

Attachment: Victoria Regional Transit System Summer 2016 service Performance Report

Introduction

This report presents the ridership performance review for the Victoria Regional Transit System, at the system and route level, over the period of June 27, 2016 to September 4, 2016 against the performance design guidelines developed through the service review process.

Performance Guidelines

What they are and what they define: Performance Guidelines define numerical thresholds and targets for a particular system and its routes and services.

Why they matter: Working in tandem with Service Design Standards, Performance Guidelines are tools that evaluate existing services, identify trends in performance and, based on this evidence, determine how service and supporting features (fares, marketing, facilities, etc.) should be adjusted to improve the effectiveness and efficiency of the system to optimize resources.

For a service to be efficient and productive, a balance should be achieved between oversupply and overcrowding. A number of measures can establish this equilibrium such as:

- Implement transit priority
- Alter frequency
- Reduce/increase coverage
- Targeted marketing/corridor branding
- Change service span
- Change bus stop spacing
- Bus route changes
- Vehicle type allocation



When performance falls below the set guidelines, recommendations to the Commission will focus on the utilization of the above tools to maximize efficiency.

Performance Measures

Performance measures have been chosen that evaluate the effectiveness of service planning investments on a system and route level.

System level

The measures used for the system guidelines are:

- **Average boardings per revenue hour** - total volume of ridership as compared to the supply of transit service
- **Cost per passenger trip** – average cost to provide service per passenger trip
- **Cost recovery** – financial performance of the transit system usually expressed in terms of total operating revenue/total operating expenses
- **Passengers trips per capita** – ratio between transit trips and the population of the service area

Route level

The measures used for the route level guidelines are:

- **Average boardings per revenue hour** - total volume of ridership as compared to the supply of transit service
- **Average boardings per trip** - total number of people that board a vehicle on a specific trip

Route level performance guidelines have been classified into four categories (Rapid Transit, Frequent Transit, Local Transit and Targeted Transit) to acknowledge different performance expectations based on a route's objective.

Performance Targets

Tables 1 and 2 outline the performance targets set for the system and route level. As well as monitoring existing performance against these guidelines, historical trends will also be monitored to determine if the system or routes are becoming more or less efficient over time. Significant variance (+/- 25 per cent) from the target will place a route on an action list for further investigation and will require more detailed analysis. Routes that fall below the 25 per cent variance will be candidates for corrective adjustments, and routes that are above the 25 per cent variance will be candidates for service improvements. BC Transit will report on an annual basis how the system and routes are performing and this will help guide planning decisions.

----- Investigate for corrective action

----- Investigate for service improvements.

System Level

The purpose of monitoring system wide performance is to identify trends in system performance, and compare the performance of the transit system with other peer transit systems. These measures are designed to monitor the pulse of the Victoria Regional Transit System as a whole and guide service planning decisions. This can be particularly useful when identifying system wide impacts of major investments in the transit network, such as development of the Rapid and Frequent Transit networks.

Table 1: System Level Performance Guidelines

System	Measure
Boardings per revenue hour	50
Cost per passenger trip	\$4.50
Cost recovery	30%
Passengers trips per capita	65

Route Level

Analysis on a route-by-route basis gives a detailed indication of how individual components of the transit system are performing. A route-by-route analysis allows observations of the impact of service changes and investments made in the past and identifies future opportunities for strategic investment or re-investment.

Table 2: Route Level Performance Guidelines

Route Type	Boardings per Trip	Boardings per Revenue Hour
Rapid Transit	40	55
Frequent Transit	40	55
Local Transit (High Demand)	25	40
Local Transit (Coverage)	10	20
Targeted Transit	40	60
Community Coverage	-	5

Transit System Performance Results

Chart 1 displays boardings per revenue hour performance for the transit system by service period for the last year.

Chart 1

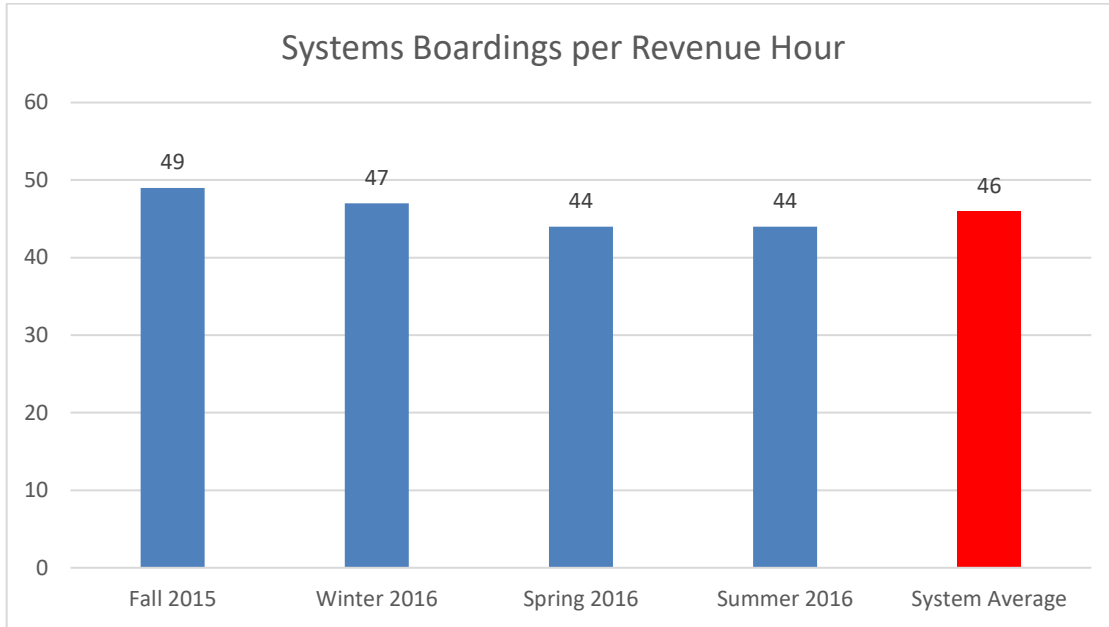
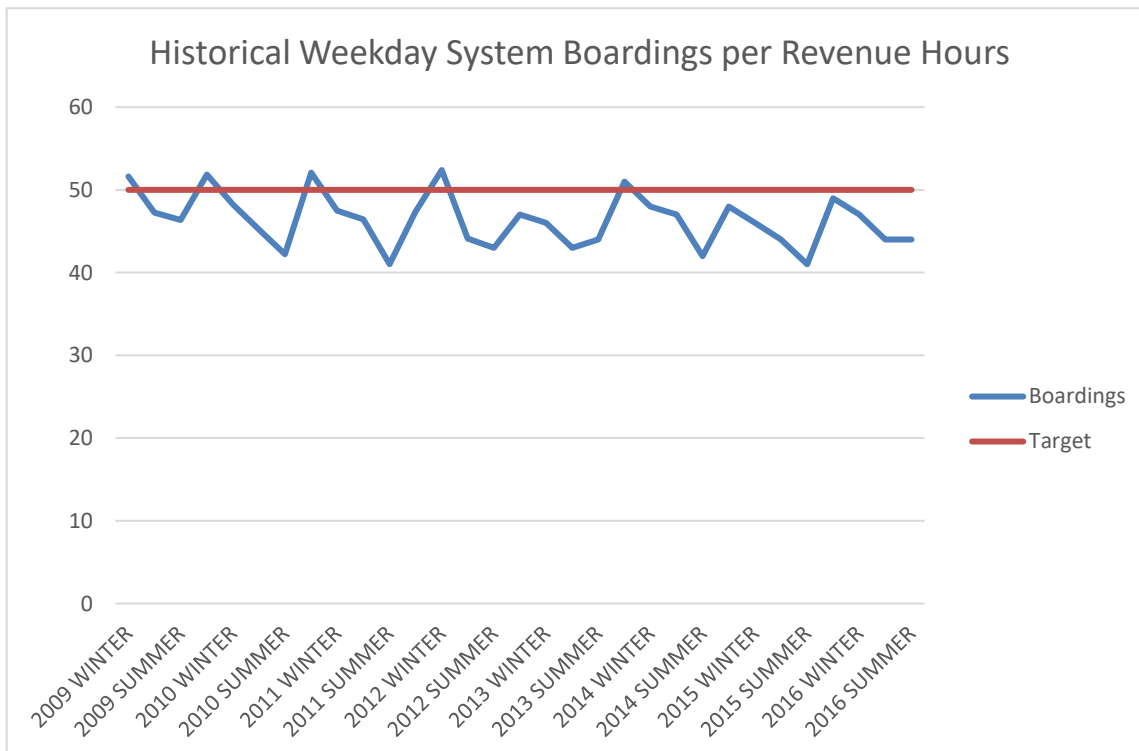


Chart 2 displays the historical boardings per revenue hour performance for the transit system by service period since 2009.

Chart 2



System Performance

The three tables below display average daily system performance by service day for passenger boardings, boardings per trip, and boardings per revenue hour. The tables on the preceding pages display the average daily service performance by route and service day for passenger boardings, boardings per trip, and boardings per revenue hour.

Weekday System Performance

System Level	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target					50
System Total	2,824	1,813.6	78,567	27.8	43.3
Urban Total	2,056	1,234.6	60,452	29.4	49.0
Western Total	485	322.5	9,995	20.6	31.0
Peninsula Total	283	256.6	8,120	28.7	31.6
Suburban Total	768	579.0	18,115	23.6	31.3

Saturday System Performance

System Level	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target					50
System Total	2,193	1,308.4	54,932	25.0	42.0
Urban Total	1,671	945.4	41,333	24.7	43.7
Western Total	329	195.8	7,626	23.2	38.9
Peninsula Total	193	167.2	5,973	30.9	35.7
Suburban Total	522	363.0	13,599	26.1	37.5

Sunday System Performance

System Level	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target					50
System Total	1,631	971.3	44,432	27.2	45.7
Urban Total	1,223	685.8	34,180	27.9	49.8
Western Total	256	159.6	5,049	19.7	31.6
Peninsula Total	152	126.0	5,203	34.2	41.3
Suburban Total	408	285.5	10,252	25.1	35.9

Route Performance Results - Weekday Route Performance

Rapid Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
15 - Esquimalt/UVic Ex	160	98.9	5,681	35.5	57.5
16 - Uptown/UVic Ex	22	8.0	375	17.0	47.2
50 - Langford Exch/Downtown	169	119.5	6,315	37.4	52.8
70 - Swartz Bay/Downtown Express	37	33.7	1,659	44.8	49.2

Frequent Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
4 - UVic/Downtown	141	69.9	4,009	28.4	57.3
6 - Downtown/Royal Oak	208	106.5	6,452	31.0	60.6
11 - UVic/Tillicum Mall	131	119.1	5,582	42.6	46.9
14 - UVic/Vic General	142	120.6	6,182	43.5	51.3
26 - UVic/Dockyard	99	71.8	3,978	40.2	55.4
27 - Gordon Head/Downtown	122	63.9	3,776	31.0	59.1
28 - Majestic/Downtown	123	65.5	3,634	29.5	55.5
30 - Royal Oak Exch/James Bay	83	61.9	3,263	39.3	52.7
31 - Royal Oak Exch/James Bay	83	59.5	3,489	42.0	58.7

Local Transit - High Demand	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				25.0	40.0
2 - Oak Bay/Willows - Downtown	100	37.7	1,945	19.5	51.5
3 - Gonzales/Beacon Hill	73	41.4	1,625	22.3	39.3
7 - UVic/Downtown	94	45.5	1,870	19.9	41.1
8 - Interurban/Oak Bay	38	30.1	900	23.7	29.9
21 - Interurban/Downtown	77	42.3	1,613	20.9	38.1
22 - Vic General/Hillside Mall	72	57.4	2,011	27.9	35.0
24 - Admirals Walk/Cedar Hill	39	24.7	694	17.8	28.1
25 - Admirals Walk/Maplewood	37	30.8	897	24.2	29.1
39 - Royal Roads/UVic	42	33.7	961	22.9	28.5
61 - Sooke/Downtown	63	53.3	1,577	25.0	29.6
72 - Swartz Bay/Downtown via Fifth	79	92.1	3,099	39.2	33.6
75 - Saanichton/Royal Oak/Downtown	71	72.5	2,286	32.2	31.5

Local Transit - Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
1 - Richardson/Downtown	12	3.6	65	5.4	18.3
10 - Jubilee/Songhees	78	19.6	440	5.6	22.5
12 - University Heights/UVic	32	8.1	700	21.9	86.2
13 - UVic/10 Mile Point	6	0.7	15	2.5	21.4
32 - Cordova Bay	31	10.4	220	7.1	21.3
35 - Ridge	11	3.1	75	6.8	24.1
52 - Colwood/Bear Mtn	74	54.6	765	10.3	14.0
53 - Colwood/Langford via Atkins	26	9.8	72	2.8	7.4
54 - Metchosin	10	10.0	115	11.5	11.5
55 - Happy Valley	7	7.0	56	8.0	8.1
56 - Thetis Heights / Langford via Florence Lake	32	9.4	130	4.1	13.9
57 - Millstream/Westhills	35	12.6	105	3.0	8.3
58 - Goldstream Meadows	17	6.4	125	7.4	19.6
59 - Triangle Mountain	12	6.6	105	8.8	15.9
60 - Wishart	9	5.0	80	8.9	16.2
63 - Otter Point	4	2.3	20	5.0	8.6
64 - East Sooke	8	9.0	55	6.9	6.1

----- Investigate for corrective action
----- Limited Samples

----- Investigate for service improvements

Local Transit – Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
81 - Swartz Bay/Brentwood	30	21.0	509	17.0	24.3
83 - Sidney/Royal Oak	15	14.7	175	11.7	11.9
85 - North Saanich	8	5.9	40	5.0	6.8
88 - Sidney/Airport	36	9.6	95	2.6	9.9

Targeted Routes	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	60.0
17 - Cedar Hill	-	-	-	-	-
19 - Hillside Mall	-	-	-	-	-
47- Goldstream Meadows/Downtown	4	4.7	153	38.3	32.8
48 - Happy Valley/Downtown	4	4.5	107	26.8	24.0
51 - Langford Exch/UVic	11	8.1	215	19.5	26.5
71 - Swartz Bay/Downtown via W Sidney	7	7.2	257	36.7	35.9
76 - Swartz Bay/UVic	-	-	-	-	-

----- Investigate for corrective action ----- Investigate for service improvements
----- Limited Samples

Route Performance Results - Saturday Route Performance

Rapid Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
15 - Esquimalt/UVic Ex	136	80.3	3,671	27.0	45.7
16 - Uptown/UVic Ex					
50 - Langford Exch/Downtown	129	87.9	5,630	43.6	64.1
70 - Swartz Bay/Downtown Express	26	24.1	1,298	49.9	53.9

Frequent Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
4 - UVic/Downtown	129	60.0	2,791	21.6	46.5
6 - Downtown/Royal Oak	165	74.4	4,390	26.6	59.0
11 - UVic/Tillicum Mall	121	101.1	4,243	35.1	42.0
14 - UVic/Vic Gen	137	105.6	4,329	31.6	41.0
26 - UVic/Dockyard	129	82.0	3,476	26.9	42.4
27 - Gordon Head/Downtown	88	51.8	2,802	31.8	54.1
28 - Majestic/Downtown	88	49.7	2,704	30.7	54.4
30 - Royal Oak Exch/James Bay	73	50.3	2,710	37.1	53.9
31 - Royal Oak Exch/James Bay	75	48.3	2,525	33.7	52.2

Local Transit - High Demand	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				25.0	40.0
2 - Oak Bay/Willows - Downtown	85	30.6	1,467	17.3	47.9
3 - Gonzales/Beacon Hill	38	19.9	823	21.7	41.4
7 - UVic/Downtown	86	41.1	1,358	15.8	33.0
8 - Interurban/Oak Bay	24	16.8	533	22.2	31.8
21 - Interurban/Downtown	28	12.0	416	14.9	34.8
22 - Vic General/Hillside Mall	64	44.9	1,483	23.2	33.0
24 - Admirals Walk/Cedar Hill	32	19.9	350	10.9	17.6
25 - Admirals Walk/Maplewood	33	22.2	567	17.2	25.5
39 - Royal Roads/UVic	16	5.1	230	14.4	45.4
61 - Sooke/Downtown	37	21.8	1,026	27.7	47.0
72 - Swartz Bay/Downtown via Fifth	69	78.3	2,719	39.4	34.7
75 - Saanichton/Royal Oak/Downtown	45	39.3	1,549	34.4	39.4

Local Transit - Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
1 - Richardson/Downtown	-	-	-	-	-
10 - Jubilee/Songhees	78	19.1	180	2.3	9.4
12 - University Heights/UVic	20	4.7	160	8.0	34.3
13 - UVic/10 Mile Point	6	0.7	5	0.8	7.1
32 - Cordova Bay	20	5.0	120	6.0	24.0
35 - Ridge					
52 - Colwood/Bear Mtn	54	40.6	485	9.0	11.9
53 - Colwood / Langford via Atkins	15	6.1	30	2.0	5.0
54 - Metchosin	7	7.7	105	15.0	13.6
55 - Happy Valley	-	-	-	-	-
56 - Thetis Heights / Langford via Florence Lake	28	8.1	80	2.9	9.9
57 - Millstream/Westhills	27	10.3	70	2.6	6.8
58 - Goldstream Meadows	16	5.8	105	6.6	18.2
59 - Triangle Mountain	9	4.3	50	5.6	11.6
60 - Wishart	7	3.4	45	6.4	13.4
63 - Otter Point	-	-	-	-	-
64 - East Sooke	-	-	-	-	-

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 Investigate for service improvements

Local Transit - Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
81 - Swartz Bay/Brentwood	17	14.0	327	19.2	23.4
83 - Sidney/Royal Oak	8	4.8	40	5.0	8.4
85 - North Saanich	-	-	-	-	-
88 - Sidney/Airport	28	6.8	40	1.4	5.9

Targeted Routes	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	60.0
17 - Cedar Hill	0	:	:	:	:
19 - Hillside Mall	0	:	:	:	:
33 - Uvic	0	:	:	:	:
47 - Goldstream Meadows/Downtown	0	:	:	:	:
48 - Happy Valley/Downtown	0	:	:	:	:
51 - Langford Exch/UVic	0	:	:	:	:
71 - Swartz Bay/Downtown via W Sidney	0	:	:	:	:
76 - Swartz Bay/UVic	0	:	:	:	:

 Investigate for corrective action
 Limited Samples

 Investigate for service improvements

Route Performance Results - Sunday Route Performance

Rapid Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
15 - Esquimalt/UVic Ex	117	68.2	3,137	26.8	46.0
16 - Uptown/UVic Ex	-	-	-	-	-
50 - Langford Exch/Downtown	104	68.2	3,829	36.8	56.2
70 - Swartz Bay/Downtown Express	23	20.3	1,180	51.3	58.0

Frequent Transit	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	55.0
4 - UVic/Downtown	88	40.8	1,991	22.6	48.9
6 - Downtown/Royal Oak	124	57.2	3,451	27.8	60.4
11 - UVic/Tillicum Mall	77	63.8	3,188	41.4	50.0
14 - UVic/Vic Gen	102	78.5	4,392	43.1	56.0
26 - UVic/Dockyard	87	52.9	3,832	44.0	72.4
27 - Gordon Head/Downtown	66	42.4	2,302	34.9	54.3
28 - Majestic/Downtown	66	41.7	2,403	36.4	57.7
30 - Royal Oak Exch/James Bay	54	35.2	1,887	34.9	53.6
31 - Royal Oak Exch/James Bay	54	34.2	1,963	36.4	57.5

Local Transit - High Demand	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				25.0	40.0
2 - Oak Bay/Willows - Downtown	65	22.5	1,047	16.1	46.5
3 - Gonzales/Beacon Hill	34	17.2	525	15.4	30.5
7 - UVic/Downtown	65	29.2	970	14.9	33.2
8 - Interurban/Oak Bay	18	10.4	281	15.6	27.0
21 - Interurban/Downtown	26	11.2	387	14.9	34.5
22 - Vic General/Hillside Mall	48	31.5	1,271	26.5	40.4
24 - Admirals Walk/Cedar Hill	21	12.3	300	14.3	24.5
25 - Admirals Walk/Maplewood	20	14.0	303	15.2	21.7
39 - Royal Roads/UVic	15	4.8	215	14.3	45.3
61 - Sooke/Downtown	24	14.4	506	21.1	35.1
72 - Swartz Bay/Downtown via Fifth	53	60.5	2,596	49.0	42.9
75 - Saanichton/Royal Oak/Downtown	32	23.9	1,074	33.6	44.9



Local Transit – Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
1 - Richardson/Downtown	-	-	-	-	-
10 - Jubilee/Dockyard	37	9.0	105	2.8	11.7
12 - University Heights/UVic	23	5.4	175	7.6	32.5
13 - UVic/10 Mile Point	-	-	-	-	-
32 - Cordova Bay	16	3.7	55	3.4	14.7
35 - Ridge	-	-	-	-	-
52 - Colwood/Bear Mtn	54	44.8	410	7.6	9.1
53 - Colwood / Langford via Atkins	12	4.5	43	3.6	9.6
54 - Metchosin	7	6.9	51	7.3	7.4
55 - Happy Valley	-	-	-	-	-
56 - Thetis Heights / Langford via Florence Lake	15	4.1	35	2.3	8.5
57 - Millstream/Westhills	15	5.5	35	2.3	6.4
58 - Goldstream Meadows	8	2.9	55	6.9	18.8
59 - Triangle Mountain	10	4.8	50	5.0	10.4
60 - Wishart	7	3.4	35	5.0	10.3
63 - Otter Point	-	-	-	-	-
64 - East Sooke	-	-	-	-	-


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Local Transit – Coverage	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				10.0	20.0
81 - Swartz Bay/Brentwood	14	12.0	253	18.1	21.1
83 - Sidney/Royal Oak	6	3.5	50	8.3	14.5
85 - North Saanich					
88 - Sidney/Airport	24	5.8	50	2.1	8.6

Targeted Routes	Trips Operated	Revenue Hours	Passenger Boardings	Boardings per Trip	Boardings per Revenue Hr
Target				40.0	60.0
17 - Cedar Hill	-	-	-	-	-
19 - Hillside Mall	-	-	-	-	-
33 - UVic	-	-	-	-	-
47 - Goldstream Meadows/Downtown	-	-	-	-	-
48 - Happy Valley/Downtown	-	-	-	-	-
51 - Langford Exch/UVic	-	-	-	-	-
71 - Swartz Bay/Downtown via W Sidney	-	-	-	-	-
76 - Swartz Bay/UVic	-	-	-	-	-

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APPENDIX

KEY ASSUMPTIONS

Data

Ridership information used was collected from the Summer of 2016 through automated passenger counters which are in place on more than 140 of the buses assigned to the Victoria Region's conventional fleet. This system counts the number of persons boarding and disembarking from a vehicle. A person may board more than one bus to complete a single trip when transfers are involved.

External Factors

In addition to service changes, there are a number of external factors that may affect transit ridership. Some of these include fare increases, changing fuel prices, changing macro-economics and changes in land use.

GLOSSARY

Boardings

Number of times passengers board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination and regardless of whether they pay a fare, use a pass or transfer, ride for free, or pay in some other way. Also called unlinked passenger trips.

Peak Hours

Refers to weekday a.m. and p.m. service during commute hours to carry a maximum number of passengers. An example of commute or peak hours could be defined as time between 6:00 a.m. and 9:00 a.m., and between 3:00 p.m. and 6:00 p.m..

Revenue Service

Time when a vehicle is available to the general public and there is an expectation of carrying passengers. These passengers either directly pay fares, are subsidized by public programs, or provide payment through some contractual arrangement. Revenue service includes layover and recovery time. Revenue service excludes deadheading.