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Mr. Ian Jarvis
Vice-President, Finance and Corporate Services
TransLink
1600 - 4720 Kingsway
Burnaby, BC V5H 4N2

July 17, 2008

Dear Mr. Jarvis:

RE: REVIEW OF TRANSLINK 10 YEAR PLAN 2009 TO 2018

Background

Per our letter dated June 26, 2008, TransLink engaged KPMG LLP (“KPMG”) to undertake a review of its 2009 – 2018 Financial Plan (the Plan). Specifically, TransLink requested that KPMG:

- 1) Confirm that the 2008 base numbers in the financial projections are consistent with TransLink’s budget and forecast
- 2) Check the projections for mathematical accuracy
- 3) Comment on whether the projections are consistent with the stated assumptions
- 4) Comment on the completeness of the risk assessment and the appropriateness of the sensitivity analysis
- 5) Confirm that TransLink has followed the parameters outlined in it’s legislation with respect to the preparation of the financial projections
- 6) Summarize its findings in a report (the KPMG Report).

The KPMG report is to be provided to the Audit Committee of the Board of Directors and the Regional Transportation Commissioner for TransLink. With the exception of the foregoing, our report is not intended for general circulation or publication and is not to be reproduced or used for any purpose other than that specified herein, without our prior written permission. We shall not assume any responsibility or liability for losses incurred by TransLink, its officers, directors or



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shareholders, or by any other parties as a result of the circulation, publication, reproduction or use of our report contrary to the provisions of this paragraph.

Findings

KPMG obtained two copies of the financial model for review (LRM 2008_m06_V4_Board Concur_with no cuts_kpmg.xls (the **base model**) and LRM 2008_m06_V4_Board Concur_with cuts_kpmg.xls (the **scenario model**)). We are informed that the scenario model was created by TransLink from the base model and differed only in a reduction in the assumed bus hours. Accordingly, our confirmatory work was carried out on the base model. Upon completion of our review of the base model, we tested the mathematical accuracy of the scenario model by changing the bus hour assumption in the base model and compared the results to the version provided by TransLink. No exceptions were noted and therefore, with the exception of the assumed bus service hours (and the impact that such a reduction would have on other estimates in the financial model), all of our comments with respect to the accuracy and key economic assumptions used in the base model apply equally to the scenario model.

Our findings with respect to the other aspects of our engagement are summarized below and as described in detail in Appendix A (10 Year Projection – Review of Mathematical Accuracy Memo); Appendix B (Review of Key Assumptions) and Appendix C (Adherence to Provisions of Legislation):

1) Confirm that the 2008 base numbers in the financial projections are consistent with TransLink’s budget and forecast

Per discussions with the Program Manager, the base model used the 2008 Budget figures, with adjustments to certain estimates to account for actual 2008 year-to-date results. We were provided with a reconciliation of the base model figures to the 2008 budget. We verified the mathematical accuracy of the reconciliation and agreed the adjusted 2008 budget figures to the base model, with no exceptions noted.

2) Check the forecast for mathematical accuracy

KPMG reviewed the formulas used in the calculation of the 2009 projected Revenues and Expenditures and verified that they had been consistently applied through the projection period. The details of our findings are attached as Appendix A. The following exceptions to the mathematical accuracy were noted:



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- *SkyTrain Operating Expenses: KPMG noted that the operating expenses were all escalated using the labour inflation rate instead of the respective inflation rate. The total impact on the operating cost of the SkyTrain during the projected period is a total understatement of operating costs of approximately \$13.75M..*
- *West Coast Express (WCE) "Operating Days": KPMG noted that standard operating days increased by 25 days each year from 2008 onwards and in 2013, the number of "operating days" exceeded the number of days in the year (365). KPMG discussed this finding with the Program Manager, who stated that this escalation was in error. The estimated financial impact of reducing the number of operating days to the correct number is a total reduction in WCE operating expenses of approximately \$3.45M over the projected period.*
- *West Coast Express population growth rate: KPMG noted that an incorrect population growth rate was used. Using the correct population growth rate, total revenue over the projection period is increased by \$1.783M.*
- *Canada Line Revenue: KPMG noted a difference in the deferred contributions portion between the backup (deferred contribution spreadsheet) and the projection. Per the projection, TransLink is expected to receive a total of \$174.5M. Per the deferred contributions spreadsheet, total payments equal \$170.5M, resulting in a \$4.0M overstatement of Canada Line revenue between the projection and the back up.*

The total impact of adjustments on revenue over projected period: a decrease of \$2.25M. Total impact of adjustments on expenses over projected period: an increase of \$10.3M. Accordingly, the total financial impact of the exceptions noted during our review: \$12.5M increase in the cumulative deficit.

In undertaking the mathematical accuracy review, KPMG noted that although no calculation errors were identified within the projection period, the financial model is a very large, legacy spreadsheet with much historical data and many hard-coded calculations, particularly in the projected debt service spreadsheets. Given the increasing complexity of TransLink's financings and capital programs (including those of its subsidiaries), consideration should be given to replacing this financial model, preferably with one linked to an easily updated data base of key inputs (such as debt instruments and capital projects).

3) Comment on whether the projections are consistent with the stated assumptions

KPMG compared Attachment 6 of the Financial Plan - Assumptions Matrix to the assumptions used in the base model. Other than the items noted above, no exceptions were noted.



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4) Comment on the completeness of the risk assessment and the appropriateness of the sensitivity analysis

KPMG reviewed the key economic assumptions contained in Attachment 6 of the Financial Plan, including the ranges of these variables that were used in the sensitivity analyses. We also examined other key economic assumptions included in the Financial Plan. KPMG reviewed these key assumptions and the basis for the sensitivity analyses through a process of desk research using publicly available sources. KPMG has not reviewed and does not comment upon the reasonableness of the operational assumptions that have been used in the analysis, as they were beyond the scope of our engagement. With the exception of the items noted below, the key economic assumptions and sensitivity analyses would not appear to be unreasonable.

- *Given the disparate opinions on the future cost of crude oil, which drives the price of diesel fuel, it is difficult to draw conclusions on the projected inflation rate for diesel fuel in the Plan. Given this uncertainty, TransLink's use of a base price of \$1.50 per litre and inflation at 2 percent per annum, would not appear unreasonable. However, consistent with TransLink's assumptions on other key factors, KPMG suggests that a more conservative approach could include an increase of 3 percent per annum and expanding the range used in the sensitivity analysis to plus or minus 10 percent on the base price.*
- *The estimated long term interest rate of 5.25% for 2009 may slightly understate the potential rate, given that the current spread is 11 basis points higher than that used by TransLink. Using the average of the banks' forecasts and the spread of 111 basis points, would result in a long term interest rate of 5.35% for 2009.*
- *While the assumed rate of growth in wages for 2011 and beyond of 2% per annum may not be unreasonable, sensitivity analyses should at least be undertaken on a higher rate (3.0%) as labour is the chief component of TransLink's operating costs.*
- *These rates of growth of ridership appear to be conservative, for a number of reasons:*
 - i. *Population growth in the Metro Vancouver area is expected to be at least 1.5 percent per annum over the next few years. If new residents in Metro Vancouver use transit at the same rate as existing residents, the growth rate would be 1.5% per annum.*



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- ii. *Transit ridership increased by an average of 3.5% per annum over the past three years (2004 to 2007). In 2007, the rate of growth was 4.3% (we acknowledge that this growth includes the impact of capacity expansion that took place during the year).*
- iii. *High gasoline prices may result in further demand for transit.*

Using a lower bound rate of growth of 1.5% is consistent with background population growth and would not appear to be unreasonable. The base case (2.3%) and the upper bound of the sensitivity analysis (3.5%) appear to be conservative, though not unreasonable, estimates given the recent increases in transit ridership and the outlook for gasoline prices.

5) Confirm that TransLink has followed the parameters outlined in its legislation with respect to the preparation of the financial projections

KPMG reviewed the guiding legislation (South Coast British Columbia Transportation Authority Act) and compared the provisions of Part 6 with the contents of the Financial Plan. With the exception of the items noted below, the financial projections appear to follow the parameters outlined in the legislation. We note that this review does not provide conclusions on the appropriate interpretation of the provisions of the Act, nor does it constitute a legal review.

- *The Act indicates that revenues associated with each transit service must be specified in the Plan. Insofar as it is difficult for Tranlink to present revenues separately for the conventional bus service, Seabus and Skytrain, the revenues are combined. It is not clear if this meets the provision of the Act.*

Scope Limitations

In completing this engagement KPMG relied upon information and material provided to us by TransLink and from other publicly available sources. Our review of this information consisted primarily of enquiry, analysis and discussions with management. We did not audit the information provided to us or that obtained from public sources.

Prior to issuing our report, TransLink confirmed in writing certain representations made during the course of the engagement, including a general representation that they had reviewed our report in draft form, were satisfied with our explanation of the approach adopted by us, and had no knowledge of information which would reasonably be expected to affect the conclusions expressed herein.



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Thank you for the opportunity of working with you on this interesting assignment. Please call me directly if we can be of any further assistance.

Yours very truly,

KPMG LLP

A handwritten signature in black ink, appearing to read 'JRCruickshank'.

Jocelyn R. Cruickshank, CA, CBV
Managing Director
(604) 646-6317



**10 Year Financial Projection –
Review of Mathematical Accuracy
Memo**

Client	Period-end	
TransLink		
Prepared by	Date	W/P reference
Tom Ng / Sean Dedieu	July 17, 2008	

Purpose:

To document work performed on the client's base 10 year financial projections (Two scenarios were proposed. One scenario assumed full implementation of approved expansion vehicles (base projection), while the second scenario assumed a lower level of transit expansion).

Procedures:

- 1 KPMG obtained a hardcopy of the 10 year plan from the Program Manager and was given access to the Excel model at TransLink's offices. On July 11, 2008, KPMG was provided with an electronic copy of the Excel file for off-site review.
- 2 Documented how the revenues and expenditures were calculated.

Findings:**1.0 2008 ANNUAL BUDGET**

The 2008 projected figures in the financial model properly corresponded to an adjusted 2008 annual budget. The 2008 annual budget was agreed to a spreadsheet reconciling the 2008 annual budget to the adjusted 2008 annual budget. KPMG reviewed the reconciling items and noted that the amounts were mainly allocation adjustments and several immaterial changes.

2.0 REVENUES**2.1. Transit Revenue****2.1.1. Conventional Fare Revenue - Bus & SkyTrain**

Bus / SeaBus / SkyTrain revenues are determined by the ridership (after adjustment for Price Elasticity) multiplied by the average fare.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

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Ridership is determined by taking budgeted 2008 numbers and multiplying them by the increased service hours (5.36%) and the ratio of ridership to added service hours (50%) and by a background growth factor of 2.3% up until 2011, decreasing to 1.5% thereafter. For the CMBC ridership in 2009, the ridership is increased by 2.79M¹ compared to the 2008 projected number (i.e. 2008 ridership + service hour growth + background growth + 2.79M). This total is then escalated in 2010 and onwards by the aforementioned factors. Per discussion with the Program Manager, 2.79M was added to the 2008 budgeted number to arrive at the correct base for 2009. Per the 2008 transportation and financial plan, annualized ridership is projected to be 185M revenue passengers. This figure is expected to increase by the background growth (2.3% - consistent with assumptions matrix), and by the planned 2009 service expansions (2.03M increase in ridership), resulting in a total projected 191.285M passengers. In order to increase the 2008 budgeted passenger numbers per the projection to 191.285M in 2009, it was necessary to add 2.79M to the 2008 ridership numbers. Service hours are based upon planned expansion of services in the “Service Plan” tab, with the rate varying depending on service additions in the following years. The 50% ratio of ridership to added service hours is based on 15 revenue rides per new service hour.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

The average fare is based on 2008 budgeted numbers and takes into consideration any planned fare hikes. KPMG reviewed the average fare for future years and noted that average fares are based on the prior year and take into consideration any fare hikes between the two years (i.e. 2011 fares are based on 2010 fares and take into consideration any fare increases between 2011 and 2010). Fare increases are budgeted at 2% per year with the increase being reflected in the fares every three years. The last fare hike took place in 2008; as such, the next fare hike will be in 2011. The increase is consistent with the 2% general inflation rate per the “Assumptions Matrix (pg. 1)”.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

2.1.1.1. Fare Revenue - West Coast Express

West Coast Express revenue is based on average fare (taking into consideration fare hikes), multiplied by the ridership. The ridership is based on the 2008 budget and is increased each year by the expected population growth (1.3% until 2017, slowing to 1.2% in 2018 and 2019 and 1.1% thereafter). Per discussion with the Program Manager, the population growth rates used are derived from the GVRD website. Per further review of the population growth percentages, these growth projections are from the prior year. Inputting the correct population projections from the current year results in a total difference of \$1.783M over the projection period. This amount has been carried forward to section 5.0 Exceptions. The rate of the increase in fares is the same as above.

¹ M = Million

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The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

2.1.1.2. Fare Revenue – Custom

HandyDART (custom) revenues are based on 2008 budgeted numbers multiplied by ridership growth rates and average fare. Ridership growth rates are based on an increase in the population and the number of service hours. The number of service hours per new expansion vehicle remains constant at 2,000 throughout the projection. The population growth rate is consistent with the “Assumptions” tab – the population projection numbers there are from the BC Regional Districts (www.bcstats.gov.bc.ca/index.htm)

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

2.1.1.3. Government Pass

Government Pass revenue is based on 2008 budgeted numbers and is increased by population and background growth and the annual fare increase (per Assumptions Matrix).

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

2.1.1.4. Canada Post

Canada Post revenues are assumed to be constant at \$0.186M throughout the projection.

2.1.1.5. U-Pass

U-pass revenue projections are based on 2008 budgeted numbers and are increased with projected growth in university enrolment and average fares (which take into consideration fare hikes). Growth in university enrolment is held constant at 2.5% per year throughout the projection.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly. Total revenue from conventional fares correctly corresponds to the summarized TransLink 10 year plan.

2.1.2. Canada Line

Canada Line revenues are derived from Ridership Revenue Credits and from Airport Special Fare Zone. Per discussion with the Program Manager, the revenue numbers for the Canada Line are from a consultant’s model developed for the business case for the Canada Line. The consultant has discussed the model with TransLink’s in-house staff. KPMG was not given access to the model due to confidentiality reasons.

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Canada Line revenues consist of Ridership Revenue Credit, Airport Special Fare Zone and Deferred Contributions:

Ridership Revenue Credit (\$380.4M over the projected period)

Per discussion with the Program Manager, Financial Analysis, ridership revenue credit relates to the amount of revenue generated from passengers who, as a result of the Canada Line, are new to the transit system. For example, it excludes revenue from passengers who would have previously taken the bus. The ridership revenue credit is based on a ridership and revenue forecast technical memo issued by TranSys International Consultants Limited to TransLink, and by a model developed by PWC. The report has separate projections for the Mainline and the Airport portion of the Canada Line, and uses 2010 as a base year and 2021 as another milestone. For the Mainline, the report estimates a 2010 ridership of 15.1M (23.4M passengers less 8.3M who would otherwise have taken other modes of public transportation) and a ridership of 19.0M (27.2M passengers less 8.2M who would have taken other modes of public transportation) in 2021.

Per a model developed by PWC for the business case, 2010 Mainline revenue is calculated as follows: $15.1M \times 0.70$ (ramp-up factor) $\times 1.79$ (2003 average fares – agreed to a report by Halcrow Group Limited) $\times 1.165$ (inflation factor) = \$22.04M. The revenue related to the Airport portion of the Canada Line is calculated as follows: $1.455M$ (1.78M passengers per technical memo less 0.325M passengers who would have taken other modes of transit) $\times 0.70$ (ramp-up factor agreed to report by Halcrow Group Limited) $\times \$2.30$ (2003 average fares – agreed to report Halcrow Group Limited) $\times 1.165$ (inflation factor) = \$2.73M for a total expected revenue of \$24.76M. The ramp-up factor is to take into consideration the fact that passengers will slowly adopt the new line. Since the fares were estimated using 2003 prices, the fares were increased by an inflation factor of 1.165. The 2009 ridership revenue is calculated as 1/3 of the 2010 base number. Based on the TranSys technical memo, the implicit growth rate of the Mainline ridership (derived from the increase from 23.4M passengers to 27.2M above) from 2010 through to 2021 is approximately 1.38% per annum, while the growth rate of passengers who would have taken other modes of transit is -0.12% (derived from the 8.3M and the 8.2M above). From 2011 onwards, the 2010 ridership numbers are escalated by the implicit passenger growth rates and netted against the number of passengers who would have taken other modes of transit. The ramp up factor for 2011 is 0.85 and 1.0 thereafter and the inflation rate used is 2.1%. The PWC model noted above is based on the commercial close of the project. The external consultant used by TransLink updated the model for the financial close (the updated model resulted in higher total revenues of \$13.24M over the projected period). KPMG agreed the updated model from the external consultant to the projection w /NEN.

Airport Special Fare Zone (\$49.2M over the projected period)

The 2010 - 2018 Airport Special Fare Zone revenue numbers were agreed to a model developed by PWC for the business case with no errors noted. The 2009 revenue figure was calculated as 1/3 of the 2010 revenue to account for the Canada Line starting operations in September 2009.

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Deferred Contributions (\$174.5M over the projected period – classified as a contra-expense)

These amounts are contributions from the Province of BC. Per discussion with the Program Manager, Financial Analysis, the Province will contribute \$152M over 3 years starting in April 1, 2006, in three tranches. The \$152M was agreed to page 2 of the August 2, 2005 Information Bulletin from Transit BC with no errors noted. The funds are to be deposited in an interest bearing account and with payments made to TransLink every 28 days over a period of 31 years. The client calculated that payments of \$1.61M every 28 days would deplete the interest bearing account to a zero balance at the end of the 31 year period (KPMG reviewed the formula and the deferred contribution spreadsheet with no errors noted. The interest calculated is correct, and at the end of the 31 year period, there is zero balance in the account.). Per review of the client's deferred contribution spreadsheet, a total of \$190.06M would be received through the projected period. Per review of the client's projection, a total of \$174.5M is to be received (difference of \$15.56M).

Per discussion with the Program Manager, Financial Analysis, the deferred contribution spreadsheet initially forecasted contributions for only one month in the first year, whereas the projection (more recent) forecasted receiving contributions for four months, along with an adjustment in the interest rate. Per the revised deferred contributions spreadsheet, payments of \$1.41M are paid out every 28 days, with a total payment of \$170.5M over the projected period. A difference of \$4.0M between the deferred contributions spreadsheet and the projection is immaterial to the overall analysis, but regardless has been carried forward to section 5.0 Exceptions.

2.1.3. Evergreen Line

Revenue from the Evergreen line is expected to commence in 2014. Revenue projections for the Evergreen line are derived from a Provincial Business Case report from February 2008. Per review of the report, the present value (PV) in 2008 dollars, using a 6% discount rate, of the benefits derived from the Evergreen line over 20 years is \$145M. For the purpose of the projection, the client increased the value to \$205.68M to arrive at the PV in terms of 2014 dollars. The client then amortized the \$205.68M over 20 years (taking into consideration the discount factor such that the discounted amounts in each of the years would sum up to \$205.68M). (i.e. $x_1 + x_2 \dots + x_{20} = \$205.68M$) To arrive at the revenue number in each of the years, the client removed the anticipated operations and maintenance savings implicit in the PV calculation (i.e. $x_1 - \text{O\&M savings} = 2014 \text{ revenue}$). (The O&M savings were estimated to be \$2M for 2014, increasing by the general inflation rate each year). Since the Evergreen line is only expected to be in operation for half a year in 2014, only half of the revenue number calculated for 2014 was used ($x_1 - \text{O\&M savings} \times 0.5$). For the remainder of the years, the full amount allocated to each year less the O&M savings was used (i.e. $x_2 - \text{O\&M savings} = 2015 \text{ revenue}$).

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2.1.4. Real Estate

Real estate revenues are projected using a base of \$20.0M, and are projected to increase by the amount of inflation. Inflation rates used are 3% for 2009, decreasing to 2% thereafter. This is consistent with the inflation per the “Assumptions Matrix”. In 2012, real estate revenue is increased to \$31.7M, and increases by the general inflation rate thereafter. The timing of the cash flows in the projection are not consistent the projections that were presented to the Audit Committee. Per discussion with the Program Manager, the Audit Committee numbers were estimates and for presentation purposes, cash flows were smoothed out for the purpose of this model.

To assess the accuracy of real estate revenue, KPMG compared the total real estate revenue per the model (\$361.8M) to the total real estate revenue (\$365.5M) per the memo prepared by the Vice President, Real Estate to the Audit Committee dated March 18, 2008. Difference of \$6.3M represents an immaterial variance of 1.7%..

2.1.5. Other

Other revenue consists of Advertising and Miscellaneous revenue.

2.1.5.1. Advertising

Advertising revenue projections are based on an advertising contract with Lamar with guaranteed minimums. TransLink’s 2007 experience with this contract was a 25% increase over the guaranteed minimum. The model uses a more conservative overage of 20% for 2009. The model takes into consideration the mid-fiscal year change of the guaranteed minimum (increases) in each of the years (i.e. there is a new guaranteed minimum on August 1st of each year). In 2010, there is also an expectation of additional Olympic related revenue (amount not disclosed here for commercial confidentiality reasons), over and above the regular contract. Thereafter, the financial model assumes that the guaranteed minimum per the advertising contract will be achieved.

KPMG reviewed the calculation for advertising revenue through the projected period with no errors noted. KPMG also agreed the guaranteed minimum amounts to Schedule B of the contract between Lamar and TransLink with no errors noted.

2.1.5.2. Miscellaneous

Miscellaneous revenue is projected using 2008 budgeted numbers and is projected to increase by a constant 2% per year. The 2% used is consistent with the 2% inflation rate used in previous assumptions per the “Assumptions Matrix”.

KPMG reviewed the formula and noted that it was been consistently applied through the projection period.

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2.2. Tolls (Golden Ears Bridge)

Tolls are based on revenue projected to be collected from the Golden Ears Bridge.

KPMG obtained a model created by an external consultant for the Golden Ears Bridge, and agreed the numbers to the TransLink model with no errors noted.

2.3. Taxation

2.3.1. Fuel

The 2008 budget was built on forecast volumes for 2007, (which were lower than actual results) times negative growth of -1% for gas and plus 7.5% growth for diesel. Net total litre growth was calculated to be 0.34% in the 2008 projection year. In subsequent years (2009 and onwards), the model uses a zero growth percentage in gasoline and diesel (using 2008 as a base year). Fuel Revenue is generated based on the number of net litres multiplied by the rate (0.12). The rate remains consistent through the whole projection. Therefore, fuel net revenue remains at \$269.6M for the entire projected period.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly. Total taxation revenue from fuel correctly corresponds to the summarized TransLink 10 year plan.

2.3.2. Property

Property tax revenue is expected to increase at 3% (2% inflation + 1% unit growth estimate based on historical average) per year for the duration of the projection (using 2008 budgeted numbers as a base).

The formula has been applied consistently across the 10 year plan and all totals have been footed properly. Total taxation revenue from property correctly corresponds to the summarized TransLink 10 year plan.

2.3.3. Replacement Tax (Parking Site)

Per Section 25.7.1 of the South Coast BC Transportation Authority Act, TransLink is limited to levying \$18M. The \$18M has been applied consistently in each of the projection years.

KPMG agreed the \$18M to the Act with no errors noted. The formula has been applied consistently across the 10 year plan and all totals have been footed properly. Total taxation revenue from the replacement tax correctly corresponds to the summarized TransLink 10 year plan.

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2.3.4. Parking Sales Tax

Parking Sales Tax revenues are expected to increase by the inflation rate. The rates used have been referenced to the Assumptions tab – the inflation rate has been agreed to the “Assumptions Matrix”, with no errors noted.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly. Total taxation revenue from the parking sales tax correctly corresponds to the summarized TransLink 10 year plan.

2.3.5. Hydro Levy/ Mission Subsidy

Hydro Levy revenues are expected to increase by the projected growth in population. The population growth rate is consistent with the “Assumptions” tab – the population projection numbers are from the BC Regional Districts (www.bcstats.gov.bc.ca/index.htm).

Mission Subsidy revenues are expected to increase by the inflation rate. The rates used have been referenced to the Assumptions tab – the inflation rate has been agreed to the “Assumptions Matrix”, with no errors noted.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total taxation revenue from the Hydro Levy and Mission Subsidy correctly correspond to the summarized TransLink 10 year plan.

3.0 EXPENDITURES

3.1. Roads & Bridges (excluding Golden Ears Bridge (accounted for separately below))

Roads and bridges expenditures consist of Municipal Road OMR (Operation, Maintenance and Repair) Funding and road and bridge operation and maintenance (professional and legal fees, road & bridge maintenance, materials & utilities, outside services, admin & computers and recoveries).

Using 2008 budgeted numbers as a base, road and bridge operation and maintenance expenses are forecasted to increase by 2% a year to account for inflation. Per notes in the model, actual inflation will likely be higher; TransLink staff are working with municipal staff to develop a better estimate of inflation for these types of costs.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

The Municipal Road OMR Funding is driven off of inflation and lane-km growth. Using 2008 budgeted figures as a base, lane growth is projected to increase 2% per year (per discussion with

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Robin Nichols and Susan Hollingshead (Manager, Roads & Bridges)). Inflation is also expected to be constant at 2% per year.

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

Numbers for each year also foot w/ NEN and tie to the summary page with no errors noted.

3.2. Golden Ears Bridge Costs

KPMG obtained a model created by an external consultant for the Golden Ears Bridge, and agreed the numbers to the TransLink model with no errors noted.

3.3. Transit Operations

3.3.1. Bus

Expenditures for buses include expenditures made to *Coast Mountain Bus Co.* and the following contracted services: *HandyDART, Taxi Savers, West Vancouver* and *Community Bus*. In addition, these expenditures include operational costs for expansion and fuel tax costs.

Coast Mountain Bus Co. expenditures include variable and semi-fixed operating costs for bus, community shuttle and the SeaBus.

- Variable costs include labour, fuel and other costs. The 2009 numbers are based on the 2008 budget. From 2010 onwards, variable costs are expected to increase by their respective inflationary rates. Variable operating costs are calculated by multiplying the cost per service hour by the total service hours per the “Service Plan” tab.
- Semi-fixed / fixed costs for buses include labour, non-labour and a debt service cost component. For the community shuttle and the SeaBus, the semi-fixed / fixed costs only include labour and non-labour costs. The 2009 numbers are based on 2008 budgeted numbers and labour is increased by 3.5%, while non-labour is increased by 3% (general inflation rate). In 2010, labour is increased by 3% (labour inflation) from the 2009 balance, and from 2011 and beyond, the expense is increased by 2%. Non-labour related costs are projected to increase by 2% (general inflation rate) in 2010 and thereafter. Per the 2008 budget, amortization expense for 2009 is \$2.26M and remains at this level for the entire 10 year plan (incremental amortization expense of approximately \$1.0M per annum is included in additional cost items discussed below).

The formula has been applied consistently across the 10 year plan and all totals have been footed properly.

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Operational costs for expansion include the following categories: contingency costs 2008 annualization, annualized labour (non-variable), additional cost items review with subsidiaries less a fuel reduction due to new technology.

- Contingency costs 2008 annualization are calculated based on the 2008 annual budget and grow at a rate that averages the general inflation rate and the labour inflation rate.
- Annualized labour (non-variable) costs are calculated based on the 2008 budget of 45 positions at \$0.100M each. This figure grows at the annual rate of labour inflation. Per review of the formula in 2009, the projection only factored in \$0.700M instead of \$4.5M. Per discussion with The Program Manager, this is because \$3.8M of the \$4.5M has already been included in the 2008 budgeted numbers. The \$0.700M is increased by inflation in each of the years following.
- The additional cost items reviewed with subsidiaries includes a number of costs including maintenance costs for trolleys, corporate office space, support staff, and amortization of fixed assets. Maintenance costs for trolleys and support staff costs grow at the labour inflation rate while corporate office space costs grow at the general inflation rate. Amortization of fixed assets remains constant at \$1.0M/year over the course of the 10 year plan. In 2009 there are projected one time tenant improvements of \$1.2M.
- The fuel reduction due to new technology is the product of the total annual savings due to new technology and the estimated annual cost per litre of diesel fuel. This cost per litre grows at 30% in 2008, 20% in 2009 and 2% for every year following over the course of the 10 year plan.

The fuel tax costs consist of a carbon tax on diesel and natural gas. The carbon tax on diesel is the product of the total consumption of diesel and the average carbon tax on diesel between the current and prior year. The same respective calculation is used to calculate the carbon tax on natural gas.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for Coast Mountain Bus Co. correctly correspond to the summarized TransLink 10 year plan.

HandyDART (including Taxi-Saver) – includes variable and semi-fixed operating costs. Variable operating costs are determined by multiplying the variable cost per service hour by the total number of hours per the Service Plan tab. Variable operating costs include labour, fuel and other expenses. Similar to above, the 2009 numbers are based on 2008 budgeted numbers increased by the inflation percentages noted above. Semi-fixed / fixed costs include labour, non-labour and taxi-saver costs. The 2009 numbers are based on the 2008 budgeted numbers and increase by the inflation numbers noted in the bus section above. The taxi-saver costs are also increased by the same inflation rate as non-labour costs noted above.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for the HandyDART including Taxi-Saver correctly correspond to the summarized TransLink 10 year plan.

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West Vancouver services include standard diesel and articulated diesel buses. Costs for West Vancouver services are broken down into variable operating costs and semi-fixed operating costs. Variable costs are calculated by multiplying the total service hours per the “Service Plan” tab by the operating costs per hour. Variable operating costs consist of labour, fuel and other costs. Costs in 2008 are developed based on budgeted operating costs. Labour, fuel and other costs are increased using the same labour inflation rates for buses. The 2009 total semi-fixed costs are based on budgeted 2008 numbers from the Projections tab. These costs are then broken down into labour and TransLink Charges using the 2003 labour / total semi-fixed cost and TransLink Charges / total semi-fixed cost ratios. In subsequent years, the labour costs are increased using the same labour inflation rate noted above, and the TransLink Charges are increased using the general inflation rate noted above.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for West Vancouver correctly correspond to the summarized TransLink 10 year plan.

- Community Bus – costs include variable operating and semi-fixed operating costs. Total Community Bus costs for 2009 are based on the 2009 budgeted numbers from the Projections tab. The total costs are then split into variable and semi-fixed costs using the same variable / total costs and semi-fixed / total costs that existed in 2003. Variable operating costs include labour, fuel and maintenance. The 2009 balances are calculated by taking the 2003 labour / variable cost, fuel / variable cost and maintenance / variable costs and multiplying them by the 2009 total variable costs calculated above. These costs along with the service hours tendered by the service provider are used to calculate the cost per hour. Labour and fuel costs are increased by labour inflation and fuel inflation rates noted above. Maintenance costs are increased using the general inflation rate. Variable operating costs are calculated by multiplying the cost per service hour by the service hours per the “Service Plan” tab. Semi-fixed costs consist of labour and non-labour. The labour and non-labour components of semi-fixed costs are increased using the same labour and general inflation rates noted above.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for the Community Bus correctly correspond to the summarized TransLink 10 year plan.

Numbers for each year also foot with no errors noted and tie to the summary page with no errors noted.

3.3.2. Rail

3.3.2.1. Existing (SkyTrain and West Coast Express)

SkyTrain (SkyTrain tab) operating costs include labour, fuel, electricity and other costs. 2009 balances are based on 2008 projections. In the financial model, in error, all costs (totaling \$1,018.3M over the projection period) are calculated with reference to the labour inflation rate. Recalculating the amounts using the correct inflation rates against the respective costs, results in a

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total cost over the projection period of \$1,032.0M. The difference between these two amounts has been carried forward to section 5.0 Exceptions, below. Operating costs for the SkyTrain also include additional costs for the new MKII trains. These costs are calculated by multiplying the non-labour variable cost per service km by the additional service km. The non-labour variable cost per service km is derived from the 2007 actual costs incurred and is increased each year using the electricity inflation rate. The additional service km is calculated using the total number of new km expected to be added.

Other costs of the SkyTrain include Contingency costs 2008 annualization and Additional cost items review with subsidiaries. 2009 contingency costs are derived using 2008 budget - staff costs were divided by 0.72 as an annualization factor, increasing staff costs by a factor of 38% from 2008; (other costs remained consistent with 2008). Contingency costs in 2010 and beyond are increased using the average of the general and labour inflation rates. Additional cost items review with subsidiaries includes station upgrades/Operations Maintenance Centre (OMC) yard and expansion and Canada Line Ticket Vending Machine (TVM) costs. Also, in 2009 there is a projected expenditure of \$1.3M for Mark II timing for 34 and 14 new cars.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for the Skytrain correctly correspond to the summarized TransLink 10 year plan.

West Coast Express (WCE) expenditures include operating costs as well as expansion costs.

■ Operating:

- Salaries, Benefits, Crews, Rolling Stock Labour, Hosts, Security, Professional & Legal – based on 2008 projections and increased each year by labour inflation.
- Buses – calculated by multiplying the pre-expansion bus service hours by the cost per bus service hour. Cost per bus service hour grows at the general inflation rate.
- Fuel – calculated by multiplying fuel costs per train km by the number of train km. Total fuel costs per train km are calculated using 2008 numbers multiplied by fuel inflation. Fuel inflation rate between 2008 and 2009 is at 40%, and decreases to an annual rate of 2% thereafter. Train km is calculated by multiplying the number of trips by the km per trip.
- Wayside Hydro – calculated by multiplying the energy cost per car per year by the number of cars. The energy cost per car per year is calculated using the 2008 projections and increased each year using the energy inflation rate (per the Assumptions Matrix).
- CP Track Rate – cost is determined by multiplying the cost per train km by the train kms. The train km is based on 2008 budgeted amount and remains constant throughout the projection at 174,351. The cost per train km is also based on 2008 budgeted costs and is projected to increase by the general inflation rate from 2009 onwards.

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- Special operations – cost is based on 2008 budgeted numbers with the costs increasing by the general inflation rate in 2009 and thereafter.
 - Other operations – calculated using 2008 projected number and increased by general inflation rate each year.
 - Rolling Stock Material and Rolling Stock Other – calculated using 2008 projected numbers and increased by labour inflation rate each year.
 - Stations – calculated by multiplying the cost per station per 2008 projections (increased by labour inflation each year) by the number of stations. Number of stations increased from 8 stations in 2008 to 10 stations in 2009 and remains at 10 stations for the remainder of the projection.
 - Admin – 2009 balance calculated using 2008 projections less \$.030M and increased net balance by general inflation rate. From 2010 and thereafter, admin is increased by the labour inflation rate.
- WCE Expansion Costs:
- Salary & benefits – calculated using 2008 projections and increased each year by the labour inflation rate
 - Buses – calculated by multiplying total number of expanded bus hours by the cost per bus service hour. Cost per bus service hour is calculated using the 2008 projected number, increased by the general inflation rate each year thereafter.
 - Stations – cost per station per year (increased by general inflation rate) x number of stations.
- Additional cost items review with subsidiaries:
- Maintenance Cost for Transit Secure projects - \$1.0M projected in 2009, increasing by general inflation rate thereafter.
 - Locomotive rebuild – forecasted \$0.500M per year to be incurred from 2014 – 2018
 - Fleet exterior refurbishment costs – forecasted to cost \$0.265M per year starting 2012 through to 2018

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for the West Coast Express correctly correspond to the summarized TransLink 10 year plan.

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3.3.2.2. Canada Line (excludes cost of Police Services – considered as separate line item below)

2009 costs are calculated as one-third of 2010 costs. From 2010 – 2018, the costs are from a confidential business case.

Canada Line costs consist of the following:

- Deferred Contributions – comprise revenues received from the Province of BC, and are a contra expense account. Refer to work performed on Deferred Contributions in the Canada Line revenue section.
- Expected Performance Payments (\$933.1M over the projected period)
- These costs relate to expected payments to be made to InTransitBC for the maintenance and operation of the line. TransLink and InTransitBC negotiated a schedule of payments over the next 31 years. The client inputted the schedule of payments into an Excel spreadsheet and calculated the payments that need to be made each period, taking into consideration inflation and an estimate of start-up inefficiencies. KPMG agreed the “Appendix A – Base Payments” schedule from the InTransitBC agreement to the client prepared Excel schedule w/ NEN. The payments in the 10 year projection closely approximate but do not tie exactly to the payments per the Excel schedule. Per the Excel schedule, the total payments expected to be made to InTransitBC are \$935.871M. Per the projection, only \$933.1M is expected to be paid out. The difference of \$2.771M over the projected period is insignificant to the projections as a whole.
- TVM Operating and Maintenance (\$4.0M over the projected period) is \$0.400M in 2010. From 2011 onwards, the cost has been escalated each year by approximately 2%. Total expenditures were insignificant as a whole, therefore no further work done.
- Special Provincial Constables (\$28.0M over the projected period)
- Cost is forecasted to be \$2.761M in 2010; from 2011 onwards, each year; the costs are forecasted to increase by approximately 2% (inflation).
- Operating Insurance (\$20.0M over the projected period)
- Insurance costs in 2010 is forecasted to be \$1.98M; from 2011 onwards, each year the expense is forecasted to increase by approximately 2% (inflation)
- Annual RAVCO Costs (\$8.5M over the projected period)
- Annual RAVCO cost in 2010 is calculated as the 2004 rate increased by the cumulative inflation. Annual RAVCO costs thereafter are increased by 2% per annum.

KPMG reviewed the formulae w/ NEN.

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3.3.2.3. Evergreen (excludes cost of Police Services – considered as separate line item below)

Costs for the Evergreen Line are derived from the February 2008 business case.

Per review of the business case, the cost of operating the Evergreen line (in 2007 dollars) is \$10.2M. In the projection, costs have been increased by the general inflation rate to arrive at the 2014 annual costs. Since the line is only expected to be in operation for ½ year, 50% of the 2014 costs were included. In 2015, the model included the full costs (\$10.2M + inflation to arrive at \$10.2M in 2015 dollars) from the business case. From 2016 and onwards, the costs have been escalated by the general inflation rate each year.

The O&M savings from the business case was added back to the cost of the Evergreen Line, on the basis that whatever savings resulting from services cancelled / lessened will be used elsewhere.

KPMG reviewed the formulae for footing the above components with no errors noted for each of the years.

3.3.3. Other (net of Subsidiary Allocated Costs and Cost Efficiencies)

Subsidiary Allocated Costs include the following:

- Property & liability insurance, property taxes, rent, fare media, other and funding adjustments – These numbers are based on 2008 budgeted numbers. Starting in 2009, these costs have been increased each year using the general inflation rate.
- *KPMG reviewed the formula for 2009 – 2018 with no errors noted*
- Compressed Natural Gas (CNG's) are kept at a constant \$0.677M (consistent with 2008 budget) from 2009 through to 2015, on the assumption that the operating leases are renewed until they are replaced in 2015.
- Rolling stock lease – relates the lease of the West Coast Express cars.
- Lease payments have been agreed to rent schedules from Pitney Bowes with no errors noted.

Cost Efficiencies – these are hard coded numbers in the model. Per discussion with the Program Manager, numbers are based on advice from TransLink's VP Finance and Corporate Services who we understand, based his estimates on past annual efficiencies achieved. The efficiencies commence in 2011 at \$10.0M and remain at that level until 2013, at which point they increase by \$42.6M. Thereafter, the \$10M base efficiencies remain constant and the \$42.6M component increases by inflation. No other supporting analysis/documentation was provided for these estimates.

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3.4. TransLink Programs

Costs consist of Board and Executive, System Wide Services, Direct Programs, Corporate Services, Corporate Costs and Contingencies.

- TransLink Corporate costs, Intelligent Transportation Systems costs, Bike Program costs and Transportation Demand Management (TDM) Programs are based on 2008 budgeted numbers. Each of the costs has a labour and a non-labour component. Starting in 2009 onwards, the labour component of each of the above costs is increased by the labour inflation rate while the non-labour component of costs is increased by the general inflation rate.
- TransLink is projected to add 15 new positions at a cost of \$0.100M each in 2009. Thereafter, costs are increased by the labour inflation rate.
- TransLink also projected to add new floor space in 2008. The cost of the new space is estimated to be \$0.379M. In 2009 and thereafter, the cost is expected to increase by the general inflation rate. Per discussion with the Program Manager, the \$0.379M estimate was obtained from the Properties Group.
- Contingencies are calculated based on projected remaining contingencies for 2008. Contingencies from 2009 to 2018 are increased by the labour inflation rate each year.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly. Total expenditures for TransLink Programs correctly correspond to the summarized TransLink 10 year plan.

3.5. Police Services

3.5.1. Existing System

TransLink Security:

- Labour costs – based on 2008 budgeted numbers. 2009 numbers and thereafter are increased by labour inflation rate
- Other operating costs – based on 2008 budgeted numbers. 2009 numbers and thereafter are increased by general inflation rate
- Additional SkyTrain security – cost is calculated by multiplying the annual cost per staff by the number of additional staff. The annual cost per staff is based on the 2007 rate of \$0.075M, and increased each year by the labour inflation rate. There are staff additions of 4 or 5 people per year. Per discussion with the Program Manager, this increase is consistent with the expected increase in ridership.

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- Additional Operational Costs for Expansion – 38 new positions in 2008 budget at \$0.100M each. From 2009 and thereafter, costs increase by labour inflation rate.

KPMG reviewed the formulae from 2009 – 2018 with no errors noted.

3.5.2. Canada Line

Refer to Canada Line expenses above.

3.5.3. Evergreen

In addition to the costs from the Business Plan, the costs for 15 special constables (\$0.120M each) were added to the Evergreen Line costs in 2014. From 2015 onwards, the cost for the constables has been increased by the labour inflation rate.

KPMG reviewed the calculation of the total constable costs and the cost escalation in the subsequent years w/ NEN.

3.6. Other Programs

Other programs include the following:

- Federation of Canadian Municipalities (FCM) Loan Projects – forecasted at a constant \$0.500M per year from 2009 to 2018. This amount is consistent with the costs in the 2008 budget.
- Feasibility Studies - forecasted at a constant \$1.0M per year from 2009 to 2018. This amount is the same as the amount in the 2008 budget
- Transit Road Related Infrastructure Projects (TRRIP) Program - forecasted at a constant \$3.1M per year from 2009 to 2018. This amount is the same as the amount in the 2008 budget
- Other – forecasted at \$11.9M in 2009 due to \$5.0M for UBC Hub costs, \$6.5M in real estate carrying costs and \$0.400M in other costs. In 2010, forecasted to be \$7.5M with \$7.1M being real estate carrying costs and \$0.400M in other costs. From 2011 onwards, other costs forecasted to remain consistent at \$0.400M.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly.

4.0 TOTAL DEBT SERVICE COSTS

Total Debt Service Costs consist of Interest Charges and Sinking Fund Payments, net of the benefit/impact of Debt Reserve Fund Interest income, Federal Contributions and the amortization of several items including the short term debt on 5 year assets, capital lease buyouts, and issue

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costs. In the financial model these costs are calculated in two spreadsheets (Existing Debt and Debt Service Costs). KPMG agreed the Existing Debt schedule opening balances to the December 31, 2007 audited financial statements and agreed the maturity dates and interest rates in the model to a spreadsheet provided by the Program Manager, Financial Analysis (2008 Debt Service Cash Flow (for debt @Dec 31, 2007) – prepared by MFA). Interest rate and sinking fund calculations for 2008 were reviewed for mathematical accuracy and formulas for 2009 to 2018 were reviewed for consistency. Although no calculation errors were identified within the projection period, KPMG noted that this is a very large legacy spreadsheet with much historical data and hard-coded calculations to account for issue and maturity dates and a number of complicated reconciliation calculations, presumably to confirm the accuracy of projected figures. The base debt information is also replicated several times in the spreadsheet providing for the potential that changes in one section of the spreadsheets may not be replicated where needed. Given the increasing complexity of TransLink's financings and that of its subsidiaries consideration should be given to replacing this spreadsheet, preferably with one linked to an easily updated data base of outstanding debt instruments.

With respect to the Debt Service Costs spreadsheet, KPMG noted that they are calculated on the new debt acquired to fund capital projects (prorated to reflect date of issuance). The client has forecasted capital projects and the related cash flows for the projection period (Fleet Plan, Capital Cash Flows, etc.). These cash flows are linked to the "Capex-New Debt" tab, which is the basis of the interest, debt reserve fund and sinking fund calculations in the Debt Service Costs spreadsheet. The Debt Service Costs projection calculates these costs both gross and net of the benefit of federal government funding (i.e. federal government funding reduces debt levels each year). The various interest rate, sinking fund, debt reserve and amortization calculations were reviewed for mathematical accuracy and formulas for 2009 to 2018 were reviewed for consistency. Only one exception was noted in the Skytrain and Roads & Bridges, 30 year assets, Debt Service Costs calculation of interest payments. The cell contains an "IF" statement referencing whether the amortization of the asset is equal to 30 years, however, there is an error in the formula which would result in the interest calculation being the same if the period was not 30 years. This had no impact on the calculations as the amortization period selected in the model was 30 years, but should be corrected for accuracy. As with the Existing Debt Schedule, the Debt Service Costs spreadsheet is something of a legacy spreadsheet that would benefit from a fresh start and reference to a more easily updated database of capital projects.

Due to the time constraints on the issue of this draft report, on a test basis, KPMG reviewed the formula for the tabs referenced in the Debt Service Cost spreadsheet and ensured that the balance appropriately flowed through to the respective tabs with no errors noted.

The formulas mentioned above have been applied consistently across the 10 year plan and all totals have been footed properly.

5.0 EXCEPTIONS

During KPMG’s review of the projection, the following adjustments were found:

5.1. SkyTrain Operating Expenses (SkyTrain tab, rows 71 through 74):

KPMG noted that the operating expenses (labour, fuel, electricity and other) were escalated using the labour inflation rate instead of the respective inflation rates (rows 9 through 12).

Total operating costs using labour inflation rate:	\$1,018.3M
Total operating costs using correct inflation rates:	<u>\$1,032.0M</u>
Difference	<u>\$ 13.75M</u>

The difference in the total operating cost of the SkyTrain during the projected period is approximately \$13.75M.

5.2. West Coast Express “Operating Days” (WCE tab, row 20)

KPMG noted that standard operating days increased by 25 days each year from 2008 onwards and in 2013, the number of “operating days” exceeded the number of days in the year (365). KPMG discussed this finding with the Program Manager, who stated that this escalation was done in error and that an adjustment would be made. The total impact of reducing the number of operating days to the correct number is a total reduction in WCE operating expenses of approximately \$3.45M over the projected period. The difference is immaterial in relation to the projection as a whole.

5.3. West Coast Express population growth rate assumptions (Fare Revenues tab row 18 & 19)

KPMG noted that the incorrect population growth rate was used. Fare revenues incorporated prior year’s population growth rate projections. Using the population growth rate from the current year’s statistics, total revenue over the projection period is increased by \$1.783M.

5.4. Canada Line Revenue (RAV tab row 178)

Per review of the deferred contributions portion of the Canada Line revenue, KPMG noted a difference between the backup (deferred contribution spreadsheet) and the projection. Per the projection, TransLink is expected to receive a total of \$174.5M. Per the deferred contributions spreadsheet, total payments equal \$170.5M, resulting in a \$4.0M overstatement of Canada Line revenue between the projection and the back up.

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5.5. Summary

Total impact of adjustments on revenue over projected period: a decrease \$2.25M. Total impact of adjustments on expenses over projected period: an increase of \$10.0M. Accordingly, the total financial impact of the exceptions noted during our review: \$12.5M reduction in the cumulative deficit.

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Review of Key Economic Assumptions

Introduction

Attachment 6 – Assumptions Matrix of the 2009 – 2018 Financial Plan (the Plan) outlines the main economic assumptions that have been used in the development of the Plan. Many of these assumptions have been tested through sensitivity analyses (Attachment 7) as part of a risk assessment of the Plan.

KPMG has reviewed these key assumptions and the basis for the sensitivity analyses through a process of desk research using publicly available sources and reached the following conclusions regarding the reasonableness of the assumptions. KPMG has not reviewed and does not comment upon the reasonableness of the operational assumptions that have been used in the analysis, as they were beyond the scope of our engagement.

General Inflation

General inflation is used throughout the Plan to inflate particular costs and general inflation is based on an assessment of the likely Consumer Price Index. The chief sources of information are the 2008/09 Provincial Budget (Part 4 – British Columbia Economic Review and Forecast), Bank of Canada and the economics units of the principal Canadian chartered banks. The following is a summary of the principal forecasts:

a) 2008/09 Provincial Budget (Part 4 – British Columbia Economic Review and Forecast)

The *Budget Transparency and Accountability Act* requires the Minister of Finance to consult the Economic Forecast Council (“Council”) each year on the outlook for British Columbia’s economy. The consultation process takes place in advance of each year’s budget and the resulting forecasts are published in February along with the provincial budget. The Council’s forecast for inflation is as follows:

	2008		2009		2010-2012	
	Range	Average	Range	Average	Range	Average
Consumer Price Index Change	1.4% - 2.2%	1.9%	1.7% - 2.3%	2.1%	1.9% - 3.9%	2.2%

b) Bank of Canada

In a press release dated June 10, 2008, the Bank of Canada noted the following:

“If current levels of energy prices persist, total CPI inflation will rise above 3 percent later this year. However, with the Canadian economy operating in excess supply, core inflation is expected to remain below 2 percent through 2009. Both total and core inflation should converge on 2 percent in 2010 as the economy returns to balance.”

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c) RBC Capital Markets

In a press release dated July 7, 2008, RBC Capital Markets noted:

“We agree with the Bank’s (Bank of Canada) view that the headline inflation rate is likely to be higher than in their April Forecast.”

d) CIBC World Markets

CIBC World Markets, in its StrategEcon released June 26, 2008, forecasts CPI inflation of 2.6 percent in 2008 and 3.3 percent in 2009

e) TD Bank Financial Group

In the *Monetary Policy Monitor* published by TD Bank Financial Group on July 10, 2008, inflation of the Consumer Price Index is forecast to exceed 3.0 percent by the end of 2008.

f) Scotiabank Group

Scotiabank Group notes in their *Forecast Update* published June 27, 2008 that “...weakening economic growth should eventually curb in the run-up in inflation...”. Scotiabank goes on to forecast inflation in the Consumer Price Index of 2.4 percent for both 2008 and 2009.

TransLink’s 2009 – 2018 Financial Plan contains a base general inflation forecast of 3.0 percent for 2009 and 2010 and 2.0 percent thereafter. For purposes of conducting sensitivity analyses, TransLink adopts higher and lower bounds for general inflation of 3.5 percent and 1.5 percent respectively. Given the range of forecasts reviewed, TransLink’s forecast of general inflation does not appear unreasonable. It tends to lie at the high end of the range of forecasts reviewed. The planned sensitivity analyses (best case annual general inflation of 1.5 percent and worst case annual general inflation of 3.5 percent) would appear to cover any reasonable levels of uncertainty with respect to the forecast.

Fuel Sales Growth

Growth in the volume of fuel sales will have an impact on the amount of revenue that TransLink will generate through the \$0.12 per litre of fuel tax transferred from the Province. The Plan assumes no change in the volume of fuel purchased in the Metro Vancouver region over the ten year term, hence the amount of revenue generated is static through this period.

The principal sources of published forecasts on fuel sales include the 2008/09 Provincial Budget and the Energy Information Administration of the U.S. government.

a) 2008/09 Provincial Budget (Part 4 – British Columbia Economic Review and Forecast)

The 2008/09 Provincial Budget projects the volumes of diesel fuel and gasoline sold in the province to increase by 2 percent per year for the fiscal years 2008/09, 2009/10 and 2010/11. The projections do not go beyond this three year period.

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Review of Key Economic Assumptions

b) Energy Information Administration

In the Annual Energy Outlook 2008 published by the Energy Information Administration, gasoline sales in the United States were forecast to increase by an average of about 0.8 percent per year over the period 2007 to 2014, at which point sales were expected to decrease.

In a recent update (July 2008), the Energy Information Administration has changed its short term forecast, which now shows a modest 1.1 percent decrease in gasoline sales over the period 2007 to 2009.

Based on the forecasts reviewed, the assumptions regarding gasoline and diesel fuel sales used in the Plan do not appear unreasonable. The planned sensitivity analyses (plus 2 percent per annum and minus 1 percent per annum) would appear to cover any reasonable levels of uncertainty with respect to the forecast.

Hydro Costs

The cost of electricity affects the operating costs of Skytrain, the trolley bus fleet and the new rapid transit lines. All purchases of electricity are from BC Hydro at regulated rates. Recent approved BC Hydro rate changes include:

- 2008 – 6.56% general rate increase
- 2009 – 8.21% general rate increase
- 2008 to 2010 – annual **decreases** to commercial and industrial electricity users ranging from 0.9% to 2.2%

While formal applications for rate increases in future years have not been submitted to the BC Utilities Commission, significant increases are expected for at least the next few years as BC Hydro upgrades facilities, brings on more public and private generation and focuses on demand management.

The Plan includes a forecast of increases in electricity rates of:

- 2008 to 2011 – annual increases of 7.5%
- 2012 – 6.0%
- 2013 – 5.0%
- 2014 – 4.0%
- 2015 – 3.0%
- 2016 to 2018 – 2.0% per annum

Based on the BC Hydro rate changes that have been approved, the forecast rates in the model may be slightly higher than those that will be incurred in the period 2008 to 2010. Beyond 2010, it is difficult to comment, as no publicly available relevant forecasts were available that cover that

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Review of Key Economic Assumptions

period. We note however, that the increases included in the plan result in a nearly 50 percent increase in electricity rates over the next 10 years. This implies an average annual inflation rate for electricity that is double the forecast general inflation rate.

Diesel Costs

Diesel fuel costs are a significant component of the operating costs for TransLink's bus fleet, accounting for about 12 percent of variable operating costs. Diesel fuel costs are linked to world crude oil prices, which have risen significantly over the past year. A number of agencies have prepared forecasts or predictions for crude oil prices and/or gasoline/diesel prices, as follows:

a) Energy Information Administration

The July 2008 *Short Term Energy Outlook* published by the Energy Information Administration (EIA) predicts that crude oil prices (West Texas Intermediate) will average \$127 per barrel in 2008 and \$133 per barrel in 2009. U.S. retail diesel fuel prices are expected to average \$4.35 per gallon in 2008 and \$4.48 per gallon in 2009 (a 3% increase).

The 2008 Annual Energy Outlook published by the EIA in early 2008 predicted that gasoline prices would drop by 2012 to close to 2006 prices (about \$2.50 per gallon).

b) CIBC World Markets

In a July 2008 presentation, Jeff Rubin, Chief Economist of CIBC World Markets, predicted that US gasoline prices will rise from about \$4.00 in 2008 to nearly \$7.00 by 2012.

c) National Bank Financial

Clement Gignac, Chief Economist of National Bank Financial, quoted in an article in the *Montreal Gazette*, believes that the price of crude oil could drop to \$75 to \$80 per barrel in the next few years as a result of falling demand and the reduction of subsidies in many developing countries.

d) Lehman Brothers

Ed Morse, Chief Energy Economist at Lehman Brothers expects crude oil prices to decline to about \$130 per barrel towards the end of 2008 and to \$93 per barrel by 2009 as a result of increased supply and falling demand.

Given the disparate opinions on the future cost of crude oil, which drives the price of diesel fuel, it is difficult to draw conclusions on the projected inflation rate for diesel fuel in the Plan. Given this uncertainty, it would not appear unreasonable for TransLink to use a base price of \$1.50 per litre and increase this at 2 percent per annum. To be safer, we would suggest using an increase of 3 percent per annum and expand the range used in the sensitivity analysis to plus or minus 10 percent on the base price.

Long Term Interest Rates

TransLink uses the average of the six major chartered banks (RBC, CIBC, TD, Scotia, BoM and National) forecasts of the 10-year and 30-year Government of Canada bond rates as the basis for the estimated cost of borrowing. To this they add 100 basis points to reflect the current credit

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spread in the rates applicable to the Municipal Finance Authority, through which TransLink currently obtains all of its debt financing.

A review of the current forecasts for 10-year and 30-year interest rates shows an average of 4.24% for 2009. The current spread at the end of June 2008 between the chartered banks estimate of the Government of Canada's rates and the rate quoted by the MFA for 20 year debt are as follows:

Average Government of Canada 10-year and 30-year interest rate	3.94%
Current MFA rate for 20 year debt	5.05%
Current spread	1.11%

As indicated above, the current spread is approximately 111 basis points. This is significantly higher than in the past due to the current condition of the global credit markets. Historically, the credit spread has been 40 to 55 basis points.

The estimated long term interest rate of 5.25% for 2009 may slightly understate the potential rate, given that the current spread is 11 basis points higher than that used by TransLink. Our estimate, using the average of the banks' forecasts and the spread of 111 basis points, is 5.35% for 2009.

The estimated long term interest rate for 2010 to 2018 of 5.5% would not appear to be unreasonable given the state of the economy, current spreads (which should decrease as credit markets improve over the next few years) and near term projections for interest rates.

The sensitivity analyses conducted on interest rates (plus or minus 1.0%) appear to be reasonable given the publicly available rate forecasts that were reviewed.

Population

BC population projections, which are produced by BC Stats, are usually updated in January/February each year, with sub-provincial (Local Health Area, Health Region, Regional District, and Development Region) projections following a few months after. All population estimates are date-referenced to July 1st of each year. The most recent BC projection is 'Proj 07/07', produced in July, 2007. The most recent sub-provincial projection is 'P.E.O.P.L.E. 32' (Population Extrapolation for Organization Planning with Less Error, run cycle 32), produced in August, 2007, was based upon 'Proj 07/07'.

TransLink uses the forecasts from P.E.O.P.L.E. 32 in the Plan to develop estimates of ridership in its service territory. There are no other generally accepted and used population forecasts for communities in the Lower Mainland, hence the use of this forecast is appropriate.

We note that the portion of the Plan dealing with ridership and revenues generated by West Coast Express uses a lower estimate of population growth based on an older version of the BC Stats model. This results in underestimating revenues from West Coast Express.

TransLink 2009 – 2018 Financial Plan

Review of Key Economic Assumptions

Property Tax

In accordance with Sections 25 to 27 of the South Coast British Columbia Transportation Authority Act (the "Act"), TransLink may assess and collect taxes on the net taxable value of lands and improvements in the Greater Vancouver transportation service region. Increases to tax assessments must be approved by the Board of Directors of the GVRD. In addition to increases due to higher tax rates, revenue has increased due to growth in population (i.e., numbers of properties) and to changes in assessed values – in recent years values have been increasing much faster than inflation.

Under the terms of the Act, revenue generated from the property tax is not permitted to grow by more than 3 percent per year. The Plan reflects this restriction on revenue growth.

Labour

The Plan contains assumed increases in wages as follows:

2008	3.0%
2009	3.5%
2010	3.0%
2011	2.0% for this and all subsequent years

The increases are generally in line with the provisions of existing labour agreements between TransLink and the unions that represent its workforce. Some of the agreements are in effect through 2010 while others extend to 2011, though the increases take place in the previous contract year. The financial model does not exactly replicate the provisions of each agreement due to the complexity of the agreements; rather it generally follows their major provisions for wage increases.

The history of average wage increases across British Columbia (source: Human Resources and Social Development Canada) is presented below.

2012	0.5%
2013	2.5%
2014	3.0%
2015	3.4% (to date)

In the *Budget and Fiscal Plan 2008/09 – 2010/11*, the B.C. Ministry of Finance notes that continued labour shortages may result in higher wage inflation, thus keeping the growth in wages higher than the general rate of inflation.

While the assumed rate of growth in wages for 2011 and beyond of 2% per annum may not be unreasonable, sensitivity analyses should at least be undertaken on a higher rate (3.0%) as labour is the chief component of TransLink's operating costs.

TransLink 2009 – 2018 Financial Plan

Review of Key Economic Assumptions

Ridership

The Plan includes a background increase in transit ridership of 2.3% per annum (this does not include new services, such as the Canada Line) for the period 2009 to 2012, declining to 1.5% for the period 2013 to 2018. The smaller increase in ridership during this latter period is noted as being related to a lack of capacity to handle a higher growth rate. Sensitivity analyses were conducted at 1.5% to 3.5% for the period 2009 to 2012.

These rates of growth appear to be conservative, for a number of reasons:

- Population growth in the Metro Vancouver area is expected to be 1.5 percent per annum over the next few years. If new residents in Metro Vancouver use transit at the same rate as existing residents, the growth rate would be 1.5% per annum.
- Transit ridership increased by an average of 3.5% per annum over the past three years (2004 to 2007). In 2007, the rate of growth was 4.3%.
- High gasoline prices may result in further demand for transit.

Using a lower bound rate of growth of 1.5% is consistent with background population growth and would not appear to be unreasonable. The base case (2.3%) and the upper bound of the sensitivity analysis (3.5%) appear to be conservative, though not unreasonable, estimates given the recent increases in transit ridership and the outlook for gasoline prices.

TransLink 2009 – 2018 Financial Plan

Adherence to Provisions of Legislation

Introduction

Under the provisions of Part 9 of the South Coast British Columbia Transportation Authority Act (the Act), TransLink is required to develop a 30-year strategy that details the organization's goals and directions for the regional transportation system, a description of key initiatives and other measures that are required to achieve the goals and a statement of principles underlying the strategy.

As part of its commitments under Part 9, TransLink must prepare a plan that sets out how the authority proposes to:

- Provide transportation services in the transportation service region;
- Manage transportation demand in the transportation service region; and
- Meet all of the financial requirements.

TransLink is required to accomplish the above by:

- Using only:
 - Established funding sources; and
 - Funding resources accumulated from previous years.
- Borrowing within established borrowing limits.

The following table indicates the requirements of the Act and the relative agreement of the *2009 – 2018 Financial Plan* (the Plan) with those requirements.

Requirement of Legislation	Agreement with Legislation
194 (4) The base plan must, for each applicable year, reflect planned expenditures for that year under subsection (3) (c) that are not, in total, greater than the total of <ul style="list-style-type: none"> (a) revenue and borrowing for that year referred to in subsection (3) (d) and (e), and (b) funding resources accumulated from previous years. 	TransLink has prepared a base plan that meets the requirements of this section. The plan entails significant service reductions in 2012, due to an ongoing revenue shortfall.
195 (1) The base plan prepared in 2008 must <ul style="list-style-type: none"> (a) set out for each transaction tax imposed by the authority in 2008, the tax rate that applied to that transaction tax in 2008, and (b) for each of applicable years <ul style="list-style-type: none"> (i) set out for each of those transaction taxes, a tax rate is not greater than the tax rate that applied to that transaction tax in 2008, and (ii) reflect, as the total revenue that may be raised 	The Plan appropriately identifies the tax rate for each transaction tax for each year. The tax rates do not increase above their 2008 level as mandated by the Act. The total revenues from the transaction taxes that have been built into the financial model are consistent with the provisions of the Act.

TransLink 2009 – 2018 Financial Plan

Adherence to Provisions of Legislation

Requirement of Legislation	Agreement with Legislation
<p>by the authority from each of those transaction taxes, the total revenue that the authority anticipates it will raise in that applicable year by applying the tax rate set out for that transaction tax under subparagraph (i).</p>	
<p>196 (1) The base plan prepared in 2008 must, for each applicable year, reflect, as the total revenue that may be raised by the authority from property taxes in that applicable year, an amount that is not greater than the sum of</p> <p>(a) 103% of the total revenue that the base plan contemplates is to be raised from standard property taxes in the year before that applicable year, and</p> <p>(b) \$18 million</p>	<p>The Plan reflects the property tax provisions of the Act.</p> <p>Property tax revenues are not forecast to increase more than 3% per annum.</p> <p>A lump sum of \$18 million is included separately in revenues as the provision for the former parking site tax.</p>
<p>197 (1) The base plan prepared in 2008 must</p> <p>(a) set out for each revenue transit service provided by the authority in 2008, the short term fare assessed for that revenue transit service in 2008, and</p> <p>(b) for each of the applicable years,</p> <p>(i) set out for each of those revenue transit services, a short term fare that is no greater than the targeted fare applicable to that revenue transit service in that applicable year, and</p> <p>(ii) reflect, as the total revenue that may be raised by the authority in that applicable year from each revenue transit service, the total revenue that the authority anticipates it will raise in that applicable year by applying the short term fare set out for that revenue transit service under subparagraph (i)</p>	<p>The Plan does contain details of all of the short term fares offered by TransLink.</p> <p>Revenues associated with the short term fares are provided as an annual amount for conventional bus, Seabus and Skytrain combined. This is due to an issue with the allocation of revenue across these transit services when many passengers use the same fare to access more than one of the services in the course of a trip.</p>
<p>198 The base plan must, for each of the authority's user fees referred to in section 29 (2) that is not a short term fare, set out</p> <p>(a) the amount assessed for that user fee in the base plan preparation year, and</p> <p>(b) the amount that the authority proposes to assess for that user fee in the applicable year</p>	<p>The Plan does contain details of all of the user fees that are not short term fares.</p>
<p>199 The base plan must</p> <p>(a) set out</p> <p>(i) the project toll charges that the authority is authorized, by a bylaw that is in force under section 29 (5) or (6), to assess in the base plan</p>	<p>The Plan contains the proposed toll rates for the Golden Ears Bridge for each year of the plan. The toll for the initial year is as specified in the bylaw, while the estimated tolls for future years are based on</p>

TransLink 2009 – 2018 Financial Plan

Adherence to Provisions of Legislation

Requirement of Legislation	Agreement with Legislation
<p>preparation year, and</p> <p>(ii) the designated tolls that the authority is authorized, by a bylaw that is in force under section 29.1 (5) or (6), to assess in the base plan preparation year,</p> <p>(b) for each of the applicable years, set out</p> <p>(i) the project toll charges that the authority is authorized, by a bylaw that is in force under section 29 (5) or (6) in the base plan preparation year, to assess in that applicable year, and</p> <p>(ii) the designated tolls that the authority is authorized, by a bylaw that is in force under section 29.1 (5) or (6) in the base plan preparation year, to assess in that applicable year, and</p> <p>(c) for each of the applicable years, reflect the total revenue that may be raised by the authority from those tolls in that applicable year.</p>	<p>assumptions about changes in the Consumer Price Index, as allowed in the bylaw.</p> <p>The Plan includes estimates of the total revenue to be generated by tolls for each year.</p>