



City of Coquitlam

Strategic Transportation Plan Update

Discussion Paper #3:
Evaluation Criteria
and Funding Trends Outlook



City of Coquitlam – Strategic Transportation Plan Update



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City of Coquitlam – Strategic Transportation Plan Update



1.0 INTRODUCTION

The Strategic Transportation Plan (STP) Update is intended to help shape Coquitlam's transportation investments and programs over the next twenty years and beyond. This process is important to ensure that transportation investments work towards achieving the City's strategic vision and community goals, and make the best use of available resources. In order to provide the City with clear directions and priorities, the STP Update will provide the City with a clear vision of the multi-modal transportation system to serve the residents and businesses of the community for the next twenty years and beyond.

Two Discussion Papers have been prepared to date as part of the STP Update. The first Discussion Paper summarized existing travel patterns and transportation conditions throughout Coquitlam. The second Discussion Paper outlined a visioning direction for the STP Update, including a proposed Vision, Goals, and Objectives.

This phase of the STP Update involves the development and evaluation of a number of different transportation scenarios. This is the third Discussion Paper being developed as part of the STP Update. The purpose of this Discussion Paper is:

- 1) To develop a comprehensive evaluation framework to be used in the identification and screening of transportation scenarios in Discussion Paper #4.
- 2) To establish indicators and targets that are linked to the Vision, Goals, and Objectives identified in Discussion Paper #2.
- 3) To identify historic investment levels and develop preliminary funding trends for discussion purposes over the next thirty years.





2.0 EVALUATION FRAMEWORK

Phase 2 of the STP Update involves developing and evaluating a number of different transportation scenarios for each mode of transportation. This section describes the approach that will be used to develop transportation scenarios for preliminary discussion among agencies and public stakeholders, and then describes the framework that will be used to evaluate the range of potential solutions. Specific transportation improvements will be identified and developed in Discussion Paper #4 based on this framework before developing packages of improvements and scenarios.

2.1 Scenario Development

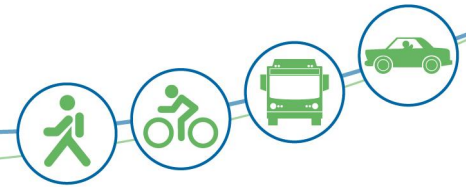
Discussion Paper #4 will identify a number of improvement strategies for all modes of transportation. For the development of these scenarios, Discussion Paper #3 and #4 will engage in a comprehensive process of 'possibility thinking' in order to shape scenarios. In this regard, these discussion papers examine possible futures to examine the range of responses and commitments required to see a significant shift towards a more sustainable transportation system and meet the Vision, Goals and Objectives for the STP Update. In order to assist in the ultimate development of scenarios, it is necessary to understand and build awareness of the degree of change that is expected through to the plausible significant steps that the City may wish to take over the long-term.

The traditional method of looking at different investment levels in transportation plans focused on investments in individual modes. In fact, the previous STP was focused on individual modal plans with investment for each mode. The result was that higher levels of attention was given to and placed on major street improvements. The STP Update will build from that foundation to establish a more holistic way of not only looking at individual areas of investment in walking, cycling, transit, and streets, but will also look at how they may be combined to achieve the overall goals and objectives of



the Transportation Plan as developed in Discussion Paper #2. In that regard, the potential range of investments may be viewed as part of either a True, Stretch or Bold scenario. These three scenarios can be differentiated from each other in two ways: 1) overall investment levels in transportation, and/or 2) the focus of transportation investments. Each of these scenarios are described below:

- True directions involve changes to the transportation system that are expected over the next 20-30 years, based on previous investment levels and which generally follow a “business as usual” approach. This involves staying the course with investment levels that are generally consistent with the City’s planned growth in revenue over that time period (for example, increasing investment levels at a 2% annual rate consistent with the City’s rate of population growth). A true scenario could ensure a basic network of cycling facilities across the City, pedestrian improvements along most major streets, and enhanced transit facilities at major transit facilities.
- Stretch directions for the transportation system may include directions that address more than basic needs, but are necessary to make a difference in terms of increasing sustainable modes of transportation and reducing greenhouse gas emissions. This would involve continuing to make significant investments in transportation systems consistent with the City’s planned growth in revenue over that time period, but with moderately higher investment levels above the rate of population growth, and which are focused on walking, cycling, and transit supportive facilities as well as programs that will encourage sustainable modes of transportation.
- Bold directions are those transportation system improvements are focused on investing significantly more resources towards the transportation system, with a focus on sustainable modes of transportation. This scenario would involve significant increases in investment levels, including significant contributions from other funding sources for major projects. The results of a bold scenario would be a complete, multi-modal street network that includes a dense network of bicycle facilities, accessible and connected pedestrian systems with attractive facilities in key pedestrian areas and to transit stop and stations, attractive pedestrian amenities at



most transit stops in conjunction with significantly greater levels of service, as well as TDM programs that help bring together private and public sector interests to support a commitment to reducing single occupant vehicle travel and working towards a more sustainable transportation system. Investments in the transportation system in this regard may be focused on sustainable modes at the expense of adding capacity for general purpose traffic.

In this regard, the STP Update will consider the varying levels of network development for each mode as an integrated system. The evaluation criteria described below would apply to the combined multi-modal plans, with particular attention on major investments, as well as the combined package for a true, stretch and bold scenario.

2.2 Evaluation Framework

An evaluation framework is a standard measurement platform for assessing the merits of different project options. An evaluation framework can be used to assess projects, evaluate the relative impact of a project (relative to a base case scenario), and provide a comprehensive and holistic approach to infrastructure planning for multi-modal investments as previously described. The STP Update provides an opportunity to assess multi-modal transportation options using a common evaluation framework. To do so, a multi-modal evaluation framework is recommended for assessing options and scenarios. This framework consists of a multi-criteria decision matrix tool designed to:

- Provide a balanced view to decision-makers and help understand the trade-offs that are required in any decision;
- Assess investments in key modes;
- Evaluate major improvements and compare options where suitable;
- Understand connections with and contribution to key transportation goals and objectives; and
- Facilitate comparison with other program needs.





The evaluation framework will have two main applications:

1. Major Projects. The evaluation can be used to compare improvement options for major projects. The framework can be used to compare project options relatively to each other and a base case scenario.
2. Transportation Scenarios. The evaluation can be used to compare the overall transportation scenarios for sustainable modes.

The framework includes indicators that are linked to the goals developed in Discussion Paper #2. Each indicator will include one or more measures. These measures will be assessed both qualitatively and quantitatively, and each measure will be assessed on a relative scale ranging from low, moderate, to high. The evaluation framework is goals oriented and is designed to deliver a balanced transportation system that achieves the City's vision and broad community goals. Descriptions of potential indicators and measures are summarized in Table 1.

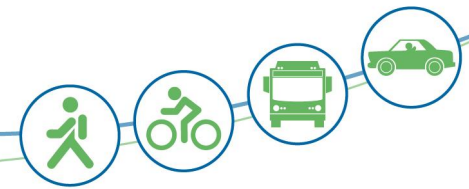


Table 1 –Evaluation Framework for Transportation Scenarios and Major Investments

STP Goal	Indicators	Measures	Assessment
Goal #1: Build high quality multi-modal facilities within and between neighbourhoods	Network Coverage	Percent of City within 400 metres of bicycle facility	Quantitative
		Percent of streets with sidewalks within 400 metres of identified pedestrian generators ¹	Quantitative
		Average residential and employment densities within 400 metres of frequent transit corridors or within 800 metres of rapid transit stations ²	Quantitative
Goal #2: Develop transportation infrastructure and services to support a healthy environment	GHG Emissions	Percent change in GHG emissions reductions compared to baseline	Quantitative
	Vehicle Kilometres Travelled (VKT)	Percent change in VKT compared to future base	Quantitative
Goal #3: Maintain and improve the quality of streets as a place for people.	Quality of neighbourhood streets	Relative contribution to improving safety of neighbourhood streets	Qualitative
	Quality of key urban centres ³	Relative contribution to making key urban centres more pedestrian, bicycle and transit friendly	Qualitative
	Accessibility	Relative contribution toward enhancing access for people with physical and cognitive disabilities as well as the general public	Qualitative
Goal #4: Move people and goods efficiently	Travel Time Savings	Person travel time reduction relative to base case condition	Quantitative
	People Moving Capacity	Changes in delays at key intersections and along the major street network as measured in terms of people and vehicles	Quantitative
Goal #5: Prioritize walking, cycling, transit, and other sustainable modes of transportation	Transportation Choices	Mode shift to walking, cycling and transit	Quantitative
		Attractiveness of sustainable modes of transportation	Qualitative
	Safety	Relative contribution towards improving safety for all street users	Qualitative
Goal #6: Manage the transportation system efficiently as the community evolves	Financial	Class D cost estimates	Quantitative

¹ Pedestrian generators include the City Centre, Neighbourhood Centres, rapid transit stations, post-secondary schools, community centres, cultural facilities, ice rinks, pools, schools, and parks.

² Routes with 15 min or better service throughout the day and into the evening, 7 days per week

³ Regional City Centres or Neighbourhood Centres as defined in the Official Community Plan





3.0 TARGETS

As noted in Section 2, targets are a critical component of a transportation plan, as they are an effective way to measure progress towards achieving the goals of the Plan. Targets will help to ensure that the STP is implemented as intended, and to determine whether the plan is achieving its goals. To be effective, targets should be:

- *Meaningful.* Targets can be used to point to success in achieving the goals and objectives of the STP and the broader vision of the STP.
- *Measurable.* Targets must be based on criteria that are readily measurable and for which data or information can be readily obtained.
- *Manageable.* Targets should be based on measures that take into account the resource limitations of the City and be limited to measures where information is accessible or data is simple to collect. To be manageable, targets should also be limited to areas or policies over which the City has significant influence or control.

One of the most common targets for transportation plans is mode share, or the percentage of trips made by each mode of transportation. It implies much more than simply how people are choosing to travel. Among other things, changes in mode share can be an indicator of how attractive the City will be for walking, cycling and using transit; how integrated the City's transportation system is with land use patterns; and how well the transportation system is helping to achieve the City's vision to be a community of neighbourhoods within a vibrant urban city where people of all ages, abilities and cultures choose to live, learn, work, and play. It is also an indication of how investments in sustainable modes can shift the amount of driving that people do to support healthier and more vibrant communities.

3.1 Framework for Establishing Targets

The framework for establishing mode share targets involves working backwards from the targets that were developed as part of the City of Coquitlam's Community Greenhouse Gas Reduction Strategy process. This process supported the City in identifying community-wide GHG reduction



targets, policies and actions for the Official Community to meet Bill 27 requirements. Targets for GHG emissions were adopted by Council and incorporated in the OCP in May 2010. The Greenhouse Gas Reduction Strategy process identifies a number of strategies to help reduce GHG emissions, and estimates that by following the strategies under a “Preferred Path” scenario, the City may be positioned to reduce community-wide GHG emissions by approximately 14% below 2007 levels in 2031, and per capita GHG emissions by over 50% below 2007 levels by 2031. It should be noted, though, that achieving these targets will require cooperation with senior levels of government and will depend on several factors, including growth rates and the implementation rate of local and senior government initiatives.

Work to date on the Community Greenhouse Gas Reduction Strategy includes a comparison of GHG emissions between a “Business as Usual” scenario and the “Preferred Path” Scenario in 2021, 2031 and 2051. The scenarios identify the amount of GHG emissions that are forecast to be reduced as compared to the “Business as Usual” scenario through a number of local government and senior government “policy wedges”. The scenarios include a number of policy wedges directly or indirectly related to transportation, including for example, improved tailpipe standards for private vehicles and transit vehicles, improved transit services, improved pedestrian and bicycle facilities, and more efficient land use planning that promotes higher densities and mixtures of land uses.

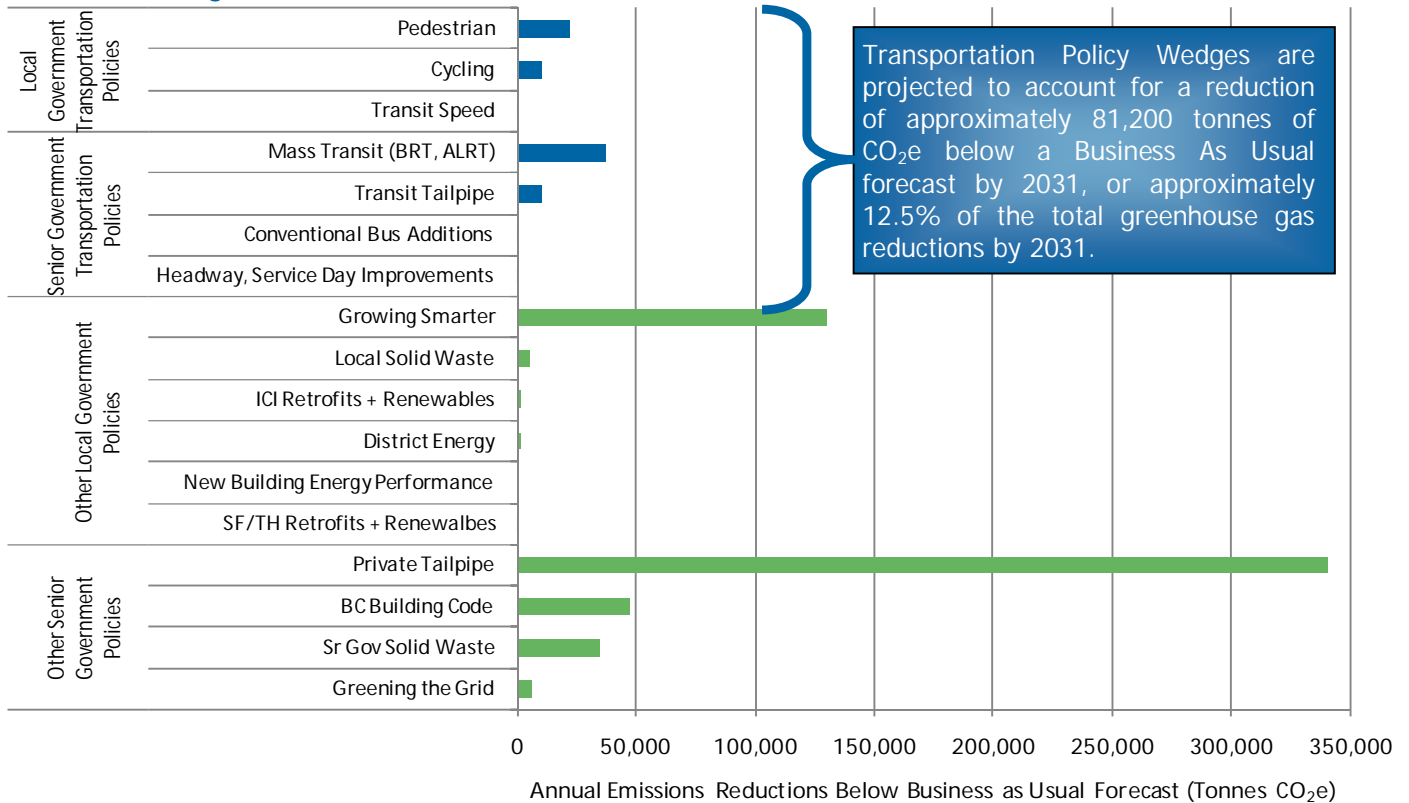
As shown in Figure 1 below, the majority of the reductions forecast by 2031 as compared with a “Business as Usual” approach are due to a number of senior government policy wedges, which account for approximately 66% of all reductions in GHG emissions. A further 22% of the reductions are projected to occur as a result of a number of local government policy wedges, with land use planning being the most significant contributor. Approximately 12.5% of the GHG emission reductions are projected as a result of further transportation improvements that are complementary to many of the other senior and local government policy wedges. It should be emphasized, though, that each of these policy areas are highly interdependent. For example, the “growing smarter” policy wedge is strongly interrelated with transit and active transportation policy wedges when it comes to effectiveness in reducing GHG emissions. The projected 12.5% reduction in the overall GHG emissions total is based on the senior



and local government policies and actions identified through the Community Greenhouse Gas Reduction Strategy Process which will be examined further in the development of the STP: headway and service day improvements for transit; conventional bus additions; provision of mass transit (BRT, ALRT); tailpipe standards for transit vehicles; pedestrian improvements; cycling improvements; and transit speed improvements.

Targets directly related to transportation for the STP Update may be built on the understanding that transportation improvements are projected to directly reduce GHG emissions by 12.5% (although those transportation policy wedges under direct local government control are only projected to reduce emissions by approximately 5%). To achieve the 12.5% reduction in GHG emissions, a number of transit, cycling and pedestrian improvements are envisioned to reduce overall vehicle kilometres travelled (VKT).

Figure 1 – Annual Emissions Reductions Below Business As Usual Forecast (2031)



Source: Coquitlam Community Greenhouse Gas Reduction Strategy – Preferred Path White Paper. Draft May 2010.



Although detailed targets for the amount of change required to reduce VKT will not be available until the corresponding Coquitlam Sub-Area Transportation Model is completed, it is possible to estimate the magnitude of change required by examining the number of daily trips currently made by each mode of transportation. According to the 2008 Metro Vancouver Regional Trip Survey, 77% of all trips originating in Coquitlam are made by automobile, with 23% of trips made by transit, walking, cycling, or other modes.

To project the change required by 2031, a future baseline scenario was developed which assumed no change in mode shares from the 2008 Trip Diary Survey, however the total number of trips increases at the rate of population growth. The Coquitlam Sub-Area Transportation Model assumed a 2008 population of 122,870 residents in Coquitlam and a 2031 population of 214,320 residents, representing an increase of approximately 74% over that period. The Trip Diary Survey indicated that approximately 305,000 trips originating in Coquitlam were made per day. The future scenario increased the number of trips by 74% consistent with population growth rate over this period, which would result in approximately 465,000 daily trips originating in Coquitlam.

It should be noted that the above assumptions have been developed as interim measures until the Coquitlam Sub-Area Transportation Model is developed. Once the model is developed, the assumptions will be refined based on the reduction in overall vehicle kilometres travelled (VKT) instead of vehicle trips, as VKT was the measure used to develop the GHG emission reduction targets in the City's Greenhouse Gas Reduction Strategy.

3.2 Recommended Targets

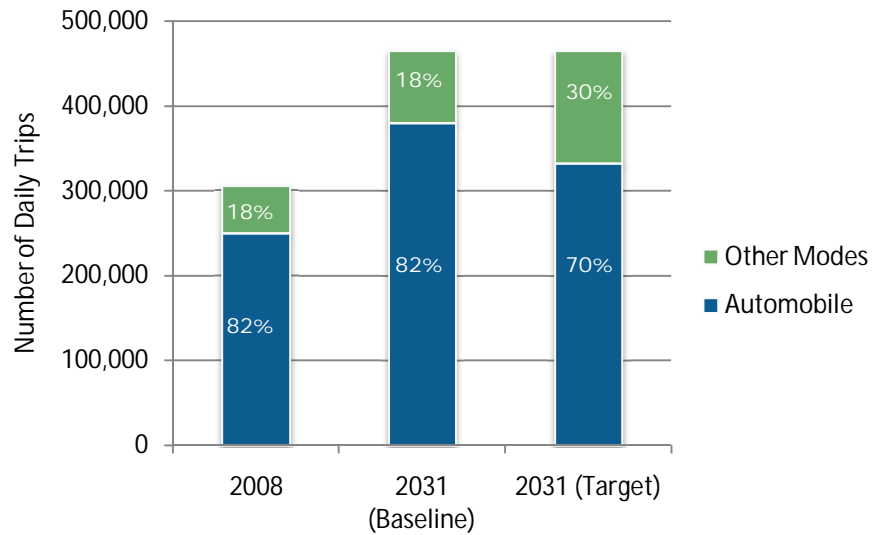
Based on the information currently available, a mode share target was established by decreasing the number of automobile trips by 12.5% from the 2031 (baseline) scenario to correspond with the GHG reductions associated with a corresponding increase in transit, walking,

Recommended Target:
Approximately 30% of all trips made by Coquitlam residents will be by walking, cycling, or transit



and cycling. This would result in a target mode share of approximately 30% for walking, cycling and transit, with a mode share of approximately 70% for automobiles, as shown in Figure 2 below.

Figure 2 – Existing Baseline (2008), Future Trend (2031), and Future Target (2031) Trips and Mode Shares



Source: 2008 Data based on 2008 TransLink Trip Diary Survey

Table 2 (shown on the next page) illustrates recommended targets for transit, walking, and cycling to achieve a 30% overall target for sustainable modes. Although a 12.5% increase in mode share for sustainable modes of transportation may seem relatively modest, experience elsewhere suggests that this is an ambitious target, as this would require an increase in mode share for sustainable modes by over 60% from 2008 levels. As a point of reference, the Provincial Transit Plan projects that transit use will increase from 12% to 22% by 2030. Given that a target of 30% for sustainable transportation includes not only transit, but also walking and cycling, this target is in alignment with the Provincial Transit Plan. This target is also aligned with TransLink’s Transport 2040, which has a target of at least 50% of all trips made by transit, walking and cycling across the region. In addition, as shown in Figure 3, this target is significantly higher than the mode shares that most other communities in Metro Vancouver have achieved to date, with



the exception of Vancouver and New Westminster. In fact, Coquitlam's existing mode share for walking, cycling, and transit is already relatively high as compared to a number of other communities – including Richmond, West Vancouver, North Vancouver District, Port Coquitlam, Surrey, White Rock, Pitt Meadows, Langley Township and Langley City – and this target would position Coquitlam as one of the mode share leaders in British Columbia.

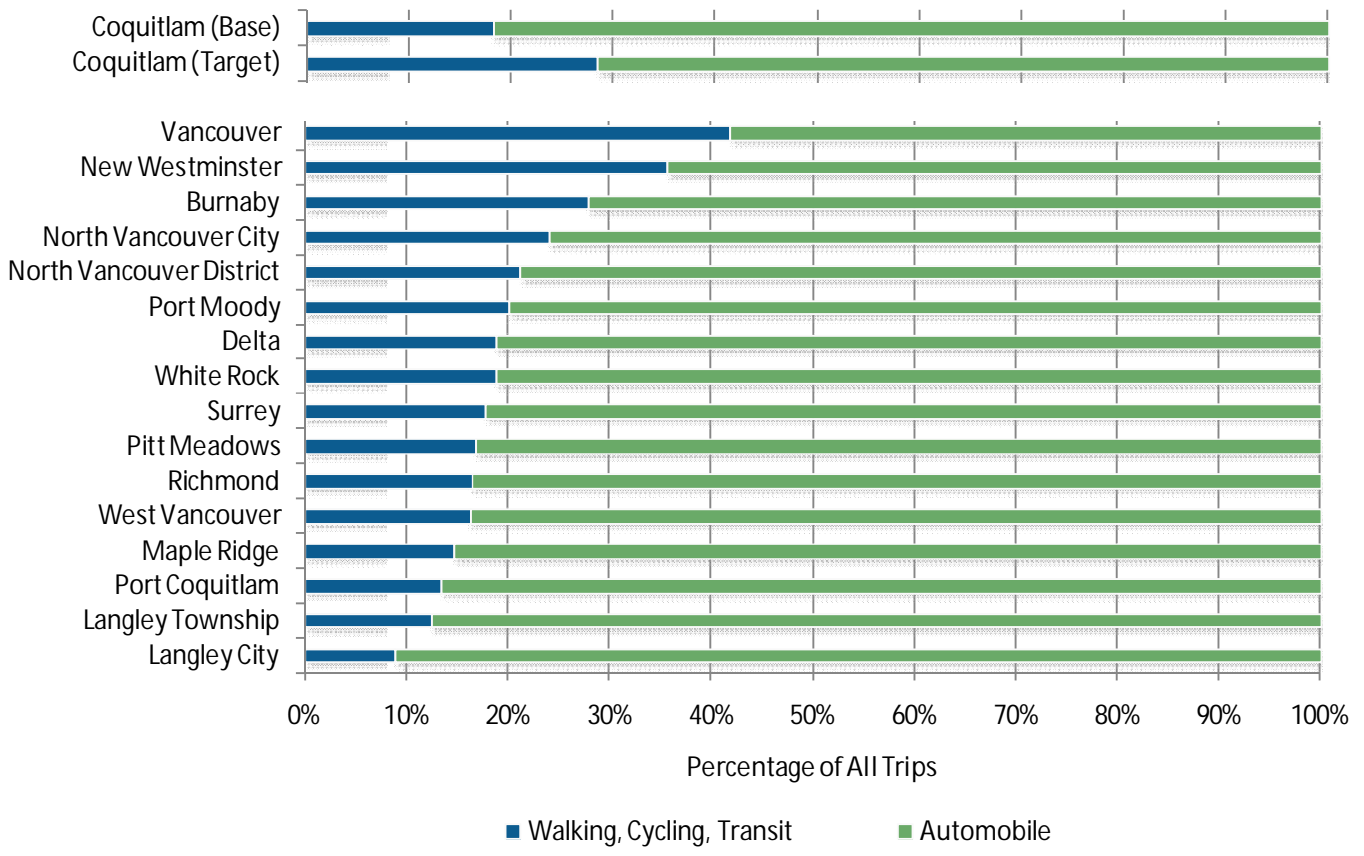
Table 2 – Existing and Future Targets by Mode

	2008	2031
Transit	9%	15%
Walking	8%	12%
Cycling	0.2%	3%
Vehicle Passenger	20%	20%
Vehicle Driver	62%	50%

* Excludes "other" modes, which currently account for approximately 1.2% of all trips



Figure 3 – Existing Baseline (2008), Future Target (2031) Mode Shares for Coquitlam Compared to Existing Mode Shares Elsewhere



Source: 2008 Data based on 2008 TransLink Trip Diary Survey





4.0 FUNDING

The STP Update will include an implementation strategy that identifies priorities, cost estimates and funding sources. The STP Update will ultimately be looking towards investments in transportation that are consistent with the Vision, Goals and Objectives developed in Discussion Paper #2. In fact, investment levels will be examined in terms of a plan that is “true”, “stretch”, and “bold” which will be compared with the STP Vision, Goals, and Objectives. This section of the Discussion Paper is intended to look back at historic investment levels – including funding sources and allocations by mode of transportation – as a stage setter to examining future improvements to the transportation system and overall investment levels in subsequent components of the STP Update process.

This section summarizes the projects that have been implemented in Coquitlam since the existing STP was completed; describes the funding allocations over the past ten years since the existing STP was completed; and outlines potential funding levels in the future.

4.1 Completed Projects

The existing STP identified an ambitious number of projects to be implemented over the next twenty years and beyond. Nearly 150 distinct projects were identified for improvements to the street network, transit facilities, bicycle network, and pedestrian network (See Appendix A). The STP included a phasing strategy which categorized improvements as either short-term (implementation by 2006), medium-term (implementation between 2006 and 2011), or long-term (implementation beyond 2011).

Since the previous STP was completed, the City has undertaken and completed many of the identified projects. In fact, the City has completed almost half (47%) of the projects identified for implementation by 2011, as well as over a third (35%) of the projects identified for implementation beyond 2011. Although the STP identified priorities for all modes, implementation to date has focused largely on street network improvements.



Approximately 60% of all street network improvements have been completed to date, compared with 49% of pedestrian improvements, 31% of bicycle improvements, and 22% of transit improvements.

Of the thirty street network improvements that were identified in the STP, the majority have been completed or are underway, including construction of the King Edward Overpass and minor improvements to the King Edward Avenue and Lougheed Highway intersection, construction of the David Avenue Connector, extension of Pinetree Way between Pathan Avenue and Robson Drive, intersection improvements at several locations throughout the City, and widening of some street corridors, including Coast Meridian Road and Lincoln Avenue. The majority of the remaining street network projects are either planned as part of future development or as part of the Evergreen Line, or are no longer planned at this time.

The existing STP identified 23 transit related projects, primarily involving transit priority measures, such as queue jumper lanes and signal pre-emptions in combination with significant increases in service levels along several key corridors. To date, very few of these transit improvements have been implemented. The existing STP identified 35 cycling projects totalling approximately 118km of bicycle routes throughout the City. To date, the City has completed or started construction on almost a third of these projects, including bicycle lanes on Guildford Avenue, David Avenue, and Chilco Drive; marked wide curb lanes on Rochester Avenue and Foster Avenue; and shared routes on Alderson Avenue, Whiting Way, and Gatensbury Street. Finally, the City has implemented approximately half of the sidewalk improvements identified in the existing STP.

4.2 Historic Funding Levels

This section summarizes funding levels over the past ten years since the existing STP was adopted. Key findings include:

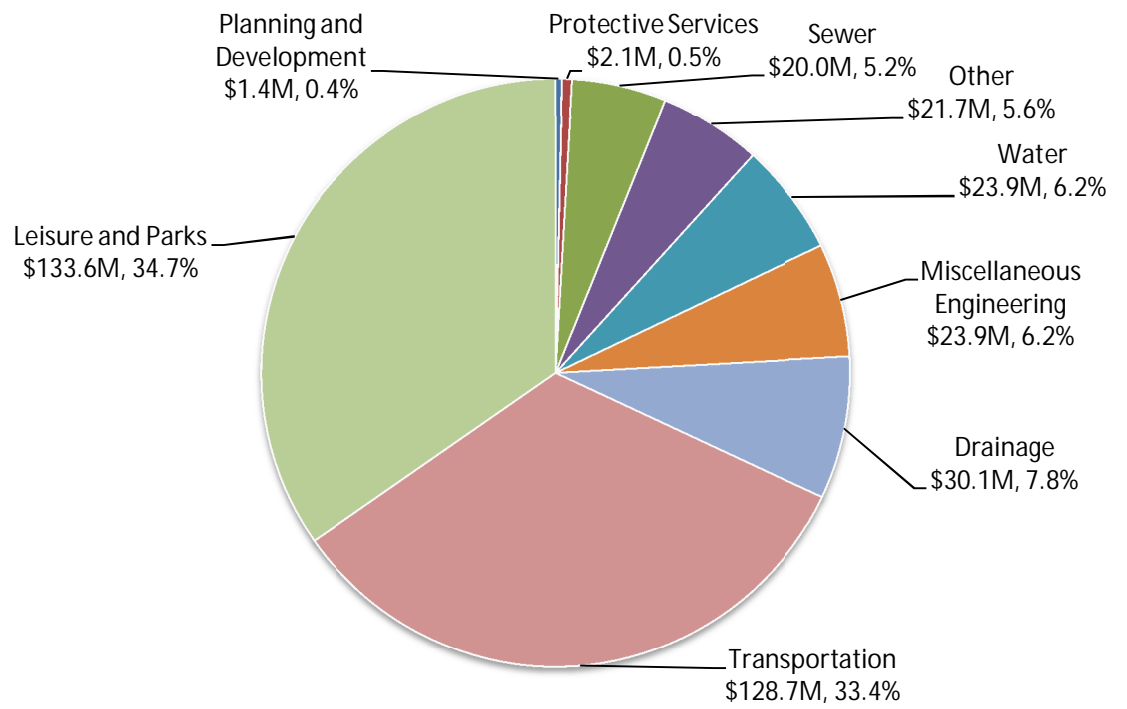
- Transportation accounts for less than 10% of overall City expenditures (including capital and operating). Over the ten year period from 2000 to 2009, overall capital and operating expenditures in transportation (including traffic operations, streets and flood control, and capital expenditures



on enhancements and street rehabilitation) accounted for approximately \$180 million, or about 9% of the City's overall expenses. Approximately 70% of these transportation expenditures, or \$128.7 million, was spent on transportation capital projects, including street rehabilitation.

- Transportation has accounted for approximately one third of the City's capital expenditures. As noted above, approximately \$128.7 million was spent on transportation capital projects in Coquitlam over the past ten years, or approximately \$12.8 million annually. This represents approximately one third of capital expenditures in Coquitlam over this period, as shown in Figure 4.

Figure 4 – Overall Capital Expenditures, 2000 to 2009
(Dollar figures are in millions)



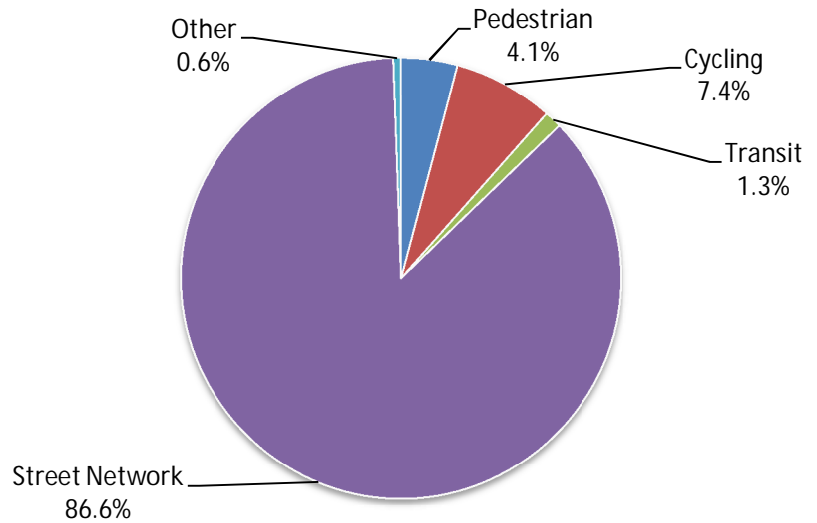


- Almost two thirds of transportation capital spending has been for new capital projects. Of the \$128.7 million spent on transportation capital projects over this period, approximately \$83.1 million was spent on new capital projects and \$45.5 on street rehabilitation projects, or for resurfacing existing streets.
- The majority of transportation capital spending has been allocated towards the street network. As shown in Figure 5, the majority of spending on capital projects, also referred to as transportation enhancements, was allocated toward the street network (87%). Street network spending refers to new street projects or capacity, safety, and streetscape improvements to existing streets. In most cases, street network spending includes the cost of the street surface, pavement markings, sidewalks, street lighting and traffic signals, the exception being the David Avenue Connector where costs for cycling facilities were separated.

Pedestrian spending is for exclusive pedestrian projects. This includes adding sidewalks, curb let downs, crossing treatments, signage and pedestrian signals on existing streets. Similarly, cycling spending is for adding bicycle pavement markings, adding bicycle lanes, bicycle signage, and the provision of other bicycle facilities to existing streets. The one exception is for the new David Avenue Connector where the cost of bicycle lanes was separated out of the street network project and reported as a cycling project. Transit spending is for transit support measures such as bus stop enhancements, sidewalks connecting to bus stops, and transit access improvements. TransLink is the agency responsible for funding and providing transit services. Spending on cycling accounted for approximately 7% of transportation enhancement spending over the past ten years, followed by approximately 4% for pedestrian facilities and over 1% on transit.



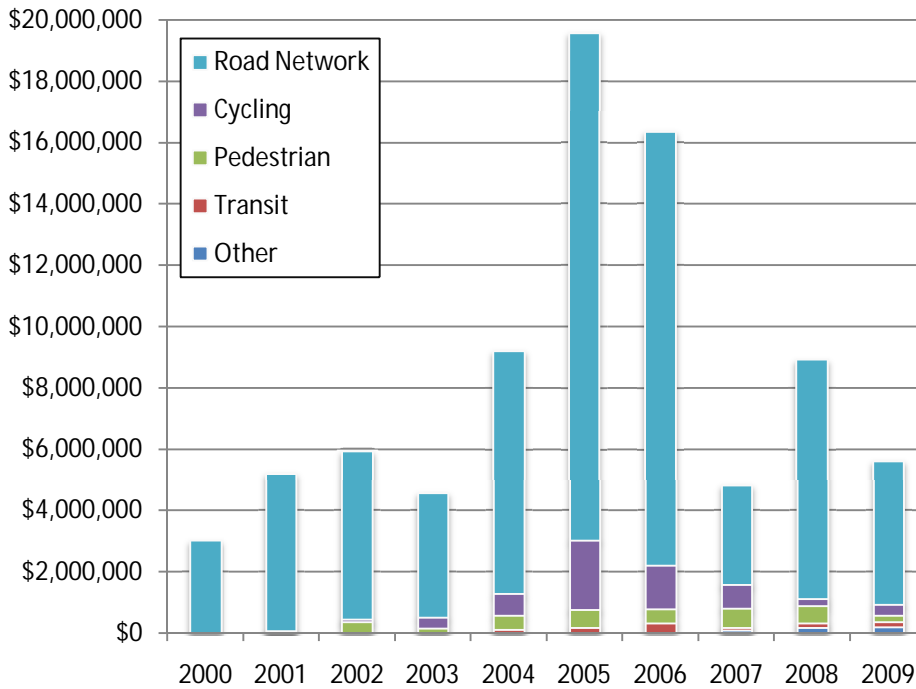
Figure 5 – Transportation Enhancement Spending by Mode, 2000 to 2009



- There is significant variation in annual spending. On average, approximately \$8.3 million was spent per year on new transportation infrastructure in Coquitlam between 2000 and 2009. However, as shown in Figure 6, there is significant year-to-year variation in spending, ranging from a low of approximately \$3 million spent in 2000 to a high of nearly \$20 million spent in 2005. In particular, the construction of the David Avenue connector in 2005 and 2006 resulted in significantly higher expenditures over those two years than other years during this period. If spending in 2005 and 2006 is excluded, the average amount spent per year over the remaining years during this period was approximately \$5.9 million.



Figure 6 – Transportation Enhancement Spending by Category, 2000 to 2009*

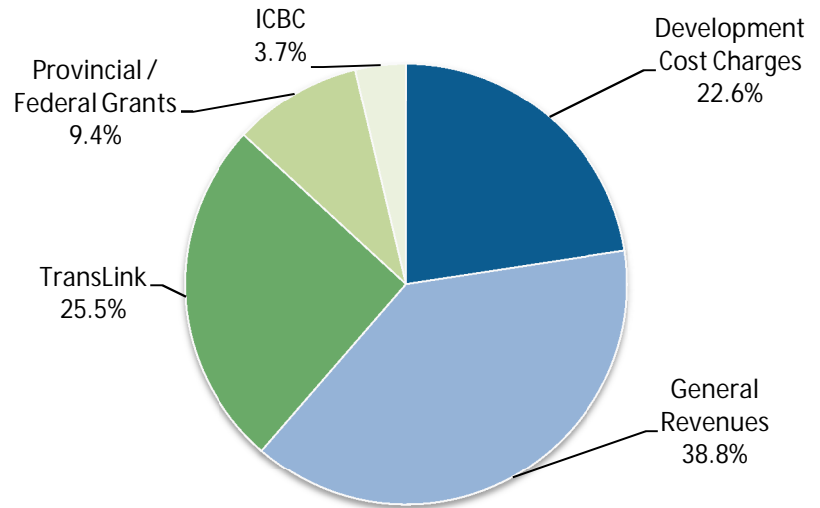


*Excluding Street Rehabilitation Projects

- The City has been successful in leveraging funding from other sources. Approximately 60% of funding for capital projects came from the City of Coquitlam, either through general revenues (approximately 39%) or through Development Cost Charges (approximately 23%). Nearly 40% of transportation funding came from other sources, including TransLink (approximately 25%), provincial or federal grant programs (approximately 9%) or ICBC (approximately 4%), as shown in Figure 7.



Figure 7 – Average Transportation Enhancement Funding Source, 2000 to 2009*



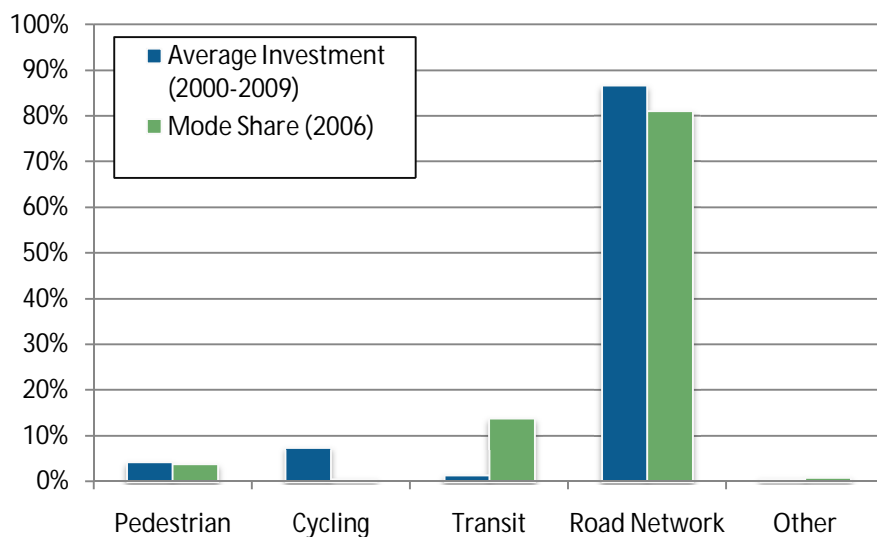
*Excluding Street Rehabilitation Projects

Several studies have found a relationship between the amount invested in each mode of transportation and the outcomes in terms of mode share. For example, a recent study by the Alliance for Biking and Walking included the results of an international comparison of bicycle and pedestrian funding and bicycle and pedestrian mode shares, and found that cities that invest greater amounts per capita into bicycle and pedestrian infrastructure have greater levels of walking and cycling. As shown in Figure 8, transportation enhancement spending towards the street network has averaged 86% of transportation enhancement spending over the past ten years, and the mode share of trips to work by driving was approximately 81% in 2006. Similarly, approximately 4% was spent on pedestrian facilities over this period, and the mode share of trips to work by walking was also approximately 4% in 2006. The relationship is less clear with cycling, as approximately 7% was invested in cycling over this period, while the mode share for trips to work by bicycle was less than 1% in 2006. This may be explained in part by when the previous STP was completed in 2001, as there was no



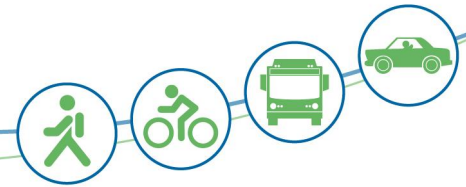
dedicated cycling infrastructure in Coquitlam and significant investments to support cycling did not begin until 2003. As a result, at the time of the Census, Coquitlam still had a relatively fragmented bicycle network. Similarly, the mode share of trips to work by transit in 2006 was nearly 14%, although the City's investment in transit was only just over 1% over this period. As noted above, the City's transit spending is limited to transit support measures such as bus stop enhancements, sidewalks connecting to bus stops and transit access improvements, while TransLink is the agency responsible for funding and providing transit services.

Figure 8 – Transportation Enhancement Spending and Mode Share



4.3 Funding Projections

The City has provided funding projections for the next 10 years, including projected revenues from Development Cost Charges (DCC) and general revenue. However, there is an inherent element of uncertainty in these projects, as the actual DCCs collected versus the DCCs projected may vary widely based on actual development activities. In addition, these projections do not include other potential funding sources, such as TransLink, ICBC, or other grant programs. However, as noted previously, external funding sources have historically accounted for approximately 40% of transportation



spending in Coquitlam and the City should continue to identify all opportunities to leverage these sources of funding.

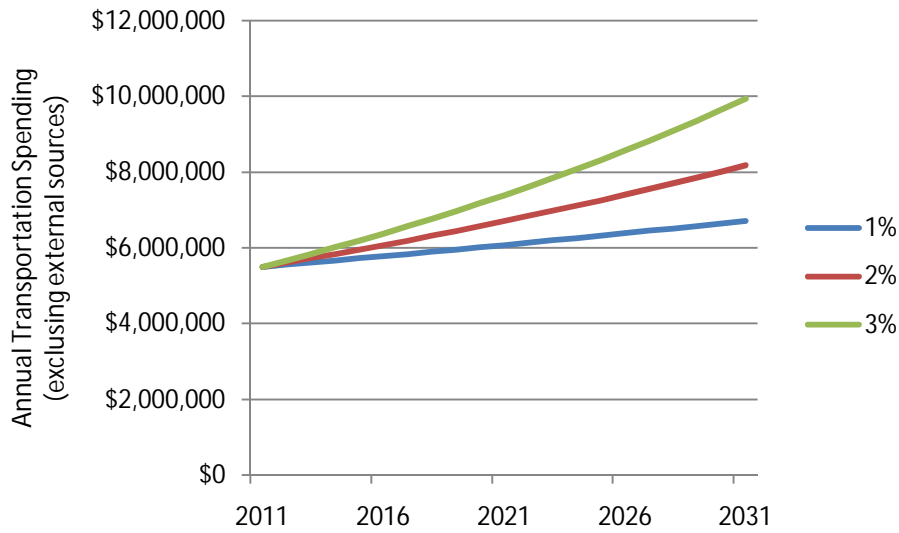
Due to the uncertainty in predicting future funding, projections of future funding levels were developed through the year 2031 based on both historic expenditures between 2000 and 2009. *These projections have been prepared for discussion purposes only and are not intended to be used for budgeting purposes.*

As noted previously, over the past ten years (from 2000 to 2009) there was significant variation in the annual amount spent on transportation infrastructure, although there was a general upward trend in annual expenditures of approximately 7% per year. It should be emphasized, though, that the previous ten year period had significant capital expenditures and was a period of significant economic and population growth in the region. In fact, the rate of growth in spending far exceeded the population growth rate over this period, which was approximately 2% per year. If historic transportation expenditures (between 2000 and 2009) and the City's planned transportation budget (between 2011 and 2020) are considered together, there is still considerable variation in annual spending, but the overall trendline represents an increase in spending of approximately 2% per year, which is generally consistent with the rate of population growth. To forecast future scenarios, a 2% annual increase in funding can be considered, although a range of 1%, 2% and 3% annual increases in funding have been developed for illustrative purposes. Based on these three scenarios, it is anticipated that the City is forecast to spend a total of between approximately \$130M in the low scenario to a high of nearly \$160M⁴ in the high scenario on transportation enhancements over the next twenty years, as illustrated in Figure 9.

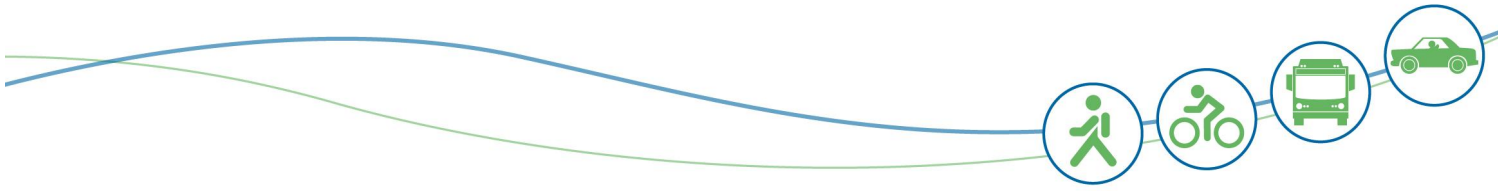
⁴ Includes only the City's portion of expenditures on new capital investments. Excludes external funding sources.



Figure 9 – City of Coquitlam Planned Transportation Enhancement Expenditures*



*Excluding external funding sources



APPENDIX A

TRANSPORTATION IMPROVEMENTS SINCE EXISTING STP

Road Network Improvements

Location	Description	Timeframe	Status	Comments
Major Road Network Improvements				
Brunette Lougheed	Grade separation	Long-Term		
Lower Lougheed	Minor intersection improvements at Brunette, King Edward and Schoolhouse	Short-Term	Complete / Underway	Minor improvements to King Edward / Lougheed intersection under construction as part of the new overpass.
King Edward	Widening / Underpass	Medium-Term	Underway	Construction of King Edward Overpass is underway
Barnet Lougheed	Grade separation at Pinetree and Westwood	Long-Term		
Barnet Lougheed Intersection Improvements	Dual left turn bays at Pinetree and Westwood	Short-Term	Partial	No plans for dual EB Left turn at Westwood at this time - depends on PoCo and Development
Other Improvements				
North Road and Lougheed	Second NB and SB left turn bays	Medium-Term	Underway	Completion this fall
North Road and Austin	Second EB/WB left turn bays	Short-Term		Not being done
North Road and Cameron	Second EB left turn lane	Medium-Term	Complete	Burnaby Project
Clark Road and Como Lake	NB/SB left turn bay, Second EB through left turn bay and SB right turn lane	Short-Term		Tied to the Evergreen Project
Clarke Road and Kemsley Ave	NB left turn bay	Long-Term		Possible project tied to Evergreen Project
Austin Ave and Blue Mountain	NB left turn bay	Medium-Term		Functional Design complete for future work
Austin Ave and Schoolhouse St	EB/WB left turn bay	Medium-Term	Complete	
Austin Ave and Poirier	EB/WB left turn bay	Long-Term	Underway	Design complete, property acquisition underway
Como Lake and Robinson	EB/WB left turn bay	Long-Term	Underway	Design complete, property acquisition underway
Como Lake and Blue Mountain	Reconfigure NB/SB approaches, EB right turn lane	Long-Term		Not being done
Como Lake and Gatensbury Street	EB/WB left turn bay	Medium-Term	Complete	Done
Lougheed Hwy and Pitt River Rd.	Lengthen NB right turn lane	Short-Term	Complete	Done
Lougheed Hwy and Chilko	Widen EB and WB approaches	Long-Term	Complete	
Guildford and Johnson	2nd EB left, NB right, WB right	Medium-Term		No plans at this time - not being done
Johnson and Glen	NB/SB left turn bay	Medium-Term	Complete	
Lincoln Ave	Westwood to Pipeline widening	Long-Term	Complete	
Pipeline Road	Widening from Guildford to David	Long-Term		No plans at this time - not being done
Pipeline Road	Robson Intersection upgrade along with Riverwalk Development	Long-Term		No plans at this time - not being done
Pinetree Way	Extension between Pathan and Robson	Long-Term	Complete	
United and Burbidge	WB left turn bay	Long-Term	Complete	
Foster and Blue Mountain	NB/SB left turn bay	Long-Term	Complete	
David Avenue Connector	Northern 4 lane connection across Coquitlam River	Long-Term	Complete	
NE Coquitlam Area				
Southern Crossing of Coquitlam River	Coquitlam River crossing around Lincoln St	Long-Term		Future project
Coast Meridian Road	Widening to Victoria to David	Long-Term	Underway	Completion this fall
Victoria Drive	Widening to 4 lanes Coast Meridian to Freemont	Long-Term		No plans at this time - not being done

Complete - Project completed

Partial - Project partially implemented as described

Underway - Project is currently under construction

Many of the Road Network projects identified in the STP update have either been built, partially implemented are under construction.

(Out of the 29 projects identified, 12 are completed, 1 is partially implemented, and 5 are under construction)

Transit Improvements

Location	Description	Timeframe	Status	Comments
Lougheed Highway / Brunette Avenue	Included in major grade separation option	Long-Term		
Lougheed Highway / Woolridge Street	WB queue jumper	Long-Term		In discussions with TransLink for possible 2011 project
Lougheed Highway / King Edward Street	WB queue jumper	Long-Term		No plans
Lougheed Highway / Schoolhouse Street	WB queue jumper	Long-Term		No plans
Austin Avenue / North Road	NB / SB queue jumpers	Short-Term	Complete	Not a true queue jumper just a right turn lane
Cameron Street / North Road	NB / SB queue jumpers	Short-Term	Partial	Burnaby project - SB right turn / queue jumper lane
Austin Avenue / Blue Mountain Street	Signal pre-emption	Long-Term		No plans
Austin Avenue / Nelson Street Signal	Signal pre-emption	Medium-Term		No plans
Austin Avenue / Marmont Street	Signal pre-emption	Medium-Term		No plans
Austin Avenue / Gatensbury Street	Signal pre-emption	Medium-Term		No plans
Austin Avenue / Schoolhouse Street	Signal pre-emption	Long-Term		No plans
Austin Avenue / Poirier Street	Signal pre-emption	Long-Term		No plans
Austin Avenue / Laurentian Street	Signal pre-emption	Long-Term		No plans
Austin Avenue / Mundy Street	Signal pre-emption	Long-Term		No plans
Lougheed Highway / Cape Horn interchange	WB queue jumper on to overpass	Short-Term	Underway	MoT jurisdiction
Lougheed Highway / Coquitlam Station	Transit signal & intersection improvements	Short-Term		Reviewed and determined to be little to no benefit. Right turn lane to West Coast Express built in 2007.
Barnet Highway / Johnson Street	Signal pre-emption	Short-Term		No plans
Barnet Highway / Lougheed Highway / Pinetree Way	Included in major option	Short-Term		No plans
Lincoln Avenue / Pinetree Way	NB / SB queue jumpers	Short-Term	Partial	Not a true queue jumper just a right turn lane - Great Street will likely remove right turn lane and limit queue jumper option.
Glen Drive / Pinetree Way	NB / SB queue jumpers	Short-Term	Partial	Not a true queue jumper just a right turn lane - Great Street will likely remove right turn lane and limit queue jumper option.
Guildford Way / Falcon Drive	Signal pre-emption	Short-Term		No plans
Guildford Way / Lansdowne Drive	Signal pre-emption	Short-Term		No plans
Guildford Way / Johnson Street	Signal pre-emption	Short-Term		No plans

Complete - Project completed

Partial - Project partially implemented as described

Underway - Project is currently under construction

Out of the 23 projects identified, 1 is completed, two are partially implemented, and an upgrade of the Cape Horn Interchange is under construction.

Sidewalk Network Improvements

Sidewalk along:	Approximate Segment From - To	Timeframe	Status	Comments
Within Priority Areas				
Linton Street	Regan to Como Lake	Short-Term	Complete	
Sargent Street	King Albert to north end	Short-Term		
Berry Street	Foster to Winslow	Short-Term		
Emerson Street	Como Lake to south end	Short-Term		
Nelson Street	Alderson to San Daniele	Short-Term	Partial	Complete except for a section south of Brunette
Lebleu Street	Alderson to Brunette	Short-Term	Complete	
Woolridge Street	Brunette to Lougheed	Short-Term		
Boileau Street	Alderson to Brunette	Short-Term		
Allard Street	Alderson to Brunette	Short-Term		
Bernatchey Street	Alderson to Gauthier	Short-Term		
Hart Street	Girard to Henderson	Short-Term	Complete	
Firby Court	Haversley to north end	Short-Term		
King Albert Avenue	Gatensbury to Poirier	Short-Term	Partial	Section from Schoolhouse to Poirier has been built
Haversley Avenue	1/2 block w of Lyn to 1.2 block E of Firby	Short-Term		
Ridgeway Avenue	Blue Mountain to Gatensbury	Short-Term	Partial	Section near Blue Mountain has been built
Austin Avenue	Nelson to Marmont	Short-Term	Complete	
Charland Avenue	Poirier to Blue Mountain (various segments)	Short-Term		
Appian Way	Whiting to Denton	Short-Term		
Alderson Avenue	Marmont to LeBleu	Short-Term	Complete	
James Avenue	Nelson to east end	Short-Term		
Harris Avenue	Blue Mountain to Boileau	Short-Term		
Gauthier Avenue	Hart to Blue Mountain	Short-Term	Complete	
Roderick Avenue	Blue Mountain to King	Short-Term		
Adair Avenue	Woolridge to east end	Short-Term		
San Daniel Avenue	Nelson to 1/2 block east	Short-Term		
Henderson Avenue	Bernatchey to Hart	Short-Term	Complete	
Lougheed Highway	Bernatchey to Schoolhouse (various sections)	Short-Term		
Sherwood Avenue	Blue Mountain to east end	Short-Term		
Tupper Avenue	Woolridge to Blue Mountain	Short-Term	Partial	Portion has been built near Woolridge
Regan Avenue	Linton to Mars	Short-Term	Complete	
Midvale Street	Foster to south end	Short-Term		
Draycott Street	Foster to Austin	Short-Term		
Firdale Street	Crane to Quinton	Short-Term		
Crane Avenue	Firdale to Wilmot	Short-Term		
Orland Avenue	Poplar to Wilmot	Short-Term		
Winslow Avenue	Midvale to Hillcrest	Short-Term		
King Albert Avenue	Midvale to Ferris	Short-Term		
Haversley Avenue	Hillcrest to Ferris	Short-Term		
Glen Drive	Pacific to The High	Short-Term	Complete	
Lincoln Avenue	Westwood to Pipeline	Short-Term	Complete	
Pipeline Road	Dunkirk to Guildford	Short-Term	Complete	Sidewalk on east side only
Within 500m of Priority Areas				
Linton Street	Austin to Regan	Medium-Term	Complete	
North Road	Como Lake to Cottonwood	Medium-Term	Partial	Como Lake to Smith completed
Lougheed Highway	Alderson to Guilby; and 400m section east of Schoolhouse	Medium-Term	Partial	Alderson to Guilby section complete.
Coast Meridian Road	Victoria to Devonshire	Long-Term	Underway	Victoria to David will be complete in 2010
Victoria Avenue	Coast Meridian to David	Long-Term	Partial	Some done with the paving this spring
Lower Victoria Avenue	?	Long-Term		
Bus Routes				
Cottonwood Avenue	Blue Mountain to Robinson	Medium-Term	Complete	
Foster Avenue	Porter to Gatensbury	Medium-Term	Complete	
Rochester Avenue	Blue Mountain to Laurentian (various sections)	Medium-Term	Complete	
Mundy Street	Cape Horn to LeClair	Medium-Term	Complete	
Cape Horn Avenue	Brunette to Mundy	Medium-Term	Complete	
Other Arterials and Collectors				
Laurentian Street	Thomas to Cutler	Long-Term	Complete	
Robinson Street	Foster to Smith	Long-Term	Partial	Cottonwood to Smith complete
Gatensbury Road	Bartlet to Port Moody border	Long-Term		
Thermal Drive	Pinecrest to Brookmount	Long-Term	Complete	
Pipeline Road	Robson to Gallette	Long-Term		
Barnet Highway	Falcon to Port Moody border	Long-Term	Complete	
Dewdney Trunk Road	Locarno to Hull	Long-Term		

Complete - Project completed

Partial - Project partially implemented as described

Underway - Project is currently under construction

Out of the 59 projects identified almost half have been completed or are partially implemented. (20 identified sidewalks completed, 8 partially completed, 1 underway)

Bicycle Network Improvements

Project	Timeframe	Status	Comments
Bicycle Lanes / Paved Shoulders			
Lougheed Hwy / Pinetree Way / Pitt River Road	Long-Term		Pinetree - Bike lanes this fall from Guildford to David. Lougheed - North Rd to Blue Mtn bike lanes this fall. Other segments are long term big \$. Pitt River - presently no plans
Guildford Way	Short-Term	Complete	
David Avenue	Long-Term	Partial	Complete east of Pinetree Way. Plans to complete west of Pinetree to the Port Moody border in the near future
Marked Wide Curb Lanes			
King Edward Street	Medium-Term	Underway	Under construction as part of the King Edward Overpass project
Rochester Avenue	Medium-Term	Complete	
Foster Avenue	Short-Term	Complete	
Clarke Road (Robinson to Port Moody border)	Medium-Term		
Como Lake Avenue (Lougheed to Westwood)	Medium-Term		Proposed shared lanes as part of 2011 paving project
Chilko Drive	Long-Term	Complete	
Spuraway Drive	Short-Term	Underway	Underway as part of the Crosstown route. The portion east of Armada will take an alternate route through neighbourhood streets. West of Armada the route will be on Spuraway as shown in the plan.
Dewdney Trunk Road	Medium-Term		Small portion from Mariner to Ranch Park will be done with the Crosstown Route
Johnson Street	Medium-Term		Signs only from Dewdney to Guildford for the Crosstown Route in 2011
Falcon Drive	Medium-Term		Barnet to Guildford is being implemented as part of repaving work. Planned for completion in 2011
Lansdowne Drive (Guildford to David)	Long-Term		Nothing Yet
Robson Drive	Long-Term		Nothing Yet
Pipeline Road	Long-Term		Nothing Yet
Ozada Avenue	Long-Term		Nothing Yet
Lincoln Avenue (incl. bridge)	Long-Term		Nothing Yet
Shaughnessy Street	Long-Term		Nothing Yet
Coast Meridian Road	Long-Term	Underway	Shared bike route from Victoria to Coast Meridian will be completed in 2010. North of Coast Meridian is a future project.
Victoria Drive	Long-Term		Nothing Yet
Rocklin / Highland	Long-Term		Nothing Yet
Shared Routes			
Delestre / Alderson	Short-Term	Partial	Alderson done. Delestre section not yet completed.
Whiting Way	Short-Term	Complete	
Marmont / Ridgeway / Gatensbury	Short-Term	Underway	Route will use King Albert and not Ridgeway
Robinson / Regan / Miller	Medium-Term		Nothing Yet
Laurentian / Poirier / Harbour	Medium-Term		Nothing Yet
Mundy / Monterey	Medium-Term		Nothing Yet
Leclair Drive	Medium-Term		Nothing Yet
King Albert / Hillcrest / Wilmot	Short-Term		Wilmont to be completed in 2011 as part of the Crosstown Bike Route
Thermal Drive	Short-Term		Nothing Yet
Hickey Drive / Riverview Crescent	Short-Term		Nothing Yet
Oxford Street	Long-Term		Nothing Yet
Soball Street	Long-Term		Will proceed with development
Other NE Coquitlam Roads	Long-Term		Will proceed with development

Complete - Project completed

Partial - Project partially implemented as described

Underway - Project is currently under construction

As of January 2010 15km of the 118km Bicycle Network has been built. Another 15km is under construction for 2010.