BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 388

In the Matter of

NW NATURAL GAS COMPANY, dba NW NATURAL,

Request for General Rate Revision.

OPENING TESTIMONY OF THE OREGON CITIZENS' UTILITY BOARD

April 17, 2020



BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

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OPENING TESTIMONY OF THE OREGON CITIZENS' UTILITY BOARD

Request for General Rate Revision.

increase.

I. INTRODUCTION AND SUMMARY

1	Q.	Please state your name, occupation, and business address.
2	A.	My name is Bob Jenks. I am the Executive Director of the Oregon Citizens' Utility
3		Board (CUB). My business address is 610 SW Broadway, Ste. 400 Portland,
4		Oregon 97205.
5	Q.	Please describe your educational background and work experience.
6	A.	My witness qualification statement is found in exhibit CUB/101.
7	Q.	Please summarize your testimony.
8	A.	I am CUB's first witness in this case. In my testimony, I provide several policy
9		recommendations for the Oregon Public Utility Commission ("Commission") to
10		consider. These policy recommendations are made in response to NW Natural's
11		("NWN" or "the Company") direct testimony. My testimony is organized to
12		provide the following:
13		• A discussion of CUB's concerns relating the size and impact of this

1 2		• A recommendation that curtailment penalties associated with interruptible load that declines interruption should flow through to customers in the
2		PGA.
4		• A recommendation that storage and optimization revenues should be
5		 credited to customers during the winter heating season. A discussion of CUB's concerns with customers funding public relations
6 7		• A discussion of CUB's concerns with customers funding public relations and lobbying activity relating to the public policy debate over
8		electrification versus renewable natural gas. I recommend that NWN's
9		"Less We Can" campaign be conducted within their traditional advertising
10		budget. I recommend that these efforts should be scrutinized to ensure
11		customer benefit. And, finally, I recommend that NWN should be required
12		to disclose its fuel mix annually to customers.
13 14		II. SIZE AND IMPACT OF PROPOSED RATES
14		II. SIZE AND INITACT OF TROTOSED RATES
15	Q.	NW Natural is proposing a 12 cents per therm (12% increase) for
16		residential customers. Can you put that in historical context?
17	А.	Yes. If approved, this would be one of the largest gas rate increases in modern
18		Oregon history and potentially the largest that was not driven by commodity costs.
19		Exhibit CUB/102 shows NWN's annual rate changes for residential customers
20		since 2000. A twelve percent increase to residential customer rates would be the
21		largest increase since 2005 when residential customers rates increased by more than
22		16%. But that increase was caused by increases in the commodity cost, including
23		Hurricanes Rita and Katrina which caused the cost of gas to trade as high as
24		\$16/MMBtu. ¹
25		
26		During the 2019 legislative session, NWN sent a letter to its business customers
27		protesting the earliest version of HB 2020-the Cap-and-Invest bill-because it

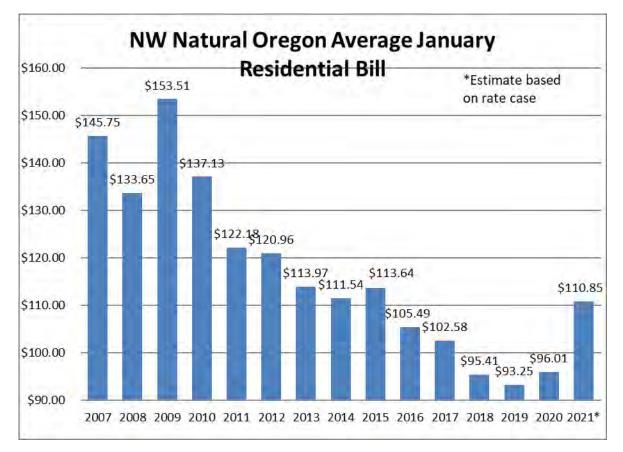
¹ High Natural Gas Prices: The Basics, Federal Energy Regulatory Commission, 12-08-2005, page 2. www.ferc.gov/legal/staff-reports/high-gas-prices-1.pdf

1 even greater increase. 2

would increase customers' rates by 11 cents per therm.² NWN is now proposing an

3	Q.	If approved, what would the impact be on residential customers?
4	A.	The impact would be significant. This rate hike would have been difficult before
5		the economic fallout of COVID-19 pandemic, but as the virus causes
6		unemployment increases on a speed and scale that has never been seen before, this
7		increase will be unaffordable for a lot of customers.
8		
9		When thinking about increases in gas costs, it is important to remember that the
10		largest residential use of gas is for space heating, which makes customers' gas bills
11		fluctuate seasonally. The impact on winter heating bills is much greater than the
12		impact on average bills. The following chart demonstrates this. ³
13	///	
14	///	
15	///	
16	///	
17	///	
18	///	
19	///	
20	///	
21	///	
22	///	

² CUB Exhibit 103.
³ CUB Exhibit 104.



1

The winter of 2017, for example, was the seventh coldest January ever recorded in Portland.⁴ That led to residential natural gas usage that was 20.8% higher for the year than 2016. The bill impact, which is what really affects customers, is a combination of the rate impact and the weather. If Oregon has a harsh winter in 2021, then the impact of this rate hike will be much exacerbated. In these challenging economic times, that may be incredibly difficult for many of NWN's customers to handle.

- 10 ///
- 11

///

⁴ Oregon's Winter of 2016-17 Won't Soon Be Forgotten, The Oregonian (Feb. 25, 2017) available at www.oregonlive.com/weather/2017/02/oregons_winter_of_2016-17_wont.html.

1	Q.	What is the Governors' Executive Order and how does it relate to this case?
2	А.	CUB believes that the Governors' recent Executive Order (EO) is significant,
3		particularly in the context of the economic challenges Oregon faces. Executive
4		Order No. 20-04 directs state agencies to act regarding Greenhouse Gas (GHG)
5		emissions. One section of the EO provides direction to the Commission and, in that
6		section, Governor Brown directs the Commission to "exercise its broad statutory
7		authority" to "mitigate energy burden experienced by utility customers." ⁵ Energy
8		burden is a measurement of affordability. It looks at the cost of a household's
9		energy, the usage of energy by the household, and the resources available to the
10		household (income). This increase will significantly raise the cost of a household's
11		energy at the same time as the resources available are quickly declining due to the
12		economic fallout of COVID-19. While we cannot predict the exact weather
13		customers will face in the future and how that will impact usage, the winter of 2021
14		could be difficult for many Oregon households.
15	Q.	NWN says that without this increase their ROE will be down to 3.11%, which
16		it states is not sufficient to maintain operations. Is this rate hike necessary?
17	А.	Based on CUB's analysis, a more modest rate increase is justified, but not a
18		double-digit increase. NWN's projection of 3.11% ROE is based on their test year
19		budget, but it is likely that NWN will adjust their budget based on the outcome of
20		this rate case. NWN has been extremely good at managing its operations to match
21		its rates as can be seen by its stable earnings. Exhibit CUB/105 shows the
22		Company's earnings since 2011. As can be seen in that exhibit, the Company's

⁵ Oregon Executive Order 20-04, page 8.

1		earnings have ranged between 9.08% and 11.19% during that time. In 2018, the
2		most recent year with a filed Results of Operations Report, NWN earned 9.86%
3		from Oregon regulated activities.
4		III. CURTAILMENT PENALTIES
5	Q.	Please summarize your recommendation.
6	А.	When customers on interruptible tariffs refuse to allow for an interruption, the
7		noncompliant interruptible customer is required to pay a curtailment penalty. When
8		noncompliant interruptible customers refuse to allow for an interruption, these
9		customers are utilizing capacity that was funded by non-interruptible natural gas
10		customers. CUB recommends that revenues the Company receives from these
11		curtailment penalties should be passed through to non-interruptible customers as
12		part of the Company's annual Purchased Gas Adjustment (PGA).
13	Q.	What are interruptible sales customers?
14	А.	Interruptible customers, which are primarily large industrial customers and
15		commercial customers, are NW Natural customers who receive lower priority than
16		firm customers, and pay a reduced rate for gas service. The idea is that, in the event
17		of a gas supply shortage, service to interruptible customers may be interrupted to
18		ensure that firm customers' needs are met. The discount in rates interruptible
19		customer receive can be viewed as a payment from non-interruptible customers that
20		secures the interruptible customer's capacity when the system needs it.
21	///	
22	///	

2

Q. How does NW Natural ensure resource adequacy for its firm gas customers?

3	А.	NW Natural's gas load is based strongly on seasonal space and water heating load.
4		In its Integrated Resource Plan (IRP), NWN uses a risk-based capacity planning
5		standard designed to meet the highest demand day in any given year with 99%
6		certainty. ⁶ NWN does not plan for upstream pipeline or storage capacity for
7		interruptible customers during peak or near-peak conditions. ⁷ The rates charged to
8		interruptible are discounted to account for the fact that the utility system has not
9		acquired the capacity to serve their load on the highest demand day.
10	Q.	What role do interruptible customers provide on the system?
11	А.	Interruptible customers provide sheddable load. These customers be can curtailed
12		to ensure that firm gas customers can receive natural gas. Firm customers rely on
13		interruptible customers as a system resource. By being interrupted, these customers
14		free up capacity that can be utilized by other customers.
15	Q.	In the past year, have interruptible customers been curtailed?
16	А.	Yes. There were two curtailment events in the past year. These curtailments were
17		driven by the rupture of Enbridge pipeline on October 8, 2018 and a cold Q1 in
18		2019. During the first curtailment event, interruptible customers were curtailed for
19		a single day. ⁸ The second curtailment event started on February 25 th and lasted for

nine days.9 20

 ⁶ NWN 2018 Integrated Resource Plan, page 1.8
 ⁷ LC 64 – Chapter 2 – Gas Requirements Forecast – Page 8.

⁸ UG 388 – NW Natural/1000/Walker/13, lines 12-16.

⁹ UG 388 – NW Natural/1000/Walker/13, lines 17-20.

1	Q.	Did all interruptible customers comply with the curtailment order in 2019
2		heating season? If not, what is the penalty?
3	А.	No. If an interruptible customer does not comply with a curtailment order, the
4		customer is charged a curtailment penalty. At the time of this testimony, the penalty
5		is \$10 per therm. ¹⁰
6	Q.	What happens to the revenue from curtailment penalties?
7	А.	It is retained by the Company.
8	Q.	Are you proposing including revenue from curtailment penalties in the test
9		year?
10	А.	No, that would be inappropriate. I agree with the Company that miscellaneous
11		revenues related to curtailment penalties are rare and unexpected and should be
12		excluded from the test year.
13	Q.	Do you agree that revenue associated curtailment penalties should be
14		retained by the Company?
15	А.	No. I propose that curtailment penalties' revenues be excluded from Miscellaneous
16		Revenues and tracked into NW Natural's PGA. When interruptible customers
17		decline interruption, they are using capacity (pipeline or interstate transportation)
18		that was paid for by non-interruptible customers. They are leaning on the system
19		after receiving benefits from committing to not to lean on the system. The firm
20		customers who fund the capacity are subsidizing their service and should be
21		credited with the curtailment penalty revenue. This change appropriately matches
22		the benefits with the costs.

¹⁰ Northwest Natural Gas Company PUC OR.25 Fifth Revision of Sheet C-1.

IV. STORAGE AND OPTIMIZATION CREDITS

1

2	Q.	Please summarize your recommendation.
3	А.	CUB recommends that credits for Schedule 185 and 186 be provided to customers
4		in January, rather than provided to customers in June. These credits reflect the
5		customers' share of revenue from Interstate Storage and Transportation (Schedule
6		185) and Optimization of regulated assets (Schedule 186).
7	Q.	How does the Company pass back interstate storage revenue to Oregon
8		customers?
9	А.	The Company provides customers a credit for Schedule 185 and 186 on June bills
10		of core customers.
11	Q.	When should the interstate storage revenues be passed back to Oregon
12		Customers?
13	А.	CUB recommends that the interstate storage revenues be passed back to customers
14		in the month of January. NWN's load is seasonal with much of the load consisting
15		of space heating. Providing the credit in June when space heating costs are largely
16		non-existent does little to help customers manage bills. Providing the credit in the
17		winter will align it with the winter heating season and high bills.
18	Q.	Why should this change be made?
19	А.	This change will help customers manage their energy burden by offsetting their
20		highest bills which some customers struggle to pay. Exhibit CUB/106 shows
21		NWN's residential shutoffs between August 2018 and January 2020. From July
22		through December, less than 1000 customers per month are shut off. The number of
23		shut-offs increases in January to more than 1000 customers and remains high

1		through June, with the peak in May. In the period from January through June of
2		2019 more than 8000 customers lost service. It makes more sense to provide this
3		credit to customers before they are disconnected, then providing it in June after
4		most disconnections have already happened. The exhibit also shows that customers
5		in January-March are more likely to reconnect in seven days or less, than are
6		customers in May-August. This makes sense. Households have trouble going
7		without gas service in the winter, but in the summer gas is not as essential and
8		some customers who are shut off in the late Spring can wait to have their gas
9		reconnected. Applying credits in June may miss these customers.
10	Q.	When should this change be effective?
11	А.	This change should be effective after the rate effective date. There are two ways to
12		implement this. The easiest would be for NWN to hold onto the credit next June,
13		utilizing it for its own credit needs from June to January before passing back to
14		customers with interest in January. The second would be to calculate the credit on a
15		different cycle. Today it is a calendar year, with the credit the following June. It
16		could instead be calculated on a July – June basis and provided the following
17		January.
18		V. RENEWABLE GAS VERSUS ELECTRIFICATION
19	Q.	What is your recommendation with regards to renewable gas versus
20		electrification?
21	A.	I recommend that NWN should be required to fit its "Less We Can" campaign in its
22		traditional advertising budget, that its efforts should face scrutiny and oversight,

and that it should be required to disclose its fuel mix annually through a bill insert and on their website.

3 0. Please explain.

A. There is a debate about whether the best way to decarbonize the economy is to 4 5 electrify buildings, including space heating or whether to use renewable natural gas 6 and hydrogen to reduce emissions from the gas supply. This is a broad public policy debate that pits the interests of electric utilities versus the interests of gas 7 utilities. CUB's primary concern is that customers should not be called upon to 8 9 fund advertising and outreach efforts by either to influence the outcome of this policy debate. Customers are captive of monopoly utilities. It is not hard to imagine 10 gas utilities asking customers to fund lobbying and public relations expenditures to 11 push for RNG and/or hydrogen arguing that it is in the interest of gas customers 12 because it will spread out the costs of existing infrastructure investments and keep 13 rates affordable; while simultaneously electric utilities asking customers to fund 14 lobbying and public relations expenditures to push for electrification, arguing that it 15 is in the interest of electric customers because it will spread out the costs of existing 16 17 infrastructure investments and keep rate affordable. Since many Oregonians are customers of both an electric and gas utility, this amounts to asking us to fund both 18 sides of the debate. Doing so would be inappropriate. 19

20 **Q**.

Does this mean that you are opposing investment in RNG?

No. Investment in RNG will reduce GHG emissions, which is consistent with SB 21 A. 22 98 and the Governor's recent EO 20-04. All utilities should be focusing on 23 reducing emissions. CUB's concern is the competing lobbying and public relations

1		efforts. RNG and hydrogen will both likely be important to future energy needs.
2		However, I am unsure how it will be utilized. NWN envisions that by 2050, 30% of
3		the gas that flows through its system is RNG. ¹¹ There are other studies of how to
4		decarbonize the economy that argue that RNG and hydrogen are needed but should
5		be utilized for transportation (including air and sea) and for critical peaks on the
6		electric system. CUB supported cap-and-trade legislation that would have placed a
7		declining cap on carbon emissions and established a trading system for carbon
8		allowances. In theory, this would allow economic efficiency to determine the best
9		use of RNG within the constrained carbon budget of the state.
10	Q.	Are you supportive of NWN's "Less We Can" campaign?
11	А.	CUB is tracking the Company's communications around its "Less We Can"
12		campaign. Currently, there are aspects of it that we are supportive of that we
13		believe help educate customers, but there are aspects that seem more focused on
14		bolstering NWN's corporate image. Educating customers about the opportunities to
15		invest in energy efficiency is an important role for a utility. Renewable natural gas
16		is more expensive than convention gas, so educating customers about the role of
17		renewable natural gas and the impacts of bringing it onto the system is responsible.
18		On the other hand, attempting to create an image of a company that is providing a
19		clean renewable product to its customers, when that is not necessarily the case, is
20		problematic. Currently there is no RNG flowing through NWN's gas pipeline to
21		end-use customers. At this time, NWN sells a product that is entirely fossil fuels. In

¹¹ UG 388 – NW Natural/100/Anderson/8.

1		generated using coal and natural gas ¹² (ODOE says Oregon's electric fuel supply is
2		45% from coal and natural gas) and it discusses its goal to create "carbon savings
3		equivalent to 30%" of 2015 emissions by 2035. ¹³ The 2020 fuel mix of electric
4		utilities is not comparable to the 2035 goals of a natural gas utility because by
5		2035, there will not be any coal in Oregon's electric fuel mix.
6	Q.	What do you recommend with regards to RNG and electrification?
7	А.	I recommend three things. The first is that the Company be required to fit the "Less
8		We Can" into its normal advertising budget. CUB witnesses Sudeshna Pal and
9		William Gehrke will expand on this in CUB/300. Second, the Commission and
10		stakeholders should keep a close eye on this effort to ensure that customers' funds
11		are being utilized for activities that are beneficial to customers and not primarily
12		aimed at improving the Company's corporate image. Third, to ensure that
13		customers receive good accurate information, the Commission should require that
14		NWN disclose it actual fuel mix – specifically the percentages of renewable and
15		non-renewable gas that it sells to retail customers in its standard product – on an
16		annual basis through bill insert and on its web page.
17		VI. CONCLUSION
18	Q.	Can you describe the testimony provided by other witnesses in this case?
19	A.	Two other witnesses provide testimony around NW Natural's request for a general
20		rate revision.
21		

 ¹² UG 388 – NW Natural/100/Anderson/9.
 ¹³ UG 388 – NW Natural/100/Anderson/Page 6

1		William Gehrke, Economist, provides testimony about the Company's proposed
2		corporate headquarters relocation and other revenue requirement issues in
3		CUB/200.
4		
5		Sudeshna Pal and William Gehrke, Economists, provide testimony on the
6		Company's proposed recovery for advertising expenses in CUB/300.
7	Q.	Does this conclude your testimony?
8	A.	Yes it does.

WITNESS QUALIFICATION STATEMENT

NAME: Bob Jenks

EMPLOYER: Oregon Citizens' Utility Board of Oregon

- TITLE: Executive Director
- ADDRESS: 610 SW Broadway, Suite 400 Portland, OR 97205
- **EDUCATION:** Bachelor of Science, Economics Willamette University, Salem, OR

EXPERIENCE: Provided testimony or comments in a variety of OPUC dockets from the 1990s to 2020. , including UE 88, UE 92, UM 903, UM 918, UE 102, UP 168, UT 125, UT 141, UE 115, UE 116, UE 137, UE 139, UE 161, UE 165, UE 167, UE 170, UE 172, UE 173, UE 207, UE 208, UE 210, UE 233, UE 246, UE 283, UG 152, UM 995, UM 1050, UM 1071, UM 1147, UM 1121, UM 1206, UM 1209, UM 1355, UM 1635, UM 1633, and UM 1654. Participated in the development of a variety of Least Cost Plans and PUC Settlement Conferences. Provided testimony to Oregon Legislative Committees on consumer issues relating to energy and telecommunications. Lobbied the Oregon Congressional delegation on behalf of CUB and the National Association of State Utility Consumer Advocates.

Between 1982 and 1991, worked for the Oregon State Public Interest Research Group, the Massachusetts Public Interest Research Group, and the Fund for Public Interest Research on a variety of public policy issues.

Change in Residential Gas Rates Oregon

		% change from		% change from
		previous		previous
	NWN	year	usage	year
2018	0.99	0.00%	607	-13.04%
2017	0.99	-9.17%	698	20.76%
2016	1.09	-8.40%	578	6.45%
2015	1.19	2.59%	543	-9.20%
2014	1.16	6.42%	598	-9.94%
2013	1.09	-0.91%	664	4.57%
2012	1.1	-5.98%	635	-7.57%
2011	1.17	-4.88%	687	11.89%
2010	1.23	-10.22%	614	-11.01%
2009	1.37	3.79%	690	-3.09%
2008	1.32	-6.38%	712	2.74%
2007	1.41	0.00%	693	3.74%
2006	1.41	11.90%	668	-0.15%
2005	1.26	16.67%	669	0.00%
2004	1.08	11.34%	669	0.30%
2003	0.97	-3.00%	667	-7.49%
2002	1	5.26%	721	-1.90%
2001	0.95	18.75%	735	-5.41%
2000	0.8		777	

year

NWN Letter to customer Dear Customer,

Last week, the Oregon legislature introduced a cap and trade proposal (HB 2020) to establish an economy-wide cap on greenhouse gas emissions. Click <u>HERE</u> to review a copy of the bill.

As for other utility rate increases, we have a responsibility to let you know about the potential rate increase your business may see as a result of the proposed legislation.

As it currently stands, businesses like yours could see a 40% increase (\$0.11 cents more per therm) for the cost of natural gas cost on the first day that the legislation goes into effect in 2021. The bill impact from the legislation will increase to \$0.38 cents per therm by 2030. For context, that additional amount is more than the overall cost per therm that you pay for natural gas today (currently, the weighted average cost of gas is \$0.246).

NW Natural understands our state's desire to address the climate imperative and the importance of doing so. However, we believe any effective cap and trade program must be fair to our customers.

Given that sales of natural gas to our residential and business customers account for only 5% of Oregon's total greenhouse gas emissions, we believe this current proposal has unacceptably high bill impacts and is unreasonably punitive to our customers.

In the coming weeks, NW Natural will urge legislators to make changes that will lessen the severity of the rate impact of this program. We will keep you informed about the results of those discussions, and the potential rate impacts on your business. We welcome any questions you may have at this point.

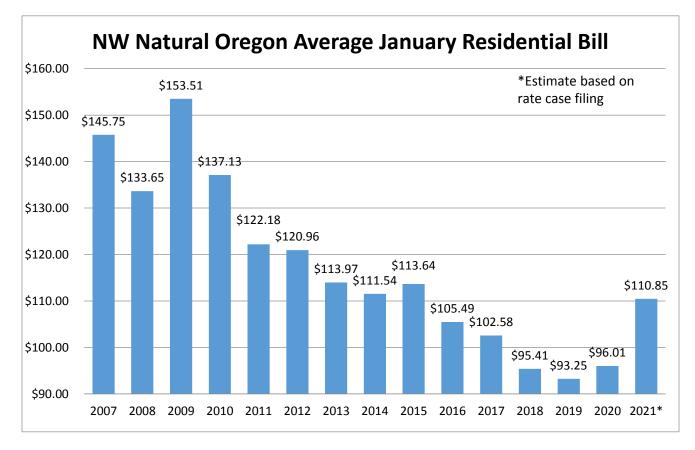
NW Natural[®] Rates & Regulatory Affairs UG 388 2020 OR General Rate Revision Data Request Response

Request No.: UG 388 CUB DR 1

1. Refer to UG 388/NW Natural/100/ Anderson/ Page 17 chart titled "NW Natural Oregon Average Residential Bill", please create a similar chart with the average residential January bills.

Response:

Please see the chart below and "UG 388 CUB DR 1 NWN Attachment 1" for the average January residential bill using the January use per residential customer of 104.25 therms as calculated in the UG 388 volume forecast, described in Exhibit 1100.



NWN Oregon Earnings

Not inlcuding		
optimization*		with optimization
	9.51%	9.86%
	9.00%	9.26%
	8.84%	9.08%
	9.18%	9.38%
	9.17%	9.38%
	9.51%	
	10.08%	
	11.19%	

source: Results of Operations Reports

Shutoff Numbers- NW Natural

				Number				
				receiving	Reconnect			
				Energy	same or next	Reconnect	C	%>7
	Ν	NWN	% of Accounts	Asstistance	day	2-7 days	reconnect > 7 d	lays
August	2018	805	0.135%	79	182	202	421	52.30%
September	2018	555	0.093%	53	165	14	376	67.75%
October	2018	507	0.085%	44	- 167	147	193	38.07%
November	2018	478	0.080%	41	214	138	126	26.36%
December	2018	531	0.088%	40	215	137	179	33.71%
January	2019	1181	0.196%	90	536	320	325	27.52%
Febuary	2019	1046	0.173%	63	494	272	280	26.77%
March	2019	1519	0.251%	107	587	435	497	32.72%
April	2019	1487	0.245%	114	494	408	585	39.34%
May	2019	1704	0.281%	152	505	420	779	45.72%
June	2019	1354	0.223%	103	366	320	668	49.34%
July	2019	997	0.165%	97	235	222	540	54.16%
August	2019	653	0.108%	57	140	156	357	54.67%
September	2019	579	0.095%	70	182	155	242	41.80%
October	2019	434	0.071%	40	164	126	144	33.18%
November	2019	455	0.075%	48	217	99	139	30.55%
December	2019	742	0.120%	51	332	181	229	30.86%
January	2020	1120	0.183%	80	477	300	343	30.63%

January March	29.70%
May -August	50%

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

OPENING TESTIMONY

OF THE

OREGON CITIZENS' UTILITY BOARD

EXHIBIT 200

1	I. INTRODUCTION AND SUMMARY
2	Q. Please state your name, occupation, and business address.
3	A. My name is William Gehrke. I am an Economist with the Oregon Citizens' Utility
4	Board (CUB). My business address is 610 SW Broadway, Ste. 400 Portland,
5	Oregon 97205.
6	Q. Please describe your educational background and work experience.
7	A. My witness qualification statement is found in exhibit CUB/201.
8	Q. Please summarize your testimony.
9	A. In my testimony, I discuss the outcome of CUB's review of NW Natural's (NWN or
10	the Company) proposed corporate relocation to 250 Taylor. After reviewing the
11	evidence that has been placed on the record thus far in the proceeding, CUB finds
12	the Company's decision to move to 250 Taylor to be reasonable. I also provide
13	various adjustments to the Company's requested revenue requirement in this
14	proceeding.
15	Q. How is your testimony organized?
16	A. My testimony is organized in the following sections:
17	I. Introduction and Summary;
18	II. Corporate Headquarters Relocation to 250 Taylor;
19	III. Employee Compensation;
20	IV. Consumer Price Index-West Inflation from the Test Year;
21	V. Capital Project in Service Dates;
22	VI. HB 3427 Corporate Activity Tax;

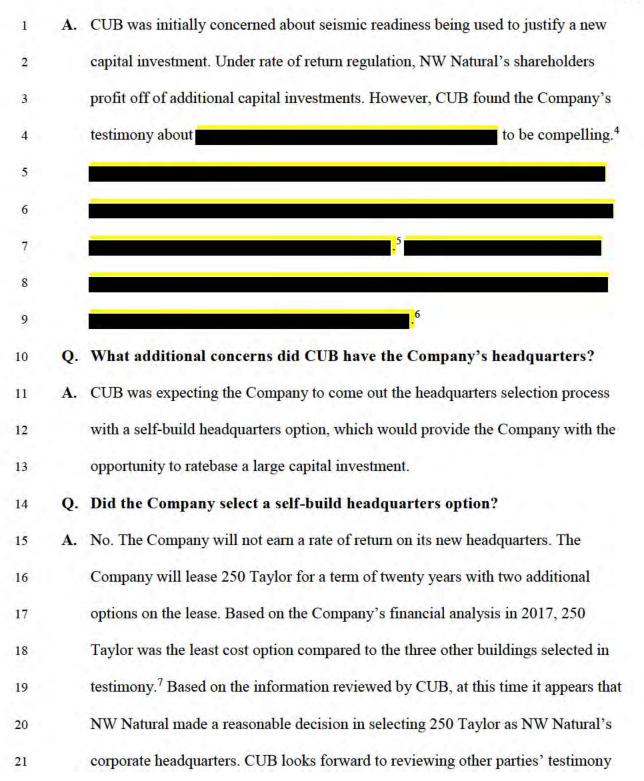
- VII. Horizon Program O&M Deferred Accounting Application; 1
- VIII. Compressed Natural Gas (CNG) Vehicles. 2

3		II. CORPORATE HEADQUARTERS RELOCATION TO 250 TAYLOR
4	Q.	Please summarize your testimony on this issue.
5	A.	After thoroughly reviewing the record and various data responses in this
6		proceeding, CUB believes the Company's decision to move forward with the
7		decision to move its corporate headquarters (HQ) from One Pacific Square to 250
8		Taylor was reasonable. CUB has found that the Company has sufficiently
9		documented its decision-making process to move forward with the 250 Taylor
10		relocation.
11	Q.	What was your strategy for reviewing the prudence of the Company's
12		headquarter decision?
13	A.	CUB reviewed the Company's due diligence materials that concluded moving to
14		250 Taylor was in the best interest of the Company and its customers.
15	Q.	What other information did you review?
16	A.	CUB reviewed the monthly minutes and presentations conducted by the HQ
17		Steering Committee from 2014 to 2020. CUB also reviewed the analysis and
18		presentations conducted by Cushman & Wakefield and Leland Consulting group. ¹
19		Additionally, CUB reviewed the terms of the Company's lease. ²
20	///	
21		

¹ UG 388 – CUB/202. ² UG 388 – NW Natural/Pipes/504.

1	Q.	Prior to its review of the Company's documentation, what issues did CUB
2		want to analyze?
3	А.	CUB was specifically interested in analyzing the following issues:
4		1. In OPUC Docket No. UP 400, NW Natural, CUB, the Alliance of Western
5		Energy Consumers (AWEC), and Oregon Public Utility Commission Staff (Staff)
6		agreed to defer and record as a benefit 50% of the benefits associated with the sale
7		of Block 24 to Lan Su Chinese Garden as an offset to the Company's rate base in
8		this general rate case. CUB wanted to confirm that the credit had been
9		appropriately applied to rate base.
10		2. CUB wanted to evaluate the reasonableness of the Company's seismic concerns
11		with its Headquarters.
12		3. CUB wanted to confirm that the Company's site selection was a reasonable
13		option for customers and that the other options examined would not have been a
14		better selection.
15	Q.	Did the Company include the benefit from the Block 24 sale in its filed rate
16		case?
17	А.	Yes. The Company has correctly included it as a credit to the tenant improvements
18		the Company made at 250 Taylor. ³
19	Q.	The Company cites seismic resilience as one of the key attributes sought in
20		its move. What concerns did CUB initially have about earthquake
21		preparedness?

³ UG 388 – NW Natural/500/Pipes/Page 42, lines 17-18.



⁴ UG 388 - NW Natural/500/Pipes/Page 14, lines 1-3.

⁶ UG 388 - CUB/203.

⁵ UG 388 - NW Natural/500/Pipes/Page 13, lines 10-15.

⁷ UG 388 - NW Natural/Pipes/504.

2 proceeding.

1

3

III.	EMPLOYEE	COMPENSATION
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and continuing to analyze the prudence of the Company's move throughout this

Q. What issues is CUB raising in regards to NWN's employee compensation? A. First, CUB expresses support for the wage and salary model utilized by the Staff of the Public Utility Commission of Oregon (Staff). Second, CUB raises issues

associated with the Company's proposed recovery of expenses related to pay-atrisk compensation.

9 Q. Please summarize CUB's position on the Staff wage and salary model.

In past general rate cases, Staff has used a wage and salary model to benchmark 10 A. Company non-union wages and salaries. Union wages are not included in the 11 model because negotiations are conducted at arm's length. The wage and salary 12 model is a longstanding Staff policy. CUB has reviewed Staff's wage and salary 13 model in the past LDC general rates cases.⁸ Aligning with standard regulatory 14 practice, the Commission has historically allowed utilities to recover prudently 15 16 incurred costs necessary for the provision of utility service. Through this lens, CUB has found that Staff's wage and salary model is reasonable and provides an 17 incentive to the utility to minimize labor costs prior to a general rate case. CUB 18 19 supports the use of Staff's wage and salary model in this proceeding. Q. Please summarize the Company's position on pay-at-risk compensation. 20

A. The Company is seeking to recover all expenses associated with pay-at-risk
 compensation in its revenue requirement. The Company is challenging the

⁸ See, e.g., UG 344 – Staff/100/Gardner/29, lines 4-8.

1		Commission's longstanding policy of disallowing 100% of officer pay-at-risk
2		compensation, 50% of non-officer pay-at-risk compensation, and 75% percent of
3		incentives that are based on financial performance measures. The Company argues
4		that pay-at-risk compensation is a component of total compensation and is essential
5		to attract and retain employees. NW Natural also asserts that pay-at-risk
6		compensation is designed to incentivize efficiencies that benefits the utility's
7		provision of safe and reliable service. The Company argues that the Commission's
8		policy to disallow at-risk pay prevents it from fully recovering its operations and
9		maintenance (O&M) costs.9 The Company also asserts that pay-at-risk
10		compensation is necessary to compete for employees and meet pay expectations of
11		the workforce.
12	Q.	What is CUB's response to the Company's arguments that pay-at-risk
12 13	Q.	What is CUB's response to the Company's arguments that pay-at-risk compensation is necessary to compete for employees and meet pay
	Q.	
13		compensation is necessary to compete for employees and meet pay
13 14		compensation is necessary to compete for employees and meet pay expectations of the workforce?
13 14 15		<pre>compensation is necessary to compete for employees and meet pay expectations of the workforce? A NW Natural employee should be indifferent between receiving compensation</pre>
13 14 15 16		compensation is necessary to compete for employees and meet payexpectations of the workforce?A NW Natural employee should be indifferent between receiving compensationthrough base pay versus base pay and pay-at-risk compensation. NW Natural's
13 14 15 16 17		 compensation is necessary to compete for employees and meet pay expectations of the workforce? A NW Natural employee should be indifferent between receiving compensation through base pay versus base pay and pay-at-risk compensation. NW Natural's pay-at-risk is component of total compensation. If NW Natural were to remove
13 14 15 16 17 18		compensation is necessary to compete for employees and meet pay expectations of the workforce? A NW Natural employee should be indifferent between receiving compensation through base pay versus base pay and pay-at-risk compensation. NW Natural's pay-at-risk is component of total compensation. If NW Natural were to remove pay-at-risk to base-pay compensation, the employee could still receive total
 13 14 15 16 17 18 19 		compensation is necessary to compete for employees and meet pay expectations of the workforce? A NW Natural employee should be indifferent between receiving compensation through base pay versus base pay and pay-at-risk compensation. NW Natural's pay-at-risk is component of total compensation. If NW Natural were to remove pay-at-risk to base-pay compensation, the employee could still receive total compensation. In the Company most recent bargaining unit (BU) negotiations, the

⁹ UG 388 – NW Natural/700/Rogers/15, lines 1-12.

Q.	Does at risk compensation provide value to shareholders?
А.	Yes. The Company's shareholders receive value from its employees being
	compensated with Company stock. Despite not being allowed to recover the cost of
	at-risk compensation from ratepayers, NW Natural has continued to offer at-risk
	compensation to its employees. The Commission's policy of disallowing at-risk
	compensation is a longstanding policy. CUB would like to note that the
	Commission does not control how the Company operates its business. Instead, the
	Commission is able to direct what is recoverable from customers.
Q.	What was the result of the Board of Directors' vote on executive
	compensation?
А.	The Company's Board of Directors approved advisory executive at-risk
	compensation. ¹⁰ The Company's SEC proxy makes it publically available to all
	investors in NW Natural that at-risk compensation is generally not recoverable
	from ratepayers. This means that the Company's Board of Directors approved
	executive compensation even though it was known to not be recoverable in rates.
Q.	Why would the Company's Board of Directors approve an expense the
	Company has not been allowed to recover from ratepayers?
А.	As mentioned, the Company's shareholder receive value from its employees being
	compensated with Company stock. According to the Company in its most recent
	proxy statement, NWN's compensation policy "[u]se['s] performance-based and
	stock based compensation tools with metrics that correlate to shareholder value." ¹¹
	The Company also uses its at risk program to incentive ownership of Company
	A. Q. A.

O. Does at risk compensation provide value to shareholders? 1

¹⁰ NW Natural's 2020 Proxy Page 64.¹¹ NW Natural's 2020 Proxy Page 25.

1		stock. The Company provides ownership guidelines of NW Natural Stock for
2		executive officers of NW Natural. For example, the CEO of NW Natural is
3		required to own 4 times their base salary in NW Natural stock, with five years of
4		working at the Company. It is not appropriate for ratepayers to fund executive
5		officer's purchase of NW Natural stock to meet ownership guidelines. CUB does
6		not believe these costs are essential for the provision of utility service.
7	Q.	What impact does including pay-at-risk compensation in rates have on a
8		utility's cost recovery?
9	А.	In Oregon, rates are set on an annual basis. The inclusion of pay-at-risk
10		compensation in rates would benefit the Company's shareholders. A majority of the
11		NW Natural's at-risk compensation is tied to the Company's net income or return
12		on equity. For example, let's assume that NW Natural was unable to meet the
13		financial goals set by at-risk compensation and at-risk compensation is included in
14		rates. Under this scenario, the Company would be to recover the cost of the pay-at-
15		risk compensation from customers, without providing the cost of the incentive to
16		employees.
17	Q.	What is the impact of removing pay-at-risk incentives from the test year in
18		alignment with the Commission prior policy?
19	А.	This would result in a removal of \$5.089 million in O&M expense and \$2.9 million
20		in capital costs.
21	Q.	Is there another issue related to pay-at risk compensation?
22	А.	Yes. It is CUB's understanding that the Company has been capitalizing executive
23		compensation overtime between general rate cases. While CUB does not have a

1		position on this issue at this time, we are investigating it and would like to address
2		the issue after further discovery. CUB is interested in retaining Commission policy
3		regarding pay-at-risk incentives equally to capitalized at-risk incentives.
4	IV.	CONSUMER PRICE INDEX-WEST INFLATION FROM THE TEST YEAR
5	Q.	How were test year non-payroll O&M costs treated by the Company?
6	A.	With some exceptions, the Company adjusted non-payroll O&M base year costs
7		using West Region Urban CPI. The Company used a forecast from the Oregon
8		Office of Economic Analysis ("OEA") from its September 2019 Oregon Economic
9		and Revenue.
10	Q.	What is CUB's proposal regarding the West Region Urban CPI escalator?
11	A.	CUB proposes that the most recently released forecast of West Region Urban CPI
12		by the OEA be used to escalate generic non-payroll O&M costs. OEA released a
13		forecast in February 2020 which updated expected CPI-W inflation in 2020 and
14		2021. CUB is proposing to use this updated index in order to provide a more
15		accurate forecast. The updated year-over-year escalation factor is 2.4% for 2020
16		and 2.0% for 2021. ¹²
17	Q.	What is the revenue requirement impact of this adjustment?
18	A.	This adjustment reduces the filed O&M expense by \$162,000 compared to the
19		Companies initial filed case.
20		V. CAPITAL PROJECT IN SERVICE DATES
21	Q. '	What capital projects does the Company seek recovery for in this case?
22	A.	The Company is seeking to add to two categories of capital projects to its ratebase.

 $^{^{12}}$ UG 388 – CUB/204.

2		The first category of capital expenditures are all capital expenditures made since
3		the Company's last rate case that will be used and useful as of November 1, 2020,
4		which is the rate effective date for this general rate case. The Company is seeking
5		to recover these capital expenditures, less the accumulated depreciation since the
6		capital investment is placed into service.
7		
8		The second category of capital expenditures the Company is seeking cost recovery
9		for will be completed during the Test Year (i.e., after the requested rate effective
10		date in this proceeding). The test year in this case is from November 1, 2020 to
11		October 31, 2021.
12	Q.	Do you agree with the Company's approach to plant additions?
13	A.	No. While I am not an attorney, it is my understanding that the inclusion of plant
14		additions expected to be in service in the future is not compliant with the used and
15		useful standard. To CUB, if a capital project is not forecasted to be in service by
16		the rate effective date, the plant associated with the capital project should not be
17		included in rates. It is CUB's understanding that allowing plant additions past the
18		rate effective date would not be compliant with ORS 757.355. This is a legal issue
19		which will be more fully articulated in briefing.
20	Q.	What is CUB's proposal on this issue?
21	A.	CUB recommends that NW Natural be required to measure rate base as of the rate
22		effective data of November 1, 2020. Additionally, CUB asks the Company to file
23		an officer attestation for any projects forecast to cost over \$1,000,000 and to be

1		completed by October 31, 2020. In the event that a project is not due to be
2		completed by October 31, 2020, these projects should be removed from rate base
3		for the purposes of calculating rates. Once the net plant is removed from rate base,
4		depreciation expense needs to be reduced to account for a reduction in plant. CUB
5		does not have a specific dallor impact with this adjustment at this time.
6		VI. HB 3427 CORPORATE ACTIVITY TAX
7	Q.	What is the corporate activity tax?
8	А.	During the 2019 Oregon Legislative session, the Oregon legislature passed HB
9		3427 and 2164, which imposed a new Oregon State tax called the corporate activity
10		tax (CAT) on businesses that would have more than \$1 million in Oregon taxable
11		commercial activity. The tax came into effect on January 1, 2020. It is CUB's
12		understanding that NW Natural is subject to this tax.
13	Q.	What is the liability associated with the CAT?
14	А.	A company's liability is a floor of \$250 plus a 0.57 percent of taxable commercial
15		activity in excess of \$1.0 million on a calendar year basis.
16	Q.	What does the company estimate to be the liability associated with the
17		CAT?
18	А.	The Company estimates a liability of 2.5 million associated with the Oregon
19		Corporate Activity Tax.
20	Q.	What is the rate effective date for this general rate case?
21	А.	The Company is seeking to update its margin rates on October 1 st , 2020.
22	Q.	What is the status of the Oregon Department of Revenue's rulemaking
23		process for the Corporate Activity Tax?

1	А.	The Oregon Department of Revenue (ODOR) began the formal rulemaking process
2		on April 1, 2020. The ODOR is in the process of converting 16 temporary
3		administrative rules into permanent rules and adopting a new permanent rule. The
4		ODOR expects to have the rulemaking process completed by the end of June 2020.
5	Q.	What should be done with the Company's estimate of CAT?
6	A.	As an initial placeholder, CUB proposes that the Company include the 2.5 million
7		liability in margin rates. Later this year, CUB is open to this number being updated
8		once final rules for the CAT has been established.
9	Q.	Why is CUB proposing for NW Natural to increase its base rates?
10	A.	On December 23, 2019, NW Natural filed for a deferral of the corporate activity
11		tax. CUB does not object to the Company filing a deferral for CAP expense.
12		However, CUB would prefer to get this expense out of ongoing deferred
13		accounting and into base margin rates. We believe this general rate case proceeding
14		is the proper venue to do so.
15		VII. HORIZON O&M DEFERRED ACCOUNTING APPLICATION
16	Q.	What is the Horizon program?
17	A.	NW Natural's Horizon program is a seven-year, two-phase initiative to upgrade its
18		technology architecture. In the first phase, the Company is upgrading its Enterprise
19		Resource Planning (ERP) software. ¹³ NW Natural's legacy ERP program (SAP
20		ERP Central Component) is reaching the end of its useful life. ¹⁴ The second phase

 ¹³ UG 388 – NW Natural/600/Downing/6, lines 4-5.
 ¹⁴ UG 388 – NW Natural/600/Downing/8, lines 1-5.

1	involves upgrading and replacing the Company's Customer Information Systems
2	(CIS) platform. ¹⁵
3	Q. How has NW Natural historically recovered the costs associated its ERP
4	software?
5	A. In the past, the Company has recovered enterprise software as capital investments,
6	where the return on and return of the investment is recovered over the life of the
7	asset.
8	Q. What is the "Cloud Computing"?
9	A. Cloud computing is the delivery of IT services over the internet. These services can
10	include data storage, databases, networking, or software. Under a cloud computing
11	model, a customer can use a group of datacenters to perform an information
12	technology task.
13	Q. How has NW Natural recovered the expenses of large enterprise information
14	technology programs?
15	A. NW Natural has recovered the costs of enterprise software as capital investments,
16	where the return on and return of the investments is recovered over the life of the
17	asset.
18	Q. What has NW Natural indicated about its upcoming IT projects?
19	A. According to the Company, some of the programs associated with the Company's
20	Horizon program will likely contain cloud computing services.
21	Q. How would NW Natural pay for cloud computing services?

¹⁵ UG 388 – NW Natural/600/Downing/6, lines 15-18.

1	A.	Under the Company's proposal, the Company would incur a subscription expense
2		on an annual basis in order to pay for cloud solutions. Since these costs are O&M
3		expenses, the Company is only allowed to a return of the cloud computing
4		expenses.
5	Q.	When does the Company anticipate completing the its ERP upgrade
6		program?
7	А.	The Company anticipates having is new ERP program enter service in 2022.
8	Q .	Is NW Natural seeking cost recovery for the Horizon project as part of this
9		rate case?
10	А.	No. ¹⁶
11	Q.	When does the Company anticipate completing the its ERP upgrade
12		program?
13	А.	The Company is suggesting that it will likely file a deferred account application to
14		track the incremental O&M associated with Horizon program for later inclusion in
15		rates.
16	Q .	Has the Company provided a cost estimate for the Horizon project?
17	А.	No. The Company is unable to provide a cost estimate at this time. ¹⁷
18	Q.	What would be the impact of the Commission authorizing a deferral for
19		O&M expense prior to amortization?
20	А.	Under established Commission precedent, a deferral would allow the utility to earn
21		its authorized rate on return (AROR) on O&M expense prior to amortization. ¹⁸

¹⁶ UG 388 – NW Natural/600/Downing/7, lines 5-12.
¹⁷ UG 388 - NW Natural/ 600/Downing/12, lines 12-16.
¹⁸ In re Public Utility Commission of Oregon Staff Request to Open an Investigation Related to Deferred Accounting, OPUC Docket No. UM 1147, Order No. 05-1070 (Oct. 5, 2005).

1		Essentially, the Company would be earning a profit stream on O&M expense
2		incurred until the expense can be included in margin rates. Currently, the Company
3		estimates deploying the first phase of the Horizon program in 2022 and will not
4		begin the second phase until the first phase is completed. ¹⁹
5	Q.	What is CUB recommendation regarding the Company's proposal to issue a
6		deferral for incremental O&M expense?
7	A.	CUB would oppose the Company amortizing a deferral for incremental O&M
8		expense. Between general rate cases, NW Natural bears the risk-and reward-of
9		cost variations. While the Company has not provided a cost estimate associated
10		with incremental O&M, it is possible that the Company's authorized earnings
11		established in a general rate case would be sufficient to cover expenses its seeks to
12		defer at a later date. CUB is also concerned that a deferral application for this
13		expense may not meet the legal parameters to be granted by the Commission, but
14		this is an issue that can be addressed at a later date when total costs are known and
15		the Company files for amortization.
16		VIII. COMPRESSED NATURAL GAS (CNG) VEHICLES
17	Q.	Does CUB has an adjustment on the Company's investment in CNG
18		Vehicles?
19	A.	Not at this time. However, CUB is still reviewing the Company's historical and
20		projected investment in CNG Vehicles and may propose an adjustment in later
21		testimony.
22		

¹⁹ UG 388 – NW Natural/600/Downing/12, lines 6-9.

1 Q. Does this conclude your testimony?

2 A. Yes it does.

WITNESS QUALIFICATION STATEMENT

- NAME: William Gehrke
- EMPLOYER: Oregon Citizens' Utility Board
- TITLE: Economist
- ADDRESS: 610 SW Broadway, Suite 400 Portland, OR 97205
- **EDUCATION:** MS, Applied Economics Florida State University, Tallahassee, FL

BS, Economics Florida State University, Tallahassee, FL

EXPERIENCE: Provided testimony or comments in several Oregon Commission dockets. Worked as an Economist for the Florida Department of Revenue. Worked as Utility Analyst at the Florida Public Service Commission, providing advice on rate cases and load forecasting. Attended the Institute of Public Utilities Annual Regulatory Studies program in 2018. This witness has written testimony and participated on the following Oregon Public Utility Commission dockets: UG 344, UG 346, UG 366 and UM 2026.







OPS EVALUATION PROJECT STEERING COMMITTEE

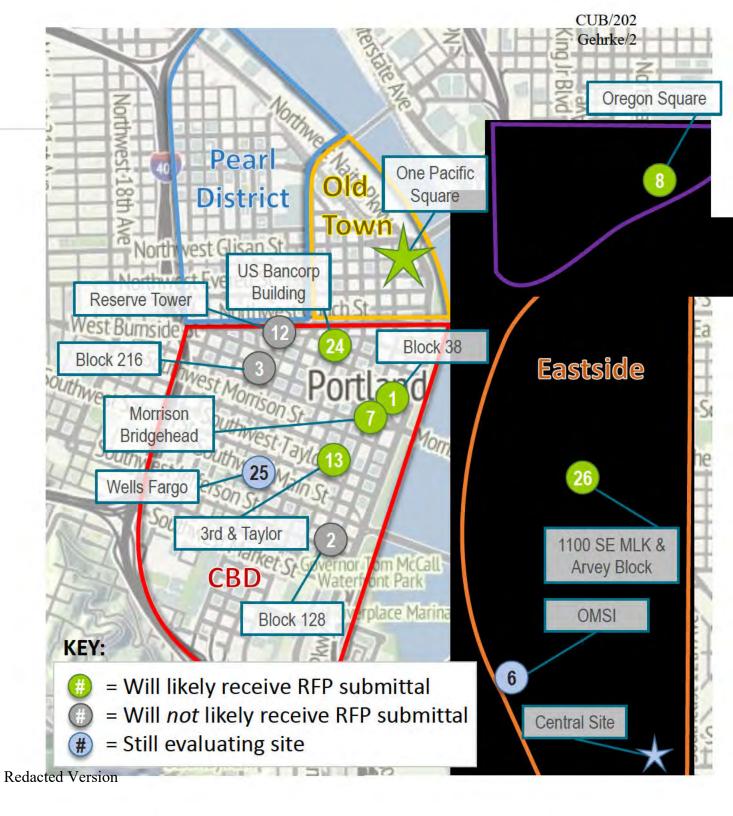
NW NATURAL

2016 July 25

RFP Responses

Update on RFP's

- Interested Properties
- Those "on the fence"
- Reason for not responding





Scoring Matrix

Terms

- Initial space, term, size and TI's
- Rental rates, free rent, annual obligation
- Additional options: Rights of renewals and termination (etc.)





Building Characteristics

- Building flexibility
- Parking (ratio and access)
- Bike parking, exercise room (+locker room)
- Building seismic requirements
- Emergency generator power / UPS capabilities
- Building security
- On-site building amenities (food and retail services)



Scoring Matrix

Building Characteristics (continued)

- Recreation nearby
- Hospitality/wellness center
- Ability to accommodate growing space needs (space utilization, total # of floors, and floor plate SF
- Zoning
- Floor to Area Ratio
- Environmental



Scoring Matrix

Locational Characteristics

- Ingress/Egress
- Neighborhood amenities (restaurants, services, recreation)
- MAX and public transit
- Personal and property safety
- Seismic (accessibility to site)
- Parking nearby

Misc.

• Developer risk



Seismic Summary from KPFF

# SITE	SITE NAME	LOCATION	LIQUEFACTION	LATERAL SPREADING	GROUNDWATER < 20 FEET	FLOOD HAZARD AREA	Accessible*
1	Block 38	2nd & SW Washington (Entrance to the Ankeny Blocks)	Possible	NO	Less Than 20' BGS	NO	TBD
7	Morrison Bridgehead: Block #16	SW 2nd (At the foot of the Morrison Bridge)	Possible	NO	Less Than 20' BGS	NO	TBD
8	Oregon Square	827 NE Oregon St.	NO	NO	NO	NO	TBD
13	3rd & Taylor	SW 3rd and Taylor	NO	NO	NO	NO	TBD
24	US Bancorp	200 SW Fifth Ave.	NO	NO	YES	NO	TBD
26	1100 SE MLK (Full Block) and "Arvey Block"	2 plats: 1100 SE MLK and 1005 SE Grand	NO	NO	NO	NO	TBD
Central	Clinton Corner (Inner Eastside Property)	904 SE Division St.	NO	NO	NO	NO	TBD
OPS	Current Old Town Location	220 NW 2nd Ave.	Possible	Probable	Less Than 20' BGS	YES	TBD

Note:

* for access if the assumptions is that a seismic event is significant enough to damage bridges over the Willamette to downtown from the east side then also Front Street/Naito Parkway would be damaged by lateral spread/liquefaction, then the only access to downtown would be US 26/US 30



Next Steps and Action Items

DETAILED TIMELINE ENCORPORATING ESTIMATED CRITICAL DATES WHEN NW NATURAL FEEDBACK IS REQUIRED

		2016		Where we		
	June		July	are today	August	Sept
Phase 2: Qualify, Evaluate, and Rank	WK1 WK2 WK3	WK4 WK1	WK2 WK3	WK4 WK1	WK2 WK3 V	VK4 WK1
RFP Process						
A. GBD and KPFF "Kick-off"						
B. GBD Onboarding						
C. KPFF/LL Seismic OPS Meeting						
D. Developer RFPs Due (7/22/16)					eedback	
E. Draft Matrix/Analysis of RFP Results				tr	rom NWN	
F. Draft Counter RFP Responses						
Site Evaluation & Analysis						
A. Evaluate all properties (Using Phase I Criteria)						
B. Initial Seismic Evaluation Feedback on All Properties (KPFF)						
C. Detailed Seismic Evaluation and Recommendations (KPFF)				eedback om NWN		
D. Finalized Site Assessments Delivered to NWN						
Test Fit(s) Process						
A. Begin & Review Test Fits (GBD)						
B. Feedback/Adjustments for Preferred Sites						
C. Test Fits Completed to a Stage Enabling Pricing						
Next Phase: Site/Building Selection Process & Strategy						



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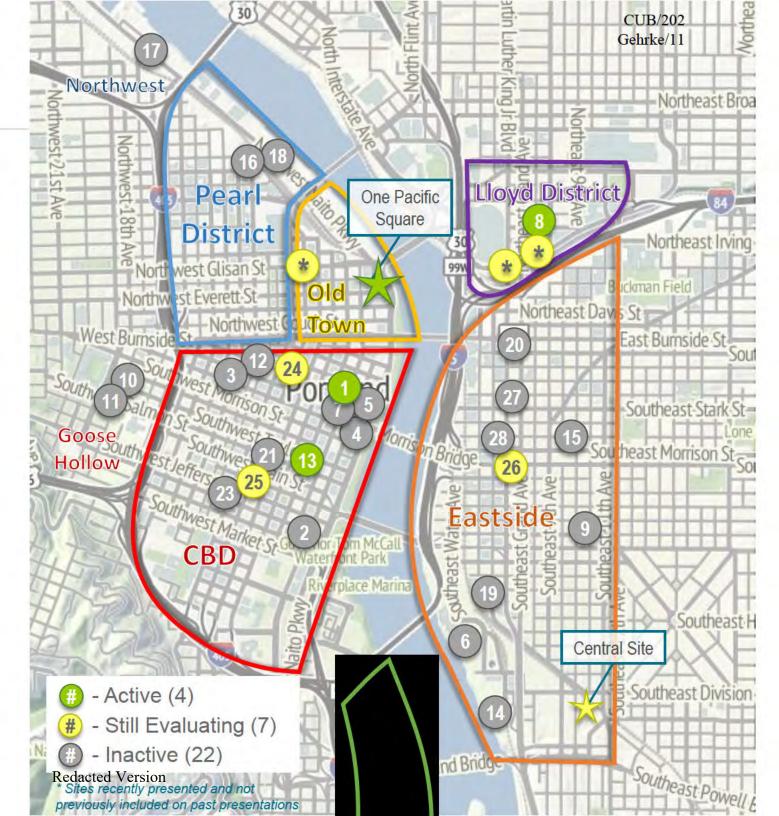
OPS EVALUATION PROJECT STEERING COMMITTEE

NW NATURAL

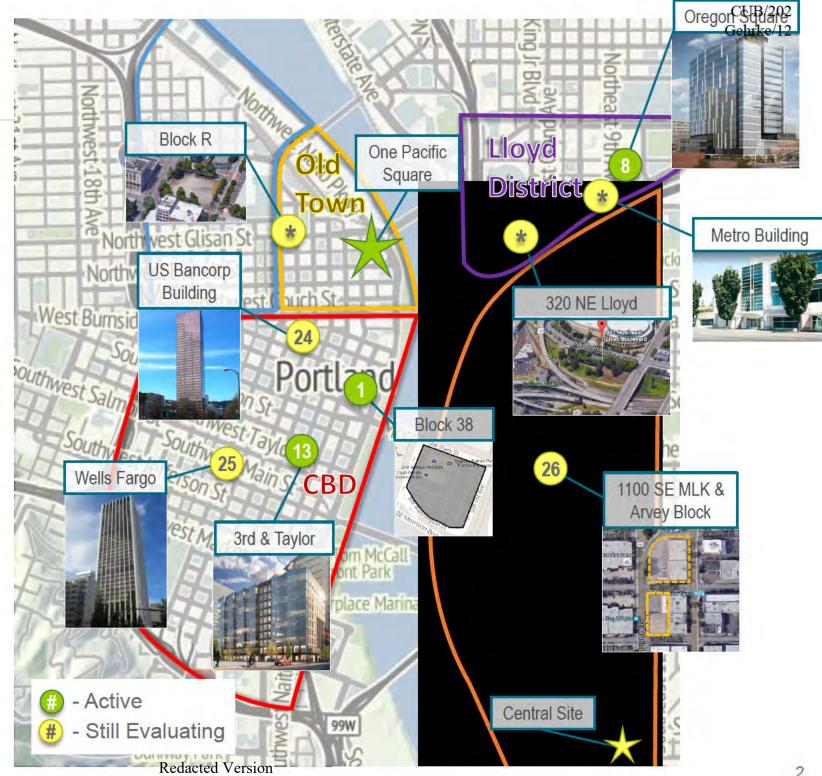
2016 August 30

RFP Status Update As of August 30, 2016

- Two groups are getting pricing and waiting for test fits to be completed
- Opportunities emerged:
 - Block R
 - 320 NE Lloyd
 - Metro Building (size issue)
- Inactive and currently under evaluation:
 - Wells Fargo (potential response)
 - US Bancorp (providing response)
 - Arvey Block (may move forward, still pending)



Site Tours Coming Up As of August 30, 2016





Central Site Update

- Phase 1 evaluation underway
 - Meeting with Zidell for environmental feedback
 - Conceptual site plan
 - Development cost estimate
 - Run lease / purchase models for comparison
- Assumptions
 - Operations center immediate occupancy design
 - Corporate center operational design
 - NWN would utilize Developer for project
 - Parking would be at market rate for employees
 - Plan includes space for tech team to support emergency response
 - Current plan includes Appliance center / market rent

- Phase 2 (if needed)
 - Further define concept
 - Develop environmental options
 - Structural / foundation design options
 - Prepare for potential meeting with ODEQ

Central Site: Building Massing





Test Fit Update



One Pacific Square

- Test fit and scope narrative are complete
- Total requirement is approximately 185,000rsf (currently 170,000rsf)
- Landlord is currently developing a cost for the tenant improvements



3rd & Taylor

- Test fit and scope narrative are complete
- Total requirement is approximately 170,000rsf (excludes mail center)
- Landlord is currently developing a cost for the tenant improvements



Oregon Square

Test fit underway (complete 9/7)



Block 38

Test fit mobilizing this week (complete 9/16)



- AGA / SOS HQ space planning survey
 - 9 responses received as of 8/26 (see handout)
 - Recent restack / renovations downsized W/S & offices, added collaboration space
 - PGE downsizing, no offices except for officers. Together on one floor
- Recommendations for next steering committee meeting
- HQ office tours completed:
 - Daimler, Vestas, PGE & Integra (Photos on Q drive / file folder WPGP HQ)
- Opportunities for further discussion / evaluation
 - Data room right sizing
 - Mail / printing room right sizing
 - Storage space right sizing
 - Files expedite ECM project (retain consultant to assist us)

Timeline Update

Next Steps and Action Items



Task Name	Duration	Start	Finish	Jul '16 Aug '16 Sep '16 Where We Nov '16 Dec '16 Jan '17 Feb '17 Ma 19 25 3 10 17 24 31 7 14 21 21 4 11 1 Are Today 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26 13 10 17 14 11 18 15 12 19 16 13 15 16 13 15 16 17 16 16 17 16 17 16 17 16 17 16 17 16 17 18 15 17 18 15 12 19 16 17 16 17 16 17 17 16 17 16 17 17
RFP	73 days	Wed 4/27/16	Fri 8/5/16	REP 1
OPS	1 day	Wed 5/18/16	Wed 5/18/16	(8/30/16)
RFP Round 1	19 days	Tue 6/28/16	Fri 7/22/16	RFP Round 1
RFP Round 2	19 days	Tue 7/12/16	Frt 8/5/16	RFP Round 2
TEST FITS & SCOPE NARRATIVE	42 days	Frt 7/15/16	Mon 9/12/16	TEST FITS & SCOPE NARRATIVE
OPS Test Fits	3 wks	Frt 7/15/16	Thu 8/4/16	OPS Test Fits
OPS Scope Narrative	2 wks	Thu 8/4/16	Wed 8/17/16	OPS Sột pe Narrative
Issue OPS for Pricing	1 day	Wed 8/17/16	Wed 8/17/16	+ Issue (II S for Pricing
3rd & Taylor Test Fits	3 wks	Frt 7/15/16	Thu 8/4/16	Stream and a Taylor Teol Fits
3rd & Taylor Scope Narrative	2 wks	Thu 8/4/16	Wed 8/17/16	3rd & Ta Aor Scope Narrative
Issue 3rd & Taylor for Pricing	1 day	Wed 8/17/16	Wed 8/17/16	+ Issue 3r & Taylor for Pricing
OR Square Test Fits	3 wks	Wed 8/17/16	Tue 9/6/16	OR Square Test Fits
OR Square Scope Narrative	2 wks	Wed 8/24/16	Tue 9/6/16	OR Square Scope Narrative
Issue OR Square for Pricing	1 day	Tue 9/6/16	Tue 9/6/16	+ Issue OR Square for Pricing
Block 38 Test Fits	3 wks	Tue 8/23/16	Mon 9/12/16	Block 38 Test Fits
Block 38 Scope Narrative	2 wks	Tue 8/30/16	Mon 9/12/16	Block 38 Scope Narrative
Issue Block 38 for Pricing	1 day	Mon 9/12/16	Mon 9/12/16	★ Issue Block 38 for Pricing
EVALUATION	148 days	Tue 6/28/16	Frl 1/13/17	EVALUATION
Brokers - Summarize Responses	44 days	Tue 6/28/16	Fit 8/26/16	Business and a second
Brokers - Negotate Proposal Terms	55 days	Frl 8/26/16	Fri 11/4/16	nin managementer and a second s
Brokers - Negotiate LOI	55 days	Mon 10/17/16	Frt 12/30/16	Brokers - Negotiate LOI
Central Site Evaluation Phase 1	39 days	Tue 7/5/16	Frt 8/26/16	C ntral Site Evaluation Phase 1
Central Site Evaluation Phase 2 (If Required)	11 days	Mon 9/19/16	Frt 9/30/16	Central Site Evaluation Phase 2 (If Required)
Quality Each Site's Pricing w/ LL	7 days	Mon 10/3/16	Mon 10/10/16	Qualify Each Site's Pricing w/ LL
CW Provide Leveled Bid Comparison	5 days	Tue 10/11/16	Mon 10/17/16	CW Provide Leveled Bid Comparison
Review Comparison w/ NWN	1 day	Tue 10/18/16	Tue 10/18/16	Review Comparison w/ NWN
NWN Steering Committee Review	10 days	Wed 10/19/16	Tue 11/1/16	NWN Steering Committee Review
NWN Comments to LL's	1 day	Wed 11/2/16	Wed 11/2/16	WWN Comments to LL's
Pricing Revisions	2 wks	Thu 11/3/16	Wed 11/16/16	Pricing Revisions
CW Review/Level Final Priding	5 days	Thu 11/17/16	Wed 11/23/16	CW Review/Level Final Pricing
Review Comparison w/ NWN	1 day	Thu 11/24/16	Thu 11/24/16	Review Comparison w/ WWN
NWN Steering Committee Review	15 days	Fri 11/25/16	Thu 12/15/16	NWN Steering Committee Review
Final LL Questions/Follow Up	10 days	Fn 12/16/16	Thu 12/29/16	Final LL Questions/Follow Up
NWN Steering Committee Decision Making	10 days	Fri 12/30/16	Thu 1/12/17	NWN Steering Committee Decisio
NWN Final Decision	1 day	Frl 1/13/17	Frl 1/13/17	VWN Final Decision



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OPS EVALUATION PROJECT STEERING COMMITTEE

NW NATURAL

2016 September 29

Status Update



- Evaluation based on NW Natural Criteria
- Toured remaining sites
- Active properties
- Continue to evaluate Central
- Tenant Improvement test fits and pricing are continuing
- Counter proposals should be sent out to the active buildings in two weeks

Status Update

Next Steps

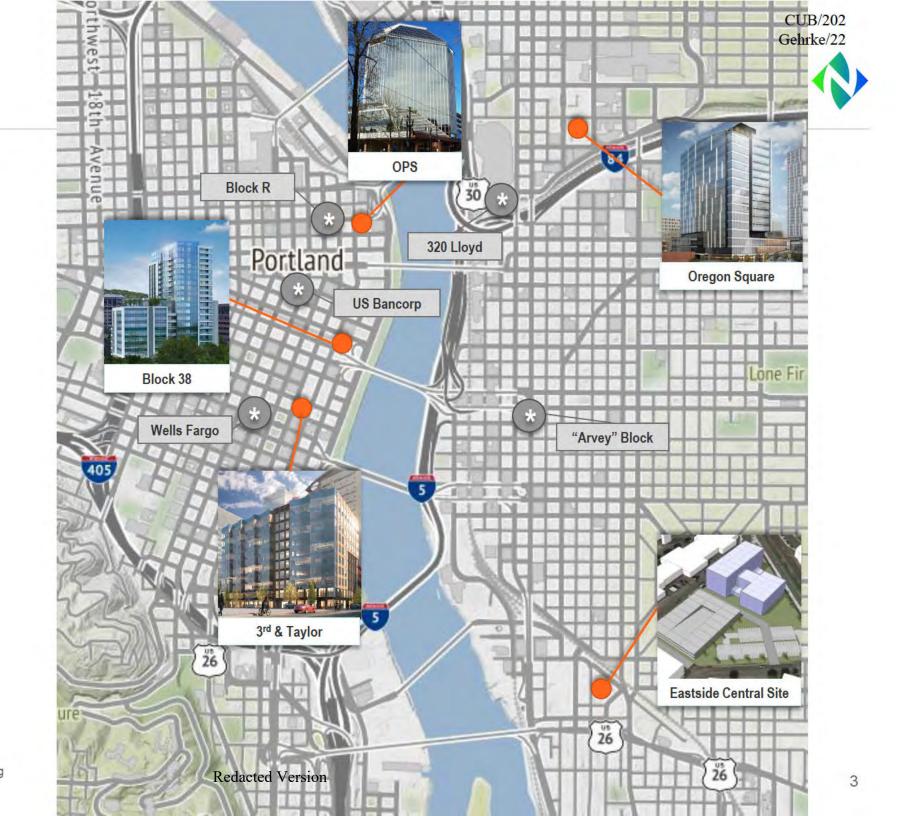


Next Step	Completion Date (Estimated)
Meeting with developers of active sites	October
Continuing to evaluate central site	TBD
Continuing to develop Workplace Guiding Principals	October
Meeting with PUC	November 1
Analyze and present findings to NW Natural	November
Continuing the collection of information on the various options	End of November
NW Natural to make a decision on preferred option	December
Develop and implement final execution strategy	December/January

Updated Sites

Five sites to focus on

Confirmation of previous evaluation



RFP Outline Information

RFP Highlights



Estimated Annual	(Rentable Square Footage)*(Est. Year 1 NNN Rent + OpEx)							
Rental Rates	Note: Rates shown include 15 year rental rate options							
Summary of Qualitative Scoring								
Parking	Available parking made to NW Natural on-site and with partnering garages and cost							
Seismic	If Liquefaction and Lateral Spread is possible as well as accessing the site after an event							
Safety	Evaluates the personal and property crime as well as preserved safety							
Amenities	Access to restaurants, coffee and retail as well as parks/greenspaces. Considers future development trends.							
Accessibility (access without Parking)	Accounts for the MAX and public transit within walking distance							
Site Tour Ranking	To be completed*							
Additional Considerations	The nuances and site characteristics not captured above							
*Information Forthcoming	How well NW Natural fits in the building							

One Pacific Square (Current Location)

RFP Highlights

Estimated Annual Rental Rate

\$7,222,658 (201,863 RSF*\$35.78 fs)

Summary of Qualitative Scoring

Parking
Seismic
Safety
Amenities
Accessibility

- Average Site Tour Ranking Score: TBD
- Additional Considerations:
 - Seismic concerns for current location, including liquefaction and access after an event. TI build out and seismic upgrades would cause displacement for staff.





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Estimated Annual Rental Rate

\$8,789,470 (187,010 RSF*\$47.00 fs)

Summary of Qualitative Scoring

Parking
Seismic
Safety
Amenities

Accessibility

- Average Site Tour Ranking Score: TBD
- Additional Considerations
 - Single tenant building, does not account for IT/Mailroom and there is limited room for growth in space (maxed out at 175,000 RSF)

Redacted Version







Block 38 RFP Highlights

Estimated Annual Rental Rate

\$8,716,345 (180,500 RSF*\$48.29)

Summary of Qualitative Scoring

ParkingSeismic

Safety

Amenities

Accessibility

- Average Site Tour Ranking Score: TBD
- Additional Considerations
 - Part of a larger mixed use development.



Redacted Version



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Oregon Square RFP Highlights

Estimated Annual Rental Rate

\$8,630,560 (~167,000 RSF*\$51.68)

Summary of Qualitative Scoring

Parking
Seismic
Safety
Amenities

Accessibility

- Average Site Tour Ranking Score: TBD
- Additional Considerations:
 - Ability to accommodate and secure all parking in the building.





Central Eastside Site



RFP Highlights

Estimated Annual Rental Rate

\$TBD

Summary of Qualitative Scoring

Parking

Seismic

Safety

Amenities

Accessibility

- Average Site Tour Ranking Score: TBD
- Additional Considerations
 - Environmental considerations as well as potential zoning/master plan approval.



CUB/202 Gehrke/29

Summary Matrix

	One Pacific Square	3 rd & Taylor	Block 38	Oregon Square	Central Eastside Site
Image/Rendering					
Estimated Annual Rental Rate (+OpEx)	\$7,222,658	\$8,789,470	\$8,716,345	\$8,630,560	\$TBD
Parking	•	0	0		0
Seismic	•				
Safety		0		0	0
Amenities		•	٠		•
Accessibility	•		•		0
Average Tour Ranking	TBD	TBD	TBD	TBD	TBD
Additional Considerations	Seismic and safety	Size able to accommodate growth	Mixed-use development	Accommodates all parking needs in building	Phase 1 Evaluation Feedback Pending

Test Fit Updates





One Pacific Square

- Test fit completed
- · Pricing has been received and needs to be evaluated



3rd & Taylor

- Test fit completed
- Landlord is currently developing a cost for the tenant improvements



Oregon Square

- · The test fit has been completed
- Landlord is currently developing a cost for the tenant improvements pricing should be completed in one month

Block 38

- The test fit has been completed
- Landlord is currently developing a cost for the tenant improvements pricing should be completed in one month

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CUB/202

Gehrke/31

Timeline and Critical Decision Dates

Task Name

OPS.

RFP Round 1

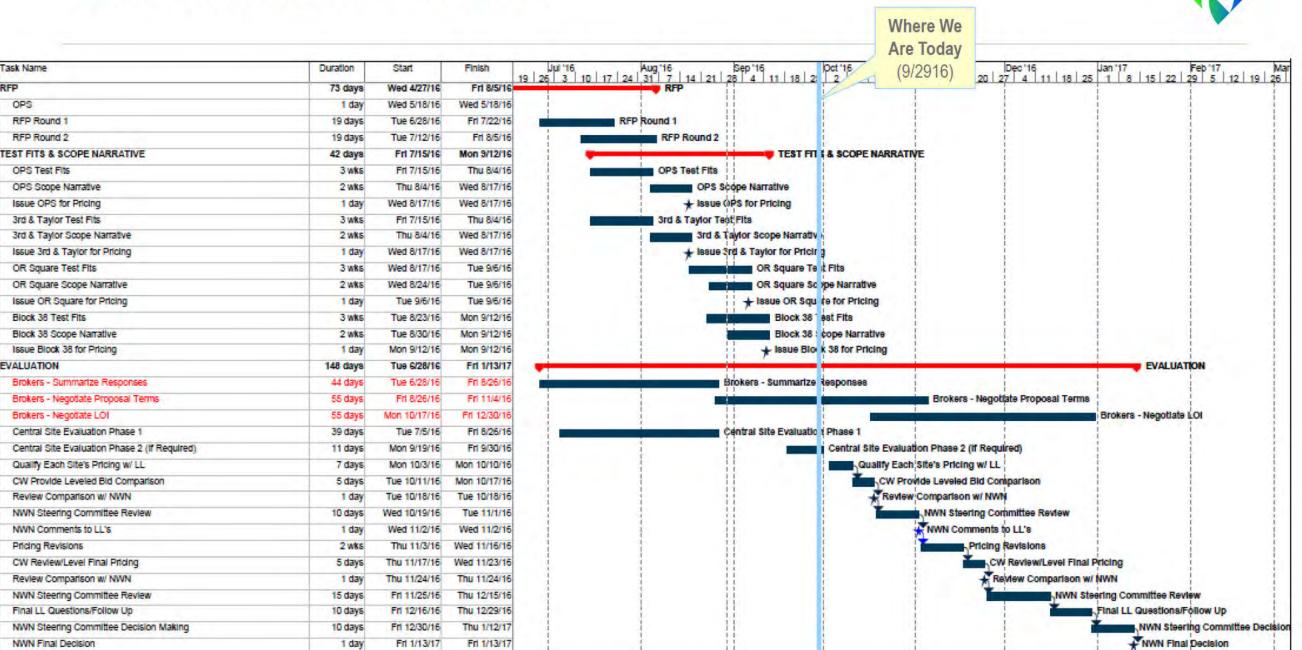
RFP Round 2

OPS Test Fits

EVALUATION

Pricing Revisions

RFP



Timeline



• Timeline of activities for the next two months:

Next Step	Estimated Completion Date	Critical Decision Date
Continuing the collection of information on the various options	End of November	
Analyze and present findings to NW Natural	November	
Site tour of alternatives	November	
Refine list to two or three preferred options	-	November
NW Natural to make a decision on preferred option	-	December
Develop and implement final execution strategy	December/January	



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OPS EVALUATION PROJECT STEERING COMMITTEE

NW NATURAL

2016 November 2

Agenda



- November 1st OPUC Meeting Update
- Workplace Guiding Principles Recommendations
- Central Site Evaluation Update
 - » Financial analysis
 - » Environmental Overview
- Decision Timeline



Work to date

- ✓ Bi-weekly meetings over last three months
- ✓ Toured Daimler, Vestas, PGE offices
- Researched industry space planning data
- Toured workspace furnishings facility

Next Steps

- Incorporate feedback into recommendations
- ✓ Finalize workplace guiding principles
- ✓ Socialize WPGP with OTM
- Update test fits to finalize required square footage
- ✓ Develop change management plan

Timeline



Next Step	End Date	Critical Decision Date
Continuing the collection of information on the various options	End of November	
Analyze and present findings to NW Natural	November	
Site tour of alternatives	November	
Steering Committee Meeting	11/2/16	
Refine list to three preferred options	-	November
Developer presentations	11/28/16 & 11/29/16	
NW Natural to make a decision on preferred option	-	December
NW Natural OTM (Officer Update Meeting)	12/12/16	
NW Natural Board Meeting	12/15/16	
Develop and Implement Final Execution Strategy	December/January	
Steering Committee Meeting	1/3/17	

Decision Timeline

Developer Response



trategy Formation		1/2017 (or sooner) EASE EXECUTION			5/31/2020 LEASE EXPIRATION
2015	2016	2017	2018	2019	2020
1Q 2Q 3Q 4Q	1Q 2Q 3Q 4Q	1Q 2Q 3Q 4Q	1Q 2Q 3Q 4Q	10 20 30 4	4Q 1Q 2Q 3Q 4Q
	1				
					Strategy Analysis
Over the next	6 to 8 weeks — <u>Buildir</u>	ng Selection & Nego	tiations		Critical Decision Period
Space Plan	Finalize (revise) Test	t Fits			Implementation
Building Analysis and	Determine Pricing	Determine Pricing			
Evaluation	Financial Analysis of	f Proposals			
and and a second	Finalize Counterproposals				
RFP Response	Negotiate Lease Document				
Decision Making	NWN Steering Committee Decision Making: Select Building				

Redacted Version

Develop and Negotiate Letter of Intent

4



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OPS EVALUATION PROJECT STEERING COMMITTEE PRESENTATION

NW NATURAL

January 3, 2017

Redacted Version

Steering Committee Meeting Agenda

Tuesday, January 3rd, 2017 – 1:00 pm

Meeting Agenda	
TOPIC	DESCRIPTION
Timeline	 Update on where we are in the process
Qualitative Matrix	 Discussion on qualitative ranking
Financial Summary	 Comparison of remaining alternatives
Seismic	 Update on site evaluations and impact on alternatives
Negotiation Structure	 Overview of process
Next Steps	 Upcoming Discussion for 1/18/17 Meeting



Next Steps	Date	Critical Decision Date
Develop and Implement Final Execution Strategy	December/January/February	
Steering Committee Meeting	1/18/17	
Send Abbreviated Counter Proposals	January	
NW Natural to Shortlist Options (2)		January
Distribute Lease to Shortlisted Options	January	

Decision Timeline

Strategy Formation		1/2017 (or sooner) EASE EXECUTION			5/31/2020 LEASE EXPIRATION
2015	2016	2017	2018	2019	2020
1Q 2Q 3Q 4Q 1	Q 2Q 3Q 4Q	1Q 2Q 3Q 4Q 1	a 20 30 40	10 20 30 4	Q 1Q 2Q 3Q 4Q
		Ļ			
Over the nex	t 6 to 8 weeks — Buil	ding Selection & Ne	gotiations		Strategy Analysis
Space Plan	Review Revised				Critical Decision Period
Building Analysis and	Confirming Pricing				Implementation
Evaluation	Financial/Negoti	ating Rate of Return of	f Proposals		
and	Finalize Abbrevia	ated Counterproposals			
RFP Response	Negotiate Lease	Document			
Decision Making	NWN Steering C	ommittee Decision Ma	king: Select Build	ing	
Developer Response	Develop and Ne	gotiate Letter of Intent			
		Redacted	d Version		

Qualitative Criteria Matrix



4

	One Pacific Square (OPS)	250 Taylor	Block 38	Oregon Square
Image/Rendering				
Seismic (Building)	-			
Safety		0	0	0
Public Transit (Bus)				•
MAX Access		•		•
Parking Ratio (In Building)				•
Parking Access	0	0	0	•
Parking Cost			0	•
Impact on Commute (Drive Time)		Õ	Õ	
Estimated Annual Rental Rate (+OpEx)	TBD	TBD	TBD	TBD
Amenities	0			
Proximity to Community Partners				
Developer Risk	TBD	RedactedVersion	TBD	TBD



	OPS	Oregon Square	Block 38	250 Taylor
Total Rentable Square Feet	179,200 SF	167,000 SF*	167,000 SF*	167,200 SF*
Total Pre-Tax Cost	\$88.9M	\$104.7M	\$101.3M	\$94.0M
Starting Rental Rate (Full Service, Office)	\$37.28/SF	\$54.92/SF	\$50.74/SF	\$48.00/SF
Year 1 Total Cost	\$6.8M (includes print center)	\$9.2M	\$8.5M	\$8.0M

Note: *Does not include Print Center in the total square feet

CUB/202





- 1. Structure the transaction so we have mitigated all risk, yet benefit from improvements in cost move to a capped rate with a rate of return
- 2. Identify all variables which can also adjust costs, beyond the rate:
 - Construction Costs
 - Cost of land
 - Developer fee
 - Load factor
 - Operating Expenses
 - Sustainability
 - Ability for NW Natural to influence construction
- 3. Receive as much information as possible from competitors to fully understand "rate"
- 4. Continue competition to negotiate optimal terms



- Send out abbreviated RFP to meet negotiation structure
- Shortlist to two sites:
 - Steering Committee Meeting January 18th
- Send lease out and continue negotiation
- PUC update meeting: January 30th on criteria and financials



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OPS EVALUATION PROJECT STEERING COMMITTEE: CURRENT FOCUS

NW NATURAL

January 18, 2017

Redacted Version

Decision Timeline

Strategy Formation		1/2017 (or sooner) EASE EXECUTION			5/31/2020 LEASE EXPIRATION
\sim					
2015	2016	2017	2018	2019	2020
1Q 2Q 3Q 4Q 1	Q 2Q 3Q 4Q	1Q 2Q 3Q 4Q	10 20 30 40	1Q 2Q 3Q 4	Q 1Q 2Q 3Q 4Q
Over the nex	t 6 to 8 weeks — <u>Buil</u>	ding Selection & N	legotiations		Strategy Analysis
Space Plan	Review Revised	Test Fits			Critical Decision Period
uilding Analysis and	Confirming Pricing				Implementation
Evaluation	Financial/Negoti	ating Rate of Return	of Proposals		
and the second second	Finalize Abbrevia	ated Counterproposa	ls		
RFP Response	Negotiate Lease	Document			
Decision Making	NWN Steering C	ommittee Decision N	/laking: Select Buildi	ng	
Developer Response	Develop and Neg	gotiate Letter of Inte	nt		
		Reda	cted Version		

OPS/MenIo Update



- Process Update
- Seismic Discussion
- Next Steps





Keep all four (4) remaining options on the table and narrow focus on the two (2) opportunities which could provide NW Natural a HQ that will

- Function after an event
- Accessible after an event
- Lower cost options
- Meet basic NW Natural criteria
- Minimal development risk

Current Focus

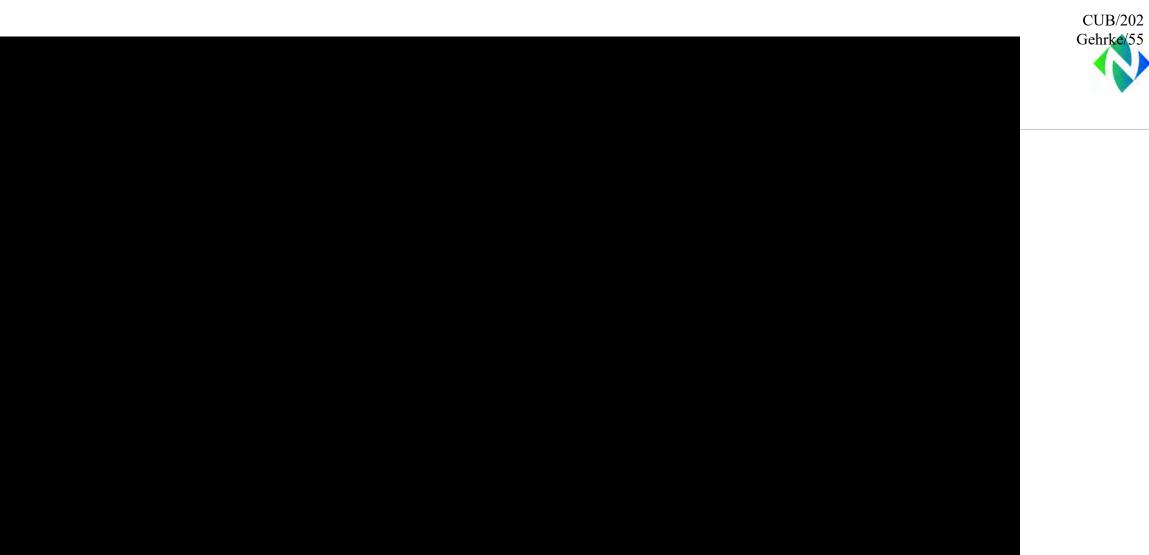


Oregon Square

- Lowest seismic hazard
 - Operational after an event
 - Accessible after an event
- Given land costs, potential to be a low cost alternative
- Minimal development risk
- Provides mission critical facility on Eastside of the river
- Highly ranked against NW Natural selection Criteria

250 Taylor

- Second lowest seismic hazard
 - Operational after an event
 - Moderate risk to accessibility issues after an event
- Currently lowest cost alternative
- Lowest development risk
- Single-building occupancy allows for security and operational control
- Highly ranked against NW Natural selection Criteria









Continue to Control Process

- Distribute lease to OR SQ & 250 Taylor
- Develop final counter
- Timing is critical
- Negotiate lease while maintaining leverage
- Execute lease



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NW Natural Headquarters Update

For OPUC

NW Natural

November 1, 2019



Redacted Version

AGENDA

- Background
- Seismic Overview
- Project Timeline
- Project Phases / Approach
- Selection Process
- Project Outcome
- Cost Overview
- 250 Taylor Photos



BACKGROUND

- NW Natural has been headquartered at OPS for over 30 years
- Current lease was extended in 2014 and expires in May of 2020
- 5 year extension allowed adequate time to complete alternatives analysis and evaluation and keep all options on the table
- Headquarters Steering Committee formed in late 2014 to develop a deliberate process, timeline, and oversee the appropriate due diligence needed to reach a decision about our future headquarters
- Evaluated options to maximize operational and cost efficiency -- i.e., to renegotiate an OPS lease, or relocate to another location with optimum leverage



Gehrke/:

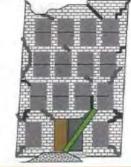


SEISMIC CATEGORIES OVERVIEW



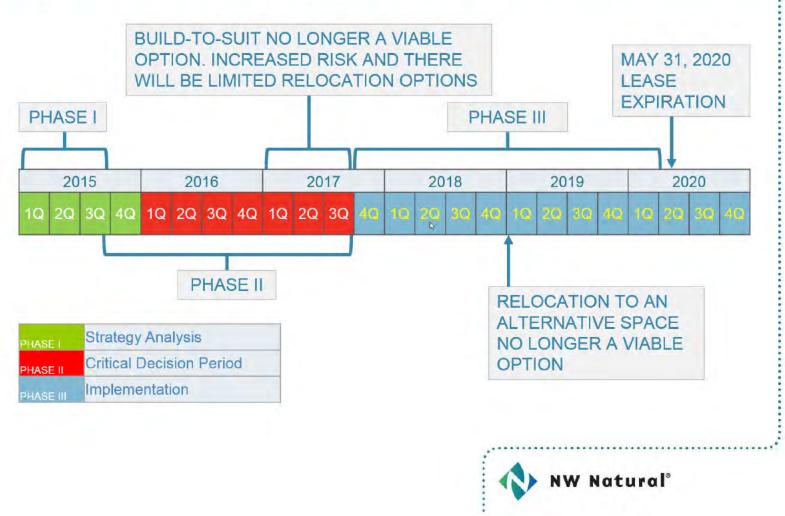






	Operational	Immediate Occupancy	Life Safety	Collapse Prevention
Damage?	Minor	Minor	Substantial	Extensive
Safe to Occupy?	Yes	Yes	No	No
Repairable?	Yes	Yes	Maybe	No
Functional?	Yes	M/E/P Systems likely down	No	No MAGE SOURCE: KPFF
BERA	Desire	d Facility		28 APRIL 2015
	(oper	ndent on rational nction		NW Natural [®]
		Reda	cted Version	

PHASED PROJECT - TIMELINE



Redacted Version

PHASED APPROACH

Phase 1 (2015)

- Engaged with outside experts to develop selection and analysis criteria specific to the Company's needs:
 - · Seismic resiliency, safety and security, and proximity to transit, parking, and amenities / services
- Gathered information to determine requirements in terms of space, functionality, and geographic locations
- Determined that Company could not remain at OPS without significant seismic upgrades
- Determined Company would need a central Portland location, and set out to identify its options for headquarters locations

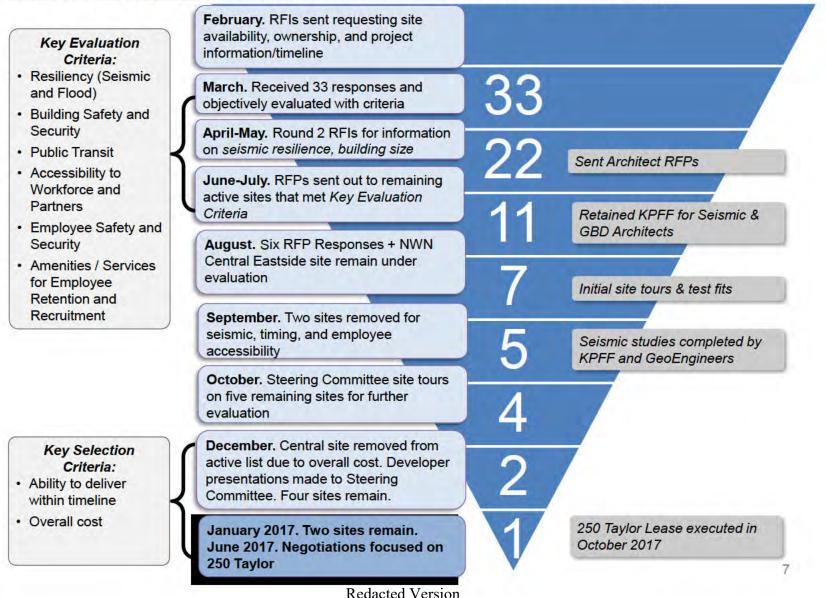
Phase 2 (2016 / 2017)

- Rigorously tested the market to identify the least-cost, least-risk option that best met the Company's needs.
- Surveyed area landlords, brokers and developers to determine what options were available to us (e.g., cast a "wide net"). RFI process
 resulted in 33 responses
- Narrowed 33 RFI responses to 11 RFP participants.
- Narrowed 11 RFP responses to four finalists.
- · Performed a more detailed seismic analysis of the four finalists as well as a comparative financial analysis.
- Negotiated with the developers for two finalists: 250 Taylor and Oregon Square.
- · Selected 250 Taylor as the least-cost and least-risk option.
- Executed the lease for 250 Taylor in October 2017

Phase 3 (2018 / 2019)

- Engaged with our outside experts to develop space plan and design, complete bid process and tenant improvements
- Assembled project team and plan to manage the project and prepare the company and employees for the physical move:
 - Design & furnishings, wellness & sustainability, technology, security, change management & communications, move plan
- Phase 3 is currently on time and budget and the company plans to move into the new building in Q1 of 2020

EVALUATION & SELECTION PROCESS OVERVIEW / PHASE II



250 TAYLOR SELECTED

- Least cost option 250 Taylor was the least cost of 4 finalists and also ranked 2nd highest in selection criteria
- Resiliency & building safety Built to operational seismic standard. No risk of soil liquefaction or lateral spread. Located out of 100 year flood plane. Limited (URM) unreinforced masonry buildings in area. Redundant electrical services. Optimizes emergency response capabilities and is consistent with the (ORP) Oregon Resiliency Plan.
- Public transit Provides easy access to all major forms of regional mass transit for employees.
- Accessibility to workforce & partners Location is close to business partners & beneficial to workforce commute times
- Employee safety & security Location, full control of building
- Amenities / services for employee retention & recruitment Located close to multiple retailers, restaurants and services



COST OVERVIEW

Category	<u>250 Taylor</u>	Portland Market Avg
TI Construction	\$151.44 - Sq. Ft. / \$27M*	\$164.00 – Sq. Ft. / \$29.2M*
Lease Cost	\$33.95 / Sq. Ft \$6.1M	\$35 - \$39 per Sq. Ft. / \$6.3M / \$7M**

Notes:

- 1. * Excludes utility specific scope & technology
- 2. ** Without enhanced seismic standard / older class A offices
- 3. Rental rates in CBD have been increasing 10-15% per annum over the last 5 years (Per Cushman & Wakefield)



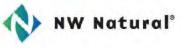
250 TAYLOR: EXTERIOR



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250 TAYLOR: SEISMIC REINFORCED

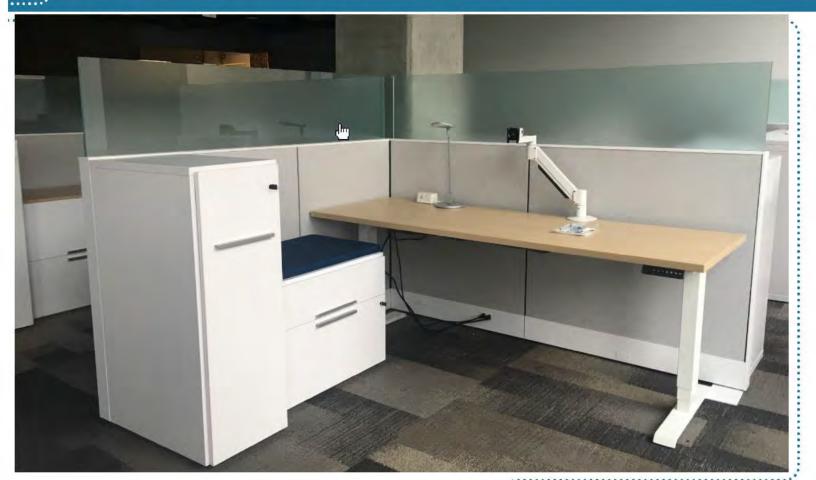




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CUB/203 Gehrke/12

250 TAYLOR: FURNISHINGS



NW Natural[®]

Redacted Version



Oregon Economic and

Revenue Forecast

March 2020

Volume XL, No. 1

Release Date: February 12, 2020

Katy Coba Chief Operating Officer DAS Director Kate Brown Governor Prepared By: Office of Economic Analysis Department of Administrative Services

Redacted Version

Department of Administrative Services Katy Coba DAS Director Chief

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http://oregon.gov/DAS/OEA http://oregoneconomicanalysis.com http://twitter.com/OR EconAnalysis

Foreword

This document contains the Oregon economic and revenue forecasts. The Oregon economic forecast is published to provide information to planners and policy makers in state agencies and private organizations for use in their decision making processes. The Oregon revenue forecast is published to open the revenue forecasting process to public review. It is the basis for much of the budgeting in state government.

The report is issued four times a year; in March, June, September, and December.

The economic model assumptions and results are reviewed by the Department of Administrative Services Economic Advisory Committee and by the Governor's Council of Economic Advisors. The Department of Administrative Services Economic Advisory Committee consists of 15 economists employed by state agencies, while the Governor's Council of Economic Advisors is a group of 12 economists from academia, finance, utilities, and industry.

Members of the Economic Advisory Committee and the Governor's Council of Economic Advisors provide a twoway flow of information. The Department of Administrative Services makes preliminary forecasts and receives feedback on the reasonableness of such forecasts and assumptions employed. After the discussion of the preliminary forecast, the Department of Administrative Services makes a final forecast using the suggestions and comments made by the two reviewing committees.

The results from the economic model are in turn used to provide a preliminary forecast for state tax revenues. The preliminary results are reviewed by the Council of Revenue Forecast Advisors. The Council of Revenue Forecast Advisors consists of 15 specialists with backgrounds in accounting, financial planning, and economics. Members bring specific specialties in tax issues and represent private practices, accounting firms, corporations, government (Oregon Department of Revenue and Legislative Revenue Office), and the Governor's Council of Economic Advisors. After discussion of the preliminary revenue forecast, the Department of Administrative Services makes the final revenue forecast using the suggestions and comments made by the reviewing committee.

Readers who have questions or wish to submit suggestions may contact the Office of Economic Analysis by telephone at 503-378-3405.

Laty Coba

Katy Coba DAS Director Chief Operating Officer

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EXECUTIVE SUMMARY

March 2020

U.S. economic growth has settled in around its potential in recent quarters. The outlook is stable and the risk of recession is receding. The trade war deescalated with the signing of the Phase One trade deal between China and the U.S. and financial markets calmed following the Federal Reserve's shift in policy.

Local and national strength lies in the labor market where ongoing job gains are more than enough to meet labor force and population gains. Encouragingly the more-plentiful, and better-paying job opportunities are generating a supply side response. Workers continue to come off the sidelines and join the labor force.

One risk to the U.S. and global outlook is the potential human, social, and economic impacts of the coronavirus. Economically the worst case scenario is fears over the virus are a coordinating event that serves as a recession catalyst. Other direct impact channels, however small here in the U.S., include supply chain disruptions, lower volumes of trade, reduced Chinese tourism, and increased financial market uncertainties.

Oregon's stronger long-run economic growth historically is tied to migration and faster working-age population gains. The primary risk to the local outlook is the available labor supply, particularly as recent population estimates indicate migration is slowing more than expected. To the extent Oregon's labor force and employment gains no longer outstrip the typical state in a mature expansion, the state must rely more upon its industrial structure and productivity gains to drive faster overall economic growth.

While growth has slowed across many economic indicators, the same cannot be said for Oregon's primary sources of tax revenue. They continue to outstrip the performance of the underlying economy. The primary forecasting challenge for the current biennium is to determine what portion of the recently strong tax collections is due to temporary factors that will fade away.

Even without the onset of recession, revenue growth is facing major headwinds during the current biennium. State and federal tax policies, a big kicker refund and slower economic growth will all weigh on General Fund revenues in the near term.

The longer the revenue boom persists, the more likely it becomes that permanent factors are playing a significant role in boosting tax collections. As such, revenue estimates for the current biennium have been steadily revised upward over the past two years.

Even so, given that job gains and population growth have both taken a step back, some moderation in state revenue growth is likely going forward. It is also likely that the unprecedented surge in collections that occurred during the last tax filing season was due in part to taxpayers shifting their payments response to federal tax law changes, and other temporary factors.

Together with state and federal tax law changes, the uncertain economic outlook is currently injecting a considerable amount of risk into the revenue forecast. Both April tax filing seasons are yet to come this biennium, leading to a wide range of possible outcomes. Despite this uncertainty, this forecast reflects a relatively stable outlook, with General Fund collections increasing by just over one percentage point.

Fortunately, Oregon is better positioned than ever before to weather a revenue downturn. Automatic deposits into the Rainy Day Fund and Education Stability Fund have added up over the decade-long economic expansion. Oregon is expected to end the biennium with nearly \$3 billion in reserves set aside, nearly 14% of the budget.

ECONOMIC OUTLOOK

U.S. Economy

The U.S. economy has settled in around its potential in recent quarters. Real GDP is growing at a two percent annual pace and expected to maintain similar gains through the middle of next year. Encouragingly, the two major risks to the outlook have improved in recent months. The signing of the Phase One trade deal in January between China and the U.S. signals that trade tensions are no longer escalating. The yield curve also un-inverted following the shift in Federal Reserve policy last year. Financial markets and economists are more optimistic about the near-term outlook and the probability of recession is declining. That said, the concerns over the novel coronavirus drove another inversion of the yield curve in recent weeks and forecasters are still assessing the potential, and mounting economic impacts.

But first, the underlying economy in the U.S. remains in good health. Business and consumer sentiment is high. Interest rates are low. Asset prices are growing and household debt burdens remain tame. The manufacturing sector is finding its footing, even as it remains weak. Overall, the strong labor market is driving economics gains today and in the next few years. Households will continue to spend so long as they are confident in their prospects. With layoffs near all-time lows, consumer confidence remains highs.

Jobs are increasing quicker than is needed to keep pace with labor force and population gains. The unemployment rate continues to reach new historic lows as a result. That said, the pace of hiring both national and locally is slowing as the economy begins to run into supply side constraints, labor chief among them. Encouragingly, the strong economy is creating a labor force supply side response. The share of working-age Americans with a job or looking for one continues to increase. More workers are being pulled in off the sidelines given job opportunities are more plentiful and wages are rising. The economy has yet to truly reach full employment, but continues to make progress.



Now, this does not mean the economy is perfect. There are always issues and risks to both the upside and downside. Today those may include potential equity market corrections, subprime auto loan delinquencies, and depending upon the outcome of the 2020 presidential election, large federal policy changes. Even so, the largest current risk to the outlook may be the novel coronavirus, for both its direct economic impact and the potential to be a coordinating event that could serve as a recession catalyst.

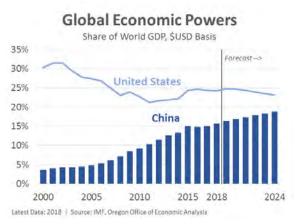
Forecasters and health experts alike are still assessing the situation. It is important to remember in times of war, famine and disease that the largest impacts are human and social. That said, there are also economic damages as a result. The starting point for many analyses of the coronavirus is the Brookings Institution's research on the 2003 impact of SARS. Brookings found that SARS subtracted one percentage point off Chinese GDP and had minimal impacts across the global economy, including less than 0.1 percent of real U.S. GDP at the time.

Clearly this is not a perfect comparison to today, but it does provide a starting point to help think through the potential impacts. The most concerning would be that a severe pandemic serves as a coordinating event and recession catalyst. Fears over the human and economic impact could potentially reach critical mass where consumers pull back and delay spending money and employers put off investment and hiring decisions. Provided

the recession catalyst scenario is avoided, the more direct impacts on the economy generally fall into three categories: reduced global trade, a drop in international tourism, and financial market uncertainties.

How the Chinese shutdown and quarantine affects integrated global supply chains is where the greatest economic impact is likely to be felt. A key difference today relative to the SARS outbreak in 2003 is China's role in the global economy. Today, China is the second largest economy and accounts for 16 percent of world GDP. This indicates that the effects of the coronavirus on China's economy will be more widely felt today.

In the U.S. about 20 percent of all intermediate goods used in manufacturing are imported from abroad. To the extent that plant shutdowns in China means suppliers cannot provide



parts to factories around the globe then slows down the whole supply chain. Stockpiles and shortages emerge depending upon exactly where in the chain a given firm is located. These issues, combined with lower Chinese demand for goods and services, would result in lower levels of global trade overall.

China remains Oregon's number one foreign market for exports, accounting for 20-30 percent of state totals. In recent years, Oregon exports to China have largely avoided the brunt of the trade war, however it is unlikely they will be spared any prolonged effects of a Chinese shutdown. The same goes for Oregon-based firms with operations or clients in China as well.

Additional impacts of the coronavirus may show up in international tourism to the U.S. being reduced. Based upon the trends seen during the SARS outbreak, national travel forecasters currently expect a 25 percent drop in Chinese tourism to the U.S. in 2020. According to Travel Oregon reports, in around 70,000 Chinese tourists visited the state. In 2018, Chinese tourists in Oregon spent approximately \$261 million, which is 2 percent of total tourism spending statewide. A 25-50 percent decline in tourism from China this year would mean a 0.5-1.0 percentage point hit to the Oregon tourism industry, everything else being equal.

The third main channel in which the coronavirus could impact the economy is through financial markets and heightened risks. This could mean a stronger U.S. dollar, wider credit risk spreads, or a drop in equity markets themselves. All of these impacts, should they come to pass, work to slow current economic growth via fewer exports, less borrowing and lending activity, and lower levels of consumer spending and business investment.

All told, both IHS Markit and Moody's Analytics currently forecasts global GDP to be reduced by 0.3 or 0.4 percentage points in 2020. These impacts are larger early this year, but fade over time as factories get back up and running and employees return to their offices in the weeks and months ahead. The two forecasting firms differ just a little in how much the coronavirus will impact the U.S. directly. Moody's estimates full year 2020 GDP will be 0.15 percentage points lower, while IHS' impact is less than 0.1 percentage point. Of course, the longer the shutdowns last, the larger the impacts will be. To the extent the health situation worsens – the virus could prove more contagious and/or deadly – then the economic impacts will likewise increase as well.

<u>Bottom Line</u>: The U.S. economy is growing at its potential. Productivity gains have firmed over the past year and inflation remains below the Federal Reserve's target. The bright spot remains the labor market and consumer spending. The developing coronavirus situation represents a risk to the outlook but to date appears unlikely to derail the longest economic expansion on record.

Oregon Economy

Oregon continues to see healthy rates of growth when it comes to employment, income, and GDP. However the state is no longer significantly outpacing the nation like it was a few years ago. The economic slowdown to date has largely matched expectations. The outlook remains stable in the nearterm and slightly stronger in the long-term.

Like the nation overall, Oregon is transitioning down to more sustainable rates of growth. Job gains are roughly in-line with what underlying demographics suggest the state needs to hold the unemployment rate steady. Eventually the cyclical drivers



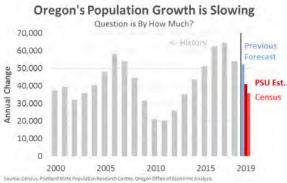
of growth will slow further and gains will be driven by productivity and the number of workers.

Historically Oregon's industrial structure, productivity, and ability to attract and retain young, working-age households has driven faster growth than the nation overall. Today Oregon continues to outpace the typical state in terms of GDP and income, but not employment. This is one indication that the mix of those long-run drivers of growth may change in a mature expansion, or at least in this mature expansion. We do not know what the eleventh year of an expansion looks like, much less the twelfth or thirteenth year, because the U.S. economy has never been here before.

The labor market is tight for both cyclical and structural reasons. Cyclically there is no longer a reserve army of unemployed Oregonians waiting around for a job. It is harder to find workers in large part because most everyone who wants a job has a job. Structurally, demographics are slowing labor force gains as the inflows of new entrants is being offset to a larger degree by retiring Baby Boomers leaving the workforce. Recent data continues to point toward the slower growing labor supply being the key factor behind the slowdown in Oregon job growth. See our previous forecast¹ for a more in-depth discussion on the slowdown and underlying factors.

Net in-migration is the key driver of labor force gains and the primary reason the Oregon forecast is stronger than the U.S. overall. People follow the jobs. As employment gains slow, so too do migration flows. Today it is challenging to get a handle on population growth as differences have emerged in recent years between varying data sources.

First, the number of surrendered driver licenses at the Oregon DMV – one of the best leading indicators for migration – have slowed just a bit over the past couple of years. However, population estimates from Portland State's Population Research Center – the official arbiter of state population in non-decennial census years – show a more pronounced slowdown in migration. Finally the annual state estimates from the Census Bureau itself indicate an even sharper drop-off in migration to Oregon.



The gap between the 2019 population estimates and our office's previous forecast translates into 6,000 – 9,000 fewer Oregonians in the labor force today. This is not

¹ https://digital.osl.state.or.us/islandora/object/osl%3A939177

immaterial to both the current state of the labor market and also its implication for future growth if noticeably slower migration is here to stay.

The official 2020 Census population estimates will be available at the end of the year, with full details of the population coming in 2021. At that time our office's demographic and population forecast will undergo the major refresh it does every ten years with new decennial census data. Not only will the 2020 Census anchor the population estimates, but it will provide updated birth and death rate information to integrate in the outlook.

For now, our office's forecast incorporates the latest Portland State population estimate and carries the lower migration rates into the future. The result is a lower population forecast, but one that has yet to be fully worked through the entire economic and revenue outlook. In the coming quarters and in consultation with our advisors, the adjusted population outlook and its implications for future growth will be discussed in more depth. Major changes are unlikely until after the 2020 Census data is released.

<u>Bottom Line</u>: Oregon's economy continues to grow and see healthy gains in GDP, income, and employment. Importantly initial claims for unemployment insurance, a good measure of layoffs, remains at or near historic lows. The slowdown in job growth appears to be primarily driven by slower increases in the labor force. That said, Oregon's stronger long-run growth is largely built upon faster population gains due to migration. To the extent that migration flows continue to come in below forecast, the overall economic outlook will need to be revised accordingly. The good news is Oregon's advantages in industrial structure and productivity gains continue to outpace the nation overall, driving stronger GDP and income gains locally.

Productivity is Key to Long-Run Economic Growth in Oregon

Over the long-run there are two primary sources of growth: labor and capital. Future economic growth is really about how many workers there are and how productive each worker is. Historically, Oregon's comparative advance has been the ability to attract and retain working-age households. Doing so will remain vital to the state's economic growth, as discussed in more detail in the May 2019 forecast². The other key driver is state productivity.

Last summer, the Bureau of Labor Statistics published some experimental state productivity statistics³. No surprise, but Oregon ranks well. From 2007 to 2017, Oregon's labor productivity increased the second fastest among all state. At the same time, the state's unit labor costs increased the third slowest. As such the regional economy was able to produce a whole lot more goods and services with no price pressures forming. The flipside of this analysis is Oregon's inflation-adjusted hourly compensation increased right in-line with most states, ranking 25th best.

In the big picture there are different types of capital that can raise worker productivity and propel long-run economic growth.

Financial capital is essential for firms to grow and expand. Overall Oregon does just OK on financial capital. Oregon is not a financial center nor does the state have a deep bench of venture capital or the like. The state largely relies upon investments and loans made by out-of-state financial institutions. Encouragingly, the latest Oregon Capital Scan⁴ report shows the state is seeing some improvements.

² <u>https://digital.osl.state.or.us/islandora/object/osl%3A754124</u>

³ <u>https://www.bls.gov/opub/mlr/2019/article/bls-publishes-experimental-state-level-labor-productivity-measures.htm</u>

⁴ <u>https://oregoncf.org/Templates/media/files/reports/oregon-capital-scan-2018.pdf</u>

Natural capital is largely about putting natural resources to use. Workers start with raw products and turn them into intermediate or finished goods. Between the diverse landscape of agricultural products plus the fisheries and forests, Oregon has an abundance of natural capital. The questions are how best should the state use them and to what degree should the state use them.

Physical capital historically is about plants and equipment and allowing workers to make more widgets per hour worked. However, it is increasingly about office space and software and worker productivity in the knowledge economy. There remains very little good data at the state or local level on physical capital. Items collected through assessor offices can shed some light in terms of how much physical space there is and approximate valuations for tax purposes.

The final forms of capital are human and social; while similar, there are important differences. Social capital is more about community networks and involvement. These are key for economic mobility as well. Human capital, on the other hand, is largely about the skills of the workforce.

Educational attainment and college degrees are not the be-all and end-all for measuring a productive workforce. Soft skills are just as important as technical skills in this regard. Plus on-the-job training and apprenticeship programs provide experience and technical skills but delivered through a different format than in a college classroom. That said, in an economy that continues to transition further away from goods-producing industries and into the knowledge economy, things like educational attainment and college degrees become more important.

Overall, Oregon's workforce has solid educational attainment and compares similarly to the nation as a whole. Oregonians are somewhat more likely to have complete high school, attended college, and obtain a college degree. Increases in educational attainment match national trends, however these gains are not evenly spread across the state. Some metro areas are seeing substantial gains while others hardly any. *See the Regional Comparisons section of this forecast (pg 19) for more on educational attainment across the state.*

Looking forward, all of the different types of capital can help drive future economic growth. If a regional economy lacks in one type of capital, it is not a deathblow to growth. Rather it signals the area must rely on the other types or avenues for growth. But one type of capital is not inherently better than the others.

Oregon's Labor Market

The Office of Economic Analysis examines four main sources for jobs data: the monthly payroll employment survey, the monthly household survey, monthly withholding tax receipts and the quarterly census of employment and wages. Right now all four measures of the labor market are improving. Jobs are being added, albeit at a slower rate. Wages are rising, both in aggregate and for each worker. The unemployment rate is currently at its historical low, with records going back to 1976. While good news, it is an open question whether the labor market truly is at full employment, or even beyond. Other measures of labor market slack, like the share of prime working-



Jan-90 Jan-95 Jan-00 Jan-05 Jan-10 Jan-15 Jan-20 Latest: Dec '19 | Source: Oregon Employment Dept, Oregon Office of Economic Analysis

age Oregonians with a job indicates the economy is strong, but there is some room for further improvement.

Importantly, wages in Oregon remain strong, although different measures of wages have diverged a bit in recent years. The good news is that after three plus years of revisions, the wages as reported by the BEA and from the payroll records (QCEW) are once again telling the same story.

That said, withholding out of Oregonian paychecks continue to outstrip these other measures of economic wages. This gap is larger than it has been historically. It is also seen across nearly all industries and not confined to a particular sector or two. Our office and the Department of Revenue continue to research the topic. One item impacting these trends is the increase in withholding out of retirement accounts (pensions and IRA distributions). Given the increase in retirements and stock market returns, such withholdings are an increasing share of all withholding in the state, but are not directly tied to the labor market. Even so, wage growth for Oregon workers remains



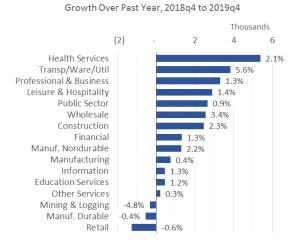
strong. Oregon's average wage, while lower than the nation's, is at its highest relative point since the mills closed in the 1980s.

Overall, getting a handle of the health of Oregon's labor market is being somewhat complicated by technical issues within the underlying payroll jobs data. For this reason the employment data in our office's forecast is

adjusted for two important technical purposes: seasonality at the detailed industry level and the upcoming benchmark revisions⁵. Specifically, our office uses the benchmarked, or revised employment data through 2018q3 and imputes the 2018q4 through 2019q4 employment data based upon the available preliminary Oregon estimates, national data, and our office's economic forecast model. As such, for this quarterly forecast, the first pure forecast period is 2020q1. The next official benchmark for Oregon employment will be released in early March and will be fully incorporated into the next quarterly forecast.

In the fourth quarter, total nonfarm employment increased 1.3 percent over the past year. Growth was led by the private





⁵ Each year the U.S. Bureau of Labor Statistics revise the employment data – a process known as benchmarking. The current establishment survey (CES), also known as the monthly payroll survey, is benchmarked against the quarterly census of employment and wages (QCEW), a series that contains all employees covered by unemployment insurance. The monthly CES is based on a sample of firms, whereas the QCEW contains approximately 96 percent of all employees, or nearly a complete count of employment in Oregon. The greatest benefit of the CES is the timeliness – monthly employment estimates are available with only a one month lag – and these estimates are reasonably accurate. However the further removed from the latest benchmark, the larger the errors. The QCEW is less timely as the data is released approximately 3-4 months following the end of the quarter. The greatest benefit of the QCEW is that is a near 100 percent count of statewide employment. For these reasons, the CES is usually used to discuss recent monthly employment trends, however once a year the data is revised to match the historical QCEW employment trends. The last month of official benchmark data is September 2018. The QCEW is currently available through September 2019, thus the preliminary benchmark used here covers the October 2018 – September 2019 period.

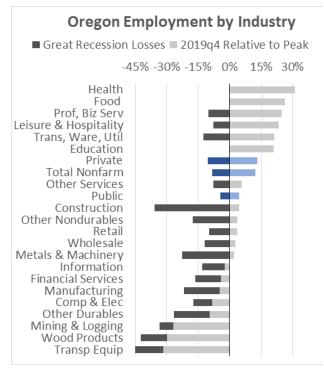
sector at 1.3 percent, while the public sector increased 0.9 percent. These rates of growth are a clear step down from the full-throttle rates seen a few years ago, however still remain fast enough to keep pace with population gains so far.

The nearby graph illustrates the number of job gains by major industry by the length of the bar. The percentage increase these changes represent is noted as well.

So far in recovery, the large service sector industries have generally led job growth in terms of the number of jobs added and with above-average growth rates. These include jobs in professional and business services, health services, and leisure and hospitality industries. These three industries have gained nearly 12,000 jobs in the past year and account for 47 percent of all job gains across the state. Now, given these industries account for 38 percent of all Oregon jobs, today they are increasing at a similar rate as the rest of the economy. Growth in the past year is being led to a larger degree by wholesale, construction, and transportation, warehousing, and utilities.

In terms of illustrating how each industry has fared over the Great Recession and so far in recovery, the second graph shows both the depths of recessionary losses⁶ and where each industry stands today relative to pre-recession peak levels.

Currently, thirteen major industries are at all-time highs. Private sector food manufacturing, education, and health never really suffered recessionary losses – although their growth did slow during the recession. Professional and business services and leisure and hospitality have each regained all of their losses and are leading growth today. Over the past couple of years retail emploment, other services, transportation, warehousing and utilities, and construction, in addition to the public sector have surpassed their pre-recession levels and are at all-time highs. Additionally, wholesale trade and metals and machinery manufacturing have fully regained their recessionary losses. Most recently non-durable manufacturing excluding food is all the way back back; this growth is led by beverages (breweries), chemicals, and plastics and rubber. In total, the twelve private sector industries at all-time highs account for 71 percent of all statewide jobs. The public sector accounts for an additional 16 percent of all jobs.



With the Great Recession being characterized by a housing bubble, it is no surprise to see wood products, construction, mining and logging and financial services (losses are mostly real estate agents) among the hardest hit industries. These housing and related sectors are now recovering, although they still have much ground to make up. Transportation equipment manufacturing suffered the worst job cuts and is likely a structural decline

⁶ Each industry's pre-recession peak was allowed to vary as, for example, construction and housing-related industries began losing jobs earlier than other industries or the recession's official start date per NBER.

due to the RV industry's collapse⁷. With that being said, the subsectors tied to aerospace are doing better and the ship and boat building subsector is growing again. Metals and machinery manufacturing, along with mining and logging, have shown the largest improvements since the depths of the recession.

Coming off such a deep recession, goods-producing industries exhibited stronger growth than in past cycles. While all manufacturing subsectors have seen some growth, they are unlikely to fully regain all of their lost jobs. The near-term outlook for goods-producing industry is modest at best. While trade tensions appear to be subsiding, the strong U.S. dollar and relatively weak global economy point toward a flat outlook for manufacturing. That said, Oregon manufacturers typically outperform those in other states, in large part due to the local industry make-up. Oregon does not rely upon old auto makers or textile mills. The state's manufacturing industry is comprised of newer technologies like aerospace and semiconductors. Similarly Oregon's food processing industry continues to boom⁸ even with layoffs and a closure recently.

All told, each of Oregon's major industries has experienced some growth in recovery, albeit uneven. As the economy continues to recover there will be net winners and net losers when it comes to jobs, income and sales. Business cycles have a way of restructuring the economy.

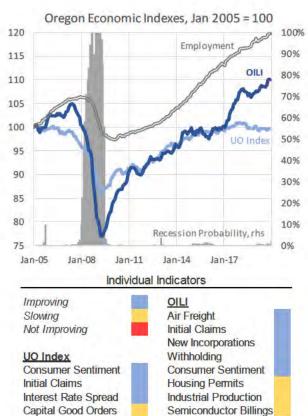
For additional information on the most recent quarter's employment forecast errors, please refer to Table A.1 in Appendix A.

Leading Indicators

Over the past year the two Oregon-specific composite leading indicators are providing different signals. Our office's Oregon Index of Leading Indicators (OILI) continues to signal ongoing growth in the coming months. The University of Oregon Index of Economic Indicators has largely moved sideways.

Upon closer examination, the number of individual indicators improving, slowing or contracting is pretty similar across the two series. The topline divergence is a result of the relative weights each index places upon each individual indicator. Given this and the fact these indexes are used as a green light-red light measure of future economic growth, neither of the two series are signaling recession or any real concerns for the time being.

As has been the case for more than a year, the manufacturing-related indicators weigh on both series. These include manufacturing hours worked, the purchasing managers' index for manufacturing, and the strong U.S. dollar, all of which point toward continued manufacturing weakness. Other goods-producing



Help Wanted Ads

Manufacturing PMI

Oregon Dollar Index

Employment Services

Weight Distance Tax

Manufacturing Hrs

Housing Permits

⁷ http://oregoneconomicanalysis.com/2012/07/10/rv-workers-and-reemployment/

⁸ https://oregoneconomicanalysis.com/2018/06/27/oregons-food-economy/

indicators like industrial production and capital good orders are relatively weak but not currently signaling contraction.

Outside of these goods-related indicators, the rest remain solid to good. In general, economic forecasters see a somewhat heightened risk of recession in 2020, but these concerns are fading relative to six months ago. For now, baseline forecasts remain intact.

University of Oregon professor Jeremy Piger has created a real time probability of recession⁹ model, and finds there is a 2.1 percent chance the U.S. has entered into a recession. However, another recession will come, of that we can be sure. IHS Markit puts the probability of recession in the next year at 25 percent, while the Wall Street Journal Economic Forecasting Survey puts it at 24 percent.

Hopefully Oregon's leading indicators will give a signal in advance of the next recession, which neither is doing today. While past experience is no guarantee of future performance, Oregon's leading indicator series do have a good track record in their relatively brief history. Both series flattened out in 2006 and began their decline in advance of the Great Recession. Similarly both Oregon series reached their nadir in March 2009, a few months before the technical end of the recession (June 2009 per NBER) and about 9 months in advance of job growth returning to Oregon.

Short-term Outlook

While Oregon's economic expansion continues, growth has slowed and stabilized. A few years ago, the state has enjoyed robust, full-throttle rates of job gains in the 3-3.5 percent range, or nearly 5,000 jobs per month. No longer is this the case. Oregon is expected to continue to see healthy job gains – a bit more than 2,000 per month or about 2 percent – through mid-2021, but the state is past its peak growth rates for this expansion. Crucially, such gains remain strong enough to hold unemployment down and account for ongoing population growth. The economy should remain strong.

Economic Forecast Summary													
	Quarterly							Annual					
		2019:4	2020:1	2020:2	2020:3	2020:4	2019	2020	2021	2022	2023		
Personal Income, Nominal	U.S.	3.7	4.0	3.6	4.1	4.2	4.6	3.9	4.4	4.5	4.3		
% change	Oregon	5.3	4.4	4.6	4.8	4.8	5.0	4.6	4.9	4.9	4.8		
Wages and Salaries, Nominal	U.S.	4.7	4.4	4.9	4.2	4.5	4.9	4.3	4.6	4.7	4.4		
% change	Oregon	7.3	6.0	6.3	5.2	5.3	5.0	5.6	5.4	5.3	5.0		
Population	U.S.	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7		
% change	Oregon	1.0	0.9	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9		
Housing Starts	U.S.	1.34	1.34	1.31	1.30	1.29	1.27	1.31	1.29	1.28	1.27		
U.S. millions, Oregon thousands	Oregon	21.1	22.1	22.4	22.6	22.8	20.7	22.4	23.3	23.6	23.4		
Unemployment Rate	U.S.	3.5	3.5	3.4	3.5	3.5	3.7	3.5	3.5	3.8	4.2		
	Oregon	3.9	3.9	3.8	3.8	3.8	4.1	3.8	3.9	4.0	4.2		
Total Nonfarm Employment	U.S.	1.6	1.3	1.6	0.4	0.7	1.6	1.2	0.8	0.5	0.1		
% change	Oregon	1.5	1.9	2.2	1.3	1.3	1.5	1.6	1.4	1.0	0.8		
Private Sector Employment	U.S.	1.7	1.3	0.8	1.1	0.9	1.8	1.3	0.8	0.4	(0.1)		
% change	Oregon	2.0	1.9	1.6	1.9	1.5	1.6	1.7	1.4	1.1	0.8		

After these near-term job gains, supply side constraints and longer-run demographic trends weigh on growth to a larger degree. These supply side constraints include a tighter labor market, infrastructure, energy costs, capacity utilization and the like. The large wave of retiring Baby Boomers will weigh on job growth rates for the

⁹ http://pages.uoregon.edu/jpiger/us recession probs.htm/

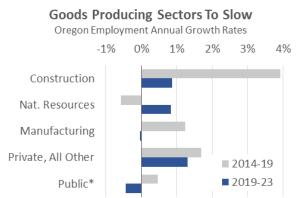
coming decade. There will be enough jobs overall, as the generational churn is hidden underneath the labor market's surface.

The general characteristics of the current forecast remain the same as in recent quarters although employment is revised up and personal income is revised down slightly in keeping with revisions and tracking this year. One key factor impacting income growth is a lower inflation forecast. Real, or inflation-adjusted incomes are higher in the outlook, however nominal income is what matters for Oregonians and tax collections.

Private sector growth, measured by the number of jobs created, will be dominated by the large, service sector industries like professional and business services, leisure and hospitality, and health. All other industries are expected to add jobs, albeit at somewhat slower rates than the economy overall.

In particular, goods-producing industries are expected to slow considerably relative to their strong gains in recent years. Natural Resources (mining and logging), along with wood products manufacturing are expected to hold steady in the years ahead.

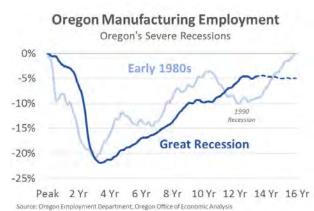
Construction employment will continue to grow, but the pace of those gains will come back down to earth following exceptionally strong gains since 2013. Construction's slowdown is in part that growth must cool off, but also that jobs appear to have outpaced increases in new home construction. One side effect of this pattern is that



^{*}Corrected for 2010& 2020 Census workers and home health worker reclassification Source: Oregon Employment Dept, Oregon Office of Economic Analysis

productivity within the construction industry is declining. More workers producing fewer units of new housing or remodel activity means industrywide productivity is lower today than a decade or two ago. This is evident in the national data as well and is something researchers continue to dig into. No consensus has been reached as of yet.

Manufacturing employment overall is not expected to see any growth in the coming years. This topline result masks some differences in individual subsectors. In particular growth among the state's food and beverage manufacturers, predominantly breweries and wineries, offsets weakness elsewhere. That said, any further global weakening or strengthening of the dollar will weigh further on the outlook. Oregon as a whole is not expected to fully regain all of its Great Recession related manufacturing job losses. That said, both the Portland and Medford metro

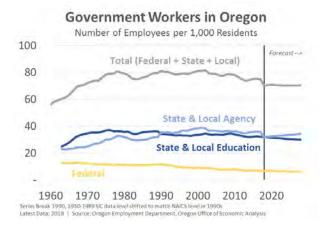


regions have fully regained their losses. Nationwide about 1 out of 5 metros have done so as well.

Public sector employment at the local, county and state level for both education and non-education workers is growing in Oregon, as state and local revenues continue to improve along with the economy. Over the forecast horizon, government employment is expected to grow roughly in line with population growth and the increased demand for public services, albeit just a hair faster than population growth alone. One public sector risk to the

outlook is PERS. The extent to which government hiring by local and state entities is impacted in the coming years as contributions increase is unknown.

Along with an improving labor market, strong personal income gains are here, although tax law changes have pushed around growth rates in the recent past (see the expiring Bush tax cuts and the fiscal cliff) and may do so again moving forward. Recent revisions have also lowered Oregon's personal income below previous forecast estimates. Personal income is now forecasted to grow 4.6 percent in 2020, while picking up to 4.9 percent in both



2021 and 2020, then slow a hair to 4.8 percent in 2023. These growth rates slightly stronger than last quarter but given the revisions and lower inflation outlook, total nominal personal income in Oregon has been lowered 0.1-0.2 percentage points.

As the economy continues to improve, household formation is increasing too, which will help drive up demand for new houses. Household formation was suppressed earlier in the recovery, however the improving economy and increase in migration have returned in full force. Even as more young Oregonians are living at home, as the Millennials continue to age into their late-20s through their mid-30s, demand for housing will increase as well. In fact, given the underlying demographics, household formation should slightly outpace overall population growth in the coming years.

Housing starts in 2019 totaled just under 21,000, which is about the level of Oregon's long-run average, at least prior to the housing bubble. The outlook calls for a few more gains as housing production increases to meet demand. Starts will increase to 22,400 in 2020, 23,300 in 2021 and 23,600 in 2022. Over the extended horizon, starts are expected to average around 23,000 per year to meet demand for a larger population and also, partially, to catch-up for the underbuilding that has occurred in recent years.

A more complete summary of the Oregon economic outlook and forecast changes relative to the previous outlook are available as Table A.2 and A.3 in Appendix A.

Forecast Risks

The economic and revenue outlook is never certain. Our office will continue to monitor and recognize the potential impacts of risk factors on the Oregon economy. Although far from comprehensive, we have identified several major risks now facing the Oregon economy in the list below:

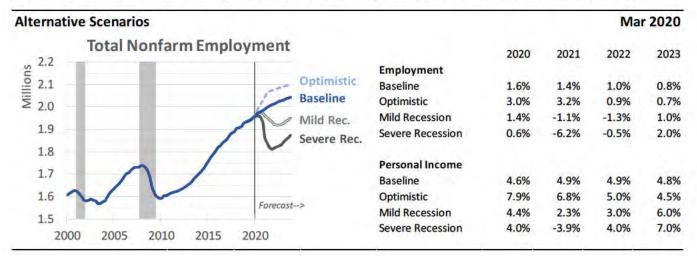
• U.S. Economy. While Oregon is more volatile than the nation overall, the state has never missed a U.S. recession or a U.S. expansion. In fact, Oregon's business cycle is perfectly aligned with the nation's, at least when measuring peak and trough dates for total nonfarm employment. If anything, Oregon actually leads the U.S. by a month or two. The fact that there are more worrisome trends or risks at the U.S. level means there should be concerns about the Oregon outlook. Should the U.S. fall into recession, Oregon will too. That said, should the U.S. economy accelerate, Oregon's economy should receive a similar boost as well.

- Housing affordability. Even as the housing market recovers, new supply has not kept up with demand (both from new households and investor activity). This applies to both the rental and ownership sides of the market. As such, prices have risen considerably and housing (in)affordability is becoming a larger risk to the outlook. Expectations are that new construction will pick up a bit in the next year or three, to match the increase in demand, which will alleviate some price pressures. However to the extent that supply does not match demand, home prices and rents increasing significantly faster than income or wages for the typical household is a major concern. While not included in the baseline outlook, significantly worse housing affordability may dampen future growth as fewer people can afford to move here, lowering net in-migration and the size of the labor force.
- Global Spillovers Both Up and Down. The international list of risks seems to change by the day: a
 pandemic in China, a hard Brexit, sovereign debt problems in Europe, equity and property bubbles in
 places like Canada, South America and Asia, political unrest in Hong Kong, the Middle East and
 Venezuela, nuclear arsenal concerns with North Korea, and commodity price spikes and inflationary
 pressures in emerging markets. In particular, with China now a top destination for Oregon exports, the
 state of the Chinese economy and its real estate market, or public debt burden has spillover effects
 to the Oregon economy. Any economic slowing, or deteriorating relations in or with Asia is a potential
 threat to the Pacific Northwest.
- Federal fiscal policy. The uncertainty regarding federal fiscal policy remains a risk. Some policies are likely to impact Oregon more than the typical state, while others maybe not as much. The good news for Oregon is that outside of outright land ownership, the federal government has a relatively small physical presence in the state. This means that direct spending reductions are less likely to hurt Oregon. Of course, it also limits the local benefit from any potential increases in federal spending, as was recently passed by Congress. In terms of federal grants as a share of state revenue, Oregon ranks 29th highest. For federal procurement as a share of the economy, Oregon ranks 48th highest. Oregon ranks below average in terms of military-dependent industries as well. The one area that Oregon ranks above average is in terms of direct federal employment, ranking 19th highest among all states. Oregon also is exposed to an above-average share of federal transfer payments to households. Transportation funding is also a major local concern. Overall, the direct impact may be less than in other states but the impact will be felt nevertheless, particularly as our closest neighboring states have large federal and military workforces.
- Climate and Natural Disasters. Weather forecasting is even more difficult than economic forecasting a year or two into the future. While the severity, duration and timing of catastrophic events like earthquakes, wildfires and droughts are difficult to predict, we do know they impact regional economies. Fires damage forests and tourism. Droughts in particular impact our agricultural sector and rural economies to a larger degree. Whenever Cascadia, the big earthquake, hits, we know our regional economy and its infrastructure will be crippled and in need of immediate repairs. Some economic modeling suggests that Cascadia's impact on Oregon will be similar to Hurricane Katrina's on New Orleans. Longer-term issues like the potential impact of climate change on domestic migration patterns are likewise hard to predict and outside our office's forecast horizon. There is a reasonable expectation that migration flows will continue to be strong as the rest of the country becomes less habitable over time.

- Commodity price inflation. Always worrisome is the possibility of higher oil (and gasoline) prices. While consumer spending has held up pretty consistently in this recovery, anytime there is a surge in gas prices, it eats away at consumers' disposable income, leaving less income to spend on all other, non-energy related goods and services. This impact is certainly more muted today¹⁰, but a risk nonetheless.
- Federal timber policy and transfers impact regional economies and local governments. Reductions in public employment and services are being felt in the impacted counties in recent years and decades. For more information from a historical perspective, see two recent blog posts, here and here¹¹.
- Initiatives, referendums, and referrals. Generally, the ballot box and legislative changes bring a number of unknowns that could have sweeping impacts on the Oregon economy and revenue picture.

Alternative Scenarios

The baseline forecast is our outlook of the most likely path for the Oregon economy. As with any forecast, however, many other scenarios are possible. In conjunction with the Legislative Revenue Office, this forecast provides three alternative scenarios, which are modeled on growth patterns over previous business cycles.



Optimistic Scenario:

The expansion is able to gather steam as the trade tensions and manufacturing weakness fade and recede into the rearview mirror of history. The U.S. economy builds momentum throughout 2020. The economy is once again firing on all cylinders, resulting in faster productivity growth which raises the speed limit of overall gains. Wages and incomes increase likewise increase at a faster rate. All of this results in stronger consumer spending and more business investment.

In Oregon, job gains are broad based with strong growth in all private sector industries. The unemployment rate remains lower than under the baseline scenario as individuals are able to find employment more readily and income growth accelerates. The labor force participation gap closes and even turns positive as more Oregonians enter the labor market. The increase in employment and income support a self-sustaining economic expansion in which new income fuels increased consumer spending (and debt reduction) which begets further increases in

¹⁰ https://oregoneconomicanalysis.com/2018/11/08/oregons-energy-intensity-and-household-spending/

¹¹ http://oregoneconomicanalysis.wordpress.com/2012/01/23/historical-look-at-oregons-wood-product-industry http://oregoneconomicanalysis.wordpress.com/2013/05/28/timber-counties/

employment. Such an expansion increases housing demand as newly employed households (and increasing income for existing households) find their own homes after doubling-up with family and friends during the recession. This results in new construction returns to normal levels about a year earlier than the baseline.

Mild Recession Scenario:

The slowdown in domestic economic growth continues, global GDP weakens further in part due to trade tensions and fears of a coronavirus pandemic. Financial markets get spooked and the yield curve inversion deepens. The economy suffers from a broad loss in confidence and growing aversion to risk. Real estate prices correct and the housing market stall worsens, removing one potential driver of growth. Strained trade relations result in falling exports, business confidence tumbles and so does capital spending. The U.S. dollar strengthens further, chocking off the manufacturing cycle entirely. These factors are enough weight on the recovery that by late-2020 the economy slides back into recession. Job losses ensue and while not severe – about 56,000 jobs in Oregon when it is all said and done – it takes a toll on business income, housing starts and personal income. The unemployment rate returns to nearly 7 percent. The net effect of the mild recession is an extended period of prolonged economic weakness, not unlike Japan's so-called Lost Decade(s). Although inflation is expected to remain positive, a key difference.

Severe Recession Scenario:

After expanding for 11 years at relatively lackluster growth rates, the U.S. economy falls back into recession. Industrial production declines and the slower personal income growth in the U.S. worsens. Strained trade relations develop into an all-out trade war. The Fed, already lacking in traditional monetary policy ammunition, is not able to stave off such an impact. While the catalyst may be different, the economic effect is similar to late 2008 and early 2009, although not quite as severe when the dust settles. This is little comfort when the unemployment spikes back to 9 percent and more than 150,000 Oregonians lose their jobs by early-2021.

Besides the domestic economic headwinds and Federal Reserve tightening, the likely culprit in this scenario is either a meltdown of the financial markets sparked by some geopolitical shock, or quickly rising inflation. Economic growth in the U.S., while fairly steady as of late, is not nearly strong enough to withstand an external financial shock of this magnitude, nor a Federal Reserve quickly raising rates to fight inflation. Further economic effects of a recession this size are personal income losses of around 5 percent, about three-quarters the size of the Great Recession losses in Oregon. Housing starts plummet to near historical low levels of construction and home prices decline further. On the bright side, when construction does rebound, it will result in a surge of new home building that will rise above the state's long term average level of building due to pent-up demand for housing and that the state will have under built housing during this time period.

Extended Outlook

IHS Markit projects Oregon's economy to fare well relative to the rest of the country in the coming years. The state's Real Gross State Product is projected to be the seventeenth fastest among all states across the country in terms of growth with gains averaging 1.8 percent from 2019 through 2024. Total employment is expected to be the tenth strongest among all states at an annualized 0.7 percent, while manufacturing employment will be the second fastest in the country at 0.2 percent. Total personal income growth is expected to be 4.5 percent per year, the seventeenth fastest among all states, according to IHS.

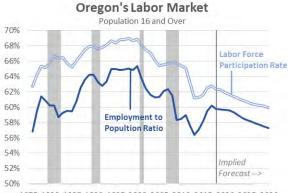
Our office is equally, if not more bullish in terms of Oregon's relative growth prospects. Much of Oregon's advantage comes from population growth, specifically the ability to attract and retain young, working-age households. Even with our office's downward revision to the population outlook, we still expect Oregon see 0.9 percent annual gains through 2024. IHS forecasts Oregon's population to increase 0.8 percent. While a smaller difference that seen in recent forecasts, the impact of these differences compounds over the forecast horizon. Roughly speaking, the population forecast differences amount to 15,000 to 20,000 working-age Oregonians in a handful of years. This is not an immaterial difference. As such, our overall economic outlooks have diverged just a bit.

OEA has identified three main avenues of economic growth that are important to continue to monitor over the extended horizon: the state's dynamic labor supply, the state's industrial structure and the current number of start-ups, or new businesses.

Oregon has typically benefited from an influx of households from other states, including an ample supply of skilled workers. Households continue to move to Oregon even when local jobs are scarce, as long as the economy is equally bad elsewhere, particularly in California. Relative housing prices also contribute to migration flows in and out of the state. For Oregon's recent history – data available from 1976 – the labor force in the state has both grown faster than the nation overall and the labor force participation rate has been higher. Even as this expansion follows similar patterns, there remain potentially worrisome signs, particularly when the next recession comes.

First, on the bright side, all of the recessionary-induced declines in the labor force itself have been reversed in the recent years. Oregon's labor force has never been larger. However, the participation rate may be a little lower than expected, when adjusting for the size of the population and the aging demographics. Such modeling is sensitive to assumptions but it is encouraging that much of the participation gap has closed as the expansion has endure.

A complicating factor is that Oregon is now at the point where demographics and the economy effectively offset one another. Job gains are just enough to account for the increase

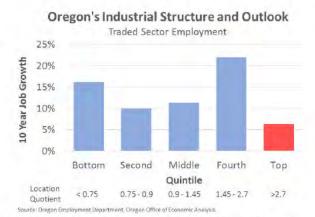


1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 Latest Data: 2018 | Source: BLS, Oregon Office of Economic Analysis

in Baby Boomers retiring. As such, the fact that Oregon's labor force participation rate and employment to population ratio have flattened out and even fallen somewhat in recent months is not necessarily a cause for concern. What would be more concerning is if the declines accelerated or that demographically-adjusted participation rates no longer increased as the expansion continues.

Oregon's industrial structure is very similar to the U.S. overall, even moreso than nearly all other states. That said, Oregon's manufacturing industry is larger and weighted toward semiconductors and wood products, relative to the nation which is much more concentrated in transportation equipment (autos and aerospace).

However, these industries which have been Oregon's strength in both the recent past and historically, are now expected to grow the slowest moving forward. Productivity and output from the state's technology producers is expected to continue growing quickly, however employment is not likely to follow suit. Similarly, the timber industry remains under pressure from both market based conditions and federal regulations. Barring major changes to either, the slow growth to downward trajectory of the industry in Oregon is likely to continue.



With that being said, certainly not all hope is lost. Those top industries in Oregon comprise approximately 7 percent of all statewide employment. And many industries in which Oregon has a larger concentration that then typical state are expected to perform quite well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with some health care related firms.

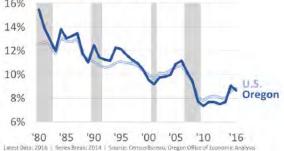
The state's real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration. These industries, like consulting, computer system design, financial investment, and scientific R&D, are expected to grow quickly in the decade ahead. To the extent that Oregon is behind the curve, then the state may not fully realize these gains if they rely more on clusters and concentrations of similar firms that may already exist elsewhere around the country.

Another area of potential concern that may impact longer term economic growth is that of new business formation. Over the past few years, the number of new business license applications with the Oregon Secretary of State have begun to grow again and even accelerate. However data available from the U.S. Census Bureau and Bureau of Labor Statistics clearly indicate that entrepreneurship and business formation remain at subdued levels and rates.

The share of all businesses that are start-ups, either in Oregon or across the nation, is effectively at an all-time low, with data starting in the late 1970s. Associated start-up employment follows a similar pattern. The concern is that new businesses are generally considered the source of innovation and new ideas, products and services that help propel economic growth. To the extent that fewer start-ups indicate that R&D more broadly is not being undertaken, slower growth is to be expected moving forward. However, if the larger firms that have won out in today's marketplace are investing in R&D and making those innovations themselves, then the worries about

Where Are the Start-Ups?





the number of start-ups today is overstated. It can be hard to say which is the correct view. However seeing these longer run, downward trends in new business formation warrants, at the very least, concern about future growth prospects.

Importantly, Oregon also enjoys the long-term advantages of low electricity costs; a central location between the large markets of California, Vancouver and Asia; clean water; low business rents and living costs when compared to other Left Coast locations; and an increasingly diverse industrial base.

Finally, one long-run concern for some policymakers and think tanks has been Oregon's relatively low income and wage numbers in recent decades. Back in the heyday of the timber industry, Oregon's per capita personal income and median household income were in-line with the nation overall. At this



time, Oregon's average wage was lower in part due to the industrial composition, but these lower wages were made up at the statewide level by demographics and household composition.

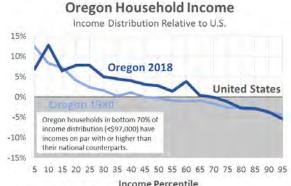
Even since the timber industry restructured following the severe early 1980s recessions, Oregon's relative incomes have been lower. The regional economy experienced a major shock and it took quite a long time to recover. However, finally, in this current economic expansion, Oregon is regaining the ground lost decades ago.

Oregon's median household income is currently at an all-time high, even after adjusting for inflation. More importantly, it now stands 2.4 percent higher than the U.S. overall. This marks the first time in more than 50 years that Oregonian incomes are higher than the nation. Similarly, average wages in Oregon are at their highest relative point since the mills closed in the early 1980s. And the state's per capita personal income is back to where it was prior to the dotcom crash in 2001.

In terms of the outlook, expectations are for Oregon's relative positions to hold steady in the coming years. The primary reason for this is that Oregon's average wages have already

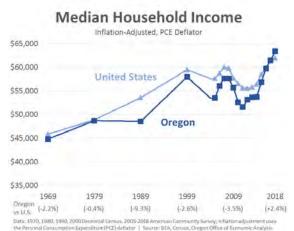
accelerated in recent years, even as U.S. wages are just now picking up. Our office expects Oregon's average wage to continue to increase by 4 percent per year. However as the U.S. accelerates closer to Oregon's annual rate, Oregon's growth advantage in recent years will lessen.

One major factor influencing per capita personal income trends is the relative incomes at the very top of the distribution. Make no mistake, Oregon's highest-income households have done well financially. However incomes at the top of the national distribution have increased even further. This gap among the richest households is large enough, and the incomes high enough to weigh on Oregon's overall per capita income figures. One further item to note is that different data sets peg Oregon's relative per capita



Source: IPUMS-USA, Oregon Office of I

income differently. The most commonly used BEA income shows Oregon's per capita income at 93% the U.S. average in recent years. The most recent IRS data (2017) shows Oregon's adjusted gross income per exemption



at 97% the U.S. average. The most recent Census data (2018) show Oregon's per capita income at 100% the U.S. average. The differences between the series are a topic our office continues to research.

Regional Comparisons

Economic growth is driven by the number of workers in a regional economy and how productive each worker is. As discussed earlier in the forecast, human capital is one type that raises worker productivity. Overall Oregon's educational attainment is solid to good. The share of working-age Oregonians with a college degree is increasing along with the country, even slightly faster. These gains are due to both migrants having higher levels of educational attainment, but also due to rising attainment among those born in Oregon as well. That said, there is considerable variation in educational attainment across the state.

On the upper end, the share of the working-age population with a college degree in the Corvallis MSA is among the highest in the nation. The Portland MSA has seen tremendous gains in the past decade and now ranks 18th highest among the 100 largest metros in the country. Similarly, the Bend MSA has undergone strong growth and local educational attainment now is higher than three-fourths of all U.S. metros. In rural Oregon, some Mid-Valley Educational Attainment places in the Gorge, along the North Coast, and in eastern Oregon have among of the highest levels of educational attainment in all 35% of rural America. 30%

However, one of the clear trends that has emerged in recent years is that educational attainment is not rising everywhere. Across much of the Rogue and Willamette Valleys the share of working-age residents with a college degree has essentially held steady for the past two decades.

Now, these regional economies do have above average shares of the workforce with Associate's degrees or with some college coursework. Research clearly shows that every year of schooling helps when it comes to employment opportunities and wages. As such, some of these potential concerns may be overblown when focusing just on four year degrees.

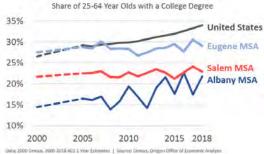
That said, while stagnant educational attainment might not be an outright barrier to growth, it is certainly an issue to watch. This goes for much of rural Oregon as well, which has solid to great attainment compared to the rest of rural America, but is likewise not seeing the gains that Bend, Corvallis and Portland are.

Educational Attainment among Working-Age Population

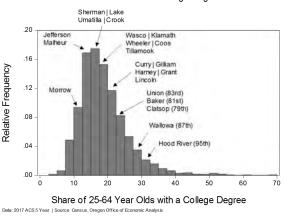
Share of All 25-64 Year Olds 2017 American Community Survey 5 Year Estimates

Geography	College Graduates	Metro Percentile
Corvallis MSA	55.5%	99th
Portland MSA	39.0%	90th
U.S. Metro Total	34.4%	
Bend MSA	33.3%	75th
Oregon	33.1%	
United States	32.3%	
Eugene MSA	29.0%	56th
Median U.S. Metro	27.7%	50th
Medford MSA	25.3%	42nd
Salem MSA	23.4%	32nd
Albany MSA	19.2%	13th
Grants Pass MSA	17.0%	6th

Source: Census, Oregon Office of Economic Analysis



Educational Attainment in Rural America 25-64 Year Olds with a College Degree



Why is this an issue to watch and not an outright barrier to growth? First, all regions of the state are seeing good economic growth this cycle and in recent years. Jobs and incomes are rising while poverty is falling. The lower or stagnant levels of educational attainment do not appear to be holding back growth so far. Furthermore, there are other types of capital. When a regional economy lacks one type, it is more reliant upon the others to drive productivity and long-run growth.

The concern is that by removing one avenue of future growth, or one source of productivity, it may at some point put a lid on future economic gains overall. Plus some of the growth in recent years is cyclical and represents digging out from the aftermath of the Great Recession. Pushing the productive capacity of the economy forward requires innovation, productivity enhancements, and a growing labor force. The pieces of the puzzle do not have to be the same size nor account for the same share, but they must fit together to drive future economic growth.

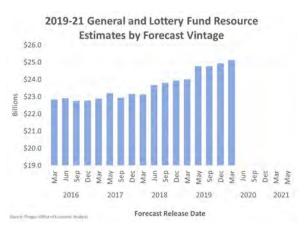
Revenue Summary

Ten years into the economic expansion, growth has slowed across many economic indicators. The same cannot be said for Oregon's primary sources of tax revenue, which continue to outstrip the performance of the underlying economy.

The primary forecasting challenge for the current biennium is to determine what portion of the recently strong tax collections is due to temporary factors that will fade away or reverse themselves in the months ahead. Even without the onset of recession, revenue growth is facing major headwinds during the current biennium. State and federal tax policies, a big kicker refund and slower economic growth will all weigh on General Fund revenues in the near term.

The longer the revenue boom persists, the more likely it becomes that permanent factors are playing a significant role in boosting tax collections. As such, revenue estimates for the current biennium have been steadily revised upward over the past two years. Estimate of personal and corporate income taxes, lottery earnings, and estate taxes are all up sharply from the Close of Session forecast.

Even so, given that job gains and population growth have both taken a step back, some moderation in state revenue growth is likely going forward. It is also likely that the



unprecedented surge in collections that occurred during the last tax filing season was due in part to taxpayers shifting their payments response to federal tax law changes, and other temporary factors.

Together with tax law changes at both the state and federal levels, the uncertain economic outlook is currently injecting a considerable amount of risk into the revenue forecast. Both April tax filing seasons are yet to come in the biennium, leading to a wide range of possible outcomes. Despite this uncertainty, the March forecast reflects a relatively stable outlook, with the expected size of General Fund collections increasing by just over one percentage point.

Fortunately, Oregon is better positioned than ever before to weather a revenue downturn. Automatic deposits into the Rainy Day Fund and Education Stability Fund have added up over the decade-long economic expansion. When the projected ending balance for the current biennium is included, Oregon is expected to end the biennium with nearly \$3 billion in reserves set aside, amounting to almost 14% of the two-year budget.

Longer term, revenue growth in Oregon and other states will face considerable downward pressure over the 10year extended forecast horizon. As the baby boom population cohort works less and spends less, traditional state tax instruments such as personal income taxes and general sales taxes will become less effective, and revenue growth will fail to match the pace seen in the past.

2019-21 General Fund Revenues

Gross General Fund revenues for the 2019-21 biennium are expected to reach \$21,458 million. This represents an increase of \$289 million from the December 2019 forecast, and an increase of \$438 million relative to the Close of Session forecast. Just under half of this increase can be traced to a stronger outlook for personal income tax collections, with additional corporate income taxes and estate taxes accounting for most of the remainder.

Table R.1							
2019-21 General Fund For	ecast Summary						
	2019 COS	December 2019	March 2020	Change from	Change from		
(Millions)	Forecast	Forecast	Forecast	Prior Forecast	COS Forecast		
Structural Revenues							
Personal Income Tax	\$18,283.5	\$18,285.8	\$18,472.6	\$186.8	\$189.7		
Corporate Income Tax	\$1,190.8	\$1,325.9	\$1,312.7	-\$13 2	\$121.9		
All Other Revenues	\$1,546.1	\$1,557.4	\$1,672.7	\$115 3	\$126.0		
Gross GF Revenues	\$21,020.4	\$21,169.0	\$21,457 9	\$288 9	\$437.5		
Offsets and Transfers	-\$203.5	-\$209.1	-\$254 3	-\$45 2	-\$50.8		
Administrative Actions ¹	-\$21.5	-\$21.5	-\$21 5	\$0.0	\$0.0		
Legislative Actions	-\$199.5	-\$199.5	-\$198 3	\$1.1	\$1.7		
Net Available Resources	\$22,914.4	\$23,389.5	\$23,563.2	\$173.7	\$648.8		
Confidence Intervals							
67% Confidence	+/- 6.5%		\$1,399.0	\$20.06B to \$22.86B			
95% Confidence	+/- 13.0%	+/- 13.0% \$2,798.1 \$18.66B					

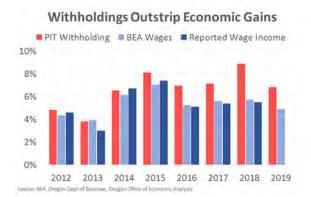
Personal Income Tax

Personal income tax collections were \$2,425 million during the second quarter of fiscal year 2020, \$36 million (1.5%) above the latest forecast. Compared to the year-ago level, total personal income tax collections rose by 13.1% relative to a forecast that called for an 11.4% increase. Table B.8 in Appendix B presents a comparison of actual and projected personal income tax revenues for the October-December quarter. Strong growth in collections has continued into the third quarter of fiscal year 2020.

Personal income tax collections during the 2019-21 biennium will be constrained by many factors, including a large kicker credit to be paid out this tax season. State tax reforms enacted during the 2019 session will also put downward pressure on personal income tax collections.

While the forecast continues to call for modest gains in personal income tax collections, growth rates have been revised upward relative to the December outlook. Persistently large withholding payments are the primary reason for the change.

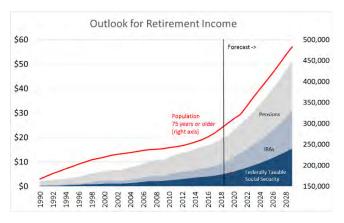
For several years, withholdings of personal income tax collections have grown significantly faster than have both the amount of wages reported on tax returns as well as measures of wages drawn from economic accounts. In the past, personal income tax withholdings have always grown in lockstep with other wage measures aside from brief periods when withholding tables were changed or when Oregon's businesses paid out large bonuses to their workers. Growth in personal income tax withholdings has been broad-based, and cannot be traced to any particular industry.



One potential factor behind the strong personal income tax withholdings could be an increase in retirement income. Although direct data on retirement withholdings is not available over time, taxpayers have been

cashing in an increasing amount of IRAs and reporting more pension income in recent years. Both of these income streams are often are subject to withholding.

Going forward, retirement income streams will account for a much larger share of overall income in Oregon as many in the baby boom population cohort leave the workforce. While this shift will lead to a lower average tax rate, it will likely support stronger withholdings for several years. In keeping with increased retirement income and other nonwage sources of household income, the outlook for withholdings has been revised upward, leading to more expected personal income tax revenue across the forecast horizon.



Corporate Excise Tax

Corporate excise tax collections equaled \$144 million for the second quarter of fiscal year 2020, \$39 million (21%) below the December forecast. Compared to the year-ago level, net corporate excise tax collections fell by 22% while the forecast called for a decline of only 1%. Despite this decline, corporate tax collections remain elevated well above their historical average.

While corporate tax collections are notoriously volatile, federal tax law changes have injected a good deal of uncertainty into the outlook for corporate tax payments. It is likely that the corporate tax base has become larger in Oregon. In part, firms are now recognizing more of their global income streams. Also, some employees, investors, partnerships, S-corps and sole proprietorships face a larger tax incentive to incorporate. The City of Portland and Multnomah County have both reported a surge in corporate revenues in recent months. Conversely, some C-corporations and employees will benefit from becoming pass-through entities. Accelerated depreciation provisions are also impacting the revenue stream, as is the repatriation of deferred income from multinational corporations. Given recent return data, estimates of repatriated taxable corporate income have been revised upward in the current outlook.

Other Sources of Revenue

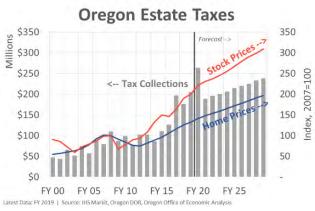
Non-personal and non-corporate revenues in the General Fund account for approximately 7 percent of the total. One-fifth of this amount comes from Oregon Liquor Control Commission revenues, while estate taxes account for another fifth. In terms of forecast changes in recent biennia, estate taxes stand out as they have come in considerably above expectations. The 2019-21 biennium is no exception.

Overall the number of estates impacted by the tax is relatively steady over the past decade, both in absolute numbers and as a share of all Oregon deaths. The growth in tax collections largely reflects the increasing size of a few very large estates. Looking forward, the outlook for collections remains strong, however not quite as strong as demographics and asset markets alone suggest due to household's tax planning capabilities.

All told, General Fund revenues excluding personal and corporate taxes are expected to total \$1.67 billion in 2019-21. This represents a huge upward revision of \$115 million relative to the previous forecast, or +7.4 percent.

Much of this increase comes from a stronger outlook for estate taxes, which have been raised \$87 million relative to last quarter. In early 2020 there have been a handful of very large estate tax payments. Monthly collections are twice as large as the previous historical record. Overall, fiscal year 2020 is expected to be 30% larger than any previous year.

Should the forecast hold, one impact of the strong estate tax collections in 2019-21 is that an expected \$17.6 million will be transferred next biennium to help pay



down the Oregon Public Employee Retirement System Unfunded Accrued Liability (PERS UAL). The reason is that estate tax collections this biennium are expected to be stronger than the trend growth over the previous five biennia which is the trigger for this transfer, per SB 1566 (2018).

In 2019-21, General Fund revenues excluding personal and corporate taxes are also revised higher due to stronger interest earnings (\$12m) and a one-time solar-related restitution payment (\$13m).

Over the extended forecast horizon, General Fund revenues excluding personal and corporate taxes are revised higher by around one percent, due to a slightly stronger estate tax forecast going forward.

Extended General Fund Outlook

Table R.2 exhibits the long-run forecast for General Fund revenues through the 2027-29 biennium. Users should note that the potential for error in the forecast increases substantially the further ahead we look.

Revenue growth in Oregon and other states will face considerable downward pressure over the 10-year extended forecast horizon. As the baby boom population cohort works less and spends less, traditional state tax instruments such as personal income taxes and general sales taxes will become less effective, and revenue growth will fail to match the pace seen in the past.

Table R.2

	Forecast		Forecast		Forecast		Forecast		Forecast		Forecast	
	2017-19	%	2019-21	%	2021-23	%	2023-25	%	2025-27	%	2027-29	%
Revenue Source	Biennium	Chg	Biennium	Chg	Biennium	Chg	Biennium	Chg	Biennium	Chg	Biennium	Chg
Personal Income Taxes	18,823.3	17.2%	18,472.6	-1.9%	21,746.5	17.7%	23,744.0	9.2%	25,902 2	9.1%	28,741.3	11.09
Corporate Income Taxes	1,752.7	44.8%	1,312.7	-25.1%	1,316.3	0.3%	1,510.8	14.8%	1,767 9	17.0%	1,993.1	12.79
All Others	1,339.3	3.9%	1,672.7	24.9%	1,420.2	#####	1,489.4	4.9%	1,560.7	4.8%	1,650.4	5.7%
Gross General Fund	21,915.3	18.1%	21,457.9	-2.1%	24,483.0	14.1%	26,744.2	9.2%	29,230 9	9.3%	32,384.8	10.89
Offsets and Transfers	(129.5) (254.3)		(132.7)		(118.1)		(82.6)		(85.3)			
Net Revenue	21,785.8	17.6%	21,203.6	-2.7%	24,350.3	14.8%	26,626.1	9.3%	29,148 3	9.5%	32,299.5	10.8%

Connect French Dominion France of Common (Affiliant of Dollars)

Tax Law Assumptions

The revenue forecast is based on existing law, including measures and actions signed into law during the 2019 Oregon Legislative Session. OEA makes routine adjustments to the forecast to account for legislative and other

March 2020

FY'27

319.2

4.9%

13,286

14,989

5 2%

FY '27

316.9

5.1%

13,132

900

789

14,821

5.4%

-349

FY'27

315.3

5.1%

13,035

891

789

14.714

5.4%

914

789

2025-27 BN

FY'26

304.3

5.0%

12,616

854

772

14,242

41%

FY '26

301.6

5.2%

-166

839

-15 772

830

.24

772

-283

actions not factored into the personal and corporate income tax models. These adjustments can include expected kicker refunds, when applicable, as well as any tax law changes not yet present in the historical data. A summary of actions taken during the 2019 Legislative Session can be found in Appendix B Table B.3. For a detailed treatment of the components of the 2019 Legislatively Enacted Budget, see: LFO 2019-21 Budget Summary.

Although based on current law, many of the tax policies that impact the revenue forecast are not set in stone. In particular, sunset dates for many large tax credits have been scheduled. As credits are allowed to disappear, considerable support is lent to the revenue outlook in the outer years of the forecast. To the extent that tax credits are extended and not allowed to expire when their sunset dates arrive, the outlook for revenue growth will be reduced. The current forecast relies on estimates taken from the Oregon Department of Revenue's 2019-21 Tax Expenditure Report together with more timely updates produced by the Legislative Revenue Office.

TABLE R2b

Baseline Case

Personal Income

Other General Fund

Total General Fund

Moderate Recession

Corporate Excise & Income

Personal Income Level

% change

% change

Personal Income

% change

Level

Taxes

General Fund Alternative Scenarios

The latest revenue forecast for the current biennium represents the most probable outcome given available information. OEA feels that it is important that anyone using this forecast for decision-making purposes recognize the potential for actual revenues to depart significantly from this projection.

Currently, the overwhelming downside risk facing the revenue outlook is the threat that the U.S. economic recovery will lose steam in the near term. Such a scenario, however it played out, would result in drastic revenue losses. Two recessionary scenarios are displayed in table R.2b. In a severe recession, biennial revenues could come in as much as \$4.8 billion lower than predicted over the next two biennia¹².

Taxes Personal Income 8,872 9,909 8.442 9.078 10.134 10.636 11,291 11,959 12,450 Deviation from baseline -654 -298 -565 -411 302 -192 Corporate Excise & Income 739 927 695 526 583 649 703 763 -36 Other General Fund 633 706 801 872 702 718 735 754 Total General Fund 10,244 11,542 9,938 10,476 11,419 12,003 12,729 13,477 14,061 % change 4.3% 13.9% 5.4% 9.0% 5.1%6.0% 5.9% 4.3% **Biennial Deviation** FY'18 FY'19 FY'20 FY'21 FY'22 FY '23 FY'24 FY'25 FY'26 Severe Recession Personal Income Level 206.7 218.6 208.4 216.2 232.7 249.8 265.4 285.1 300.0 7.4% 7.4% 7.6% 5.2% % change 6.0% 5.8% -4.7% 3.8% 6.2% Taxes 8,872 Personal Income 9,909 7,655 8,406 9,581 10,236 11,043 11,870 12,357 n haseline -1 085 -1 326 -1 118 -812 281 755 Corporate Excise & Income 739 927 469 536 680 601 614 .130 .113 -94 .49 .26 Other General Fund 872 702 718 735 754 633 801 706 Total General Fund 10.244 11.542 9.057 9.746 10.819 11.568 12,459 13,380 13,960 11.0% 6.9% 7.4% % change 4.3% 21.5% 7.6% 4.3% Deviation from baseline -1 215 -1 440 -599

Alternative Cyclical Revenue Forecast (\$ millions)

FY'22

251.5

5.0%

10,699

630

702

12,032

7.6%

FY '22

242.0

6.1%

2021-23 BN

FY'23

263.7

4.8%

11,047

12,451

3 5%

FY '23

256.7

6.1%

686

718

2023-25 BN

FY'25

289.9

5.5%

12,151

13,687

4.8%

FY'25

286.6

6.3%

781

754

FY'24

274.7

4.2%

11,593

13,058

49%

FY'24

269.6

5.1%

730

735

2019-21 BN

FY'21

239.6

4.8%

9,733

582

872

11,186

8.9%

FY '21

228.1

2.2%

FY'20

228.6

4.6%

8,740

731

801

10,272

.11.0%

FY'20

223.1

2.0%

2017-19 BN

206.7

6.0%

8,872

739

633

10,244

4 3% 12 7%

FY'18

206.7

6.0%

FY'18 FY'19

218.6

5.8%

9,909

927

706

11,542

FY'19

218.6

5.8%

Corporate Activity Tax

HB 3427 (2019) created a new state revenue source by implementing a corporate activity tax (CAT) that went into effect January 2020. The tax is expected to generate \$1.6 billion in revenue in 2019-21 and \$2.8 billion in 2021-23. These revenues are dedicated to spending on education. The legislation also included personal income

¹² The methodology for computing alternative scenarios has been changed to reflect recent work done by the Legislative Revenue Office. Assumptions: Recessions begin in 2019 and return to baseline income by 2026. The moderate recession scenario assumes personal income growth will be reduced by one-half relative to the baseline in 2019 and 2020. The severe recession scenario assumes personal income will decline in 2019 by as much as it did in 2009. The percentage deviation in personal income taxes is 1.4 times the deviation in personal income. The percentage deviation in corporate income taxes is 2.0 times the deviation in personal income.

tax rate reductions, reducing General Fund revenues. The net impact of HB 3427 was designed to generate approximately \$1 billion per year in new state resources, or \$2 billion per biennium.

In terms of the big picture economic impacts, as always, our office starts with the Legislative Revenue Office's (LRO) impact statement and any Oregon Tax Incidence Model (OTIM) results LRO found. At the top line, OTIM results find minimal macroeconomic impacts across Oregon due to the new tax. Personal income, employment, population, investment and the like are less than one-tenth of a percent different under the new tax relative to the baseline. The model results also show that price levels (inflation) will increase above the baseline as some of the CAT is pushed forward onto consumers. Of course these top line, statewide numbers mask the varying experiences that individual firms and different industries will experience. There are likely to be some businesses or sectors that experience large impacts from the CAT, or where pyramiding increases prices to a larger degree, while other businesses or sectors see relatively few impacts.

Today there exists no real economic or revenue data to evaluate either the revenue estimates or the economic impact. Businesses will make quarterly payments throughout 2020, however it really will not be until after the April 2021 annual tax returns are processed that we will have a complete look at the revenue, taxpayer behavior or the like. As data does become available, our office, in conjunction with our advisors and LRO will work together to better understand the revenue and its impact. Our office will update the outlook accordingly at that time. Until then, the forecast adopts the initial LRO revenue impact statement estimates as the best available.

Table B.12 in Appendix B has details on 10 year forecast and the allocation of resources, while the personal income tax reductions are built into the General Fund forecasts shown in Tables B.1 and B.2.

Lottery Earnings

Overall the lottery outlook is raised modestly relative to last quarter. Available resources in the current 2019-21 biennium are revised \$9.7 million higher (0.7%). One quarter of this change is due to stronger than expected sales in recent months while three quarters is due to a stronger outlook.

Video lottery sales growth is slowing some, tapering to around 4 percent year-over-year in recent weeks. While in-line with the general nature of previous outlooks, this growth remains above expectations. Moving forward, the outlook calls for some further slowing in video sales,



down to around 3 percent year-over-year. When combined with a stronger economic forecast, the overall lottery outlook is raised both in the near-term and long-run.

Available lottery resources in the 2021-23 biennium are revised upward by \$11.5 million (+0.7%) while the 2023-25 is revised higher by \$14.2 million (+0.8). The out-biennia are up a larger amount, around \$45 million or 2.5%. Previous forecasts had video lottery sales growth slowing considerably in the out-years. The current forecast has video lottery growth slowing some, but keeping closer to overall gains in personal income.

No adjustments were made to the outlook for sports betting as the game has only been available for a few months. To date, gaming revenues are a little below but profit margins slightly higher than initial expectations. It is too soon to know how accurate the first year projections are overall, particularly for a brand new legal market

that is continuing to develop. In 2019-21, Scoreboard (sports betting) is projected to generate \$8.3 million in available resources, which are dedicated to the PERS Employer Incentive Fund per SB 1049 (2019).

Longer term, sports betting is forecasted to generate \$29.4 million in 2021-23 and \$42.2 million 2023-25 for the Employer Incentive Fund. These estimates are highly uncertain and come from myriad assumptions about the size of the sports betting market overall, industry competition, player adoption rates, administrative costs and the like. The research team at Lottery provided the underlying estimates of the handle, gross gaming revenue and expenses. Our office worked to extend the analysis over the full forecast horizon and to translate the gaming revenue estimates into available resources.

We also know that additional uncertainty arises from the volatility of revenues as wagers come in heavy on one team or another. For this reason, the forecast also assumes that Lottery will build reserves out of the sports betting revenue to help account for the expected volatility.

These figures have been discussed among the Lottery forecast advisory group and represent just a first step in incorporating sports betting revenue into the outlook. As actual sales data comes in, our office, along with the Oregon Lottery, Oregon Legislative Fiscal and Revenue Offices, and the state CFO's office will discuss trends, issues and risks. We will update the outlook accordingly.

Lottery Outlook and Distributions

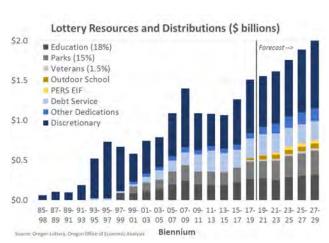
Big picture issues to watch include broader national trends in gaming markets, demographic preferences for recreational activities, and to what extent consumers increase the share of their incomes spent on gaming. In much of the past decade, consumers have remained cautious with their disposable income. Increases in spending on gaming have largely matched income growth.

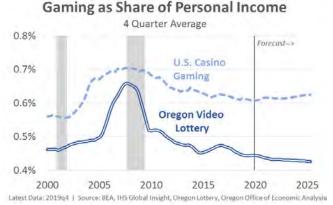
Over the long-run our office expects increased competition for household entertainment dollars,

increased competition within the gaming industry, and potentially shifts in generational preferences and tastes when it comes to gaming. As such, our outlook for video lottery sales is continued growth, however at a rate that is slightly slower than overall personal income growth. Lottery sales will continue to increase as Oregon's

population and economy grows, however video lottery sales will likely be a slightly smaller slice of the overall pie.

Finally, in recent years Oregon voters approved two new amendments for where lottery resources are to be spent. The Outdoor School Education Fund is set to receive the lesser of 4 percent of net proceeds or \$5.5 million per quarter (\$44 million per biennium), adjusted for inflation. The Veterans' Services Fund is set to receive 1.5 percent of net proceeds.





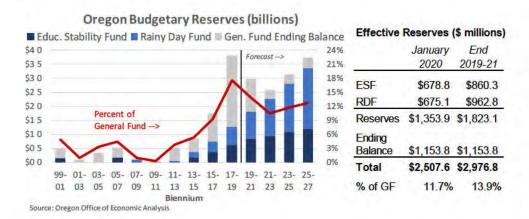
For more on the Lottery and overall gaming outlook, see our office's report¹³.

The full extended outlook for lottery earnings can be found in Table B.9 in Appendix B.

Budgetary Reserves

The state currently administers two general reserve accounts, the Oregon Rainy Day Fund14 (ORDF) and the Education Stability Fund15 (ESF). This section updates balances and recalculates the outlook for these funds based on the March revenue forecast.

As of this forecast the two reserve funds currently total a combined \$1.35 billion. At the end of the current 2019-21 biennium, they will total \$1.82 billion.



The forecast for the ORDF includes two deposits for this biennium relating to the General Fund ending balance from the previous biennium (2017-19). A deposit of \$198.3 million is expected in 2020 after the accountants close the books. Additionally a \$64.0 million deposit relating to the increased corporate taxes from Measure 67 is expected at the end of the biennium. All told, at the end of 2019-21 the ORDF will total \$962.8 million.

The forecast for the ESF calls for \$240.6 million in deposits during the 2019-21 biennium based on the current Lottery forecast. This would bring the ESF balance to \$860.3 million at the end of the current biennium. The ESF is forecasted to reach its cap of 5% of the previous biennium's General Fund revenues at the end of FY2022. Once the cap it reached, transfers accrue to the Capital Matching Account.

¹³ https://oregoneconomicanalysis.com/2019/02/13/lottery-and-gaming-outlook-2019/

¹⁴ The ORDF is funded from ending balances each biennium, up to one percent of appropriations. The Legislature can deposit additional funds, as it did in first populating the ORDF with surplus corporate income tax revenues from the 2005-07 biennium. The ORDF also retains interest earnings. Withdrawals from the ORDF require one of three triggers, including a decline in employment, a projected budgetary shortfall, or declaration of a state of emergency, plus a three-fifths vote. Withdrawals are capped at two-thirds of the balance as of the beginning of the biennium in question. Fund balances are capped at 7.5 percent of General Fund revenues in the prior biennium.

¹⁵ The ESF gained its current reserve structure and mechanics via constitutional amendment in 2002. The ESF receives 18 percent of lottery earnings, deposited on a quarterly basis – 10% of which are deposited in the Oregon Growth sub-account. The ESF does not retain interest earnings. The ESF has similar triggers as the ORDF, but does not have the two-thirds cap on withdrawals. The ESF balance is capped at five percent of General Fund revenues collected in the prior biennium.

Together, the ORDF and ESF are projected to have a combined balance of \$1.82 billion at the close of the 2019-21 biennium. Provided the General Fund ending balance remains unallocated, total effective reserves at the end of 2019-21 would total nearly \$3 billion, or 13.9 percent of current revenues.

Such levels of reserve balances are bigger than Oregon has ever been able to accumulate, at least in the state's recent history. Such reserves would likely be just sufficient enough to withstand a typical recession's impact on state revenues, but not likely enough to account for the increase in public services and programs during downturns. That said, reserves of approximately 7 percent are generally accepted to withstand a medium sized recession. Oregon now has reached that threshold.

\$120

\$100

\$80

\$60

\$40

\$20

\$0

distate I Should Dive

Nevada (Adi

Yr 1

Yr 2

B.10 in Appendix B provides more details for Oregon's budgetary reserves.

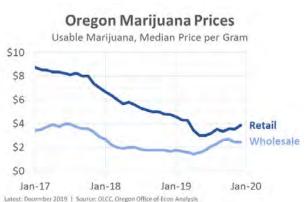
Recreational Marijuana Tax Collections

The underlying outlook for recreational marijuana sales and tax collections remains intact and largely unchanged. Tax collections in recent months have largely tracked expectations, although a few million to the high side, resulting in a minor upward revision to 2019-21 available resources. No other changes have been made to the underlying sales forecast.

That said, issues and risks abound. As discussed further in the December 2019 forecast¹⁶, a potential vaping ban would impact the sales forecast while the timing of

transfers to programs is impacted by quickly and accurately firms file their tax returns and they are processed by the Oregon Department of Revenue.

Prices are an issue that could have long-run impacts. As our office has discussed every quarter since we began developing the recreational marijuana forecast, prices are a big risk to the outlook. Oregon levies its recreational marijuana tax based on the price of the product. As such if prices fall, then the state receives less tax revenue for every ounce sold, or every edible purchased. Over the past couple of years this is exactly what has happened. Total state tax collections leveled off throughout 2018 and into early 2019, however the relatively stagnant topline masked big price declines and increases in quantities sold.



Recreational Marijuana Sales Base

Estimates, Based on Tax Receipts

Yr 3

A Code S. Date

Colorado (Adi.)

Oregon

Washington (Ad).

Yr 5

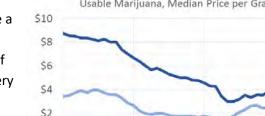
ulation (21+)

Yr 4

CO. NV. WA, and OR's adult of

However, in the past year prices have risen, leading to higher tax collections but slower gains in the volume of products sold. This is certainly the case for usable marijuana where wholesale prices are up around 50 percent and retail prices more like 25 percent since the summer.

This rebound in prices is likely the bounce back following the large supply glut in recent years. As that inventory is sold or converted to other forms like concentrates, extracts, edibles and the like, prices are rising as the



Latest: December 2019 | Source: OLCC, Oregon Office of Econ Analysis

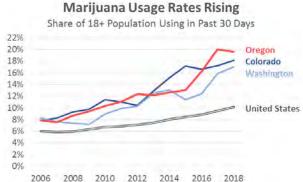
¹⁶ https://digital.osl.state.or.us/islandora/object/osl%3A939177

market works to find a better equilibrium between consumer demand and industry supply. A recent report by the Oregon Liquor Control Commission finds that inventory levels remain high for concentrates and extracts indicating that the backlog was likely converted into these forms, which have a longer shelf life.

Looking forward, Oregon is posed for strong growth in the coming years as the state's population, household incomes, and marijuana usage rates all increase.

The latest survey of drug usage across the country shows that Oregon remains the state with the highest report usage of marijuana among adults in the past year, and number two behind Vermont for reported usage among adults in the most month. The 2018 survey results are essentially unchanged from 2017. Whether this is simply noise in the year-to-year changes or is indicative that the market may flatten out as social acceptance and usage rates top out is still yet to be determined. Besides the overall usage rate, black and medical market conversions should boost recreational sales and tax collections as well in the years ahead.

One other source of recreational sales and tax collections comes from nonresidents. Oregon sales in counties along the borders with Idaho and Washington are above average and larger than can be explained by local socio-economic conditions, things like population, incomes and the like. Much of these higher level of sales per capita are likely due to the so-called border effect, a wellresearched topic and issue that arise when neighboring jurisdictions have different laws and taxes for the same industry or product. See our office's recent report¹⁷ for more on the marijuana border effects in the Pacific Northwest.



Latest Data: 2018 | Source: SAMIHSA, Oregon Office of Economic Analysis

Oregon Marijuana Sales



All told, the outlook remains highly uncertain with substantial upside and downside risks. These risks include not only usage rates and prices, but shifts in supply and regulations that impact product availability. Additionally potential actions by the federal government remains a large risk as marijuana is a controlled substance and leakage into other states a large concern. Furthermore, the federal legalization of hemp introduces yet another risk to the outlook. To the extent that consumers choose to purchase CBD products, which have many of the same purported medical benefits as cannabis but without the psychoactive component, then these widely available products may gain market share at the expense of the Oregon taxed recreational marijuana products only available at licensed retailers.

See Table B.11 in Appendix B for a full breakdown of distributions for recreational marijuana tax collections. Note that these distributions are based on current law.

¹⁷ <u>https://oregoneconomicanalysis.com/2020/01/17/fun-friday-more-marijuana-border-effects/</u>

POPULATION AND DEMOGRAPHIC OUTLOOK

Population and Demographic Summary

Oregon's population count on April 1, 2010 was 3,831,074. Oregon gained 409,550 persons between the years 2000 and 2010. The population growth during the decade of 2000 to 2010 was 12.0 percent, down from 20.4 percent growth from the previous decade. Oregon's rankings in terms of decennial growth rate dropped from 11th between 1990 and 2000 to 18th between 2000 and 2010. Oregon's national ranking, including D.C., in population growth rate was 12th between 2010 and 2019 lagging behind all of our neighboring states, except California. Slow population growth during the decade preceding the 2010 Census characterized by double recessions probably cost Oregon one additional seat in the U.S. House of Representatives. Actually, Oregon's decennial population growth rate during the most recent census decade was the second lowest since 1900. As a result of economic downturn and sluggish recovery that followed, Oregon's population increased at a slow pace in the recent past. However, Oregon's current population is showing strong growth as a consequence of state's strong economic recovery. Population growth between 2018 and 2019 was 13th fastest in the nation. Due to this better than average growth on national scale, Oregon will most likely get an additional seat in the U.S. House of Representatives. Based on the current forecast, Oregon's population of 4.236 million in 2019 will reach 4.612 million in the year 2029 with an annual rate of growth of 0.8 percent between 2019 and 2029.

Oregon's economic condition heavily influences the state's population growth. Its economy determines the ability to retain existing work force as well as attract job seekers from national and international labor market. As Oregon's total fertility rate remains below the replacement level and number of deaths continue to rise due to aging population, long-term growth comes mainly from net in-migration. Working-age adults come to Oregon as long as we have favorable economic and living conditions. During the 1980s, which include a major recession and a net loss of population during the early years, net migration contributed to 22 percent of the population change. On the other extreme, net migration accounted for 76 percent of the population change during the booming economy of early 1990s. This share of migration to population change declined to 32 percent in 2010, lowest since early 1980s when we actually had negative net migration for several years. As a sign of slow to modest economic gain and declining natural increase (births minus deaths), the ratio of net migration-topopulation change has registered at 87 percent in 2019 and will continue to rise throughout the forecast horizon. By 2029, all of Oregon's population growth and more will come from the net migration due to the combination of continued high net migration, decline in the number of births, and the rise in the number of deaths. The natural increase of population, defined as the numbers of births minus deaths, will actually turn negative by the end of the forecast period due to the below replacement level fertility and increase in the number of deaths associated with the increase in the elderly population. With Oregon's favorable economic and environmental conditions, high level of net migration into Oregon will continue. Not too far into the future, migration will be solely responsible for Oregon's population growth.

Age structure and its change affect employment, state revenue, and expenditure. Demographics are the major budget drivers, which are modified by policy choices on service coverage and delivery. Growth in many age groups will show the effects of the baby-boom and their echo generations during the forecast period of 2019-2029. It will also reflect demographics impacted by the depression era birth cohort combined with changing migration of working age population and elderly retirees through history. After a period of slow growth during the 1990s and early 2000s, the elderly population (65+) has picked up a faster pace of growth and will continue a very high level as the baby-boom generation continue to enter this age group combined with the attrition of

small depression era cohort due to death. However, this age cohort seems to have hit the highest point and will continue a high but diminishing rate of growth. The average annual growth of the elderly population will be 2.7 percent during the 2019-2029 forecast period. Different age groups among the elderly population show quite varied and fascinating growth trends. The youngest elderly (aged 65-74), which has been growing at an extremely fast pace in the recent past, will exhibit a tendency to slow down in the future. The annual growth rate of this youngest elderly will exceed 3 percent in the near future due to the direct impact of the baby-boom generation entering the retirement age and smaller pre-baby boom cohort exiting the 65-74 age group. This fast paced growth rate will taper off to negative growth by the end of the forecast period as a sign of end of the baby-boom generation transitioning to elderly age group. Reversing several years of slow growth and a period of shrinking population, the elderly aged 75-84 started to show a positive growth as the effect of depression era birth-cohort has dissipated. An unprecedented fast pace of growth of population in this age group has started as the baby-boom generation is starting to mature into 75-84 age group. Annual growth rate during the forecast period of 2019-2029 is expected to be unusually high 5.3 percent. The oldest elderly (aged 85+) will continue to grow at a slow but steady rate in the near future due to the combination of cohort change, continued positive net migration, and improving longevity. The average annual rate of growth for this oldest elderly over the forecast horizon will be 3.2 percent. An unprecedented growth in oldest elderly will commence near the end of the forecast horizon as the fast growing 75-84 age group population transition into this oldest elderly age cohort. As a sign of massive demographic structural change of Oregon's population, starting in 2023 the number of elderly population will exceed the number of children under the age of 18. To illustrate the contrast, in 1980 elderly population numbered less than half of the number of children in Oregon.

As the baby-boom generation matures out of oldest working-age cohort combined with slowing net migration, the once fast-paced growth of population aged 45-64 has gradually tapered off to below zero percent rate of growth by 2012 and has remained and will remain at slow or below zero growth phase for several years. The size of this older working-age population will see only a small increase by the end of the forecast period. The 25-44 age group population is recovering from several years of declining and slow growing trend. The decline was mainly due to the exiting baby-boom cohort. This age group has seen positive but slow growth starting in the year 2004 and will increase by 1.1 percent annual average rate during the forecast horizon mainly because of the exiting smaller birth (baby-bust) cohort being replaced by larger baby-boom echo cohort. The young adult population (aged 18-24) will remain nearly unchanged over the forecast period. Although the slow or stagnant growth of college-age population (age 18-24), in general, tend to ease the pressure on public spending on higher education, but college enrollment typically goes up during the time of very competitive job market, high unemployment, and scarcity of well-paying jobs when even the older people flock back to colleges to better position themselves in a tough job market. The growth in K-12 population (aged 5-17) will remain very low in the near future and will see negative growth for the rest of the forecast years. This will translate into slow growth or even decline in the school enrollments. On average for the forecast period, this school-age population will actually decline by -0.4 percent annually. The growth rate for children under the age of five has remained below or near zero percent in the recent past due to the sharp decline in the number of births. Although the number of children under the age of five declined in the recent years, the demand for child care services and pre-Kindergarten program will be additionally determined by the labor force participation and poverty rates of the parents.

Overall, elderly population over age 65 will increase rapidly whereas the number of children actually decline over the forecast horizon. The number of working-age adults in general will show fast paced growth after the

year 2023. Hence, based solely on demographics of Oregon, demand for public services geared towards children and young adults will likely to decline or increase at a slower pace, whereas demand for elderly care and services will increase rapidly.

Procedure and Assumptions

Population forecasts by age and sex are developed using the cohort-component projection procedure. The population by single year of age and sex is projected based on the specific assumptions of vital events and migrations. Oregon's estimated population of July 1, 2010 based on the most recent decennial census is the base for the forecast. To explain the cohort-component projection procedure very briefly, the forecasting model "survives" the initial population distribution by age and sex to the next age-sex category in the following year, and then applies age-sex-specific birth and migration rates to the mid-period population. Further iterations subject the in-and-out migrants to the same mortality and fertility rates.

Populations by age-sex detail for the years 2000 through 2009, called intercensal estimates, in the tables in Appendix C are developed by OEA based on 2000 and 2010 censuses. Post-censal population totals for the years 2010 through 2019 are from the Population Research Center, Portland State University. The numbers of births and deaths through 2018 are from Oregon's Center for Health Statistics. All other numbers and age-sex detail are generated by OEA.

Annual numbers of births are determined from the age-specific fertility rates projected based on Oregon's past trends and past and projected national trends. Oregon's total fertility rate is assumed to be 1.6 per woman in 2019 and this rate is projected to remain well below the replacement level of 2.1 children per woman during the forecast period, tracking below the national rate.

Life Table survival rates are developed for the year 2010. Male and female life expectancies for the 2010-2029 period are projected based on the past three decades of trends and national projected life expectancies. Gradual improvements in life expectancies are expected over the forecast period. At the same time, the difference between the male and female life expectancies will continue to shrink. The male life expectancy at births of 77.4 and the female life expectancy of 81.8 in 2010 are projected to improve to 79.4 years for males and 83.5 years for females by the year 2029.

Estimates and forecasts of the number of net migrations are based on the residuals from the difference between population change and natural increase (births minus deaths) in a given forecast period. The migration forecasting model uses Oregon's employment, unemployment rates, income/wage data from Oregon and neighboring states, and past trends. Distribution of migrants by age and sex is based on detailed data from the American Community Survey. The annual net migration between 2019 and 2029 is expected to remain in the range of 35,760 to 38,300, averaging 37,100 persons annually. In the recent past, slowdown in Oregon's economy resulted in smaller net migration and slow population growth. Estimated population growth and net migration rates in 2010 and 2011 were the lowest in over two decades. Migration is intrinsically related to economy and employment situation of the state. Still, high unemployment and job loss in the recent past have impacted net migration and population for Oregon out-migrants were not faring any better either, limiting the potential destination choices. The role of net migration in Oregon's population growth will get more prominence as the natural increase will decline considerably due to rapid increase in the number of deaths associated with aging population and decline in the number of births largely due to the decline in fertility rate.

APPENDIX A: ECONOMIC FORECAST DETAIL

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Table A.1 – Employment Forecast Tracking

Total Nonfarm Employment, 4th quarter 2019

(Employment in thousands, Annualized Percent Change)

	Prelim Estim	•	Forec	east	Foreca	Y/Y Change	
	level	% ch	level	% ch	level	%	% ch
Total Nonfarm	1,950.5	1.5	1,950.3	1.5	0.1	0.0	1.3
Total Private	1,652.6	2.0	1,650.3	1.5	2.2	0.1	1.3
Mining and Logging	6.8	(0.5)	7.1	9.3	(0.3)	(3.6)	(4.8)
Construction	109.8	1.8	108.8	0.8	0.9	0.9	2.3
Manufacturing	198.4	1.5	199.4	(0.1)	(1.0)	(0.5)	0.4
Durable Goods	137.1	1.4	137.7	0.4	(0.6)	(0.4)	(0.4)
Wood Product	23.3	4.0	23.2	0.3	0.0	0.1	(1.4)
Metals and Machinery	40.2	1.2	40.4	0.2	(0.2)	(0.5)	0.4
Computer and Electronic Product	38.6	(0.5)	38.7	0.6	(0.1)	(0.4)	0.1
Transportation Equipment	12.6	0.1	12.9	(0.7)	(0.3)	(2.4)	0.9
Other Durable Goods	22.5	3.2	22.4	1.2	0.1	0.3	(2.3)
Nondurable Goods	61.3	1.6	61.7	(1.0)	(0.5)	(0.8)	2.2
Food	29.6	2.4	29.8	(3.1)	(0.1)	(0.4)	(0.2)
Other Nondurable Goods	31.6	0.8	32.0	0.9	(0.3)	(1.1)	4.5
Trade, Transportation & Utilities	358.7	1.9	356.2	0.1	2.5	0.7	1.4
Retail Trade	209.6	0.5	209.1	(0.2)	0.5	0.2	(0.6)
Wholesale Trade	76.7	2.7	76.8	1.1	(0.0)	(0.0)	3.4
Transportation, Warehousing & Utilities	72.4	5.1	70.3	(0.3)	2.0	2.9	5.6
Information	35.3	3.3	34.6	0.9	0.7	2.1	1.3
Financial Activities	103.7	1.8	103.4	1.3	0.3	0.3	1.3
Professional & Business Services	255.3	2.7	256.7	3.2	(1.5)	(0.6)	1.3
Educational & Health Services	304.1	0.9	305.5	2.8	(1.4)	(0.5)	2.0
Educational Services	37.0	0.4	36.7	0.0	0.3	0.8	1.2
Health Services	267.1	0.9	268.8	3.2	(1.7)	(0.6)	2.1
Leisure and Hospitality	216.0	4.2	214.0	1.9	2.0	0.9	1.4
Other Services	64.6	0.9	64.7	0.2	(0.1)	(0.1)	0.3
Government	297.9	(1.2)	300.0	1.5	(2.1)	(0.7)	0.9
Federal	28.4	(3.7)		(10.5)		(0.2)	0.7
State	39.8	(4.2)	39.8	(2.1)	0.1	0.1	1.6
State Education	0.8	5.1	0.9	(7.0)	(0.1)	(7.3)	(1.9)
Local	229.7	(0.4)	231.8	3.7	(2.1)	(0.9)	0.8
Local Education	133.0	2.4	131.0	(1.8)	2.0	1.5	0.3

Table A.2 – Short-Term Oregon Economic Summary

Oregon Forecast Summary

Oregon Forecast Summa	I Y	Ou	arterly					An	nual		
	2019:4		•	2020:3	2020:4	2018	2019	2020	2021	2022	2023
		Р	ersonal I	ncome (\$	billions)						
Nominal Personal Income	227.5	230.0	232.6	235.3	238.1	213.1	223.7	234.0	245.5	257.6	269.9
% change	5.3	4.4	4.6	4.8	4.8	6.2	5.0	4.6	4.9	4.9	4.8
Real Personal Income (base year=2012)		207.5	209.0	210.6	212.4	197.0	204.0	209.9	216.3	222.1	227.6
% change	3.6	2.7	2.9	3.2	3.4	4.1	3.5	2.9	3.1	2.7	2.5
Nominal Wages and Salaries	114.5	116.2	118.0	119.5	121 1	107.0	112.4	118.7	125.1	131.7	138.3
% change	7.3	6.0	6.3	52	53	5.7	5.0	5.6	5.4	5.3	5.0
			Othe	r Indicat	ors						
Per Capita Income (\$1,000)	53.5	54.0	54.4	55.0	55 5	50.8	52.8	54.7	56.9	59.1	61.4
% change	4.3	3.4	3.6	3.8	3.8	4.9	4.0	3.6	3.9	4.0	3.9
Average Wage rate (\$1,000)	581	58.8	59.4	60.0	60.6	55.5	57.4	59.7	62.1	64.7	67.4
% change	5.4	4.4	4.1	4.0	4.0	3.7	3.4	4.0	4.0	4.2	4.2
Population (Millions)	43	4.3	4.3	4.3	4.3	4.20	4.24	4.28	4.32	4.36	4.39
% change	1.0	0.9	0.9	0.9	0.9	1.3	1.0	1.0	0.9	0.9	0.9
Housing Starts (Thousands)	21.1	22.1	22.4	22.6	22.8	19.6	20.7	22.4	23.3	23.6	23.4
% change	13.9	18.3	5.9	4.1	3.0	1.6	5.8	8.2	4.0	1.2	(0.9)
Unemployment Rate	3.9	3.9	3.8	3.8	3.8	4.1	4.1	3.8	3.9	4.0	4.2
Point Change	(0.2)	0.0	(0.1)	0.0	0.0	0.0	(0.0)	(0.3)	0.0	0.2	0.2
			Employn	nent (Tho	usands)						
Total Nonfarm	1,950.5	1,959.7	1,970.5	1,976.7	1,983.0	1,912.1	1,941.2	1,972.5	1,999.5	2,020.5	2,036.1
% change	1.5	1.9	2.2	1.3	1.3	2.0	1.5	1.6	1.4	1.0	0.8
Private Nonfarm	1,652.6	1,660.3	1,666.7	1,674.5	1,680.7	1,617.3	1,643.0	1,670.6	1,694.6	1,712.5	1,725.6
% change	2.0	1.9	1.6	1.9	1.5	3.3	1.6	1.7	1.4	1.1	0.8
Construction	109.8	110.2	110.5	110.8	111.0	105.3	109.1	110.6	112.1	112.4	113.3
% change	1.8	1.6	1.2	0.9	0.9	7.7	3.5	1.4	1.3	0.3	0.7
Manufacturing	198.4	198.7	198.8	198.4	198.3	195.3	198.3	198.6	197.8	197.7	197.7
% change	1.5	0.7	0.1	(0.7)	(0.2)	2.8	1.5	0.1	(0.4)	(0.1)	0.0
Durable Manufacturing	137.1	138.0	138.1	137.8	137.7	135.6	137.2	137.9	137.0	136.4	136.2
% change	1.4	2.6	0.4	(1.0)	(0.3)	3.0	1.2	0.5	(0.6)	(0.4)	(0.2)
Wood Product Manufacturing	23.3	23.6	23.6	23.5	23.5	23.5	23.3	23.6	23.3	23.2	23.3
% change	4.0	5.8	1.0	(1.9)	(1.2)	2.4	(0.8)	1.1	(1.0)	(0.5)	0.4
High Tech Manufacturing	38.6	39.0	39.0	38.9	38.9	38.0	38.6	38.9	38.7	38.9	38.8
% change	(0.5)	4.2 12.4	0.0 12.5	(1.5)	0.5	3.0 12.2	1.7 12.6	0.9	(0.5) 12.6	0.4 12.6	(0.1) 12.6
Transportation Equipment % change	12.6 0.1	(6.2)	2.2	12.5 1.9	12.6 1.3	2.5	3.9	12.5 (1.0)	0.5	(0.0)	01
Nondurable Manufacturing	61.3	60.7	60.6	60.6	60.6	59.6	61.1	60.7	60.8	61 3	61.6
% change	1.6	(3.5)	(0.5)		0.2	2.2	2.4	(0.7)	0.3	0.7	0.5
Private nonmanufacturing		1,461.6								1,514.8	
% change	2.1	2.0	1.8	2.2	1.7	3.4	1.6	1.9	1.7	1.2	0.9
Retail Trade	209.6	209.7	209.8	209 9	209 9	211.4	209.9	209.8	210.1	210.4	210.7
% change	0.5	0.2	0.2	01	01	0.2	(0.7)	(0.0)	0.1	0.1	0.1
Wholesale Trade	76.7	77.0	77 1	77 2	77.3	75.1	76.4	77.2	77.5	77.8	77.8
% change	2.7	13	0.6	0.6	0.5	0.1	1.8	1.0	0.5	0.3	0.0
Information	35 3	35 5	35.4	35.3	35.4	34.4	34.9	35.4	35.4	35.4	35.4
% change	33	2.0	(1.1)	(0.6)	0.2	0.4	1.7	1.4	(0.1)	(0.0)	(0.0)
Professional and Business Services	255.3	257.2	259.1	263.5	266.5	249.7	253.8	261.6	274.5	284.5	289.1
% change	2.7	3.1	2.9	6.9	4.6	2.1	1.6	3.0	5.0	3.6	1.6
Health Services	267.1	269.9	272.4	273.9	275.0	258.9	264.5	272.8	277.8	282.7	287.6
% change	0.9	4.3	3.7	2.2	1.6	9.3	2.2	3.1	1.8	1.8	1.7
Leisure and Hospitality	216.0	217.8	219.1	220.6	222.0	211.2	214.1	219.9	223.0	224.5	226.8
% change	4.2	3.4	2.4	2.7	2.6	2.4	1.3	2.7	1.4	0.6	1.0
Government	297.9	299.4	303.8	302.2	302.3	294.8	298.2	301.9	304.9	308.0	310.6
% change	(1.2)	2.0	6.0	(2.1)	0.1	(4.8)	1.2	1.2	1.0	1.0	0.8

Table A.3 – Oregon Economic Forecast Change

Oregon Forecast Change (Current vs. Last)

Oregon Forecast Change	(Cur		S. Las arterly	st)				An	nual		
	2019:4		•	2020:3	2020:4	2018	2019	2020	2021	2022	2023
		_0_011	_0_01_	202010	_0_01	2010		_0_0			2020
		Р	ersonal L	ncome (\$	billions)						
Nominal Personal Income	227.5	230.0	232.6	235.3	238.1	213.1	223.7	234.0	245.5	257.6	269.9
% change	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	0.0	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)
Real Personal Income (base year=2012)	206.1	207.5	209.0	210.6	212.4	197.0	204.0	209.9	216.3	222.1	227.6
% change	0.0	0.2	0.2	0.3	0.4	0.0	(0.2)	0.3	0.3	0.4	0.4
Nominal Wages and Salaries	114.5	116.2	118.0	119.5	121.1	107.0	112.4	118.7	125.1	131.7	138.3
% change	(0.7)	(0.6)	(0.6)	(0.5)	(0.6)	0.0	(0.8)	(0.6)	(0.6)	(0.5)	(0.4)
			Othe	r Indicat	ors						
Per Capita Income (\$1,000)	53.5	54.0	54.4	55.0	55.5	50.8	52.8	54.7	56.9	59.1	61.4
% change	0.1	0.2	0.3	0.4	0.4	0.0	(0.0)	0.3	0.6	0.9	1.1
Average Wage rate (\$1,000)	58.1	58.8	59.4	60.0	60.6	55.5	57.4	59.7	62.1	64.7	67.4
% change	(0.9)	(0.8)	(0.8)	(0.8)	(0.8)	0.0	(0.8)	(0.8)	(0.8)	(0.7)	(0.6)
Population (Millions)	4.25	4 26	4 27	4.3	4.3	4.20	4 24	4.28	4.32	4.36	4.39
% change	(0.4)	(0.4)	(0.5)	(0.6)	(0.6)	0.0	(0.3)	(0.5)	(0.8)	(1.0)	(1.2)
Housing Starts (Thousands)	21.1	22.1	22.4	22.6	22.8	19.6	20.7	22.4	23.3	23.6	23.4
% change	(0.5)	1.8	2.4	2.9	2.3	(0.1)	(0.4)	2.4	2.4	1.3	1.7
Unemployment Rate	3.9	3.9	3.8	3.8	3.8	4.1	4.1	3.8	3.9	4.0	4.2
Point Change	(0.1)	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0	0.0	0.0
]	Employn	ent (Tho	usands)						
Total Nonfarm	1,950.5	1,959.7	1,970.5	1,976.7	1,983.0	1,912.1	1,941.2	1,972.5	1,999.5	2,020.5	2,036.1
% change	0.0	0.1	0.2	0.2	0.2	(0.0)	0.0	0.2	0.2	0.2	0.2
Private Nonfarm	1,652.6	1,660.3	1,666.7	1,674.5	1,680.7	1,617.3	1,643.0	1,670.6	1,694.6	1,712.5	1,725.6
% change	0.1	0.3	0.3	0.4	0.3	0.0	0.1	0.3	0.3	0.3	0.3
Construction	109.8	110.2	110.5	110.8	111.0	105.3	109.1	110.6	112.1	112.4	113.3
% change	09	1.0	1.3	1.4	1.4	(0.0)	0.5	1.3	1.5	1.2	1.2
Manufacturing	198.4	198.7	198.8	198.4	198.3	195 3	198.3	198.6	197.8	197.7	197.7
% change	(0.5)	01	0.2	0.2	0.2	(0.0)	(03)	0.2	(0.1)	(0.4)	(0.7)
Durable Manufacturing	137.1	138.0	138 1	137.8	137.7	135.6	137 2	137 9	137.0	136.4	136.2
% change	(0.4)	0.2	03	0.1	0.2	(0.0)	(0.2)	02	(0.2)	(0.6)	(0.9)
Wood Product Manufacturing	23.3	23.6	23.6	23 5	23.5	23.5	23.3	23.6	23 3	23.2	23.3
% change	0.1	1.5	1.6	11	0.7	0.0	(0.1)	1.2	(0 2)	(1.3)	(1.9)
High Tech Manufacturing	38.6	39.0	39.0	38.9	38 9	38.0	38.6	38.9	38.7	38 9	38.8
% change	(0.4)	0.6	0.5	0.1	01	(0.0)	0.0	0.3	(0.6)	(09)	(1.0)
Transportation Equipment	12.6	12.4	12.5	12.5	12.6	12.2	12.6	12.5	12.6	12.6	12.6
% change	(2.4)	(3.4)	(2.9)	(2.2)	(1.4)	(0.0)	(1.3)	(2.5)	(0.9)	(1.0)	(13)
Nondurable Manufacturing	61.3	60.7	60.6	60.6	60.6	59.6	61.1	60.7	60.8	61.3	61.6
% change	(0.8)		0.1	0.3	0.3	(0.0)	(0.5)	0.1	0.2	0.1	(0.1)
Private nonmanufacturing		1,461.6		1,476.1					1,496.8		1,527.8
% change Retail Trade	0.2 209.6	0.3 209.7	0.3 209.8	0.4 209.9	0.4 209.9	0.0 211.4	0.1 209.9	0.3 209.8	0.3 210.1	0.4 210.4	0.4 210.7
Retail Trade % change	209.6	209.7	209.8 0.4	209.9	209.9	(0.0)	209.9	209.8 0.4	0.3	0.2	0.1
Wholesale Trade	0.2 76.7	0.4 77.0	77.1	77.2	0.3 77.3	(0.0)	0.2 76.4	0.4 77.2	0.5 77.5	77.8	77.8
% change	(0.0)	0.2	0.3	0.4	0.3	0.0	(0.1)	0.3	0.3	0.4	0.3
Information	35.3	35.5	35.4	35.3	35.4	34.4	34.9	35.4	35.4	35.4	35.4
% change	2.1	2.5	2.2	1.9	1.9	(0.0)	1.0	2.1	1.8	1.6	1.4
% change Professional and Business Services	255.3	2.3 257.2	2.2	263.5	266.5	(0.0) 249.7	253.8	2.1	274.5	284.5	289.1
% change	(0.6)	(0.7)	(0.9)	(0.5)	(0.7)	0.0	(0.2)	(0.7)	(0.5)	0.2	0.6
<i>Health Services</i>	267.1	269.9	272.4	273.9	275.0	258.9	264.5	272.8	277.8	282.7	287.6
% change	(0.6)	(0.4)	(0.2)	(0.1)	(0.2)	0.0	(0.2)	(0.2)	(0.3)	(0.2)	(0.2)
% change Leisure and Hospitality	216.0	217.8	(0.2)	220.6	222.0	211.2	(0.2)	(0.2)	223.0	(0.2)	(0.2) 226.8
% change	210.0 0.9	1.3	1.1	1.1	1.4	(0.0)	0.4	1.2	1.2	224.3 0.7	220.8 0.9
% change Government	0.9 297.9	1.3 299.4	303.8	302.2	1.4 302.3	(0.0) 294.8	0.4 298.2	1.2 301.9	1.2 304.9	308.0	0.9 310.6
% change	(0.7)	(0.6)	(0.5)	(0.5)	(0.5)	(0.0)	(0.2)	(0.5)	(0.4)	(0.3)	(0.2)
/u change	(0.7)	(0.0)	(0.3)	(0.3)	(0.5)	(0.0)	(0.2)	(0.5)	(0.4)	(0.3)	(0.2)

Mar 2020 - Personal Income

(Billions of Current Dollars)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Persona	al Income*											
Oregon	213 1	223 7	234 0	245 5	257 6	269 9	283 0	297 0	311 7	326 8	342 5	358 7
% Ch	62	50	46	49	49	48	49	49	50	48	48	47
U.S.	17,819 2	18,630 0	19,350 2	20,209 0	21,109 4	22,009 7	22,996 5	24,098 3	25,241 3	26,415 4	27,640 1	28,904 4
% Ch	56	46	39	44	4 5	43	4 5	48	47	47	46	46
Wage and Sala	ry											
Oregon	107 0	112 4	118 7	125 1	131 7	138 3	145 1	152 4	160 0	167 9	176 1	184 5
% Ch	57	50	56	54	53	50	49	50	5 0	49	49	48
U.S.	8,888 5	9,325 1	9,727 2	10,174 9	10,649 3	11,119 6	11,620 2	12,192 1	12,802 4	13,430 4	14,079 4	14,750 4
% Ch	50	49	43	46	47	44	4 5	49	50	49	48	48
Other Labor In	come											
Oregon	25 6	26 8	28 1	29 7	31 3	32 9	34 5	36 3	38 2	40 2	42 2	44 3
% Ch	44	4 5	51	54	5 5	50	49	52	54	52	50	50
U.S.	1,417 2	1,473 2	1,535 9	1,606 5	1,681 5	1,756 0	1,835 1	1,925 4	2,021 8	2,121 1	2,223 7	2,329 7
% Ch	5 5	40	43	46	47	44	45	49	50	49	48	48
Nonfarm Prop	rietor's Income											
Oregon	18 1	18 8	19 5	19 9	19 9	20 0	20 4	20 8	21 4	22 1	22 8	23 5
% Ch	44	39	3 5	20	03	06	16	23	3 0	32	31	31
U.S.	1,561 6	1,626 0	1,676 5	1,703 4	1,699 7	1,701 3	1,715 5	1,732 6	1,756 9	1,796 5	1,848 8	1,907 1
% Ch	5 5	41	31	16	(0 2)	01	08	10	14	23	29	32
Dividend, Inter	est and Rent											
Oregon	45 8	47 0	48 2	50 2	52 5	55 1	57 9	60 8	63 7	66 5	69 5	72 7
% Ch	83	26	2 5	43	4 5	49	51	50	47	44	4 5	4 5
U.S.	3,686 9	3,771 8	3,869 2	4,037 4	4,222 9	4,420 0	4,654 2	4,905 8	5,139 8	5,365 7	5,603 6	5,853 0
% Ch	84	23	26	43	46	47	53	54	48	44	44	45
Transfer Paym	ents											
Oregon	40 0	43 2	45 2	47 5	50 0	52 8	55 8	58 8	61 9	65 1	68 4	71 8
% Ch	59	8 1	44	51	54	56	56	54	53	52	51	49
U.S.	2,920 0	3,115 8	3,274 6	3,435 6	3,607 7	3,799 4	4,004 0	4,216 1	4,432 6	4,658 6	4,891 9	5,124 9
% Ch	4 1	67	51	49	50	53	54	53	51	51	50	48
Contributions t	for Social Secu	rity										
Oregon	18 5	194	20 4	21 6	22 7	23 9	25 1	264	27 7	29 0	30 3	31 7
% Ch	3 5	4 5	5 5	56	5 2	53	51	51	49	47	47	46
U.S.	733 7	771 3	802 8	836 1	872 5	909 0	948 6	994 1	1,042 9	1,093 4	1,145 8	1,200 0
% Ch	57	51	41	41	44	42	43	48	49	48	48	47
Residence Adj	ustment											
Oregon	(4 9)	(51)	(53)	(54)	(5 5)	(56)	(58)	(60)	(62)	(64)	(66)	(68)
% Ch	4 0	42	29	21	23	27	32	32	29	33	31	28
Farm Proprieto	or's Income											
Oregon	(01)	(01)	(0 0)	0 0	03	03	0 2	02	03	03	03	03
% Ch	(429 7)	(0 2)	(44 1)	(166 4)	1,015 6	59	(23 6)	61	17 0	56	(0 4)	10
Per Capita In	come (Thousa	nds of \$)										
Oregon	50 8	52 8	54 7	56 9	59 1	61 4	63 9	664	69 2	71 9	74 8	77 8
% Ch	49	40	36	39	40	39	40	41	41	40	40	40
U.S.	54 4	564	58 2	60 4	62 6	64 9	67 3	70 1	72 9	75 8	78 9	82 0
% Ch	49	38	31	37	37	36	38	41	41	40	40	39
* Personal Inco	ome includes al	ll classes of	income mir	us Contribu	tions for So	cial Security	7					

Test set is the	Mar 2020 - Emplo (Oregon - Thousa												
Oregon1941219442192731929520205202062020420084200842008420084200820141001001002008201810010020082018100 <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> <th>2024</th> <th>2025</th> <th>2026</th> <th>2027</th> <th>2028</th> <th>2029</th>		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
⁵⁰ / _N Cs. 190 15 16 14 10 0.8 0.7 0.8 0.8 0.8 0.9 0.8 0.9 0.8 0.9 0.8 0.9 0.	Total Nonfarm												
US jb(1) 1514 1533 1544 1551 1550 1590 1500 <th< td=""><td>Oregon</td><td>1,912 1</td><td>1,941 2</td><td>1,972 5</td><td>1,999 5</td><td>2,020 5</td><td>2,036 1</td><td>2,049 6</td><td>2,065 4</td><td>2,082 3</td><td>2,098 5</td><td>2,114 4</td><td>2,129 3</td></th<>	Oregon	1,912 1	1,941 2	1,972 5	1,999 5	2,020 5	2,036 1	2,049 6	2,065 4	2,082 3	2,098 5	2,114 4	2,129 3
"h Ch.1716120.80.50.10.10.40.60.60.60.6Prive Amage1.231.6401.6441.71251.7281.7361.7461.786									08				07
Protect set of the term of the term of the term of the term of term o													159 5
Oregon 1.6173 1.6173 1.6170 1.796 1.81 1.82 1.83 1.83 1.83 1.83 1.83 1.83 1.9		17	16	12	08	05	01	01	04	06	06	06	05
· · · · · · · · · · · · · · · · · · ·		1 (17.2	1 (12 0	1 (70 (1 604 6	1 710 5	1 525 5	1 704 4	1 7 40 7	1.7(2.0	1.774.4	1 700 0	1 001 6
US 12.66 12.86 12.96 12.90 12.20 1	-												
% Ch 19 18 13 0.8 0.9 0.0 0.3 0.5 0.9 0.0 0.9 Mating under line 0.0 7.2 0.9 7.0 7.1 7.1 7.7 7.2 7.2 7.2 7.3 7.3 7.4 7.4 % Ch 3.3 0.9 7.0 0.0 <													
Matrix and Loging To Page 7 <td></td>													
Obegon T2 69 70 71 71 72 72 73 <t< td=""><td></td><td>17</td><td>10</td><td>15</td><td>00</td><td>04</td><td>(01)</td><td>00</td><td>05</td><td>05</td><td>00</td><td>00</td><td>05</td></t<>		17	10	15	00	04	(01)	00	05	05	00	00	05
s Ch. 32 4.5 1.9 0.7 0.7 0.6 0.3 0.7 0.7 0.8	0 00 0	72	69	70	71	71	72	72	72	73	73	73	74
US 07 07 07 07 07 08	-												13
Overson 10.5 10.6 11.21 11.23 11.53 <t< td=""><td>US</td><td>07</td><td></td><td>07</td><td>07</td><td>07</td><td>08</td><td>08</td><td>08</td><td>08</td><td>08</td><td>08</td><td>08</td></t<>	US	07		07	07	07	08	08	08	08	08	08	08
Occopen 1003 1010 1121 1124 1133 1139 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 1145 114 116 117 20 22 Coregon 1953 1983 1983 1983 1983 1981 1981 1981 1981 103 02 01 101 Stc.h 2.8 155 017 0170 1070 010 011 013 012 013 012 013 014 013 013 013 014 013 014 013	% Ch	83	27	(29)	01	19	22	24	14	03	02	0 1	02
····································	Construction												
US 73 73 76 76 77 78 78 79 78 79 78 79 78 79 78 79 78 79 78 79 78 79 78 79 70	Oregon	105 3	109 1	110 6	112 1	112 4	113 3	113 9	114 2	114 5	114 8	115 2	115 7
% Ch 4 6 1 0 0 8 1 0 7 0.2 2.2 Manual constraints 0 </td <td>% Ch</td> <td></td> <td>3 5</td> <td>14</td> <td>13</td> <td></td> <td></td> <td>05</td> <td></td> <td>02</td> <td>03</td> <td>03</td> <td>05</td>	% Ch		3 5	14	13			05		02	03	03	05
MutacheringOregon19519761977197819811981198119821991101% Ch28125012124124123012123121120013012% Ch2012201802102002	US	73								81	82		85
Chegon 1953 1986 1977 1977 1978 1981 1987 1991 1993 1992 % Ch 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 127 128 126 1363 1366 1377 1367 1366 % Ch 30 12 05 060 040 022 000 010 02 077 76 76 76 74 77 % Ch 2 180 78 77 77 76		46	28	10	08	11	07	08	14	16	17	20	22
¹ Ch 28 15 01 02 01 01 01 01 03 02 01 01 US 20 12 080 (21) 020 020 020 020 020 040 090 044 01 Wa Ch 20 1370 1370 1370 1364 1352 1363 1366 1377 1367 1													
US 127 128 127 128 124 124 123 122 121 120 120 120 120 120 080 040 020 080 <td></td>													
% Ch2012(0.8)(0.2)(0.7)(0.9)(0.4)(0.9)(1.4)(1.4)13561372137013641362136213631366136713671360136113621361136213621362136313661367136713611361136213621362136213621362136213621362136213621361<													
Durabe Xhamikuring Link Link <thlink< th=""> Link <thlink< th=""> Link Link<td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thlink<></thlink<>													
Oregon 1356 1372 1370 1370 1364 1362 1363 1366 1367			12	(0.8)	(21)	(0.5)	(0 2)	(07)	(0.8)	(04)	(09)	(14)	(14)
NCh30120.50.060.020.070.10.20.10.090.09US777676767776767776777677 <td></td> <td>-</td> <td>127.2</td> <td>127.0</td> <td>127.0</td> <td>126.4</td> <td>126.2</td> <td>126.2</td> <td>126.2</td> <td>126.6</td> <td>1267</td> <td>126 7</td> <td>126.5</td>		-	127.2	127.0	127.0	126.4	126.2	126.2	126.2	126.6	1267	126 7	126.5
US 79 81 80 78 78 77 76 76 74 72 Wood Products Vood Products Vand Products <td>-</td> <td></td>	-												
% Ch 2.7 1.4 (0.7) (2.3) (0.6) (0.1) (0.5) (0.7) (0.3) (1.1) (1.8) (1.1) Oregon 23.5 23.3 23.6 23.3 23.2 23.3 23.6 23.8 24.0 24.2 24.4 % Ch 2.4 (0.8) 1.1 (1.0) (0.5) 0.4 0.5													
Wood Products Unit													(19)
Oregon 23.5 23.6 23.3 22.6 23.3 24.6 23.8 24.0 24.2 24.4 W Ch 2.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5				(0.1)	()	(0.0)	(* -)	(0.0)	(0.1)	(0.0)	()	()	(
US 04 04 04 04 05<			23 3	23 6	23 3	23 2	23 3	23 6	23 8	23 8	24 0	24 2	24.4
% ch 2 0 2 0 2 1 5 1 2 2 3 2 0 0 0 Metal and Machine 393 403 402 397 300 386 388 391 394 395 395 395 % ch 52 25 26 29 29 29 28 28 25 % ch 31 11 24 28 26 29 29 28 28 28 27 % ch 31 11 12 28 38 385 382 380 378 378 377 377 % ch 16 27 11 <td< td=""><td>% Ch</td><td>24</td><td>(08)</td><td>11</td><td>(10)</td><td>(05)</td><td>04</td><td>14</td><td>07</td><td>03</td><td>06</td><td>10</td><td>10</td></td<>	% Ch	24	(08)	11	(10)	(05)	04	14	07	03	06	10	10
Metal and Machinery Oregon 39 3 40 3 40 3 39 0 38 6 38 8 39 1 39 4 39 5	US	04	04	04	04	04	04	04	05	05	05	05	05
Oregon 99 403 402 397 390 386 381 391 394 395 395 395 % Ch 52 25 02 12 18 018 02 29 20 % Ch 30 16 27 11 11 11 11 11 11 11 11 </td <td>% Ch</td> <td>24</td> <td>09</td> <td>22</td> <td>08</td> <td>27</td> <td>15</td> <td>12</td> <td>23</td> <td>24</td> <td>(0 2)</td> <td>(10)</td> <td>(0 8)</td>	% Ch	24	09	22	08	27	15	12	23	24	(0 2)	(10)	(0 8)
⁵ Ch 5.2 2.5 0.0 (1.2) (1.8) (0.8) 0.4 0.8 0.7 0.2 0.00 0.0 US 3.0 3.0 2.9 2.9 2.9 2.9 2.9 2.8 2.8 2.7 % Ch 3.1 1.1 (2.4) (2.8) 0.6 1.1 0.3 (0.6) 0.3 (0.1) (0.1) (0.1) (0.7)	Metal and Ma	chinery											
US 30 30 29 28 29 29 29 29 29 28 28 29 29 28 28 28 29 29 28 28 28 29 29 28 28 28 28 29 28 28 28 29 28 28 28 29 28 28 29 28 28 29 28 28 29 28 28 29 28 28 29 28 28 29 28 28 29 28 29 28 29 28 29 28 29 28 29 28 29 28 29 29 28 28 27 20 20 20 20 20 20 20 20 20 20 20 20 20	Oregon		40 3		39 7								39 5
% Ch 3.1 1.1 (2.4) (2.8) 0.6 1.1 0.3 (0.6) (0.3) (1.4) (2.1) (2.0) Computer and Electronic Products													0.0
Computer and Electronic Products Oregon 380 386 385 385 380 378 377 377 % Ch 30 17 09 055 0.4 001 009 0.89 0.40 0.03 0.01 US 1.1													27
Oregon 380 386 389 387 389 388 385 382 380 378 377 377 % Ch 30 17 09 (05) 04 (01) (09) (08) (04) (05) (00) (05) (00) (01 03 (02) (02) (02) (02) (02) (02) (02) (02) (02) (02) (03) (01) 03 (02) (03) (04) (01) (05) (01) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (04) (0				(24)	(28)	06	11	03	(06)	(03)	(14)	(21)	(20)
% Ch 30 17 09 (0.5) 0.4 (0.1) (0.9) (0.8) (0.4) (0.4) (0.3) (0.1) % Ch 16 27 11 (11) 11	*			20.0	20.7	20.0	20.0	20.5	20.2	20.0	27.0	27.7	27.7
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$													
% Ch 16 27 11 (11) 04 03 04 03 (02) (05) (11) (11) Transportation Equipment 0 122 126 125 126 126 126 126 126 126 126 126 126 127 127 127 126 123 % Ch 25 39 (10) 05 (00) 01 03 (02) 06 00 (08) (22) % Ch 36 0 (02) (23) (47) (26) (22) (08) (10) 03 (04) Web 0 12 14 (01) 05 (00) (04) (01) 02 10 (03) (04) Web 18 02 22 22 22 22 22 22 22 22 22 22 22 22 22 22 22 22 22 24 26													
Transportation Equipment Transportation Equipment Transportation Equipment Transportation Equipment Oregon 122 126 <th1< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th1<>													
Oregon 12 2 12 6 12 5 12 6 12 6 12 6 12 6 12 7 12 7 12 6 12 7 % Ch 2 5 3 9 (10) 0 5 (00) 0 1 0 3 (02) 0 6 0 00 (08) (20) US 17 17 17 17 16 16 15 15 15 14 14 % Ch 3 6 20 (02) (32) (47) (26) (22) (08) (10) (23) (32) Other Durables 727 22 4 227 22 7 22 <td></td> <td></td> <td></td> <td>11</td> <td>(11)</td> <td>04</td> <td>05</td> <td>04</td> <td>05</td> <td>(0 2)</td> <td>(0.5)</td> <td>(11)</td> <td>(11)</td>				11	(11)	04	05	04	05	(0 2)	(0.5)	(11)	(11)
% Ch 2.5 3.9 (10) 0.5 (00) 0.1 0.3 (02) 0.6 0.0 (08) (2.0) US 1.7 1.7 1.7 1.7 1.6 1.6 1.5 1.5 1.5 1.4 1.4 % Ch 3.6 2.0 (02) (26) (26) (22) (08) (10) 0.5 (14) 1.4 1.4 Oregon 2.7 2.24 2.27 2.28 2.27 2.27 2.22 2.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				12.5	126	12.6	126	126	12 6	127	127	12.6	123
US 17 17 17 17 16 16 15 15 15 14 14 % Ch 36 20 (02) (22) (26) (22) (08) (10) (23) (32) OhepDurables 0 (22) (21) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10)													(20)
Other Durables Oregon 22.7 22.4 22.7 22.7 22.8 22.7 22.7 22.8 22.7 22.7 22.8 22.7 22.7 22.8 22.7 22.7 22.8 22.8 22.7 22.8 22.8 22.7 22.8 22.8 22.7 22.8 22.8 22.7 22.2 22.6 6.2 6	US	17	17	17	17	16	16	15		15	15		14
Oregon 227 224 227 227 228 227 227 228 227 227 228 228 227 227 228 228 227 227 228 228 227 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 227 228 228 228 227 228 230 010 010 010 010 010 010 010 010 010 010 010 010 010 010 010<	% Ch	36	20	(02)	(32)	(47)	(26)	(26)	(2 2)	(08)	(10)	(23)	(3 2)
% Ch 0.5 (1.2) 1.4 (0.1) 0.5 (0.0) (0.4) (0.1) 0.2 0.1 (0.3) (0.4) US 2.2 2.4 (0.7) 0.3 0.7 0.5 0.1 0.2 0.5 0.4 0.4 0.5 0.1 0.2 0.5 0.4 0.5 0.5 0.6 0.6 0.5 0.6 0.6 0.5 0.6 0.6 0.5 0.6<	Other Durable	s											
US 22 24 07 03 07 05 01 02 05 04 04 05 US 47 48 47 47 46 46 46 45 45 45 44 44 46 % 06 <td< td=""><td>Oregon</td><td>22 7</td><td>22 4</td><td>227</td><td>227</td><td>22 8</td><td>22 8</td><td>227</td><td>22 7</td><td>22 8</td><td>22 8</td><td>22 7</td><td>22 6</td></td<>	Oregon	22 7	22 4	227	227	22 8	22 8	227	22 7	22 8	22 8	22 7	22 6
% Ch 18 08 02 (16) 04 01 (05) (04) 01 (10) (14) (12) Nondurable Manufacturing													(04)
Nondurable Manufacturing Oregon 59.6 61.1 60.7 60.8 61.3 61.6 61.6 61.8 62.1 62.4 62.6 62.5 % Ch 2.2 2.4 (0.7) 0.3 0.7 0.5 0.1 0.2 0.5 0.4 0.4 0.5 US 4.7 4.8 4.7 4.7 4.6 4.6 4.6 4.5 4.5 4.4 4.4 % Ch 0.9 0.9 (0.9) (1.8) (0.4) (0.5) (1.1) (1.0) (0.6) (0.6) (0.6) Food Manufacturing													21
Oregon 59.6 61.1 60.7 60.8 61.3 61.6 61.6 61.8 62.1 62.4 62.6 62.9 % Ch 2.2 2.4 (0.7) 0.3 0.7 0.5 0.1 0.2 0.5 0.4 0.4 0.5 US 4.7 4.8 4.7 4.7 4.6 4.6 4.6 4.5 4.5 4.5 4.4 4.4 % Ch 0.9 0.9 (0.8) (0.6) (1.1) (1.0) (0.6) <td></td> <td></td> <td>08</td> <td>02</td> <td>(16)</td> <td>04</td> <td>01</td> <td>(05)</td> <td>(04)</td> <td>01</td> <td>(10)</td> <td>(14)</td> <td>(12)</td>			08	02	(16)	04	01	(05)	(04)	01	(10)	(14)	(12)
% Ch 22 24 (07) 03 07 05 01 02 05 04 04 05 US 47 48 47 47 46 46 46 45 45 45 44 44 % Ch 09 09 (09) (18) (04) (05) (11) (10) (06) (06) (06) (06) Food Manufacturing 929 298 291 294 296 298 299 300 301 303 304 306 % Ch 05 (05) (22) 09 09 06 03 02 05 06 04 05 US 16 16 16 17													
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Food Manufacturing State St													
Oregon 29 29 29 29 29 29 29 29 300 301 303 304 306 % Ch 0.5 (0.5) (2.2) 0.9 0.9 0.6 0.3 0.2 0.5 0.6 0.4 0.5 US 1.6 1.6 1.6 1.6 1.7			09	(0.9)	(18)	(04)	(05)	(11)	(10)	(0.6)	(0 6)	(0 6)	(0.5)
% Ch 0.5 (0.5) (2.2) 0.9 0.9 0.6 0.3 0.2 0.5 0.6 0.4 0.5 US 1.6 1.6 1.6 1.6 1.6 1.7 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 </td <td></td> <td>U</td> <td>20.8</td> <td>20.1</td> <td>20.4</td> <td>20.6</td> <td>20.8</td> <td>20.0</td> <td>20.0</td> <td>20.1</td> <td>20.2</td> <td>20.4</td> <td>20.6</td>		U	20.8	20.1	20.4	20.6	20.8	20.0	20.0	20.1	20.2	20.4	20.6
US 16 16 16 16 16 17 <th13< th=""> 132 13 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<></th13<>													
% Ch 13 13 00 (05) 14 11 02 03 07 04 02 03 Other Nondurable -													17
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US 31 31 31 30 30 29 29 28 28 28 27 27 % Ch 07 07 (13) (25) (14) (15) (19) (17) (13) (13) (11) (10) Trade, Transportation, and Utilities Oregon 352.2 356.9 359.4 359.9 360.4 360.6 361.0 361.6 362.0 362.6 363.3 363.8 % Ch 0.9 1.3 0.7 0.1 0.1 0.1 0.2 0.1 0.2 0.2 0.1													05
Trade, Transportation, and Utilities Oregon 352 2 356 9 359 4 359 9 360 4 360 6 361 0 361 6 362 0 362 6 363 3 363 8 % Ch 0.9 1.3 0.7 0.1 0.1 0.1 0.2 0.1 0.2 0.2 0.1													27
Trade, Transportation, and Utilities Oregon 352 2 356 9 359 4 359 9 360 4 360 6 361 0 361 6 362 0 363 3 363 8 % Ch 0.9 1.3 0.7 0.1 0.1 0.1 0.2 0.1 0.2 0.2 0.1	% Ch	07	07	(13)	(25)	(14)	(15)	(19)	(17)	(13)	(13)	(11)	(10)
% Ch 09 13 07 01 01 01 01 02 01 02 02 01	Trade, Transportation	, and Utilit	ties										
	Oregon		356 9	359 4	359 9		360 6	361 0	361 6	362 0	362 6	363 3	363 8
US 277 278 279 278 276 272 268 266 266 266 265 264	% Ch				01				02	01	02	02	01
													264
<u>% Ch 09 07 01 (03) (08) (13) (13) (08) (02) (00) (02) (04</u>	% Ch	09	07	01	(03)	(08)	(13)	(13)	(08)	(02)	(0 0)	(0 2)	(04)

Mar 2020 - Employment By Industry (Oregon - Thousands, U.S. - Millions) 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 Retail Trade 2107 211 4 209 9 209 8 210 1 2104 2111 211 6 2119 2123 2128 2132 Oregon (0.7)(00) 0.1 % Ch 02 0.1 0.1 02 02 01 02 02 02 US 15.8 158 157 157 15 5 15215.0 148 147 147 147 146 % Ch $(0\ 1)$ (02) (03) (05) $(1\ 1)$ (17) (17) (12) (06) $(0\ 1)$ (01)(03)Wholesale Trade 75 1 77 2 77 5 778 77 9 78 0 78 2 784 78 6 78 7 764 77 8 Oregon 01 % Ch 01 18 10 05 03 0.0 02 02 03 02 02 US 59 59 60 60 60 60 59 59 59 59 59 59 % Ch 07 14 06 04 (00)(05)(03)(02)(00)01 (05)(06)Transportation and Warehousing, and Utilities 722 722 721 720 72 0 719 720 720 72 0 Oregon 65 7 706 724 % Ch 41 74 25 (02) (00) (01) (01) (01) (01) 0.0 0.0 (00) US 60 61 61 61 61 60 59 59 60 60 59 59 (1 1)(03) % Ch 39 23 (0.3)(0.8)(12)(02)04 00 (02)06 Information 34.4 349 354 354 354 35 4 35 3 35 2 35 2 35 3 35 3 35 3 Oregon % Ch 04 17 14 (01) (00)(00) (01) (02)(00)01 01 0.0 $\mathbf{U}\,\mathbf{S}$ 2828282828 2828 282827 27 27 % Ch 05 04 (04)02 04 (04)(07)(14)(18)(02)(15)(07)**Financial Activities** Oregon 102 2 103 2 1043 105 3 105.8 105 7 105 5 105 3 105 3 105 3 105.6 105.8 % Ch 22 1011 $1 \ 0$ 04 (01) $(0\ 2)$ (01) $(0\ 1)$ $0 \ 1$ 03 02US 87 88 88 87 87 88 88 86 88 88 88 87 % Ch 14 $0 \ 1$ 03 13 14 04 (05)(04)(02)(01)(01)02 Professional and Business Services Oregon 2497 2538 261 6 274 5 284 5 2891 293 6 300 6 308 3 3148 3208 3261 % Ch 21 16 30 50 36 1615 24 2621 19 17 US 21 0 215 22 1 23 1 23 6 237 24024 6 25 2 257 261 264 % Ch 24 22 28 45 23 05 12 24 24 19 17 13 Education and Health Services 301 2 309.2 314 5 319 5 324 5 328 6 332.3 335 8 338 8 341 5 344 5 295 5 Oregon % Ch 83 20 26 17 16 16 13 11 10 09 08 09 U S 237 243 247 25 0 25 1 25 2 253 254 25 5 257 260 26 2 % Ch 21 25 19 10 06 03 05 05 05 07 09 08 Educational Services 367 364 367 368 369 37 0 37 1 37 1 37 1 37 1 37 1 Oregon 36 6 0.0 % Ch 16 04 (0.9)07 04 03 03 02 00 00 0.0 US 37 38 38 38 37 36 35 35 34 34 34 33 % Ch 16 2009 (18)(20)(24)(19) (14) $(1\ 3)$ (12)(13)(14)Health Care and Social Assistance 277 8 287 6 307 4 258 9 264 5 272 8 2827 291 6 295 2 2987 301 7 304 4 Oregon 93 09 % Ch 22 31 18 18 17 14 12 12 10 10 US 199 209 212 214 218 219 22 1 223 22 6 229 205 216 % Ch 2.1 26 2.0 15 11 07 09 08 0.8 1.1 12 1.1 Leisure and Hospitality 211 2 214 1 2199 223 0 224 5 2268 228 1 229 2 230 5 232 1 233 9 236 1 Oregon % Ch 24 13 27 1406 10 06 05 06 07 08 09 US 164 167 172 174 175 176 177 176 176 177 178 180 % Ch 07 01 19 2425 11 09 (01)(00)04 07 10 Other Services Oregon 643 64 6 64 6 65 0 65 3 654 65 6 65 8 662 665 66 8 673 % Ch 13 03 01 06 04 02 03 04 06 04 05 07 $\mathbf{U} \mathbf{S}$ 58 59 60 59 59 58 58 58 58 58 58 58 % Ch 01 02 04 13 15 03 (06) (07)(09)(05)(01)03 Government Oregon 294.8 298.2 301 9 304.9 308.0 310.6 313.0 3157 3186 321 9 325.3 3277 % Ch (48) 12 12 10 10 08 08 09 09 10 11 07 US224 22 6 22.8 22 9 23 1 23 2 234 23 5 237 23 8 24 0 241 % Ch 04 05 12 02 07 07 07 07 06 06 06 06 Federal Government 27.9 279 27.9 27.9 27.9 27.9 27.9 Oregon 28.1 28.5 29.0 27.8 27.8 % Ch (03)13 17 (39) 00 00 (0 0)0.0 $(0\ 0)$ 00 00 0.0 US 28 28 29 2.8 28 28 28 28 28 2.8 2.8 28 09 42 00 0.0 0.0 00 0.0 0.0 0.0 00 % Ch (03)(40)State Government, Oregon 407 400 409 417 422 43 0 442 44 8 45 2 State Total 39 5 426 43 6 29 (1.8)2.5 17 1.0 09 % Ch (29.7)12 10 12 14 14 State Education 08 08 08 08 08 08 08 08 08 08 08 08 % Ch 19 05 (05) 03 03 00 05 03 02 04 06 08 Local Government, Oregon 233 0 238 5 240 6 242 5 244 8 247 2 249 8 252 6 254 6 Local Total 227 1 2291 236 1 % Ch 08 09 17 13 10 09 08 09 10 11 11 08 Local Education 132.7 132.7 133.0 134.9 136.3 137.5 138.5 1394 140.6 141 7 142.3 143.0 % Ch (01)01 02 14 11 09 07 07 08 08 04 05

CUB/204 Gehrke/45

Mar 2020 - Other Economic In	dicators											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GDP (Bil of 2012 \$),	10 (20 0	10.050 5	10.461.0	10.055.0	20 211 7	00 51 6 0	20.002.4		21.0265		22 505 0	22 205 4
Chain Weight (in billions of \$)	18,638 2 2 9	19,069 5 2 3	19,461 0 2 1	19,866 3 2 1	20,211 7 1 7	20,516 2 1 5	20,892 4 1 8	21,353 2 2 2	21,826 7 2 2	22,306 2 2 2	22,795 8 2 2	23,285 4 2 1
% Ch	29	23	21	21	17	15	1.8	22	22	22	22	21
				Price a	ind Wage Ii	ndicators						
DP Implicit Price Deflator, Chain Weight US, 2012=100	110 4	112 4	114 6	117 3	120 3	123 3	126 2	129 0	131 9	134 9	138 0	141 1
% Ch	2 4	1 8	2 0	23	2 5	2 5	2 3	23	2 2	23	2 3	2 3
ersonal Consumption Deflator,												
hain Weight U S, 2012=100	108 1	109 7	111 5	113 5	116 0	118 6	121 1	123 7	126 3	129 0	131 6	134 3
% Ch	21	14	16	18	22	22	22	21	21	21	20	20
PI, Urban Consumers,												
982-84=100												
Vest Region	263 3	270 3	276 8	282 3	289 8	297 6	305 4	313 3	321 3	329 3	337 4	345 6
% Ch	33	27	24	20	26	27	26	26	26	2 5	2 5	24
S S	251 1	255 7	260 4	264 9	271 5	278 5	285 4	292 3	299 2	306 2	313 2	320 2
% Ch	24	18	18	17	2 5	26	2 5	24	24	23	23	2 2
Pregon Average Wage								_	_			_
ate (Thous \$)	55 5	57 4	59 7	62 1	64 7	674	70 3	73 3	764	79 5	82 8	86 2
% Ch	37	34	4 0	4 0	42	42	43	42	42	41	41	41
S Average Wage												
Vage Rate (Thous \$)	59 6	61 6	63 5	65 9	68 6	716	74 8	78 1	81 6	85 1	88 7	92 5
% Ch	33	33	30	38	42	43	44	4 5	44	43	42	42
				Но	using Indic	ators						
HFA Oregon Housing Price Ind 991 Q1=100	ex 423 7	444 6	472 2	491 7	510 6	530 2	550 1	570 0	590 6	611 8	(22.2	649 0
% Ch	423 7	444 0	472 2 6 2	4917	38	3 8	38	3700	390.8	36	633 2 3 5	2 5
HFA National Housing Price Ind	lav											
991 Q1=100	261 0	273 8	282 9	290 3	298 5	307 5	316 9	326 7	336 5	346 4	356 5	366 8
% Ch	66	4 9	3 3	2 6	2 8	3 0	3 1	3 1	3 0	2 9	29	29
ousing Starts												
Dregon (Thous)	19 6	207	22 4	23 3	23 6	23 4	23 7	23 3	23 3	23 0	22 9	22 8
% Ch	16	58	8 2	40	12	(0.9)	11	(14)	(0 2)	(1 0)	(0 5)	(0 5)
US (Millions)	12	13	13	13	13	13	13	13	13	12	12	12
% Ch	34	19	3 0	(19)	(0 4)	(1 2)	(0 8)	13	(17)	(27)	(1 2)	(0 8)
				0	ther Indica	tors						
Inemployment Rate (%)			2.0	2.0	1.0	10	1.2		1.2	10	1.2	1.2
Dregon Point Change	4 1 0 0	4 1 (0 0)	3 8 (0 3)	39 00	4 0 0 2	4 2 0 2	43 01	$\begin{array}{c} 4 \ 4 \\ 0 \ 0 \end{array}$	4 3 (0 0)	43 (00)	43 00	43 00
S S	39	37	35	35	38	4 2	4 5	4 5	44	44	44	44
Point Change	(0 5)	(0 2)	(0 2)	0 1	0 2	04	03	0.0	(0 1)	(0 0)	(0 0)	0 0
ndustrial Production Index												
J S, 2012 = 100	108 6	109 4	109 7	111 4	112 8	113 8	115 5	117 9	120 3	122 6	124 9	127 4
% Ch	39	08	0 2	16	12	09	15	2 0	2 0	19	19	2 0
Prime Rate (Percent)	49	53	47	49	53	55	58	58	58	58	58	58
% Ch	19 7	77	(10 1)	30	75	47	4 5	0 0	0 0	0 0	0 0	0 0
opulation (Millions)												
Dregon	4 20	4 24	4 28	4 32	4 36	4 39	4 43	4 47	4 51	4 54	4 58	4 61
% Ch	13	10	10	09	09	09	09	0 8	0 8	0.8	08	0 7
JS	327 7	330 1	332 4	334 7	337 1	339 4	341 6	343 9	346 1	348 3	350 5	352 6
% Ch	0 6	07	07	07	07	07	07	07	06	06	06	06
imber Harvest (Mil Bd Ft)												
Dregon	3,619 9	3,565 2	3,616 1	3,670 4	3,765 3	3,812 8	3,835 8	3,899 8	3,906 2	3,911 9	3,915 1	4,072 7
% Ch	(20)	(15)	14	15	26	13	06	17	0 2	0 1	0 1	4 0

APPENDIX B: REVENUE FORECAST DETAIL

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Table B.1 General Fund Revenue Statement

Table B.1

General Fund Revenue Statement -- 2019-21

		For	ecasts Dated: 12/1/	/2019	For	ecasts Dated: 3/1/2	2020	Differ	ence
	Estimate at			Total			Total	3/1/2020 Less	3/1/2020 Less
	COS 2019	2019-20	2020-21	2019-21	2019-20	2020-21	2019-21	12/1/2019	COS
Taxes									
Personal Income Taxes	18,283,508,000	8,587,742,000	9,698,026,000	18,285,768,000	8,739,929,000	9,732,663,000	18,472,592,000	186,824,000	189,084,000
Film and Video and Transfer to Counties	(45,262,000)	(22,230,000)	(23,032,000)	(45,262,000)	(22,230,000)	(23,032,000)	(45,262,000)	0	0
Corporate Income Taxes	1,190,805,000	748,720,000	577,156,000	1,325,876,000	730,835,000	581,826,000	1,312,661,000	(13,215,000)	121,856,000
Transfer to Rainy Day Fund & PERS UAL	(158,254,000)	(101,500,000)	(62,303,000)	(163,803,000)	0	(209,046,000)	(209,046,000)	(45,243,000)	(50,792,000)
Insurance Taxes	132,563,000	75,904,000	63,833,000	139,737,000	69,897,000	71,685,000	141,582,000	1,845,000	9,019,000
Estate Taxes	361,189,000	179,554,000	185,935,000	365,489,000	263,654,000	188,985,000	452,639,000	87,150,000	91,450,000
Transfer to PERS UAL	0	0	0	0	0	0	0	0	0
Cigarette Taxes	64,998,000	31,922,000	31,888,000	63,810,000	32,439,000	31,888,000	64,327,000	517,000	(671,000)
Other Tobacco Products Taxes	66,534,000	32,218,000	32,811,000	65,029,000	32,078,000	32,811,000	64,889,000	(140,000)	(1,645,000)
Other Taxes	1,636,000	878,000	878,000	1,756,000	878,000	878,000	1,756,000	0	120,000
Fines and Fees									
State Court Fees	138,730,000	70,227,000	69,449,000	139,676,000	70,962,000	69,732,000	140,694,000	1,018,000	1,964,000
Secretary of State Fees	70,837,000	35,392,000	35,445,000	70,837,000	37,592,000	37,645,000	75,237,000	4,400,000	4,400,000
Criminal Fines & Assessments	51,748,000	25,366,000	25,366,000	50,732,000	22,964,000	22,964,000	45,928,000	(4,804,000)	(5,820,000)
Securities Fees	27,269,000	12,690,000	13,206,000	25,896,000	11,690,000	12,830,000	24,520,000	(1,376,000)	(2,749,000)
Central Service Charges	10,376,000	5,188,000	5,188,000	10,376,000	5,188,000	5,188,000	10,376,000	0	0
Liquor Apportionment	348,537,000	167,298,000	181,239,000	348,537,000	167,298,000	181,239,000	348,537,000	0	0
Interest Earnings	102,965,000	55,301,000	51,488,000	106,789,000	65,301,000	53,488,000	118,789,000	12,000,000	15,824,000
Miscellaneous Revenues	13,500,000	6,500,000	7,000,000	13,500,000	8,300,000	7,000,000	15,300,000	1,800,000	1,800,000
One-time Transfers	155,200,000	0	155,200,000	155,200,000	12,900,000	155,200,000	168,100,000	12,900,000	12,900,000
Gross General Fund Revenues	21,020,395,000	10,034,900,000	11,134,108,000	21,169,008,000	10,271,905,000	11,186,022,000	21,457,927,000	288,919,000	437,532,000
Total Transfers	(203,516,000)	(123,730,000)	(85,335,000)	(209,065,000)	(22,230,000)	(232,078,000)	(254,308,000)	(45,243,000)	(50,792,000)
Net General Fund Revenues	20,816,879,000	9,911,170,000	11,048,773,000	20,959,943,000	10,249,675,000	10,953,944,000	21,203,619,000	243,676,000	386,740,000
Plus Beginning Balance	2,318,444,712			2,650,498,712			2,579,398,712	(71,100,000)	260,954,000
Less Anticipated Administrative Actions*	(21,472,000)			(21,472,000)			(21,472,000)	0	0
Less Legislatively Adopted Actions**	(199,459,036)			(199,459,036)			(198,338,493)	1,120,543	1,120,543
Available Resources	22,914,392,677			23,389,510,677			23,563,207,219	173,696,543	648,814,543
Appropriations	22,409,455,625			22,409,455,625			22,409,455,625	0	0
Estimated Ending Balance	504,937,052			980,055,052			1,153,751,594	173,696,543	648,814,543

			General	Fund Reve	nue Foreca	nst					Ν	Aarch 2020
				(\$Million	s)							
Fiscal Years	2017-18 Fiscal Year	2018-19 Fiscal Year	2019-20 Fiscal Year	2020-21 Fiscal Year	2021-22 Fiscal Year	2022-23 Fiscal Year	2023-24 Fiscal Year	2024-25 Fiscal Year	2025-26 Fiscal Year	2026-27 Fiscal Year	2027-28 Fiscal Year	2028-29 Fiscal Year
Taxes												
Taxes												
Personal Income	8,893 1	9,930 3	8,739 9	9,732 7	10,699 0	11,047 5	11,593 0	12,151 0	12,616 0	13,286 2	14,045 8	14,695 5
Film and Video & Transfer to Counties	(20 6)	(217)	(22 2)	(23 0)	(23 3)	(267)	(24 8)	(24 0)	0.0	0.0	0.0	0.0
Corporate Excise & Income	755 0	997 8	730 8	581 8	630 4	685 9	729 8	781 0	854 2	913 7	977 0	1,016 1
Transfer to RDF & PERS UAL	(162)	(711)	0.0	(209 0)	0.0	(65 0)	0.0	(693)	0.0	(82 6)	0.0	(85 3)
Insurance	767	83 5	69 9	717	64 8	66 6	69 3	71 2	74 3	76 6	85 3	88 2
Estate	176 5	204 7	263 7	189 0	195 5	200 6	206 0	2147	219 8	224 5	233 4	238 2
Transfer to PERS UAL	0.0	0 0	0.0	0.0	0.0	(176)	0.0	0 0	0.0	0.0	0.0	0.0
Cigarette	33 7	31 9	32.4	31 9	31 3	30 8	30 3	29 6	290	28 4	27 9	27 5
Other Tobacco Products	32.4	31 2	32 1	32.8	33 2	33 8	34 2	34.4	34 6	34 8	35 0	35 1
Other Taxes	09	11	09	09	09	09	09	09	09	09	09	09
Other Revenues												
Licenses and Fees	126 3	132 7	143 2	143 2	144 2	144 8	145 4	1460	146 6	147 2	147 8	148 4
Charges for Services	54	54	52	52	54	54	54	54	54	54	54	54
Liquor Apportionment	142 6	151 8	167 3	181 2	166 1	173 8	181 6	190 0	198 6	207 8	217 0	2267
Interest Earnings	30 2	57 0	65 3	53 5	53 4	53 3	53 3	53 2	53 1	53 0	53 0	52 9
Others	8 2	70	21 2	162.2	75	80	85	90	95	10 0	10 5	11 0
Gross General Fund	10,281 0	11,634 3	10,271 9	11,186 0	12,031 6	12,451 3	13,057 7	13,686 5	14,242 1	14,988 7	15,838 9	16,545 9
Net General Fund	10,244 3	11,541 5	10,249 7	10,953 9	12,008 3	12,342 0	13,032 9	13,593 2	14,242 1	14,906 1	15,838 9	16,460 5
Biennial Totals	2017-19 BN	Change (%)	2019-21 BN	Change (%)	2021-23 BN	Change (%)	2023-25 BN	Change (%)	2025-27 BN	Change (%)	2027-29 BN	Change (%)
Taxes												
Personal Income	18,823 3	17 2%	18,472 6	-1 9%	21,746 5	17 7%	23,744 0	9 2%	25,902 2	9 1%	28,741 3	11 0%
Corporate Excise & Income	1,752 7	44 8%	1,312 7	-25 1%	1,3163	0 3%	1,510 8	14 8%	1,767 9	17 0%	1,993 1	12 7%
Insurance	160 3	15 1%	141 6	-11 7%	131 3	-7 2%	140 5	7 0%	150 9	7 4%	173 5	14 9%
Estate Taxes	381 2	18 1%	452 6	18 7%	396 1	-12 5%	420 7	6 2%	444 4	5 6%	471 6	61%
Cigarette	65.6	6.00/	64 3	-1 9%	62 1	-3 5%	59 9	-3 5%	574	-4 2%	55 4	-3 4%
	05.0	-6 9%	04.3	-1 970	62 1	-3 370	577				50.0	0 9%
Other Tobacco Products	63 6	-6 9% 2 0%	64 9	-1 9% 2 0%	62 I 67 0	-3 3%	68 6	2 3%	69 4	1 2%	70 0	0 2 / 0
Other Tobacco Products Other Taxes									69 4 1 8	1 2% 0 0%	18	0 0%
	63 6	2 0%	64 9	2 0%	67 0	3 3%	68 6	2 3%				
Other Taxes	63 6	2 0%	64 9	2 0%	67 0	3 3%	68 6	2 3%				
Other Taxes Other Revenues	63 6 2 0	2 0% 9 6%	64 9 1 8	2 0% -11 1%	67 0 1 8	3 3% 0 0%	68 6 1 8	2 3% 0 0%	18	0.0%	18	0 0%
Other Taxes Other Revenues Licenses and Fees	63 6 2 0 259 0	2 0% 9 6% 5 2%	64 9 1 8 286 4	2 0% -11 1% 10 6%	67 0 1 8 288 9	3 3% 0 0%	68 6 1 8 291 4	2 3% 0 0%	1 8 293 8	0 0%	1 8 296 2	0 0%
Other Taxes Other Revenues Licenses and Fees Charges for Services	63 6 2 0 259 0 10 9	2 0% 9 6% 5 2% 5 8%	64 9 1 8 286 4 10 4	2 0% -11 1% 10 6% -4 6%	67 0 1 8 288 9 10 9	3 3% 0 0% 0 9% 4 8%	68 6 1 8 291 4 10 9	2 3% 0 0% 0 9% 0 0%	1 8 293 8 10 9	0 0% 0 8% 0 0%	1 8 296 2 10 9	0 0% 0 8% 0 0%
Other Taxes Other Revenues Licenses and Fees Charges for Services Liquor Apportionment	63 6 2 0 259 0 10 9 294 4	2 0% 9 6% 5 2% 5 8% 12 4%	64 9 1 8 286 4 10 4 348 5	2 0% -11 1% 10 6% -4 6% 18 4%	67 0 1 8 288 9 10 9 339 9	3 3% 0 0% 0 9% 4 8% -2 5%	68 6 1 8 291 4 10 9 371 7	2 3% 0 0% 0 9% 0 0% 9 4%	1 8 293 8 10 9 406 4	0 0% 0 8% 0 0% 9 4%	1 8 296 2 10 9 443 7	0 0% 0 8% 0 0% 9 2%
Other Taxes Other Revenues Licenses and Fees Charges for Services Liquor Apportionment Interest Earnings	63 6 2 0 259 0 10 9 294 4 87 2	2 0% 9 6% 5 2% 5 8% 12 4% 250 5%	64 9 1 8 286 4 10 4 348 5 118 8	2 0% -11 1% 10 6% -4 6% 18 4% 36 3%	67 0 1 8 288 9 10 9 339 9 106 8	3 3% 0 0% 4 8% -2 5% -10 1%	68 6 1 8 291 4 10 9 371 7 106 5	2 3% 0 0% 0 9% 0 0% 9 4% -0 3%	1 8 293 8 10 9 406 4 106 2	0 0% 0 8% 0 0% 9 4% -0 3%	1 8 296 2 10 9 443 7 105 9	0 0% 0 8% 0 0% 9 2% -0 3%

Table B.3 Summary of 2019 Legislative Session Adjustments

	19-21	21-23	23-25	Revenue Impact Statement
Personal Income Tax Impacts (million	ons)			
Tax Expenditure Extension - HB 2164	-\$70.5	-\$146.0	-\$156.4	<u>HB 2164</u>
Rural Medical Provider – HB 2847	-\$0.2	-\$0.4	-\$0.4	<u>HB 2847</u>
Corporate Activity Tax – HB 3427	-\$352.0	-\$548.0	-\$599.0	<u>HB 3427</u>
DOR Tax Compliance – SB 523 & HB 5033	\$1.1	\$1.4	\$1.4	<u>SB 523</u> <u>HB 3206</u>
Personal Income Tax Total	-\$421.6	-\$693.0	-\$754.4	
Corporate Income Tax Impacts (mill	ions)			
Medical Provider Taxes - HB 2010	-\$5.0	-\$8.0	-\$8.0	<u>HB 2010</u>
Medical Provider Taxes - SB 523	\$1.20	\$1.2	\$1.2	<u>SB 523</u>
Corporate Activity Tax – HB 3427	-\$71.0	-\$151.0	-\$163.0	<u>HB 3427</u>
Corporate Income Tax Total	-\$74.8	-\$157.8	-\$169.8	
Other Tax/Revenue Impacts (million	s)			
Court Filing Fees - HB 3447	\$3.1	\$3.6	\$3.8	<u>HB 3447</u>
OLCC Fees - SB 248	\$5.2	\$5.6	\$5.7	<u>SB 248</u>
DOR Collections - SB 980	\$0.5	\$0.5	\$0.5	<u>SB 980</u>
DOR Tax Compliance - HB 5033	\$0.2	\$0.4	\$0.4	<u>HB 5033</u>
Fund Shifts and Adjustments – HB 2377	\$179.6	\$26.5	\$10.0	<u>HB 2377</u>
Other Tax Total	\$188.5	\$36.6	\$20.4	

Table B.4 Oregon Personal Income Tax Revenue Forecast

TABLE B.4		OREGON PE			VENUE FORE lars - Not Seaso	-	IERLY COLL	LECTIONS	March	2020
	2009:3	2009:4	2010:1	2010:2	FY 2010	2010:3	2010:4	2011:1	2011:2	FY 2011
WITHHOLDING %CHYA	1,092,795 -6 0%	1,151,673 -2 6%	1,157,857 2 6%	1,116,552 2 5%	4,518,878 -1 0%	1,146,189 4 9%	1,196,214 3 9%	1,262,781 9 1%	1,218,439 9 1%	4,823,622 6 7%
EST PAYMENTS %CHYA	176,110 -33 4%	161,759 -7 5%	186,894 -14 0%	265,703 1 0%	790,467 -14 1%	179,692 2 0%	148,589 -8 1%	207,036 10 8%	284,662 7 1%	819,978 3 7%
FINAL PAYMENTS %CHYA	63,363 -9 9%	77,013 -22 5%	105,745 1 6%	515,262 -2 8%	761,383 -5 3%	62,259 -1 7%	81,728 6 1%	114,877 8 6%	607,592 17 9%	866,456 13 8%
REFUNDS	96,477	188,704	459,550	380,459	1,125,190	92,291	151,515	432,478	340,652	1,016,937
%CHYA OTHER	4 8% (138,521)	4 6%	2 6%	-5 9% 136,193	0 1%	-4 3% (136,193)	-19 7%	-5 9%	-10 5% 165,933	-9 6% 29,740
TOTAL	1,097,271	1,201,740	990,947	1,653,251	4,943,210	1,159,655	1,275,015	1,152,216	1,935,973	5,522,860
%CHYA	-10 2%	-5 9%	-1 2%	2 3%	-3 4%	5 7%	6 1%	16 3%	17 1%	11 7%
	2011:3	2011:4	2012:1	2012:2	FY 2012	2012:3	2012:4	2013:1	2013:2	FY 2013
WITHHOLDING %CHYA	1,235,508 7 8%	1,287,030 7 6%	1,348,171 6 8%	1,269,562 4 2%	5,140,271 6 6%	1,262,589 2 2%	1,364,547 6 0%	1,354,116 0 4%	1,321,413 4 1%	5,302,666 3 2%
EST PAYMENTS %CHYA	194,674 8 3%	185,239 24 7%	199,238 -3 8%	299,646 5 3%	878,797 7 2%	205,533 5 6%	159,104 -14 1%	278,341 39 7%	321,896 7 4%	964,874 9 8%
FINAL PAYMENTS	85,889	87,233	117,628	627,762	918,512	72,224	91,338	123,456	785,542	1,072,560
%CHYA	38 0%	6 7%	2 4%	3 3%	6 0%	-15 9%	4 7%	5 0%	25 1%	16 8%
REFUNDS %CHYA	64,687 -29 9%	156,272 3 1%	530,800	360,618 5 9%	1,112,377 9 4%	52,211 -19 3%	109,503 -29 9%	536,506 1 1%	383,176	1,081,397 -2 8%
OTHER	-29 9%	51%	22 7%	5 9% 193,614	9 4% 27,681	-19 3%	-29 9%	1 1%	6 3% 201,367	-2 8%
TOTAL	1,285,451	1.403.230	1,134,237	2,029,966	5,852,884	1.294.521	1,505,486	1,219,407	2,247,042	6,266,457
%CHYA	10 8%	10 1%	-1 6%	4 9%	6 0%	0 7%	7 3%	7 5%	10 7%	7 1%
	2013:3	2013:4	2014:1	2014:2	FY 2014	2014:3	2014:4	2015:1	2015:2	FY 2015
WITHHOLDING %CHYA	1,333,946 5 7%	1,435,630 5 2%	1,442,755 6 5%	1,420,313 7 5%	5,632,644 6 2%	1,455,822 9 1%	1,523,453 6 1%	1,576,188 9 2%	1,505,337 6 0%	6,060,801 7 6%
EST PAYMENTS %CHYA	221,695 7 9%	214,342 34 7%	247,826 -11 0%	357,218 11 0%	1,041,080 7 9%	264,823 19 5%	236,303 10 2%	305,582 23 3%	408,957 14 5%	1,215,665 16 8%
FINAL PAYMENTS %CHYA	83,096 15 1%	112,495 23 2%	139,923 13 3%	730,795 -7 0%	1,066,309 -0 6%	92,647 11 5%	144,239 28 2%	156,188 11 6%	847,330 15 9%	1,240,403 16 3%
REFUNDS %CHYA	67,098 28 5%	197,448 80 3%	472,018 -12 0%	354,437 -7 5%	1,091,001 0 9%	100,729 50 1%	173,522 -12 1%	520,272 10 2%	375,119 5 8%	1,169,642 7 2%
OTHER	(201,367)	-	-	180,356	(21,011)	(180,356)	-	-	163,398	(16,959)
TOTAL %CHYA	1,370,272 5 9%	1,565,018 4 0%	1,358,485 11 4%	2,334,246 3 9%	6,628,021 5 8%	1,532,207 11 8%	1,730,473 10 6%	1,517,685 11 7%	2,549,903 9 2%	7,330,268 10 6%
	2015:3	2015:4	2016:1	2016:2	FY 2016	2016:3	2016:4	2017:1	2017:2	FY 2017
WITHHOLDING %CHYA	1,551,517 6 6%	1,644,209 7 9%	1,711,568 8 6%	1,634,728 8 6%	6,542,022 7 9%	1,675,744 8 0%	1,705,280 3 7%	1,835,155 7 2%	1,769,354 8 2%	6,985,533 6 8%
EST PAYMENTS %CHYA	309,470 16 9%	141,009 -40 3%	327,008 7 0%	423,839 5 7%	1,201,325 -0 5%	300,866 -2 8%	319,225 126 4%	382,445 17 0%	450,241 6 2%	1,452,777 20 9%
FINAL PAYMENTS ¹ %CHYA	99,618 7 5%	321,345 122 8%	141,818 -9 2%	813,132 -4 9%	1,375,913 10 2%	103,631 4 0%	144,248 -55 1%	175,235 23 6%	919,186 13 0%	1,342,301 -2 4%
REFUNDS %CHYA	85,113 -15 5%	203,981 17 6%	577,546 11 0%	562,601 50 0%	1,429,241 22 2%	138,825 63 1%	254,851 24 9%	574,417 -0 5%	454,899 -19 1%	1,422,992 -0 4%
OTHER	(163,398)	-	-	236,108	72,710	(236,108)	-	-	192,251	(43,856)
TOTAL %CHYA	1,712,094 11 7%	1,902,583 9 9%	1,602,848 5 6%	2,545,205 -0 2%	7,762,729 5 9%	1,705,308 -0 4%	1,913,902 0 6%	1,818,419 13 4%	2,876,134 13 0%	8,313,763 7 1%
	2017:3	2017:4	2018:1	2018:2	FY 2018	2018:3	2018:4	2019:1	2019:2	FY 2019
WITHHOLDING %CHYA	1,748,844 4 4%	1,836,249 7 7%	2,011,564 9 6%	1,851,177 4 6%	7,447,834 6 6%	1,925,880 10 1%	2,039,120 11 0%	2,079,900 3 4%	1,999,015 8 0%	8,043,914 8 0%
EST PAYMENTS %CHYA	321,032 6 7%	451,037 41 3%	464,534 21 5%	512,671 13 9%	1,749,274 20 4%	367,772 14 6%	284,002 -37 0%	321,858 -30 7%	532,273 3 8%	1,505,905 -13 9%
FINAL PAYMENTS ¹ %CHYA	92,364 -10 9%	169,785 17 7%	174,096 -0 6%	878,587 -4 4%	1,314,832 -2 0%	104,644 13 3%	156,592 -7 8%	225,515 29 5%	1,385,562 57 7%	1,872,312 42 4%
REFUNDS	133,143	266,467	686,100	610,486	1,696,196	140,701	335,635	546,225	445,573	1,468,133
%CHYA	-4 1%	4 6%	19 4%	34 2%	19 2%	5 7%	26 0%	-20 4%	-27 0%	-13 4%
OTHER	(192,251)	-	-	237,300	45,049	(237,300)	-	-	222,477	(14,823)
TOTAL %CHYA	1,836,845 7 7%	2,190,604 14 5%	1,964,094 8 0%	2,869,249 -0 2%	8,860,793 6 6%	2,020,295 10 0%	2,144,078 -2 1%	2,081,049 6 0%	3,693,754 28 7%	9,939,176 12 2%

Note: "Other" includes July withholding accrued to June Tax law impacts are reflected in the collections numbers to produce more meaningful projections

CUB/204 Gehrke/51

TABLE B.4		UKEGUN PE			VENUE FORE lars - Not Seaso	-		ACTIONS	March	2020
	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
WITHHOLDING	2,059,715	2,223,410	2,261,588	2,078,408	8,623,121	2,142,154	2,310,141	2,319,949	2,172,734	8,944,978
%CHYA	6 9%	9 0%	8 7%	4 0%	7 2%	4 0%	3 9%	2 6%	4 5%	3 7%
EST PAYMENTS	413,316	296,072	374,820	475,226	1,559,433	369,458	264,655	341,384	492,290	1,467,787
%CHYA	12 4%	4 3%	16 5%	-10 7%	3 6%	-10 6%	-10 6%	-8 9%	3 6%	-5 9%
FINAL PAYMENTS ¹	131,560	195,074	157,333	514,040	998,007	91,361	114,318	168,845	1,069,091	1,443,615
%CHYA	25 7%	24 6%	-30 2%	-62 9%	-46 7%	-30 6%	-41 4%	7 3%	108 0%	44 6%
REFUNDS	144,251	289,464	1,119,443	880,271	2,433,428	185,115	421,954	870,080	657,599	2,134,749
%CHYA	2 5%	-13 8%	104 9%	97 6%	65 7%	28 3%	45 8%	-22 3%	-25 3%	-12 3%
OTHER	(222,477)	-	-	215,273	(7,203)	(215,273)	-	-	226,305	11,032
TOTAL	2,237,864	2,425,092	1,674,297	2,402,676	8,739,929	2,202,585	2,267,159	1,960,097	3,302,822	9,732,663
%CHYA	10 8%	13 1%	-19 5%	-35 0%	-12 1%	-1 6%	-6 5%	17 1%	37 5%	11 4%
	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
WITHHOLDING	2,249,792	2,436,737	2,437,746	2,283,287	9,407,563	2,364,161	2,560,566	2,560,353	2,397,957	9,883,038
%CHYA	5 0%	5 5%	5 1%	5 1%	5 2%	5 1%	5 1%	5 0%	5 0%	5 1%
EST PAYMENTS	398,326	285,334	366,818	532,690	1,583,168	414,044	296,593	381,422	555,773	1,647,832
%CHYA	7 8%	7 8%	7 5%	8 2%	7 9%	3 9%	3 9%	4 0%	4 3%	4 1%
FINAL PAYMENTS ¹	119,331	171,156	193,741	1,135,389	1,619,617	128,721	181,252	186,354	1,147,044	1,643,372
%CHYA	30 6%	49 7%	14 7%	6 2%	12 2%	7 9%	5 9%	-3 8%	1 0%	1 5%
REFUNDS	142,534	315,455	888,197	628,926	1,975,112	152,348	336,319	922,183	719,052	2,129,902
%CHYA OTHER	-23 0% (226,305)	-25 2%	2 1%	-4 4% 290,057	-7 5% 63,751	6 9% (290,057)	6 6%	3 8%	14 3% 293,214	7 8% 3,158
TOTAL	2,398,610	2,577,772	2,110,108	3,612,497	10,698,986	2,464,522	2,702,093	2,205,945	3,674,937	11,047,497
%CHYA	<u>8 9%</u>	13 7%	7 7%	9 4%	9 9%	2 7%	4 8%	4 5%	1 7%	3 3%
	2023:3	2023:4	2024:1	2024:2	FY 2024	2024:3	2024:4	2025:1	2025:2	FY 2025
WITHHOLDING %CHYA	2,481,576	2,687,695	2,689,867	2,519,664 5 1%	10,378,802	2,606,856	2,823,337	2,829,869	2,651,503	10,911,566 5 1%
EST PAYMENTS	431,759	309,283	397,976	583,310	1,722,328	453,039	324,527	417,706	613,879	1,809,151
%CHYA	4 3%	4 3%	4 3%	5 0%	4 5%	4 9%	4 9%	5 0%	5 2%	5 0%
FINAL PAYMENTS ¹	124,294	179,109	205,606	1,197,968	1,706,977	137,505	194,053	214,944	1,258,793	1,805,295
%CHYA	-3 4%	-1 2%	10 3%	4 4%	3 9%	10 6%	8 3%	4 5%	5 1%	5 8%
REFUNDS	164,088	361,354	970,257	756,468	2,252,168	173,018	379,967	1,017,655	793,738	2,364,378
%CHYA	7 7%	7 4%	5 2%	5 2%	5 7%	5 4%	5 2%	4 9%	4 9%	5 0%
OTHER	(293,214)	-	-	330,285	37,070	(330,285)	-	-	319,649	(10,635)
TOTAL	2,580,326	2,814,733	2,323,192	3,874,759	11,593,010	2,694,098	2,961,950	2,444,864	4,050,086	12,150,998
%CHYA	4 7%	4 2%	5 3%	5 4%	4 9%	4 4%	5 2%	5 2%	4 5%	4 8%
	2025:3	2025:4	2026:1	2026:2	FY 2026	2026:3	2026:4	2027:1	2027:2	FY 2027
WITHHOLDING	2,731,724	2,958,525	2,966,595	2,779,833	11,436,677	2,860,874	3,098,354	3,115,028	2,909,298	11,983,554
%CHYA	4 8%	4 8%	4 8%	4 8%	4 8%	4 7%	4 7%	5 0%	4 7%	4 8%
EST PAYMENTS	474,782	340,102	437,836	644,682	1,897,402	498,076	356,788	459,334	676,564	1,990,762
%CHYA	4 8%	4 8%	4 8%	5 0%	4 9%	4 9%	4 9%	4 9%	4 9%	4 9%
FINAL PAYMENTS ¹	143,181	202,393	223,151	1,311,498	1,880,222	148,586	210,031	233,754	1,381,613	1,973,984
%CHYA	4 1%	4 3%	3 8%	4 2%	4 2%	3 8%	3 8%	4 8%	5 3%	5 0%
REFUNDS	182,196	399,846	1,100,505	865,238	2,547,786	191,794	420,688	1,155,618	908,534	2,676,634
%CHYA	5 3%	5 2%	8 1%	9 0%	7 8%	5 3%	5 2%	5 0%	5 0%	5 1%
OTHER	(319,649)	-	-	269,132	(50,517)	(269,132)	-	-	283,715	14,582
TOTAL	2,847,841	3,101,174	2,527,077	4,139,907	12,615,998	3,046,609	3,244,485	2,652,497	4,342,656	13,286,248
	5 7%	4 7%	3 4%	2 2%	3 8%	7 0%	4 6%	5 0%	4 9%	5 3%
%CHYA				2028:2	FY 2028	2028:3	2028:4	2029:1	2029:2	FY 2029
%CHYA	2027:3	2027:4	2028:1	2020.2						
	2027:3 3,007,059 5 2%	2027:4 3,256,633 5 2%	2028:1 3,262,448 4 8%	3,056,650 5 1%	12,582,790 5 1%	3,171,691 5 5%	3,424,057 5 1%	3,427,768 5 1%	3,211,200 5 1%	13,234,716 5 2%
WITHHOLDING %CHYA	3,007,059	3,256,633	3,262,448	3,056,650						
WITHHOLDING %CHYA EST PAYMENTS %CHYA	3,007,059 5 2% 524,970	3,256,633 5 2% 376,053	3,262,448 4 8% 484,001	3,056,650 5 1% 710,944	5 1% 2,095,969	5 5% 552,056	5 1% 395,456	5 1% 508,934	5 1% 747,007	5 2% 2,203,452
WITHHOLDING %CHYA EST PAYMENTS %CHYA FINAL PAYMENTS1 %CHYA	3,007,059 5 2% 524,970 5 5% 156,362	3,256,633 5 2% 376,053 5 5% 221,496	3,262,448 4 8% 484,001 5 4% 246,255	3,056,650 5 1% 710,944 5 2% 1,455,372	5 1% 2,095,969 5 4% 2,079,487	5 5% 552,056 5 2% 164,698	5 1% 395,456 5 2% 233,399	5 1% 508,934 5 2% 258,895	5 1% 747,007 5 1% 1,528,898	5 2% 2,203,452 5 1% 2,185,890
WITHHOLDING %CHYA EST PAYMENTS %CHYA FINAL PAYMENTS1 %CHYA REFUNDS	3,007,059 5 2% 524,970 5 5% 156,362 5 3% 200,566	3,256,633 5 2% 376,053 5 5% 221,496 5 5% 439,854	3,262,448 4 8% 484,001 5 4% 246,255 5 4% 1,207,811	3,056,650 5 1% 710,944 5 2% 1,455,372 5 4% 949,566	5 1% 2,095,969 5 4% 2,079,487 5 4% 2,797,797	5 5% 552,056 5 2% 164,698 5 3% 209,497	5 1% 395,456 5 2% 233,399 5 4% 459,401	5 1% 508,934 5 2% 258,895 5 1% 1,267,041	5 1% 747,007 5 1% 1,528,898 5 1% 996,275	5 2% 2,203,452 5 1% 2,185,890 5 1% 2,932,215

Note: "Other" includes July withholding accrued to June Tax law impacts are reflected in the collections numbers to produce more meaningful projections

Redacted Version

Table B.5 Oregon Corporate Income Tax Revenue Fore	ecast
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TABLE B.5	OR	EGON CORP			VENUE FOR ars - Not Seas	-		OLLECTION	S March	
	2009:3	2009:4	2010:1	2010:2	FY 2010	2010:3	2010:4	2011:1	2011:2	FY 2011
ADVANCE PAYMENTS	79,579	163,877	66,451	147,313	457,220	115,286	175,561	76,405	165,354	532,606
%CHYA	-20 9%	12 8%	4 2%	51 3%	12 3%	44 9%	7 1%	15 0%	12 2%	16 5%
FINAL PAYMENTS	20,404	24,009	38,412	45,714	128,539	21,781	21,206	35,770	40,805	119,562
%CHYA	-13 2%	-10 2%	72 1%	109 5%	36 2%	6 8%	-11 7%	-6 9%	-10 7%	-7 0%
REFUNDS	29,072	137,244	40,080	25,774	232,170	23,130	89,877	39,065	31,489	183,562
%CHYA	3 3%	9 9%	-40 6%	-30 7%	-9 9%	-20 4%	-34 5%	-2 5%	22 2%	-20 9%
TOTAL	70,910	50,642	64,784	167,254	353,589	113,936	106,890	73,111	174,670	468,606
%CHYA	-26 1%	7 3%	247 5%	104 0%	45 1%	60 7%	111 1%	12 9%	4 4%	32 5%
	2011:3	2011:4	2012:1	2012:2	FY 2012	2012:3	2012:4	2013:1	2013:2	FY 2013
ADVANCE PAYMENTS	120,766	154,290	86,873	156,652	518,581	130,348	110,207	80,942	282,526	604,023
%CHYA	4 8%	-12 1%	13 7%	-5 3%	-2 6%	7 9%	-28 6%	-6 8%	80 4%	16 5%
FINAL PAYMENTS	19,117	26,841	32,512	33,322	111,792	16,387	21,377	36,660	34,009	108,433
%CHYA	-12 2%	26 6%	-9 1%	-18 3%	-6 5%	-14 3%	-20 4%	12 8%	2 1%	-3 0%
REFUNDS	34,927	91,252	55,051	18,153	199,384	33,212	17,832	25,595	182,929	259,568
%CHYA	51 0%	1 5%	40 9%	-42 4%	8 6%	-4 9%	-80 5%	-53 5%	907 7%	30 2%
TOTAL	104,955	89,878	64,335	171,820	430,989	113,524	113,751	92,007	133,606	452,888
%CHYA	-7 9%	-15 9%	-12 0%	-1 6%	-8 0%	8 2%	26 6%	43 0%	-22 2%	5 1%
	2013:3	2013:4	2014:1	2014:2	FY 2014	2014:3	2014:4	2015:1	2015:2	FY 2015
ADVANCE PAYMENTS	123,591	187,195	150,401	183,348	644,535	193,248	206,088	106,689	183,611	689,637
%CHYA	-5 2%	69 9%	85 8%	-35 1%	6 7%	56 4%	10 1%	-29 1%	0 1%	7 0%
FINAL PAYMENTS	27,794	18,162	32,218	52,283	130,456	28,815	73,552	57,268	71,415	231,051
%CHYA	69 6%	-15 0%	-12 1%	53 7%	20 3%	3 7%	305 0%	77 8%	36 6%	77 1%
REFUNDS	20,123	118,303	109,296	32,511	280,232	49,952	155,439	58,361	35,167	298,918
%CHYA	-39 4%	563 4%	327 0%	-82 2%	8 0%	148 2%	31 4%	-46 6%	8 2%	6 7%
TOTAL	131,262	87,054	73,323	203,120	494,759	172,111	124,202	105,597	219,860	621,770
%CHYA	15 6%	-23 5%	-20 3%	52 0%	9 2%	31 1%	42 7%	44 0%	8 2%	25 7%
	2015:3	2015:4	2016:1	2016:2	FY 2016	2016:3	2016:4	2017:1	2017:2	FY 2017
ADVANCE PAYMENTS	173,329	220,326	118,673	202,813	715,141	136,698	215,677	102,663	195,412	650,449
%CHYA	-10 3%	6 9%	11 2%	10 5%	3 7%	-21 1%	-2 1%	-13 5%	-3 6%	-9 0%
FINAL PAYMENTS	67,305	59,752	63,509	70,433	260,998	44,746	93,441	52,164	81,824	272,175
%CHYA	133 6%	-18 8%	10 9%	-1 4%	13 0%	-33 5%	56 4%	-17 9%	16 2%	4 3%
REFUNDS	42,388	156,984	85,446	81,453	366,271	39,680	166,537	73,066	57,733	337,016
%CHYA	-15 1%	1 0%	46 4%	131 6%	22 5%	-6 4%	6 1%	-14 5%	-29 1%	-8 0%
TOTAL	198,245	123,094	96,736	191,793	609,868	141,764	142,581	81,761	219,503	585,608
%CHYA	15 2%	-0 9%	-8 4%	-12 8%	-1 9%	-28 5%	15 8%	-15 5%	14 4%	-4 0%
	2017:3	2017:4	2018:1	2018:2	FY 2018	2018:3	2018:4	2019:1	2019:2	FY 2019
ADVANCE PAYMENTS	179,603	185,787	182,395	303,835	851,620	222,891	249,768	158,748	264,445	895,852
%CHYA	31 4%	-13 9%	77 7%	55 5%	30 9%	24 1%	34 4%	-13 0%	-13 0%	5 2%
FINAL PAYMENTS	42,600	66,460	46,270	108,539	263,869	74,735	102,942	68,818	174,861	421,356
%CHYA	-4 8%	-28 9%	-11 3%	32 6%	-3 1%	75 4%	54 9%	48 7%	61 1%	59 7%
REFUNDS	72,225	129,963	122,291	54,224	378,703	43,428	167,871	128,586	50,616	390,50 ⁻
%CHYA	82 0%	-22 0%	67 4%	-6 1%	12 4%	-39 9%	29 2%	5 1%	-6 7%	3 1%
TOTAL	149,978	122,284	106,374	358,150	736,786	254,198	184,839	98,980	388,690	926,707
%CHYA	5 8%	-14 2%	30 1%	63 2%	25 8%	69 5%	51 2%	-7 0%	8 5%	25 8%

TABLE B.5	OR	EGON CORF			VENUE FOR ars - Not Sease	-		DLLECTION	S March	
	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
ADVANCE PAYMENTS	236,341	240,731	128,479	212,002	817,553	160,906	195,802	114,065	197,675	668,448
%CHYA	6 0%	-3 6%	-19 1%	-19 8%	-8 7%	-31 9%	-18 7%	-11 2%	-6 8%	-18 2%
FINAL PAYMENTS	67,657	157,255	123,901	102,506	451,319	47,298	140,143	114,432	90,669	392,541
%CHYA	-9 5%	52 8%	80 0%	-41 4%	7 1%	-30 1%	-10 9%	-7 6%	-11 5%	-13 0%
REFUNDS	73,866	253,661	156,953	53,558	538,038	54,577	216,278	146,374	61,933	479,163
%CHYA	70 1%	51 1%	22 1%	5 8%	37 8%	-26 1%	-14 7%	-6 7%	15 6%	-10 9%
TOTAL	230,132	144,325	95,427	260,950	730,835	153,627	119,666	82,123	226,410	581,826
%CHYA	-9 5%	-21 9%	-3 6%	-32 9%	-21 1%	-33 2%	-17 1%	-13 9%	-13 2%	-20 4%
	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
ADVANCE PAYMENTS	161,169	198,939	118,048	206,113	684,268	166,912	206,362	123,170	215,053	711,496
%CHYA	0 2%	1 6%	3 5%	4 3%	2 4%	3 6%	3 7%	4 3%	4 3%	4 0%
FINAL PAYMENTS	51,013	155,488	124,719	103,892	435,112	58,681	174,465	137,782	119,125	490,053
%CHYA	7 9%	11 0%	9 0%	14 6%	10 8%	15 0%	12 2%	10 5%	14 7%	12 6%
REFUNDS	52,352	222,892	150,160	63,582	488,987	53,792	236,364	158,557	66,943	515,656
%CHYA	-4 1%	3 1%	2 6%	2 7%	2 1%	2 8%	6 0%	5 6%	5 3%	5 5%
TOTAL	159,829	131,535	92,607	246,422	630,393	171,800	144,463	102,394	267,236	685,893
%CHYA	4 0%	9 9%	12 8%	8 8%	8 3%	7 5%	9 8%	10 6%	8 4%	8 8%
	2023:3	2023:4	2024:1	2024:2	FY 2024	2024:3	2024:4	2025:1	2025:2	FY 2025
ADVANCE PAYMENTS	171,747	212,322	127,686	223,058	734,812	177,930	220,315	132,510	231,440	762,196
%CHYA	2 9%	2 9%	3 7%	3 7%	3 3%	3 6%	3 8%	3 8%	3 8%	3 7%
FINAL PAYMENTS	67,417	194,017	175,755	145,945	583,134	84,226	261,219	207,496	172,465	725,407
%CHYA	14 9%	11 2%	27 6%	22 5%	19 0%	24 9%	34 6%	18 1%	18 2%	24 4%
REFUNDS	57,052	256,185	194,407	80,542	588,186	66,184	322,819	225,246	92,304	706,553
%CHYA	6 1%	8 4%	22 6%	20 3%	14 1%	16 0%	26 0%	15 9%	14 6%	20 1%
TOTAL	182,112	150,154	109,034	288,461	729,761	195,973	158,715	114,760	311,602	781,050
%CHYA	6 0%	3 9%	6 5%	7 9%	6 4%	7 6%	5 7%	5 3%	8 0%	7 0%
	2025:3	2025:4	2026:1	2026:2	FY 2026	2026:3	2026:4	2027:1	2027:2	FY 2027
ADVANCE PAYMENTS	186,385	230,522	138,431	241,458	796,796	192,900	239,609	143,989	250,337	826,835
%CHYA	4 8%	4 6%	4 5%	4 3%	4 5%	3 5%	3 9%	4 0%	3 7%	3 8%
FINAL PAYMENTS	101,761	319,186	214,620	190,741	826,307	112,395	326,852	221,895	209,507	870,649
%CHYA	20 8%	22.2%	3 4%	10 6%	13 9%	10 5%	2 4%	3 4%	9 8%	5 4%
REFUNDS	73,293	374,613	227,640	93,373	768,918	74,851	381,035	232,451	95,408	783,744
%CHYA	10 7%	16 0%	1 1%	1 2%	8 8%	21%	1 7%	2 1%	2 2%	1 9%
TOTAL	214,852	175,095	125,411	338,827	854,185	230,444	185,427	133,433	364,436	913,740
%CHYA	9 6%	10 3%	9 3%	8 7%	9 4%	7 3%	5 9%	6 4%	7 6%	7 0%
	2027:3	2027:4	2028:1	2028:2	FY 2028	2028:3	2028:4	2029:1	2029:2	FY 2029
ADVANCE PAYMENTS	200,534	248,826	148,596	257,942	855,898	206,333	254,565	150,930	262,071	873,899
%СНҮА	4 0%	3 8%	3 2%	3 0%	3 5%	2 9%	2 3%	1 6%	1 6%	2 1%
FINAL PAYMENTS	124,809	334,939	227,264	226,091	913,103	135,246	339,867	230,497	235,954	941,564
%CHYA	11 0%	2 5%	2 4%	7 9%	4 9%	8 4%	1 5%	1 4%	4 4%	3 1%
REFUNDS	76,555	385,035	234,210	96,239	792,038	77,469	388,219	236,431	97,224	799,342
%CHYA	2 3%	385,035 1 0%	234,210	96,239 0 9%	1 1%	1 2%	388,219 0.8%	236,431 0.9%	97,224 1 0%	799,342 0 9%
TOTAL	248,788	198,731	141,650	387,794	976,963	264,110	206,214	144,996	400,801	1,016,121
%CHYA	8 0%	7 2%	6 2%	6 4%	6 9%	6 2%	3 8%	2 4%	3 4%	4 0%

March 2020

Table B.6 Cigarette and Tobacco Tax Distribution

TABLE B.6

Cigarette & Tobacco Tax Distribution (Millions of \$)

			Cigarette	e Tax Disti	ribution*			Oth	ner Tobacco Ta	ax Distribution	
			Tobacco Use	Mental		Cities, Counties				Tobacco Use	
	General Fund	Health Plan	Reduction	Health	State Total	& Public Trans t	Total	General Fund	Hea th Plan	Reduction	State Total
Distribution Forecast*											
2019-20	32.439	126.425	5.043	22.118	186.024	10.086	196.110	32.078	24.749	2.753	59.580
2020-21	31.888	124.275	4.957	21.742	182.862	9.914	192.776	32.811	25.315	2.816	60.942
2019-21 Biennium	64.327	250.700	10.000	43.859	368.886	20.000	388.886	64.889	50.065	5.568	120.521
2021-22	31.325	122.081	4.870	21.358	179.633	9.739	189.372	33.236	25.643	2.852	61.732
2022-23	30.764	119.894	4.782	20.975	176.416	9.565	185.980	33.795	26.075	2.900	62.770
2021-23 Biennium	62.088	241.976	9.652	42.333	356.049	19.304	375.353	67.032	51.718	5.752	124.502
2023-24	30.320	118.164	4.713	20.672	173.869	9.427	183.296	34.175	26.368	2.933	63.475
2024-25	29.604	115.374	4.602	20.184	169.764	9.204	178.968	34.416	26.554	2.953	63.923
2023-25 Biennium	59.923	233.537	9.315	40.857	343.633	18.631	362.264	68.591	52.921	5.886	127.399
2025-26	28.975	112.924	4.504	19.756	166.160	9.009	175.169	34.623	26.713	2.971	64.307
2026-27	28.422	110.768	4.418	19.379	162.987	8.837	171.824	34.800	26.850	2.986	64.636
2025-27 Biennium	57.397	223.693	8.923	39.135	329.147	17.845	346.993	69.423	53.563	5.957	128.943
2027-28	27.934	108.866	4.342	19.046	160.188	8.685	168.873	34.951	26.966	2.999	64.916
2028-29	27.502	107.185	4.275	18.752	157.714	8.551	166.265	35.080	27.066	3.010	65.156
2027-29 Biennium	55.436	216.051	8.618	37.798	317.903	17.236	335.138	70.031	54.032	6.009	130.072

March 2020

Table B.7 Revenue Distribution to Local Governments

TABLE B.7

Liquor Apportionment and Revenue Distribution to Local Governments (Millions of \$)

			Lique	or Apportionmen	t Distribution				
	Total Liquor		-	_	0	City Revenue			
	Revenue	General	Mental	Oregon	Revenue				Cigarette Tax
	Available	Fund (56%)	Health ¹	Wine Board	Sharing	Regular	Total	Counties	Distribution ²
2019-20	294.383	167.298	9.518	0.336	53.287	37.301	90.587	26.643	10.086
2020-21	318.914	181.239	10.311	0.364	57.727	40.409	98.136	28.864	9.914
2019-21 Biennium	613.297	348.537	19.829	0.701	111.014	77.710	188.724	55.507	20.000
2021-22	307.245	166.083	10.258	0.364	59.337	41.536	100.873	29.668	9.739
2022-23	321.058	173.776	10.494	0.373	62.007	43.405	105.412	31.003	9.565
2021-23 Biennium	628.303	339.859	20.751	0.736	121.344	84.941	206.285	60.672	19.304
2023-24	335.143	181.627	10.735	0.382	64.727	45.309	110.036	32.363	9.427
2024-25	350.215	190.035	10.982	0.392	67.640	47.348	114.987	33.820	9.204
2023-25 Biennium	685.358	371.661	21.717	0.774	132.366	92.657	225.023	66.183	18.631
2025-26	365.608	198.627	11.234	0.401	49.428	70.611	120.039	35.306	9.009
2026-27	382.056	207.817	11.493	0.411	51.652	73.789	125.441	36.894	8.837
2025-27 Biennium	747.664	406.444	22.727	0.813	101.080	144.400	245.480	72.200	17.845
2027-28	398.875	216.959	12.010	0.430	53.924	77.034	130.958	38.517	8.685
2028-29	416.820	226.720	12.550	0.449	56.350	80.500	136.850	40.250	8.551
2027-29 Biennium	815.694	443.680	24.560	0.879	110.274	157.534	267.809	78.767	17.236

¹ Mental Health Alcoholism and Drug Services Account, per ORS 471.810

² For details on cigarette revenues see TABLE B.6 on previous page

Table B.8 Track Record for the December 2019 Forecast

(Quarter ending December 31, 2019)

rsonal Income Tax	F	orecast Comparise	on	Year/Year	r Change
	Actual	Latest	Percent	Prior	Percent
(Millions of dollars)	Revenues	Forecast	Difference	Year	Change
Withholding	\$2,223.4	\$2,176.5	2.2%	\$2,039.1	9.0%
Dollar difference		\$46.9		\$131.0	
Estimated Payments*	\$296.1	\$295.0	0.4%	\$284.0	4.3%
Dollar difference		\$1.1		\$131.8	
Final Payments*	\$195.1	\$218.6	-10.8%	\$156.6	24.6%
Dollar difference		-\$23.6		\$25.5	
Refunds	-\$289.5	-\$301.0	-3.8%	-\$335.6	-13.8%
Dollar difference		\$11.5		\$46.2	
Total Personal Income Tax	\$2,425.1	\$2,389.1	1.5%	\$2,144.1	13.1%
Dollar difference		\$35.9		\$281.0	
porate Income Tax	F	orecast Comparis	on	Year/Year	r Change
-	Actual	Latest	Percent	Prior	Percent
(Millions of dollars)	Revenues	Forecast	Difference	Year	Change
Advanced Payments	\$240.7	\$265.8	-9.4%	\$249.8	-3.6%
Dollar difference		-\$25.1		-\$9.0	
Final Payments	\$157.3	\$96.7	62.6%	\$102.9	52.8%
Dollar difference		\$60.5		\$54.3	
Refunds	-\$253.7	-\$179.2	41.6%	-\$167.9	51.1%
Dollar difference		-\$74.5		-\$85.8	
Total Corporate Income Tax	\$144.3	\$183.3	-21.3%	\$184.8	-21.9%
Dollar difference		-\$39.0		-\$40.5	
tal Income Tax	F	orecast Comparis	on	Year/Year	r Change
	Actual	Latest	Percent	Prior	Percent
(Millions of dollars)	Revenues	Forecast	Difference	Year	Change
Corporate and Personal Tax	\$2,569.4	\$2,572.5	-0.1%	\$2,328.9	10.3%

* Data separating estimated and other personal income tax payments is no longer available. Tracking represents estimates based on banking data.

Mar 2020 Forecast

Table B.9 Summary of Lottery Resources

TABLE B.9

Cummony	ofl	otton	Resources
SITURALY	()	() HELV	RECUILLES

Summary of Lottery Resources													
	2019-21			2021-23		2023-25		2025-2027		2027-29			
(in millions of dollars)	Current Forecast	Change from Dec-19	Change from COS 2019	Current Forecast	Change from Dec-19								
LOTTERY EARNINGS													
Traditional Lottery	147.323	1.023	(7.577)	149.977	(0.354)	150.468	(0.111)	149.359	(1.048)	149.429	(0.990)		
Video Lottery	1,329.717	<i>8.702</i>	24.774	1,433.362	11.880	1,562.201	14.298	1,691.940	42.208	1,797.001	47.308		
Scoreboard (Sports Betting) ¹	8.252	0.000	8.252	29.425	0.000	42.198	0.000	46.404	0.000	49.901	0.000		
Administrative Actions	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Total Available to Transfer	1,485.293	9.725	25.449	1,612.764	11.526	1,754.867	14.187	1,887.703	41.160	1,996.332	46.318		
ECONOMIC DEVELOPMENT FUND													
Beginning Balance	65.340	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Transfers from Lottery	1,485.293	9.725	25.449	1,612.764	11.526	1,754.867	14.187	1,887.703	41.160	1,996.332	46.318		
Other Resources ²	5.731	0.000	0.000	2.000	0.000	2.000	0.000	2.000	0.000	2.000	0.000		
Total Available Resources	1,556.363	9.725	25.449	1,614.764	11.526	1,756.867	14.187	1,889.703	41.160	1,998.332	46.318		
ALLOCATION OF RESOURCES													
Constitutional Distributions													
Education Stability Fund ³	267.353	1.751	4.581	105.025	(183.197)	154.972	(158.351)	124.497	(207.880)	131.161	(219.841)		
Oregon Capital Matching Fund ³	0.000	0.000	0.000	154.393	154.393	134.087	134.087	179.408	179.408	190.184	190.184		
Parks and Natural Resources Fund ⁴	222.794	1.459	3.817	241.915	1.729	263.230	2.128	283.155	6.174	299.450	6.948		
Veterans' Services Fund ⁵	22.279	0.146	0.382	24.191	0.173	26.323	0.213	28.316	0.617	29.945	0.695		
Other Distributions													
Outdoor School Education Fund ⁶	45.306	0.000	0.000	49.656	(0.201)	52.169	(0.106)	54.950	0.139	57.615	0.146		
County Economic Development	50.231	0.000	0.000	54.955	0.455	59.895	0.548	64.869	1.618	68.897	1.814		
HECC Collegiate Athletic & Scholarships ⁷	14.100	0.000	0.000	16.128	0.115	17.549	0.142	18.877	0.412	19.963	0.463		
Gambling Addiction ⁷	14.593	0.000	0.000	16.128	0.115	17.549	0.142	18.877	0.412	19.963	0.463		
County Fairs	3.828	0.000	0.000	3.828	0.000	3.828	0.000	3.828	0.000	3.828	0.000		
Other Legislatively Adopted Allocations ⁸	879.210	0.000	0.000	238.900	0.000	234.300	0.000	234.300	0.000	234.300	0.000		
Employer Incentive Fund (PERS) ¹	8.252	0.000	8.252	29.425	0.000	42.198	0.000	46.404	0.000	49.901	0.000		
Total Distributions	1,527.946	3.355	17.032	934.544	(26.417)	1,006.099	(21.197)	1,057.480	(19.100)	1,105.207	(19.129)		
Ending Balance/Discretionary Resources	28.417	6.370	8.417	680.220	37.943	750.768	35.383	832.223	60.261	893.124	65.446		

Note: Some totals may not foot due to rounding.

1. Per SB 1049 (2019), Sports Betting revenues are transferred to Economic Development Fund making them subject to the constitutional distributions, then an equal amount is transferred to the Employer Incentive Fund

2. Includes reversions (unspent allocations from previous biennium) and interest earnings on Economic Development Fund.

3. Eighleen percent of proceeds accrue to the Ed. Stability Fund, until the balance equals 5% of GF Revenues. Thereafter, 15% of proceeds accrue to the School Capital Matching Fund.

4. The Parks and Natural Resources Fund Constitutional amendment requires 15% of net proceeds be transferred to this fund.

5. Per Ballot Measure 96 (2016), 1.5% of net lottery proceeds are dedicated to the Veterans' Serv ces Fund

6. Per Ballot Measure 99 (2016), the lesser of 4% of Lottery transfers or \$22 million per year is transferred to the Outdoor Education Account. Adjusted annually for inflation.

7. Approximately one percent of net lottery proceeds are dedicated to each program. Certain limits are imposed by the Legislature.

8. Includes Debt Service Allocations, Allocations to State School Fund and Other Agency Allocations

Table B.10 Budgetary Reserve Summary and Outlook

Table B.10: Budgetary Reserve Summary and Outlook

Rainy Day Fund						
(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27	2027-29
Beginning Balance	\$376.4	\$666.6	\$962.8	\$1,306.2	\$1,708.9	\$2,164.1
Interest Earnings	\$23.5	\$33.8	\$54.3	\$83.5	\$109.1	\$137.1
Deposits ¹	\$266.7	\$262.4	\$289.1	\$319.1	\$346.2	\$373.8
Triggered Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ending Balance ²	\$666.6	\$962.8	\$1,306.2	\$1,708.9	\$2,164.1	\$2,675.1
Education Stability Fund ³						
(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27	2027-29
Beginning Balance	\$384.2	\$621.1	\$860.3	\$954.8	\$1,094.3	\$1,206.3
Interest Earnings ⁴	\$22.4	\$32.3	\$46.8	\$61.1	\$69.5	\$76.5
Deposits ⁵	\$235.9	\$240.6	\$94.5	\$139.5	\$112.0	\$118.0
Distributions	\$22.4	\$32.3	\$46.8	\$61.1	\$69.5	\$76.5
Oregon Education Fund	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Oregon Opportunity Grant	\$22.4	\$32.3	\$46.8	\$61.1	\$69.5	\$76.5
Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ending Balance	\$621.1	\$860.3	\$954.8	\$1,094.3	\$1,206.3	\$1,324.4
Total Reserves						
(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27	2027-29
Ending Balances	\$1,287.7	\$1,823.1	\$2,261.0	\$2,803.1	\$3,370.5	\$3,999.5
Percent of General Fund Revenues	5.9%	8.6%	9.3%	10.5%	11.6%	12.4%

Footnotes:

1. Includes transfer of ending General Fund balances up to 1% of budgeted appropriations as well as private donations. Assumes future appropriations equal to 98.75 percent of available resources. Includes forecast for corporate income taxes above rate of 6.6% for the biennium are deposited on or before Jun 30 of each odd-numbered year.

2. Available funds in a given biennium equal 2/3rds of the beginning balance under current law.

3. Excludes funds in the Oregon Growth and the Oregon Resource and Technology Development subaccounts.

4. Interest earnings are distributed to the Oregon Education Funds (75%) and the State Scholarship Fund (25%), provided there remains debt outstanding. In the event that debt is paid off, all interest earnings distributed to the State Scholarship Fund.

5. Contributions to the ESF are capped at 5% of the prior biennium's General Fund revenue total. Quarterly contributions are made until the balance exceeds the cap.

Mar 2020

Table B.11 Recreational Marijuana Resources and Distributions

TABLE B.11											Mar 2020
Summary of Marijuana Resources										-	
	2019-21			2021-23		2023-25		2025-27		2027-29	
			Change								
	Current	Change	from COS	Current	Change	Current	Change	Current	Change	Current	Change
(in millions of dollars)	Forecast	from Dec-19	2019	Forecast	from Dec-19						
MARIJUANA EARNINGS											
+ Tax Revenue ¹	251.485	3.277	13.516	298.841	0.000	326.435	0.000	352.873	0.000	379.312	0.000
- Administrative Costs ²	14.246	0.000	0.052	14.193	0.000	14.193	0.000	14.193	0.000	14.193	0.000
Net Available to Transfer	237.240	3.277	13.464	284.648	0.000	312.242	0.000	338.680	0.000	365.118	0.000
OREGON MARIJUANA ACCOUNT											
Beginning Balance	28.765	0.000	0.000	11.027	2.622	0.000	0.000	0.000	0.000	0.000	0.000
Revenue Transfers	237.240	3.277	13.464	284.648	0.000	312.242	0.000	338.680	0.000	365.118	0.000
Other Resources	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Available Resources	266.005	3.277	13.464	295.675	2.622	312.242	0.000	338.680	0.000	365.118	0.000
ALLOCATION OF RESOURCES											
State School Fund (40%)	103.765	0.000	0.000	119.373	1.311	124.897	0.000	135.472	0.000	146.047	0.000
Mental Health, Alcoholism, & Drug Services (20%)	51.882	0.000	0.000	59.686	0.655	62.448	0.000	67.736	0.000	73.024	0.000
State Police (15%)	38.912	0.000	0.000	44.765	0.492	46.836	0.000	50.802	0.000	54.768	0.000
Cities (10%)	23.724	0.328	1.346	28.465	0.000	31.224	0.000	33.868	0.000	36.512	0.000
Counties (10%)	23.724	0.328	1.346	28.465	0.000	31.224	0.000	33.868	0.000	36.512	0.000
Alcohol & Drug Abuse Prevention, Intervention & Treatment (5%)	12.971	0.000	0.000	14.922	0.164	15.612	0.000	16.934	0.000	18.256	0.000
Total Distributions	254.978	0.655	2.693	295.675	2.622	312.242	0.000	338.680	0.000	365.118	0.000
Ending Balance	11.027	2.622	10.891	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: Some totals may not foot due to rounding.

1. Retailers pay taxes monthly, however taxes are not available for distribution to receptent programs until the Department of Revenue receives and processes retailers' quarterly tax returns. As such, there is a one to two quarter lag between when the initial monthly payments are made and when monies be come available to distribute.

2. Administrative Costs reflect monthly collection costs for the Department of Revenue in addition to distributions to the Criminal Justice Commission and OLCC per SB 1544 (2018)

Table B.12 Fund for Student Success (Corporate Activity Tax)

										Mar 2020
Resources										
2019-21			2021-23		2023-25		2025-27		2027-29	
Current	Change	Change from	Current	Change	Current	Change	Current	Change	Current	Change
Forecast	from Dec-19	COS 2019	Forecast	from Dec-19	Forecast	from Dec-19	Forecast	from Dec-19	Forecast	from Dec-19
1,596.267	0.000	0.000	2,806.156	0.000	3,063.290	0.000	3,344.575	0.000	3,657.172	0.000
9.520	0.000	0.000	19.200	0.000	21.312	0.000	23.656	0.000	26.259	0.000
1,586.747	0.000	0.000	2,786.956	0.000	3,041.978	0.000	3,320.918	0.000	3,630.913	0.000
0.000	0.000	0.000	34.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1,586.747	0.000	0.000	2,786.956	0.000	3,041.978	0.000	3,320.918	0.000	3,630.913	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1,586.747	0.000	0.000	2,821.716	0.000	3,041.978	0.000	3,320.918	0.000	3,630.913	0.000
643.000	0.000	0.000	739.000	0.000	796.686	0.000	869.740	0.000	950.927	0.000
472.740	0.000	0.000	1,041.358	0.000	1,122.646	0.000	1,225.589	0.000	1,339.993	0.000
265.122	0.000	0.000	624.815	0.000	673.588	0.000	735.354	0.000	803.996	0.000
171.125	0.000	0.000	416.543	0.000	449.058	0.000	490.236	0.000	535.997	0.000
1,551.987	0.000	0.000	2,821.716	0.000	3,041.978	0.000	3,320.918	0.000	3,630.913	0.000
34.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2019-21 Current Forecast 1,596.267 9.520 1,586.747 0.000 1,586.747 0.000 1,586.747 643.000 472.740 265.122 171.125 1,551.987	Current Change from Dec-19 1,596.267 0.000 9.520 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,586.747 0.000 1,551.987 0.000	2019-21 Current Forecast Change from Dec-19 COS 2019 1,596.267 0.000 0.000 9.520 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 1,586.747 0.000 0.000 265.122 0.000 0.000 171.125 0.000 0.000 1,551.987 0.000 0.000	2019-21 2021-23 Current Change Change from Forecast Current Forecast 1,596.267 0.000 0.000 2,806.156 9.520 0.000 0.000 19.200 1,586.747 0.000 0.000 2,786.956 0.000 0.000 0.000 2,821.716 643.000 0.000 0.000 2,821.716 643.000 0.000 0.000 1,041.358 265.122 0.000 0.000 416.543 1,551.987 0.000 0.000 2,821.716	2019-21 2021-23 Current Change Change from Forecast Current Change Forecast Current Change Forecast Current Change Forecast Current Change Forecast Current Change Forecast Current Change Forecast Change from Dec-19 1,596.267 0.000 0.000 2,806.156 0.000 0.000 9.520 0.000 0.000 2,786.956 0.000 1,586.747 0.000 0.000 2,786.956 0.000 0.000 0.000 0.000 2,821.716 0.000 1,586.747 0.000 0.000 2,821.716 0.000 643.000 0.000 0.000 1,041.358 0.000 265.122 0.000 0.000 416.543 0.000 171.125 0.000 0.000 2,821.716 0.000 1,551.987 0.000 0.000 2,821.716 0.000	2019-21 2021-23 2023-25 Current Change Change from Current Change Current Forecast Forecast Current Change Current Forecast Forecast Forecast Forecast Forecast Forecast Forecast Current Forecast Forecast	2019-21 2021-23 2023-25 Current Change Change Fore Current Change Current Change Current Change Forecast from Dec-19 Current Current Current Change Current Current Current Change Current Current	2019-21 2021-23 2023-25 2025-27 Current Change Change from Current Change Current Change Current Forecast from Dec-19 Current Change Current Forecast from Dec-19 Current Forecast from Dec-19 Current Forecast Forecast from Dec-19 Current Forecast Forecast from Dec-19 Current Forecast Forecast Forecast from Dec-19 Current Forecast Forecast Forecast Forecast Forecast Forecast Forecast Forecast Current Forecast Forecast	2019-21 2021-23 2023-25 2025-27 Current Change Change from Current Change Forecast from Dec-19 Forecast from Dec-19 Forecast from Dec-19 Current Change Forecast from Dec-19 Forecast from Dec-19 Current Change Forecast from Dec-19 Current Current	2019-21 2021-23 2023-25 2025-27 2027-29 Current Change Change from Forecast Current Change Current Forecast from Dec-19 Forecast Forecast from Dec-19 Current Change Current Forecast Forecast from Dec-19 Forecast from Dec-19 Current Change Current Forecast from Dec-19 Forecast from Dec-19 Current Change Current Forecast from Dec-19 Forecast from Dec-19 Current Change Current Forecast from Dec-19 Forecast forecast

Note: Some totals may not foot due to rounding.

APPENDIX C: POPULATION FORECASTS BY AGE AND SEX

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Table C.1 Oregon's Population Forecasts and Component of Change 1990-2029

Year		Population C	Change	Bir	hs	Dea	ths	Natural	Net Mig	ration
(July 1)	Population	Number	Percent	Number	Rate/1000	Number	Rate/1000	Increase	Number	Rate/1000
1990	2,860,400	69,800	2 50	42,008	14 87	24,763	8 76	17,245	52,555	18 60
1991	2,928,500	68,100	2 38	42,682	14 75	24,944	8 62	17,738	50,362	17 40
1992	2,991,800	63,300	2 16	42,427	14 33	25,166	8 50	17,261	46,039	15 55
1993	3,060,400	68,600	2 29	41,442	13 69	26,543	8 77	14,899	53,701	17 75
1994	3,121,300	60,900	1 99	41,487	13 42	27,564	8 92	13,923	46,977	15 20
1995	3,184,400	63,100	2 02	42,426	13 46	27,552	8 74	14,874	48,226	15 30
1990-199	5	324,000		210,464		131,769		78,695	245,305	
1996	3,247,100	62,700	1 97	43,196	13 43	28,768	8 95	14,428	48,272	15 01
1997	3,304,300	57,200	1 76	43,625	13 32	29,201	8 91	14,424	42,776	13 06
1998	3,352,400	48,100	1 46	44,696	13 43	28,705	8 62	15,991	32,109	9 65
1999	3,393,900	41,500	1 24	45,188	13 40	29,848	8 85	15,340	26,160	7.7ϵ
2000	3,431,100	37,200	1 10	45,534	13 34	28,909	8 47	16,625	20,575	6 03
1995-200	0	246,700		222,239		145,431		76,808	169,892	
2001	3,470,400	39,300	1 15	45,536	13 20	29,934	8 67	15,602	23,698	6 87
2002	3,502,600	32,200	0 93	44,995	12 91	30,828	8 84	14,167	18,033	5 17
2003	3,538,600	36,000	1 03	45,686	12 98	30,604	8 69	15,082	20,918	5 94
2004	3,578,900	40,300	1 14	45,599	12 81	30,721	8 63	14,878	25,422	7 14
2005	3,626,900	48,000	1 34	45,892	12 74	30,717	8 53	15,175	32,825	9 11
2000-200	5	195,800		227,708		152,804		74,904	120,896	
2006	3,685,200	58,300	1 61	46,946	12 84	30,771	8 42	16,175	42,125	11 52
2007	3,739,400	54,200	1 47	49,404	13 31	31,396	8 46	18,008	36,192	9 75
2008	3,784,200	44,800	1 20	49,659	13 20	32,008	8 51	17,651	27,149	7 22
2009	3,815,800	31,600	0 84	47,960	12 62	31,382	8 26	16,578	15,022	3 95
2010	3,837,300	21,500	0 56	46,256	12 09	31,689	8 28	14,567	6,933	1 81
2005-201	0	210,400		240,225		157,246		82,979	127,421	
2011	3,857,625	20,325	0 53	45,381	11 80	32,437	8 43	12,944	7,381	1 92
2012	3,883,735	26,110	0 68	44,897	11 60	32,804	8 47	12,093	14,017	3 62
2013	3,919,020	35,285	0 91	44,969	11 53	33,168	8 50	11,801	23,484	6 02
2014	3,962,710	43,690	1 11	45,447	11 53	33,731	8 56	11,716	31,974	8 1 1
2015	4,013,845	51,135	1 29	45,660	11 45	35,318	8 86	10,342	40,793	10 23
2010-201	5	176,545		226,354		167,458		58,896	117,649	
2016	4,076,350	62,505	1 56	45,647	11 28	35,339	8 74	10,308	52,197	12 90
2017	4,141,100	64,750	1 59	44,602	10 86	36,773	8 95	7,829	56,921	13 85
2018	4,195,300	54,200	1 31	42,906	10 29	36,268	8 70	6,638	47,562	11 41
2019	4,236,400	41,099	0 98	42,200	10 01	36,750	8 72	5,450	35,649	8 46
2020	4,276,700	40,300	0 95	42,635	10 02	38,095	8 95	4,540	35,760	8 40
2015-202	0	262,854		217,990		183,225		34,765	228,089	
2021	4,316,600	39,901	0 93	42,603	9 92	38,843	9 04	3,760	36,141	8 41
2022	4,355,800	39,200	0 91	42,536	9 81	39,630	9 14	2,906	36,294	8 37
2023	4,394,300	38,500	0 88	42,522	9 72	40,477	9 25	2,045	36,455	8 33
2024	4,432,200	37,900	0 86	42,522	9 64	41,408	9 38	1,114	36,786	8 34
2025	4,469,500	37,301	0 84	42,502	9 55	42,373	9 52	129	37,172	8 35
2020-202	5	192,801		212,686		202,732		9,954	182,847	
2026	4,506,300	36,799	0 82	42,567	9 48	43,355	9 66	-788	37,587	8 38
2020	4,542,500	36,201	0 80	42,617	9 42	44,401	9 81	-1,784	37,985	8 40
2028	4,577,700	35,199	0 77	42,673	9 36	45,553	9 99	-2,880	38,079	8 35
2029	4,612,000	34,301	0 75	42,712	9 30	46,673	10 16	-3,962	38,262	8 33
1990-200	0	570,700		432,703		277,200		155,503	415,197	13 10
2000-201		406,200		467,933		310,050		157,883	248,317	6 83
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				,000	,	0.00
2010-201		439,400		444,344		350,683		93,661	345,739	8 57

Sources: 1990-1999 population - U S Census Bureau; 2000-2009 population - intercensal estimates by Office of Economic Analysis; population estimates 2010-2018 by Population Research Center, PSU; births and deaths 1990-2018: Oregon Center for Health Statistics

Table C.2 Population Forecasts by Age and Sex: 2010-2029

		2010			2011			2012			2013			2014	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	122,327	116,130	238,457	121,092	115,088	236,180	119,516	113,359	232,875	118,293	111,850	230,143	117,872	111,493	229,365
5-9 10-14	121,539 124,508	116,369 118,732	237,908 243,241	121,767 124,074	115,893 119,044	237,660 243,118	122,733 123,603	116,900 118,287	239,634 241,890	124,024 123,386	117,953 118,206	241,977 241,593	124,734 123,403	118,038 118,463	242,772 241,865
15-19	131,126	124,540	255,667	129,068	121,927	250,996	127,517	120,587	248,104	126,643	119,875	246,518	126,847	119,972	246,819
20-24	128,787	124,903	253,689	130,576	126,691	257,267	132,853	128,787	261,640	135,293	130,705	265,998	136,741	132,080	268,821
25-29	134,019	131,816	265,835	133,302	130,829	264,132	132,463	129,927	262,390	132,508	130,403	262,911	134,578	132,874	267,452
30-34 35-39	131,489 128,070	128,325 123,596	259,814 251.665	133,512 125,924	130,743 121,787	264,255 247,710	135,689 126,018	133,329 122,275	269,018 248,293	137,321 128,683	135,074 124,338	272,395 253,022	139,932 130,858	137,412 126.562	277,344 257,420
40-44	125,969	123,390	248,811	123,924	121,787	247,710	120,018	126,620	248,293	128,083	124,338	258,950	130,858	126,698	257,745
45-49	130,825	132,538	263,363	127,795	128,542	256,337	125,434	124,976	250,410	123,864	122,179	246,043	124,309	121,474	245,783
50-54	135,129	141,565	276,693	134,682	140,654	275,335	133,445	139,197	272,643	132,080	137,545	269,625	131,568	136,140	267,708
55-59	133,011	140,802	273,812	134,009	142,349	276,358	134,403	143,058	277,461	134,376	142,746	277,122	133,344	142,041	275,385
60-64 65-69	115,236 81,854	121,045 87,917	236,281 169,771	121,440 84,425	127,818 90,852	249,258 175,277	122,921 92,096	129,548 98,785	252,470 190,881	124,925 97,983	132,821 105,059	257,745 203,042	127,753 103,544	136,837 110,487	264,590 214,031
70-74	56,925	62,949	119,874	59,485	65,640	175,277	62,496	69,113	131,609	67,184	73,899	141,083	71,303	78,473	149,776
75-79	40,932	50,101	91,034	41,549	50,075	91,624	42,654	50,692	93,346	44,224	52,064	96,287	46,443	54,145	100,588
80-84	30,391	42,734	73,126	30,500	42,287	72,787	30,560	41,822	72,381	30,774	41,257	72,031	31,046	40,788	71,834
85+	26,800	51,458	78,258	27,598	52,275	79,874	28,360	52,915	81,276	28,995	53,538	82,533	29,522	53,890	83,411
Total	1,898,938	1,938,362	3,837,300	1,909,773	1,947,852	3,857,625	1,923,557	1,960,178	3,883,735	1,942,040	1,976,980	3,919,020	1,964,844	1,997,866	3,962,710
Mdn. Age	37.2	39.4	3,837,300	37.4	39.7	3,857,025	37.6	39.9	3,883,733	37.8	40.0	3,919,020	38.0	40.1	3,902,710
intain: rige	57.2	57.4	50.5	51.4	59.1	50.5	51.0	57.7	50.7	57.0	10.0	50.7	50.0	10.1	57.0
		2015			2016			2017			2018			2019	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	118,065	111,542	229,607	119,058	112,182	231,240	119,559	112,674	232,233	118,627	111,690	230,317	116,542	109,803	226,345
5-9 10-14	125,502 122,975	118,321 118,328	243,824 241,303	125,540 123,807	118,120 118,633	243,660 242,441	125,252 125,567	117,280 120,565	242,531 246,131	124,739 127,250	116,196 122,070	240,935 249,320	124,538 128,076	115,923 122,246	240,461 250,322
15-19	127,735	120,633	248,368	128,448	121,638	250,085	129,147	121,888	251,034	129,234	121,975	251,209	128,956	122,036	250,992
20-24	137,304	132,672	269,977	137,526	132,652	270,178	138,147	133,318	271,465	138,209	133,517	271,726	138,190	133,091	271,281
25-29	137,959	137,056	275,015	143,647	143,914	287,560	149,359	150,280	299,638	154,060	155,138	309,198	155,764	156,968	312,732
30-34	141,525	138,707	280,232	144,070	140,722	284,792	146,202	142,878	289,080	148,128	145,381	293,509	150,901	148,924	299,825
35-39 40-44	134,484 130,040	129,808 125,302	264,292 255,342	138,181 129,051	133,110 124,315	271,291 253,366	142,318 130,214	136,982 125,671	279,300 255,885	145,109 133,579	139,398 128,172	284,507 261,750	148,225 135,893	142,072 130,445	290,297 266,338
40-44 45-49	130,040	123,502	255,542	129,051	124,313	253,500	130,214	123,671 128,832	255,885 262,987	135,379	128,172	261,750 265,557	135,895	129,365	264,461
50-54	129,981	133,569	263,550	127,847	130,622	258,469	126,390	127,827	254,217	125,327	125,447	250,774	125,957	124,706	250,662
55-59	133,245	142,271	275,516	133,803	142,713	276,516	133,263	142,247	275,510	132,344	141,185	273,530	131,803	139,755	271,558
60-64	130,407	139,689	270,096	132,872	142,414	275,286	134,429	144,218	278,648	135,169	144,564	279,732	134,220	143,968	278,188
65-69 70-74	109,922 74,860	117,550 82,510	227,472 157,370	116,860 77,688	124,952 85,607	241,812 163,296	119,220 85,391	127,459 93,610	246,679 179,000	121,855 91,362	131,174 99,866	253,029 191,228	124,814 96,776	135,211 105,112	260,025 201,888
75-79	48,615	56,084	104,698	51,000	58,692	103,290	53,744	62,024	115,768	57,996	66,478	191,228	61,662	70,637	132,299
80-84	31,707	40,809	72,517	32,509	40,934	73,443	33,586	41,565	75,152	35,052	42,789	77,840	36,912	44,542	81,454
85+	30,095	53,967	84,062	30,836	54,337	85,173	31,428	54,414	85,842	32,159	54,506	86,665	32,810	54,462	87,272
Total Mdn. Age	1,991,483 38.1	2,022,363 40.2	4,013,845 39.1	2,023,989 38.2	2,052,361 40.2	4,076,350 39.2	2,057,371 38.3	2,083,730 40.2	4,141,100 39.2	2,085,663 38.5	2,109,637 40.4	4,195,300 39.4	2,107,135 38.7	2,129,265 40.5	4,236,400 39.6
Mail: Age	50.1	40.2	59.1	50.2	40.2	39.2	50.5	40.2	37.2	56.5	40.4	37.4	56.7	40.5	57.0
		2020			2021			2022			2023			2024	
Age	Male	Female	<u>Total</u>	Male	Female	<u>Total</u>	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	114,550	Female 108,007	222,556	112,634	Female 106,252	218,886	111,377	<u>Female</u> 105,110	216,487	111,144	Female 104,902	216,046	111,318	Female 105,063	216,381
0-4 5- 9	114,550 124,635	<u>Female</u> 108,007 115,897	222,556 240,532	112,634 125,105	Female 106,252 116,235	218,886 241,340	111,377 124,914	<u>Female</u> 105,110 116,051	216,487 240,964	111,144 123,492	<u>Female</u> 104,902 114,789	216,046 238,281	111,318 121,312	Female 105,063 112,847	216,381 234,159
0-4 5- 9 10-14	114,550 124,635 128,824	<u>Female</u> 108,007 115,897 122,433	222,556 240,532 251,256	112,634 125,105 128,578	<u>Female</u> 106,252 116,235 121,896	218,886 241,340 250,474	111,377 124,914 127,792	<u>Female</u> 105,110 116,051 120,505	216,487 240,964 248,297	111,144 123,492 127,050	<u>Female</u> 104,902 114,789 119,161	216,046 238,281 246,211	111,318 121,312 126,846	<u>Female</u> 105,063 112,847 118,883	216,381 234,159 245,729
0-4 5- 9	114,550 124,635	<u>Female</u> 108,007 115,897	222,556 240,532	112,634 125,105	Female 106,252 116,235	218,886 241,340	111,377 124,914	<u>Female</u> 105,110 116,051	216,487 240,964	111,144 123,492	<u>Female</u> 104,902 114,789	216,046 238,281	111,318 121,312	Female 105,063 112,847	216,381 234,159
0-4 5-9 10-14 15-19 20-24 25-29	114,550 124,635 128,824 128,140 138,555 155,691	Female 108,007 115,897 122,433 121,676 133,032 156,751	222,556 240,532 251,256 249,816 271,587 312,441	112,634 125,105 128,578 128,593 138,356 154,425	Female 106,252 116,235 121,896 121,680 133,203 154,673	218,886 241,340 250,474 250,273 271,559 309,098	111,377 124,914 127,792 129,857 137,889 153,248	Female 105,110 116,051 120,505 123,188 132,154 153,399	216,487 240,964 248,297 253,045 270,043 306,647	111,144 123,492 127,050 131,412 137,501 152,367	Female 104,902 114,789 119,161 124,569 131,861 152,333	216,046 238,281 246,211 255,981 269,362 304,700	111,318 121,312 126,846 132,267 137,201 152,359	Female 105,063 112,847 118,883 124,737 131,923 151,884	216,381 234,159 245,729 257,005 269,124 304,243
0-4 5-9 10-14 15-19 20-24 25-29 30-34	114,550 124,635 128,824 128,140 138,555 155,691 154,331	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477	222,556 240,532 251,256 249,816 271,587 312,441 307,808	112,634 125,105 128,578 128,593 138,356 154,425 159,156	Female 106,252 116,235 121,896 121,680 133,203 154,673 159,561	218,886 241,340 250,474 250,273 271,559 309,098 318,717	111,377 124,914 127,792 129,857 137,889 153,248 163,855	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040	216,487 240,964 248,297 253,045 270,043 306,647 328,895	111,144 123,492 127,050 131,412 137,501 152,367 167,771	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884	216,046 238,281 246,211 255,981 269,362 304,700 336,656	111,318 121,312 126,846 132,267 137,201 152,359 169,595	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768	216,381 234,159 245,729 257,005 269,124 304,243 340,363
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852	Eemale 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195	Eemale 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099	Eemale 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333
0.4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690 142,881	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852	Eemale 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195	Eemale 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099	Eemale 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083	Eemale 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 126,636 136,902	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661	Female 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,048 140,009 127,495 131,230 130,165	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 129,821 132,292 127,466	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933	Eemale 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 126,636 136,902 144,048	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 143,982	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,660 259,044 262,204 261,078 277,915	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 129,821 132,292 127,466 141,696	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160	Eemale 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 132,131 131,572 126,743 140,288	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955 271,448
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 127,370	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 136,6902 144,048 137,903	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273	112,634 125,105 128,578 128,578 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282	Female 106,252 116,235 121,896 121,690 133,200 134,673 159,561 145,074 136,719 126,589 129,619 126,589 129,649 143,982 140,222	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,200 130,165 143,096 141,584	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 129,2921 132,292 127,466 141,696 141,712	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,213 131,522 126,743 140,288 141,186	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955 271,448 271,027
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 25.29\\ 30.34\\ 35.39\\ 40.44\\ 45.49\\ 50.54\\ 55.59\\ 60.64\\ 65.69\\ 70.74\end{array}$	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 127,370 102,753	Female 108,007 115,897 124,676 133,032 156,751 133,455 133,614 127,876 126,636 136,902 144,048 137,903 111,774	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282 108,805	Female 106,252 116,235 121,896 123,203 154,673 159,561 136,719 126,589 129,617 133,417 143,074 143,673 126,589 129,617 133,417 143,622 148,530	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 261,078 277,915 269,504 227,335	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 110,777	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 141,584 120,709	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,282 255,906 276,064 271,981 231,486	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,821 132,292 127,466 141,712 124,145	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478 237,161	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 132,131 131,572 126,743 140,285 141,186 128,031	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955 271,448 271,027 243,791
0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 127,370	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 136,6902 144,048 137,903	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273	112,634 125,105 128,578 128,578 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282	Female 106,252 116,235 121,896 121,600 133,203 154,673 159,561 145,074 136,719 126,589 129,654 134,074 136,719 126,589 124,982 143,982 140,222	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,200 130,165 143,096 141,584	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 129,2821 132,292 127,466 141,696 141,712	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,213 131,522 126,743 140,288 141,186	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955 271,448 271,027
$\begin{array}{c} 0.4 \\ 5 & 9 \\ 10 & 14 \\ 15 & 19 \\ 20 & 24 \\ 25 & 29 \\ 30 & 34 \\ 35 & 39 \\ 40 & 44 \\ 45 & 49 \\ 50 & 54 \\ 55 & 59 \\ 60 & 64 \\ 65 & 69 \\ 70 & 77 \\ 75 & 79 \end{array}$	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,924 128,725 130,083 133,924 128,725 130,083 133,933 127,370 102,753 64,821	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 126,836 136,902 144,048 137,903 111,774 74,227	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,278 214,528 139,048	112,634 125,105 128,578 128,578 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282 108,805 67,169	Female 106.252 116.235 121.896 121.680 133.203 154,673 159,561 145,074 136,719 126,889 129,617 133,417 143,982 148,530 76,931	218,886 241,340 250,474 250,275 309,098 318,717 296,763 279,600 259,044 262,204 262,204 261,078 277,915 269,504 277,335 144,100	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 73,836	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,009 84,104	216,487 240,964 248,297 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,765 113,015 79,007	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 127,466 141,696 141,712 124,145 89,808	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 273,394 273,478 237,161 168,815	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 83,672	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610	216,381 234,159 245,729 257,005 269,124 304,243 340,363 309,333 297,109 270,722 267,177 251,955 271,448 271,027 243,791 178,283
0.4 5.9 10-14 15.19 20-24 25.29 30.34 35.39 40.44 45.49 50.54 55.54 50.54 50.54 50.54 50.54 50.54 50.64 65.69 70.74 75.79 80.84 85+	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 127,370 102,753 64,821 38,721 33,779	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 136,902 144,048 137,903 111,774 46,162 54,646	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,276 214,528 139,048 84,883 88,424	112,634 128,578 128,579 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645	Female 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 126,689 126,589 126,589 126,589 126,581 143,071 133,417 140,2982 140,222 118,530 76,931 48,348 55,173	218,886 241,340 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 273,000 261,044 261,078 273,078 261,078 261,078 273,078 261,078 261,078 273,078 261,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,07	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,538 133,121 135,023 125,815 132,967 130,397 73,836 42,687 35,670	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,099 127,495 131,230 130,165 141,584 120,709 84,104 51,123 55,956	216,487 240,964 248,297 253,045 253,045 253,045 253,045 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 93,811 91,626	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,065 113,015 79,007 46,046 36,858	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,609 142,293 129,821 132,292 129,821 132,292 127,466 141,712 124,145 89,808 54,894 57,061	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478 267,161 168,815 100,940 93,918	111,318 121,312 126,8446 132,267 137,201 152,359 169,595 157,099 152,078 138,504 125,212 131,160 129,841 115,761 83,672 48,971 38,382	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,231 132,131 132,131 126,743 140,288 141,186 128,031 126,743 140,288 141,186 128,031 58,569	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 304,243 304,243 304,243 304,243 304,243 207,109 270,722 267,177 251,975 271,448 271,027 243,779 243,779 243,779 243,779 243,779 243,779 243,779 244,779 244,779 244,779 244,779 244,779 244,779 245,779 247,777 243,7777 243,7777 243,7777 243,7777 243,77777 243,777777777777777777777777777777777777
0.4 5.9 10-14 15-19 20-24 25-29 30.34 35-39 40-44 45-49 50-59 60-64 65-69 70-74 75-79 80-64 65-69 70-74 85-89 80-84 85+ Total	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 138,924 130,083 133,933 127,370 102,753 64,821 38,721 33,779 2,128,184	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 122,876 126,636 136,903 111,774 74,227 46,162 54,646 2,148,516	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700	112,634 128,505 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 122,661 133,933 129,282 108,805 67,169 40,546 34,645	Female 106.252 116.235 121,896 121,680 132,203 154,673 159,561 145,074 136,171 136,173 129,617 134,673 143,982 140,222 118,530 76,931 48,348 55,173 2,168,100	218,886 241,340 250,273 250,273 271,559 309,098 318,715 296,763 296,773 296,763 296,773 296,763 296,763 296,773 296,763 296,763 296,773 296,763 296,763 296,773 296,763 296,763 296,773 296,763 296,773 296,763 296,773 296,763 296,763 296,773 296,763 296,763 296,763 296,773 296,764 296,765 296,76	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 110,777 73,836 42,687 35,670	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,123 55,956 2,187,367	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,748 217,981 231,748 157,941 93,811 91,626	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,016 13,016 36,858	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 144,690 142,293 129,821 132,292 127,466 141,696 141,712 124,145 89,808 54,894 57,061 2,206,288	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 273,394 273,394 273,394 273,394 309,40 93,918 4,394,300	111.318 121.312 126,844 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 83,672 38,382 2,207,269	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,4569 2,224,931	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 304,363 309,333 297,109 270,722 267,177 251,955 271,448 274,027 243,791 178,283 107,402 96,951
0.4 5.9 10-14 15.19 20-24 25.29 30.34 35.39 40.44 45.49 50.54 55.54 50.54 50.54 50.54 50.54 50.54 50.64 65.69 70.74 75.79 80.84 85+	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 127,370 102,753 64,821 38,721 33,779	Female 108,007 115,897 122,433 121,676 133,032 156,751 153,477 143,455 133,614 127,876 136,902 144,048 137,903 111,774 46,162 54,646	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,276 214,528 139,048 84,883 88,424	112,634 128,578 128,579 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645	Female 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 126,689 126,589 126,589 126,581 143,071 133,417 140,2982 140,222 118,530 76,931 48,348 55,173	218,886 241,340 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 277,915 269,504 261,078 273,000 261,044 261,078 273,078 261,078 261,078 273,078 261,078 261,078 273,078 261,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,078 273,078 261,07	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,538 133,121 135,023 125,815 132,967 130,397 73,836 42,687 35,670	Female 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,099 127,495 131,230 130,165 141,584 120,709 84,104 51,123 55,956	216,487 240,964 248,297 253,045 253,045 253,045 253,045 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 93,811 91,626	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,765 79,007 46,046 36,858	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,609 142,293 129,821 132,292 129,821 132,292 127,466 141,712 124,145 89,808 54,894 57,061	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478 267,161 168,815 100,940 93,918	111,318 121,312 126,8446 132,267 137,201 152,359 169,595 157,099 152,078 138,504 125,212 131,160 129,841 115,761 83,672 48,971 38,382	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,231 132,131 132,131 126,743 140,288 141,186 128,031 126,743 140,288 141,186 128,031 58,569	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 304,243 304,243 304,243 304,243 304,243 207,109 270,722 267,177 251,975 271,448 271,027 243,779 243,779 243,779 243,779 243,779 243,779 243,779 244,779 244,779 244,779 244,779 244,779 244,779 245,779 247,777 243,7777 243,7777 243,7777 243,7777 243,77777 243,777777777777777777777777777777777777
0.4 5.9 10-14 15-19 20-24 25-29 30.34 35-39 40-44 45-49 50-59 60-64 65-69 70-74 75-79 80-64 65-69 70-74 85-89 80-84 85+ Total	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 138,924 130,083 133,933 127,370 102,753 64,821 38,721 33,779 2,128,184	Female 108,007 115,897 122,433 121,676 133,032 156,751 133,614 126,636 136,6902 144,045 137,903 111,774 74,227 46,162 54,646 2,148,516 40,7	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 277,981 265,273 214,528 84,883 88,424 4,276,700 39,8	112,634 128,578 128,578 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2	Female 106.252 116.235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,6589 129,617 133,417 143,982 140,222 118,530 76,931 48,348 55,173 2,168,100 40.9	218,886 241,340 250,474 250,273 271,559 300,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504 2277,915 269,504 2277,915 269,504 421,078 277,915 269,504 428,884 89,818 4,316,600 40.0	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,385 133,121 135,023 135,023 135,023 135,023 130,397 110,777 73,836 42,687 35,670 2,168,434 39,4	Female 105,110 116,051 120,505 123,154 153,399 165,001 144,448 140,009 127,495 131,210 130,165 143,096 141,584 120,709 84,104 55,956 2,187,367 41.1	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 266,525 265,980 276,064 271,981 231,486 157,941 93,811 91,626 4,355,800 40.2	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,293 129,821 132,292 127,466 141,602 142,415 89,808 54,894 57,061 2,206,288 41.3	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,289 252,049 273,394 272,478 237,161 168,815 100,940 93,918 4,394,300 40.5	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 83,672 48,971 38,382 2,207,269 39,9	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,431 58,569 2,224,931 41.5	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 309,333 309,333 309,333 309,333 297,109 270,722 267,177 251,955 271,448 271,027 243,791 178,283 107,402 96,951 44,32,200 40,7
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 50.54 50.54 50.54 50.54 65.69 70.74 75.79 80.84 85+ Total Mdn. Age	114,550 124,635 128,824 128,824 128,840 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,943 133,933 127,370 102,753 64,821 38,721 39,721 30,721 30,721 30,7210	Female 108,007 115,897 122,433 121,676 133,032 155,751 133,614 127,876 126,636 136,902 144,048 137,903 111,774 46,162 54,646 2,144,816 2,145,162 54,646 40,07 2025 Female	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 266,985 277,981 266,985 214,528 139,048 84,823 88,824 4,276,700 39,8	112,634 125,105 128,578 128,593 138,356 154,425 159,156 151,690 142,881 132,455 132,587 132,587 132,587 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2	Eemale 106,252 116,235 121,896 121,896 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 145,074 145,074 135,951 43,348 55,173 2,168,100 40,222 2026 Female	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 261,078 277,915 269,504 227,335 144,100 88,894 89,818 4,316,600 40.0	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 73,836 42,687 35,670 2,168,434 39,4	Female 105,110 116,051 123,184 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,009 84,104 51,123 55,5956 2,187,367 41,1 2027 Female	216,487 249,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 93,811 91,626 4,355,800 40.2	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 136,232 135,997 136,232 135,997 134,583 131,698 130,765 179,007 46,046 36,858 2,188,012 39,6 <u>Male</u>	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,821 132,292 127,466 141,696 141,712 124,1696 141,712 124,145 89,808 54,894 57,061 2,2062,88 41.3 20208 Female	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 272,478 252,049 273,394 273,394 273,394 273,394 273,478 237,161 168,815 100,940 93,918 4,394,300 40.5	111,318 121,312 126,844 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 83,672 48,971 38,382 2,207,269 39,9 <u>Male</u>	Female 105,063 112,847 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 2029 Female	216,381 234,159 245,729 257,005 269,124 304,243 340,363 340,363 340,363 340,363 340,363 340,363 247,177 251,954 277,149 270,727 243,791 178,283 107,402 96,951 4,432,200 40,7 7 7 7 40,7 7 7 7 40,7 7 7 7 40,7 7 7 7 40,7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 50.55 9 60.64 65.69 70.74 75.79 80.84 85+ Total Mdn. Age <u>Age</u> 0.4	114,550 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 132,370 102,753 64,821 38,721 33,779 2,128,184 39,0	Female 108,007 115,897 122,433 121,676 133,032 156,751 133,614 127,876 126,636 136,902 144,048 137,903 111,774 742,277 46,162 54,646 20,72 2148,516 40,7 2025 Female 105,006	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39.8 <u>Total</u> 216,272	112,634 125,105 128,578 128,578 128,578 154,425 159,156 151,690 142,881 132,587 127,661 132,937 127,661 132,937 127,661 132,937 127,661 34,645 34,645 2,148,500 39,2 39,2 <u>Male</u> 111,271	Female 106.252 116.235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,689 120,681 145,074 136,719 126,689 126,681 140,222 118,530 76,931 48,348 55,173 2,168,100 40,9 20206 Female 104,995	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 263,205 144,100 88,894 89,818 4,316,600 40.0	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 110,777 73,836 42,687 35,670 2,168,434 39,4 <u>Male</u> 111,339	Eemale 105,110 116,051 120,505 123,184 153,399 165,000 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,123 55,956 2,187,367 41,1 2027 Female 105,042	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 91,626 4,355,800 40.2 <u>Total</u> 216,381	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 136,095 148,877 124,583 136,095 135,997 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 Male 111,436	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,202 124,666 141,712 124,145 88,944 57,061 2,206,288 41.3 2028 Female 105,119	216,046 238,281 246,211 255,981 269,362 302,796 291,170 266,053 268,289 252,049 273,394 272,478 237,161 168,815 100,940 93,918 4,394,300 40.5	111,318 121,318 120,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,600 129,841 115,761 183,672 38,382 2,207,269 39,9 <u>Male</u> 111,546	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,224 141,186 124,773 132,131 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 2009 Female 105,211	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,243 340,363 340,363 340,363 340,363 340,363 340,372 271,148 271,102 271,147 243,791 178,285 271,148 271,027 243,791 178,285 271,148 271,027 243,791 178,285 271,485 271,027 243,791 243,791 243,791 243,791 243,791 243,791 243,791 243,791 243,792 245,791 245,792 245,79
0.4 5.9 10-14 15-19 20-24 25:29 30-34 35:39 40-44 45:49 50-54 55:59 60:64 65:69 70:74 75:79 80:84 85:4 85:4 85:4 70:74 75:79 80:84 85:4 85:4 85:4 85:4 85:4 85:4 85:4 8	114,550 124,635 128,824 128,140 138,555 155,691 154,351 149,852 139,497 133,924 128,725 130,083 133,924 128,725 130,083 133,923 127,370 102,753 133,727 33,727 2,128,184 33,777 2,128,184 33,777 2,128,184 111,266	Eemale 108,007 115,897 122,433 121,676 133,032 155,477 143,455 133,614 127,876 126,636 136,902 144,048 137,903 114,048 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,903 137,905 137,	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 266.985 277.981 265.273 214.528 88.424 4.2676.700 39.8 <u>Total</u> 216.272 216.272 216.272 216.272	112,634 125,105 128,578 128,593 138,358 154,425 154,425 151,690 142,881 132,455 132,587 127,661 133,933 129,282 67,169 40,546 34,645 2,148,500 39,2 Male 111,271 117,291	Eemale 106,252 116,235 121,896 121,680 133,203 159,561 145,074 136,719 126,589 129,617 133,417 143,982 140,222 143,982 144,982 143,932 143,932	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,040 262,204 262,204 261,078 267,915 269,504 227,335 144,100 88,894 88,894 88,818 4,316,600 400 <u>Total</u> 216,265 216,265 216,265	111,377 124,914 127,792 129,857 137,889 153,248 163,885 152,870 146,338 133,121 135,023 125,815 132,967 130,397 73,836 42,687 35,670 2,168,434 39,4 <u>Male</u> 111,339 116,020	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,096 141,584 120,099 84,104 55,956 2,187,367 41.1 2027 Female 105,042 108,043	216,487 240,964 248,297 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 93,811 91,626 4,355,800 40,2 216,381 216,381 216,381 216,381 224,063	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 111,436	Eemak 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,292 127,466 141,696 141,712 124,145 89,808 54,894 57,061 2,206,288 41.3 2028 Femak 105,119 107,830	216,046 238,281 246,211 255,981 269,362 291,700 336,656 302,796 291,170 266,053 266,053 266,053 266,053 266,053 268,289 252,049 273,394 273,394 273,394 273,394 273,394 273,394 273,394 273,394 200,940 93,918 4,394,300 40,5 216,555 216,555 216,555 223,637	111.318 121.312 126.840 132.267 137.201 152.359 169.595 157.099 152.078 138.591 135.604 125.212 131.160 129.841 115.761 83.672 48.971 38.382 2.207.269 39.9 <u>Male</u> 111.505	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 145,031 132,131 131,572 126,743 140,288 141,186 142,883 144,186 128,031 94,610 58,569 2,224,931 41,5 2029 <u>Femak</u> 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,979 107,978 10	216,381 234,159 245,729 257,005 269,124 340,243 340,263 340,263 340,263 340,263 340,263 267,177 251,958 271,448 271,027 243,791 178,283 107,402 96,551 178,283 107,402 96,555 224,014
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 50.55 9 60.64 65.69 70.74 75.79 80.84 85+ Total Mdn. Age <u>Age</u> 0.4	114,550 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 132,370 102,753 64,821 38,721 33,779 2,128,184 39,0	Female 108,007 115,897 122,433 121,676 133,032 156,751 133,614 127,876 126,636 136,902 144,048 137,903 111,774 742,277 46,162 54,646 20,72 2148,516 40,7 2025 Female 105,006	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39.8 <u>Total</u> 216,272	112,634 125,105 128,578 128,578 128,578 154,425 159,156 151,690 142,881 132,587 127,661 132,937 127,661 132,937 127,661 132,937 127,661 34,645 34,645 2,148,500 39,2 39,2 <u>Male</u> 111,271	Female 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,689 120,681 145,074 136,719 126,689 126,681 140,222 118,530 76,931 48,348 55,173 2,168,100 40,9 2026 Female 104,995	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 262,504 262,504 262,504 262,504 262,504 262,504 262,504 262,504 262,504 262,504 262,504 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505 264,505 265,505,505 265,505,505 265,505,505,505,505,505,505,505,505,505,5	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 110,777 73,836 42,687 35,670 2,168,434 39,4 <u>Male</u> 111,339	Eemale 105,110 116,051 120,505 123,184 153,399 165,000 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,123 55,956 2,187,367 41,1 2027 Female 105,042	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 91,626 4,355,800 40.2 <u>Total</u> 216,381	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 136,095 148,877 124,583 136,095 135,997 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 Male 111,436	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,202 124,666 141,712 124,145 88,944 57,061 2,206,288 41.3 2028 Female 105,119	216,046 238,281 246,211 255,981 269,362 302,796 291,170 266,053 268,289 252,049 273,394 272,478 237,161 168,815 100,940 93,918 4,394,300 40.5	111,318 121,318 120,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,600 129,841 115,761 183,672 38,382 2,207,269 39,9 <u>Male</u> 111,546	Female 105,063 112,847 118,883 124,737 131,923 151,884 170,768 152,224 141,186 124,737 132,131 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 2029 Pemale 105,211	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,243 340,363 340,363 340,363 340,363 340,363 340,372 271,148 271,102 271,147 243,791 178,285 271,148 271,027 243,791 178,285 271,148 271,027 243,791 178,285 271,485 271,027 243,791 243,791 243,791 243,791 243,791 243,791 243,791 243,791 243,792 245,791 245,792 245,79
0.4 5.9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-54 65-69 70-74 75-79 80-84 85+ Total Mdn. Age <u>Åge</u> 0-4 5-9 10-14	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,0497 133,924 128,725 130,0083 133,933 122,370 102,753 64,821 33,779 2,128,184 39,0 2,128,184 39,0	Female 108,007 115,897 122,433 121,676 133,032 155,877 143,455 133,614 127,876 126,636 136,902 144,048 137,903 111,774 46,162 54,646 2,148,516 40,07 20255 Female 105,006 111,074 118,867	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39,8 <u>Total</u> 216,272 230,265	112,634 125,105 128,578 128,578 128,578 128,578 138,356 154,425 159,156 151,690 142,881 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 2,148,500 39,2 Male 111,271 117,291 127,426	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 143,982 140,222 118,503 2,168,100 40,995 104,995 104,995 109,213	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 269,504 269,504 227,335 144,100 88,894 89,818 4,316,600 40.0	111.377 124.914 127.792 129.857 153.248 153.248 153.248 153.248 153.257 146.338 133.121 135.023 125.815 132.967 110.777 73.836 42.687 35.670 2,168.434 39.4 Male 111.339 116.020 127.224	Eemale 105,110 116,051 123,184 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,123 55,956 2,187,367 41.1 2027 Female 105,042 106,042 106,042 106,043	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 276,064 271,981 231,486 4,355,800 40.2 Total 216,381 224,6266	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 79,007 46,046 36,658 2,188,012 39,6 2,188,012 39,6	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,821 132,292 121,466 141,712 124,466 141,712 124,466 141,712 124,466 141,712 124,168 57,061 2,206,243 20208 Female 105,119 107,850	216,046 238,281 246,211 255,981 269,362 269,362 291,170 266,289 252,049 273,394 273,394 273,394 273,394 4,394,300 40.5 Total 216,555 223,637 223,637	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 83,672 48,971 38,382 2,207,269 39.9 <u>Male</u> 111,546 116,015 123,543	Female 105,063 112,847 112,847 131,923 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 20299 Female 105,211 105,221 105,766	216,381 234,159 245,729 257,005 269,124 304,243 340,363 340,363 340,363 340,363 340,363 340,373 267,179 270,727 267,177 251,955 271,448 267,179 178,283 107,402 96,951 44,452,200 40,7 Total 216,758 224,014
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 25.29\\ 30.34\\ 35.39\\ 40.44\\ 45.49\\ 50.54\\ 55.59\\ 60.64\\ 65.69\\ 70.74\\ 85.84\\ 85+\\ Total\\ Mdn. Age\\ \hline \\ \begin{array}{c} \underline{Age}\\ 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 25.29\end{array}$	114,650 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,0497 133,924 128,725 130,0083 133,933 122,370 102,753 64,821 38,721 33,779 2,128,184 39,0 Male 111,266 119,256 126,549 133,068 136,386 136,386 136,386 136,386 136,386 136,386	Female 108,007 115,897 122,433 121,676 133,032 155,877 143,455 133,614 127,876 126,636 136,902 144,048 137,903 111,774 74,227 46,162 54,646 2,148,516 40.7 20255 Female 105,006 111,009 118,8867 124,934 131,562	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 266.985 277.981 30.445 84.883 88.424 4.276.700 39.8 <u>Total</u> 216.272 230.265 245.816 258.002 267.913 304.755	112,634 125,105 128,578 128,578 128,578 128,578 154,425 159,156 151,690 142,881 132,587 127,661 133,935 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 152,712	Female 106/252 116/235 121,896 121,680 133,203 154,673 159,561 126,589 126,589 126,589 126,581 126,582 140,022 118,503 48,348 55,173 2,168,100 40.9 20266 Female 104,995 109,213 119,223 124,394 131,597 152,244	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 88,894 89,818 4,316,600 40.0 Total 216,265 226,504 246,649 257,244 268,451 304,955	111.377 124.914 127.792 129.857 137.889 153.248 163.855 152.870 146.338 133.121 135.023 125.815 132.967 130.397 110.777 73.836 42.687 33.670 2,168.434 39.4 Male 111.339 116.020 127.224 132.061 138.228	Eemale 105,110 116,0511 120,505 123,188 132,154 153,3399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,009 84,104 55,956 2,187,367 41.1 2027 Female 105,042 108,043 119,043 122,2967 132,206 151,222	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 276,064 277,098 157,941 91,626 4,355,800 40.2 Total 216,381 224,0266 255,028 271,498 303,541	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 2,188,012 39,6 111,436 111,436 111,436 1152,5765 131,299 139,911	Female 104,902 114,789 119,161 124,569 131,861 152,333 168,884 142,293 129,821 122,922 121,466 141,712 124,466 141,712 124,466 141,712 124,466 141,712 124,134 206,288 41.3 20208 Female 105,119 107,830 117,753 121,574 134,799 151,041	216,046 238,281 246,211 255,981 269,362 302,796 291,170 266,289 252,049 273,394 273,394 273,394 273,394 273,394 300,940 93,918 4,394,300 40.5 Total 216,555 223,657 243,518 252,873 274,710 303,038	111,318 121,312 126,846 132,267 137,201 152,359 169,595 152,078 138,591 135,604 125,212 131,160 129,841 115,761 138,382 2,207,269 39.9 <u>Male</u> 111,546 116,015 132,543 131,084 140,884 152,757	Female 105,063 112,847 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610 58,431 58,569 2,224,931 41.5 2029 Female 105,211 107,999 115,766 121,272 135,236 121,272 135,260	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 340,363 340,363 340,363 340,373 267,179 271,027 243,791 178,283 107,402 96,951 4,432,200 40,7 Total 216,758 224,014 225,355 225,355 275,881 242,014
0.4 5.9 10-14 15-19 20-24 25:29 30-34 35:39 40-44 45:49 50-54 50-54 50-54 55:59 60-64 65-69 70-74 75:79 80-84 85+ 854 854 854 854 854 854 854 854 854 854	114,550 124,635 128,824 128,140 138,555 155,691 154,351 149,852 139,0497 133,924 128,725 130,0083 133,924 128,725 130,0083 133,924 133,927 2,128,184 33,779 2,128,184 33,779 2,128,184 33,709 2,128,184 33,709 2,128,184 33,709 2,128,184 33,00	Eemake 108,007 115,897 122,433 121,676 133,032 155,477 143,455 133,616 125,847 143,455 136,616 136,902 144,048 137,903 111,774 74,227 46,162 2,148,516 40,7 2025 <u>Femake</u> 101,009 118,867 124,934 131,565 151,926 170,532	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 266.988 277.981 265.273 214.528 8.8424 4.276.700 39.8 <u>Total</u> 216.272 216.225 245.816 258.002 267.913 304.755 340.095	112,634 125,105 128,578 128,578 128,578 128,578 138,356 154,425 154,425 154,425 154,425 132,455 132,587 127,661 133,943 132,455 67,169 40,546 33,645 2,148,500 39,2 <u>Malk</u> 111,271	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 135,9561 145,074 135,957 126,589 129,617 133,417 143,982 140,222 143,982 140,222 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,984 145,974 152,244 131,597 152,244 166,340	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,040 262,204 261,078 277,915 269,504 262,204 262,204 262,204 277,915 269,504 246,409 216,226 216,226 226,504 246,649 257,2244 268,451 304,956 33,6605	111.377 124.914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,921 133,927 110,777 73,836 42,687 33,64 2,168,434 39,4 <u>Male</u> 111,339 116,020 127,224 138,228 152,319 167,105	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,096 141,584 120,099 84,104 55,956 2,187,367 41.1 2027 Female 105,042 108,043 112,9043 122,967 133,270 153,220 167,097	216,487 240,964 248,297 248,297 253,045 270,043 306,647 328,895 299,318 286,347 266,616 266,252 255,980 276,064 271,981 231,486 236,255 157,941 9,826 4,355,800 40,2 216,3811 246,063 246,266 255,028 271,498 303,541 334,202	111,144 123,492 127,050 131,412 137,501 152,367 167,719 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 <u>Male</u> 111,460 115,806 125,765 131,299 139,911 151,997 166,259	Eemake 104,902 114,789 114,789 114,789 114,789 114,789 114,789 114,789 114,861 124,569 128,821 122,821 132,292 127,466 141,696 141,712 124,145 89,808 54,894 57,061 2,206,288 41.3 2028 Femake 105,119 107,830 117,753 212,574 134,799 151,041 166,053	216,046 238,281 246,211 255,981 269,362 291,170 266,053 266,053 266,053 268,289 252,049 273,394 272,478 273,394 273,595 273,595 273,595 273,595 273,595 273,595 273,597 274,797 274,79	111.318 121.312 126.840 132.267 137.201 152.359 169.595 157.099 152.078 138.591 135.604 125.212 131.160 129.841 115.761 135.672 48.971 38.382 2.207.269 39.9 <u>Male</u> 111.545 116.015 13.1.084 140.846 151.757 166.376	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 145,031 132,131 132,131 132,131 132,131 132,131 140,288 141,186 142,803 140,288 141,186 128,031 94,610 58,516 2,224,931 41.5 2029 Femak 107,999 115,766 121,272 135,036 151,260	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 304,363 309,333 309,333 309,333 309,333 271,109 270,722 267,177 251,955 271,448 271,027 243,791 1778,203 40,77 243,791 107,402 96,951 107,402 96,951 107,402 96,951 214,432,200 40,7 7 51,678 224,014 239,310 252,355 257,5881 303,016 252,355 257,5881 303,016 332,067
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 50.54 50.54 45.59 60.64 65.69 70.74 75.79 80.84 85+ Total Mdn. Age <u>Age</u> 0.4 5.9 10.14 15.19 10.14 15.19 10.14 15.19 10.14 15.19 10.14 15.19 10.14 10	114,650 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,0497 133,924 128,725 130,0083 127,370 102,753 64,821 33,779 2,128,184 39,0 2,128,184 39,0 Male 111,266 119,256 126,949 133,068 136,348 152,829 169,564 160,742	Eemale 108,007 115,897 122,433 121,675 133,032 155,877 143,455 133,614 127,876 126,636 136,902 144,048 137,903 111,774 46,162 54,6516 40,7 2025 Female 105,006 111,079 118,867 124,934 131,565 151,926 170,523	222,556 240,532 251,256 249,816 271,587 271,587 273,111 261,800 255,362 265,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39,8 Total 216,272 230,265 230,265 245,816 258,002 267,913 304,755 340,006	112,634 125,105 128,578 128,578 128,578 128,578 133,356 154,425 159,156 151,690 142,881 132,287 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 4152,712 168,265	Eemale 106,252 116,235 121,896 121,896 132,203 154,673 159,561 126,589 129,671 134,074 136,719 126,589 129,617 134,982 145,074 48,348 55,173 2,168,010 40,9 2026 Female 104,995 104,213 119,223 121,223 124,354 131,1597 152,244 163,156	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 261,078 277,915 269,504 262,204 269,504 277,915 269,504 88,894 89,818 4,316,600 40.0 Total 216,265 226,504 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 268,451 304,956 336,605 3328,971	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,297 130,397 110,777 73,836 442,687 35,670 2,168,434 39,4 Male 111,339 116,020 127,224 133,2061 138,228 152,319 167,025	Eemale 105,110 116,051 123,055 123,184 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,123 2,187,367 41,1 2027 Female 106,042 108,043 119,043 122,222 163,270	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,615 266,252 255,980 276,064 271,981 231,486 157,941 91,626 4,355,800 40.2 <u>Total</u> 216,381 224,063 246,266 255,028 271,498 303,541 334,420 533,944	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,297 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 Male 111,580 6 115,807 115,997 166,2597 174,782	Female 104,902 114,789 114,789 113,861 152,333 168,884 142,292 132,292 127,466 141,712 124,894 57,061 22,062,288 41.3 2028 Female 105,119 107,53 121,574 134,799 151,041 166,053 172,596	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,289 252,049 273,394 273,595 274,710 274,71	111,318 121,312 126,846 132,267 137,201 152,359 169,595 155,099 152,078 138,504 125,212 133,160 129,841 115,761 83,672 48,971 38,382 2,207,269 39,9 <u>Male</u> 111,546 116,015 123,543 131,084 140,846 151,757 166,376 176,677	Female 105,063 112,847 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610 58,450 2224,931 41.5 2029 Female 105,211 107,999 115,766 121,272 135,036 151,260 165,691 124,289	216,381 234,159 245,729 257,005 269,124 304,243 300,363 309,333 297,109 270,727 271,448 271,027 271,448 271,027 243,791 178,283 107,402 96,951 4,432,200 40.7 <u>Total</u> 216,758 239,310 222,4014 239,310 252,358 275,881 303,016 332,067
0.4 5.9 10-14 15-19 20-24 25:29 30-34 35:39 40-44 45:49 50-54 50-54 50-54 55:59 60-64 65-69 70-74 75:79 80-84 85+ 854 854 854 854 854 854 854 854 854 854	114,550 124,635 128,824 128,140 138,555 155,691 154,351 149,852 139,0497 133,924 128,725 130,0083 133,924 128,725 130,0083 133,924 133,927 2,128,184 33,779 2,128,184 33,779 2,128,184 33,709 2,128,184 33,709 2,128,184 33,709 2,128,184 33,00	Eemake 108,007 115,897 122,433 121,676 133,032 155,477 143,455 133,616 125,847 143,455 136,616 136,902 144,048 137,903 111,774 74,227 46,162 2,148,516 40,7 2025 <u>Femake</u> 101,009 118,867 124,934 131,565 151,926 170,532	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 266.988 277.981 265.273 214.528 8.8424 4.276.700 39.8 <u>Total</u> 216.272 216.225 245.816 258.002 267.913 304.755 340.095	112,634 125,107 128,578 128,578 128,578 128,578 154,425 159,156 151,690 142,881 132,587 127,661 133,933 129,282 108,805 67,169 34,645 2,148,500 39,2 <u>Male</u> 111,271 117,291 127,426 132,849 136,854 152,787 127,685 152,849 136,854 152,814 155,695 165,814 155,695 154,425 128,578 154,425 111,271 117,291 127,495 126,854 155,695 168,265 168,265 168,265 168,265 168,265 168,265 168,265 168,265 168,265 168,265 168,265 165,814 155,695	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 135,9561 145,074 135,957 126,589 129,617 133,417 143,982 140,222 143,982 140,222 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,984 145,974 152,244 131,597 152,244 166,340	218,886 241,340 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,040 262,204 261,078 277,915 269,504 262,204 261,078 277,915 269,504 227,335 246,265 216,265 216,265 226,504 246,649 257,2244 268,451 304,956 336,605	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 130,397 110,777 73,836 42,687 33,670 2,168,434 39,4 2,168,434 39,4 111,339 116,020 127,224 132,061 138,228 152,319 167,105 170,723	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,096 141,584 120,099 84,104 55,956 2,187,367 41.1 2027 Female 105,042 108,043 112,9043 122,967 133,270 153,220 167,097	216,487 240,964 248,297 248,297 253,045 270,043 306,647 328,895 299,318 286,347 266,616 266,252 255,980 276,064 271,981 231,486 236,255 157,941 9,826 4,355,800 40,2 216,3811 246,063 246,266 255,028 271,498 303,541 334,202	111,144 123,492 127,050 131,412 137,501 152,367 167,719 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 <u>Male</u> 111,460 115,806 125,765 131,299 139,911 151,997 166,259	Eemak 104,902 114,789 119,161 124,569 131,861 152,333 128,821 132,292 127,466 141,696 141,712 124,145 89,808 44,39 2206,288 41.3 2028 Femak 105,119 107,830 117,753 121,574 134,799 151,041 166,053 172,576	216,046 238,281 246,211 255,981 269,362 291,170 266,053 266,053 266,053 268,289 252,049 273,394 272,478 273,394 273,595 273,595 273,595 273,595 273,595 273,595 273,597 274,797 274,79	111.318 121.312 126.840 132.267 137.201 152.359 169.595 157.099 152.078 138.591 135.604 125.212 131.160 129.841 115.761 135.672 48.971 38.382 2.207.269 39.9 <u>Male</u> 111.545 116.015 13.1.084 140.846 151.757 166.376	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 132,131 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,431 58,569 2,224,931 41.5 2029 <u>Femak</u> 105,211 107,999 115,766 121,272 135,036 135,136 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 121,272 135,036 151,260 151,270 150,475 150	216,381 234,159 245,729 257,005 269,124 304,243 304,243 304,243 304,363 309,333 309,333 309,333 309,333 271,109 270,722 267,177 251,955 271,448 271,027 243,791 1778,203 40,77 243,791 107,402 96,951 107,402 96,951 107,402 96,951 214,432,200 40,7 7 51,678 224,014 239,310 252,355 257,5881 303,016 252,355 257,5881 303,016 332,067
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 40.44 45.49 60.64 65.69 70.74 75.79 80.84 85+ Total Mdn. Age 0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 40.44 5.9 10.14 15.19 10.14 10.25 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.14 10.24 10.24 10.33 10.44 10.1	114,550 124,652 128,824 128,824 128,140 138,855 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 122,370 102,753 64,821 38,721 33,779 2,128,184 39,0 Male 111,266 119,256 126,949 133,068 136,348 136,348 136,348 136,348 136,348 136,348	Eemake 108,007 115,897 122,433 121,676 133,032 155,771 143,455 133,611 125,877 143,455 135,8477 143,455 135,947 143,455 136,902 144,048 137,903 111,774 74,227 44,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 131,565 151,926 151,927 124,934 131,565 151,926 151,926 151,926 151,926 151,927 124,934 131,565 151,926 151,926 151,926 151,927 124,934 131,565 151,926 151,927 124,934 131,565 151,927 124,934 131,565 151,927 124,934 131,565 151,927 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 124,934 131,565 151,937 144,048 131,936 151,937 144,048 131,956 151,937 144,934 131,565 151,936 151,937 144,934 131,565 151,936 151,936 151,937 144,934 131,565 151,936 151,936 151,936 151,937 154,957 1557 1557 1557 1557 1557 15577 15577 15577 15577 1	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 266,273 214,528 41,300 255,362 266,985 277,981 306,275 214,528 44,883 88,424 4,276,700 39,8 70,212 216,272 230,265 245,816 258,002 267,913 304,755 340,096 317,665 300,229	112,634 125,105 128,578 128,578 128,578 128,578 133,356 154,425 159,156 151,690 142,881 132,287 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 4152,712 168,265	Eemale 106,252 116,235 121,896 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 143,982 140,225 143,982 144,982	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 262,204 262,205 269,504 227,335 144,100 88,894 89,818 4,316,600 40.0 T <u>Total</u> 216,265 226,504 246,649 257,244 266,451 304,956 336,605 338,605 338,605 338,605	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,297 130,397 110,777 73,836 442,687 35,670 2,168,434 39,4 Male 111,339 116,020 127,224 133,2061 138,228 152,319 167,025	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,009 121,495 131,230 130,165 141,384 120,009 84,104 51,123 55,956 2,187,367 41.1 2027 Female 105,042 108,043 112,296 132,296 133,3270 151,222 167,097 168,242	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 231,486 4,355,800 40.2 Total 216,381 224,063 246,266 255,028 271,498 305,541 334,202 339,445 306,493	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 136,795 148,877 124,583 136,795 148,877 124,583 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 2,188,012 39,6 111,436 115,806 125,765 131,299 139,911 151,997 166,259 174,782 158,339	Female 104,902 114,789 114,789 113,861 152,333 168,884 142,292 132,292 127,466 141,712 124,894 57,061 22,062,288 41.3 2028 Female 105,119 107,53 121,574 134,799 151,041 166,053 172,596	216,046 238,281 246,211 255,981 269,362 302,796 291,170 266,053 268,289 252,049 273,348 272,478 272,478 273,161 168,815 272,478 237,161 168,815 272,478 237,161 168,815 272,478 237,161 168,815 216,555 233,637 243,518 252,873 274,710 332,312 243,518 252,873 274,710	111,318 121,312 126,846 132,267 137,201 152,359 169,595 152,078 138,599 152,078 138,599 152,078 135,604 125,212 131,604 125,212 131,604 115,5761 125,841 115,5761 129,841 115,546 116,657 166,677 161,352 166,677 161,352 161,575	Female 105,063 112,847 112,847 118,883 124,737 131,923 151,884 170,768 152,234 145,031 131,572 126,743 140,288 141,186 128,031 94,610 58,450 2224,931 41.5 2029 Female 105,211 107,999 115,766 121,272 135,036 151,260 165,691 124,289	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 340,363 340,363 340,373 267,177 251,955 271,484 271,027 243,791 178,283 271,027 96,951 4,432,200 40,77 Total 216,758 224,014 226,355 225,355 225,3881 303,016 332,067 351,159 316,825
0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 50.54 55.59 60.66 65.69 70.74 75.79 80.84 85+ Total Mdn. Age 0.4 5.9 10.14 15.19 20.24 25.29 30.34 35.39 40.44 45.49 55.55 10.14 15.19 20.24 20.25 20.24 20.25 20.24 20.25 20.24 20.25 20.24 20.25 20	114,550 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 132,933 122,370 102,753 64,821 33,779 2,128,184 330,0 2,128,184 330,0 8 111,266 119,256 126,549 133,068 136,348 136,36	Eemake 108,007 115,897 122,433 121,676 133,032 156,751 133,032 155,477 143,455 133,616 122,876 126,636 135,903 111,774 74,227 46,162 54,646 2,148,516 40,7 2025 <u>Femake</u> 105,006 111,009 118,867 124,934 131,565 151,962 151,923 146,456 135,371 130,095 128,764 130,923 146,456 135,371 130,095 128,764 130,925 128,764 130,925 128,764 130,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,927 145,925 128,764 135,925 128,764 135,925 135,925 128,764 135,925 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 128,764 135,925 135,955 135,955 135,955 135,955 135,955 135,955 135,955 1	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 84,883 88,424 4,276,700 39.8 Total 216,272 230,265 245,816 258,002 267,913 304,755 340,096 317,665 300,229 277,674 265,551	112,634 125,105 128,578 128,578 128,578 128,578 128,578 154,425 154,425 154,425 154,425 154,425 154,425 154,425 132,587 127,661 132,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2	Eemake 106,252 116,235 121,896 133,203 154,673 159,561 145,074 136,714 136,714 136,714 136,714 133,417 143,982 140,222 140,222 143,982 144,982 145,984 145,985	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 262,204 263,212 266,269 263,221 246,249 257,244 266,259 257,244 266,259 257,244 266,259 336,605 336,605 338,971 303,823 264,322 261,876 263,721	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 132,967 110,377 130,397 110,777 73,836 42,687 35,670 2,168,434 39,4 111,339 116,020 127,224 132,061 138,228 152,319 167,105 170,723 156,944 149,361 133,778	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,096 131,123 130,165 130,165 130,165 141,584 120,099 84,104 51,123 55,956 2,187,367 41.1 2027 Female 105,042 108,043 1129,047 133,270 151,222 167,097 163,722 149,549 141,880 129,954	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 271,981 231,486 157,941 231,486 4,355,800 40.2 Total 216,381 224,626 255,028 271,498 334,202 339,445 330,6493 291,241 263,566 267,909	111,144 123,492 127,050 131,412 137,500 131,412 135,237 167,771 154,195 148,877 135,997 124,583 131,698 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 2,188,012 39,6 111,436 115,806 125,765 131,299 139,911 151,997 166,259 174,782 158,339 151,996 136,947 135,401	Eemale 104,902 114,789 114,789 114,789 114,789 114,789 114,789 114,789 114,861 124,569 124,561 124,861 122,821 122,292 127,466 141,696 141,712 124,145 89,808 54,894 57,061 2,206,288 41.3 2028 Female 105,119 107,830 117,753 121,574 134,799 151,758 144,204 132,658	216,046 238,281 246,211 255,981 269,362 291,170 266,053 268,289 252,049 272,478 237,161 168,815 100,940 93,918 4,394,300 40.5 Total 216,555 223,637 245,518 322,873 274,710 322,312 343,377 310,097 296,200 269,142 270,088	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,606 129,841 115,761 138,672 38,382 2,207,269 39,9 <u>Male</u> 111,546 116,015 123,543 131,084 140,846 151,757 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 166,376 176,677 161,352 155,303 139,305	Eemake 105,063 112,847 118,883 124,737 131,923 151,884 145,031 132,234 143,231 132,131 132,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 2029 Femake 105,211 107,999 115,766 121,272 135,036 151,266 121,272 135,036 151,266,91 124,482 155,473 146,993 134,588 134,083	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,243 340,363 340,243 340,363 340,243 247,107 257,117 251,955 271,148 271,027 243,791 178,285 271,027 243,791 178,285 271,027 243,791 178,285 271,027 243,791 178,285 271,027 243,791 178,285 271,027 243,791 243,279 243,27
0.4 5.9 10-14 15-19 20-24 25.29 30-34 35.39 40-44 45.49 50-54 55.59 60-64 65.69 70-74 75.79 80-84 85+ Total Mdn. Age 0.4 85+ 70-74 75.79 80-84 85+ 70-74 75.79 80-94 70-74 75.79 70-74 75.79 70-74 7	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,9497 133,9497 133,9497 133,9497 133,9497 133,9497 133,9497 133,9497 127,370 102,753 64,821 33,779 2,128,184 39,00 Male 119,256 126,949 133,068 136,348 152,829 169,564 160,742 153,772 142,303 134,470 129,987 129,571	Eemake 108,007 115,897 124,676 133,032 156,6751 133,614 127,876 126,636 136,041 127,876 124,6456 126,636 136,903 111,774 44,048 137,903 111,774 46,162 54,646 2,148,516 40,7 2025 Female 105,0006 111,079 118,867 124,934 131,565 151,926 170,532 156,923 144,6456 133,099 128,976	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 265.985 277.981 265.273 214.528 139.048 84.883 88.424 4.276.700 39.8 <u>Total</u> 216.272 230.265 245.816 258.002 267.913 304.755 340.095 317.665 300.229 277.671 4264.565 256.751 266.952	112,634 125,105 128,578 128,578 128,578 128,578 128,578 133,356 154,425 159,156 132,587 127,661 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 Male 111,271 117,291 127,426 133,849 136,854 155,695 145,790 133,054 131,877 127,170	Eemale 106/252 116/235 121,896 121,896 132,203 154,673 159,561 145,074 136,719 126,589 129,617 133,4982 143,982 144,942 118,530 76,931 48,348 55,173 2,168,100 40,99 100,213 119,223 124,394 131,597 152,244 163,156 148,128 138,532 128,822 138,832 128,822 138,833	218,886 241,300 250,474 250,273 271,559 296,763 279,600 259,040 262,204 262,204 262,204 262,204 262,204 262,204 269,504 2277,915 269,504 2277,915 269,504 88,894 89,818 4,316,600 40,0 Total 216,265 226,504 246,649 257,244 246,649 257,244 246,649 257,244 246,649 257,244 246,849 257,244 268,451 304,956 336,005 328,971 303,823 284,332 261,876 263,721 261,201	111,377 124,914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,927 130,397 110,777 73,836 42,687 35,670 2,168,434 39,4 Male 111,339 116,020 127,224 132,061 138,228 152,319 167,105 170,723 156,944 149,361 133,778 134,362	Eemale 105,110 116,051 120,505 123,184 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,7367 41,12 2027 Female 105,642 108,043 119,043 122,296 133,2370 151,222 167,097 168,722 144,580 129,788 133,845	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 277,1981 231,486 157,941 93,811 91,626 4,355,800 40,2 T <u>rotal</u> 216,381 24,063 246,266 255,028 271,498 303,241 334,202 339,445 334,45 34 34,45 34,45 34 34,45 34 34,45 34,45 34 34,4534,4	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,235 148,877 136,235 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 114,35 115,806 125,765 131,299 139,911 151,997 166,259 174,782 151,996 136,047 135,049 142,454	Female 104,902 114,789 114,789 114,789 114,789 114,789 1131,861 152,333 168,884 148,601 142,232 122,821 132,292 124,145 2124,466 57,061 2,206,288 41.3 2028 Female 105,119 107,753 121,579 151,041 166,053 172,596 151,759 134,699 152,041 166,053 122,295 134,686	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,057 291,170 266,057 293,914 272,478 273,394 274,710 274,710 274,710 274,710 274,717 274,710 274,710 274,717 274,710 274,717 274,71	111.318 121.312 126.846 132.267 137.201 152.359 169.595 157.099 152.078 138.504 125.212 133.160 129.841 115.761 83.672 43.971 38.382 2,207.269 39.39 Male 111.546 116.015 125.543 131.084 140.846 151.757 166.375 176.677 161.352 155.303 139.350 135.075	Female 105,063 112,847 112,847 113,923 151,884 147,0768 152,234 145,031 131,572 126,673 140,288 141,186 128,031 131,572 126,673 140,288 141,186 128,031 94,610 58,569 2,224,931 41,5 2029 Female 105,211 107,999 115,766 121,272 135,036 151,260 165,691 174,482 154,583 134,588 134,523	216,381 234,159 245,729 257,005 269,124 304,243 304,243 309,333 297,109 270,727 271,048 271,027 271,027 271,027 243,701 178,283 107,402 96,951 178,283 107,402 96,951 244,32200 40,7 7 7 178,283 107,402 24,014 240,7 7 7 5,881 30,016 332,067 351,159 316,159 316,159 316,159 32,025 273,939 269,087 252,559
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 35.39\\ 40.44\\ 45.49\\ 50.54\\ 55.59\\ 60.64\\ 65.69\\ 70.74\\ 85.4\\ 85.4\\ 85.4\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	114,650 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,947 133,924 128,725 130,083 133,939 122,370 102,753 64,821 33,779 2,128,184 39,0 Male 111,266 119,256 126,949 133,068 136,386 1122,569 126,949 133,068 136,386 152,829 169,564 160,742 153,772 142,303 134,470 127,987 129,501 129,651 129,651	Eemake 108,007 115,897 122,433 121,676 133,032 155,771 143,455 133,616 126,636 136,902 144,048 137,903 111,774 74,227 44,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 137,565 151,926 105,006 111,009 118,867 124,934 131,565 151,526 170,532 156,937 146,456 135,371 130,095 128,764 137,056 128,764 137,056 128,764 137,056 128,764 137,056 128,764 137,056 141,366	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 30,445 84,883 84,424 4,276,700 39,8 77,981 216,272 230,265 245,816 258,002 267,913 304,755 340,096 317,665 256,751 266,992 277,674 266,565 256,751 266,992	112,634 125,105 128,578 128,578 128,578 128,578 128,578 128,578 154,425 154,425 154,425 154,425 154,425 132,587 127,661 133,935 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 155,695 145,5790 133,054 131,877 123,702 128,759 128,759 133,054 131,877 123,700 129,721 129,721 129,721 129,2721 128,259 128,578 128,578 154,425 154,455 154,575	Eemale 106,252 116,235 121,896 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 143,982 140,225 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 124,394 131,597 152,244 168,340 163,1597 152,244 168,340 163,1597 152,244 168,340 163,1597 152,244 143,8532 124,394 131,597 152,244 143,8532 124,394 133,597 152,244 143,8532 124,394 144,364 144,128	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 266,207 426,205 426,205 40,00 88,894 89,818 4,316,600 40,0 70,018 216,265 226,504 246,649 257,244 266,876 336,605 328,971 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 228,451 303,823 226,127 261,275 261,275 261,275 261,275 261,275 261,275 261,275 261,275 261,275 261,275 261,275 261,275 271,275 271,275 271,275 271,275 271,275 271,275 271,275 271,275 277,	111.377 124.914 127.792 129.857 137.889 153.248 163.855 152.870 146.338 133.121 135.023 125.815 132.967 130.397 110.777 73.836 42.687 33.670 2,168.434 39.4 Male 111.339 116.020 127.224 132.061 138.228 152.319 167.105 170.723 156.944 149.361 133.778 134.362 125.424	Eemale 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,545 143,096 141,545 143,096 141,545 143,096 141,545 143,096 144,096 144,	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 276,064 271,981 231,486 157,941 93,811 91,626 4,355,800 40.2 Total 216,381 224,626 255,028 271,498 305,541 339,445 306,493 3291,241 263,566 267,909 256,243	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015 79,007 46,046 36,858 2,188,012 39,6 2,188,012 39,6 111,436 115,806 125,765 131,299 139,911 151,997 165,259 151,996 135,301 151,997 153,309	Eemak 104,902 114,789 114,789 119,161 124,569 131,861 125,233 129,821 132,292 127,466 141,712 122,466 141,712 124,145 89,808 41,3 2028 Femak 105,119 107,830 117,753 121,574 134,799 151,041 166,053 172,576 151,758 144,204 132,195 134,688 128,166	216,046 238,281 246,211 255,981 269,362 291,170 266,053 268,289 252,049 273,394 273,394 273,394 273,394 273,394 273,394 300 40.5 Total 216,555 223,657 243,518 252,873 274,710 303,038 252,873 274,710 303,038 323,212 347,377 310,097 296,200 269,142 270,088 252,451 266,995	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,591 135,604 125,212 131,160 129,841 115,761 138,367 2,207,269 39,9 Male 111,546 116,015 125,543 131,084 140,886 151,757 166,376 157,777 161,352 155,303 135,075 125,003 135,075 125,003 125,305 125,305	Eemak 105,603 112,847 118,883 124,737 131,923 151,884 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,569 2,224,931 41.5 2029 Femak 105,211 107,999 115,766 121,272 135,036 121,272 135,036 121,272 135,036 151,260 165,691 174,489 134,588 134,012 125,573 146,993 134,588 134,012 127,525 135,921 135,	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 340,363 340,363 340,727 267,177 251,955 271,464 271,027 243,791 178,283 107,402 96,951 4,432,200 40,77 Total 216,758 224,014 229,310 252,355 275,881 230,3016 332,067 3351,159 316,825 302,295 316,825 317,835 316,825 317,835 317,835 316,825 316,8
0.4 5.9 10-14 15-19 20-24 25.29 30-34 35.39 40-44 45.49 50-54 55-59 60-64 65.69 70-74 75-79 80-84 85+ 85-59 80-84 85+ 85-9 10-14 15-19 20-24 25-29 10-14 15-19 20-24 25-29 10-14 15-59 10-14 10-	114,550 124,635 128,824 128,140 138,555 155,691 154,351 149,852 139,497 133,924 128,725 130,083 127,370 102,755 130,083 127,370 102,755 130,083 133,923 127,370 102,755 130,083 133,923 127,370 127,877 129,501 129,603 118,186	Eemale 108,007 115,897 122,433 121,676 133,032 155,477 143,455 133,614 127,876 126,636 136,902 144,048 137,903 111,774 74,227 46,162 54,646 40,7 2025 <u>Female</u> 101,009 118,867 124,934 131,565 151,926 111,009 118,867 124,934 131,565 151,926 110,009 118,867 124,934 131,565 151,926 130,009 124,934 137,490 143,468 137,490 143,686	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.808 255.362 266.985 277.981 265.273 214.528 84.883 88.424 4.276.700 308 <u>Total</u> 216.272 230.265 245.816 258.053 245.816 258.053 304.755 340.096 317.665 31	112,634 125,105 128,578 128,578 128,578 128,578 128,578 128,578 128,578 134,255 154,159 142,281 132,455 132,457 127,661 132,455 132,587 127,661 132,455 132,587 127,661 132,455 164,645 2,148,500 39,2 <u>Male</u> 111,271 117,291 127,426 132,849 136,854 155,2712 168,265 168,844 155,695 168,844 155,695 163,814 155,695 163,814 155,695 163,814 155,695 163,814 152,771 127,170 127,170 120,177 120,177 120,177 120,177 120,177 120,177 120,177 120,177 120,017 120,	Eemak 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,074 136,074 136,074 136,074 133,417 143,982 144,042 144,982 144,982 144,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 124,394 135,977 152,244 136,3156 144,8128 136,532 128,822 131,844 134,031 141,365 124,394 134,031 141,365 143,982 134,984 134,031 141,365 143,982 134,844 134,031 141,365 143,921 141,921 143,921 141,921 141,921 143,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 144,945 145	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,040 262,044 262,204 261,078 277,915 269,504 227,335 144,100 88,894 88,894 88,894 88,894 88,894 88,894 88,894 227,335 144,100 88,894 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 226,204 226,204 246,202 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,504 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 227,305 226,504 226,204 226,204 227,305 226,504 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,50	111.377 124.914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,291 133,292 133,292 133,292 133,292 133,292 133,292 133,292 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255,405	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 2,188,012 39,6 113,015 2,188,012 39,6 115,806 125,765 131,299 144,782 159,901 151,997 156,259 174,782 158,997 151,996 135,401 151,996 135,401 151,996 135,401 124,284 127,785	Eemake 104,902 114,789 114,789 114,789 114,789 114,789 114,789 114,789 114,861 152,333 168,884 148,601 142,292 127,466 141,696 141,712 124,145 24,145 89,808 54,894 57,061 2,206,288 41.3 2028 Femake 107,830 117,753 121,574 134,799 151,041 166,053 177,753 121,574 134,204 132,195 134,460	216,046 238,281 246,211 255,981 269,362 299,362 291,170 266,055 291,170 268,289 252,049 273,394 274,797 274,7777 274,7777777777	111.318 121.312 126.846 132.267 137.201 152.359 169.595 157.099 152.078 138.591 135.604 125.212 131.160 129.841 115.761 83.672 48.971 131.838 2.207.269 39.9 <u>Male</u> 111.546 116.015 123.543 131.084 140.846 151.757 166.376 176.6777 161.352 155.303 139.350 135.075 125.006 127.303 120.810	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 142,031 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,569 122,224,931 41,5 2029 Femak 105,991 135,036 151,267 154,482 155,478 146,993 134,588 134,012 134,029	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 390,333 297,109 270,722 267,177 251,955 271,448 271,027 271,448 271,027 243,707 44,322,200 40,7 Total 224,014 239,310 224,014 239,310 224,014 239,310 224,014 239,310 232,55 332,016 322,017 34,017 34,016 322,016 322,016 322,016 322,016 322,017 32,016 322,016 322,016 322,016 322,016 322,016 322,017 32,016 322,017 32,016 322,016 322,017 32,016 322,017 32,016 32,016 32,017 32,016 32,016 32,025 32,025 22,039 23,039 23,039 24,039 2
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 35.39\\ 40.44\\ 45.49\\ 50.54\\ 55.56\\ 40.54\\ 55.56\\ 40.56\\ 70.74\\ 85.4\\ 85.4\\ \\ \hline Total\\ Mdn. Age\\ \hline \\ \hline \\ Mdn. Age\\ \hline \\ \hline \\ \\ \hline \\ Mdn. Age\\ 10.14\\ 15.19\\ 20.2\\ 30.34\\ 35.39\\ 40.44\\ 45.49\\ 10.14\\ 15.19\\ 20.54\\ 55$	114,550 124,635 128,824 128,140 138,555 155,691 154,331 149,852 139,497 133,924 128,725 130,0083 127,370 102,733 64,821 33,779 2,128,184 39,0 2,128,184 39,0 Male 119,256 119,256 119,256 119,256 119,256 126,949 133,068 136,348 152,829 169,564 160,742 153,772 142,306 134,470 129,673 134,470 129,674 129,675 134,470 129,675 129,575 12	Eemale 108,007 115,897 122,433 121,675 133,032 155,877 123,437 133,032 155,751 135,3477 143,455 135,461 127,876 126,636 137,903 111,774 46,162 54,6516 40,7 2025 Female 105,006 111,009 118,867 124,934 131,565 151,926 135,455 135,009 143,456 135,000 111,009 118,867 124,934 131,565 151,926 155,923 144,456 135,764 137,490 141,366 100,689	222,556 240,532 251,256 249,816 271,587 213,241 307,808 293,307 273,111 261,800 255,362 265,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39,8 77,674 216,272 230,266 245,816 255,816 256,902 267,913 304,755 300,025 267,913 304,755 300,229 277,674 216,255 256,751 266,992 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,675 302,299 277,999 248,875 265,275 265,275 265,275 302,299 277,999 248,875 265,275 265,275 277,999 218,955 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,9554 218,95555 218,95555 218,955555 218,95555555 218,9555555555555555555555555	112,634 125,105 128,578 128,578 128,578 128,578 128,578 128,578 129,282 133,355 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 152,712 168,265 165,814 152,712 168,265 145,790 133,054 131,877 127,170 129,721 120,015 39,2	Eemak 106,252 116,235 121,896 121,896 132,203 154,673 159,561 126,589 129,671 134,074 136,719 126,589 129,617 134,982 140,222 118,530 76,931 48,348 55,173 2,168,010 2026 Femak 104,995 104,213 119,223 124,394 131,1597 152,244 163,156 148,128 138,424 134,304 143,431 141,364 132,921	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 262,204 262,204 262,204 269,504 277,915 269,504 277,915 269,504 277,915 269,504 277,915 269,504 288,891 44,100 88,894 89,818 4,316,600 40.0 Total 216,265 246,504 246,549 257,244 268,451 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 336,605 328,971 304,956 328,971 304,956 328,971 304,956 328,971 261,201 271,086 262,978	111.377 124.914 127.792 129.857 137.889 153.248 163.855 152.870 146.338 133.121 135.023 125.815 132.967 130.397 110.777 73.836 42.687 35.670 2,168.434 39.4 2,168.434 39.4 Male 111.339 116020 127.224 132.061 138.228 152.319 167.105 170.723 156.944 149.361 133.778 134.362 125.424 125.854	Eemale 105,110 116,051 123,055 123,184 132,154 153,399 165,040 146,448 140,009 127,495 131,230 130,165 143,096 141,584 120,709 84,104 51,926 2,187,367 41,11 2027 Female 105,042 108,043 119,043 122,222 163,272 144,880 122,788 133,247 130,815 140,559 134,551 140,559 130,815 140,859 130,815	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 266,252 255,980 266,252 255,980 40,2 77,6064 276,064 277,1981 231,486 157,941 91,626 4,355,800 40,2 77,6064 246,266 255,028 271,498 303,541 339,445 246,266 255,028 271,498 303,541 332,402 246,266 255,028 271,498 303,541 234,202 339,445 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,498 303,541 246,266 255,028 271,948 303,541 246,266 255,028 271,948 303,541 246,266 255,028 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141,696 141,712 124,496 141,712 124,496 141,712 124,496 141,712 124,413 2,206,288 41.3 2028 Female 105,119 107,753 121,574 134,799 151,041 166,653 132,2596 151,758 144,204 122,516 139,250 134,488 128,166 139,250 134,488 128,166 139,250 134,4204	216,046 238,281 246,211 255,981 269,362 304,700 336,656 302,796 291,170 266,053 268,289 252,049 273,394 273,394 273,394 273,394 273,394 273,394 273,394 273,394 200,940 93,918 4,394,300 40,5 724,510 305,038 332,312 347,377 310,097 296,200 305,038 332,312 347,377 310,097 296,200 269,142 270,088 352,312 347,377 310,097 296,200 269,142 270,088 352,312 347,377 310,097 296,200 269,142 270,088 252,451 266,995 256,045	111,318 121,312 126,846 132,267 137,201 152,359 169,595 157,099 152,078 138,504 125,212 131,160 129,841 115,761 183,672 48,971 38,382 2,207,269 39,9 <u>Male</u> 111,546 116,015 123,543 131,084 140,846 151,757 166,375 176,677 161,352 155,303 139,350 139,350 139,350 125,503 129,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 127,303 120,805 120,555	Female 105,063 112,847 112,847 113,923 151,884 147,0768 152,234 145,031 131,572 126,773 140,288 141,186 128,031 94,610 58,450 2224,931 41.5 2029 Female 105,211 107,999 115,766 121,227 135,036 151,260 165,611 174,482 154,588 134,588 134,023 137,921 134,029	216,381 234,159 245,729 257,005 269,124 304,243 340,363 340,363 340,363 340,363 340,727 267,177 251,958 271,027 243,791 178,283 107,402 96,951 4,452,200 40,77 243,791 178,283 107,402 96,951 24,078 24,077 243,793 107,402 96,951 24,652 230,306 332,067 332,157 302,295 303,016 332,067 332,016 332,067 332,016 332,067 332,017 335,195 303,016 332,067 335,195 303,295 303,295 303,016 332,067 335,195 303,016 332,067 335,195 303,295 303,295 303,016 332,067 335,195 305,295 305,
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<u>Total</u> 216.272 230.265 245.816 258.053 245.816 258.053 304.755 340.096 317.665 31	112,634 125,105 128,578 128,578 128,578 128,578 128,578 128,578 128,578 134,255 154,159 142,281 132,455 132,457 127,661 132,455 132,587 127,661 132,455 132,587 127,661 132,455 164,645 2,148,500 39,2 <u>Male</u> 111,271 117,291 127,426 132,849 136,854 155,2712 168,265 168,844 155,695 168,844 155,695 163,814 155,695 163,814 155,695 163,814 155,695 163,814 152,771 127,170 127,170 120,177 120,177 120,177 120,177 120,177 120,177 120,177 120,177 120,017 120,	Eemak 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,074 136,074 136,074 136,074 133,417 143,982 144,042 144,042 144,982 144,982 144,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 143,982 124,394 135,977 152,244 136,3156 144,8128 136,532 128,822 131,844 134,031 141,365 124,394 134,031 141,365 143,982 134,982 134,844 134,031 141,365 143,921 141,925 134,844 134,031 141,365 143,921 141,925 134,944 134,931 141,365 143,921 141,925 134,945 144,945 144,945 145,945 145,955 145	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,040 262,044 262,204 261,078 277,915 269,504 227,335 144,100 88,894 88,894 88,894 88,894 88,894 88,894 88,894 227,335 144,100 88,894 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 246,202 226,504 226,204 226,204 246,202 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,504 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 227,305 226,504 226,204 226,204 227,305 226,504 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,204 226,50	111.377 124.914 127,792 129,857 137,889 153,248 163,855 152,870 146,338 133,121 135,023 125,815 133,291 133,292 133,292 133,292 133,292 133,292 133,292 133,292 133,292 133,292 140,277 2,3836 42,687 33,47 100,777 73,836 42,687 33,47 100,777 3,836 42,687 33,47 100,777 3,836 42,687 33,47 100,777 13,836 42,687 33,47 100,777 13,836 42,687 33,47 100,777 13,836 42,687 33,47 100,777 110,777 13,836 42,687 33,47 100,777 110,777 10,777 10,777 10,777 10,777 10,7	Eemale 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,096 141,1584 143,096 141,1584 143,096 141,1584 143,096 141,1584 143,096 141,123 55,956 2,187,367 41,11 2027 Female 105,042 108,043 119,043 129,047 133,270 151,222 167,097 163,222 149,549 149,549 144,880 129,788 133,547 130,815 140,561 140,562 140,562 140,562 140,562 140,562 140,562 140,562 140,562 140,562 140,562 140,562 141,584 153,555 163,555 163,555 163,555 164,5	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,016 266,252 255,980 260,016 266,252 255,605 4,255,800 207,0064 271,981 216,381 216,381 216,265 4,355,800 40,255,410 334,202 339,445 336,241 334,202 339,445 336,241 334,202 339,445 336,241 265,506	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 2,188,012 39,6 113,015 2,188,012 39,6 115,806 125,765 131,299 144,782 159,901 151,997 156,259 174,782 158,997 151,996 135,401 151,996 135,401 151,996 135,401 124,284 127,785	Eemake 104,902 114,789 114,789 114,789 114,789 114,789 114,789 114,789 114,861 152,333 168,884 148,601 142,292 127,466 141,696 141,712 124,145 24,145 89,808 54,894 57,061 2,206,288 41.3 2028 Femake 107,830 117,753 121,574 134,799 151,041 166,053 177,753 121,574 134,204 132,195 134,460	216,046 238,281 246,211 255,981 269,362 291,070 336,656 302,796 291,170 268,289 252,049 273,394 274,775 274,7777 274,7777777777	111.318 121.312 126.846 132.267 137.201 152.359 169.595 157.099 152.078 138.591 135.604 125.212 131.160 129.841 115.761 83.672 48.971 131.838 2.207.269 30.9 Male 111.546 116.015 123.543 131.084 140.846 151.757 166.376 176.677 161.352 155.303 139.350 135.075 125.006 127.303 120.810	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 142,031 132,131 131,572 126,743 140,288 141,186 128,031 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,431 94,610 58,569 122,224,931 41,5 2029 Femak 105,991 135,036 151,267 154,482 155,478 146,993 134,588 134,012 134,029	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 390,333 297,109 270,722 267,177 251,955 271,448 271,027 271,448 271,027 243,707 44,322,200 40,7 Total 224,014 239,310 224,014 239,310 224,014 239,310 224,014 239,310 232,55 332,016 322,017 34,017 34,016 322,016 322,016 322,016 322,016 322,017 32,016 322,016 322,016 322,016 322,016 322,016 322,017 32,016 322,017 32,016 322,016 322,017 32,016 322,017 32,016 32,016 32,017 32,016 32,016 32,025 32,025 22,039 23,039 23,039 24,039 2
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 35.39\\ 40.44\\ 45.49\\ 50.54\\ 55.59\\ 60.64\\ 65.69\\ 70.74\\ 85+\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	114,550 124,653 128,824 128,824 128,140 138,555 155,691 154,331 149,852 139,0497 133,924 128,725 130,0083 133,933 127,370 102,753 64,821 33,779 2,128,184 39,0 2,128,184 39,0 2,128,184 39,0 2,128,184 39,0 2,128,184 111,266 119,265 126,949 133,068 136,348 152,829 160,742 153,772 142,303 153,772 142,303 134,470 129,987 129,873 118,186 88,853 4,5151 2,40,028	Eemake 108,007 115,897 122,433 121,676 133,032 156,751 133,612 125,477 143,455 133,616 126,636 136,902 144,048 137,903 111,774 74,227 44,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 137,903 111,774 74,227 144,048 131,565 151,926 105,006 111,009 118,867 124,934 131,565 151,926 175,522 156,923 146,456 135,371 130,095 128,764 137,698 141,366 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 140,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 130,686 140,6	222,556 240,532 251,256 249,816 271,587 312,441 307,808 293,307 273,111 261,800 255,362 266,985 277,981 265,273 214,528 139,048 84,883 88,424 4,276,700 39,8 77,984 216,272 230,265 245,816 258,002 267,913 304,755 340,096 317,665 300,229 277,984 317,665 300,229 277,999 248,872 189,524 113,004 100,106	112,634 125,105 128,578 128,578 128,578 128,578 128,578 128,578 129,282 159,156 132,587 127,661 133,933 129,282 108,805 67,169 40,546 34,645 2,148,500 39,2 Male 111,271 117,291 127,426 132,849 136,854 152,712 168,814 152,712 168,265 145,5995 145,5995 145,5995 145,595 145,595 145,595 145,595 145,595 145,595 145,595 145,792 127,170 129,721 120,017 94,053 53,414 41,715	Eemale 106,252 116,235 121,896 121,680 133,203 154,673 159,561 145,074 136,719 126,589 129,617 133,417 143,982 140,222 118,530 76,931 143,982 143,982 143,982 118,530 76,931 43,348 55,173 2,168,100 40.9 2026 Female 104,995 109,213 119,223 124,394 131,597 152,244 163,156 148,128 138,532 124,394 131,597 152,244 163,156 148,128 138,532 124,394 131,597 152,244 163,156 148,128 138,532 124,394 131,597 152,244 163,156 148,128 138,532 124,394 131,597 152,244 163,156 148,128 138,532 124,394 131,597 152,244 143,637 152,244 163,156 148,128 138,532 124,394 131,597 152,244 143,637 144,128 138,532 124,592 138,444 134,532 138,444 134,536 144,128 144,136 145,136 146,136	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 262,204 261,078 277,915 269,504 269,504 269,504 269,504 269,504 269,504 88,894 89,818 4,316,600 40,0 716,265 266,504 216,265 266,504 252,244 268,451 304,956 336,605 3328,971 303,823 284,322 261,876 265,721 261,201 261,201 271,086 252,939 200,787 117,170 103,732	111.377 124.912 127.792 129.857 137.889 153.248 163.855 152.870 146.338 133.102 125.2870 146.338 133.023 125.815 132.967 130.397 110.777 73.836 42.687 35.670 2,168.434 39.4 2,168.434 39.4 111.339 116.002 127.224 138.228 152.319 167.105 170.723 156.944 149.361 133.778 134.362 125.424 128.883 121.144 195.894 143.707	Eemak 105,110 116,051 120,505 123,188 132,154 153,399 165,040 146,448 140,009 127,495 131,230 131,165 143,096 141,595 143,096 141,595 143,096 141,595 143,096 144,0000 144,0000 144,0000 144,0000 144,0000 144,0000 144,0000	216,487 240,964 248,297 253,045 270,043 306,647 328,895 299,318 286,347 260,616 266,252 255,980 276,064 276,064 277,0981 231,486 4,355,800 40.2 Total 216,381 224,6266 255,028 271,498 303,541 339,445 306,493 329,241 263,566 267,909 256,239 269,443 255,405 269,411 128,844 108,225	111,144 123,492 127,050 131,412 137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 130,766 113,015 131,698 130,766 113,015 130,766 113,015 2,188,012 39,66 2,188,012 39,66 2,188,012 39,66 115,806 111,436 115,806 115,806 114,807 114,80	Eemak 104,902 114,789 114,789 119,161 124,569 131,861 122,333 128,821 132,292 127,466 141,712 122,292 127,466 141,712 124,145 89,894 41,3 2028 Femak 55,894 41,3 2028 Femak 105,119 107,830 117,753 121,574 134,799 151,041 160,533 172,596 151,758 144,204 132,155 134,688 128,166 139,250 134,661 122,510 144,651 174,826 67,917	216,046 238,281 246,211 255,981 269,362 291,170 266,053 268,289 252,049 273,394 273,394 273,394 273,394 273,394 273,394 209,40 93,918 23,94,300 40,5 72,4710 303,038 332,312 347,377 310,097 296,142 270,488 252,451 310,097 296,142 270,088 352,312 347,377 310,097 296,200 269,142 270,088 352,312 347,337 310,097 296,200 269,142 270,088 352,312 347,337 310,097 296,200 269,142 270,088 352,312 310,097 296,200 269,142 270,088 352,312 310,097 296,200 269,142 270,088 352,312 310,097 296,200 269,142 270,088 352,312 310,097 296,200 269,142 270,088 352,312 310,097 310,097 310,097 310,097 310,097 310,097 310,097 310,097 326,200 310,097 313,007 310,097 3	111,318 121,318 121,318 126,846 132,267 137,201 152,359 155,099 152,078 138,591 135,691 135,691 135,691 135,691 135,691 135,691 135,691 135,691 138,382 2,207,269 39,9 Male 111,546 116,015 123,543 131,160 151,575 166,376 156,376 156,376 156,377 161,352 155,303 139,350 135,075 125,003 129,810 100,456 67,158 49,301	Eemak 105,053 112,847 118,883 124,737 131,923 151,884 132,131 131,572 126,743 140,288 141,185 122,0743 140,288 141,185 128,031 94,610 58,431 128,031 94,610 58,431 158,569 2,224,931 41.5 2029 Femak 105,211 107,999 115,766 151,260 165,691 174,482 151,227 134,038 134,012 125,473 146,093 134,518 134,012 127,523 134,029 115,638 134,012 127,523 134,029 155,648 134,012 127,523 134,029 155,648 134,012 127,523 134,993 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 127,521 134,029 155,648 134,012 135,699 134,029 135,026 134,029 135,026 134,029 155,648 134,012 135,026 134,028 134,029 135,026 135,026 134,028 134,029 135,026 135,026 134,029 135,026 134,029 135,026 134,029 135,026 135,026 135,026 134,029 135,026 134,029 134,029 135,026 135,0	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 340,363 340,363 340,727 267,177 251,955 271,448 107,402 96,951 244,352,200 40,77 243,791 178,283 107,402 96,951 244,352,200 40,77 243,791 178,283 107,402 96,951 244,352,200 40,77 243,791 178,283 107,402 96,951 244,352,200 40,77 252,559 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 316,825 302,295 325,523 254,839 266,027 326,523 324,639 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,923 266,924 276,956 277,957 277,957 277,957 277,957 277,9777 277,9777 277,97777 277,97777777777
$\begin{array}{c} 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 25.29\\ 30.34\\ 35.39\\ 40.44\\ 45.49\\ 45.59\\ 60.64\\ 65.69\\ 70.74\\ 85.8\\ 80.84\\ 85+\\ Total\\ Mdn. Age\\ \hline \begin{array}{c} \underline{Age}\\ 0.4\\ 5.9\\ 10.14\\ 15.19\\ 20.24\\ 25.29\\ 30.34\\ 35.39\\ 40.44\\ 45.49\\ 15.59\\ 60.64\\ 65.69\\ 70.74\\ 75.79\\ 80.84\\ \end{array}$	114,550 124,652 128,824 128,140 138,855 155,691 154,331 149,852 139,497 133,924 128,725 130,083 133,933 122,370 102,753 64,821 38,721 33,779 2,128,184 111,266 119,256 126,542 155,772 142,303 134,470 127,987 129,501 129,651 134,470 129,871 129,501 129,651 134,470 129,871 129,501 129,501 129,651 134,470 129,871 129,501	Eemake 108,007 115,897 122,433 121,676 133,032 155,477 143,455 133,611 127,876 126,636 136,902 144,048 137,903 111,774 74,227 46,162 24,48,516 40.7 2025 <u>Femake</u> 105,006 111,009 118,867 124,934 131,565 151,962 154,867 124,934 131,565 151,923 156,923 146,456 130,086 130,086 130,086 100,689 61,492	222.556 240.532 251.256 249.816 271.587 312.441 307.808 293.307 273.111 261.800 255.362 266.985 277.981 30.4528 41.3004 39.8 Total 216.272 230.265 245.816 258.002 267.913 304.755 340.096 317.664 258.002 267.913 304.755 340.096 317.675 256.751 266.992 277.674 245.816 256.751 266.992 277.674 245.816 256.751 266.992 277.674 245.816 256.751 266.992 277.992 276.555 256.751 266.992 277.992 276.992 277.992 2	112,634 125,105 128,578 128,579 128,579 138,356 154,425 159,156 132,587 127,661 132,587 127,661 132,587 127,661 132,937 129,282 108,805 67,169 34,645 2,148,500 39,2	Emale 106,252 116,235 121,880 132,203 154,673 159,561 145,074 136,714 136,719 126,589 129,617 133,417 143,982 140,222 143,982 144,944 143,944 134,934 144,344 134,932 144,344 134,932 144,344 134,932 144,345 144,3	218,886 241,304 250,474 250,273 271,559 309,098 318,717 296,763 279,600 259,044 262,204 264,876 263,721 261,201 271,086 263,721 261,201 271,086 263,721 261,201 271,086 263,721 261,201 271,086 263,721 261,201 271,086 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 263,721 261,201 271,205 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137,501 152,367 167,771 154,195 148,877 136,232 135,997 124,583 131,698 130,766 113,015 79,007 79,007 79,007 46,046 36,858 2,188,012 39,6 2,188,012 39,6 111,436 115,806 125,765 131,299 139,911 151,997 166,259 139,911 151,997 166,259 139,911 151,997 166,259 134,432 151,399 151,996 135,401 124,284 135,401 124,284 121,585 97,967 335,401 124,284 121,585 97,967 332,877 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 121,585 135,401 124,284 125,585 135,401 124,284 135,401 124,284 135,401 124,284 135,401 124,284 135,401 124,284 135,401 124,285 135,401 124,285 135,401 135,401 135,401 145,505 135,401 145,505	Eemak 104,902 114,789 119,161 124,569 131,861 152,333 168,884 148,601 142,292 127,466 141,712 124,145 89,808 54,894 124,145 89,808 54,894 57,061 22,062,288 41.3 2028 Eemak 105,119 107,830 117,753 121,574 134,799 151,053 122,575 134,688 142,024 132,575 134,688 143,204 134,660 134,660 134,660 134,660 134,660 134,660	216,046 238,281 246,211 255,981 269,362 291,170 266,053 268,289 252,049 273,348 272,478 237,161 168,815 216,555 223,637 243,518 252,873 274,710 303,038 332,312 343,517 310,097 296,942 270,088 332,312 347,371 310,097 296,200 269,142 270,088 322,451 266,995 256,045 216,017 138,113	111,318 121,312 122,846 132,267 137,201 152,359 169,595 152,078 138,599 135,604 125,212 131,604 125,212 131,604 125,212 131,604 115,761 138,382 2,207,269 39,9 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,207,269 3,3,09 2,25,50	Eemak 105,063 112,847 118,883 124,737 131,923 151,884 142,031 132,131 131,572 126,743 140,288 141,163 122,6743 140,288 141,163 122,6743 140,288 141,163 124,073 126,743 140,288 141,163 128,059 122,6743 140,288 141,163 128,059 122,6743 140,288 144,105 128,059 121,275 135,036 151,260 1	216,381 234,159 245,729 257,005 269,124 340,243 340,363 340,363 340,363 340,363 340,722 267,177 251,955 271,483 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 178,283 271,027 243,791 243,791 243,791 243,791 252,555 275,881 303,016 332,067 351,159 316,825 302,295 273,939 266,203 316,825 302,295 273,939 266,907 225,259 326,9087 225,259 326,9087 225,259 326,2295 273,939 266,907 225,259 326,2295 273,939 266,907 225,259 227,399 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 225,259 227,399 225,259 225,259 225,259 227,399 225,259 227,399 227,399 227,399 227,399 225,259 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 227,399 225,259 227,399 227,399 225,259 227,399 225,259 227,399 225,259 227,399 225,259 25,259 255,259 255,259 255,259 255,259 255,259 255,259 255

Table C.3 Population of Oregon: 1990-2029

Year	Total	Change from pre-	vious year		
(July 1)	Population	Number	Percent		
1990	2,860,400				
1991	2,928,500	68,100	2 38%	100 million (100 million)	
1991	2,928,500	63,300	2.16%		
1993	3,060,400	68,600	2.29%		2
1994	3,121,300	60,900	1.99%	5,000,000	-
1995	3,184,400	63,100	2.02%		L
1996	3,247,100	62,700	1.97%	4,500,000	÷
1997	3,304,300	57,200	1.76%	4.000.000	
1998	3,352,400	48,100	1.46%	4,000,000	T
1990	3,393,900	41,500	1.24%	3,500,000	Ł
2000	3,431,100	37,200	1.10%		
2000	3,470,400	39,300	1.15%	3,000,000	1
2001	3,502,600	32,200	0.93%	2,500,000	
2002	3,538,600	36,000	1.03%	d	Т
2003	3,578,900	40,300	1.14%	£2,000,000	Ł
2004	3,578,900	48,000	1.34%		
2005	3,685,200	58,300	1.5470	1,500,000	۲
2000	3,739,400	54,200	1.47%	1,000,000	
2007	3,784,200	44,800	1.20%	1,000,000	Т
2008	3,815,800	31,600	0.84%	500,000	ł
2009			0.56%		L.
2010	3,837,300 3,857,625	21,500 20,325	0.53%	0	950
2011			0.53%		930
	3,883,735	26,110			
2013	3,919,020	35,285	0.91%	-	-
2014	3,962,710	43,690	1.11%		
2015	4,013,845	51,135	1.29%		
2016	4,076,350	62,505	1.56%		
2017	4,141,100	64,750	1.59%		
2018	4,195,300	54,200	1.31%		
2019	4,236,400	41,099	0.98%		
2020	4,276,700	40,300	0.95%		
2021	4,316,600	39,901	0.93%		
2022	4,355,800	39,200	0.91%		
2023	4,394,300	38,500	0.88%		
2024	4,432,200	37,900	0.86%		
2025	4,469,500	37,301	0.84%		
2026	4,506,300	36,799	0.82%		
2027	4,542,500	36,201	0.80%		
2028	4,577,700	35,199	0.77%		
2029	4,612,000	34,301	0.75%		

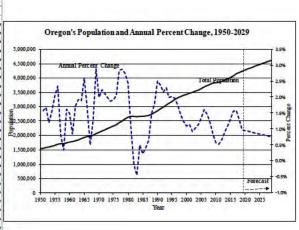


Table C.4 Children: Ages 0-4

Table C.5 School Age Population: Ages 5-17

Table C.6 Young Adult Population: Ages 18-24

Year		% Change from prev	ious decade/yr.		% Change from prev	vious decade/yr.		% Change from pre	vious decade/yr.
(July 1)	Population	Number	Percent	Population	Number	Percent	Population	Number	Percent
1980	199,525			524,446			329,407		
1990	209,638	10,113	5.07%	532,727	8.281	1.58%	268,134	-61.273	-18.60%
2000	223,207	13,569	6.47%	624,316	91,589	17.19%	330,328	62,194	23.20%
2001	224,645	1,438	0.64%	624,675	358	0.06%	336,660	6,333	1.92%
2002	225,084	439	0.20%	624,611	-64	-0.01%	340,778	4,118	1.22%
2003	226,652	1,568	0.70%	624,349	-262	-0.04%	345,266	4,487	1.32%
2004	228,353	1,701	0.75%	625,461	1,112	0.18%	349,138	3,873	1.12%
2005	230,008	1,655	0.72%	628,326	2,865	0.46%	351,076	1,938	0.55%
2006	231,882	1,874	0.81%	633,646	5,320	0.85%	354,328	3,252	0.93%
2007	236,160	4,278	1.85%	635,720	2,074	0.33%	356,311	1,983	0.56%
2008	239,340	3,180	1.35%	635,372	-348	-0.05%	358,967	2,656	0.75%
2009	239,929	589	0.25%	633,575	-1.797	-0.28%	360,134	1,166	0.32%
2010	238,457	-1,472	-0.61%	630,741	-2,835	-0.45%	359,764	-370	-0.10%
2011	236,180	-2,277	-0.95%	628,366	-2,375	-0.38%	360,675	911	0.25%
2012	232,875	-3,305	-1.40%	628,688	323	0.05%	362,580	1,904	0.53%
2013	230,143	-2,733	-1.17%	630,161	1,473	0.23%	365,925	3,346	0.92%
2014	229,365	-777	-0.34%	631,753	1,592	0.25%	368,525	2,600	0.71%
2015	229,607	242	0.11%	633,304	1,550	0.25%	370,167	1,642	0.45%
2016	231,240	1,632	0.71%	635,485	2,182	0.34%	370,880	712	0.19%
2017	232,233	993	0.43%	638,087	2,602	0.41%	373,075	2,196	0.59%
2018	230,317	-1,915	-0.82%	638,311	224	0.04%	374,877	1,802	0.48%
2019	226,345	-3,972	-1.72%	638,760	449	0.07%	374,295	-582	-0.16%
2020	222,556	-3,789	-1.67%	640,460	1,700	0.27%	372,732	-1,564	-0.42%
2021	218,886	-3,671	-1.65%	641,947	1,487	0.23%	371,699	-1,033	-0.28%
2022	216,487	-2,398	-1.10%	641,175	-771	-0.12%	371,174	-525	-0.14%
2023	216,046	-442	-0.20%	638,688	-2,488	-0.39%	371,147	-26	-0.01%
2024	216,381	335	0.16%	634,553	-4.135	-0.65%	371,464	317	0.09%
2025	216,272	-109	-0.05%	629,634	-4,919	-0.78%	372,363	899	0.24%
2026	216,265	-6	0.00%	624,452	-5,182	-0.82%	374,395	2,032	0.55%
2027	216,381	116	0.05%	620,183	-4,269	-0.68%	376.672	2,277	0.61%
2028	216,555	174	0.08%	616,221	-3,962	-0.64%	378,515	1,843	0.49%
2029	216,758	202	0.09%	613,177	-3.044	-0.49%	378,384	-132	-0.03%

Table C.7 Criminally At Risk Population (males): Ages 15-39

Table C.8 Prime Wage Earners: Ages 25-44

Table C.9 Older Wage Earners: Ages 45-64

Year		% Change from prev	ious decade/yr.		% Change from prev	ious decade/yr.		% Change from prev	vious decade/yr.
(July 1)	Population	Number	Percent	Population	Number	Percent	Population	Number	Percent
1980	561,931			790,750			491,249		
1990	544,738	-17,193	-3.06%	926,326	135,576	17.15%	531,181	39,932	8.13%
2000	616,988	72,250	13.26%	996,500	70,174	7.58%	817,510	286,329	53.90%
2001	618,906	1,918	0.31%	994,587	-1,913	-0.19%	847,276	29,766	3.64%
2002	620,252	1,347	0.22%	989,996	-4,591	-0.46%	876,242	28,966	3.42%
2003	622,211	1,959	0.32%	987,755	-2,241	-0.23%	903,499	27,257	3.11%
2004	626,423	4,212	0.68%	988,932	1,177	0.12%	930,032	26,533	2.94%
2005	633,901	7,478	1.19%	994,575	5,644	0.57%	957,826	27,793	2.99%
2006	644,210	10,309	1.63%	1,004,110	9,535	0.96%	985,638	27,813	2.90%
2007	652,287	8,077	1.25%	1,014,565	10,455	1.04%	1,008,986	23,348	2.37%
2008	657,248	4,961	0.76%	1,022,060	7,495	0.74%	1,025,501	16,515	1.64%
2009	657,327	79	0.01%	1,024,971	2,911	0.28%	1,039,689	14,188	1.38%
2010	653,491	-3,836	-0.58%	1,026,126	1,155	0.11%	1,050,150	10,461	1.01%
2011	652,382	-1,109	-0.17%	1,030,430	4,304	0.42%	1,057,288	7,138	0.68%
2012	654,540	2,158	0.33%	1,037,116	6,686	0.65%	1,052,983	-4,305	-0.41%
2013	660,449	5,909	0.90%	1,047,277	10,162	0.98%	1,050,536	-2,447	-0.23%
2014	668,956	8,507	1.29%	1,059,961	12,683	1.21%	1,053,466	2,930	0.28%
2015	679,008	10,051	1.50%	1,074,881	14,920	1.41%	1,059,767	6,301	0.60%
2016	691,871	12,863	1.89%	1,097,009	22,128	2.06%	1,068,321	8,554	0.81%
2017	705,172	13,301	1.92%	1,123,902	26,894	2.45%	1,071,362	3,041	0.28%
2018	714,740	9,568	1.36%	1,148,964	25,062	2.23%	1,069,594	-1,769	-0.17%
2019	722,037	7,297	1.02%	1,169,193	20,229	1.76%	1,064,869	-4,724	-0.44%
2020	726,568	4,531	0.63%	1,186,667	17,474	1.49%	1,062,128	-2,741	-0.26%
2021	732,220	5,652	0.78%	1,204,178	17,511	1.48%	1,060,240	-1,888	-0.18%
2022	737,719	5,500	0.75%	1,221,207	17,029	1.41%	1,058,913	-1,328	-0.13%
2023	743,247	5,527	0.75%	1,235,322	14,115	1.16%	1,059,785	872	0.08%
2024	748,521	5,274	0.71%	1,251,047	15,725	1.27%	1,061,301	1,516	0.14%
2025	752,551	4,031	0.54%	1,262,745	11,698	0.94%	1,065,982	4,681	0.44%
2026	756,495	3,943	0.52%	1,274,354	11,609	0.92%	1,071,120	5,138	0.48%
2027	760,436	3,941	0.52%	1,283,682	9,327	0.73%	1,078,955	7,835	0.73%
2028	764,248	3,812	0.50%	1,292,824	9,143	0.71%	1,087,881	8,926	0.83%
2029	766,739	2,491	0.33%	1,303,067	10,243	0.79%	1,097,851	9,970	0.92%

Table C.10 Elderly Population by Age Group

		%Change from		%Change from		%Change from		%Change from
Year		previous		previous		previous		previous
(July 1)	Ages 65+	decade/yr	Ages 65-74	decade/yr	Ages 75-84	decade/yr	Ages 85+	decade/yr
	205.041		105.052		01.107		20.041	
1980	305,841		185,863		91,137		28,841	
1990	392,369	28 29%	224,772	20 93%	128,813	41 34%	38,784	34 48%
2000	439,239	11 95%	218,997	-2 57%	162,187	25 91%	58,055	49 69%
2001	442,558	0 76%	218,838	-0 07%	163,878	1 04%	59,843	3 08%
2002	445,890	0 75%	219,614	0 35%	165,109	0 75%	61,167	2 21%
2003	451,080	1 16%	222,361	1 25%	165,669	0 34%	63,050	3 08%
2004	456,984	1 31%	226,373	1 80%	165,842	0 10%	64,769	2 73%
2005	465,089	1 77%	231,926	2 45%	166,077	0 14%	67,087	3 58%
2006	475,596	2 26%	239,931	3 45%	165,787	-0 17%	69,877	4 16%
2007	487,657	2 54%	250,131	4 25%	165,148	-0 39%	72,379	3 58%
2008	502,959	3 14%	264,201	5 63%	164,354	-0 48%	74,403	2 80%
2009	517,502	2 89%	277,606	5 07%	163,513	-0 51%	76,383	2 66%
2010	532,062	2 81%	289,645	4 34%	164,159	0 40%	78,258	2 45%
2011	544,686	2 37%	300,402	3 71%	164,410	0 15%	79,874	2 06%
2012	569,493	4 55%	322,490	7 35%	165,727	0 80%	81,276	1 75%
2013	594,977	4 47%	344,125	6 71%	168,319	1 56%	82,533	1 55%
2014	619,639	4 15%	363,807	5 72%	172,422	2 44%	83,411	1 06%
2015	646,119	4 27%	384,842	5 78%	177,215	2 78%	84,062	0 78%
2016	673,416	4 22%	405,107	5 27%	183,136	3 34%	85,173	1 32%
2017	702,441	4 31%	425,679	5 08%	190,920	4 25%	85,842	0 79%
2018	733,237	4 38%	444,257	4 36%	202,314	5 97%	86,665	0 96%
2019	762,937	4 05%	461,913	3 97%	213,752	5 65%	87,272	0 70%
2020	792,157	3 83%	479,801	3 87%	223,931	4 76%	88,424	1 32%
2021	819,651	3 47%	496,839	3 55%	232,993	4 05%	89,818	1 58%
2022	846,844	3 32%	503,467	1 33%	251,751	8 05%	91,626	2 01%
2023	873,312	3 13%	509,639	1 23%	269,755	7 15%	93,918	2 50%
2024	897,454	2 76%	514,818	1 02%	285,684	5 91%	96,951	3 23%
2025	922,504	2 79%	519,871	0 98%	302,528	5 90%	100,106	3 25%
2026	945,713	2 52%	524,024	0 80%	317,956	5 10%	103,732	3 62%
2027	966,627	2 21%	524,847	0 16%	333,555	4 91%	108,225	4 33%
2028	985,703	1 97%	523,041	-0 34%	348,131	4 37%	114,531	5 83%
2029	1 002 764	1 73%	520 062	-0 57%	362 164	4 03%	120 538	5 24%

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

OPENING TESTIMONY

OF THE

OREGON CITIZENS' UTILITY BOARD

ADVERTISING EXPENSES

EXHIBIT 300

Redacted Version

I. INTRODUCTION AND SUMMARY

1	Q.	Please state your names, occupations, and business addresses.
2	A.	My name is Sudeshna Pal. I am an Economist employed by the Oregon Citizens'
3		Utility Board (CUB). My name is William Gehrke. I am an Economist employed
4		by CUB. Our business address is 610 SW Broadway, Ste. 400 Portland, Oregon
5		97205.
6	Q.	Please describe your educational background and work experience.
7	A.	Sudeshna Pal's witness qualification statement is found in exhibit CUB/301.
8		William Gehrke's witness qualification statement is found in exhibit CUB/201.
9	Q.	What is the purpose of your testimony?
10	A.	The purpose of this testimony is to examine the appropriateness of the Category A
11		Advertising Expenses NW Natural (NWN or the Company) is requesting recovery
10		of in this general rate case proceeding.
12		of in this general face case proceeding.
	Q.	Please summarize your testimony.
13	Q. A.	
13 14		Please summarize your testimony.
13 14 15		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that
12 13 14 15 16 17		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A
13 14 15 16		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A expenses that are above the recovery threshold set by Oregon Administrative Rule
13 14 15 16 17		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A expenses that are above the recovery threshold set by Oregon Administrative Rule (OAR) 860-026-0022 are just and reasonable. Therefore, CUB recommends that
13 14 15 16 17 18		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A expenses that are above the recovery threshold set by Oregon Administrative Rule (OAR) 860-026-0022 are just and reasonable. Therefore, CUB recommends that the Oregon Public Utility Commission (Commission) not allow NWN recovery for
 13 14 15 16 17 18 19 		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A expenses that are above the recovery threshold set by Oregon Administrative Rule (OAR) 860-026-0022 are just and reasonable. Therefore, CUB recommends that the Oregon Public Utility Commission (Commission) not allow NWN recovery for any Category A advertising expense beyond the 0.125% of gross retail operating
 13 14 15 16 17 18 19 20 		Please summarize your testimony. In this exhibit, CUB provides substantive arguments and evidence to prove that NW Natural has failed to successfully demonstrate that its proposed Category A expenses that are above the recovery threshold set by Oregon Administrative Rule (OAR) 860-026-0022 are just and reasonable. Therefore, CUB recommends that the Oregon Public Utility Commission (Commission) not allow NWN recovery for any Category A advertising expense beyond the 0.125% of gross retail operating revenues limit sought by the Company. This testimony also proposes that the

23 ///

Redacted Version

1		II. CATEGORY A ADVERTISING EXPENSES
2	Q.	What OAR applies to NW Natural's Category A advertising expense?
3	А.	OAR 860-026-0022 provides that certain utility advertising expenses are presumed
4		reasonable in general rate case proceedings. This administrative rule defines
5		Category A advertising expenses as "[e]nergy efficiency or conservation
6		advertising expenses that do not relate to a Commission-approved program, utility
7		service advertising expenses, and utility information advertising expenses." ¹ In rate
8		proceedings, Category A expenses below 0.125% of gross retail operating revenues
9		are presumed to be just and reasonable by the Commission. ² The utility bears the
10		burden of proof to demonstrate Category A expenses above 0.125% of gross retail
11		operating revenues are just and reasonable. ³
12	Q.	What is 0.125% of the Company's gross retail operating revenues in the
13		proposed Test Year?
14	А.	The Company is able to recover up to \$754,495 for Category A communications
15		expense based on its 2018 revenues, which amounts to about \$1.14 per customer. ⁴
16	Q.	What Category A advertising expense is the Company seeking to recover?
17	А.	The Company is seeking to recover \$1,750,000 in Category A expenditures. ⁵ Under
18		that scenario, the per customer expense would be \$2.54.6 Therefore, the Company

¹ OAR 860-026-0022(2)(a). ² OAR 860-026-0022(3)(a).

³ UG 388 – NW Natural/800/Beck/5, lines 17-19.

⁴ UG 388 – NW Natural/800/Beck/4, lines 12-14.

⁵ UG 388 – NW Natural/800/Beck/3, lines 16-17.

⁶ UG 388 – NW Natural/800/Beck/4, lines 4-5.

1		is seeking an additional \$995,5057 in Category A expenditures beyond what is
2		presumed to be just and reasonable by administrative rule.
3	Q.	Why is NW Natural seeking to recover expenses past the OAR cap?
4	A.	The Company argues that the gross retail revenue-based formula produces skewed
5		results because the Company's gross retail revenues are driven by natural gas
6		commodity costs. ⁸ This means that when natural gas prices are low, the allowed
7		advertising expenses under OAR 860-026-0022 are reduced. In response to low
8		natural gas prices, the Company argues that they should be allowed rate recovery in
9		line with electric utilities on a per customer basis.
10	Q.	What is CUB's response to the Company's arguments?
11	A.	Portland General Electric and PacifiCorp both operate natural gas-fired electric
12		generation facilities. The cost of natural gas is passed through the electric utilities'
13		net variable power cost proceedings. Local distribution companies (LDC) like
14		NWN distribute natural gas to their customers. In some cases, the LDC purchases
15		natural gas for its customers. This means that both electric utilities and natural gas
16		utilities have experienced decreased costs due to lower natural gas prices.
17		
18		The electric generation and the natural gas distribution industries are different
19		energy industries. LDC provides natural gas to its customers. The natural gas sold
20		by LDCs is primarily used for heating during the colder months. Electric utilities
21		provide electricity to their customers, which is used throughout the year. Electricity

⁷ (\$1,750,000 - \$754,495). ⁸ UG 388 – NW Natural/800/Beck/4, lines 18-20.

1		generation in Oregon is produced using a variety of energy sources such as
2		biomass, photovoltaic, wind, coal, gas, geothermal and hydro power.
3		
4		In the Company's last three general rate cases, it has requested recovery of
5		expenses in excess of to surpass the OAR 860-026-0022 cap. If NW Natural is
6		allowed to surpass the cap each rate case, the OAR cap would no longer serve as a
7		reasonable advertising spending limit. In all likelihood, without a rule-based
8		standard, other utilities would also request increasing the amount of advertising
9		charged to customers.
10	Q.	Do all items listed by NWN as Category A communications qualify as such?
11		Explain.
12	A.	It is not clear to CUB that all of the Company's requested advertising expense
13		would qualify as Category A expense. In particular, CUB has concerns about the
14		Company's "Less We Can" communications campaign.9 While some education
15		about the potential to add RNG to its system may qualify as a Category A expense,
16		advertising that is designed to associate the Company with renewable products
17		should be considered corporate image advertising (Category C). The Company
18		currently does not have RNG in its system. Therefore, CUB does not believe it is
19		appropriate for the Company to spend large sums to advertise for RNG under
20		Category A advertising. NW Natural's communications about the Company's
21		"pursuit" of RNG should be carefully scrutinized as a promotional advertising or
22		corporate imaging expense. In addition, advertising that just promotes the slogan

⁹ UG 388 – NW Natural/800/Beck/12, lines 12-22 and NW Natural/800/Beck/13, lines 1-3.

1		"Less We Can" should not be recoverable from customers as it does not provide
2		any valuable information. Under OAR 860-026-0022 (2c), institutional and
3		promotional advertising expenses are Category C and the utility bears the burden of
4		proof to show that these expenses are just and reasonable for rate-making purposes.
5	Q.	What must the company demonstrate in order to recover expenditures in
6		excess of 0.125 percent of gross retail operating revenues?
7	А.	Under OAR 860-026-0022, the Company must demonstrate with sufficient
8		evidence the expenditures are just and reasonable in order to collect more than
9		0.125% of gross retail operating revenues. The Company has provided four reasons
10		as evidence for the additional expenditure: an increase in TV media costs in its
11		Portland market, geographical diversity of its service territory, media consumption
12		habits and audience demographics coupled with media fragmentation, and,
13		continued investment in educational resources including pursuit of RNG under SB
14		98 legislation. ¹⁰ CUB will address each of the Company's arguments in turn.
15	Q.	Why have television media costs risen in NW Natural's Portland service area?
16	А.	The main driver behind the rise in cost is declining viewership. According to a
17		sample data ¹¹ provided by NW Natural, the rate per TV spot has gone down from
18		\$250 in 2017 to \$200 in 2018 for a Portland-based TV channel. NWN measures the
19		net cost per spot, the Cost Per Point (CPP), by dividing the per spot rate by the
20		corresponding Target Rating Point (TRP) for a given population. The CPP
21		represents the cost to reach 1% of the target population and is a measure of cost
22		efficiency. The TRP has gone down from 1.2 to 0.5 between 2017-2018 for the TV

 ¹⁰ UG 388 – NW Natural/800/Beck/6, lines 7-22.
 ¹¹ UG 388 – NW Natural/800/Beck/8, lines 3-9.

channel, which drove up the net cost per spot from about \$208 to around \$400,
 almost doubling it.¹²

Q. What information do we have regarding effectiveness of television as a media channel?

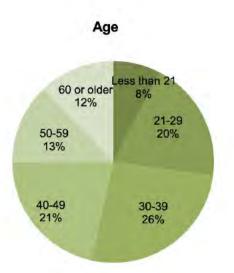
According to a recent New York (NY) Times article, TV viewership is on a decline 5 A. even at the national level, and that, coupled with rising prices, is making big brands 6 rethink their advertising strategies. The same article also ascertains that TV 7 viewership is especially low for the younger population, a significant number of 8 whom do not even own a TV.¹³ A Nielsen report from August 2019 also shows that 9 majority (56%) of adults in the United States streamed non-linear video to their TV 10 from the internet. The share of streaming population is even larger in the younger 11 age group (18-54 years). Older adults (55 years and older) are more likely to be 12 exposed to more traditional linear broadcast and cable content.¹⁴ Both the NY 13 Times report and the Nielsen study are particularly relevant for NWN's customer 14 base. NWN's Exhibit 806 presents a demographics chart of its customers prepared 15 by a third-party. As seen in the chart, 75% of NWN's gas customers who 16 17 participated in the survey on climate change awareness are below 50 years of age group and therefore technically belong to the younger adult group discussed above. 18 The chart from NWN is shown below:¹⁵ 19

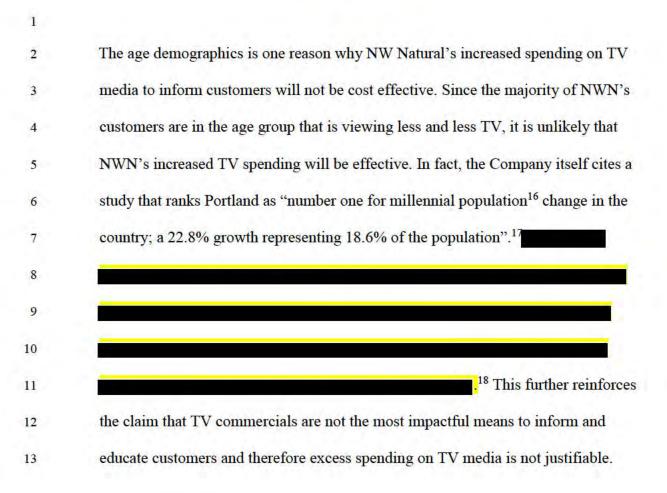
 $^{^{12}}Id.$

¹³ https://www.nytimes.com/2018/05/13/business/media/television-advertising html.

¹⁴ Nielsen Local Watch Report August 2019 – TV Streaming Across Cities, p7.

¹⁵ Chart taken from UG 388 – NW Natural/806/Beck/1.





¹⁶ The Millennial population is defined as those born between 1981-1996, hence in the 24-39 yrs. age group.

¹⁷ UG 388 - NW Natural/800/Beck/11.

¹⁸ CUB Exhibit 302. This exhibit was a confidential attachment to NW Natural's response to CUB DR 19.

1	Q.	What is the second piece of evidence NWN claims has led to a rise in Category
2		A expenses?
3	A.	NWN claims that the geographical diversity of its service area is a significant
4		contributor to Category A expenses.
5	Q.	Is geographical diversity of NWN's service area a significant contributor to
6		increased Category A expenses?
7	A.	No. This should not be the case. First, NW Natural's service area is not
8		geographically diverse. NWN customers are largely concentrated in Portland
9		followed by Eugene. As shown in CUB Exhibit 302, 91% of NW Natural's
10		customers live in its Portland DMA while 9% live in the Eugene service area. ¹⁹ It is
11		difficult to justify that there is considerable geographical diversity across these two
12		service areas linked by the I-5 corridor that would lead to a substantive impact on
13		overall media costs.
14		
15		Moreover, according to a 2017 report, cost per spot in TV media is significantly
16		lower in Eugene. ²⁰ There is no reason to expect a significant increase in Eugene
17		media costs since then. To summarize, the geographical argument reasoning
18		provided by NW Natural driving increase in Category A expenses does not hold
19		water on two grounds. First, only two designated largely urban market areas do not
20		qualify as a geographically diverse service territory. Second, media costs in Eugene
21		are significantly lower than Portland. Therefore, CUB finds it unreasonable for the

¹⁹ CUB Exhibit 303. ²⁰ See UG 344 – CUB/113.

1	Company to use geographical diversity as a factor contributing to increases in
2	communications expenses.

Q. How can media fragmentation affect NW Natural's communications spending?

A. As NWN rightly pointed out, a large fraction of US adults engages in streaming
non-linear content to internet-connected TV devices, smartphones, tablets, and
computers. This finding is also supported by other media usage tracking agencies
like Nielsen, as discussed earlier. The Company also suggests that, both media
viewing trends and age demographics in NW Natural's largest service area

10 (Portland) are evolving to reflect this national trend in media consumption.

11

12 NW Natural already uses a wide variety of media outlets including bill inserts,

13 customer brochures, e-newsletters, the internet, and TV. Media costs vary widely

14 with TV commercials being the most expensive. The following sample table from

15 NW Natural's response to Staff DR 198 shows widely divergent media costs: ²¹

16	Table 1		
	Project: Category A Environmental /	Estimated OR	Actual Cost in
17	Emission throughout the NW Natural	Customer	2019
	service territory: Development of a :30	Reach in 2019	
18	second TV commercial and digital		
	advertising addressing the efficient use		
19	of natural gas, information about the		
- /	ways NW Natural's pipeline system and		
20	customers can reduce greenhouse gas		
20	emissions and education about		
21	renewable natural gas and associated		
21	benefits for customers and the climate.		
	TV	20,497,170	\$187,690.00
22	Internet (Digital)	12,183,582	\$ 76,204.00

²¹ CUB Exhibit 304.

1	The above Table 1 suggests that NW Natural should reallocate TV communications
2	funds in favor of digital advertising and work on increasing customer outreach via
3	the internet. In this example, digital advertising cost to reach a customer is around
4	0.63 cents whereas the cost to reach a customer with TV commercial is 0.92 cents.
5	A reallocation across media channels would allow the Company minimize
6	advertising expenses which are largely discretionary in nature. In this case, media
7	fragmentation should result in lower Category A expenses through reallocation of
8	costs among various media channels.
9	Q. Should NW Natural customers pay the Company for additional information on
10	RNG and SB 98?
11	A. As explained earlier, CUB is concerned about throwing away advertising rules
12	designed to protect customers in order to promote a product that is not yet in the
13	utility's system. The "Less We Can" campaign informing customers about RNG is
14	partially a corporate imaging strategy. The Company has purchased banner
15	advertisements, which state "NW Natural: Less We Can" at Providence Park in
16	Portland, Oregon. ²² The Company has passed out sandwich holders and magnets,
17	which state "NW Natural: Less We Can." ²³ While CUB does acknowledge that
18	these advertisements were initially paid for with shareholders dollars, the use cases
19	around the "Less We Can" program indicate that it is used as a corporate imaging
20	program which should partially be paid for by shareholders. Information about
21	Oregon's climate goals and SB 98 are already available for customers for no extra
22	cost.

²² CUB Exhibit 305.
²³ CUB Exhibit 306.

1	Q.	Should NW Natural's Category A budget respond to changing economic
2		conditions?
3	A.	Yes. These are discretionary expenditures. As the current economy goes into a
4		recession with rising unemployment rates, people will struggle to pay their utility
5		bills. In these circumstances, the Commission should not allow NW Natural
6		additional advertising expenditures.
7	Q.	What Communications A expense should the Company be allowed to recover?
8	A.	The Company should be allowed to recover up to 0.125% of Gross Operating
9		Revenue in Communication A expense. The Company has failed to demonstrate
10		how the additional \$995,505 in expenditure is just and reasonable.
11	Q.	Does this conclude your testimony?
12	A.	Yes.

WITNESS QUALIFICATION STATEMENT

- NAME:Sudeshna PalEMPLOYER:Oregon Citizens' Utility BoardTITLE:EconomistADDRESS:610 SW Broadway, Suite 400
Portland, OR 97205EDUCATION:Ph.D., Economics
West Virginia University, Morgantown, WVMA, Economics
Jawaharlal Nehru University, New Delhi, India
- EXPERIENCE: Provided comments in several Oregon Commission dockets including LC 73, LC 70, LC 74. Worked as Assistant Professor of Economics at Georgia College and State University (2003 -2008). Employed part-time as Adjunct Faculty in the Department of Economics at Portland State University (2014 present).

Exhibit 302 is confidential and will be provided to parties who have signed Protective Order No. 19-437.

State	County	Accounts	Portland	Eugene
Oregon	Benton	19435	5 O	1
Oregon	Clackamas	92486	i 1	0
Oregon	Clatsop	13365	1	0
Oregon	Columbia	8452	. 1	0
Oregon	Coos	1821	0	1
Oregon	Hood River	4020) 1	0
Oregon	Lane	41319	0 0	1
Oregon	Lincoln	10655	5 1	0
Oregon	Linn	23852	1	0
Oregon	Marion	66198	1	0
Oregon	Multnomah	202196	i + 1+	0
Oregon	Polk	14747	1	0
Oregon	Wasco	2043	1	0
Oregon	Washington	141020	1	0
Oregon	Yamhill	12498	3 1	0
Washington	Clark	79582	. 1	0
Washington	Klicktat	1514	1	0
Washington	Skamania	513	1	0

County Source: DMA County Coverage Nielsen Media Research

Percentage of NW Natural Customers in Portland Media Market	91%
Percentage of NW Natural Customers in Eugene Media Market	9%

CUB/304 Pal-Gehrke/1

UG 388 OPUC DR 198 Attachment 1

388 Request 153 oject		Media	Final Copy of	Estimated OR	Estimated OR		Page 1 Actual
	Category A Customer Communication Description	Channel	Communication	Customer Reach	Non-Customer Reach	Budget	Cost
efficient use o service option of high-efficien Natural's pipe	fort Zone - Customer newsletter addressing topics such as the of natural gas; payment and program options; online customer ns; price changes; cost, performance and environmental benefits ncy natural gas equipment; information about the ways NW line system and customers can reduce greenhouse gas none numbers and contact information; important safety						
1 information.	Sponsored Cash Incentives Insert - Customer insert introducing	Customer Bill Insert	BillInsert ComfortZone JAN 2019.PDF	500,000	0 \$	18,000.00	\$ 18,028.00
the energy-sa 2 equipment. In	aving benefits and incentives for high-efficiency natural gas isert was funded by Energy Trust of Oregon.	Customer Bill Insert	BillInsert ETOIncentives JAN 2019.pdf	500,000	0 \$		s -
	h-Efficiency Heating Bill Insert - Bill insert discussing the cost erformance and environmental benefits of high-efficiency natural evidence1	Customer Bill Insert	Billinsert Furnace FEB 2019.pdf	500,000	0 \$	75,000.00	\$ 9,212.00
March Comfo efficient use o service option of high-efficien Natural's pipe	vapprint. If Zone - Customer newsletter addressing lopics such as the of natural gas; payment and program options; online customer is; price changes; cost, performance and environmental benefits ncy natural gas equipment; information about the ways NW biline system and customers can reduce greenhouse gas none numbers and contact information; important safety			50,00		10,000.00	0,212.00
4 information.	Up Bill Insert - Communicating an annual equipment tune up	Customer Bill Insert	BillInsert ComfortZone MAR 2019.pdf	500,000	0 \$	18,000.00	\$ 17,806.00
5 service option April Smart Er	for customers to save energy and money. nergy Bill Insert - Customer bill insert communicating the Smart te option, NW Natural's program to inform customers how to	Customer Bill Insert	Billnsert TuneUp MAR 2019.pdf	500,000	0.\$	7,500.00	\$ 7,229.00
6 reduce their in	mpact on the environment.	Customer Bill Insert	BillInsert SmartEnergy APR 2019.pdf	500,000	0 \$	7,500.00	\$ 6,696.16
the energy-sa	eater Insert and shut off procedure - Customer insert introducing twing benefits and incentives for natural gas water heating and hut off procedure. Paid for by Fast Water Heater Co.	Customer Bill Insert	Billinsert WaterHeater Sticker APR 2019.pdf	452,375	0 \$		s -
efficient use o service option of high-efficien Natural's pipe	Zone - Customer newsletter addressing topics such as the of natural gas; payment and program options; online customer is; price changes; cost, performance and environmental benefits ncy natural gas equipment; information about the ways NW pline system and customers can reduce greenhouse gas none numbers and contact information; important safety						
8 information.		Customer Bill Insert	BillInsert ComfortZone MAY 2019.pdf	500,000	0 \$	18,000.00	\$ 19,172.00
program optio 9 numbers and June High-Eff	nd Responsibilities insert - Communication about payment and ons; online customer service options; price changes; phone contact information. ficiency Heating Bill Insert - Bill insert discussing the cost erformance and environmental benefits of high-efficiency natural	Customer Bill Insert	Billinsert RightsResponsibilities Nonres MAY 2019.pdf Billinsert RightsResponsibilities Res MAY 2019.pdf	502,250	0 \$	25,000.00	\$ 23,123.00
10 gas heating e July Comfort i efficient use o service option of high-efficien Natural's pipe		Customer Bill Insert	BillInsert Furnace JUN 2019.pdf	500,000	0\$	7,500.00	\$ 7,571.50
11 information. July WARM B	Brochure - Communication about the WARM payment and program	Customer Bill Insert	BillInsert ComfortZone JUL 2019.pdf	499,999	0 \$	18,000.00	\$ 23,476.00
	tomers. I Energy Bill Insert - Customer bill insert communicating the Smart te option, NW Natural's program to inform customers how to	Customer Bill Insert	BillInsert WARM JUL 2019.pdf	585,000	0 \$	20,000.00	\$ 20,304.00
	mpact on the environment. Up Bill Insert - Communicating a service option for customers to	Customer Bill Insert	Billinsert SmartEnergy AUG 2019.pdf	475,000	0 \$	7,500.00	\$ 5,987.00
September Hi	al equipment tune up to save energy and money. igh-Efficiency Heating Bill Insert - Bill insert discussing the cost erformance and environmental benefits of high-efficiency natural	Customer Bill Insert	Billinsert TuneUp AUG 2019.pdf	500,000	0 \$	7,500.00	\$ 5,987.00
efficient use o service option of high-efficien Natural's pipe	omfort Zone - Customer newsletter addressing topics such as the of natural gas; payment and program options; online customer ns; price changes; cost, performance and environmental benefits ney natural gas equipment; information about the ways NW sline system and customers can reduce greenhouse gas	Customer Bill Insert	BillInsert Furnace SEPT 2019.pdf	500,000	0\$	7,500.00	\$ 8,218.00
emissions; ph 16 information.	none numbers and contact information; important safety	Customer Bill Insert	BillInsert ComfortZone SEP 2019.pdf	500,000		25,000.00	\$ 25,779.45

Redacted Version

CUB/304 Pal-Gehrke/2

 October Natural Gas Fireplace Insert - Customer insert promoting high- efficiency natural gas fireplaces. Insert was funded by Energy Trust of 17 Oregon. October Low Income Assistance Insert - Bill insert providing information for low-income customers about qualifications needed for energy assistance 18 funding. November Gas Assistance Program insert - Communicating about a customer 19 program that supports low-income energy assistance November Comfort Zone - Customer newsletter addressing topics such as the efficient use of natural gas; payment and program options; online customer service options; price changes; cost, performance and environmental benefits of high-efficiency natural gas equipment; information about the ways NW Natural's pipeline system and customer can reduce greenhouse gas emissions; phone numbers and contact information; important safety 20 information. Service Solutions Pocket Card - Informative card for service technicians to 21 hand to customers during a service call when equipment repairs are needed. 	Customer Bill Insert Customer Bill Insert Customer Bill Insert Customer Bill Insert	Billinsert Fireplace OCT 2019.pdf Billinsert EnergyAssistance LowIncome OCT 2019.pdf Billinsert GAP NOV 2019.pdf Billinsert GAP Envelope NOV 2019.pdf Billinsert ComfortZone NOV 2019.pdf PocketCard.pdf	500,000 275,000 498,000 495,000 10,000	0 \$ 0 \$ 0 \$ 10000 \$	- : 7,500.00 : 7,500.00 : 18,000.00 : 4,472.00 :	 6,194.00 7,381.50 20,865.02
Customer Bill Envelope Graphics (12 instances) - Graphics on the outside of customer bills promoting topics such as the efficient use of natural gas; payment and program options; online customer service options; price changes; cost, performance and environmental benefits of high-efficiency natural gas equipment; phone numbers and contact information; important 22 safety information. eNewsletter (12 issues) - Electronic newsletter addressing topics such as the efficient use of natural gas; payment and program options; online customer service options; price changes; cost, performance and environmental benefits of high-efficiency natural gas equipment; information about the ways NW Natural's pipeline system and customers can reduce greenhouse gas emissions; ohone numbers and contact information; important safety	Customer Bill Envelope	EnvelopeGraphics.zip	500,000 each month	0 \$	- :	\$ 2,418.75
 23 information. Category A Customer Benefit Digital Advertising Production - Cost to produce digital ads communicating the cost savings, environmental benefits and value 	eMail	eNewsletter.zip	230,000 each month	0 \$	23,000.00	\$ 21,861.00
24 of high efficiency natural gas equipment and customer programs. Category A Customer Benefit Digital Advertising media throughout the NW	Internet	NW Natural Campaign Ads - Static, HTML5, Preroll .docx	N/A	N/A \$	80,000.00	\$ 81,498.00
25 Natural service territory. Category A Environmental / Emissions TV and Digital Advertising Production - Development of a :30 second TV commercial and digital advertising addressing the efficient use of natural gas, information about the ways NW Natural's pipeline system and customers can reduce greenhouse gas emissions and education about renewable natural gas and associated benefits for customers	Internet	NW Natural Campaign Ads - Static, HTML5, Preroll .docx	28,710,613	N/A \$	140,000.00	\$ 139,091.00
26 and the climate.	TV	Environment TV Digital.zip	N/A	N/A \$	181,750.00	\$ 181,750.00
Category A Environmental / Emission TV media throughout the NW Natural 27 service territory	TV	NWN What If Final.mp4	20,497, 170**	N/A \$	190,000.00	\$ 187,690.00
Environmental / Emissions Digital media throughout the NW Natural service 28 territory 29 2019 media planning and buying fees Telephone Directory media - Customer service contact numbers in telephone directories across the service territory. (sample includes only one directory.	Internet TV, Digital, Print, Strategy	NWN RNG What.lf 160x600.pdf 2019 NW Natural Schedule 120218 Rev3.xls	12, 183,582 N/A	N/A \$ N/A \$	80,000.00 75,000.00	
30 All directories include the same information) Welcome Letter - Letter sent to new residential and commercial customers.	Telephone Directories		1,856,576**	N/A \$	50,000.00	\$ 49,999.98
31 Includes printing and postage.	Direct Mail	WelcomKit.zip	20,000 per month	0 \$	105,000.00	\$ 96,894.38
Community Event Banners - Creative development for banners 32 displayed and community events throughout the service territory.	Community Events	Banners Final.zip	100,000	100,000 \$	8,750.00	\$ 8,750.00
Communications Planning Dashboard - Technical development for an online 33 dashboard and database to plan and track customer communications. Monthly on-hold messages - Messaging for customers while on hold waiting for a customer service representative. Messages include: efficient use of natural gas; payment and program options; online customer service options; price changes; cost, performance and environmental benefits of high-efficiency natural gas equipment; information about the ways NW Natural's pipeline system and customers can reduce greenhouse gas emissions; phone numbers	Online	N/A	0	0\$	11,000.00	5 10,960.00
34 and contact information; important safety information.	IVR	OnHold.zip	10,000 per month	N/A \$	5,000.00	\$ 4,680.00

** Estimated reach includes total household impressions for the NW Natural service territory.



NW Natural[®] Rates & Regulatory Affairs UG 388 2020 OR General Rate Revision Data Request Response

Request No.: UG 388 CUB DR 25

25. Refer to UG 388 NWN Response to CUB DR 4, CUB requested all advertising associated with NWN's "Less We Can" campaign from 2017 to 2019. Please provide all physical "Less We Can" advertising from 2017 to January 2020. CUB defines "physical advertising" as non-digital or television advertisements. An example of a physical advertisement would be "Less We Can" ad on Trimet bus or a "Less We Can" advertising at sports arena such as Providence Park.

Response:

Please find UG 388 CUB DR 25 Attachments 1-7 for the following "physical advertising" as defined by CUB for "Less We Can" advertising from 2017 to January 2020.

Attachment 1 Less We Can Sandwich Keeper = Promotional item handed out at community events – paid for with shareholder dollars.

Attachment 2 2018 Less We Can Event Collateral = Collateral piece handed out at community events - paid for with shareholder dollars.

Attachment 3 2019 Less We Can Event Collateral = Collateral piece handed out at community events - paid for with shareholder dollars.

Attachment 4 2019 Less We Can Refrigerator Graphics = Graphics used for part of a display at community events - paid for with shareholder dollars.

Attachment 5 NW Natural Less We Can Field Board = On-field sign at Providence Park displayed during Portland Timbers and Portland Thorns matches - paid for with shareholder dollars.

Attachment 6 Less We Can Water Bottle = Water bottle given to NW Natural employees - paid for with shareholder dollars.

Attachment 7 Less We Can T-Shirt = T-Shirt given to NW Natural employees - paid for with shareholder dollars.