2014 **Peer Agency Comparison Report**

Peer Agency Comparison Overview

Overview

TransLink is unique in that our mandate extends to many areas beyond transit. The independent TransLink Governance Review 2013 initiated by the Mayors Council concluded that "the scope and mandate of TransLink, including not only transit, but roads, cycling, goods movement and transportation demand management, are still seen as 'state of the art' internationally". The accessibility of our transit system is an important policy directive. We have a full fleet of accessible HandyDART vehicles and 100 per cent of our entire fleet is accessible to people with disabilities. Our mandate also includes a regional transit police body to help keep the transit system safe and secure.

TransLink operates one of the largest service areas in North America. We serve vastly different population densities and development patterns resulting in a diverse fleet composition and significant variation in cost per ride. In terms of geography, Metro Vancouver's water and protected land reserves create islands of development that need to be connected, which impacts productivity, overall costs and cost per ride.

As a public agency, TransLink is accountable to the public for the use of resources and the achievement of the desired outcomes.

As part of our commitment to accountability and transparency, we prepared this **Peer Agency Comparison** report to show how TransLink compares to other transit agencies.

Peer Agency Comparison

By design, a peer review involves comparisons. At the same time, transit agencies can have different calculation methods which can make apples to apples comparisons difficult. For instance, TransLink assesses SkyTrain's on-time performance calculation based on a two-minute over schedule requirement whereas other transit systems in our peer study calculate based on three- or five-minute over schedule requirement. However, we recognize that every transit agency and

city is uniquely shaped by different operating environments, geography, policy directives, fleet composition and transit needs. As a result, quantitative comparisons between transit agencies can be inappropriate without the proper context. Although each city and transit agency is unique, the similarities and differences can provide meaningful insight into how transit works in the Metro Vancouver region and to highlight opportunities for continuous improvement.

This Peer Agency Comparison Report includes the following:

- **Section 1:** Peer Comparison to U.S. Transit Agencies (bus only)
- **Section 2:** Peer Comparison for SkyTrain
- **Section 3:** Peer Comparison against the International Bus Benchmarking Group (IBBG)
- **Section 4:** Peer Comparison to Canadian Transit Agencies (all transit modes)
- **Section 5:** Letter from the Imperial College London on the Relative Performance of the Coast Mountain Bus Company to Peers Worldwide

Highlights of TransLink's Performance Against Peers

The results of the Peer Agency Comparison show that TransLink performs well against its peers.

- In *Section 1 Peer Comparison to U.S. Transit Agencies (bus only)*, Coast Mountain Bus Company (CMBC) performed better than the average of 31 agencies in all four performance measures including top two in Farebox Recovery, top four in Annual Bus Boardings and top five in Bus Boardings per Service Hour.
- In *Section 2 Peer Comparison for SkyTrain*, SkyTrain had the lowest (top performance) operations and maintenance cost per passenger of the 17 rail system agencies. On-time performance for SkyTrain was also strong. In addition, SkyTrain also has the strictest on-time performance measure of the six peer rail systems.
- In *Section 3 Peer Comparison Against the International Bus Benchmarking Group (IBBG)*, CMBC ranked fourth out of the 11 IBBG transit organizations in terms of overall customer satisfaction for bus services, performed above the median in six other performance indicators and was in the top 75th percentile for three of the six indicators.
- In *Section 4 Peer Comparison to Canadian Transit Agencies (all transit modes)*, TransLink ranked:

- First in terms of largest service area of the six Canadian agencies, lowest adult cash fare, diversity of fleet composition and tied for first in terms of percentage of accessible bus and transit fleet.
- Second in terms of number of routes, farebox recovery and dedicated access transit vehicles.
- Third in terms of total fleet vehicles, total passenger boardings, operating cost per passenger kilometre, revenue vehicle hours and revenue vehicle kilometres.

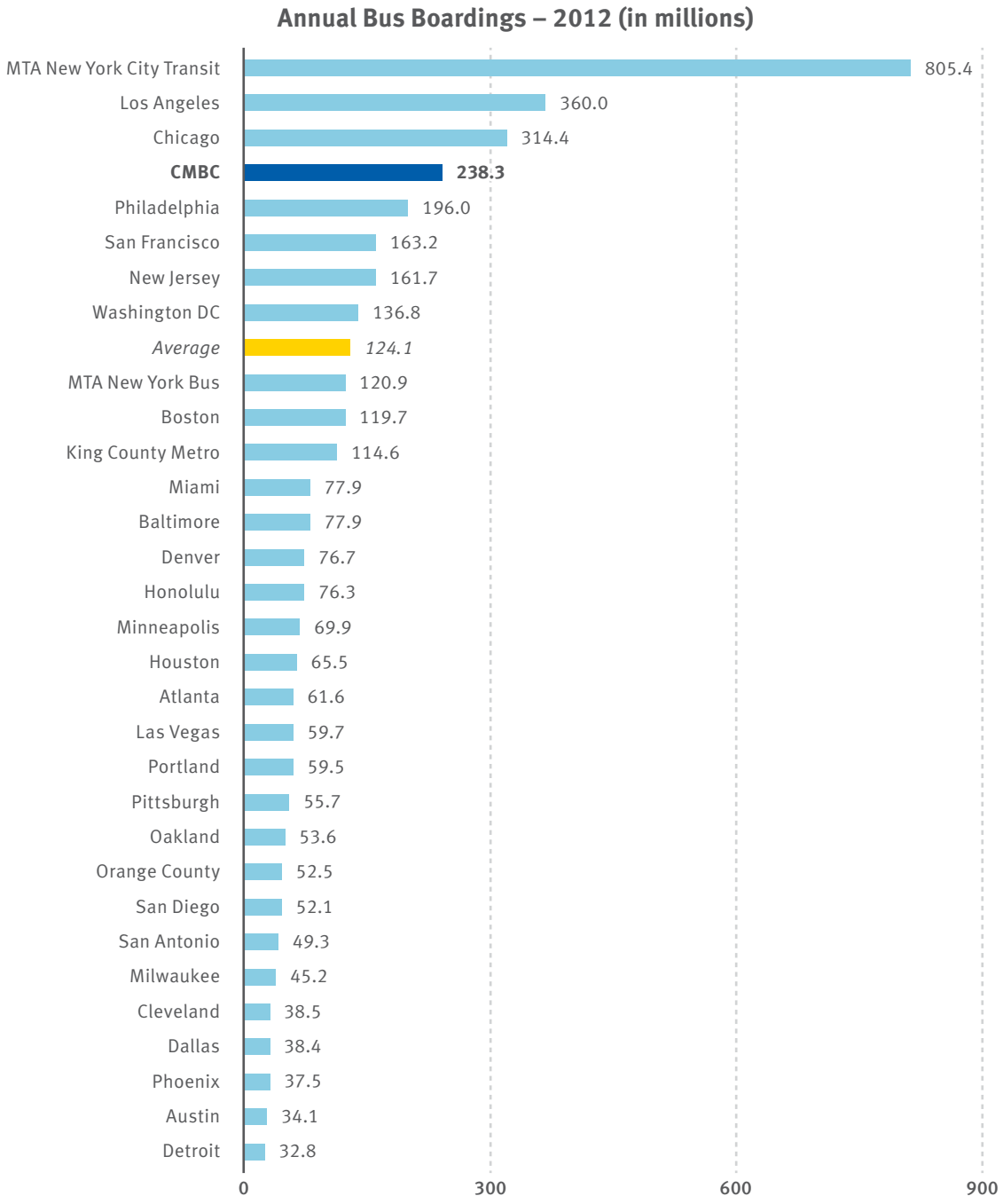
In *Section 5 Letter from the Imperial College London on the Relative Performance of the Coast Mountain Bus Company to Peers Worldwide*, the Imperial College London concluded the following:

- The Coast Mountain Bus Company (CMBC) is a good, well managed, safe, secure, financially and environmentally sustainable bus operator.
- CMBC had the largest growth in ridership in the last five years of any of the 15 IBBG organizations.
- CMBC had the lowest carbon emissions per vehicle mile of any IBBG operator.
- Driver productivity at CMBC is now average amongst IBBG peers, but was amongst the best a few years ago.
- CMBC is an excellent financial performer relative to IBBG peers and CMBC's service operations cost per vehicle mile are the lowest of all IBBG members.

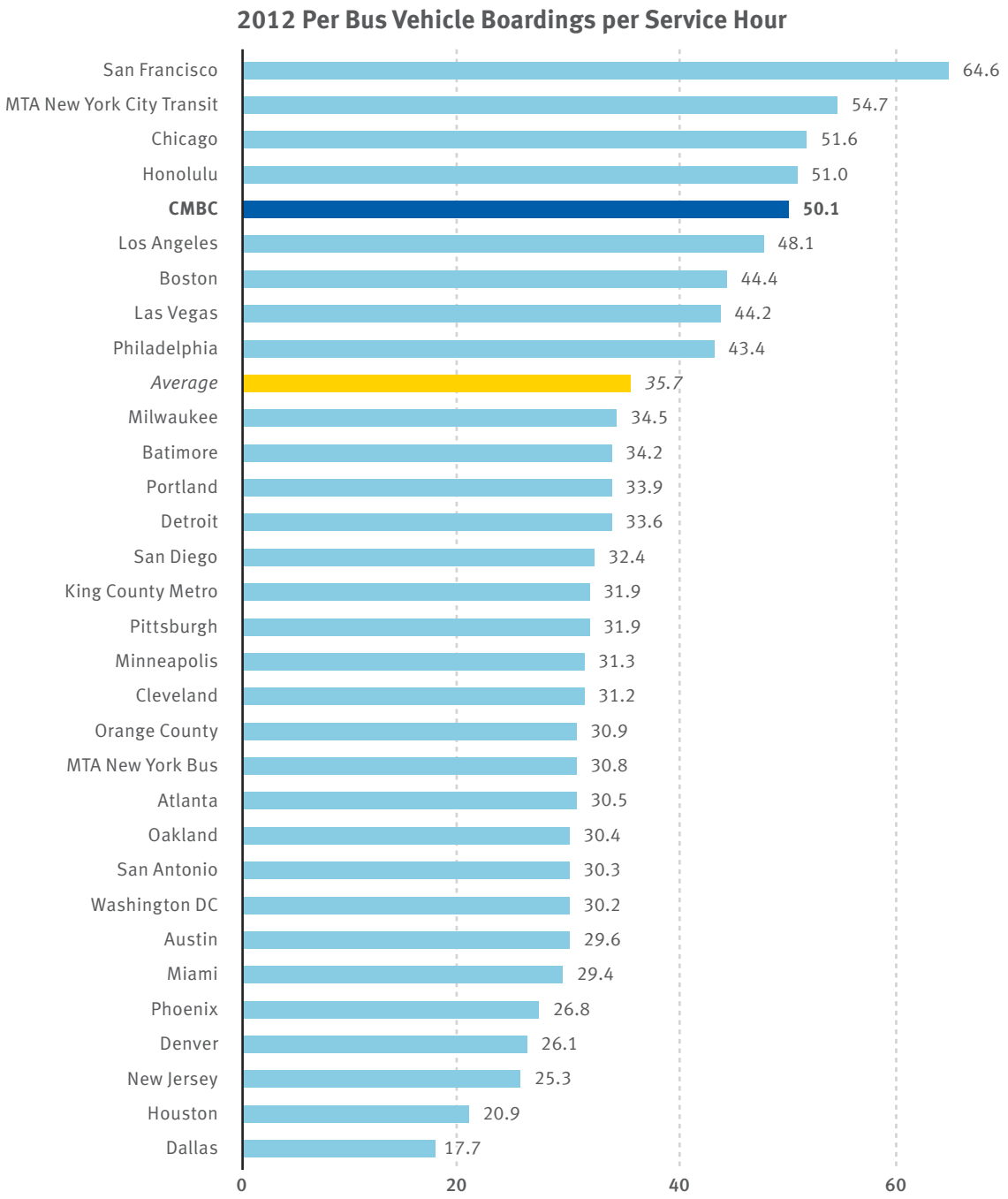
Section 1: Peer Comparison to US Transit Agencies for 2012*

Source: National Transportation Database / 2012 King County Metro Peer Agency Comparison on Performance Measures

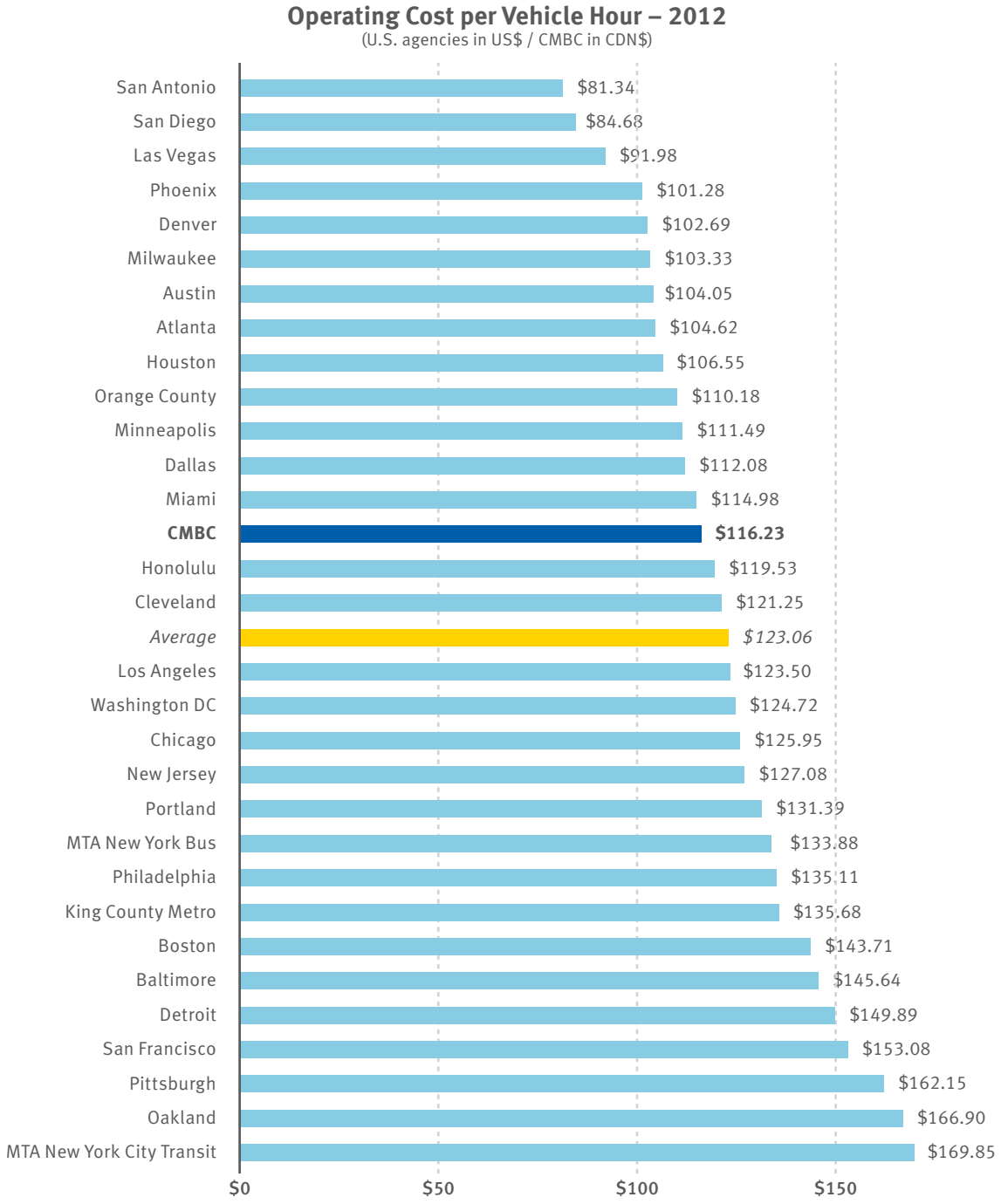
* Note – Canadian transit organizations were not included in this section as the U.S. data is for bus only; whereas, the Canadian Urban Transit Association (CUTA) data is blended based on all transit modes.



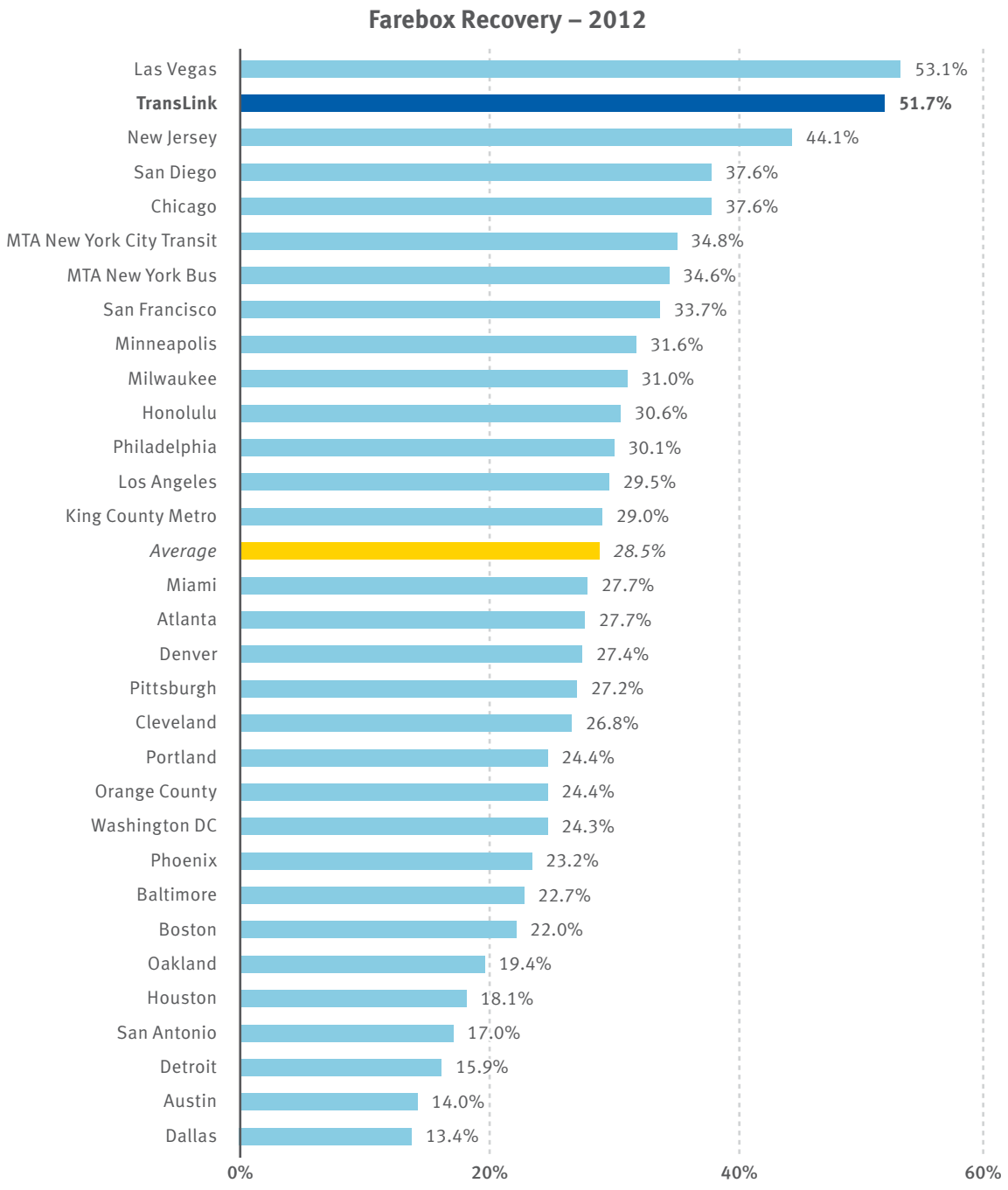
CMBC performed well above the group average with the fourth highest Annual Bus Boardings out of the 31 transit agencies.



CMBC also performed well above the group average with the fifth highest Per Bus Vehicle Boardings per Service Hour out of the 31 transit agencies.



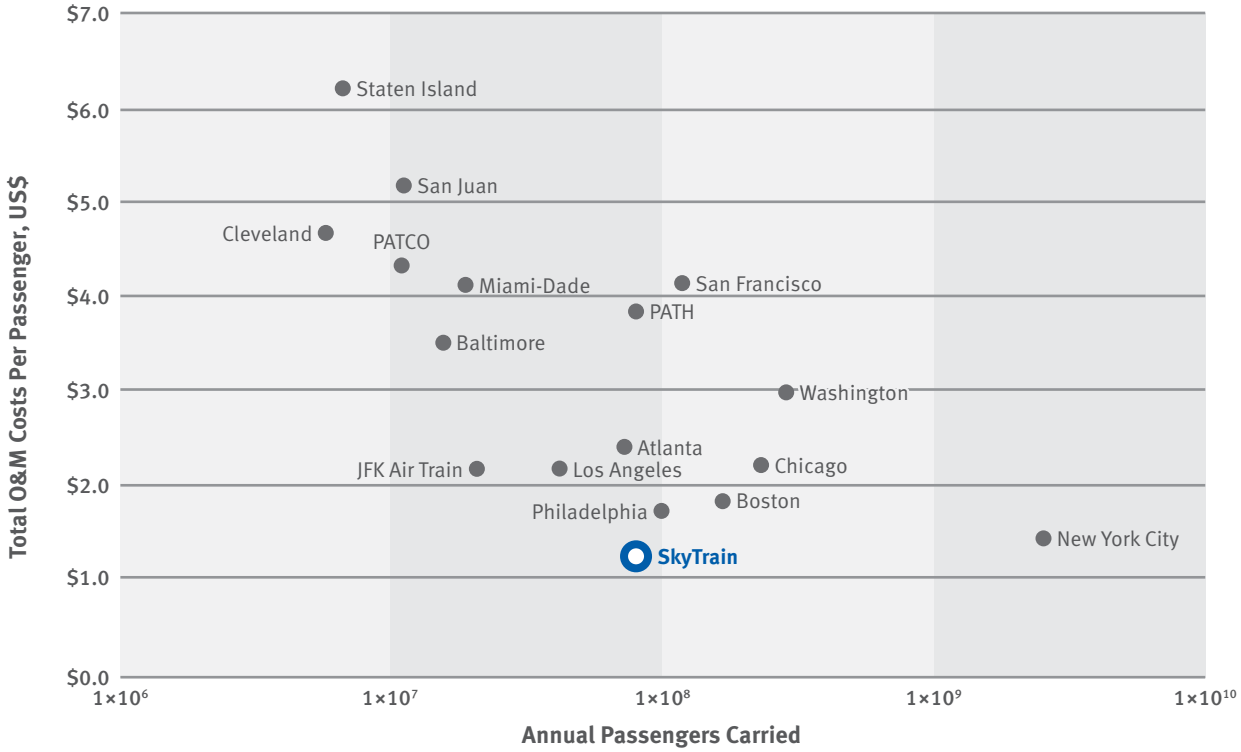
CMBC Operating Cost per Vehicle Hour was $116.23 which was lower than the average $123.06 of the 31 transit agencies.



TransLink's Farebox Recovery (fare revenue divided by bus operating cost) was 51.7 per cent which ranks second out the 31 transit agencies. (Note: TransLink includes all transit modes whereas the other 30 transit agencies include bus modes only.)

Section 2: Peer Comparison for SkyTrain

Operations & Maintenance Cost per Passenger Comparison – 2012 Data



The graph above (using statistics from the U.S. Federal Transportation Administration), shows the total Operations and Maintenance Cost per Passenger of TransLink's SkyTrain rail system against 16 rapid rail systems in the U.S. SkyTrain has the lowest Operations and Maintenance Cost per Passenger, indicating that SkyTrain service is one of the most cost-effective rapid rail systems in North America.

SkyTrain On-Time Performance Comparison

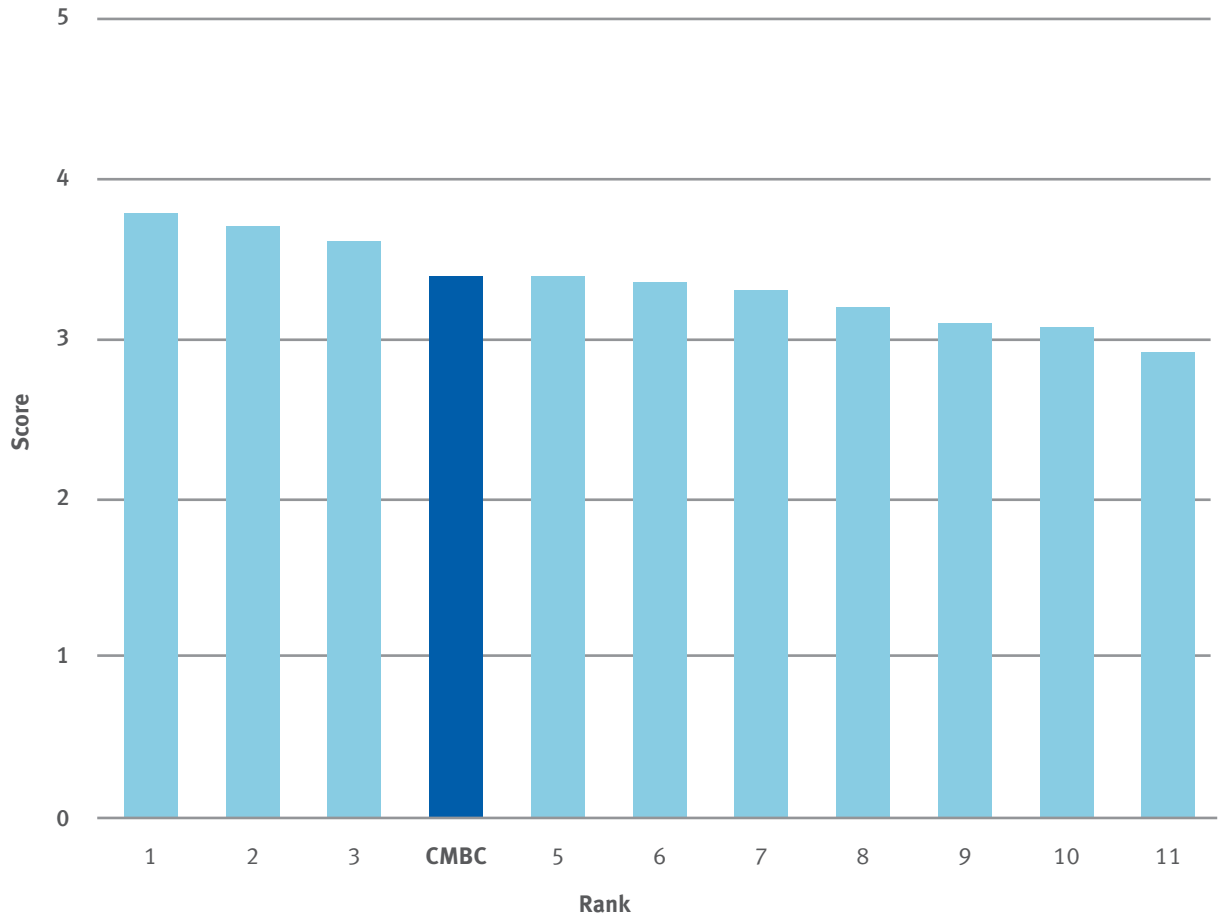
Transit System	Length kilometre (km)	Stations	Passengers/ Day	On-Time Performance Measure
Vancouver SkyTrain *includes Expo and Millennium lines only*	49	33	250,000	93% – 95% (**2 min.** over schedule)
London DLR	34	40	275,000	97% – 99% depending upon quarter (**3 min.** over scheduled departure or terminal arrival, excluding major maint. cycles)
Toronto SLR	6.5	6	40,000	89% – 98% depending upon month (**3 min.** over schedule)
Miami Metrorail	40	23	70,000	95% (**5 min.** over schedule/train)
San Francisco BART	167	44	400,000	92% (**5 min.** over schedule)
Chicago CTA	360	145	700,000	Target of 78 trains not later than **10 min**.

Source: Independent Review: SkyTrain Service Disruptions on July 17 and July 21, 2014 (McNeil Management Services, November 14, 2014)

Compared to other peer rail transit systems in North America, SkyTrain measures on-time performance using the tightest time limit of two minutes over schedule and achieves a high historical average of 95.2 per cent.

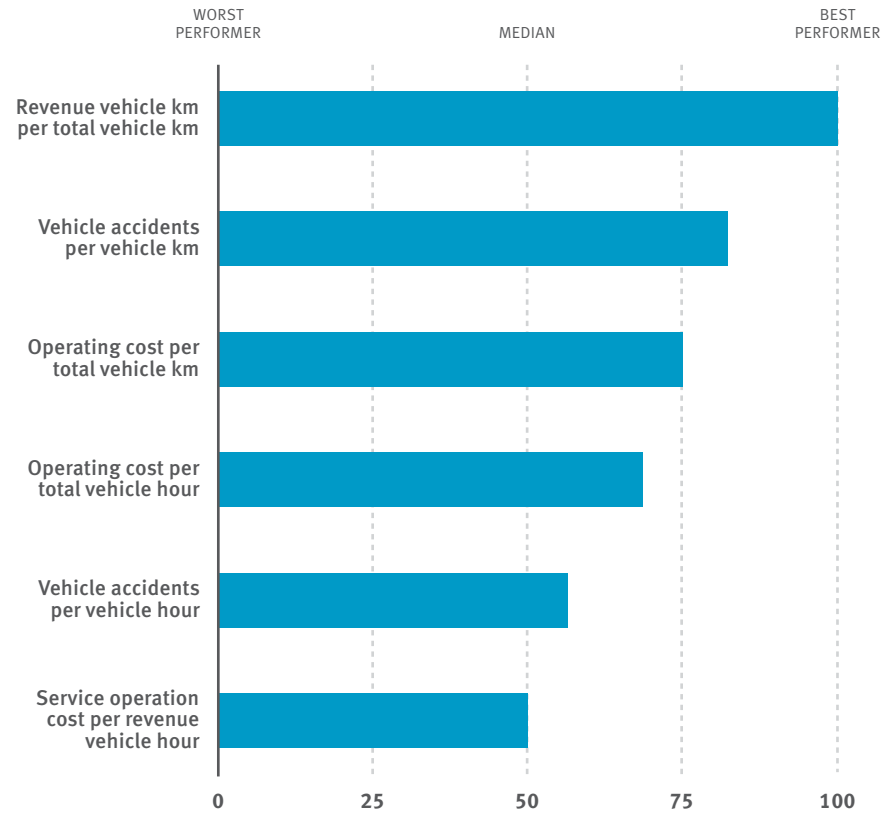
Section 3: Peer Comparison Against the International Bus Benchmarking Group (IBBG)

High Level Customer Satisfaction Results for 2014 (IBBG)



The graph above shows the satisfaction score on a scale of 1 to 5 for the following question "How satisfied are you overall with the bus services in the city." CMBC ranks fourth out of 11 IBBG transit organizations for this question. (Note, the organization names have been withheld as per the reporting requirements of the IBBG.)

Key Performance Indicators compared to IBBG Members (Absolute Rank) for 2012



CMBC Rank	Total Participants
1	13
3	12
4	13
4	11
5	10
6	11

The graph above shows the absolute rank of CMBC bus services compared to IBBG members who participated in each Key Performance Indicator (KPI) above. CMBC performance was equal or better than the median for all KPIs, and was in the 75th percentile or higher for three of the six KPIs.

Section 4: Peer Comparison to Canadian Transit Agencies for 2013*

*CUTA data for this page excludes Access Transit unless specifically stated.

Service Data	TransLink Rank	TransLink	Peer Average	Toronto (TTC)	Montreal	Ottawa	Calgary	Edmonton
Service Area Population (in thousands)	2	2,452	1,524	2,826	1,960	850	1,150	835
Service Area in Square km	1	1,800	639	632	501	466	896	700
Number of Routes	2	218	178	156	224	144	160	204
% of Accessible Bus Fleet	Tied for 1	100%	97.7%	100%	100%	100%	88.5%	100%
% of Accessible Transit Fleet	Tied for 1	100%	94.2%	92.7%	87.0%	100%	91.4%	100%
Passenger km (in millions)	3	3,298	2,329	4,989	3,461	959	1,559	679
Revenue Vehicle Hours (in thousands)	3	5,121	4,748	9,983	6,969	2,176	2,439	2,175
Revenue Vehicle km (in millions)	3	130	102	212	150	49	53	43

TransLink has the largest service area and second largest service population amongst the six major Canadian transit agencies.

Fleet Data by Vehicle Type	TransLink	Toronto	Montreal	Ottawa	Calgary	Edmonton
Buses						
• Standard Buses	900	1,848	1,571	502	926	909
• Articulated Buses	178	3	158	359	63	33
• Trolley Buses	262	-	-	-	-	-
• Small Community Buses	183	-	-	-	-	-
• Double Decker Buses	-	-	-	75	-	-
Light Rail Vehicles	336	28	-	3	192	73
Heavy Rail Vehicles	-	772	756	-	-	-
Commuter Rail Vehicles	44	-	-	-	-	-
Passenger SeaBus	3	-	-	-	-	-
Streetcar	-	249	-	-	-	-
Access Transit Vehicles	310	513	86	89	141	157
Total	**2,216**	**3,413**	**2,571**	**1,028**	**1,322**	**1,172**
Ranking	**3**	**1**	**2**	**6**	**4**	**5**

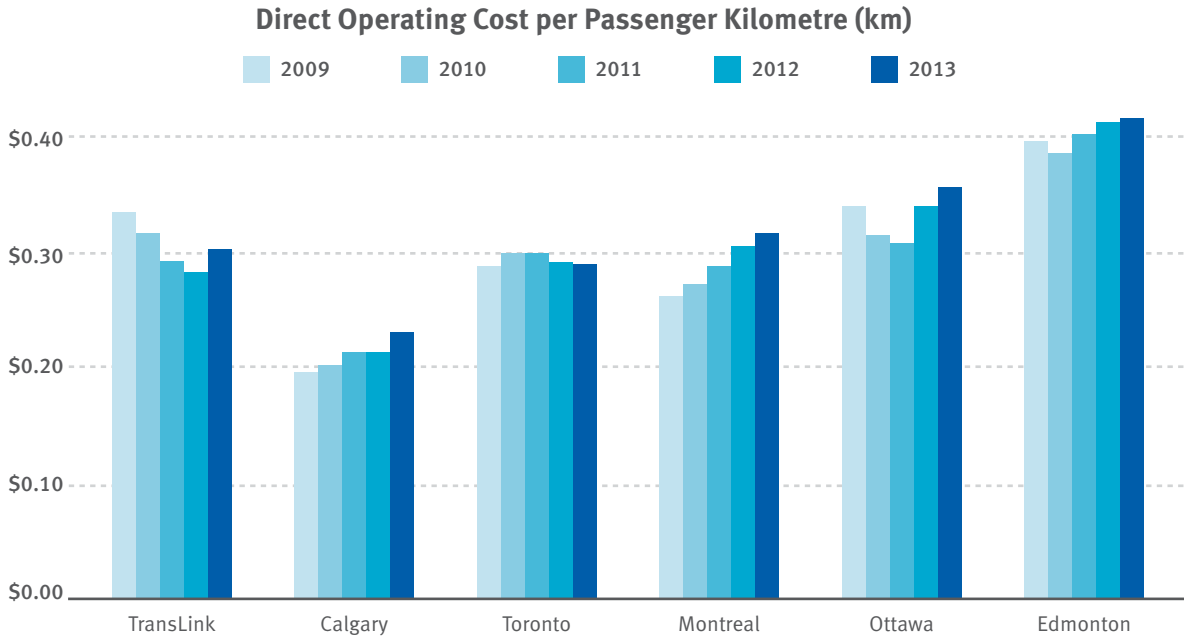
TransLink has the third largest fleet amongst the six major Canadian transit agencies.

Passenger Boardings by Mode (in thousands)	TransLink	Toronto	Montreal	Ottawa	Calgary	Edmonton
Bus	227,688	422,948	304,477	135,083	80,888	106,654
Streetcar	-	100,038	-	-	-	-
Light Rail *includes Expo, Millennium and Canada Lines*	117,217	14,031	-	1,850	86,648	33,128
Heavy Rail	-	295,460	401,943	-	-	-
Other *includes SeaBus and West Coast Express*	8,795	-	-	-	-	-
Total	**353,700**	**832,476**	**706,421**	**136,933**	**167,536**	**139,783**
Ranking	**3**	**1**	**2**	**6**	**4**	**5**

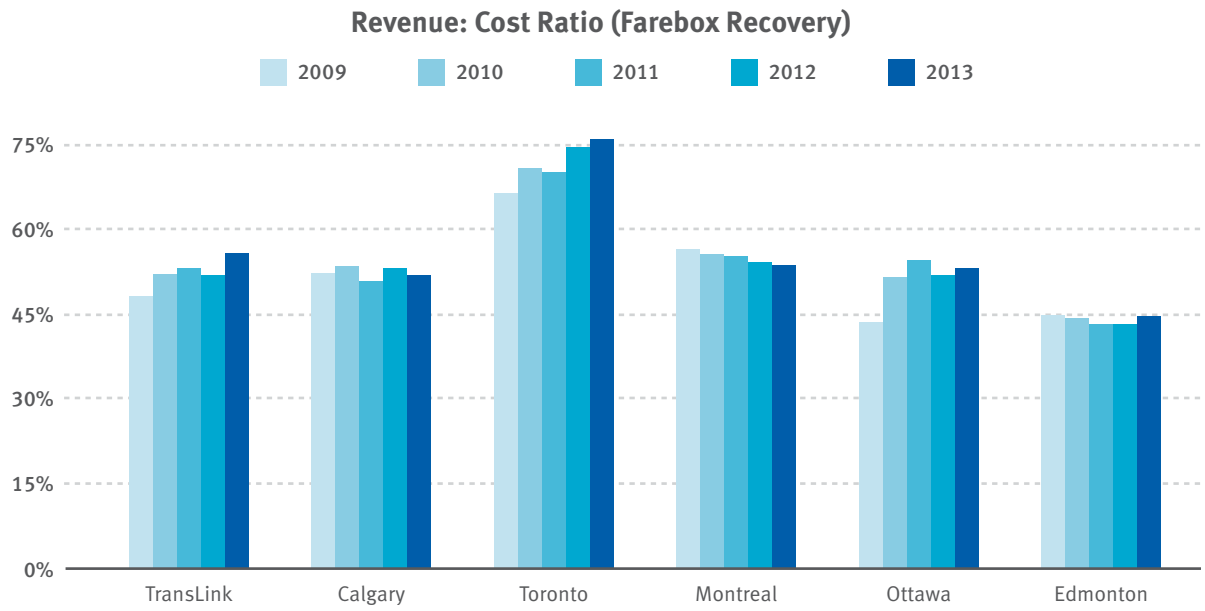
TransLink has the third highest passenger boardings amongst the six major Canadian transit agencies.

Section 4: Peer Comparison to Canadian Transit Agencies for 2013* (continued)

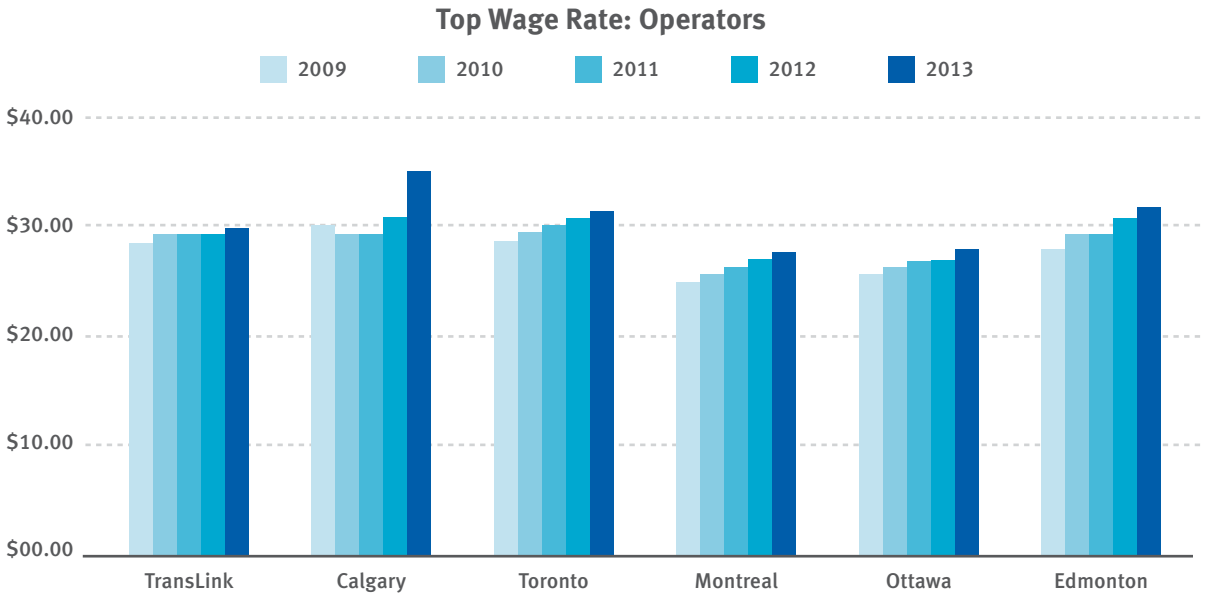
*The following CUTA data is a blended rate of all transit modes. The CUTA data for this page excludes Canada Line and Access Transit unless specifically stated.



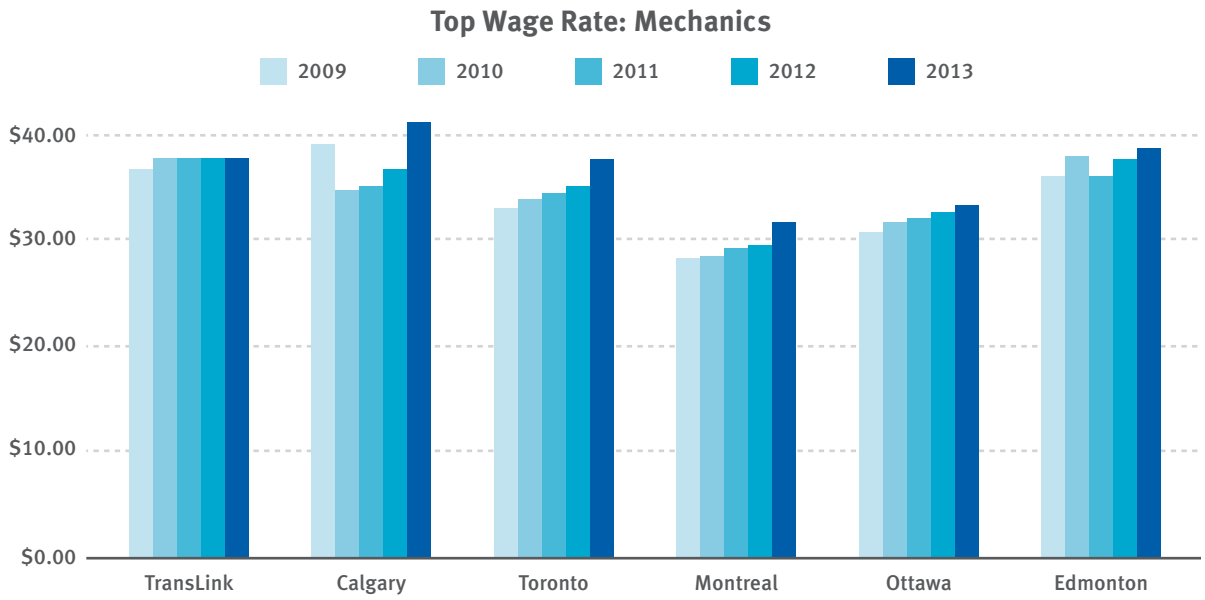
In 2013, TransLink had the third lowest Direct Operating Cost per Passenger Kilometre amongst the six major Canadian transit agencies and is slightly below the peer average. TransLink's five-year trend line shows a year-over-year decrease in operating cost per passenger kilometre for the first four years followed by an increase in 2013.



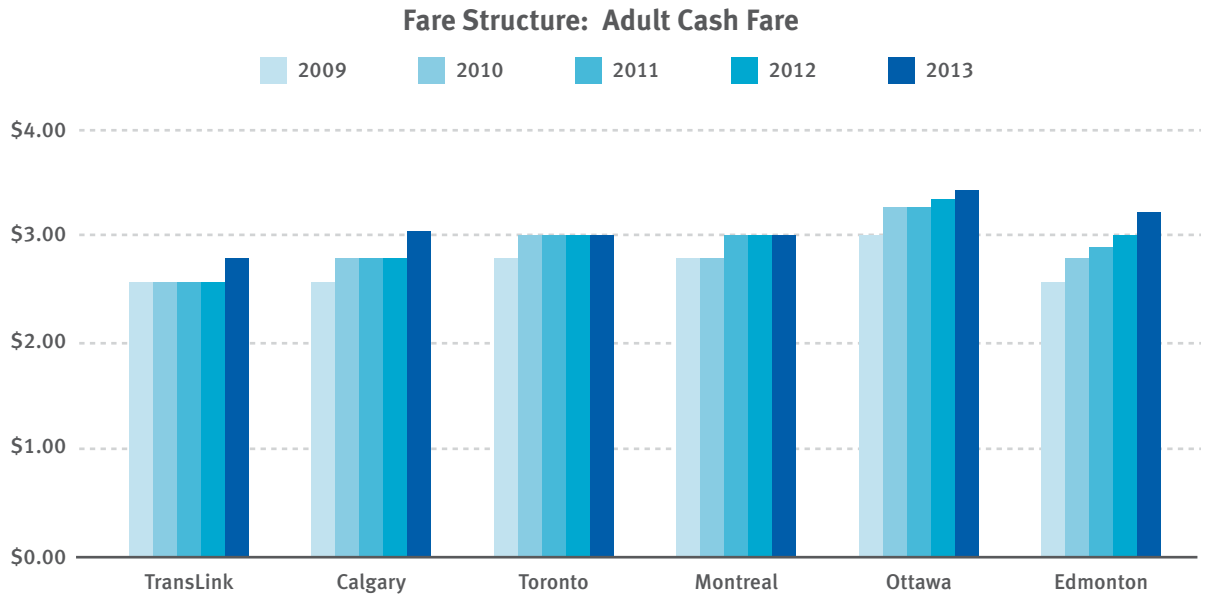
In 2013, TransLink's Cost Ratio ranks second amongst the six major Canadian transit agencies and is slightly below the peer average. TransLink's five-year trend line shows a steady increase in Cost Ratio.



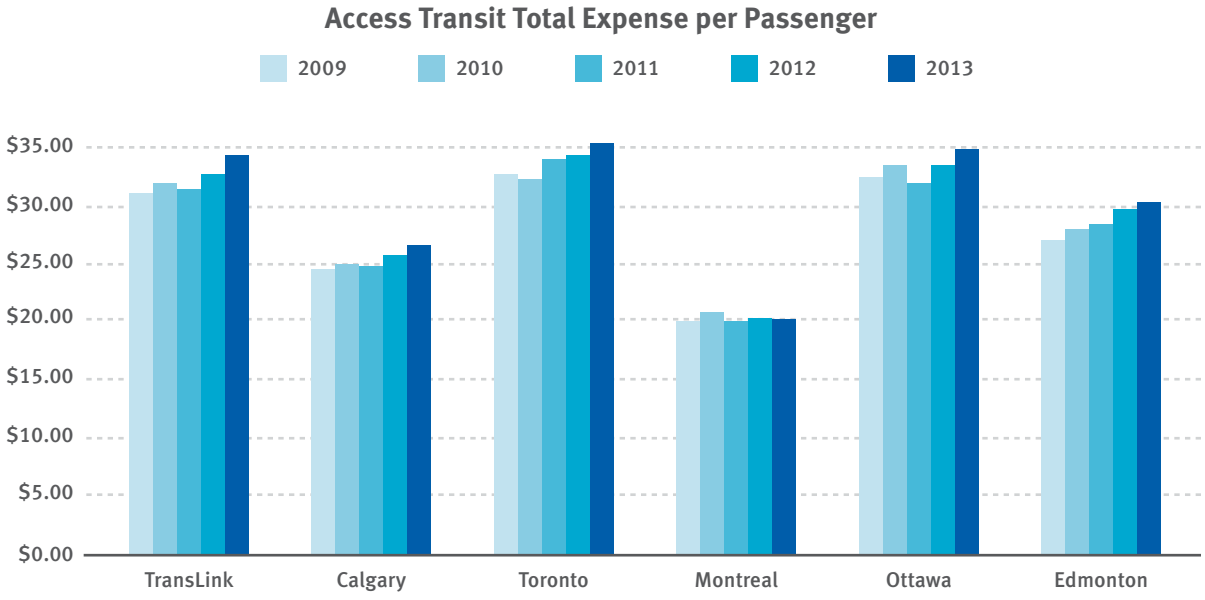
In 2013, TransLink had the third lowest Top Wage Rate for Operators in a region that has one of the highest costs of living amongst the six major Canadian transit agencies. TransLink's five-year trend line shows a generally stable top wage rate.



In 2013, TransLink's Top Wage Rate for Mechanics was slightly higher than the peer average and was the third highest amongst the six major Canadian transit agencies. The wage rate for mechanics is impacted by one of the most diverse fleet compositions that requires specialized skills (e.g. 20 and 60-foot conventional buses, electric trolley buses, hybrid electric/diesel buses, compressed natural gas buses, SeaBus, and light rapid transit). TransLink's five-year trend line shows a generally stable top wage rate.



In 2013, TransLink had the lowest Adult Cash Fare amongst the six major Canadian transit agencies. TransLink's five-year trend line shows four years of no increases in cash fares followed by an increase in 2013.



In 2013, TransLink had the third highest Access Transit Total Expense per Passenger amongst the six major Canadian transit agencies. TransLink's five-year trend line shows an increasing trend which is consistent with five of the six transit providers.

Section 5: Letter from the Imperial College London on the Relative Performance of the Coast Mountain Bus Company to Peers Worldwide

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26 January 2015

Relative performance of the Coast Mountain Bus Company to peers worldwide

To whom it may concern,

In 2008, the Coast Mountain Bus Company (CMBC) was invited, by unanimous vote, to join the International Bus Benchmarking Group (IBBG). The IBBG is a group of 15 of the world's largest and most forward thinking urban bus operators. The group's members exchange performance data and best practices on a wide range of topics within a confidential and structured framework, in order to improve their operations and customer service.

As of January 2015 the members of the IBBG are: Barcelona TMB. Brussels STIB/MIVB, Dublin Bus, Istanbul IETT, Lisbon Carris, London Buses, Kuala Lumpur Rapid Bus, Montreal STM, New York NYCT, New York MTA Bus, Paris RATP, Seattle KCM, Singapore SMRT, Sydney Buses and Vancouver CMBC.

Since its foundation in 2004, the research, analysis and facilitation of the IBBG is provided by the Railway and Transport Strategy Centre (RTSC) within the Centre for Transport Studies at Imperial College London. As Head of Bus Benchmarking and an Associate Director of the RTSC I hereby outline CMBC's relative performance to IBBG peers, identifying both areas of excellence and those with opportunities for improvement.

Capacity Utilisation and Service Efficiency

CMBC has seen the largest growth in ridership in the last five years of any IBBG organisation. While CMBC has kept service hours constant, they have increased vehicle miles provided due to the highest operating (commercial) speed amongst IBBG peers. Per revenue service hour, CMBC produces 50 percent more vehicle miles and capacity than the IBBG average. This results in vehicle and capacity efficiencies and, importantly, relatively shorter total journey times for passengers. CMBC has further increased service and capacity offered to passengers by reducing unproductive vehicle hours, such as excess recovery time or layovers, and 'reinvesting' productive vehicle hours where most needed to improve customer service. CMBC's 'Run Time Analysis Data Warehouse Project', which enabled CMBC to find

opportunities for cost savings and increased efficiency, is considered by the members of the IBBG as a world best practice, with many aiming to emulate the project and results in their respective cities. With the efficiencies mentioned above, and helped by the fact that average trip length of passengers reduced since the opening of the Canada Line, CMBC was able to accommodate some of the high ridership growth. However, vehicle capacity utilisation (network wide, all year) has now increased above the international peer average, indicating that buses are getting fuller on average than observed in international peers.

Customer Service

CMBC performs well with respect to service quality. CMBC has a fully accessible fleet and the highest proportion of low floor vehicles amongst North American peers. The fleet age is average, but aging. Availability and reliability of buses is high, resulting in the lowest number of lost vehicle miles due to internal factors amongst IBBG peers. Comparable data on punctuality and regularity of service is in development within the IBBG and not yet available for this performance analysis. However, CMBC's internal data shows that significant punctuality improvements have been achieved, even after cost saving initiatives saw recovery and layover times reduced. An area for improvement is customer information offered at the bus stops. Provision of both static (timetables, maps) and real-time dynamic information provided is amongst the lowest in the IBBG. However CMBC's efforts to provide real-time information for mobile applications is acknowledged. Since 2009 the IBBG undertakes an annual customer satisfaction survey, asking customers in IBBG cities worldwide to state their satisfaction level on a wide range of service quality areas with regard to their city's bus agency. CMBC scores consistently high on this survey; within the top 25% amongst IBBG cities.

Environment

A significant proportion of CMBC's fleet uses clean technologies, including their trolley fleet, which also reduces noise pollution in the downtown area, where trolley buses operate. This leads to CMBC having the lowest carbon emissions per vehicle mile of any IBBG operator, and below average carbon emissions per passenger mile. This is especially impressive since North American buses are considerably heavier than those built and used in Europe, Asia and Australia, leading to fuel inefficiencies in North America. CMBC's diesel vehicle fuel efficiency has been improving continuously in the last seven years, leading to an overall average fuel efficiency amongst peers, and the best fuel efficiency of North American peers in the IBBG.

Labour Productivity

Driver productivity at CMBC is now average amongst IBBG peers, but a few years ago it was amongst the best. One of the contributors to the downward trend in productivity is the high and growing level of driver absenteeism, which in 2013 was 60% higher than the IBBG average. Similar high levels of absenteeism were observed amongst vehicle maintainers, however the trend here in the last three years is positive. CMBC acknowledges absenteeism as an area for improvement and have already made steps towards reversing the trend. At CMBC's request, all members in the IBBG agreed to study best practices in managing and reducing staff absenteeism in 2015, for the benefit of all IBBG members. Overall vehicle maintenance productivity is average amongst IBBG members. This is a good effort as CMBC's vehicles run the 3rd most miles per vehicle per year, and the trolley and hybrid fleets have relatively higher maintenance needs.

Imperial College London

Safety and Security

Safety and Security is a good area for CMBC. Vehicle accidents per vehicle mile are 60% below the IBBG average, and when normalized by vehicle hour accidents are also lower than the IBBG average. After some years of increase, passenger accidents per boarding have now been reduced four years in a row. Incidents of on-bus crime have also been significantly reduced in recent years to well below the average of IBBG peers, making CMBC a safe and secure bus operator.

Finance

CMBC is an excellent financial performer relative to international peers. Wages in North America are generally higher than in other IBBG cities and therefore it is commendable that service operations cost per vehicle mile are lowest of all IBBG members, apart from the much lower wage cities in Asia. Even when taking into account the effect of high commercial speeds in Vancouver, the service operating cost per vehicle hour is below the IBBG average. Similarly, administration costs are low. A number of administrative functions are now undertaken by the transport authority Translink, but when those costs are included for comparability with international peers, administration costs remain below peer average. Maintenance costs are median amongst IBBG agencies, but given the additional maintenance required for trolley operations, this is a good result. Due to increasing ridership, total operating cost per passenger boarding has decreased by approximately 30% since 2010, to above-average financial effectiveness levels amongst peers. Fares in Vancouver are 20% below the IBBG average per passenger mile and boarding, giving customers good value. All of the above result in a low subsidy requirement amongst North American peers and average cost recovery amongst all IBBG peers, proving good value to the tax payer as well.

In summary, the Coast Mountain Bus Company is a good, well managed, safe, secure, financially and environmentally sustainable bus operator. In many areas CMBC performs average or better compared to the 14 other operators of the International Bus Benchmarking Group, with opportunities for improvement regarding labour productivity and (real-time) information provision. The strong growth in ridership has been accommodated through operational efficiencies found, but investment in transit will be necessary to ensure sufficient capacity is provided and that the aging proportion of the fleet can be replaced.

Sincerely,

Mark Trompet
Head of Bus Benchmarking
Associate Director

Imperial College London