

SURVIVING, THRIVING OR RADICAL REVISIONING

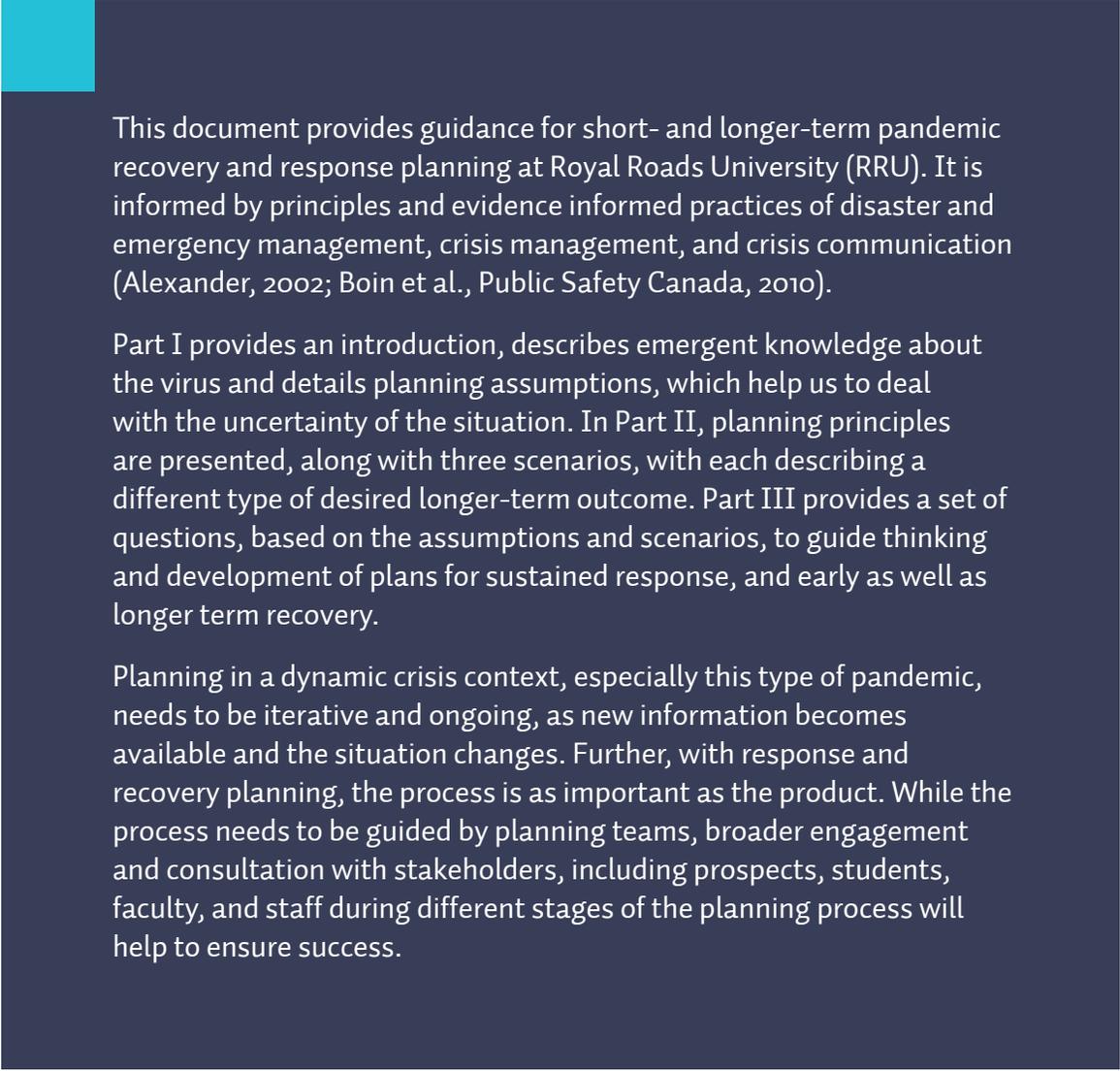
SCENARIOS AND
CONSIDERATIONS FOR
PANDEMIC RECOVERY AND
RESPONSE PLANNING



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Royal Roads
UNIVERSITY



This document provides guidance for short- and longer-term pandemic recovery and response planning at Royal Roads University (RRU). It is informed by principles and evidence informed practices of disaster and emergency management, crisis management, and crisis communication (Alexander, 2002; Boin et al., Public Safety Canada, 2010).

Part I provides an introduction, describes emergent knowledge about the virus and details planning assumptions, which help us to deal with the uncertainty of the situation. In Part II, planning principles are presented, along with three scenarios, with each describing a different type of desired longer-term outcome. Part III provides a set of questions, based on the assumptions and scenarios, to guide thinking and development of plans for sustained response, and early as well as longer term recovery.

Planning in a dynamic crisis context, especially this type of pandemic, needs to be iterative and ongoing, as new information becomes available and the situation changes. Further, with response and recovery planning, the process is as important as the product. While the process needs to be guided by planning teams, broader engagement and consultation with stakeholders, including prospects, students, faculty, and staff during different stages of the planning process will help to ensure success.

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PART I
**INTRODUCTION
AND
ASSUMPTIONS**

INTRODUCTION

Based on our examination of the COVID-19 pandemic and its direct, indirect, and ripple effects we believe that:

1. This current process should be framed as planning, not just for *early and longer-term recovery*, but also for *sustained response* given the sustained duration and anticipated multiple waves of the pandemic (World Health Organization, 2017). The pandemic's cascading effects on society are unfolding and will likely continue to unfold, and the disruption is certain to be severe enough that Royal Roads University must consider longer-term outcomes in its current planning work.
2. The pandemic needs to be viewed as an unprecedented *tipping event* (Homer-Dixon, 2020). Planning for a return to the previous normal, or *status quo ante*, is unrealistic and is not supported by current information.
3. Planning for a sustained response must incorporate recognition that *other abrupt tipping events will happen in the not-distant future*. It should therefore include consideration of the social, economic and ecological context in which COVID-19 has emerged (related to, for instance, the predicted increase in incidence of novel and emerging viruses similar to the SARS-CoV-2 virus causing COVID-19, are spread from animals to humans) and of other existing and emergent crises, including tipping events likely to arise from global warming and climate change (Lenton, 2020).
4. *Key questions need to be addressed and actions taken immediately* in order to support a sustainable present while we plan for an ongoing, sustained response and future recovery.

The process is as important as the product.

Based on our understanding of the context, we offer three possible outcome-based scenarios to guide planning work in the pandemic context: (1) return to normal, (2) survive and thrive, and (3) radical revisioning. While all three are possible outcomes, we only recommend consideration of scenarios 2 and 3. We feel that there is considerable risk with the first scenario, but nonetheless offer it as an option.

EMERGING KNOWLEDGE AND ASSUMPTIONS

We are learning about the COVID-19 (SARS-CoV-2) virus in real time and knowledge about the virus and the impacts of the virus will continue to emerge over the next 18–24 months. Plans and the scenarios and assumptions on which they are based should be responsive and adaptive to changes in our understanding, to real-world changes in public health guidelines, government investments, and to the unfolding nature of the crisis.

A crisis has three defining features: a threat, a situation of uncertainty, and an urgent need to act (Boin et al., 2016). In situations of uncertainty where information is lacking, the use of assumptions can help to facilitate decision making (Lipshitz & Strauss, 1997). By making assumptions explicit, we help to create a shared understanding of the decision-making context in which we are operating.

We begin by offering a summary of the best knowledge currently available (at the time of writing - July 2020) about the virus and the disease it causes, followed by a list of assumptions as a place to

start. As new information about the virus, its effects, treatment options, the efficacy of non-pharmaceutical interventions (e.g., social distancing, wearing a face-covering), and social responses/compliance with public health guidance becomes available assumptions may be confirmed, changed, or retracted.

A crisis has three defining features: a threat, a situation of uncertainty, and an urgent need to act.

NATURE OF THE VIRUS, ITS HEALTH IMPACTS, PREVENTION AND/OR TREATMENT, AND THE PANDEMIC TRAJECTORY

The scientific understanding of the nature of the virus (SARS-CoV-2) and the disease it causes (COVID-19) is rapidly evolving, but the following bullet points summarize what we currently know or can assume (see CIDRAP, April 30, 2020; and the table in the Appendix).

NATURE OF THE VIRUS AND ITS SPREAD:

1. SARS-CoV-2 and COVID-19 should not be perceived through the frame of lived experience with respiratory epidemics, such as recent seasonal influenza outbreaks (CIDRAP, April 30, 2020); the virus and disease are novel and scientists and societies will thus continue to learn in real time about the virus, the way it spreads, and the way it affects people.
2. SARS-CoV-2 is on balance a much more dangerous virus than the pandemic influenza viruses of 1918-19, 1957, 1968, and 2009-10. Because of its longer incubation period, higher asymptomatic fraction, and greater pre-symptomatic shedding (see table in appendix), its overall transmissibility is substantially higher (CIDRAP, April 30, 2020).
3. At least 25 percent, and perhaps as much as 50 percent of all infections may be asymptomatic, which means we will likely not know exactly who is infectious (Nishiura et al., 2020; Oran and Topol, 2020).

4. Droplet transmission in enclosed spaces should be assumed and current guidance and physical distancing of at least 2 metres is recommended (BCCDC, n.d.; Chu et al., 2020). Physical distancing may need to be adapted depending on location (e.g., car, plane, building; Jayaweera et al., 2020).
 5. Evidence is growing of aerosol transmission (tiny particles that remain suspended in the air) in confined spaces (Jayaweera et al., 2020; Lewis, 2020; Santarpià et al., 2020).
 6. Contact intensity and number of contacts both contribute to the spread of the virus (Government of BC, BC Restart Plan, June 24, 2020).
 7. There are specific populations and subpopulations that are more vulnerable because of pre-existing health conditions AND social vulnerabilities that increase risk (e.g., variations in geography, housing, and psychological, social, and economic assets; Myers, 2020; O’Sullivan & Phillips, 2019).
2. The infection fatality rate of COVID-19 (currently estimated at between 0.3 and 1 percent) is three to ten times higher than seasonal influenza, and its severe complications, among those who become seriously ill, are more frequent and broadly systemic (CIDRAP, April 30, 2020).
 3. A relatively high percentage of hospitalized patients, including some young patients, experience a cytokine storm, which is an out of control inflammatory reaction (Ragab et al., 2020). Damage to blood vessels causes clots that precipitate strokes, sometimes in relatively young adults who have otherwise shown no symptoms of the disease.

NATURE OF COVID-19 DISEASE*:

1. COVID-19 has been misunderstood as solely a respiratory infection. It is best categorized as a systemic inflammatory illness that can attack multiple organs, including the lungs, heart, kidneys, liver, gastro-intestinal system, and especially the endothelial cells that line blood vessels (Zaim et al., 2020).

* For more information on frequently asked questions about COVID-19 see Kishor & Grover, 2020 medical.advancedresearchpublications.com/index.php/EpidemInternational/article/view/277

GENERAL ASSUMPTIONS



COVID-19 IS A
TIPPING EVENT.



WE NEED
SUSTAINED
RESPONSE.



MORE TIPPING
EVENTS TO COME.



WE MUST
ADDRESS KEY
QUESTIONS AND
ACTIONS
IMMEDIATELY.

PREVENTION/TREATMENT:

- 8.** The development of an effective vaccine and/or treatment is not assured (Bridle & Sharif, 2020). Long-term immunity with a vaccine is not certain. Little is currently known about the human immunological response to the virus (Long et al. 2020; Osterholm, 2020).
- 9.** Of past pandemics in the last century, only one (2009-10 influenza) was managed by a vaccine, however sufficient quantities of the vaccine were not available until after the peak of infections (CIDRAP, April 30, 2020).
- 10.** Knowledge regarding the effectiveness of social distancing measures pre-COVID is still somewhat limited (Fong et al., 2020; National Academies of Sciences, Engineering, and Medicine 2020, March 19, 2020; Rashid et al., 2015). Current prevention measures are being developed through learning in real time.

PANDEMIC TRAJECTORY:

- 1.** The level of certainty about the virus and effectiveness of prevention and mitigation efforts will increase over time.
- 2.** The current outbreak will likely last a minimum of 18 to 24 months, or until 60-80% of the population is infected or immunized (CIDRAP, April 30, 2020).
- 3.** The pandemic may become endemic, staying with us forever (WHO, May 13, 2020; Heymann, 2020).
- 4.** Cases will likely appear in waves with hot spots at different times in different places and in different sectors (Kissler et al., 2020).
- 5.** The duration of natural immunity to Sars-CoV-2 is not yet known (Long et al. 2020; CIDRAP, April 30, 2020).
- 6.** COVID-19 may return on a seasonal basis after the pandemic wanes, requiring ongoing management of the virus (Kissler et al., 2020).
- 7.** Other novel viruses (including zoonotic viruses, i.e., animal to human transmission) are predicted to emerge in the coming years.

PLANNING ASSUMPTIONS

1

WE ARE IN NEW TERRITORY

The advent of the pandemic has been a tipping event. It has caused a fundamental and irreversible system shift in Canadian society and human civilization more generally. Neither will return to the *status quo ante*. Further, the novel nature of the virus creates a demand for learning in real time.

2

THE EFFECTS OF THE VIRUS AND PUBLIC HEALTH MEASURES ARE COMPLEX, WIDESPREAD, AND WILL EXTEND FOR AT LEAST 18 TO 24 MONTHS

Until 60-80% of the population have been infected by the virus or immunized by a vaccine, “life as we have known it for the past decades will not resume” (Potvin, 2020). The effects of the pandemic will affect social, behavioral, economic, and political systems in complex and intersecting ways. These effects, in turn, will have an impact on the post-secondary sector and on RRU.

a. Social and behavioural effects:

- i. Mitigation (i.e., reducing the risks of transmission) measures will likely continue in some form for 1 to 2 years.
- ii. Congregation of people will continue to be limited to smaller groups (e.g., 50) for a sustained period (18 to 24 months), with greater limitations on the size of indoor groups.

- iii. Based on BC Government modelling, acceptable contact rates for the next 18 to 24 months will continue to be 60 percent of pre-pandemic level; if COVID-19 infections spike, this contact rate could be abruptly reduced.
- iv. Anyone with *any form* of respiratory symptoms (even mild, in the form of allergies) will be asked to refrain from going to work or school.
- v. Social distancing practices will continue to differ by jurisdiction (e.g., province, country) and over time will change.
- vi. The characteristics of the SARS-CoV-2 virus and COVID-19 disease will continue to create conditions of *chronic fear and insecurity* in populations where the virus circulates. This fear will significantly lower demand for any goods or services that require (for their consumption) social proximity, interaction, or congregation (especially indoors) – even if governments remove all pandemic-related restrictions on the consumption of those services (Goolsbee and Syverson, 2020).

b. Economic and social effects:

- i. The economic effects will be challenging and sustained. As long as SARS-CoV-2 remains in circulation, demand for goods and services such as airline seats, sit-down service in restaurants and pubs, movie tickets, music concerts, theater shows, in-class college and university education, academic and business conferences, and personal care services (physiotherapy, massage, hair care and the like) will remain depressed, perhaps sharply depressed.

- ii. Many economic and social changes will endure after the pandemic wanes.
- iii. Domestic and international travel restrictions during the pandemic will likely continue for the foreseeable future; consumers will remain wary of inability to isolate on planes and in airports and of the need to self-isolate for 14 days when moving to a new geographical location.
- iv. Extensive loss of employment and livelihoods is and will continue to affect society, as well as educational needs and choices.
- v. Governments will come under increasing political pressure to cut spending and reign in debt.

c. Systemic effects

- i. Effects in one system will interact with effects in other systems to compound those effects and the complexity of response.
- ii. COVID-19 occurs in the context of other ongoing disaster risks (e.g. wildfires, floods, other viral outbreaks) and unanticipated disasters that compound the complexity of the impacts and the response and recovery planning.

Many economic and social changes will endure after the pandemic wanes.

d. Post-secondary education effects (see ppforum.ca/policy-speaking/a-policymakers-recovery-agenda-for-higher-education for a recent discussion of a recovery agenda for higher education):

- i. Federal, provincial, and municipal government tax revenues have declined sharply and will continue to be severely reduced for the foreseeable future, which will impact funding streams for post-secondary institutions.
- ii. Governments may recognize the value of post-secondary institutions for counter-cyclical fiscal policy (a strategy to counter boom or recession through fiscal measures) and for upgrading human capital.
- iii. High unemployment and economic insecurity will sharply lower education consumers' ability to pay tuition.
- iv. Post-secondary institutions will need to adjust in-class, laboratory, extracurricular, and residential activities to accommodate testing for the virus and social distancing.
- v. The high cost of hybrid/flexible learning, where students choose whether they wish to learn online or in a classroom setting means supporting two models concurrently, with continued expenses on the "bricks-and-mortar" side of the ledger.
- vi. The effects of enrollments in PSI's may increase or decrease depending on a range of factors that include the downturn in the economy, higher unemployment and employment uncertainty, and level of government investment/support for helping individuals adjust to the changing labour market.

3

IN THE NEXT 18-24 MONTHS, THE WORK AND PROGRAMMING OF RRU WILL NOT BE ABLE TO CONTINUE AS WE HAVE KNOWN THEM

In the short term, RRU has made the decision to stay fully online until January 2021. We should assume blended and face-to-face learning may not be possible for 18–24 months, or if permitted, it will require a different form. This may in turn require additional resources, and may require a continual process of adaption to changes in the trajectory of the disease and public health measures which may include further cycles of shut-downs or phased limitations on what is open and in what ways things are open. In this context planning assumptions are as follows:

a. Physical space

- i. Social distancing measures will likely continue to limit the size, configuration, and duration of face-to-face gatherings for the next two years.
- ii. Partial return to campus will require reconfigurations of existing spaces to accommodate social distancing for staff, faculty and students, and the potential for changes in public health guidelines that will likely occur in response to cycles of infection.

b. Attendance on campus

- i. On campus programming will incur additional costs because of changes to comply with government pandemic prevention guidance.
- ii. Some students, faculty, and staff who are vulnerable to the threat of the virus will not be comfortable/able to risk being on campus for the next 18–24 months.

- iii. Other students, faculty, and staff, although not in a vulnerable category, may continue to be uncomfortable taking the risk of working on/coming to campus for the next 18–24 months.
- iv. Domestic and international travel restrictions, as well as employer restrictions on non-essential travel will continue to influence students' and Associate Faculty's ability to travel to RRU to attend residencies and face to face programs. When travel is permitted, 14-day self-isolation periods may be required.
- v. Adjustments to practices for dealing with students, faculty, and staff who show any sign of respiratory illness will be required.

c. Student supports

- i. Students' support needs will likely differ for the next two years, as a result of change in program delivery models as well as well as the impacts of the threat of the virus and social distancing measures on their lives.

d. Human resources

- i. While some of our human resource needs will remain the same, some of these needs and capacities will change for at least the next 18–24 months.
- ii. As part of the shift to fully online delivery, there will be an increase in demand for student support services and computer services and an expectation for hours of service outside of the PST time zone and multi-modal options.
- iii. High need and demand for curriculum redesign and engaging online delivery may result in challenges retaining and/or recruiting Instructional Designers and Educational Technologists.

4

THE UNIQUE NATURE OF RRU'S PROGRAMMING AND ITS RELATIVELY SMALL SIZE CREATE BOTH UNIQUE FINANCIAL VULNERABILITIES, AND PROGRAMMING AND MARKETING OPPORTUNITIES

Many of the higher-education scenarios and scholarship on the impacts and implications of COVID-19 are based on more traditional universities, and planning forward, RRU's unique programming, financial, and governance structures will need to be considered.

- a. Future enrolments at RRU will be differentially affected by the impacts of the COVID crisis, changing market conditions, and workforce needs.**
- i. These will require a consideration of short- and longer-term measures to address changes/potential changes in post-secondary enrollments and trends.
 - ii. While 80+% of post-secondary institutions are offering online credit courses, the number of online credit course enrolments across the sector remains low (8%) (Canadian Digital Learning Research Association, 2018). Thus RRU still has a significant comparative advantage with experience in delivering quality programming in an online space that can distinguish us from other institutions.
 - iii. Our new vision creates an opportunity for thinking about what new programming we might offer.



Gatherings limited to small groups for 18 to 24 months.



Those with respiratory symptoms will be asked to stay home.



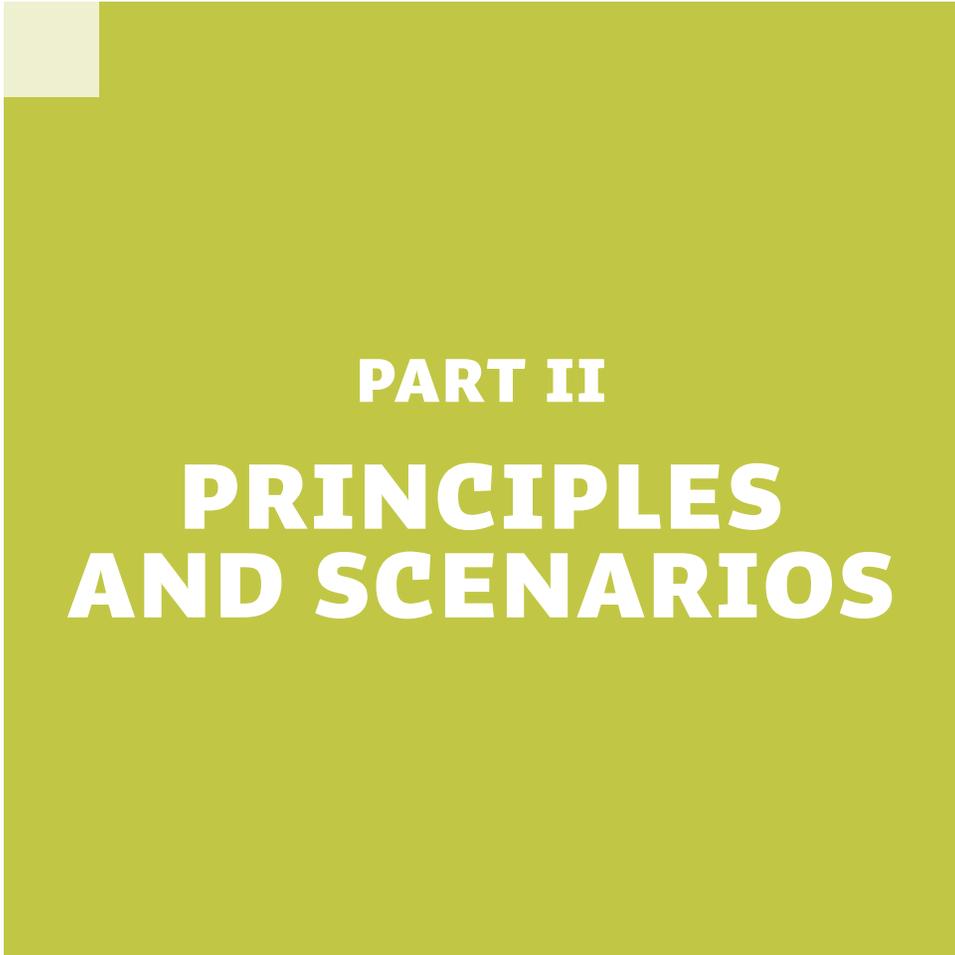
Air travel restrictions will continue, with self-isolation for 14 days on arrival.



Economic insecurity will sharply lower consumers' ability to pay tuition.



In-class, laboratory, extracurricular, and residential activities adjusted to accommodate testing and social distancing.



PART II

**PRINCIPLES
AND SCENARIOS**

PRINCIPLES

When dealing with uncertainty, the use of principles, which frame our values and beliefs, should guide decision making. The principles presented here build from and expand on the initial principles established at the outset of RRU's response to the pandemic. Further consideration and refinement of principles is a first step in the planning process.

When planning in a disaster context, it is important to begin by framing the desired outcome.

- The health and safety of students, faculty, staff, others using our campus, and the broader community are our priority.
- Our decisions will be guided by the best information available (e.g., Federal Health and Travel Advisories, BC Centre for Disease Control, the Public Health Authority).
- We expect, and anticipate, compliance with public health prevention requirements.
- We recognize that risk and vulnerability is not the same for everyone, and will endeavour to create safe alternatives for as long as is necessary.
- Longer-term desired outcomes will guide our short-term planning.

SCENARIOS

When planning in a disaster context, it is important to begin by framing the desired outcome, as this will influence the strategies that are undertaken. Three outcomes-based scenarios are offered: *return to the status quo*, *survive and thrive*, and *radical revisioning*. For each scenario, we offer a high-level summary of the implications for planning in the short (next 18–24 months) and longer (2 yrs +) term. Early decisions about desired outcomes need to be made to guide strategy development, which will differ based on the scenario selected. We have provided a high-level overview of each scenario.

While many strategies by other post-secondary institutions are focused on *when* to reopen, and *how* to reopen, we did not follow

this model because we do not believe that adaptations will only be required for the short term nor that the end state is a return to normal. Thus, we have chosen to offer a different approach to thinking about scenarios for the future. We recognize that more detail and thinking about the selected scenario will be needed, and we offer questions to guide thinking.

The nature of adaptations and innovations in the short and longer term, while dependent on the desired outcome selected, will also vary depending on the existing delivery model.

SCENARIOS: ALTERNATIVE OUTCOMES			
	RETURN TO THE STATUS QUO	SURVIVE AND THRIVE 	RADICAL REVISIONING
Short term next 18-24 months	Adapt and innovate as needed – short term changes only	Adapt and innovate as needed; leverage changes to reduce current & future vulnerabilities AND create new opportunities; address new pandemic related educational needs	Same as survive & thrive, with greater degree of change; enduring changes made sooner if possible to reduce vulnerability to impacts of pandemic as well as future threats
Long term 2 years +	Return to normal	A new normal; more resilient to future threats (e.g. earthquake); new programming; sectoral collaboration	A new normal that is substantively different from the past, risk from future threats are minimized
Assumptions	Return to normal is possible; we can bounce back 	Return to normal is not possible/desirable; alternative delivery models needed for a sustained period of time; current risks & vulnerabilities will continue and new ones will emerge	Assumes the change needed to deal with the effects of the pandemic as well as pre-existing vulnerabilities & threats requires a significantly new approach to doing things, including what we do & how we do things

SCENARIO 1 – RETURN TO THE STATUS QUO

With this option, the desired outcome is a return to “normal” at the end of the pandemic. We caution that the context is such that a return to the status quo may not be possible or desirable, but nonetheless, it is a type of outcome. This scenario is consistent with the common perception, based on past experiences, that return to normal is an expected outcome when there is a crisis or disaster.

SUSTAINED RESPONSE/SHORT TERM RECOVERY

Continue with short term adaptations and innovations only as long as is needed.

LONGER TERM RECOVERY

Return to normal operations as soon as possible, with the goal of being able to get back to pre-pandemic conditions.

ASSUMPTIONS

This scenario assumes that the effects of the pandemic, while sustained, are short lived and that we will ‘bounce back.’ Further, this scenario is based on the belief that return to normal is possible and/or desirable.

SCENARIO 2 – SURVIVE AND THRIVE

With this option, the desired outcome is a new normal and a more resilient organization. While some aspects of current operations may continue, the current situation becomes an opportunity for charting a new course towards a more sustainable and resilient future, while being responsive to our new vision.

SUSTAINED RESPONSE/SHORT TERM RECOVERY

Continue with short term adaptations and innovations (survive) while simultaneously strategizing about how these current shifts or other adaptations and delivery models could be leveraged to support longer term organizational sustainability and resilience (thrive). With this model, the sooner we make transitions that can be sustained, the less vulnerable we are to the indirect and ripple effects of the pandemic. Additionally, it would be necessary to adapt existing programming or develop new programming to meet new educational needs created by the pandemic and cascading effects.

LONGER TERM RECOVERY

Transition to a new normal of operations that is different from the past. At the same time ensure that any changes made support future business continuity and resilience during future pandemics or other events such as a catastrophic earthquake. Consideration of opportunities for continued collaboration and/or partnership within the post-secondary sector will be key.

ASSUMPTIONS

This scenario assumes that the need and demand for alternatives to face-to-face programming will likely continue and that a return to normal may not be possible or desirable, because of the existing vulnerabilities and risks. Further, in this scenario, RRU seeks to actively respond to educational needs and opportunities in the unfolding context.

SCENARIO 3 – RADICAL REVISIONING

This scenario differs from the previous one by the degree of changes made in envisioning the future. Examples of radical revisioning include the recent development and redesign of year one and two undergraduate programming at RRU, the revisioning process that was underway prior to COVID-19, and a recent decision made by a college in Alberta to discontinue face-to-face delivery going forward and to transition to only delivering programs online. Further, the RRU model, when it was first developed, was a radical revisioning approach. It is possible that this scenario could be chosen for some, but not all aspects of our operations.

The RRU model, when it was first developed, was a radical revisioning approach.

SUSTAINED RESPONSE/SHORT TERM RECOVERY

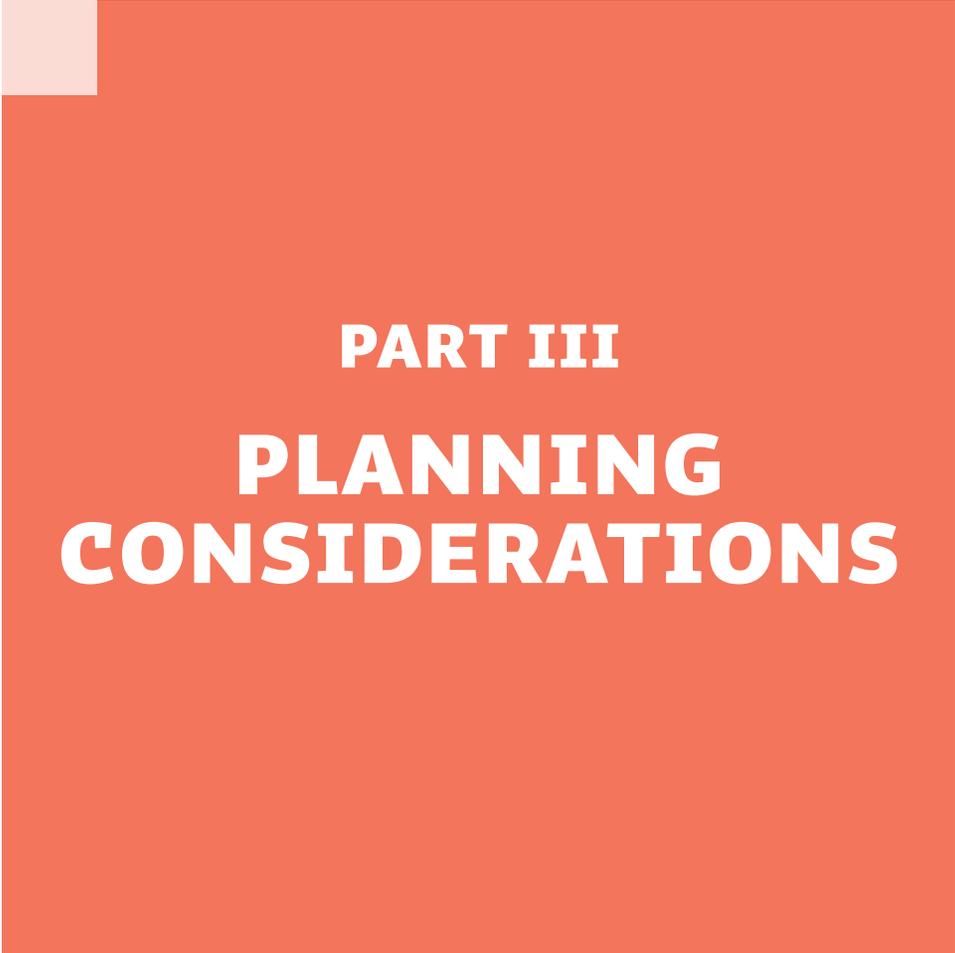
Same as in the scenario above, however we begin to develop and/or pilot new formats for program delivery that offer the possibility for substantive change, with longer term changes being made sooner than later. If this can be done, this approach has the potential to reduce vulnerability to the impacts of the current pandemic, as well as future climate and other threats. As with the previous scenario, we would seek to position ourselves as a leader in quickly responding to educational needs and workforce demands created by the pandemic.

LONGER TERM RECOVERY

Transition to a new normal of operations that is substantively different from the past, while at the same time reducing risk from future threats. The shifts made would increase future enrolments and markets, while reducing current vulnerabilities. Longer term strategic alliances could be part of this.

ASSUMPTIONS

This scenario assumes that the type of change needed to deal with the effects of the pandemic as well as pre-existing vulnerabilities requires a significantly new approach to doing things, including but not limited to how we deliver programming, as well as what programming we offer.



PART III
PLANNING
CONSIDERATIONS

Building on our current understanding of the virus, resulting assumptions, and possible desired outcome scenarios, we offer sets of questions to help guide the work of the planning teams. We expect that the teams may also generate other questions, based on the information provided in this document.

There are other critical inputs to planning that have not been addressed in this document. A high-level summary of current and projected impacts and vulnerabilities is needed. At a minimum this needs to describe the number of students/programs at the

undergraduate, graduate, and professional and continuing studies levels for each of the following three types of delivery models: online only, blended delivery, and face-to-face delivery.

Further, understanding of our vulnerabilities as a result of travel restrictions, as well as societal impacts (e.g., tourism sector) need to be summarized. The intent of this analysis is to help provide a common operating picture, which is a necessary input into decision making. Going forward, we need to actively engage and consult with prospects, students, faculty, and staff to help inform our planning.



SCENARIOS AND DESIRED OUTCOME

1. With reference to the three scenarios, what longer term outcome(s) are we striving for?
2. What other details could help to explain this desired outcome?
3. What are the opportunities and risks associated with the desired outcome? How can risks be mitigated?
4. What types of strategies would help us move towards the desired outcome, in both the immediate (until January 2021), short (18–24 months), and long (2 yrs +) term?
5. What types of investments (human, financial, technological) are needed to realize these strategies in the immediate, short, and longer term?
6. Which decisions/changes can be made to ensure a sustainable, adaptive, resilient orientation and capacity moving forward?

STRENGTHS AND VULNERABILITIES

1. Given the planning assumptions, what are our key vulnerabilities in the immediate, short, and longer term?
2. What are our strengths in this context?
3. How can our strengths be used to address current vulnerabilities, as well as move towards the desired outcome? What moves can we make now that will position us best for the uncertainties we are facing, as well as the desired longer-term outcome?
4. How can our strengths be used to respond to and address emerging educational needs related to the effects of the pandemic on society?

HUMAN RESOURCES

1. How have operational changes to date differentially affected our employees and academic and operational units?
2. Given the above assumptions, what are the further implications for employees and operational units?
3. When and how do we engage our broader community of stakeholders (e.g., prospects; students; employers with whom we have a relationship) to use their insights and test out our planning ideas?

PROGRAMMING AND DELIVERY CONSIDERATIONS

- 1.** If we assume that current BC government guidance on social distancing is in place when we return to being able to have students on campus, what are the constraints on class size and configuration? What are the resulting implications of these changes?
- 2.** If we assume that face-to-face programming is not possible for the next 24 months, what adaptations and/or models would support continuation of an RRU brand of higher education in a fully online environment? What are the resulting implications of moving all programs online for the next 18–24 months?
- 3.** Assuming that there will be iterative cycles of shut down due to waves of the virus, what delivery models would allow us to continue to deliver quality programming with the least degree of disruption over the next 18–24 months?
- 4.** Given the assumption that some students' will not feel safe to return to campus for the next 18–24 months, what types of adaptation and innovations can be made to allow students to have a personal choice between face-to-face and blended programming when/if that becomes possible and personal continuing with a distance-based program if that is their preference?
- 5.** How are the non-academic programming dimensions of our operations affected by the planning assumptions, and what are the priority needs to adapt to meet the BC government guidance for operations?

STRATEGIC INVESTMENTS CONSIDERATIONS

- 1.** Given the desired outcome and the competitive environment for ID's and instructional technologists, what investments need to be made to protect, increase, and/or change Centre for Teaching and Educational Technologies (CTET) human resources, to help us adapt to our new normal?
- 2.** What professional development supports are needed for Core and Associate faculty to help us transition to fully online and high-quality program delivery in the short term, and our desired outcome in the longer term?
- 3.** How do we invest in the caring component of students' RRU experience during the pandemic?
- 4.** What technological upgrades and added functionality may be needed to support an end-to-end, high quality digital experience (including online enrolment, student support services) in the context of expanded online learning and work?
- 5.** What changes to hours, service models for IT (e.g., computer help desk) and student support will ensure a seamless digital educational experience (e.g., ease of use; multi-channel support; integrated record management; extended hours to address multiple time zones; mobile functionality)?
- 6.** What additional psychosocial supports will be needed to ensure faculty and staff wellbeing in the context of the additional stress and work related to implementing and sustaining changes to workflows, focus of work, ways of working in the short and longer-term?
- 7.** Given the planning assumptions, what are the challenges and additional costs associated with modified approaches to on-campus programming during the pandemic? Are these costs sustainable and if not, what are the best alternative options?

OPPORTUNITIES & CONSIDERATIONS



How do we leverage what we do best?



Building on our signature pedagogy



25 years of experience delivering online learning



Flexible program delivery



Distinguish RRU from other newly online universities



Drawing on wisdom of others



APPENDIX

APPENDIX: KEY CHARACTERISTICS OF THE SARS-CoV-2 VIRUS AND COVID-19 DISEASE COMPARED TO PANDEMIC INFLUENZA

Variable	Value relative to pandemic influenza (according to research scanned up to July 29, 2020)				
	MUCH LESS THAN	LESS THAN	ABOUT THE SAME AS	GREATER THAN	MUCH GREATER THAN
SARS-CoV-2					
Basic reproduction rate (R_0)				X	
Incubation period				X	
Asymptomatic fraction				X	
Pre-symptomatic viral shedding				X	
Aerosol transmission rate			X		
Longevity on fomites			X		
Immunologically relevant mutation rate		X			
Human immune response and duration of that response			X		
COVID-19					
Infection fatality rate (IFR)				X	
Frequency of severe complications					X
				Degree of scientific uncertainty:	
				LOW	
				MODERATE	
				HIGH	
Homer-Dixon, August 22, 2020					

REFERENCES

- Alexander, David. (2002). *Principles of Emergency Planning and Management*. Oxford University Press.
- Boin, A., Hart, P. T., Stern, E., & Sundelius, B. (2016). *The Politics of Crisis Management*. Cambridge University Press.
- Bridle, B. & Sharif, S. (June 15, 2020). Fast COVID-19 vaccine timelines are unrealistic and put the integrity of scientists at risk. The Conversation. <https://theconversation.com/fast-covid-19-vaccine-timelines-are-unrealistic-and-put-the-integrity-of-scientists-at-risk-139824>
- British Columbia Centre for Disease Control (n. d.) Physical Distancing. <http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks/physical-distancing>
- Canadian Digital Learning Research Association (2018). Tracking Online and Distance Education in Canadian Universities and Colleges: 2018 Canadian National Survey of online and distance education public report. Retrieved from: <https://onlinelearningsurveycanada.ca/publications-2018>
- Center for Infectious Disease Research and Policy. (April 30, 2020). *COVID-19: The CIDRAP viewpoint. Part 1: The Future of the COVID-19 Pandemic: Lessons learned from the influenza pandemic*. University of Minnesota.
- Chu, D. K., Akl, E. A., Duda, S., Solo, K., Yaacoub, S., Schünemann, H. J., ... & Hajizadeh, A. (2020). Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *The Lancet*.
- Fong, M., Gao, H., Wong, J., Xiao, J., Shiu, E., Ryu, S., & Cowling, B. (2020). Nonpharmaceutical measures for pandemic influenza in nonhealthcare settings-social distancing measures. *Emerging Infectious Diseases*, 26(5). doi:10.3201/eid2605.190995
- Goolsbee, A. & Syverson, C. (2020). Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline 2020, *National Bureau of Economic Research*, Working Paper 27432, <http://nber.org/papers/w27432>
- Government of British Columbia. (June 24, 2020). BC Restart Plan. Retrieved from: <https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-responsercovery/covid-19-provincial-support/bc-restart-plan>
- Heymann, D. (2020). “What WHO Advisory David Heymann Told US about COVID-19,” *Medical News Today*, 26 March. Retrieved from: <https://www.medicalnewstoday.com/articles/covid-19-interview-with-who-advisor-professordavid-heyman#Western-countries-are-doing-less-well>
- Homer-Dixon, T. (2020). Why the Coronavirus Represents a Global ‘Tipping Event,’ *Toronto Globe and Mail*, 7 March 2020, p. 01.
- Jayaweera, M., Perera, H., Gunawardana, B., & Manatunge, J. (2020). Transmission of COVID-19 virus by droplets and aerosols: A critical review on the unresolved dichotomy. *Environmental Research*, 188, 109819. Advance online publication. <https://doi.org/10.1016/j.envres.2020.109819>
- Kissler, S., Tedijanto, C., Goldstein, E., Yonatan, H. G., Lipsitch, M. (2020). Projecting the Transmission Dynamics of SARS CoV-2 through the Postpandemic Period, *Science* 368, 22 May: 860-868.
- Lenton, T.M. (2020). Tipping Positive Change, *Philosophical Transactions of the Royal Society B* 375: 20190123, doi: 10.1098/rstb.2019.0123
- Lewis, D. (2020). Mounting Evidence Suggests Coronavirus is Airborne – But Health Advice Has Not Caught Up, *Nature*, 8 July, <https://www.nature.com/articles/d41586-020-02058-1>
- Lipshitz, R., & Strauss, O. (1997). Coping with uncertainty: A naturalistic decision-making analysis. *Organizational behavior and human decision processes*, 69(2), 149-163.
- Long, Quan-Xin, et al. (2020). Clinical and Immunological Assessment of Asymptomatic SARS-CoV-2 Infections, *Nature Medicine*, doi: 10.1038/s41591-020-0965-6

- Myers, E. M. Compounding Health Risks and Increased Vulnerability to SARS-CoV-2 for Racial and Ethnic Minorities and Low Socioeconomic Status Individuals in the United States. *Preprints 2020*, 2020040234 (doi: 10.20944/preprints202004.0234.v1)
- National Academies of Sciences, Engineering, and Medicine 2020. Rapid Expert Consultation on Social Distancing for the COVID-19 Pandemic (March 19, 2020). Washington, DC: The National Academies Press. <https://doi.org/10.17226/25753>
- Nishiura, H., et al. (2020). Estimation of the Asymptomatic Ratio of Novel Coronavirus Infections (COVID-19). *International Journal of Infectious Diseases* 94: 154-155, doi: /10.1016/j.ijid.2020.03.020
- Oran, D. P. & Topol, E. (2020). Prevalence of Asymptomatic SARS-CoV-2 Infection: A narrative review, *Annals of Internal Medicine*, doi: 10.7326/M20-3012
- O'Sullivan, T. L., & Phillips, K. P. (2019). From SARS to pandemic influenza: the framing of high-risk populations. *Natural Hazards*, 98(1), 103-117.
- Osterholm, M. (May 29, 2020). COVID-19: Straight Answers from Top Epidemiologist Who Predicted the Pandemic. (Dan Buettner, Interviewer). Retrieved from: <https://www.bluezones.com/2020/06/covid-19-straight-answers-from-topepidemiologist-who-predicted-the-pandemic>
- Potvin, L. (2020). Public health saves lives: sad lessons from COVID-19. *Canadian Journal of Public Health*. <https://doi.org/10.17269/s41997-020-00344-z>. Retrieved from: Public Safety Canada (2010), *Emergency Management Planning Guide 2010-2011*, available at: <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/mrgnc-mngmntpnnng/index-en.aspx>
- Ragab, D. et al. (2020). The Covid-19 Cytokine Storm: What we know so far,” *Frontiers in Immunology*, 16 June, doi: 10.3389/fimmu.2020.01446
- Rashid, H., Ridda, I., King, C., Begun, M., Tekin, H., Wood, J. G., & Booy, R. (2015). Evidence compendium and advice on social distancing and other related measures for response to an influenza pandemic. *Paediatric Respiratory Reviews*, 16(2), 119-126.
- Santarpia, J. L., Herrera, V. L., Rivera, D. N., Ratnesar-Shumate, S., Reid, St. P., Denton, P. W., Martens, J. W. S., Fang, Y., Conoan, N., Callahan, M. V., Lawler, J. V., Brett-Major, D. M., & Lowe, J. J. (2020). *The Infectious Nature of Patient-Generated SARS-CoV-2 Aerosol* [Preprint]. *Infectious Diseases (except HIV/AIDS)*. <https://doi.org/10.1101/2020.07.13.20041632>
- World Health Organization (2017). *Pandemic Influenza Risk Management: A WHO guide to inform and harmonize national and international pandemic preparedness and response*. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.
- World Health Organization (May 13, 2020). COVID-19 Virtual press conference. [Mike Ryan speaker 01:01:20].
- Zaim, S., Chong, J. H., Sankaranarayanan, V., Harky A. (2020). Covid-19 and Multiorgan Response, *Current Problems in Cardiology*, 28 April, doi: 10.1016/j.cpcardiol.2020.100618



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