Applying Business Strategy to Manage Uncertainty

Rachel Cohen • Ryan Cabinte

MGMT 607 Sustainable Business Seminar

UNIVERSITY OF OREGON • LTD • SCI Sustainable Cities Institute • SCYP Sustainable City Year Program

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Rachel Cohen
Report Author • MBA, Center for Sustainable Business Practices

Ryan Cabinte
Program Manager • Center for Sustainable Business Practices

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UNIVERSITY OF OREGON   LTD   SCI Sustainable Cities Institute   SCYP Sustainable City Year Program

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Tom Schwetz, Director of Planning & Development, LTD

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David Reesor, Director, University of Oregon Transportation Services
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Daniel Constantino, Jarrett Walker & Associates
Aurora Jackson, LTD General Manager
Lindsey Hayward, Executive Director, PeaceHealth Rides
Amy Cubbage, Director of Real Estate Asset Management, Cornerstone Community Housing
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Sam Miller, Student, University of Oregon
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Marc Schlossberg, Professor, UO PPPM
Joshua Skov, LTD Board Member
Theresa Brand, Transportation Options Program Manager, LTD
Collina Beard, Director of Business Services, LTD
Cosette Rees, Director of Customer and Specialized Services, LTD
Joe McCormack, Director of Facilities, LTD
Jake McCallum, Director of Operations, LTD
Mark Johnson, Assistant General Manager, LTD
David Collier, Director of Human Resources & Risk Management, LTD

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About SCI

The Sustainable Cities Institute (SCI) is an applied think tank focusing on sustainability and cities through applied research, teaching, and community partnerships. We work across disciplines that match the complexity of cities to address sustainability challenges, from regional planning to building design and from enhancing engagement of diverse communities to understanding the impacts on municipal budgets from disruptive technologies and many issues in between.

SCI focuses on sustainability-based research and teaching opportunities through two primary efforts:

1. Our Sustainable City Year Program (SCYP), a massively scaled university-community partnership program that matches the resources of the University with one Oregon community each year to help advance that community's sustainability goals; and

2. Our Urbanism Next Center, which focuses on how autonomous vehicles, e-commerce, and the sharing economy will impact the form and function of cities.

In all cases, we share our expertise and experiences with scholars, policymakers, community leaders, and project partners. We further extend our impact via an annual Expert-in-Residence Program, SCI China visiting scholars program, study abroad course on redesigning cities for people on bicycle, and through our co-leadership of the Educational Partnerships for Innovation in Communities Network (EPIC-N), which is transferring SCYP to universities and communities across the globe. Our work connects student passion, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations that result in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

About Lane Transit District

LTD provides more than 10 million trips per year on its buses and EmX Bus Rapid Transit line in Lane County, Oregon. Of Lane County's approximately 4,700 square miles, LTD's service area is about 480 square miles and includes the Eugene-Springfield metropolitan area, and the surrounding cities of Coburg, Cottage Grove, Creswell, Lowell, Junction City and Veneta as well as communities in the McKenzie River valley.

LTD is a special district of the state of Oregon and led by a seven-member board of directors appointed by Oregon's Governor. LTD also operates RideSource, a paratransit service for people with disabilities, and numerous transportation options programs to promote sustainable travel county wide, and Point2Point, an initiative that provides community members with the necessary information and resources to assist them in identifying opportunities to drive less by discovering transportation choices that meet their individual lifestyles. LTD continually explores opportunities to enhance regional mobility through its projects and partnerships with other agencies.

Course Participants

ASHTON ROBERTS • MBA, Center for Sustainable Business Practices
JASON FOLDI • MBA, Center for Sustainable Business Practices
RACHEL COHEN • MBA, Center for Sustainable Business Practices
EMA ALSPAUGH • MBA, Lundquist Center for Entrepreneurship

Executive Summary

Master of Business Administration (MBA) students from the UO Center for Sustainable Business Practices were tasked with equipping Lane Transit District with a set of financial and business strategy tools to help the agency adapt to a changing mobility landscape and provide the community with a sustainable level of service for the long-term future.

Over the course of six months, the team created and presented to LTD leadership a financial projection model and a scenario planning workbook. The team also had the opportunity to test and implement these tools given real issues LTD faced at the time.

Armed with a financial baseline that models future transit tax revenues given past revenue growth and independent economic indicators, the team compared "business as usual" projections with shortfalls caused by the economic fallout of the COVID-19 pandemic in Lane County. The team projects a gap of up to $15 million in payroll and self-employment tax revenues through the end of fiscal year 2021.

Additionally, the team deployed its scenario planning tool to envision potential opportunities and challenges LTD might face given the outcomes of uncertainties the agencies is facing, including local and regional land use policy, and the extent to which society and individuals embrace the 'sharing economy' over ownership of assets.

The team found that while density and reduced ownership of assets (especially personal vehicles) are generally more conducive to the traditional fixed-route transit model, LTD has many opportunities to creatively deploy new services, partnerships, and technologies to thrive and serve the Lane County community in any scenario.

While these tools have been handed over to LTD leadership alongside presentations and documentation, this report explores insights and lessons learned from the process.

Major recommendations include:

1. LTD should diversify its revenue sources and/or assets in order to build a sustainable funding model.
2. LTD should embed long-term thinking into day-to-day operations, empowering team members from operators to the Board of Directors to think about complex issues, communicate uncertainties, and participate in the process.

Introduction

Students were tasked with creating a set of tools, resources, and recommendations for LTD oriented toward future-oriented financial planning and strategic decision-making. The project took place in three phases, described below.

1. First, the team engaged in an exploratory research and strategic assessment process in order to shape the strategy tools and scenario planning exercise.

2. Students created an Adaptive Financial Strategy module, which combines past financial statements, statistical methods, and user-generated growth assumptions to model potential revenues and expenditures over a ten-year period.

3. Students developed an interactive Scenario Planning workbook so that LTD leadership might integrate future-oriented strategy into the everyday planning process. The team also conducted a scenario planning case study and led the LTD Directors team in a scenario planning workshop in order to familiarize leadership with the process.

This report explores the process behind, and lessons learned, from the development and deployment of future-oriented strategy tools and makes strategic recommendations for LTD.

Body

BUSINESS STRATEGY

The goal of the exploratory research phase was to understand the business environment, including strategic opportunities and challenges facing LTD, in order to form the basis for the financial and scenario planning tools.

The team conducted a literature review, interviewed stakeholders, and consulted with industry experts, culminating in a list of factors impacting transit and mobility and best practices for coping with change and uncertainty.

Appendix A, Interim Report and Final Report, contains detailed results.

The framework below lays out how LTD's finances and strategy work hand-in-hand to support a sustainable level of transit service for the community. The team conducted a quantitative assessment of present and historical sources of LTD's funding and costs of doing business, while qualitative research revealed that LTD's long-term success is dependent on both the support of the community and other public agencies.

FIG. 1

Drivers of Long-term Success

Drivers of Long-term Success
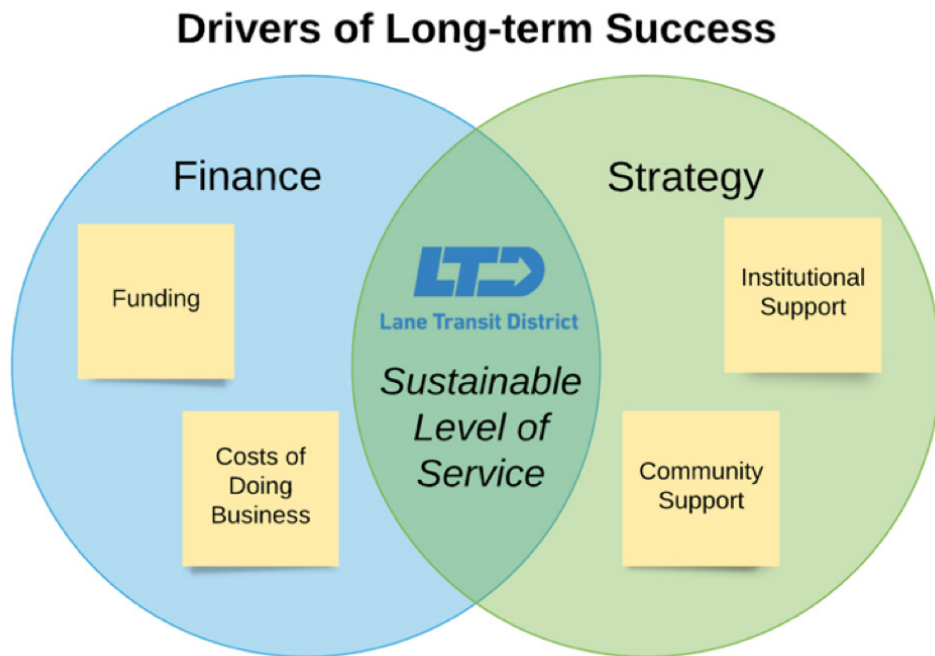
These drivers of success are intertwined and interdependent, while often creating competing priorities. A SWOT analysis helps to understand these competing priorities by mapping the strategic positioning of an organization or initiative by categorizing factors as either (1) internally or externally-driven and (2) helpful or harmful to the organization and its goals.

The following analysis illustrates the strengths, weaknesses, opportunities, and threats LTD likely faces in its pursuit of a sustainable level of service.

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**SWOT Analysis
LTD Future-Oriented Strategy**

Helpful   Harmful

<table>
<tr><td rowspan="2">Internal</td><td>

Strengths

- Long history and relationship with community members and stakeholders
- Natural resources, such as low-carbon electricity
- Land use policy, such as Oregon's urban growth boundaries and HB 2001, which mitigate sprawl

</td><td>

Weaknesses

- Perceived lack of willingness to take risks
- Reliance on payroll tax revenue, which correlates with local economic conditions
- Perceived lack of long-term, holistic vision for the transportation system

</td></tr>
</table>

Opportunities

- Commute patterns and norms are changing, as are perceptions of and stigmas about transit
- Momentum for transit investment and climate action at the city, regional, and state level
- New modes, propulsion, and mobility-related technologies (digital payments, data, etc.)

Threats

- Modes such as ride-hailing, micromobility, and car ownership will compete for ridership
- Shrinking revenue sources, such as federal funding for accessible services
- Shift toward remote work/education changes basic assumptions about travel patterns

External

FIG. 2

SWOT Analysis of LTD's Future -Oriented Strategy

FINANCE

Financial Strategy Module Creation

How can we make educated guesses about LTD's future revenues and expenditures? This is the question the team faced in creating a Financial Strategy module that paints a realistic picture of possible future budgets.

The team used a combination of statistical methods and user-generated growth assumptions based on the nature of each line item:

1. Statistical Methods
For line items that rely on independent, quantitative variables, and where past performance is a reliable predictor of growth, the team used a statistical method called regression analysis to project future values. The team found employer payroll tax revenue and passenger fares to be conducive for this method.

The regression model uses past revenues and independent, correlated variables to project future values. For payroll tax revenue, variables include local and state employment and wage statistics, which indicate the state of the local economy. For passenger fares, they include population growth and consumer spending trends. The charts below illustrate these trends and the user interface in the dashboard environment of the Financial Strategy Module.
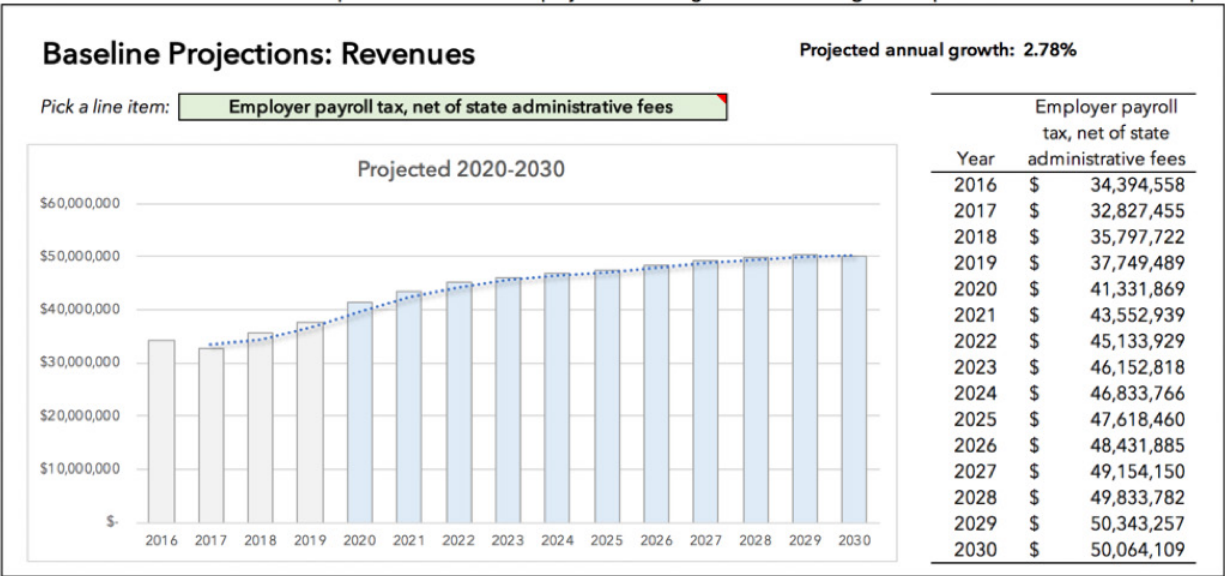
Baseline Projections: Revenues

Projected annual growth: 2.78%

Pick a line item: **Employer payroll tax, net of state administrative fees**

Projected 2020-2030

Year	Employer payroll tax, net of state administrative fees
2016	$ 34,394,558
2017	$ 32,827,455
2018	$ 35,797,722
2019	$ 37,749,489
2020	$ 41,331,869
2021	$ 43,552,939
2022	$ 45,133,929
2023	$ 46,152,818
2024	$ 46,833,766
2025	$ 47,618,460
2026	$ 48,431,885
2027	$ 49,154,150
2028	$ 49,833,782
2029	$ 50,343,257
2030	$ 50,064,109

FIG. 3
Baseline Projections: Revenues
Employer payroll tax, net of state administrative fees

Baseline Projections: Revenues

Projected annual growth: -2.74%

Pick a line item: **Passenger fares**

Projected 2020-2030

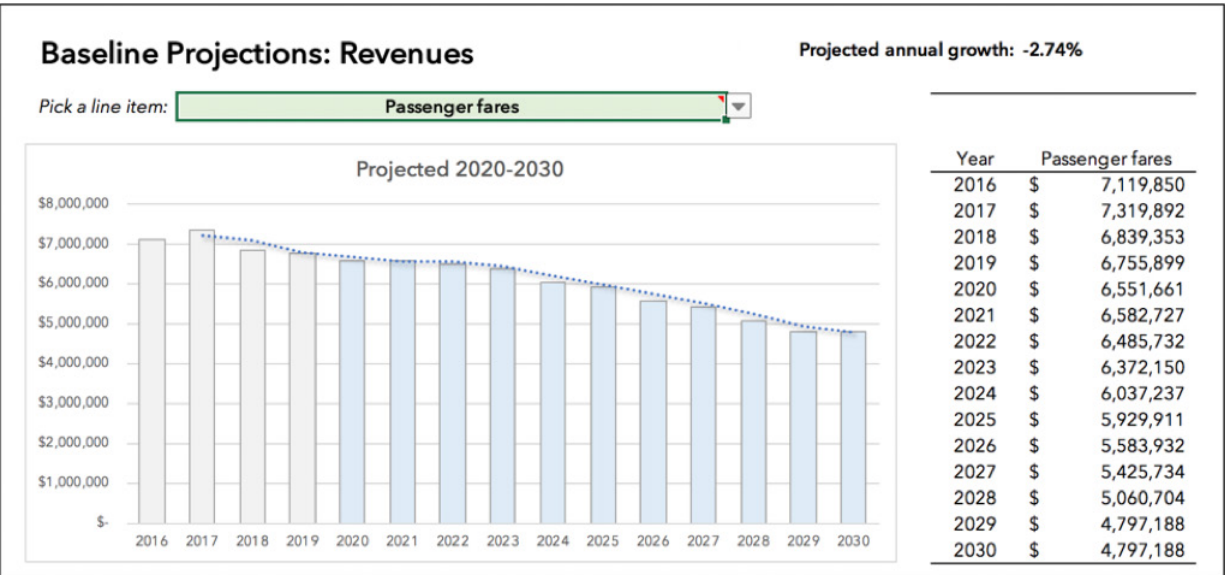| Year	Passenger fares
2016	$ 7,119,850
2017	$ 7,319,892
2018	$ 6,839,353
2019	$ 6,755,899
2020	$ 6,551,661
2021	$ 6,582,727
2022	$ 6,485,732
2023	$ 6,372,150
2024	$ 6,037,237
2025	$ 5,929,911
2026	$ 5,583,932
2027	$ 5,425,734
2028	$ 5,060,704
2029	$ 4,797,188
2030	$ 4,797,188

FIG. 4
Baseline Projections: Revenues
Passenger fares

Payroll taxes are expected to increase by nearly 3% each year and 45% by 2030, while passenger fare revenue is expected to decrease by nearly 3% each year and more than 30% over the next decade, consistent with nationwide transit ridership decline.

2. User-Generated Assumptions
For line items that did not correlate with independent, quantitative factors or for which past performance was not a clear indicator of future growth, the team built mechanisms into the module that allow LTD to apply appropriate assumptions based on industry trends and subject-matter expertise.

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The items below did not find statistically significant quantitative indicators for which to make accurate predictions about the future. For example, the level and sources of funding for accessible services (such as Medicare and Medicaid) require qualitative assessment of the political and policy environment at the local, state, and national levels.

	Constant Annual Growth		
	Change the annual growth rates for the line items listed below		
Line	Line Item	2019	Annual Growth
3	Accessible Services and Medicaid (Rev)	$ 16,244,867	1.5%
7	Materials and services	$ 10,992,465	2.0%
8	Insurance	$ 972,841	2.0%
9	Accessible Services and Medicaid (Exp)	$ 18,697,691	3.0%
10	Depreciation	$ 16,192,572	2.0%
15	Self-employment tax, net of state administrative fees	$ 1,932,829	4.5%
16	State payroll assessment	$ 439,545	6.7%

FIG. 5
Constant Annual Growth

The team recommends that LTD further investigate the underlying trends in these line items to determine and adjust annual growth assumptions over time.

Finally, for line items for which past performance is not indicative of future growth, the module allows users to change assumptions for each year during the analysis period. For example, personnel services expenses rely on wages negotiated through transit union (ATU) contracts, while grant revenue is based on the availability of grants at the state and federal level and LTD's capacity to apply and qualify for awards.

Financial Module Deployment: COVID-19

In light of the COVID-19 pandemic and related economic downturn, in March LTD asked the team to use its tool to model transit tax revenue impact for FY2020 and FY2021. This analysis lays out three potential recession scenarios and trajectories for recovery.

The team laid out three potential trajectories for unemployment in Lane County. By comparing the resulting payroll tax revenues under each scenario against values by the baseline module, the team was able to present the Board of Directors with a range of budget shortfalls the agency might face in the coming months. The team projected between $6-15 million in revenue shortfall by the end of fiscal year 2021, as displayed in the table below. See Appendix B for full scenarios and memo.

Projected Employee Payroll, Self-Employment, and State In-Lieu Tax Revenues Paid to LTD ($ in thousands)

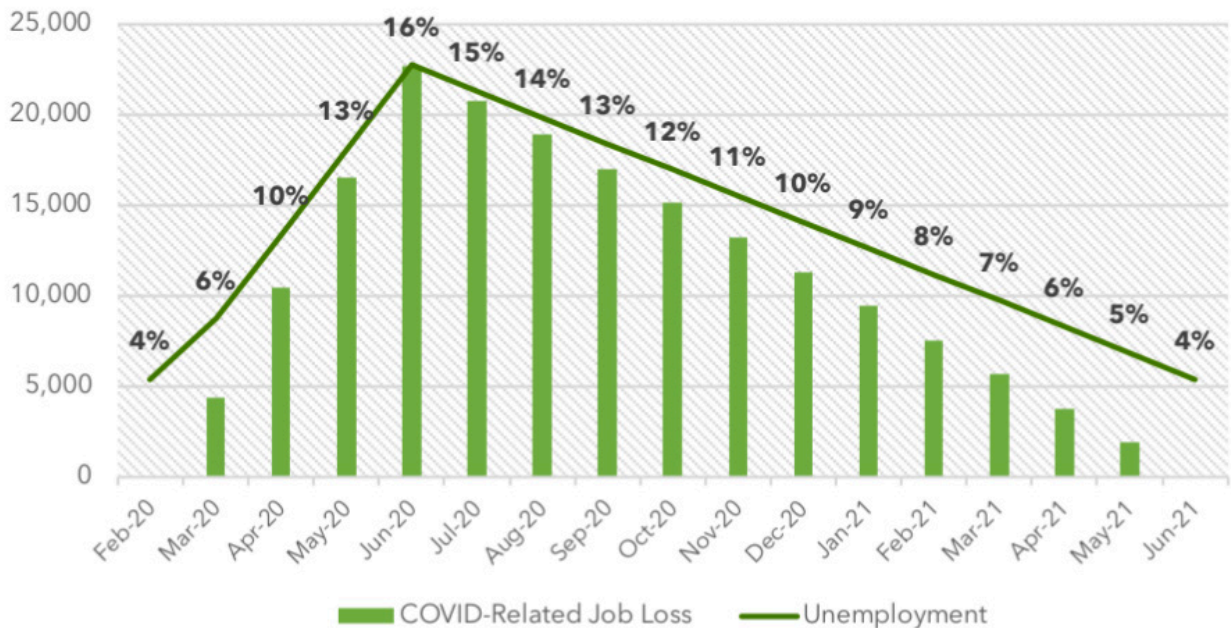**FIG. 6**
Scenario A: Unemployment by Month

Scenario A: V-Shaped Recovery

	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (1,800)	$ (4,100)
% Change	-4.2%	-9.1%

Scenario B: Unemployment by Month
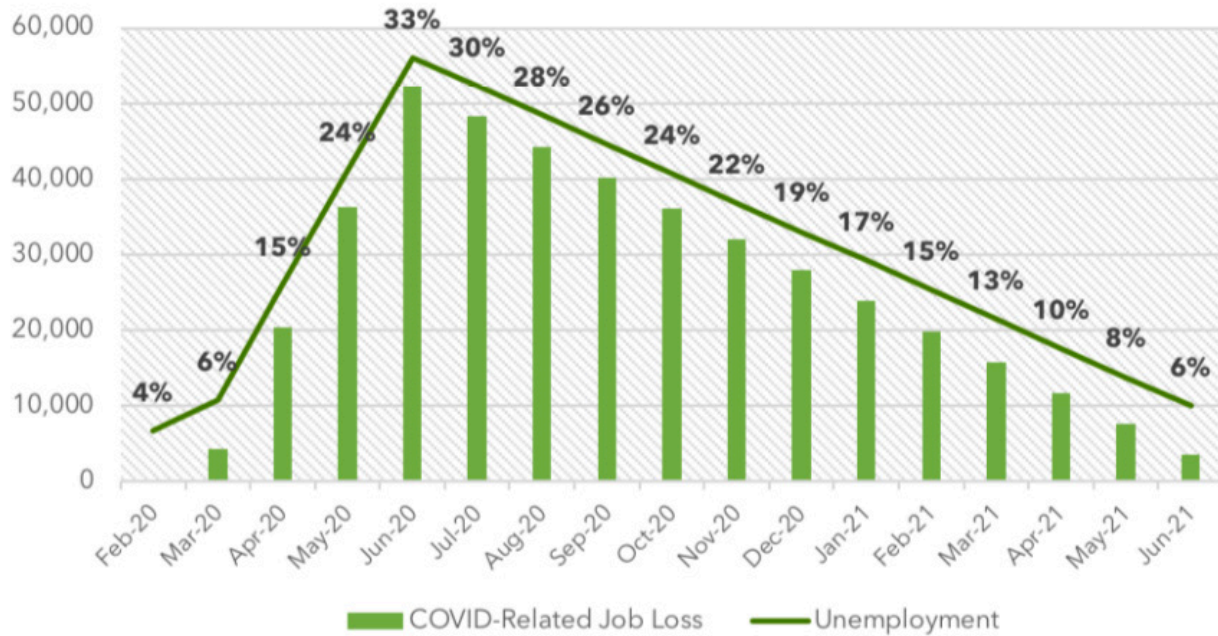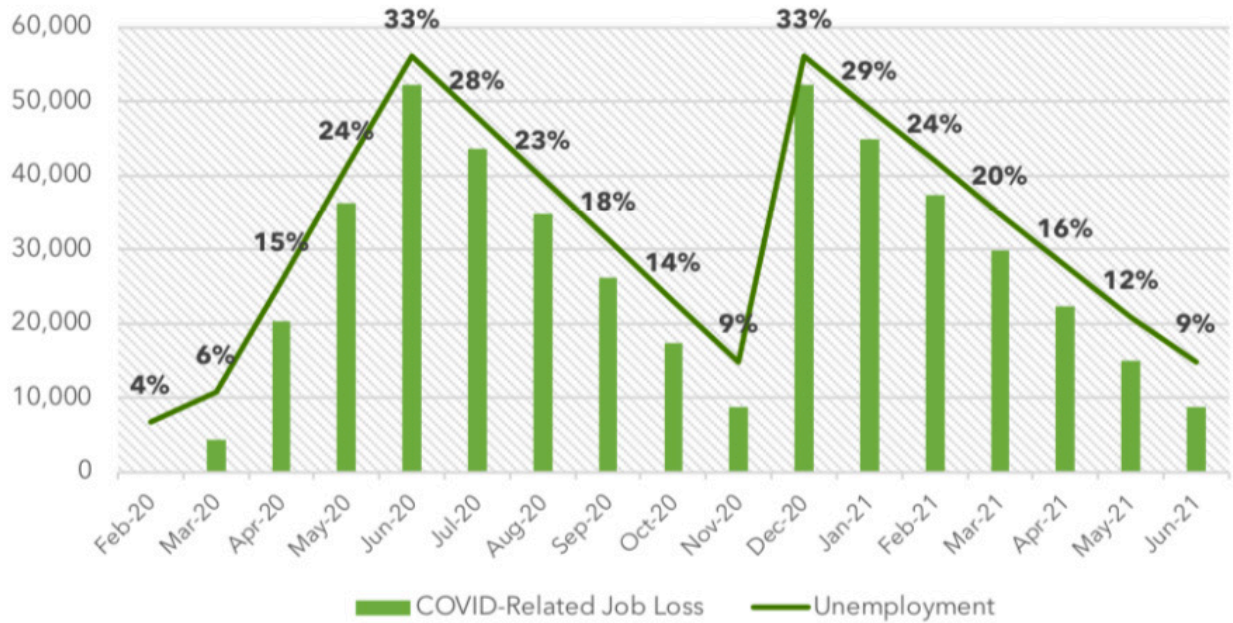
Scenario B: U-Shaped Recovery

	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (3,800)	$ (10,300)
% Change	-8.7%	-22.8%

FIG. 8
Scenario C: Unemployment by Month

Scenario C: Multiple Peak Recovery

	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (3,800)	$ (11,300)
% Change	-8.7%	-25.1%

This analysis was presented to the LTD Board of Directors on April 15th, 2020. Lane County's subsequent unemployment rate was 16% in April, 14.4% in May, and 11.2% in June – an annualized unemployment rate of 6.47% in Lane County. Scenario A's comparable FY2020 unemployment rate of 6.43% projects a $1.8 million shortfall in employer payroll tax revenue.

To understand how the downturn has affected different groups of taxpayers and what a recovery may look like, the table below illustrates the effects have had on various sectors. Layoffs have been especially devastating in food service and hospitality, but retail and healthcare workers have experienced prolonged unemployment at rates nearly as high. See Appendix C for detailed calculations.

| Lane County Nonfarm Wage and Salary Employment | | | | |
| Source: Bureau of Labor Statistics, Oregon Employment Dept. | | | | |
Sector	Pre-Pandemic Labor Force	Change in Employment	Share of Initial Claims	Share of Continued Claims
Mining and Logging	0.8%	0.0%	0.3%	0.2%
Construction	4%	-1.4%	7.2%	6.2%
Manufacturing	9%	-5.0%	8.3%	7.6%
Trade, Transportation, and Utilities	18%	-5.7%	19.4%	20.4%
Information	1%	-9.1%	1.1%	1.2%
Financial Activities	5%	-5.0%	2.0%	2.4%
Professional and Business Services	11%	-8.7%	9.0%	9.3%
Education and Health Services	18%	-4.3%	22.9%	19.9%
Leisure and Hospitality	10%	-38.6%	22.4%	26.2%
Other Services	3%	-14.8%	5.1%	5.5%
Government	19%	-12.5%	1.1%	1.1%
Total Nonfarm Employment	**100%**	**-10.5%**	**100.0%**	**100.0%**

FIG. 9

Lane County Nonfarm Wage and Salary Employment

Source: Bureau of Labor Statistics, Oregon Employment Dept.

These early unemployment statistics might indicate that Lane County is following Scenario A, which describes a best-case, or "v-shaped," recovery. The Congressional Budget Office (CBO) projects unemployment rates of 15.8% for Q3 and 11.5% for Q4 of 2020. Using Scenario A's annualized unemployment rate of 9.6%, LTD can expect $45.3 million in employer payroll tax revenues, a $4.1 million decrease from the team's baseline projections.

However, given new information about the spread of the virus, national response, and economic fallout, it has become clear that the recovery timeline for both the virus and economic fallout will be much more drawn-out than initially anticipated. Statewide projections estimate that given no additional interventions, new infections in Oregon will continue to rise through at least October of 2020. As experts say we are only in the first wave of infections, we can expect to see future spikes and chronic unemployment until a treatment or vaccine is widely available.

The CBO's 10-year projections below illustrate a much slower, "u-shaped" recovery than is described in Scenario A. Note that the annualized unemployment rate does not dip below the historical average of 5.7% until at least 2025. This is consistent with a study by the National Bureau of Economic Research estimates that 42% of current job losses will be permanent.

U.S. UNEMPLOYMENT BY FISCAL YEAR
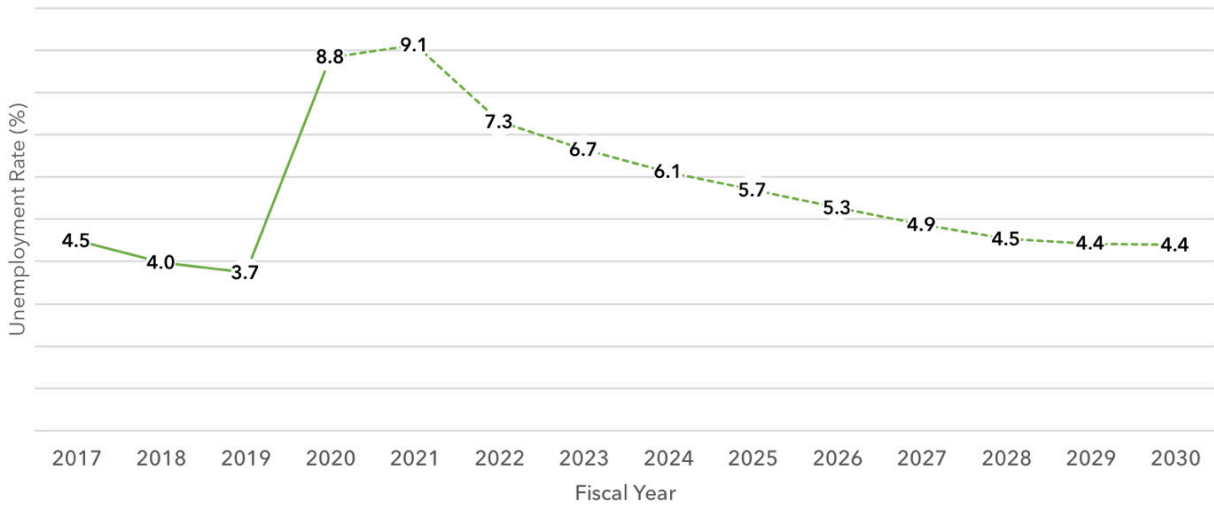Projected, 2020-2030
Source: Congressional Budget Office

FIG. 10

U.S. Unemployment by Fiscal Year
Projected, 2020-2030
Source: Congressional Budget Office

The team's financial module will update its projections through its regression analysis function as economic indicators and 2020-2021 tax revenues become available. Unfortunately, by that time, it will be too late to make major strategic shifts. In light of this new information, LTD should likely temper its expectations for a payroll tax revenue recovery and either modify spending or identify alternate revenue sources.

STRATEGIC PLANNING
Scenario Planning Workbook Creation

In order to make scenario planning more accessible for LTD to implement on a regular basis, the team designed an interactive workbook. This pre-built template saves time and provides detailed guidance for the scenario planning process.

While the workbook follows scenario planning methodology laid out by and scenario planning practitioners and organizations like the Global Business Network, the MBA team added several business strategy tools, which add structure and streamline the process. For example, "The Five Whys," developed at the Toyota Motor Corporation, help to refine a focal question by getting to the root cause of the issue at hand.

The example below shows how a small shift in language from "providing transit service" to "meeting mobility needs" indicates a larger, strategic shift in focus from how LTD moves people to why LTD moves people. Meeting the community's mobility needs means access to jobs, education, services, and recreation, supporting prosperity and quality of life in Lane County.

Refining	
Refine your scoping into a focal question or statement using the guidance above. Here, we apply a business strategy tool called "The Five Whys."	
Focal Issue	How to provide a sustainable level of transit service in Lane County
Why?	Transit is an essential service for the community -- who relies on us
Why?	Transit is a cost-efficient, equitable, and low-carbon way to make cities more livable
Why?	Mobility provides access to jobs, education, services, and recreation -- which improves lives
Why?	Meeting mobility needs means prosperity for the city
Why?	
Focal question	How might LTD meet the community's mobility needs in 2040?

FIG. 11
Refining

Scenario Planning Case Study and Workshop

The team deployed the scenario planning workbook in order to demonstrate the process to LTD leadership – the first scenario exercise conducted at LTD in a decade. See Appendix A – Scenario Planning Case Study for the team's detailed scenario planning results.

After an exploratory process, the team identified two critical uncertainties that pose particular threats and opportunities to LTD's future-oriented strategy – land use, and the sharing economy. While these factors are external and uncertain, they are by no means predetermined. LTD can orient itself toward supporting its desired outcomes in the following ways:

1. Land Use
Referring broadly to policy and zoning decisions made at the local, regional, and state level, land use determines local urban form and where Lane County residents can live, work, and recreate.

Adaptive strategy: LTD can use its institutional relationships and platform as a community leader to advocate for responsible and equitable land use policies, which support a multimodal transportation system.

Walkable, mixed-use neighborhoods with access to services and green spaces and multimodal street infrastructure promote general wellbeing and transit use in the community.

2. The Sharing Economy
The sharing economy is based on access to, rather than ownership of, goods and services, which might include ride hailing, real estate, financial services, retail, employment. The sharing economy presents a multitude of opportunities to disrupt mobility, particularly personal vehicle ownership, as displayed in the graphic that follows.

The 'sharing economy' offers many viable alternatives to the personally owned vehicle, depending on trip purpose and distance (Source: CB Insights).

DISRUPTING THE CAR
Alternatives to car ownership by trip length
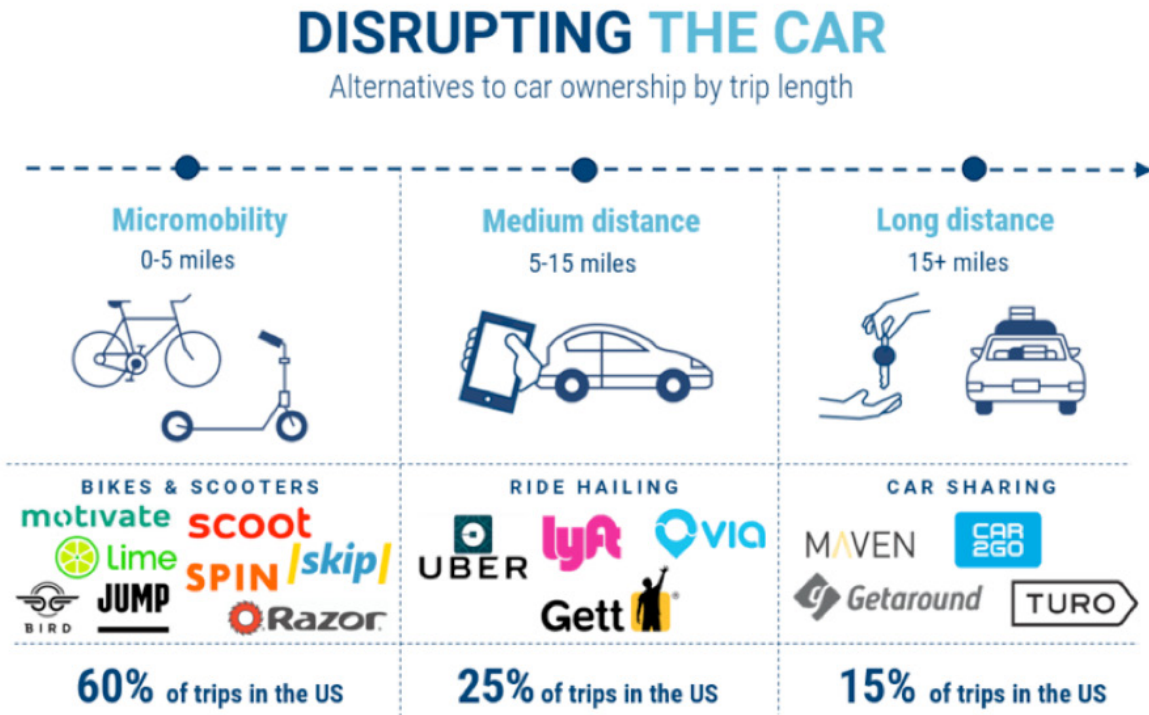
Source: NHTS

CBINSIGHTS

FIG. 12
Disrupting the Car
Alternatives to car ownership by trip length

Adaptive Strategy: Transit's support of and participation in the sharing economy can also promote a multimodal transportation future while preventing ridership decline. Ensuring that a robust suite of transportation options that provide alternatives to the car is available for different audiences and trips can promote, rather than compete with, transit ridership.

The team identified many ways in which transit agencies might look to the sharing economy for additional revenue streams while meeting the community's mobility needs, including:

- Last-mile delivery of goods for commercial, industrial, or personal use
- Management of autonomous and connected vehicles
- Trip and route planning, such as Mobility as a Service (MaaS)
- Payment brokering to allow multimodal solutions, such as mobility wallets
- Connections between modes and services at stations (ex: IndyGo mobility hubs)
- Direct deployment of bikeshare (ex: Capital Metro Bikeshare, Austin, TX)
- Mobility Hubs connect transit with a suite of mobility connections (Source: IndyGO)

Conclusion

Over the course of six months, the team developed several tools that LTD can deploy in order to inform long-term decision-making.

We recommend that the agency keep the following in mind:

1. Invest in innovation, diversify technology and mobility assets, and seek additional revenue streams. LTD can use the financial module to identify future gaps in funding and simulate the impacts of strategic shifts, while using the scenario planning workbook to foster innovative thinking and expand the view of what is possible.

2. Embed long-term, big-picture thinking throughout the agency. Involving a broader swath of decisionmakers in future-oriented strategy sessions -- from the finance department, to IT, to operations, to marketing -- fosters creative problem-solving on an agency-wide strategy level. This process also embeds strategic thinking about the impacts that each individual's day-to-day decisions have on the organization as a whole.

In light of the monumental challenges posed by the COVID-19 crisis, LTD could also use the tools provided in this analysis to push the limits of imagination among the staff and board of directors as it plans its recovery. Ultimately, the goal of these tools is to deliver a sustainable level of service in the face of a changing mobility landscape.

References

The National Transit Database (NTD). FTA. https://www.transit.dot.gov/ntd. Accessed Jul. 10 1, 2020.

https://hbr.org/2012/02/the-5-whys.html

U.S. Bureau of Labor Statistics, Unemployment Rate in Lane County, OR [ORLANE9URN], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/ORLANE9URN, July 26, 2020.

https://www.austinmonitor.com/stories/2020/05/capital-metro-proposes-incorporating-austin-b-cycle-as-extension-of-public-transit-network/

Appendix A

<u>**Links to relevant documents**</u>

OMBA Scope of Work
https://docs.google.com/document/d/1NkFlGLPXh7mszRe7mm
MQ7iS6xGUc8la4wXwhpTU0aF4/edit

OMBA Interim Report
https://docs.google.com/document/d/1mvDUPo6GJUGCWO8P
wddpf8xoheucBUwPke1mJICzdhw/edit

Finance Baseline Module
https://drive.google.com/file/d/1kkQxawlOZV8tEm-
Aexpf3OVIM5TKPhe3/view

Scenario Planning Workbook
https://docs.google.com/spreadsheets/d/1-QLjBbrKqeqwSqQ1t
4FD7yesCqabdjnxlysyDFZq7Lc/edit?usp=sharing

Scenario Planning Case Study
https://drive.google.com/file/d/1XriQxuHCNS8VbtEUrUCeuc0ht
EFZNsWB/view?usp=sharing

Final Report
https://docs.google.com/document/d/1EeFHn9K9AChs25sYA-
iCpGHbr6uR9Kv-fHudnppeIHw/edit?usp=sharing

Appendix B

Memo - COVID-19 & Estimated Tax
Revenue Impacts for LTD

MEMO

To: Board of Directors, Lane Transit District
From: Ashton Roberts, Jason Foldi, Rachel Cohen, Ema Alspaugh
Subject: OMBA/SCYP COVID-19 & Estimated Tax Revenue Impacts for LTD
Date: April 15, 2020

Introduction

A team of MBAs from the UO Center for Sustainable Business Practices is developing an LTD tax revenue regression model for long-term financial planning purposes. In light of the COVID-19 pandemic and related economic downturn, the agency has asked the team to model transit tax revenue impact for FY2020 and FY2021. This analysis lays out three potential recession scenarios and trajectories for recovery.

SUMMARY: TAX REVENUE IMPACT SCENARIOS

LTD stands to lose $6-15 million in tax revenues through FY21 due to coronavirus-related layoffs in Lane County. While forecasted tax revenues take into account previous economic cycles, this analysis does not model the impacts of potential stimulus measures currently under consideration.

Employee Payroll, Self-Employment, and State In-Lieu Tax Revenues Paid to LTD (numbers in thousands)

Scenario A: V-Shaped Recovery	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (1,800)	$ (4,100)
% Change	-4.2%	-9.1%

Scenario B: U-Shaped Recovery	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (3,800)	$ (10,300)
% Change	-8.7%	-22.8%

Scenario C: Multiple Peak Recovery	FY20	FY21
Forecasted Revenue	$43,000	$45,300
Projected Decrease	$ (3,800)	$ (11,300)
% Change	-8.7%	-25.1%

Scenario A: V-Shaped Recovery

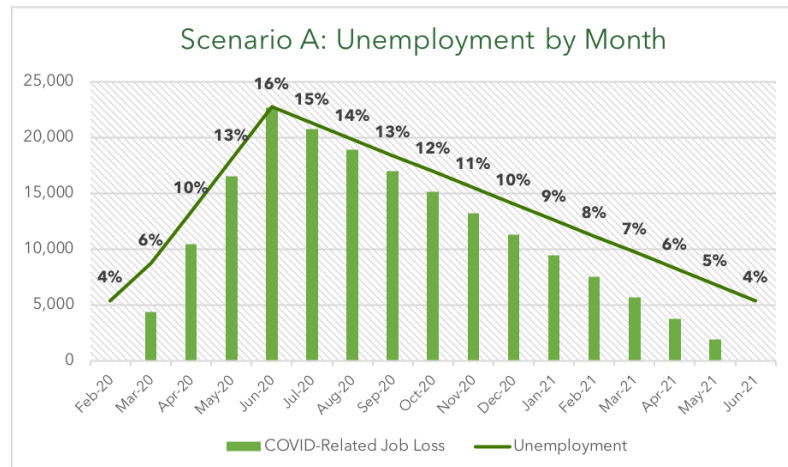### ESTIMATED TAX REVENUE LOSSES
- FY 2020: $1.9 million
- FY 2021: $4.1 million

KEY METRICS
- Peak Unemployment: 16% [11]
- Statewide Infections: 18,000 by May 18 [2]
- Lane County GDP Impact: -0.2% [13]

Scenario A: Unemployment by Month

Distancing measures paired with additional policy mandates slow the spread of the virus in Oregon, sparing Lane County from its worst effects. After a late April peak, coronavirus cases in Oregon begin to fall. Governor Brown begins to ease "Stay Home, Save Lives" orders in the summer. At the local, state, and federal level, officials work together to mitigate business, wage, and job losses with swift fulfillment of unemployment benefits, loans to small businesses, and other economic stimulus measures.

Strong leadership and collaboration among Oregon's businesses and institutions show a high level of resilience and flexibility, sparing the state from long-term productivity losses. Up to a third of Eugene's workforce which is

able to work from home does not experience widespread layoffs or pay cuts. *After a temporary shock, the economy sees a linear recovery, approaching business as usual by the end of FY21.*

Scenario B: U-Shape Recovery

ESTIMATED TAX REVENUE LOSSES
- FY 2020: $3.8 million
- FY 2021: $10.3 million

KEY METRICS
- Peak Unemployment: 33% [6]
- Statewide Infections: 40,000 by May 18 [2]
- Lane County GDP Impact: -1.1% [13]

Scenario B: Unemployment by Month

Governor Brown's executive order with moderately high adherence slow the spread of the virus in Lane County by 50-70%. The executive order causes a 3-4 month surge in layoffs and furloughs, and a significant reduction in income for essential employees with reduced hours. Current and future stimulus measures are enough to keep the economy afloat, narrowly avoiding a crisis. However, LTD is spared from tax losses only through stimulus funds passed through businesses.

As the curve flattens, Governor Brown lifts distancing measures in the first quarter of the FY21. A phased approach with some limitations on gatherings may be necessary to protect vulnerable populations, and the ability to reinstate over the following months if there is a resurgence of infections. *After an unprecedented quarter-long plummet in jobs, stock markets, and GDP growth, we can expect to see a gradual recovery.*

## Scenario C: Multiple Peak Recovery

ESTIMATED TAX REVENUE LOSSES
- FY 2020: $3.8 million
- FY 2021: $11.3 million

KEY METRICS
- Peak Unemployment: 33% [6]
- Statewide Infections: 65,000 by May 18 [2]
- Lane County GDP Impact: -4.25% [13]

Scenario C: Unemployment by Month

Despite the state's "Stay Home, Save Lives" measures, community spread continues. After a temporary summer slowdown, infections spike once again as temperatures drop. Governor Brown extends distancing measures indefinitely, ramping up restrictions on daily life, business, and travel, introducing curfews and enforcement measures. The wait for a vaccine continues.

Up to 24% workers who experience symptoms do not receive sick leave benefits, many of whom will lose wages to illness or caregiving before the end of FY2020 [13]. As many who are able to work from home begin to fall ill, so-called "low risk" businesses become disrupted. Productivity drops sharply across all industries, layoffs accelerate, and long-term hiring freezes abound. *The compounding effects of illness, quarantine, and market disruption spiral the economy from recession into depression, requiring years of economic recovery.*
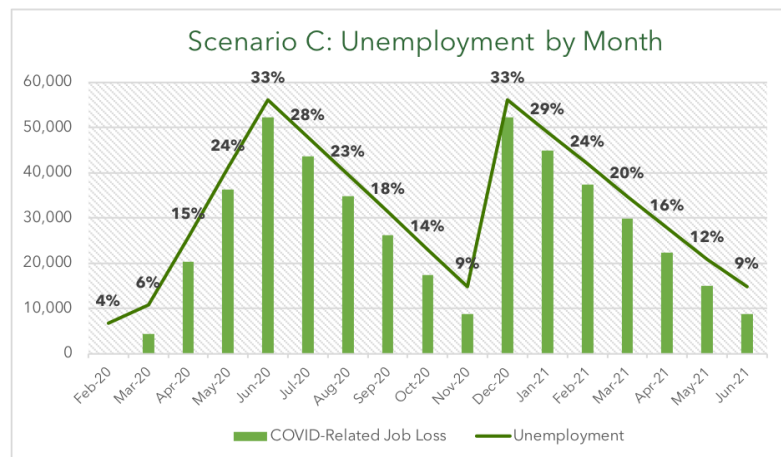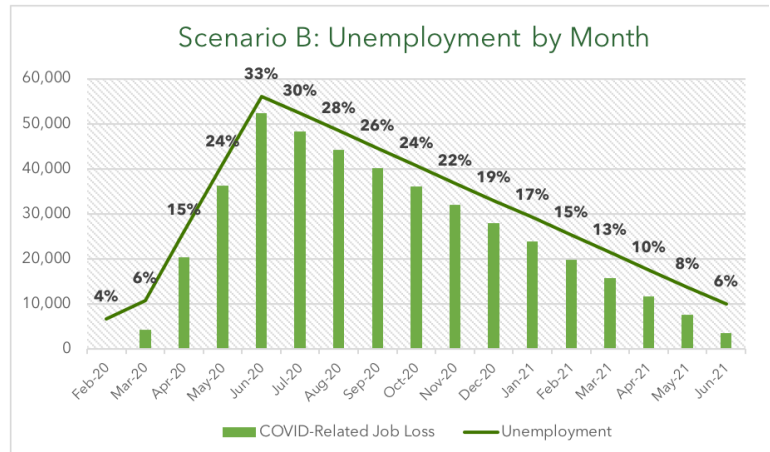
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Appendix C

<u>Unemployment by Sector, Lane</u>
<u>County, January-June 2020</u>

| **Lane County Nonfarm Wage and Salary Employment** | | | | | | | |
	Average employment, Jan-March 2020	Share of employment, Jan-March 2020	Average Employment, Apr-Jun 2020)	Change in Employment	Initial Claims*, Apr-Jun 2020	Share of Initial Claims	Average Continued Claims**, Apr-Jun 2020	Share of Continued Claims
Mining and Logging	800	0%	800	0.0%	91	0.3%	24	0.2%
Construction	7,333	4%	7,233	-1.4%	2,607	7.2%	979	6.2%
Manufacturing	14,100	9%	13,400	-5.0%	3,010	8.3%	1,195	7.6%
Trade, Transportation, and Utilities	29,900	18%	28,200	-5.7%	7,023	19.4%	3,204	20.4%
Information	2,200	1%	2,000	-9.1%	392	1.1%	193	1.2%
Financial Activities	8,033	5%	7,633	-5.0%	712	2.0%	378	2.4%
Professional and Business Services	18,300	11%	16,700	-8.7%	3,247	9.0%	1,467	9.3%
Education and Health Services	29,667	18%	28,400	-4.3%	8,283	22.9%	3,120	19.9%
Leisure and Hospitality	17,167	10%	10,533	-38.6%	8,128	22.4%	4,110	26.2%
Other Services	5,400	3%	4,600	-14.8%	1,862	5.1%	857	5.5%
Government	31,400	19%	27,467	-12.5%	408	1.1%	174	1.1%
Total Nonfarm	**164,300**	**100%**	**146,967**	**-10.5%**	**36,248**	**100.0%**	**15,701**	**100.0%**

Sources:

Bureau of Labor Statistics

Oregon Employment Department

*Initial claims are calculated on a weekly basis

**Continued claims are calculated on a monthly basis

SCI Directors and Staff

Marc Schlossberg	SCI Co-Director, and Professor of Planning, Public Policy, and Management, University of Oregon
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