

Staff report

DATE:	January 31, 2018	FILE : 8500-20/CV
TO:	Chair and Directors	FILE . 8500-207 CV
	Committee of the Whole	Supported by Russell Dyson Chief Administrative Officer
FROM:	Russell Dyson Chief Administrative Officer	R. Dyson
RE:	Comox Valley Transit – Fare Review	

Purpose

The purpose of this report is to present the results of BC Transit's (BCT) latest fare review, and to recommend an updated fare structure for the Comox Valley Transit System.

Recommendations from the Chief Administrative Officer

- 1. THAT a new fare structure for the Comox Valley Transit System, described as Fare Option 3 in BC Transit's Comox Valley Fare Structure Review dated November 20, 2017 be implemented alongside the September 2018 conventional service expansion.
- 2. THAT a new time-based transfer policy as described in BC Transit's Comox Valley Fare Structure Review dated November 20, 2017 be adopted.
- 3. THAT staff work in collaboration with North Island College's (NIC) staff and student union to investigate the potential implementation of the Universal Pass (U-PASS) at NIC's Comox Valley campus.
- THAT staff be directed to implement additional fare programs as identified in BC Transit's 2017 Comox Valley Fare Structure Review, including the Family Travel Program, and the School Group Pass.

AND FURTHER THAT the School Group Pass fare be set at \$30.

Executive Summary

BC Transit has recently completed a fare structure review for the Comox Valley Transit System. The highest ranked fare structure in the review, Option 3, provides the following benefits:

- Move to single cash/ticket fare, reducing potential operator conflict in enforcing age-based fare categories;
- Move to one discounted monthly fare category (from three in current structure), simplifying the sales and marketing of monthly fare products;
- Projected increase in revenue of almost \$25,000 annually;
- Reduced monthly pass costs for target ridership groups, including seniors and postsecondary students.

The fare structure review also includes recommendations to move forward with the following fare programs:

- Engage in a dialogue with the NIC Students' union and NIC staff regarding introduction of a U-PASS for NIC students. Implementation of this program could increase revenues by about \$200,000, and increase ridership by about 180,000 annual rides.
- The school group pass, a large group fare product for school groups. Implementation of this program would give school-aged children exposure to the transit system, thus encouraging future ridership growth.
- The family travel program, with its focus on introducing youth to the transit system, is also important to encouraging future ridership growth.

Fare programs which provide free transit to refugees and to transport those with mobility challenges up Ryan Road are not recommended. These programs present challenges in their implementation including determining who is eligible and may also open up the door for other groups to request free fares. Comox Valley Regional District's (CVRD) staff will work with groups such as the delegation that requested free transit for refugees to investigate other funding opportunities such as the grant in aid.

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Stakeholder Distribution (Upon Agenda Publication)

Transit Management Advisory Committee	✓
North Island College – Comox Valley Campus	✓

Background/Current Situation

A fare review has recently been completed by BCT (Appendix A). The current fare structure has been in place since 2011, and the last fare increase under this structure was implemented on January 1, 2015. Highlights of the latest fare review include:

- Comox Valley Transit's annual revenue growth, averaged over the past five years is at two per cent;
- Ridership growth over the past five years is at zero per cent;
- Total cost recovery in the Comox Valley is at 23 per cent;
- Semester pass sales revenue has increased significantly over the past five years, with an average annual growth rate of 17 per cent;
- Average fare in Comox Valley is \$1.16 which is \$0.21 lower than the average from similar sized regional BCT systems;
- Comox Valley's current adult cash fare (\$2.00) is slightly lower than the average from similar sized regional BCT systems;
- Comox Valley monthly pass costs are higher than the average from similar sized regional BCT systems;
- Comox Valley's current fare structure includes a total of 16 fare products, above the average from similar sized regional BCT (13) and BCT fare guidelines (9).

BC Transit has provided three options for a revised fare structure, and the details of each are included in Appendix A. A feature common to all options is the removal of discount cash and ticket fares, as BCT is moving to a model where age-based discounts would only apply to monthly passes. This has become common practice across Canada, with benefits including:

- Simplified fare structure is easier to understand,
- Reduced reliance on drivers to enforce age-based fares, thus reducing the potential for conflict, and
- Increased incentive for riders to switch to monthly passes, which promotes more consistent ridership, and reduces fare collection costs and boarding times.

Of the three fare structure options identified and evaluated in the review, Fare Option 3 – Single Discount Monthly Pass ranked the highest due to its marketability, attractiveness to customers and ability to encourage ridership. Highlights of this option are provided below with current fares in brackets.

	Cash Fare	Day Pass	10 Tickets	Monthly Pass	Dual Pass
Regular (Adult)	\$2.00 (\$2.00)	\$4.00 (\$4.50)	\$18 (\$18)	\$55 (\$52)	\$60 (\$60)
Senior	\$2.00 (\$1.75)	\$4.00 (\$4.00)	\$18 (\$15.75)	\$35 (\$42)	\$40 (\$50)
Youth (age 5-19)	\$2.00 (\$1.75)	\$4.00 (\$4.00)	\$18 (\$15.75)	\$35 (\$30)	\$40 (\$30)
Post-Secondary	\$2.00 (\$1.75)	\$4.00 (\$4.00)	\$18 (\$15.75)	\$35 (\$44)	\$40 (\$50)
Child (under 4)	No charge	-	-	-	-

*Current Fares in Brackets

- Simplified fare structure aligned with BCT fare guidelines;
 - One regular monthly pass fare (adult), and one discounted monthly pass fare (senior/post-secondary/youth).
- Single cash fare of \$2;
- Monthly pass increased by \$3 for adults and \$5 for youth, and decreased by \$7 for seniors and \$9 for post-secondary;
- Dual monthly pass unchanged for adults, reduced by \$10 for seniors & post-secondary, and increased by \$10 for youth;
 - Campbell River has been consulted on these changes and is supportive of them.
- Semester passes (regular and dual) each reduced by \$20 to \$115 and \$130 respectively;
- Ridership decrease of 10,285 (-2 per cent);
- Predicted revenue increase of \$24,597.

The fare review also includes discussion points on other fare policy options available for the CVRD consideration, including transfers, U-PASS, family travel program, school group pass, and others.

Transfers

The current policy for transfers is exchange-based, wherein passengers are only provided with a transfer if they are changing buses at an existing transit exchange along the way to their destination. This is meant to mitigate potential losses in revenue where a transfer is used on a return trip. With the service changes being planned for September 2018 implementation, there will be situations where passengers will need to change buses at other locations in the system. To accommodate this change, BCT recommends that a time-based transfer policy be adopted as follows:

"Transfers allow for one-directional travel on any route throughout the Comox Valley Transit System. Transfers are valid for 60 minutes from when they are issued and are not valid on return

Staff Report - Comox Valley Transit Fare Review

U-PASS

This program provides post-secondary students unlimited access to public transit during each semester that they are registered. The projected revenue increase that would result from implementation of U-PASS in the Comox Valley is approximately \$200,000 (dependent upon chosen adult monthly pass rate). Ridership could also be expected to increase by as much as 180,000 additional rides per year, as every eligible NIC student would be provided with a U-PASS.

Implementation of U-PASS here in the Comox Valley would involve a partnership between CVRD, NIC, the NIC student society and BCT. The fare review document recommends that the CVRD initiate a dialogue with NIC regarding U-PASS implementation.

Family Travel Program

This program, in place in many BCT systems, allows an adult monthly pass customer to bring up to four children (aged 12 and under) on board for no extra charge. Offering this program could be a gesture of good faith to mitigate the impact of youth fare increases. The impact of such a program on ridership and revenue is expected to be minimal.

School Group Pass

This large group fare product would allow for school groups (up to 30 people including teachers, students and chaperones) to ride on conventional transit for a fixed cost. For reference, the cost of this pass in Campbell River is \$30. This program could provide future ridership benefits by encouraging transit use by school-aged children upon them gaining their independence. The fare review recommends that the possibility of establishing this program in the Comox Valley be explored.

Refugee Program

In May 2017, the CVRD Committee of the Whole received a delegation for a local refugee sponsorship group requesting the provision of free transit passes for refugees in their first year of settlement in the Comox Valley. Providing free transit to refugees during their transition to life in British Columbia is in practice in other communities, including Victoria and the Cowichan Valley.

The fare review includes a recommendation that, should a free transit for refugees program be deemed appropriate, the Comox Valley Transit System partner with a registered non-profit society that would be responsible for distribution of free monthly passes to refugees, adhering to a clear set of eligibility standards.

Ryan Road Free Fare

With respect to free transportation up the Ryan Road hill, the fare review recommends against this option, due to the possibility of operator conflict, lost revenue, and issues of inclusion and/or discrimination.

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Policy Analysis

Under the Master Operating Agreement between BCT and the CVRD, decisions on fares are made by the CVRD, and all fare revenue accrues to the CVRD.

Since 2003, the CVRD's "Transit – No Free Bus Passes" policy has included the following statement:

THAT the Comox Valley Regional District board, through the Comox Valley Transit System, does not provide bus passes at no charge to individuals, groups or businesses other than for Comox Valley Transit System or BC Transit approved advertising and promotional events.

Since 2011, the CVRD's "Transit – Student Fares" policy has included the following statement:

THAT discounted transit fares for students provides financial relief and alternative transportation choices to students, and will also result in increased system ridership.

At the May 16, 2017 meeting of the CVRD Committee of the Whole, the following motion was passed:

THAT staff be directed to report back to the next committee of the whole meeting regarding the feasibility of amending the Transit – No Free Bus Pass policy to facilitate waiving transit fees for refugees in the first year of settlement in the Comox Valley.

Options

With respect to the fare structure options presented in the fare review, the following options are available for the board's consideration:

- 1. Implement Fare Option 3 as identified in BC Transit's Fare Structure Review.
- 2. Direct staff to investigate and report back to the board on other fare structure options.

According to the qualitative analysis of the three options included in BC Transit's Fare Structure Review, Fare Option 3 ranks the highest. Benefits of this fare structure include a simplified discounted monthly pass structure (one, down from three in the current structure), and a projected revenue increase of almost \$25,000. This structure also offers a reduction in the monthly pass cost for post-secondary and seniors, and a corresponding reduction in the cost of semester passes, while the cost of adult and youth monthly passes see a modest increase. As the updated fare structure will be introduced at the same time as the September 2018 service expansion, this increase in fares can be positioned in terms of getting more service per dollar spent.

With respect to the transfer policy change proposed in the fare review, the following options are available for the board's consideration:

- 1. Change the transfer policy to a time-based system, where passengers can change buses at any point in the transit system along the way to their destination.
- 2. Keep the transfer policy unchanged, wherein passengers are only provided with a transfer if they are changing buses at a transit exchange along the way to their destination.

With the implementation of the frequent transit network as part of the service changes planned for September 2018, there will be an increase in situations where transfers outside of existing exchanges will provide for the most convenient travel option for passengers. For this reason, option 1 is recommended. With respect to the fare discussion points presented in the fare review, the following options are available for the board's consideration:

- 1. Investigate the implementation of the U-PASS program for NIC students, in partnership with NIC, the implementation of a school group pass program for K-12 students, in partnership with School District 71, and the implementation of a family travel program.
- 2. Implement a differing array of fare options included in the report.

Due to the revenue and ridership projections identified through the implementation of a U-PASS program for NIC students, development of this program should be a high priority. Given the Comox Valley Transit system local operator's experience with the school group pass, and the benefits this program could bring to school group trips, implementation of this program is also a high priority. The family travel program, with its focus on introducing youth to the transit system, is also felt to be important for future ridership growth.

In regards to moving forward with a free transit program for refugees or travel up Ryan Road, a primary concern is the precedent this would set for other groups that desire free transit, leading to difficult and potentially controversial decisions in determining the merits of any one group's request over another's. The intent of the CVRD's existing "Transit – No Free Bus Passes" policy is to prevent such precedent-setting practices, thus providing clarity to the public with respect to transit fares. Option 1 is thus recommended. CVRD staff will work with groups such as the delegation that requested free transit for refugees to investigate other funding opportunities such as the grant in aid.

Financial Factors

All fare revenue from the Comox Valley Transit system accrues to the CVRD. All fare structure options presented in this report are predicted to result in an increase in fare revenues and a further shift to prepaid fare products, therefore assisting in reaching Transit Future Plan cost recovery targets for the system (30 per cent by 2038).

Legal Factors

The annual operating agreement between BC Transit and the CVRD stipulates responsibilities of each partner. The CVRD is responsible for decisions on establishing fares.

Regional Growth Strategy Implications

The provision of effective public transit within the Comox Valley has been identified in the Regional Growth Strategy (RGS) as key to reducing the environmental impact of new and existing development, providing a reliable alternative to the use of private automobiles, and providing measurable reductions in greenhouse gas emissions.

The RGS includes policies and targets aimed at densifying growth, jobs and schools in core settlement areas around transit corridors, increasing transit mode share and increasing transit service frequency.

Intergovernmental Factors

Transit Management Advisory Committee members have discussed the fare review on two occasions and support Fare Option 3 as identified in BC Transit's Fare Structure Review

Interdepartmental Involvement

Implementation of a new fare structure would be led by the Community Services Branch, with support from Financial Services and Communications.

Citizen/Public Relations

Public transit is important to the community and forms the primary transportation mode for many residents with the majority of riders being adults followed by students, persons with disabilities and then seniors.

Communication of the changes in the fare structure will be led by BCT, with support provided by the CVRD's communications department and transit outreach educator.

Attachments: Appendix A - BC Transit Comox Valley Fare Review, November 2017

Fare Structure Review Comox Valley Regional District



November 20, 2017

Comox Valley Regional District



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BC TRANSIT GLOSSARY

Adult fare – A regular fare must be paid by all passengers who do not qualify for a discount or cannot prove eligibility.

Average fare – Total revenue from fare sources divided by total ridership (including BC Bus Pass).

Cash fare – A cash fare allows one person to use transit. No change is given on the bus and so exact change must be used.

Child – A person who is four years of age or under. Children may ride the bus for free.

Conventional transit – Serves the general population in urban settings using mid-sized or large buses. The buses are accessible and low-floor and run on fixed routes and fixed schedules.

Cost recovery – Reflects annual total revenue divided by total costs. This ratio indicates the proportion of costs recovered from total revenue. A strong cost recovery is desirable, as it reduces the subsidy from the taxpayer. This factor, however, is a municipal policy decision.

DayPASS – A DayPASS offers a discount for unlimited travel throughout the day.

Discount fare – Discounts on cash fares and pre-paid products are applicable to seniors (aged 65+), youth (aged 5-19) and university students upon proof of eligibility.

Dual Pass – Fares accepted by both the Comox Valley and Campbell River Transit systems.

handyDART – Custom door-to-door service for those passengers who cannot use conventional transit due to a disability. Riders must be registered with the handyDART office before they can use the service. Also known as custom transit, handyDART stands for handy Dial-a-Ride-Transit.

Monthly Pass – For users taking transit regularly throughout the month, a Monthly Pass offers a discount for unlimited travel.

Post-secondary student – Adult students in full-time attendance at a recognized postsecondary school can travel on a Student Monthly or Semester Pass.

Ticket – Each ticket allows one person to use transit. When purchasing a package of ten tickets, a user will receive a discount. Using tickets also has the advantage of not requiring exact change to be carried on the bus.

Total revenue – Includes passenger and advertising revenue; excludes property tax.

Transfer – When a user pays their fare using cash or using tickets, and requires more than one bus to complete their trip, they may request a transfer from the operator. Transfers are free, allow for one-directional travel on any route and are not valid for return trips.

OVERVIEW

BC Transit has prepared this report for the Comox Valley Regional District.

Since 2015, BC Transit's Fare Strategy has guided decision making in its transit systems towards improving the net yield of fare revenue, that is the revenue collected after the cost of the revenue collection is deducted. To achieve this, fare structure decisions are made considering the following four key objectives:

- 1. The fare structure is attractive to customers and encourages ridership
- 2. The fare structure is marketable and is easy to produce and sell
- 3. The fare structure has low costs of operation and debt service
- 4. The fare structure is secure and hard to defraud

With these objectives in mind, any changes to the fare structure should be made with the intent of simplification so to make it easier for customers to comprehend and purchase, easier and less costly to administer and more suitable for future fare collection technology.

This report examines the Comox Valley Transit System's current fare structure, discusses historic revenue and ridership trends, and draws comparisons to the fare structures in peer transit systems and to BC Transit's recommended fare guidelines. This report will offer three potential new fare options, which seek to maximize fare revenue, promote ridership, improve transit operator security and be cost-effective to administer. Finally, this report will provide quantitative and qualitative analysis of each of the three options presented.

BACKGROUND INFORMATION

Current Fare Structure

The following table outlines the current fare structure in the Comox Valley Transit System that was implemented in January 2015. In offering discounted cash, DayPASS and ticket fares, and having multiple discount monthly passes, this fare structure is large and complex relative to BC Transit's Fare Guidelines (found on page 9).

Table 1: Current Fare Structure

Fare Product	Fare Product Audience		
Conventional			
	Adult / Post-Secondary Student	\$2.00	
Cash	Senior / Youth	\$1.75	
5 5400	Adult / Post-Secondary Student	\$4.50	
DayPASS	Senior / Youth	\$4.00	
	Adult / Post-Secondary Student	\$18.00	
Tickets (10)	Senior / Youth	\$15.75	
	Adult	\$52.00	
	Post-Secondary Student	\$44.00	
Monthly Pass	Senior	\$42.00	
	Youth	\$30.00	
	Adult	\$60.00	
	Post-Secondary Student	\$50.00	
Dual Monthly Pass	Senior	\$50.00	
	Youth	\$30.00	
Semester Pass	Post-Secondary Student	\$135.00	
Dual Semester Pass	Post-Secondary Student	\$150.00	
Paper transfers		Yes	

Fare Product	Audience	Current Fare	
handyDART			
Cash	Registered User / Companion	\$2.00	
Tickets (10)	Registered User / Companion	\$18.00	
Monthly Pass	Registered User / Companion	\$52.00	

Revenue and Ridership History

The table below outlines some key performance statistics for the Comox Valley Transit System in 2016/17.

Measure	Performance
Ridership Growth (5-year annual compound rate)	0%
Revenue Growth (5-year annual compound rate)	2%
Total Ridership	570,356
Total Revenue	\$677,638
Total Revenue from Fare Sources*	\$554,022
Total Fare Revenue from Pre-paid Sources	52%
Average Fare	\$1.16
Total Cost Recovery	23%

*Excludes advertising, BC Bus Pass, and miscellaneous revenue. This represents revenue that can be affected by a fare change.

Ridership – Annual ridership in the Comox Valley has seen zero growth when analyzing over a five-year trend. Total annual ridership peaked in 2014/15, with decreases observed in both the following two years, by 1.7 percent in 2015/16 and 2.6 percent in 2016/17.

Revenue – Total revenue for the Comox Valley Transit System has increased at a five-year compound annual growth (CAGR) of two percent. Total revenue peaked in fiscal year 2015/16, with a decrease of one percent observed in 2016/17. Revenue from fare sources accounts for 82 percent of total revenue and has increased at a CAGR of one percent over the past five years. Revenue from prepaid fare sources makes up 52 percent of fare revenue, with a one percent increase observed in the five-year CAGR.

Total cash revenue has a five-year CAGR of one percent, peaking in 2015/16, while ticket revenue has a CAGR of zero percent over five years and peaked in 2014/15. Monthly passes also have a five-year CAGR of zero percent, with revenue dropping sharply in 2012/13, then steadily increasing to the most recent fiscal year. Semester passes revenues have increased significantly over the past five years, with a CAGR of 17 percent, and make up eight percent of the fare products sold. Lastly, DayPASSes had a five-year CAGR of 69 percent, but account for less than one percent of fare product sales.

Cost Recovery – Total cost recovery for the Comox Valley Transit System in 2016/17 sits at 23 percent, with a one percent decrease observed in terms of five-year CAGR. Of note, this differs from the operating cost recovery of 26 percent in the Annual Performance Summary in that it includes the total debt service expense, which accounts for 11 percent of total expenses. From a fare revenue perspective, strategies to improve cost recovery include promoting the purchase of prepaid products to decrease cash handling costs, improving revenue per passenger through increased fares, or increasing ridership and total fare revenue as a result.

Fare Revenue Composition

The chart below indicates how revenue from conventional fares is divided by fare type:

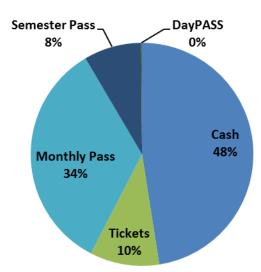


Figure 1: Revenue by Fare Type

Revenue composition can be analyzed from two perspectives. From one standpoint, having a higher percentage of revenue from cash means that more often a full fare is paid (with no discounts for pre-payment), meaning revenue and average fare should be maximized. Conversely, pre-paid fares offer greater stability, predictability and security of revenue as well as promoting more frequent ridership from existing transit customers. In addition, increased use of pre-paid products (especially passes since they don't require transfers) can improve operational efficiency (increasing on-time performance) and may help reduce the likelihood of on-board fare disputes. Generally, BC Transit recommends the promotion of prepaid products.

Product	Proportion of Revenue	Proportion of Ridership
Monthly Pass – Student	17%	31%
Cash – Discount	30%	21%
Monthly Pass – Adult	11%	11%
Cash – Adult	19%	11%

Table 3: Key F	Fare Product Cate	gories by Pro	portion of Revenu	le and Ridership
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Table 3 indicates the four fare products that make up the largest proportions of revenue and ridership, accounting for 77 percent of total revenue and 74 percent of total ridership. Consequently, any changes to the fare rates of each of these categories would yield the greatest impact to overall revenue and ridership.

CURRENT FARE STRUCTURE EVALUATION

It is important to understand the strengths, weaknesses and opportunities of the existing fare structure and use this evaluation as the starting point for developing potential changes to the fare structure and pricing. Accordingly, the existing fare structure was evaluated through comparisons to its peer transit systems and to BC Transit Fare Guidelines.

Comparison to Other Peer Systems

To better understand the Comox Valley Transit Systems' fare structure, comparisons have been made to similar-sized regional systems on mix of fare products sold, number of products per product type and product prices:

Fare Product	Campbell River	Chilliwack	Cowichan Valley	Penticton	Vernon	Comox Valley	Average
Cash	47%	62%	61%	59%	48%	48%	54%
Tickets (10)	11%	8%	12%	6%	14%	10%	10%
DayPASS	1%	1%	1%	0%	1%	0%	1%
Monthly Pass	33%	28%	25%	34%	30%	34%	31%
Semester Pass	8%	1%	1%	1%	7%	8%	4%

 Table 4: Fare Product Categories as a Percentage of Fare Product Revenue

Table 4 outlines how the distribution of revenue from fare products in the Comox Valley compares to similar-sized systems in BC. In generating 48 percent of revenue from cash sales, the Comox Valley is low when compared to the average, while Monthly and Semester pass revenues trend higher than their respective averages. This indicates a greater proportion of revenues coming from prepaid products, which is recommended under BC Transit Fare Guidelines.

Fare Product	Campbell River	Chilliwack	Cowichan Valley	Penticton	Vernon	Comox Valley	Average	BCT Fare Guidelines
Cash	2	2	1	2*	4*	2	2	1
Tickets	2	2	2	2*	4*	2	2	1
DayPASS	2	2	1	2*	4*	2	2	1
Monthly Pass - Local	4	2	3	2	2	4	3	2
Monthly Pass - Regional	4	0	0	2	2	4	2	2
Semester Pass - Local	2	1	1	0	2	1	1	1
Semester Pass - Regional	1	0	0	0	2	1	1	1
Total	17	9	8	10	20	16	13	9

Table 5: Number of Fare Products Per Category

*Penticton (now South Okanagan-Similkameen) and Vernon offer local and regional fares for cash, tickets and DayPASS

Table 5 indicates where improvements can be made to simplify the Comox Valley fare structure. Compared to its peers, the Comox Valley's fare structure contains three more products than the average. Relative to BC Transit Fare Guidelines, the Comox Valley could look to follow the examples set by fare changes in the Cowichan Valley and Penticton with a move towards a fare structure without discount cash, ticket and DayPASS fares.

Fare Product	Campbell River	Chilliwack	Cowichan Valley	Penticton	Vernon	Comox Valley	Average	Variance
Adult Cash	\$2.00	\$2.00	\$2.00	\$2.25	\$2.00	\$2.00	\$2.04	-\$0.04
Adult DayPASS	\$4.50	\$5.00	\$4.00	\$4.50	\$5.00	\$4.50	\$4.58	-\$0.08
Adult Tickets	\$18.00	\$18.00	\$18.00	\$20.25	\$16.00	\$18.00	\$18.04	-\$0.04
Adult Montly Pass	\$52.00	\$44.00	\$48.00	\$45.00	\$50.00	\$52.00	\$48.50	\$3.50
Discount Monthly Pass	\$42.00	\$35.00	\$36.00	\$35.00	\$35.00	\$42.00	\$37.50	\$4.50
Semester Pass	\$135.00	\$112.00	\$115.00	-	\$100.00	\$135.00	\$119.40	\$15.60
handyDART Cash	\$2.50	\$2.00	\$2.00	\$2.00	\$1.75	\$2.50	\$2.04	\$0.46
Average Fare	\$1.06	\$1.37	\$1.34	\$1.23	\$1.48	\$1.16	\$1.27	-\$0.21

Table 6: Fare Prices by Product

When comparing its fare prices to its peer systems, the Comox Valley generates slightly less than average on its cash, DayPASS and ticket fares, while trending higher than average on its monthly pass and semester pass products. The Comox Valley's average fare is lower than that of the average of its peer systems, which could be attributed to the number of discount fares and the amounts of the discounts provided.

Comparison to BC Transit Fare Guidelines

The table below compares the Comox Valley Transit System's current transit fare structure to BC Transit's recommended fare guidelines. The adult cash fare is the base from which other fares are calculated.

Fare Product	Audience	BC Transit Fare Guideline	Comox Valley Fare Structure	
	Adult	Base Fare	Base Fare	
Cash	Discount	Base Fare*	Base Fare less 12.5%	
	Adult	9 times Base Fare	9.0 times Base Fare	
Tickets	Discount	9 times Base Fare*	7.9 times Base Fare	
	Adult	2 times Base Fare	2.25 times Base Fare	
DayPASS	Discount	2 times Base Fare*	2.0 times Base Fare	
Adult		20 – 30 times Base Fare	26.0 times Base Fare	
Monthly Pass	Discount	Adult Monthly Pass less 15%	Adult Monthly Pass less 15% / Adult Monthly Pass less 19% / Adult Monthly Pass less 42%	
Semester Pass	Post-Secondary Student	4 times Discount Monthly Pass less 20%	4 times Discount Monthly Pass less 23% /	

Table 7: Comparison to BC Transit Fare Guidelines

*BC Transit no longer recommends discounting cash fares, tickets and DayPASSes

BC Transit no longer recommends offering age-based discounts on cash fares, tickets and DayPASSes. Instead, it is moving towards a model where age-based discounts would only be offered on monthly passes. This new structure has been implemented in a number of different similar-sized transit systems in BC, such as the Sunshine Coast, West Kootenay and South Okanagan-Similkameen (Penticton and area). Removing age-based discounts is becoming more popular across Canada and has the following benefits:

- It offers simplicity in the fare structure, making it easier for customers to understand and use, and simpler for vendors to promote and sell.
- It reduces the reliance on operators to enforce age-based fares, potentially reducing conflict.
- It provides incentive for riders to switch to monthly passes, thus encouraging more consistent ridership while reducing fare collection costs and speeding up boarding.

The table shows that when compared to BC Transit fare guidelines, the Comox Valley fare structure differs in two notable ways:

- Age-based discounts are in place for cash, ticket and DayPASS fares.
- More than one discount exists for monthly passes.

Fare Structure Evaluation Summary

Based upon the above analyses, Table 8 summarizes the strengths and areas for improvement related to the existing fare structure.

Strengths	Areas for Improvement
 Proportion of pre-paid revenue and average fares are increasing Total fare revenue increasing over past five years Serves a wide range of transit users 	 Not consistent with BC Transit Fare Guidelines Multiple discounted products creates complexity for customers and vendors Complexity of fare structure will challenge the implementation of new technology Age-based discounts increase the risk of customer fraud, longer dwell times and operator conflict

By making adjustments to the fare structure, there are opportunities to increase revenue and efficiency, while improving operator safety and creating a structure more compatible with future fare collection technology.

FARE STRATEGY OPTIONS

Potential Fare Structures

The following three potential new fare structures were developed with the objectives of simplifying the array of products offered and maximizing revenue and ridership within the Comox Valley Transit System:

Fare Product	Audience	Current Fare	Option 1	Option 2	Option 3	
Cash	Adult / Post-Secondary Student	\$2.00	\$2.00	\$2.00	\$2.00	
	Senior / Youth	\$1.75	T	+	+	
DayPASS	Adult / Post-Secondary Student	\$4.50	\$4.00	\$4.00	\$4.00	
	Senior / Youth	\$4.00	40	+	+	
Tickets (10)	Adult / Post-Secondary Student	\$18.00	\$18.00	\$18.00	\$18.00	
	Senior / Youth	\$15.75	T	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	÷	
	Adult	\$52.00	\$50.00	\$55.00	\$55.00	
	Post-Secondary Student	\$44.00	\$40.00	\$45.00		
Monthly Pass	Senior	\$42.00	\$40.00	\$45.00	\$35.00	
	Youth	\$30.00	\$30.00	\$35.00		
	Adult	\$60.00	\$60.00	\$65.00	\$60.00	
	Post-Secondary Student	\$50.00	\$50.00	\$55.00		
Dual Monthly Pass	Monthly Pass Senior		\$50.00	\$55.00	\$40.00	
	Youth	\$30.00	\$30.00	\$35.00	1	
Semester Pass	Post-Secondary Student	\$135.00	\$130.00	\$145.00	\$115.00	
Dual Semester Pass	Post-Secondary Student	\$150.00	\$145.00	\$160.00	\$130.00	
handyDART Cash	Registered User / Companion	\$2.00	\$2.00	\$2.00	\$2.00	
ProPASS (monthly)*	Adult	-	\$42.92	\$47.21	\$47.21	

Table 9: Potential Fare Structures

* The monthly Pro Pass price is linked to the adult monthly pass price using the following calculation: (adult monthly pass price x 10.3) / 12

A breakdown of the simplified fare product offerings that would be available in Options 3 is available in Appendix A. In addition to the above, a summary of the three fare options can be found below:

Fare Option 1 – Simplify Existing Fare Structure

Table 10: Option 1

Fare Product	Audience	Option 1	Aligned with BC Transit Fare Guidelines	
Cash	All	\$2.00	Base Fare	
DayPASS	All	\$4.00	Yes (2x Base Fare)	
Tickets (10)	All	\$18.00	Yes (9x Base Fare)	
	Adult	\$50.00	Yes (25x Base Fare)	
	Post-Secondary Student	\$40.00		
Monthly Pass	Senior	\$40.00	No (Multiple Monthly Pass Discounts)	
	Youth	\$30.00		
	Adult	\$60.00	N/A	
	Post-Secondary Student	\$50.00		
Dual Monthly Pass	Senior	\$50.00	N/A	
	Youth			
Semester Pass	Post-Secondary Student	\$130.00	Yes (4x Post-Secondary Monthly Fare Less 20%)	
Dual Semester Pass	Post-Secondary Student	\$145.00	N/A	
handyDART Cash	Registered User / Companion	\$2.00	Yes (Same as Base Fare)	
ProPASS	Adult	\$42.92	Yes	

This option's goal is to simplify the current fare structure and bring it into closer alignment with BC Transit's Fare Guidelines. As is seen above, there are still multiple discounted monthly passes presented, however cash, DayPASS and ticket fares are now all a single fare and aligned. Monthly passes have been decreased slightly to make them more appealing for purchase so to increase ridership. All fare changes proposed in this structure are listed below:

- Cash Elimination of discount cash fare
- DayPASS Elimination of discount DayPASS fare, decrease in adult DayPASS fare of \$0.50
- Tickets Elimination of discount ticket fare
- Monthly Pass Decrease in adult monthly pass of \$2.00, decrease in post-secondary monthly pass of \$4.00, decrease in senior monthly pass of \$2.00, student monthly pass unchanged
- Dual Monthly Pass No changes
- Semester Pass Decrease of \$5.00
- Dual Semester Pass Decrease of \$5.00

Fare Option 2 – Simplify Existing Fare Structure with Monthly Pass Increases

Table 11: Option 2

Fare Product	Audience	Option 2	Aligned with BC Transit Fare Guidelines	
Cash	All	\$2.00	Base Fare	
DayPASS	All	\$4.00	Yes (2x Base Fare)	
Tickets (10)	All	\$18.00	Yes (9x Base Fare)	
	Adult	\$55.00	Yes (27.5x Base Fare)	
	Post-Secondary Student	\$45.00		
Monthly Pass	Senior	\$45.00	No (Multiple Monthly Pass Discounts)	
	Youth	\$35.00		
	Adult	\$65.00	N/A	
	Post-Secondary Student	\$55.00		
Dual Monthly Pass	Senior	\$55.00	N/A	
	Youth	\$35.00		
Semester Pass	Post-Secondary Student	\$145.00	Yes (4x Post-Secondary Monthly Fare Less 20%)	
Dual Semester Pass	Post-Secondary Student	\$160.00	N/A	
handyDART Cash	Registered User / Companion	\$2.00	Yes (Same as Base Fare)	
ProPASS	Adult	\$47.21	Yes	

Following the same rationale as Option 1, this proposed fare structure is designed to simplify the current fare structure, while increasing revenues through increased monthly pass fares. Multiple discount monthly passes remain, but discount cash, ticket and DayPASS fares have been eliminated. All fare changes proposed in this structure are listed below:

- Cash Elimination of discount cash fare
- DayPASS Elimination of discount DayPASS fare, decrease in adult DayPASS fare of \$0.50
- Tickets Elimination of discount ticket fare
- Monthly Pass Increase in adult monthly pass of \$3.00, increase in post-secondary monthly pass of \$1.00, increase in senior monthly pass of \$3.00, increase in student monthly pass of \$5.00
- Dual Monthly Pass Increase in each monthly pass of \$5.00
- Semester Pass Increase of \$10.00
- Dual Semester Pass Increase of \$10.00

Fare Option 3 – Single Discount Monthly Pass

Fare Product	Audience	Option 3	Aligned with BC Transit Fare Guidelines
Cash	All	\$2.00	Base Fare
DayPASS	All	\$4.00	Yes (2x Base Fare)
Tickets (10)	All	\$18.00	Yes (9x Base Fare)
	Adult	\$55.00	Yes (27.5x Base Fare)
Monthly Pass	Post-Secondary / Senior / Youth	\$35.00	No (Adult Monthly Pass Less 36%)
	Adult	\$60.00	N/A
Dual Monthly Pass	Post-Secondary / Senior / Youth	\$40.00	N/A
Semester Pass	Post-Secondary Student	\$115.00	Yes (4x Post-Secondary Monthly Fare Less 20%)
Dual Semester Pass	Post-Secondary Student	\$130.00	N/A
handyDART Cash	Registered User / Companion	\$2.00	Yes (Same as Base Fare)
ProPASS	Adult	\$47.21	Yes

Table 12: Option 3

The goal of this proposed fare structure is to decrease the number of monthly pass products to one adult fare and one discounted fare. To do so, post-secondary and senior monthly passes were decreased and student passes were increased create a unified fare rate. All fare changes proposed in this structure are listed below:

- Cash Elimination of discount cash fare
- DayPASS Elimination of discount DayPASS fare, decrease in adult DayPASS fare of \$0.50
- Tickets Elimination of discount ticket fare
- Monthly Pass Increase in adult monthly pass of \$3.00, decrease in post-secondary monthly pass of \$9.00, decrease in senior monthly pass of \$7.00, increase in student monthly pass of \$5.00
- Dual Monthly Pass Increase in adult dual monthly pass of \$5.00, decrease in postsecondary dual monthly pass of \$10.00, decrease in senior dual monthly pass of \$10.00, increase in student dual monthly pass of \$10.00
- Semester Pass Decrease in semester pass of \$20.00
- Dual Semester Pass Decrease in dual semester pass of \$20.00

Analysis of Potential Fare Structures

Each of the three options presented above were analyzed for their potential revenue and ridership impacts. This analysis is subjective in nature and uses the Simpson-Curtin rule of elasticity, the standard by which transit fare analysis are commonly performed. This theory assumes a short-term ridership loss of 0.3 per cent for every one per cent increase in fares. Revenue estimates are based on historical weighted averages for each fare product category.

All options propose single cash, ticket and DayPASS fares, making the fare structure simpler to understand and more user-friendly, and reducing the risk of age-based disputes. As is outlined in Table 3, the biggest impacts of any changes to fares on revenue and ridership will occur in the adult and discount cash and adult and student monthly pass fare demographics. To align with BC Transit Fare Guidelines and increase revenue, the elimination of discount cash fare would be expected to result in a short-term decrease in ridership. Projected impacts to revenue and ridership are outlined in Table 13:

Metric	Option 1	Option 2	Option 3	
Projected annual revenue impact	\$14,722 (+3%)	+\$34,122 (+6%)	+\$24,597 (+4%)	
Projected ridership impact	-3,366 (-1%)	-14,843 (-3%)	-10,285 (-2%)	

Table 13: Quantitative Analysis of Proposed Fare Structures

Notes/assumptions:

1. Revenue and ridership projections exclude BC Bus Pass

2. All calculations are based on Simpson-Curtin rule

3. Projections account only for changes in fares. Any other changes, e.g. service changes may affect these projections

In addition to quantitative analysis on ridership and revenue, the three potential fare options were qualitatively analyzed against four objectives designed to improve the net yield of transit fares, which should be the overall goal of a fare structure. Each proposed fare structure was assigned a score ranging from +2 (strongly positive) to -2 (strongly negative). For example, when answering the first question in the Marketable objective, if a fare option was much easier to produce and package than the existing fare structure, it would receive a +2. If it was a little easier, it would receive a +1. If it was the same, it would receive a zero. If it was a little more difficult, it would receive a -1. And if it were much more difficult to produce and package, it would receive a -2. The full evaluation criteria and the results of the analysis are outlined in Table 14:

Table 14: Qualitative Evaluation Criteria and Results

Objective	Option 1	Option 2	Option 3
1. Attractive to Customers and Encourages Ridership	4	3	4
2. Marketable	3	3	6
3. Low Costs of Operation and Debt Service	5	5	5
4. Secure	5	5	5
Total score (max. 24, min24)	17	16	20

This evaluation shows that Option 3 most closely meets the four objectives as a result of the single discount monthly pass and alignment with BC Transit fare guidelines. Options 1 and 2 vary solely on the differences in monthly pass prices, with Option 2 scoring slightly lower.

Detailed results can be found in Appendix B.

Fare Policy Discussion Points

U-PASS

The Universal Pass, or U-PASS, program gives post-secondary students unlimited access to transit during each four-month semester in which they are registered. The program involves a partnership between the local government, the post-secondary institution, the student society of the post-secondary institution and BC Transit. Enrolment in the U-PASS program would be mandatory for all eligible students with a fee at the rate of one adult monthly pass per semester paid through the students' tuition. With the campuses of North Island College being located in both the Comox Valley and Campbell River, coordination with the Campbell River Transit System would be required to implement such a program.

Along with an increase in ridership, the U-PASS program would result in increased revenue. Table 15 below outlines the additional revenue that could reasonably be expected given different adult monthly pass prices that the U-PASS price would be indexed to. The calculations are made based off of the number of full-time students at the Comox Valley campus from North Island College's most recent headcount, being 2,287. The calculations are conservative in that they account for only two semesters of U-PASS enrolment per student, don't include part-time students as their eligibility and duration of programs are unclear, and include the removal of 100 percent of the semester and dual semester pass revenue forecasted in the 2017/18 budget (\$43,863).

Adult Monthly Pass Rate	Revenue Increase Projection		
\$50.00	\$184,837		
\$55.00	\$207,707		
\$60.00	\$230,577		

Projecting potential increases in ridership is not as straightforward, given that the average usage rate per pass is unknown. However, when looking at other BC Transit communities using the U-PASS, comparisons can be drawn to the College of the Rockies in Cranbrook in terms of size of school and transit system. Assuming a similar usage rate to that of Cranbrook, it can be projected that the U-Pass in Comox Valley would result in approximately 182,960 additional yearly rides.

To explore the possibility of introducing a U-PASS program in the Comox Valley Transit System, BC Transit recommends that municipal staff enter in a dialogue with the North Island Students' Union and the staff of North Island College. If there is interest in pursuing such a program, BC Transit would draw upon best practices and experience from other U-PASS programs to advise on how to best implement such a program for North Island College.

DayPASS on Board

Due to the subjective nature of their validation and difficulty in enforcing related policies, transfers are viewed as a source of fare evasion and operator conflict. As a result of these difficulties, BC Transit advises the regional transit systems move towards fare structures that do not include transfers. One potential solution for future consideration is the DayPASS on board product. In this, a customer would pay two times the base cash fare, or provide two tickets, at the time of boarding and would receive a paper DayPASS from the operator that would allow for all-day travel throughout the system. This product would warrant the elimination of both transfers and scratch DayPASSes from the fare structure.

This DayPASS product has been in use in the Victoria Regional Transit System since April 2016. In the subsequent fiscal year, there were positive revenue outcomes, along with a noticeable increase in the sale of monthly passes occurred, as these products became more attractive to people who previously relied on utilizing transfers.

The introduction of the onboard DayPASS would result in additional operational costs in order to effectively control use and report on sales. At the end of each day, the stock of DayPASSes that are unsold need to be accounted for and used for reporting purposes. Additionally, this product would result in increased cash handling as a result of the purchases being made on board. These costs are specific to the Comox Valley Transit System based on the time required to perform these tasks on a daily basis.

While the new DayPASS has had a positive experience in Victoria, each system has unique components which can impact results. Before proceeding on a decision to implement the DayPASS on board, it will be important to fully understand the cost implications observed in other systems, such as Nanaimo who introduced this product in September 2017. With this in mind, BC Transit advises that the removal of transfers and introduction of a DayPASS on board not be considered at this time and be evaluated during future fare reviews.

ProPASS

The opportunity exists for partnerships between Comox Valley Transit System and local organizations or companies to offer permanent discounted bus passes for employees. The standard annual rate used for this program is 10.3 times the adult monthly pass rate divided by 12 months. There are significant start-up costs involved in this program for equipment, materials, installation and training. Furthermore, the success of this program is largely tied to increased marketing and promotional costs, and having large employers in the region with stable workforces and locations that are readily accessible by transit. Unless there is large demand for it in Comox Valley, BC Transit advises against implementing a ProPASS program.

For reference, in other regional transit systems using this program outside of Victoria, the proportion of ridership from the ProPASS program is between 0.1 and 2.0 percent accounting for 0.1 to 1.7 percent of total revenue. Possible barriers to adoption of the program include: companies increasingly outsourcing human resources and being reluctant to add additional tasks at a cost to them, and the elimination of the tax benefit for monthly passes, which came into effect on June 30th, 2017.

handyDART fares

The guideline for handyDART fares is that they align with conventional cash fares. As this is currently the case in the Comox Valley, BC Transit recommends that any future changes to handyDART fares coincide with changes to the adult cash fare rate.

Family Travel Program

Many BC Transit systems offer the Family Travel program, whereby an adult customer can bring up to four children (12 years and under) on board for free. The program is traditionally available to parents and guardians who are 19 years and over with a pass (monthly, DayPASS, ProPASS, U-PASS or BC Bus Pass), but does not apply to cash fares and tickets. Restrictions on the number of children accepted and the type of fare products that are considered valid for use in the Family Travel Program are at the discretion of the Comox Valley Transit System.

This program could be beneficial to the Comox Valley for several reasons. When introducing new fare changes, the Family Travel Program can be included as a gesture of good faith to offset some of the negative implications of increased fares by making transit more accessible to families or those traveling with young children. It also can be used to promote future transit ridership amongst children in that it makes them more comfortable and aware of how to use transit prior to them riding independently. Lastly, depending on the types of products that would be accepted under the Family Travel Program, the program can also encourage the purchase of prepaid fare products, thereby decreasing the fare collection costs. Overall revenue and ridership effects of the Family Travel Program are expected to be minimal in nature.

Refugee Program

As integral part of the community, the Comox Valley Transit System has the opportunity to support the transition of new refugees into the region by providing free transit to refugees. If introducing this program is deemed appropriate, it is recommended that the Comox Valley Transit System partner with a registered, non-profit social organization that would assume the responsibility of distributing free monthly passes to refugees. In this, it would be important that a clear set of standards be set to determine eligibility for recipients of the free passes.

As an example, any refugee new to Victoria can apply to this program through the Intercultural Association of Greater Victoria (ICA). Upon registration, the refugees are then able to receive one year's worth of monthly passes, which are distributed and tracked on a monthly basis by ICA. As a part of the program, passes are non-refundable, so that they are used for their intended purpose and not returned for their cash value. There is also a refugee program currently in place in Salmon Arm, where the City of Salmon Arm approved the use of municipal funds as a grant to pay for refugee bus passes that are ordered and distributed in bulk by the Rotary Club of Salmon Arm.

Ryan Road Free Fare

BC Transit has been requested to provide a recommendation on the feasibility of providing free transit for people requiring transportation up the Ryan Road hill to the Comox Valley Hospital. After consideration, BC Transit recommends against such a program using conventional bus service for three reasons. First, this would increase the possibility of operator conflict, as responsibility would be placed on the operator to enforce the disembarking of free ride passengers. Second, if disembarking is not enforced, it opens the potential for lost revenue, as passengers may board for a free ride up the hill, but not disembark at the appropriate stop and continue along the route. Lastly, there would need to be an established standard of need for this service, which could lead to issues of inclusion and/or discrimination.

School Group Pass

A request has been made for the introduction of a large group fare product in the Comox Valley for use by school groups. A similar program is currently in place in Campbell River whereby the teacher contacts the operating company to request a letter for a group bus pass. The letter is date-specific and indicates the times and routes that the group intends to travel. Upon boarding the first bus, the teacher presents the letter to the operator with payment of \$30 and is able to bring up to 30 students and chaperones on the bus.

BC Transit recommends exploring the possibility of introducing a new School Group Pass in the Comox Valley so to increase transit ridership. However, before any group pass is implemented in the Comox Valley, consideration should be given to the following:

Ridership – A benefit to introducing a group pass would be an increase short-term ridership within the Comox Valley. It could also serve to help give children exposure to using transit, which would encourage their use upon gaining independence.

Convenience & Cost-Effectiveness – From a user's standpoint, group transit fares present an accessible and reasonably-priced option to transport large groups of children to a variety of community activities.

Scheduling & Availability – A primary concern for the introduction of such a service would be the impact that it would have on regular service and customers. While demand could readily be met on high-frequency routes, should a school group require transportation along a less frequent route, there is the possibility of a bus filling and pass-ups of regular customers occurring. Pre-registering trips and limiting the number of group pass trips available per day would be helpful in terms of avoiding negative impacts on regular ridership.

Group Size and Composition – As is outlined above, in Campbell River this program is available for groups up to 30 people. While a similar size could be appropriate in the Comox Valley, system-specific considerations may warrant a different group size allowance.

RECOMMENDATIONS

It is recommended that the Comox Valley Regional District:

- 1. Receive this report as information
- 2. Approve one of the proposed fare structures
- 3. Consider the applicability of the items outlined in Fare Policy Discussion Points
- 4. Direct staff to work with BC Transit to implement the fare change

Please note that fare changes should be scheduled for the 1st of a given month. BC Transit requires at least eight weeks' notice after Council approval to implement a fare change.

APPENDIX A: REVISED FARE PRODUCTS

Option #3

Fare Product	Audience	Recommended Fare Products		
		Local	Dual Pass with Campbell River	
Day Pass	All	Days PASS Control of Digit Name and Year Control Digit Name and Year Control Digit Name and Year Control Digit Name and Year		
Tickets (10)	All	Transit TICKÈT		
Monthly Pass	Adult	2017 ADULT JAN	ADUIT JAN NULTIZORE BCTTanst	
	Post-Secondary Student / Senior / Youth	2017 STUDENT/SENIOR JAN	STUDENT/SENIOR JAN MULTIZONE BCTPanste	
Semester Pass	Post-Secondary Student	2017 SEMESTER JAN-APR	2017 SEMESTER JAN-APR MULTIZONE BCTTransit	

APPENDIX B: DETAILED QUALITATIVE ANALYSIS

Qualitative Evaluation Yes, strongly: +2 Yes, slightly: +1 Neutral: 0 No, slightly: -1 No, strongly: -2					
Objective 1: Attractive to Customers and Encourages Ridership (We	ight: 25%)				
Compared to the existing structure, is the new fare structure		1			
Easier for customers to understand, buy and use?	1	1	2		
More consistent with BC Transit Guidelines?	1	1	2		
Priced fairly and equitably?	2	1	0		
Total	4	3	4		
Objective 2: Marketable (Weight: 25%)					
Compared to the existing structure, is the new fare structure					
Easier to produce and package?	1	1	2		
Easier to transition to a more streamlined fare collection strategy? (e.g. mobile technology)	1	1	2		
Easier for vendors to understand, promote and sell?	1	1	2		
Total	3	3	6		
Objective 3: Low Costs of Operation and Debt Service (Weight: 25%)					
Compared to the existing structure, does the new fare structure					
Reduce ongoing fare collection and administration costs?	1	1	1		
Promote timely and efficient boarding?	2	2	2		
Increase the sale of pre-paid products?	2	2	2		
Total	5	5	5		
Objective 4: Secure - safety and fraud (Weight: 25%)					
Compared to the existing structure, does the new fare structure		Γ			
Decrease the risk of operator assaults and/or security incidents?	1	1	1		
Reduce the risk of fraud? (e.g. age-based, transfer-based)	2	2	2		
Reduce subjectivity during fare payment validation?	2	2	2		
Total	5	5	5		
Grand Total (max. 24, min24)	17	16	20		