STARTS	4.5%	28.1%	18.6%	7.6%	12.1%	16.6%	11.9%	3.1%	3.7%
POPULATION	0.7%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%
REAL GROSS DOMESTIC PRODUCT (GDP)	1.6%	2.3%	2.2%	2.4%	2.8%	2.7%	2.7%	2.4%	2.7%
REAL PERSONAL INCOME	3.7%	3.3%	0.8%	2.6%	3.9%	2.8%	3.3%	2.9%	3.0%
REAL PRICE OF GASOLINE	23.1%	1.4%	-4.2%	-5.7%	-33.6%	7.5%	5.8%	9.0%	6.7%
UNIT SALES OF NEW AUTOMOBILES	8.1%	19.0%	4.7%	1.2%	-1.2%	4.8%	3.9%	-0.6%	0.7%

Table 2: Oregon Economy, Percentage Change in Key Variables

	Actual				Forecast				
	CY 11	CY 12	CY 13	CY 14	CY 15	CY 16	CY 17	CY 18	CY 19
EMPLOYMENT--TOTAL	1.1%	1.2%	2.1%	2.8%	3.3%	2.9%	3.0%	1.9%	1.3%
EMPLOYMENT--CONSTRUCTION	1.4%	1.8%	6.5%	8.0%	4.4%	3.1%	3.1%	1.9%	1.1%
EMPLOYMENT--HIGH TECHNOLOGY MFG.	4.1%	1.6%	-1.1%	-0.3%	3.1%	2.7%	0.1%	0.0%	0.0%
EMPLOYMENT--RETAIL TRADE	0.9%	1.2%	2.2%	2.4%	2.9%	3.3%	3.3%	2.1%	1.5%
EMPLOYMENT--TRANSPORTATION	2.3%	1.3%	1.3%	3.6%	4.1%	2.7%	3.1%	2.0%	1.7%
EMPLOYMENT--WHOLESALE TRADE	1.0%	1.6%	3.6%	1.3%	2.3%	2.6%	2.6%	1.3%	1.1%
EMPLOYMENT--WOOD PRODUCTS	-3.7%	2.6%	6.8%	3.9%	1.9%	2.8%	2.2%	1.3%	-0.5%
HOUSING STARTS	5.3%	35.7%	31.1%	9.4%	0.7%	18.5%	15.0%	4.7%	2.3%
POPULATION	0.6%	0.7%	0.9%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
PORTLAND METRO CONSUMER PRICE INDEX	2.9%	2.3%	2.5%	2.1%	0.0%	2.0%	2.2%	2.3%	2.2%
REAL PERSONAL INCOME	3.3%	3.1%	1.1%	4.3%	5.5%	4.4%	4.8%	3.9%	3.4%
TIMBER HARVEST	13.1%	-1.5%	-2.0%	6.7%	14.3%	3.3%	0.6%	0.5%	0.8%

Table 3: Percentage Change in Transactions for Key Transportation Variables

	Actual				Forecast				
	CY 11	CY 12	CY 13	CY 14	CY 15	CY 16	CY 17	CY 18	CY 19
MOTOR VEHICLE FUELS (GALLONS)	-1.3%	-1.0%	0.7%	2.2%	5.8%	2.6%	1.5%	1.1%	0.9%
ORIGINAL CLASS C LICENSES	0.1%	3.7%	9.7%	7.8%	-0.2%	-2.8%	0.5%	0.0%	0.3%
PASSENGER VEHICLE REGISTRATIONS	0.7%	1.5%	0.6%	1.3%	2.1%	0.6%	1.1%	0.1%	0.2%
TITLE TRANSFERS	3.0%	-1.5%	2.5%	4.4%	2.0%	0.7%	1.4%	-0.1%	0.2%
TRUCKING ACTIVITY (WEIGHT-MILE)	2.0%	-0.8%	3.7%	4.2%	4.8%	2.7%	2.2%	1.1%	1.3%

TRANSPORTATION TRANSACTIONS

Table 3 on page nine contains highlights of annual rates of change in a number of transactions for the major transportation variables in the current forecast. Five transportation variables are highlighted in the table, out of in excess of several hundred captured in the forecast model. The supporting narrative of the Motor Fuels, Motor Carrier, and Driver and Motor Vehicles forecasts is provided below. These are all expressed in terms of quantities or amounts of transactions; in other words in terms of physical units.

Overall, usage on the highway and road network (motor vehicle fuels and trucking activity) show somewhat stronger growth than driver and vehicle transactions (original driver licenses, passenger vehicle registrations, and titles). The reason is rather intuitive: usage has a stronger correlation to the pace of economic activity, while driver/vehicle transactions are influenced more by the state's demographics. The latter is far less dynamic than the former. The conversion of transactions into revenues involving fees and tax rates is done later in the report as the "Highway Fund Revenue Forecast."

It should be noted that the tables refer to calendar year data so as to align better with the earlier discussion about the economic conditions nationally and for the state.

Motor Fuels Usage

A persistent tone in past reports has been that that fuel consumption in Oregon, and as well nationwide, has languished in the sluggish economic recovery. There has not been as a lethargic recovery in fuel demand since the recession in 1980-82, which was also an especially harsh contraction for the state. The

decline in 2008-09 was the most severe downturn in fuel use in nearly 30 years. Reduced economic activity in both instances manifested itself in reductions in travel demands for both personal and business purposes, and as a result reduced fuel use.

For calendar year 2014, taxable fuel usage increased at a 2.2 percent clip. This is an increase over 2013, which also showed positive growth. So, both years reveal relative strength over the down years spanning 2010-2012. Fuel demand looks to have finally put in a "bottom" after 2 years of back-to-back growth. However, at these restrained rates, growth is certainly not robust, albeit signs of building momentum are starting to emerge.

On a 12-month cumulative sales basis (perhaps a more reliable metric for the fundamental pace of motor fuels usage), year-over-year comparisons suggest some gathering momentum in usage. Year-over-year, usage is running at a 4 percent clip. Rolling 12-month sales in the first half of 2015 rose at rates in the range of 2.4 to 2.6 percent.

These comparatively robust numbers for taxable fuel usage are confirmed by national data on vehicle miles of travel ("VMT") maintained by FHWA for the nation and, as well, for states and regions of the country. For the year to date, total VMT nationwide is 3.4 percent higher than for the comparable period in 2014. For the individual month of May 2015, VMT nationwide was 2.7 percent above May 2014's. On a regional basis, the West Region (13 western states including Alaska and Hawaii), May 2015 was 3.2 stronger, well above the nation as a whole. Even more noteworthy, Oregon tied the state of Washington with the strongest year-over-

year growth at 4.6 percent among the 11 lower-48 states in the region.

A wide array of economic and demographic variables accounts for the observed behavior for fuel demand in this economic recovery. These aspects are all captured in the multivariate model developed to generate the forecast for fuel consumption in the state. Taxable fuel consumption is at the heart of the outlook for fuel tax revenue going forward.

First, crude oil and gasoline prices have changed considerably since 2008, albeit they are still lower than what drivers confronted in 2008. Prices for crude oil and derived petroleum products have been elevated since early 2010, only to have crashed by over one-half since July 2014. Civil unrest the past four years in North Africa and in the Middle East spawned higher risk premiums associated with potential supply disruptions. These still remain largely in place given the current state of geopolitical tensions, although they have narrowed considerably of late. [A fuller discussion of the structural developments in both domestic and global markets appears at the end of this narrative on motor fuels: “Developments in Domestic Crude Oil Production.”] Despite the volatile prices, the derived demand nature of fuel consumption strongly suggests price inelasticity for price increases as well as for price declines. Drivers demand motor fuels as an intermediate input into end pursuits such as commuting to work, to school, and for recreational/leisure/social activities. It is only fuel use largely tied to discretionary activities that is mostly impacted.

Of course, the recent collapse in oil and fuel prices appears, at least for the time being, to put the process in reverse. The upshot for the revenue outlook is several-fold. First, and foremost, Oregon households have received a very nice “tax cut.” Retail gas prices have declined by roughly \$1.25 per gallon to the

low \$3 range in many states, so far. Typical households are likely to spend \$500-\$750 less per year on motor fuels at these levels. Most of this money will now be diverted to more discretionary spending.

Collateral with this latter development is the observation that households display a very positive correlation between fuel prices and consumer sentiment that may factor into spending decisions. Lower gas prices foster optimism and more spending, while high prices engender pessimism and more restrained spending.

A second major factor behind the lukewarm pace of the recovery of motor fuels consumption points to the advent of alternative-fuel vehicles which may have measurably affected the overall use of gas/diesel and their growth trajectories, as well. Since manufacturers of these vehicles tout more fuel efficiency, the reasoning is that the same amount of miles of travel is accomplished with less fuel consumption. Notwithstanding the buyer subsidies created to soften the higher upfront capital costs, the market penetration of these vehicles is still comparatively nascent and relatively puny. As a result, the effect on the fuel efficiency of the entire fleet of passenger vehicles and light trucks (with roughly a median age of nearly 11 years) has been imperceptible in the short- to intermediate-term. There is probably a considerable ways to go for major strides toward greatly enhanced efficiency of the overall fleet and for a perceptible impact on fuel consumption to be accomplished. Based on our long-run analysis, this starts to occur a considerable ways beyond the horizon of our present revenue forecast (through 2019). The changing landscape of fuel efficiency standards for light vehicles is discussed in additional detail below.

Third, growth in usage at prices below peak prices may be retarded partly because drivers have been slower than usual to revert back to

their short-run habits under more normal circumstances. Drivers engage in a number of steps to conserve on fuel consumption to mitigate the impact of the prior, high prices on their budgets. In the short-run – that is, the case in which the stock of vehicles is largely fixed – these have routinely encompassed trip chaining, temporary changes to alternative modes, carpooling, and being somewhat more vigilant about maintaining higher air pressure in their vehicle tires. With the pinch at the pump being reduced considerably since mid-2008, it might be anticipated that some of these measures would be reversed and for usage to regain its growth at the historical norm of about 2-3 percent. With the overall economic backdrop and heightened consumer anxiety, however, there may be the effects of slower reversion, or even some more permanent adjustments taking hold. This has been embodied in the forecast by subtle changes in the estimated lag structure to gas prices.

As an illustration of the latter point, we have only to go back to the estimated models of 5 or 6 years ago. Then, the more dominant price effects manifested themselves with a lag of one to two quarter. This indicated that drivers did not respond quickly to price changes, or that driver inertia was too much to overcome with faster adjustment. Now, recently estimated versions have a more instantaneous reaction to prices; indicating that adjustment occurs more quickly under the belief that price changes are no longer just transitory. Equally as important, however, is the result that the total response to prices is roughly the same between the two models from 6 years back to the current version. It is just that now the total impact occurs in a shorter period of time on average.

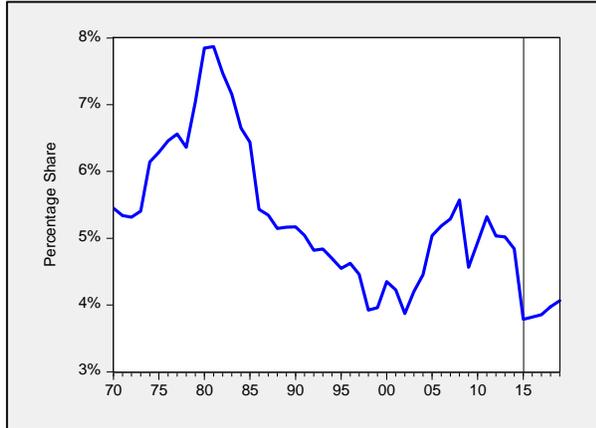
Fourth, the overall pace of economic activity in the state has a far more potent influence on gasoline and diesel fuel usage than any of the foregoing elements. Job gains disappeared in the spring of 2008, over seven years ago. As

has been the mainstay outlook for the Oregon economy since – “slow recovery” – this has, however, pretty much run its course for now. Even more telling, expected job growth never attains robust rates as has typically occurred in past recoveries. The collateral variables such as aggregate personal income and population are similarly restrained. As a consequence, the recovery in fuel consumption is slower than customary.

Fifth, it has been maintained for the past seven years that the amount that households have to devote to transportation fuels also serves to explain the shortfall in fuel consumption. In connection with record high gas prices over the 2005-2008 timeframe, the budget shares that households had to devote to energy use rose dramatically - to levels unseen since the late 1970s. The effect of this is tantamount to a tax, hampering their ability to spend on other items, particularly those of a non-essential or “luxury” nature. The result is a diminution to the production-income stream and slower economic activity than otherwise expected. Again, these responses are manifested in reduced fuel use, stemming from curtailed recreation and reduced “outside-the-home” entertainment and hospitality activities. These are more discretionary activities, than are vehicle trips to work or school. Presently, and going forward, this effect will continue to pose some challenges for stronger fuel use inasmuch as the budget share is projected to remain quite elevated over the low levels experienced in the 1986-2002 time span. Figure 5 provides an indication of the persistent headwinds that households have encountered, and will continue to, albeit at somewhat declining levels going forward.

Again, with the collapse in crude oil and gasoline prices, we could see a return to the expenditure shares in the late ‘nineties as the data unfolds going forward.

Figure 5: Household Budget Shares on Energy



Sixth, and finally, there has been increasing recognition of some very broad – but slowly developing – demographic shifts that are starting to get underway. Two prominent shifts have received the bulk of attention: the aging of the population with “Boomers” leaving the work force for retirement and the advent the millennial generation. The latter covers the age group of 18 to 37 that have just entered – or are about to – young adulthood. The travel demand behavior of these two very large age cohorts may be affected by this progression. If these patterns are sufficiently different than for the overall population, then there may be implications for user tax receipts and as well as even vehicle/driver fee revenues going forward.

Millennials and Travel Demands

The pattern of demographics, while very slow to evolve and equally slow to exert their cumulative impacts, can play a significant part in anticipating and preparing for changes in overall travel demand that transportation systems must be reasonably well equipped to handle. After all, economically efficient mobility is a cornerstone for a vigorous economy for all. Two trends have been headline news now for several years recently. These are the “Baby Boomer” and the “Millennial” generations. Now, the former – those born between 1946 and 1964 – is

definitely a demographic shift: for as this cohort ages, it’s producing an overall aging of the entire population. And with that, eventually an important impact on the composition of the civilian labor force.

On the other hand, the Millennial cohort – those born between 1981 and 2000 – doesn’t really alter the profile of the population overall and, therefore, isn’t a demographic phenomenon in the strict sense. Rather, it is the economic behavior of this generation that is really at the heart of discussions about possible impacts on transportation systems. Nevertheless, the topic of the Generation Y cohort is still very germane, but with a different slant than through demographic lenses per se.

Through surveys – some scientific and some not so – and anecdotal instances, a number of observers infer that Millennials possess a fundamentally different and, very likely, a permanent viewpoint on the need and mode for travel. Regarding the former, think of the advent of “social media.” For the latter, think of “car sharing” and, even more recently, “ride sharing.” Do these behavioral changes represent a quantum shift underway in the assessment of overall travel behavior and demand?

While some impact may be registered at the margin from behavioral differences by the Millennials (particularly if permanent), the extent of the shifts overall may be considerably overstated. First, the drop in first-time driver license issuances has not been all that precipitous: from roughly 85 percent down to 75 percent over the past several decades. So, the pattern is not a complete “on or off” event or occurrence. Quite simply, the Millennials in this regard are a fairly small portion of the entire cohort and not necessarily representative of it as a whole.

Second, the economic plight of many of the Millennials has been widely noted:

burdensome student loan debt, moving back in with parents, and part-time work in lieu of better paying, full-time jobs among leading ones. These paint a picture of a financial crater holding back gains in the standard of living in the near term.

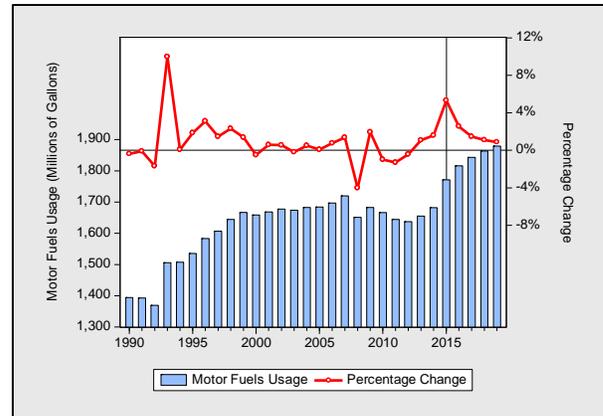
Collateral with the shaky financial conditions, meeting the mobility needs that they do have is achieved by means other than single-occupancy vehicle trips, which are most expensive but the by far most preferred mode of travel. This is traditional household budget economics: as incomes rise, most households move their mode choices away from lower cost options to automobiles. Will the transition to the traditional favorite occur with improving financial status for Millennials? Perhaps, though possibly with a slightly more muted rebound depending on the permanency of the original shifts in their behavior. Nevertheless, given the comparatively small share of Millennials under the microscope, the net effects may turn out to be more subtle than many have speculated. Recent industry reports reveal, for instance, that the share of new-car purchases has been rising for Millennials since 2010, and that they are the second-largest segment of new-car buyers in 2014 (after the Baby Boomers!).

This potential behavioral element is captured in the fuel use forecast model in the form of Oregon’s Labor Force Participation Ratio (LFPR), as tracked by the Oregon Employment Department (OED). The ratio is formed from the measure for the total civilian labor force relative to the working age population (ages 16 through 64). The estimated effect is presently small, but it indicates a little lower fuel consumption results, all else equal, as these shifts start to take place. The LFPR for Oregon is from the OED and is linked with BLS projections at the federal Department of Labor.

Figure 6 presents the outlook through CY19 for motor fuels sales, along with historical

consumption back to CY1990. For calendar year 2015, we are forecasting usage growth of 5.8 percent, as overall economic growth becomes gradually stronger in the near term, complemented with vastly lower fuel costs. This is reflected in the figure with sales remaining comparable to consumption at rates like those in 2004-2007.

Figure 6: Motor Fuel Consumption



This outlook is largely an outgrowth of the baseline state and macroeconomic forecasts. Both 2013 and 2014 witnessed gains in total nonfarm employment of 2.1 and 2.8 percent, respectively. This growth represented a combined increase in payrolls on the order of nearly 85,000. Income gains were, however, not quite as robust, as pressure continued to restrain wage and salary increases. Going forward, job gains sustain a solid pace through 2016. Personal income growth is a little more buoyant than recent, prior forecasts. An additional boost to our forecast for taxable fuel consumption over 2015-19 continues to stem from legislation in 2007 relating to reformulated gasoline, discussed in more detail below under the heading “Effects of HB 2210.”

Corporate Average Fuel Economy (CAFE) Standards

Over the past six years, there have been a number of pieces of legislation geared partly toward increasing the fuel efficiency of the

fleet of light duty vehicles (passenger cars and pickups).

In the fall of 2007, Congress passed, and then-President Bush signed, new energy legislation as an outgrowth of somewhat unfavorable developments in global oil markets and concerns over anthropogenic global warming. One component of the energy legislation dealt with the fuel efficiency of light passenger vehicles. The law required car and light truck makers to improve the miles per gallon (mpg) of vehicles under the CAFE standards to 35 miles per gallon by the year 2020. This target for overall fuel efficiency was subsequently accelerated to 2017 with more recent federal legislation in 2009.

In July of 2011, the Administration mandated a new target for the fuel efficiency of light vehicles by the year 2025, with certain milestones in the interim years. The EPA promulgated rules for implementation in August of 2012. The overall targeted standard is for 54.5 mpg for new cars and light trucks by model year (MY) 2025 (“CAFE Standards-2025”).

The recently promulgated CAFE-2025 fuel efficiency targets are a very aggressive, and perhaps optimistic reach at ramping up the fuel efficiency of new cars and light trucks by 2025. At first glance, 54.5 mpg for new light duty vehicles in 2025 sounds like a quantum leap that would very adversely affect revenue streams needed to maintain and enhance the State Highway Network, as well as local roads and bridges. The current efficiency of new cars and light trucks in 2013, however, was only about 30 mpg, or 55 percent less. (The current fuel efficiency of the entire existing fleet of light vehicles is about 20.6 mpg in early 2014.)

The effects from the legislated efficiency increase do not begin to register until well after 2019, which is the terminal year of the

current forecast. The effects, therefore, do not show up in the current fuel demand forecast in any substantial way. (It will be, however, more evident in the long-range projections using a more aggregated structure. These are done on an as-needed basis and routinely go out 20-25 years into the future to help the Agency gauge the very long-term prospects for fuels tax and vehicle/driver fee revenues.)

Effects of House Bill 2001

The 2009 Oregon Legislature passed a very broad-based, multi-modal transportation funding package, *The Jobs and Transportation Act of 2009*. A wide array of vehicle fees, both for light passenger vehicles and heavy trucks, were raised. In addition, higher use taxes from motor fuel purchases and for weight-mile taxes for heavy trucks in weight classes above 26,000 pounds were implemented. The revenue impacts of HB 2001 are more appropriately discussed in fuller detail in the section “Highway Fund Revenue Forecast” below.

Nevertheless, there probably needs to be some recognition here of the probable impacts of the gasoline tax and use fuel (diesel) tax that were implemented January 2011, since transportation funding initiatives were again at the forefront in the 2015 Regular Session. State motor fuels taxes increased from 24 cents/gallon to 30 cents at that time. All else equal, a hike in the fuel tax will manifest itself as a price increase at the retail pump. Since fuel demand is a derived demand – use stems from enabling activities that consumers like or need to do, not from actual consumption – the price sensitivity of fuel demand is quite low in the short-run (“inelastic”). A fuel tax is, however, a permanent increase to retail prices, whereas “retail prices” sans taxes can fluctuate up or down depending largely on variations in the price of crude oil and from changes in margins at the refining stage, as well the

seasonal mode of operations at refineries. Consumer perceptions regarding the permanency between price changes and tax increases may differ.

These distinctions may suggest that the sensitivity to a price increase stemming from a fuel tax increase may be somewhat more potent than that due to price changes based on market-based fundamentals. There is some empirical evidence that supports this thesis, although the effect is not enough to move the degree of price responsiveness out of the “inelastic” zone.

Based on these studies, coupled with the econometric estimates embodied in our forecasting equation, we gauge the likely impact from a six-cent tax increase per gallon to be quite muted. Based on present price levels as a basis for comparison, the effect is probably about a one-half of one percent reduction in fuel usage. This represents about 10 million gallons annually, compared to total annual usage on the order of 1.7 to 1.8 billion gallons. This is well within the statistical precision of the forecast model, and no special allowance for the tax change affecting usage is justified at the present time beyond what is embodied in our retail fuel price variable (which includes state and federal taxes).

House Bill 2210 – Ethanol Blending

In the 2007 Regular Session, the Oregon Legislature passed House Bill 2210, the *Biofuels Bill*. Several sections of the bill pertain to the required use of ethanol as a blend with gasoline in lieu of using methyl tertiary butyl ether (“MTBE”) to make reformulated gasoline that burns cleaner and mitigates ozone and carbon emissions. The Department of Agriculture promulgated an administrative rule (O.A.R. 603-027) to implement the legislation in the fall of 2007.

It is well understood that ethanol-blended gas is less fuel efficient than MTBE blended gas. There is considerable debate over the actual extent of lower gas mileage that drivers are likely to experience, however.

Lower fuel efficiency by the light vehicle fleet will partly manifest itself in more gallons being consumed and somewhat larger gas tax revenues. While some estimates are for as much as a 10 percent loss in efficiency, most indications are for a probable range of 2 to 5 percent loss. (On a pure BTU basis, E10 is roughly 3.8 percent lower than MTBE-blended gasoline by our calculations.) Coupled with this uncertainty over the lower mpg likely to result from E10, the staggered implementation of the bill’s requirements across the state in 2008 made an assessment of the likely effect of this new law on the State Highway Fund somewhat problematic at best.

The complete phase-in of blending across the state occurred in the final quarter of 2008. With the span since this completed implementation of the blending mandate, some empirical analysis for the efficiency impact in the context of the econometric specifications for motor fuels demand is ongoing. A somewhat broad range of models was examined, and all of them indicated that the efficiency loss is statistically significant, though not large. The results suggested a comparatively narrow range of about 1.7 to 2.2 percent more gasoline use under the blending mandate than without it. Current point estimates continue to indicate about 1.9 percent lower fuel efficiency as a result of the E10 blend.

Anecdotal evidence is mounting that drivers are detecting very little efficiency loss with highway driving, but a drop off does seem to occur with city driving. Using the rule of thumb of 45%/55% for the highway/city mileage proportions and the 3.8 percent lower energy content in the ethanol blend, this

would suggest 2.09 percent increase in fuel usage. This comports closely with the statistical findings from the past six years reported above earlier.

Developments in Domestic Crude Oil Production

Notwithstanding the major upheaval in the crude oil markets since the second half of 2014, the narrative from our prior reports is still apropos in terms of longer term fundamentals:

Hardly a week goes by without headline news on the renaissance in domestic oil and natural gas production. The reversal in production rates has been to levels not seen since 1988 – two and a half decades ago. The rebirth of production in the U. S. is being spearheaded by technological advances in horizontal drilling and hydraulic fracturing of shale rock formations. The enormous oil and gas reserves in shale formations have been known for roughly 30 years. However, it has only been over the past decade when crude oil prices have been sufficiently high to incentivize extraction by the exploration and production sector (“E&P”) of the integrated oil industry. The implications domestically are huge, and globally they border on monumental.

There are a number of stylized facts that come to the surface from the transformation that is presently underway. Moreover, they are distributed around the globe.

First, in the U. S. domestic crude oil production has increased to over 9.1 million barrels/day. This represents an increase of 2.75 million barrels/day - or 40 percent - in just the past four years. At that rate of growth, many industry observers - both in the U. S. as well as internationally – assert that the U. S. will become the largest liquid crude producer worldwide by as soon as 2015-2016.

This would displace Saudi Arabia and Russia as the top two currently.

Secondly, with rising domestic crude production, U. S. imports – especially from Nigeria, Venezuela, and Saudi Arabia – are commensurately reduced. In addition, the displaced imports into the U. S. start to create gluts in other, non-U.S. markets.

Third, the domestic crude surpluses being created in the U. S. (such as West Texas Intermediate crude at the hub in Cushing, Oklahoma) enable substantial gains in exports of petroleum products (mostly diesel) at very aggressive prices in foreign markets. This has caused the shutdown of refining capacity in Europe, for example. This also has the result of reducing market demand there for the European crude oil benchmark (“Brent”). As well, our imports of refined fuels from Europe have also been displaced with record refining capacity utilization rates in the U. S. as of late.

In Europe, there appears to be an upper bound on Brent crude oil as their imports of refined products from the U. S. gain market share. The premium of Brent still embodies some risk elements stemming from geopolitical tensions in North Africa and the Middle East, but even that has been coming down substantially recently.

In Asia, prodigious imports of both crude and refined products continue to sustain robust economic growth. China is already the world’s leading crude importer. It will still rely mainly on crude production from the Middle East, on domestic refining and on U. S.-refined fuels to a lesser extent to sustain this growth going forward.

In the Middle East, some production cuts will probably have to occur to avoid a major glut of crude and significantly lower prices. The increased production gains in North America are projected to roughly equal growth in

crude demand globally. As a consequence, swing capacity available to meet variations in demand worldwide, and/or momentary supply disruptions, will rise commensurately with the cutbacks. This will further retard price pressure on Middle East crude for markets internationally. Recent events since late last November have shown, however, that OPEC cuts were not adopted. Instead, production has remained largely unchanged in order to preserve market share and create the impetus of a shake out of North American producers

How long will the shale oil and natural gas boom last? A number of factors are involved as to how long this transformation plays out, each with considerable uncertainty.

It is well known that shale oil production is more costly than conventional extraction. In addition, depletion rates seem to be much higher than for conventional wells. Horizontal drilling and hydraulic fracturing are also not without potential environmental impacts that may or may not be feasibly mitigated. So, it is problematic at best to say what the duration will be at this time. Estimates vary widely: from 3-5 years to as long as 25 years. One aspect of note in this context is that virtually all of the shale oil production in the U. S. has come out of private land holdings. However, the bulk of shale oil reserves are thought to reside on federal lands. These are as of yet untapped. Moreover, the potential of shale oil reserves in foreign lands is only just now being determined and assessed.

The principal implication for fuel demand from this transformation would be that motor fuel prices in the U. S. may level out more than experienced in the recent past. When adjusted for inflation at the consumer level, they could conceivably decline. This would stimulate demand somewhat. In addition, there may be, at the margin, a reduced market penetration of alternative-fuel vehicles that achieve greater fuel efficiency as

conventionally fueled vehicles demonstrate to car buyers lower operating costs.

Summary Outlook for Motor Fuels Usage

Against the backdrops of the economy and recent changes in legislation, the outlook is for consumption to grow at a somewhat steady annual average rate of 2.4 percent over the period 2015-2019, now that the 2011-2013 lull is well behind us. This pace is the same as in the prior forecast, with the caveat that growth is elevated early but diminished in the out years of the forecast horizon. A large part of the growth can be attributed to the ramp up to somewhat stronger economic performance in the first half of the forecast period, especially by surpassing prior peak employment levels in early 2015. As well, drastically lower gas prices reinforce this momentum. The impacts from ethanol blending legislation (HB 2210) on light vehicle fuel efficiency will continue to bolster usage, as well.

Motor Carrier

Trucking activity and the freight industry affect the amount of revenue available to the State Highway Fund through the weight-mile tax, heavy vehicle registration fees, and other Motor Carrier fees. Changes in economic conditions within Oregon and the nation as a whole influence each of these revenue sources. In addition, state and federal legislation can impact trucking activity.

The **weight-mile tax** is the largest source of trucking-related revenue. This highway use tax applies to trucks with a gross weight over 26,000 pounds. Generally, the tax paid by a motor carrier varies with the weight of the vehicle, the number of miles traveled, and the axle configuration. The carriers generally have the option of paying on a monthly or quarterly schedule but in some cases will pay by the trip. Certain qualifying motor carriers, such as those transporting logs, wood chips

and sand/gravel, may pay the highway use tax based on a flat monthly fee. The weight-mile revenue and transaction totals discussed in this report include the trip based, monthly, quarterly and “flat-fee” revenue, as well as revenues from a small number of other trip-related fees.

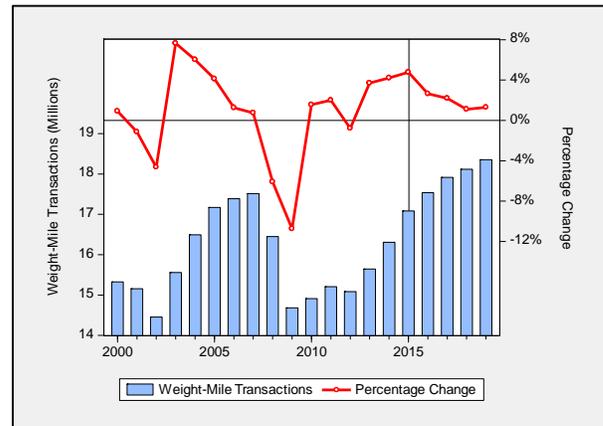
An estimate of weight-mile “transactions” provides the basis for the current forecast of weight-mile revenues. This methodology, also used for prior forecasts, constructs a measure of weight-mile transactions by normalizing revenue by the tax rate paid for a typical heavy vehicle. The forecasting model regresses the normalized weight-mile transactions on Oregon construction and durable goods employment, real fuel prices, real consumer spending on durable goods and industrial production of heavy trucks to estimate weight-mile transactions.

As Figure 7 illustrates, the number of weight-mile transactions grew strongly between CY03 and CY05, averaging about 5.9 percent annual growth. Following these years of strong growth, CY06 and CY07 growth was much more modest, averaging only about 1.0 percent. As recessionary conditions struck in the second half of CY08 growth declined 6.1 percent for the year. At the height of the recession, trucking activity bottomed out in CY09 where transactions declined by 10.7 percent. The drop in consumer spending, followed by the decline in Oregon durable goods manufacturing and construction employment, were the big factors behind the large declines in truck traffic. As the economy began to slowly recover in CY10, growth in weight-mile transactions was once again positive at 1.6 percent followed by slightly stronger growth in CY11 at 2.0 percent. Unfortunately, growth in CY12 stalled and declined by 0.8 percent. In CY13, growth rebounded led by a strong third quarter for an average increase of 3.7 percent over CY12. As economic growth picked up in CY14, weight-mile transactions grew as

well, increasing at a 4.2 percent rate. Beyond CY14 growth is expected to improve further in CY 15 at a 4.8 percent pace before slowing the through the remainder of the forecast averaging 1.8 percent from CY16-CY19.

Compared to the previous forecast, growth in in CY14 ended slightly lower. However, CY15 growth is expected to be much stronger with weaker growth in the out years of the forecast.

Figure 7: Weight-Mile Transactions



Other sources of heavy vehicle revenues to the State Highway Fund include **heavy vehicle registrations, permits and passes, Road Use Assessment Fees (RUAF)**, and other fees paid by motor carriers. The current forecast methodology involves estimating the revenues of each of the largest components separately. Discussion of these revenue forecasts appears in the Highway Fund Revenue Forecast section.

Driver and Motor Vehicles

The Driver and Motor Vehicle Services Division (DMV) is responsible for administration of driver and motor vehicle related activities. Revenues collected from the fees charged for the various DMV activities flow into the State Highway Fund, the Transportation Operating Fund and into other funds administered by ODOT divisions

such as Transit and Rail. Additionally some fees net of costs are transferred to outside entities; for example, RV-related fees are transferred to the Oregon Parks and Recreation Department. Lastly, revenues remaining after transfers and costs are deducted are apportioned to cities and counties statewide for local road repair, maintenance and construction.

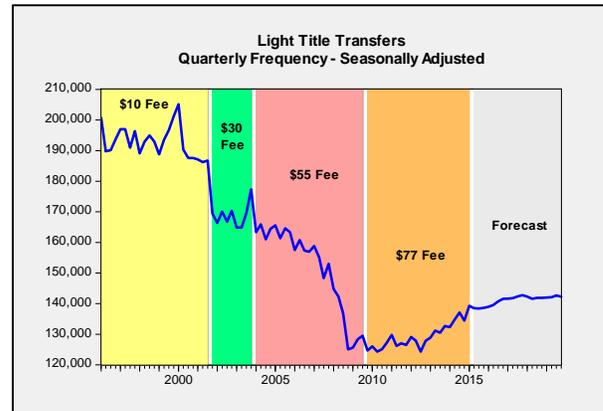
DMV activities are affected by various economic and demographic variables and provide a reflection of some very broad undercurrents in the state. The impacts of changes in population, employment, migration, and economic production are readily evident in many of the DMV data series. In general, DMV activities are more strongly affected by demographic changes rather than by economic changes, and as a result are more immune to the cyclical nature of the economy. However, severe recessions like our most recent recession do significantly impact growth in DMV transactions, both driver and vehicle related. Slowing in-migration rates and tighter household budgets negatively impacted growth in new and renewal driver transactions and well as vehicle registrations and title transactions.

Due to the stabilizing influence of the state’s demographics on DMV activities, legislative changes are very evident in the different DMV series. As fees or laws change impacting access to DMV services, these effects can be seen in changes in demand. A current example is the impact of consecutive fee changes on light vehicle title transfers.

A light vehicle title transfer transaction is completed and the fee is paid when a person sells a used automobile, light truck, motorcycle, moped or light trailer and the new owner submits to DMV the change in title ownership. Figure 8 below shows the quantity of these title transactions on a seasonally adjusted quarterly basis over time, beginning in 1996 and including the forecast

through 2019. The various highlighted sections represent the different total fees for a light title transaction. The data is seasonally adjusted to correct for the annual seasonal nature of the data where summer sales are naturally higher and winter sales are lower.

Figure 8a: Light Vehicle Title Transfers Quarterly Sales Volume



The historical fee for this transaction was \$10 extending back into the 1970’s. In 2001, the legislature passed HB 2142 increasing the fee to \$30, effective October of that year for the purpose of covering the debt service on the first series of Highway User Tax Bonds. The impact of the fee increase was a significant decrease in the number of transactions. Prior to the fee change the average number of transactions from 1996 through the third quarter of 2001 was 193,000 per quarter and after the fee change that average dropped to 169,000 per quarter, a 12 percent decline.

Another bonding program was established in the 2003 legislative session under HB 2041 to repair and replace damaged bridges throughout the state. The legislation took effect in January of 2004. The light title transfer fee was increased to \$55, where the \$25 incremental increase in the fee was pledged to the debt service for the new bonds. This further decreased the average number of transactions per quarter to 158,000, representing an additional 7 percent decline. It is interesting to see how the change from \$10

to \$30 caused an immediate negative reaction to the fee change, whereas the change from \$30 to \$55 had a much slower impact leading up to the large recessionary impact seen in 2008 and 2009.

The 2009 legislature enacted the most recent bonding program in HB 2001 to raise funds for a number of large construction projects throughout the state. The light title transfer fee was increased \$22 in October of 2009 for a new total fee of \$77. The recession and subsequent slow recovery has had an additional impact on the demand for these transactions and combining the impact of the fee change with the recessionary impact, the average number of transactions fell to a low of 125,000 per quarter in the fourth quarter of 2009, a decrease of 19 percent over the previous levels.

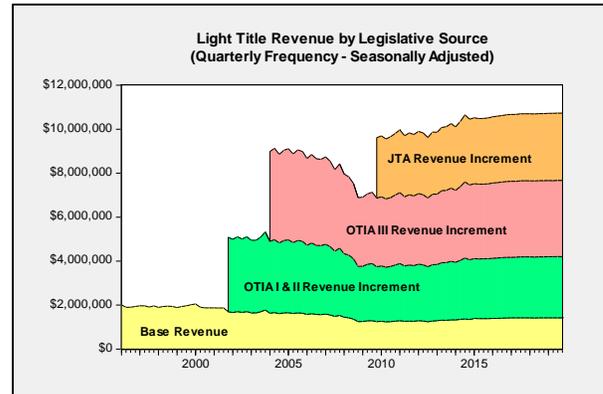
Coming out of the recession growth stagnated during the 2010-2012 period before picking up in 2013 and continuing through 2014 and into 2015. Going forward, as the economy continues to improve and more people and vehicles enter the state, we expect light title transactions to slowly grow from their current level of 139,000 per quarter to 142,000 by the end of 2019.

Overall the decline in transaction volumes was 35 percent, from an average of 193,000 per quarter prior to the first fee increase to 125,000 per quarter during fourth quarter of 2009. During this time the fee changed from \$10 per title to \$77 per title, an increase of 670 percent.

Figure 9 shows how the increased fees despite the decline in demand have increased revenue from about \$2 million per quarter to over \$10 million per quarter currently. However, as discussed above the impact on demand from the fee increase was negative, so as the fee increased the demand decreased. The result is that if demand was completely insensitive to the changes in price then we would have

expected to see about \$5 million more revenue per quarter than we do currently, or about \$20 million more per year.

Figure 8b: Cumulative Light Vehicle Title Transfer Revenue by Source



The other way that legislation or policy changes can affect demand is through actions that affect access to DMV services. An example of this can found by examining the evolving laws related to non-commercial driver licenses. SB 1080, passed in 2008 and the preceding executive order which took effect in February of 2008 changed the requirements for a non-commercial driver license. The changes required an applicant to show both proof of legal presence in the United States and a Social Security number, unless a person was not eligible for a Social Security number.

This change in the law negatively impacted sales of non-commercial licenses. Prior to implementation of SB 1080, the monthly average non-commercial license issuance rate was about 11,500. Just after implementation the recession hit amplifying the effect of the legislation dropping the average to about 9,200 per month, a drop of 20 percent. Clearly the legislation restricted access to some customers causing an immediate decline in demand. However, looking at more recent data there has been an increase in sales. Growth in sales since the prior forecast has been robust and the current sales rate is about

11,400 per month, which accounts for almost all the loss. So the combination of the economy bouncing back, people adjusting to the new normal and the increase in people moving into the state has now essentially made up for the loss due to SB 1080.

Overall, demographic and economic changes combined with legislative impacts explain most of the variation in total DMV transactions over time. Total DMV transactions declined sharply in 2008 and 2009 as the recession hit, followed by no growth in 2010 as the recession lingered and as HB 2001 was implemented. As the economy began to recover, 2011 saw positive

growth, followed by stronger growth in 2012 and even stronger growth in 2013. 2014 growth was slower than 2013 and 2015 is expected to slow further but remain over 2.0 percent. Overall growth is expected to average 0.5 percent per year over the period covering 2015 through 2019, significantly less than the 1.2 percent average annual growth expected for Oregon's population, a key driver to many DMV transactions. This is expected as many of the DMV transactions are valid for multiple years such as driver licenses or vehicle registrations.

HIGHWAY FUND REVENUE FORECAST

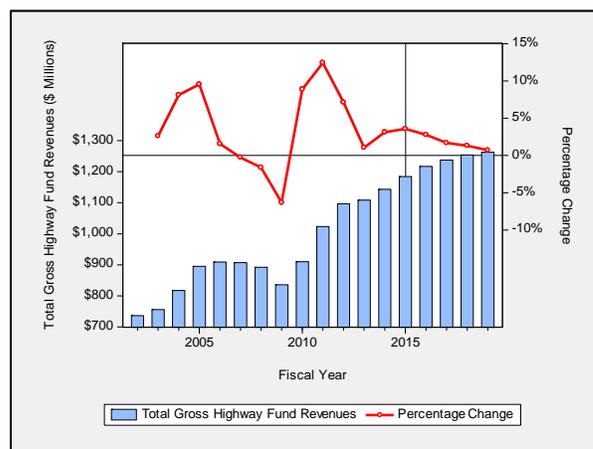
The economic backdrop underlying travel demands and freight movement in the state continues to show some signs of sustained improvement. The outlook for revenues is not materially different compared to the previous forecast, although there is a net increase overall. DMV vehicle and driver fee revenues, which are driven largely by demographic changes and consumer responses to fee increases, are up slightly over from the prior forecast. Motor Carrier and Motor Fuels revenues are traditionally far more sensitive to the pace of business activity in Oregon and nationally. The forecast of Motor Carrier revenues is somewhat higher given the marginally stronger growth in the determinants of heavy trucking activity. The outlook for Motor Fuels revenues is slightly stronger on average than in the last forecast. Travel demands and fuel use by individuals and businesses appear to be climbing out of their lethargy in 2011-2012.

As is customary to point out, differences between the current and prior forecast can originate from four primary sources. First, the forecast incorporates updated data on transportation transactions used for the purpose of estimating the parameters of equations contained in the forecast model. Second, it integrates the most recent revisions to the state economic outlook. Third, the forecast takes into account changes in the national macroeconomic outlook that affect transportation revenues, but may not be directly captured in the state forecast. And fourth, incorporating the effects of new funding legislation, particularly those that are phased in over a span of time such as the HB 2001 was, can account for differences, as well.

Figure 9 shows the recent behavior of gross revenues in the current forecast out to 2019. The forecasts for the past eight years have

reflected the incremental revenue impacts of OTIA III (House Bill 2041) and other legislative initiatives passed in the 2003 Regular Legislative Session. Most of the implementation of this legislation commenced in January 2004, and the effects were fully registered by the start of FY05, as reflected by the comparatively pronounced jump in revenues shown in the figure. FY04 through FY08 reflected the robust economic conditions of that period complemented with the revenue enhancements of OTIA III. Beyond FY09, the large increases in revenues for FY10 through FY12 reflect the phased implementation of the *Jobs and Transportation Act* (HB 2001 from the 2009 Session). The final few years of the forecast converge more toward the economic and demographic fundamentals currently projected for the state.

Figure 9: Total Gross Highway Fund Revenues



As reported above, the current outlook differs only very slightly from the prior forecast. In FY15 and FY16 gross revenues are expected to be higher by \$18.0 million and \$23.3 million respectively, due to continued improvement in the economic recovery. FY17 is expected to be slightly stronger as well: by \$24.9 million. The slight upward

shift in revenues continues through FY19 in the updated forecast, although it diminishes on a relative basis.

In connection with summary Table 7 at the end of the report (on page 31), a graph is provided which summarizes the composite effect of HB 2001 in 2009, while “controlling” for the differences in economic assumptions. This is featured as Figure 15 in the related discussion and shows what the new revenue forecast would have been under the same economic backdrop with and without this significant and last piece of funding legislation.

This boost in nominal revenue growth is much needed due to the expected rate of cost escalation for construction and maintenance activities confronting the Agency’s Highway Programs. Prior to passage of the JTA, the spending power of the State Highway Fund to support Maintenance, Preservation, and Modernization Programs had been eroding as costs increase at a faster pace than revenues. Now that the revenue enhancements of JTA have worked their way into the Agency’s revenue steam, however, nominal revenue growth has settled down to a rate comparable to the rate of cost escalation, barely keeping road budgets above water in terms of purchasing power.

Highway Fund Forecast

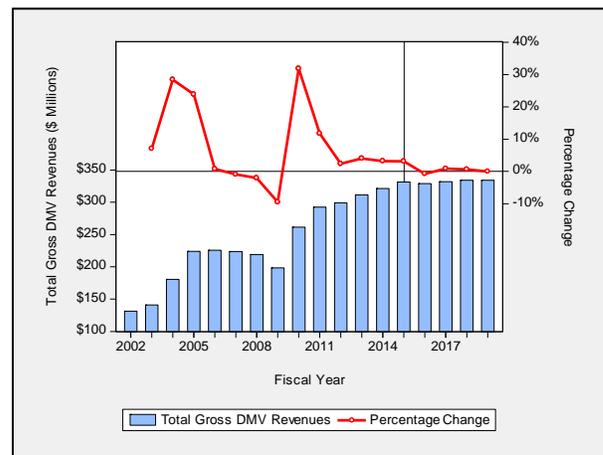
The forecast horizon covered in this revenue outlook extends out through FY19. Highway Fund revenues consist of four main sources: vehicle taxes, driver fees, weight-mile taxes, and fuel taxes. Fuel taxes constitute the largest single source of revenue at forecast levels of approximately \$516 to \$562 million per year. These taxes are levied on motor fuels used in passenger vehicles and light-to-medium trucks that are not subject to the weight-mile tax. The weight-mile tax is levied on heavy trucks on a per mile basis, but

is graduated in proportion to the weight of the truck. For very large truck configurations, there is a tax schedule that is based on gross weight and number of axles. Weight-mile taxes are the second single largest source of revenue at forecast levels of \$285 to \$312 million a year. Licensing, vehicle registrations, and titles make up the third largest source of Highway Fund revenue with gross annual forecast revenues ranging from \$331 to just over \$334 million per year.

DMV Revenues

Total gross DMV revenues are reported in row 4 of Table 4 and in Figure 10. The sharp revenue increase in FY10 and FY11 was due to the additional revenues generated from the JTA. In FY13, revenues grew 4.1 percent, as light vehicle sales improved, along with an anticipated increase in non-commercial license renewals. FY14 experienced solid growth of 3.2 percent as vehicle and license sales continued to grow. FY15 is expected to show 3.1 percent growth stemming primarily from used and new vehicle sales. Beyond FY15, growth is expected to slow considerably averaging 0.2 percent from FY16 through FY19.

Figure 10: Total Gross DMV Revenues



Rows 6 through 11 and 13 through 15 give the costs associated with administration of DMV, and transfers of the DMV revenues out

to support JTA and OTIA projects and for other statutory purposes.

DMV program costs primarily change when personal services costs change or programs are phased in or phased out. ODOT's approved budget for 2015-17 includes expenditure authorization for two major packages, the first phase of a DMV computer system modernization project and a project allowing DMV to accept debit and credit card payments from customers.

The larger of the two projects is the computer system upgrade. Essentially this project is to replace a system created in the 1960's with a system using current technologies to meet customers' expectations today. The total cost of the project is estimated to be \$90 million spread over 10 years. During the 2015 legislative session the legislature decided to fund the project one biennial phase at a time and allocated \$30.4 million in the 2015-17 biennium. However, DMV estimates they will likely only spend \$16 million in 2015-17 so this forecast includes just the \$16 million project cost estimate. In 2017-19, estimated expenditures are expected to grow considerably to \$30 million, which drives the big increase in costs for 2017-19 in the forecast.

The smaller of the two projects add the hardware and the merchant fees to allow the use of debit and credit cards in field offices. This project has a budgeted amount of \$6.3 million in the 2015-17 biennium. DMV expects actual expenditures to be slightly less at \$4.8 million in 2015-17, increasing to \$5.8 in the 2017-19 biennium, which are the numbers used in this forecast.

Net DMV revenues, as represented in row 12, increased in FY14 at a 3.8 percent rate and FY15 is expected to match this growth. However beyond FY15, costs primarily from the above mentioned projects increase faster than gross revenues, resulting in declining net

revenues for three of the four remaining forecast years. Overall net revenues are expected to decline on average 3.2 percent from FY16 through FY19.

Row 5 summarizes the change in gross revenues from the previous forecast. Overall, there is an expected cumulative increase of \$41.4 million from FY15-FY19. This increase is primarily driven by stronger than anticipated growth since the previous forecast spread out across both the vehicle and driver programs. Strong economic gains as well as in-migration are the leading causes for this growth.

Row 9 has been added to show the incremental revenue increase from the electronic driver records sold to disseminators. The initial forecast estimated incremental revenues would average about \$5.6 million per year, and the first full fiscal year (FY13) of revenue matched that estimate. Going forward, revenues are expected to soften slightly through FY15 before picking back up to a \$5.6-\$5.7 million steady state.

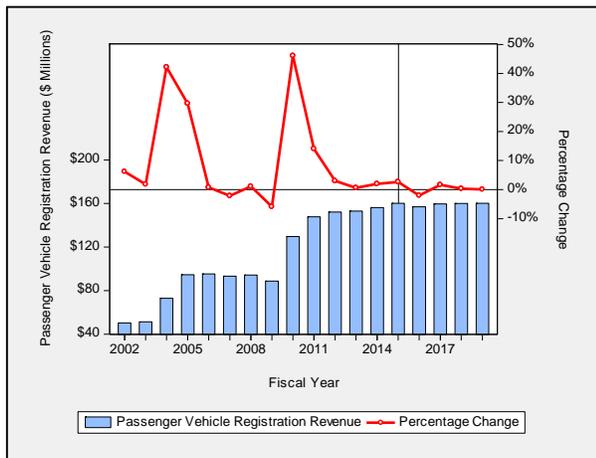
Continued refinements in the estimating equations have in general increased the overall accuracy of our DMV forecasts over time. However, the 2008-2012 period covering the recession and sluggish recovery created larger forecast errors, as the models continued to predict strong recovery growth while actual growth was not strong or consistent. What is encouraging about the last few forecasts, and this forecast in particular, is the growth in historical revenues has exceeded forecasted growth, as well as simultaneous expectations for continued future growth, albeit at a somewhat subdued rate in the out years.

Vehicle Registration Revenues

The DMV revenue forecast is grouped into three major components reflecting the

primary revenue sources: vehicle registrations, driver licenses, and vehicle titles. Vehicle registrations make up the dominant portion of DMV revenues, led significantly by passenger vehicle registrations, which alone account for 80 percent of vehicle registration revenues and 46 percent of all DMV revenues. Total registration revenues, as reported in row 1 of Table 4, amount to \$185.8 million in FY14, an increase of 2.2 percent over FY13. FY15 revenues are expected to equal \$189.6 million, a 2.0 percent increase over FY14. The previous forecast predicted registration revenues to decline in FY15 so the growth since the prior forecast had been an unexpected surprise. Beyond FY15, growth is expected to stagnate averaging 0.1 percent through FY19 as new vehicles sales slow.

Figure 11: Passenger Vehicle Registration Revenues



Driver Revenues

Driver revenue includes original issuance, renewal, and replacement of commercial and non-commercial licenses and permits, testing fees and other associated fees. Revenues, as shown in row 2, totaled \$34.6 million in FY14, an increase of 4.3 percent over FY13 as non-commercial license renewals and original issuances increased. FY15 is expected to grow 1.3 percent as new license growth continues but the number of people renewing

begins to decline. Beyond FY15 revenue growth in the forecast period is expected to slowly decline through FY18. The shift from a four- to eight-year renewal cycle for commercial and non-commercial licenses is the root cause for the decline in revenue growth over the forecast. For example, the large increase in FY13 is from licenses renewed for eight years beginning in October of 2004 and expiring in October of 2012. As Figure 12 shows below, the number of eight-year renewals peaked in early 2005, and fell steadily through 2008. This is the dominant factor for the overall decline in revenues toward the end of the forecast horizon. While this cycle will continue to repeat itself into the future, growth in revenues controlling for this fluctuation will depend on the renewal rate of license holders.

As noted above, a factor weighing on the accuracy of the forecast is the non-commercial driver license renewal rate. Licenses that were issued/renewed in October of 2000 or later were issued/renewed for an eight year period instead of the previous four year period. These licenses began expiring in October of 2008. What the average renewal rate would be from this shift to an eight year cycle, was, and still is a relevant consideration. Currently the renewal rate is about 70 percent, higher than our original expectation of 63 percent and has been increasing over the last couple years. This increase could be partly related to the economic expansion as people may have a reason to renew for employment purposes. But it might also be possible that individuals unable to meet the requirements for renewal of their license after SB 1080 increased the documentation requirements in 2008 have now acquired the correct documentation and have adjusted to the new way of doing business with DMV.

Figure 12: Non-Commercial Driver License Renewal Revenues

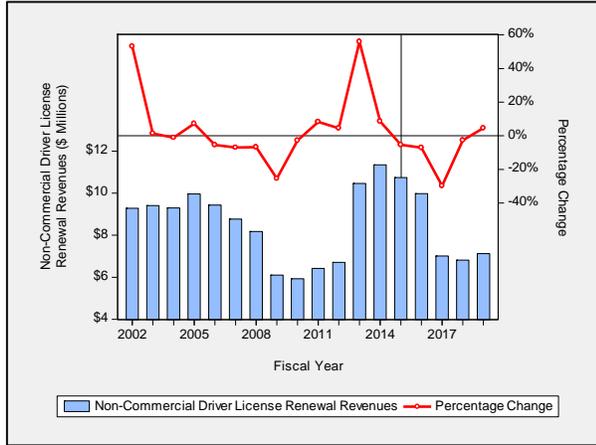
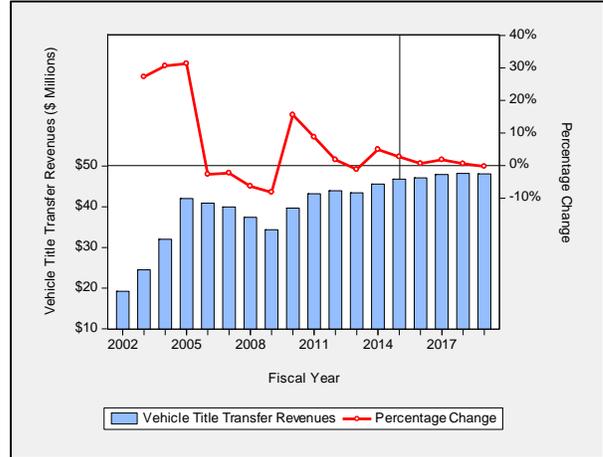


Figure 13: Vehicle Title Transfer Revenues



Vehicle Title and Other Revenues

Vehicle titles include a variety of title transactions. These span new light and heavy vehicle purchases, vehicles that are new to Oregon due to in-migration, used vehicle transactions, as well as salvage titles and all other DMV transactions not elsewhere included such as vehicle trip permits, plate manufacturing revenue, and vehicle and driver record sales. The largest component of the titles section is title transfers, accounting for over 50 percent of revenues in this group. Revenues, as shown in row 3 of Table 4, totaled \$99.1 million in FY14, a 4.7 percent increase over FY13. FY15 revenues are expected to be \$104.8 million, a 5.7 percent increase over FY14. An increase in new vehicle sales is the primary driver for growth, although used vehicle sales have also increased. Beyond FY15 growth is expected to average 1.4 percent per year.

Table 4: Highway Fund Revenue Collected by DMV (Millions of Current Dollars)

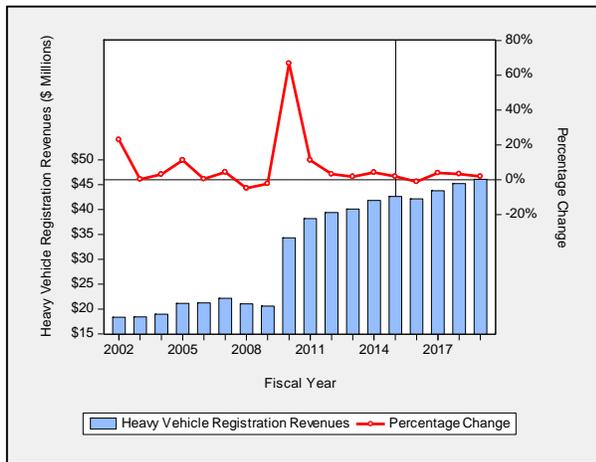
	Actual			Forecast					Actual	Forecast			
	FY	FY	FY	FY	FY	FY	FY	FY	BI	BI	BI	BI	
	12	13	14	15	16	17	18	19	11-13	13-15	15-17	17-19	
1	VEHICLE REGISTRATIONS	\$181.0	\$181.9	\$185.8	\$189.6	\$185.9	\$189.0	\$189.8	\$190.3	\$363.0	\$375.5	\$374.9	\$380.1
2	DRIVER LICENSES & OTHER	\$29.1	\$33.1	\$34.6	\$35.0	\$33.8	\$30.9	\$30.7	\$30.9	\$62.2	\$69.6	\$64.7	\$61.6
3	TITLE, PLATE & OTHER	\$87.5	\$94.6	\$99.1	\$104.8	\$107.3	\$110.1	\$111.6	\$110.9	\$182.2	\$203.9	\$217.4	\$222.5
4	TOTAL DMV COLLECTIONS	\$297.6	\$309.7	\$319.6	\$329.5	\$327.0	\$330.0	\$332.1	\$332.1	\$607.4	\$649.0	\$657.0	\$664.2
5	Change from Previous Forecast	(\$0.1)	\$0.0	(\$0.0)	\$9.3	\$5.9	\$8.9	\$8.7	\$8.6	(\$0.1)	\$9.2	\$14.8	\$17.3
6	COLLECTION/ADMINISTRATION & PROGRAM COST	(\$74.9)	(\$76.4)	(\$78.4)	(\$80.0)	(\$91.4)	(\$93.2)	(\$101.6)	(\$103.7)	(\$151.2)	(\$158.4)	(\$184.6)	(\$205.3)
7	TRAFFIC SAFETY TRANSFER	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.6)	(\$0.6)	(\$0.9)	(\$1.0)	(\$1.1)	(\$1.2)
8	DEPARTMENT OF EDUCATION TRANSFER	(\$0.1)	\$0.0	(\$0.1)	\$0.0	(\$0.1)	\$0.0	(\$0.1)	\$0.0	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)
9	E-GOV RECORDS INCREMENTAL REVENUE TRANSFER	(\$0.5)	(\$5.6)	(\$5.3)	(\$5.2)	(\$5.3)	(\$5.6)	(\$5.7)	(\$5.6)	(\$6.1)	(\$10.5)	(\$10.9)	(\$11.3)
11	ODOT CENTRAL SERVICES ASSESSMENT	(\$23.4)	(\$23.9)	(\$24.2)	(\$24.7)	(\$28.3)	(\$28.9)	(\$29.2)	(\$29.8)	(\$47.3)	(\$48.8)	(\$57.1)	(\$59.0)
12	NET DMV REVENUE	\$198.3	\$203.4	\$211.1	\$219.2	\$201.4	\$201.8	\$194.9	\$192.4	\$401.7	\$430.2	\$403.2	\$387.3
13	REVENUE SET-ASIDE TO OTIA I & II - memo	(\$6.9)	(\$7.4)	(\$7.4)	(\$7.3)	(\$6.8)	(\$6.7)	(\$6.6)	(\$6.6)	(\$14.3)	(\$14.6)	(\$13.5)	(\$13.2)
14	REVENUE PLEDGED TO OTIA III - memo	(\$72.6)	(\$73.3)	(\$75.5)	(\$78.7)	(\$79.8)	(\$81.3)	(\$81.9)	(\$81.9)	(\$145.9)	(\$154.2)	(\$161.1)	(\$163.8)
15	REVENUE DUE TO JTA (HB 2001) - memo	(\$95.7)	(\$96.8)	(\$99.7)	(\$103.6)	(\$104.9)	(\$107.0)	(\$107.8)	(\$107.8)	(\$192.5)	(\$203.4)	(\$211.8)	(\$215.5)

Motor Carrier Revenues

The Motor Carrier Transportation Division (MCTD) collects weight-mile taxes and other heavy vehicle fees. Table 5 contains the forecast revenue detail, along with projected collection/administration costs and transfers.

Row 1 shows the amount of weight-mile and flat fee revenues collected each fiscal year. In FY14, weight-mile and flat-fee revenues totaled \$275.8 million, increasing 6.2 percent over FY13, which is very significant growth. The FY15-FY17 period is expected to continue growing swiftly at 3.2 percent as employment growth increases at a fairly rapid rate and fuel costs remain low. Beyond FY17 growth is expected to slow as employment slows. However, weight-mile revenues are volatile so year to year fluctuations can be large.

Figure 14: Heavy Vehicle Registration Revenues



Row 2 of Table 5 shows heavy vehicle registration fee revenues. The chart in Figure 14 above portrays the current forecast. It includes both International Registration Plan (IRP) registration fees paid by interstate carriers and Commercial registration fees paid by intrastate carriers. Together these heavy vehicle registration fees totaled \$41.8 million in FY14, a 4.3 percent increase over FY13.

Revenues are expected to increase through the remainder of the forecast at a 2.0 percent rate. This is the first forecast in many years where we are expecting any growth in registration revenue. In prior forecasts revenue growth has been predicted to either be flat or in slight decline. This is yet another sign of an expanding economy.

Row 3 shows the revenues from Road Use Assessment Fees (RUAF), permits, passes, and credentials such as weight receipts and cab cards. This row also includes OTIA III Local Fund fee increments from the commercial driver permits, licenses, and tests, along with weight receipts. Overall, the total of these heavy vehicle revenues were \$9.5 million in FY14, a 3.3 percent decrease over FY13. Beyond FY14, growth is expected to average 2.0 percent between FY15 and FY19.

Row 4 reports the total gross revenues for the Motor Carrier Division and row 5 the change from the prior forecast. Overall gross revenues are expected to grow at a 2.9 percent annual rate through FY19, 0.5 percent higher than the prior forecast. However, revenues are greater than the previous forecast by \$49.0 million cumulatively. While the slight growth rate increase contributes a small piece of this change, the primary reason for this large cumulative increase is the increase in weight-mile revenue since the prior forecast. Growth in the fourth quarter of 2014 and first quarter of 2015 has been greater than expected leading to a higher forecast starting point.

Row 9 reports the revenues net of collection costs. Net revenues totaled \$288.8 million in FY14 and are expected to increase 6.2 percent in FY15. Beyond FY15, growth is expected at an annual rate of 2.4 percent through the remainder of the forecast period. Collection and administration costs, as shown in rows 6 and 8, are expected to increase throughout the forecast, averaging 1.5 percent per biennia.

Table 5: Highway Fund Revenue Collected by MCTD (Millions of Current Dollars)

	Actual			Forecast					Actual	Forecast			
	FY	FY	FY	FY	FY	FY	FY	FY	BI	BI	BI	BI	
	12	13	14	15	16	17	18	19	11-13	13-15	15-17	17-19	
1	WEIGHT-MILE TAX	\$257.8	\$259.7	\$275.8	\$284.2	\$295.4	\$303.3	\$308.1	\$311.2	\$517.5	\$560.0	\$598.7	\$619.3
2	IRP & COMMERCIAL VEHICLE REGISTRATIONS*	\$39.4	\$40.1	\$41.8	\$42.6	\$42.1	\$43.8	\$45.2	\$46.1	\$79.5	\$84.4	\$85.9	\$91.3
3	RUAF, PERMITS, PASSES & CREDENTIALS**	\$9.4	\$9.8	\$9.5	\$9.9	\$10.1	\$10.2	\$10.4	\$10.5	\$19.2	\$19.4	\$20.3	\$20.8
4	TOTAL MCTD COLLECTIONS	\$306.6	\$309.6	\$327.1	\$336.8	\$347.6	\$357.3	\$363.7	\$367.8	\$616.2	\$663.9	\$704.9	\$731.5
5	Change from Previous Forecast	\$0.0	\$0.0	(\$0.0)	\$6.6	\$10.0	\$11.2	\$11.3	\$9.9	\$0.0	\$6.6	\$21.2	\$21.2
6	COLLECTION/ADMINISTRATION & PROGRAM COST	(\$29.3)	(\$29.9)	(\$29.7)	(\$30.3)	(\$30.2)	(\$30.8)	(\$31.1)	(\$31.7)	(\$59.3)	(\$60.0)	(\$61.0)	(\$62.7)
7	IFTA BUDGETED EXPENDITURES***	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.2
8	ODOT CENTRAL SERVICES ASSESSMENT	(\$8.6)	(\$8.8)	(\$9.7)	(\$9.9)	(\$9.2)	(\$9.4)	(\$9.5)	(\$9.7)	(\$17.4)	(\$19.5)	(\$18.6)	(\$19.2)
9	NET MCTD REVENUE	\$269.7	\$272.0	\$288.8	\$297.7	\$309.3	\$318.2	\$324.2	\$327.5	\$541.7	\$586.6	\$627.5	\$651.7
10	REVENUE SET-ASIDE TO OTIA I & II - memo	(\$9.0)	(\$8.9)	(\$9.3)	(\$9.3)	(\$9.4)	(\$9.5)	(\$9.6)	(\$9.6)	(\$18.0)	(\$18.6)	(\$18.9)	(\$19.1)
11	REVENUE PLEDGED TO OTIA III - memo	(\$27.2)	(\$27.5)	(\$29.0)	(\$29.9)	(\$30.6)	(\$31.5)	(\$32.1)	(\$32.5)	(\$54.6)	(\$58.9)	(\$62.1)	(\$64.7)
12	REVENUE DUE TO JTA (HB 2001) - memo	(\$72.0)	(\$72.7)	(\$76.7)	(\$78.8)	(\$80.8)	(\$83.1)	(\$84.8)	(\$85.9)	(\$144.6)	(\$155.4)	(\$163.9)	(\$170.7)

*IRP: International Registration Plan.

**RUAF: Road Use Assessment Fees.

***IFTA: International Fuel Tax Agreement.

Motor Fuels Tax Revenues

The Central Services Division–Financial Services Branch collects fuel tax revenues. Fuel tax collections are contained in Table 6. The fuel tax revenue forecasts continue to be reasonably accurate, once the forecasting model is evaluated for misses in the macroeconomic state economic forecasts. This is despite the price volatility in petroleum markets for nearly the past decade. While actual revenues versus forecast revenues for the past several years have been typically within about plus/minus 2 percent, the disparity has magnified somewhat with the economic and financial turbulence from late 2007 through 2011. Fortunately, the forecasts have regained better tracking performance of late, further testament that the worst of the economic contraction and volatility are hopefully behind us. Recent forecast performance has been coming in at about a 1.5 to 2.4 percent relative error.

The current forecast shows a modest bump upward in fuel tax revenue for FY15 from the prior forecast conducted in December 2014. It is up by \$2.1 million, or only about 0.4 percent; very nearly unchanged in other words. The JTA didn't affect fuel tax revenues until mid-way through FY11 (January 2011), and the fuel tax has been unchanged since then. The new forecast has motor fuels tax revenues somewhat above the prior forecast for the years FY15 through FY19. On average, revenues are about \$4 million higher per year for the forecast interval.

Over the forecast period out to FY19, motor fuel revenues grow at an annual average pace of 2.6 percent. The December 2014 forecast also had an annual average rate through FY19 of 2.6 percent.

Collection and program administration costs for the Fuels Tax Group stay largely invariant over the forecast horizon, so net fuel tax

revenues to the State Highway Fund exhibit largely the same pattern as gross revenues. With an average annual base of approximately \$540 million over the forecast interval of FY15 to FY19, fuels tax collections generate the single largest amount of revenue for the Highway Fund, almost 45 percent before collection and program costs. Each penny of gas tax generates about \$18.1 million gross and \$17.4 million net per year in fuel tax revenue through this forecast horizon on average. The same penny of tax plus its weight-mile equivalent produces on average about \$28.2 million gross and slightly more than \$27.4 million net a year.

As is customary from past reports, it is worthwhile to put above yield statistics into a proper context. The predictive capability of the foregoing “yield” results from motor fuel taxes and weight-mile levies on heavy trucks. They are averages and are based on a 1-cent increase only. For tax increases larger than one cent per gallon (say, for example, 5 cents or more), price sensitivity effects are likely to cause a diminution in expected revenue yield. Moreover, as advanced in the motor fuels transaction narrative, sensitivities to permanent tax rate changes are most likely higher than for strict price changes. Direct analysis on a case by case basis is strongly recommended over applying “rules of thumb” in instances of more than one cent increments.

2013 Legislative Session

There were no initiatives in the session directed at enhancing fuel tax revenues to the extent there was 2009. There were two, however, that do affect fuel tax revenues. The first, HB 2435 provides exemption from use-fuel excise taxes for the use of a bio-diesel (B20). The second relates to a pilot program that will launch a very significant path toward restructuring the way in which user taxes are assessed on light duty vehicles

and medium heavy trucks (gross weight up to 26,001 pounds). The highlights of each are provided below.

HB 2435

HB 2435 exempts vehicles up to 26,001 pounds (gross vehicle weight) from paying the use-fuel excise tax if the vehicle is fueled using B20 biodiesel (made up of 1 part bio-fuel and 4 parts traditional petro-diesel). The fuel tax rate is 30 cents per gallon for petro-diesel. While biodiesel can be formulated from a variety of feed stocks, the legislation limits it to used cooking oil, which belongs to a large group of Fatty Acid Methyl Esters (FAME's). The tax exemption is to commence January 1, 2014, and sunsets on December 31, 2019 under this legislation.

Revenue impacts from the use of B20 and its tax exempt status are still uncertain at this time, given the lack of sufficient information about the industry and supply conditions. Conservative estimates initially gauged the revenue loss of at least \$1.5 million approximately per year at this juncture. However, recent monthly data are indicating much stronger market penetration indication annual revenue loss at a rate in excess of \$4 million annually.

It is noteworthy to recognize that light duty and medium heavy vehicles still impose the same costs on the State Highway Network, as well as on local roadways. Using B20 instead of all petro-diesel does not mitigate or avoid the system costs imposed by these two classes of vehicles. However, fuel tax revenue attributed to B20 biodiesel vehicles is eliminated. This starts to distort the revenue/cost ratio (Highway Cost Allocation Study's "equity ratios") for the light duty vehicle class and the medium heavy vehicle class, and creates a new obstacle toward meeting the State Constitutional mandate for the HCAS and setting fees and user taxes for broad vehicle classes that maintain parity

between revenues generated and cost causation.

SB 810 Road User Charge Pilot Project

SB 810 institutes a road user tax based on miles driven in Oregon, rather than a fuels tax charge for gallons consumed. The bill essentially authorizes the creation of a pilot program of charging voluntary participants using the state's highway/streets network 1.5 cents per mile of travel, instead of the statutory fuel tax of 30 cents per gallon. [Oregon was the first in the nation to implement a motor fuels tax, in 1919 at 1 cent per gallon.] The bill authorizes a spending limitation to put the necessary administrative rules and supporting systems in place, beginning in the fall of 2013. The legislation directs the operational phase of the program to be up and running by July 1, 2015 – or the beginning of FY16. This would be the second half of the 2015-17 biennium. As a result there are no revenue implications for the current biennium.

The plan caps the voluntary participation at 5,000 light duty vehicles (those less than 10,001 pounds). The 5,000 participation limit is segmented into three vehicle groups: Up to 1,500 eligible vehicles with fuel efficiency capabilities below 17 miles per gallon (MPG); up to 1,500 eligible vehicles of 17 to 22 MPG; and the balance (up to 2,000) with fuel efficiencies in excess of 22 MPG. Generally, vehicles with an efficiency of less than 17 MPG would pay lower user taxes under the RUC than what would be paid under the fuels tax structure. Those with efficiencies in excess of 22 MPG would pay more under a RUC tax structure than would be incurred under the fuels tax. The RUC applies only to those miles driven in Oregon.

The revenue impacts from the up-to-5,000 participant vehicles in the program once it becomes operational in FY16 are quite muted, as well as being somewhat speculative at this

juncture. The actual revenue impacts rests ultimately on the vehicle types and comparative penetrations into three vehicle groups of eligible participants. The revenue outcome, however, is the result of two revenue streams: Those revenues that are generated by the 1.5 cents per mile road tax, and revenues foregone or not realized from reduced receipts from fuel tax payments avoided. [The exemption from paying the fuels tax can be executed by either making a request for a tax refund to ODOT for fuel taxes paid by participants, or the display of an ODOT issued emblem to be exempt from paying the tax at the point of sale.]

Simple break-even analysis indicates that participation in the pilot should skew toward lower MPG vehicles (less than 17 MPG), and away from high efficiency vehicles – subject to the cap restrictions. This would result in reduced fuel tax receipts, offset by the revenues from the mileage tax of 1.5 cents per mile. In the net, it is anticipated that lower

overall revenues would result in the program. In the first year of operation (FY16), nearly \$100,000 in user tax revenue is foregone. In the later years of the pilot, lost revenue is on the order of \$250,000 annually. [These are mostly years beyond the current forecast horizon that ends in FY19.]

SB 810 specifies a 50/30/20 apportionment of the “moneys collected from the road usage charges” to the State Highway Fund, counties, and municipalities, respectively. By itself, this would not reflect lost revenues from foregone fuel tax. The estimated gross revenue from vehicles in the RUC program is approximately \$600,000 per year in its fourth year (FY19). So, the state apportionment share would be only \$300,000 annually. Ultimately, however, the reduced fuel tax revenue would register with lower base and lower JTA fuel tax revenues and trickle through to slightly decreased apportionments under the traditional apportionment shares for net fuel-based tax revenue.

Table 6: Highway Fund Revenue Collected by Financial Services Branch (Millions of Current Dollars)

	Actual			Forecast					Actual	Forecast		
	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	BI 11-13	BI 13-15	BI 15-17	BI 17-19
1 MOTOR FUELS TAXES	\$490.8	\$487.3	\$494.6	\$515.8	\$540.5	\$548.5	\$556.3	\$561.3	\$978.0	\$1,010.3	\$1,089.0	\$1,117.6
2 TOTAL FSB COLLECTIONS	\$490.8	\$487.3	\$494.6	\$515.8	\$540.5	\$548.5	\$556.3	\$561.3	\$978.0	\$1,010.3	\$1,089.0	\$1,117.6
3 Change from Previous Forecast	\$0.0	\$0.0	\$0.0	\$2.1	\$7.4	\$4.8	\$2.8	(\$0.3)	\$0.0	\$2.1	\$12.2	\$7.6
4 COLLECTION/ADMINISTRATION COST	(\$1.5)	(\$1.6)	(\$1.5)	(\$1.5)	(\$1.8)	(\$1.8)	(\$1.9)	(\$1.9)	(\$3.1)	(\$3.1)	(\$3.7)	(\$3.8)
5 ODOT CENTRAL SERVICES ASSESSMENT	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.5)	(\$0.4)	(\$0.6)	(\$0.6)
6 SNOWMOBILE TRANSFER	(\$0.8)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$1.5)	(\$1.4)	(\$1.3)	(\$1.3)
7 CLASS I ATV TRANSFER	(\$3.2)	(\$2.9)	(\$2.9)	(\$2.9)	(\$2.8)	(\$2.8)	(\$2.8)	(\$2.7)	(\$6.0)	(\$5.8)	(\$5.6)	(\$5.5)
8 MARINE BOARD TRANSFER	(\$5.1)	(\$5.0)	(\$5.0)	(\$4.9)	(\$4.8)	(\$4.8)	(\$4.8)	(\$4.8)	(\$10.0)	(\$9.9)	(\$9.7)	(\$9.6)
9 CLASS II ATV TRANSFER	(\$1.1)	(\$1.0)	(\$1.1)	(\$1.1)	(\$1.0)	(\$1.0)	(\$1.0)	(\$1.0)	(\$2.1)	(\$2.2)	(\$2.0)	(\$2.0)
10 CLASS III ATV TRANSFER	(\$1.1)	(\$1.0)	(\$1.1)	(\$1.2)	(\$1.1)	(\$1.0)	(\$1.0)	(\$1.0)	(\$2.1)	(\$2.3)	(\$2.1)	(\$2.0)
11 CLASS IV ATV TRANSFER	(\$0.2)	(\$0.3)	(\$0.4)	(\$0.5)	(\$0.4)	(\$0.4)	(\$0.4)	(\$0.4)	(\$0.4)	(\$0.8)	(\$0.9)	(\$0.9)
12 TRANSPORTATION OPERATING FUND (TOF)	(\$5.4)	(\$5.4)	(\$5.4)	(\$5.4)	(\$5.5)	(\$5.5)	(\$5.6)	(\$5.6)	(\$10.8)	(\$10.8)	(\$11.0)	(\$11.2)
13 AVIATION TRANSFER	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.3)	(\$0.2)	(\$0.2)	(\$0.2)
14 HB 2435 (2013 Session) B20 FUEL TAX EXEMPTION	\$0.0	\$0.0	\$0.0	(\$4.2)	(\$4.3)	(\$4.3)	(\$4.3)	(\$4.3)	\$0.0	(\$4.2)	(\$8.6)	(\$8.6)
15 NET FSB REVENUE	\$472.1	\$469.1	\$476.2	\$493.0	\$517.6	\$525.7	\$533.5	\$538.4	\$941.2	\$969.2	\$1,043.3	\$1,071.9
16 REVENUE ALLOCATION TO OTIA I & II SET-ASIDE - memo	(\$19.6)	(\$19.3)	(\$18.9)	(\$19.0)	(\$19.4)	(\$19.4)	(\$19.4)	(\$19.4)	(\$38.9)	(\$37.9)	(\$38.7)	(\$38.8)
17 REVENUE PLEDGED TO OTIA III - memo	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
18 REVENUE DUE TO JTA (HB 2001) - memo	(\$98.2)	(\$97.5)	(\$99.0)	(\$103.2)	(\$108.1)	(\$109.7)	(\$111.3)	(\$112.3)	(\$195.7)	(\$202.2)	(\$217.8)	(\$223.5)

Highway Revenue Forecast Summary

Table 7 summarizes the updated revenue forecast. For tractability, it is partitioned into two panels. The portion of the table labeled “7A” contains a consolidation of the results reported in Tables 4, 5, and 6 developed for each major division of ODOT. The portion labeled “7B” shows how the net revenues available for distribution are apportioned between counties, cities, and the State Highway Fund. A separate monthly forecast of the County/City Apportionments is available under “Highway Revenue Apportionment Forecasts” at <http://www.oregon.gov/ODOT/TD/EA/Pages/reports.aspx>

Figure 15 highlights the impact of the JTA revenues on the current forecast. As discussed on page 20 under the JTA section, beginning in October of 2009 revenues from the increases in DMV fees began accruing, followed by early payment of heavy vehicle registrations in November and December of 2009. The rest of the heavy vehicle registration increases began in January 2010, totaling \$81.1 million in FY10. In October of 2010 the increase in the weight-mile, flat fee, and road user assessment fees took effect, but as with the heavy vehicle registrations, the full revenue impact was not seen the month the fees are increased. Instead a small portion of revenue received in October were the new JTA fees, while most of November and virtually all revenue from December forward were at JTA fee rates. The final piece of the JTA was the motor fuels tax increase implemented in January 2011. Total gross JTA revenues for FY11 totaled \$198.0 million, which only contained a partial year of the fuel tax increase. The first full year of JTA revenues was FY12, and revenues totaled \$265.9 million. Revenues grew slightly in FY13 totaling \$267.0 million, followed by

stronger growth in FY14 totaling \$275.4 million as the economy expanded at a quicker rate. In the forecast horizon, JTA revenues are expected to increase, with growth averaging 2.1 percent annually, matching the growth rate of the prior forecast.

Also shown in Figure 15 is a comparison of the June 2015 forecast to the December 2008 forecast with the JTA revenues removed. This apples-to-apples comparison shows that the current gross highway fund forecast is expected to generate a reduced amount of revenue over the December 2008 forecast (red line), averaging \$104.2 million less per year covering the period from FY12 through FY15 when the JTA revenues are removed (blue line). The primary cause for the disparity in revenues is the rapid deterioration of economic conditions that reduced the demand for motor fuels and related trucking activity over what was expected in the December 2008 forecast. We use the December 2008 forecast for comparison as it was the last forecast produced prior to the inclusion of the JTA legislation in the revenue outlook and therefore provides a useful benchmark for comparison to our current forecast.

Figure 15: JTA Revenue Impact

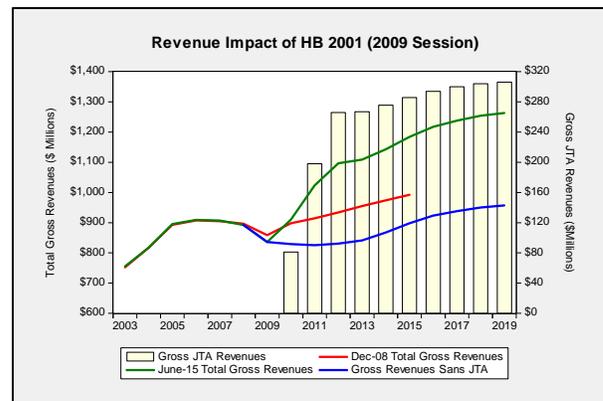


Table 7A: Highway Fund Revenue by Fiscal Year and Biennium (Millions of Current Dollars)

	Actual			Forecast					Actual	Forecast		
	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	BI 11-13	BI 13-15	BI 15-17	BI 17-19
1 TOTAL MCTD COLLECTIONS	\$306.6	\$309.6	\$327.1	\$336.8	\$347.6	\$357.3	\$363.7	\$367.8	\$616.2	\$663.9	\$704.9	\$731.5
2 TOTAL FSB COLLECTIONS	\$490.8	\$487.3	\$494.6	\$515.8	\$540.5	\$548.5	\$556.3	\$561.3	\$978.0	\$1,010.3	\$1,089.0	\$1,117.6
3 TOTAL DMV COLLECTIONS	\$297.6	\$309.7	\$319.6	\$329.5	\$327.0	\$330.0	\$332.1	\$332.1	\$607.4	\$649.0	\$657.0	\$664.2
4 TOTAL GROSS HIGHWAY FUND	\$1,095.0	\$1,106.6	\$1,141.2	\$1,182.0	\$1,215.2	\$1,235.8	\$1,252.1	\$1,261.2	\$2,201.6	\$2,323.2	\$2,450.9	\$2,513.3
5 COLLECTION, PROGRAMS, & TRANSFERS (incl. obligated OTIA & JTA)	(\$498.4)	(\$511.3)	(\$525.9)	(\$544.6)	(\$567.4)	(\$577.7)	(\$591.4)	(\$596.6)	(\$1,009.6)	(\$1,070.5)	(\$1,145.1)	(\$1,187.9)
6 NET REVENUE TO HIGHWAY FUND	\$596.6	\$595.4	\$615.4	\$637.4	\$647.8	\$658.1	\$660.8	\$664.6	\$1,192.0	\$1,252.8	\$1,305.8	\$1,325.4
7 OTIA I & II SET ASIDE - memo	\$35.6	\$35.6	\$35.6	\$35.6	\$35.6	\$35.6	\$35.6	\$35.6	\$71.2	\$71.2	\$71.2	\$71.2
8 DEBT SERVICE (OTIA I & II) - memo	(\$32.4)	(\$32.0)	(\$32.0)	(\$31.0)	(\$36.4)	(\$35.8)	(\$32.5)	(\$33.4)	(\$64.4)	(\$63.0)	(\$72.2)	(\$65.9)
9 OTIA III Dedicated Revenues - memo	\$92.9	\$93.8	\$97.2	\$101.0	\$102.9	\$105.2	\$106.4	\$106.7	\$186.7	\$198.2	\$208.1	\$213.0
10 DEBT SERVICE (OTIA III) - memo	(\$102.1)	(\$105.2)	(\$110.9)	(\$105.6)	(\$129.1)	(\$128.4)	(\$125.1)	(\$124.7)	(\$207.3)	(\$216.5)	(\$257.5)	(\$249.9)
11 JTA Total Gross Revenues - memo	\$265.9	\$267.0	\$275.4	\$285.6	\$293.8	\$299.8	\$303.9	\$305.9	\$532.8	\$561.0	\$593.6	\$609.8
12 JTA Allocation for Long-Range Planning and TIC Transfers - memo	(\$27.0)	(\$24.0)	(\$24.0)	(\$24.0)	(\$24.0)	(\$24.0)	(\$24.0)	(\$24.0)	(\$51.0)	(\$48.0)	(\$48.0)	(\$48.0)
13 DEBT SERVICE (JTA) - State Only - memo	\$0.0	\$0.0	(\$11.2)	(\$28.3)	(\$28.3)	(\$28.5)	(\$28.3)	(\$28.3)	\$0.0	(\$39.5)	(\$56.7)	(\$56.6)
14 Oregon Travel Experience Transfer - State Only - memo	(\$0.5)	(\$5.0)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$5.4)	(\$13.1)	(\$13.1)	(\$13.1)
15 E-GOV Records Incremental Revenue Transfer - memo	(\$0.5)	(\$5.6)	(\$5.3)	(\$5.2)	(\$5.3)	(\$5.6)	(\$5.7)	(\$5.6)	(\$6.1)	(\$10.5)	(\$10.9)	(\$11.3)
17 NET OTIA I & II REVENUE FOR DISTRIBUTION	\$3.2	\$3.6	\$3.6	\$4.6	(\$0.8)	(\$0.2)	\$3.1	\$2.2	\$6.8	\$8.2	(\$1.0)	\$5.3
18 NET OTIA III REVENUE FOR DISTRIBUTION - LOCAL	\$42.3	\$37.2	\$38.9	\$40.7	\$37.0	\$38.5	\$33.1	\$33.5	\$79.5	\$79.6	\$75.5	\$66.6
19 NET OTIA III REVENUE FOR DISTRIBUTION - STATE	(\$44.6)	(\$41.6)	(\$45.2)	(\$37.8)	(\$55.8)	(\$54.0)	(\$44.2)	(\$43.8)	(\$86.2)	(\$83.1)	(\$109.8)	(\$88.0)
20 NET JTA REVENUE FOR DISTRIBUTION - LOCAL	\$119.4	\$121.5	\$125.7	\$130.8	\$134.9	\$137.9	\$139.9	\$140.9	\$240.9	\$256.5	\$272.8	\$280.9
21 NET JTA REVENUE FOR DISTRIBUTION ABOVE D/S - STATE	\$61.2	\$62.3	\$53.2	\$38.8	\$40.8	\$42.2	\$43.4	\$44.0	\$123.5	\$91.9	\$83.1	\$87.4
22 TOTAL NET REVENUE FOR DISTRIBUTION	\$778.1	\$778.3	\$791.5	\$814.4	\$804.0	\$822.4	\$836.1	\$841.4	\$1,556.4	\$1,605.9	\$1,626.4	\$1,677.5

Note: Row and column sums may vary slightly due to rounding.

Table 7B: Distribution of Total Net Revenues (Millions of Current Dollars)

	Distribution Percentage	Actual			Forecast					Actual	Forecast			
		FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	BI 11-13	BI 13-15	BI 15-17	BI 17-19	
1	COUNTY APPORTIONMENT (ORS 366.739)	24.38%	\$131.4	\$131.9	\$136.5	\$141.4	\$143.5	\$145.6	\$146.1	\$146.9	\$263.3	\$278.0	\$289.1	\$292.9
2	SPECIAL COUNTY (ORS 366.772)		(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$1.0)	(\$1.0)	(\$1.0)	(\$1.0)
4	COUNTY APPORTIONMENT (OTIA I & II)	30.00%	\$1.0	\$1.1	\$1.1	\$1.4	(\$0.2)	(\$0.1)	\$0.9	\$0.7	\$2.0	\$2.5	(\$0.3)	\$1.6
5	COUNTY APPORTIONMENT (OTIA III)	25.48%	\$23.7	\$23.9	\$24.8	\$25.7	\$26.2	\$26.8	\$27.1	\$27.2	\$47.6	\$50.5	\$53.0	\$54.3
6	DEBT SERVICE (OTIA III)	84.07%	(\$3.4)	(\$8.1)	(\$8.2)	(\$8.2)	(\$11.9)	(\$11.6)	(\$16.6)	(\$16.4)	(\$11.5)	(\$16.3)	(\$23.6)	(\$33.0)
7	COUNTY APPORTIONMENT (OTIA III-Local)	60.00%	\$4.1	\$4.2	\$4.4	\$4.5	\$4.5	\$4.6	\$4.6	\$4.6	\$8.3	\$8.9	\$9.1	\$9.2
8	COUNTY APPORTIONMENT (JTA)	30.00%	\$71.7	\$72.9	\$75.4	\$78.5	\$80.9	\$82.7	\$84.0	\$84.6	\$144.6	\$153.9	\$163.7	\$168.5
9	NET COUNTY APPORTIONMENT		\$227.9	\$225.4	\$233.5	\$242.9	\$242.5	\$247.6	\$245.6	\$247.0	\$453.3	\$476.4	\$490.1	\$492.6
10	CITY APPORTIONMENT (ORS 366.739)	15.57%	\$83.9	\$84.3	\$87.2	\$90.3	\$91.6	\$93.0	\$93.3	\$93.8	\$168.1	\$177.5	\$184.7	\$187.1
11	SPECIAL CITY (ORS 366.805)		(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$1.0)	(\$1.0)	(\$1.0)	(\$1.0)
12	CITY APPORTIONMENT (OTIA I & II)	20.00%	\$0.6	\$0.7	\$0.7	\$0.9	(\$0.2)	(\$0.0)	\$0.6	\$0.4	\$1.4	\$1.6	(\$0.2)	\$1.1
13	CITY APPORTIONMENT (OTIA III)	16.99%	\$15.8	\$15.9	\$16.5	\$17.2	\$17.5	\$17.9	\$18.1	\$18.1	\$31.7	\$33.7	\$35.3	\$36.2
14	DEBT SERVICE (OTIA III)	15.93%	(\$0.6)	(\$1.5)	(\$1.5)	(\$1.5)	(\$2.3)	(\$2.2)	(\$3.1)	(\$3.1)	(\$2.2)	(\$3.1)	(\$4.5)	(\$6.3)
15	CITY APPORTIONMENT (OTIA III-Local)	40.00%	\$2.7	\$2.8	\$2.9	\$3.0	\$3.0	\$3.1	\$3.1	\$3.1	\$5.5	\$5.9	\$6.1	\$6.2
16	CITY APPORTIONMENT (JTA)	20.00%	\$47.8	\$48.6	\$50.3	\$52.3	\$54.0	\$55.2	\$56.0	\$56.4	\$96.4	\$102.6	\$109.1	\$112.4
17	NET CITY APPORTIONMENT		\$149.7	\$150.3	\$155.6	\$161.7	\$163.2	\$166.4	\$167.4	\$168.2	\$300.0	\$317.3	\$329.5	\$335.6
18	HIGHWAY DIVISION (including small City/County)	60.05%	\$323.6	\$324.9	\$336.3	\$348.4	\$353.4	\$358.7	\$359.8	\$361.8	\$648.5	\$684.7	\$712.2	\$721.5
19	SPECIAL COUNTY (ORS 366.772)		(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)
20	SPECIAL CITY (ORS 366.805)		(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$1.0)	(\$1.0)	(\$1.0)	(\$1.0)
21	HIGHWAY DIVISION: TOTAL (OTIA I & II)	50.00%	\$1.6	\$1.8	\$1.8	\$2.3	(\$0.4)	(\$0.1)	\$1.6	\$1.1	\$3.4	\$4.1	(\$0.5)	\$2.7
22	HIGHWAY DIVISION: TOTAL (OTIA III)	57.53%	\$53.4	\$54.0	\$55.9	\$58.1	\$59.2	\$60.5	\$61.2	\$61.4	\$107.4	\$114.0	\$119.7	\$122.6
23	DEBT SERVICE (OTIA III)	100.00%	(\$98.1)	(\$95.5)	(\$101.2)	(\$95.9)	(\$114.9)	(\$114.5)	(\$105.4)	(\$105.2)	(\$193.6)	(\$197.1)	(\$229.5)	(\$210.6)
24	STATE APPORTIONMENT (OTIA III)	0.00%	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
25	HIGHWAY DIVISION: NON-DEDICATED JTA REVENUES	48.75%	\$58.2	\$59.2	\$61.3	\$63.8	\$65.8	\$67.2	\$68.2	\$68.7	\$117.4	\$125.0	\$133.0	\$136.9
26	HIGHWAY DIVISION: DEDICATED JTA DEBT SERVICE	51.25%	\$61.2	\$62.3	\$64.4	\$67.0	\$69.1	\$70.7	\$71.7	\$72.2	\$123.5	\$131.4	\$139.8	\$144.0
27	DEBT SERVICE (JTA)		\$0.0	\$0.0	(\$11.2)	(\$28.3)	(\$28.3)	(\$28.5)	(\$28.3)	(\$28.3)	\$0.0	(\$39.5)	(\$56.7)	(\$56.6)
28	OREGON TRAVEL EXPERIENCE TRANSFER		(\$0.5)	(\$5.0)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$6.6)	(\$5.4)	(\$13.1)	(\$13.1)	(\$13.1)
29	NET HIGHWAY DIVISION		\$398.7	\$400.9	\$400.0	\$408.1	\$396.6	\$406.8	\$421.4	\$424.4	\$799.7	\$808.1	\$803.4	\$845.9
30	Memo: HIGHWAY MODERNIZATION PROGRAM (included in NET HIGHWAY DIVISION)		\$71.8	\$72.0	\$74.5	\$77.3	\$80.9	\$82.6	\$83.9	\$84.6	\$143.8	\$151.8	\$163.4	\$168.5
31	NET COUNTY APPORTIONMENT		\$227.9	\$225.4	\$233.5	\$242.9	\$242.5	\$247.6	\$245.6	\$247.0	\$453.3	\$476.4	\$490.1	\$492.6
32	NET CITY APPORTIONMENT		\$149.7	\$150.3	\$155.6	\$161.7	\$163.2	\$166.4	\$167.4	\$168.2	\$300.0	\$317.3	\$329.5	\$335.6
33	NET HIGHWAY DIVISION		\$398.7	\$400.9	\$400.0	\$408.1	\$396.6	\$406.8	\$421.4	\$424.4	\$799.7	\$808.1	\$803.4	\$845.9
34	NET HIGHWAY FUNDS REVENUE		\$776.3	\$776.6	\$789.1	\$812.7	\$802.3	\$820.7	\$834.4	\$839.6	\$1,552.9	\$1,601.8	\$1,622.9	\$1,674.0
35	SPECIAL COUNTY/CITY TRANSFERS TO ALLOTMENT FUND		\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$3.5	\$3.5	\$3.5	\$3.5
36	TOTAL NET REVENUES FOR DISTRIBUTION		\$778.1	\$778.3	\$790.9	\$814.4	\$804.0	\$822.4	\$836.1	\$841.4	\$1,556.4	\$1,605.3	\$1,626.4	\$1,677.5

Note: Row and column sums may vary slightly due to rounding.