

Fraser Valley Regional District

Regional Trip Diary Survey

*Analysis Report
January 2014*



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Acknowledgements

All trip diary data used in this report was collected by TransLink. Further analysis was performed by Fraser Valley Regional District Staff. While the research and analysis are based on data from TransLink, the opinions expressed are those of the Fraser Valley Regional District.

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Glossary

Escort Trips - Trips taken to assist another person in their travel needs (i.e. picking up or dropping off a child or a friend)

Mode Share - The proportion of trips taken by a particular type of transportation (i.e. car, bike, walking, transit)

Trip Rate - The average number of trips taken per person or household in a single day.

Transit Service Hours - The total number of hours transit service is in operation (i.e. carrying passengers)



Executive Summary

This report explores the increasingly complex travel patterns in the Fraser Valley Regional District (FVRD) and throughout the Lower Mainland. The information contained with this document provides a better understanding of where, when, why, and how people are traveling within the region and throughout the lower mainland. This knowledge will be invaluable as the Fraser Valley Regional District looks forward to creating a future regional transportation system that meets travel demand, is efficient, reduces greenhouse gas emissions and contributes to the creation of healthier communities.

Key findings include:

- Travel patterns are consistent with the findings of the 2008 Trip diary survey, with a slight increase in the total number of trips taken.
- Dependency on cars continues to grow. Over 71% of all trips in 2011 were made by driving, compared to 66% in 2008.
- After having risen to capture 2% of all trips in 2008, transit use has fallen back to 1%. This is in part due to the fact that transit service hours are just keeping pace with population growth.
- The majority of trips are taken for work purposes (28%). Taking 26% of the the share, trips for shopping and personal business follow closely.
- While travel from the FVRD to Langley has increased across the board, travel to other areas within Metro Vancouver has declined.
- There are now more trips occurring between Abbotsford and Chilliwack than are occurring between Abbotsford and Mission; despite the lack of a transit connection.
- There is no significant change in terms of the times of day when people travel. As expected peak travel times are during the early morning and late afternoon.



1. Introduction

The following report uses data from TransLink's 2011 Metro Vancouver Regional Trip Diary Survey as well as 2011 census data to identify travel patterns occurring within the FVRD. The objective of TransLink's Trip Diary Survey is to gather information on all weekday trips made within a 24-hour period from a random sample of local residents. The resulting information provides an overview of travel patterns across the lower mainland and will be used to aid in transportation planning for the future. Unless otherwise noted, the terms "region" or "Fraser Valley" refer to the Fraser Valley Regional District.

Metro Vancouver Regional Trip Diary results related to areas within Metro Vancouver can be found in "2011 Metro Vancouver Regional Trip Diary Survey-Analysis Report" and "Metro Vancouver Regional Trip Diary Survey: Final Methodology Report". Both are available from TransLink.

1.1 Survey Purpose

The purpose of this study is to identify travel patterns and characteristics for trips to, from and within the Fraser Valley Regional District and to identify changes and trends. This report addresses several important questions on resident's movement within the region including:

- How many trips are made during a typical weekday within the Fraser Valley Regional District and its sub-regions?
- What are the purposes of trips made by FVRD residents?
- What travel modes are residents of the FVRD using to make their trips?
- What is the average trip distance for trips made by residents of the Fraser Valley?
- What is the geographic distribution of trip's origins and destinations within the Fraser Valley Regional District?

The most recent 2011 survey included the entirety of Metro Vancouver and the majority of the FVRD's population from Abbotsford and Mission east to Hope.

This survey is similar to the Trip Diary Surveys conducted in 2004 and in 2008, and provides a basis for comparison on which it is possible to identify trends and changes in travel.

1.2 Survey Methodology

The methodology for the 2011 Trip Diary Survey used a similar approach to that carried out for the 2008 Surveys. It was designed to collect information on 24-hour weekday travel characteristics from a random sample of study area residents. The travel survey used a telephone-initiated approach, with web-based and mail-out/telephone retrieval options for completing the trip diary.

Due to its nature as a household survey, the Trip Diary Survey only takes into account trips made by surveyed residents of the Lower Mainland and does not take into account commercial vehicle trips or trips made throughout the region by non-residents or tourists. Therefore, this survey does not represent complete coverage of regional travel patterns.

When discrepancies were found between the 2011 Trip Diary Survey and the 2011 Census regarding the age and gender profiles of the region and the housing type data, data from the 2011 Census was used. Data is therefore not representative of data offered by the 2011 Trip Diary Survey. These discrepancies may indicate an under- or over-representation, as the case may be, of survey participants in relation to the population as a whole.

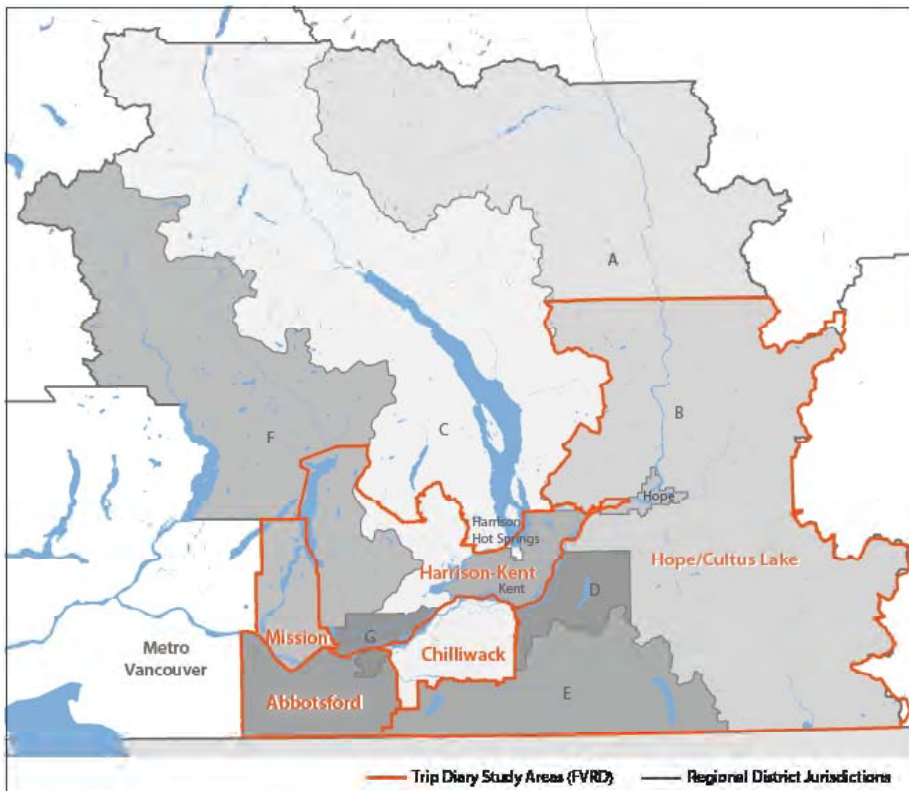
1.3 Survey Response

Recruitment letters were sent to 125,000 households throughout the Lower Mainland, of which 32,000 households agreed to participate in the survey. Of the 32,000 households, 21,850 valid household surveys were collected. This represents 2.2% of the households in the study area. The resulting survey database contains information on 21,850 households, 52,175 individuals and 146,000 trips. Of the total number surveyed, 2002 households, or 4,903 individuals, were residents of the Fraser Valley. FVRD households recorded 14,263 trips. The entire survey sample was expanded to regional totals in order to provide daily trip estimates and regional travel characteristics.

2. Regional Context

The Fraser Valley Regional District consists of six member municipalities and seven electoral areas. While the 2011 TransLink Trip Diary Survey covers little of the FVRD geographically, it captures much of the population which is heavily focused in the six municipalities. For the purposes of the survey, the two municipalities of Harrison Hot Springs and Kent have been combined into one area, referred to as Harrison-Kent. Hope, which was included in the survey for the first time, was combined with Cultus Lake and parts of Electoral Areas D and E. Neighbouring to the west, Metro Vancouver influences travel patterns within the FVRD and throughout the lower mainland.

Figure 2.1 - Fraser Valley Regional District and Trip Diary Study Area



2.1 Population

Consistently one of the fastest growing regional districts in British Columbia, the FVRD has experienced substantial population growth in the past ten years - up 13.3% from 2001 (See table 2.1). However, population growth is not occurring evenly throughout the entire region. Hope's population has remained relatively constant over the past 10 years with less than 1% growth. On the flip side, the three largest municipalities: Abbotsford, Chilliwack and Mission, account for the majority of growth within the region. These sub-regional differences could have a significant impact on future transportation planning.

Table 2.1 – Changing Population

Sub-Region	2001	2006	2011	Pop. Change 2001-2011	% Change 2001-2011
Abbotsford	122,819	129,320	137,817	14,998	12.2%
Chilliwack	65,185	71,253	79,673	14,488	22.2%
Harrison H.S.	1,345	1,575	1,467	122	9%
Hope	6,261	6,242	5,985	-276	-4.4%
Kent	5,132	5,315	5,775	643	12.5%
Mission	32,416	35,731	37,347	4,931	15.2%
EAs & IRs	15,817	17,199	16,727	910	5.7%
FVRD	251,597	266,635	284,791	33,194	13.1%

Source: BC Stats Municipal Population Estimates 2001-2011

Another factor that will increasingly influence the travel patterns in the Fraser Valley is a growing senior population. In 2011, about 20% of FVRD residents were over the age of 60. By 2036, this age group is expected to rise to 27% of the population. This change in demographics will likely contribute to a shift in travel with regard to transportation modes, trip purposes and transit demand.

The region is expected to grow substantially over the coming years, with a projected additional 200,000 residents living in the FVRD by 2041. It is anticipated that growth will concentrate in the three largest municipalities. Managing this growth and accommodating changing travel demands is essential, particularly in the area of reducing automobile dependence and increasing alternate and sustainable travel options such as walking, cycling and transit.

Table 2.2 - Population Projections

Sub-region	2021	2031	2041
Abbotsford	163,631	192,157	225,657
Chilliwack	104,443	125,825	151,585
Harrison H.S.	1,649	1,822	2,012
Hope	6,355	6,613	6,883
Kent	6,466	6,696	6,934
Mission	45,118	51,542	58,880
EAs & IRs	18,556	20,701	23,095
FVRD	346,217	405,357	475,046

Source: FVRD Strategic Planning and Initiatives

2.2 Employment

Employment is a key driver of travel demand due to the high proportion of trips made for work purposes. Table 2.3 shows the employed labour force of the FVRD and its growth over the past ten years. Between 2001 and 2011 employment grew at a rate faster than the population, however much of that growth happened before the recession of 2008. Employment in the FVRD grew only 3.5% from 2006-2011 as compared to 16.2% from 2001-2006. Even Chilliwack, which experienced the highest employment growth (31%) of any municipality in the region between 2001-2011, has seen slower growth in recent years.

Occupational differences within the FVRD reflect the varied economic makeup of the region's communities. For example, the District of Hope and the Village of Harrison Hot Springs have a higher percentage of their population working in the accommodation and food service industries than any other community in the region. This reflects Harrison Hot Springs' status as a resort town, and the District of Hope's position as a hub where three major transportation corridors to the BC interior and rest of Canada meet.

The larger communities of Abbotsford, Chilliwack and Mission are more diversified and have a much higher share of manufacturing, retail trade and

construction and often act as suppliers of commercial services to smaller communities like the District of Kent or the Electoral Areas.

The type of work people are engaged in influences a number of important aspects of growth and development. For example, primary industries such as agriculture, forestry and mining generally take place in the FVRD's rural or remote locations where providing services such as transit is impractical. While there is a growing urban element to many of the communities in the FVRD, the nature of the Region's economy requires a distinct approach in providing services and allocating resources.

Table 2.3 – Employed Residents of the FVRD*

Sub-Region	2001	2006	2011	% Change 2001-2011
Abbotsford	54,400	62,000	64,510	19%
Chilliwack	27,800	33,400	36,505	31%
Mission	14,300	17,300	17,845	25%
FVRD Total	108,200	125,700	130,130	20%

*Note 2001 and 2006 data is from the census while 2011 data is from the National Household Survey. Due to the variability of data collected any comparison of these numbers should be used with caution.

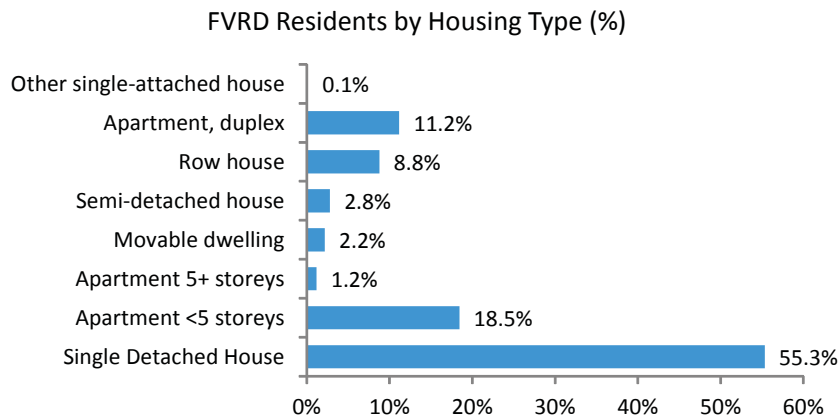
2.3 Land-Use and Housing

Unlike other, more built-out municipalities in the Lower Mainland, the distribution of land use within the FVRD reflects the influence of the Agricultural Land Reserve. The FVRD is characterized by the urban cores of Abbotsford, Chilliwack and Mission, surrounded by agricultural and rural lands. This physical separation and existing low-density development can be a challenge in terms of providing viable transit service. As interest in integrating land-use and transportation grows, so too will demand for transit service. As low-density development is replaced with mixed use and higher density development within existing Urban Growth Boundaries, there will be new opportunities to increase pedestrian, cycling, and transit mode shares within and between communities in the Fraser Valley. Policies within the Regional Growth Strategy (RGS), as well as the region's Official Community Plans (OCP), support more dense forms of development and further integration of land use and transportation.

New housing in urban areas is shifting from mainly single family to multi-family homes. This trend has become increasingly apparent in the last few years, with more multi-family building permits issued in the cities of Abbotsford and Chilliwack. This shift away from single family housing will likely affect travel patterns and mode shares as apartment dwellers tend to walk, cycle, and use transit to a greater extent than single family dwellers.

It should be noted that in the case of Abbotsford, the Trip Diary survey data gives disproportionately more weight to single family homes than is representative of the current population. According to census data only 43% of Abbotsford residents live in single-family homes while survey data puts it closer to 61%. This may skew data slightly in terms of travel modes.

Figure 2.2 - FVRD Residents by Housing Type (%)



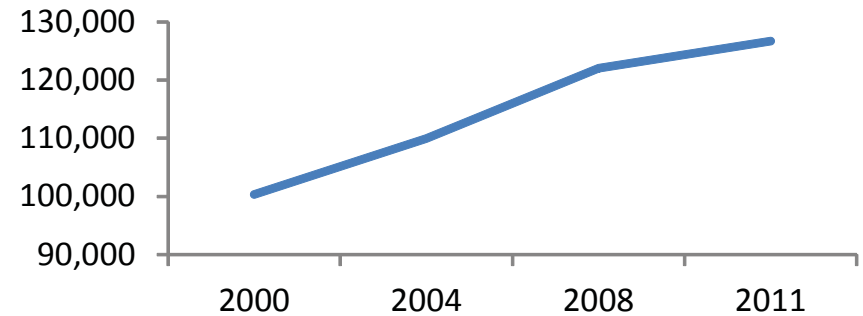
Source: 2011 Census of Canada

2.4 Licensed Vehicles and Fuel Costs in the FVRD

Indicators such as the number of licensed vehicles or the cost of fuel can provide additional information on transportation trends in the region. After experiencing strong growth for much of the first half of the decade, the rate of licensed passenger vehicles has slowed significantly since 2008. While rates of licensed passenger vehicles continue to grow in the larger communities, they have actually decreased in the smaller communities of Hope and Boston Bar.

With the downturn of the economy in 2008, gasoline prices initially dropped significantly, but have been rising steadily over the past five years. Though they have not yet returned to the price levels of the peak in early 2008, the average gas prices today are not far below. Rising prices combined with continued uncertainty surrounding the economic outlook could be influencing travel patterns with people choosing to drive less for discretionary purposes.

Figure 2.3 - Licensed Passenger Vehicles in select FVRD Communities 2000-2011



*The above numbers include data from Abbotsford, Chilliwack, Mission, Agassiz, Boston Bar, and Hope Source: BC Stats April 2012.

2.5 Transit Services

Transit service in the FVRD currently consists of three separate systems: the Central Fraser Valley Transit System, which serves the City of Abbotsford and District of Mission; the Chilliwack system, which serves Chilliwack proper and includes seasonal service to Cultus Lake in FVRD Electoral Area E; and the Agassiz/Harrison system in the FVRD, which connects Chilliwack to FVRD Electoral Area D, Agassiz and Harrison Hot Springs.

As shown in Table 2.4, annual ridership on transit systems within the FVRD has increased significantly in the past few years. The Abbotsford-Mission transit service has experienced a rise in ridership of 35%. In Chilliwack ridership gains are lower, but still notable at 4%. In September 2013, the Chilliwack system added an additional 7,500 annual service hours (a 30% increase) and reconfigured bus routes which have resulted in higher levels of ridership.

Growth in transit service in the Fraser Valley has been more modest. Table 2.5 shows rates of transit service in Abbotsford and Chilliwack combined increasing from 0.37 to 0.47 service hours per capita between 2008 and 2011. Despite continued investment, rapid population growth in the Fraser Valley has meant that, while transit service has just kept pace with growth in recent years, it is still significantly below that of other communities where transit may be considered an attractive alternative to driving. In comparison, the Central Okanagan Transit network, which services a population of 188,000, offers 1.2 service hours per capita.

Table 2.4 - Total Annual Transit Ridership

Service Area	2007-08	2011	% Change 2008-2011
Abbotsford - Mission	1,702,880	2,300,000	35%
Chilliwack	471,710	491,000	4%
Agassiz-Harrison	N/A	42,253	---

Source: BC Transit

Table 2.5 - Transit Service hours in the FVRD 2008-2011

System	2007-2008			2010-2011		
	Service hours	Population	Service hrs per capita	Service hours	Population	Service hrs per capita
Abbotsford - Mission	71,200	170,274	0.42	105,000	178,834	.58
Chilliwack	18,200	74,930	0.24	21,000	86,694	.24
Agassiz - Harrison	N/A		N/A	5,453	9,055	.60
Total	92,400	250,660	0.37	126,000	265,528*	.47*

*Due to incomplete data, Agassiz is not included in the total

Source: BC Transit

2.6 Supporting the Regional Growth Strategy

Recognizing that the region's large land base presents a number of transportation challenges, the FVRD's Regional Growth Strategy promotes the develop-

ment of a network of sustainable communities with strong social, economic, and environmental linkages, while at the same time encouraging local self-sufficiency. This is the foundation for building "complete communities" that provide residents with local jobs and services that are accessible to everyone through a wide range of transportation choices.

FVRD's Regional Growth Strategy (RGS), "Choices for our Future", was adopted on October 26, 2004. One of the key growth management goals is to 'Increase Transportation Choice and Efficiency', which includes reducing dependency on single-occupant vehicle travel and enhancing commitments toward the provision of attractive bicycle and pedestrian facilities, as well as a broader range of transit services. By tracking travel patterns and trends, the trip diary survey enables the region to measure its progress as it works toward achieving these long-term goals.



Agassiz-Harrison's new Vicinity buses increased much-needed capacity on the popular transit line

2.7 Screenline Trends

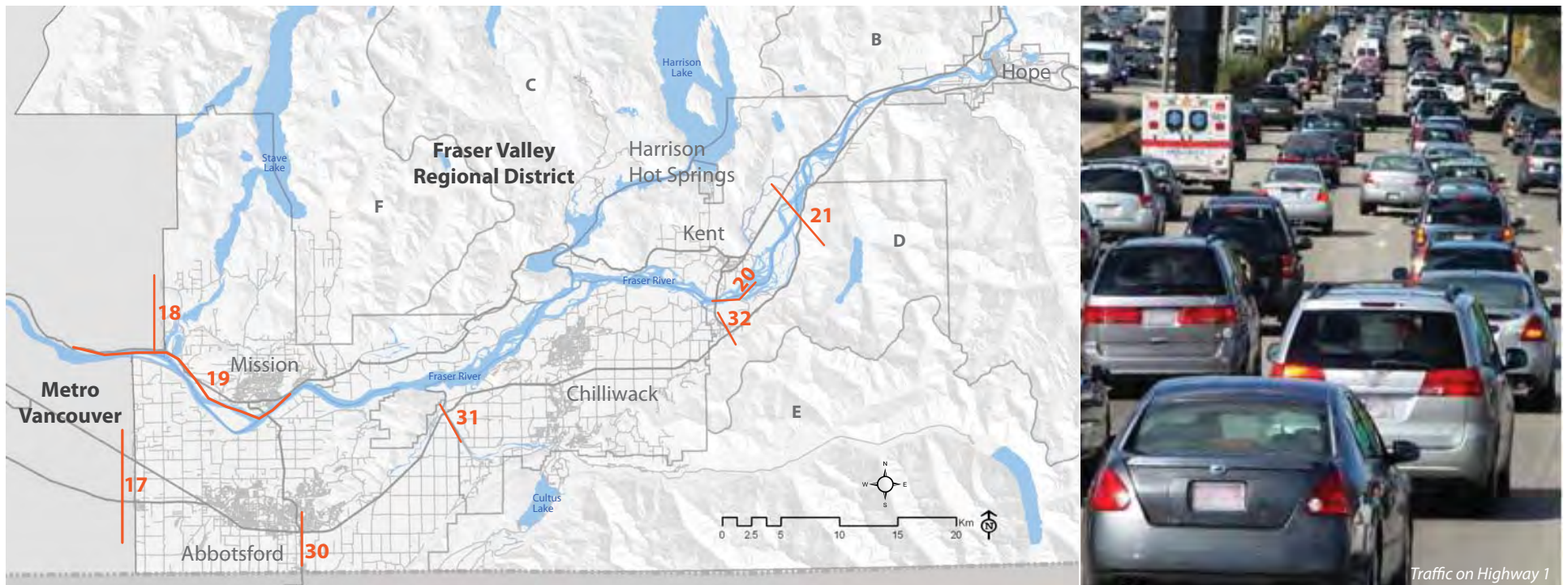
A screenline is an imaginary line used to track vehicle volumes that cross between origin and destination. Traffic count information that crosses each screenline is recorded using either loop detectors (imbedded in the road surface) or hose counters (pneumatic hoses that are laid across the roadway). Screenlines are usually located to track trends in vehicle volumes across municipal and regional boundaries, water features such as the Fraser River or other geographic features. The map below shows the locations of screenlines for the Fraser Valley region.

As shown in Table 2.6, the most recent screenline data shows a significant increase in traffic on Highway 1 between Abbotsford and Chilliwack. During the same 3 year period (2008-2011), traffic volume crossing the Langley-

Abbotsford border remained constant on Highway 1 and on the Fraser Highway. On the north side of the river at the Maple Ridge Mission border traffic volume on Highway 7 decreased significantly (-23%). In Hope, the Lougheed Highway experienced an increase in volume while Highway 1 subsided slightly. The data indicates an increase in intraregional highway traffic, particularly between Abbotsford and Chilliwack and a decrease in interregional traffic. This can be explained, in part, by the economic downturn and rise in energy prices which led to fewer and shorter trips during that time period. Traffic volumes crossing the Mission and Rosedale Bridges saw only minor declines.

Data for truck volumes and average daily occupancy in the Fraser Valley was limited to four screenline stations; Highway 1 east of 264th Street; Fraser Highway east of 276th St near the region's western border (#17); Highway 7-west of Highway 1; and Highway 1-west of Hope on the eastern edge of the study area (#21).

Figure 2.4 - Map of Screenline Locations in the Fraser Valley



All four stations showed a decrease in truck traffic between 2008 and 2011. The stations near Hope continue to have one of the highest percentages of truck traffic which illustrates the importance of those routes in interregional and intraprovincial trade.

The picture for average daily auto occupancy is somewhat less clear. To obtain this data, observers counted vehicle occupants on one weekday at each station. The stations along screenline #17 experienced little to no change while the stations on the eastern edge of the study area (#21) were conflicting. Along Highway 7 there was a significant decrease in average occupancy, meaning more people were driving alone. On Highway 1 there was an increase in the number of people per vehicle. In the case of Highway 1, it is difficult to say whether this increase is a result of more intraregional carpooling between Hope and Chilliwack or whether it is part of a larger interregional trend.

Table 2.6 - Average two- way traffic volumes in the FVRD 2008-2011

line #	Location	Average 24 Hour Volume		
		2008	2011	% Change
17	Hwy 1 – East of 264th St	72,000	72,000	0%
	Fraser Hwy – East of 276th St	20,500	20,500	0%
18	Dewdney Trunk Rd – East of 284th St	2,900	2,800	-4%
	Lougheed Hwy – East of 280th St	23,000	21,000	-10%
19	Hwy 11 at Mission Bridge	44,000	42,000	-5%
20	Hwy 9 – North of Old Yale Rd	10,000	10,000	-1%
21	Hwy 7 – West of Hwy 1	2,200	2,450	12%
	Hwy 1 – West of Hope	11,500	10,500	-11%
30	Hwy 1 – East of Hwy 11	57,000	64,000	12%
31	Hwy 1 – Vedder Canal	45,000	51,000	14%
32	Hwy 1 – West of Hwy 9	20,000	24,000	18%



3. Regional Trip Analysis

The 2011 TransLink Regional Trip Diary Survey is the latest in a series of travel surveys conducted in the Lower Mainland and south-western British Columbia since the mid 1980s, offering comparisons over time.

Between 2004-2011, the Fraser Valley experienced an overall rise in the number of trips occurring but at a slower rate than population growth (See table 3.1). The average number of trips per person has therefore decreased by -7.4%. In 2008 there was a substantial decline in the total number of trips, as well as the trip rates. This decline corresponds to a period of rapid escalation of gas (fuel) prices and the implementation of the carbon tax in B.C. However, since 2008, trip rates have been on the rise despite equally high gas prices, possibly due to more gradual price increases.

Table 3.1 – Fraser Valley Travel Characteristics*

Indicator	2004	2008	2011	% Change (2004-2011)
Population	259,811	276,103	286,937	10.40%
Trips	709,800	642,000	728,489	2.60%
Vehicles	109,913	122,039	126,710	15.3%
Trip Rate	2.7	2.3	2.5	-7.40%

*Note: # of trips based on trips originating in the FVRD

3.1 Trips by Destination

Figures 3.1 and 3.2 below illustrate the travel patterns for all trips originating in the FVRD as captured by the survey. Almost 90% of all trips originating in the FVRD as captured by the survey.

Figure 3.1 FVRD Trip distribution

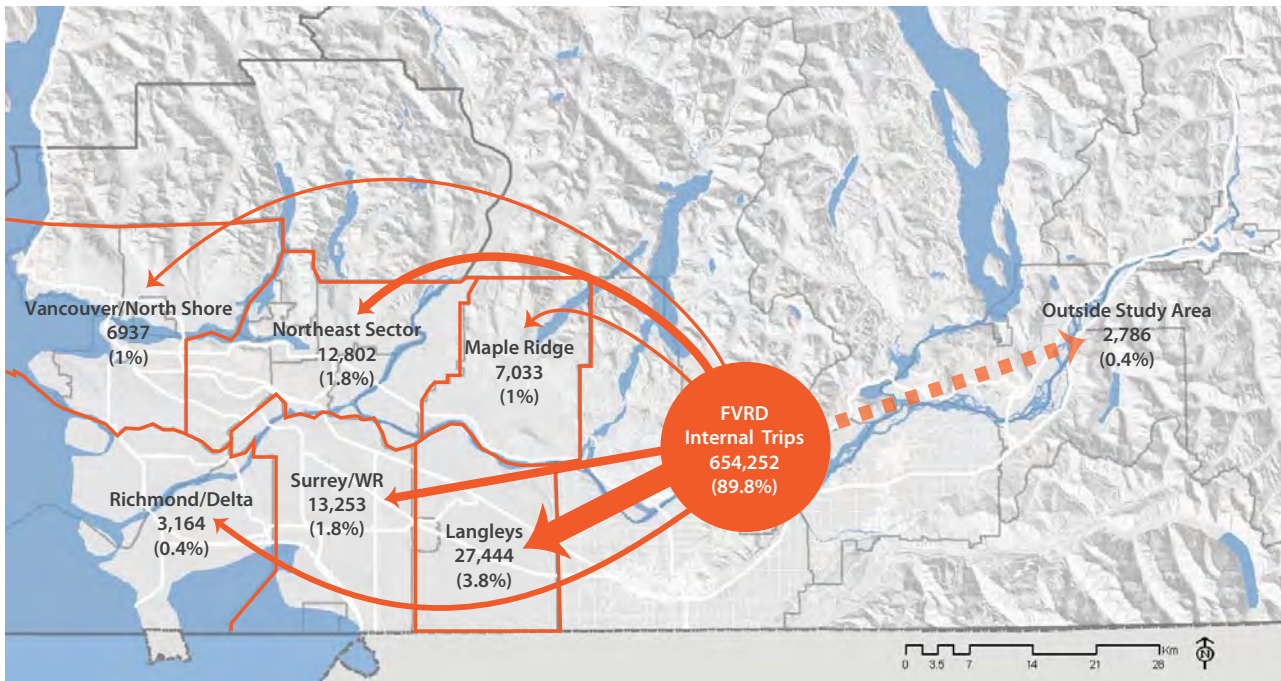
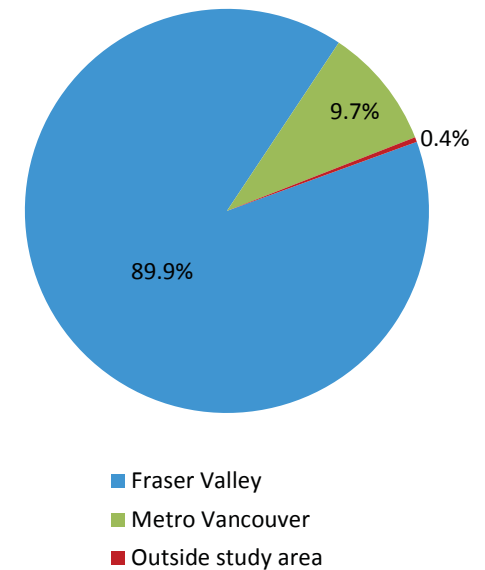


Figure 3.2 Trips originating within the FVRD (%)



FVRD remain in the FVRD, indicating that residents have a greater tendency to stay closer to home for work and play than many other communities in the lower mainland. This is consistent with the findings from the 2008 trip diary. Yet, there continues to be a strong link between Metro Vancouver and the FVRD. Metro Vancouver captures almost 10% of all trips originating in the FVRD.

3.2 Trips by Time of Day

The times at which people travel on a daily basis can impact how well the transportation system functions and whether it can accommodate the high demand at peak hours. The times at which people travel in the Fraser Valley have not changed substantially in the past few years.

As illustrated in Figure 3.3, there are two very distinct peak travel times; in the morning between 6am and 9am and in the afternoon between 3pm and 6pm. Together, the peak times represent 47% of all daily travel (see table 3.2). The morning peak is much more distinct than the afternoon peak signifying similar work start times but differing lengths of work days, or trips occurring on the way home from work in the evening.

Figure 3.3 – Trips Generated in the FVRD by Time of Day

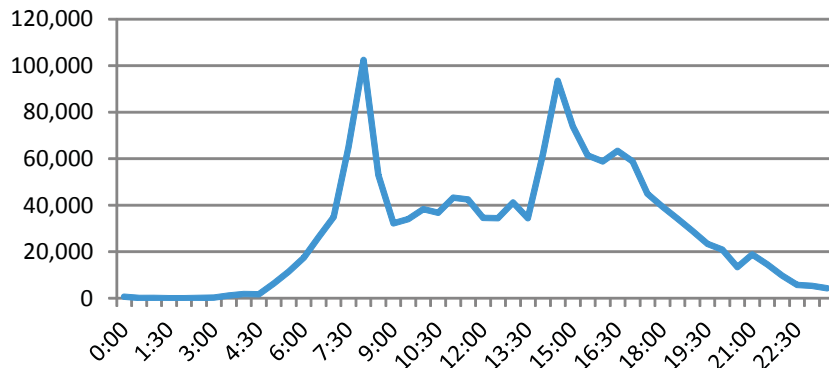
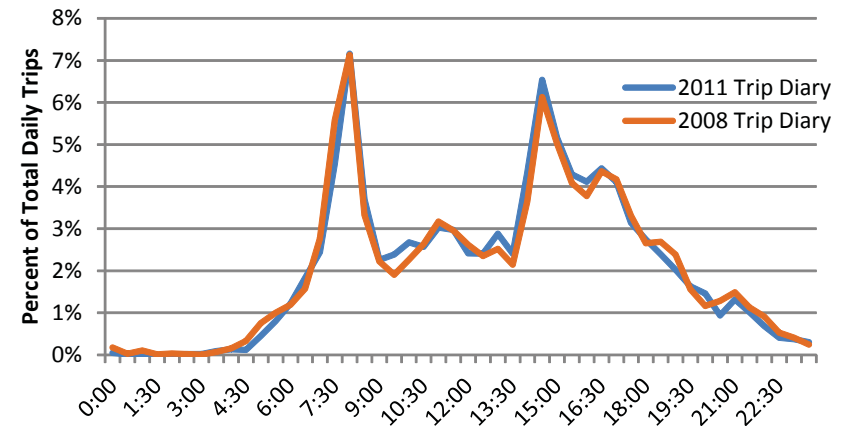


Table 3.2 – Trips Generated in the FVRD by Time of Day

Time Period	Time of Day	Total Trips	Daily Share
Early Morning	12am-6am	24,478	2%
Am peak	6am-9am	299,038	21%
Midday	9am-3pm	527,477	37%
PM Peak	3pm-6pm	361,418	26%
Evening	6pm-12am	218,889	15%
Daily	24 hour	1,431,300	100%

Figure 3.4 illustrates the percentage of trips generated in the FVRD by time of day for the 2011 and 2008 Trip Diary Surveys. The profiles look very similar with the exception of a more evenly dispersed portion of trips occurring during the late morning in 2011. In 2008 there was generally a single traffic peak that occurred around 11:00am, but for 2011 there were 3 smaller peaks occurring at about 10:00am, 11:00am and 1:00pm. This could be explained by trips made between UFV campuses by students. Evening trips occurring between 3:00pm and 8:30pm for the 2011 data are also more evenly dispersed with fewer spikes in traffic volume occurring in the profile than is seen in the 2008 data.

Figure 3.4 – % of Trips Generated in the FVRD by Time of Day



3.3 Trips by Mode

Despite attempts to encourage more sustainable modes of transportation, dependency on the automobile continues to grow (see table 3.3). Not only have auto-driver mode shares increased since 2004, but auto-passenger shares have decreased since 2008 indicating more people are driving alone, further increasing the total number of trips. Transit shares are shown to have increased by 1% between 2004 and 2008 to 2% of total shares, but have dropped back to only 1% since 2008. Walking and biking trips have steadily dropped since 2004 from 9% to just 6% in 2011.

Table 3.3 – Trips by Mode

Mode of Travel	Percentage Share			2011 (#)
	2004	2008	2011 (%)	
Auto Driver	69%	66%	71%	509,099
Auto Passenger	18%	21%	19%	140,015
Transit	1%	2%	1%	10,752
Walk/Bike	9%	7%	6%	43,288
Other	3%	4%	3%	17,818
Totals	100%	100%	100%	720,972

Source: 2004, 2008, and 2011 Trip Diaries (TransLink)

3.4 Trips by Purpose

People travel for a variety of different reasons. In the FVRD, trips for Work/Post-secondary have the highest share of trips but are closely followed by trips for Shopping/Personal Business purposes. In the 2008 Trip Diary, trips for Shopping/Personal Business, Social/Recreation/Dining and Escort purposes were not separated and together made up 74% of all trips, compared to 62% in the 2011 Trip Diary. This decrease in personal trips can be attributed to the recession, higher gas prices, and people taking fewer discretionary trips. Trips for Grade School purposes remained fairly constant, rising by just 1% over the 3 year period.

Table 3.4 – Trips by Purpose

Purpose of Travel	2011		2008
	Trips	Share	
Work/Post Secondary	200,459	28%	17%
Shopping/Personal Business	190,972	26%	74%
Social/Recreation/Dining	144,539	20%	
Escort	116,787	16%	
Grade School	75,733	10%	9%
Totals	728,490	100%	100%

3.5 Trip Purpose by Mode Share

The pie charts on the following page (figure 3.5) illustrate the type of transportation people most commonly use for different activities. The auto driver is the primary mode of transportation for every activity with the exception of grade school trips for which the primary mode is auto passenger. That said, more than a quarter of grade school trips are made by walking. This is due to younger ages and shorter distances. Almost a third of social/recreation/dining trips are made by auto passenger indicating higher levels of carpooling. The difference in mode share by activity can be a result of many different factors, including trip distance and/or availability of service. For example, transit service is not as convenient at night when most people are socializing.

3.6 Trip Distances

Trip length provides another indicator of travel demand. Table 3.5 shows average trip distances by mode. Of note are the exceptionally long average trip distances for transit trips originating in the FVRD. The West Coast Express, which runs from Mission into Vancouver, contributes to these long trip distances. However, the long transit trips indicate a need to improve transit options and efficiency throughout the Fraser Valley. Table 3.6, which shows trip lengths by purpose, is fairly predictable. Work/Post-Secondary trips have the longest average trip distances along with Auto-driver mode. Biking and walking trips are typically shortest along with Grade School trips. Trips for Social/Recreation/Dining purposes tend to be just a little bit further than trips for Shopping/Personal Business at 11.9km and 8.9km respectively.

When compared to Metro Vancouver, average trip lengths are slightly longer on average for every mode. This may be partially attributed to traditionally lower density development within urban areas. It may also be due to the fact that communities within the FVRD are separated by large tracts of agricultural land and open space making distances between greater.

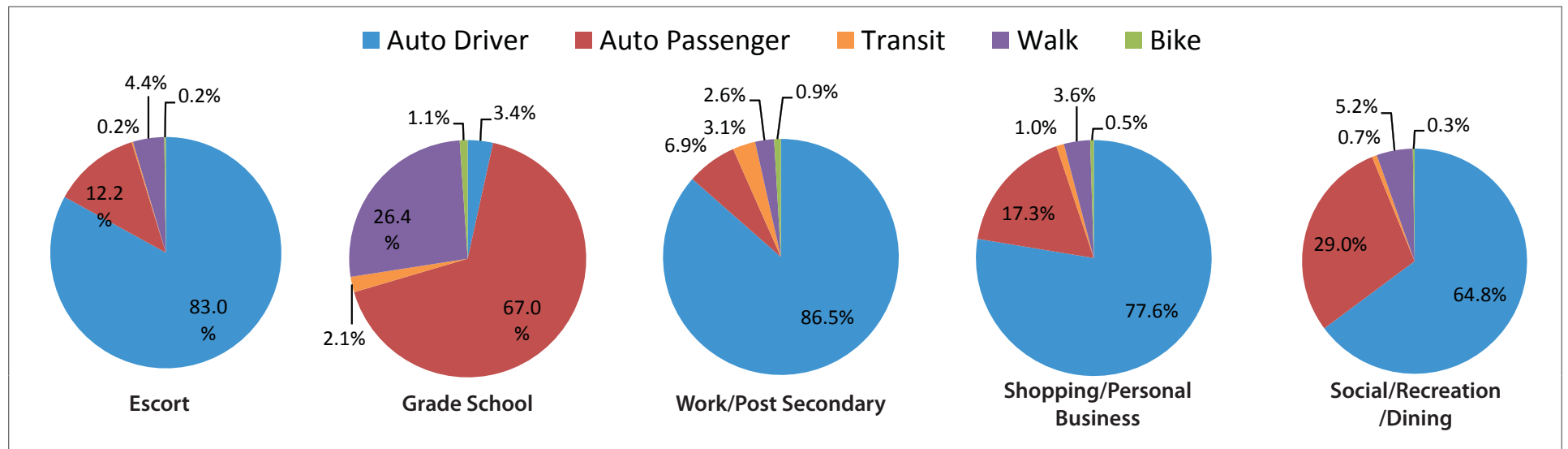
Table 3.5 – Average Trip Lengths by Mode

Mode	Average Trip Length (km)
Auto-driver	12.2
Auto-passenger	10.2
Transit	22.2
Bike	7.1
Walk	1.9
Other	14.1
All modes	11.4

Table 3.6 – Average Trip Lengths by Purpose

Purpose	Average Trip Length (km)
Work/Post-secondary	18
Shopping/Personal Business	8.9
Social/Recreation/Dining	11.5
Escort	7.5
Grade School	5.8
All purposes	11.3

Figure 3.5 – Trip Purpose by Mode Share (%) - FVRD



4. Sub-Regional Trip Analysis

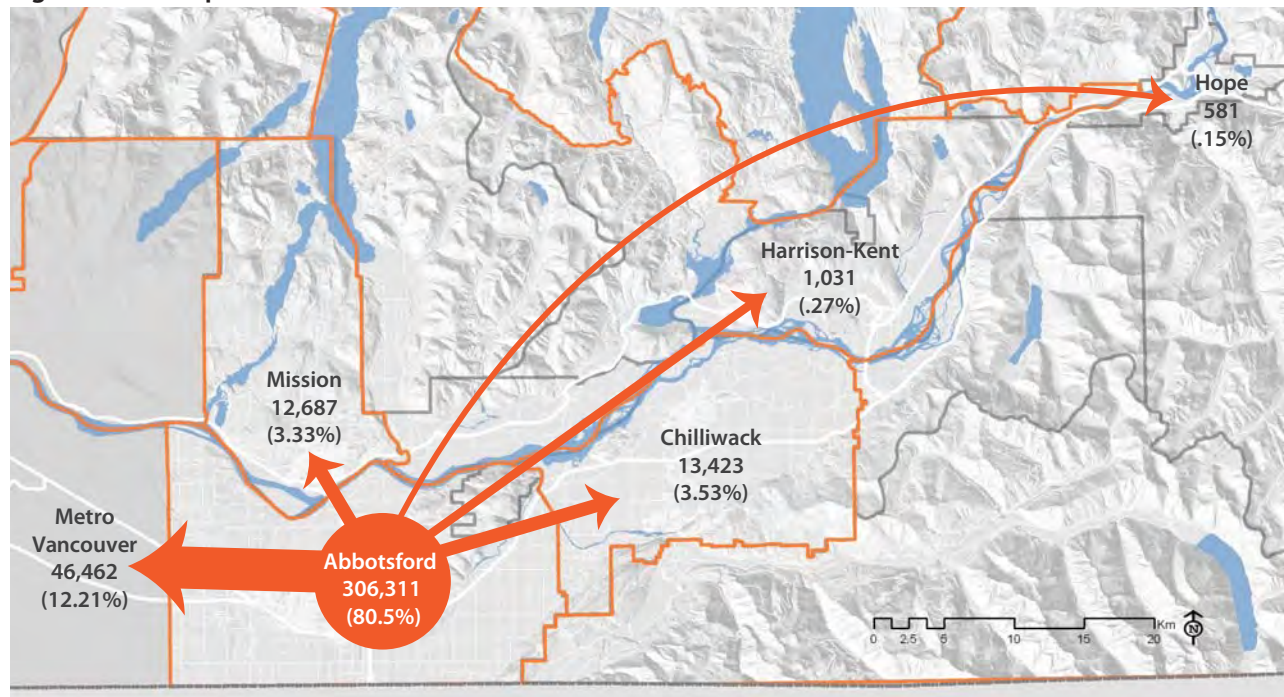
4.1 Abbotsford

As the largest community in the FVRD, many trips within the Fraser Valley start or end in Abbotsford. As one of the region's main hubs, it is important to understand how residents get around town, and how they interact with neighbouring communities. An estimated 380,000 trips were generated by Abbotsford during a typical fall weekday in 2011, giving Abbotsford the highest weekday *trip rate* in the FVRD overall at 3.04.

Trips by Destination

The map and graph below illustrate the patterns for all weekday trips made by Lower Mainland residents originating from Abbotsford. Figures 4.1a and 4.1b

Figures 4.1a - Trips from Abbotsford



show that the majority of trips originating in Abbotsford stay within Abbotsford (80.5%). This is an indication that residents can, for the most part, accomplish what they need to on a daily basis without leaving their community. A further 7% of all trips stay within the FVRD as a whole. The most popular destinations outside the FVRD are the Langleys (5.6%) and Surrey (2.4%). Trips to all other destinations within Metro Vancouver add up to 4.2%

Comparing 2008 and 2011 Trip Diary data, the total number of trips made from Abbotsford rose by 4% (see table 4.1a). However, the rise, depending on the destination, is not consistent. For example, while trips to the Langleys have risen by 20% since 2008, the number of trips to other locations in Metro Vancouver has fallen by -21%. Trips to Chilliwack and Mission have also increased.

Trips by Purpose

As presented in Figure 4.1c, Grade School and Escort trips generated in Abbotsford are, as expected, highest within Abbotsford (30%), although a significant proportion of trips to Harrison-Kent and Mission are also made for

Figure 4.1b - Daily Trips by Destination (From Abbotsford)

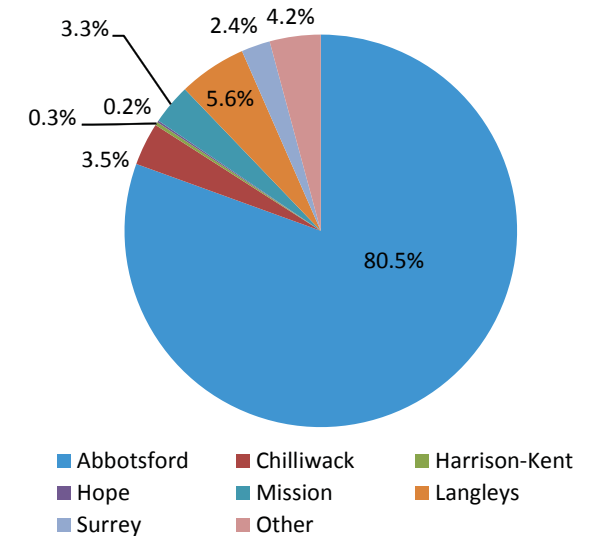


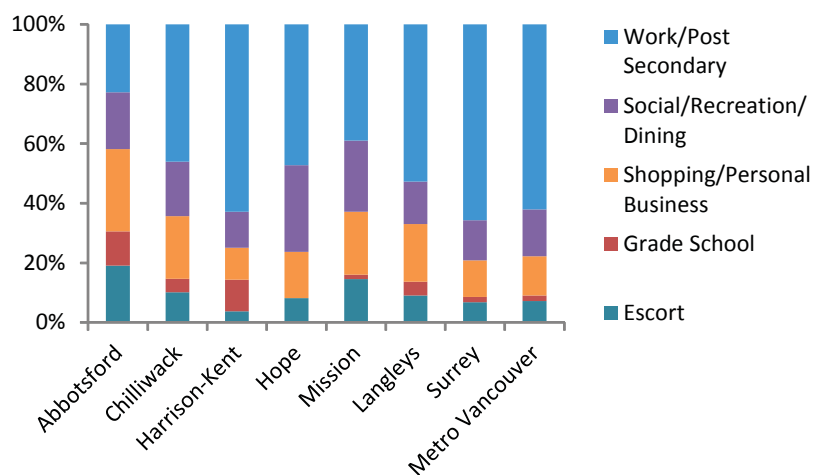
Table 4.1a - Trips from Abbotsford by Destination (2008-2011)

To	2008 (#)	2008 (%)	2011 (#)	2011 (%)	%Change
Abbotsford	292,192	80%	306,311	81%	5%
Chilliwack	12,587	3%	13,423	4%	7%
Harrison-Kent*	1,690	0%	1,031	0%	-39%
Hope*	648	0%	581	0%	-10%
Mission	11,292	3%	12,687	3%	12%
Langley	17,742	5%	21,370	6%	20%
Surrey	9,665	3%	9,032	2%	-7%
Other (Metro Van)	20,346	6%	16,060	4%	-21%
Total	366,163	100%	380,494	100%	4%

*Harrison-Kent and Hope data from 2008 was based on the 'Fraser Valley North' and 'Fraser Valley South' study areas, respectively.

Grade School and Escort purposes. Shares of Shopping and Personal Business trips are highest within Abbotsford and to Mission. However, the proportion of trips for Work/Post-Secondary remain high to all destinations. Only 20% of all trips within Abbotsford are work-related (due to more frequent trips for other purposes) whereas almost 70% of all trips from Abbotsford to Metro Vancouver are work-related.

Figure 4.1c - Trip purpose by destination - From Abbotsford



Trips by Mode

Overall, the number of trips made by Abbotsford residents has increased by 4% since 2008. This is consistent with population growth which has increased by 3.9% since 2008. During this this time, the Auto Driver mode share has increased by over 12% while all other mode shares have experienced varying degrees of decline (See Table 4.1b).

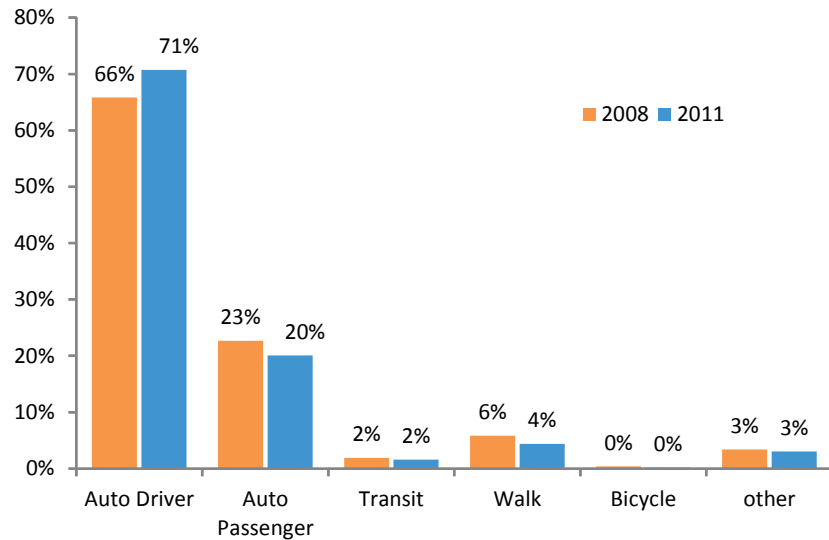
Table 4.1b - Daily Trips by Mode, 2008-2011

	2008	2011	% change
Auto Driver	241,022	270,626	12%
Auto Passenger	83,030	76,692	-8%
Transit	6,980	6,092	-13%
Walk	21,278	16,716	-21%
Bicycle	1,448	790	-45%
Other	12,407	11,635	-6%
Total trips - Abbotsford	366,164	382,551	4%

Figure 4.1d illustrates the number of daily trips by Abbotsford residents by mode based on the 2008 and 2011 Trip Diaries. As the overall number of auto drivers has increased, the percentage of auto passengers has decreased signaling an increase in the number of people driving alone. At the same time, the total number of trips taken by walking and bicycling also appears to be falling.

While transit constitutes only 2% of the mode share, this is higher than the transit mode share for the rest of the FVRD. This reflects the denser, urban population within Abbotsford. Abbotsford's slightly younger population and larger student population contributes to greater transit use as these groups tend to rely more heavily on public transit to get around.

Figure 4.1d - Trips by Mode, 2008-2011 (%) - Abbotsford



Trip Length

Figure 4.1e presents average trip lengths by trip purpose for residents of Abbotsford as compared to the FVRD. As expected, trip lengths are longest for the Work/Post-Secondary purpose and shortest for Grade School trips. Trip lengths for most purposes are similar to the FVRD with the exception of Work/Post-Secondary and Shopping / Personal Business which are shorter.

In terms of trip length by mode (see figure 4.1f), walking trips are the shortest and transit trips are the longest, though both are proportionately shorter than the FVRD as a whole. The length of transit trips is a reflection of the Westcoast Express, which is currently the primary transit link into Metro Vancouver from the FVRD. Auto-driver, auto-passenger, and bicycle trips are also significantly shorter than the FVRD average reflecting a high proportion of residents that live, work and play within Abbotsford.

Figure 4.1e - Average Trip length by Purpose (Km) - Abbotsford

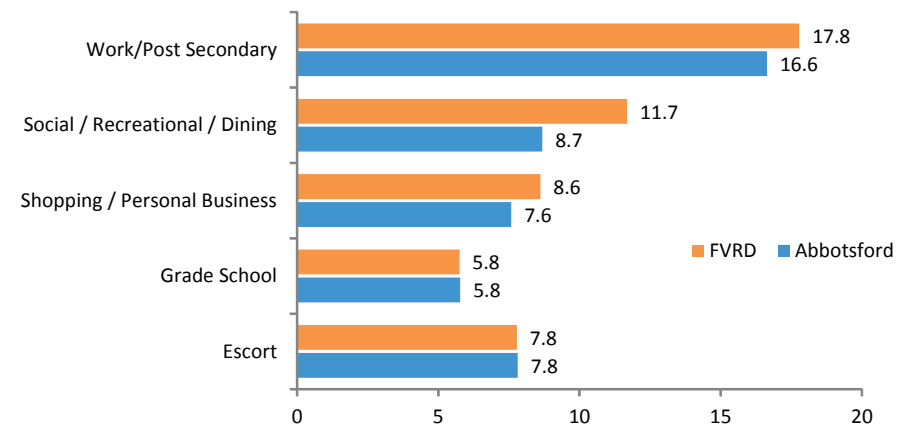
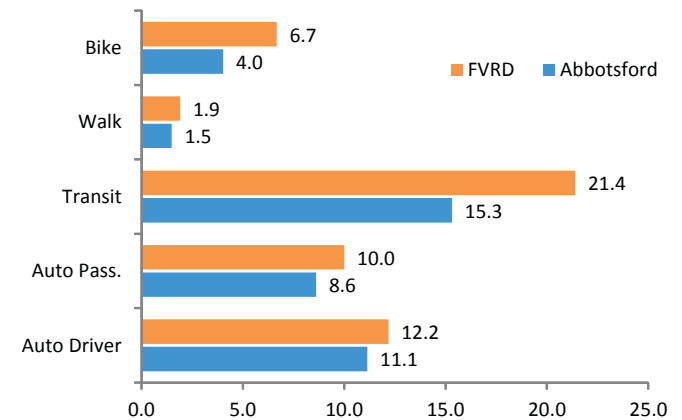


Figure 4.1f - Average Trip length by Mode (Km) - Abbotsford



4.2 Chilliwack

Chilliwack has a weekday *trip rate* of 2.84, the second highest in the FVRD overall. An estimated 218,000 trips were generated during a typical fall weekday in 2011.

Trips by Destination

The map and graph below illustrate the patterns for all weekday trips made by Lower Mainland residents originating in Chilliwack. Figure 4.2b shows that the majority of trips (84.5%) stay within Chilliwack indicating that the vast majority of residents stay within Chilliwack as they go about their daily routine. Over 95% stay within the FVRD. Most trips leaving Chilliwack are bound for Abbotsford. Only 4.5% of trips are destined for Metro Vancouver. Of those that are, the most popular destinations are the Langley's (1.5%) and Surrey (1%).

Table 4.2a - Trips from Chilliwack by Destination (2008-2011)

To	2008 (#)	2008 (%)	2011 (#)	2011 (%)	% Change
Abbotsford	12,185	7%	13,551	6.2%	11%
Chilliwack	145,405	83%	184,200	84.5%	27%
Harrison-Kent	1,733	1%	3,062	1.4%	77%
Hope	3,702	2%	5,972	2.7%	61%
Mission	873	0%	1,231	0.6%	41%
Langleys	2,561	1%	3,320	1.5%	30%
Surrey	1,894	1%	2,167	1.0%	14%
Other	7,578	4%	5,099	2.0%	-33%
Total	175,932	100%	218,603	100.0%	24%

The number of trips starting in Chilliwack has risen 24% since 2008. Most of the trips stay within the Fraser Valley, or are bound for Langley or Surrey, while the number of trips originating in Chilliwack to other locations in Metro Vancouver or outside the study area (*indicated as other in Table 4.2a*) has fallen by 33%.

Figure 4.2a - Trips from Chilliwack

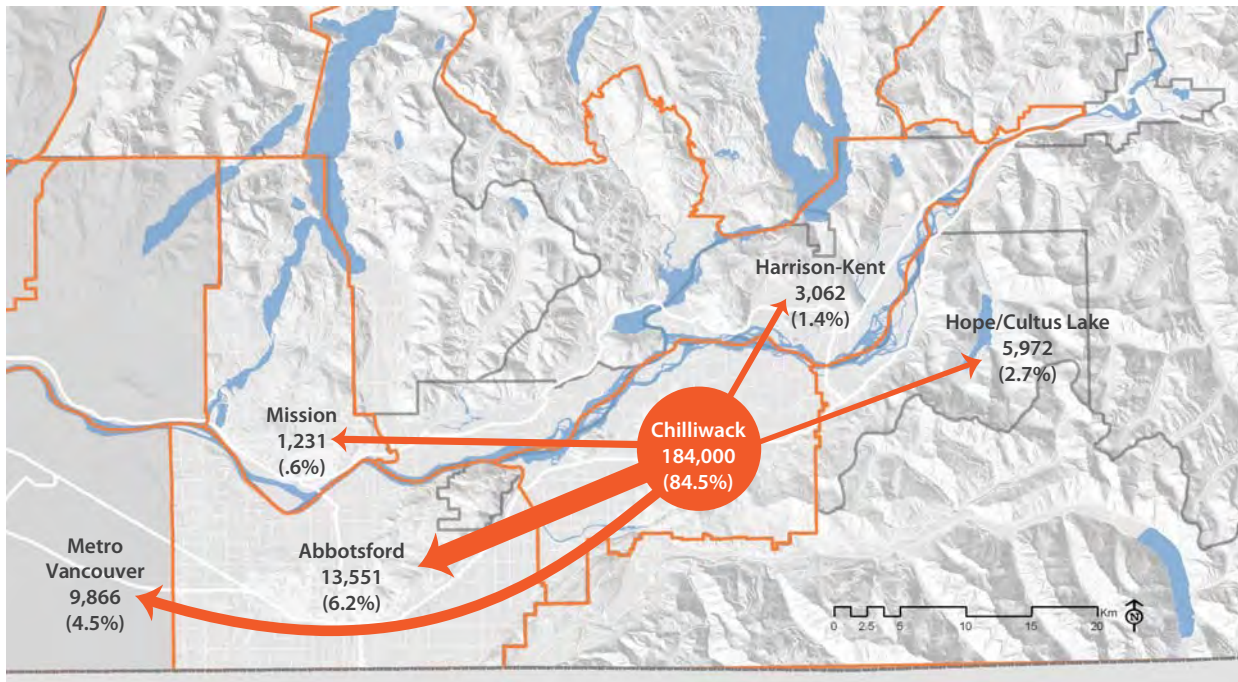
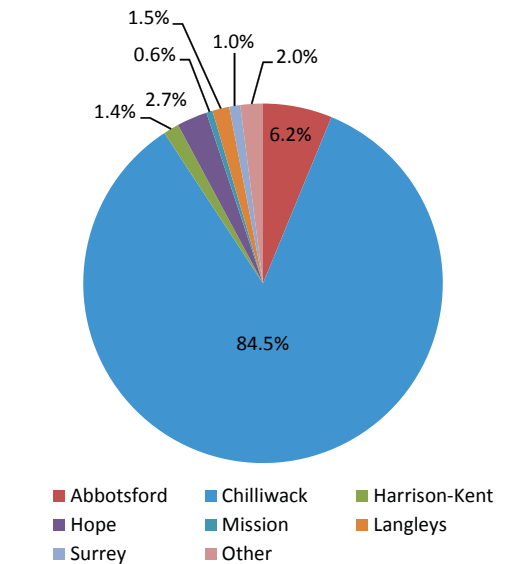


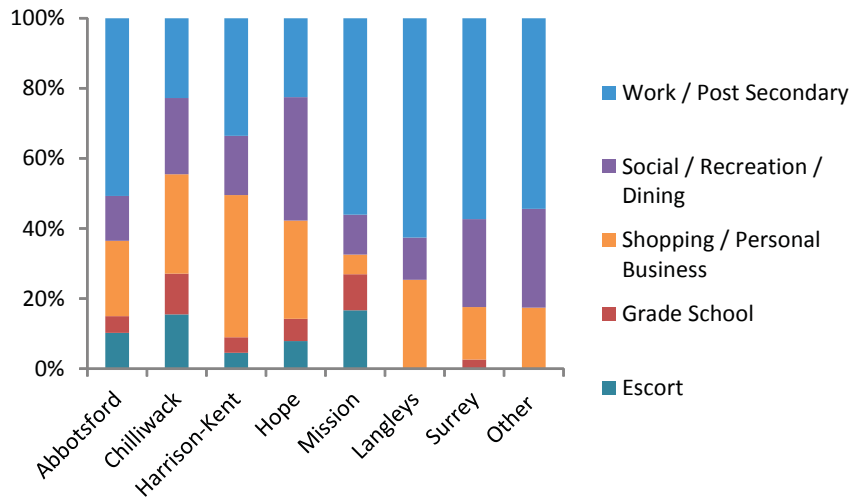
Figure 4.2b - Daily Trips by Destination (From Chilliwack)



Trips by purpose

In looking at Figure 4.2c, several patterns emerge as to why people are traveling to the places they do. The majority of trips to Abbotsford (51%), Mission (56%), and Langley (55%), Surrey (57%), and the rest of Metro Vancouver (56%) are work-related. Trips within Chilliwack or to communities closer to home tend to be more social or personal in nature. For example, 40% of trips made to Harrison-Kent were for shopping or personal business. Not surprisingly trips made to Grade School are highest within Chilliwack at 12%.

Figure 4.2c - Trip Purpose by Destination - From Chilliwack



Trips by Mode

In Chilliwack, the number of trips has increased by 24% since 2008 - a rate significantly greater than overall population growth (See table 4.2b). In absolute terms, the majority of this additional growth has been absorbed by two categories: Auto Driver and Walking. At the same time, the total number of trips by transit and by bicycle have decreased.

As illustrated in Figure 4.2d, trip mode shares continue to be dominated by the auto-driver which increased from 66% to 70% of the total mode share between 2008-2011. Factors contributing to the large proportion of residents in

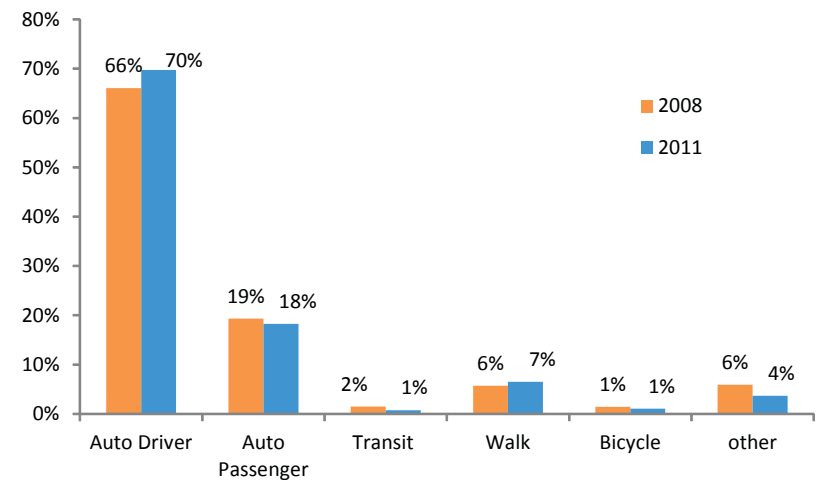
the Auto-Driver category include the demographic make-up of the region, the dispersed geography, and a lack of other available transportation options.

While the overall number of Auto Passengers has increased, the mode share of this category is falling. Still, it holds on to 18% of the mode share. Combined, walking, biking, and transit take only 9% of the mode share. Walking has shown a slight increase while transit has fallen by 1%. One factor contributing to the rise in the number of people walking is the construction of increasingly denser, mixed use developments. This however, does not explain the decrease in bicycle trips.

Table 4.2b - Daily Trips from Chilliwack by Mode 2008-2011

	2008	2011	% Change
Auto Driver	116,259	152,458	31%
Auto Passenger	34,056	39,897	17%
Transit	2,652	1,657	-38%
Walk	10,058	14,257	42%
Bicycle	2,507	2,289	-9%
other	10,399	8,045	-23%
Total Trips	175,932	218,603	24%

Figure 4.2d - Daily Trips from Chilliwack by Mode 2008-2011 (%)



Trip Length

Figures 4.2e and 4.2f present the average trip lengths by trip purpose and mode for residents of Chilliwack. Trip lengths for all purposes match the FVRD average fairly closely with trips to Work/Post-Secondary being slightly shorter in Chilliwack meaning that Chilliwack residents tend to work or study closer to home. Escort and Grade School trips are also proportionately shorter than the FVRD average. Social / Recreational / Dining trips are slightly longer.

As with all municipalities in the FVRD, transit trips are longest and walking trips are shortest in Chilliwack. Trips being made by bicycle are on average about 30% shorter than the FVRD average. Transit trips are also slightly shorter than the regional average.

Figure 4.2e - Trip Length by Purpose (Km)

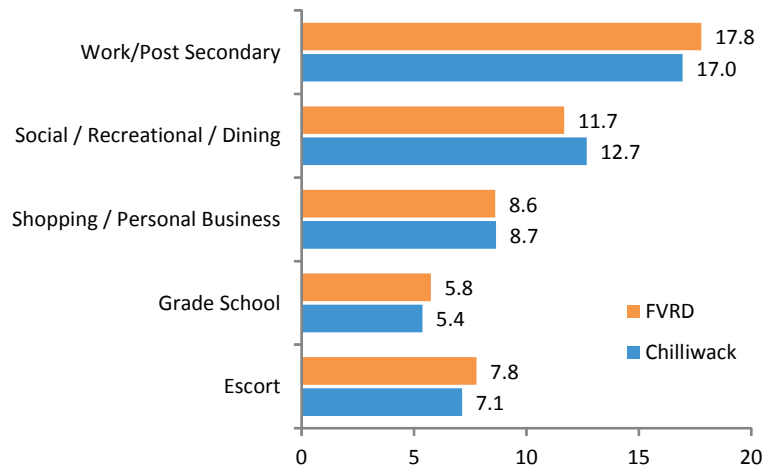
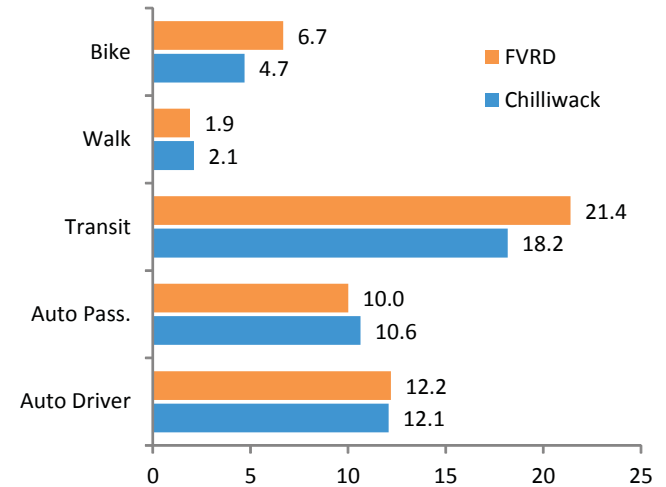


Table 4.2f - Trip Length by Mode Share (Km)



4.3 Mission

Mission has a weekday *trip rate* of 2.45, third highest in the FVRD overall and an estimated 36,000 trips were generated during a typical fall weekday in 2011.

Trips by Destination

The map and chart below illustrate the patterns for all weekday trips made by Lower Mainland residents originating from Mission. Figure 4.3a shows that the majority of trips (68.4%) stay within Mission. Trips leaving Mission tend to be south and westbound. Almost 15% of trips are to nearby Abbotsford. This is significantly higher than the number of trips going from Abbotsford to Mission indicating that Mission residents rely on Abbotsford for goods, services, and jobs that are unavailable in Mission. Another 12.7% of trips are taken to Langley, likely for similar reasons. The most popular destinations in Metro Vancouver are neighbouring Maple Ridge (3.3%) and the Langleys (2.2%) (See Figure 4.3b).

Movement between Mission and the more eastern municipalities is relatively low. That said, the number of trips from Mission to Chilliwack has increased

Table 4.3a - Trips from Mission by Destination (2008-2011)

	2008 (#)	2008 (%)	2011 (#)	2011 (%)	% Change
Abbotsford	11,194	15%	13,086	15%	17%
Chilliwack	578	1%	1,308	1%	126%
Harrison-Kent	2,776	4%	2,135	2%	-23%
Mission	47,420	63%	60,518	69%	28%
Langleys	1,895	3%	1,932	2%	2%
Maple Ridge	3,116	4%	2,877	3%	-8%
Other	8,472	10%	5,950	7%	-30%
Total	75,454	100%	87,808	100%	16%

Figure 4.3a - Trips from Mission

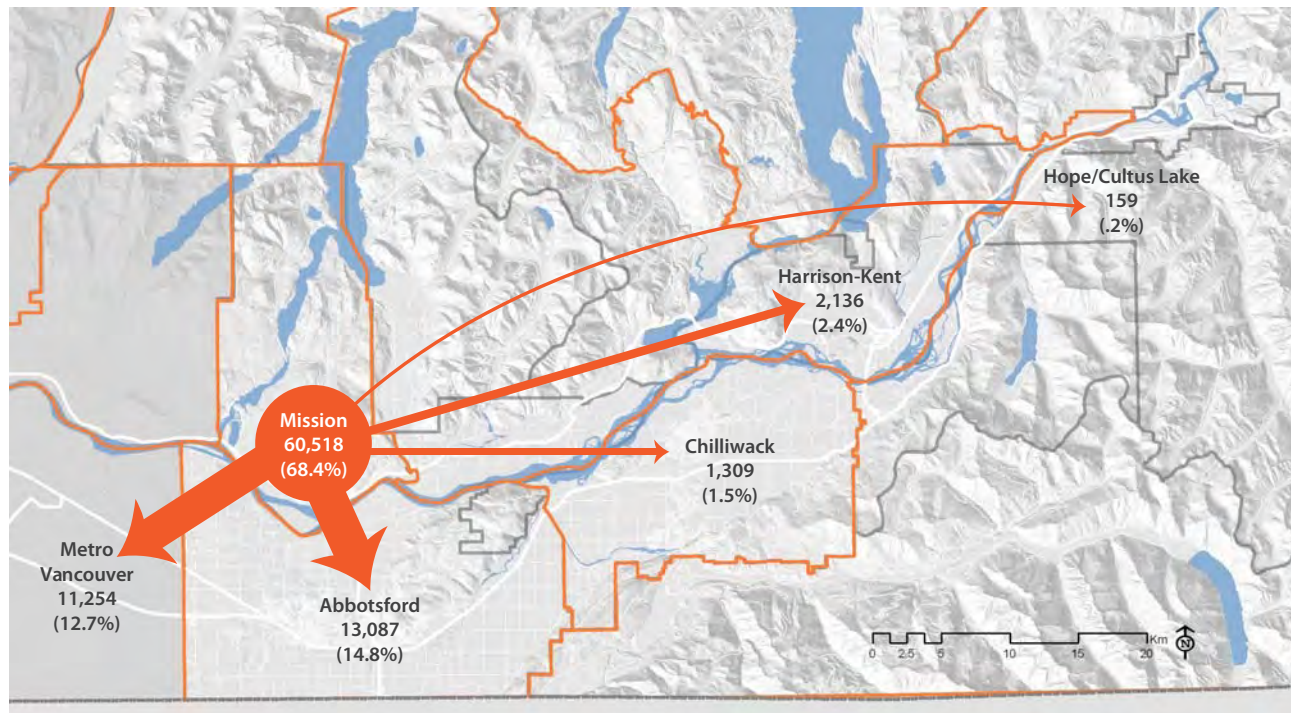
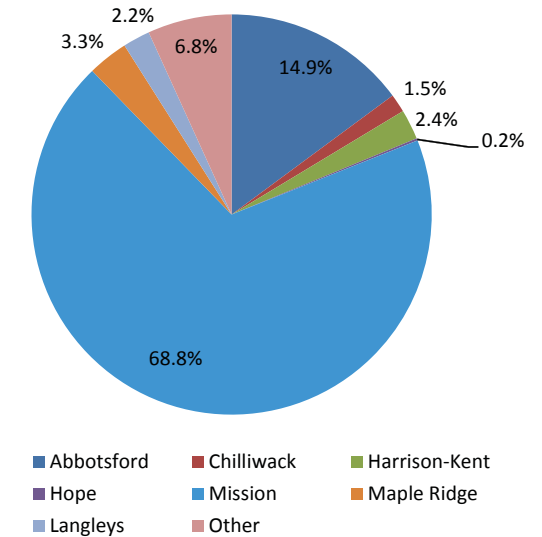


Figure 4.3b - Daily Trips by Destination - From Mission

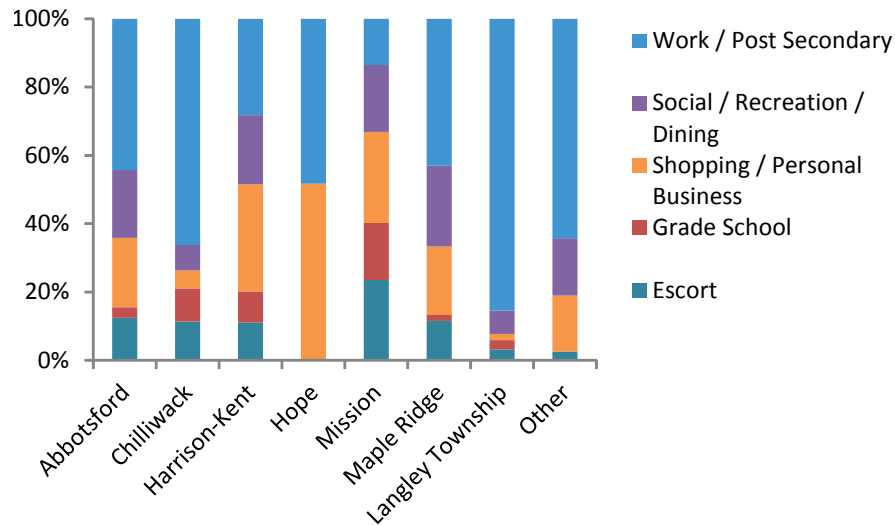


since 2008, along with trips to Abbotsford and Langley. Trips to other parts of Metro Vancouver have declined. The overall number of trips taken from Mission since 2008 has increased by 16% (See table 4.3a)

Trips by Purpose

As is the case in Abbotsford and Chilliwack, Mission residents tend to travel farther away for work and post-secondary. Proportions of Work/Post-Secondary trips are highest to Chilliwack and Abbotsford in the FVRD, and all of the top five destinations in Metro Vancouver. As might be expected, Grade School and Escort trips are proportionately highest within Mission. Social/Recreation/Dining trips are proportionately highest for destinations in Mission, Abbotsford, and Metro Vancouver while Shopping/Personal Business purpose trips are proportionately fairly evenly distributed (See Figure 4.3c).

Figure 4.3c - Trip Purpose by Destination - From Mission



Trips by Mode Share

Overall, the number of trips originating from Mission has increased at a rate of 18%, just higher than population growth (15%). Auto driver continues to be the dominant mode share, and is in fact growing. Between 2008-2011, the mode share increased from 63% to 67%. Auto passenger, walk, and bicycle mode shares all saw declining shares (See figure 4.3d). That said, when compared to

the regional average, Mission residents are less likely to drive to their destinations and more likely to use transit or walk.

Though the overall transit mode share is small and has only increased from 2% to 3% between 2008 and 2011, transit as a category has experienced the highest growth rate, increasing 62% over the same three year period. (See table 4.3b). A significant share of west coast express trips go to Port Coquitlam (20%) while almost 50% go further into Metro Vancouver. The vast majority of bus trips stay within Mission or head to nearby Abbotsford.

Figure 4.3d - Daily Trips from Mission by Mode 2008-2011 (%)

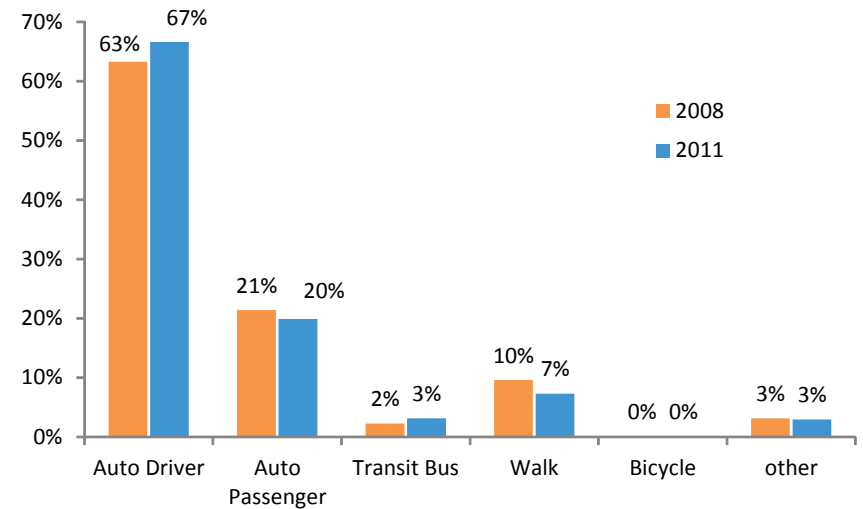


Table 4.3b - Daily Trips from Mission by Mode 2008-2011

	2008	2011	% change
Auto Driver	47,773	59,124	24%
Auto Passenger	16,172	17,674	9%
Transit (bus, WCE, skytrain)	1,720	2,780	62%
Walk	7,258	6,508	-10%
Bicycle	135	47	-65%
other	2,397	2,638	10%
Total Trips - Mission	75,454	88,771	18%

Trip Lengths

Figures 4.3e and 4.3f present the average trip lengths by trip purpose and mode for residents of Mission. As to be expected, trips for Work and Post-Secondary are the longest, while trips for Grade School were shortest overall. In Mission, trips for Work and Post-Secondary are proportionately longer than the regional average, attributable in part to the long commute some residents make on the Westcoast Express. Trip lengths for most other purposes are similar or slightly shorter than the FVRD overall with the exception being Shopping / Personal Business, which is only slightly above regional norms. This is due to the fact that many Mission residents head across the river to Abbotsford to shop and do errands.

On average, biking trips are shortest in Mission and transit trips are the longest. Compared to the regional average, bike trips made in Mission are much shorter while transit trips are much longer, due to topography and use of the Westcoast Express, respectively. Average distances for other modes of transportation in Mission follow the regional average fairly closely.

Figure 4.3e - Trip Length by Purpose (Km)

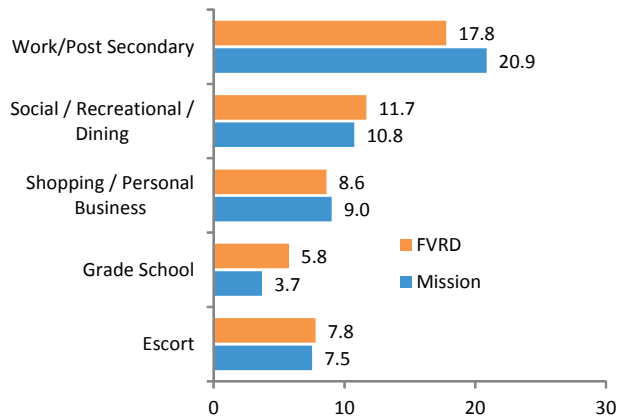
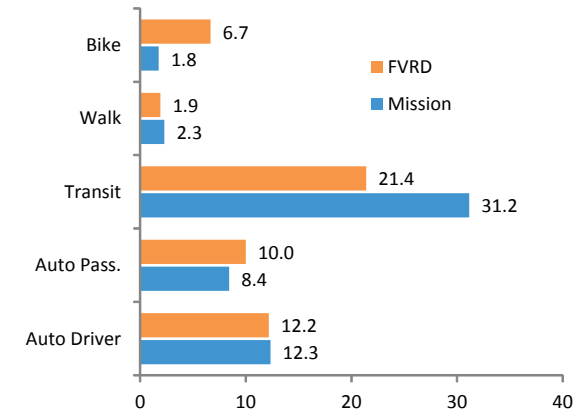


Table 4.3f - Trip Length by Mode Share (Km)



4.4 Harrison - Kent

Harrison-Kent residents have a weekday trip rate of 1.84, the second lowest in the FVRD overall. An estimated 20,500 trips were generated during a typical fall weekday in 2011. Harrison-Kent was counted in previous trip diaries under the title Fraser Valley North. However, as the boundaries are somewhat altered, care should be taken when comparing 2011 data with 2008 data.

Trips by Destination

The map and chart below illustrate the patterns for all weekday trips made by lower mainland residents originating from Harrison-Kent. Figure 4.4a shows that the majority of trips (55.4%) stay within the Harrison-Kent area. For trips leaving Harrison/Kent, the destinations appear to be more evenly spread among municipalities than is the case in other study areas. 16% of trip originat-

ing in Harrison/Kent are bound for Chilliwack, 10% head for Mission and another 10% are headed into Metro Vancouver. The most popular destinations in Metro Vancouver are Langley Township (2.8%) and Vancouver (1.6%) with all other destinations within Metro Vancouver at or below 1% (See Figure 4.4b).

Trips by Purpose

As shown in Figure 4.4c, a large proportion of trips made to Abbotsford are for Work/Post-Secondary purposes. Trips for Grade School and Escort purposes, as expected, are highest within Harrison-Kent but are also significant to Mission, Abbotsford, and Chilliwack. Proportionately, Shopping/Personal Business trips are fairly evenly dispersed with the exception of Langley Township where trips are primarily made for Social/Recreation/Dining and Work/Post-Secondary purposes only.

Figure 4.4a - Trips from Harrison/Kent

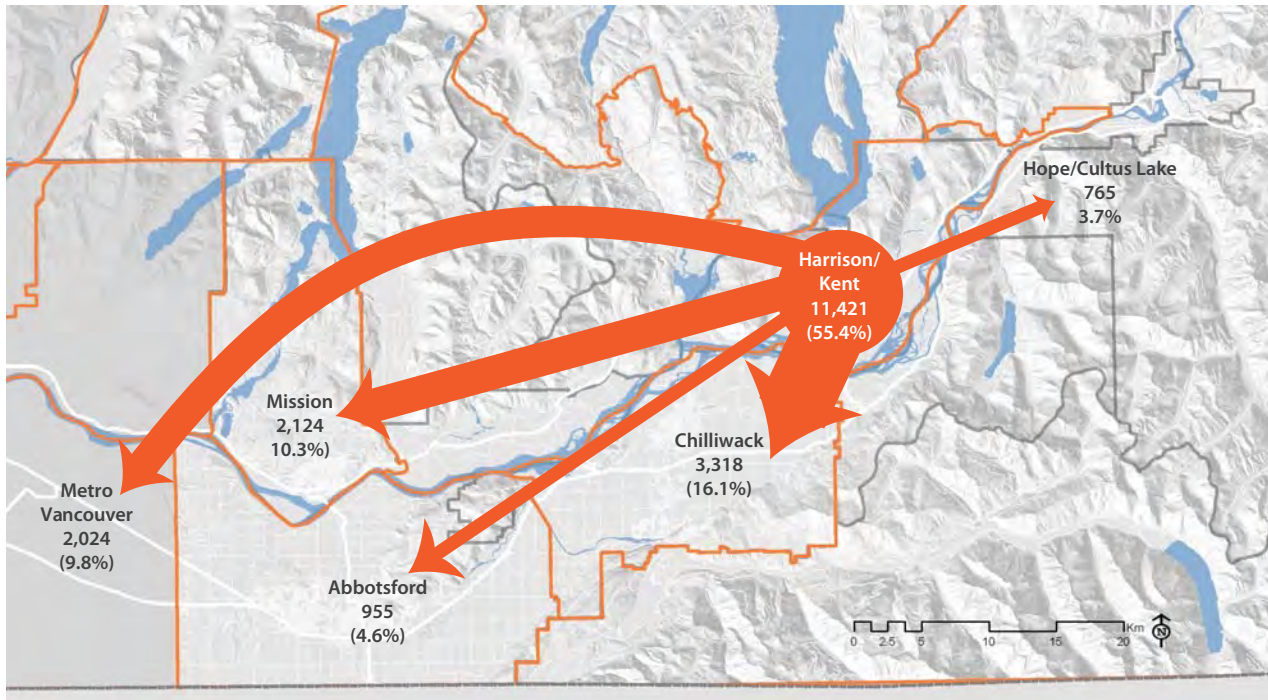


Figure 4.4b - Daily Trips by Destination - From Harrison/Kent

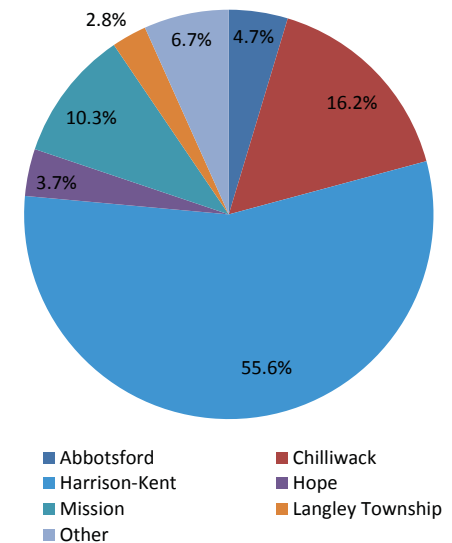
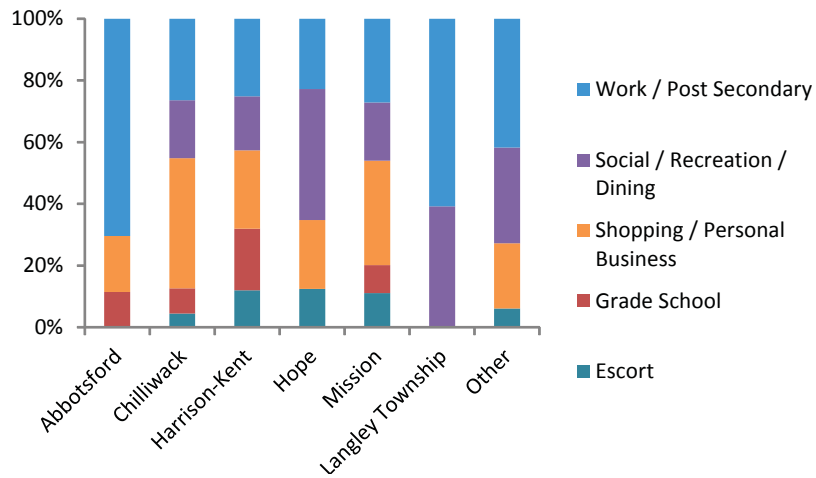


Figure 4.4c - Trip Purpose by Destination - From Harrison/Kent



Trips by Mode Share

Like other study areas, the vast majority of trips are made by auto driver. Transit only makes up 1% of the mode share, due to limited public transit options for residents in Harrison/Kent (the only bus available goes to Chilliwack). Walking and bicycle mode shares are slightly higher than the regional average due in part to the more compact Centres of Harrison Hot Springs and Agassiz. Together, transit, walk, and bike modes account for 10% of the total trips. With the exception of slightly higher bike use, Harrison-Kent follows the regional average fairly closely.

Table 4.4.1 - Daily Trips from Harrison/Kent by Mode, 2011

Mode	2011 Trips (#)	2011 Trips (%)
Auto Driver	13,752	66%
Auto Passenger	3,478	17%
Transit Bus	185	1%
Walk	1,118	5%
Bicycle	550	3%
Other	1,670	8%
Total trips - Harrison/Kent	20,753	100%

*2008 data was not comparable due to a shift in study area

Trip Length

As shown in Figure 4.4d, average trip lengths for all purposes are significantly higher in Harrison-Kent than the regional average indicating that many of the trips are to destinations outside of the community. As expected, Work/Post-Secondary trips are 29.1 km on average, an indication that most people are traveling out of the community for work. Grade School trips are on average the shortest at 11 km, which is considerably higher than the region's average. This is a consequence of the longer distances associated with living in more rural settings.

In terms of mode share, average trip lengths for auto driver, auto passenger, and transit modes are all more than double the regional average. The average length for trips made by transit is 56.9km. This is attributable to the remote geographical location and the fact that existing transit service is regional in nature running all the way to Chilliwack. Average trip lengths for walk and bike modes in Harrison-Kent are slightly shorter than the FVRD average due to the relatively compact centres of Agassiz and Harrison Hot Springs.

Figure 4.4d - Trip Length by Purpose (Km)

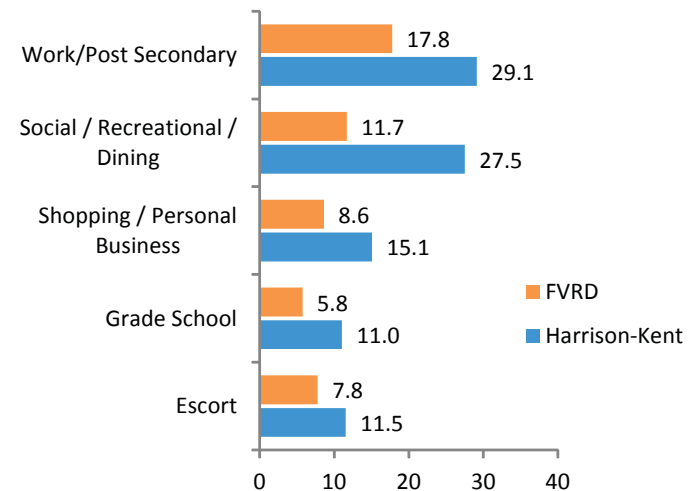
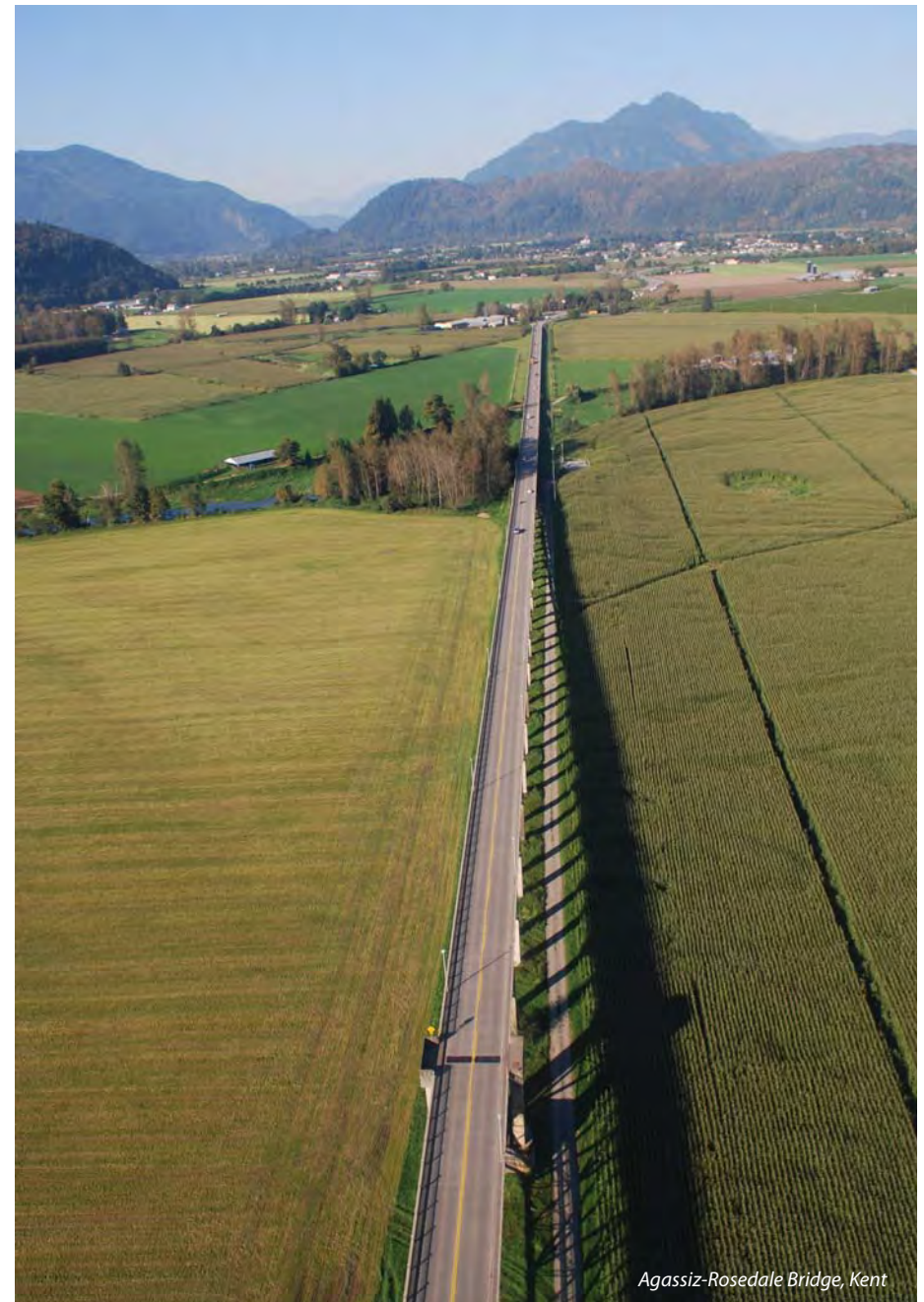
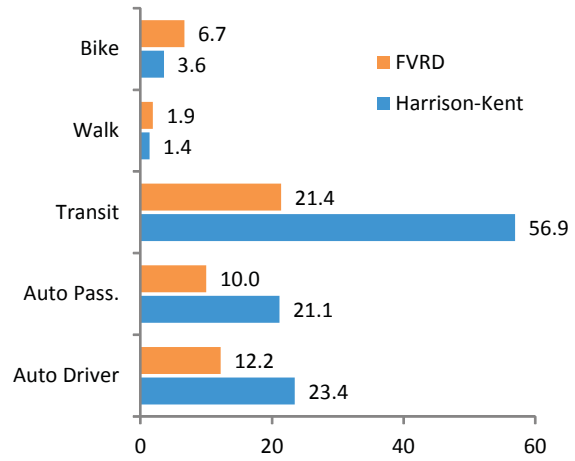


Figure 4.4e - Trip Length by Mode Share (Km)



4.5 Hope - Cultus Lake

This is the first time Hope has been included in the Trip Diary Survey. Please note that the study area for Hope encompasses a much larger area than the District of Hope itself. Most notably, it includes Cultus Lake and Electoral Areas D and E. Cultus Lake's proximity to Chilliwack has likely influenced the results, particularly in terms of the study area's relationship to other municipalities. As a result, care should be used in interpreting these findings. Hope-Cultus has a weekday trip rate of 1.67, the lowest in the FVRD overall. An estimated 10,500 trips were generated in Hope-Cultus during a typical fall weekday in 2011.

Trips by Destination

The map and charts below illustrate the patterns for all weekday trips made by Lower Mainland residents originating from Hope. Figure 4.5b shows that just over half of all trips (53%) stay within Hope. Over a third of all trips are taken to Chilliwack. This high percentage of trips going to another community

is uncommon in the rest of the region and indicates a strong reliance on Chilliwack for goods, services, and employment on the part of Hope/Cultus Lake Residents. By contrast, only 2.7% of trips originating in Chilliwack are bound for Hope. 93% of all trips stay within the FVRD. The most popular destinations in Metro Vancouver are Langley Township (1.4%) and Surrey (1.3%) with all other destinations within Metro Vancouver at or below 1%.

Trips by Purpose

For trips within Hope and to Chilliwack, the reasons for travel run the spectrum. Trips to communities farther afield tend to be more for work purposes. For example, the majority of trips to Abbotsford and Langley Township are for Work/Post-Secondary purposes. Other notable findings include: a large proportion of trips to Metro Vancouver are made for Grade School purposes. Social/Recreation/Dining trips are proportionately highest to Harrison-Kent, while Shopping/Personal Business purposes are proportionately highest to Mission and within Hope.

Figure 4.5a - Trips from Hope/Cultus Lake

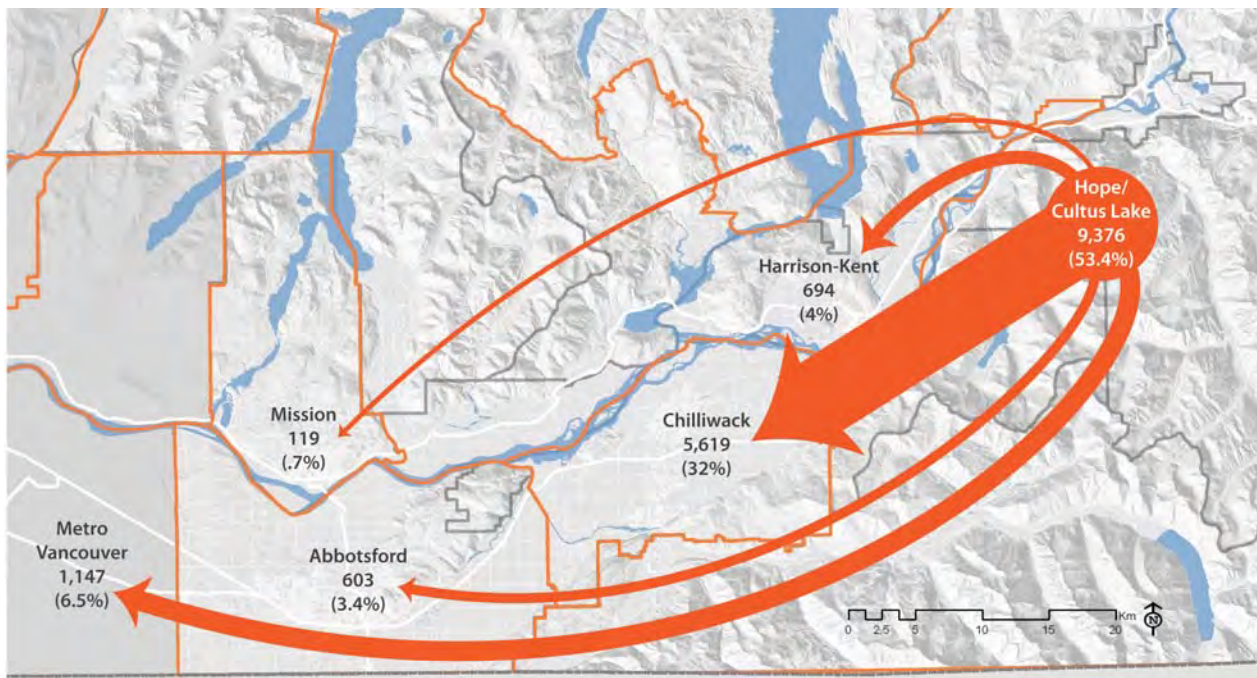


Figure 4.5b - Daily Trips by Destination - From Hope/Cultus Lake

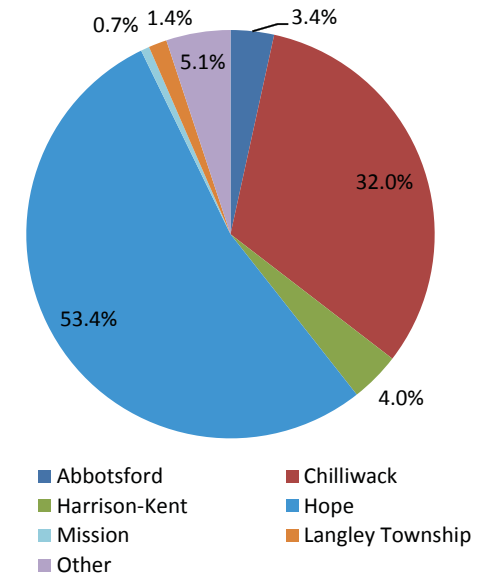
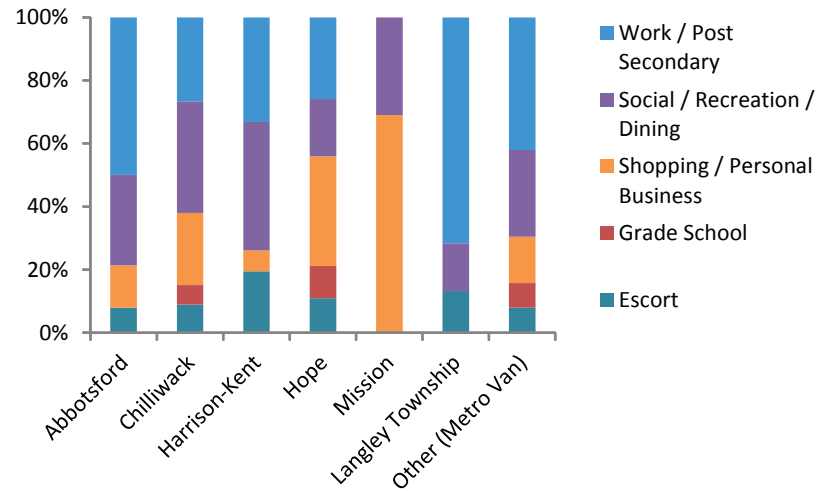


Figure 4.5c - Trip Purpose by Destination - From Hope/Cultus Lake



Trips by Mode Share

The majority of trips made by Hope residents are made by the auto driver mode and, in fact, proportionately more trips are being made by driving when compared to the FVRD as a whole. Walking and biking make up a small fraction of the overall trips at 5% with transit being the least used mode of travel. Transit use is minimal. Most of the transit trips recorded were as one section of a longer trip where residents drove to transit stations on the outskirts of Vancouver and preceded on transit to their final destinations.

Table 4.5a - Daily Trips from Hope/Cultus Lake by Mode, 2011

	2011 Trips (#)	2011 Trips (%)
Auto Driver	13,638	77%
Auto Passenger	2,272	13%
Transit	38	0%
Walk	595	3%
Bicycle	368	2%
Other	897	5%
Total Trips - Hope	17,812	100%

*2008 data unavailable

Trip Lengths

Figures 4.5d and 4.5e present the average trip lengths by trip purpose and mode for residents of Hope. Interestingly Social/Recreational/Dining trips average the longest as opposed to the rest of the FVRD where Work/Post-Secondary trips are longest. Even so, Work/Post secondary trips are the longest in comparison to other areas in the FVRD. This is a reflection of Hope's distance from other communities, particularly larger communities with more amenities. Trips for all purposes are proportionately longer than the regional average by a significant amount.

On average, trips by all modes are significantly longer than the regional average with transit averaging the longest trips at 77.5km, more than 360% longer than the FVRD as a whole. The shortest trips in Hope are made by walking but still average almost 5km. The longer trip distances result in a higher proportion of trips being made by auto-driver and auto-passenger modes and the more frequent travel to Chilliwack.

Figure 4.5d - Trip Length by Purpose (Km)

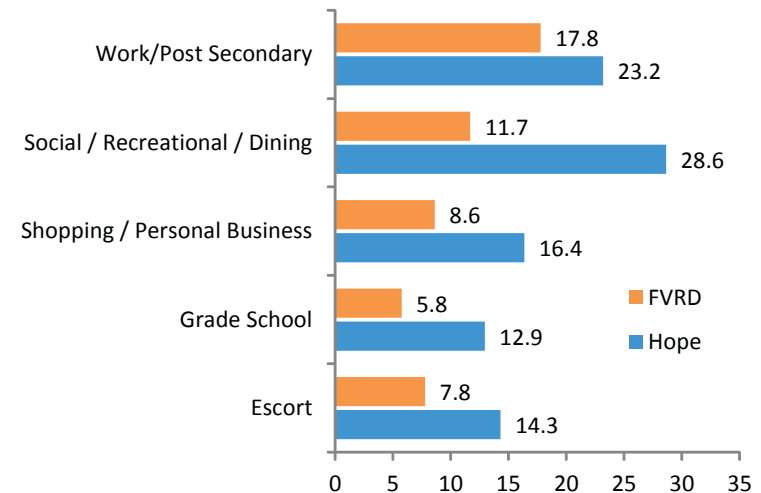
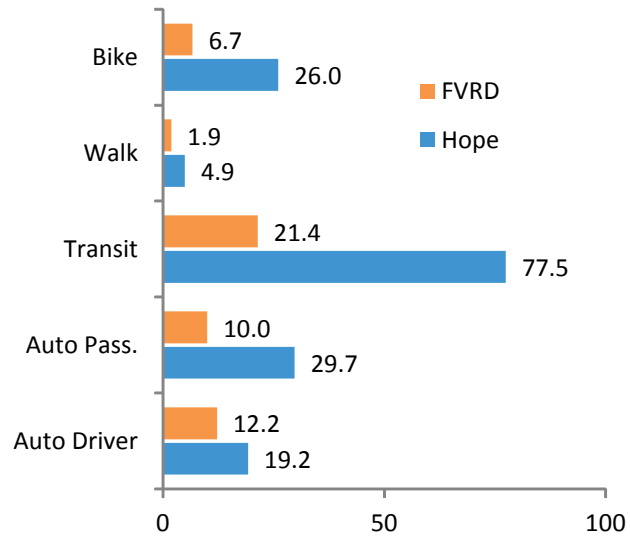


Table 4.5e - Trip Length by Mode Share (Km)



Appendix A

Appendix A shows the estimated number of trips that occurred within the FVRD on a fall weekday in 2011 using the 2011 Trip Diary Survey data.

Appendix A – Trips Within the FVRD

To	From					FVRD Total
	Abbotsford	Chilliwack	Harrison	Hope	Mission	
Abbotsford	306,311	13,423	1,031	581	12,687	334,033
Chilliwack	13,551	184,200	3,062	5,972	1,231	208,016
Harrison	955	3,318	11,421	765	2,124	18,584
Hope	603	5,619	694	9,376	119	16,411
Mission	13,087	1,309	2,136	159	60,518	77,208
FVRD TOTALS	334,508	207,869	18,343	16,853	76,679	654,252

Appendix B

Appendix B shows the estimated number of trips that occurred during a typical fall weekday of 2011 between municipalities in the FVRD and municipalities in Metro Vancouver.

Appendix B – Trips between FVRD and Metro Vancouver (includes trips going in both directions)


From/To	Abbotsford	Chilliwack	Harrison-Kent	Hope	Mission	FVRD
Burnaby	5,159	1,751	101	271	1,319	8,601
Coquitlam	3,447	1,100	287	70	1,235	6,139
Delta	1,218	281	176	116	448	2,239
Langley City	7,359	1,537	31	83	233	9,243
Langley Township	35,444	5,123	1,027	552	3,490	45,636
Maple Ridge	7,400	709	479	41	5,901	14,530
New Westminster	1,231	109	153	102	473	2,068
North Vancouver City	372	38	-	-	-	410
North Vancouver District	350	90	128	184	192	944
Pitt Meadows	1,409	-	137	33	1,269	2,848
Port Coquitlam	2,107	426	260	-	1,634	4,427
Port Moody	366	266	-	-	232	864
Richmond	2,383	1,013	133	114	387	4,030
Small Municipalities	184	-	-	-	-	184
Surrey	18,038	4,490	481	453	2,191	25,653
UEL	471	-	-	-	41	512
Vancouver	5,331	2,213	693	345	2,958	11,540
West Vancouver	254	216	-	-	81	551
White Rock	938	224	-	-	77	1,239
Total:	93,461	19,586	4,085	2,363	22,161	141,658

Appendix C

Example of a Trip Diary Day

The following table illustrates **all trips taken by a mother** on her Trip Diary Day.

See *Example "How to Record your Trips"* (next page) for how she entered information into her trip diary

Trip 1	Trip 2	Trip 3	Trip 4	Trip 5	Trip 6
<i>Mother left home in the family car. She first dropped off her children at Day Care.</i>	<i>She then drove to the SkyTrain and traveled to Broadway Station. From there took a bus to arrive at work.</i>	<i>She left work to go for lunch. She walked from work to the restaurant.</i>	<i>She finished her lunch and walked back to the office.</i>	<i>She left work early, took a bus, the SkyTrain, and then transferred to another bus for a doctor appointment.</i>	<i>Took a bus from the doctor's office to the SkyTrain, then drove home.</i>
START  Home ↓	START  Day Care ↓	START  Work ↓	START  Restaurant ↓	START  Work ↓	START  Doctor Office ↓
 Car (with kids) ↓	 Car (alone) ↓	 Walk ↓	 Walk ↓	 Bus ↓	 Bus ↓
 Day Care END	 SkyTrain ↓	 Restaurant END	 Work END	 SkyTrain ↓	 SkyTrain to Park'n'Ride ↓
	 Bus ↓			 Bus ↓	 Car (alone) ↓
	 Work END			 Doctor Office END	 Home END

- The mother's baby and other child would also have their own separate trip forms.
- The father's trip form would include his trips to pick up the children from daycare.

