SCIENCE INTEGRITY KNOWLEDGE

A RAPID HEALTH IMPACT ASSESSMENT FOR A POTENTIAL GAMBLING FACILITY IN THE CITY OF DELTA, BC

September, 2018

Prepared For:

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EXECUTIVE SUMMARY

The British Columbia Lottery Corporation (BCLC) is a Crown corporation that operates lottery, casino, bingo and online gambling on behalf of the Province of British Columbia. BCLC's mission is to "conduct and manage gambling in a socially responsible manner for the benefit of British Columbians."

Following an Expression of Interest (EOI) process, BCLC selected the City of Delta as its preferred host community for a potential new gambling facility. The facility would be a relocation of Surrey's Newton Community Gaming Centre, which would expand to provide more gambling and entertainment options. The Delta City Council has identified the preferred location as the site of the current Delta Town & Country Inn, at the junction of Highways 99 and 17A. This preferred location has the potential for increased vitality, and hence, one of the objectives of situating the proposed gaming facility here is to revitalize the area through infrastructure, jobs and economic growth.

In order to fulfill its mission, BCLC contracted an independent research consulting firm to undertake a Health Impact Assessment (HIA). An HIA serves as a vehicle to identify the overall potential positive and negative health impacts due to a proposed project. This Rapid HIA for the City of Delta identified and communicated to its stakeholders the potential health-related social and economic outcomes that may be associated with the establishment of a new gambling facility in the City.

HIA considers a myriad of issues that potentially impact the health of a community due to a project. The process relies on key stakeholders to set the scope of the HIA, which included government officials from the City of Delta, Fraser Health Authority, other health authorities, the BC Ministry of Health, the gaming facility service provider/operator (Gateway Casinos and Entertainment Ltd.), BCLC, and a responsible gambling subject matter expert. This HIA examined health issues identified by the stakeholders as being most relevant to the proposed project. It also examined other issues (both positive and negative) that have been raised in relation to the establishment of new gambling facilities.

The health issues examined in this HIA are grouped under five categories: (a) Socio-economic effects; (b) Neighbourhood impacts; (c) Access to gambling; (d) Economic effects on municipalities; and, (e) Effects on health, social and protective services. A summary of analysis results is shown in **Table I.**

Several positive impacts were identified. These include: the overall potential for infrastructure improvements and revitalization of the area due to the facility; direct revenue from the facility, which has the potential to positively impact health and well-being of community members

depending on revenue allocation; effects from indirect revenue that may result from stimulation of surrounding businesses; potential positive effects on job opportunities and income; and the entertainment / leisure value of the facility.

In terms of negative effects, the highest priority impacts related to issues that stem from problem gambling, including financial, mental health, and social / family impacts.

A number of effects were identified that are likely to have little-to-no impact (neutral), or mixed effects (both positive and negative). Those with neutral impact included property values and impacts of problem gambling on the regional population; and effects on indirect revenue from surrounding businesses, and on health care, social and emergency / protective services were identified as mixed. Effects on crime, traffic and the overall impacts due to problem gambling were identified as ranging from neutral-to-negative.

Table I Summary of HIA Results

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Socio-economic effects						
Job opportunities and income	Regional	Medium	High	Neutral / Positive	High	High
Neighbourhood impacts						
Vitality and growth	Proximate	Medium	Medium	Positive	Medium	High
Crime	Proximate	Low	Low	Neutral / Negative	Medium	Low
Traffic	Proximate	Low	Medium	Neutral / Negative	High	Low
Property values	Proximate	Low	Low	Neutral	Medium	Low
Access to gambling						
Entertainment / leisure	Regional	Medium	Medium	Positive	High	Medium
Impacts of problem gambling	Regional	Medium	Medium	Neutral to Negative	Medium	Medium
➢ Financial impacts on individuals and households	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low
➢ Mental health	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low
➢ Social and family impacts	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low
Economic effects on municipalities						
Effects from direct revenue (facility)	Regional	Medium	High	Positive	High	High
Effects from indirect revenue	Regional	Medium	Medium	Mixed	Medium	Medium

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
(surrounding businesses)						
Effects on health, social and protective services						
Effects on health care services	Regional	Low to Medium	Medium	Mixed	Low	Medium
Effects on social services	Regional	Medium	Medium	Mixed	Medium	Medium
Effects on emergency services	Regional	Low to Medium	Medium	Mixed	Low	Medium

The results of the HIA provided the basis for a number of specific recommendations that could be considered to either mitigate potential negative effects or enhance potential positive effects. Some recommended actions are appropriate for BCLC to take; others lie in the purview of other stakeholders. Recommendations put forward in the HIA include the following:

Table II High-level recommendations to minimize adverse health impacts and enhance positive health opportunities

Recommended Action	Health issue to be addressed	Priority	Direction	Responsible or Contributing Organizations
Consider how to use municipal and provincial revenue in a way that supports healthy communities.	• Effects from direct revenue (facility)	High	Positive effect to be enhanced	• Host Local Government • Provincial Government
Promote education and awareness around problem gambling prevention, treatment and services within the local host community before a decision is made to proceed, and then again after the facility first opens, to reduce or manage the potential increase in problem gambling and mitigate associated negative effects.	• Financial impacts on individuals and households (among people vulnerable to problem gambling) • Mental health (among people vulnerable to problem gambling) • Social and family impacts (among people vulnerable to problem gambling)	High	Adverse effect to be mitigated	• BCLC • Gaming Policy Enforcement Branch • Ministry of Health
Promote hiring practices that preferentially target unemployed or underemployed individuals from within the local host community.	• Job opportunities and income	Medium / High	Positive effect to be enhanced	• BCLC • Gaming facility service provider
Ensure that final project design minimizes potential adverse effects on traffic and parking, noise exposure, and adverse competition with existing businesses.	• Neighbourhood impacts • Effects from indirect revenue	Medium to Low	Adverse effect to be mitigated	• BCLC • Gaming facility service provider

Ultimately, the issues around gambling development and health and well-being are complex, and include both positive and negative changes. The analysis provided in this HIA is intended to help BCLC, the City of Delta and other stakeholders to better understand and address the advantages and drawbacks, based on evidence gathered from the literature and the experiences of similar facilities.

A RAPID HEALTH IMPACT ASSESSMENT OF A POTENTIAL GAMBLING FACILITY IN THE CITY OF DELTA, BC

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1. INTRODUCTION

The British Columbia Lottery Corporation (BCLC) is a Crown corporation that operates lottery, casino, bingo and online gambling on behalf of the Province of British Columbia. BCLC has a mission to "conduct and manage gambling in a socially responsible manner for the benefit of British Columbians." In order to fulfill this mandate, the organization has decided to use a rapid Health Impact Assessment (HIA) as a way to identify and communicate to its stakeholders a number of health-related social and economic outcomes that may be associated with the establishment of a new gambling facility.

To achieve this, BCLC commissioned Lindsay McCallum and Faiza Waheed of Intrinsik Corp. (Intrinsik) and Marla Orenstein and Erica Westwood of Habitat Health Impact Consulting (Habitat) to conduct three Health Impact Assessments for potential host communities in order to better understand the positive and negative health impacts associated with the development of gambling on local community health and well-being. These HIAs were conducted between January and August, 2017.

One of the host communities identified by BCLC is the City of Delta, which was selected as a preferred host local government through an Expression of Interest (EOI) process. The facility would be a relocation of Surrey's Newton Community Gaming Centre, which would expand to provide more gambling and entertainment options. The Delta City Council has identified the preferred location as the site of the current Delta Town & Country Inn, at the junction of Highways 99 and 17A. Ultimately, the City of Delta, under the Gaming Control Act, will determine if it approves a proposal for a new gambling facility in its community.

The proposed facility will consist of multiple food and beverage outlets with all-season patios, a hotel with approximately 75 to 125 rooms and a meeting space. The economic investment is estimated to add 700 new jobs and 500 person-years of one-time construction-related employment to Delta's economy. This preferred location, as identified by the Delta City Council, has potential for increased vitality. Hence, one of the objectives of situating the proposed gaming facility at this location is to revitalize the area via jobs and economic growth.

This HIA examined health concerns as identified by the stakeholders engaged during the process. In order to understand the current state of the science of the overall health impacts of gambling, an evidence-base was gathered via a review of the scientific and grey literature on gambling and health worldwide, and data available from public documents on gambling in BC. It also examined other issues (both positive and negative) that have been raised in relation to the establishment of new gambling facilities elsewhere in British Columbia, other Canadian provinces and the United States. Consideration was given to site-specific aspects of the development including facility details and location. The health issues identified by stakeholders ranged from economic to social, and the HIA used both literature as well as information obtained from the local context to characterize each health issue. Hence, the overall aim of this HIA was to characterize both the potential positive and negative health impacts due to the proposed project under issues identified as most important by the stakeholders.

2. CONTEXT: GAMBLING IN BRITISH COLUMBIA

The majority of adults in British Columbia (BC) participate in gambling, with 72% of residents having participated in at least one gambling activity—including lotteries, scratch tickets, bingo, slot machines, casino games, sports betting, internet betting and others – in the previous 12 months (R.A. Malatest and Associates Ltd. 2014).

The Province created the BCLC more than 33 years ago as the entity that establishes and oversees gambling opportunities in the province. BCLC currently offers gambling in 33 communities across BC, as shown in Figure 1. The different types of gambling facilities operated by BCLC include:

- **Casinos:** Gambling facilities that offer a mix of entertainment options including live tables, bingo, electronic tables and slot machine games.
- **Community Gaming Centers (CGC):** Gambling facilities that offer a mix of entertainment options including bingo, electronic tables and slot machine games (no live tables).
- **Bingo Halls:** Gambling facilities that offer bingo.
- **Playnow.com:** is an online gambling website (poker, casino, blackjack, lottery, sports and bingo).

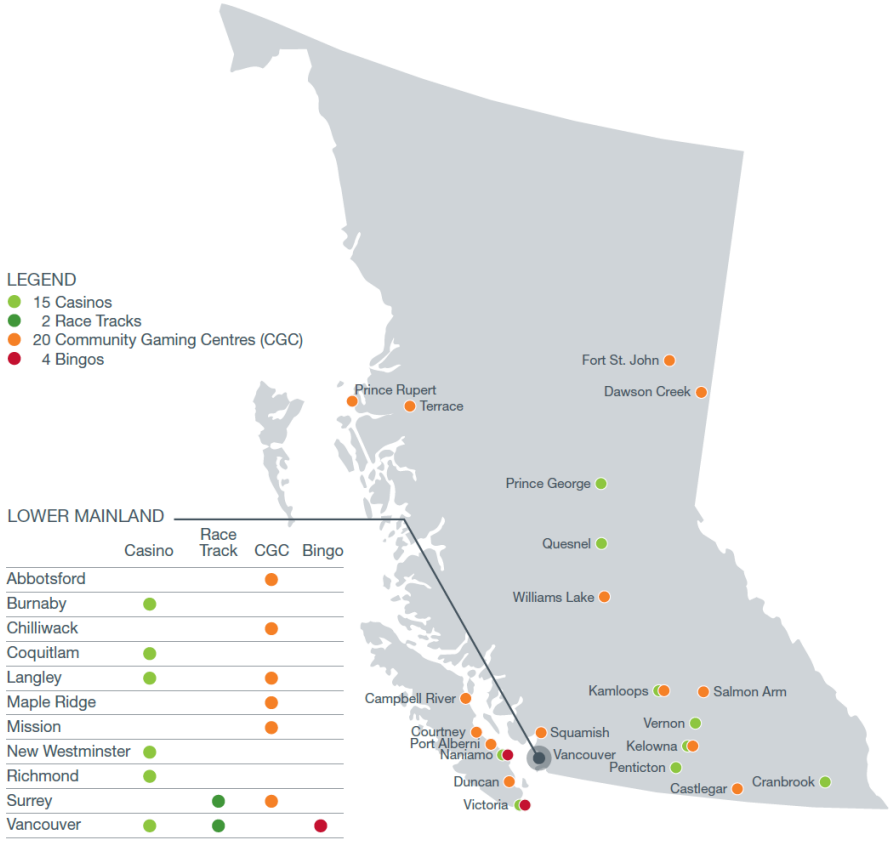


Figure 1: Map of Casino, CGC and Bingo Facilities in BC (BCLC 2017b)

Gambling in BC resulted in $3.1 billion in total revenues ($1.3 billion net) for the province in 2015/2016. In addition in that year, gambling development provided employment for 37,000 people, and more than 5,000 organizations have received Community Gaming Grants from the Province of BC (BCLC 2016a).

Appendix 1 presents a flow chart of the process that BCLC uses to select locations for new gambling facilities. For new facilities, in particular casinos, the recent approach has been to develop an 'integrated' facility that incorporates alternative attractions and non-gambling services, such as food and beverage options, retail stores, music venues or other forms of entertainment, and/or hotel or convention facilities.

Although gambling can provide entertainment and revenue to those communities that host facilities, there are some issues that accompany the presence of gambling facilities. The most prominent of these issues is problem gambling. Pathological gambling was first established as a diagnosable disorder by the American Psychological Association in 1980; specifically classified as an impulse control disorder. It was classified based on criteria for identification of mental disorders that included preoccupation with gambling, progressive loss of control, and harm to individuals and families (R.A. Malatest and Associates Ltd. 2014). In 2013, the fifth edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) was published. The term pathological gambling was replaced with gambling disorder and classified in the category of substance-related and addictive disorders. This change reflects growing research evidence showing that a gambling disorder shares common characteristics with substance use disorders.

3. METHODS AND APPROACH

This study used a Health Impact Assessment (HIA) framework to examine the potential effects of the establishment of a new gambling facility in the City of Delta. Health Impact Assessment is defined as "a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population" (WHO 1999). The HIA process consists of a standardized series of steps that include: screening; scoping; assessment; recommendations; reporting; monitoring; and, evaluation (Figure 2).

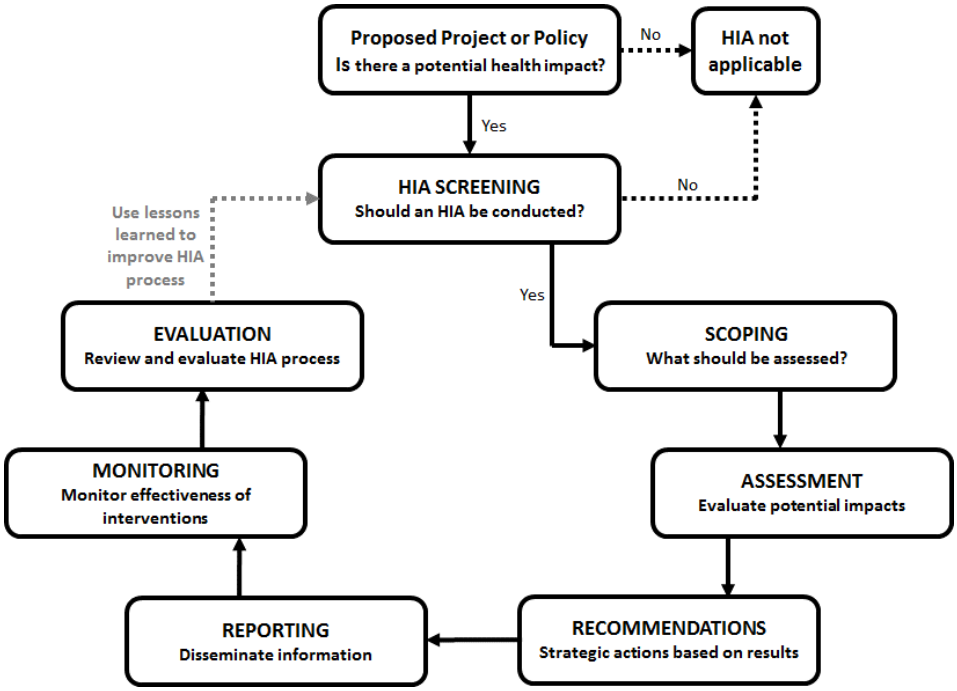


Figure 2: Steps of the Health Impact Assessment Process

An HIA is a transparent systematic tool that presents data and information on a particular subject in an unbiased manner and supports the information presented with the use of references. HIA can vary in intensity from a rapid HIA, which is conducted over a short time period and relies for the most part on existing data sources, to a comprehensive HIA that is conducted over a period of years and involves intensive effort in primary data gathering and stakeholder and community engagement. This study was conducted as a rapid HIA in that it makes use of the ample literature that is available on the effects of new gambling facilities as well as existing secondary data relevant to the City of Delta but it does not collect new data from the community (e.g., via surveys) or involve direct community engagement. Hence, the overall aim of this rapid HIA is to provide an unbiased discussion and evaluation of both the potential positive and negative health impacts due to the development of a new gaming facility in the City of Delta.

Screening

The screening process is intended to provide an opportunity for identification of situations (e.g., projects and policy initiatives) that may warrant an HIA. This process was completed prior to Intrinsik/Habitat's involvement, through BCLC's decision to conduct an HIA for three proposed gambling facilities in BC. Taking it one step further, BCLC has also identified a need to screen potential future developments for possible health outcomes and to ensure consistency among future HIAs.

Scoping

The scoping step was used to define boundaries for the assessment, including health issues to be examined as well as spatial and temporal boundaries for the assessment. For this project, there was an extensive and multidisciplinary group of stakeholders who were asked to provide input and feedback into the scoping process. (See **Box 1).**

Temporal and Spatial Boundaries

The temporal scope for this HIA was selected to comprise the operation phase of the proposed gambling facility. The temporal scope does not include either construction or decommissioning of the facility, and thus does not address potential health impacts of construction or demolition activities (e.g., air quality, dust, noise, etc.) that may be associated with a new facility or other infrastructure (parking garages, roads, etc.).

The geographical scope comprises those regions and populations that have the potential to be affected by the proposed facility, and includes both locations that are proximate to the facility and a broader regional area in which either direct or indirect effects may be experienced.

Health Issues Included in the Assessment

Based on an iterative process of refinement that included both stakeholder input (see **Box 1**) and a literature review (see **Appendix 2**), a number of health issues were selected for inclusion in the assessment. These are shown below, grouped into five broad topic areas.

A. Socio-economic effects

- Job opportunities and income

B. Neighbourhood impacts

- Vitality and growth
- Crime (property crime, violent crime)
- Transportation and Traffic (volume and congestion; collisions (alcohol or fatigue related), and air quality)
- Property values

C. Access to gambling

- Entertainment / leisure
- Impacts of problem gambling
    - Financial impacts on individuals / households (e.g., homelessness)
    - Mental health (e.g., suicide, depression, and substance misuse)
    - Social and family impacts (e.g., intimate partner violence, divorce, and impacts on children)

D. Economic effects on municipalities

- Effects from direct revenue of the casino
- Effects from indirect revenue (including tourism and related development)

E. Effects on health, social and protective services

- Effects on health care services
- Effects on social services
- Effects on emergency services (esp. policing)

Box 1: Stakeholder Engagement

Stakeholder engagement occurred with the following groups:

- Municipal Government Officials from Victoria, Delta, and the North Shore;
- BC Ministry of Health;
- Gaming Policy Enforcement Branch (GPEB);
- Gaming facility service providers/casino operators;
- Health Authorities: Fraser Health, Vancouver Coastal Health, and Vancouver Island Health Authorities; and,
- BCLC.

The engagement process was unique in that stakeholders were invited to be involved in the HIA process from its inception. Revisions were made to the project's scope of work based on specific input received by stakeholders, including the possibility of additional phases of work, before it was finalized.

Following project initiation, stakeholders were invited to attend an introductory teleconference with the HIA Team and the Subject Matter Expert in order to find out more about the project, present an initial list of health issues and provide preliminary feedback. The feedback received was incorporated into the HIA scope through revision of the initial list of issues and identification of specific issues of concern, including consideration of specific vulnerable populations.

A series of follow-up teleconferences were scheduled with each of the stakeholder groups separately to provide additional opportunity for smaller, more targeted group discussions. Through these follow-up calls, the HIA Team obtained detailed information on the roles, expectations, and key concerns for each of the stakeholder groups. Specific details regarding each of the communities and any unique considerations that should be included in the HIA were identified. Additionally, stakeholders pointed to specific sources of information or data that could help to inform and enhance the HIA.

Overall, stakeholders have a variety of viewpoints and perspectives on gambling facility development in BC. Although stakeholders had different concerns depending on their area of interest and role, there were several common themes that emerged throughout the engagement process. For example, most stakeholders discussed the importance of a site-specific HIA with additional stakeholder/community engagement once a location has been selected. This concern and others are reflected in the final scope of issues chosen for assessment.

Assessment Approach

The assessment approach consisted of collating and analyzing relevant information for each of the health issues. Relevant information included data on current conditions in the local area, and published research linking the establishment of gambling facilities to changes in the health issue. Broadly, the following assessment approach was carried out for each of the issues included in the HIA:

- **Relevance:** Why is this considered a health issue?
- **Baseline:** What do we know about current local conditions?
- **Evidence:** What do we know from the literature?
- **Effect Characterization:** How can health be affected?

Relevance

The first step to assessing potential impacts is to identify the relevance to health. For each of the five assessment areas, a description of the issue and how it is relevant to assessing health and well-being outcomes is provided. These health linkages provide a foundation for understanding why the issue is being addressed as part of an HIA as opposed to other forms of impact assessment that may not be health focused.

Baseline Information

Information on current conditions is presented in two ways.

- The Community Health Profile section of this report presents information on the overall health status of the area, both in terms of health outcomes and health determinants. The

purpose is to provide context for the assessment, by describing at a high level how healthy the local population is in comparison to other areas of BC, what health issues are of top concern, and what health vulnerabilities exist for specific sub-populations.

- In addition, each of the five assessment sections contain baseline data on specific outcomes that are linked to the issue being assessed. The purpose is to provide information on current conditions that have the potential to change as a result of the proposed facility.

Assessment of Effects (Evidence and Effect Characterization)

In order to understand the current state of the science of the health issue in relation to gambling, an evidence-base was gathered. A review of the scientific and grey literature was completed for each of the five health assessment areas. This includes both information from published literature on general trends in gambling and health worldwide and data available from public documents on gambling in BC. Collectively, these sections provide the evidence that, in combination with the baseline health profile and information from local stakeholders, forms the basis of the assessment.

For effect characterization, the assessment of effects combines information about current conditions with evidence from the literature to arrive at conclusions about the nature and extent of change that is likely to be observed with the proposed facility. In order to present these conclusions in a standardized and transparent way, a number of effect characterization parameters have been selected (**Table 1**).

The assessment also notes, where possible, what vulnerable groups could be differentially affected. Vulnerability refers to a lack of resilience to be able to adapt to additional social or environmental stressors and can vary depending on the health determinant being assessed.

Table 1 Effect Characterization Definitions

Parameter	Rating	Definition
Magnitude What is the potential severity of the effect on human health?	**Low**	Effects are small or may be experienced by a few individuals
	Medium	Effects are moderate or may be experienced by a wide range of individuals or be noticed by agencies and organizations
	High	The effects are severe or could create a change at a system level
Likelihood What is the probability of the impact occurring?	**Low**	The impact is anticipated to occur rarely, if ever. This classification is appropriate for those situations where impacts are not zero but they are limited to very rare occurrences, catastrophic events, or highly unlikely system failures.
	Medium	The impact may, but is not certain to occur
	High	The impact will almost certainly occur
	Specific	Effect is limited to certain individuals or specific groups
	Proximate	Effect may be experienced generally by those living in proximity to the facility

Parameter	Rating	Definition
Affected populations Who is likely to experience the effect?	**Regional**	Effect may be experienced generally on a broader scale (i.e., beyond the area that contains the facility)
Potential Health Consequence Will the effect be helpful or harmful to human health?	**Positive**	The effect is anticipated to improve health and well-being
	Negative	The effect is anticipated to diminish health and well-being
	Mixed	The effect may both improve and diminish health and well-being
	Neutral	The effect is negligible and is anticipated to have little to no effect on health and well-being
Level of Confidence How conclusive are these predictions?	**Low**	The effect characterization based on very limited (low quality) data and/or the information is general in nature without any site-specific consideration
	Medium	The effect characterization based on some (moderate quality) data and/or the information is general in nature with limited site-specific consideration
	High	The effect characterization based on substantial (high quality) data and/or the information is site-specific in nature

After conducting the effect characterization for each of the health issues, the results are run through a decision matrix (shown in **Figure 3)** intended to identify the relative importance of the health impact. The decision matrix assigns a 'priority' rating of low, medium or high, which refers to the priority for consideration and mitigation of the impact by BCLC and/or local governments or other stakeholders.

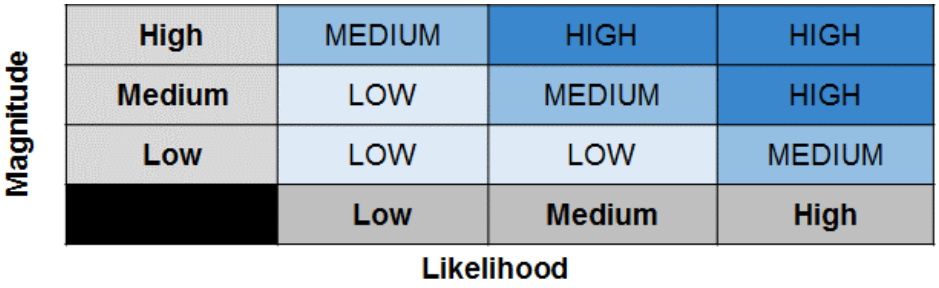


Figure 3: Decision Matrix: Assignment of Priority

Recommendations

Finally, high-level recommendations are presented in **Section 6**. In some cases, recommendations are for specific actions and/or requirements. Some recommended actions are appropriate for BCLC to take; others lie in the purview of other stakeholders.

Monitoring and Evaluation

Monitoring and evaluation are the last two steps of the HIA process. A high-level monitoring and evaluation plan is proposed in **Section 8**.

Data Gaps, Limitations and Uncertainties

This HIA relied heavily on existing data sources. There are several innovative public health initiatives across Metro Vancouver and Vancouver Island that have allowed for good understanding of the health and well-being of residents. However, there remain some data limitations and data gaps in this HIA:

- Some data is old, and may not reflect current conditions. For example, federal census data is five years old. While this still helps identify the conditions faced by the communities, there may have been changes over the last few years that have not been captured.
- There is variation in the geographic specificity in communities. While some data is available for the health service delivery area, other types of data are available for smaller municipal boundaries. This is a minor limitation, as this data still reflects general conditions for the community, and all geographic areas have been noted. However, this may not capture inequities where data is collected for larger regions.
- There is limited data that ties many social, health and economic conditions to gambling facilities. For example, the extent that impaired driving is connected to gambling is unclear.
- Site-specific development plans are not yet finalized for the proposed facility.
- There are data gaps on how current levels of problem gambling impact health, social and emergency service access and utilization. Moreover, the level of benefit to social services arising from contributions made by the local BCLC gaming facility service provider to local charities and non-profit community organizations is not characterized.
- There are uncertainties associated with the societal/community value of gaming (BC Public Health Officer 2013). Whether gaming can bring positive health effects depends on individual and collective community values. As understanding this uncertainty is a complex undertaking, the Player Health (Responsible Gambling) department at BCLC plans to conduct a pre-post study to understand the current attitudes and conditions related to gambling and provide a reference point for future comparisons.
- The level of confidence associated with the assessment of each health issue is based both on the quality of the data found in the primary and grey literature, and on the availability of site-specific local data. Since this is a rapid HIA, there is no collection of primary data from the local community, i.e., via public surveys, etc.

4. COMMUNITY HEALTH PROFILE

This section provides an overview of current conditions relevant to human health and well-being in the Delta region. Additional information pertaining to specific health issues is provided in the Baseline sections of the assessment.

Demographics

Figure 4 shows the location of the City of Delta within the Metro Vancouver area and within British Columbia.

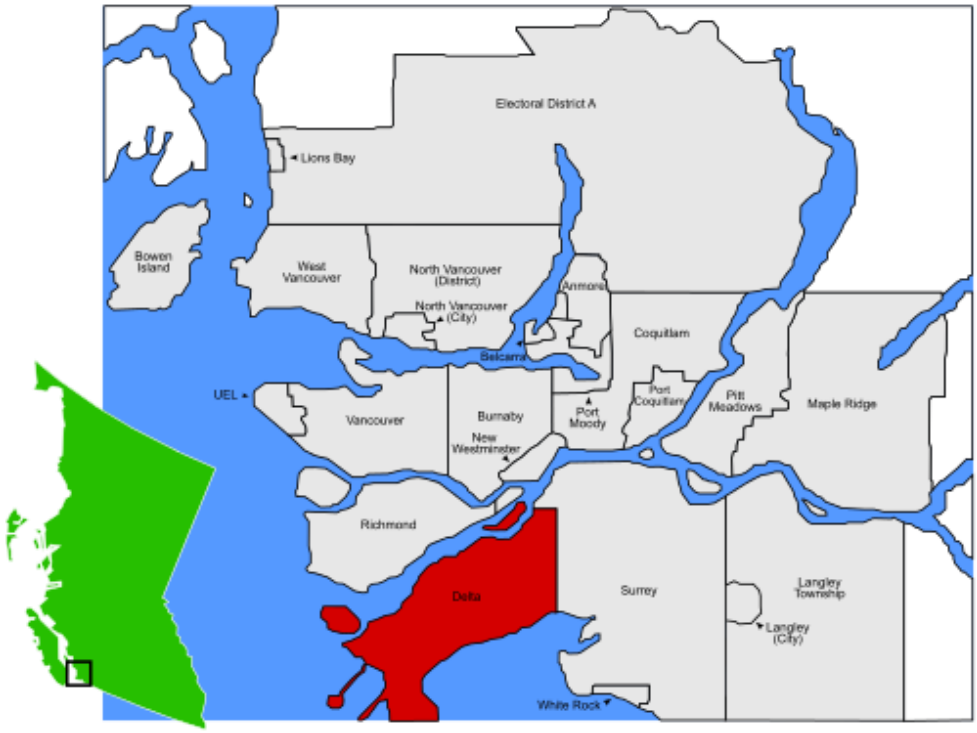


Figure 4: Map of the City of Delta

In some cases, there is limited data available for the municipality of Delta, particularly to have data that is comparable to BC. Therefore, data has also been included for the Fraser South Health Service Delivery Area (HSDA), which services Delta, as well as surrounding communities including Langley, Surrey and South Surrey/White Rock. Finally, some demographic indicators are also presented for the **Fraser Health** region as a whole, which comprises a population of over 1.6 million people including the region from Boston Bar in the Fraser Canyon, through the Fraser River Valley to the suburbs of Burnaby and Delta. Both the Fraser Health authority and the Fraser South HSDA are shown in the map in Figure 5.

Figure 5: The Fraser Health Region

Table 2 presents demographic indicators for Delta and the Fraser South HSDA, compared with BC as a whole. As shown in the table, the City of Delta has a total population of approximately 100,000 people. The median age in Delta is similar to BC as a whole; however, Delta has a higher proportion of children and a lower proportion of seniors. The Aboriginal identity population is lower than the BC average, although the immigrant and visible minority population are higher than the provincial average.

Table 2: Demographic indicators

	Delta	Fraser South HSDA	BC
Population			
Total Population	99,863[a]	--	4,400,057[b]
Median Age of Population	42.8[a]	--	41.9[b]
Children (19 years old and under)	30.7%[a]	--	21.6%[b]
Seniors (65 years and older)	15.5%[a]	--	37.3%[b]
Ethnicity			
Aboriginal identity	2.3%[c]	2.7%[d]	5.4%[d]
Visible minority population (2013)	30.6%[c]	41.2%[d]	27.3%[d]
Immigrant population (2013)	--	34.4%[d]	27.6%[d]

Sources: [a] Statistics Canada (2013a)
[b] BC Stats (N.D.)

Approximately 2.3% of the Delta population identifies as Aboriginal identity. There are also two First Nations communities in Delta: the Tsawwassen First Nation and the Musqueam Indian Band. The locations of these First Nations communities are shown in **Figure 6**.

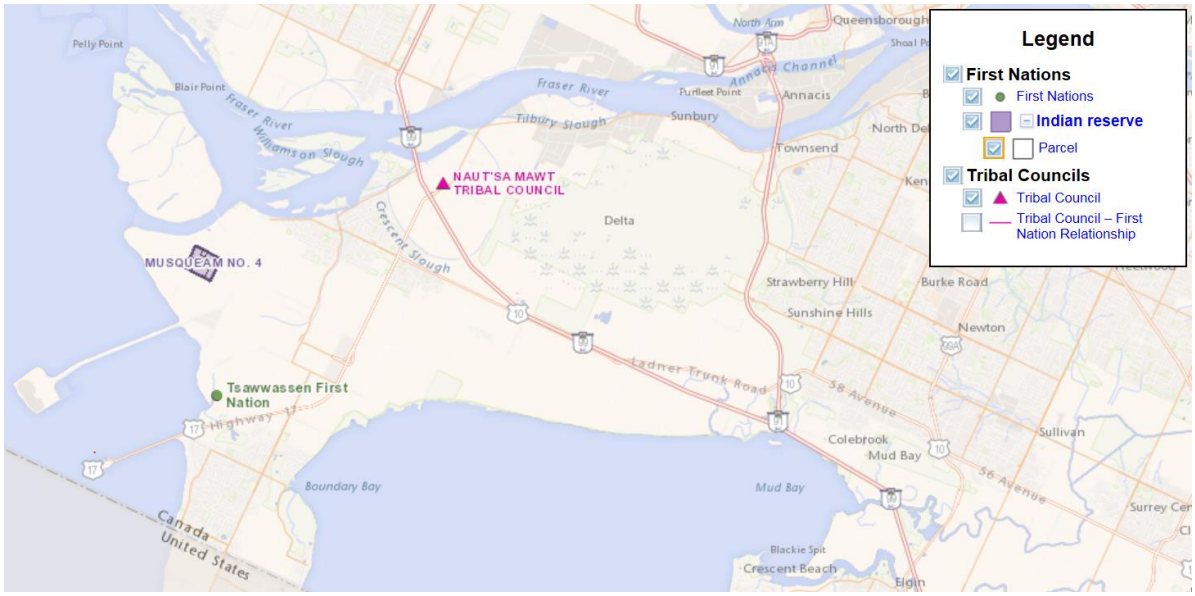


Figure 6: First Nations in the Delta Region
Source: *Indigenous and Northern Affairs Canada (2012)*

Health Status and Health Behaviours

The general health measures shown in **Table 3** are commonly used to describe the overall health of a population and to compare health status across regions. Not all of them are directly linked with gambling activities or facilities; however, taken together they do provide an overall picture of the general health status of the Delta population.

Overall, indicators of health status, health behaviours and health services suggest that those in the Delta region have slightly poorer health outcomes than Metro Vancouver and the Fraser Health Authority as a whole.

Perceived health (i.e., self-reported health) is an excellent measure of the wellness of the population and is one of the strongest, most consistent predictors of subsequent illness and premature death (Idler and Benyamini 1997). Perceived health is also very strongly linked to socio-economic status. The percent of the population reporting “very good” or “excellent” physical and mental health was somewhat higher in Delta (51.0%) than for Metro Vancouver (48.5%) or the Fraser Health Authority (47.5%). The rates of excellent or very good mental health were also higher in Delta. The rates of some specific medical conditions such as obesity, diabetes, heart disease, arthritis and multiple chronic conditions were higher in Delta than in Metro Vancouver as a whole (My Health My Community 2014).

Table 3: General Health Measures, 2014

	Delta	Metro Vancouver	Fraser Health
General health (excellent/very good)	51.0%	48.5%	47.5%
Mental health (excellent/very good)	61.6%	56.5%	58.8%
Obesity (BMI 30+)	26.6%	21.7%	27.2%
Diabetes	9.8%	7.7%	8.8%
High blood pressure	21.0%	17.9%	19.5%
Heart disease	7.2%	4.7%	5.0%
Chronic breathing condition	7.4%	7.2%	7.3%
Arthritis	16.7%	13.1%	13.9%
Mood or anxiety disorder	15.5%	16.3%	16.7%
Multiple chronic conditions	10.7%	7.9%	8.8%
Cancer (lung, breast, prostate or colorectal)	3.0%	3.1%	3.3%

Source: My Health My Community (2015)

Table 4 shows a number of health behaviours including binge drinking, smoking, physical activity and consumption of fruits and vegetables. There was no consistent pattern for Delta residents compared with Metro Vancouver or Fraser Health as a whole.

Table 4: Health Behaviours, 2014

	Delta	Metro Vancouver	Fraser Health
Binge drinking (1+ times/month)[2]	19.8%	20.7%	18.8%
Smoker (daily/occasional)	8.7%	10.6%	10.5%
Physical activity (150+ minutes/week)	46.0%	44.1%	43.3%
5+ servings of fruits and vegetables (/day)	25.0%	24.9%	23.6%
Stress (extremely/quite stressed)	17.9%	17.8%	18.6%
Screen time (2+ hours/day)	44.7%	47.8%	47.5%
High physical wellness score (10-16)[3]	34.6%	37.7%	35.6%

Source: My Health My Community 2015

Health Care Services

Health care services are responsible for meeting the primary health care needs of the population through diagnosis and treatment of disease and the promotion of health and wellbeing. The health care system comprises hospitals and health care clinics, as well as allied health services such as pharmacy, public health, mental health and addictions services, laboratory services, health promotion, and other specialty areas. As shown in **Table 5**, rates of family doctor access were higher in Delta compared with Metro Vancouver and Fraser Health as a whole; similarly, rates of people visiting a health care professional were also higher.

Table 5: Health Care Services, 2014

	Delta	Metro Vancouver	Fraser Health
Family doctor access	90.7%	83.1%	85.8%
Visited health care professional (past 12 months)	84.4%	80.4%	79.9%
Visited physician with appointment	85.6%	75.0%	77.0%
Visited walk-in clinic without appointment	9.8%	16.5%	15.1%

Source: My Health My Community (2015)

5. ASSESSMENT RESULTS

Sections 5A through 5E present the assessment results describing how community health may be affected by a new gambling facility in Delta. The assessment takes into account key details that are known about the project. These key details include the following:

- The preferred location for the proposed facility was identified by the Delta City Council as the site of the current Delta Town & Country Inn, at the junction of Highways 99 and 17A.
- At the direction of BCLC, the assessment looks only at effects that may be associated with the operation of the facility, and not with its construction or decommissioning.
- The gambling facility will comprise an enhanced gaming floor with a wide variety of table games and slot machines.
- The facility will be 'integrated', meaning that it houses not only a casino, but also other amenities including multiple food and beverage outlets with all-season patios, a hotel with about 75 to 125 rooms, and a meeting space.
- It is estimated that the new facility will involve $70 million in capital investment and add 700 new jobs, 500 person-years of construction-related employment, and have an estimated annual payroll of $5.9 million.
- As the Host Local Government of a gaming facility receives 10% of the net revenue generated, this is expected to result in a payment of about $1.5 million to $3 million annually to the local municipality.

A. Socio-Economic Effects

➢ RELEVANCE: Why is this a health issue?

Income and social status are closely linked and are often coupled into the term "socio-economic status". Income refers to money generated at an individual or household level from various sources (e.g., employment, government transfers, investments, and pensions). Social status is a more complex concept that relates to an individual's relative position in the social hierarchy and is often measured through associated factors such as wealth, education, occupation and lifestyle (CSDH 2008).

Income and social status are linked to a very wide range of biophysical and mental health outcomes in all segments of society. In general, higher income and social status are associated with more beneficial health outcomes, whereas lower income and social status are linked to less favourable health outcomes. Specific health outcomes that have been associated with income and social status include birth weight and infant mortality; self-rated health; adult mortality; chronic and acute infectious diseases; mental well-being; social pathologies; and health service utilization (Yen and Syme 1999, Lightman, Wilson et al. 2009, McIntosh, Fines et al. 2009, Mikkonen and Raphael 2010).

➢ BASELINE: What we know about current local conditions

- The average household income of Delta residents was substantially higher than the BC average: $97,216 vs. $78,227, respectively.
- However, a substantial number of households are classified as low income: 16.1% of those in Delta, and 16.9% across the province.
- The unemployment rate and the long-term unemployment rate in Delta appear close to provincial rates.
- Spending more than 30% of income on shelter represents a situation known as shelter poverty, which may result in too little money available for food, transportation or other basic necessities. In both Delta and BC as a whole, a substantial proportion of the population experiences shelter poverty: around 20% of homeowners in Delta, and 41% of renters.
- Food insecurity refers to an inability to secure sufficient healthy food for a family. Food insecurity among residents in Delta is around 3.6%, substantially lower than for Metro Vancouver overall (7.0%) or for the Fraser Health Authority as a whole (6.3%).

Table 6: Socio-economic status indicators

	Delta (2014) [a]	Fraser South HSDA (2013) [d]	BC (2013) [d]
Income			
Median individual after-tax income (2010)	$30,510[b]	--	--
Average individual after-tax income (2010)	$37,037 [b]	--	--
Average household income (2011)	$97,216 [c]	--	$78,227[b]
Low income, before tax	--	16.1%	16.9%
Children aged 17 and under living in low income families	--	18.8%	18.1%
Employment			
Employed	62%	--	--
Not in labour force	32%	--	--
Unemployed	6%	7.8%	7.5%
Long-term unemployment	--	4.3%	4.2%
Education (not including those under 15 years of age)			
High school graduates aged 25 to 29 (2013)	--	90.8%	91%
Post-secondary graduates aged 25 to 54 (2013)	--	62.2%	66.4%
Shelter poverty [b]			
Owner household spending more than 30% of income on shelter (2006)	19.8%	--	22.7%
Renter households spending more than 30% of income on shelter (2006)	41.0%	--	43.4%

Sources: [a] My Health My Community (2015)
[b] Statistics Canada (2013a) [c] Provincial Health Services Authority (2016)
[d] Statistics Canada (2013b)

Table 7: Food Insecurity, 2014

	Delta	Metro Vancouver	Fraser Health
Food insecure (sometimes/often)	3.6%	7.0%	6.3%

Sources: [a] My Health My Community (2015)

➢ EVIDENCE: What we know from the literature

Gambling facilities employ a substantial number of people in Canada. This employment is often one of the benefits that a municipality hopes to realize through the establishment of a new gambling facility. As described above, employment and income are linked to a wide range of positive health benefits. However, the extent to which health benefits may accrue as a result of gambling facility-related employment depends on several factors:

- The first is the total number of jobs that may be created. The proposed facility is estimated to generate about 700 new jobs and 500 person-years of one-time construction-related employment (Personal communication with BCLC 2017). However, assessment of the potential health impacts of the construction phase of the proposed project is not within the scope of this HIA.

  A related issue to the generation of new jobs is whether the new facility creates a net increase in jobs, or whether jobs are merely shifted among industries, displacing other employment (Stevens and Williams 2004, Walker 2013). In those studies that have considered both gains and losses, it seems that the net gain has been found to be negligible (Williams, Rehm et al. 2011, Toronto Medical Officer of Health 2013). The beneficial effects of employment may be most pronounced in communities suffering from higher-than-average unemployment rates, or precarious employment, by providing opportunities for uneducated and/or unskilled individuals (Stevens and Williams 2004, Blue Thorn Research and Analysis Group 2007).

- A second factor is the extent to which these jobs are filled by local residents and serve to decrease local unemployment. In a 2007 study in the lower BC mainland, it was found that 48% of employees surveyed at four gambling facilities live in a different municipality than where the casino was located (Blue Thorn Research and Analysis Group 2007). This non-local employment could detract from local economic benefits. The gaming facility service provider has stated that there will be an “emphasis on local hiring”, although no commitments or targets have been released.

- A third factor is the type and quality of jobs created and the job environment (Toronto Medical Officer of Health 2013). Employment in the gambling sector is frequently low paid and part-time (Williams, Rehm et al. 2011, Toronto Medical Officer of Health 2013). While the gaming facility service provider describes the 700 jobs as “well-paying”, there are no specific wage figures available at this time.

Casino employees may experience a difficult working environment that includes “shift work, demanding work roles, emotional labor, patron interactions, uncertainty and lack of control, legal responsibilities, ethical concerns, and super-charged environments” (Tiyce, Nerilee et al. 2013), which has been linked to an increased prevalence of stress-related behaviours (Szegda and Klingensmith 2014). Research from a study conducted in Ontario found that casino workers are three times more likely to become problem gamblers (Beneteau 2013). Another study found that new employees may be at a higher-risk for gambling problems, but tend to adapt to the constant presence of gambling over time (Hing and Breen 2008a, Lin, Shoults et al. 2012). However, it is not known whether exposure to gambling is the issue or whether those with a predisposition to gambling are attracted to the work. In 2016, BCLC commissioned Ipsos to conduct a Gaming Worker Survey and a BCLC Employee Survey. The results showed increased rates of at-risk behaviours for gambling industry staff and identified opportunities for enhanced safeguards (BCLC 2017a).

- One of the issues that is often associated with, but not unique to, employment at gambling facilities is the obligation for shift work and late-night work (Lin, Shoults et al. 2012, Toronto Medical Officer of Health 2013). Shift-work, defined as any type of employment that does not adhere to a regular daytime schedule, has been shown to negatively impact daily sleep length, circadian rhythm patterns, work-life balance, and stress (Frost, Kolstad et al. 2009, Vyas, Garg et al. 2012). Night shift work is found to be particularly disruptive to circadian rhythms and the subsequent physiologic processes affected by these cycles (Straif, Baan et al. 2007, Vogel, Braungardt et al. 2012, Szegda and Klingensmith 2014). In addition to direct impacts on sleep and other health endpoints, shift work and other non-standard work patterns have been found to negatively affect family life (Hing and Breen 2008a, Toronto Medical Officer of Health 2013, Szegda and Klingensmith 2014).

  Research conducted by Hing and Breen (2008b) on the perceived influences of shift work on the gambling behaviour of employees in gaming facilities in Queensland, Australia, found that providing gaming facility employees with regular work shifts and limited access to opportunities for gambling through location were some ways of limiting gambling amongst employees (Hing and Breen 2008b). The study found that although those working in the main city or heavily populated tourist areas can have 24-hour access to gaming facilities, the gambling venues in more remote areas and the farther suburbs tended to close after a late shift. This limited access to gaming facilities was found to be important protective influence for the facility employees (Hing and Breen 2008b). Moreover, those shift workers who reported having regular, permanent shifts around which they could plan their social activities had “*fairly normal family and social life, regular recreational interests and general employee well-being*”.

Existing Mitigation/Enhancement:

The results of BCLC's 2016 Gaming Workers' Survey show elevated rates of at-risk behaviours for gaming industry staff, which is consistent with research conducted elsewhere in Canada. It has also revealed opportunities to enhance BCLC corporate programs/policies, in conjunction with partners Gambling Policy Enforcement Branch (GPEB). In response to these research findings, BCLC has:

- Updated the Voluntary Self-Exclusion (VSE) Policy and Agreement to clarify that gaming facility employees and BCLC staff are eligible to enrol in the VSE program and that enrolment will not affect their employment status.
- Developed new content for gaming workers' mandatory training courses (i.e. the Appropriate Response Training (ART) series), that highlights the increased risks for people working in the gaming industry and outlines resources and support options available.
- Started developing informational materials on responsible gambling and problem gambling for back of the house areas within gaming facilities, such as break rooms, staff lounges or other gathering places for workers.
- Leveraged expansions of the GameSense Advisor (GSA) program from casinos to include all community gaming centres so that every gaming facility in BC has an on-site professional to provide both staff and customers with support on responsible gambling best practices, as well as resources to assist with any problem gambling concerns.
- Required gambling facilities to provide static clocks that are easily viewed from each entrance to the casino or community gaming centre, cash cages, customer service areas, and anywhere on the gaming floor.
- Required gambling facility service providers to include responsible gambling and problem gambling messaging in their digital signage. Signage and/or brochures must be visible in all gaming areas of the facility (i.e., slot area, table game area, eating area, washrooms, etc.).

➢ EFFECT CHARACTERIZATION: What does this mean for this community?

The pathways for socio-economic effects that was considered was the potential for the gambling facility to have an effect on job opportunities and income.

For job opportunities and income, the **magnitude** of effect was characterized as medium. There is a projection of 700 new jobs and 500-person years of construction-related employment due to the Delta facility; however, research suggests that when gambling facility jobs are created, there may not be a net gain of additional jobs across the economy overall. The new facility includes a relocation and expansion of the former bingo hall into over 70,000 square feet of entertainment space that includes a hotel and meeting areas. However, the facility build would also require the

replacement of the currently-operating Delta Town & Country Inn. Although the magnitude is medium, there is a high **likelihood** that this effect will occur, as gambling-related employment is intrinsic to the establishment of the facility, and the **affected population** is expected to be specific to employees of new facility. The resulting **health consequences** are characterized as positive, particularly for those who gain employment; however, without a noticeable net gain in local employment, health consequences across the population could be neutral. The assessment was based on data provided by BCLC on estimates of new jobs in the hospitality and construction industries at the new proposed Delta facility resulting in a high level of **confidence**. The combination of medium magnitude and high likelihood resulted in the classification of job opportunities and income as high priority.

Table 8: Effect Characterization for Socio-Economic Effects

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Socio-economic effects						
Job opportunities and income	Regional	Medium	High	Neutral / Positive	High	High

B. Neighbourhood Impacts

➢ RELEVANCE: Why is this a health issue?

A new casino has the potential to influence many aspects of a neighbourhood and the wider community. Situating a gaming facility in a particular neighbourhood may also serve to revitalize the community through not just socioeconomic benefits discussed above, but also via addition of new infrastructure, which is being proposed for the facility in the City of Delta. As mentioned in the introduction to Section 5, the integrated facility will consist of not only a casino, but also other amenities including multiple food and beverage outlets with all-season patios, a hotel with about 75 to 125 rooms, as well as a meeting space. This infrastructure investment could potentially lead to increased vitality in the host community, which is an area of high priority for the City of Delta.

Common areas of concern when considering neighbourhood impacts include crime rates, traffic, and effects on property values. All of these areas may be linked to community health and well-being, although the linkages are not always obvious or direct. Crime can impact physical health (injuries) as well as mental well-being (anxiety, fear, stress) both for those who experience it directly and for those who live in areas of high crime rates (Toronto Medical Officer of Health 2013). Traffic can influence health through collisions that result in injuries or fatalities; through reduced air quality from vehicle emissions; or through congestion, which can add to stress and reduce time for healthy activities such as physical activity or social time with family. While changes in property values have the potential to influence health (via housing affordability, changes in economic means or anxiety / stress), there is no literature documenting an association between changes in property values and health outcomes that is relevant in this context.

➢ BASELINE: What we know about current local conditions

- The proposed location could benefit from the revitalization and infrastructure investments the gaming facility may bring to the area.
- Traffic volumes, crime rates and property values vary substantially over small distances. Traffic volumes and traffic patterns relevant to the development of the new facility will be described in BCLC's traffic management plan.
- The current road network is generally able to accommodate the hotel-casino traffic at peak periods (Bunt & Associates 2018).
- Across Delta both property crime and violent crime decreased overall between 2006 and 2015 (**Figure 7**).
- Table 9 shows that rates of injuries and fatalities related to impaired driving in the Fraser South HSDA are roughly comparable to BC as a whole. Alcohol was involved in around 10.1% of traffic injuries in the Fraser South HSDA, and around 23.5% of fatalities. Drugs were involved in approximately 1.0% of injuries and 3.5% of fatalities.

Table 9: Traffic injuries and deaths due to impaired driving, 2001-2007

	Fraser South HSDA				BC			
	Number Injured	**% of total traffic injuries in HSDA**	**Number of Deaths**	**% of total traffic fatalities in HSDA**	**Number Injured**	**% of total traffic injuries in BC**	**Number of Deaths**	**% of total traffic fatalities in BC**
Alcohol Involved	3,126	10.07	142	23.51	21,914	10.91	1,404	25.47
Drugs Involved	317	1.02	21	3.48	2,476	1.23	334	6.06
Fell Asleep	339	1.09	8	1.32	4,420	2.2	253	4.59

Source: Business Information Warehouse ñ Traffic Accident System (2017)

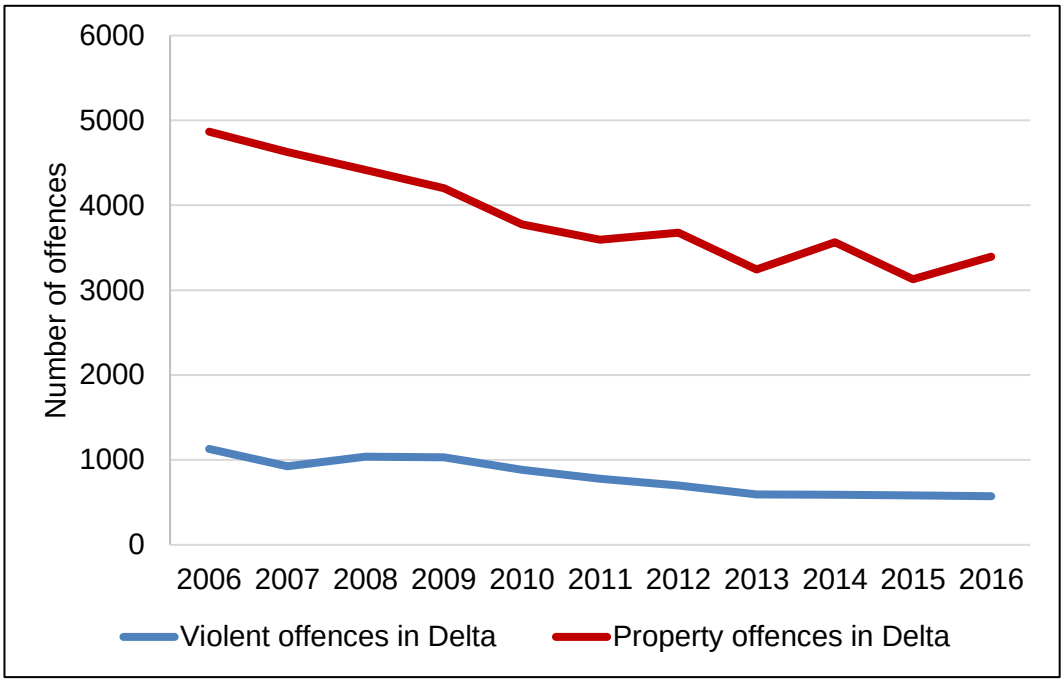


Figure 7: Violent and property crimes in Delta from 2006 – 2016
Source: **Ministry of Public Safety and Solicitor General Policing and Security Branch (2016)**

➢ EVIDENCE: What we know from the literature

The literature on the effects of crime and gambling establishments shows mixed results. The popular belief is that casinos could cause or be associated with crime. For example, a 2015 study conducted in Pittsburgh found that 29% of residents surveyed in a community with a new casino believed there was an increase in crime (Fabio, Geller et al. 2015). However, studies that have been conducted of actual crime rates do not clearly support this assertion (Stevens and Williams 2004, Kirchner 2014).

A review of crime data and the opening of different gambling types in Alberta found no association between the introduction of a casino and rates of breaking and entering, credit card fraud, drug possession, illegal gambling, other fraud, prostitution, robbery or shoplifting (Humphreys, Soebbing et al. 2011). Similarly, a study conducted in Windsor, Ontario found that the introduction or closure of casinos had no effects on police-reported offences (Phipps 2004). Finally, a review of the opening of four gambling facilities in BC lower mainland communities showed no effect of the facilities on the rate of criminal code offences (Blue Thorn Research and Analysis Group 2007). One study that looked at total number of gambling activities in each province and territory found a weak—and possibly spurious, according to the authors—association with certain types of crimes (Bridges and Williamson 2004).

Research from the United States, as well as other jurisdictions also finds inconsistent and inconclusive evidence with respect to gambling facilities and crime (Curran and Scarpitti 1991, KPMG Management Consulting 1995, Chang 1996, Gerstein, Hoffmann et al. 1999, Taylor, Krepps et al. 2000, Wilson 2001, Evans and Topoleski 2002, Alexander 2003, Stitt, Nichols et al. 2003, Bridges and Williamson 2004, Phipps 2004, Koo, Rosentraub et al. 2007, Mays, Casillas et al. 2007, Park and Stokowski 2009, Spectrum Gaming Group 2009, Reece 2010, Szegda and Klingensmith 2014).

People who live in close proximity to larger gambling facilities frequently cite higher traffic volumes as one of the potential negative outcomes (Nichols, Stitt et al. 2002, Lin, Shoults et al. 2012, Toronto Medical Officer of Health 2013). The extent to which traffic may change with the introduction of a new facility depends heavily on the local area in which it is situated.

A survey of gambling facilities in Iowa found that about half of the communities surveyed indicated that the casinos have resulted in increased traffic in the surrounding area, especially during times when special events were scheduled. (Strategic Economics Group and Spectrum Gaming Group 2014). The extent to which traffic is likely to increase around any facility depends greatly on the size and siting of the facility.

Alcohol-related traffic collisions (and the resulting injuries and fatalities) are another concern related to the establishment of a new facility. A study published in 2010 examined casino openings in 131 counties in the US over a 10-year period and found that there was an association between presence of a casino and the number of alcohol-related fatal traffic collisions. However, this effect was pronounced in rural areas, but not in areas that were more dense and urban (Cotti and Walker 2010).

There is some indication that the presence of a casino may increase residential and commercial property values. However, there is not currently enough evidence to substantively link the two (Room, Turner et al. 1999, Janes and Collison 2004, Stevens and Williams 2004, Humphreys, Soebbing et al. 2011).

Existing Mitigation/Enhancement:

Traffic Impact Study and Management Plans

As part of the development planning process Bunt & Associates were retained to prepare a site-specific Traffic Impact Study (Bunt & Associates 2018). Some of the key points noted in the Traffic Impact Study are:

- Traffic congestion in this area during the peak commuting times is caused by the limited capacity at the George Massey Tunnel;
- Peak traffic generated from the hotel-casino is anticipated to be approximately 600 vehicles per hour, which would occur weekday afternoons between 3:00 to 4:00 p.m. and Saturday midday from 2:45 to 3:45 p.m.;

- The current road network is generally able to accommodate the hotel-casino traffic at peak periods; and
- Driveway B must be closed during peak periods to avoid shortcutting congestion on Highway 17A.

The following mitigation measures are recommended in the Traffic Impact Study, in order to provide optimal traffic flow:

- Optimize signal timing at 62B Street and 60 Avenue;
- Install a median barrier on Highway 17 A to avoid left-turn movements onto Driveway B;
- Add a new dedicated left turn lane on 60 Avenue to Driveway A;
- Establish shuttle service between the hotel-casino and major hubs;
- Provide continuous sidewalk between the hotel-casino and the two existing bus stops;
- Install bus shelters and provide accessibility improvements at the two existing bus stops;
- Continue to allow the Ministry of Transportation and Infrastructure's free cycling shuttle to operate out of this location; and
- Provide a multi-use path parallel to Driveway A to improve access to the site for cyclists and pedestrians

Security Measures at Casinos

Gambling in British Columbia is highly regulated and casinos have high levels of security and surveillance in addition to policies and procedures – all of which deter crime.

BCLC Security Investigators and Gaming Compliance Officers monitor the gaming facility service provider operations to ensure they conform to BCLC's standards, relevant legislation and regulations such as BC's Gaming Control Act and federal anti-money laundering legislation.

Casinos in BC have sophisticated monitoring systems in place and extensive on-site security staff to help document and react to a broad range of situations that may occur at the site. BC casinos feature surveillance cameras that cover all publicly accessible areas, and 24-hour surveillance staff who operate under strict standards set out by BCLC, with up to 30 staff working at any given time. BCLC also has a team of investigators and compliance officers dedicated to the oversight of the security and integrity of all gaming facilities across the province.

A number of security measures associated with gaming facility development are required both by BCLC and the facility service provider as follows (BCLC 2016a):

- BCLC shall determine security standards, policies and procedures to be followed by the gaming facility service provider's security department personnel.
- The facility service provider shall be responsible for: (i) Protection of employees; (ii) Protection of patrons; (iii) The physical security of the casino or community gaming centre and all assets contained therein.

- Ensuring that persons under 19 years of age are not allowed in the casino or community gaming centre;
- Ensuring persons in the Voluntary Self-Exclusion program are refused entry to the casino or community gaming centre;
- Emergency plans for injuries, accidents, power failure, bomb threats, fire, natural disasters, armed robberies, or situations that could cause concern for the safety or well-being of the casino or community gaming centre patrons, staff, or BCLC employees.

Rigorous reporting requirements apply to all BC gaming facilities. Staff are trained to recognize situations, take the necessary steps and complete the appropriate reports. Reporting requirements are extensive. A wide range of incidents must be tracked and reported and include everything from helping a patron in a medical emergency to spotting transactions that may be suspicious.

Anti-Money Laundering Program

Under federal anti-money laundering laws, BCLC is responsible for managing the anti-money laundering program in BC casinos.

Casinos are one of a number of sectors, including banks and real estate, which must report cash transactions of $10,000 or more and transactions (as well as attempted transactions) of any amount that are suspicious to the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC). FINTRAC analyzes the reports to identify potential instances of money laundering, and shares the results with law enforcement agencies for investigation.

BCLC's Anti-Money Laundering (AML) program includes an anti-money laundering risk assessment program, reporting to FINTRAC, and policies and procedures to prevent BC gaming facilities from being targeted for money-laundering activities, including (BCLC 2016c):
Monitoring and reporting large cash transactions, casino disbursement reports and suspicious transactions;

- Preventing players from converting cash into verified win cheques;
- Preventing the exchange of small denomination bills for large denomination bills;
- Monitoring and reporting suspicious instances of players passing chips to each other on the gambling floor;
- Honouring casino chips only at the property they were bought;
- Promoting the use of cash alternatives such as debit cards, convenience cheques and patron gaming fund accounts which utilize bank drafts and electronic funds transfers;
- Processes for identifying a player's source of wealth and funds to measure risk;
- Specific conditions on higher risk patrons, including not allowing unsourced cash and/or chips and;
- Mandatory AML training for BCLC and casino staff that must be updated on a regular basis.

BCLC has also established a dedicated AML Unit who specialize in AML Investigations, Programs and Intelligence. The AML Unit works with police and regulatory agencies, and shares information regarding individuals it believes may be engaged in criminal activity as it pertains to suspected terrorist activity, money laundering, and proceeds of crime related offences. BCLC proactively bans individuals deemed to be a public safety risk.

More recently, in January 2018, the BC Provincial government established a new review process to combat money laundering in casinos. The new process places emphasis on accurately recording the source of funds that are $10,000 or more, and a declaration of truth from the customer. In addition, in high-volume gaming facilities, especially in the Lower Mainland, government regulators will also be stationed on-site. With available staffing, an investigator from the province's GPEB will be on-site and available to high-volume gaming facility operators on a 24/7 basis.

- **EFFECT CHARACTERIZATION: What does this mean for this community?**

The proposed area for the project has the potential for increase vitality and growth, which is a high **priority** for the City of Delta. The **magnitude** of this change is characterized as medium, with medium likelihood. The related **potential health consequence** would be positive.

Overall, crime is expected to have a low **priority** in relation to the proposed facility. The **magnitude** is characterized as low for crime since the evidence suggests that introduction of a gambling facility typically has no net effect. The **likelihood** is low, as any impacts are expected to occur rarely. The **affected population** would be proximate to the facility. The **potential health consequence** is characterized as neutral to negative as crime has an adverse effect on health, but as described, evidence suggests that crime will not increase with the introduction of a new gambling facility. The confidence is characterized as medium, as there is a reasonable amount of general research available on the link between gambling facilities and crime.

Traffic is expected to have a medium **priority** for HIA. The potential **magnitude** for traffic effects is currently predicted to be low. The recently completed traffic impact study and the traffic management plan indicate that the current road network is generally able to accommodate the hotel-casino traffic at peak periods.

Evidence supports that the **likelihood** of health impacts due to traffic are likely to be medium. The level of confidence in this assessment is high, as the location is known and the traffic assessment and management plans have recently been prepared. At present, the **potential health consequence** with the inclusion of the traffic mitigation measures is neutral to negative, as the road network is predicted to be able to handle peak traffic due to the hotel-casino, however, traffic-related collisions could result in injury or fatality, but are not likely to be large.

Property values are unlikely to change as a result of the new facility, given that it will be located at a highway junction, replacing an existing hotel. The **magnitude** is therefore low, with a low **likelihood**. The **potential health consequence** is neutral. This results in a 'low' **priority** for HIA.

Table 10: Effect Characterization for Neighbourhood Impacts

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Neighbourhood impacts						
Vitality and growth	Proximate	Medium	Medium	Positive	Medium	High
Crime	Proximate	Low	Low	Neutral / Negative	Medium	Low
Traffic	Proximate	Low	Medium	Neutral / Negative	High	Medium
Property values	Proximate	Low	Low	Neutral	Medium	Low

C. Access to Gambling

➢ RELEVANCE: Why is this a health issue?

Gambling facilities and the act of gambling itself have an entertainment value, and can act as a way for people to congregate and be socially connected (Lin, Shoults et al. 2012). This connectivity may provide a positive health benefit in terms of reducing social isolation. In addition, positive attitudes toward gambling can be based on the view that it has economic benefits and is a type of voluntary taxation/revenue collection by a government (BC Public Health Officer 2013). However, there may be uncertainty around the overall societal/community value of gaming and whether it can bring positive health effects could depend upon individual and collective community values.

In circumstances when gambling starts to affect health, finances or relationships, it becomes problem gambling (Responsible Gambling Council 2012). In 2013, the American Psychological Association "reclassified pathological gambling from an impulse-control disorder to a non-substance addictive disorder, which explicitly recognizes problem gambling as a medical issue and solidifies the need for clinical treatment of the disorder in serious cases" (GPEB 2015). Problem gambling is frequently associated with mental health issues, and can lead to or co-occur with depression, substance misuse and suicide. The financial and social stresses that occur with problem gambling further exacerbate these issues. The effects of problem gambling can also impact people close to those who gamble; for example, financial security, partner violence and divorce, as well as impacts on children from affected families.

➢ BASELINE: What we know about current local conditions

- There are existing gaming facilities located near the Delta area, including Surrey's Newton Community Gaming Centre, and casinos in New Westminster, Burnaby and Richmond.
- The number one gambling activity that people in BC participate in is through lottery or scratch & win tickets (81.6%), the second is charity raffles (45.8%) and the third is gambling at a casino (28.0%), which includes slot machines (R.A. Malatest and Associates

Ltd. 2014). With respect to proximity, people who gambled were most likely to travel 5 km or less (46.4%). Additionally, 68.8% of people who gamble in BC spend less than $50 per month on gambling activities.

- Gambling amongst residents in the Fraser Health Authority is similar to gambling for the whole of BC, with the percentage of residents who have gambled in the past year at 71.8% for the Fraser Health Authority vs. 72.5% for BC, 24.4% weekly gamblers for the Fraser Health Authority vs. 25.5% for BC as a whole (Table 11).
- In 2014, a Problem Gambling Prevalence Study for BC was conducted to establish the prevalence of adult problem gambling in the Province (R.A. Malatest and Associates Ltd. 2014). This study found that in BC, 88.8% of people are not at risk of problem gambling, while 3.3% are considered moderate- or high-risk (**Figure 8**)[#].

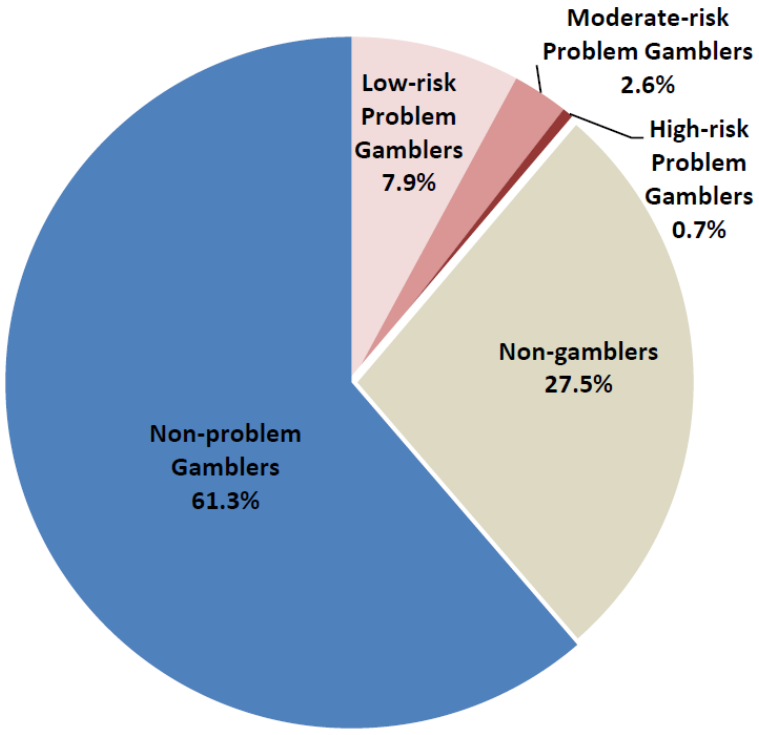


Figure 8: Distribution of Gambler Types and Non-Gamblers in British Columbia
Source: *R.A. Malatest and Associates Ltd. (2014) (Unweighted data, n = 3,038)*

[#]Gambler types are defined in *R.A. Malatest and Associates Ltd. (2014)* as following:

- Non-Gamblers: individuals who have not gambled in the past 12 months.
- Non-Problem Gamblers: individuals who have a Canadian Problem Gambling Index (CPGI) score of 0 - no problems with gambling.
- Low-Risk Problem Gamblers: have a CPGI score of 1 to 2 – few or no negative consequences due to gambling.
- Moderate-Risk Gamblers: CPGI score of 3 to 7 – some negative consequences as a result of gambling.
- High-Risk Problem Gamblers: CPGI score of 8 or more – significant negative consequences as a result of gambling and may experience a loss of control

- The percentage of the population who are defined as at-risk or problem gamblers when comparing residents of the Fraser Health Authority and BC as a whole, as shown in Table 11 below:

Table 11: Gambling behaviours in the Fraser Health Authority, 2014

	Fraser Health Authority	BC
Residents who gambled in the past year	71.8%	72.5%
Weekly gamblers[a] (three to five times a month or more)	24.4%	25.5%
At-risk or Problem gamblers – low risk	10.9%	10.9%
At-risk or Problem gamblers – moderate risk	3.3%	3.6%
At-risk or Problem gamblers – high risk	1.4%	1.0%

Source: R.A. Malatest and Associates Ltd. (2014) (BC n = 2,241)
Note: [a] Defined as "respondents who answered they had spent money or bet on at least one gambling activity either "daily", "several times per week", or "several times per month".

- According to a 2014 study by R.A. Malatest and Associates, the following individuals/groups within BC are more likely to be classified as gambling at high risk:
  - Young Adults (18-24 years)
  - Male gender
  - Aboriginal, Inuit or Métis ethnic origin
  - Southern Asian ethnic origin
  - Students
  - Unemployed
  - Low household income (<$30,000 per year)
  - Those with mental health or substance use issues.

- The Problem Gambling Prevalence Study conducted by GPEB found that moderate-to-severe problem gambling in BC decreased from 4.6% in 2008 to 3.3% in 2014, which is equivalent to approximately 125,000 people who face moderate-to-severe problems with gambling (Government of British Columbia 2015b). It should be noted that this figure represents people who have gambled in the past 12 months and does not take into consideration people who have gambling problems but may be on self-exclusion or receiving treatment.
- Social conditions linked to problem gambling include divorce, intimate partner violence, homelessness, suicide and substance misuse.
- As of 2011, divorce rates for Delta were lower than the BC or Canadian average.

Table 12: Divorce rates in Delta (2011)

	% of population ages 15 and over that is divorced
Delta	5.18%
BC	6.62%
Canada (data from 2000)	6.05%

Source: Statistics Canada (2011)

- Between 2014 and 2017, the homeless count rose in Delta and White Rock (which are coupled in preliminary data), from 19 to 46 people – an increase of 142% (BC Non-Profit Housing Association and M. Thomson Consulting 2017).

Table 13: Homeless Count in Delta by Year

	2005	2008	2011	2014	2017
Delta / White Rock	12	17	14	19	46
Metro Vancouver	2,174	2,660	2,650	2,777	3,605

Source : BC Non-Profit Housing Association and M. Thomson Consulting (2017)

- The rates of hospitalization due to alcohol use in the Fraser South HSDA increased steadily between 2002 and 2014 (**Figure** 9). Drug-related hospitalizations have remained fairly steady. Both drug and alcohol hospitalizations mirror trends seen overall in BC.

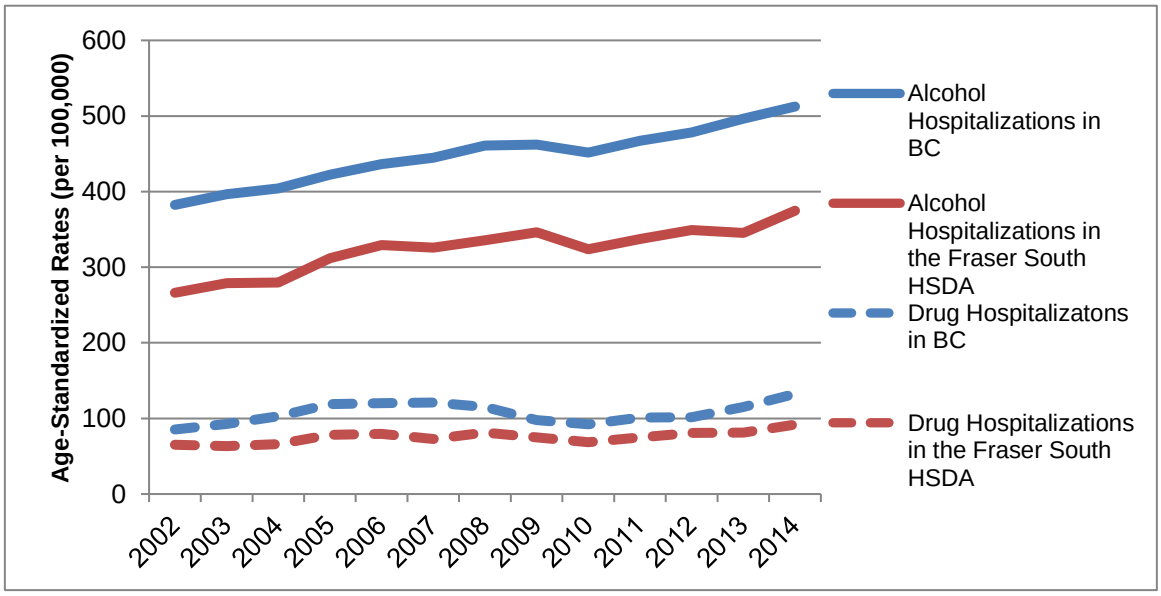


Figure 9: Time trend hospitalization rates due to drug and alcohol use from 2002 – 2014
Source: University of Victoria (2016)

➢ EVIDENCE: What we know from the literature

Gambling facilities are often viewed as a place of entertainment for a broad sector of the population. In a 2014 study by R.A. Malatest and Associates, a survey of BC residents stated that "winning, entertainment and excitement" were the main benefits of gambling. Further, in a review of gambling from the perspective of public health, the following findings regarding the entertainment value and positive effects of participating in gambling were identified:

> "In addition to providing fun and excitement, some forms of gambling can enhance coping strategies by building skills and competencies such as memory enhancement, problem solving through game tactics, mathematical proficiency, concentration, and hand-to-eye physical coordination" (Shaffer and Korn 2002; Lin, Shoults et al. 2012).

However, proximity to a casino may play a role in influencing the likelihood of participating in gambling and prevalence of problem gambling. A recent study in the United States found that people who live within 30 miles of a casino had a higher chance of being a problem gambler (3.9%), as opposed to 2.7% among individuals who live >30 miles from a casino. Further, having six or more casinos within 30 miles, was associated with a 6.2% chance of being a problem gambler (Welte, Barnes et al. 2016).

Determining whether or not this association is causal is both controversial and unclear. A study that looked at the prevalence of problem gambling before and after an increase in gambling (more lottery terminals and three new casinos) found that the presence of a gambling venue increased the number of problem gamblers by 75% (Ladouceur, Ferland et al. 1999). Other studies have suggested that impacts on problem gambling are most pronounced following the initial introduction of a facility, and that problem gambling effects may lessen over time (Williams, Rehm et al. 2011). Finally, the U.S. National Gambling Impact Study Commission reported that survey findings suggested that availability of a casino within 50 miles is associated with double the prevalence rates of problem and pathological gamblers. However, the study noted that several factors were unable to be determined, including: (i) whether the availability of gambling caused this higher prevalence rate, (ii) whether more people with gambling issues settled in areas closer to major gambling opportunities, (iii) whether casinos locate in areas that already have a high rates of problem gambling or (iv) whether casinos locate in areas with a disproportionately vulnerable population (Shaffer and Korn 2002; Lin, Shoults et al. 2012). In summary, the evidence on this issue is complex, and seems to suggest that the introduction of new forms of gambling in a location without any prophylactic actions may result in an increase in the prevalence of problem gambling, but that the introduction of a new facility in conjunction with an effective public awareness campaign is likely to result in a decrease in problem gambling (Wiebe and Volberg 2007).

Problem gambling has the potential to be associated with adverse social effects and impacts to families. Children of problem gamblers are more likely themselves to become problem gamblers later in life, or to exhibit other psychosocial, educational and emotional challenges (Barnes 2013). Research has shown that most adult problem gamblers started gambling at age 10 (on average). In BC, the average age for problem gambling is 13, with 56% of youth having gambled by the time they are 18 years old (Government of British Columbia 2015b). Problem gambling can also create financial problems that can contribute to family breakdown (Barnes 2013). It has been estimated that the number of people affected by problem gambling is three or four times greater than the actual number of problem gamblers, due to effects on friends and family (Williams, Rehm et al. 2011).

Academic research shows that a substantial portion of gambling revenue may be derived from those vulnerable to problem gambling (Williams and Wood 2007; Williams and Wood 2004; Orford, Wardle et al. 2012). Depending on the jurisdiction under consideration, this proportion of revenue may differ. However, contrary studies also exist (Bernhard and Philander, 2012; National Center for Responsible Gaming 2016). Hence, there is a lack of consensus and the exact proportion of contribution of those vulnerable to problem gambling may ultimately depend on the type of gambling, the specific jurisdiction, and the specific time period studied (Williams and Wood 2007).

The effects of new gambling facilities on bankruptcy, suicide, and divorce rates have also been examined, and suggest that rates may be higher among problem gamblers, although the evidence is mixed (Nichols, Stitt et al. 2004; Stevens and Williams 2004; Williams, Rehm et al. 2011; Strategic Economics Group and Spectrum Gaming Group 2014).

In a study that reviewed 492 articles on the social and economic impacts of gambling (with 16% of these articles originating in Canada), the complexity in teasing out the relationship between the introduction of legalized gambling and problem gambling issues becomes clear. As described by the study authors:

> "It is also important to recognize two things: a) the legal availability of gambling is only partly responsible for the prevalence of problem gambling (i.e., problem gambling existed to some extent in all jurisdictions prior to legal provision), and; b) problem gambling is only partly responsible for these serious consequences (i.e., the mental health and substance abuse comorbidities of problem gamblers are additional contributing factors)" (Williams, Rehm et al. 2011).

Existing Mitigation/Enhancement:

There are several programs available to deal with the social issues that can arise with the development of gambling in BC. The Gaming Policy and Enforcement Branch (GPEB) is responsible for ensuring that gambling in BC is conducted fairly, securely and responsibly, and provides regulatory oversight of BCLC. Additionally, GPEB is responsible for gambling policy and the Responsible and Problem Gambling Program, delivering prevention and treatment services, including (Government of British Columbia 2015b):

- Public Education: delivered in schools and communities across the Province and online through the BC Responsible Gambling website;
- Staff in Casinos: contracted by the British Columbia Responsible & Problem Gambling Program to provide information to players about how games work, dispel commonly held myths about gambling, provide information about responsible play, and offer support to players who may be in distress;
- The Problem Gambling Helpline: operates 24-hours a day, seven days a week to provide free information, crisis-counselling, and referral services in several languages;

- Counselling and Treatment Services: delivered free of charge to individuals and families seeking help with gambling problems. The program served 1,673 people in 2013 (Malatest, 2014). Individuals who use these services are tracked and 73.8% have experienced clinically significant improvement in their well-being as a result of counselling (Government of British Columbia 2015b).
- Specialized Services: In 2012, GPEB created a dedicated Aboriginal Services Coordinator position to "ensure that problem gambling prevention and treatment services are culturally sensitive and tailored to meets the needs of Aboriginal people. The program also has ten Aboriginal gaming facility service providers who travel to northern and rural communities to deliver prevention, outreach and treatment services to Aboriginal people and their families (Government of British Columbia 2015b).

Table 14: Helpline calls and counselling in BC

	2013-2014[1]	2015-2016[2]	2016-2017[3]
Population 18+	3,743,230	3,853,429	3,910,772
Helpline calls			
Own problem	3,174	2,514	2,353
Others' problem	668	242	227
Total problem gambling helpline calls	3,842	2,756	2,580
Helpline calls- Miscellaneous	499	1,409	746
Total helpline calls	*4,341*	*4,165*	*3,326*
Full-time equivalent counsellors	**26**	**29**	**26**
Counselling clients			
Counselling clients' own problem	1,150	1,434	1,390
Counselling clients with others' problem	304	Unavailable	Unavailable
Total counselling clients	*1,454*	*Unavailable*	*Unavailable*

Sources: [1] Canadian Partnership for Responsible Gambling (2015b)
[2] Canadian Partnership for Responsible Gambling (2015a)
[3] **Gambling Policy and Enforcement Branch**

However, in a study on gambling prevalence in BC, awareness of problem gambling and related resources provided by the BC government declined from 46% in 2008 to 35.8% in 2014, and awareness rates are particularly low for some groups at risk for problem gambling (i.e., youth aged 18-24 and individuals of Southern Asian descent) (R.A. Malatest and Associates Ltd. 2014). As observed from the 2014 BC Problem Gambling Prevalence Study (R.A. Malatest and Associates Ltd. 2014), 3.3% of the BC population is at moderate or high-risk for problem gambling. This suggests that approximately 125,000 British Columbians could potentially benefit from enrolling in the VSE program. Given that an average of 6,700 individuals are enrolled in the VSE program in any given month, this suggests that the program enrolls approximately 5% of the moderately to high at-risk population (Cohen, McCormick et al., 2017). Statistics from Ontario estimated that a minority of those vulnerable to problem gambling in Ontario (1-2% per year) seek

out or receive treatment, and 0.6 to 7.0% of problem gamblers in Canada sign up for self-exclusion (Toronto Public Health 2012).

In addition to services offered through GPEB, the BCLC also provides a suite of programs and services to help address problem gambling issues, including mandatory staff training. In their Social Responsibility Report (2016b), BCLC's Social Responsibility Committee identified issues that were both impactful and important to stakeholders, some of these are highly relevant to conducting an HIA of gambling development, including: (i) community socio-economic benefits; (ii) problem gambling; (iii) anti money laundering and illegal activities; (iv) ethical conduct; (v) player experience, and several others (BCLC, 2016b). Part of BCLC's Social Responsibility is providing support for potential issues around gambling. There are a number of support tools, events and other initiatives that are provided to reduce the potential negative impact of gambling on BC communities:

- GameSense: combines responsible play education with information on the risks associated with gambling.
    - *GameSense Info Centres (GSIC)*: GSICs or satellite GSICs are present in every casino and community gaming centre in BC.
    - *Voluntary Self-Exclusion Program:* provides several options for voluntary exclusion from some or all of the gambling facilities operated by BCLC, including playnow.com for 6 months, 1, 2 or 3 years.

- New Horizons in Responsible Gambling Conference – brings together experts, clinicians, researchers and industry professionals since 2013 to facilitate conversations on ideas and best practices in responsible gambling.

Research also exists in relation to concurrent use of alcohol/tobacco and occurrence of problem gambling. Although there is a ban on smoking in all casinos and community gaming centres in BC, as identified in the Provincial Health Officer's 2009 Annual Report (BC Public Health Officer 2013), research suggests that smoking among those who do gamble leads to spending more than twice the amount spent by non-smokers. Moreover, there is potential for smoking bans in gaming facilities to mitigate problem gambling behaviour, and/or discourage smokers from visiting gaming facilities (Hirschberg and Lye 2010). Research has also shown that restricting concurrent use of both alcohol and tobacco in gaming facilities has a moderately high effect on curbing problem gambling (BC Public Health Officer 2013; Williams, West et al. 2012). Restricting or reducing access to alcohol in gaming facilities could involve, among other solutions, limiting the availability of alcohol by having reduced hours of service, and increasing the prices (BC Public Health Officer 2013).

➢ EFFECT CHARACTERIZATION: What does this mean for this community?

For Access to Gambling, the effect characterization was based on a considerable amount of scientific research and data specific to gambling development in BC and around the world resulting in a high level of **confidence** for entertainment/leisure and for impacts on people vulnerable to problem gambling, which is well-researched.

Aspects of Access to Gambling that were assessed were entertainment / leisure; and impacts of problem gambling (financial impacts on individual and households; mental health; and social and family impacts).

Entertainment and leisure will have a 'positive' **health consequence**, with a regional impact, as the majority of facility users will have a beneficial experience and effect on their well-being through use of the facility. The positive effect from entertainment value is particularly valid if the facility contains a multitude of options in addition to gambling (e.g., hotel, retail, restaurants, bars, music venues, etc.). It is anticipated that the **magnitude** of the effects from entertainment and leisure will be characterized as 'medium' since the effects are moderate. There is a 'high' **likelihood** that these positive benefits will occur across the region. The **priority** of effects via the entertainment and leisure pathway is considered medium.

Across the general population, the impacts of problem gambling are expected to have a 'medium' **magnitude** since any increase will affect a small proportion of the population but may be large enough to be noticed by agencies or organizations. Evidence shows there is a medium **likelihood** that the effect of problem gambling will occur, as there is mixed evidence that a new facility within an area that already has gambling available will increase problem gambling rates, and that any increases may dissipate over time. The **potential health consequence** of problem gambling is characterized as 'negative', as the direct and indirect health consequences are numerous. Ultimately, the **priority** of problem gambling effects is characterized as 'medium'.

The characterizations for financial impacts on individual's households, mental health, and social and family impacts are discussed together, as they have similar expected outcomes.

With respect to the general population across the region, the **magnitude** and **likelihood** of impacts (financial impacts on individual's households, mental health, and social and family impacts) are characterized as low, as little to no change is expected for these outcomes for the general population. The **potential health consequence** is expected to be 'neutral', since no effect on health and wellbeing is expected. The overall priority is therefore also low.

The overall **affected population** is the **regional** population. However, **people vulnerable to problem gambling** reflect a 'specific' affected population for whom impacts (financial impacts on individual's households, mental health, and social and family impacts) may have more substantial outcomes. Hence, this subset of the affected population is characterized separately from the overall regional population (see Table 15 below). Evidence shows that for this population, potential health effects could have a high **magnitude**, but there is only a medium **likelihood** that these effects will occur, given that there are already existing opportunities for gambling in the Delta area. These impacts will have a 'negative' **health consequence** for people vulnerable to problem gambling due to the potential for diminished health and well-being for these individuals and their families. The effect characterization resulted in an overall high **priority** for financial, mental health and social/family impacts.

Table 15: Effect Characterization for Access to Gambling

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Access to gambling						
Entertainment / leisure	Regional	Medium	Medium	Positive	High	Medium
Impacts of problem gambling	Regional	Medium	Medium	Neutral to Negative	Medium	Medium
➢ Financial impacts on individuals and households	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low
➢ Mental health	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low
➢ Social and family impacts	People vulnerable to problem gambling	High	Medium	Negative	High	High
	Regional	Low	Low	Neutral	Medium	Low

D. Economic Effects on Municipalities

➢ RELEVANCE: Why is this a health issue?

The economic health of municipalities has important effects on the health of its residents. Municipalities are responsible for providing a broad range of infrastructure and services to their residents that are linked to health and wellbeing outcomes, such as social services; police, ambulance and fire services; the provision of clean drinking water; safe and accessible travel options; economic development opportunities for individuals; child development opportunities; services for seniors; and many more items. Cities and towns with more economic resources are able to enhance the health of their citizens through investing in improving these services and infrastructure. Activities or developments that increase municipal economic health thus have the potential to positively affect the health of community residents.

➢ BASELINE: What we know about current local conditions

- Casinos located in the Vancouver area have generated between $1.1 and $18.9 million per year for local governments (Table 16).

Table 16: Local Government Share of Provincial Casino Revenue

Location	Name of Facility	2015/16	2016/17
Langley	Cascades Casino	$6,621,000	$6,943,000
New Westminster	Starlight Casino Resort	$6,581,000	$6,381,000

Location	Name of Facility	2015/16	2016/17
Richmond	River Rock Casino Resort	$18,896,000	$16,972,000
Surrey	Elements Casino	$3,331,000	$4,103,000
Vancouver	Edgewater Casino	$8,307,000	$8,548,000
Vancouver	Hastings Racecourse Casino	$1,097,000	$1,109,000

Sources: GPEB (2017); BCLC (2016b)

- Gambling has had a substantial economic impact on British Columbia as a whole. A 2011 study on the economic impact of the BC gambling industry conducted by HLT Advisory concluded that in the year 2010, the industry generated $4 billion in gross output, $1.5 billion in purchase of goods and services, $2.5 billion in value added GDP, 37,500 full time jobs, and $1.7 billion in labour income (HLT Advisory 2011) (**Figure** 10).

Exhibit 13
Total Economic Impacts of the British Columbia Gaming Industry 2010 ($000)

Total Gaming Revenue		**$2,172,025**	
	Gaming Operation	Governments/ Charities	Total
Expenditures*	$916,012	$1,099,532	$2,015,544
Gross Output			
Direct	$916,012	$1,099,532	$2,015,544
Indirect	$716,439	$527,205	$1,243,644
Induced	$290,238	$534,626	$824,864
Total	$1,922,689	$2,161,363	$4,084,051
Purchase of Goods & Services			
Direct	$364,134	$432,504	$796,638
Indirect	$247,344	$213,221	$460,565
Induced	$109,045	$200,864	$309,910
Total	$720,523	$846,590	$1,567,113
Value Added GDP			
Direct	$551,877	$667,028	$1,218,906
Indirect	$469,096	$313,984	$783,079
Induced	$181,192	$333,761	$514,954
Total	$1,202,166	$1,314,773	$2,516,939
Labour Income			
Direct	$321,870	$592,893	$914,763
Indirect	$305,776	$211,568	$517,344
Induced	$107,327	$197,700	$305,027
Total	$734,974	$1,002,161	$1,737,135
Employment			
Direct	8,191	10,620	18,812
Indirect	7,483	4,487	11,971
Induced	2,390	4,402	6,791
Total	18,064	19,509	37,573

Source: HLT Advisory Inc. based on Statistics I-O Model and HLT estimates.

** Does not equal total gaming revenue. Federal government revenue (GST, lottery payment and CPMA levy) as well as provincial government revenues allocated to capital expenditure, principal repayment and operating reserves are not included.*

Figure 10: Economic impact of the British Columbia gambling industry, 2010
Source: HLT Advisory (2011)

➢ EVIDENCE: What we know from the literature

A new gambling facility has the potential to have both positive and negative economic impacts on local business and revenues. Most notably, a gambling facility has the potential to generate a substantial amount of revenue, a portion of which is allocated to the local host government (Government of British Columbia 2015a). In Canada, governments receive tax revenue from gambling facilities. Tax income on a provincial or federal level would mean that revenues can be spent in many jurisdictions, and not necessarily in the same community as the casino (Stevens and Williams 2004). However, across BC as a whole, casino or community gaming centres resulted in local host governments receiving $1.2 billion since 1999, or more than $70 million in the 2016/2017 fiscal year (GPEB 2017).

For the proposed Delta facility, annual revenues are estimated to be between $25 million and $50 million. The Host Local Government is projected to receive a payment of approximately $1.5 million to $3 million annually.

In 2014/2015, provincial revenues from gambling were reinvested in a variety of ways, including 7.6% to host municipal governments, 11.7% directly to health services through the 'Health Special Account' and with 66.0% as 'Consolidated Revenue', which is partially spent on health, education and social services (Blue Thorn Research and Analysis Group 2007). Additionally, in 2015/2016 gambling revenue granted to and earned by community organizations included a total of $135 million and included the following categories: arts and culture; environment; human and social services; public safety; sport and District/Parent Advisory Council (GPEB 2016). Figure 11 provides a breakdown of the allocation of this revenue by category.

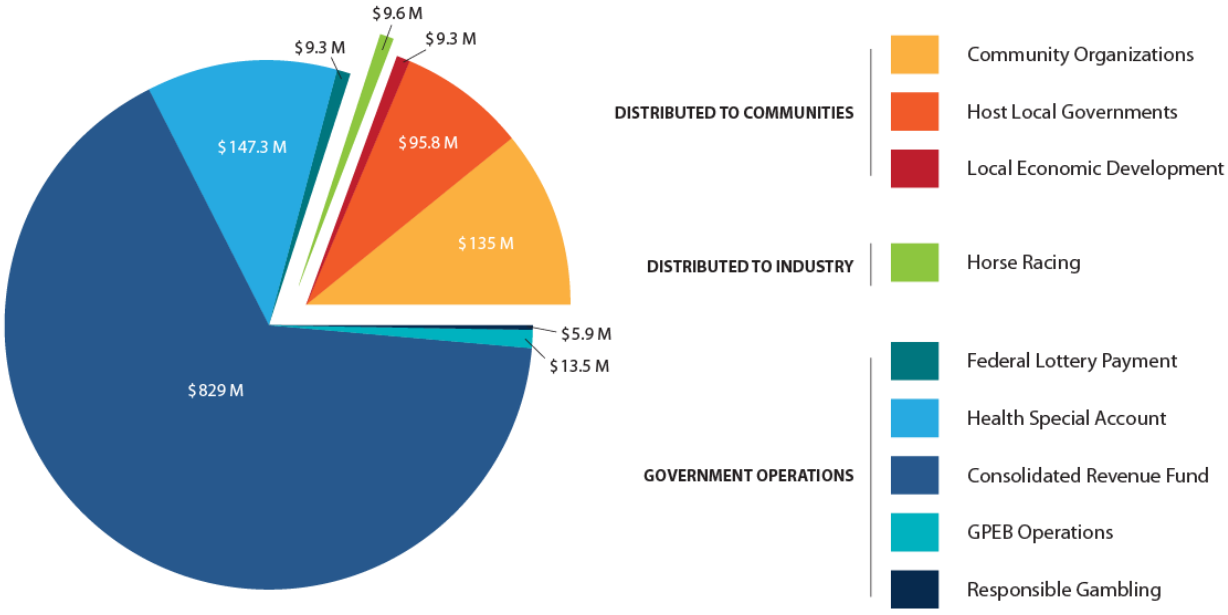


Figure 11: Distribution of Gambling Revenue for Fiscal Year 2014/2015

Source: *Government of British Columbia (2015c)*

In their 2016/2017 Social Responsibility Report, BCLC provides a breakdown of the income generated as a result of gambling (casinos, community gaming, lottery and eGaming). In 2016/2017 BCLC generated $3.1 billion in total revenues and $1.3 billion in net income for the Province of BC. From this, $908 million goes to support public programs, healthcare and education, $147 million goes to the Provincial Health Special Account, $5.8 million goes to responsible gambling education and services and $97 million goes to the host local government.

One concern is that a new casino may also detract from other local businesses resulting in a reduction in revenues for local business owners (e.g., retail, restaurants, and entertainment venues); however, is would be highly dependent on the specific scenario and nature of the facility. Alternately, some businesses, such as gas stations, tourism and sight-seeing venues, and

transportation services may benefit from an influx of visitors, leading to increased revenue for those services. The magnitude and nature of this possible effect remains unknown.

The issue of casino revenue is complex, with different types of impacts depending on the local context. For example, some casinos serve primarily local residents whereas "destination casinos" are more likely to generate positive impacts due to increased revenue to other local businesses (e.g., hospitality and entertainment industries) (Richard 2010, Williams, Rehm et al. 2011, Toronto Medical Officer of Health 2013). Therefore, it seems that the benefits of gambling-related tourism are more pronounced when casinos and other gambling facilities attract visitors who would otherwise not have visited the area (Lin, Shoults et al. 2012). However, this finding is not consistent across all scenarios. For example, a study that considered the impact of gambling in Alberta found that most gambling tourism was the result of visitors who were in the area for other purposes (e.g., visiting family) rather than making a special trip for gambling alone. In fact it was found that the large majority of gambling revenue was generated by Alberta residents (Williams, Belanger et al. 2011). It has been suggested that estimates of the amount of tourism actually generated by introduction of gambling facilities is overestimated (Lin, Shoults et al. 2012, Toronto Medical Officer of Health 2013). Therefore, it is clear that the impact of a casino on community revenue is based on a combination of factors, including the facility's ability to draw in users from outside of the immediate area, and providing a combination of other recreational services (Rephann, Dalton et al. 1997, Lin, Shoults et al. 2012).

The US National Gambling Impact Study considered effects on revenue generated from gambling facilities and found:

> "There is a statistically significant casino effect on per capita casino spending; on 4 of 5 employment measures and on 7 of 16 income earnings measures. This analysis also found that there is a marked decrease in the percentage of the labor force that is unemployed; a slight increase in construction earnings; an increase in actual per capita construction earnings; and a substantial percentage increase in earnings in hotel and lodgings and recreation and amusements industries." (Gerstein, Hoffmann et al. 1999)

In an analysis of 55 U.S. counties that added casinos between 1990 and 1992, it was suggested that casinos do not generate a substantial impact to economic growth. The study found that there was a 4% increase in new business, but that this was consistent with the rest of the country. Interestingly, it was also found that in these counties, restaurant growth was slightly lagging, while employment rates were slightly higher. This article also cites a study for the Illinois Economic and Fiscal Commission as stating:

> "Most places overestimate the amount of tourism they eventually get. Most gambling appears to be by local people. In that case, you're moving money around in the economy, rather than bringing in new money." (Lin, Shoults et al. 2012)

This phenomenon is known as "substitution theory," which can be described as transferring of revenue to one economic event while diminishing revenue from another business that was already

established in the area (Gerstein, Hoffmann et al. 1999). This displacement is typically viewed as negative; however, it can be seen as a normal part of a flexible and dynamic economy (Stevens and Williams 2004). For instance, this shift in spending is typically consumers changing their spending habits to more preferred goods and services, which represents an economic development when they are increasing their spending in the process (Stevens and Williams 2004). In relation to gambling development, the perception is that each dollar spent or new job created is taking away from another sector of the community. However, some industries (e.g., construction, transportation, public utilities and tourism-based companies, etc.) could gain revenue from introduction of a new casino (Stevens and Williams 2004, Lin, Shoults et al. 2012).

Overall, the evidence around the issue of collective impact of a casino on local businesses is inconclusive (Williams, Rehm et al. 2011, Toronto Medical Officer of Health 2013), For example, one study looked at the effect of a casino in one Pittsburgh neighbourhood, and a sports arena in another neighbourhood. While both the arena and the casino had a positive effect on the perception of employment and effects on local business, the arena had a larger effect on the perception of increased income than the casino (Fabio, Geller et al. 2015). Finally, a report on the impact of four gambling facilities in lower mainland BC failed to find community-wide changes in economic indicators, so while there may be an economic impact, it was concluded that it was not significant (Blue Thorn Research and Analysis Group 2007).

In some locations, casinos have been opened on First Nations (or Native American) land. The economic impacts for these communities are also mixed. Destination casinos, particularly those that are nearby urban centers that are unable to host casinos, can have large positive financial impacts for Indigenous communities (Stevens and Williams 2004). Gambling has provided means to generate economic wealth, and to self-govern (Janes and Collison 2004). However, casinos without a local monopoly or those that are too far from urban centers may not see these economic benefits (Stevens and Williams 2004).

Existing Mitigation/Enhancement:

When considering development of new gambling facilities, BCLC operates with the intention of avoiding or minimizing direct competition with local businesses to reduce potential impacts (Personal communication with BCLC, 2017).

- **EFFECT CHARACTERIZATION: What does this mean for this community?**

A new gambling facility may have two types of economic effects on the host municipality. First, it would result in direct revenue being provided by BCLC to the host government. Second, there may be indirect economic effects by way of either stimulating or stifling other businesses.

The **magnitude** of the effect was characterized as 'medium' since they would be noticeable at an organizational level, but may or may not be large enough to create system-wide change. The **likelihood** of the effect is 'high' for direct revenue since the effect is certain to occur, and 'medium' for indirect revenue since the impact may occur, but is not certain. It is estimated the amount of

revenue that would be directly provided to the City of Delta will be approximately between $1.5 million to $3 million annually. Effects would be experienced at a regional level.

Whether this economic benefit in turn positively affects community health and well-being outcomes is tied to how it is used by allocation. However, it is highly unlikely that there would be a negative health effect arising from increased revenue to municipalities and community organizations. Therefore, the **potential health consequence** is characterized as positive since it is anticipated to either improve health and well-being or have little to no effect.

For economic effects on municipalities, the effect characterization was based on a considerable amount of data specific to gambling facilities in BC, resulting in a high level of **confidence** for the conclusion. For indirect revenue, the data is less clear as it is not known how these developments will impact economic growth of the surrounding businesses. Hence, the effect characterization resulted in a medium level of **confidence**. Depending on whether surrounding businesses experience a boost in business as a result of the proposed facility or may need to start competing with the gaming facility for business, the potential health impact of this economic effects could be positive or negative, respectively. Hence, the **potential health consequence** is characterized as mixed.

Ultimately, the effect characterization resulted in a characterization of high **priority** for effects from direct revenue, and medium for effects from indirect revenue.

Table 17: Effect Characterization for Economic Effects on Municipalities

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Economic effects on municipalities						
Effects from direct revenue (facility)	Regional	Medium	High	Positive	High	High
Effects from indirect revenue (surrounding businesses)	Regional	Medium	Medium	Mixed	Medium	Medium

E. Effects on Health, Social and Protective Services

- **RELEVANCE: Why is this a health issue?**

Health care, social and protective services are responsible for maintaining the health and wellbeing of the population. These essential services work to prevent adverse outcomes for individuals, families and communities.

➢ BASELINE: What we know about current local conditions

- Delta's health, social and protective services are operated by a combination of provincial and municipal agencies.
- No existing data is available about service usage in Delta resulting from gambling facilities or problem gambling as a whole.

➢ EVIDENCE: What we know from the literature

A new gambling facility may have both positive and negative effects on health, social and protective services.

In terms of positive impacts, research suggests that increased revenue from gambling may be used by governments to support and improve health and social services (Williams, Rehm et al. 2011). These revenues, discussed in *Section D. Economic Effects on Municipalities*, may enable increased availability and quality of services provided. As described in that section, in 2014/2015, 11.7% of provincial revenues from gambling were directed to health services through the 'Health Special Account' and other revenue included spending on health and social services (Blue Thorn Research and Analysis Group 2007).

However, the presence of the facility may also place strain on existing services. Social service utilization is higher for individuals with gambling-related problems than for the general population. It was noted by key stakeholders in Edmonton, where there are 5 casinos, that:

> "Edmonton in particular reported that social services was also under stress due primarily to problem gambling concerns" (Williams, Belanger et al. 2011)

Problem gambling may be associated with different health conditions, mental health issues, gastrointestinal issues, chronic pain, among other potential symptoms and conditions, which results in high usage of health and social services (Beneteau 2013, Toronto Medical Officer of Health 2013). Additional burden on services that already have a high demand may detract from their ability to service the community as a whole.

The balance of these competing positive and negative effects is highly dependent on the amount of revenue generated, how it is allocated, as well as the expected increase in service users.

<u>Existing Mitigation/Enhancement:</u>

No specific mitigation or enhancement measures are planned by BCLC or specific gambling facilities, although it has been noted that in 2015/2016 $62 million of revenue went to community organizations, including human and social services (GPEB 2016).

The BCLC gaming facility service provider for the proposed facility in Delta intends to contribute to the community by donating to charities and by providing grants to eligible non-profit organizations that deliver programs benefitting the community (Personal communication with BCLC 2017). This is also likely to have a positive effect on availability of social services.

- **EFFECT CHARACTERIZATION: What does this mean for this community?**

It is anticipated that both positive and negative impacts on health care, social and emergency services may occur. Negative impacts could result from increased demand for services by users or local residents in proximity to the proposed gambling facility. Positive effects could result from municipal or community organizations' use of gambling revenue for supporting health and social service provision. The **magnitude** of the effect is characterized as 'low to medium' since there may be effects on agencies or organizations, but given that the new facility will involve the replacement of an existing gambling facility, and that there are already several gambling options available to residents, effects are unlikely to be large enough to create severe shortages or effects at a system level. The **likelihood** of the effect is characterized 'medium' since the effect (demand for service) may occur, but is not certain given the mitigation measures that are in place for limiting adverse effects of gambling on individuals and host communities. Any effect is likely to be felt regionally. Because both positive and negative effects could occur, the **potential health consequence** is characterized as 'mixed'. The effect characterization was based on limited data, resulting in a low level of **confidence**. However, for effects on social services, as it is believed that the gaming facility service provider intends to contribute to the community by donating to charities and providing grants for social programs, the magnitude and level of confidence in this characterization is medium. Ultimately, the effect characterization resulted in effects on health, social and emergency services being characterized as a medium **priority**.

Table 18: Effect Characterization for Health, Social and Protective Services

	Affected Populations	Magnitude	Likelihood	Potential Health Consequence	Level of Confidence	Priority
Effects on health, social and protective services						
Effects on health care services	Regional	Low to Medium	Medium	Mixed	Low	Medium
Effects on social services	Regional	Medium	Medium	Mixed	Medium	Medium
Effects on emergency services	Regional	Low to Medium	Medium	Mixed	Low	Medium

6. RECOMMENDATIONS

The results of the HIA for each of the health issues assessed have provided a basis for development of specific, actionable and feasible recommendations. These recommendations are intended to promote health and well-being through the mitigation of negative effects and enhancement of positive effects of gambling in BC. These recommendations have been developed in consultation with the Subject Matter Expert and provide opportunities to enhance existing positive aspects of gambling, while mitigating potential negatives.

As shown in the table below, some recommended actions are appropriate for BCLC to take, others lie in the purview of other stakeholders, and some represent a shared responsibility.

Table 19: High-level recommendations to minimize adverse health impacts and enhance positive health opportunities

Recommended Action	Health issue to be addressed	Priority	Direction	Responsible or Contributing Organizations
Consider how to use municipal and provincial revenue in a way that supports healthy communities.	• Effects from direct revenue (facility)	High	Positive effect to be enhanced	• Host Local Government • Provincial Government
Promote education and awareness around problem gambling prevention, treatment and services within the local host community before a decision is made to proceed, and then again after the facility first opens, to reduce or manage the potential increase in problem gambling and mitigate associated negative effects.	• Financial impacts on individuals and households (among people vulnerable to problem gambling) • Mental health (among people vulnerable to problem gambling) • Social and family impacts (among people vulnerable to problem gambling)	High	Adverse effect to be mitigated	• BCLC • Gaming Policy Enforcement Branch • Ministry of Health
Promote hiring practices that preferentially target unemployed or underemployed individuals from within the local host community.	• Job opportunities and income	Medium / High	Positive effect to be enhanced	• BCLC • Gaming facility service provider
Ensure that final project design minimizes potential adverse effects on traffic and parking, noise exposure, and adverse competition with existing businesses.	• Neighbourhood impacts • Effects from indirect revenue	Medium to Low	Adverse effect to be mitigated	• BCLC • Gaming facility service provider

7. CONCLUSIONS

The findings from the rapid HIA are based on a high-level assessment of potential positive and negative effects on health and well-being. Overall, the result of the HIA were consistent with the general research on gambling and health:

> "The reality is that these new venues have neither caused widespread economic rejuvenation, nor have they created major new social problems. However, there have been some benefits, costs and changes." *(Blue Thorn Research and Analysis Group 2007)*

As shown in Table 20, there is a mixture of positive, negative and neutral impacts. The majority of municipality / community impacts are either positive or neutral, with negative impacts largely associated with problem gambling issues.

Through analysis of available data and research on gambling development and human health, a priority level was assigned to each of the impacts in order to help identify a priority order for consideration of health issues associated with the establishment of a new gambling facility. These are also shown in Table 20.

For positive effects, the highest priority determinant was direct revenue from the facility, which has the potential to positively impact health and well-being of community members depending on revenue allocation. For negative effects, the highest priority determinants were financial, mental health and social / family impacts related to problem gambling. People vulnerable to problem gambling were differentially impacted by access to gambling than the typical facility user who largely benefits from the entertainment and leisure component of the facility.

Table 20: Health Impacts Ranked by Priority Level

	Priority	Potential Health Consequence
Effects from direct revenue (facility)	High	Positive
Job opportunities and income	High	Neutral to Positive
Neighbourhood vitality and growth	High	Positive
Entertainment / leisure	Medium	Positive
Effects from indirect revenue (surrounding businesses)	Medium	Mixed
Impacts of problem gambling: financial, mental health, and social and family	Medium	Neutral to Negative
➢ Among people vulnerable to problem gambling	High	Negative
➢ Across the population as a whole	Low	Neutral
Effects on health care services	Medium	Mixed
Effects on social services	Medium	Mixed
Effects on emergency services	Medium	Mixed
Property values	Low	Unknown
Crime	Low	Neutral to Negative
Traffic	Low	Neutral to Negative

In conclusion, the issues around gambling development and health and well-being are complex. There are several benefits to the introduction of integrated gambling facilities into communities and some drawbacks, particularly with respect to problem gambling.

It is hoped that the information provided in this HIA will be useful in helping local communities and decision-makers understand the unique impacts associated with the proposed gambling development in the City of Delta.

8. EVALUATION AND MONITORING

This is usually the last step in an HIA, and involves evaluation and monitoring of:

- Recommendations proposed by the HIA that were incorporated into the project plan and the decision-making process
    - Changes in health impacts due to implementation of recommendations from the HIA
- Monitoring of changes in health following the realization of the proposed project.

BCLC currently plans to conduct a pre-post study to monitor changes from baseline. Specifically, the Player Health department of BCLC would like to conduct a study to establish a baseline of current gambling behaviour, attitudes, and prevalence of problem gambling in the City of Delta community.

The aim of the pre-post study is to enable an understanding of current conditions related to gambling and provide a reference point for future comparisons following the opening of the proposed facility at the Delta Town and Country Inn site. The key objectives of the pre-post study include establishing a baseline of:

- Past year gambling behaviour;
- Current attitudes towards gambling;
- Gambling and problem gambling prevalence among residents;
- Awareness of responsible gambling resources; and
- Responsible gambling behaviours (e.g., setting limits and sticking to them etc.).

In addition, BCLC in engaged in public consultation that is currently ongoing through Public Information Meetings.

9. REFERENCES

Alexander, R. C. (2003). The Effects of Casino Gambling on Selected Midwestern Municipalities: Gauging the Attitudes of Local Government Officials, Local Business Officials, and Civic Leaders.

Barnes, S. (2013). The Real Cost of Casinos: A Health Equity Impact Assessment, Wellesley Institute.

BC Non-Profit Housing Association and M. Thomson Consulting (2017). 2017 Homeless Count in Metro Vancouver: Preliminary Data Report.

BC Public Health Officer (2013). British Columbia. Provincial Health Officer. Lower the Stakes: A Public Health Approach to Gambling in British Columbia. Provincial Health Officer's 2009 Annual Report. Victoria, BC: Ministry of Health.

BC Stats (N.D.). 2011 Census of Canada.

BCLC (2016a). Community Impact Report, The British Columbia Lottery Corporation.

BCLC (2016b). Social Responsibility Report, The British Columbia Lottery Corporation.

BCLC (2017a). Enhancing Responsible Gambling Support for Workers in the B.C. Gambling Industry

BCLC (2017b). Map of Casino, CGC and Bingo Facilities in BC, Provided by the British Columbia Lottery Corporation. Received April 17, 2017.

Beneteau, M. (2013). The Potential Health Impacts of a Casino in Peterborough, Peterborough County-City Health Unit.

Bernhard, B. and K. Philander (2012). Informing the Public Debate: Problem Gambling. Report prepared for the Canadian Gaming Association.

Blue Thorn Research and Analysis Group (2007). Socioeconomic Impacts of New Gaming Venues in Four British Columbia Lower Mainland Communities, Gaming Policy and Enforcement Branch Ministry of Public Safety & Solicitor General Government of British Columbia.

Bridges, F. S. and C. B. Williamson (2004). "Legalized Gambling and Crime in Canada." Psychological Reports 95(3): 747-753.

Bunt & Associates (2018). Delta Gateway Casino | Traffic Impact Study. Prepared for Gateway Casino and Entertainment Limited, March 20, 2018. Project No. 04-17-0130. Available: http://delta.ca/docs/default-source/community-planning-and-development/gateway-casinos-and-entertainment/20180320_04-17-0130_tis_rpt_v05.pdf?sfvrsn=2

Business Information Warehouse ñ Traffic Accident System, I. C. o. B. C. (2017). "Injury Data Online Tool (iDOT)."

Canadian Partnership for Responsible Gambling. (2015a). "2015-2016 Digest." Retrieved June 7 2017, from http://www.cprg.ca/Digests/ViewMainCards?yearId=507db81e-e5bf-e611-b52a-1abbb38a3094.

Canadian Partnership for Responsible Gambling (2015b). Canadian Gambling Digest 2013-2014.

Chang, S. (1996). "Impact of casinos on crime: The case of Biloxi, Mississippi." Journal of Criminal Justice 24(5): 431-436.

Cotti, C. D. and D. M. Walker (2010). "The impact of casinos on fatal alcohol-related traffic accidents in the United States." J Health Econ 29(6): 788-796.

CSDH (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.

Curran, D. and F. Scarpitti (1991). "Crime in Atlantic City: Do casinos make a difference?" Deviant behavior 12(4): 431-449.

Evans, W. N. and J. H. Topoleski (2002). The Social and Economic Impact of Native American Casinos. National Bureau of Economic Research, Inc.

Fabio, A., R. Geller, M. Bazaco, T. M. Bear, A. L. Foulds, J. Duell and R. Sharma (2015). "A Survey of Residents' Perceptions of the Effect of Large-Scale Economic Developments on Perceived Safety, Violence, and Economic Benefits." J Environ Public Health 2015: 903264.

Frost, P., H. A. Kolstad and J. P. Bonde (2009). "Shift work and the risk of ischemic heart disease - a systematic review of the epidemiologic evidence." Scandinavian Journal of Work, Environment & Health 35(3): 163-179.

Gerstein, D., J. Hoffmann and C. Larison (1999). "The national gambling impact study commission : Final report."

Government of British Columbia. (2015a). "Distribution of gaming revenue for fiscal year 2014/15." Retrieved August 1, 2017, from http://www2.gov.bc.ca/gov/content/sports-culture/gambling-fundraising/gambling-in-bc/where-money-goes

Government of British Columbia. (2015b). "Responsible and Problem Gambling in British Columbia: a plan for public health and gambling in British Columbia." Retrieved August 1, 2017, from http://www2.gov.bc.ca/assets/gov/sports-recreation-arts-and-culture/gambling/gambling-in-bc/reports/plan-rg-public-health-and-gambling-2015.pdf.

Government of British Columbia. (2015c). "Where the Money Goes." Distribution of Gambling Revenue for Fiscal Year 2014/15 Retrieved Auguat 1, 2017, from http://www2.gov.bc.ca/gov/content/sports-culture/gambling-fundraising/gambling-in-bc/where-money-goes.

GPEB (2015). Responsible and problem gambling in BC. A plan for public health and gaming in British Columbia.

GPEB (2016). Gaming Revenue Granted to, and Earned by Community Organizations - 2015/16 Summary Report (by category), Gaming Policy and Enforcement Branch.

GPEB (2017). Local Government Share of Provincial Casino and Community Gaming Centre (CGC) Revenue – Year-to-Date – Fiscal Year 2016/17, Gaming Policy and Enforcement Branch.

Hing, N. and H. Breen (2008a). "Risk and Protective Factors Relating to Gambling by Employees of Gaming Venues." International gambling studies 8(1): 1-23.

Hing, N. and H. Breen (2008b). "Working in Australian gaming venues and shiftwork". Journal of Hospitality and Tourism Management, 15, 7-13.

Hirschberg, J. and J. Lye (2010). The indirect impacts of smoking bans in gaming venues. Victoria, Australia: University of Melbourne. Available from: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ACE10&paper_id=30

HLT Advisory (2011). Economic Impact of the Canadian Gaming Industry, Canadian Gaming Association.

Humphreys, B. R., B. P. Soebbing, H. J. Wynne, J. Turvey and Y. S. Lee (2011). The Socio-Economic Impact of Gambling in Alberta, Alberta Gaming Research Institute.

Idler, E. L. and Y. Benyamini (1997). "Self-Rated Health and Mortality: A Review of 27 Community Studies." J Health Soc Behav 38: 21-37.

Indigenous and Northern Affairs Canada. (2012). "Welcome to the First Nation Profiles Interactive Map." Retrieved May 19, 2017, from http://fnpim-cippn.aandc-aadnc.gc.ca/index-eng.html.

Janes, P. L. and J. Collison (2004). "Community Leader Perceptions of the Social and Economic Impacts of Indian Gaming." UNLV Gaming Research & Review Journal 8(1).

Kirchner, L. (2014, July 29, 2014). "The Elusive Link Between Casinos and Crime." from https://psmag.com/the-elusive-link-between-casinos-and-crime-f22499d9ac65 - .z9p17iwsd.

Koo, J. U. N., M. S. Rosentraub and A. Horn (2007). "ROLLING THE DICE? CASINOS, TAX REVENUES, AND THE SOCIAL COSTS OF GAMING." Journal of Urban Affairs 29(4): 367-381.

KPMG Management Consulting (1995). One year review of casino Windsor, Ontario Casino Corporation.

Ladouceur, R., F. Ferland, I. Giroux and C. Jacques (1999). "Prevalence of problem gambling: a replication study 7 years later [1996 data]." Canadian journal of psychiatry 44(8): 802.

Lightman, E. S., B. Wilson and A. Mitchell (2009). Poverty is Making Us Sick: A Comprehensive Survey of Income and Health in Canada, Wellesley Institute. Available at: http://www.wellesleyinstitute.com/wp-content/uploads/2011/11/povertyismakingussick.pdf.

Lin, T. Y., C. C. Shoults, I. S. Williams and C. McMurtry (2012). Potential Health Effects of Casino Development in Southeast Kansas: Kansas Health Impact Assessment Project, Kansas Health Institute.

Mays, G. L., C. Casillas and J. R. Maupin (2007). "The impact of Indian gaming on crime in New Mexico: A research note." The Social Science Journal 44(2): 375-381.

McIntosh, C., P. Fines, R. Wilkins and M. Wolfson (2009). "Income disparities in health-adjusted life expectancy for Canadian adults, 1991 to 2001." Health Reports 20(4): P58.

Mikkonen, J. and D. Raphael (2010). Social Determinants of Health: The Canadian Facts. Toronto, York University, School of Health Policy and Management. Available at: http://www.thecanadianfacts.org/The_Canadian_Facts.pdf.

Ministry of Public Safety and Solicitor General Policing and Security Branch (2016). British Columbia Policing Jurisdiction Crime Trends, 2006 – 2015.

My Health My Community. (2014). "Delta: Community Health Profile." Retrieved April 5, 2016, from https://www.myhealthmycommunity.org/Portals/0/Documents/Community Profiles/Delta_final.pdf.

My Health My Community. (2015). "Delta: Community Health Profile." Retrieved April 5, 2016, 2016, from https://www.myhealthmycommunity.org/Portals/0/Documents/Community Profiles/Delta_final.pdf.

National Center for Responsible Gaming (2016). Do casinos make money off of problem gamblers? © 2016 National Center for Responsible Gaming, Massachusetts. Available: http://www.ncrg.org/press-room/media-kit/faq/do-casinos-make-money-problem-gamblers

Nichols, M., B. G. Stitt and D. Giacopassi (2002). "Community Assessment of the Effects of Casinos on Quality of Life." Social Indicators Research 57(3): 229-262.

Nichols, M. W., B. G. Stitt and D. Giacopassi (2004). "Changes in suicide and divorce in new casino jurisdictions." J Gambl Stud 20(4): 391-404.

Orford, J., H. Wardle and M. Griffiths (2012) What proportion of gambling is problem gambling? Estimates from the 2010 British Gambling Prevalence Survey, International Gambling Studies, 13:1, 4-18, DOI: 10.1080/14459795.2012.689001

Park, M. and P. A. Stokowski (2009). "Social disruption theory and crime in rural communities: Comparisons across three levels of tourism growth." Tourism Management 30(6): 905-915.

Phipps, A. G. (2004). "Crime and disorder, and house sales and prices around the casino sites in Windsor, Ontario, Canada." Canadian Geographer / Le Géographe canadien 48(4): 403-432.

Provincial Health Services Authority (2016). BC Community Health Profile: Delta.

R.A. Malatest and Associates Ltd. (2014). British Columbia Problem Gambling Prevalence Study, Gaming Policy and Enforcement Branch, Ministry of Finance.

Reece, W. S. (2010). "Casinos, hotels, and crime." Contemporary Economic Policy 28: 145+.

Rephann, T. J., M. Dalton, A. Stair and A. Isserman (1997). "Casino Gambling as an Economic Development Strategy." Tourism Economics 3(2): 161-183.

Responsible Gambling Council. (2012). "Safer Play." from http://www.responsiblegambling.org/safer-play.

Richard, B. (2010). "Diffusion of an Economic Development Policy Innovation: Explaining the International Spread of Casino Gambling." Journal of Gambling Studies 26(2): 287-300.

Room, R., N. E. Turner and A. Ialomiteanu (1999). "Community effects of the opening of the Niagara casino." Addiction 94(10): 1449-1466.

Shaffer, H. J. and D. A. Korn (2002). "Gambling and Related Mental Disorders: A Public Health Analysis." Annual Review of Public Health 23: 171-212.

Spectrum Gaming Group (2009). Gambling in Connecticut: Analyzing the economic and social impacts., State of Connecticut, Division of Special Revenue.

Statistics Canada (2011). Cumulative Profile, 2011 Census.

Statistics Canada. (2013a). "Delta, DM (District municipality), British Columbia (Code 5915011) (table). National Household Survey (NHS) Profile. 2011 National Household Survey. Statistics Canada Catalogue no. (number) 99-004-XWE. Ottawa. Released September 11, 2013." from http://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/index.cfm?Lang=E (accessed May 11, 2016).

Statistics Canada (2013b). Fraser South Health Service Delivery Area (Health Region), British Columbia and British Columbia (table). Health Profile. Ottawa. Statistics Canada Catalogue no. 82228XWE.

Stevens, R. M. G. and R. J. Williams (2004). Socio-Economic Impacts Associated with the Introduction of Casino Gambling: A Literature Review and Synthesis, Alberta Gaming Research Institute.

Stitt, B. G., M. Nichols and D. Giacopassi (2003). "Does the Presence of Casinos Increase Crime? An Examination of Casino and Control Communities." NCCD news 49(2): 253-284.

Straif, K., R. Baan, Y. Grosse, B. Secretan, F. E. Ghissassi, V. Bouvard, A. Altieri, L. Benbrahim-Tallaa and V. Cogliano (2007). "Carcinogenicity of shift-work, painting, and fire-fighting." The Lancet Oncology 8(12): 1065-1066.

Strategic Economics Group and Spectrum Gaming Group (2014). Socioeconomic Impact of Gambling on Iowans: A Study for the Iowa Racing and Gaming Commission, Iowa Racing and Gaming Commission.

Szegda, K. and J. Klingensmith (2014). Western Massachusetts Casino Health Impact Assessment Report, Partners for a Healthier Community, Inc.

Taylor, J. B., M. B. Krepps and P. Wang (2000). The National Evidence on the Socioeconomic Impacts of American Indian Gaming on Non-Indian Communities. Cambridge, MA, John F. Kennedy School of Government, Harvard University.

Tiyce, M., H. Nerilee, C. Grant and B. Helen (2013). "Employee Stress and Stressors in Gambling and Hospitality Workplaces." Journal of Human Resources in Hospitality & Tourism 12(2): 126.

Toronto Medical Officer of Health (2013). Community Health Impacts of a Casino in Toronto, Toronto Board of Health.

Toronto Public Health (2012). The Health Impacts of Gambling Expansion in Toronto - Technical Report.

Cohen, I. M., A. V. McCormick, and G. Davies. (2017). BCLC's Voluntary Self-Exclusion Program from the Perspectives and Experiences of Program Participants. University of the Fraser Valley. Available: https://corporate.bclc.com/content/dam/bclc/corporate/documents/corporate-reports/vse-final-report.pdf.

University of Victoria, C. f. A. R. B. (2016). "Alcohol and other Drug (AOD) Trend Analyzer Tool." from http://www.uvic.ca/research/centres/carbc/stats/aod-trend-analyzer/index.php.

Vogel, M., T. Braungardt, W. Meyer and W. Schneider (2012). "The effects of shift work on physical and mental health." Journal of Neural Transmission 119(10): 1121-1132.

Vyas, M. V., A. X. Garg, A. V. Iansavichus, J. Costella, A. Donner, L. E. Laugsand, I. Janszky, M. Mrkobrada, G. Parraga and D. G. Hackam (2012). "Shift work and vascular events: systematic review and meta-analysis." BMJ: British Medical Journal 345(7871): 15-15.

Walker, D. M. (2013). Casinonomics, Springer.

Welte, J. W., G. M. Barnes, M. O. Tidwell, J. H. Hoffman and W. F. Wieczorek (2016). "The Relationship Between Distance from Gambling Venues and Gambling Participation and Problem Gambling Among U.S. Adults." J Gambl Stud 32(4): 1055-1063.

WHO (1999). Gothenburg consensus paper. Health Impact Assessment: main concepts and suggested approach, World Health Organization.

Wiebe, J. and R. Volberg (2007). Problem Gambling Prevalence Research: A Critical Overview. A Report to the Canadian Gaming Association, Factz Research and Gemini Research.

Williams, R., B., West, and R., Simpson (2012). Prevention of Problem Gambling: A Comprehensive Review of the Evidence and Identified Best Practices. BC data compiled by the Centre for Addictions Research of BC, 2013.

Williams, R. J. and R. T. Wood (2004). The proportion of gaming revenue derived from problem gamblers: Examining the issues in a Canadian context. Analyses of Social Issues & Public Policy, 4 (1), 33-45.

Williams, R. J. and R. T. Wood (2007). The proportion of Ontario gambling revenue derived from problem gamblers. Canadian Public Policy, 33(3), 367-387.

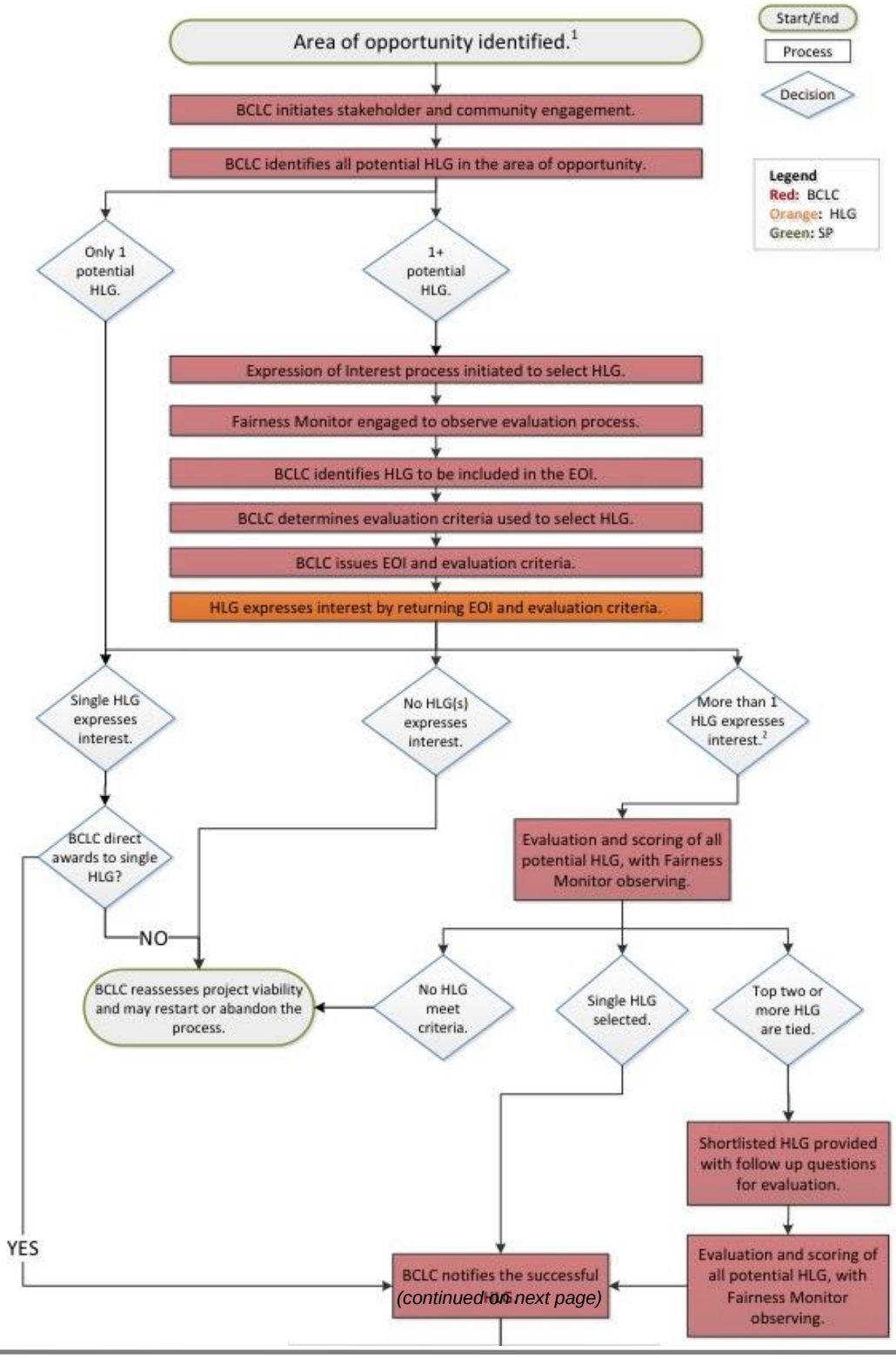
Williams, R. J., Y. D. Belanger and J. N. Arthur (2011). Gambling in Alberta: History, Current Status and Socioeconomic Impacts, Alberta Gaming Research Institute.

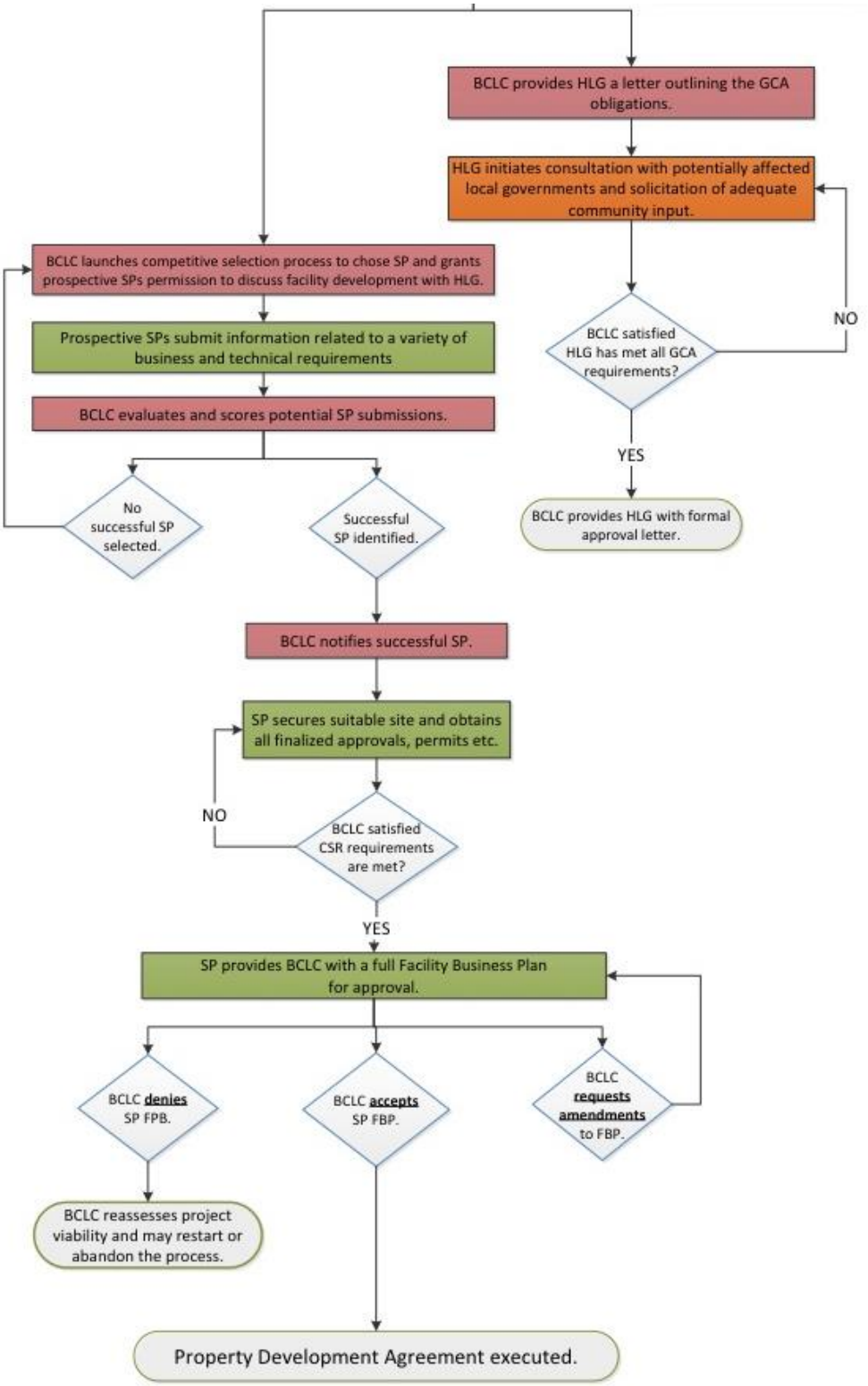
Williams, R. J., J. r. Rehm and R. M. G. Stevens (2011). The Social and Economic Impacts of Gambling, Canadian Consortium for Gambling Research.

Wilson, J. M. (2001). "Riverboat Gambling and Crime in Indiana: An Empirical Investigation." NCCD news 47(4): 610-640.

Yen, I. H. and S. L. Syme (1999). "The social environment and health: a discussion of the epidemiologic literature." Annual Review of Public Health 20(1): 287-308.

Appendix 1: Process for Selecting New Gambling Facility Locations in BC





1 – Typically areas of opportunities are identified through market assessments, but could also occur when the existing SP OSA is terminating or expiring or the current SP has been unable to adequately penetrate the market and a new SP is being sought.
2 – Two or more HLG may submit joint proposals which would be treated as a single submission.
3 - Follow up questions and revaluation may be required before a final decision can be made.

Appendix 2: Topics Examined in Previous HIAs of Gambling Facilities

Location, year	Issues	Vulnerable populations
Jacobs, T. A. (2007). Casino Gaming in Massachusetts: An Economic, Fiscal and Social Analysis. C. Jenkins. Greater Boston Chamber of Commerce		
Massachusetts, 2014	**Jobs and employment** • Employment • Casino employee smoking, gambling and alcohol • Shiftwork **Access to local casino gambling** • Financial resources • Problem and pathological gambling, individual and family impacts **Traffic** • Motor vehicle and pedestrian collisions • Air pollution **Crime and public safety** • Crime (actual and perceived) • Alcohol use and driving under the influence	None identified.
Beneteau, M. (2013). The Potential Health Impacts of a Casino in Peterborough, Peterborough County-City Health Unit		
City of Peterborough, 2013	**Health Issues** • General health • Mental health • Co-dependencies (e.g. alcohol, tobacco and drug use) • Suicide • Family and Community Impacts (e.g. divorce, partner violence, child development/neglect, alcohol or fatigue related traffic fatalities, etc.) **Social Health** • Employment (local jobs increase, shift work, regional unemployment rate) • Economic development (tourism, local business development) • Crime (property crime, violent crime) • Neighbourhood impacts (traffic volume and congestion, air pollution, motor vehicle collisions from fatigue, alcohol) • Social safety net (public service funding, public service demand)	• Older adults • Youth (12-24 years) • First Nations • People living on low income • Casino workers
Barnes, S. (2013). The Real Cost of Casinos: A Health Equity Impact Assessment. Wellesley Institute.		
Toronto, 2013	• Financial (i.e. tax revenue) • Social and economic problems (e.g. crime, work productivity, homelessness, divorce, etc.) • Health impacts of problem gambling (e.g. overall health status, stress-related disorders, intimate partner violence)	• Problem gamblers • People living in poverty • New Canadians • Seniors • Young people
Toronto Medical Officer of Health (2013). Community Health Impacts of a Casino in Toronto, Toronto Board of Health.		

Toronto, 2013	• Employment • Local economic development (including tourism) • Crime • Social safety net impacts • Neighbourhood impacts (Traffic volume, air quality) • Socioeconomic inequality	None identified.
Richardson, E., McArthur, G. & Boyd, S. (2012). Health and Social Impacts of Gambling. City of Hamilton.		
Hamilton, 2012	• Mental health and suicide • Substance use and nicotine • General health • Family and community	• Youth • Older adults • Aboriginal communities • Makes • People experiencing financial problems • Lower SES status • Individual who experience early wins
Lin, T. Y., C. C. Shoults, I. S. Williams and C. McMurtry (2012). Potential Health Effects of Casino Development in Southeast Kansas: Kansas Health Impact Assessment Project, Kansas Health Institute.		
Southeast Kansas, 2012	**Casino employment** • Jobs, insurance and income • Shift work • Exposure to second hand smoke • Risk behaviours • Public assistance benefits **Tourism** • Tourism activity • Crime • Traffic volume **Access to gambling** • Problem and pathological gambling (increased access to gambling may indirectly increase rates of child abuse and neglect, domestic violence, suicide, unsafe sex and alcohol ab(use)) **Revenue** • Liquor tax revenue • Income and sales tax revenue	None identified.
Jakubowski, J., Wolfe, B., Haveman, R., Goble, H. & Courey, M. (2008). Casino revenue and American Indian health: The link between tribal gaming and the health status and behaviors of American Indians. Paper prepared for presentation at the 2008 Annual meetings of the Population Association of America, April 17-19, 2008, New Orleans, LA.		
United States, 2008	• Exogenous increase in income • Health care utilization • Health care coverage • Risk-taking behaviors	• American Indians