2013 LRT PASSENGER COUNT REPORT

Capital Line - Northbound and Southbound

Prepared by:
Transportation Planning
Policy Implementation and Evaluation
Strategic Monitoring and Analysis
January 2014

2013 LRT RIDERSHIP

The Transportation Planning, Strategic Monitoring and Analysis Section conducted the 2013 Fall LRT Passenger Count over a three week period in October 2013. The purpose of the count was to determine the LRT boardings and alightings on light rail cars for a typical fall day. ETS started light rail service in 1978. Today, ETS has 94 light-rail vehicles (LRV) and operates the Capital Line connecting 15 stations with 314 weekday trips.

The 2013 LRT Passenger Count counts passengers at every LRV door for each train from the beginning of service to the end of service. This train level methodology provided the data for all information provided herein. Information produced from train based data is proving to be more accurate by reducing counting errors while staging the data for simplier data analysis.

This summary provides information on boardings and alightings as well as train travel times. The data is presented by station, by direction, by time period and by run. Detailed data is provided in several supplementary reports attached to this report such as the: Detailed Train List, Passenger Volume by Time Period, Passenger Volume by Rolling One Hour Period, and LRT Travel Times.

2013 KEY FINDINGS

In 2013, the maximum load point of the Capital Line Southbound is the link between Stadium and Churchill stations. The LRT carried **15,070** southbound passengers and **16,050** northbound passengers in this link during the day.

For the Capital Line Northbound, the maximum load point is the link between McKernan/Belgravia and Health Sciences stations. The LRT carried **23,750** southbound passengers and **22,750** northbound passengers in this link during the day.
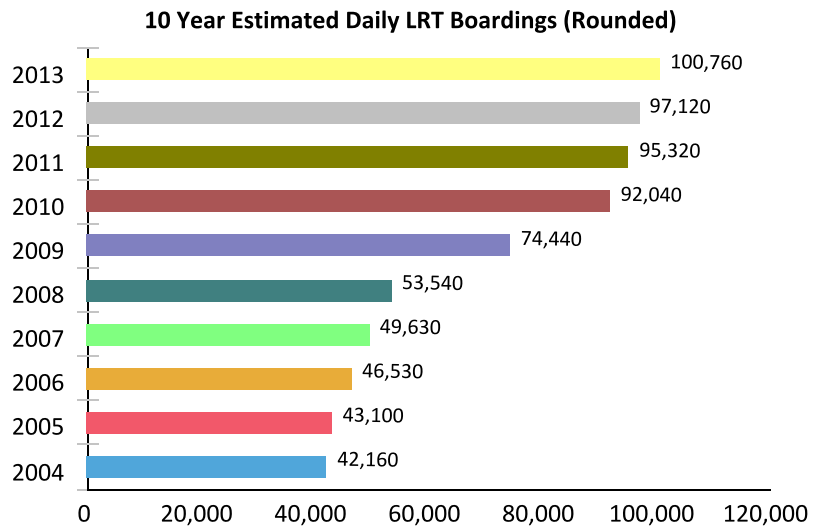
LRT boardings have grown to an estimated **100,760** passengers in 2013.

This is an increase of **3,640** passengers from 2012 and an annual growth rate of **3.7%.**

Over the past ten years LRT boardings have grown by **132.5%.**

AM Peak Hour boardings increased by **1.6%** to **13,300.**

PM Peak Hour boardings increased by **21.1%** to **13,960**.

10 Year Estimated Daily LRT Boardings (Rounded)

Year	Boardings
2013	100,760
2012	97,120
2011	95,320
2010	92,040
2009	74,440
2008	53,540
2007	49,630
2006	46,530
2005	43,100
2004	42,160

CAPITAL LINE - Figures, Charts and Tables for 2013

CAPITAL LINE - Supplementary Reports for 2013

Figure 1: 2013 LRT Passenger Count Summary - Weekday Service

2013 LRT PASSENGER COUNT SUMMARY
Capital Line - Weekday Service
Surveyed October 2013

N

Clareview 8,120 → 8,210

Belvedere 440 / 4,260 → 520 / 4,290
8,120 / 8,210
11,950 / 11,980

Coliseum 1,480 / 3,060 → 1,350 / 3,940
13,530 / 14,570

Stadium 680 / 2,220 → 820 / 2,290
15,770 / 16,050

Churchill 3,830 / 4,450 → 3,900 / 3,760
15,590 / 15,960

Central 3,950 / 2,020 ... 3,660 / 1,900
17,620 / 17,660

Bay/Enterprise Sq. 3,870 / 1,410 ... 3,880 / 1,540
20,080 / 20,000

Corona 5,310 / 3,380 ... 5,010 / 3,360
22,010 / 21,550

Grandin 950 / 1,580 → 1,070 / 1,620

22,630 / 22,200

University 7,160 / 7,410 → 6,950 / 7,300
22,880 / 22,550

Health Sciences/ Jubilee 3,090 / 3,950 → 3,430 / 3,630
23,750 / 22,750

McKernan/Belgravia 1,530 / 500 → 1,600 / 390
22,710 / 21,540

South Campus/ Ft. Edmonton 4,630 / 800 ... 4,230 / 650
18,000 / 18,880

Southgate 7,380 / 1,140 ... 8,580 / 1,520
11,810 / 11,710

Century Park 11,810 ← → 11,710

Boardings*

Northeast 20,350
(Clareview to Stadium)
Downtown 30,930
(Churchill to Grandin)
South 49,480
(University to Century Park)
Capital Line 100,760
* Numbers rounded to nearest 10th

Legend

Boardings Southbound
Alightings Southbound
Boardings Northbound
Alightings Northbound

River Screenline

P Park & Ride Lot

Data Source: SEP13 LRT Detailed Train List
Final Version January 23, 2014

Figure 2: 2013 LRT Passenger Count Summary - A.M. Peak Hour

2013 LRT PASSENGER COUNT SUMMARY
Capital Line – AM Peak Hour
Surveyed October 2013
AM Peak Hour is the highest volume hour between the hours of 7:00 a.m. and 9:00 a.m.
Southbound AM Peak Hour (7:12 a.m. – 8:07 a.m.) at the maximum load point
Northbound AM Peak Hour (7:17 a.m. – 8:12 a.m.) at the maximum load point

Boardings*

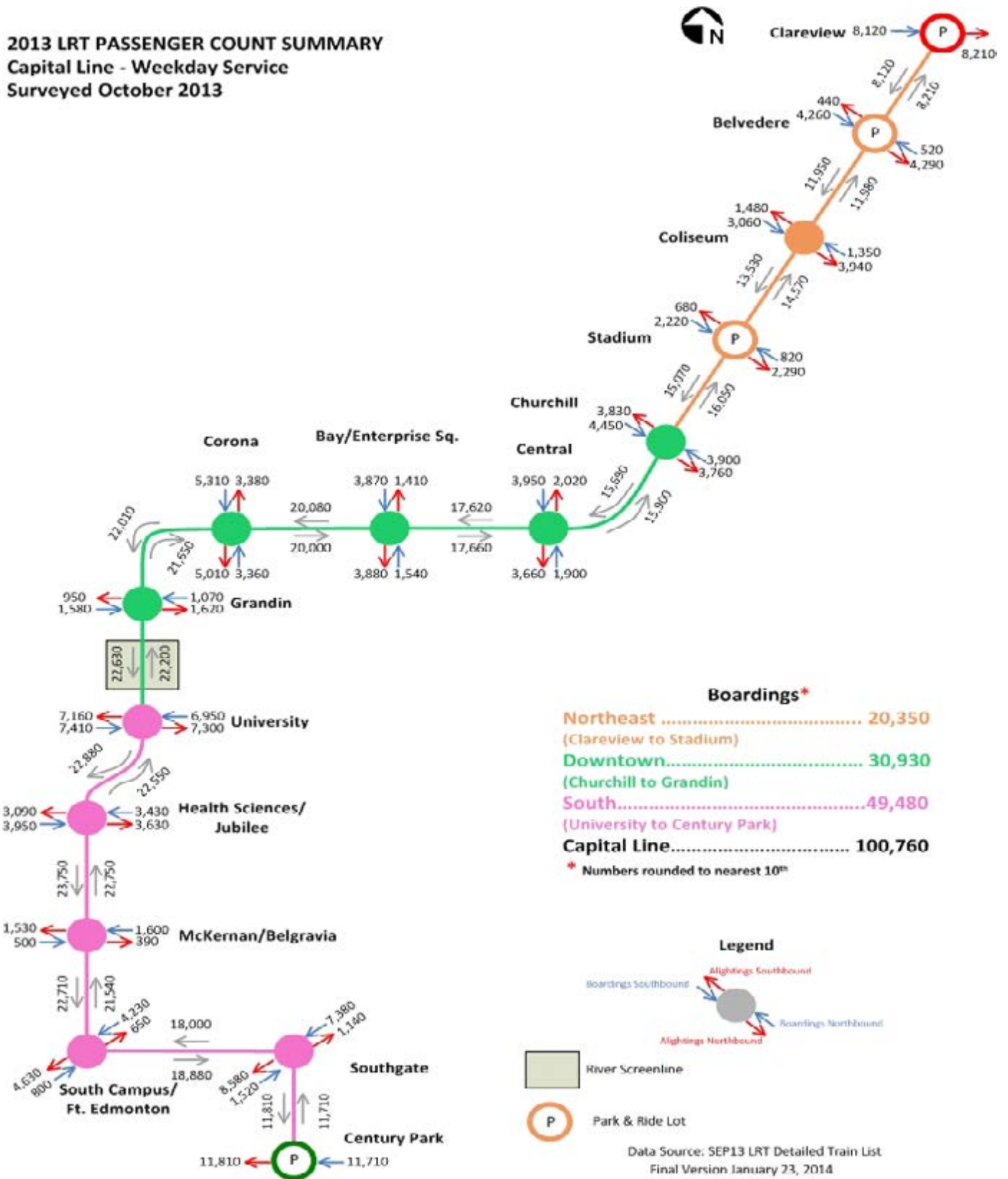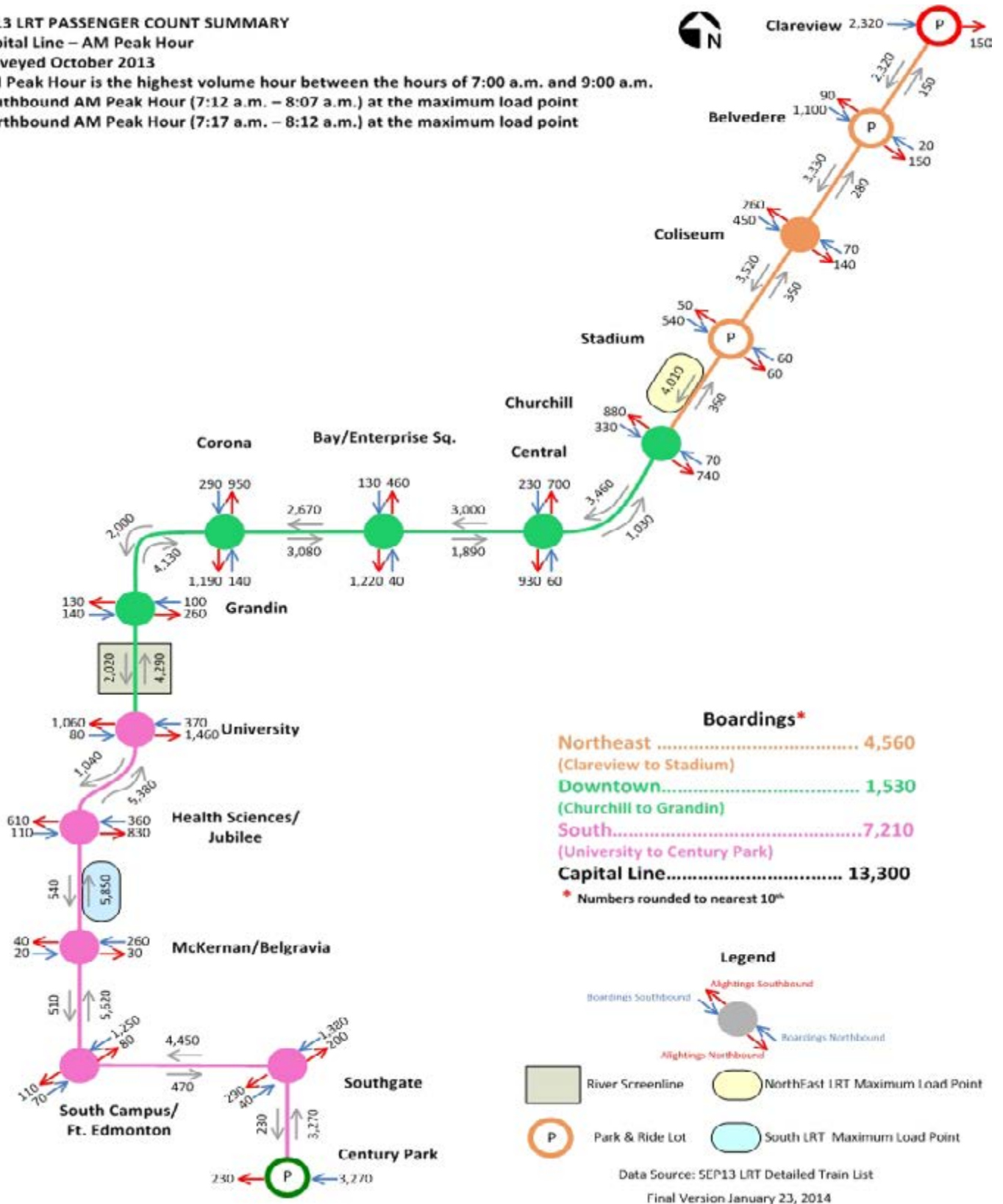|	
Northeast 4,560	
(Clareview to Stadium)	
Downtown................................. 1,530	
(Churchill to Grandin)	
South..7,210	
(University to Century Park)	
Capital Line.............................. 13,300	

* Numbers rounded to nearest 10th

Figure 3: 2013 LRT Passenger Count Summary - P.M. Peak Hour
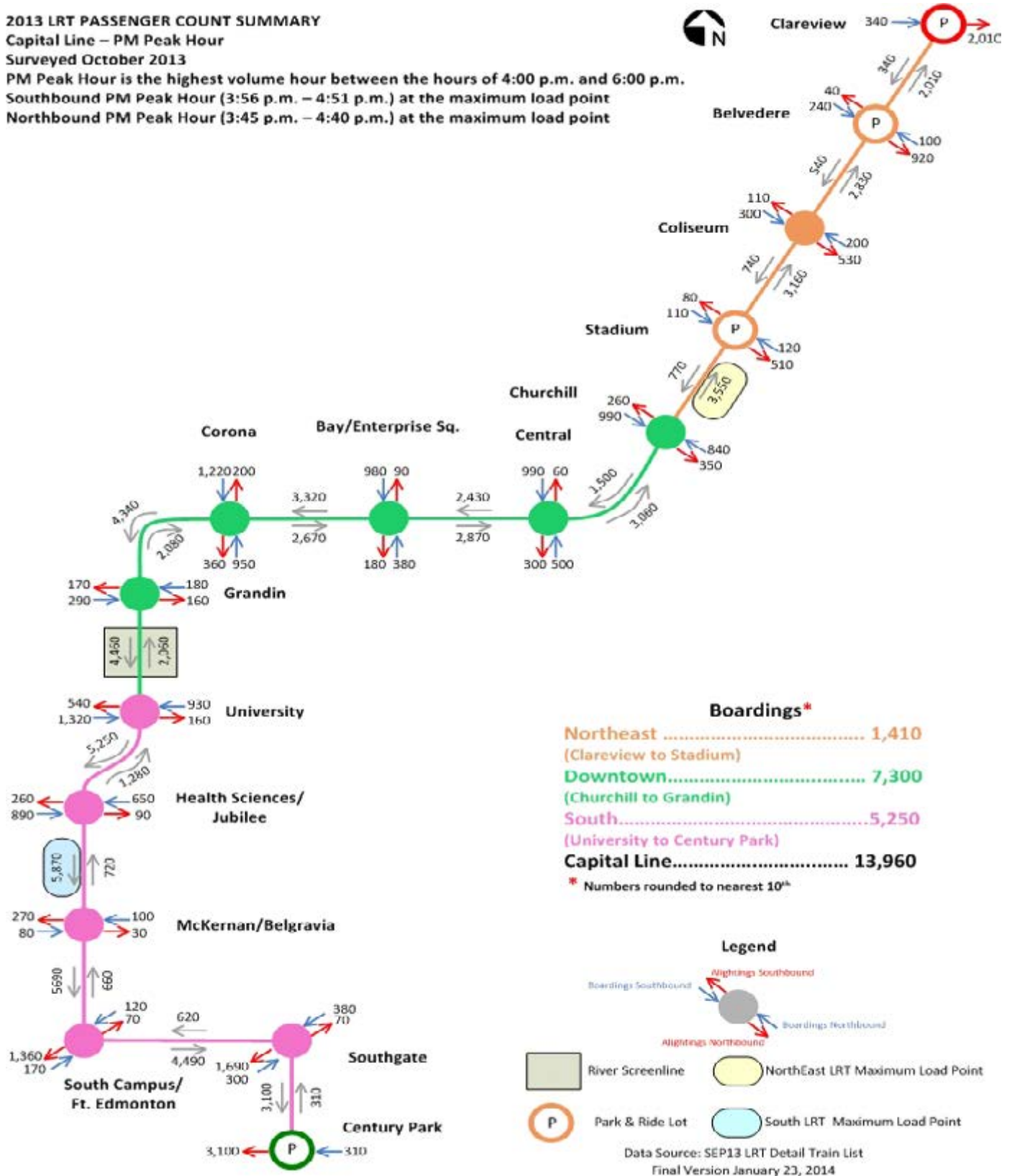
2013 LRT PASSENGER COUNT SUMMARY
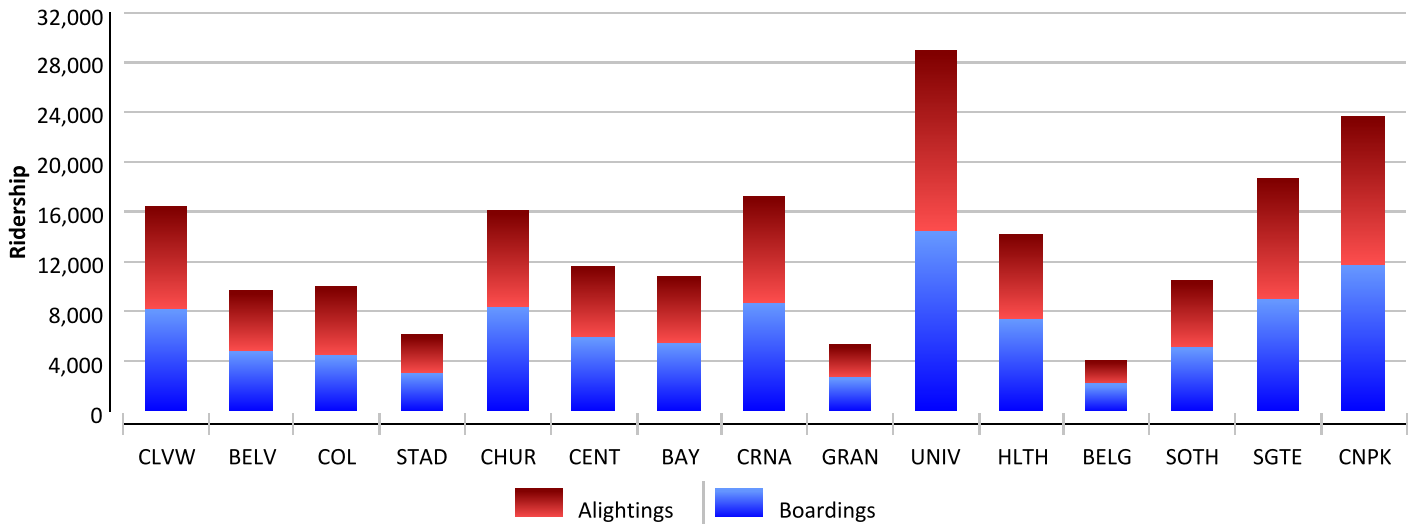Capital Line – PM Peak Hour
Surveyed October 2013
PM Peak Hour is the highest volume hour between the hours of 4:00 p.m. and 6:00 p.m.
Southbound PM Peak Hour (3:56 p.m. – 4:51 p.m.) at the maximum load point
Northbound PM Peak Hour (3:45 p.m. – 4:40 p.m.) at the maximum load point

N

Clareview 340 → P → 2,010

Belvedere 40 ← 240 ← P → 100 → 920
340 2,010

Coliseum 110 ← 300 ← → 200 → 530
540 2,830

Stadium 80 ← 110 ← P → 120 → 510
740 3,160

3,550

Churchill / Central 260 ← 990 ← → 840 → 350
770

Corona 1,220 200 → 990 60

Bay/Enterprise Sq. 980 90

1,500

4,340 3,320 2,430 3,060
2,080 2,670 2,870

360 950 180 380 300 500

170 ← 180 ← Grandin
290 → 160 →

4,450 2,050

540 ← 930 ← University
1,320 → 160 →

5,250 1,280

260 ← 650 ← Health Sciences/ Jubilee
890 → 90 →

5,870 720

270 ← 100 ← McKernan/Belgravia
80 → 30 →

5690 660

120 70 620 380 70

1,360 ← 170 ← 4,490 1,690 300
South Campus/ Ft. Edmonton Southgate

3,100 310

Century Park
3,100 ← ← 310

Boardings*
Northeast 1,410
(Clareview to Stadium)
Downtown................................ 7,300
(Churchill to Grandin)
South.......................................5,250
(University to Century Park)
Capital Line................................ 13,960
* Numbers rounded to nearest 10th

Legend
Boardings Southbound
Alightings Southbound
Boardings Northbound
Alightings Northbound

River Screenline
NorthEast LRT Maximum Load Point

P Park & Ride Lot
South LRT Maximum Load Point

Data Source: SEP13 LRT Detail Train List
Final Version January 23, 2014

Chart 1: 2013 Boardings and Alightings by Station

Table 1: 2013 Boardings and Alightings by Station

LRT Station	Boardings	Alightings	Station Total	% of Total
CLVW	8,121	8,211	16,332	8.1%
BELV	4,782	4,730	9,512	4.7%
COL	4,411	5,423	9,834	4.9%
STAD	3,037	2,974	6,011	3.0%
CHUR	8,351	7,584	15,935	7.9%
CENT	5,850	5,676	11,526	5.7%
BAY	5,409	5,292	10,701	5.3%
CRNA	8,672	8,387	17,059	8.5%
GRAN	2,651	2,573	5,224	2.6%
UNIV	14,358	14,466	28,824	14.3%
HLTH	7,387	6,720	14,107	7.0%
BELG	2,094	1,921	4,015	2.0%
SOTH	5,033	5,281	10,314	5.1%
SGTE	8,895	9,718	18,613	9.2%
CNPK	11,712	11,807	23,519	11.7%
Total ---->	100,763	100,763	201,526	100%

Chart 2: 2013 Boardings and Alightings - Southbound
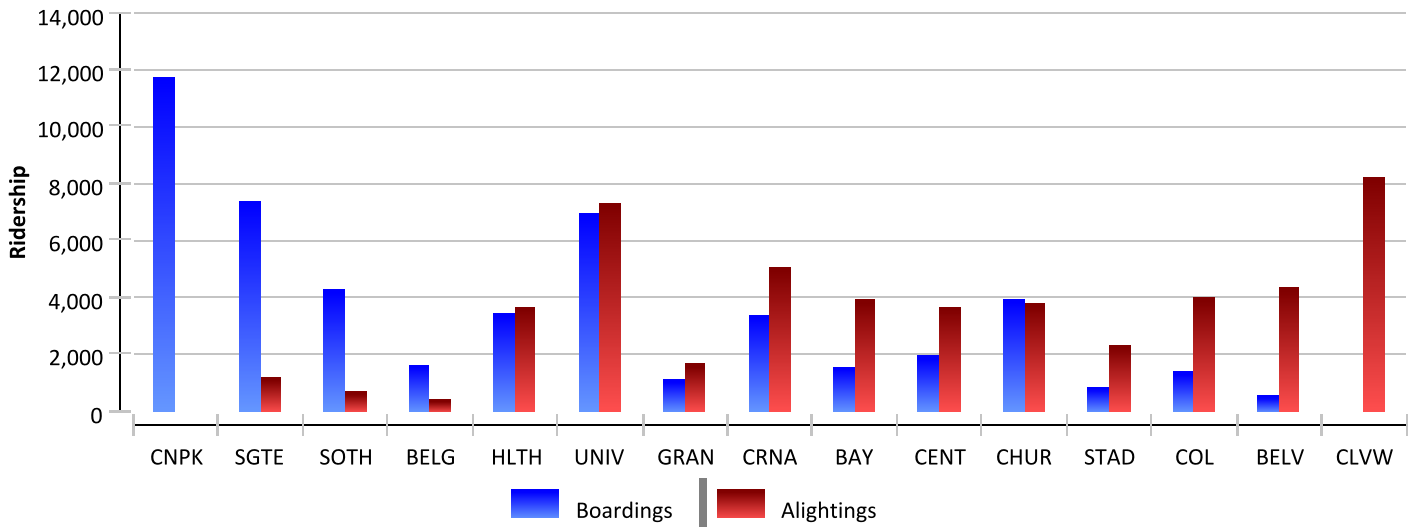**(Clareview to Century Park)**
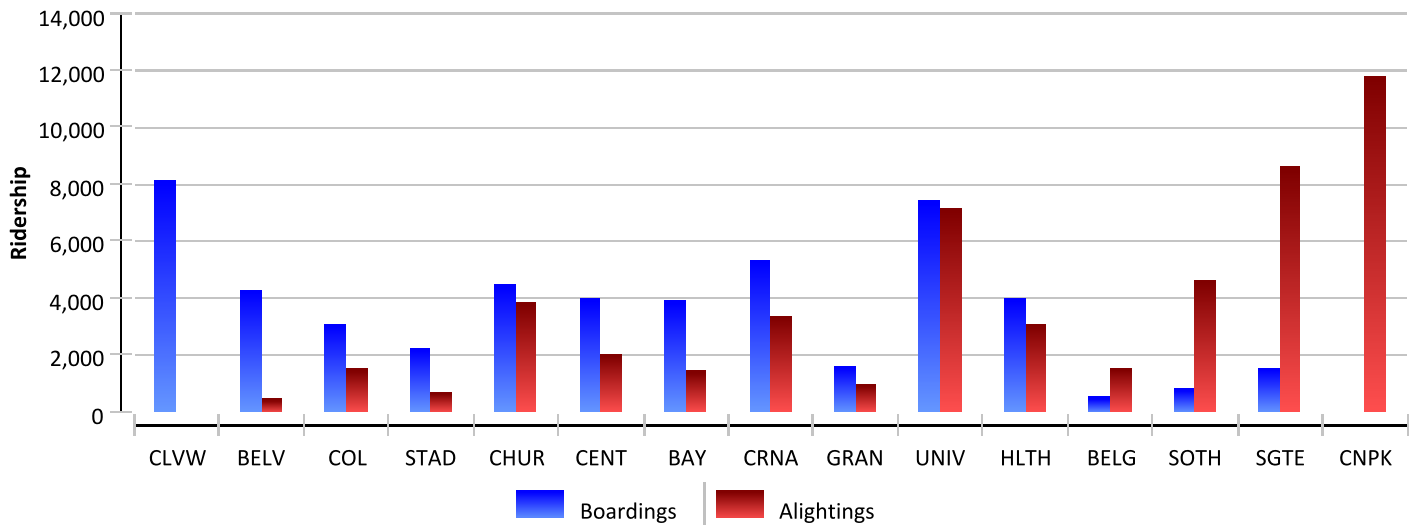
Table 2: 2013 Boardings and Alightings - Southbound
(Clareview to Century Park)

LRT Station	Boardings	Alightings	Station Total	% of Total
CLVW	8,121	0	8121	8.0%
BELV	4,263	438	4701	4.6%
COL	3,064	1,483	4547	4.5%
STAD	2,218	680	2898	2.8%
CHUR	4,447	3,827	8274	8.1%
CENT	3,950	2,020	5970	5.9%
BAY	3,872	1,411	5283	5.2%
CRNA	5,308	3,375	8683	8.5%
GRAN	1,577	952	2529	2.5%
UNIV	7,411	7,164	14575	14.3%
HLTH	3,954	3,086	7040	6.9%
BELG	496	1,533	2029	2.0%
SOTH	800	4,633	5433	5.3%
SGTE	1,517	8,583	10100	9.9%
CNPK	0	11,807	11807	11.6%
Total ---->	**50,998**	**50,992**	**101,990**	**100%**

Chart 3: 2013 Boardings and Alightings - Northbound
(Century Park to Clareview)

Table 3: 2013 Boardings and Alightings - Northbound
(Century Park to Clareview)

LRT Station	Boardings	Alightings	Station Total	% of Total
CNPK	11,712	0	11,712	11.8%
SGTE	7,378	1,135	8,513	8.6%
SOTH	4,233	648	4,881	4.9%
BELG	1,598	388	1,986	2.0%
HLTH	3,433	3,634	7,067	7.1%
UNIV	6,947	7,302	14,249	14.3%
GRAN	1,074	1,621	2,695	2.7%
CRNA	3,364	5,012	8,376	8.4%
BAY	1,537	3,881	5,418	5.4%
CENT	1,900	3,656	5,556	5.6%
CHUR	3,904	3,757	7,661	7.7%
STAD	819	2,294	3,113	3.1%
COL	1,347	3,940	5,287	5.3%
BELV	519	4,292	4,811	4.8%
CLVW	0	8,211	8,211	8.2%
Total ---->	49,765	49,771	99,536	100%

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## Table 4: 2013 vs. 2012 Boardings and Alightings by Direction - Ordered by Percent Change

BOARDINGS					ALIGHTINGS				
LRT Station	2013 Boardings	2012 Boardings	Difference	% Change	LRT Station	2013 Alightings	2012 Alightings	Difference	% Change
BAY	5,409	4,702	707	15.0%	SOTH	5,281	4,492	789	17.6%
HLTH	7,387	6,706	681	10.2%	COL	5,423	4,734	689	14.6%
CNPK	11,712	10,767	945	8.8%	CNPK	11,807	10,527	1,280	12.2%
CHUR	8,351	7,773	578	7.4%	SGTE	9,718	8,803	915	10.4%
SGTE	8,895	8,328	567	6.8%	BAY	5,292	4,872	420	8.6%
SOTH	5,033	4,813	220	4.6%	HLTH	6,720	6,466	254	3.9%
CRNA	8,672	8,386	286	3.4%	CRNA	8,387	8,177	210	2.6%
CENT	5,850	5,719	131	2.3%	STAD	2,974	2,918	56	1.9%
STAD	3,037	3,000	37	1.2%	BELG	1,921	1,905	16	0.8%
BELG	2,094	2,085	9	0.4%	CLVW	8,211	8,205	6	0.1%
BELV	4,782	4,772	10	0.2%	CHUR	7,584	7,621	(37)	(0.5)%
UNIV	14,358	14,352	6	0.0%	BELV	4,730	4,781	(51)	(1.1)%
CLVW	8,121	8,215	(94)	(1.1)%	CENT	5,676	5,801	(125)	(2.2)%
COL	4,411	4,638	(227)	(4.9)%	GRAN	2,573	2,664	(91)	(3.4)%
GRAN	2,651	2,815	(164)	(5.8)%	UNIV	14,466	15,105	(639)	(4.2)%
Total ---->	100,763	97,071	3,692	3.8%	Total ---->	100,763	97,071	3,692	3.8%

Table 5: 2013 Boardings and Alightings by Run - Ordered by Percent Of Total

Run	Boardings	Alightings	Total	% of Total
	Boardings and Alightings by Run (Sorted)			
50105	9,597	9,597	19,194	9.5%
50116	8,840	8,840	17,680	8.8%
50111	8,630	8,630	17,260	8.6%
50107	8,532	8,532	17,064	8.5%
50114	8,395	8,395	16,790	8.3%
50113	8,122	8,122	16,244	8.1%
50115	7,813	7,813	15,626	7.8%
50109	7,624	7,624	15,248	7.6%
50117	3,139	3,139	6,278	3.1%
50121	3,103	3,103	6,206	3.1%
50119	2,686	2,686	5,372	2.7%
50120	2,604	2,604	5,208	2.6%
50110	2,343	2,343	4,686	2.3%
50102	2,013	2,013	4,026	2.0%
50123	1,964	1,964	3,928	1.9%
50122	1,946	1,946	3,892	1.9%
50101	1,925	1,925	3,850	1.9%
50103	1,849	1,849	3,698	1.8%
50108	1,807	1,807	3,614	1.8%
50106	1,659	1,659	3,318	1.6%
50118	1,634	1,634	3,268	1.6%
50124	1,622	1,622	3,244	1.6%
50112	1,573	1,573	3,146	1.6%
50104	1,343	1,343	2,686	1.3%
Total ---->	**100,763**	**100,763**	**201,526**	**100%**

Chart 4: 2013 Time of Day Distribution of Station Activity (Boardings + Alightings)
60 Minute Interval

Legend: Alightings (red), Boardings (blue)
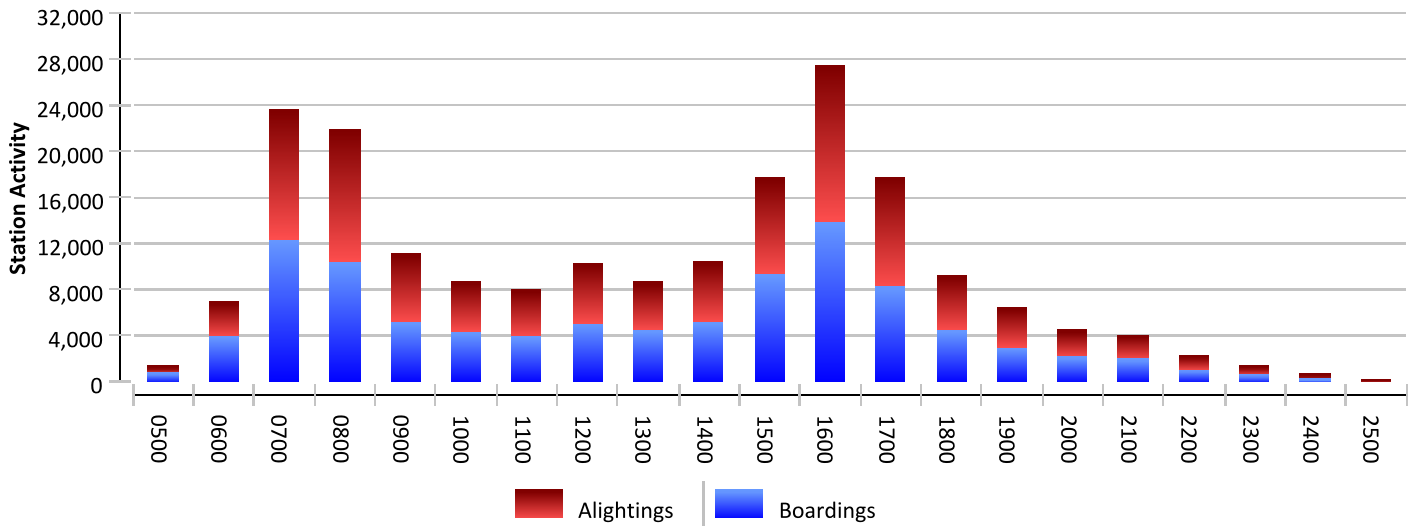
Chart 5: 2013 Time of Day Distribution of Station Activity (Boardings + Alightings)
30 Minute Interval

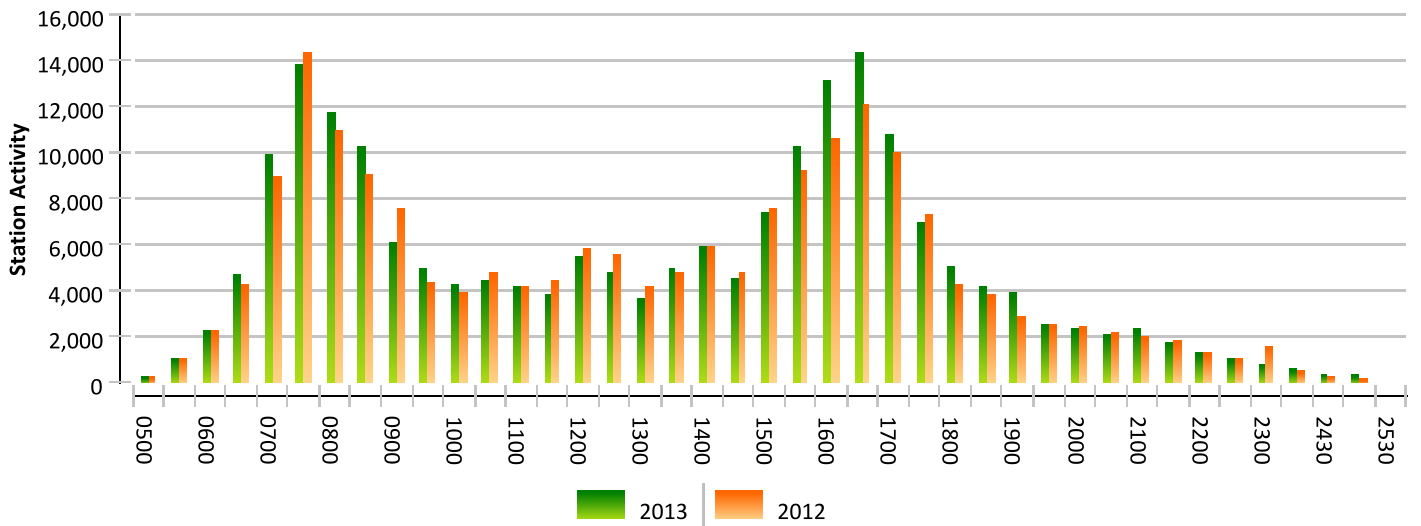Legend: Alightings (red), Boardings (blue)

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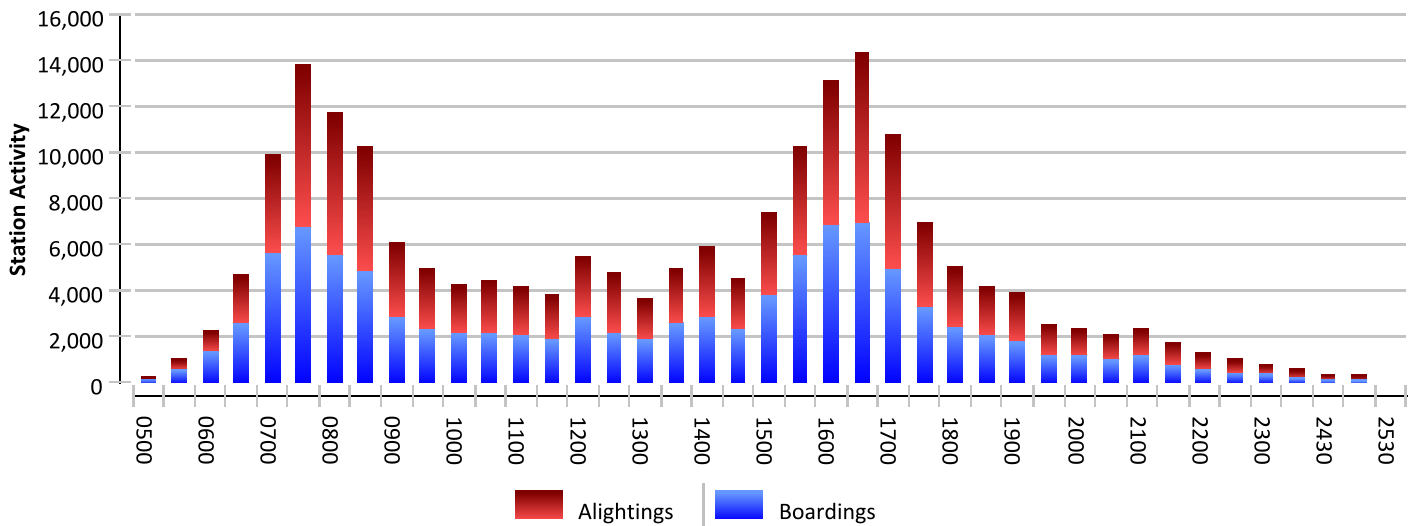
Chart 6: 2013 vs. 2012 Time of Day Distribution of Station Activity (Boardings + Alightings)
60 Minute Interval
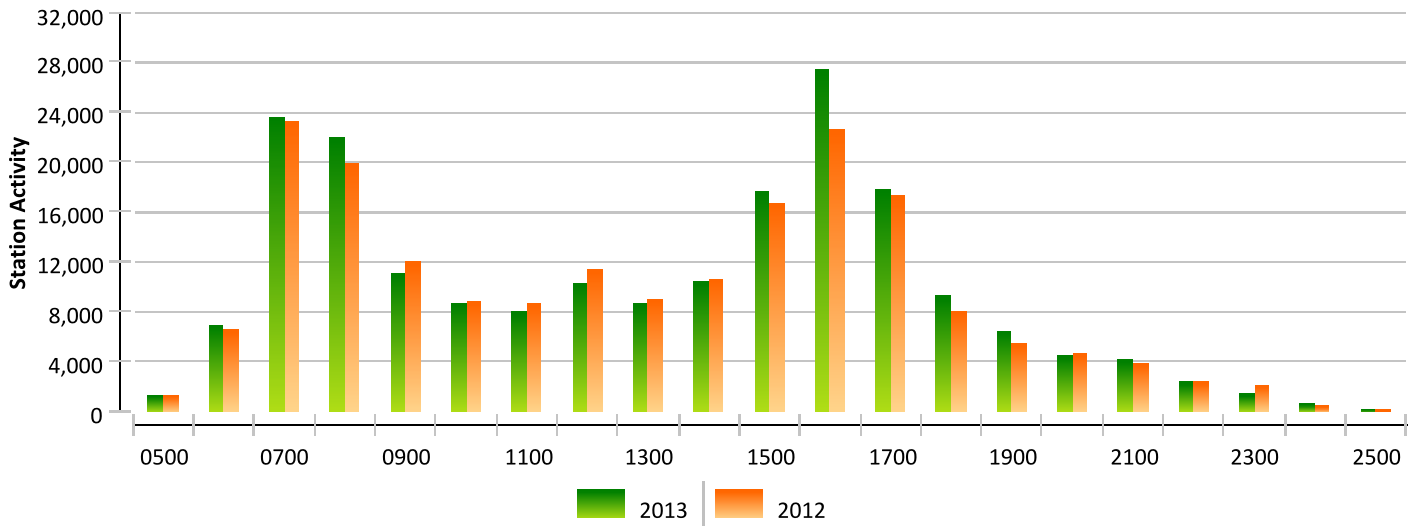
Chart 7: 2013 vs. 2012 Time of Day Distribution of Station Activity (Boardings + Alightings)
30 Minute Interval

Table 6: 2013 vs. 2012 Maximun Load Point Activity
Capital Line A.M. Peak Hour

At Maximun Load Points

	Capital Line Southbound					Capital Line Northbound			
Year	Departing Stadium Southbound	# of Trips	# of LRV	Avg. Passenger Loading per LRV	Year	Departing McKernan Northbound	# of Trips	# of LRV	Avg. Passenger Loading per LRV
2013	4,012	12	48	84	2013	5,852	12	48	122
2012	3,775	12	46	82	2012	5,799	12	46	126
% Change	6.3%	0.0%	4.3%	1.8%	% Change	0.9%	0.0%	4.3%	(3.3)%

The Maximun load points for the Capital Line during the A.M. Peak Hour are the link between Stadium and Churchill stations for the Capital Line Southbound and the link between McKernan/Belgravia and Health Sciences/Jubilee stations for the Capital Line Northbound.
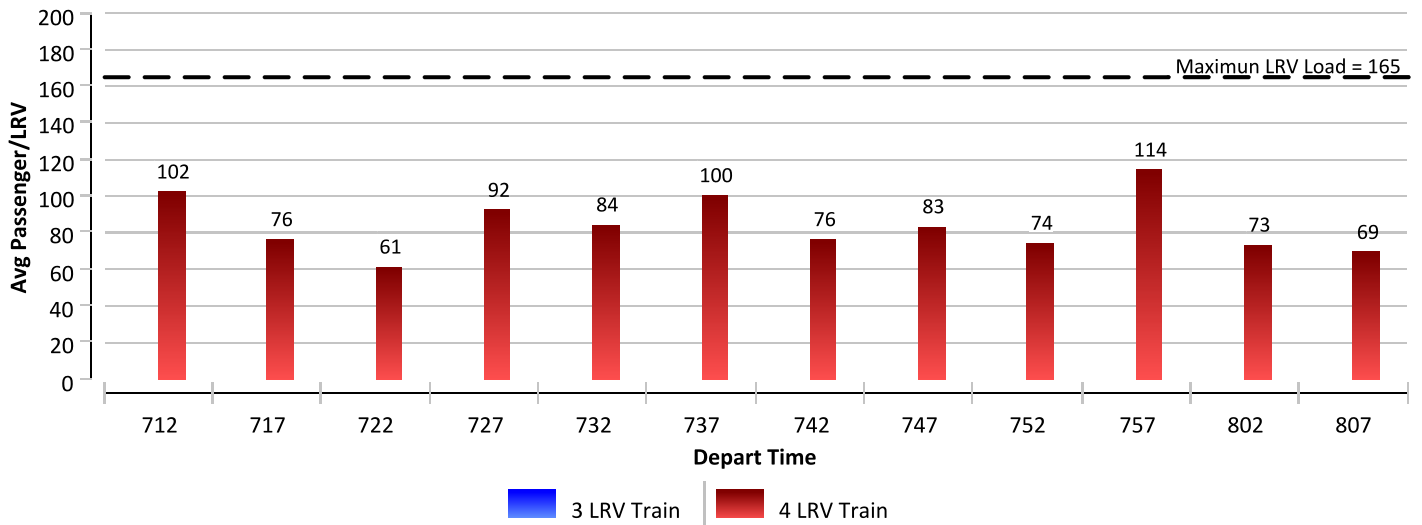
The LRV design capacity is 165 passengers.

Table 7: 2013 vs. 2012 Maximun Load Point Activity
Capital Line P.M. Peak Hour

At Maximun Load Points

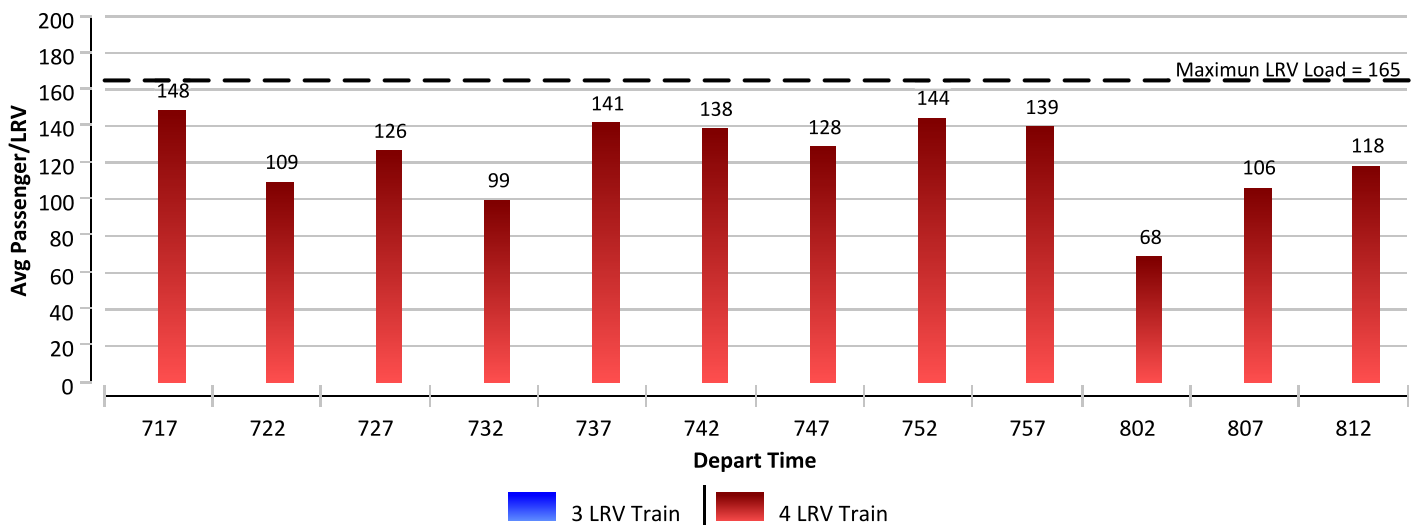|	Capital Line Northbound					Capital Line Southbound			
Year	Departing Churchill Northbound	# of Trips	# of LRV	Avg. Passenger Loading per LRV	Year	Departing Health Science Southbound	# of Trips	# of LRV	Avg. Passenger Loading per LRV
2013	3,552	12	47	76	2013	5,872	12	48	122
2012	3,235	12	47	69	2012	4,538	12	48	95
% Change	9.8%	0.0%	0.0%	10%	% Change	29.4%	0.0%	0.0%	29.4%

The Maximun load points during the P.M. Peak Hour are the link between Health Sciences/Jubilee and McKernan/Belgravia stations for the Capital Line Southbound and the link between Churchill and Stadium stations for the Capital Line Northbound.

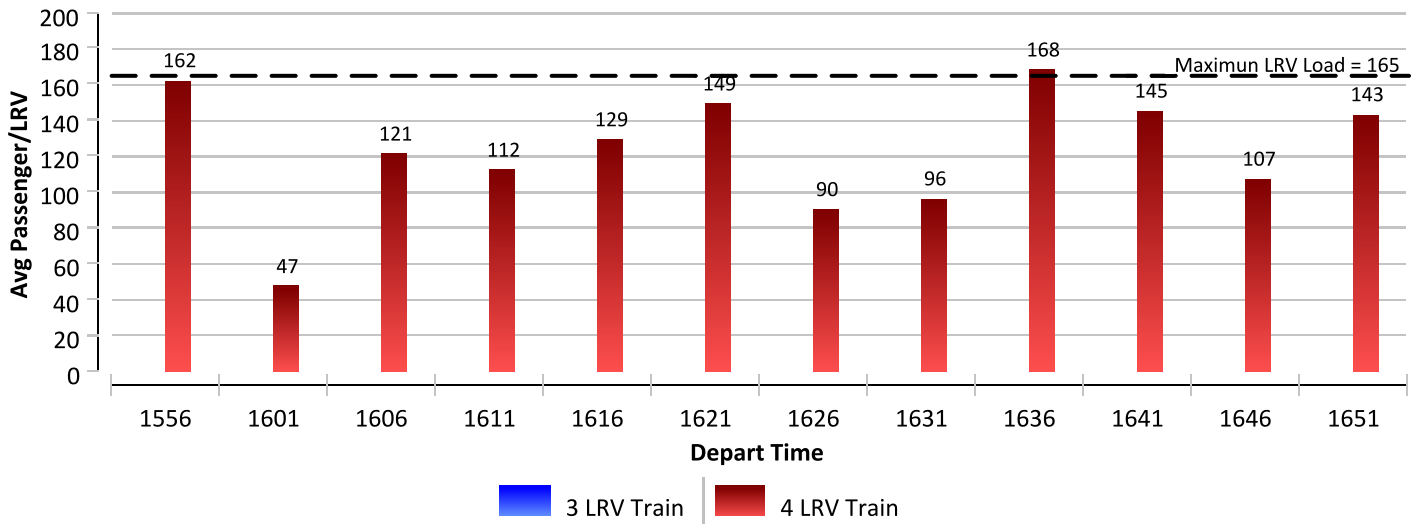The LRV design capacity is 165 passengers.

Chart 8: 2013 Average Passengers per LRV - Stadium Station Departing Southbound
A.M. Peak Hour

Maximun LRV Load = 165

Bar chart — Avg Passenger/LRV vs Depart Time:
- 712: 102
- 717: 76
- 722: 61
- 727: 92
- 732: 84
- 737: 100
- 742: 76
- 747: 83
- 752: 74
- 757: 114
- 802: 73
- 807: 69

Legend: 3 LRV Train | 4 LRV Train

Chart 9: 2013 Average Passengers per LRV - McKernan/Belgravia Station Departing Northbound
A.M. Peak Hour

Maximun LRV Load = 165

Bar chart — Avg Passenger/LRV vs Depart Time:
- 717: 148
- 722: 109
- 727: 126
- 732: 99
- 737: 141
- 742: 138
- 747: 128
- 752: 144
- 757: 139
- 802: 68
- 807: 106
- 812: 118

Legend: 3 LRV Train | 4 LRV Train

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Chart 10: 2013 Average Passengers per LRV - Health Science/Jubilee Station Departing Southbound
P.M. Peak Hour

Avg Passenger/LRV vs Depart Time

Maximun LRV Load = 165

Depart Time	Avg Passenger/LRV
1556	162
1601	47
1606	121
1611	112
1616	129
1621	149
1626	90
1631	96
1636	168
1641	145
1646	107
1651	143

■ 3 LRV Train   ■ 4 LRV Train

Chart 11: 2013 Average Passengers per LRV - Churchill Station Departing Northbound
P.M. Peak Hour

Avg Passenger/LRV vs Depart Time

Maximun LRV Load = 165

Depart Time	Avg Passenger/LRV
1545	81
1550	43
1555	86
1600	19
1605	77
1610	63
1615	85
1620	62
1625	69
1630	68
1635	147
1640	90

■ 3 LRV Train   ■ 4 LRV Train
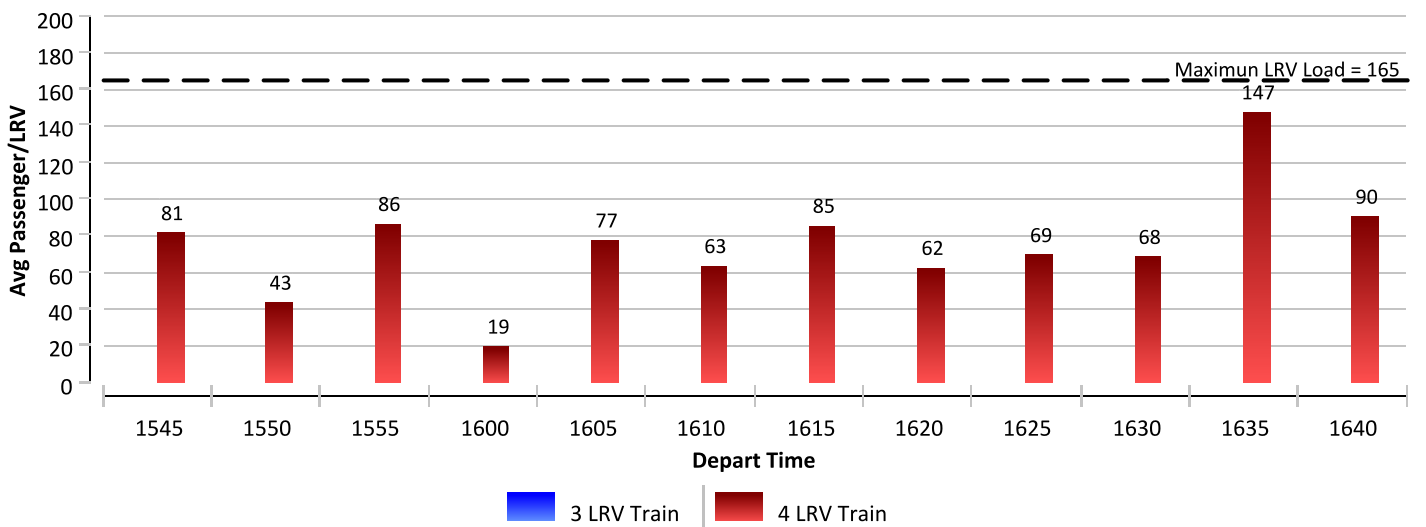
A Note On Ridership and Boardings:

Daily ridership figures refer to the total number of boardings. Annual and monthly ridership figures refer to the total number of linked trips.

Boarding:

A boarding is counted each time a passenger boards a bus or LRT vehicle even though the boarding may be the result of a transfer from another route to complete the same one-way journey. For example, if a passenger boards three different buses to get to their destination then their trip will add three boardings to the daily total. (A boarding is also known as an unlinked trip.) The number of boardings is obtained by counting passengers (manually or with a machine) as they board each transit vehicle.

Linked Trip:

A linked trip is the complete ride from an origin to a destination, no matter how many transfers between buses (or between LRT and buses) it takes to complete the trip. Traveling from home to work would be one linked trip, even if it meant taking a bus to an LRT station and then transferring to the LRT to get Downtown. Returning from work to home would count as a second linked trip. The number of linked trips is obtained through an analysis of the monthly sales of the various fare media (e.g. monthly passes, ticket books, and cash).

DISCLAIMER

The Transit Monitoring and Analysis team makes an extensive effort to assure the quality of information contained in this report is correct. Transit usage can vary by 10 percent or more from one day to the next or by season to season. Our team tries to minimize the variations by conducting surveys around the same time of the year. Year to Year variation may be due to random events such as weather, accidents or unforeseen events affecting service delivery. It is impossible to achieve complete accuracy and consistency in the reported data.

We recommend looking at trends, since variation that is consistent over a longer period is more likely to be real and not just the result of random events. Consideration and appropriate weighting of other sources is to be encouraged before making decisions.

Front Page Image Credit: Imran Hayat, Transportation Planning