EXPLORING TRANSPORTATION PLANNING IN THE BOW VALLEY CORRIDOR

by

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ABSTRACT

Canada, once a world leader in transportation innovation, now finds itself poorly positioned and critically unprepared for a post-carbon future. As federal and provincial transportation authorities continue to push ahead massive highway building programs − intended to facilitate growth in Asia-Pacific trade − in and through Western Canada, an increasing amount of evidence suggests that soon, Peak Oil will undermine the practical value of such projects. The ongoing Trans Canada Highway Twinning Project through Banff National Park is one such example, and indicative of our misplaced emphasis regarding transportation planning in the Bow Valley Corridor. This project aims to explore how that vision has come to dominate regional transportation activities through the observations and opinions of regional stakeholders. Of particular focus is how these stakeholders think about regional transportation issues, develop appropriate solutions, and ultimately, whether or not they might shift towards a sustainable transportation paradigm.

Keywords: Bow Valley Corridor; Transportation Planning; Peak Oil; Policy Path Dependence; Highway Building; Tipping Points; Paradigm Shifts

No more cars in national parks. Let the people walk. Or ride horses, bicycles, mules, wild pigs – anything – but keep the automobiles and the motorcycles and all their motorized relatives out. We have agreed not to drive our automobiles into cathedrals, concert halls, art museums, legislative assemblies, private bedrooms and other sanctums of our culture; we should treat our national parks with the same deference, for they, too, are holy places.

Edward Abbey, Desert Solitaire, 1968

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"For the past half century, America has spent the bulk of its infrastructure money on building highways-only to see that soon, $7 per gallon gasoline prices will lead to fewer people using them."

Jeff Rubin, CIBC World Markets, June 2008

1.1 Rationale

At one point, a long time ago, Canada was a world leader in the transportation sector[1]. Unfortunately, that is no longer the case, as we have forfeited our advantage by focussing almost exclusively on highway infrastructure provision. We have gone from being a role model of seamlessly planned and integrated multi-modal transport systems to laggards of innovation and practise. Even the United States of America, the capital offender of auto-centric planning and performance, has recently taken positive action towards a new transportation vision[2]. So while other countries are moving swiftly to implement national passenger rail programs, including inter-city High Speed Rail (HSR) systems − as a means to address a host of issues related to social, economic, and environmental challenges − Canada continues to invest heavily in highway engineering mega-projects. This long-standing commitment to *business as usual* has taken its toll on our national ability to stay connected, competitive and

[1] Canadian Pacific was once the world's most expansive transportation company with a global network of inter-connected modes of travel including ships, planes and trains (Hart, 2000).

[2] The Obama Administration announced in April 2009, the *Vision for High-Speed Rail in America*.

current. As Canadian transportation activist Paul Langan observes, “We are so far behind the rest of the world, we can’t even see their tail lights anymore.” (Paulsen, 2009, p. 38). Our collective vision of the future has flagged, not only behind that of other forward-looking nations, but also in the wake of tumultuous global change[3].

While the focus of this paper is not necessarily about worldwide socio-economic or environmental problems such as climate change, recession, or scarce oil and unstable gas prices, they all play an important role in illustrating the point that while other countries move forward and (seemingly) act in advance of these coming challenges, Canada remains *locked into an old paradigm*. That is to say, our transportation policy makers are engaged in a form of behavioural lock-in, which “occurs when the behavior of the agent (consumer or producer) is "stuck" in some sort of inefficiency or sub-optimality due to habit, organizational learning, or culture.” (Barnes et al., 2004). As a result, we continue to advance a dominant model, or system of thought – known as a *paradigm* − about transportation in this country that is outmoded.

The evidence of that lock-in are the multitude of these ongoing highway ‘improvement’ schemes underway across Western Canada, most of which now fall under the Government of Canada *Asia-Pacific Gateway and Corridor Initiative* (APGCI). One of those projects, the ‘twinning’ of the Trans-Canada Highway (TCH) through Banff National Park (BNP), is representative of both our dim vision

[3] These are difficult times for nations, their governments and citizens. Whether it be climate change (polar cap breakup and glacial retreat), pandemic influenza (H1N1) or economic meltdown (sub-prime mortgage crisis and multi-billion dollar corporate bailouts), the past several years have witnessed a great deal of global turbulence.

and misplaced planning emphasis. Why are we expanding our highways in pursuit of highly oil-dependent intercontinental trade, when even former sceptics like the International Energy Agency (IEA) have recently admitted that global oil production will peak[4] "much earlier than expected", and "that was 'not good news' for a world still heavily dependent on petroleum."? (Macalister & Monbiot, 2008).

Transportation experts and an increasing number of energy industry observers believe that because the global economy is entirely reliant on oil, the eventual peaking – some refer to it as a 'plateau' − of supply "will cause severe economic, social and political disruption unless prepared for over many years." (Ibid.). Unfortunately, Canada is wholly unprepared for a *post-carbon future*, where skyrocketing gas prices drive all but the wealthy off the road and into an already overloaded and underfunded public transportation system (Rubin, 2009). If the experts are right, and this paper suggests that they in all probability are, the nearly $150 cost per barrel of oil witnessed in the summer of 2008 will be a mere prelude of things to come (Turner, 2009). However, the findings from this project's original research indicate that transportation-planning stakeholders in the Bow Valley Corridor (BVC) are either unaware or unwilling to take these warnings seriously and prepare *in advance* of such an enormous external shock to the transportation system.

This project argues that regional planners, public officials, and other stakeholder groups have failed to reach a necessary balance between environmental, economic, and social factors in the BVC transportation equation.

[4] The concept of *global oil production peak*, or Peak Oil, is discussed in detail later in the paper.

In other words, the system as it stands today is far from sustainable, because the emphasis remains solely on fossil-fuel powered mobility; namely ‘rubber tire’ transport. This will prove problematic, especially in light of some of these larger issues and challenges that lie ahead in the not-too-distant future. To use an analogy, it seems that the actors in the BVC story have ‘missed the forest for the trees’ – nominal, incremental and sub-regional solutions to transportation problems in the BVC will simply not be sufficient when − not if − the Peak Oil ‘penny’, drops.

Transportation planning is a complex and oftentimes, ‘messy’ problem. This is especially true in the BVC, where the existence of Banff National Park − the ‘crown jewel’ of our national parks system − poses a unique set of planning and management challenges. Banff is unique for many reasons, not the least of which is that it is a UNESCO World Heritage Site, as well as being “the most heavily visited national park in North America.” (Chruszcz et al., 2003, p. 1379). At its peak of popularity in the early 1990s, more than five million people per year visited BNP (BNP, 2009; BBVTF, 1996).

The Park is also exceptional in that it is one of the only protected areas in North America with a major trans-continental highway *and* railroad running through it (Ibid.). Complex and messy problems call for innovative, comprehensive and proactive solutions. That is why it is so important to understand not only the planning and policy history that brought us to where we are today, but to understand the opinion of the main stakeholders themselves, as their vision and actions of today will ultimately determine what happens in the

future – that is, whether or not the BVC will move towards a more sustainable model in the years to come.

So, who are these stakeholders, how do they think about their challenges, and are they prepared for a post-carbon future? The goal of this paper is to search for the answers to these key questions and to gauge the regional potential for anticipating and facilitating the required *shift in thinking* that such change will necessitate. The primary research component of this project addresses those questions directly through interviews conducted with key planning stakeholders in the BVC. By probing interviewees about their individual attitudes and knowledge about regional transport issues, it is hoped that they might verbally 'paint a picture' of their organization's point of view on the future of transportation development in the region.

The history of that development is irrevocably tied to two major transportation-related decisions − the building of the Canadian Pacific Railway (CPR) and later, the TCH. The former brought visitors from around the globe and put Banff on the international tourism map. The latter ushered in an era of Happy Motoring – the term that author James Howard Kuntsler (2009) assigns to the golden years of carefree driving habit and government subsidized automobile reliance − which continues to dominate transportation behaviour in the region. However, if the road behind us was punctuated by what seem today, outdated visions, they were at the time decidedly innovative and likely made a whole lot of social and economic sense. The building of a national transportation corridor, year-round tourism to Banff National Park, and rapid regional growth were

defining developments in the BVC story. The project background material explores this 'road to the present' and illustrates how previous approaches to transportation improvement in the BVC have shaped its past, and the present.

To date, there are no concrete plans afoot to address transport issues in the BVC on a comprehensive regional basis, or from a sustainable transportation perspective. As the cost of oil begins to rise again, and statistics show that public transit ridership is growing[5] – in both cases, *despite* the ongoing recession (Nasser & Overberg, 2008) – transportation strategy and vision in the BVC remain essentially unaffected. Although there appears to be the capacity to advance transportation innovation within the BVC, there is neither the political will nor public pressure to drive that change. This paper explores that conundrum through the commentary and opinions of the stakeholders involved with transportation planning and development in the BVC.

1.2 Research Purpose and Goals

The purpose of this research is to contribute to a wider understanding of the transportation issues and challenges that confront the BVC − a spectacular wilderness setting, recreational alpine-playground, as well as a strategically important tourism destination and trade corridor. While many of the planning parties involved seem pleased that TCH Twinning has addressed some of the immediate ecological – namely automobile-wildlife conflict − issues, the

[5] The price per barrel of oil has been steadily increasing from a recession low of around $40 to almost $70 as of late-June 2009; The America Public Transportation Association reports that public transit use was up 4% in 2008 over 2007 ridership numbers, while vehicle miles travelled (VMT) declined by 3.6% (APTA, 2009).

remainder of the sustainability equation remains unaddressed. Transportation planning issues in the BVC are paramount to the ecological integrity of BNP, the liveability of the region and an ethical balance between private (Pan-Pacific trade; tourism; resort development) and public interests.

Generally, this study explores transport vision (past, present and future) in the BVC. Although informed by the past, it aims to look towards the future. Mainly though, it is the *current* BVC transport vision − highway building – that provides the tangible motivation to explore transportation planning in the region. The existing state of affairs, driven by a powerful pro-trade business lobby, hesitantly supported by Parks Canada (PC), and enabled by a federal and provincial highway-oriented transportation proviso, is a primary focus of this project. This research hopes to ‘shine a light’ on the soundness of the TCH Twinning venture and illustrate how it acts as a barometer of a myopic transportation planning narrative. As the policy history of the twinning illustrates, it has been a perfectly linear path, whereby the original decision has been further entrenched at every new proposed phase of development.

The goal of this project is to provide a ‘snapshot’ of transportation activities in the BVC, and to explore the planning outlook of key stakeholder organizations. This project aims to paint a picture of the various developments in that decision making process, as a means with which to build a better understanding of how these stakeholder organizations have unwittingly (or willingly) advanced the Happy Motoring lifestyle. A portrait of the parties involved in the creation of this highway-centric planning model, might provoke some

dialogue around the issues faced by communities and stakeholders in the BVC that are a result of transportation activity. In this way, it may serve as a positive step in future policy and planning activities and help to close the planning knowledge gap. The project views that decision-making and vision-building development through the lens of sustainable transportation theory.

There is an ever growing foundation of literature that supports the adoption of sustainable transportation theory as both the desirable and necessary approach to achieving liveable communities which are economically efficient, socially sound, and environmentally sustainable (Vuchic, 2005). Briefly, a sustainable transportation system is one that allows the basic needs of individuals and society to be met safely, is both affordable and accessible, and limits its negative impact on the planets finite natural resources (Centre for Sustainable Transport, 2002). Furthermore, it is a model that calls for the achievement of a number of goals; such as overall reduced car use, an increase in transit ridership, and a reduced average commute to and from work to name a few (Newman & Kenworthy, 1999). A more detailed account of sustainable transportation theory is provided in Section 4.3.

Based-upon the literature review which considers such theoretical notions as sustainable transportation, and a background search that probed for the beginnings of the twinning; the following questions were developed to guide further investigation:

1. *Why are we building bigger (more lanes) and better (more features) highways when transportation experts, academics, contemporary*

literature and media headlines are painting a clear picture of a world where long daily commutes, trans-continentally trucked goods and fossil fuel-based transportation in general, will be a relic of the past? (Kenworthy, 2007; Kuntsler, 2005; Rubin, 2009)

2. *How did we get here from there? How did the BVC become so entrenched in the Happy Motoring paradigm?*
3. *Who were the original policy actors in the highway twinning, and how did they come to reach that decision?*
4. *Is it possible to hypothesize − based-upon the findings of the primary research − that transportation planning in the BVC will move towards a more sustainable model anytime soon?*

1.3 Framing the Research

Transportation planning in the BVC is both a complex and broad subject area, and as such, an inclusive history of development and analysis of past decisions are desirable to help clarify the research agenda − for this project hopes to illustrate the 'lay of the land' in current stakeholder planning and activity underway in the region. Therefore, the research employs sustainable transportation theory as a frame of reference for this research. By using the current state of transport affairs as a point of comparison – a critical period of inner-reflection for the entire industry[6] − it should be possible to gain a better understanding of the relative preparedness of the BVC planning community vis-

[6] As the auto industry collapses and begins to rebuild itself, shipping and trucking industries contract and governments decide where and what to spend their economic recovery funds on.

à-vis the substantive issues associated with a post-carbon future. Ultimately, this research serves as a prologue to a future of declining fuel stocks, as viewed through the opinions and outlook of regional stakeholders.

There are two main components to this study: A literature review that highlights the main transportation related ‘background’ issues in the BVC which in turn illustrates the need for a ‘paradigm shift’ in how transportation is approached in the region, and original research that explores the opinions, knowledge and potential for dramatic change by stakeholders. The findings of the primary research are presented towards the end of the paper and from that exercise, key findings and conclusions are drawn.

2: METHODOLOGY

This chapter provides an overview of the project methodology applied throughout the course of research project; including the research design and data analysis procedures. First, a summary of the basic methodological approach is explained, followed by a review of the primary data collection process; including an explanation of how the primary research was conducted. Here, the selection and recruitment of the interview participants is described and the challenges associated with that effort. Next, an overview of the content and focus of the questionnaire is presented and discussed, as a means to focus the data into coherent themes for analysis. Finally, the limitations of the research methods and approach are addressed.

2.1 Methodology Summary

In a general sense, this project represents a case-study of transport planning in the BVC. According to Babbie & Benaquisto, “a case study is conducted when the social researcher focuses attention on a single instance of some social phenomenon like a town, an industry, a community, an organization, or a person” (2002, p. 308). However, it is not so much a method, as a design, and for the most part simply highlights what unit the researcher will focus upon − not how the data will be gathered. In this instance, the case study design focused on transportation planning and highway development in the BVC and the stakeholders that define that community.

In accordance with the objectives of this study, it was decided that the most appropriate methodological instrument for this project would be to employ a *two-stage mixed-method* approach, which incorporates several methods of data collection and allows for an emphasis on *inductive* reasoning. Early on, it was determined the nature of the study made it necessary to employ a technique that would sit further along the inductive end of the inductive-deductive circle. Therefore, a qualitative multi-method approach (Babbie & Benaquisto, 2002) was adopted, and research data was gathered in a two-stage process; initially through books, journal and magazine articles, statistical databases, online sources, and secondly through in-person interviews with key informants. While the literature review, or first stage, cast a wide net in search of academic and public-sphere documents to build a good foundation in the subject area, the second stage, or interview component, was designed to be more intensive. Because interviews with key stakeholders was a critical component of this research, there was the added benefit that these in-depth, semi-structured interviews would allow the interviewees the freedom to elaborate beyond a formally prepared and delivered questionnaire, which can produce a rich set of data for subsequent, and ongoing analysis (Mehmetoglu, 2004; Babbie & Benaquisto, 2002). Interviews are a common method of inquiry in qualitative research and appropriate given the exploratory nature of the project.

Once the original data had been collected and reviewed, a decision had to be made on how to present the findings in the most appropriate manner. While the first-stage of the research focussed on an extensive literature review, which

helped to provide context and build a theoretical foundation, the second-stage of research was planned to have participants comment and reflect upon those themes. As a result, the findings from the interview process are broadly organized by some of the more compelling and appropriate threads uncovered throughout the entirety of the research. In this way, the methods applied in this project are similar to that of a grounded theory approach, in that as new themes emerged from the interviews, the literature was consulted again to help contextualize the contributions of the findings (Babbie & Benaquisto, 2002). This was an unexpected outcome and of the extended length of the project timeline due to a number of unforeseen circumstances.

2.2 Survey & Interview Process

From the outset, the plan was to conduct personal interviews with subject matter experts (SMEs) and stakeholders involved with transportation issues in the BVC, which would help to inform the preliminary research and build upon the insights obtained through the secondary literature review. As such, primary data was collected using a qualitative survey instrument design. That questionnaire (See Appendix) was designed to be delivered to respondents in an 'interview survey' method, or 'in-person'. Therefore, a semi-structured interview process was adopted − which offered the added benefit of helping to avoid the issue of non-response bias, permitted access to key stakeholders of interest, and allowed for long or complex questions and responses (Babbie & Benquisto, 2002).

Participants were identified throughout the preliminary research and literature review as important actors in the transportation planning narrative in the

BVC. A ‘hit list’ of ideal participants was identified by the author, in conjunction with his academic advisor, and these people were then contacted by email correspondence and/or telephone to inquire if they would be interested in participating as spokespeople for their organizations. Unfortunately, not all of the preferred interviewees were available and/or willing to participate. Interviews were arranged by the author and conducted over several weeks in two separate visits to the BVC, in June/July 2008 and again in June 2009. Respondents completed the survey by responding to questions orally and in-private; their responses were recorded using digital audio equipment as well as note taking techniques. This in-person method permitted the interviewer to explain the purpose of the survey and provide instant feedback or elaboration on any potential misunderstandings that may have been overlooked during its preparation. Another added benefit of conducting the in-person interviews was that it allowed the author the added opportunity to conduct some general ‘observational’ research while in the BVC with regard to transportation infrastructure and activity. The survey itself contains a selection of both open-ended and closed-ended questions (several quantitative questions were included, although later discarded as unsuitable), although for the most part, open-ended questions were more prominent and the main focus.

In total, eleven interviews were conducted. The interviews lasted on average about 45 minutes and surveyed the participants opinions about sustainable transportation in general, the primacy of the automobile in regional transport planning, the opportunities and challenges of planning for a post-carbon

future (and whether the respondents believed that such a condition was inevitable in the first place), the role their work and organizations have played in advancing the current transport vision in the BVC, and most importantly their thoughts about how they view transportation issues in the region, and how they might develop solutions to those problems.

2.3 Interview Participants

Participants in the original research represent a broad slice of the BVC transportation stakeholder community. This was a deliberate decision, as it was hoped that a cross-section of organizational positions and stakeholder roles would provide the best possible ‘universal view’ of transportation issues. For this reason, the participants are not just planners, or politicians. As in the original twinning debate, there was a wide variety of stakeholders who participated in the government panel assessment. With that in mind, stakeholder spokespeople were chosen mainly for the sub-sector they represented, as opposed to their personal profession. They include municipal mayors and town planners, parks and provincial government staff members, spokespersons for environmental advocacy organizations, transportation company directors, and private business interests. Because the research mandate included the guaranteed confidentiality of the participants, they are identified only as Respondents A through K, by profession and organization-type, or sector (See Table 1).

Respondent	Profession	Organization/Sector
A	General Manager	Tourism Industry Coalition
B	Planning Engineer	Provincial Government
C	General Manager	Transportation Company
D	Mayor	BVC Municipality
E	Senior Planner	Parks Management
F	Executive Director	Environmental Advocacy Group
G	Mayor	BVC Municipality
H	Director	Transportation Company
I	Administrator	BVC Municipality
J	Director	Environmental Advocacy Group
K	Planner	BVC Municipality

Table 1. List of primary research participants, by profession and organization/sector. (Source: Billy Collins).

2.4 Content & Focus of Interviews

The questionnaire was designed to draw comments and opinions from the respondents about transportation planning in the BVC in general, but more

specifically about the following issues and ideas, themes and theories uncovered in the literature review and background research:

- **Transportation Challenges** (Past & Present): Partially developed to kick-start the interview sessions, respondents were asked to reflect upon their personal, organizational, as well as regional challenges to transportation planning. The idea was to explore early on what some of the big issues or roadblocks might be to advancing a sustainable vision for the BVC that could be further contextualized or addressed later in the interviews. Additionally, these questions were also used to develop a sense of how respondents and their organizations related to one another and to probe for conflict and/or cooperation between transport stakeholders.
- **Trans-Canada Highway Twinning**: Being the major transportation development in the BVC, it was important to get a sense from the respondents about how they perceive the ongoing twinning and the original twinning decision. Mainly, were they supportive of the decision and did they feel as though it was a 'key element' in the BVC transportation picture? The twinning topic also opened the door to discussing the role of the automobile as the preferred mode of transportation within the BVC as well as what 'other' options or modes might be considered relevant or important by the respondents.
- **Peak Oil/Post-Carbon Future**: Peak Oil is a central concept to this project, and therefore it was essential to probe respondents for their

knowledge and understanding of the theory and the reality of high oil prices. The question though, could go either way: respondents would be familiar with the idea and provide rich data based-upon how their understanding affects their outlook and position, or they would be unfamiliar or skeptical and have little to offer on the matter.

- **Leadership & Political Will** (Paradigm Shifts): A number of questions in the questionnaire were planned to seek out feelings from the respondents on how they perceived their organizational contributions towards advancing transportation innovation in the BVC. Did the respondents feel as though the BVC was moving towards a sustainable model? How close are they to realizing a paradigm shift in the way transportation planning is conducted there?
- **Planning Performance & Outlook**: Finally, respondents were asked directly about what the nature of their outlook is for the BVC, and additionally whether or not they thought they were collectively on the 'right path' regarding transportation innovation?

2.5 Research Limitations

In hindsight, the greatest limitation of the methodology design has been associated with the primary data collection, or interview process. Mainly, this has to do with the selection of the informants. With more time and resources it might have been possible to arrange interviews with a greater variety of stakeholders in the BVC transportation account. Additionally, the choice of those informants

might have been different. For instance, it would have been fortuitous to have attempted to track down the same set of stakeholders that participated in the original twinning debate in the 1970s, particularly those that participated and contributed to the Environmental Assessment Panel hearings. However, because the policy history of the twinning of the TCH was not an original focus of this project and was completed post-interviews, this was not possible. That does however, constitute a great opportunity for future research, which will be discussed at the end of the paper.

Additionally, there was an issue associated with the sample related to gender − while a handful of women were approached, the only voices in the original data are those of male participants. It would also have been beneficial to have several other groups represented, especially in the academic and 'consulting' side of the equation – increasingly, transportation consultants[7] are having a significant impact on planning decisions in the BVC. Also, it would have been preferable to have conducted all of the interviews in a single time period, as opposed to spread out over two visits to the BVC in consecutive summers. Again, that was unplanned and a result of unexpected circumstances not related to the original methodological approach. Finally, it is noted that conducting in-person qualitative interviews are challenging to the student researcher. Keeping

[7] Almost all of the transportation planning documents produced in and around the BVC has been tendered out by municipal and government agencies, as increasingly neither the knowledge nor the resources can generally be found within their organizations. This trend toward outsourcing 'expertise' may have a profound effect upon the contracting agencies as the resulting 'brain drain' of employees who left (or never entered) public service could potentially "yield a loss of bureaucratic capacity for collecting, organizing and analysing essential policy inputs." (Perl & White, 2002, p. 70)

the informants on-time and on-topic can be difficult. Being both a science and an art, interviewing skills are hard-earned and take some time to perfect. That said, all of the interviews proceeded without incident and a rich set of data was collected throughout.

3: BACKGROUND

"If we can't export the scenery, we'll import the tourists."

William Cornelius Van Horne, General Manager, CPR

3.1 The Road to the Present

As the groundbreaking *Banff-Bow Valley Study*[8] (1996) acknowledged, the contentious environmental, political and economic issues in the BVC stem from the region's unique and complex history − they have not suddenly emerged. The decision to build the CPR through the Bow Valley and Kicking Horse Pass set into motion a whole set of actions that would simultaneously define the region as a world-class tourism destination *and* national transportation corridor. The two realities were bound by an early and dramatic birth and later to an uneasy coexistence. Both though, were revolutionary moments in the history of the BVC − just as the coming of the age of the automobile, and the expansion of year-round commercial activity ushered in a new epoch for the region – in that their impact was sudden, rapid, and drastic.

[8] Heritage Minister Sheila Copps called an inquiry into BNP management practices because of public pressure over land use and development in the Park, which had been growing since the 1980s. The *Banff-Bow Valley: At The Crossroads Summary Report* was the outcome.

It all began in the early-1880s with William Cornelius Van Horne, the General Manager of the CPR, whose vision for Banff[9] as a world-class tourism destination was centered upon the newly discovered hot springs, majestic Rocky Mountain scenery, and his renowned trans-continental railway. As one of the founding fathers of Banff National Park – indeed it was he who suggested it to then Prime Minister John A. MacDonald – Van Horne was a key player in shaping the future of the BVC. For it was his innovative spirit that created not only the park, but also Western Canadian rail and mountain tourism[10]. Forced to find ways to pay for the original construction of the railway, Van Horne knew instinctively that tourism was the answer, for in Banff he saw a solution: wealthy tourists would pay first-class fares to experience the 'Swiss Alps' of North America. By innovating upon an existing model (passenger and freight rail) and bringing his personal vision to fruition, he demonstrated how important such individual leadership can be to transport development. Over a century later, his influence is palpable. The significance of his personal ability to adapt and reinvent mobility to suit new purposes is immense, and speaks to the importance of vision in advancing new transport paradigms.

In hindsight however, probably the greatest single milestone in the history of the BVC took place on April 8, 1911, when automobiles were first allowed access into the park; following a six-year ban that had previously reserved the

[9] The discovery of the hot springs in 1883, led to the official founding of Banff National Park in 1885 (the second national park to be designated as such in North America), which in turn spurred the construction of the Banff Springs Hotel in 1887 (BBVTF, 1996).

[10] Trains, Peaks & Tourists − this was the 'golden age' of Canadian travel, "when the railway was king" (Hart, 2000).

park almost exclusively for railway travelers[11]. In the following year, tourism doubled, despite the fact that the number of railway visitors remained static – popular press at the time conceded the increase was due entirely to the rise in motor vehicle traffic. (Larin, 2008). Like the train, the arrival of the automobile was a watershed in the development of the park, as was the subsequent building of the Trans Canada Highway. Very early on, people decided that they preferred the 'freedom to explore' that the automobile offered, and from that point on it has been the hallmark of how the park has been envisioned, developed, and defined. Although both the Parks Branch and the CPR had serious reservations about the utility and necessity of automobiles in the park, the former eventually capitulated, and the latter was strangely silent[12] (Larin, 2008). The debate over automobile-access to BNP heralded a shift towards a new model of mobility for the BVC, or as the *Rocky Mountain Courier* proclaimed at the time: there is a "brighter vision of Life and Prosperity coming with the autos." (Ibid., p. 6). The advent of the automobile and 'rubber tire' tourism was not an incremental change; it was sudden, pervasive and enduring.

In the following decades the old Calgary-Banff 'coach road' was refurbished and expanded to accommodate traveler demand, although tourism to BNP remained primarily a seasonal activity until the 1960s, when alpine skiing

[11] The coming of the automobile to BNP was a highly contested development. However, backed by a strong lobby group in the form of the Calgary Automobile Club (whose members were well-heeled politicians' and businessmen) and profit-seeking tourism operators, the 'feds' eventually abandoned their position. By 1916 the contest over automobile ascendancy in the park was over (Larin, 2008; Hart, 2000).

[12] The Parks Branch grew weary of lobby efforts and the CPR failed to grasp the significance of the circumstances brought about by Calgary Automobile Club, or 'Auto Crazies', as the local Banff residents referred to them. Whatever the reason, CPR's self-preservation politicking failed to materialize. (Larin, 2008).

emerged as a popular winter pastime in Western Canada; which, not incidentally, happened to coincide with the building of the TCH in 1962. This trend only increased with the refurbishment of the CPR mountain hotels in the 1980s, when park facilities began to operate year-round[13]. Since that time, government officials and park administrators have struggled to come to terms with what is 'appropriate use'[14] in such a fragile and valuable ecological environment. More recently, similar debate has taken place over non-park land use in the BVC as well, mostly focused on the rapid development in the BNP 'gateway' community of Canmore.

The completion of the TCH was another major milestone in the development of the region. As Banff historian E.J. Hart observed, "An inexorable flood had been unleashed by the Trans-Canada, once again, as with the completion of the CPR eighty-seven years previously, confirming the valley's fate as a natural transportation corridor and committing it to a path that would fundamentally determine its destiny in the decades ahead." (2003, p. 158). The resulting tale is a familiar one in North America; as highway development and infrastructure expanded rapidly to accommodate the rising sovereignty of the automobile from the 1930s onward (Due, 1997). This had a profound effect on the development of the region and today the BVC bears witness to a substantial daily movement of automobile traffic – some 33,000 vehicles per day pass

[13] This had a strong impact on wildlife, as the spring and fall 'shoulder seasons' (the Achilles heel of the tourism industry) are sensitive birthing and mating seasons (BBVTF, 1996).

[14] The *National Parks Act* of 1911 stressed that "There will be no business there except such as is absolutely necessary for the recreation of people." – An early definition of 'appropriate use'. Clearly, the concept was open to interpretation over the intervening years, as park services and infrastructure expanded well beyond what might be deemed 'necessary' (BBVTF, 1996).

through the park's East Gate during the peak tourism season, and 24,000 on an average day (Macleod, 2003; Parks Canada, 2009).

Figure 1. Congestion at BNP East Gate, 2 PM, Saturday, August 15, 2009. (Source: Billy Collins)

Although the Canadian Rocky Mountain National Parks system was built by and upon the coming of the transcontinental railways − and owes their existence and popularity in a large part to the benefits that rail bestowed upon them − it seems that their wellbeing and continued popularity has long since been tied to the arrival and unchallenged ascendancy of the motor vehicle as the dominant mode of transportation. However, the problem is that the park's 1960s model of car and organized bus tour tourism is no longer viable as the increased

number of vehicles has strained parts of the park in terms of access[15] and parking, and “many feel that a new more sustainable model is needed to attract and accommodate tourism growth, without the transportation burdens and environmental impacts.” (Shirocca, 2008). If these issues are to be seriously addressed and a new sustainable model of transportation in the region is desirable, it will likely require a fundamental change in the way transportation is envisioned. Like those critical and revolutionary moments before, advancing a new transportation paradigm in the BVC will necessitate strong Van Horne-style leadership and vision, and possibly, a shift to an alternative mode – such as high(er) speed electric-powered passenger rail service − that is as attractive and accessible as the automobile.

3.2 The Bow Valley Region

The catchment area for this project extends 189 km from the City of Calgary to the AB/BC border and includes the communities of Cochrane, Dead Man’s Flats, Canmore, Banff and Lake Louise. The BVC is usually accepted to just include the territory west of Highway 68 (See Figure 2). However, for the purposes of this project the catchment area has been extended, mainly because the majority of the transportation activity through the BVC originates from Calgary or, is the main destination for eastbound transport. Albertans though, are the principal users of the BVC and passenger-vehicle traffic comprises over 80% of the transportation mode-share on the TCH (Macleod Institute, 2003).

[15] The BNP East Gate processes up to 5,300 vehicles per day in the summer months, which result in long queues and safety issues as cars back up onto the freeway. (Clark, Upchurch & Swanson, 2009).

Figure 2. Map of the Bow Valley Corridor, not including the area east of the TCH/Hwy 68 junction. (Source: Google Maps)

Geographically, transportation activity in the BVC poses a particular set of ecological problems, namely because deep valleys at high elevations create narrow 'ribbons' of useable terrain and unfortunately, both wildlife and humans use these same pathways. The TCH and CPR mainline for instance, pass through 70% of BNPs montane[16] landscape (CPAWS, 2002). Not surprisingly, this is where the majority of the stakeholder conflict arises and where the greatest amount of research, planning and debate has been focused[17]. All along the BVC there exists wildlife 'hotspots' and transport 'pressure points'. *Hotspots* are locations where there is a high level of interface between wildlife and transportation activity or infrastructure, generally resulting in wildlife mortality or habitat fragmentation. *Pressure points* are those areas that are under pressure

[16] Montane, meaning 'of the mountains', are the forested areas just below the subalpine in mountainous regions. These are vital biogeographic zones for wildlife and vegetation (Merriam-Webster, 2009).

[17] The plethora of regional planning documents that reference or address transportation in the BVC commonly focus on wildlife mortality mitigation as the main issue.

from traffic mortalities, congestion or parking problems. Some of the immediate conflict points are (Macleod Institute, 2003):

- *Canmore Area* – Fastest growing urban centre in the BVC; TCH showing traffic level pressures; as well as north and south pressures on wildlife movements.
- *Banff Area* – Congestion at Johnson Canyon parking lot; congestion in Banff town site.
- *Lake Louise Area* – Highway accidents and wildlife mortality; congestion at Upper Lake Louise and Moraine Lake; grizzly habitat and wildlife movement disruption.

The most significant infrastructure feature in this region is the TCH, which for both historic and geographical reasons bisects the entire BVC and more significantly, 83 km of BNP itself. Adding to the complexity of managing the regions transport activity is the fact that the TCH, from Calgary to the BNP East Gate lies within Alberta Transportation jurisdiction, while it rests within Federal Government jurisdiction from that point until the west end of the corridor. The management of the TCH within the boundaries of BNP falls under a 'unique governance' context because Parks Canada serves "as land manager, decision-making authority, and project proponent" (McGuire & Luey, 2006. p. 77). Although not part of Parks Canada's official mandate, major highways that exist in federal park lands have − since 1993 − become their responsibility to manage.

Additionally, there are operational issues. The TCH Transportation Level of Service (TLS) thresholds along certain stretches will be reached – according to the 2003 *Bow Valley Regional Transportation Strategy* – within a decade. Interestingly, this includes areas that have *already been twinned*, such as the

lengths of divided highway around Canmore, where the TLS was projected to be exceeded as early as 2009.

The other key infrastructure element is the Canadian Pacific Railway (CPR) mainline that for the most part runs parallel to the TCH. The Calgary to Lake Louise route is part of the Laggan Subdivision, which consists of a single track with sidings for rail traffic management. When operating at 'sustainable capacity' – the long term maximum number of trains that can move through this corridor in a day – as it has in the past, the corridor can handle as many as 38 trains per day, although CP is exploring various options to increase that capacity as a result of record demand for freight[18] (Connolly, 1999). Although bulk freight is a major part of CP's operations, containerized freight service has grown significantly in the past decade. Improvements in additional sidings, signals and other technological advances will help extend that capacity even further.

CP however, no longer operates a passenger rail service in the BVC and currently has no plans to increase passenger rail capacity along this stretch of track. In the past however, they not only had regularly scheduled passenger service to BNP, but also ran a narrow-gauge 'street car' operation (See Figure 3) between the main line (Laggan Station) and Chateau Lake Louise. Aside from the existing tourist rail operations which already exist, such as the prestigious Rocky Mountaineer (3 times per week October-May) and the Royal Canadian

[18] Although the CPR is currently feeling the effects of the economic downturn and has laid off 2400 employees, their Calgary-Vancouver freight business was previously booming (CP, 2009).

Pacific − an annual exclusive heritage train tour – the mainline handles commercial freight exclusively.

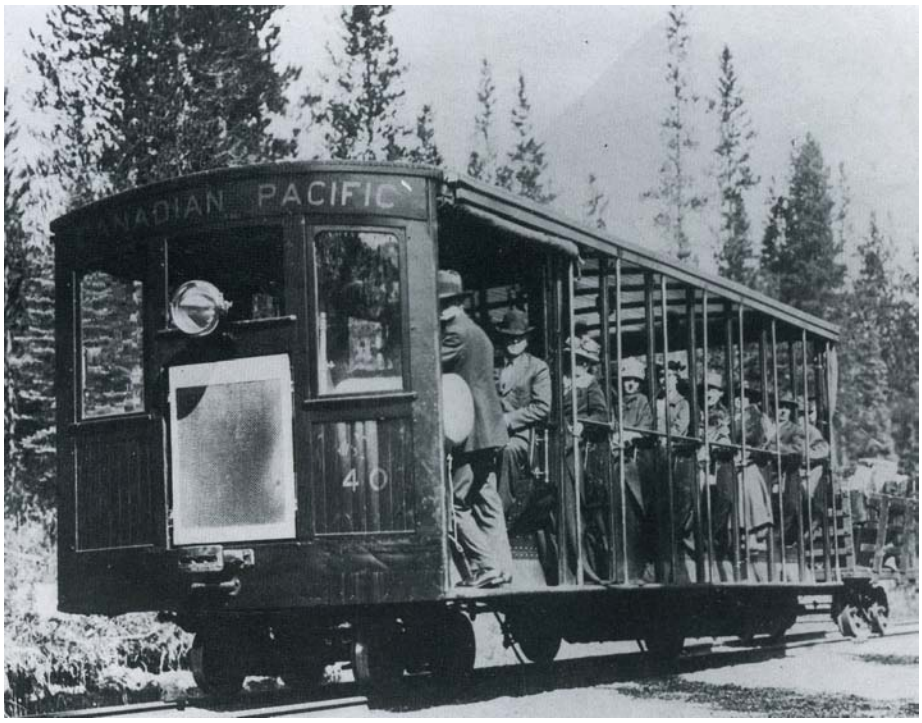

Figure 3. Once Upon a Time: CPR 'Motor Car' at Lake Louise. Open street car, capacity 14-20, leather seats, moveable roof, large plate glass windows, and an 'Electro-Gasoline Engine'. (Source: Whyte Museum of the Canadian Rockies; V465/PD3-314 Underwood & Underwood).

3.3 Key Stakeholders

There are many stakeholders in the BVC transportation planning narrative – including communities, NGOs, business interests, various levels of government and others – which tends to complicate the issues and slow down the decision-making process. The following is a listing of the key stakeholders involved.

Organization	Acronym
Primary	
Parks Canada	PC
Transport Canada	TC
Alberta Transport	AT
Town of Canmore	–
Town of Banff	–
Lake Louise	I.D. #9
Cochrane	–
M.D. Bighorn	Dead Man's Flats
Calgary	–
Canadian Pacific	CP
Secondary	
Canadian Parks and Wilderness Society	CPAWS
Yellowstone to Yukon Initiative	Y2Y
Calgary Regional Partnership	CRP
Banff-Lake Louise Tourism	BLLT
Banff-Lake Louise Tourism Association	BLLTA
Banff-Lake Louise Hotel Motel Association	BLLHMA
Tourism Canmore	TC
Bow Valley Regional Transit Services Commission*	BVRTSC
Brewster Inc.	–
* *currently a being formed by a steering committee*	

Table 2. Listing of key stakeholders involved in Bow Valley transportation planning. For the sake of brevity, many others are not included, although they have or may at some point contribute to the process (such as chambers of commerce, business groups, etc.). (Source: Billy Collins)

As indicated earlier, one of the most important stakeholders is PC, who wield a great deal of power in the BVC and who participate on most decision-making committees that might affect BNP. PC has been 'at the table' for almost all of the transportation discussions and have representatives on a number of regional planning initiatives. Other government entities are Alberta Transportation (AT) and Transport Canada, both of whom are essential to core funding and who, through political leadership, set the tone for transportation innovation – or stagnation − through policy and programs. It is the Calgary District Office of

Alberta Transportation that oversees the management of the Calgary-Canmore stretch of the TCH. Alberta Transportation also administers a municipal grants program designed to provide capital-related transportation funding and core-municipal infrastructure needs (GOAT, 2009). Transport Canada, the federal department responsible for transportation infrastructure funding, acts jointly with provincial partners in developing new highway projects.

The secondary levels of stakeholders are the municipalities in the catchment area. These include Cochrane, Dead Man's Flats (M.D. of Bighorn), Canmore, Banff and Lake Louise (Improvement District #9). Cochrane, although it does not technically lie adjacent to the TCH, is considered an important community to this study for several reasons: First of all, it is a rapidly growing exurban community to Calgary. According to Stats Canada's 2006 Census, the town witnessed a 14.3% population increase over 2001 (2009). By comparison, the oil-boom fueled City of Calgary grew by 12.4% in the same period (Stats Canada, 2009). Secondly, a significant amount of the citizenry commutes on a daily basis to work in Calgary – as much as 60% of the population, or about 8,500 people. (Ferguson, 2008). Additionally, Cochrane has been a regional leader in transportation-related planning through their participation in the Calgary Regional Partnership (CRP). Mainly, this has to do with the leadership of Mayor Truper McBride, who is the Chair of the CRP Regional Transit Committee[19]. Canmore and Banff's importance to this research is obvious, with the former

[19] Currently, this committee is developing a regional transit plan to link Calgary with the expanding communities of High River, Okotoks, Aidrie, and Cochrane amongst others. The vision ultimately includes plans for a commuter rail system (Personal Communication, Respondent C, 2009).

being halved by the TCH and the latter being the final destination for more than one-third of all vehicle traffic through the BNP East Gate (Macleod Institute, 2003).

Another group of stakeholders are the business interests, NGO's and not-for-profit organizations which have considerable influence on BVC decisions, even those stakeholders that are not directly situated within the catchment area itself. For instance, industry lobby groups and support organizations such as the CRP, Alberta Trucking Association, Calgary Chamber of Commerce and others have pushed for highway development in the BVC and more recently for an estimated $1.6 billion "ultimate-build" ring road[20] around Calgary to ease congestion, improve safety and expedite the movement of goods (Komarnicki, 2009). The federal government is setting aside $100 million for the project that Prime Minister Stephen Harper hopes will, "will ease road congestion and reduce pollution from cars stuck in traffic" (D'Aliesio, 2009). Incredibly, Alberta Transportation is already planning for an 'outer-ring road', to ease predicted congestion on the still incomplete 'inner' ring road (personal communication, Alberta Transportation, 2009).

Other stakeholders in this category are tourism sector businesses and ancillary organizations such as Brewster Inc., Banff-Lake Louise Tourism Association, Banff-Lake Louise Hotel Motel Association, Ski Banff-Lake Louise Sunshine, Tourism Canmore and others. These organizations rely heavily upon

[20] As of July 2009, the future of the ring road is uncertain; after the Tsuu T'ina Nation voted down a $275 million offer to allow the super-highway to run through their land – currently, the provincial government is looking at other options (Komarnicki & Braid, 2009).

visitor access to the BVC throughout the year. In summer, this can mean delays and heavy congestion and in winter, poor travel conditions and highway safety issues. Tourism has a strong voice in the region, as it is the mainstay of Banff and Lake Louise's economies, as well as the catalyst for the rapid development in nearby Canmore (Shirocca Consulting, 2008).

The final set of stakeholders are those environmental watchdog groups, which seek to protect the natural ecosystems in the BVC: such as the Friends of Banff National Park, Yellowstone to Yukon Conservation Initiative (Y2Y), Canadian Parks and Wilderness Society (CPAWS), Bow Valley Biosphere Initiative and others. These organizations have had a great impact on a number of issues in the past, and continue to influence policy and planning decisions today. In the past, some of those issues have boiled over into major debates; for instance, CPAWS vehemently opposed the further development of Sunshine Village ski area in the 1980s, going so far as to file a court injunction against Parks Canada at the time[21].

Interestingly, although there are many seemingly opposing parties and mandates at the BVC planning table, the Federal Government and Parks Canada are not the only supporters of TCH twinning; the project is backed by nearly all of the stakeholders in the region, including the three communities of Canmore, Banff and Lake Louise, as well as tourism operators, local residents and environmentalists (Brisbane, 2008).

[21] This was in the lead-up period to the 1988 Winter Olympics, following a earlier failed attempt to host the 1972 Olympics by Lake Louise Ltd. and Imperial Oil, which was eventually rejected by Hon. Jean Chretien, then the Minister responsible for national parks (BBVTF, 2003).

3.4 Growth in the Bow Valley Corridor

Tourism and its impacts on BNP are only one part of the overall development picture in the BVC. The movement of freight, regional commuters and vacation-property through-traffic are significant issues as well. In fact, the growth in traffic as a result of Calgarians travelling to and from their weekend retreats in British Columbia is becoming a major concern for BNP management. Highway 93, which runs southwest from the TCH near Lake Louise to Radium Hot Springs and the Columbia Valley vacation region, has been referred to by park staff as a 'speedway'. Traffic-wildlife issues on this stretch of the highway have been exacerbated by recent wild fires along the corridor which have made it a preferred foraging ground for animals, thus greatly increasing the number of collisions (M. Murtha, personal communication, June 16, 2009).

However, it is commercial growth within the BVC itself which poses one of the greatest environmental threats to the region. This is especially true of Canmore, which has grown exponentially in the past several decades due to; the mandated growth cap on Banff commercial development and population, its attractiveness as a mountain lifestyle community, proximity to a booming Calgary economy, and its diversity of amenities and relative affordability compared to Banff. All of those advantages conspired to make it Canada's fastest-growing municipality in 1996 (Stats Canada, 2009).

The result is that Canmore − as a bedroom community to both Banff *and* Calgary − is on track to essentially outgrow itself: "The build-out population (residential and overnight visitors) in the Southern Canmore Region is projected

to be approximately 16,500 people, which will be reached, according to Canmore's Municipal Development Plan (1998) and the Three Sisters Resorts Master Plan (1999), in about 15 years." (Herrero et al., *n.d*.).

According to the *Calgary Herald*, the Southern Canmore Region contains one of the most desirable resort development properties left in North America (2000). Indeed, the resort industry has already begun to take shape in this area, with the ongoing construction of Three Sisters Mountain Village development. Three Sisters and neighboring developments represent "perhaps the greatest threat to the entire [Yellowstone to Yukon] landscape because human activities in this critical valley may completely divide the bioregion" (Tabor, 1996). With its multiple golf courses, huge condo developments and mini-villages, Three Sisters is a beacon for 'amenity migrants'[22] to the region.

The main transportation problem though, aside from increasing highway congestion, is that there is currently no scheduled transit service connecting Lake Louise, Banff and Canmore. With the enormous development in the Southern Canmore region and the 'growth cap' on Banff development, the need for inter-community transport options are essential. Traffic levels along this section of the TCH have grown between 2.5 and 3.5% per year, significantly higher than other subsections of the BVC considered in this project (Macleod Institute, 2003). This is putting increased pressure on municipal infrastructure and causing congestion

[22] *Amenity Migrants* are those visitors-turned-residents, who choose to build their dream homes and new life in high-amenity mountain communities, which often results in tension and conflict in these communities on many different levels.

within and around Canmore itself, as there are only a few highway crossover points to accommodate growth on both sides of the TCH.

Surprisingly though, the need for public transportation only became a major discussion in summer of 2007 when it appeared as if the ski bus service that runs between the ski hills and local hotels was in jeopardy of shutting down (Leader, 2008). The ski bus service remains a contentious issue in Banff and Lake Louise as neither the ski operations nor the accommodations industry can seem to agree on whom should provide the shuttle service to their shared guests (Darren Reeder, personal communication, Jun 15, 2009). Since then, Banff, Lake Louise and Canmore have begun to look at creating a Bow Valley Transportation Authority, which could eventually lead to a public transportation partnership in the western part of the BVC. Following a report by a North Vancouver-based consulting firm − which had been retained to determine how such an authority might operate − in June 2008, a steering committee has been convened to look at the creation of a regional ‘services commission’ which would create the appropriate political and funding structure to host such a transportation initiative.

In the summer of 2008, Banff re-launched their community bus service (Roam), complete with a new fleet of four bio-diesel/electric hybrid buses outfitted with intelligent transportation technology. The system services major town site destinations like Tunnel Mountain campground, Banff Springs Hotel, the Hot Springs/Sulphur Mountain Gondola, as well as Banff Avenue (downtown). Brewster, the long-standing Rocky Mountain tour company, runs the Roam service operations. Roam has been a runaway success, with ridership up

43% since service began in 2008 (Mathieu, 2009); the total number of people using Banff transit is over 500,000 (Town of Banff, 2010) per annum. Those are impressive numbers, especially considering that Banff's official population in 2007 was only 8,721 (Town of Banff, 2009) and that nearly 60% of Banff residents walk or bike to work (Stats Canada, 2006).

Figure 4. Banff's new and highly successful Roam bus transit system. Diesel-Hybrid busses decorated in eye-catching wildlife motifs. (Source: Billy Collins)

Clearly, some form of inter-community public transportation is necessary, as approximately 2300 people commute between Canmore and Banff every day, and 200 Banff/Lake Louise residents do the reverse (Stats Canada, 2009). With an estimated 7000 cars per day (Macleod, 2003) visiting the Banff town site during high-season, parking capacity and congestion has become a major issue. This has been exacerbated by the rising number of regional (Calgary and

Southern Alberta) visitors to BNP, as a decline in international tourists has been offset by local tourism. The paradox though, is that “with this shift has come a decline in average night stays, lower spending and higher car dependence.” (Shirocca Consulting, 2008).

3.5 Trans-Canada Highway Twinning

Although twinning of the TCH in the BVC has occurred in various stages since 1981, rapid growth in Asia-Pacific trade – which has strained transportation infrastructure across Western Canada − has encouraged the federal government to fast-track new transportation infrastructure and upgrades (Van Horne Institute, 2005). In October 2006, Ottawa launched the Asia-Pacific Gateway and Corridor Initiative (APGCI) for investment and policy measure development that would facilitate increased efficiencies in overseas trade and transhipments to and from the United States. In total, over $1 billion (Lindsey, 2009) has been dedicated toward the project, which includes major infrastructure investments including new roads and bridges in the B.C. Lower Mainland, capacity expansion at the ports of Prince Rupert and Vancouver, railway corridor upgrades, and includes TCH Twinning right through the Mountain National Parks, and all the way to Kamloops, BC.

Figure 5. TCH Twinning in BNP: Picture showing the scale of the project (Phase IIIB-1.) (Source: Billy Collins)

Through the APGCI, Parks Canada (2009) was initially awarded $37 million to begin Phase IIIB-1 of the TCH Twinning Project. Then in 2008, the agency received an additional $100 million via the federal government's $33 billion 'Building Canada' infrastructure plan − required to complete another 14 km section within the park (Phase IIIB-2). Again, they received an extra $130 million in funding through Budget 2009 − Canada's Economic Action Plan − to twin the highway right through to the AB/BC border (Phase IIIB-3). The federal focus on highway infrastructure development has continued during times of economic boom, as well as recession, thereby signifying a serious national commitment to expediting cargo movement along transportation corridors all the way from the Pacific Coast to the Prairie Provinces.

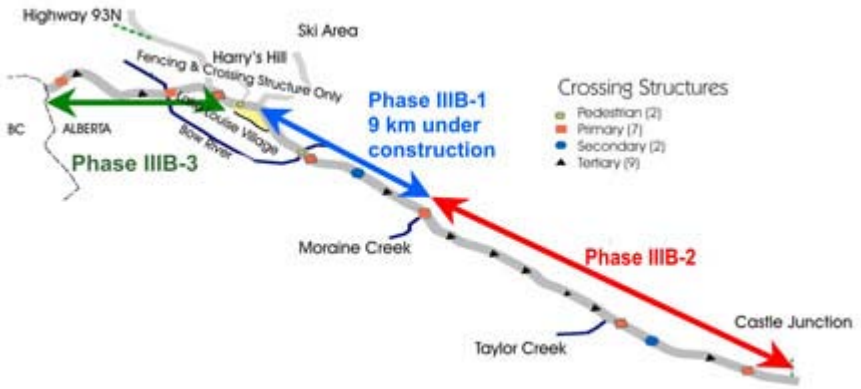

Figure 6. Map of ongoing and planned BNP TCH Twinning; Phases IIIB-1 (90% complete), IIIB-2 (starts spring '09) and IIIB-3 (by 2014). (Source: Parks Canada, 2009).

Despite widespread support for the APGCI by provincial governments, private firms and the trade industry, there are negative externalities to consider. Some of these aspects have been explored by Woudsma, who observes that "balancing the national significance of the overall initiative against the local, sometimes negative, impacts is a challenge – in fact, it's been referred to as a 'special challenge'." (2008, p. 1). One piece of that special challenge is the reality that the modal split in freight transport is dominated by trucks, and therefore hints at the negative energy consumption patterns and related externalities from emissions. Considering that freight traffic greenhouse gas emissions are expected to increase five-times[23] that of overall national emissions, the emphasis certainly is not focused on positive sustainability outcomes.

Other authors have pointed out − environment and energy issues aside – that the much touted two or three day shipping advantage of Western Canadian

[23] EU transportation data suggests that while greenhouse gas emissions there were projected to increase by 8% to 2010, transport's emissions were expected to increase by 39%. Similar trends have been identified for Canada. (Woudsma, 2007).

ports may not be enough to compete with other gateways like Mexico, which "has lower labour costs and appears to already have more pieces of the puzzle in place." (Lall, 2007, p. 18). International trade is a highly competitive sector of global 'industry', and essential to a nation's stake in the global movement of goods, services and finance. However, as many scholars have pointed out, there are likely to be winners and losers in the game of globalization. So, while Canada is banking on trade gateways to grab a bigger piece of the global pie, it could be that all the investment in freight transport infrastructure might have unintended outcomes. As Ashish Lall of the Asia Competitiveness Institute observes:

> The most curious thing about Canada's Pacific Gateway and Corridor Initiative is that it appears to be more of an investment in the trade between China and the United States than an initiative for Canadian prosperity; from this side of the Pacific, Canada does not appear to be a player in Asia. (2007, p.18).

Then again, considering that Canada's exports to China doubled (while imports increased over five times) between 1995 and 2005 (Gillen et al, 2008), it is an indication of just how critical Asia is as a global trading partner. However, trade depends upon transportation, and transportation depends upon oil[24]. And that is precisely why the APGCI is akin to a crap shoot. Although economic vitality is an important element of a sustainable development model, and is a necessary priority for government, it is predicted that the onset of costly fossil fuels will likely short-circuit the highway trade corridor-trucking link. As an increasing number of authors maintain; in the not-too-distant future, the

[24] Transportation experts have pointed out that 95-98% of all mobility is based-upon oil (Gossling, 2002)

economic justification behind fossil fuel powered highway transportation will begin to fall apart (Rubin, 2009; Kuntsler, 2005).

In a paper written for the Gateway Corridor and Research Consortium, Gillen et al. address this very issue of transport fuel costs; citing a report by CIBC that posited that "oil price increases over the past 3 years had undone 30 years of tariff reductions from trade negotiations" and goes on to suggest that "…transportation costs could well lead to a potential shift in production from Southeast Asia to Mexico and South America (2008, p. 2). The authors' response to these predictions though, is to admit that while CIBC might be correct in the short or medium term, "In the longer term higher oil prices will stimulate innovation and the development of new technologies that can mitigate the impact of higher oil prices." (Ibid). That is a common refrain heard by peak oil theorists; that technology will solve the problems related to oil supply shortages. But 'what if' there are no easy medium-term solutions, or any reasonable long term alternatives? As author J.H. Kuntsler maintains, "Based upon everything we know right now, no combination of so-called alternative fuels or energy procedures will allow us to maintain daily life in the United States the way we have been accustomed to running it under the regime of oil… We are in trouble." (2005, p. 100).

Either way, whether trade increases (and emissions with it) as a result of APGCI investment, or ultimately suffers (resulting in a massive misallocation of resources) as a result of costly oil, the twinning of the TCH is a zero-sum game. In the case of the later scenario, will we still be building modern highways

through spectacular scenery when nobody can afford to use them, either commercially or recreationally? What will happen to BVC tourism when it is cost-prohibitive for visitors to travel there by personal automobile? What will become of hundred-million dollar highways, bridges and interchanges when the only economically viable way to ship containers and commodities across the Rocky Mountains will be by an already maxed-out railway infrastructure? Or, should the former scenario come true, what will be the effects to the environment and social fabric of the region should freight traffic double or triple again along the BVC? With no significant additional capacity available through CPR, how many more trucks will that amount to per hour, day or year on the TCH?

3.5.1 A Misplaced Emphasis

As *Canadian Geographic* reporter Candace Savage concluded in her controversial article A Highway Runs Through It, “The twinning of the highway and the construction of the wildlife overpasses provide an instructive example of our misplaced emphasis.” (2000). A sure sign of that misplaced emphasis is the disturbing and ongoing Parks Canada community outreach and publicity campaign aimed at educating school children about the benefits of highway expansion in the BNP. Clearly orchestrated to create some goodwill in BVC communities with regard to the upcoming construction, as well as to trumpet scientific research findings that the wildlife crossings are a runaway success,

Parks Canada organized an elementary school program[25] that informed children of the benefits of building bridges and tunnels for wildlife movement. The program included an art and writing contest and winners were awarded, based-upon their artistic merit (Parks Canada, 2009). The results of this promotion are cause for concern − not because of the children's abilities – but because of the message they contain (see Figure 7). What are we teaching our children about 'sustainability', when their first lesson is that wildlife are expected to cross at pedestrian walkways? Obviously Parks Canada finds themselves in an awkward position, as both the twinning proponent *and* guardian of the park(s). That predicament is clearly illustrated by the APGCI logo displayed predominantly on their website.

Figure 7. Art Contest−Honourable Mention: "Two drawings showing the highway before and after twinning." Artist: Graeme Griss, Grade 4, Canmore, Alberta (Source: Parks Canada, 2009).

[25] This program, *Banff Wildlife Crossings: Student Art and Writing Contest*, which ran from 2006-2008, exposed 22 schools and over 4300 young people to the value of animal crossings and asked them "what the wildlife crossings structures meant to them and why they are important for wildlife" (Parks Canada, 2009).

While the artwork and stories were highly entertaining and generally upbeat, they reflect a certain human arrogance, such as one child's instruction: "Be a safe coyote use the bridge." (Parks Canada, 2009). Clearly, the children were picking up on the relative success of the crossings, as well as innocently entrenching PC's focus on highway-centered transportation. In the end though, Parks Canada and their supporters (CPAWS, scientists, and environmentalists) got what they wanted, which was very costly animal mitigation measures. However, as author Richard Gilbert suggests, a post-carbon future might ultimately have unpredictable side effects: "The likely outcome of not dealing with this issue is not an environmental catastrophe. It's an economic and social catastrophe that may leave us unable to deal with the environmental catastrophe." (Savory, 2008). That is a sobering thought for those guardians of our protected and wild places, and likely not a consideration currently entertained by PC management.

Figure 8. BNP Animal Crossing: Photo showing one of the new wildlife corridor overpasses under construction in August 2009. (Source: Billy Collins)

3.6 Highway Twinning Policy History

In order to better understand the discussion around current highway transportation issues in the BVC, it is helpful to review the policy decisions that enabled the original highway twinning itself, not only within BNP, but also the section between Calgary and the park gate. However, that policy history is somewhat murky and many of the intentions and actual decisions are hard to pin down nearly forty-years after the fact. Mainly, this has to due with a lack of accessible information regarding the various multi-party public policy making decisions that led up to the historic judgment. Fortunately though, the official federal government documents produced throughout the initial phase of proposed highway twinning measures within BNP are available. Additionally, most twinning decisions after that have provided the background information from that decision and generally summarize all past twinning measures to date.

3.6.1 A 'No Policy' Environment

The other main reason that a policy history of the twinning is elusive relates to what Turgeon and Vaillancourt refer to as the Canadian government's 'no policy' approach to highway provision since confederation[26], "as reflected in various ephemeral programs, the main purposes of which are often other than coordinating or promoting highway construction." (2002, p. 161). According to the authors, despite numerous programs introduced by the federal government for highway development, "no apparent continuous policy toward highways has ever

[26] Turgeon & Vaillancourt (2002), provide a historical account of the building of the TCH and national highway policy dating back to the British North America Act (BNA) in their paper *The Provision of Highways in Canada and the Federal Government*.

been adopted by Ottawa." (2002, p. 171). That finding has been echoed more recently by others, including Morrall, who as recently as 2004 observed that "National goals and objectives from the Federal Government perspective for highway transportation are unclear." (2004, p. 1). This lack of clear direction on highway policy helps to explain the ambiguity around some of the decisions and processes in the BVC; most of all though, it is the multi-jurisdictional nature of the BVC which adds to the confusion. Virtually no information is available about the Alberta provincial government's policy towards twinning, and it appears to be unrelated to any federal initiative of the sort.

Thus while the relationship between federal and provincial bodies with regard to highway development remains vague; what is certain is that the responsibility for highway provision and road transportation in general has been left mainly in the hands of the provincial governments. The provinces continue to regulate the extra provincial motor carrier industry despite Ottawa's original intention to assign complete control to a single agency, Transport Canada, through the National Transportation Act of 1967 (Schultz, 1980). Since 1978, "most of Canada's federal highway programs have been designed to promote regional economic development by improving and enhancing provincial highway systems" that would also support the provinces self-interest in regulating the trucking industry. (Turgeon & Vaillancourt, 2002, p. 166). That reality is consistent with more recent domestic public policy making around transportation, namely the previously discussed Asia-Pacific Gateway and Corridor Initiative Program. This federal/provincial highway policy conundrum is further illustrated

by a recent Canadian Chamber of Commerce report entitled Moving the Canadian Economy: Four Pillars for a National Transportation Strategy, which states:

> While the Government of Canada has implemented a number of positive initiatives and policies over the years, it has not been guided by a long-term and predictable strategy. Our transportation infrastructure requires significant investment and our transportation regulatory environment, consisting of inefficient tax and operating requirements and split responsibilities between levels of government, requires modernization. (2008, p. 1)

Essentially a 'call to action'[27], the report identifies the need for an increasing focus on, and demand for, a national transportation vision based-upon a multimodal transportation infrastructure investment strategy that is developed in an economically, socially, and environmentally sustainable manner. While it is too early to speculate on whether such a bold new vision will be adopted by the federal government, it is apparent that there has been reluctance, what Turgeon and Vaillancourt identify as a "lack of political will" (2002), on the part of Ottawa to pursue a clear policy. At the time, the BNP-TCH twinning matter was addressed as a stand-alone issue and cure, born out of a necessity by the federal government to intervene. It was, if you will, a bump on the highway policy path that has been dependent upon a long-standing Canadian tradition of 'no policy' at all.

[27] This report is similar in nature and content to a March 2005 briefing by the Western Provincial Transportation Ministers Council, which called for "A Time for Vision and Leadership." (WPTMC, 2005).

3.6.2 Creating Tomorrow's Problems, Yesterday

Although the story of the TCH can be traced back to the turn of the last century, the origin of it's twinning in the BVC can be directly linked to policy decisions made throughout the 1970s, prior to the beginning of construction in the autumn of 1979. Similar decisions would be made in the following decades, as the process repeated itself over and over again. Ultimately, that original decision set the precedent of what was to be expected in the future. It was in 1971 that the Province of Alberta completed[28] twinning of the TCH west from Calgary to the East Gate of BNP. That milestone had an immediate and profound effect upon transportation activity throughout the BVC. Not surprisingly, the first observed impact was that it greatly increased the amount of traffic that traveled along the route, and in the very same year, "serious consideration was given to the need for 4-laning the T.C.H." in BNP as well (Parks Canada, 1976, p. 1). Accordingly, it was only a few years later that "the inadequacy of the TCH through Banff National Park to handle the recreational, trucking and local traffic became pressing." (Parks Canada, 2004, p. 6). The primary problem was that where the traffic entered the park, a physical 'bottleneck' was created[29]. As a 1976 Parks Canada *Information Report* observed, "The situation now is a high capacity road west from Calgary feeding traffic onto a highway of much lower

[28] The adoption of the *Trans-Canada Highway Act* in 1949 eventually resulted in the completion of the TCH some twenty years later in 1970, although the highway was whole through BNP as early as 1950 − Initially, the completion had been scheduled for the end of 1956, but was waylaid due to a number of unforeseen events, such as Quebec's late signature (Turgeon & Vaillancourt, 2002).

[29] Although the suggestion to build a alternating three-lane highway (an early version of Transportation Demand Management) from the two-lane TCH in BNP was proposed as a solution to congestion in the original EIS, it was quickly rejected as not being effective in reducing potential head on collisions as there would be no sufficient median to keep the opposing traffic flows separated (Klenavic, V.2).

capacity in the National Park." (p. 1). Or, as Alberta Transportation Manager Al Werner wryly commented, "The complete incongruity of the level of service provided by the highway within the park, compared to the Alberta section for essentially the same traffic, is not lost on the road user." (Klenavic, V.2, p. 247). Naturally, as traffic volumes increased, so did the corresponding number of accidents, as frustrated drivers attempted to break away from the slow-moving 'platoons' of vehicles (Walker, 1993).

By the mid-70s, the number of accidents resulting from traffic growth on the 13 km stretch between the park gate and Banff turnoff were so frequent and severe that the call for highway improvements within the park increased substantially. In 1974 for instance, there were 36 motor vehicle accidents on this section of highway, including 5 head-on collisions (Parks Canada, 1976, p. 2). Wildlife mortality in the park at the time was so extreme that Parks Canada staff nicknamed the highway the "meat maker" (Parks Canada, 2004, p. 6). By twinning the TCH up to the park boundary, Alberta Transportation had effectively forced the hand of Parks Canada management, who found themselves trapped between Alberta and BC provincial highway mandates, and their respective standards and policies. Regrettably, due to the newly created deluge of highway traffic activity within their jurisdiction, Parks Canada now had the enormous (and unwelcome) challenge of providing a seamless transition for motorists. (McGuire et al., 2005).

The assertion that the federal government had its hand forced into acting on the BNP traffic problem was later confirmed through comments made by

Alberta's Transportation Minister, Peter Trynchy, who commented − during the Phase II twinning announcement in 1993 − "The road is a first-class highway from Calgary to the Banff gates, we just spent millions of dollars on twinning Highway 1, so that's a done deal provincially. Now it's the fed's jurisdiction to continue on." (Crockatt, 1993, p. A7). Due to the 'intense pressure' on Parks Canada in the late-1970s over traffic issues in BNP, "the federal government was forced to make difficult choices" about transportation decisions surrounding the "necessary evil of having the park bisected by a heavily-travelled stretch of the Trans-Canada Highway" in Canada's most visited national park (Edmonton Journal, 1995, p. A30). The original decision to twin the highway within the park and the process by how that decision came about was a defining moment in regional transportation planning, which in due course became a reoccurring course of action.

The historical account of highway twinning in the BVC is a cyclical story of continuous incremental effort to keep one-step-ahead of highway congestion and its associated ills. Each successive improvement scheme only further emphasized the weakest link in the chain, as demonstrated by the same 'bottleneck' now just moved a little further down the line (see Figure 9). Currently, that blockage is just west of Lake Louise where Phase III-B twinning is underway. As yet though, no plans are proposed to address the next problem, which is posed by Yoho National Park. Presumably, in time and with many more millions of dollars, the hold-up will be moved ever-further westward − where it will eventually become the Government of British Columbia's problem − until Parks

Canada will have to yet again face twinning pressure, only this time in Glacier National Park.

Figure 9. Twinning timeline: Project proponents are listed along the bottom and dates indicate building phase startup. Twinning has been a long battle to secure public funding. There have been a number of black-out (budget hiatus) periods, but now the APGCI is funding the remaining upgrades. (Source: Billy Collins)

TCH Twinning throughout BVC is a *linear project* that has unfolded over many decades and represents a classic example of policy 'path dependence'. In this case, that original 'path' was chosen by policy actors who were reacting to *induced*-traffic demand and who ultimately had to choose between the lesser of two evils; doubling the highway for gains in public safety and commerce, or doing nothing in the hope of preserving the ecological integrity of the park − and therefore having to live with a steadily increasing death count. Either way, the federal government was being pressured into making a controversial decision.

3.6.3 The Decision: A Necessary Evil

From the beginning, the justification behind the need for twinning has always been associated with two main transportation goals; *safety* and *efficiency*. Those goals − to provide a highway system in the mountain national parks which will provide the greatest efficiency and effectiveness for the highway user – have been consistently reflected in the literature and policy documents: "The need for

twinning is based on maintaining an acceptable level of service and highway safety", as steadily increasing commercial, commuter, and tourist traffic had effectively stretched their limits at the time (McGuire et al., 2005, p. 6). Interestingly, this point-of-view appears to have been shared by most of the public and private policy players involved in the decision at the time, despite the fact that the original twinning proposal by Public Works Canada (DPW)[30] in 1978 has been labeled as a 'highly contentious', and the ensuing debate 'intense' (Parks Canada, 2004; Walker, 1993). Oddly, although the first-phase of twinning (BNP East Gate to Banff) prompted a debate about whether a larger highway would *save* more people or *kill* more wildlife, it was ultimately "approved with the goals of improving travel safety for people and of reducing road kill of deer and elk." (Crockatt, 1993, p. A7). While this may give the impression of a 'win-win' scenario for both sides of the debate, the emphasis on wildlife mortality mitigation overshadowed the larger issue of whether a "freeway" in a national park was acceptable in the *first* place. That had everything to do with the key role played by the 1979 *Environmental Impact Statement* related to the original proposal and subsequent appointment of an *Environmental Assessment Panel* to review that document, conduct public hearings, and reach a decision.

As a policy measure, the newly minted *Environmental Assessment and Review Process (EARP)* – this was one of the first major applications of the instrument since its adoption by the Federal Cabinet in 1973 − was instrumental

[30] Public Works Canada, as the federal department responsible for highway building in national parks at the time, was technically the original 'proponent' and author of the EIS for both Phases I & II − Only later, during Phase III-A planning in 1993 did federal budget authorities place Parks Canada as the Responsible Authority for the TCH twinning project (Parks Canada, 2004).

in shaping the outcome of the twinning debate. Mainly, it refocused most of the conflict *away* from development as an end in itself (a more efficient highway), and towards the development as a means to *another* end (a wildlife-friendly highway model). In other words, highway twinning in national parks was soon to be considered acceptable, only so long as there were additional infrastructure provisos attached that would improve wildlife mortalities. Certainly, the EARP helped to ensure that DPW remained environmentally diligent as the project proponent; however it also at the same time provided the ethical grounds – and moral justification − with which to proceed, despite those who maintained that this initial widening would only result in more of the same[31]. As one private individual wrote to the assessment panel, "Through an increase in the car capacity of the road, an increase in the number of cars in the park is ensured; hence, if present growth trends continue, the road will need further widening in the future." (Government of Canada, 1979, p. 2). That sentiment was echoed by the Master Brief Committee in Canmore[32], who stated at the hearing:

> We feel that the degradation of the Park ecological system with the significant loss of National Park values is a high price to pay in terms of what we gain in return, that is, a road system designed for the convenience and expediency of high speed vehicles, impatient and often unwilling to adapt themselves to the natural values and philosophy of Banff National Park. (Patterson, p. 907)

The disarming of the anti-twinning faction through a new highway twinning 'enviro-mandate' was neither predicted nor straightforward. Indeed, the first

[31] The first proposed twinning was only for km 0 to 13 in the park. Another 70 km's still remained un-twinned.

[32] Formed 1978 as an extension of twenty-five local interest groups (Klenavic, 1979).

round of the Environmental Impact Assessment (EIA) was both criticized and supported by the main policy actors (see Table 3). While the Alberta Trucking Association, Calgary Transportation Authority and the Banff Advisory Council strongly backed the Environmental Impact Statement (EIS) prepared by DPW, the Federation of Alberta Naturalists, the Sierra Club of Western Canada, and Alberta Wilderness Association questioned not only the merits of highway expansion, but also the very EIA process itself, and the EIS document specifically (Government of Canada, 1979). For their part, Parks Canada challenged the proponent's "conclusion that twinning is the only solution" (Klenavic, 1979, Vol. 6, P. 992) and took the position that "Alternatives to four-laning have not been adequately described to convince Parks Canada that four-laning is the best solution to the problem." (Ibid, p. 993). Although, they were also careful to point out that; "We recognize that the media coverage has portrayed us as being completely opposed to the project. This is not exactly the case." (Ibid, p. 990). The Calgary Transportation Authority clearly attempted to undermine Parks Canada's position, as is demonstrated by a comment made by their spokesperson: "Consideration should be given to developing a highway that will adequately meet the nation's needs to the turn of the century, and to that end removing the highway corridor from the national parks jurisdiction." (Klenavic, Vol. 2, p. 276). Naturally, each policy actor was hoping to advance their own mandate (See Table 3); the pro-highway crowd was citing safety and traffic-flow issues, and the pro-wildlife players were focused only on issues relating to environmental issues and ecological 'due diligence' by DPW.

No.	Stakeholder Group	Position	Reasoning
A	Transport Canada	Support	National trade and commerce imperative
B	Public Works Canada	Proponent	Then responsible for highways in NPs
C	Environment Canada	Against	Wanted more research. EIS incomplete.
D	Parks Canada	Undecided	Not convinced it was the only option
E	Alberta Transportation	Support	Lifeblood of economy, policy driven
F	Calgary Transportation	Support	Commercial link to the West
G	Banff Advisory Council	Support	Wanted additional highway improvements
H	Canmore Brief Committee	Against	Based upon park philosophy and values
I	Alberta Trucking Assoc.	Support	Demanded it for efficiency and safety reasons
J	Alberta Motorist Assoc.	Support	Cited their membership needs and wants
K	Banff/Lake Louise CofC	Support	Would support the visitor 'experience'
L	Bow Valley Naturalists	Against	Wildlife mortality/habitat concerns
M	Sierra Club of Canada	Against	Questioned the EIS & lack of alternative options
N	Alberta Wilderness Assoc.	Against	Wanted a moratorium on any BNP development

Table 3. Scorecard of who stood where on the original debate about TCH twinning in BNP, based-upon their positions stated to the Environment Assessment Panel (Klenavic, 1979). (Source: Billy Collins)

In the end, both the pro-highway and pro-wildlife actors were placated, yet those pro-*park* voices were thwarted. It is as though there was no choice *other* than to twin the highway – the 'no-build' option was swiftly discounted early-on in the EIS and strongly rejected by the highway transportation industry, including Alberta Transportation. Transport Canada stated at the time that "the 'Do Nothing' Alternative would increasingly reduce the efficiency of the interprovincial

flow of goods and people" (Government of Canada, 1979, p. 2), while the Alberta Trucking Association called for the immediate implementation of Phase II twinning, as if to imply that the debate of Phase I was already a 'done deal'. (Klenavic, 1979). However, possibly the most influential and final word during the proceedings came down from the feds, who approached the panel with an early-version of what we now know as a 'best practice':

> Apparently a four-lane highway in that particular setting (Elk Island National Park) is environmentally acceptable, a precedent already exists. The challenge is now to produce an environmentally acceptable and aesthetically pleasing four-lane facility in a portion of the Bow Valley so as to alleviate what is a serious bottle-neck in the National Transportation system. (p. 984).

Ultimately, the assessment panel recommended that the project be approved, only "subject to exceptional measures to avoid, mitigate and mange the potential adverse environmental effects" for the twinning. (Parks Canada, 2004, p. 6). The policy fallout[33] from that original decision has since been amalgamated into Parks Canada procedure and regulations; as ecological integrity is the lens through which all actions and decisions affecting national parks must be focused (Banff National Park of Canada, 2009). The Banff National Park Management Plan acknowledges this in its strategic goals related to transportation: "to provide a safe and efficient vehicle and rail corridor through the park that supports the national transportation system and is compatible with Parks Canada's commitment to ecological integrity." (Ibid).

[33] The initial EARP framework was later reworked into the Canadian Environmental Assessment Act (CEAA) of 1992, and that along with the 1988 amendments to the Canadian Parks Act, as well as "a 1994 policy statement stressing the ecological role of national parks – provide the basic guidelines for highway improvements" today. (McGuire & Morrall, 2000, p. 524).

Oddly, missing from the original hearings were comments from Canadian Pacific Railway about their position with regard to the twinning. While the reasons behind their absence is not known, it seems − in retrospect anyway − that their participation might have provided some balance to the proceedings from a transportation provider perspective, being as they were, the original developers of the Bow Valley transportation corridor and still had at least limited commercial interests at the time in passenger rail. However, one may assume that by the time the late-70s arrived, the popular appeal of the automobile as the mainstay of mobility was so entrenched as to dissuade the company's further interest in providing ongoing and future investments in passenger rail service regionally, provincially, and nationally. In fact, it was in 1978 that CP transferred its passenger rail service to VIA Rail, the newly created crown corporation responsible for all intercity passenger service previously managed by both CN and CP (Hart, 2000). Furthermore, it is supposed that because CP had its dedicated right-of-way firmly established within the BVC, incremental developments on the Trans Canada would have little effect upon its core business; freight transport.

3.6.4 A Great Debate?

Although it is commonly reported that the debate surrounding the first-round of twinning was 'intense', the evidence of a *great debate* is not so compelling − a review of the popular press in Calgary and Banff prior-to the 1980s is problematic for a number of reasons, not the least of which is the lack of accessibility. Still, there are no accounts of demonstrator blockades or standoffs,

such as those in Vancouver and Toronto during the anti-highway crusades of the late-60s and early 70s. A more likely explanation is that the huge publicity surrounding the two-year, $82 million dollar Banff Bow Valley Study has since become the default memory surrounding ‘conflict’ in Banff National Park. That process and resulting decisions, which was planned “to address the persistent conflict between the ‘environmentalists’ and ‘developers’ in the park” (Eyre & Jamal, 1998, p. 87), seems to have transcended the original highway twinning question. After all, fifteen-years later the twinning continues unabated, despite the fact that 14 sectors participated in the Banff Bow Valley Study Round Table (BBVRT). So while the debate around development within the park in general may have been significant at *that* time, the twinning decision a decade earlier was certainly much less controversial.

The fact that so many stakeholders participated in the BBVRT and still the twinning continues on, says a lot about the relative contentiousness of TCH twinning – period. The twinning of the TCH between Calgary and BNP was discreetly incremental, and completely unopposed. By the time it reached the Banff Park border, there was both a great momentum and anticipation − indeed, an expectation − that it would continue to expand westward towards the BC border. As is illustrated later in this paper by the stakeholder interviewees, the twinning of the highway was then, and is now, viewed as a *fait accompli*.

3.6.5 Policy History Summary

The review of the policy history behind the twinning reveals a number of key findings. The first of which is that not only was the decision to twin the

highway in BNP complicated by a jurisdictional anomaly – the park being under federal control, while the rest of the BVC was mandated to provincial authority – but also that there has been a consistent lack of federal policy or vision towards national highways in Canada. This ‘no policy’ environment has further complicated decisions such as those faced by the BNP-TCH Twinning question. Secondly, environmental issues − ironically − refocused the debate and disarmed those stakeholder voices who opposed the twinning on *park*, as opposed to *wildlife,* protection grounds. Although, issues of ‘development’ in BNP would arise decades later and culminate in the Copps report. Thirdly, despite the perception that the original debate about twinning in BNP is often categorized as ‘intense’, the evidence is not so persuasive – it appears as though issues of safety and efficiency prevailed, and wildlife mitigation became the trade-off. Ultimately though, it was the creation of a traffic ‘bottleneck’ by Alberta Transportation’s twinning of the TCH to the park boundary that forced the issue in the first place, which left Parks Canada and its supporters to try and defend their position against great odds.

4: LITERATURE REVIEW

One of the major questions posed by this study is whether or not the BVC is prepared for a post-carbon future? In other words, are stakeholders planning efforts real or merely rhetoric? While the findings of the primary data collection answer those questions directly from the stakeholders' perspective, it is useful to consider a number of theoretical notions that help to explain why transportation development in the BVC is *stuck-in-reverse*. As mentioned earlier, the predicted energy crisis and corresponding need for a paradigm shift is evident. Paradigm shift theory is essential to discussions around transportation, and the idea of 'tipping points' helps to explain how they might begin. Also important to this project is the consideration of the question; How did we get here and why has nothing changed? The collective failure in the BVC to advance a new vision can best be explained by policy path dependence and 'lock in'. The following discussion about these ideas paint a picture of a 'road not yet taken'; which is planning for a linked and multi-modal transportation system, one that favors accessibility over mobility, and one that is forward-looking.

4.1 Transport Theory, Innovation & Vision

As discussed in the introduction, understanding the position and outlook of the key stakeholders in the BVC is important. The literature review helps to accomplish this by identifying a number of fundamental concepts that might

serve to not only explain transportation planning, but also encourage (sustainability) or stifle ('lock in') innovation, and inform (Tipping Points) or cloud (policy path dependence) stakeholders' vision. As it stands today, there have been two major transportation visions for the BVC: passenger rail/rail tourism, and auto-mobility/highway building. Both of those innovations were revolutionary at the time – both involved significant paradigm shifts in how transportation is perceived and delivered. In this case, there is much clarity and value in hindsight, for past mistakes serve to inform the future – that is, they help us to better understand and interpret the transport challenges that lie ahead (Peak Oil), and act upon them.

A current example of where the theory 'hits the road' – or maybe more appropriately, goes 'off the rails' − is the proposed high-speed rail link between Calgary and Edmonton. The Government of Alberta has been toying with the idea since around 1972, and for good reason – Provincial Highway 2, which connects the two urban areas, is the most heavily travelled corridor per capita than *any* other in North America – with 91 per cent of those trips made in private automobiles (Accelerate, 2009). Repeated feasibility studies have indicated that a modern high-speed rail service would not only fund itself, but would also capture a large part of the commuter market-share and reduce highway congestion significantly (D'Aliesio, 2009). However, the provincial government has consistently shelved the reports and made no significant effort to pursue the idea. And, unfortunately, the cost of building the system increases exponentially

between feasibility studies. What was once a few billion dollar investment, is now a many-billion dollar proposal[34].

The spinoffs of such a system would be immense, including economic stimulation, environmental gains, and the socio-economic benefits accrued by what Richard Florida and Roger Martin of the Rotman School of Management refer to as “the link between future prosperity and investments in connectivity.” (Accelerate, 2009). However, the short-sighted Alberta government, the same one that is aggressively pursuing urban ring roads and ‘tar sands’ investment, will likely both ignore and demonstrate at the same time, what the transportation literature and theory indicates; that in a future of expensive oil, sustainable mobility options like HSR will make increasingly more sense, and that advancing new innovative transport visions is very difficult when you are locked-in to old paradigms.

4.2 Peak Oil Theory

Until recently, few readers of the daily newspapers in Canada would be able to explain the theory of Peak Oil, or for that matter, be able to tell you how much a barrel of oil was selling for on the world market. Increasingly, that is no longer the case. Although M. King Hubbert’s concept of the *global oil production peak* was still relegated to fantasy-status by many who had heard about it, the recent unstable rise and fall of the price of oil on the international market has

[34] A 2004 report by the Van Horne Institute forecasted the cost to be between $1.7 billion and $3.4 billion, while the newly released 2008 report pegs the costs at $3 billion to $20 billion depending upon the technology chosen. (D’Aliesio, 2009).

made a lot of those individuals become believers. Kuntsler, in his book *The Long Emergency*, clearly explains Peak Oil:

> This is the point at which we have extracted half of all the oil that has ever existed in the world – the half that was the easiest to get, the half that was the most economically obtained, the half that was the highest in quality and the cheapest to refine (2005, p. 24).

Depending upon the source, this point in history has either already been reached or will be within a few short years[35]; however the effects that will have on consumers, the market, society and transport largely remain to be seen. Although recent transportation activities suggest how the fallout will likely manifest itself: dramatic increases in the price of oil at the pump, rising transit usage, high transportation/freight costs, the reduction in personal automobile use and the increase in demand for more fuel efficient vehicles. As many experts have concluded, we will only be able to determine that critical point in hindsight, or through the 'rear-view mirror' (Newman, 2007). Whatever the exact date, peak oil production is inevitable, and the chaos and uncertainty of declining fossil fuel stocks will likely cause long and serious adjustments throughout the entire social, economic and political system (Rubin, 2009; Kunstler, 2005; Kenworthy, 2007). As a 2005 report by the U.S. Department of Energy observed:

> …the world has never faced a problem like this. Without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions were gradual and evolutionary. Oil peaking will be abrupt and revolutionary (Hirsch et al., p. 64).

[35] Many sources predict the actual 'peak' to occur around 2014 or 2015, although the recession might crush demand enough to delay it by a few years. (Andrews, 2009).

Peak Oil is also revolutionary in a financial sense, because standard economic theory does not hold up in a 'world without oil' (Rubin, 2009). Traditional economics assume a context of *decreasing* marginal returns, whereby "a sharp rise in oil prices prompts increased conservation and exploration of other sources of energy, which will lead to a fall in oil prices" (Pierson, 2000, p. 253). In this case, when the price of oil reaches this 'equilibrium', it represents the best possible outcome in a market driven economy. However, in a future of Peak Oil where dwindling supply dictates the market, such equilibrium is unattainable[36] – "In today's oil market, the laws of supply and demand have been turned on their heads" (Rubin, 2009, p. 16).

The logical, although maybe not the most observable response, is to begin to plan strategically now for a future of limited access to oil. Currently, the entire planet relies on cheap and readily available fossil fuels for the purposes of manufacturing, trade, mobility, geopolitical stability and food production. Regarding mobility, the common justification for highway development, the only plausible solution to this coming crisis will be to shift reliance away from the internal combustion engine, towards more sustainable alternatives. However, oil is not easily replaced and there are no readily available or cost-effective substitutes ready to take its place (Kuntsler, 2005; Rubin; 2009; Andrews, 2009).

As many transportation experts have advised, our present emphasis should be focused on anticipating change and acting one step ahead (or more) of the impending crisis (Kenworthy, 2007). If planners in the BVC wait until they are

[36] As a result, some economists have become interested in *increasing* marginal returns as a way to explain consumer behaviour.

forced to change transportation behavior as a result of factors beyond their control, then it will likely be too little too late. In Kuntsler's 'emergency scenario', whereby the reaction to crisis is both sudden and painful[37], the disruptions to the transportation system would be immense and long-suffered. The cost of transport is rising steadily and the predominant wisdom of planning for further fossil fuel-based transportation is becoming increasingly unsound.

4.2.1 The Future of Trade Corridors

In his recent book *Why Your World is About to Get a Whole Lot Smaller: Oil and the End of Globalization*, Jeff Rubin argues that a fundamental imbalance between oil supply and demand is not only the cause of the recent economic recession, but also the reason why world markets and communities will inevitably need to become more localized. As he points out, "Economic activity goes hand in hand with energy use. If you want to grow your economy, you need to burn more energy − that's precisely why dwindling oil reserves pose such a threat to global economic growth." (2009, p. 20). Cheap energy has allowed us to purchase cheap goods manufactured on the other side of the world, ship them across the oceans, and eventually truck them to retail outlets across the country. Expensive energy will have exactly the opposite affect, and consumers will begin to source goods and services locally, as the Asian wage-advantage becomes less important as a result of rising shipping costs. Only highly valued and exotic goods will merit a trans-global journey to the end consumer. Rubin is predicting

[37] Many authors point to the 1973 OPEC oil embargo as an indicator of just how reliant the North American market is on foreign supply, and the human response to such shortages.

nothing less than the reversal of globalization; however, his research provides a compelling image for what that means for Pan-Pacific trade and the future of Gateway Program trade corridors predicated-upon cheap and readily available oil.

Other authors have sounded similar warnings. Peter Newman, a transportation expert and post-carbon academic maintains that the way in which we operate as communities, cities and nations will entail us to 'facilitate localism', as "localism is the required modus operandi for the post oil-peak world, just as globalism was for the cheap-oil era." (2007, p. 25). This forecast shift from global to local has profound implications for the future of trade. More specifically, it is highly significant to this paper, because it fundamentally questions the validity of highway twinning as a rational mobility solution to an economic strategy that will face serious setbacks with the onset of oil supply shortages. That is not to say that the freight and shipping industries will disappear completely, but they will have to adapt. Either way, highway and oceangoing transport is going to face some serious challenges in the years ahead, unless it can somehow miraculously decouple itself and the infrastructure development it relies so heavily upon, from the increasing consumption of oil.

4.3 Sustainable Transportation

As in many other disciplines, transportation has embraced the concept of sustainability. Indeed, the term is ubiquitous in both the public and private realm. References to 'sustainable' plans, systems, projects proposals and futures are the norm. There are a number of definitions presented in the literature, although

the most comprehensive is likely the one set out in the *Definition and Vision of Sustainable Transportation*, created by the Canadian Centre for Sustainable Transportation (2002). By definition, a sustainable transportation system addresses the triple-bottom line. That is, such a system would work towards a state of 'comprehensive sustainability' that gives equal consideration towards the economy, environment and society (Ibid). This approach aims to create a condition whereby these three 'pillars' of development stand together to enable sustainable development, community livability and social and economic equity. Other organizations and authors have offered their own definitions, but commonly they are meant to be broad reaching and universal so as to be understood and applied as widely as possible by transportation planners everywhere. Kenworthy and Newman for instance, provide a basic definition that stresses the "achievement of global environmental gains along with any economic or social development" (1999, p. 4) while Todd Litman of the Victoria Transportation Policy Institute observes that "at its most basic, sustainability reflects a concern for indirect and long term impacts" (TRB, 2008, p. 2). However, Litman further contends that sustainability is a simple concept with complex implications, because it focuses on social welfare outcomes such as education, health and accessibility (people's ability to access necessary goods and services) over more entrenched indictors of 'wellbeing' such as growth and material wealth (commonly associated with Gross Domestic Product), that "measure the quantity but not the quality of market activities" (TRB, 2008, P.2).

Highway engineering projects, like that of the massive Gateway Program in Metro Vancouver and the TCH Twinning in BNP, are the antithesis of sustainable development; mainly because they favor mobility (physical movement) and economic priorities over any other single issue. Indeed, this focus on ‘mobility’ as the key element in market development is common in government and pro-trade group transportation rhetoric. TCH Twinning is focused entirely upon mobility as a means to improve upon international trade, as “major sections of the Trans Canada are seriously below standard and are increasingly limiting efficient access to the Port of Vancouver and, in turn, Asia-Pacific markets” (Bruce & Graham, 2005, p. 5). There appears to be a large knowledge gap about sustainability between the trade and business sector and that of many transportation experts and organizations, including the Centre for Sustainable Transportation. For instance, the Centre favors accessibility over mobility in addition to a *lesser* need for movement of goods and people (1997). There is a fundamental disconnect between highway building plans in the BVC and the pursuit of sustainable transportation, as it is defined and understood by industry academics, professionals and practitioners alike.

4.4 Paradigm Shift Theory & Tipping Points

Although the term ‘paradigm shift’ was originally developed as a way to explain change in assumption phenomena within the hard sciences, it has since been adopted by the social sciences and contemporary society (Kuhn, 1962). However, depending upon the field of study or context, it has different implications. For the purposes of this paper, it means a shift in *perspectives*,

which often accompany a shift in *values*. More specific to transportation planning though, a paradigm shift "refers to how people think about problems and develop solutions." (Litman, 2003). Paradigm shifts are revolutionary moments with profound impacts. These are not merely incremental changes in process or technology or even approach. What's more, "as with scientific revolutions, they are often hard fought, and the ideas underlying them not widely accepted until long after they were first introduced." (O'Reilly, 2004). The sexual revolution of the 1960s and the environmental movement of the 1970s are outcomes of a societal paradigm shift. Preparing for a post-carbon transport future will require an equally dramatic shift in attitude, values and vision.

One of the most influential ideas of the past few years has been Malcolm Gladwell's 'tipping point' phenomenon. The 'tipping point' is that critical moment when an idea or social behavior crosses a threshold, tips, and spreads like an epidemic across the socio-political, economic and cultural landscape. Although this tipping point is most often witnessed with regard to consumer goods and trends, it goes a long way to explaining other more globally important phenomenon, such as change in social issues like crime rates, health and education for instance. Gladwell's book, *The Tipping Point, How Little Things Can Make a Big Difference*, is now considered a classic in its genre, and has been adopted across disciplines to explain social change in our society. As Gladwell explains, tipping points are a moment "where the unexpected becomes expected, where radical change is more than possibility. It is – contrary to all our expectations – a certainty" (2002, p. 14). For the purposes of this study, the

tipping point framework is significant because it helps to explain how we can foster positive social change in our society, by capitalizing on a critical moment, turning a potential negative experience into a positive one. According to Gladwell, epidemics − like Canada's SARS experience for example − can spread quickly and with little or no management – and this can play an obvious and critical role in education or knowledge transfer. Just as Al Gore's documentary, *An Inconvenient Truth*, helped to spread an 'epidemic' of climate change awareness, the acceptance of Peak Oil theory could trigger a greater understanding of the critical need to re-evaluate our future transportation policy and planning. Social learning[38], paradigm shifts and policy (re)development, can and do occur in a linear fashion. The tipping point can occur anywhere along that continuum. Unfortunately, that has yet to happen in the 'linear' story of TCH Twinning.

The federal and provincial governments' commitment to highway building and Parks Canada's focus on wildlife highway-mitigation measures represents an entrenchment of old ideas, not a tipping point for change. If we are to be prepared for change, which this paper argues we do, then we will need planners and politicians who are exposed to and prepared to act upon the moment when new ideas can kick-start a paradigm shift. For the time being, that 'paradigm shift' moment − where it is simply no longer acceptable to continue to plan for the automobile alone − is somewhere up around the bend in the road.

[38] The learning and policy making process are linked to one another. *Social learning* helps to explain the powerful process of societal change, whereby a perfect storm of past experience meets policy discussions of the highest order. (Hall, 1993).

4.5 Policy Path Dependence & Lock in

One of the most appropriate concepts applicable to this research − as a means to explain current transportation planning in the BVC − is *policy path dependence*. Pierson explains: “Path dependence has to mean, if it is to mean anything at all, that once a country or region has started down a track, the costs of reversal are very high”, and that “in an increasing returns process, the probability of further steps along the same path increases with each move down that path. This is because the relative benefits of the current activity compared with other possible options increase over time.” (2000, p. 252). The theory does not imply that a change in direction down the road is *impossible*, but rather *unlikely*, because once an idea or policy is entrenched in the system there is no easy reversal. People, institutions and certainly governments are reluctant to admit mistakes or poor decision making choices that will necessarily demand costly and difficult counter-measures.

An additional element of the increasing returns process is that it highlights issues of timing and sequence, whereby it is not only a matter of what happens but also of *when* it happens, because “Issues of temporality are at the heart of the analysis.” (Pierson, 2000, p. 251). In this way, policy path dependence is linked to tipping point and paradigm shift theory. If for instance − in order to avoid continued misallocation of resources (as one might argue of ongoing highway expansion) – it is in the best interests of society to rearrange our transportation system around more sustainable forms of energy like electricity, and therefore a tipping point will be required to put the brakes on further unsustainable planning

initiatives like APGCI. A sustained price of $150 per barrel of oil just might trigger a tipping point in transportation – indeed; there were signs of just such a phenomenon in the summer of 2008 (Rubin, 2009).

Policy path dependence posits that once a policy or idea is entrenched in the system, it is likely to remain there simply because change becomes too burdensome and in some cases, unimaginable. For instance, there is not a single stakeholder organization throughout the BVC that dared to imagine that the TCH should be downsized or simply maintained as it was, as opposed to expanded or 'improved' upon. Because of that, wildlife crossings became an ecological necessity and planning 'sideshow' to a highway building scheme. Parks Canada's elementary school 'education program' discussed earlier is representative of the concept of idea 'lock in'. Here we have concrete evidence of path-dependent knowledge-transfer, from one generation to the next, centered upon the idea that highways are here to stay and that so long as the animals are protected, then that's acceptable.

5: INTERVIEW RESULTS & ANALYSIS

"Does Alberta have a dream or a vision? Is there some compelling vision that we are working towards? No, were keeping the lights on."

Respondent C

This chapter presents selected findings from the stakeholder interviews conducted in the BVC in the summers of 2008/2009. The analysis identifies and examines the common threads and key findings from that research as a means to understand transportation planning issues in the BVC. More specifically, the results of the primary research are contextualized in relation to general themes developed and explored in the literature review, such as Peak Oil, paradigm shift theory, policy path dependence, and the tenets of sustainable transportation.

5.1 Interview Results

Based-upon the methodological model developed above, the interview data is presented by the respondents comments on the various topics and themes found within the questionnaire. As indicated earlier, transportation planning in the BVC covers a wide spectrum of social, economic, political and environmental issues. Therefore, these issues are categorized into a number of sub-topics it is hoped that these categorizations will help bring some clarity to an otherwise confusing or 'messy' picture. The stakeholder community involved with transportation planning in the BVC is equally as diverse and widespread across

disciplines and sectors. The objective here is to attempt to bring some intelligibility and structure to the respondents' reactions to the interview questionnaire, as well as provide a snapshot of their outlook on transportation in the region, whether that be in relation to past decisions, ongoing events, or the possibility of dramatic change in the future. Major *new* themes discovered from the interviews are presented towards the end of this section.

5.1.1 Stakeholder & Planning Challenges

Participants were probed early-on in the interviews to reflect upon personal challenges in their stakeholder role, as well as regional challenges related to transportation in general. Not surprisingly, the feedback to these inquires were broadly distributed across a number of issues, which tended to be related to the category of stakeholder group they belonged to – for instance, those respondents whose roles placed them in a specific planning or management-oriented position tended to have more explicit challenges than those others participants whose position or organizational setting allowed for a broader view of regional issues. This of course, implies the respondents' position within a stakeholder organization is as important as their organizations' position within the overall regional picture. That quandary, known as the "Principal Agent Problem" is reflected upon in the papers conclusion. In the meantime however, because each respondent (agent) was officially acting as a spokesperson for their agency or organization, their responses are measured accordingly.

Those respondents concerned with daily-management and business affairs in the BVC spoke of immediate problems associated mainly with *process*;

best illustrated by the provincial transportation planner (*Respondent B*) responsible for the BVC, who, using language familiar to highway departments and the original twinning debate itself, stated that:

> I'm more concerned with how the freeway works; whether it operates safely and efficiently. To that end, we do plan to ultimately upgrade the entire TCH to free-flow standard so there will be access by interchanges only. As traffic volume continues to grow we would continue to upgrade the highway to meet that demand.

That focus was shared by *Respondent I* whose main challenge was the "Safe movement of the different types of traffic… we have freight trucks on the Trans Canada and on the 1A we have big rock trucks that service the three big plants along this route." Highways were a big focus for this participant, as was reflected in his comments upon further probing; "One of the challenges we have is the 1A highway, and it is in very poor condition… We have the same problem as in the rest of the province; the corridor infrastructure is in bad need of upgrading." Clearly, some participants' continue to focus on further upgrading and highway building despite the ongoing twinning − although it should be acknowledged that their jurisdictions are located outside the national park boundaries.

The secondary set of responses to this line of inquiry is associated with the stakeholders directly-tied to the management of communities within the park section of the BVC. Some, like the business-leader representative (*Respondent A*), felt that it was − without question − the provision of local transit that was a major issue; "Transportation has got to be part of how we deal with the visitor experience. There must be a better way to move people between attractions."

That opinion was echoed by several others, including *Respondent G*, who when speaking about the vision for a Regional Transit Authority, commented that it was a critical problem:

> Because one of the things that is starting to happen to us now is that we are starting to lose our brand; if you will. When you drive into Banff you will see that it is actually quite congested in terms of traffic, and that is not the image we would like to portray, and that is not what people would expect when they come into a municipality in a national park.

Although, it was *Respondent A* who best identified the problems related to correcting that problem:

> We want to change the way people view the park. That will of course be more challenging for our local residents, that is the Calgarians' of the world who insist in coming in their car, and don't know how to do it any different versus the long haul guest who can be persuaded to not rent a vehicle and just ride the bus.

That sense of unwillingness to change was also identified by others, like *Respondent K*, who spoke about 'reluctance' as being a big challenge in his role. "Reluctance to change − or fear of change – people talk about wanting better pedestrian mobility, but when implementing they do not want to give up any convenience of the car." He also mentioned disinclination by the provincial government to subsidize transit, and a regional reluctance to greater density in development. Again, the subject was elaborated upon by a senior bureaucrat at Parks Canada (*Respondent E*) who commented that:

> The biggest challenge has been getting people on the same page… it takes time to get people moving together in the same direction. There are so many different things going on out there, folks are occupied with so many issues that, you know you can't do everything at once so your priority issues take precedence, but

> eventually when the time is right, things come together around other issues like transit.

By priorities it is understood that he is referring to the ongoing highway twinning, as he explains; “Our main concern here is to accommodate the highway in a way that minimizes the impact on the natural environment and that’s what we are doing and now, we have the money to complete that work… so in a way that’s the end of our obligation”, although he admitted “as an agency, we still have to deal with the *next stage of twinning*, through Yoho National Park.”

Other respondents (A, F, H, K & J) identified challenges related to political and public ‘will’, and the majority hinted to an entrenched ‘car culture’ as being the biggest roadblock to moving towards a more sustainable future. As *Respondent D* commented:

> We need to begin building the culture, because the culture in Alberta is void. Because the province, unlike in other provinces, have never come into the transit game. And it’s still a bit of a struggle… The minister simply just doesn’t get it. Alberta Transportation is really just a big highway building department.

However, for some respondents, their enthusiasm for transit belies their practical commitment to the bottom-line. This was demonstrated by how they view their organizations relationship between the importance of the ecological integrity of the park and tourism, which is that you can’t separate the environment and the economy in Canmore, Banff and Lake Louise. The unique ecology and awe-inspiring physical geography is the main economic driver in the BVC. Tourism, the economic mainstay of the area is wholly dependents upon a pristine environment. As *Respondent A* observes, “Big business is motivated by the idea

of getting results and getting people into the park. So you know what? The commitment to the environment falls a heavy second place, but an important second place to getting economic results." At times though, this puts their private sector interests up against parks regulators, which as *Respondent C* explains, *working the system* is essential: "We are well connected with the government and Parks Canada – we have a guy who is a huge resource with them. You know… he's a little bit of the granola bar stuff, and he's our liaison."

The diversity of participants' responses to transportation challenges in the BVC is indicative of the complexity of the issue itself. As Eyre and Jamal note in their paper Addressing Stakeholder Conflicts in a Canadian Mountain Park (1998), "The number of stakeholders, the diversity of their positions, and the complexity of their often interdependent, substantive issues have a number of implications." (p. 87). Those implications, mainly having to do with engaging the stakeholders in a 'meaningful way' through a flexible participatory process, are paramount to attaining buy-in from the parties at a multi-stakeholder table. While stakeholder involvement is essential in moving forward positive change, what might prove to be even more vital to the socio-economic health of the BVC under a 'post-carbon' scenario is that, as *Respondent J* observed, "There is a lack of a sense of urgency, which is the biggest thing. There is no shuttle back and forth between Canmore and Banff. And you know that's no rocket science."

5.1.2 Paradigm Shifts & Tipping Points

Because paradigm shift and tipping point theory was identified as being so important within the literature review, it became a key focus in the interview

questionnaire. Many of the participants demonstrated an understanding about the importance of sustainability and the need for a paradigm shift in how we approach transportation in the BVC. Moreover, many are experienced and knowledgeable practitioners, whose work is founded upon the principles of sustainability, and the term came up in nearly all of the interviews. The key finding from the respondents with regard to this is that that moment has not yet arrived in the BVC, mainly because things have not become desperate enough – yet − to shift peoples thinking. As one respondent declared about the probability of an inevitable shift in thinking, “It hasn’t reached a crisis point yet. The crisis could be an economic one where the price of gas goes so high that it becomes economical for an alternative.” (*Respondent F*). Or, as *Respondent H* ultimately concluded, “I do not think the penny has dropped. People are still thinking automobile.”

While some participants believe that there are really positive steps being taken with regard to local transit and towards a common understanding about a ‘better way’, none were prepared to admit that the region was on the cusp of a tipping point. As *Respondent K* explains, this might have something to do with *path dependence*:

> I think also there is a general inertia in our planning too. We’ve planned around the car for years and it’s easier to continue on the same path than to change direction. This is in both the public and private sectors. I think in some ways were not sure how to change direction… it seems the thinking is that we need to do what we do now, only better, rather than some really innovative thinking.

Hinting at the concept of lock-in, this participant understands that it is going to take a significant shift in attitudes and behavior to affect change.

The two directors of environmental advocacy groups concerned with preserving the ecological integrity of the corridor inherently hold a long-term vision toward development of any kind, so sustainability is a core belief within their organizations world view. As such, they were frustrated by the fact that a 'tipping point' seems far away, yet they were further rattled by the business-as-usual attitude within the BVC. *Respondent J* explains, "My frustration is based upon the fact that there are good coalitions working out there, there are good models and methods that exist… and all we have to say is 'can you send me that in a PDF and we will start tomorrow'." Clearly, if these informants are correct, a paradigm shift is in order if transportation planning is going to advance in the BVC and in Alberta in general. On that point, the majority of respondents agreed. While the environmentalists focused more on the need for a political shift, as in from the 'right' to the 'left', the transport director saw it more in terms of a *modal* shift in thinking:

> I don't think there is a holistic planning of transportation in North America today; it tends to be modal focussed. People are very modal focussed. Transportation has to be about more than highways. It's hard to turn those huge highway planning departments around to something new. (*Respondent H*).

In order to turn those departments around, *Respondent F* said:

> It's a mentality, it's a shift, the mind shift and the political will shift from the old technology, which is cars, to new technology which is high speed transportation, and they have not made that shift. And its not there in terms of the public either.

When asked about whether Banff National Park would move towards an U.S. National Parks Service (NPS) model – where every park has a sustainable transportation plan in place – *Respondent E* was hesitant, stating that the Banff context was unique in that there is a 'town' in the park, although that was somewhat beside the point, because as he stated:

> Oh, I strongly agree, we haven't had any paradigm shift here. I'd say it's a number of years off, we haven't hit the wall here in our National Parks, and we haven't aggressively faced up to the issue… the consciousness is there but the big triggers are not in place yet.

Although this participant did not elaborate on what those triggers might be − aside from a massive increase in visitors to the park − he did observe that even with a conservative growth in visitation of 1-2% per year, the day will eventually come where it will be necessary to address issues related to traffic in the town and park itself.

Other stakeholders seemed locked-in to the idea that highway upgrades would improve operational issues, namely safety and congestion. This though, is in keeping with their standard approach towards planning. As *Respondent B* maintains, "The more conservative approach is to plan for more highways, and if they don't come to fruition, you just don't build it… that's the approach we take." However, as he stated later on in the interview, constant upgrading to highway infrastructure is a constant: "As the traffic volume continues to grow we would continue to upgrade the highway to meet that demand". Ironically, this same planner admitted that induced congestion is a highway engineering reality, and therefore his department is already anticipating the proposed Calgary ring road to

‘fail’, and are currently planning for an *outer* ring road. A condition of *path dependence* is evident here, whereby an increasing and cyclic amount of effort and resources are thrown at the highway congestion ‘problem’ the more serious and pervasive it becomes. Large government infrastructure planning departments tend to get locked-in to a particular technology and organizational structure which becomes increasingly resistant to change. As Litman observes, this can be explained by the fact that “Conventional decision-making is reductionist; each problem is assigned to a different person or agency with a narrow expertise and responsibilities” and “That approach tends to be ineffective at solving complex problems with interrelated and conflicting objectives.” (2003, p. 1).

5.1.3 Trans Canada Highway Twinning

The findings related to respondents’ attitudes about the original twinning were perhaps the most surprising of all. Based-upon the secondary research and background review, the author fully expected that a good percentage of the respondents would, in retrospect, have some negative opinions about the twinning, or at least reservations about its appropriateness. The fact is though, is that not one single respondent took serious issue with the original twinning. According to the majority, it was a necessary and essential development. Responses tended to be straight-forward and concise; comments such as “It was twinned because of the volume” (*Respondent J*), and “There was such congestion at the east gate that people would wait hours to get through the gate. And also there were huge wildlife fatalities” were heard. Those two comments

are especially interesting considering they come from the career environmentalists in the group.

Equally informative was the comment by *Respondent C*, who manages a bus transportation company. “There was lots of debate but everybody knew it had to be done. You know that highway has got to be one of the most dangerous highways around.” Presumably, in his line of work, he should know. Interestingly though, it was another BNP ‘local’ who best summarized the prevailing attitude towards the TCH twinning, past and present:

> I think it’s been a well accepted conclusion by the public for some time that that is the right thing to do, as we’ve got part of it twinned already so why don’t we complete it, you know the bottlenecks in the summer just make it a real irritant for anyone who lives in the valley. I don’t see any aspect of the community that had issue with that unfolding. (*Respondent A*)

So while most are not exactly pro-highway − indeed many are in fact pro-transit − they generally held no negative opinions about the twinning. This is likely is due to a combination of factors, namely that the original twinning was simply before-their-time (40 years now) and ‘water under the bridge’ so to speak, as well as being simply perceived as a true necessity. What is certain though is that the twinned highway is here to stay, and the respondents have accepted this and are moving onward. As unmistakably explained by the parks administrator:

> The reality on the ground is that there are no realistic options for transportation routes, and now there’s so much infrastructure investment *it will never change anyway*, so all we can do is find the best possible way of accommodating these national needs and get the mitigations in place.

The inevitability of the twinned highway and the socio-economic reality of its role in the BVC are further acknowledged, as the *Respondent K* admits, “Canmore wants to make pedestrian and alternative modes of transportation a priority over the car. That said we also recognize that most of our economy gets here in a car from elsewhere – Mainly elsewhere in Alberta.” *Respondent F* would agree with that sentiment, and added a matter-of-fact comment on the probability of future alternative modes of transport; “The pushback you will get is that there is not enough traffic on the Trans Canada to warrant trains or any kind of intermodal transportation.”

Of all the respondents’, only two were openly questioning of the highway twinning as a means to a better transportation system, and the impact it would have on the overall BVC transport equation. As *Respondent H* observed:

> I think it’s a very destructive thing this myopic focus on highways, highways, highways…Transportation has to be about more than highways. Gateway funds have mostly gone to highway development; the railway has only seen investment in grade separations to keep highway traffic moving. But once goods are on a truck they will probably stay on trucks. So, Gateway is essentially increasing highway traffic.

Even so, this participant acknowledges that “We will always need highways, but it seems to be improbable that all that money – a billion here, a billion there − to twin the Trans Canada to Interstate standards will go into a single mode, which I think has an uncertain future.” Clearly, highways remain the backbone of BVC transport, and as the spokesperson for Alberta Transportation outlined, that likely is not going to change anytime soon:

> We don't dictate the modal choice people make, we just provide for traffic as best we can. If people choose to take their cars there's nothing that AT does to discourage then from taking their cars. It's not our mandate to look after social or environmental stuff. We have our highway system, we look after infrastructure.

5.1.4 Peak Oil & Post Carbon Future

Of the eleven interviewees, only four of them were really prepared to either discuss or anticipate Peak Oil. That is, they were the only ones who appeared to have any significant understanding of what Peak Oil might mean for highways, transport and transit in the BVC. Two of those respondents though, see a silver lining in Peak Oil, which they believe will be the trigger to move people toward a more sustainable transportation system throughout the BVC. High gas prices they feel will return, and when they do they hope to capitalize on the moment and push forward with their short and mid-term plans. When speaking about the support in the Calgary area for a commuter-rail line, the *Respondent D* agreed:

> That was something that was really helping us drive this, when oil was so high and gas was going up and up and up, but it's not as though it's not going to again, it's just that we have hit this lull and now people are driving again.

Respondent H was even more committed: "Because of energy prices, the private automobile, I bet within a decade will be on the way out, a little like the dodo bird, we will have to move toward electricity… or toward public transit."

The other respondents mainly chose not to comment on Peak Oil, or simply admitted they had heard of the concept and then fell silent on the matter. This was telling, considering that those respondents were made up of a park

administrator, a provincial transportation engineer, a BVC Mayor, and even a transportation company director – possibly suggesting that knowledge or belief in Peak Oil is not necessarily related to peoples' profession, organizational position, or that like any other controversial theory, it is purely a personal opinion – like global warming… is for some! However, it should be noted here that the two pro-environment stakeholders had very strong views on Peak Oil, and its ramifications for the future. Interestingly, *Respondent J* saw the oil issue as being less about its potential impact on future transportation in the BVC, but rather more about the environmental damage caused by the Alberta Tar Sands and the impact its removal was having on the wider-scale: "If you have the world's largest industrial site in the history of mankind, I suspect your transportation numbers are up a bit!" *Respondent F* on the other hand, although he was a firm believer in Peak Oil, envisioned a much different reaction by Albertans' should oil prices remain high, or climb even higher once again: "There's and unwillingness to innovate and take risk because it's still too easy when gas or oil is $75-90 dollars a barrel, it's like fucking printing cheques, just pump it out, why not?"

Yet, maybe the most insightful comments came from *Respondent A*, who despite being pragmatic about oil, admitted that while high gas prices will one day return, that it likely would not alter the number of Albertan's driving throughout the BVC. His opinion is that as oil prices rise, so too will the wealth of Albertan's, and therefore little change is likely to come about:

> I think that what we see certainly in Calgary and it might be different in other parts of the country – at $150 per barrel everything Calgary-centric seems to respond accordingly. Attitudes about the kind of vehicle I drive, how I'm going to get there and how much I'm

> willing to spend to support that habit is unlikely to change. Obviously at some stage there must be a breaking point, but based upon how we tested it last year, the vast majority of people choose *not* to drive differently.

Clearly, respondents' opinions on Peak Oil vary greatly, and there is no common consensus on either their faith in the theory, or how they see it manifesting itself in the BVC. Some seem to feel that it is necessary to force change; others see it as inevitable but perhaps a great boon for Albertans, while others simply dismiss the idea. As *Respondent B* said:

> Well, I mean, say 30-40 years ago people thought we would not be driving cars anymore because we would all be flying hovercrafts, now people are saying well 'why are you building a ring road or planning more roads when people won't be driving cars anymore', they are going to be riding bikes or walking or whatever. It's nice to contemplate those things but historically traffic has always gone up, traffic has never decreased, particularly in an urban area.

Interestingly though, at the time of writing it does appear that some change in the total amount of miles driven in North America are starting to decrease. Indeed, for the first time since WWII, the net number of automobiles on American roads as also decreased. As author Jeff Rubin predicted, the scrappage rate in 2009 outnumbered the number of new cars brought onto the market. (Goldbenberg, 2020).

Rather surprisingly, another participant (*Respondent C*) saw the high cost of oil in a different, but completely unforeseen light:

> This whole thing was almost planned; you know the oil patch needed this to happen so that in going forward, they would not have to pay these exorbitant wages to employees and contractors. So they needed this shift. So you stop everything and ask everyone to go away and then you invite them back again at half the rate.

5.1.5 Leadership, Political Will & Policy Innovation

. Most of the participants agreed completely that political will is essential to affecting change, but that such change is going to be difficult to bring about, mainly because the respondents feel that forcing people out of their private vehicles and towards public transit − through various public policy measures − will prove to be very unpopular. Despite the vision for a sub-regional transit solution within the park, there is the double-edged sword of declining long-haul visitors to the BVC ("We are not as sexy as we used to be!"; *Respondent A*), and the conundrum of 'rubber tire tourism', which is derived from "the other 50-60% of the ridership equation, which is local people, which we have to morally sway to think different." (*Respondent A*). Ironically, although the majority of the participants felt that the TCH twinning was necessary ("congested", "dangerous"), some tended to agree that a 'heavier hand' might be needed in the form of incentives or legislation to coerce park visitors from their personal vehicles. *Respondent A*, the spokesperson for the Banff-Lake Louise accommodations sector, demonstrated practical knowledge about possible policy measures in the BVC related to that challenge: "Clearly, if you are going to change behavior in the regional drive market – which is a big part of the population visitation base – you are going to have to look at control instruments to bring about the desired change." However, as he further elaborated, that flies in the face of his otherwise pro-business sensibility: "I'm a laissez-faire capitalist, so I'm probably the wrong person to ask, but I would suggest by the same token, that any time you want to bring about a change in behaviour sometimes you have to use economic levers."

Respondents F and *J* meanwhile, are long serving participants in the environmental issues debate surrounding development throughout the BVC, and therefore have a keen sense of political agendas that often undermine potential advancements toward a sustainable solution for the region. The participants' sense of frustration was palpable when it came to the discussion of political will, or leadership. Amusingly, the two environmentalists carried the same bleak view of the provincial government and their policies; one warning that "We run a challenge in Alberta, because this is not a democracy. There is no other province in Canada where there is not bipartisan representation on committees." (*Respondent J*), and the other (*Respondent F*) that "You have a government that has been in power for 47 years, don't expect a lot of innovation from them", although he accepted that "We get the governments we deserve and we vote them in and similarly we need to tell them what we expect of them." *Respondent J* went on to elaborate on political will and presented a very concise example of how political interests influence potential transportation innovation; "Klein in his last year of power spent 270 million dollars and gave everybody $400 − 2.7 million people times $400, whatever that works out to. With that money he could have built a high speed train."

Most interesting though were the comments by *Respondents D* and *H*, who see that while political leadership is important, it is proper planning and the provision of attractive alternatives that are even more fundamental to bringing about the desired change. *Respondent H* felt simply that political leaders ought to travel more and learn from best practices abroad, and that:

> Politicians should defer to the experts and planners on matters of transportation decisions and not try and put their name on them, after all, they are just regular folk and can't possibly understand these complex matters and manage public opinion at the same time… Political will is important but not without expert input and guidance.

Alternatively, Respondent D felt that the biggest problem was that "There's been no broader provincial plan for transit and that's what's missing in this province − it's a huge piece." However, he also believed that policy measures that attempt to push people towards transit – such as a park and ride option for BNP for instance – will simply not work in the BVC:

> I don't think it needs legislating, if you build something, people will use it. If you build something and legislate people to use it, they are going to hate it, especially in Alberta. People here hate being told what to do by the government. They see transit very much as a social institution that a conservative government should not be a part of. They see that the market should drive transit, but the market can't drive transit, the market doesn't drive roads! Roads are not free, they are 100% subsidized. And people say, oh transit, the government is going to lose their money and we don't want to lose our tax payer money on transit… but we lose all our money on roads!

That opinion was strongly supported by *Respondent F who* explains the 'wild west' mentality of Albertan motorists another way:

> If you were to put a toll for every vehicle carrying less than three passengers [into the park], of say $75, to get that through politically in Alberta would be fucking suicide. Absolutely! It would almost be like the gun registry. 'This is our road, I have a right to drive on it, and you're not charging me for it!'

Although less emphatic about the topic, the park administrator agrees:

> Until you can get people out of their cars, and give them an attractive option that makes them want to do something else, you are not going to make much progress. If they are being forced to

> park their car when they don't want to, and forced onto a bus where they have to pay more, it's not going to succeed.

That said, political will is an essential component of most respondents view on how to get things done: "Absolutely, you know you can push the sled up the hill as far as you want, but without someone there at the top that's willing to pull it up the last part, nothing is going to change" (*Respondent A*). The provincial transportation manager concurred, "It's the politicians that come up with the money to build these projects. If they say 'no we are not going to build a ring road', then we would not have the money to build it. Clearly they are the ones that provide the funding for these projects." It seems then that there is a dual-reality, in that the respondents did feel as though political will was important, but that ought not to come in the form of a heavy-hand, but rather through strong leadership or vision combined with compelling transit alternatives that will drive a sustainable transportation solution. However, as one local mayor (*Respondent D*) observed, *something* has to drive the change, and it just might be high oil prices that are the trigger:

> It's a number of things; there is a more cost effective way to move people around, there is a better healthier way to move people around, and there's better way to use the land. But if you go out and ask the average person, they are not going to have that vision, what they are going to care about is how much it costs to fuel up their car and keep doing this. So, while the political leaders may have this vision, but we are not being supported from a grassroots position, then it's just a plan − so we do need the price of oil to go up, and that's going to give us the public backing that we need.

5.1.6 Performance & Outlook

Another aspect of the questionnaire was to gauge how the stakeholders viewed progress in the region, or more specifically, how they were doing in

addressing the transportation issues confronting the BVC. Respondents were split in their opinions. Some felt that on the whole they were making in-roads and working towards a positive outcome through sub-regional transit solutions and even, in some cases, through a better approach vis-à-vis sustainability. Others however, believe that transportation planning in the BVC is nowhere near being on the right track and that dramatic change is desirable, if not necessary.

Both *Respondent A* and the *Respondent C* are members of the Bow Valley Regional Transit Authority Steering Committee, so their understanding of ongoing transportation planning and the importance of public transit is significant. Mainly, that has to do with making transit within BNP a big part of the visitor experience – an opinion held by many of the interviewees. Accordingly, both are very proud of the existing Roam transit system in Banff, claiming that "this little transit system is a huge success… we get entire charter bus loads of people waiting at bus stops to ride the system." (*Respondent C*), and "Roam has a 60-70% recovery rate, most transit systems are in the 30% range." (*Respondent A*). By and large, these two participants agreed that the BVC is far too car-centered but that the Regional Transit Authority (RTA) initiative is a step in the right direction and that transportation planning in the region is on the right path, although it will have to precede one step at a time. However, in the long term (10-15 years) they say:

> We are supportive of the regional transit solutions that might positively affect our relationship with Calgary, but in the short term we've got a system we want to build, because we have provincial capital we want to go after, and to try and do that within a larger consortia is not going to have our interests rise to the top. (*Respondent A*)

Respondent E concurred that recent developments with regard to the RTA were a positive sign:

> We have made a quantum leap in getting all of the involved partners together, to have Canmore and Banff at the same table working cooperatively at the same table has been phenomenal, because you know down at the business level they are competitors and they don't see the BVC as the destination, but rather it's *my* hotel in Canmore or Banff.

Similarly, *Respondent K* saw inter-community competition as a stumbling block that might potentially overshadow regional progress:

> I feel that there is significant room for improvement. Local jurisdictions are very self minded and, sometimes, too competitive to the point of not doing things regionally for fear that it may help another town more than your own. People do have a difficult time seeing that the environment is our lifeblood, as it is why people come here, and if we pave it over or fill it with too much infrastructure we will deteriorate our environment to the point of losing clients. People claim that the economy is more important (move people quickly and easily) but seem to forget that not having a good environment will mean no economy at all.

Similarly, *Respondent D* was optimistic about the future of regional transport, stating "We are ready to go, we just need the public to step up one more time, and I mean we were there [2008], but I think that if we push it right now it's going to be too sensitive, but as soon as things return to normal, we can drive this thing." Sharing equally in his outlook was *Respondent A*, who feels that the work going into the creation of a new 'ski bus' and feeder service between Banff and Lake Louise is indicative of a much larger transformation: "I think it's ambitious and I think it is very visionary as we are defining a whole new value proposition in a world of environmental conservation because people want bold visionary statements that show how we are going to protect this planet for future

generations." Certainly, the stakeholders involved with the RTA all remain hopeful and speak about the 'big picture', although public transit throughout the park is in its infancy. "There is an RTA that has been formed, and that's the big picture of transportation in the BVC, a link between Calgary and the key is the link between Canmore, Banff and Lake Louise. The RTA would also run the ski bus link. I mean, this is going to move real quickly."

Still other stakeholders appear to be unfamiliar with the RTA development, despite their involvement with planning and management in the BVC. The spokesperson for the MD of Bighorn, the closest hamlet to Canmore, stated that "I am not aware of any initiative to get the communities along Hwy #1 to get together for transportation planning purposes, although that may be beneficial for the ski hills." The Alberta Transport participant said that he had heard there were talks about it, but that "It's all speculative". Obviously there is a lack of understanding between some of the players at the table – or that indeed they are not 'at the table' at all.

So, it would appear that in the interim, it's about incremental changes with a distant view to the long term, which raises the question as to whether such incremental changes will be enough to: A) drive tourism and thus the economy, and; B) shift regional-tourists out of their vehicles and onto transit? Those questions, and more importantly whether or not incremental change is going to be sufficient to address a post-shock scenario such as that posed by Peak Oil, will be addressed in the conclusion.

5.2 Unanticipated Themes Uncovered Throughout Interviews

During the course of the interviews and subsequent analysis, several themes emerged that were not anticipated. Both were compelling and repeated consistently enough by nearly all of the interviewees to necessitate their consideration here. The first of these has to do with the fragmented nature of the jurisdictional boundaries within which stakeholders find themselves having to operate. Mainly this has to do with funding issues, or government subsidies for transit and transport infrastructure. The second finding, which in many ways flies in the face of paradigm and tipping point theories explored earlier, is the role of incremental change as a very real − if not only − option for stakeholders who find themselves up against huge odds in advancing sustainable development within the BVC.

5.2.1 Jurisdictional Challenges & Government Subsidies

The majority of the participants revealed a strong understanding of the regional transportation issues and a clear vision of not only what *could* happen in the BVC, but also what *needs* to happen. Generally, they are working steadily toward finding and developing solutions. For the most part, this includes providing public transit, although they also spoke about other elements of sustainable transportation like densification, provincial transit subsidies, pedestrian mobility, alternative transportation, as well as the ineffectiveness of Alberta Transportation to take a provincial leadership role. Identifying roadblocks was also a strong suit of these stakeholders – presumably they come up against them often enough. The stakeholders seem especially aware of funding issues,

and the critical need for a provincial transit authority to assist municipalities to build and maintain transit systems. As *Respondent G* commented, “Up to 50% of the public transit in BC is funded by the province, in Alberta it is zero”, a fact echoed by *Respondent K* who observed that “There is a reluctance in this province to subsidize transit, everyone should pay their own way and taxes must be kept low is the motto (more so than in BC where I worked the previous 14 years).”

Obviously these participants see the funding issue as both a political and mechanistic problem that need be addressed in the short term. *Respondent G* though has some ideas on how to address that problem, if only in a sub-regional context; which is the regional authority or commission solution. In fact, he has taken ownership of the suggestion (now written into the Bow Valley Regional Transit Authority working document): “The reasons that I chose the regional authority is that then it is a provincially recognized body – if we are accepted as a provincial commission, then we have much better traction to provincial resources − particularly money.” He had several ideas about how to fund future transit schemes, one of which was mentioned by several other respondents as well:

> The other thing is the BC idea of a ‘resort municipality’, so that we can leverage more infrastructure development monies. It might allow taxing authority for a transit system. Create some new funding streams. We did institute several years ago a 2% hike in hotel tax and the visitors did not even blink.

This participant however, is pragmatic about the political ramifications and challenges associated with creating a new funding stream, because as a municipality within a national park, their rights are constrained. For instance, they

have no authority to impose a sales tax in the community. Therefore he says, working with “Parks Canada is challenge. The thing about it is, I can’t work at the local level, I have to work at the political level, I have to get to the Minister, I have to get these messages to the Minister.” Oddly enough, *Respondent E* − the rational and well-spoken senior bureaucrat at Parks Canada – would probably not disagree. Although he is a forward thinking individual with a solid grasp of what the possibilities are for change within the park boundaries, he is also restricted by a special set of institutional and legal barriers that inhibit his organization from moving forward with certain initiatives. On the subject of sub-regional transit, he was optimistic and proud of what has so far been accomplished, for he too sits on the Regional Mobility Partnership; although as he explains, his organizations ability to contribute to that initiative is somewhat limited:

> The stumbling block for us is not our corporate commitment; it is federal legislation that really constrains the way in which we can participate, we have very stringent legislative strictures based around the Financial Administration Act that says we can’t as an agency just commit to providing a subsidy every year because all of our appropriations are dependent upon an annual vote in parliament, so we cannot presume the will of parliament.

So, while Parks is interested in participating and want to help make transit a priority, he understands that they will have to ‘finesse’ their way around the restrictions imposed upon them, because as he admits, the legislation is not going to change, as it applies right across the Government of Canada. As a result, Parks Canada moves along incrementally, certainly not driving the change but supporting it where they can.

In the meantime though, jurisdictional issues remain, as “Political boundaries are a problem.” (*Respondent H*). Exacerbating that issue is the commonly agreed upon problem that there is a real lack of provincial leadership for transportation. That opinion was voiced by *Respondent K*, who commented that:

> In Alberta, regional governance is another huge issue, as there is no regional governance or leadership. We need provincial, mainly, and federal leadership in these areas to either release funds or improve funding alternatives for towns such as sales taxes or gasoline taxes.

Unless provincial funding is forthcoming, local jurisdictions will have a difficult time funding transit, especially rural communities. In British Columbia for instance, “BC Transit funds a huge part of local transit costs for small towns. Alberta does no such thing, which is likely why small town transit is very rare in Alberta.” (*Respondent K*). Currently BC Transit serves over 50 communities and 50 million annual customers in the province (BC Transit, 2010). Despite announcing a new province-wide transit development program in the summer of 2008, the Green Transit Incentives Program or Green TRIP, whose objective is to improve and expand local, regional, and inter-city public transit, the Alberta Government has since shelved the initiative as a result of budget shortfalls due to the global recession. Despite originally committing $2 billion to the program upon its announcement, the government has since reduced that amount in the provincial budget to zero, as they grapple with projected deficits until 2012-13 (Cryderman, 2009). Green Trip was to be the largest commitment to public transit in Alberta’s history.

5.2.2 Incremental Change

Throughout the interviews, a number of participants spoke proudly about some of the advancements they were realizing in the BVC, mainly with regard to the Regional Mobility Partnership, and the success of the Banff transit system. For the most part, the respondents involved in that development see that they are doing the best that they can under the circumstances and that although it is a humble beginning they are taking steps in the right direction. Although the gains are small in comparison to the desired goals, there are certainly signs of progress, as illustrated by this stakeholder's observation: "Quite frankly, we just recently added 3 more scheduled runs between Lake Louise to Calgary. And we are getting ridership, not huge, but we are getting ridership, by just adding more frequent service." (*Respondent C*). With the provincial mandate to build sustainable transit (Green TRIP) suspended indefinitely, stakeholders in the BVC continue to push ahead, despite the lack of wider support for their initiatives. As Respondent A commented, "It's a big mountain to move. But we are going through the steps… one at a time."

Comments made by the respondents indicate that in the absence of a paradigm shift towards the commitment to a regional sustainable transportation system by all of the parties at the table, that incremental change is not only the order of the day, but possibly even the best strategy against the prevailing Alberta attitude that sees the personal automobile as the universal solution to mobility. As many respondents commented, if they build a quality transit system that is effective and efficient, it will ultimately be a success: "If you build

something people love, it will work." (*Respondent D*). However, as many stated, attempting to coerce people into utilizing such a system would only result in 'push-back' and antipathy. *Respondent J* agrees; "Before you can use a heavy hand, you need to provide a rationale or transit infrastructure."

The belief that incremental changes are an acceptable and rational approach to current BVC planning becomes more persuasive when contextualized within the historical socio-political framework:

> Transportation planning in terms of the Bow Valley has really been a process of evolution rather than distinct plans. Alberta gave up its regional land use planning commissions back in 1985 just after Ralph Klein got elected. And the regional planning commissions were really set up to coordinate planning and development between jurisdictions. After the dissolution of the regional planning commissions it basically fell upon the MD's goodwill to coordinate. (*Respondent F*)

According to this respondent, uncoordinated inter-jurisdictional planning is a major stumbling block and whatever positive change that has taken place is essentially a bonus. That sentiment was expressed by other interviewees who noted that despite the lack of provincial funding, the challenges imposed by the economic downturn, and the lack of a holistic BVC transportation plan, progress is being made albeit incrementally and at times independently of other stakeholders. For Parks Canada, that means wildlife mitigations, for the Town of Banff it means local transit, and for Cochrane it may very well result in a commuter rail line connection to Calgary and points south and east.

Ultimately though, this reliance on incremental change may prove to be insufficient in tackling big picture challenges associated with regional sustainable

development, should issues like climate change, Peak Oil, and mass tourism (re)appear on the radar. In the meantime, stakeholders accomplish what they can under the circumstances, while looking forward to a time and place where the public and political will align to help advance their goals and vision. As *Respondent D* commented, that vision is going to require a significant commitment:

> If you don't have the political will or vision to want to do this and want to lead the change, then you are just going to keep playing catch up with incremental changes to transit, but what we are talking about in the Calgary plan is a complete paradigm shift, so we are talking about leading the market with transit.

6: CONCLUSION

Problems cannot be solved at the same level of awareness that created them.

Albert Einstein

6.1 Discussion

If Canada and the BVC more specifically, are to move towards a much more sustainable transportation model, it will require a change in how we think about problems and develop solutions. This will require a fundamental shift in how we evaluate our current set of problems and accordingly how we envision the future. As Litman maintains, "It requires changing the way transportation professionals approach problems, and how individuals behave as citizens and consumers." (2003, p. 11). Despite what many of the primary research participants maintain, transportation experts advise us that short-term and incremental 'fixes' – while admittedly better than doing nothing at all − will not be sufficient enough in a world of depleted and expensive oil.

Currently, planning activities in the BVC are reactionary, rather than proactive. This is evident from the findings of the interviews, because the planners and managers are not prepared to anticipate Peak Oil. As it stands today, the various transport solutions being pursued in the BVC are years away from being realized and they are not interconnected. Transport planning and infrastructure *silos* exist – there are for instance, no plans in the works to connect

Calgary to Banff with an integrated transit-system. As the *Canmore Leader* reported on developments at the CRP recently (MacLean, 2009):

> Maps also showed that there is no major transit route planned out here in the next 70 years, transit in the draft plan is intended to link people across the region to encourage “clustered” development, but neither a bus line nor a rail link [is] proposed to connect the Bow Valley to Calgary.

The CRP is focussed on curing its own special set of problems related to congestion and sprawl (Canmore-Banff-Lake Louise are doing the same, but for different reasons); it is not focussed on preventative measures that look ahead of the immediate problem. With steady development expected to continue along the BVC, would it not make sense to propose a comprehensive regional solution that would anticipate transportation needs decades down the road? To that end, transport innovation is critical, because “Good planning involves more than simply extrapolating past trends.” (Litman, 2009, p. 27). It is no longer appropriate to support self-fulfilling planning decisions like highway expansion projects.

Ultimately though, if stakeholders in the BVC are to begin to move towards the development of an integrated and sustainable form of mobility, it will require an honest and steely-eyed appraisal of the current reliance on oil as the principle fuel for transportation. That will in turn necessitate a shift in thinking, and in turn, a more transparent interpretation of the facts. It is unfair to believe that the public should blaze the trail into a post-carbon future when federal and provincial governments are still in a state-of-denial of Peak Oil. For instance, consider these comments by transportation consultancy Inter*VISTAS* in a report published

just prior to the record-high oil prices and subsequent economic troubles which began in 2008 (Tretheway & Mak, 2007, p. 95):

> What is notable is that the increases in the future prices have become less and less, suggesting that the run-up in prices is running out of steam. Predicting oil prices is a hazardous enterprise as there are so many global factors, economic and political that affects prices. Nevertheless, at the moment, the market apparently is not pointing toward further dramatic run-ups in oil prices.

Or this outlook, in a report by commissioned by Transport Canada regarding Canada's Pacific Gateway, again in 2007:

> The value of trade is now growing at around 2.5 times the rate of growth of the overall economy. This trend is not expected to change in the short term. (p. 6)

Although it is admittedly difficult to predict both the economy and the price of oil, these quotes illustrate a certain preoccupation with global trade and the energy supply required to make it work. Thus, if we are going to prepare for the future and shift our paradigm, then the federal and provincial governments must begin to seek alternate counsel, and accept that dramatic change is not only possible, but essential. This of course raises an important question; whether the necessary change is going to come from the leaders, or whether it will be a more bottom-up solution. Jeff Rubin – in his inimitable style – provides a hint as to the answer: "Don't expect the politicians to get it before you get it, triple-digit oil prices will be a wake up call to people who are otherwise deaf." (Smith, 2009).

Indeed, it could be that circumstances will eventually force an appropriate response by both the government and the public. As one stakeholder in the BVC observed, it will likely be an economic argument as a result of Peak Oil, which

drives the change: “Well you know what; business challenges force people to think clearly, because you know in times of a-plenty, collaboration is completely optional. No one has that luxury anymore.” (*Respondent A*). Then again, as far as highway twinning goes in the BVC, it’s much too late to rethink that decision. Stakeholders have consistently misunderstood and underestimated the overriding role that the automobile plays in our culture. Consider what Transport Canada spokesperson, R. Barton said during the original public hearings on twinning, way back in 1979:

> Regarding the future of public transportation, I again refer to the June 11th issue of Time Magazine which carries an article on US Transportation Policy, and I quote, ‘The transportation policy of the previous decade has been based on the flawed idea of persuading Americans to get out of their car and use other forms of transportation. The data showed it could not be done short of a threat of extinction’. I’m therefore not as sceptical as Parks Canada about future traffic demands… travel by automobile will still dominate…” (P. 982)

6.2 Key Findings

Based-upon both the primary and secondary research, a number of key findings have been identified and are briefly summarized below. Firstly, the general observations or themes gathered from the interviews with participants are documented. Those are followed by the interview analysis conclusions of the author – that is, the observations of a third-party. And finally, a ‘what’s missing’ list is presented, based-upon the ideas and concepts explored in the literature review.

6.2.1 By Respondent

- **Political Will**: In nearly every case, the participants agreed that the single greatest stumbling block to advancing transportation innovation in the BVC has to do with a lack of political will, or leadership.
- **On Track**: Aside from a few participants there was a general consensus that both the Bow Valley RTA and CRP transit planning initiatives were a big step in the right direction and would be − at least in an Albertan context – 'ground breaking'.
- **Twinning Necessary**: One of the more significant findings of this original research was the nearly unanimous belief that the TCH *required* twinning throughout the BVC. The policy history review of the original twinning decision demonstrated that evidence of a significant public debate over the issue was not as compelling as some authors have stated. However, it is clear that the early-twinning had much to do with highway safety issues, as a large number of human fatalities over the years tended to defuse any resistance.

6.2.2 By Author

- **Silos**: Sustainable transportation planning in the BVC is being tripped-up by ineffectual provincial and federal governance. A lack of co-ordination between critical agencies has facilitated incremental disruption to the ecological foundation and holistic planning effort − planning 'silos' exist (See Figure 10), and there is therefore, no comprehensive region-wide solutions being pursued. "Multiple jurisdictional mandates, policy paradigms and budgets across the Bow Corridor heighten the need for a coordinated approach to transportation issues." (Macleod, 2003, p. 52).

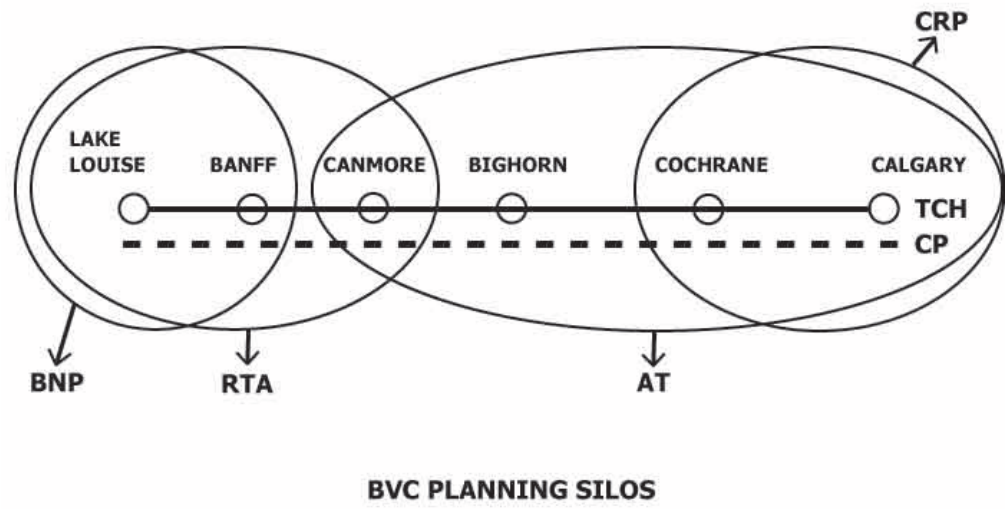

Figure 10. A diagram illustrating the various planning silos within the BVC, which helps explain the lack of a comprehensive solution to transportation challenges. (Source: Billy Collins).

- **Peak Oil**: Generally, the stakeholders interviewed simply 'do not see it coming'. There is no sense of urgency around the idea, or belief that oil demand might one day outstrip supply. Surprisingly, this included the environmentalists in the group.
- **Paradigm Shift**: Throughout the interviews, participants suggested the importance of the need for a *shift* in thinking. It is fair to say that such a paradigm shift is *beginning* to occur, in that the benefits bestowed by public transit are well understood. As one participant commented: "Public transit, it's a no brainer!"
- **Incrementalism**: While there are no major signs of a dramatic move towards a more sustainable transportation system in the BVC, it appears as though small incremental change to the existing system is the *modus operandi* for local stakeholders, as is witnessed by Banff's new transit system.

6.2.3 Theoretical

- **Tipping Point**: Clearly, Gladwell's 'tipping point' moment has yet to transpire. However, it *will be necessary* if the beginnings of the small

paradigm change taking place are going to shift significantly and sufficiently enough to make a difference. For now, that shift is taking place amongst the lower-level stakeholders but has yet to go 'viral' and infect the wider population and higher-levels of government. $200 per barrel of oil just might be the 'trigger' that the participants were alluding to.

- **Path Dependence**: Without question, provincial and federal policy and planning initiatives are locked into a course of path dependence. Its business as usual with Alberta Transportation and Transport Canada, and the Gateway programs are strong evidence of that lock-in. It is much easier to continue down the path of least resistance than to make any significant commitment to turn around and go another (hopefully sustainable) direction.

6.3 Summary

Transportation planning in the BVC is a complex affair. Indeed, the challenge faced by stakeholders in the region could be referred to as 'messy', or what Robert Horn calls 'social messes'. As he states, such situations "are *not* merely problems. Problems have solutions. Messes do not have straightforward solutions." (Horn, 2001). Social messes are complex and complicated, are bounded by huge constraints and are closely interconnected socially, economically, politically and technologically (one might add ecologically here as well), and they contain many value conflicts. (Ibid). As the 2003 *Bow Corridor Regional Transportation Strategy* concluded, "There are no surprises… and no solutions." (Macleod, p. 2). Clearly, stakeholders in the BVC continue to wrestle with a very messy problem. As the spokesperson for Parks Canada surmised, the appropriate response to the problem remains obscure:

> We have a spectacular world class destination here, we treasure our natural environment, we treasure our lifestyle, we don't want to screw it up, and we can't keep putting down pavement. So how can we deal with the realities of being a popular destination for amenity migrants and tourists, as well as having the through-traffic, how are we going to deal with all of that without putting down more pavement and parking lots?

While individually the stakeholders appear to possess the knowledge – and in some cases the desire – required to address the transportation issues facing them, there are a great deal of roadblocks that stand in the way to achieving a sustainable system. Mainly this has to do with a lack of higher-level political leadership, jurisdictional and planning model misalignments, a 'locked-in' transportation policy paradigm, as well as a universal failure to seriously consider what the ramifications of Peak Oil might look and feel like along the BVC.

The 'twinning' of the TCH, one of the main focuses of this project, is representative of all of these issues. While Banff, Lake Louise and Canmore are working towards a sub-regional transit solution, and the CRP attempts to do the same, funds and resources that might otherwise make those programs a reality are being sunk into policy and planning decisions that will only in the end, stimulate more fossil-fuel reliant vehicle travel. Of course, the flip-side of that outcome is that should Peak Oil put the brakes on globalization, the federal government will have misallocated *many* billions of dollars based on the belief that trade with Asia will continue to expand. As some experts warn, it is high time that we collectively begin to plan ahead for a future where we begin to move people and goods without oil. But that will require a bold new vision, an alternate approach, and more than anything else a *paradigm shift*. Unfortunately, that is

not yet happening in the BVC where business as usual remains the modus operandi.

Highways are not about to disappear, nor are vehicles. However, ring roads, freeways and hinterland highways are predicated on cheap and readily available oil. If we are going to continue to build new highways, they will be completed just about the time that Baby Boomers retire, fuel prices rise significantly and at a time that people are beginning to value alternative forms of transportation (Litman, 2009). So while there are no easy solutions, and stakeholders in the BVC are uncertain about what the *conditions* are − never mind what the appropriate *actions* might be − it is suggested that 'putting the brakes' on future highway mega-projects might be a prudent action.

Are stakeholders in the BVC moving closer towards a paradigm shift? The answer to that question is unclear. Certainly there are positive incremental changes taking place in various sub-regions within the BVC, although they are all in a recession-induced state-of-flux at the moment. However, that begs the question: Is incremental change going to be sufficient enough to address what many academics believe will be a post-carbon future? This study suggests the answer to that question is *not likely*, based-upon the scale and severity that sustained oil supply shortages and high prices would impose on transportation systems worldwide, and more specifically within in the BVC where highway twinning is the main transportation paradigm.

In the end though, BVC stakeholders got what they deserved, if not what they wanted (exactly); a brand new highway with all the bells and whistles. The

defenders of the wildlife got their ‘mitigation’ designs, Transport Canada was able to please the trade and trucking sector by giving them their profit-centre infrastructure for free, Parks Canada did not have to fund the highway ‘improvements’ from their bottom line, and finally, locals and visitors alike can now drive more… and safely too. Yet, if Rubin, Kuntsler, The International Energy Agency and a growing list of other experts are right about Peak Oil, the twinning of the TCH just might be a big mistake – a highway to nowhere. Ultimately − and ironically − building a sustainable transportation system for the BVC will have less to do with environmental and trade-balance gains, but more-so with future socio-economic gains via tourism, should the specter of Peak Oil appear in the rearview mirror of Happy Motoring.

As a final point, it is necessary to consider what may happen to international tourism if global trade were to collapse in an era of oil depletion. Although that subject warrants a capstone project of its very own, it is plausible to conclude – as Rubin has suggested – that all sectors of the economy and industry will be greatly affected, and that includes tourism as well. That begs the question; would Bow Valley tourism continue to the same scope and scale that it does today, and would intra-provincial tourism be enough to sustain the regional economy? Under Kuntsler’s Long Emergency scenario, local commuters and tourists would be equally as effected as those international and inter-provincial domestic travelers. Even though Banff National Park has seen significant declines in overseas visitors in the past decade, regional ‘rubber tire’ tourism has tended to pick up the slack. However, under Peak Oil one might conclude that

that market may one day disappear as well. As such, the only reasonable response is to provide a transportation system that addresses the core challenges of oil depletion. That would include an attractive, affordable, and environmentally friendly mode of passenger transportation to and from the Bow Valley that links to major transportation hubs like Vancouver, Calgary and Edmonton. Indeed, the socio-economic health of the region will in all probability rely upon it. There is no tourism industry without the pristine Rocky Mountain wilderness to appreciate, and neither is there a tourism industry without affordable transportation to bring the tourists to the mountain parks in the first place. In the end, Van Horne said it best when he declared that the scenery cannot be exported, and therefore the tourists must be imported. Over a century later, that simple reality remains at the heart of the Banff-Bow Valley conundrum. The challenge now is to continue to do so, only with a steely eye cast towards a post-carbon future.

6.4 Suggestions for Further Research

Hindsight is especially useful in not only determining what the researcher might have done differently, so as to make his or her labor less arduous, but also how they might approach further studies. Such is the case with this project. Having completed the policy history of the twinning *post-defense*, it has since become evident that a more appropriate and simple approach to the research agenda would have been to solicit only those stakeholders who were involved in the original debate, as opposed to those stakeholders the author identified as being important along the way. By conducting a longitudinal study of how these

stakeholders have either changed their position on twinning, or not, the parameters and scope of the research might have been more focused, allowing for a much easier interpretation of the findings and a more straight-forward look at the impact of highway building on the transportation system through the Bow Valley. It is proposed that such a research project would be most beneficial to advancing sustainable transportation in the region, simply by providing a birds-eye view of what has transpired in the intervening years, and how those findings would help illustrate the various stakeholder positions today.

Additionally, it is accepted that there are challenges associated with what is known as the 'principle agent dilemma'. That is, by interviewing spokespeople for stakeholder organizations, the researcher is really at the mercy of the individual themselves. For instance, does a spokesperson who personally does not believe in Peak Oil theory therefore speak for their organization when they choose not to elaborate or comment on such an issue, or they dismiss it altogether? Do these participants 'stand where they sit'? In future research, it would beneficial to make a very clear distinction between the stakeholder as *agent* for their organization, and as agent for themselves – if indeed, this is possible at all. For the purposes of this project, participants were originally identified, approached, and interviewed as spokespeople for their organizations and their responses where interpreted as such. Future research on this topic would endeavor to mitigate such uncertainty where possible.

Finally, it is suggested that future research might attempt to propose a specific transportation alternative, or vision – a high-speed rail link between

Calgary International Airport and Banff for instance – and then gauge stakeholder response and support for such a proposal. Indeed, such alternatives exist and are operating successfully in other locales like Zermatt, and Chamonix in Europe. Best practices like these are easily identified, and provide a compelling vision for such a transportation model in Canada. In fact, should public and political will align here in the future, much of the groundwork has already been laid, not only by foreign governments, but by studies already conducted by the Province of Alberta on the high speed rail corridor between Calgary and Edmonton. They provide an existing feasibility framework that could be extended to the Bow Valley without having to start over from the beginning. Passenger rail to Banff – just as it was originally − may be the key to a prosperous and sustainable world class tourism destination.

In conclusion, the author would like to suggest that anything is possible, and the global happenings that have transpired since this project began are evidence of that. Over the course of this research, the world economy has descended into crises and chaos from extraordinary heights, the price of oil has risen to record highs and then fallen once again, and previously reticent governments around the world have since embraced and pursued new visions for sustainable transportation systems. Those events have made this academic endeavor additionally tricky; as the ‘real world’ context has been constantly shifting. Yet, despite those challenges, tenacity, faith and will on the part of the author have been essential in reaching the desired goal. Those same ingredients will be essential to other student researchers in their own undertakings, and

equally important to stakeholders in the Bow Valley who wish to realize more livable communities through sustainable transportation initiatives.

APPENDIX

Interview Questionnaire

Exploring transportation planning in the Bow Valley Corridor

The goal of this study is to better understand the transportation planning process that has lead to the current state-of-dependence on highway-oriented development in the Bow Valley Corridor.

Introduction:

Thank you very much for your willingness to participate in my graduate research on transportation planning in the Bow Valley Corridor (BVC). The survey will take approximately thirty minutes to complete and your responses will be kept strictly confidential. You will never be referred to by name in any written work produced by this research; your responses will be referenced only by the name of your organization. **If you agree to participate I would ask that you read and sign the attached Informed Consent by Participants in a Research Study, which includes a Statement of Confidentiality.** Although your participation in this survey is completely voluntary, your confidentiality will be protected to the full extent permitted by law. Thank you again for your cooperation.

To obtain copies of the results of this study upon completion, please contact Billy Collins by email at willcoll@telus.net or by regular post at the following address:

Suite B – 762 East 12th Avenue
Vancouver, BC V5T 2H9

Any concerns or complaints should be directed to Dr. Hal Weinberg, Director of Research Ethics by email at hal_weinberg@sfu.ca or by telephone at 778-782-6593.

1. What is your role in this organization and how long have you been involved in transportation-related planning in the Bow Valley Corridor (BVC)? What are the main challenges you face in *your* role as a participant in transportation planning and practice here in the BVC?

2. I am interested in exploring the transportation planning record, practice and *vision* here in the BVC. In your opinion, what are the major challenges

to transportation planning in this region? Have those challenges changed since you have been involved?

3. What role does the existence of the Banff National Park (BNP) play in that dynamic?

4. The Trans Canada Highway (TCH) is the main dynamic in transportation activity in this region; how does it affect your planning process and vision? Do you believe that the TCH is the 'key' to unlocking the future sustainable development of the region? Were you consulted or involved with the TCH 'twinning' debate? Or was there such a process in the first place?

5. The other 'key' transportation infrastructure factor here is the Canadian Pacific Railway (CPR). What planning issues have arisen from its co-existence through the region and more specifically, through a national park? How might the CPR right-of-way be better used to move people and goods into/through the BVC?

6. What, to your knowledge, has been the relationship between regional stakeholders and transportation planning over the past number of years? How closely do Parks Canada, CP Rail, Transport Alberta and communities in the BVC work together when planning for transportation in the BVC?

7. Currently, transport planning in the BVC is overly reliant and focused on a single-mode, that being highway mobility in the form of vehicle movement. Do you agree?

   Strongly Disagree [ ] Disagree [ ] Agree [ ] Strongly Agree [ ]

8. An important piece of this research is to understand you/your organization as a stakeholder in transportation planning here in the BVC. Please explain your organization's priorities and decision-making processes that have contributed to the current state of transport in the BVC.

9. Oftentimes, *best practices* from abroad are dismissed because "that would never work here". Do you?

   Strongly Disagree [ ] Disagree [ ] Agree [ ] Strongly Agree [ ]

10. There is considerable scholarly evidence that transportation as we know it is heading toward an uncertain future (one that is messy and unpredictable), where unstable and expensive oil supply will cause dramatic and long lasting impacts on how we move people and goods. Do you subscribe to the idea that we may have to adapt, and rather quickly, to

a *post-carbon* world? And if so, how does this affect your future vision for transportation in the BVC?

11. It is often pointed out in transportation literature, that even more important than public will, it is *political will* (leadership) that is most important in affecting transportation change, generally through the public policy process. Would you say that you?

    Strongly Disagree [ ] Disagree [ ] Agree [ ] Strongly Agree [ ]

12. Sustainable transportation involves a balance between planning for the economy, environment and society; do you feel that is being accomplished under the current vision and practice here in the BVC?

13. Providing transport choice – in the form of mobility options – for the public (including tourists) is one way to initiate a shift toward a more sustainable condition in the BVC and elsewhere. Do you agree? Or do you think that positive change will require a heavier hand?

14. On a scale of 1-5, where would you place you and/or your organization in terms of transportation *innovation*? That is, your commitment to paradigm-shifting vision?

Low [ ] Slight [ ] Average [ ] Significant [ ] High [ ]

15. It has been suggested that as far as transport planning here in the BVC is concerned, it's 'business as usual'. That is, the focus is on persistent planning in favor of highway building, as opposed to other more sustainable options, such as a more integrated approach and multi-modal commitment to sustainability. Do you agree? And if so, what should be done to address that situation?

16. How would you 'characterize' *your* organization's vision or approach to transportation innovation and development in the BVC?

17. Do you think that the transportation planning stakeholders are on the 'right path' regarding transportation innovation and the future of the BVC?

18. On a scale of 1-5, where would you place you and/or your organization in terms of adaptability? That is, your commitment or openness to change?

Low [ ] Slight [ ] Average [ ] Significant [ ] High [ ]

19. Is there anything else you would like to comment on or add?

Thank you for participating in this survey, I appreciate it. Have a nice day!

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