



Regional Strategic Transportation Plan

Phase 1 Pre-Planning Report

August 1, 2014

STPCO

Sustainable Transportation Partnership of the Central Okanagan

"Working together to plan and deliver on a shared vision of sustainable regional transportation."



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Executive Summary

Introduction

To address transportation issues, local and provincial governments have developed their own transportation plans and initiatives. Although these plans address the needs of their jurisdictions, transportation issues do not respect political boundaries and can spill-over across the region. Therefore, there is a need to support and synchronize local transportation plans, as well as planning and operating the transportation system as an integrated multi-modal system. A holistic approach to address transportation issues at a regional level must be coordinated at all levels of government, and with multiple partners and stakeholders.

A regional strategic transportation plan (RSTP) is proposed to tie together various elements and conflicting issues in order to create a consolidated, balanced and equitable strategy. Essentially, this plan will be the blueprint that describes the ideal regional transportation outcome for the Central Okanagan, while supporting the local sustainable transportation needs reflected in all of the STPCO member policies and partnering stakeholders.

Issue Areas

Issues related to transportation stem from the combination of social, environmental and economic issues. Overall, the balancing of multiple objectives to support the needs of the region is a complex endeavour. However, for every issue there are opportunities that can be identified and action taken to move the region closer to its livability goals.

A range of issues and opportunities exist, which will need to be considered in the planning of the region's transportation system:

- Highways improvements and "regional roads"
- Automobile use
- Active transportation
- Demand management / social marketing
- Safety and security
- Goods movement and economic development
- Vehicular emissions
- Land use-transportation interaction

Current State and "Travel Market" Trends

An understanding of the current state of the transportation system in terms of the demand and travel patterns of the "travel market" provides a sense of the challenges facing the development and implementation of the RSTP. Various surveys and data collection

activities have been conducted in the Central Okanagan over the years, including the 2nd iteration of household travel surveys conducted in the fall of 2013. With a baseline survey conducted in 2007, the 2013 travel survey provides a trend analysis of changes to travel patterns in the region:

- A total of 571,600 trips originated from the Central Okanagan on a typical 2013 fall weekday, up 11% from 515,200 daily trips in 2007.
- 11% increase in total number of trips (all modes) in the region compared to 2007. The majority of this increase was observed in the peak periods, which can exasperate congestion levels during commuting times.
- A doubling of transit modal share to 4.3% region-wide.
- An increase in active transportation mode shares from 7.2% in 2007 to 9.8% in 2013 region-wide.

The **key finding** is that the **Auto Driver Mode dropped from 69.4% to 66.7%**. This 2.7% drop represents the net gain towards increased sustainable transportation (Figure ES-1).

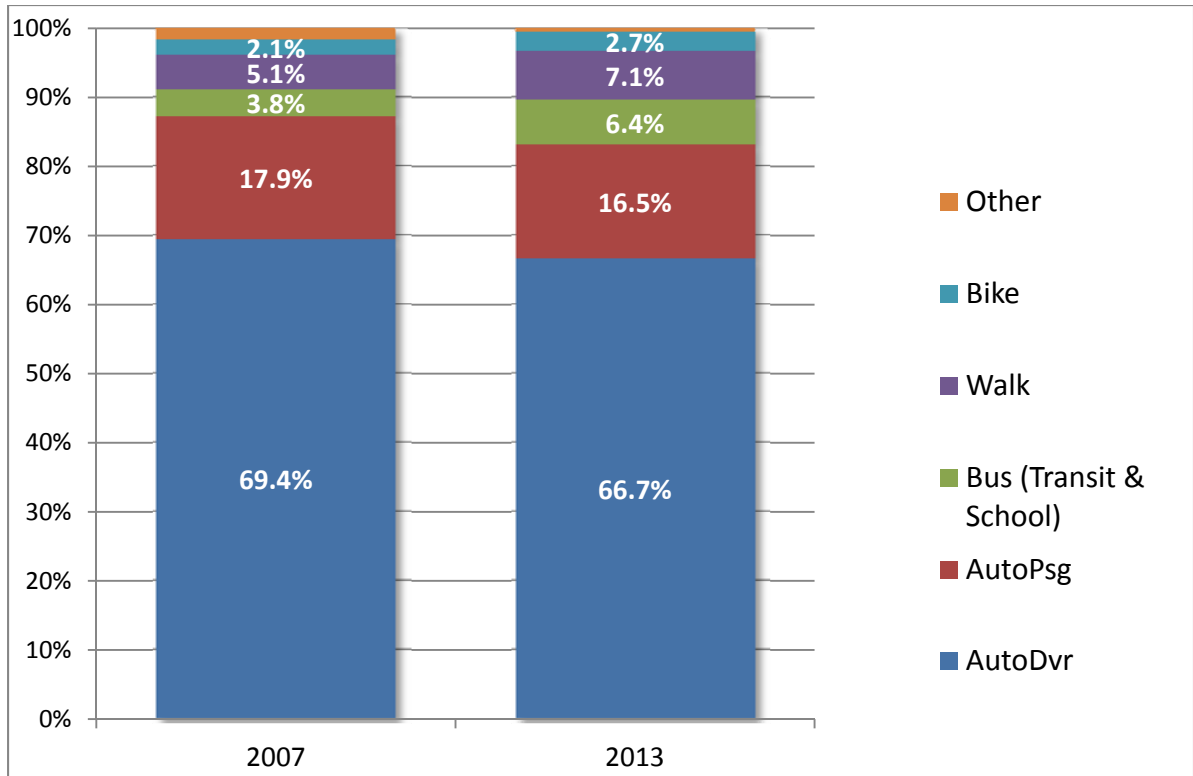


Figure ES-1. Change in Mode Shares, 2007 to 2013

A number of transportation demand management (TDM), transit, and active transportation initiatives and plans have been developed over the past two decades in various parts of the Central Okanagan. These initiatives, many of which were funded by

senior governments, have resulted in positive outcomes. The intent of the RSTP would be to integrate these initiatives and plans to further improve their success in providing alternatives to the single-occupant vehicle.

Consultation and Engagement

As requested by the STPCO Board, consultation of elected officials and regional residents was conducted through the use of online surveys during the months of May and June 2014. The purpose of the consultation was to seek preliminary input into the values and policies of residents from the region.

A total of 16 elected officials completed the survey, resulting in a 43% response rate (out of 37 total elected officials invited). For the public survey, 260 residents completed the survey, or a 32.8% response rate (from 792 invited).

Some of the high-level findings from the surveys were:

- Compared to issues categories of Crime, Economy, Education, Environment, and Health, Transportation, as an issue of importance, was ranked the 4th out of 6 for elected officials. For the regional residents surveyed, Transportation was ranked 6th out of 6. Although transportation ranked lower than other issue areas, further questions and text feedback confirmed transportation to be a key issue, especially as a key driver in supporting issues such as the economy, environment, and social needs.
- A range of transportation policies, common to most local governments (e.g. increase in sustainable modes, densification, affordability), were presented to survey respondents and asked about their significance or level of importance. Overall, elected officials felt the transportation policies were important at a level of 80%, whereas residents ranked the transportation policies at a level of importance of 75%.
- When posed the question as to the weighing of environmental, social, and economic criteria to be used in decision making, the following results were found (see Figure ES-2):
 - Economic criteria was weighted the highest with elected officials weighting Economic at an average of 39.5%, while residents weighed Economic at an average of 35.6%.
 - Elected officials weighed Environmental and Social criteria at 31.2% and 29.3%, respectively
 - Regional residents weight both Environmental and Social criteria at 32.2%.

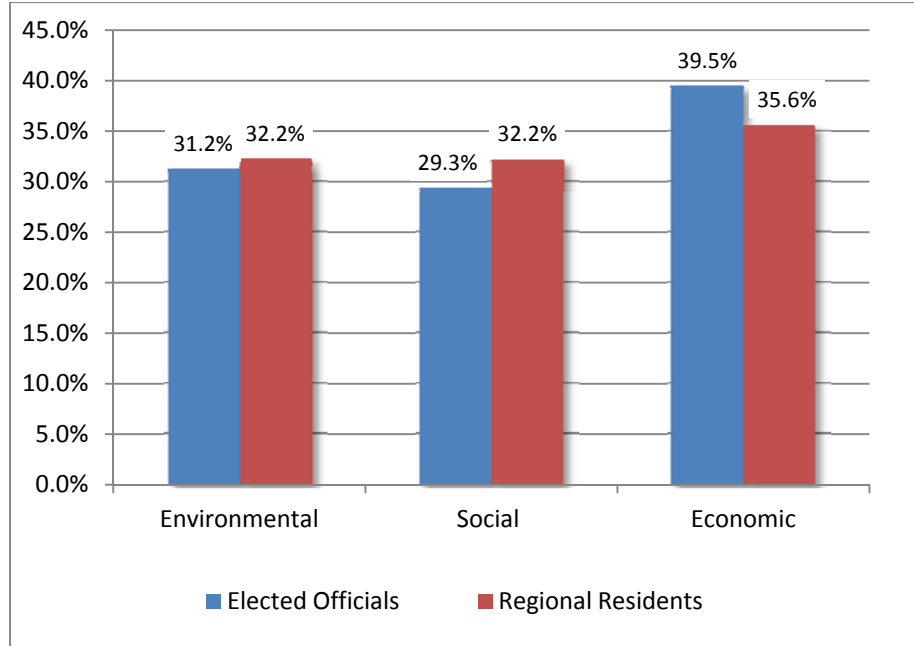


Figure ES-2. Evaluation Criteria Weights

The STPCO Planning and Technical Sub-Committee, made up of local government staff, met with Ministry of Transportation and Infrastructure (MoTI) staff to discuss and share respective planning processes. Given the significance of current provincial planning initiatives such as the Corridor Planning and 2nd Crossing, it was agreed that working together on the RSTP will be important to align provincial and local planning, which is vital to the success of the overall regional transportation system.

Values and Vision

The goal of a strategic transportation plan is to achieve a collective vision of a region of communities. A transportation vision is an end state that describes a region’s goals and desires for what their transportation system could be in the foreseeable future. A vision statement succinctly illustrates this vision to communicate broadly the commitment of a region’s collective aspirations. A vision also embodies the values the citizens of a region uphold and aspire towards. The transportation values of the Central Okanagan have been identified as:

- Safe
- Efficient
- Sustainable
- Affordable
- Adequate
- Economical
- Equitable
- Accessible
- Socially Responsible
- Environmentally Responsible
- Increased Choices
- Quality Service
- Accountable

The following is the draft vision statement for the RSTP that tries to succinctly combine the values identified into a clear and meaningful manner.

“A balanced and resilient transportation system for the Central Okanagan that moves people and goods in a safe, efficient, accessible, and affordable manner, while supporting and enhancing the region’s economy, social network, and natural ecosystem.”

Principles and Policies

An understanding of the fundamental principles can lay the foundation in developing a strategic approach and policy direction that ensures optimal use of limited funding and resources, while moving the region towards a greater degree of livability and sustainability.

The following principles and policies were identified as important considerations when drafting the RSTP:

- **Livability and Sustainable Transportation** – The transportation system provides a means to an end, which is ultimately livability. A sustainable transportation system is required to achieve the collective definition of livability for the region.
- **Collaboration through a Holistic Perspective** – A complete-system perspective is required by local government partners of the region. Through this holistic viewpoint, collaboration towards a common transportation vision can be achieved.
- **Competition and Varying Demand** – It should be understood that the provision of transportation choices is important to influence demand. However, this will also increase competition among travel modes, which can affect efficiencies. Understanding the complex dynamics of travel demand and choices of an increasing urban region will be important to developing the best transportation system for the Central Okanagan and its local governments.
- **Appropriate Funding and Governance** – The RSTP may require significant levels of investments, which will in turn require supportive funding and an appropriate governance structure to match. These issues will need to be considered when implementing the RSTP.

Based on transportation policies currently adopted in local government plans, a set of 11 transportation policies were identified to provide policy direction for the RSTP’s development.

Gap Analysis

The current trend in the shift towards the use of sustainable transportation modes is promising. However, input from elected officials and residents indicate that more can be done. One of the key outcomes of the RSTP will be the setting of targets for key indicators, such as auto driver mode shares. To reduce the use of automobiles, especially single-occupant vehicles, significant improvements will be needed. This may require significant

investments in infrastructure, services (e.g. transit), and programs (e.g. social marketing/TDM).

This Phase 1 study for the RSTP provides a sense of the “gap” from current conditions to a desired transportation vision. The RSTP will need to define this “gap” with further analysis and establishment of tangible and realistic targets.

Next Steps

The next steps provide further support in the lead up to Phase 2, the development of the RSTP. The following “Phase 1B” tasks have been identified and are planned for completion prior to the approval and initiation of Phase 2:

- **Regional Road Network** – Defining a “Regional Road Network” will help to identify a regionally-significant road network which can be the basis for the RSTP. It is intended such a network would be amended over time to suit the needs of the region and local governments.
- **Foundational Briefings** – A review of current best practices will help to ensure the development of the RSTP considers modern concepts and practices that have been proven to support successful transportation systems. Concepts and practices such as “sustainable transportation hubs”, the use of technology, and the impact of transportation to the economy and healthy communities will be investigated.
- **Communication and Engagement Strategy** - Communication and engagement with stakeholders and the general public will be an essential part of the crafting and evaluation of the RSTP. An appropriate strategy will require communicating out the development of the RSTP, as well as engaging stakeholders and partners to collect feedback on preferences and options.
- **Multiple Account Evaluation** - Planning evaluations are required to properly develop and choose strategies and investments. The use of a multiple account evaluation (MAE) framework allows for the communication of a complex range of criteria and planning scenarios, providing for the central tool in collaborative decision making.
- **Analytical Tools and Data Preparation** - The application of the latest data collection methods and analytical tools is integral in the development of modern transportation plans. The preparation of analytical tools and data preparation will begin prior to Phase 2. This will include the preparation of survey and field-collected data, and the calibration of the regional transportation model to current conditions.

The scope, process, and budget of Phase 2 will need to be defined and confirmed. The work of Phase 1 and 1B will provide a solid foundation from which the development of the RSTP can be made.

1.0 Introduction and Overview of RSTP Process

1.1 Motivation

Faced with increasing growth in the Central Okanagan, the prosperity and quality of life in the region will be challenged from a number of fronts. Transportation is one of the key areas that impact the social, economic, and environmental goals of the region. However, these goals can be mutually supportive or conflicting, and the complex nature of the intertwined facets of the built and natural environments calls for understanding and actions guided by a strategic approach.

To address transportation issues, local and provincial governments have developed their own transportation plans and initiatives. Although these plans address the needs of their jurisdictions, transportation issues do not respect political boundaries and can spill-over across the region. Therefore, there is a need to support and synchronize local transportation plans, as well as planning and operating the transportation system as an integrated multi-modal system. A holistic approach to address transportation issues at a regional level must be coordinated at all levels of government, and with multiple partners and stakeholders.

A region-wide strategic transportation plan will be required to tie together various elements and conflicting issues in order to create a consolidated, balanced and equitable strategy. Essentially, this plan will be the blueprint that describes the ideal regional transportation outcome for the Central Okanagan, while supporting the local sustainable transportation needs reflected in all of the STPCO member policies. Collectively, addressing the livability and economic well-being of the region, will best support the local aspirations and quality of life.

1.2 Governance & Business Need

The recent establishment of the Sustainable Transportation Partnership of the Central Okanagan (STPCO) provides a collaborative environment in which the alignment of the transportation goals of each of the partner local governments can be made. By working together and establishing a common plan, initiatives and investments can be coordinated that best meets both local and regional needs. Working together demonstrates that the Central Okanagan is one of the most promising and progressive regions in the Province of B.C. and Canada to invest transportation infrastructure dollars. The STPCO proposes to achieve regional transportation goals by working together to plan, coordinate, manage and monitor the regional transportation system.

A Regional Strategic Transportation Plan (RSTP) is the central plan and activity of the STPCO. As defined in the Sustainable Transportation Partnership MOU between the Local Governments of the Central Okanagan that defined the purpose and intent of the STPCO, specific objectives outlined pertaining to the development of a RSTP were:

- to establish region-wide unified policies and strategic transportation plans

- to establish a region-wide monitoring program to measure and provide feedback towards the achievement of sustainability goals

The development of a Regional Strategic Transportation Plan is the key first step towards the achievement of the STPCO's goals. As the main business plan for the region's transportation future, the Regional Strategic Transportation Plan provides the "capstone" strategy to identify, plan, and direct the achievement of the desired transportation future for the Central Okanagan.

1.3 Planning Process

It is proposed that a Regional Strategic Transportation Plan be undertaken in three phases:

1. Phase 1: Pre-Planning (this phase) – where the current state of the region is identified; a collective set of values and Vision for the region's transportation system is defined; and an analysis is made to identify "gaps" between these two states, including desired targets to be met within a planning horizon (e.g. 20 yrs). The initial project will focus solely on Phase 1 in order to confirm scope, budget and funding sources to move forward with Phase 2.
2. Phase 2: Plan Development – where a range of solution scenarios or suite of programs and projects to "bridge" the "gaps" (as discussed in Phase 1) is identified, and a "selected scenario" is chosen to move forward with. The last part of this phase is the development of a business case around the scenario that identifies the benefits, costs and implementation/timing.
3. Phase 3: Post-Planning – where the value of the investment defined in the "selected scenario" is communicated to potential partners such as senior governments and the private sector to attract funding and investments. Projects are further developed in detail and implemented. Outcomes of transportation investments are monitored and evaluated over time with any remedial actions identified to achieve mid-term targets.

1.4 Outcomes and Expectations

The following are outcomes and expectations of the completed Regional Strategic Transportation Plan (RSTP):

1. The RSTP will be used to identify investments and scope out projects, define programs, specify budgets and required funding. The plan is essentially the business case for an improved and sustainable transportation system.
2. The RSTP will start with, and incorporate, local and provincial plans previously developed. The policies, targets, and desired outcomes of these plans will be used as the basis for which the RSTP is developed.
3. The role of the RSTP will primarily be to integrate the various plans into a coordinated and collaborated regional strategy, while being sensitive to local needs and ensuring local autonomy.

4. The RSTP will be used to guide the implementation of projects and programs, including the identification of partners and their contributions, timelines of initiatives and ultimately used to evaluate the outcomes of transportation investments.

The expectation of the RSTP is for it to be a collaborative and collective business case based on planning best-practices that will be used to attract the attention of senior government funding for the region. Considering senior governments as “investors” seeking high return on investment, having a plan developed as a complete business case will attract their interests.

1.5 Phase 1 Scope

At the December 18, 2013 STPCO Board meeting, the following recommendations were presented by staff:

- i. Direct staff to proceed with Phase 1*
- ii. Direct staff to create a Planning and Technical Subcommittee that reports to the CAO Committee and consists of senior planning staff from partner local governments*
- iii. Direct the Subcommittee to develop the Strategic Transportation Plan*
- iv. Apply to senior governments for funding and assistance to support the development of the Plan.*

After deliberations, the Board unanimously voted:

“to seek approval by each council for Recommendations 1 & 2 (which include council and public consultation), then subject to their approval, move forward with Recommendations 3 & 4.”

The scope of Phase 1 is to define and develop the higher-level vision, values, and principles that will be used to establish the foundation for the development of the RSTP. A harmonized set of transportation policies will be summarized to guide the plan, including the identification of a set of issues to provide the context of challenges the plan will be required to address. The following tasks define the scope of Phase 1:

- **Identify transportation issues/opportunities:** There are a number of barriers or constraints that can hinder the sustainable development of a transportation system. Identifying these issues will help to define the “problem statement” that the RSTP will be developed to address.
- **Define the current state and trend:** An understanding of the current transportation demands and travel patterns within the Central Okanagan provides the basis for an informed transportation planning framework. The recent 2013 household travel survey and corresponding 2007 survey can be used to provide the changes and estimate of trend in the travel choices and behaviours of residents in the region.

- **Consult with elected officials and regional residents:** At the December STPCO Board meeting, it was agreed that elected officials and residents of the region be consulted to help define the values and vision from which the planning will be based on and ultimately be designed to achieve. Online surveys were conducted to obtain input from these stakeholders.
- **Define Values and Vision Statements for the RSTP:** The values of a region such as the Central Okanagan define the identity and aspirations of the collective communities. Values can be used to define the ultimate state or Vision of the transportation system, succinctly defining the aspiration of the RSTP in a meaningful and clear manner.
- **Define the policy direction for the RSTP:** With an understanding of the values and collective vision of what the transportation system can be, and the issues that may hinder its realization, a set of policy directions can be defined to provide the general guidelines in the development of the RSTP. These policy directives should be based on local, regional, and provincial policies, to ensure alignment and compatibility amongst plans at all levels.
- **Conduct a gap analysis:** An assessment of the “gap” between where the region wants to be (as per the “vision statement”) relative to its current state, will provide a qualitative estimation of the challenge and level of effort facing the development of the RSTP. This “gap analysis” will frame the context and scope of Phase 2, the RSTP development phase.

2.0 Transportation Issues

2.1 Regional Issues Areas

In order to identify and consider regional transportation issues that will frame the challenges facing the RSTP, overarching issues need to be identified. The following is a grouping of **36 regional issues areas** (Figure 1) into seven sustainability categories that define the three sustainability domains of which are typically considered to make up the goal of sustainability.

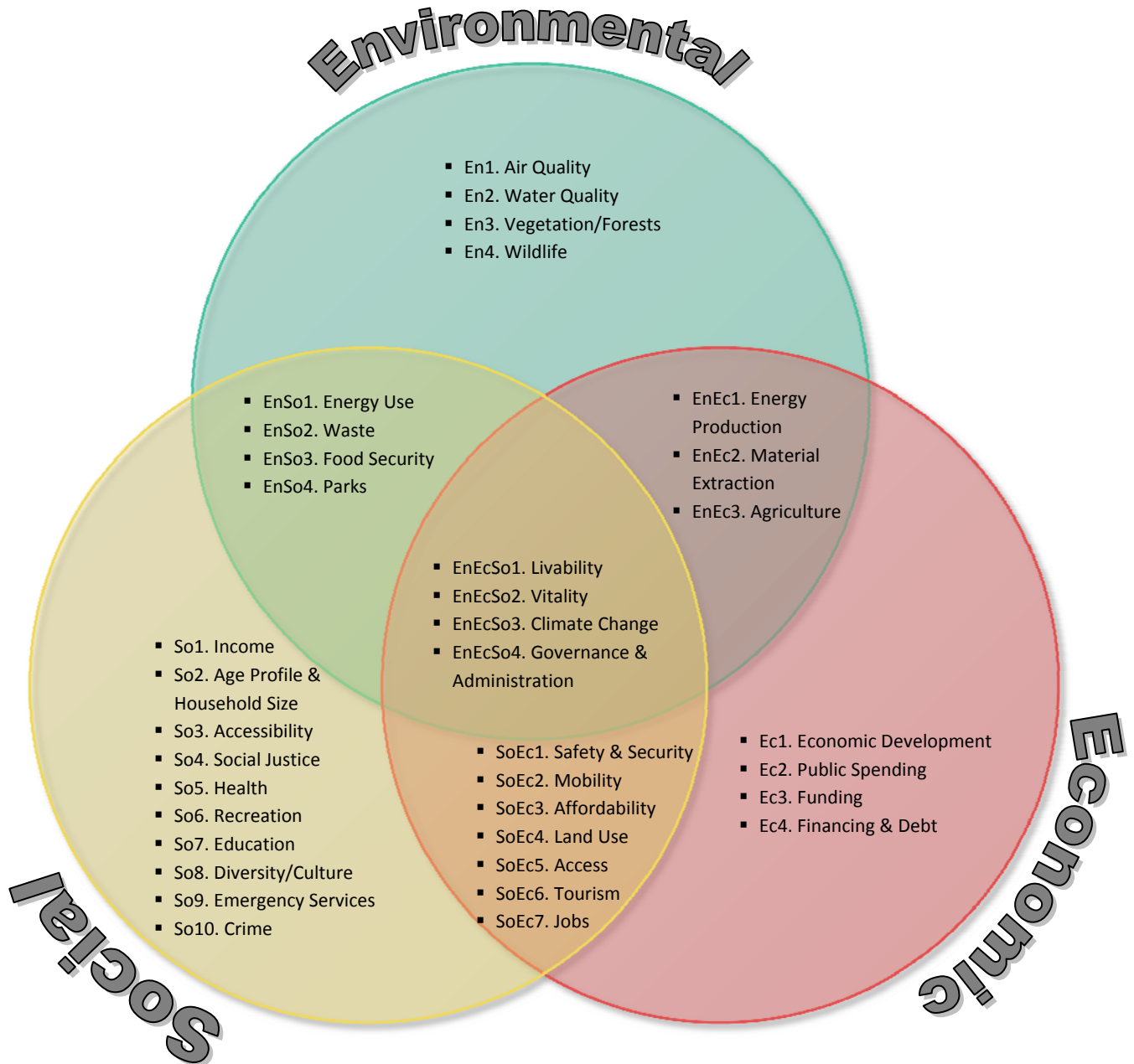


Figure 1. Identification and Categorization of Regional Issues Areas

Sustainability Domains:

1. Environmental
2. Social
3. Economic

Sustainability Categories:

1. Environmental
2. Social
3. Economic
4. Environmental-Social
5. Environmental-Economic
6. Social-Economic
7. Environmental-Economic-Social

The 36 identified regional issues areas grouped within the seven sustainability categories provide the basis for which to consider and identify related transportation issues. **Appendix A** provides a list of each of these regional issue area and their linkages to transportation issues. As can be seen, transportation spans and impacts most aspects of society, the economy, and the environment. In addressing transportation issues, the development and implementation of solutions should consider a wider, holistic framework.

2.2 Regional Transportation Issues & Opportunities

Transportation issues are topics that are of significance or value to society and can be the key to achieving the goal of a sustainable transportation system. Issues are also areas where “friction” between competing goals, policies, or end-points can occur. It is therefore important to identify issue areas that are relevant to transportation and consider their significance in achieving the region’s goals.

The following transportation issues have been identified as a cursory set of issue areas that define both the problem and potential opportunities in which the region’s transportation system can be improved. Furthermore, they can eventually be the basis of policy development designed to address these issues.

2.2.1 Highway Improvements and “Regional Roads”

The road, highway and bridge network is the main backbone of the transportation system of the region, with Highway 97 as the main corridor that connects the local communities together, and to other regions outside of the Central Okanagan. Virtually all modes rely on or use this road network. A vibrant region requires citizens and visitors to have efficient mobility within the region (intra-regional travel) and to/from the region (inter-regional travel). With the various economic, residential, and social zones spread across the region,

residents from one area commonly travel to other areas of the region for work, school, and play.

However, in the past decades, roads have symbolized an unsustainable transportation system, which may not be a fair assessment given the social and economic significance of roads. This judgement mainly stems from the fact that the use or demand for automobile travel during peak periods is what causes the negative impacts such as congestion and excess emissions.

Congestion is the main negative impact citizens and visitors of the region experience directly on a daily basis. However, congestion can be a self-regulator by reducing further latent demand from adding to the road system. Overall, congestion can be seen as both a negative (e.g. delays, emissions) and a positive (e.g. reduces further demands, indicator of an attractive region) consequence of the transportation system.

In developing the current road network to support an overall sustainable transportation system, capacity improvements must be made, although the capital and operating costs can be significant. Furthermore, the development of the road network should align with community and land use strategies, reducing the propensity for land-use “sprawl” and therefore increased auto use over other modes. Viewing the road network as a whole network at the regional level, regardless of jurisdictional boundaries, provides opportunities for local governments to work together to develop a road network that supports sustainable land use strategies (further discussions on defining a regional road network is presented in Section 8).

The approach in developing the road network should consider safety and sustainable practices of road design over a complete life-cycle framework. Corridors should be identified and retained in a timely manner to ensure future needs support and connect, rather than segregate communities. And the efficient and safe movement of people and goods, vs. simply vehicles, should be the objective and main indicator of road system productivity.

Overall, the development of the road network is viewed as a key driver to the success of sustainable transportation as the need to expand the network must be balanced and aligned to sustainability objectives.

2.2.2 Automobile Use

Driving alone in an automobile is the most common form of travel in the Central Okanagan, comprising of over 50% of all automobiles on the road over a typical weekday. The single-occupant vehicle (SOV) mode is also considered the main unsustainable mode of travel given the amount of energy and emissions expended per person-km of travel.

However, some business services require employees to drive alone and therefore the objective to reduce SOV trips may conflict with economic goals. As the SOV mode will most likely continue to be the primary mode of travel in the region for the foreseeable future, a combination of government action, business leadership, and personal choices will be required to make significant headway in reducing SOV trips.

“Carpooling” or “ridesharing” is a common method of travel in the Central Okanagan, with 16.5% of trips made as a car passenger. When combined with 66.7% of auto driver trips, the average automobile occupancy rate in the region was found to be 1.25 persons per auto in 2013.

With the majority of vehicle travel being SOV trips, in which aggregately there is ample capacity in the form of passenger seating, there is a large opportunity for these trips to be converted to HOV or high-occupant vehicle carpooling trips. The difficulty lies in the ability for people to be willing to share their rides and find suitable ride partners beyond their personal networks. Advocacy and promotional initiatives (i.e. carpool.ca) provide a means to share rides. However, when the opportunities to share rides are present, in some cases carpools and vanpools can be more efficient than transit from a perspective of net GHG and fuel use per passenger-kilometre.

2.2.3 Transit (Public Transit, School and Inter-city transit)

Transit has been identified as a key mode in the achievement of sustainable transportation, and generally the only practical alternative form of travel to the automobile for long-distance trips and mobility-challenged members of society. Given the amount of resources required to provide an adequate transit system in the Central Okanagan to service routes throughout the day, the cost in operating transit exceeds the revenues it generates. Furthermore, the expansion of transit services through additional routes/coverage, capacity or higher frequencies, adds to the subsidies required for transit. With limited funding sources for transit, not only is expanding the system a challenge, but simply maintaining the current system as costs inflate over time, is the priority.

An understanding of the demand and customers is key to optimising the limited transit resources to service the transit market. This requires the collection of demand information such as ridership over time and across the transit network, development of service standards to ensure adequate service levels and build a sense of expectation for transit riders, and the coordination of transit planning between local government and BC Transit partners.

Overall, transit is a costly mode for governments to operate, maintain, and expand. To increase ridership, the transit system should integrate with other modes of transportation. However, unless a net ridership increase is a shift from the auto driver mode, increases to transit ridership may be a neutral (at best) or negative shift.

2.2.4 Active Transportation

Active transportation includes all human-powered travel, with walking and cycling the typical categorizations for urban travel. Active transportation can play a key role as the main mode of travel for shorter-distance trips. However, there are a number of issues that need to be considered, such as facility/infrastructure design, safety & security, and interaction with motorized vehicles, as well as between themselves (e.g. safety conflicts between pedestrians and cyclists in heavily used corridors are becoming a common occurrence). As access to transit stops requires walking, the support for adequate pedestrian facilities will also leverage investments in transit.

Most of the local governments consider active transportation as the highest-priority mode and have developed plans and established facilities to support increase walking and cycling.

2.2.5 Demand Management / Social Marketing

There are generally two ways to manage and improve a transportation system. The first is to change the supply of infrastructure and services. The second is to influence the demand for travel, or apply transportation demand management (TDM) or social marketing initiatives. TDM initiatives can be a range of incentives or disincentives, such as marketing, education and awareness, programs to support alternative modes, and pricing. Typically incentives are applied initially; however disincentives, such as pricing are typically the most effective means of altering inefficient demand.

TDM initiatives augment and enhance the transportation system, designed to influence the use of the system in alignment of transportation policies and goals. There are a number of “carrot” TDM initiatives such as community partnerships (i.e. Transportation Management Associations & parking brokerage, car sharing, etc.), social marketing, telecommuting, carpooling, and active transportation facilities, are designed to incent a shift towards sustainable modes. “Stick” TDM measures are generally related to pricing and supply, with initiatives such as parking (cost and supply), tolls, and auto ownership costs being applied to shift use away from the automobile.

Although TDM initiatives can be relatively inexpensive, they can produce significant impacts to the demand for travel. Alternatively, TDM initiatives can be cost prohibitive if they do not translate to the expected changes in travel patterns. A combined and balanced approach is required to ensure cost effectiveness of any TDM program.

2.2.6 Safety & Security

The safe travel from one location to another can be considered as the utmost importance. However, safety can be taken for granted as incidents are rarely encountered compared to every-day travel. Incidents such as vehicular collisions not only cost society hundreds of millions of dollars a year in injury and property damage, they can increase the levels of congestion significantly during peak periods.

Safety and security, perceived or real, is not limited to automobiles but a key factor in deploying walking and cycling facilities, as well as in transit vehicles where the protection of both riders and drivers is paramount. The identification and improvement of unsafe and unsecure elements of the transportation system should be a key part of the overall transportation planning strategy.

2.2.7 Goods Movement & Economic Development

Transportation plays a key role in the development and support of a region’s economy. Transportation provides the means to an end for vital economic activities such as commuting to work, the delivery of goods, and the access to businesses. However, a growing economy typically requires an increase in infrastructure and energy use, putting pressures on the environment and creating social impacts. Can the economy grow while increasing the sustainability quotient of the region?

To support the local, regional, and provincial economy, as well as ensure for the needs of society, the movement of goods and delivery of services is critical to the livability and vibrancy of a region. However, the movement of goods via trucks or rail can come with undesired by-products such as noise, emissions, vibration, and safety concerns.

2.2.8 Vehicular Emissions

On the whole transportation is one of the largest consumers of energy in the province. Transportation is also the largest contributor to greenhouse gases (GHGs) in the Central Okanagan. GHGs are related to climate change and can affect local communities through severe weather patterns. Other emissions such as SO_x, NO_x, particulate matter, and volatile organic compounds (VOCs) can affect the health of citizens directly.

Many of the transportation policies and targets are aimed at reducing vehicular emissions, with provincial and local targets seeking to reduce emissions, such as a 33% reduction in GHGs from 2007 levels by 2020—a target which has been similarly adopted by member municipalities. The region has adopted an extended GHG reduction target of 80% below 2007 levels by 2050.

2.2.9 Land Use-Transportation Interaction

The Region is made up of various communities that make the Okanagan a unique place to live, work and play. How local governments design the communities is very important to the health and well-being of its citizens, as well as the identity, culture, and significance of the Okanagan within the Province of B.C. The land use decisions that have created the current land use patterns have directed and influenced investment in infrastructure and transportation systems, which in turn have contributed to impacts on personal health, local economies, and the natural ecosystem.

Historical land use decisions have tended to support lower-density, automobile-oriented and fringe development. These decisions and land use patterns have created our travel behaviours and levels of activity, impacting health through a person's level of physical fitness, pollution exposure and community interaction. Growth management and careful community design to encourage more physical activity will help reduce the risk for developing chronic conditions and see multiple benefits in the form of increased physical activity, less sedentary time in cars, and less air pollution. Managing growth will also ensure agricultural lands—the heart of the local economy and landscape—are preserved for generations to enjoy. Promoting a healthy community and a corresponding healthy lifestyle will make our regional community an attractive place where people want to live, work and play.

The interaction of transportation and land use can be viewed as a two sided-coin. Transportation can impact the development and type of land use, and conversely, land use can impact the development and service levels of transportation. Furthermore, as the population increases, there are pressures to spread out the growth of development relative to the cost of land and desire for space, which can conflict with policies of densification and suppression of sprawl. There are tools designed to deal with this interaction in the development process such as traffic impact assessments, however the adequacy or efficiency of these tools are limited and developments that consider the

sustainable interaction between land use and transportation is possibly the most significant issue that should be addressed.

Population is one of the core drivers for the demand for travel, influencing the patterns of land use. With the Okanagan being one of the most desirable places to live in Western Canada, the population of the Central Okanagan is projected to grow significantly within the next 20-30 years. The make-up of the population is also a key determinant in the type of travel demand imposed on the transportation system, with retired seniors having differing travel patterns and needs compared to students or those in the workforce.

The specific interface between transportation and land use lies in the connecting points such as transit stops for transit riders, and parking spaces for automobiles. Automobiles and trucks travelling into and within this region as a destination are influenced by the supply and price of parking. As such, in order to manage the demand for parking, regulations and policies are in place to control the time, use, and space available for parking. However, a balance is required as the availability of on and off-road (i.e. shopping malls) parking supply is critical to the convenience of residents and visitors and the growth of the local economy. Yet excessive supply may continue to support an auto-dominant culture.

Special generators, such as the airport, hospital, and post-secondary institutions, play a key role in the quality of life for not just the Central Okanagan region, but neighbouring regions as well. Access to these special generators is important and, in many cases, timely access is critical and requires adequate road infrastructure and operations. These special generators can also have unique trip patterns and intensities, affecting the load onto the transportation system and eventually its performance.

3.0 Current State and Trend of the “Travel Market”

An understanding of the current state of the transportation system in terms of the demand and travel patterns of the “travel market” provides a sense of the challenges facing the development and implementation of the RSTP. Various surveys and data collection activities have been conducted in the Central Okanagan over the years, including the 2nd iteration of household travel surveys conducted last fall in 2013.

3.1 Travel Survey Results and Trends

Travel surveys administered to regional residents provide a “market assessment” of travel patterns, behaviours, and demands. In 2007 and 2013, household travel surveys were conducted to obtain travel data that provided snapshots of the state of the travel patterns of residents. The data obtained between the six year period allowed for a trend analysis of travelling for the first time in the region. This information provides data over a 24hr period representing a typical weekday. Insights as to the reasons and methods of travel can be “mined” from attributes of the resulting databases, such as:

- Trip purpose – why do residents want to make a trip?
- Origin /destination of trips – where did they start from and where did they go? How far did they travel?
- Mode of travel – how did they get there?
- Time of travel – when did they start their trip and when did they arrive?
- Age groups – do travel patterns differ by age groups?
- Trip totals – how many trips does the average resident make over a typical day? What is the aggregate number of trips made by all residents of the region?

Some key findings of the 2007 and 2013 surveys for the region include:

- A total of 571,600 trips originated from the Central Okanagan on a typical 2013 fall weekday, up 11% from 515,200 daily trips in 2007.
- 11% increase in total number of trips (all modes) in the region compared to 2007. The majority of this increase was observed in the peak periods, which can exasperate congestion levels during commuting times.
- 20% of trips originating in the Central Okanagan cross municipal boundaries (e.g. Kelowna to West Kelowna). For example, for all trips (any mode) originating from Kelowna, 90% stay in Kelowna, while 10% of trips are destined to areas outside of Kelowna.
- Kelowna is the main trip destination in the region: 430,000 of the trip destinations in the region are to Kelowna and of those 90% originated from Kelowna, 7% are from Westside (e.g. WFN, West Kelowna and Peachland), and 3% are from the north (e.g. Lake Country and Vernon).

- A 2.7% decrease in the auto driver modal share region-wide to 66.7% in 2013 compared to 2007.
- A doubling of transit modal share to 4.3% region-wide.
- An increase in active transportation mode shares from 7.2% in 2007 to 9.8% in 2013 region-wide.

The **key finding** is that the **Auto Driver Mode dropped from 69.4% to 66.7%**. This 2.7% drop represents the net gain towards increased sustainable transportation. Figures 2-4 provide high level results from the travel surveys.

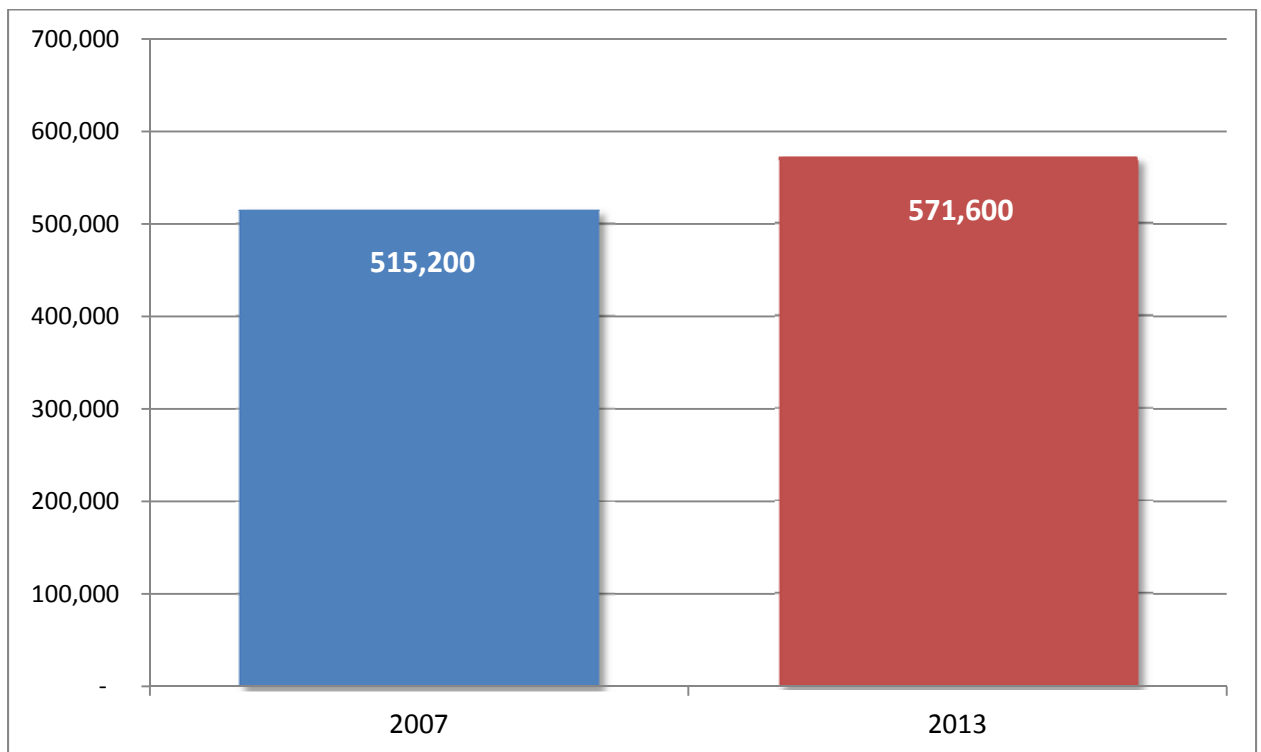


Figure 2. Change in Total Trips by Regional Residents, 2007 to 2013

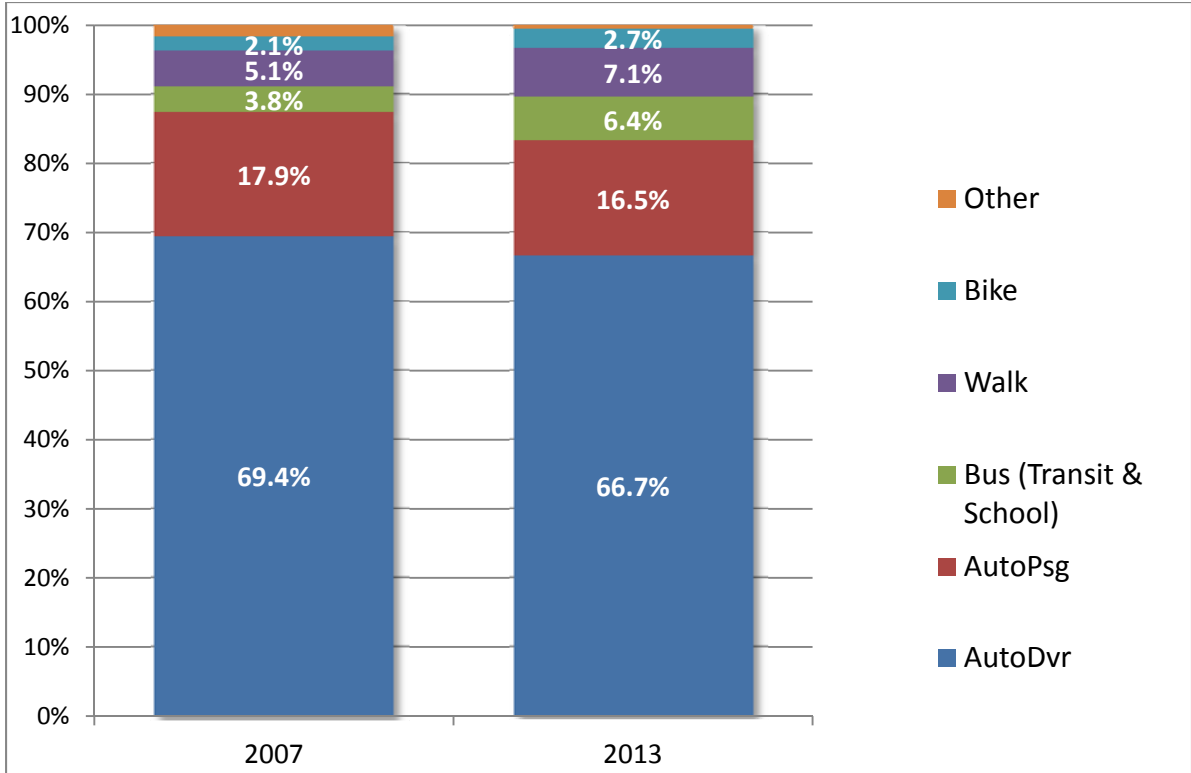


Figure 3. Change in Mode Shares, 2007 to 2013

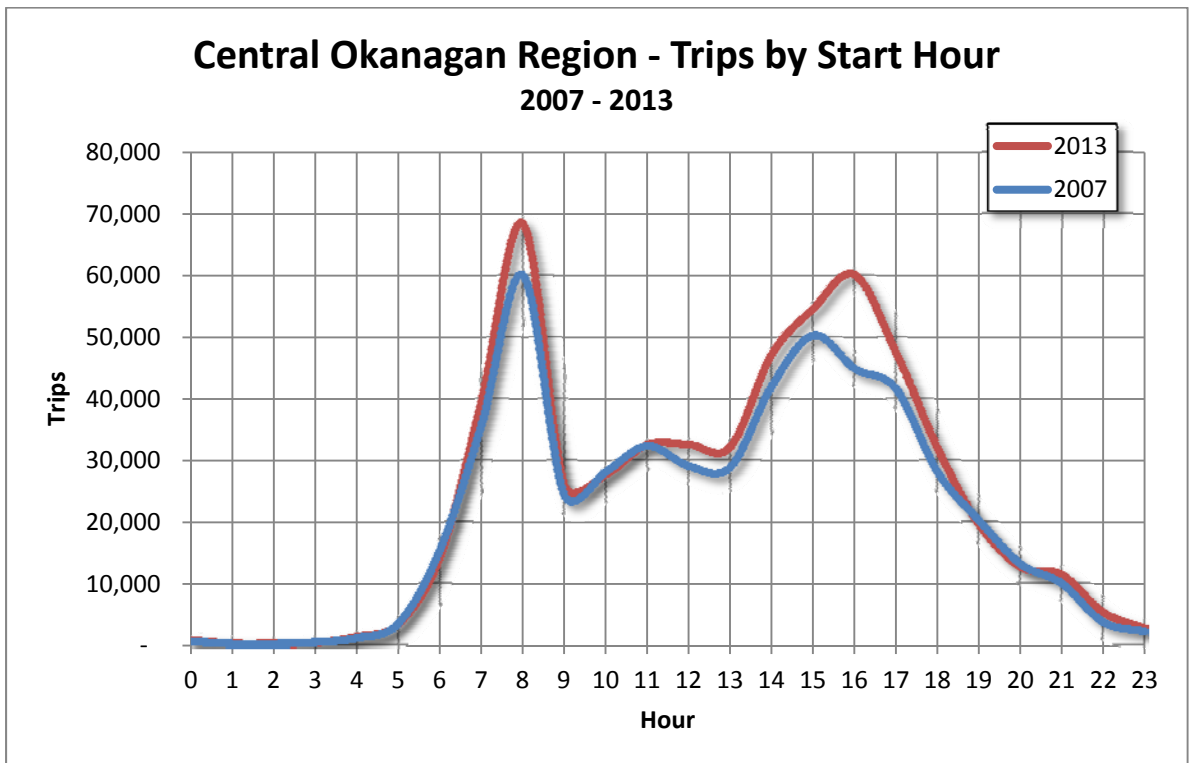


Figure 4. Total Trip by Starting Hour, 2007 to 2013

3.2 Status Updates

The following provide brief updates regarding the status of transportation programs and services.

3.2.1 Transportation Demand Management (TDM)

Background

- 1995 - The City of Kelowna's Transportation Plan was adopted, and with it the recognized need for coordinated TDM.
- 1998 - City of Kelowna & the Regional District, developed the Regional TDM Business Plan. Key elements included: regional structure for the function, measurable goals for reducing single occupant vehicle (SOV) use, and a range of tools to accomplish goals. TDM became regional in 1999
- 2007 - Regional TDM Workshop held October 11, 2006. The purpose was to learn/refresh knowledge about TDM, review history of TDM in Central Okanagan, and look ahead at TDM possibilities, challenges and opportunities.
- 2013 – TDM Refresh. Workshops were held and plan developed for new partners within the STPCO.
- Today - Partnership among City of Kelowna, District of West Kelowna, District of Lake Country, District of Peachland, Regional District of the Central Okanagan, and Westbank First Nation. Initiatives range from infrastructure improvements (providing transportation options) to programming (encouraging and facilitating changes in transportation habits).

Outcomes

A number of initiatives originated from the TDM program to date:

- Kelowna Cycling Master Plan; Kelowna Sidewalk Master Plan
- Transit programs such as UPASS
- Employee ProPass
- School Travel Planning
- School Traffic Safety Officer
- Parking management integration with TDM goals
- Social Marketing e.g., Bike to Work, I-Walk,
- Transit Marketing e.g., Customer Service, RapidBus
- Ride matching service – carpool.ca
- Neighbourhood Travel Programs
- Regional website development as information portal (smartTRIPS.ca)

Future Opportunities

- Incorporate TDM to community planning to ensure the sustainability and maintain the livability of our communities over the long term
- Reach regional political support, consistency and standards
- Improved tools to support businesses and organizations to implement their own TDM programs
- Use of technology
- Potential to use both incentives and disincentives to increase use of sustainable modes

3.2.2 Transit

Two Transit plans have been developed for the Central Okanagan in the last 10 years:

2005 Smart Transit Plan

Goals

- Work with stakeholders to develop a vision for sustainable or smart transit for this region
- Develop guidelines for encouraging transit-supportive land use development, or smart growth
- Develop a business plan to direct transit investments to achieve the transit vision

Outcomes

- Original concepts for Rapid Transit, Rapidbus Phase I and II and concepts for Frequent Transit Network. Focused on a frequent and reliable transit service linking town centres.
- Recommendations for Transit Oriented Development on Westbank town centre, Westside town centre, Kelowna downtown, Pandosy town centre, Orchard Park, Rutland town centre and UBC Okanagan.

2012 Transit Future Plan

Goals

- Attract new riders, deliver operational excellence, improve Transit sustainability, improve custom transit utilization

Network goals:

- Direct connections between regional and local major destinations
- Transit priority will be in place on Frequent and Rapid Transit corridors to reduce travel time
- Transit service is convenient, comfortable and easy to understand
- Transit service is modern and attractive

Outcomes

- Service plans that include the North South corridor (Gordon Drive), Glenmore, The Lakes, and completion of Rapidbus Phase

Future Opportunities

- Transit integration with land use, road network, growth and other modes
 - Use the regional model to evaluate transportation and land use interactions
 - Develop scenarios and evaluate impacts to the overall transportation system
- Explore Regional significant hubs, regional connectivity and regionally significant transit services
- Regional transit service standards and performance measures
- Explore various growth scenarios: Working with local staff (i.e. PTSC), test various Transit supply and network (heavy transit, medium, low), land use scenarios, impact to overall transportation system (other modes), evaluate growth and policy scenarios

3.2.3 Active Transportation

In the Spring/Summer of 2011 there was consensus among regional partners to incorporate a recommendation to the Regional Sustainability Steering Committee (RSSC) to develop the Central Okanagan Regional Active Transportation Master Plan utilizing Gas Tax.

Goals

- Identify and review existing and planned Active Transportation corridors in each jurisdiction
- Identify gaps and key inter-regional connections (priority links)
- Consult on possible cross sections/treatments
- Develop process to equitably distribute available funds (\$2.2m)

Outcomes

- Network concepts:
 - Primary 'spine' system, Secondary 'connector' system
- Infrastructure standards:
 - Fully Separated Active Transportation Facilities, Partially Separated Active Transportation Facilities, Shared Roadway/Active Transportation Facilities
- Defined prioritization criteria
- Comprehensive plan with primary/secondary routes, facility types, prioritization and priority projects
- A number of projects across the region originated from this plan

Opportunities

- Integration with Local Pedestrians and Bicycle plans
- Modal integration to minimize modal cannibalism
- Ability to evaluate scenarios: the current demand forecasting model doesn't assign active transportation to the network, but estimates modal share

4.0 Consultation & Engagement

4.1 Council and Public Consultation

As requested by the Board, consultation of elected officials and regional residents was conducted through the use of online surveys during the months of May and June 2014. The purpose of the consultation was to seek preliminary input into the values and policies of residents from the region.

A total of 16 elected officials completed the survey, resulting in a 43% response rate (out of 37 total elected officials invited). For the public survey, 260 residents completed the survey, or a 32.8% response rate (from 792 invited).

The survey instrument and detailed results are provided in **Appendix B** (elected officials consultation) and **Appendix C** (public consultation). High-level results are provided below (full results in **Appendix D**).

4.1.1 Ranking Score of Issues Importance

Asked to rank six issue areas, the average rank score is shown in Figure 5 for elected officials and regional residents. On average, the top issue for elected officials was the Economy, while for residents, it was Health. On average, the lowest issue for elected officials was Crime; for regional residents it was Transportation. Transportation was ranked the 4th important issue by elected officials.

Although ranking provides a sense of order (i.e. 1st to 6th place), the degree of separation between average scores is not as large between most issue areas.

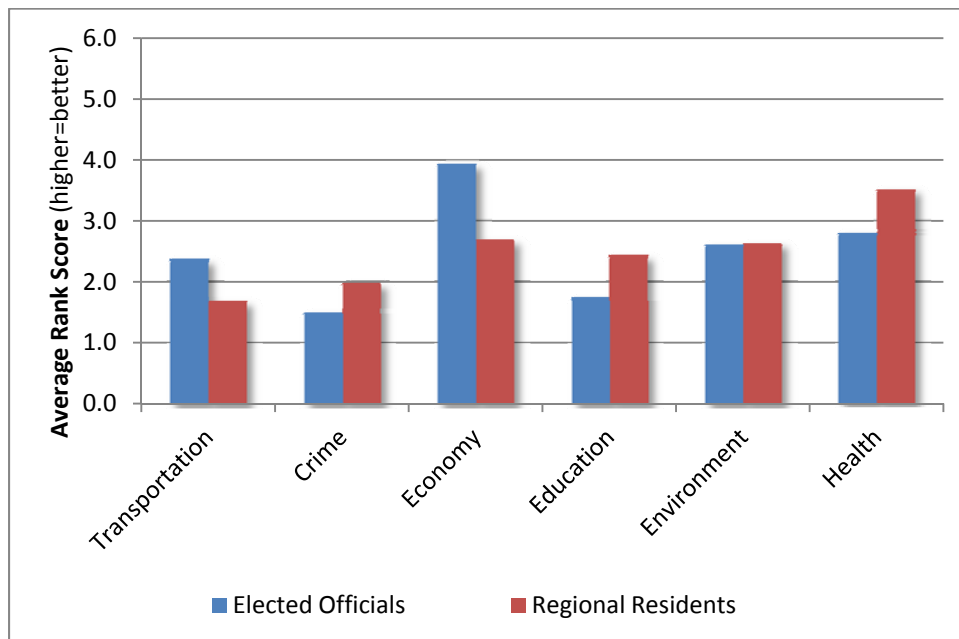


Figure 5. Average Rank Score of Issues Areas

4.1.2 Rating of the Example Vision Statement

Survey respondents were asked to rate the example vision statement using the following rating scheme:

<u>Rating</u>	<u>Rating Value</u>
▪ Excellent	4
▪ Good	3
▪ Acceptable	2
▪ Needs Improvement	1

Example Vision Statement:

“A balanced transportation system for the Central Okanagan that moves people and goods in a safe, efficient, accessible, and affordable manner, while supporting and enhancing the region’s economy, social network, and natural ecosystem.”

Figure 6 summarizes the response from the elected officials, showing an average score of 2.4 out of a high 4.0 (rated between ‘Acceptable’ and ‘Good’), while Figure 7 summarizes the response from regional residents, showing an average score of 2.8 out of a high 4.0 (rated between ‘Acceptable’ and ‘Good’).

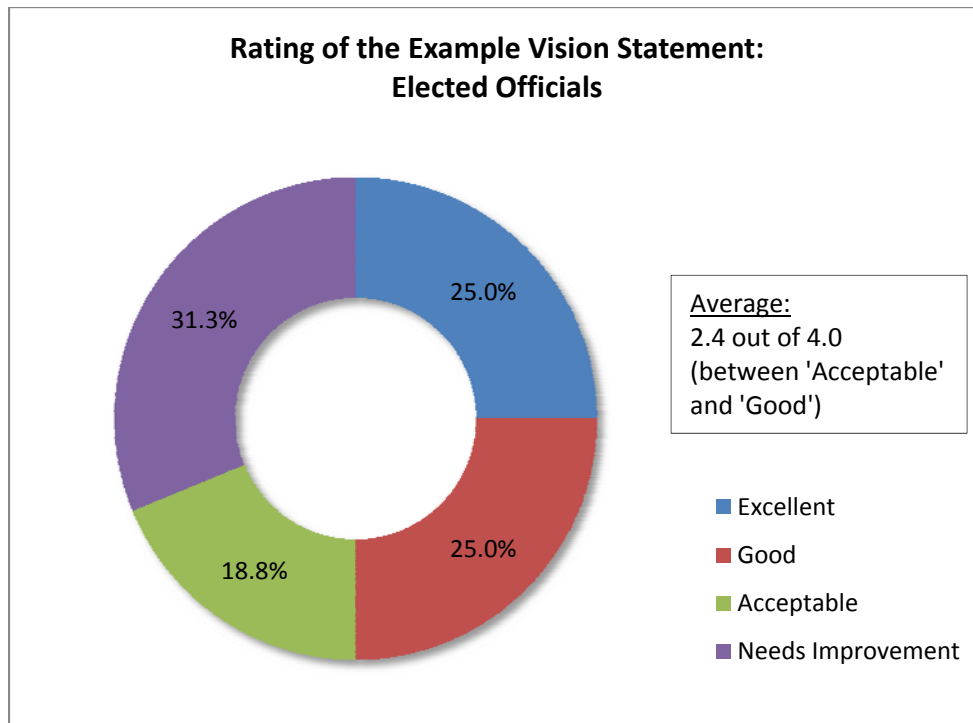


Figure 6. Rating of the Example Vision Statement – Elected Officials

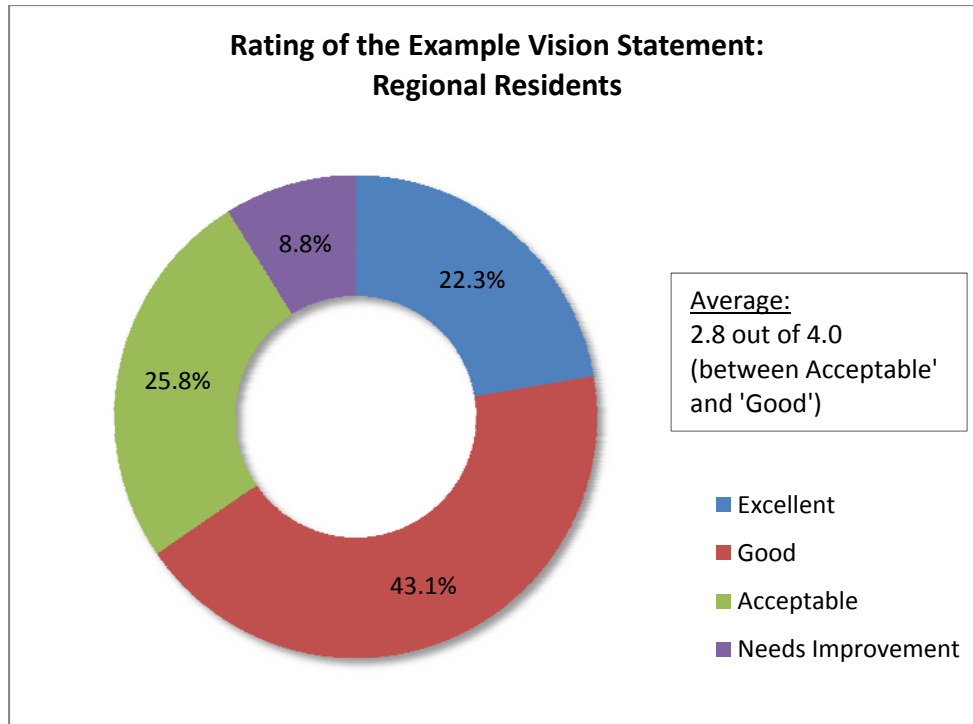


Figure 7. Rating of the Example Vision Statement – Regional Residents

4.1.3 Rating of Transportation Policies

A number of transportation policy categories were posed to respondents, asking them to rate each policy from a scale of 1 (not very important) to 5 (very important). The policies were:

- a. "Develop a connected multi-modal transportation system ensuring connections between automobile, transit, walking and cycling modes."
- b. "Accept current congestion levels"
- c. "Increase transit use"
- d. "Increase cycling"
- e. "Increase walking"
- f. "Increase carpooling/ridesharing"
- g. "Reduce single-occupant vehicles"
- h. "Increase densification in town centers"
- i. "Ensure transportation investments are affordable to residents"
- j. "Funding for all modes of transportation should be based more on user pay vs. subsidized"

Results for each of the policies are shown below:

Policy Category	% Importance - Elected Officials	% Importance - Regional Residents
Develop a connected multi-modal transportation system ensuring connections between automobile, transit, walking and cycling modes.	88.8%	85.5%
Accept current congestion levels	60.0%	61.9%
Increase transit use	86.3%	79.8%
Increase cycling	80.0%	75.9%
Increase walking	81.3%	81.8%
Increase carpooling/ridesharing	70.0%	72.2%
Reduce single-occupant vehicles	78.8%	71.4%
Increase densification in town centers	91.3%	72.2%
Ensure transportation investments are affordable to residents	88.8%	85.2%
Funding for all modes of transportation should be based more on user pay vs. subsidized	70.0%	64.3%
Average Level of Importance:	79.5%	75.0%

4.1.4 Evaluation Criteria Weights

An evaluation framework is planned to be used to assess plan scenarios and select the best plan for the region to move forward with. Based on a multiple bottom-line of the Economic, Environmental, and Social criteria, survey respondents were asked to weight these criteria by allocating a total of 100 percentage points to each. The resulting weights can be incorporated in to the evaluation framework, better representing the values of the region.

The responses revealed that the Economic criteria was weighted the highest with elected officials weighting Economic at an average of 39.5%, while residents weighed Economic at an average of 35.6%. Elected officials weighed Environmental and Social criteria at 31.2% and 29.3%, respectively, while regional residents weight both Environmental and Social criteria at 32.2%.

The results are shown together in Figure 8.

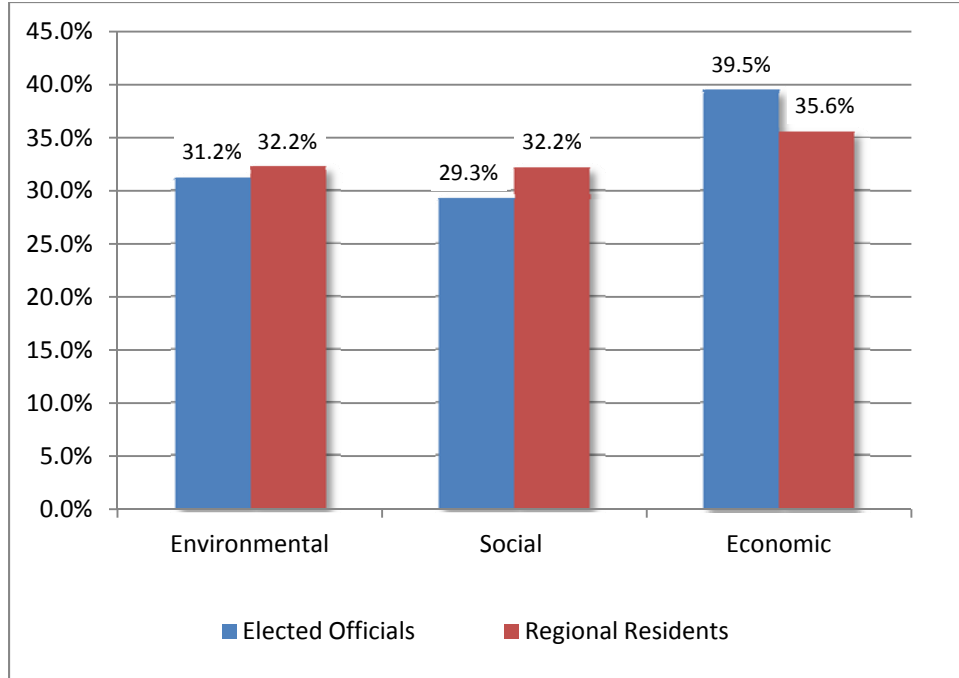


Figure 8. Evaluation Criteria Weights

4.2 Provincial Agencies

Initially, engagement with the two primary provincial transportation agencies—the Ministry of Transportation and Infrastructure and BC Transit—will be required to establish an understanding of their planning processes. Alignment between local and provincial processes and provincial input and support to the development of the RSTP will be important to its success.

4.2.1 Ministry of Transportation and Infrastructure (MoTI)

Ministry officials met with the Planning and Technical Sub-Committee on April 3, 2014 to provide an overview of their planning and projects programming process, and to discuss opportunities to collaborate on the RSTP. It was agreed that MoTI and STPCO:

- share data & information
- consult each other on expertise
- better understand mutual evaluation processes & triggers
- share input (programming) and analysis of projections

Ministry officials noted that the planning feasibility of a second crossing across Okanagan Lake is currently in progress. The Corridor Planning work, between Peachland and West Kelowna, is also currently in progress. As the timing and location of these projects could have a significant impact on the growth of the region, it was agreed that working together on the RSTP will be important to align provincial and local planning, which is vital to the success of the overall regional transportation system.

4.2.2 BC Transit

It is universally understood that transit must be planned as part of an integrated multi-modal system. Although infrastructure and services can be deployed in isolation, users of the system view their trips from a door-to-door perspective, requiring connection to multiple modes on a single trip. Supporting transit in the RSTP will be critical to the success of not only transit, but the system as a whole.

5.0 Values & Vision

The essential goal of a strategic transportation plan is to achieve a collective vision of a region of communities. A transportation vision is an end state that describes a region's goals and desires for what their transportation system could be in the foreseeable future. A vision statement succinctly illustrates this vision to communicate broadly the commitment of a region's collective aspirations.

5.1 RSTP Value Statements

The values of a region shape its transportation vision. Essentially, the vision is the embodiment of the values the citizens of a region uphold and aspire towards. The values of the Central Okanagan have been identified as:

- **Safe** – A transportation system in which people and goods are transported safely is paramount.
- **Efficient** – A system where energy, emissions, costs, and travel times are minimized.
- **Sustainable** – The basis for the transportation system is founded on the goal of sustainability where over time the development and use of the system results in a net positive benefit to the society it serves.
- **Affordable** – The transportation system is affordable from the perspective of user costs and local tax payers.
- **Adequate** – The transportation system is adequate and resilient enough to meet the varying demands of travellers, business, and industry within defined service levels and affordable costs.
- **Economical** – The system supports the regional and provincial economy while being expanded, maintained, and operated in an economical manner.
- **Equitable** – A goal to ensure equal value to all road users, with the understanding that people have the right to choose how and when they travel while being accountable for the impact of their choices.
- **Accessible** – While the system is to be designed and operated equitably, to ensure those that have limited accessibility are supported with appropriate measures.
- **Socially Responsible** – Minimize social impacts such as noise, visual, and community segregation, while supporting the social needs of the region and linking activity centres efficiently and safely.
- **Environmentally Responsible** – The Okanagan is known for its natural environment with industries supported by its natural assets. Minimize, environmental impacts from the expansion, maintenance, and operation of the transportation system.
- **Increased Choices** – Provide an increase in the variety of travel choices to users through an integrated multi-modal system, with increasing support to modes that provide greater sustainability benefits.

- **Quality Service** – A quality service approach is to be used to transport citizens in an appropriate and courteous manner.
- **Accountable** – Manage the transportation system, in consultation with stakeholders and the general public, in a manner that holds decision makers and administrators accountable through the measurement of progress towards defined targets and goals.

Although each of these values have merit in their own right, it is understood that values may conflict with each other. The key to a successful strategic transportation plan is the understanding of these conflicts and their consideration in the development of the strategy.

5.2 Draft RSTP Vision Statement

The following is the draft vision statement for the RSTP that tries to succinctly combine the values identified into a clear and meaningful manner.

“A balanced and resilient transportation system for the Central Okanagan that moves people and goods in a safe, efficient, accessible, and affordable manner, while supporting and enhancing the region’s economy, social network, and natural ecosystem.”

It is recognized that although a vision statement needs to be complete and embody the overall goal of the RSTP, a simpler and “easy to remember” phrase or slogan, as well as possibly a logo, could provide a means to brand the RSTP to increase attention, recognition and value to the planning process and eventual plan development. An example is provided below:



6.0 Principles and Policies

6.1 Planning Principles and Strategic Approach

Transportation is a derived demand as a result of a desire to access another location for a specific purpose at a certain time using a chosen mode of travel. The “consumers” of transportation represent the “transportation market” that forms the demand for travel. This transportation demand is constrained by the various transport capacities and services or “transportation supply” available to this market. As a result of the combination of the “demand” and “supply” of transportation, competition for space and resources can result in inefficiencies that increase the cost of transport to the providers (agencies) and individual consumers.

An understanding of the fundamental principles can lay the foundation in developing a strategic approach and policy direction that ensures optimal use of limited funding and resources, while moving the region towards a greater degree of livability and sustainability.

6.1.1 Livability and Sustainable Transportation

The concepts of livability and sustainable transportation are important to define, as livability can be considered the general goal of man-kind, and sustainable transportation providing the definition of a transportation system that supports this definition of livability. A definition of livability can be taken from the *Partners for Livable Communities* website:

“Livability is the sum of the factors that add up to a community’s quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.”¹

Essentially, livability refers to quality of life that is defined by the communities with the following characteristics:

- Resilient Built and Natural Environments
- Rich and Diverse Culture and Social Networks
- Vibrant and Prosperous Economy
- Equitable and Affordable

Within the overall context of sustainability, there are many possible definitions of “Sustainable Transportation.” One example of a definition of Sustainable Transportation that reflects most of the high order values and aspirations of many urban regions was adopted by the European Union in April 2001²:

¹ <http://livable.org/about-us/what-is-livability>

² The emergence of the term sustainable development as a concept in the public arena can be traced back to the Brundtland Report (officially titled “Report of the World Commission on Environment and Development: Our Common Future”, United Nations World Commission on Environment and Development, <http://www.un->

“A Sustainable Transportation System is one that:

- *Allows the basic access needs of individuals to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations.*
- *Is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy.*
- *Limits emissions and waste within the planet’s ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise.”*

Therefore, a sustainable transportation system supports a community’s livability.

Based on the above definition, in simple terms a sustainable approach to developing a transportation system, whether at the regional scale or at the level of a specific facility or corridor, is one that meets mutually reinforcing economic, social and environmental objectives; financial and efficiency targets, adequately addresses users’ needs and is environmentally sound.

6.1.2 Collaboration through a Holistic Perspective

In order to undertake the challenge in meeting the goals of sustainable transportation and the creation of livable communities, a team-approach is required amongst various institutional organizations—organizations that not only govern spatial jurisdictions, but organization and industry leaders that also oversee functions such as transit operations, traffic management, road operations, parking provisions, emergency services, and land development. The complex nature of a multi-modal transportation system further necessitates the need for regional coordination in all aspects ranging from strategic planning to design, and the upkeep and operations of the system.

Initiatives such as Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS) require increasingly high-degrees of coordination, especially with the large numbers of institutional organizations partaking in regional-level coalitions. Regional coordination is also essential in the creation of “**competitive economic ecosystems**”, as healthy economies provide a solid foundation from which **stable funding can be established** to support sustainable transportation systems. Furthermore, through regional coordination, the resulting “**unified voice**” is advantageous when advocating and competing for limited senior government funding.

In order to develop plans that reflect the goals and aspirations of the collective communities of the Central Okanagan, a holistic approach to transportation planning is required. Even though this is challenging in a multi-agency environment, ideally the approach to planning should be seamless and seek:

documents.net/wced-ocf.htm, 1987), commissioned by the United Nations World Commission on Environment and Development in 1987. The definition offered at that time was: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

- **Sustainability:** Support broad sustainability goals in terms of the transportation system’s social, economic and environmental impacts.
- **Community Values and Aspirations:** Fully reflect individual community values within broader regional aspirations.
- **A Multi-modal Scope:** Ensure that all transport plans and projects are developed within the context of a complete multi-modal system appropriate for individual communities and the region as a whole.
- **A Complete System-View:** Rather than implementing piecemeal solutions, plan, develop and finance transportation as one coherent multi-modal system for the cost-effective and efficient movement of people and goods.
- **Needs-Driven Planning:** Explicitly develop transport policies, strategies and plans that contribute to meeting the community’s social, economic and environmental needs.
- **Value Outcomes vs. Outputs:** Focus on transportation outcomes in terms of how people travel and the choices they make that add value to community livability, rather than outputs in terms of specific projects.
- **Cost-Effective Solutions:** Prioritize the implementation of least cost solutions in achieving the desired outcomes.

6.1.3 *Competition and Varying Demand*

A focus of this plan should be the revisiting of the roles of the various transportation modes and infrastructure needs in light of their effectiveness given the competitive nature within the market of choices for travel. Furthermore, the uptake of a particular mode will naturally slow down as it grows, with the marginal cost of attracting additional shifts towards a particular mode increasing. An understanding of the socio-economic factors behind mode choice will better establish realistic expectations and support the development of a more feasible and affordable transportation system.

Overall, it is without question that equity and effectiveness in the provision of transportation infrastructure and services can only be truly realized with a multi-modal viewpoint, and a modal-bias (e.g. unconditional prioritization of one mode over another vs. considering the context of a particular situation to select the best balance of modes) only limits the ability to achieve a sustainable transportation system. A perspective of “modal neutrality” is not only a sustainable approach, but a realistic one that will meet the needs of all transportation system users without polarizing groups within communities, or building factions and fragmentation amongst modes.

6.1.4 *Focused and Coordinated Policy Instruments*

The establishment of policies should result in an action plan to achieve. This typically requires policies that are written with intent and objectives defined with tangible and measurable targets.

Clear and focused policy instruments are required to ensure objectives are met and success can be measured. Policy instruments can be in the form of regulations, programs

and services, or investments in infrastructure. These instruments should be developed and focused to ensure they address the policies for which they are designed. However, they should also be developed and deployed in a coordinated manner, sensitive to other policies such that they are mutually supportive, and not in conflict. Otherwise, unintended consequences may arise and reduce the expected effectiveness and return-on-investment.

6.1.5 *Appropriate Funding and Governance*

The STPCO is a transportation governance model that enhances the currently existing local governance structure. The STPCO is a model that is designed to be able to evolve as needed such that the degree of structural formalization can be increased as needed. Such would be the case if a significant amount of additional funding was required to support a large-scale development of the regional transportation system. Increased budgets and responsibilities would require a fortified governance structure to allow it to implement, operate, and maintain a larger and more complex transportation system efficiently.

6.2 Policy Direction

A statement of Regional Transportation Policy Direction provides guidance as to the process and intent of high-level outcomes. Based on transportation policies of local government plans (**Appendix E**), the draft policies below identify principles with which the plan will be developed and guided:

1. Support, influence, and align with local OCPs, Transportation Master Plans, and the Regional Growth Strategy, as well as Provincial and Federal policies to establish cooperative planning and funding environments.
2. Invest in transportation infrastructure and services that support concepts of Smart Growth, vibrant neighbourhoods and communities, and livable cities, and a vibrant and prosperous economy based on sustainable practices.
3. Support the development of a safe, resilient, adequate, accessible, equitable and sustainable transportation system, with efficient access within and into the region, including the airport.
4. Support sustainable transportation modes, which include walking, cycling, transit, and carpooling, in an integrated and mutually supporting manner through the expansion of infrastructure and programs, as well as options and convenience for these modes relative to age groups and travel purposes.
5. Support and advocate the use of incentives and disincentives to increase sustainable travel choices.
6. Support the reduction of on-road transportation GHG and pollutant emissions, ensuring the marginal impact of investments provides a reduction of emissions from the status quo.

7. Base investment decisions on multiple-bottom-line business case approaches that ensure more efficient and affordable infrastructure and services, while identifying and addressing externalities such as the cost of air pollution and other impacts.
8. Consider a holistic and multimodal scope to minimize unintended consequences that may erode the positive impact of investments and decisions. An appropriate yet effective standardized Multiple Account Evaluation (MAE) should be adopted and used for all major investments and planning processes as the basis of business casing.
9. Coordinate planning and decisions through an effective and accountable governance structure and assessed for success based on evidence through a complete and thorough monitoring program.
10. Seek adequate, stable, predictable, and sustainable funding sources beyond local property taxes that link to usage demands and travel choice with subsidies provided mainly towards the “incubation” of cost-effective sustainable modes and initiatives to an extent of eventually weaning off subsidies.
11. Consider pricing as a form of sustainable revenue to fund the operations, maintenance, and investments of all modes, as well as a feedback signal to incent efficient use, and funds generated to be used to further support sustainable behaviours and demands by users.

7.0 Gap Analysis

A “gap analysis” provides an assessment of the difference between where the region wants to be (as per the “vision statement”) relative to its current state. This represents the qualitative estimation of the challenge and level of effort required in developing a RSTP that can guide the region towards achieving its transportation vision. This “gap analysis” is also intended to frame the context and scope of Phase 2, the RSTP development phase.

7.1 Summary of the Current State

The recent results of the 2013 household travel survey shows a decrease in the per capita use of automobiles. With a drop of 2.7% in the auto driver mode share since 2007, this represents a significant progress towards a sustainable transportation system. However, this does not mean that the levels of congestion will decrease, as the total number of daily trips grew by 11% from 515,200 in 2007 to 571,600 in 2013. Furthermore the majority of trip growth has been in the morning and afternoon peak periods, which can exasperate levels of congestion.

With increases in population estimated in the future, the total number of trips will go up in kind. Ideally, this growth will occur more in the off-peak periods and measures such as TDM can be used to incent people from making trips during the peak periods and start their trips either before or after the peaks. Likewise, increases in transit service that competes with the auto driver mode can shift auto drivers into transit, thereby reducing the number of vehicles on the road.

A range of TDM initiatives and transit plans have been developed and deployed over the years. Their effectiveness can be measured in the increase of active transportation and bus mode shares between 2007 and 2013: cycling up from 2.1% to 2.7%; walking up from 5.1% to 7.1%; bus ridership (transit and school) up from 3.8% to 6.4%. However, the drop in auto passenger mode share from 17.9% to 16.5% is of concern.

With the majority of trips in the region made as an auto driver (66.7% mode share), the main goal of the RSTP should be in the reduction of trips by this mode.

7.2 Summary of the Region’s Transportation Vision

A pre-planning consultation process involved obtaining input from elected officials of local governments and a sample of the citizens of the region. They were asked to provide their input as to the values, policies and vision that the RSTP should be defined by. As discussed in Section 4, most of the transportation policies surveyed were considered important (approx. average of 80% and 75% in terms of importance level), suggesting these policies envelop the general direction of the plan.

Overall it was felt that there is a pressing need to ensure the region’s transportation system is one that is sustainable and meets the region’s social, environmental, and economic needs. A sense of urgency and desire to maintain the quality of life and livability of the unique and diverse communities that make up the Central Okanagan was communicated,

which were reflected in, and reinforced by, the policies and plans of the local governments.

7.3 Gap Assessment and Plan Targets

Current trends show an improvement in the sustainability of the transportation system, with indicators showing a decreased per-capita use of the automobile. However, the values and importance placed on the quality of life and livability in the region dictate that a significant effort may be required in order to improve, if not simply maintain, quality of life for the Central Okanagan residents and the attractiveness of the region to visitors.

Commentary input from the pre-consultation surveys suggested agreement and desire for more transit, bike lanes, and walkways—essentially support for sustainable transportation. It was also suggested a balanced approach is important to ensure all members of society can benefit from the plan. Furthermore, it will be important to consider younger and older members of society by providing adequate services and infrastructure for those that do not own, or cannot drive, an automobile.

Planning targets are based on key indicators that represent the progress and effectiveness of policies, plans and investments. Targets are the measure in which success can be defined and set the standard to which a region is held accountable. Targets can also be the main focus of attention post-planning, and therefore caution is required in ensuring targets are defined properly. Targets are also the focus of scenario development, as the suite of investments required would need to be identified that can allow the achievement of targets for a given horizon year. Therefore, the establishment of targets should be done with adequate planning, analysis, and information base to ensure targets are both realistic yet challenging enough to cause positive change.

To illustrate the use and establishment of targets for the RSTP, a set of targets can be established for short/medium/long-range horizon years. Based on a main target to reduce the automobile driver mode share (or conversely to increase the sustainable transportation mode share which includes active transportation, transit, and auto passenger modes), targets can be set for each of these horizon years.

A key consideration would be the aggressiveness or level of investment that is agreed to (i.e. choice of scenario) as this would define the levels of the targets. If an aggressive approach is taken, an **example set of targets**, based on a current auto driver mode share of 66.7%, could be:

- Short-Term: example 65% by 2020 (net reduction of 1.7% from the base year)
- Medium-Term: example 63% by 2025 (net 2% reduction from the short-term)
- Long-Term: example 60% by 2035 (net 3% reduction from the medium-term)

The progression of targets may seem small, however the marginal cost of shifting existing auto drivers to sustainable modes will increase over time given that the “low hanging fruits” have already been “picked” and that the shifting of automobile drivers that currently have yet to shift to alternative modes will become increasingly difficult.

The achievement of such targets will require major changes, such as significantly increased land-use density, in order to be achievable. Local governments will have to play a key role in the achievement of these targets. Furthermore, in the establishment of such targets, an understanding of external factors that may influence travel demand, such as market-driven, demographic, and economic forces beyond local control, should be considered.

Other supportive or secondary targets can be used as diagnostic indicators to monitor and assess the drivers of change. These can be sustainable mode shares, infrastructure and service provision, and development patterns that measure, not just single modes, but sustainable transportation as a whole. **Appendix F** provides a list of possible monitoring indicators and considerations for their use.

As discussed in Section 2, there are a number of issues that will be barriers to the achievement of the RSTP. The success of the RSTP will be in its ability to overcome these issues by turning them into opportunities for positive change. If the RSTP can be successful in achieving its goals, the Central Okanagan can become an example of best practices in sustainable transportation.

8.0 Next Steps

The preliminary scope for Phase 2, Plan Development, is outlined in Section 8.2, which is expected to start in 2015 if approved. Prior to Phase 2, the PTSC can continue to work on pre-planning work items during the second-half of 2014. These are identified in Section 8.1 below.

8.1 Lead up to Phase 2

8.1.1 Regional Road Network

The road network is the backbone to the transportation system, providing mobility and access for automobiles, transit vehicles, cyclists, and pedestrians. Although roads are owned and managed jurisdictionally, the use of roads is inter-jurisdictional as residents of one community can traverse the majority of their trips along roads within other jurisdictions. The aggregate road system in the Central Okanagan consists of a number of road classes ranging from minor and local roads, to major arterials and highways. An informal "natural" major or regional road network exists within this system that is used by residents and visitors to travel between and within communities.

Planning and funding a unified regional road network as a whole can ensure more efficient and equitable intra-regional travel. A formal definition of a regional road network can ensure consistency in standards and quality, safer integration of mixed-modes, smoother traffic flows, efficient movement of goods, and a more intuitive and positive experience for all road users. As the region's roads will develop over time, (i.e. there currently are plans for potential changes to parts of the highway network in the region such as the Corridor Planning and the 2nd Crossing), any defined regional road network should be amendable over time.

Example regions that have established regional road networks are: York Region, Peel Region, Region of Waterloo, Niagara Region, Halton Region, Metro Vancouver, and the San Francisco Bay Area.

It is proposed the PTSC lead the development of a Regional Road Network for the Central Okanagan. This would include the following tasks, followed by an adoption process:

- Define concept / review best practices
- Consultation with local and provincial governments, stakeholders
- Network definition and development (including inventory)
- Develop sub-networks:
 - truck route network
 - transit network
 - bike network
 - HOV network

8.1.2 Foundational Briefings

Over the past decade, new ideas and best practices have emerged in the planning of sustainable transportation systems. Application of technology, multi-modal designs, and linkages to the economy and health have been identified in providing solutions that increase the sustainability quotient of modern transportation systems. It is proposed the PTSC lead the development of “foundational briefings” that provide concise examples and discussions of how these best practices can be used as the basis of plan development in Phase 2.

Planning Best Practices Review

A review of plans from other jurisdictions should be made to identify planning best practices that can be distilled and applied to the development of the RSTP. Specifically, a synopsis of lessons learned, evaluation methods employed, and an assessment of the “return on investments” that other jurisdictions have documented could be made.

Sustainable Transportation Hubs

Urban transportation planning concepts such as transit oriented development (TOD) previously sought to influence transit-supportive development and thereby increase the use of transit. However, with the focus broadened to include active transportation and automobile ride sharing, the concept of sustainable transportation hubs widens the scope of TODs to a broader and more sustainable level. **An example** is Metrolinx’s guidelines³ for the development of their “mobility hubs”:

Seamless Mobility

- Objective 1. Seamless integration of modes at the rapid transit station
- Objective 2. Safe and efficient movement of people with high levels of pedestrian priority
- Objective 3. A well-designed transit station for a high-quality user experience
- Objective 4. Strategic parking management

Placemaking

- Objective 5. A vibrant, mixed-use environment with higher land use intensity
- Objective 6. An attractive public realm
- Objective 7. A minimized ecological footprint

Successful Implementation

- Objective 8. Flexible planning to accommodate growth and change
- Objective 9. Effective partnerships and incentives for increased public and private investment

³ http://www.metrolinx.com/en/projectsandprograms/mobilityhubs/mobility_hub_guidelines.aspx

Transportation Shaped by Technology

Over the past decade, technology has become an increasingly important aspect to transportation systems. “Intelligent Transportation Systems” (ITS) is a growing industry that combines transportation with technology to support sustainable transportation policies of reduced emissions, delays, operator and user costs, and increased safety.

Algorithms combined with sensors allow the transportation system to be responsive to changes to user demands with adjustments in the way signals are timed, transit vehicles are deployed and operated, and the type of information that is deployed to users that support optimal use. With the influx of ubiquitous mobile devices, real-time information is available for system users regarding traffic conditions, transit vehicle arrival times, and parking availability. This information allows users to respond to changes to conditions, thereby altering their demand to better fit the transport system supply. This allows for more efficient servicing of users, while providing savings to users in terms of travel time, convenience, security, and choices.

Technology can also help to significantly improve the planning, design, and operation of the transportation system through the archiving of information from a multitude of sensors in vehicles and along roadways. Therefore, technology can play a key role in the planning of the region’s future transportation system.

Transportation and a Prosperous Economy

As the purpose of a transportation system is to move not just people, but goods, the economic role of the region’s transportation system is an important consideration. A prosperous and vibrant economy is essential for maintaining and increasing the quality of life for citizens of the Central Okanagan. This in turn allows the region to better manage and control their actions to reduce environmental impacts. Therefore, the linkages between a healthy economy, livable communities, and resilient environments, are significant.

The region is home to a number of industrial and institutional zones, special generators, and business districts. Tourism is a key part of the Okanagan economy with visitors from around the world travelling to the region to experience the attractions, products and services available in the Okanagan Valley.

Understanding the linkage between transportation and the economy will support the development of a RSTP that can be leveraged to ensure the region’s shared economy continues to be prosperous for generations to come.

Transportation and Healthy Communities

Livability and quality of life is at the heart of community policies and plans and should also be the focus of a sustainable transportation system. Quality of life starts with healthy communities and the development of communities that encourage healthy travel options is fundamental to the development of an increasingly sustainable transportation system. The linkage between transportation investments, choices, and healthy communities should be further investigated and included as a tenet in the development of the RSTP.

8.1.3 *Communication and Engagement Strategy*

Communication and engagement with stakeholders and public will be an essential part of the crafting and evaluation of the RSTP. An appropriate communication and engagement strategy will be required to:

- Create an understanding and awareness of the project
- Identify and appropriately engage project partners, relevant stakeholders and other community audiences
- Collect required project data from partners and stakeholders
- Identify partner, stakeholder and community values and priorities for future transportation program and infrastructure investment
- Explore transportation options and challenges for partners, stakeholders and the community
- Collect feedback on “transportation scenarios” developed during the planning process to determine a preferred scenario
- Build community trust in the engagement process
- Move the project forward to successful implementation of the preferred scenario

Refer to Appendix G for the draft RSTP Communication and Engagement Strategy.

8.1.4 *Multiple Account Evaluation*

Planning evaluations are required to properly develop and choose strategies and investments. Some of the key questions regarding any transportation investment decisions are:

- What are the characteristics and specifications of the investment?
- What are the impacts of the investment to the region and local areas, both positive and negative?
- Is this the best investment, or are there other alternatives?
- If so, how do they compare?
- How can “intangible” societal values, that frame technically-based engineering projects, be more directly included in the evaluation of projects?

Consistent, reliable and comprehensive assessments of transportation infrastructure and plans are essential in the planning and evaluation process of transport investments. This requires a standard evaluation framework that allows for the comparative analysis of project, plans, or policies relative to societal values such as investment costs (lifecycle), environmental impacts, and social impacts. A Multiple Account Evaluation (MAE) framework can be developed that accounts for “triple-bottom line” considerations such that fair and holistic comparative assessments can be made of a range of options. A standardized MAE employed within an agency allows for the consistent and fair evaluation

of projects or planning scenarios that are assessed relative to the overarching values, goals and policies defined by the agency.

An MAE framework not only provides a central synthesis of all the technical planning and engineering work in the evaluation of options, it also provides the interface with which to communicate and present the technical findings of the planning and functional design studies. Therefore, the criteria used in the MAE framework should embody the values and interests of the decision makers and the society of which it is applied to.

A standard MAE framework will be developed to prepare for Phase 2 of the RSTP.

8.1.5 Analytical Tools and Data Preparation

The development and adoption of transportation plans requires an extensive and holistic process that includes a comprehensive set of supporting activities. The application of the latest data collection methods and analytical tools is integral in the development of modern transportation plans. For instance, data can be seen as the raw materials from which the building blocks of the plan are built, while the analytical tools are the tools and equipment used to build the plan.

A comprehensive understanding of current travel demands by residents and visitors is critical in the establishment of baseline scenarios from which the planning exercise can best anticipate the future. A complete and effective set of analytical tools, which include transportation demand models, is essential in the development of alternate future scenarios and the estimation of the impacts of policy and investment decisions.

The success and efficiency of the RSTP will require quality data and analytical tools to be used in its production. Therefore, the preparation of analytical tools and data preparation will begin prior to Phase 2. This will include the preparation of survey and field-collected data (e.g. 2013 Travel Survey data, recent screenline counts and transit ridership), and the calibration of the regional transportation model (Emme) to current conditions.

8.1.6 Phase 2 Budget

TBD

8.2 Phase 2 Scope and Process

8.2.1 Scope

The initiation of the Strategic Regional Transportation Plan will consider the following scope and elements:

- **Study area:** Central Okanagan, as well as links to adjacent regions.
- **Local Values/Regional Context:** The consideration and balance of regional goals with local values, identifying the collective identity of the region.
- **Multi-Modal:** Consideration of all modes of transportation under an integrated “multi-modal” framework. This includes automobile, transit, and active transportation and considerations for how they relate to each other.

- **Infrastructure and Investments:** Evaluation of the adequacy of the current transportation system and the identification of future demands and supply (i.e. infrastructure and services) within a strategic framework. This would include the identification of various investments towards infrastructure, services, and programs.
- **Land Use-Transportation Interaction:** Consider the significance of the mutual impact of land use patterns to the development of a sustainable transportation system. The development of sustainable transportation hubs can provide anchor nodes that connect major transport corridors that support the overall region. Overall, objective should be to support local land use polices and plans.
- **Demand Management:** Implementation of demand-focused initiatives to influence the “shaping” of travel to better fit within the limited supply of infrastructure and services.
- **Regional Roads:** Continued development of a “Regional Road Network” to establish a “policy map” that identifies regionally-significant roads for purposes of planning and funding. Consideration for the Province’s Corridor Planning in the vicinity of Peachland and District of West Kelowna, as well as the planning of the second crossing of Okanagan Lake, would be required.
- **Technologies:** Application of appropriate technologies to optimize the performance and demand for limited transport infrastructure and resources. This includes the use of technologies to provide more real-time information and controls.
- **Governance and Funding:** A focus on the business case of the plan to increase the potential to attract funding from various sources.
- **Performance Indicators & Evidence-Based Planning:** To ensure the plan is based on sound information to address local, regional, and provincial policy needs and further support the business case towards a collectively desired solution.

The funding of the RSTP development could be sourced from a number of senior government grants. Examples are local, provincial, or federal grants such as the Infrastructure Planning Grant (Municipal Affairs).

8.2.2 Plan Development Process

a. Horizon Year, Goals and targets

Horizon years provide a timeline of milestones in which intermediate and ultimate goals of the RSTP are to be achieved. In addition, the use of specific goals and targets allows for the measurement of success in achieving these milestones. The following horizon years are proposed for the establishment of a RSTP comprised of short, medium, and long-term plans:

- Base Year: 2015
- Short-Term Horizon Year: 2020 (5-Year Plan)
- Medium-Term Horizon Year: 2025 (10-Year Plan)
- Long-Term Plan: 2035 (20-Year Plan)

b. Consultation/Feedback

Although pre-planning consultation was conducted in Phase 1, a more extensive and thorough consultation process will be required in Phase 2. This process would carry through from the start to the end of the plan development to obtain feedback on plan elements throughout the planning process.

c. Scenarios & Options Development

A major step is the development of planning scenarios that would be used as options for what the future transportation system could look like. Scenarios would comprise of a range of capital projects, services, and programs. Themes based on a focus of certain modes or degrees of investment intensities (i.e. low/medium/high investments) could be used to develop scenarios in a meaningful manner. This step could be considered the “qualification of horses for the race”.

d. Modelling & Analysis

Once scenarios are defined, they need to be analysed to see how they perform. Complex regional transportation scenarios typically require computer models that can be used to estimate the performance of a proposed transportation system based on land use and population projections for particular horizon years.

This step is considered the actual “horse race” in which the performances of scenarios are measured to a set of metrics and indicators. The results of the modelling exercises would provide much of the core indicators. However, elements of the transportation scenarios, such as social impacts, that cannot be modelled would be assessed qualitatively by domain experts.

e. Scenarios Evaluation and Choice

Once the “horse race” is complete, it is time to evaluate the performance of the scenarios. Based on social benefit-cost analysis techniques, a multiple-account evaluation would be performed to evaluate the performance of each scenario relative to specific social accounts that are further defined by a set of performance indicators.

The evaluation results would be discussed and shared with decision makers and the general public. From a collective evaluation of the results, a scenario would be chosen that the communities of the Central Okanagan would commit to. Senior Government partners may also be involved to eventually support the implementation of the chosen scenario.

f. Implementation & Phasing Plan

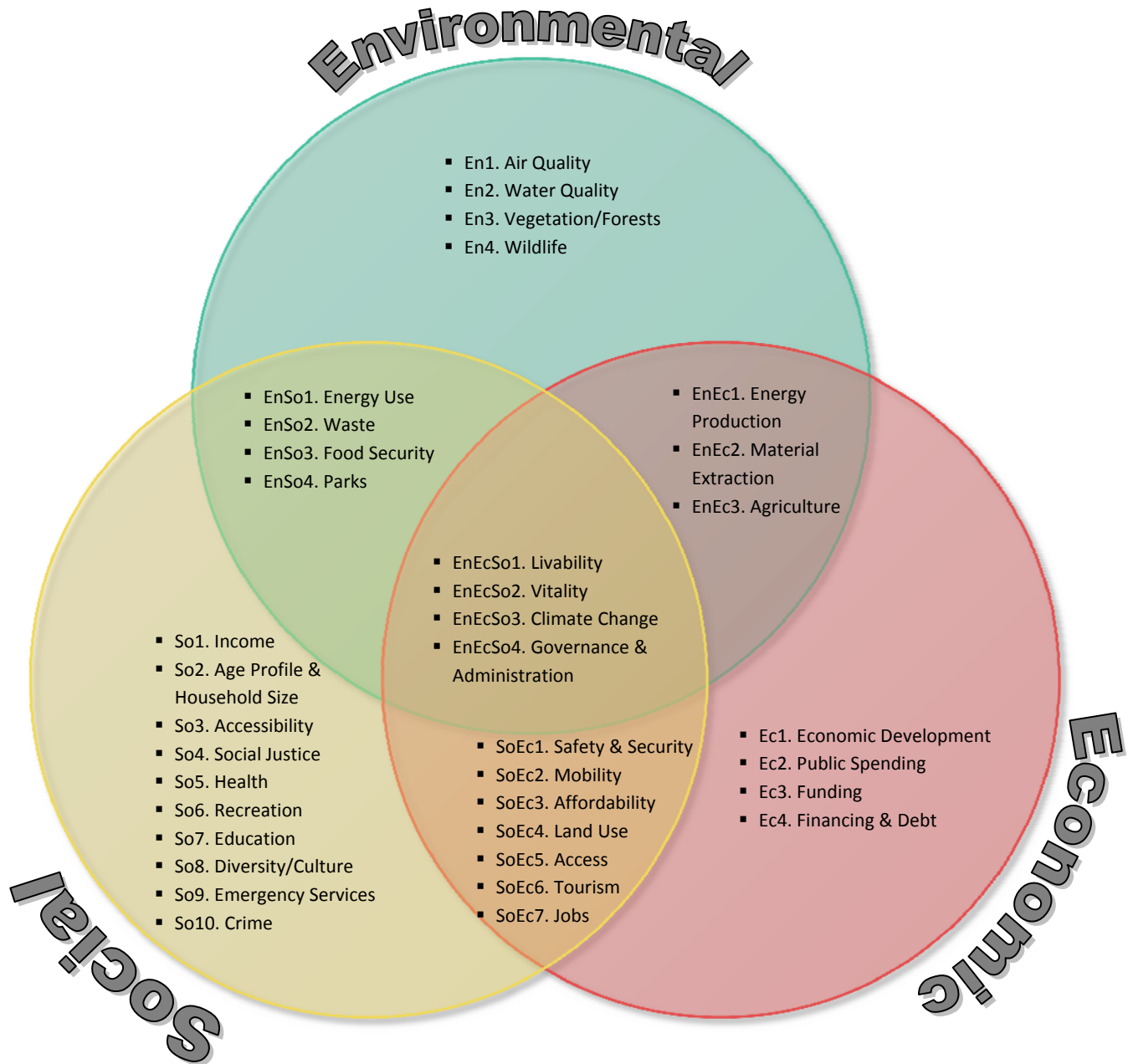
The chosen scenario would effectively define the RSTP and act as the end goal to be achieved in the long-term horizon year (i.e. 2035). However, the bulk of the work will be to implement the various parts of the RSTP in a phased approach. This will require a logical implementation strategy that develops the transportation system in a manner in which future initiatives are leveraged against past initiatives.

Likewise, the timing of investments will require a funding strategy that can ensure the RSTP is developed in a fiscally-sound manner.

g. **Monitoring and Progress Evaluation**

The process of monitoring and evaluation is a necessary process required to complete the “full circle” of accountability within a transportation planning environment. This concept should be no more foreign to the planning process than the balancing of books is required in generally accepted accounting principles (GAAP). Monitoring and evaluation not only provides the verification of outcomes, but conducted on a consistent basis, allows for correction of implementation to increase the likelihood of achieving desired outcomes and horizon year targets.

Appendix A. Regional Issues Areas




Issue ID	Issue Area	Related Issue Areas	Transportation Linkage
Environmental			
En1	Air Quality	Climate Change, Health, Livability, Energy Use	vehicular and roadway emissions
En2	Water Quality	Ecology, Health, Food Security, Parks, Livability	vehicular particulate and oils; road maintenance particulate matter (sand, salt, etc.)
En3	Vegetation/Forests	Land Use, Wildlife, Recreation, Food Security, Parks	road construction, sprawl
En4	Wildlife	Air Quality, Water Quality, Vegetation/Forests, Parks	animal-related collisions, loss of wildlife corridors
Social			
So1	Income	Economic Development, Jobs, Affordability, Social Justice, Waste, Vitality	mode choice, car ownership, willingness and ability to pay
So2	Demographics (population, age profile, household size)	Accessibility, Jobs, Land Use, Affordability, Health, Education, Diversity/Culture, Energy Use, Waste, Energy Production, Livability	trip purpose, mode choice
So3	Accessibility	Demographics, Mobility, Livability	mode choice, design & service levels, paratransit
So4	Social Justice	Income, Diversity/Culture, Livability	mode choice, willingness and ability to pay
So5	Health	Air Quality, Water Quality, Demographics, Emergency Services, Vitality	access to medical facilities, paratransit, active transportation infrastructure
So6	Recreation	Vegetation/Forests, Tourism, Parks, Vitality	mode choice, access
So7	Education	Demographics, Safety & Security, Vitality	mode choice, school bus, trip purpose, safety & security
So8	Diversity/Culture	Demographics, Social Justice, Tourism, Vitality	mode choice, trip purpose, security
So9	Emergency Services	Crime, Health, Safety & Security, Mobility, Access, Livability	access, mobility, congestion/delay
So10	Crime	Emergency Services, Safety & Security	access, congestion/delay, choice of transit and active transportation modes

Economic			
Ec1	Economic Development	Income, Public Spending, Funding, Financing & Debt, Energy Production, Material Extraction, Mobility, Land Use, Tourism, Jobs, Vitality, Governance & Administration	goods movement, commuting, congestion/delay, system operations & expansion
Ec2	Public Spending	Economic Development, Affordability, Funding, Financing & Debt, Governance & Administration, Jobs, Waste	system operations & expansion
Ec3	Funding	Economic Development, Public Spending, Financing & Debt, Governance & Administration	system operations & expansion, service levels
Ec4	Financing & Debt	Economic Development, Public Spending, Affordability, Funding, Governance & Administration	system operations & expansion
Environmental-Social			
EnSo1	Energy Use	Demographics, Land Use, Mobility, Energy Production, Air Quality, Climate Change	energy/fuel efficiency, cost of transport, transport demand, mobile emissions, GHG
EnSo2	Waste	Demographics, Income, Public Spending, Mobility	vehicle life-cycle costs and disposal (capital, maintenance)
EnSo3	Food Security	Vegetation/Forests, Water Quality, Agriculture, Land Use, Affordability, Livability, Climate Change	goods movement, access, land use
EnSo4	Parks	Vegetation/Forests, Water Quality, Wildlife, Agriculture, Land Use, Tourism, Recreation, Livability	recreational trips, access roads, parking
Environmental-Economic			
EnEc1	Energy Production	Energy Use, Demographics, Economic Development, Climate Change	transport costs (energy/fuel prices), GHG
EnEc2	Material Extraction	Economic Development, Agriculture	goods movement, access
EnEc3	Agriculture	Material Extraction, Food Security, Livability, Climate Change	goods movement, access

Social-Economic			
SoEc1	Safety & Security	Emergency Services, Crime, Mobility, Climate Change, Vitality	<ul style="list-style-type: none"> ○ perception ○ vehicles ○ infrastructure (designs, deficiencies) ○ driver attention ○ vulnerable users <ul style="list-style-type: none"> ▪ pedestrians ▪ cyclists ▪ children ▪ seniors ▪ mobility-challenged
SoEc2	Mobility	Economic Development, Accessibility, Safety, Access, Land Use, Affordability, Emergency Services, Energy use, Waste, Safety & Security, Vitality	<ul style="list-style-type: none"> ○ Rate of vehicle growth ○ Congestion ○ Travel Time <ul style="list-style-type: none"> ▪ Reliability ○ Limited access (network redundancy, single route) – freedom of movement for emergencies; goods movement ○ Inter and intra regional connectivity ○ Route choice
SoEc3	Affordability	Mobility, Public Spending, Food Security, Livability	willingness to pay, cost of transport, mode choice, trip distribution
SoEc4	Land Use	Demographics, Economic Development, Energy Use, Food Security, Parks, Access, Livability	<ul style="list-style-type: none"> ○ Land use patterns ○ Urban form ○ Mode choices ○ Demand for travel ○ Parking
SoEc5	Access	Emergency Services, Land Use	access to land, emergency access, goods movement
SoEc6	Tourism	Recreation, Diversity/Culture, Economic Development, Parks	congestion/delay, parking
SoEc7	Jobs	Demographics, Economic Development, Public Spending, Vitality	commuting, trip purpose, mode choice, goods movement

Environmental-Economic-Social			
EnEcSo1	Livability	Air Quality, Water Quality, Accessibility, Demographics, Social Justice, Land Use, Agriculture, Parks, Food Security, Emergency Services, Affordability, Vitality, Climate Change, Governance & Administration	sprawl, travel demand and distance, system expansion
EnEcSo2	Vitality (quality of life)	Income, Economic Development, Health, Education, Safety & Security, Mobility, Recreation, Diversity/Culture, Jobs, Livability, Governance & Administration	mode choice, access, congestion/delay
EnEcSo3	Climate Change	Air Quality, Livability, Food Security, Agriculture, Safety & Security, Energy Use, Energy Production	transport energy and emissions, transport demand, mode choice, travel intensity
EnEcSo4	Governance & Administration	Funding, Economic Development, Public Spending, Financing & Debt, Livability, Vitality	system expansion, transport funding, affordability

Appendix B. Elected Officials Survey



Sustainable Transportation Partnership of the Central Okanagan (STPCO)
Elected Officials Survey

#	QUESTION	Req'd	ANSWER																																																								
1	What local government do you represent?	*	<div style="border: 1px solid #ccc; padding: 5px; width: 100%;"> ---Choose One--- </div>																																																								
2	What best describes the position you hold?		<div style="border: 1px solid #ccc; padding: 5px; width: 100%;"> ---Choose One--- </div>																																																								
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7	<p>Do you have any expectations of the Regional Strategic Transportation Plan? If so, can you comment on them?</p>		<div style="border: 1px solid #ccc; height: 50px;"></div>												
8	<p>Do you have any other comments you would like to share at this time?</p>		<div style="border: 1px solid #ccc; height: 50px;"></div>												

SUBMIT

Appendix C. Public Survey

Sustainable Transportation Partnership of the Central Okanagan (STPCO)
Transportation Values and Policies Survey

[Complete for a chance to win a \$100 Gift Card!]

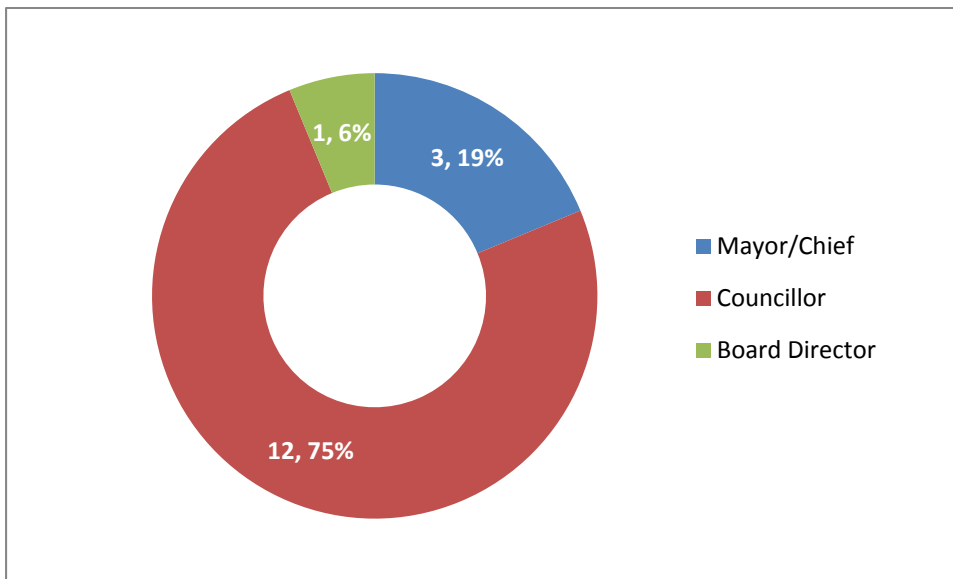
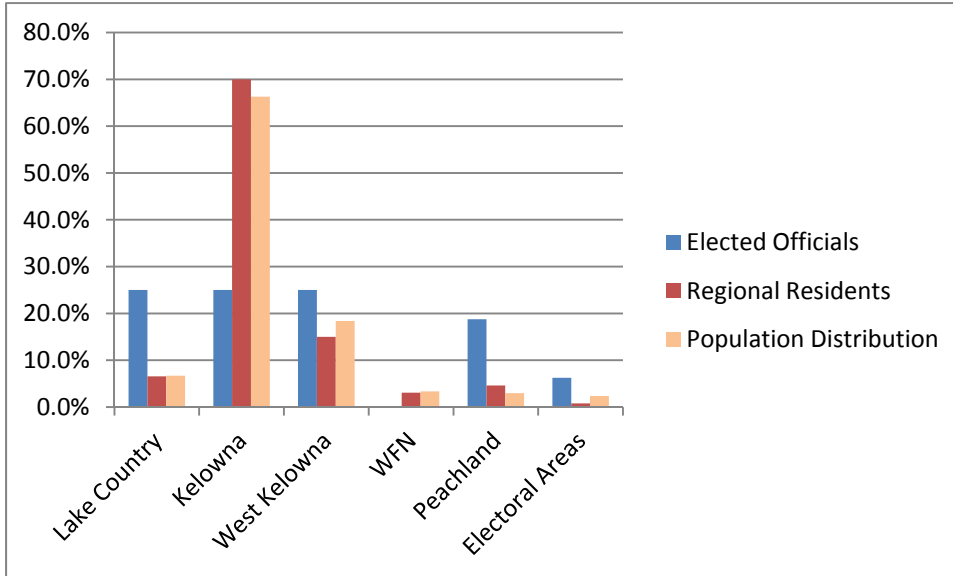
#	QUESTION	Req'd	ANSWER																																																								
1	What local municipality do you live in?	*	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="border-bottom: 1px solid #ccc; margin-bottom: 5px;"> ---Choose One--- ▼ </div> </div>																																																								
2	<p>OPTIONAL: For the prize draw of a \$100 Gift Card, please provide your name, mailing address and either your phone number or email so that we may contact you should you be selected the winner.</p>		<div style="border: 1px solid #ccc; height: 40px; width: 100%;"></div>																																																								
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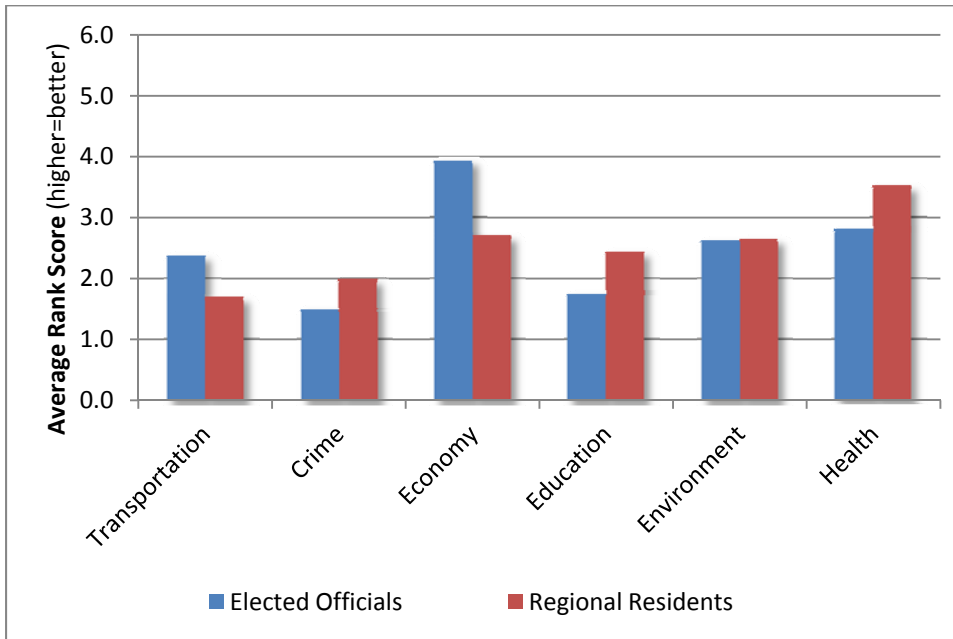
SUBMIT

Appendix D. Survey Results

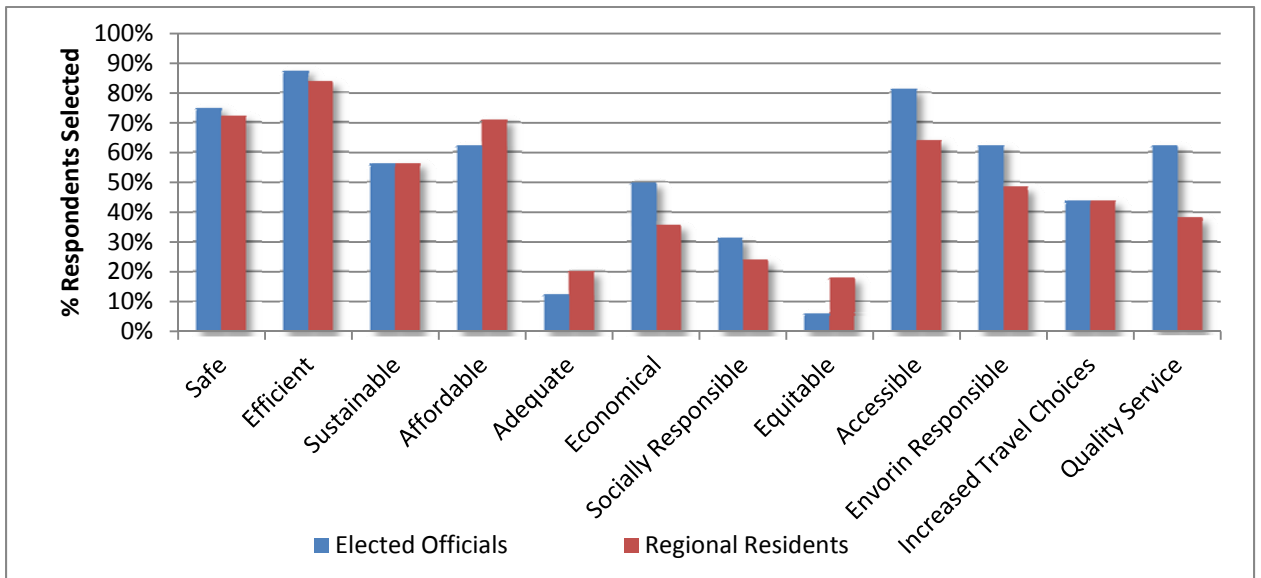
D1. Survey Respondents



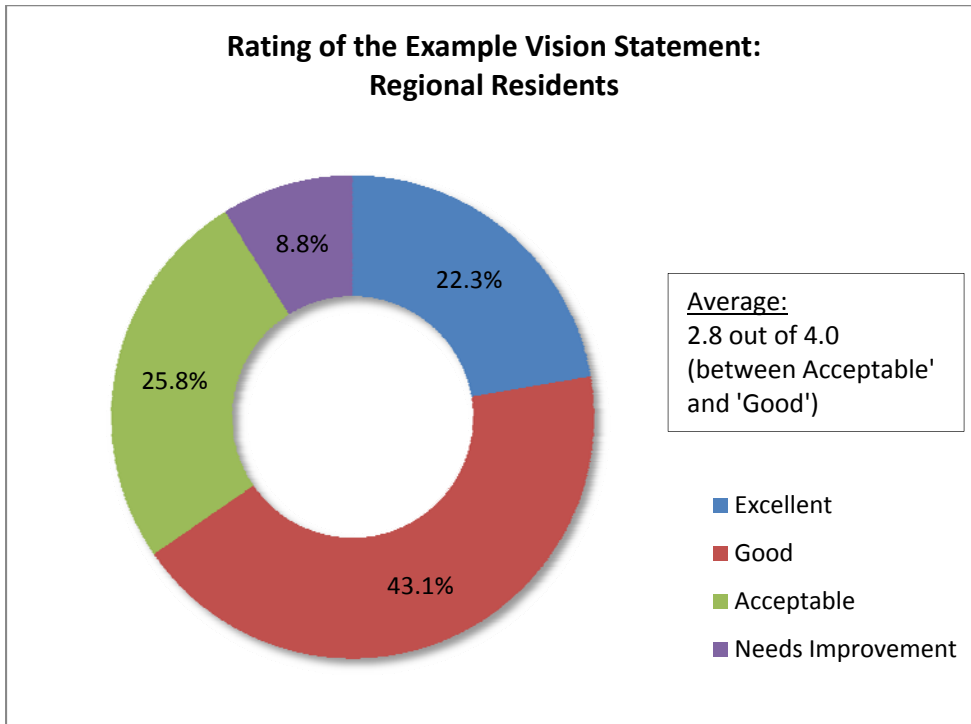
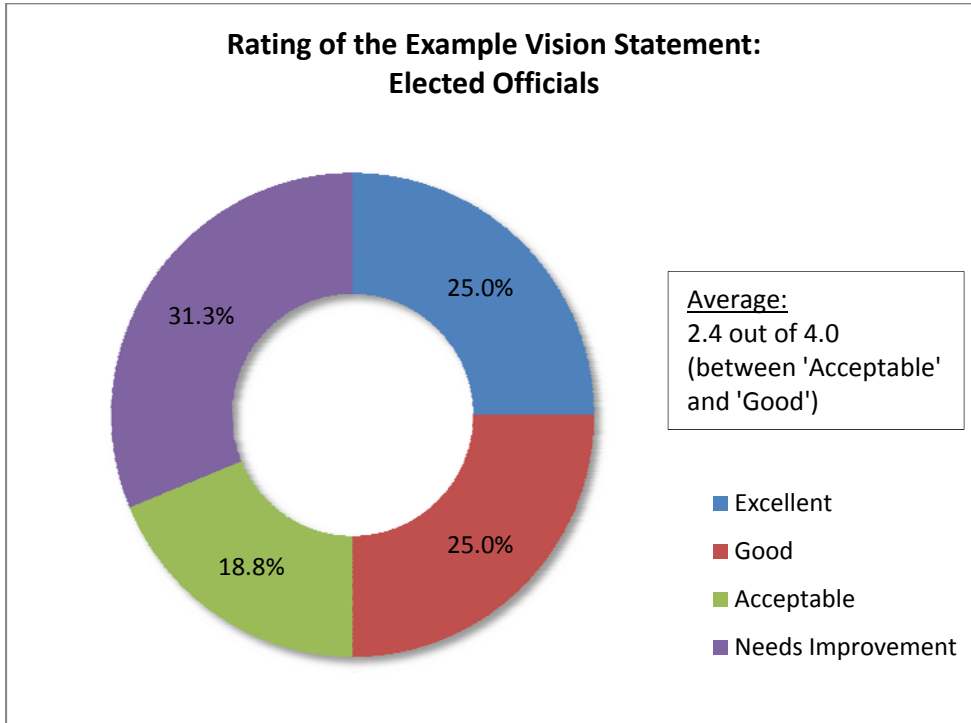
D2. Issue Areas Ranking



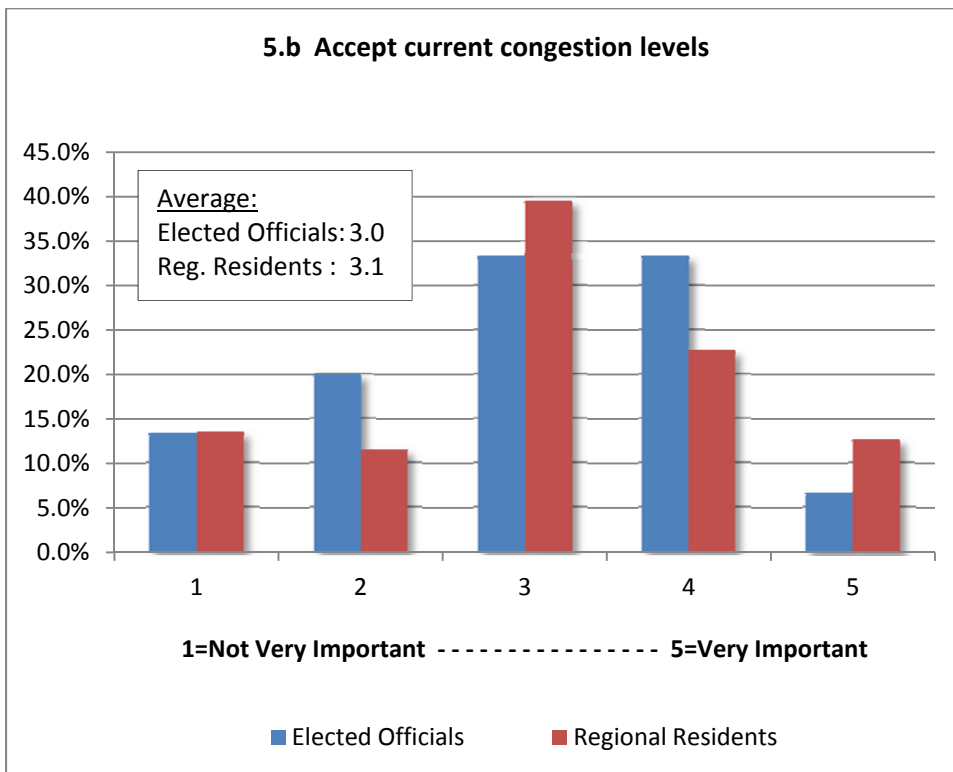
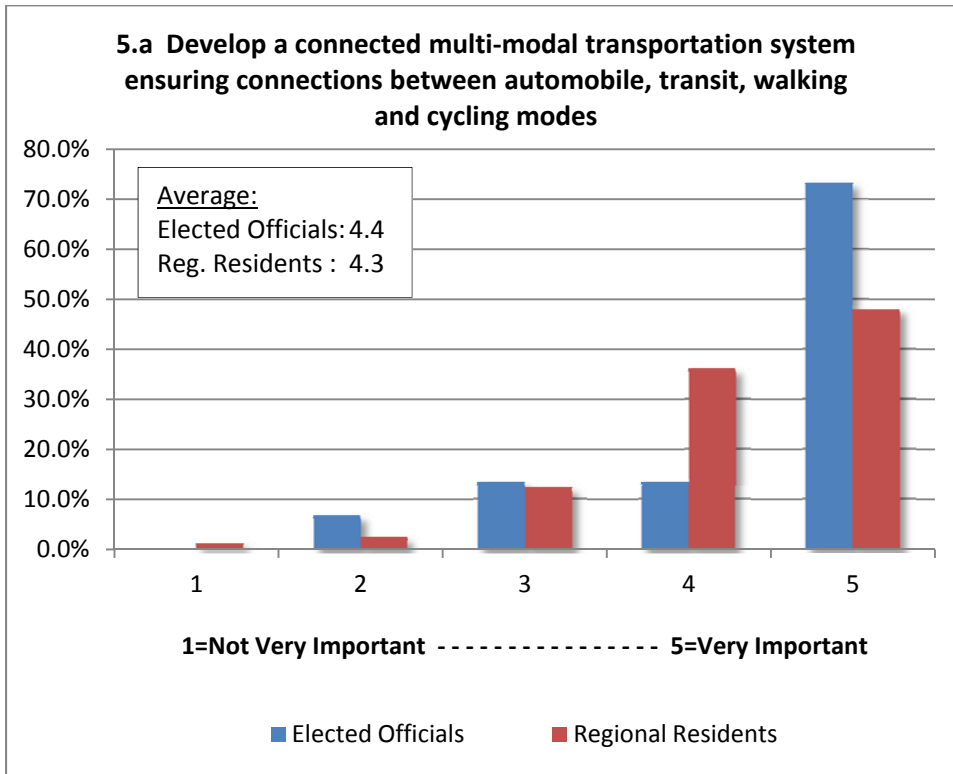
D3. Value Words

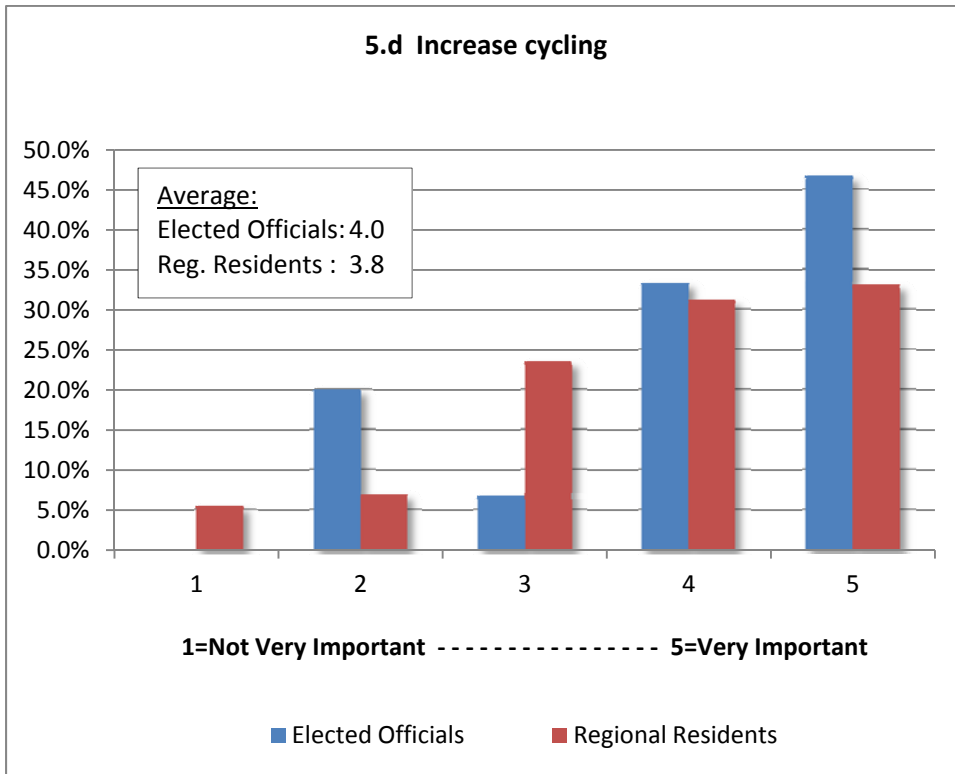
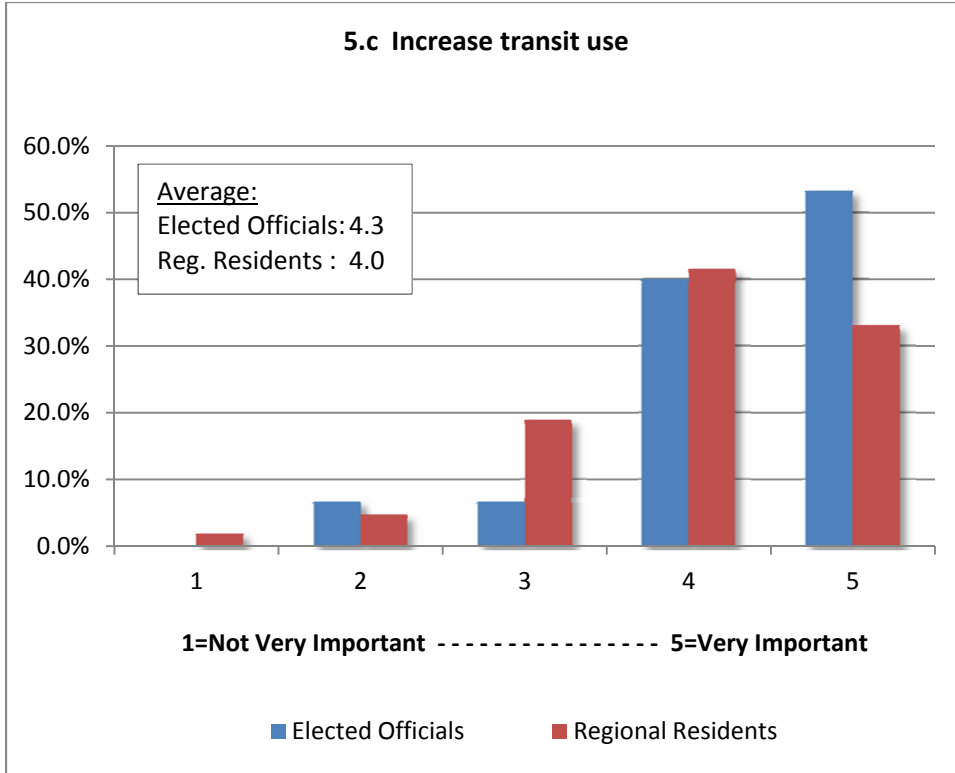


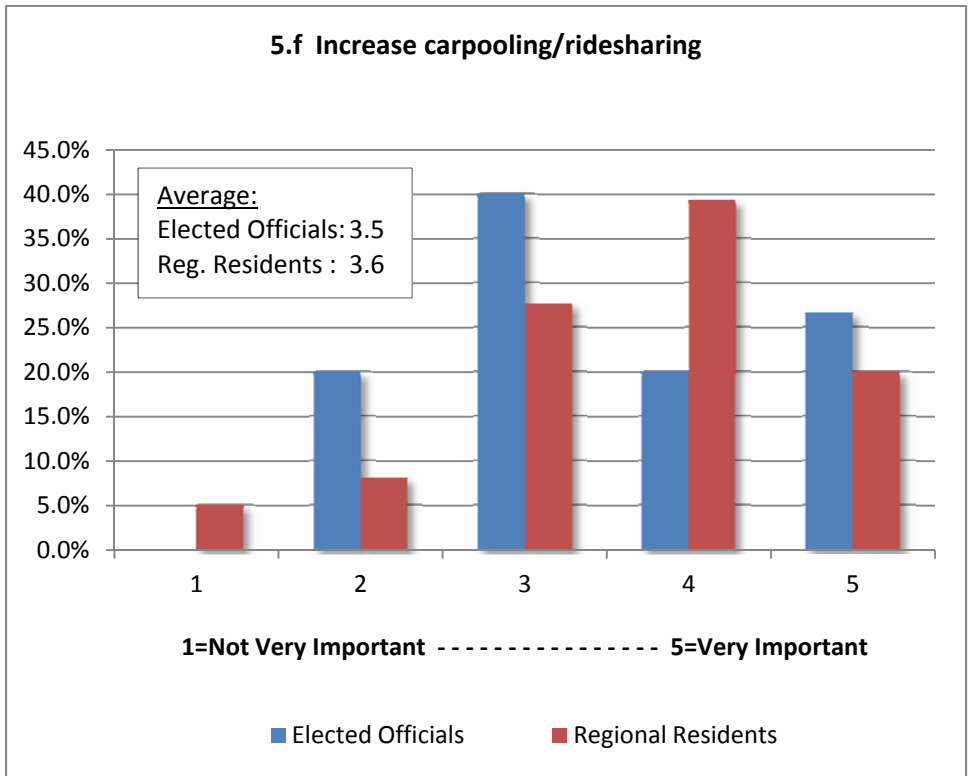
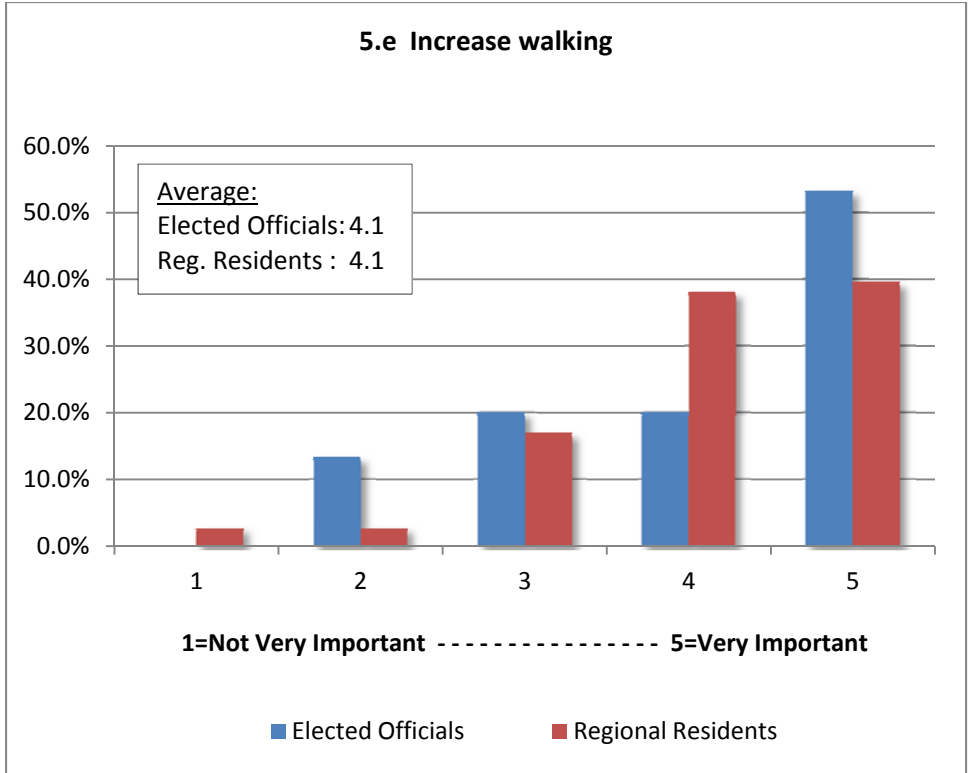
D4. Example Vision Statement Rating

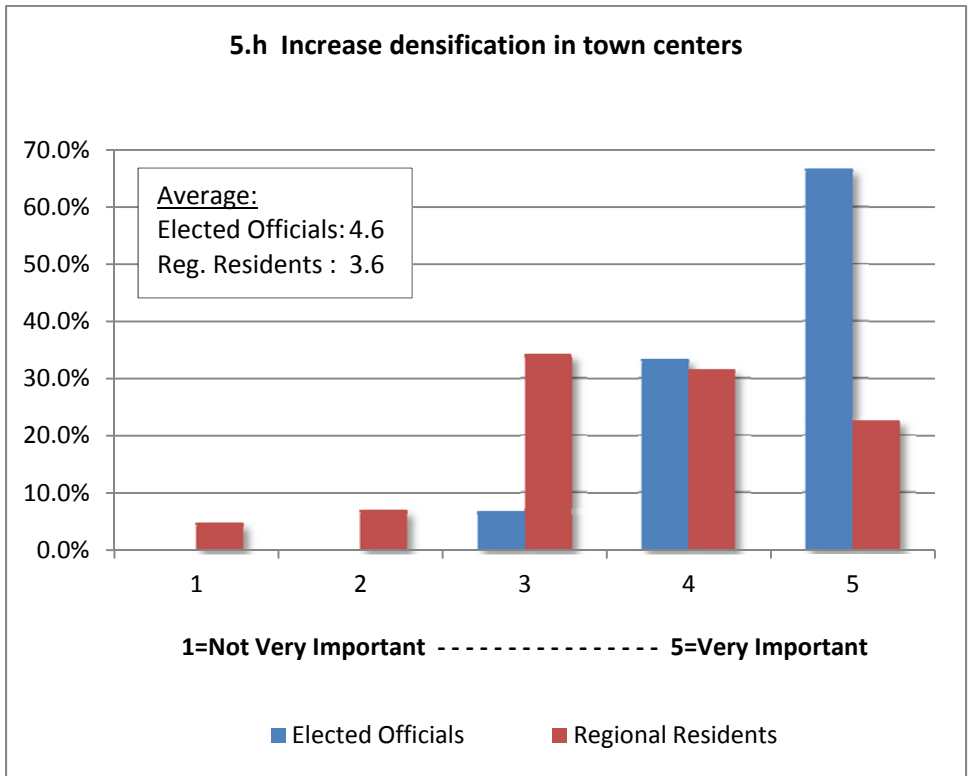
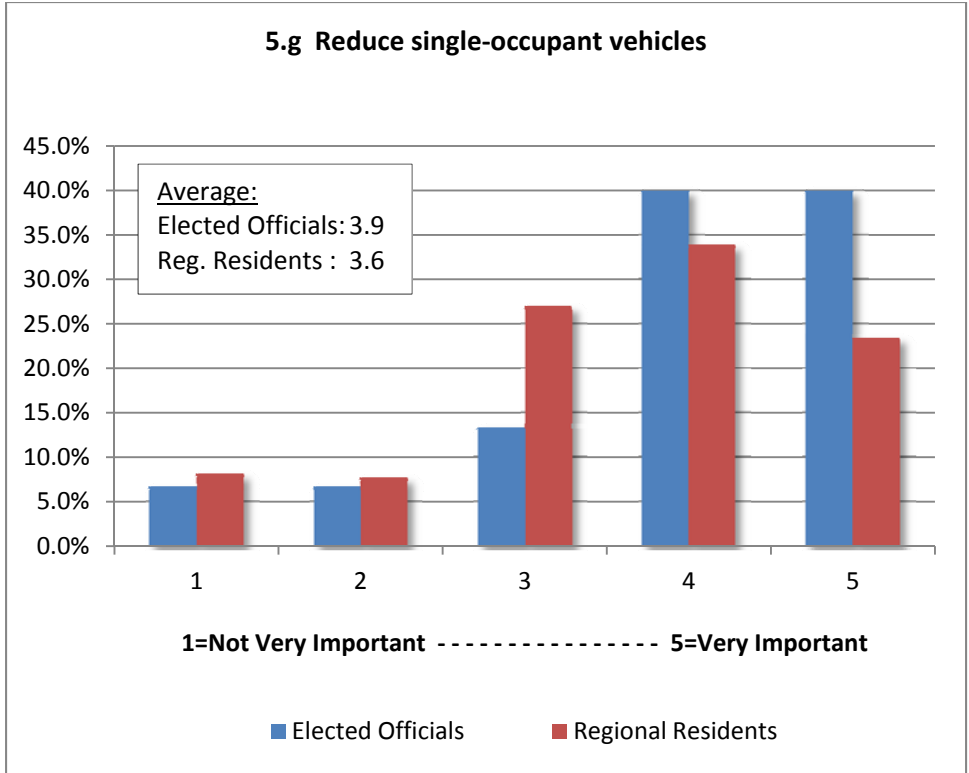


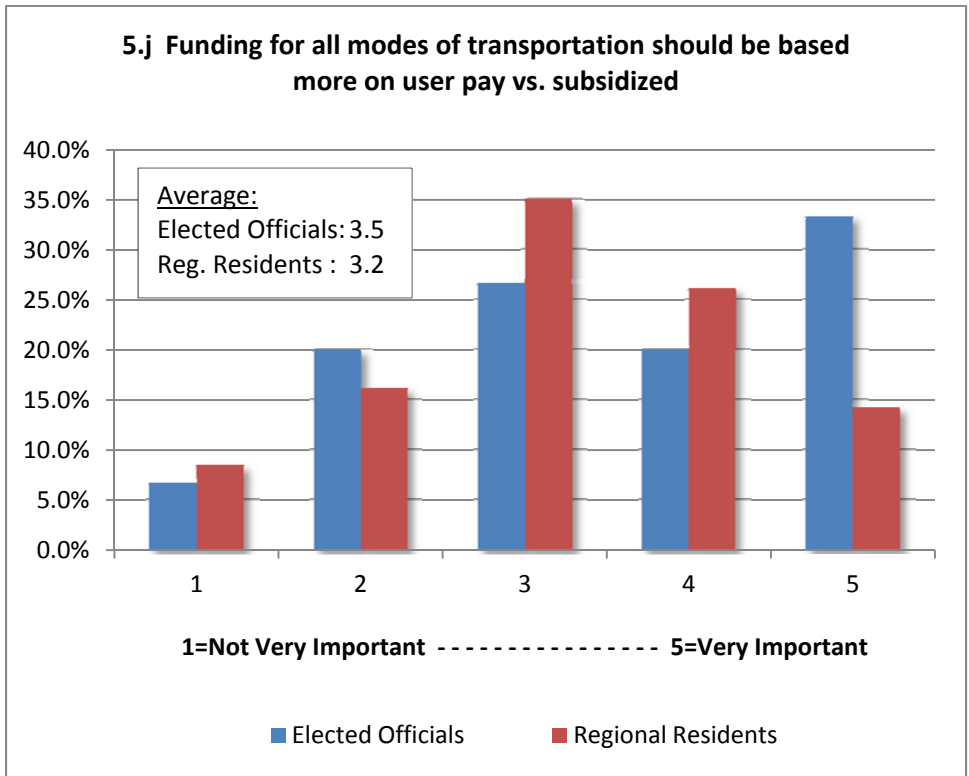
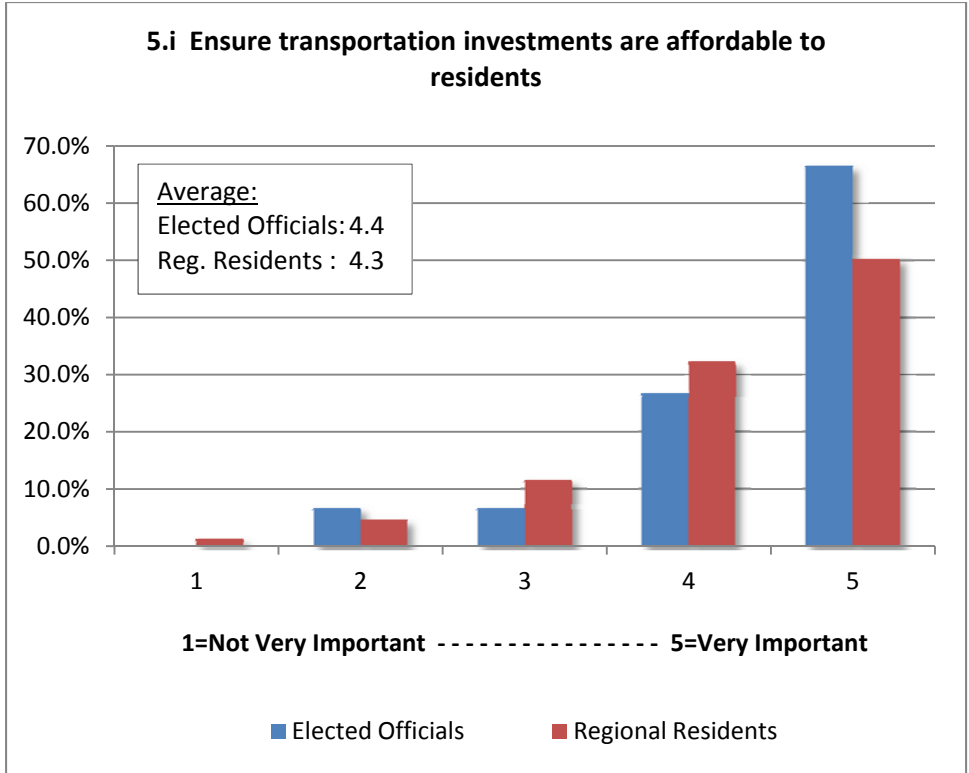
D5. Importance of Policy Categories



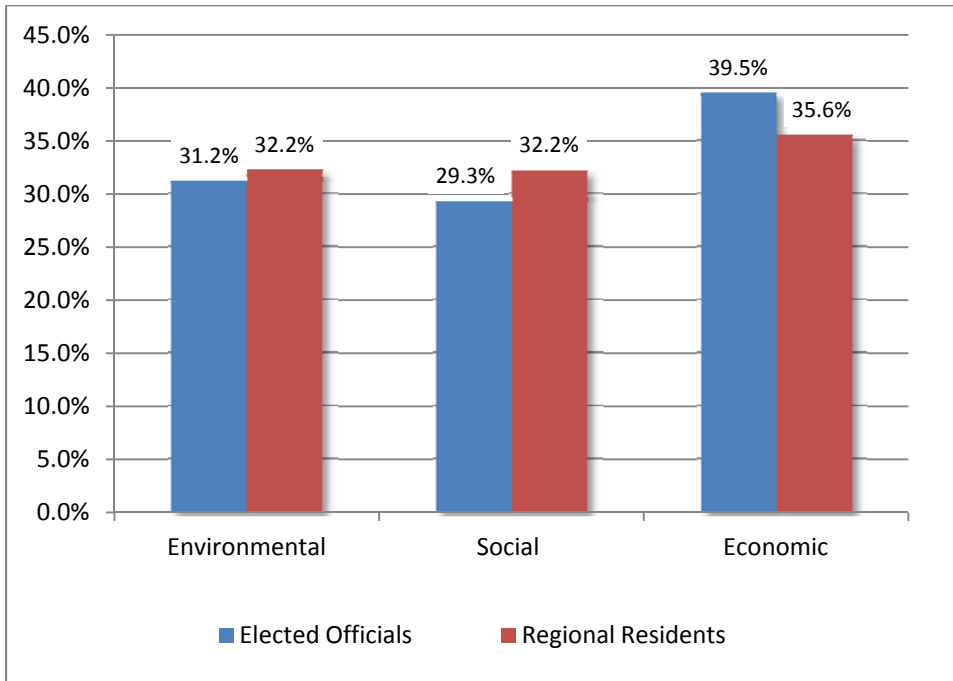








D6. Evaluation Criteria Weights



Appendix E. Summary of Common Local Government Transportation Policies

Transportation Policies Themes	Specific OCP Policies Related to Policy Themes					
	Kelowna ¹	Lake Country ²	West Kelowna ³	WFN ⁴	Peachland ⁵	RDCO ⁶
Transit	7.6, 7.9	8.1, 8.3	3.5.2, 3.5.4	3.2.1	8.3	3.2.9.5, 3.2.9.8
Pedestrian	7.6, 7.8	8.1, 8.2	3.5.2, 3.5.3	3.2.1	6.4, 8.3, 8.4	3.2.9.10, 3.2.9.11
Cycling	7.6, 7.8	8.1, 8.2	3.5.2, 3.5.3	3.2.1	6.4, 8.3, 8.4	3.2.9.10, 3.2.9.11
Multi-Modal	7.6	8.1	3.5.1	3.2.1	8.3	3.2.9.10, 3.2.9.11
Road	7.5, 7.10	8.1, 8.4, 8.5	3.5.1, 3.5.5	3.2.1	8.3, 8.4	
TDM	7.7	8.1	3.5.2			3.2.9.3
Parking	7.11		3.5.2		17.1	
Land Use (Sprawl & Densification)	7.3, 7.4,	8.1	3.5.1, 3.5.5	3.2.1	6.0, 8.3	3.2.9.3, 3.2.9.6
Emissions & Energy Reduction	7.1	8.1	3.5.1, 3.5.4	3.1.1	1.4 (Bylaw 1933)	3.2.9.3
Safety	7.4, 7.6, 7.10	8.1, 8.2, 8.5	3.5.1, 3.5.5	3.2.1	8.3	3.2.9.11
Interjurisdictional Coordination		8.1	3.5.1	1.3	3.0	3.2.9.1, 3.2.9.2

¹ City of Kelowna Official Community Plan, Revised July 10 2012

² District of Lake Country Official Community Plan 2010-2030

³ District of West Kelowna Official Community Plan - 2011

⁴ Westbank First Nation - 2010 Community Plan

⁵ District of Peachland - Nov 2011

⁶ Regional District of the Central Okanagan - Regional Growth Strategy, 2013

Appendix F. Example Monitoring Indicators

Issue Area	Primary Indicators	Secondary Indicators
Transit	<ul style="list-style-type: none"> transit mode share sustainable mode share transit cost recovery ratio average transit distance annual ridership per capita accessibility-service index 	<ul style="list-style-type: none"> average transit trip time transit share by trip purpose and age group rides per revenue hour revenue hours per capita rides per revenue km revenue-km per capita pop. 500 m to a bus stop
Active Transportation	<ul style="list-style-type: none"> walk and bike mode share average walk and bike distances sustainable mode share share of active transportation volumes by screenline 	<ul style="list-style-type: none"> average walk and bike trip times walk and bike shares by trip purpose and age group km of designated cycling routes % of roadways with sidewalks
Safety & Security	<ul style="list-style-type: none"> collisions per 1000 people 	<ul style="list-style-type: none"> transit, walk and bike safety and security indices conflict rate at collision-prone and sensitive locations
Goods Movement	<ul style="list-style-type: none"> truck volumes across screenlines 	<ul style="list-style-type: none"> total length of assigned truck routes
Parking	<ul style="list-style-type: none"> ratio of parking supply to emp. in econ. zones 	<ul style="list-style-type: none"> cost of parking by facility type
Roads, Highways & Bridges	<ul style="list-style-type: none"> total vehicle volumes and people across screenlines 	<ul style="list-style-type: none"> total length of roads by classification
Carpooling	<ul style="list-style-type: none"> auto passenger mode share average auto passenger distance sustainable mode share share of HOV volumes by screenline vehicle ownership per household 	<ul style="list-style-type: none"> average auto passenger trip time auto passenger share by trip purpose and age group
Transportation Demand Management	<ul style="list-style-type: none"> workforce mode share post-secondary school mode share grade school mode share major institutions mode share 	<ul style="list-style-type: none"> participation in bike to work week visits to smartTRIPS website participation in sustainability events TDM registered work places

Transportation-Land Use Interaction	<ul style="list-style-type: none"> • population within 500 m to a bus stop • sustainable mode shares vs. density 	<ul style="list-style-type: none"> • population density in developed areas • new developments within proximity to transit and bike facilities • ratio of new developments within compact urban areas
Special Generators	<ul style="list-style-type: none"> • annual airport passenger volumes and mode share • mode share by special generator category • ratio of trips by regional vs. external residents 	<ul style="list-style-type: none"> • average population distance to special generators (centroid analysis)
Intra and Inter-Regional Travel	<ul style="list-style-type: none"> • annual airport passenger volumes • ratio of trips by regional residents vs. external residents • screenline volumes 	<ul style="list-style-type: none"> • origin-destination pattern of trips within the region
Population	<ul style="list-style-type: none"> • population totals by location • household totals by location 	<ul style="list-style-type: none"> • population-household ratio • population totals by age group • population density in developed areas
Economic Development	<ul style="list-style-type: none"> • cost of congestion total and per capita • workforce ratio • fuel sales totals and per capita • cost of vehicle ownership • fuel cost trends • transit cost trends 	<ul style="list-style-type: none"> • average household income • net increase in jobs • new business starts to closures ratio • transit cost recovery ratio • commercial tax revenue
Energy and Emissions	<ul style="list-style-type: none"> • emission totals and per capita by contaminant and GHG • fuel use per capita 	<ul style="list-style-type: none"> • transportation share of total energy and emissions
Planning and Decision Making Process	<ul style="list-style-type: none"> • regionally-significant transportation recommendations approved • development of standard planning and evaluation processes 	<ul style="list-style-type: none"> • stakeholders consulted per planning initiative • decision maker's scorecard
Funding	<ul style="list-style-type: none"> • total and per capita transportation-related funding • number and amount of cost-shared funding • share of funding by mode 	<ul style="list-style-type: none"> • funding sources and quality index • funding availability to need ratio

When committing to the use of an indicator, the following should be considered:

- **Appropriate:** All indicators should provide a strong representation of what are the key characteristics from which decisions should be based on. The higher the degree of appropriateness, the greater the applicability and usefulness of the indicator’s representation.
- **Measurable:** An indicator needs to be measureable, in that a study and related equipment is feasible enough such that observations can be made to provide adequate data for the indicator. Ideally, quantifiable measures are desired. However, measurements may be intangible and therefore require qualitative measurements (i.e. opinions).
- **Sensitive:** An indicator should be sensitive enough to be able to differentiate changes in a significant manner within the time period desired. Indicators vary in sensitivity with the example of the speedometer and fuel gauge of a dashboard providing vital yet, varying sensitivity over time and driving conditions. Considerations for statistical significance, measurement error, and biases are required in order to ensure an indicator’s sensitivity is adequate relative to analysis needs and the importance of the subject matter.
- **Repeatability and Frequency:** As analyses that deal with trends require multiple observations, indicators need to be designed such that the collection of supporting data can be repeated in identical fashion. The frequency of indicator reporting will depend on both the significance of the indicator, the sensitivity of the indicator (as previously described), and feasibility of obtaining the necessary data elements.
- **Data Elements and Sources:** Indicators may require one or more data elements, especially in the case of normalized indicators such as “per capita” calculations. The source of all data elements should be considered as their accessibility, reliability, and quality.
- **Acquisition Methodology:** The methodology in data is acquired and processed is important for the consideration of quality of results, and comparability over time. An improvement in methodology used in past indicators may not necessarily be beneficial to the comparability to past indicator values. Therefore, changes to methodologies should be weighted to the benefit of improved quality/accuracy, to the disruption in comparability to ensure an “apples to apples” comparison.
- **Resources:** The data elements and expertise for indicators varies with their complexity and commonality. Some indicators can be derived within a very short timeframe at minimal cost. Others can take a year or longer and require extensive expertise and costs.
- **Cost Effectiveness:** The collection of data for indicators should consider the amount of resources required (budget, staffing, equipment, time). The affordability of indicators will play a role in determining their cost-effectiveness and priority within an overall monitoring program.
- **Quality and Adequacy:** The quality and adequacy of an indicator is based on the methodology and data used in deriving indicator values. The significance and importance of an indicator will be the main driver to influence the quality and adequacy in the development and use of a given indicator.

Appendix G. Draft Communications Plan

PURPOSE

The purpose of this document is to describe the proposed communication and engagement strategy for the Regional Strategic Transportation Plan that will create an understanding and awareness of the project.

A detailed communication and engagement plan will be developed in Phase 1 B of the Regional Strategic Transportation planning process and will clearly outline a strategy that will help to:

- Create an understanding and awareness of the project
- Identify and appropriately engage project partners, relevant stakeholders and other community audiences
- Collect required project data from partners and stakeholders
- Identify partner, stakeholder and community values and priorities for future transportation program and infrastructure investment
- Explore transportation options and challenges for partners, stakeholders and the community
- Collect feedback on “transportation scenarios” developed during the planning process to determine a preferred scenario
- Build community trust in the engagement process
- Move the project forward to successful implementation of the preferred scenario

BACKGROUND

The recent establishment of the Sustainable Transportation Partnership of the Central Okanagan (STPCO) provides a collaborative environment in which the alignment of the transportation goals, of each of partner local government, can be made. By working together and establishing a common plan, initiatives and investments can be coordinated that best meets both local and regional needs. Working together demonstrates that the Central Okanagan is one of the most promising and progressive regions in the Province of B.C. and Canada to invest transportation infrastructure dollars.

The STPCO proposes to achieve regional transportation goals by working together to plan, coordinate, manage and monitor the regional transportation system. The development of a Regional Strategic Transportation Plan is the key first step towards the achievement of the STPCO’s goals. As the main business plan for the region’s transportation future, the Regional Strategic Transportation Plan provides the “capstone” strategy to identify, plan, and direct the achievement of the desired transportation future for the Central Okanagan.

GUIDING PRINCIPLES

- Regional Services will support an informed communications and public engagement process that is transparent, accountable and inclusive.
- The process may include focus groups, super groups (very large focus groups of upward of 50 people) or workshops as a tool within this plan, but recognizes it is important that the broader community has access to and can participate in public engagement activities as well.
- For technical information the process will include significant consultation with project stakeholders and partners.
- The public engagement process will focus on the engagement building blocks: Information Sharing, Consultation and Involvement.
- The stakeholder and partner engagement process will focus on the building blocks up to and including Collaboration.

Below is the International Association of Public Participation’s engagement continuum, showing various levels of engagement with the associated goals and promises made to the public regarding their involvement.



BUSINESS OBJECTIVES

- Create a plan that is supported by the partner local governments in the Central Okanagan and the community.
- Develop a plan that can be used to define investments, define programs, specify budgets and required funding.
- Develop a plan that will guide the implementation of projects and programs, including the identification of partners and their contributions, timelines of initiatives.
- Create measures that can be used to evaluate the outcomes of transportation investments.
- Develop a plan that can be used to attract senior government funding for the region through a "business case" for investment.
- Consolidate local transportation plans, as well as planning and operating the transportation system as an integrated multi-modal system

COMMUNICATION OBJECTIVES

The communication and engagement plan will help to:

- Demonstrate transparency, accountability and follow through as the process moves through initial information gathering, priority setting, planning, scenario evaluation and implementation
- Appropriately engage partners, stakeholders and the community in identifying values and priorities and evaluating scenarios to determine a preferred scenario
- Inform residents, stakeholders and partners of project milestones and results in a timely manner (i.e. this is what we've heard, this is the plan to get us there, this is how much it will cost and how we will get there)
- Provide elected officials within local government partners and stakeholder groups, as well as staff with support to answer public and media enquiries throughout the process
- Earn fair and balanced representation in the media

KEY AUDIENCES/STAKEHOLDER ANALYSIS

Before starting the engagement process, staff will complete an analysis of stakeholders to identify who, when and how to engage. The evaluation will be in part based on what level of influence each stakeholder has to influence the project. The audiences will also be categorized by the degree they are impacted by the project and by their specific interests in the project (business, environment, activity...).

Current Stakeholders:

- Federal and provincial partners with budgetary and planning input
- Local government partners and their respective municipal organizations and councils
- Other transportation agencies
- Transit contractors
- Central Okanagan residents

STRATEGIC CONSIDERATIONS

Communication and engagement would happen in several steps during the overall planning process. Each step will have different communication requirements and engagement strategies.

- Develop detailed communication and engagement plan - including audience identification and development of specific strategies for each audience
- Announcement - inform audiences of process, timeline and how they can be involved
- Priority Setting - gather information and establish community, stakeholder and partner priorities for long term plan
- Evaluate Scenarios - gather feedback on draft plan and transportation scenarios
- Final Reporting - report out on final draft and findings

Inclusion and transparency

- Begin by identifying audiences, appropriate level of engagement and engagement activities for each audience
- To ensure a transparent and inclusive engagement process, tactics such as media relations and online engagement platform can be added to the overall process, allowing engagement by a wider audience (outside focus groups and stakeholders).

Technical Requirements

- Engagement activities must acknowledge the in-depth understanding technical knowledge required to provide feedback on some aspects of transportation planning. For instance in order to include lay persons in some activities, the engagement must include the opportunity for education and background information before feedback is requested. These types of activities usually include workshops, focus groups, super groups etc. that require a longer time commitment by participants.

BUDGET

In order to determine a reliable budget for communication and engagement, a detailed strategy will be developed in Phase 1 B.

For a high level estimate of costs, the communication and engagement plan as described above would be in the range of \$118,000 - \$150,000:

This could include:

- | | |
|--|-------------------------------------|
| • Focus groups, super groups, survey, open houses etc. | \$95,000 - 120,000 |
| • Advertising | \$10,000 |
| • Collateral material | \$10,000 - \$15,000 |
| • Online engagement platform | \$3,000 - \$5,000 |
| • Completed by staff or consultant | TBD (costs will vary significantly) |

Total \$118,000 - \$150,000

Appendix H. RSTP Project Organization Structure [draft]

**Central Okanagan Regional Strategic Transportation Plan
Org. Chart and Resources**

