

**2009  
LRT Ridership Report  
Park'n'Ride Lots Usage Report**



**Prepared by  
Transportation Planning  
Transit Monitoring and Analysis  
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## ***EXECUTIVE SUMMARY***

### ***LRT RIDERSHIP***

The 2009 Fall LRT Count has found that daily LRT ridership has grown to an estimated 74,440 passengers. This is an increase of 20,900 (39%) from 2008. This is the largest year-over-year increase in total ridership since the LRT began operating in 1978.

A significant portion of the increase in 2009 can be attributed to the extension of the South LRT line to South Campus. The South LRT line extension added two new stations to the LRT system; McKernan/Belgravia and South Campus. There were a total of 19,060 boardings and alightings at these two new stations between the hours of 7:00 a.m. to 6:00 p.m.

The maximum load point of the Northeast line is the link between Stadium and Churchill Stations. In 2009, the LRT carried 12,550 southbound passengers and 12,120 northbound passengers in this link between the hours of 7:00 a.m. to 6:00 p.m.

The maximum load point of the new South line is the link between McKernan/Belgravia and Health Sciences Stations. In 2009, the LRT carried 9,520 northbound passengers and 9,040 southbound passengers in this link between the hours of 7:00 a.m. to 6:00 p.m.

### ***LRT TRAINS – AVERAGE CAR LOADS DURING PEAK PERIODS***

An analysis of the LRT train loads arriving and departing at Churchill, University, and Health Science stations in the A.M. and P.M. peak periods was conducted to determine train load capacity. The Light Rail Vehicles (LRV) as used by Edmonton Transit's LRT system has a design capacity of 140 passengers with 64 passengers sitting and 76 passengers standing.

In the A.M. peak period, one train arriving southbound at Churchill station exceeded the design capacity of 140 passengers while 7 trains had an average of 100 or more passengers per car. The average load at the station was 85 passengers per car.

At the University station, all of the southbound trains arriving during the A.M. peak period were below the design capacity. The average load for the station was 48 passengers per car while one train had over a 100 passengers.

At the Health Sciences station, all of the trains arriving northbound during the A.M. peak period were also below the design capacity. The average load for the station was 59 passengers per car while 2 trains had over 100 passengers.

In the P.M. peak period, one train departing northbound at Churchill station exceeded the peak capacity of 140 passengers per car and 5 trains had an average of 100 or more passengers per car. The average load for the station was 69 passengers per car.

At the University station, all of the trains departing northbound during the P.M. peak period were below the capacity and no trains had more than 100 passengers per car. The average load for the station was 29 passengers per car.

At the Health Sciences station, all of the trains departing southbound during the P.M. peak period were also below the design capacity. The average load for the station was 45 passengers per car while 1 train had over 100 passengers.

### ***PARK'n'RIDE LOTS USAGE***

The 2009 analysis revealed that all Park'n'Ride lots were well utilized. At 10:00 a.m., the four LRT lots were at near 100% capacity based on the available spaces for 2,736 vehicles. There were 190 more vehicles when compared to fall count in 2008, an increase of 7% and 221 more vehicles when compared to fall count in 2007, an increase of 8%.

At 8:00 a.m. there were 2,338 vehicles parked in the four LRT sites. The lots were 85% utilized indicating that there was an increase of 7 vehicles (0.3%) from the fall count in 2008 and 122 more vehicles (6%) from the fall count in 2007.

At 7:00 a.m. there were 771 vehicles parked in the four LRT sites. The lots were 28% utilized indicating that there was a decrease of 416 vehicles (35%) from the fall count in 2008 and a decrease of 33 vehicles (4%) from the fall count in 2007.

The Heritage lot had 216 vehicles parked at 10:00 a.m., utilizing 108% of the available spaces. Although the lot was being over utilized, this is a decrease of 12 vehicles (5%) from the fall count in 2008.

## INTRODUCTION

In September 2009, the Transportation Planning Branch's Transit Monitoring and Analysis section conducted surveys on LRT ridership and Park'n'Ride lots usage. We are pleased to provide the results of these surveys as the 2009 LRT Ridership and Park'n'Ride Usage Report.

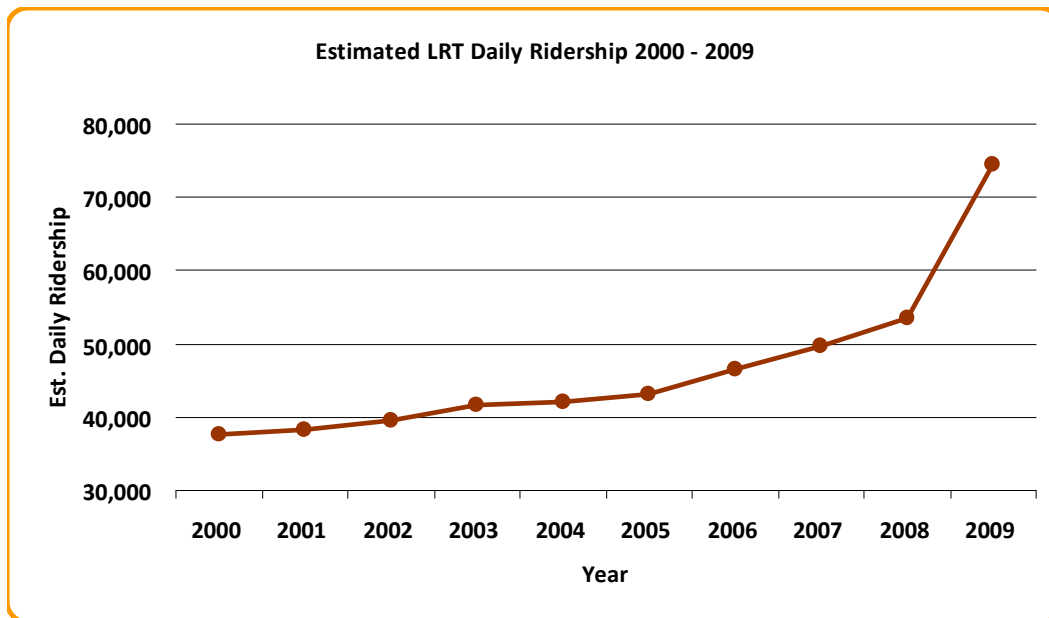
The information is presented in two parts:

- ▣ The 2009 LRT Ridership Report which focuses on LRT ridership for a typical fall weekday and compares the ridership to previous surveys.
- ▣ The 2009 Park'n'Ride Report which focuses on all the Park'n'Ride lots usage and compares the usage to previous surveys.

## LRT RIDERSHIP

The key finding in the 2009 Fall LRT Counts is that daily LRT ridership has grown to an estimated 74,440 passengers, an increase of 20,900 or 39% from 2008. This is the largest year-over-year increase in total daily ridership since the LRT began operating in 1978. Figure 1 is a chart describing the year over year estimated daily LRT ridership from Year 2000 (37,630) to Year 2009 (74,440).

Figure 1 - Estimated LRT Daily Ridership 2000 – 2009



Most of the increase in 2009 can be attributed to the extension of the South LRT line to South Campus. The South LRT line extension added two new stations to the LRT system; McKernan/Belgravia and South Campus. There were 19,060 boardings and alightings at these two new stations between the hours of 7:00 a.m. and 6:00 p.m.

South Campus had more boardings than any other station outside of the Downtown and University areas. Passengers who boarded at South Campus arrived primarily by bus. Transit service was restructured in southwest Edmonton to integrate the bus network with the new South LRT Extension. Bus routes from South Edmonton that used to end service at University Transit Centre now end service at South Campus Transit Centre, where passengers can transfer to the LRT to complete their trip. Several peak period express routes that used to operate between West Edmonton and Downtown via Fox Drive also now end service at South Campus.

At the University station, due to the South LRT route extension, southbound boardings have increased by 3,680 from 2008. Conversely, northbound boardings have decreased by 3,320 from 2008.

Going forward, additional monitoring resources will be applied at the very busy University Station to reduce the limitations in the manual counting methodology that is currently used to derive boardings and alightings. Transit Monitoring and Analysis constantly reviews the counting methodologies to ensure the reliability of the count and consistency in the survey results.

## ***LRT DAILY RIDERSHIP REPORT***

The 2009 LRT Ridership Summary Report provides three temporal views of the LRT system in both northbound and southbound directions.

- ☒ The first view is of the daily ridership between the hours of 7:00 a.m. to 6:00 p.m.
- ☒ The second view is the AM Peak Hour. The AM Peak Hour is defined as the highest volume hour between the hours of 7:00 a.m. to 9:00 a.m. In this report, the highest volume hour is from 7:12 a.m. to 8:11 a.m.
- ☒ The third view is the PM Peak Hour. The PM Peak Hour is defined as the highest volume hour between the hours of 4:00 p.m. to 6:00 p.m. In this report, the highest volume hour is from 4:04 p.m. to 5:03 p.m.

## ***LRT DAILY RIDERSHIP- 7:00 a.m. - 6:00 p.m.***

The LRT Ridership Flow Map 1, found at the end of the report, describes the 2009 LRT passenger loads between stations. It also describes the boardings and alightings at each station and the maximum load point between the hours of 7:00 a.m. to 6:00 p.m.

### ***SCREENLINES AND MAXIMUM LOAD POINTS***

The maximum load point of the Northeast line is the link between Stadium and Churchill Stations. In 2009, the LRT carried 12,550 southbound passengers and 12,120 northbound passengers in this link between the hours of 7:00 a.m. to 6:00 p.m. Comparing to 2008, there were 11,550 southbound passengers and 12,050 northbound passengers. Overall, there were 1,070 more passengers at this maximum load point in 2009, an increase of 4.5%.

The maximum load point of the new South line is the link between McKernan/Belgravia and Health Sciences Stations. In 2009, the LRT carried 9,520 northbound passengers and 9,040 southbound passengers in this link between the hours of 7:00 a.m. to 6:00 p.m.

Another important screenline to monitor is the river crossing which is the link between University and Grandin Stations. In 2009, the LRT carried 12,330 southbound passengers and 9,260 northbound passengers in this link between the hours of 7:00 a.m. to 6:00 p.m. In comparison to 2008, there were 10,600 southbound passengers and 11,500 northbound passengers. Overall, there were 510 fewer passengers at this maximum load point in 2009, a slight decline of 2.3%.

### ***SOUTHBOUND STATION BOARDINGS, ARRIVAL LOADS AND RANKING***

Table 1, on the following page, describes the southbound boardings, arrival loads and their ranking between the hours of 7:00 a.m. to 6:00 p.m.

The stations with the most southbound boardings are Clareview (6,880), University (3,930), and Belvedere (3,260). The stations with the largest southbound arrival loads are Churchill (12,550), University (12,330) and Corona (12,230). The station with the least southbound boardings is McKernan/Belgravia (150).

**Table 1: Southbound Boardings, Passenger Loads, and Ranking**

Southbound Boardings 7:00 a.m. - 6:00 p.m.			Southbound Passenger Loads 7:00 a.m. - 6:00 p.m.		
Station	Boarding	Ranking	Station	Arrival Load	Ranking
Clareview	6,880	1	Clareview		
Belvedere	3,260	3	Belvedere	6,880	12
Coliseum	2,410	5	Coliseum	9,830	8
Stadium	1,640	8	Stadium	11,230	7
Churchill	3,150	4	Churchill	12,550	1
Central	2,170	7	Central	11,940	5
Bay/Enterprise Square	1,550	9	Bay/Enterprise Square	11,960	4
Corona	2,290	6	Corona	12,230	3
Grandin	1,200	11	Grandin	11,770	6
University	3,930	2	University	12,330	2
Health Science	1,300	10	Health Science	9,560	9
McKernan/Belgravia	150	12	McKernan/Belgravia	9,040	10
South Campus			South Campus	8,300	11

***NORTHBOUND STATION BOARDINGS, ARRIVAL LOADS AND RANKING***

Table 2 describes the northbound boardings, arrival loads and their ranking between the hours of 7:00 a.m. to 6:00 p.m.

The stations with the most northbound boardings are South Campus (8,430), University (4,860), and Churchill (4,230). The stations with the largest northbound arrival loads are Stadium (12,120), Coliseum (10,860) and Churchill (10,600). The station with the least northbound boardings is Stadium (440).

**Table 2: Northbound Boardings, Passenger Loads, and Ranking**

Northbound Boardings 7:00 a.m. - 6:00 p.m.			Northbound Passenger Loads 7:00 a.m. - 6:00 p.m.		
Station	Boarding	Ranking	Station	Arrival Load	Ranking
South Campus	8,430	1	South Campus		
McKernan/Belgravia	1,190	8	McKernan/Belgravia	8,430	11
Health Science	1,870	6	Health Science	9,520	10
University	4,860	2	University	10,110	6
Grandin	900	10	Grandin	9,620	8
Corona	2,990	4	Corona	9,600	9
Bay/Enterprise Square	1,680	7	Bay/Enterprise Square	10,320	5
Central	2,120	5	Central	10,430	4
Churchill	4,230	3	Churchill	10,600	3
Stadium	440	12	Stadium	12,120	1
Coliseum	950	9	Coliseum	10,860	2
Belvedere	500	11	Belvedere	9,710	7
Clareview			Clareview	6,940	12

## ***LRT RIDERSHIP: AM PEAK HOUR – 7:12 a.m. - 8:11 a.m.***

The LRT Ridership Flow Map 2, found at the end of the report, describes the 2009 LRT passenger loads between stations, the boardings and alightings at each station and the maximum load point during the AM Peak Hour. The AM Peak Hour is defined as the highest volume hour between the hours of 7:00 a.m. to 9:00 a.m. In 2009, this occurred between 7:12 a.m. to 8:11 a.m.

### ***SCREENLINES AND MAXIMUM LOAD POINTS –AM PEAK HOUR***

The maximum load point of the Northeast line is the link between Stadium and Churchill Stations. In 2009, the LRT carried 4,380 southbound passengers and 240 northbound passengers in this link during the AM Peak Hour. In comparison to 2008, there were 4,150 southbound passengers and 250 northbound passengers. Overall, there were 220 more passengers at this maximum load point in 2009, an increase of 5.0%.

The maximum load point of the new South line is the link between McKernan/Belgravia and Health Sciences Stations. In 2009, the LRT carried 2,560 northbound passengers and 260 southbound passengers in this link during the AM Peak Hour.

The river crossing screenline is the link between University and Grandin Stations. In 2009, the LRT carried 2,180 southbound passengers and 1,270 northbound passengers in this link during the AM Peak Hour. In comparison, in 2008 there were 2,100 southbound passengers and 900 northbound passengers. Overall, there were 450 more passengers at this maximum load point in 2009, an increase of 15%.

### ***SOUTHBOUND STATION BOARDINGS AND ARRIVAL LOADS – AM PEAK HOUR***

The stations with the most southbound boardings are Clareview (2,820), Belvedere (1,020) and Stadium/Churchill (480 each). The stations with the largest southbound arrival loads are Churchill (4,380), Central (3,960) and Stadium (3,940). The station with the least southbound boardings is McKernan/Belgravia (20).

### ***NORTHBOUND STATION BOARDINGS AND ARRIVAL LOADS – AM PEAK HOUR***

The stations with the most northbound boardings are South Campus (2,280), McKernan/Belgravia (290), and Health Science (190). The stations with the largest northbound arrival loads are Health Science (2,560), University (2,400) and McKernan/Belgravia (2,280). The station with the least northbound boardings is Belvedere (40).



## ***LRT RIDERSHIP: PM PEAK HOUR – 4:04 p.m. - 5:03 p.m.***

The LRT Ridership Flow Map 3, found at the end of the report, describes the 2009 LRT passenger loads between stations, the boardings and alightings at each station and the maximum load point during the PM Peak Hour. The PM Peak Hour is defined as the highest volume hour between the hours of 4:00 p.m. to 6:00 p.m. In 2009, this occurred between 4:04 p.m. to 5:03 p.m.

### ***SCREENLINES AND MAXIMUM LOAD POINTS – PM PEAK HOUR***

The maximum load point of the Northeast line is the link between Churchill and Stadium Stations. In 2009, the LRT carried 3,790 northbound passengers and 490 southbound passengers in this link during the PM Peak Hour. In comparison to 2008, there were 3,650 northbound passengers and 450 southbound passengers. Overall, there were 180 more passengers at this maximum load point in 2009, an increase of 4.3%.

The maximum load point of the new South line is the link between McKernan/Belgravia and Health Sciences Stations. In 2009, the LRT carried 2,080 southbound passengers and 300 northbound passengers in this link during the PM Peak Hour.

The river crossing screenline is the link between University and Grandin Stations. In 2009, the LRT carried 1,400 southbound passengers and 1,520 northbound passengers in this link during the PM Peak Hour. In comparison, 2008 there were 1,850 northbound passengers and 950 southbound passengers. Overall, there were 120 more passengers at this maximum load point in 2009, an increase of 4.2%.

### ***SOUTHBOUND STATION BOARDINGS AND ARRIVAL LOADS – PM PEAK HOUR***

The stations with the most southbound boardings are University (780), Health Science (330), and Corona (300). The stations with the largest southbound arrival loads are McKernan/Belgravia (2,080), South Campus (1,920) and Health Science (1,900). The station with the least southbound boardings is McKernan/Belgravia (10).

### ***NORTHBOUND STATION BOARDINGS AND ARRIVAL LOADS – PM PEAK HOUR***

The stations with the most northbound boardings are Churchill (1,040), Corona (920), and University (890). The stations with the largest northbound arrival loads are Stadium (3,790), Coliseum (3,370), and Churchill (3,140). The station with the least northbound boardings is Belvedere (40).

## **AVERAGE TRAIN CAR LOADS DURING PEAK PERIODS**

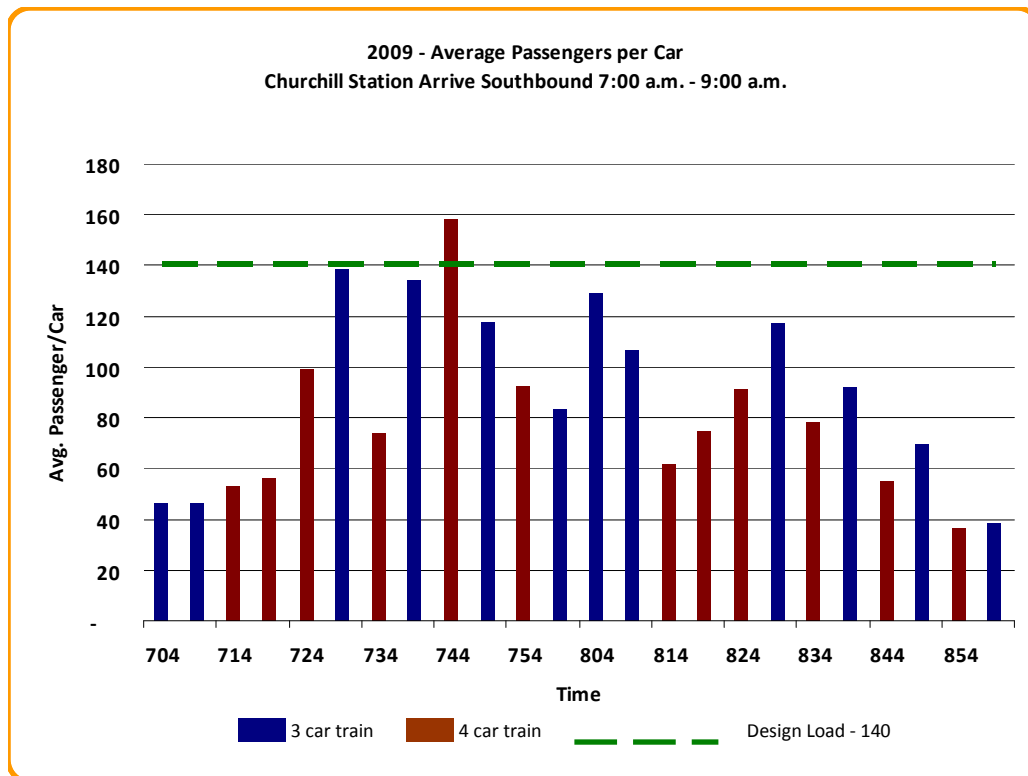
An analysis of the LRT train loads arriving and departing at Churchill, University and Health Science stations in the A.M. and P.M. Peak Periods was conducted to determine the average passengers per car. The A.M. peak period is defined as 7:00 a.m. to 9:00 a.m. The P.M. peak period is defined as 4:00 p.m. to 6:00 p.m. The Light Rail Vehicle (LRV) as used by ETS has a design capacity of 140 passengers with 64 passengers sitting and 76 passengers standing.

### **A.M. PEAK PERIOD – CHURCHILL STATION ARRIVE SOUTHBOUND**

Figure 2 summarizes the average passengers per car at Churchill station arriving southbound in the AM Peak Period. The key findings are:

- One train exceeded the design capacity of 140 passengers per car (158 passengers at 7:44 a.m.).
- 7 trains had an average of 100 or more passengers per car.
- Average load was 85 passengers per car.
- 24 trains traveled during the AM Peak Period, 12 were 3 car trains and 12 were 4 car trains.

**Figure 2: Passengers per Car – Churchill Station Arrive Southbound**

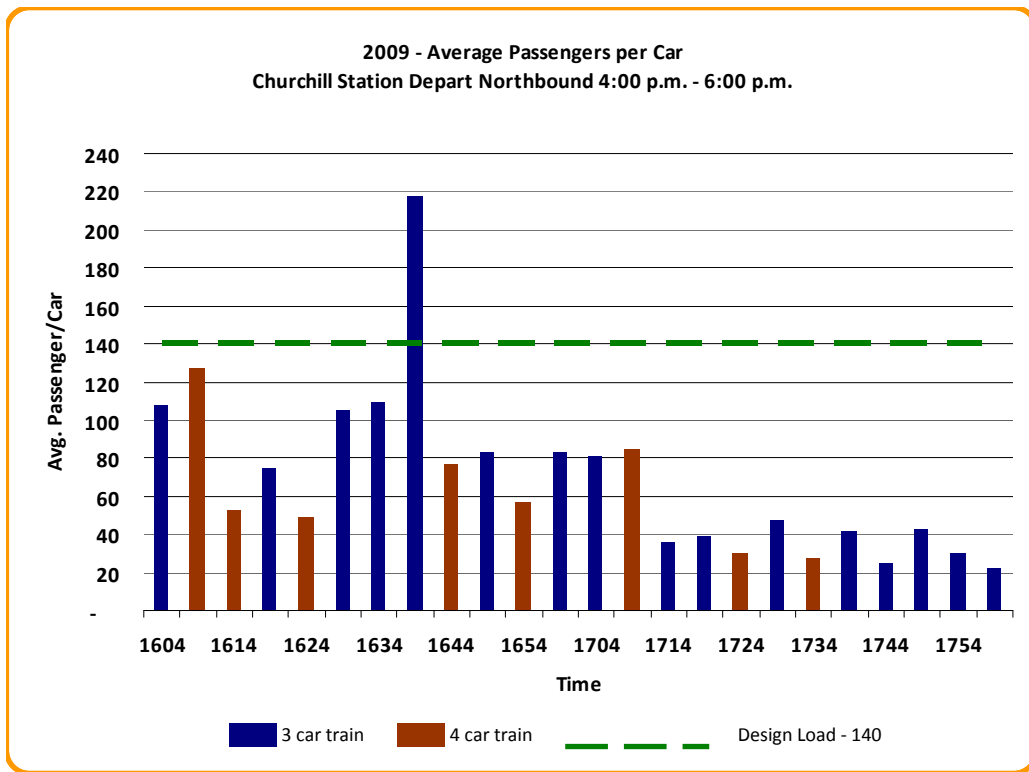


### **P.M. PEAK PERIOD – CHURCHILL STATION DEPART NORTHBOUND**

Figure 3 summarizes the Average Passengers per Car at Churchill station departing northbound in the PM Peak Period. The key findings are:

- One train exceeded design capacity of 140 passengers per car (217 passengers at 4:39 p.m.).
- 5 trains had an average of 100 or more passengers per car.
- Average load was 69 passengers per car.
- 24 trains traveled during the PM Peak Period, 16 were 3 car trains and 8 were 4 car trains.

**Figure 3: Passengers per Car – University Station Depart Northbound**

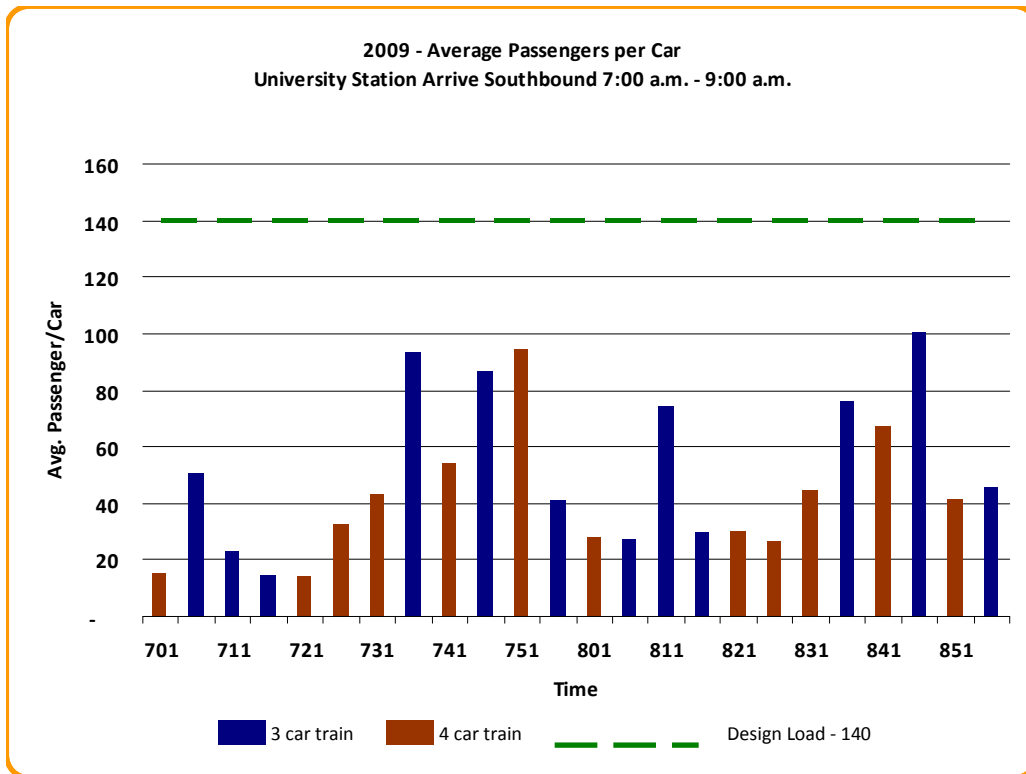


## A.M. PEAK PERIOD – UNIVERSITY STATION ARRIVE SOUTHBOUND

Figure 4 summarizes the average passenger per car at University station arriving southbound in the AM Peak Period. The key findings are:

- All trains arriving at University station are below the design capacity of 140 passengers per car.
- 1 train had an average of 100 or more passengers per car.
- Average load was 48 passengers per car.
- 24 trains traveled during the AM Peak Period, 12 were 3 car trains and 12 were 4 car trains.

**Figure 4: Passengers per Car – University Station Arrive Southbound**

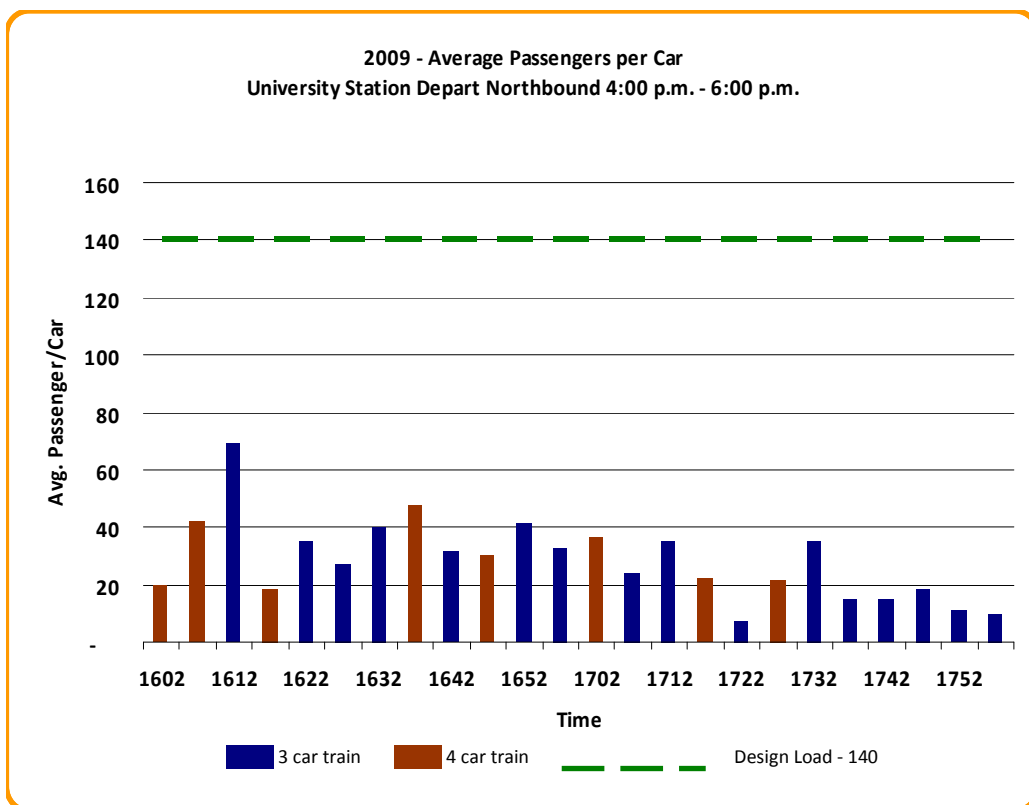


## P.M. PEAK HOURS – UNIVERSITY STATION DEPART NORTHBOUND

Figure 5 summarizes the Average Passengers per Car at University station departing northbound in the PM Peak Period. The key findings are:

- ▣ No train exceeded design capacity of 140 passengers per car.
- ▣ Average load was 29 passengers per car.
- ▣ There were 24 trains, 16 with 3 cars and 8 trains with 4 cars.

Figure 5: Passengers per Car – University Station Depart Northbound

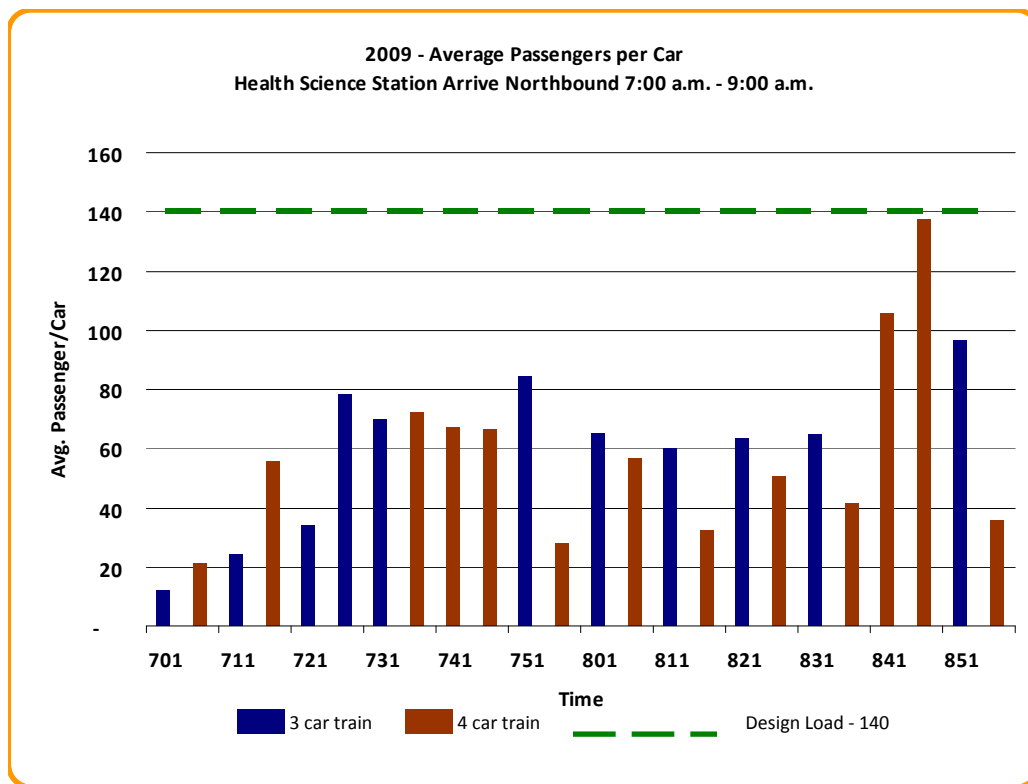


## A.M. PEAK PERIOD – HEALTH SCIENCE STATION ARRIVE NORTHBOUND

Figure 6 summarizes the average passenger per car at Health Science station arriving northbound in the A.M. Peak Period. The key findings are:

- All trains arriving at Health Science station are below the design capacity of 140 passengers per car.
- 2 trains had an average of 100 or more passengers per car.
- Average load was 59 passengers per car.
- 24 trains traveled during the AM Peak Period, 11 were 3 car trains and 13 were 4 car trains.

**Figure 6: Passengers per Car – Health Science Station Arrive Northbound**

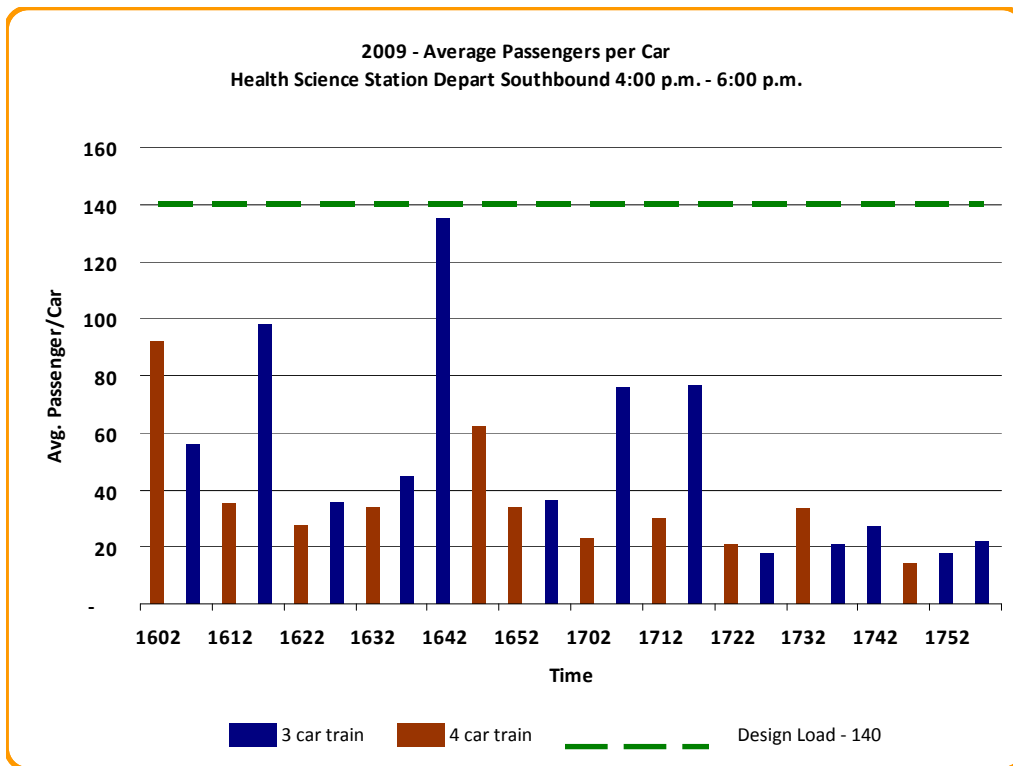


## P.M. PEAK HOURS – HEALTH SCIENCE STATION DEPART SOUTHBOUND

Figure 7 summarizes the Average Passengers per Car at Health Science station departing southbound in the P.M. Peak Period. The key findings are:

- ▣ No train exceeded design capacity of 140 passengers per car.
- ▣ 1 train had an average of 100 or more passengers per car.
- ▣ Average load was 45 passengers per car.
- ▣ There were 24 trains, 13 with 3 cars and 11 trains with 4 cars.

**Figure 7: Passengers per Car – Health Science Station Depart Southbound**



## **PARK'n'RIDE LOT USAGE**

The fall survey conducted in September of 2009 is used to provide information on Park'n'Ride lot usage. It is compared to the previous fall surveys of 2007 and 2008 in order to generate a year by year analysis. The numbers of vehicles parked are calculated as the average of the Wednesday and Thursday counts.

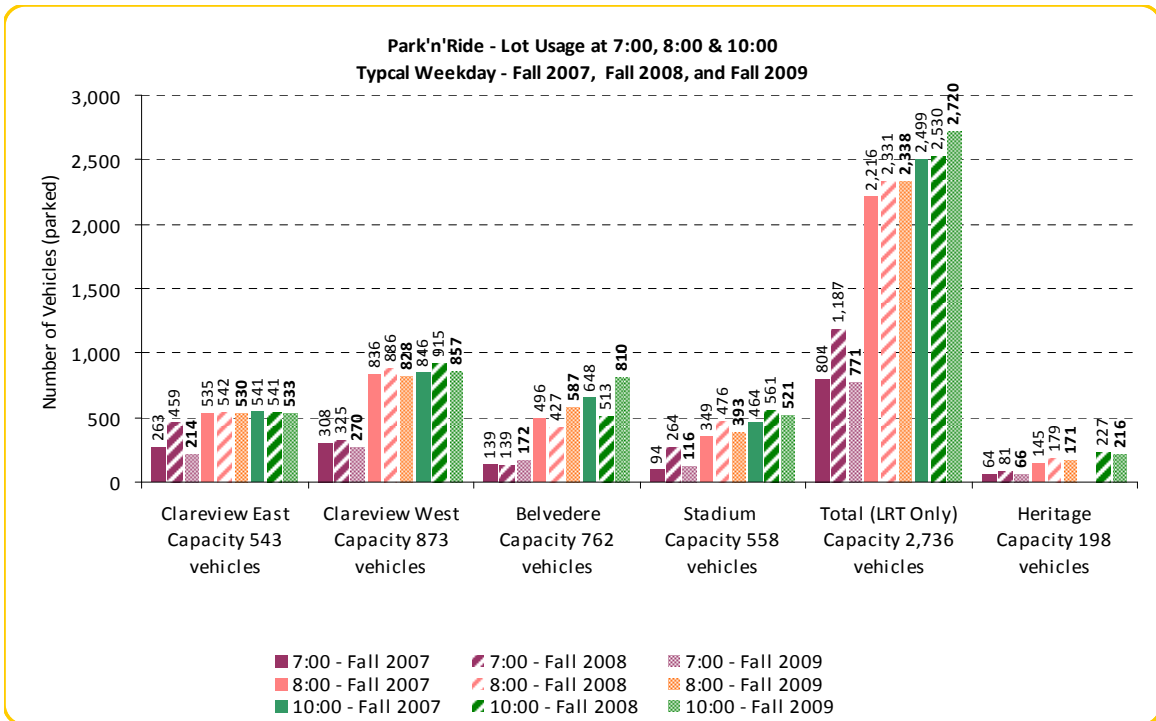
As is shown in Figure 8, all Park'n'Ride sites are well utilized. At 10:00 a.m. the four LRT lots were at near 100% capacity based on the available spaces for 2,736 vehicles. There were 190 more vehicles when compared to the fall count in 2008, a 7% increase and 221 more vehicles when compared to fall count in 2007, an 8% increase.

At 8:00 a.m. there were 2,338 vehicles parked in the four LRT sites utilizing 85% of the available spaces showing an increase of 7 vehicles (0.3%) from the fall count in 2008 and 122 more vehicles (6%) from the fall count in 2007.

At 7:00 a.m. there were 771 vehicles parked in the four LRT sites utilizing 28% of the available spaces showing a decrease of 416 vehicles (35%) from the fall count in 2008 and a decrease of 33 vehicles (4%) from the fall count in 2007.

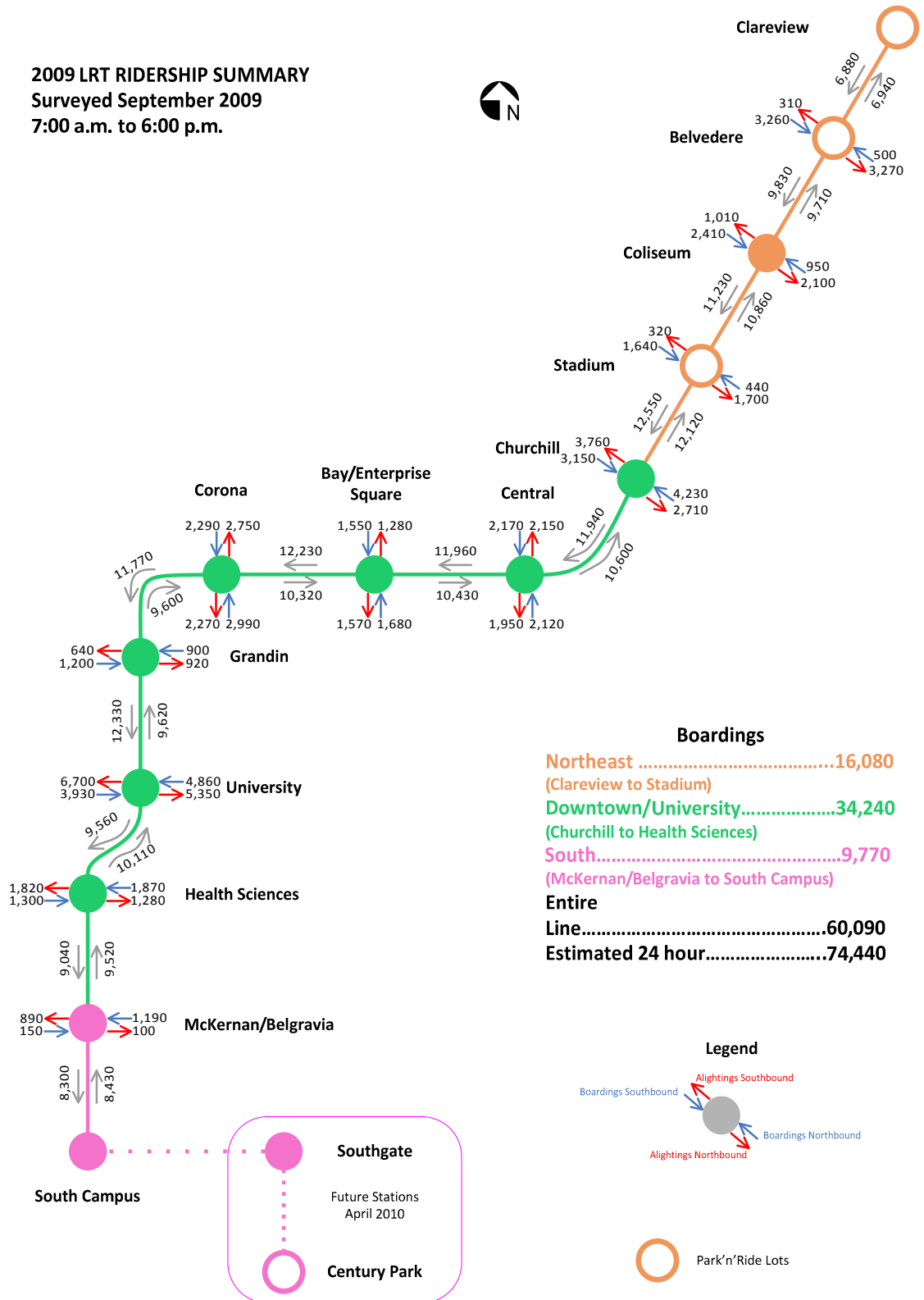
At 10:00 a.m. the Heritage Lot had 216 vehicles parked utilizing 108% of the available spaces. Although the lot was being over utilized, this is a decrease of 12 vehicles (5%) from the fall count in 2008.

**Figure 8: Park'n'Ride – Accumulation at 7:00 a.m., 8:00 a.m., and 10:00 a.m.**





**2009 LRT RIDERSHIP SUMMARY**  
 Surveyed September 2009  
 7:00 a.m. to 6:00 p.m.

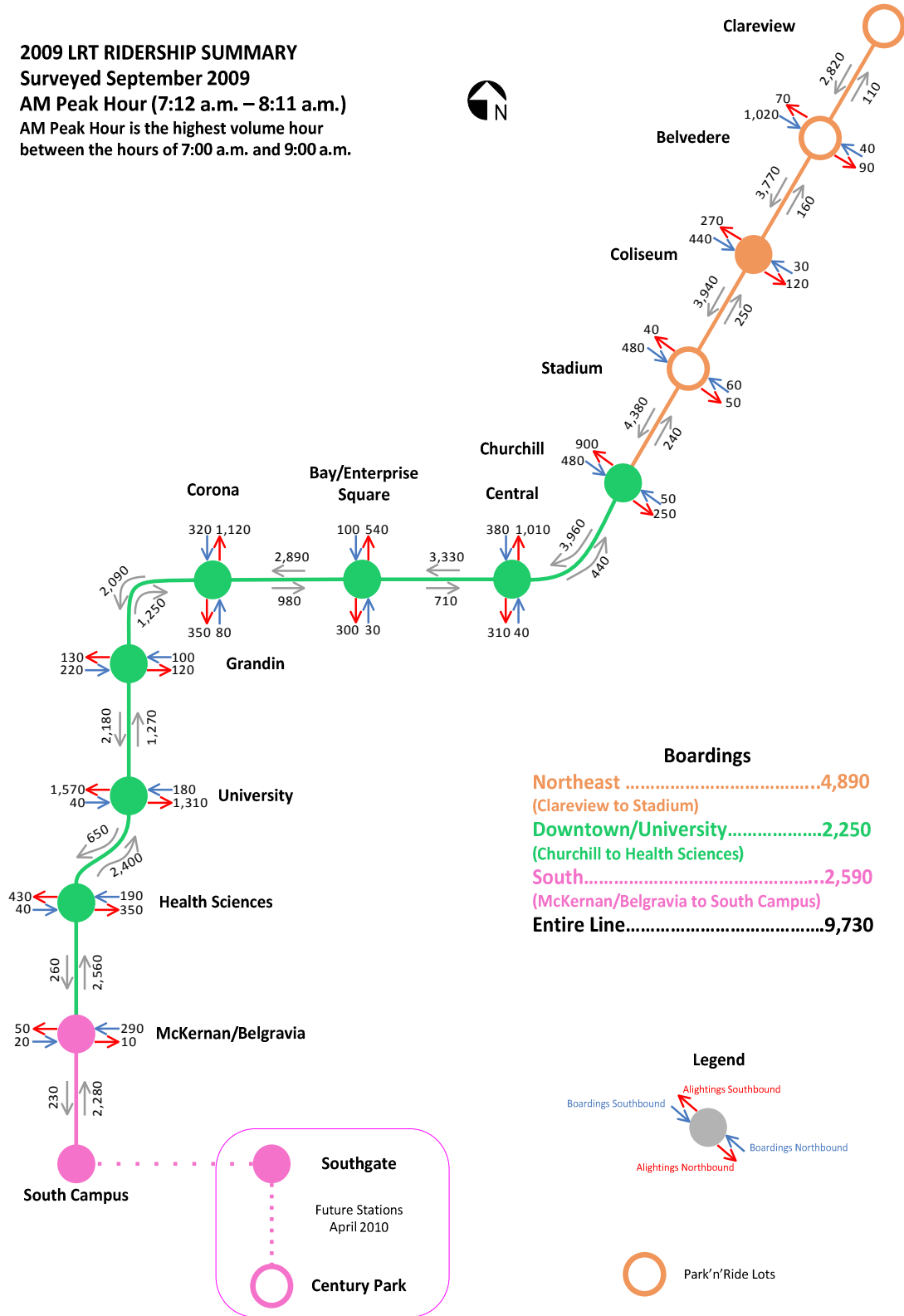


**Boardings**

Northeast .....	16,080
(Clareview to Stadium)	
Downtown/University.....	34,240
(Churchill to Health Sciences)	
South.....	9,770
(McKernan/Belgravia to South Campus)	
<b>Entire</b>	
Line.....	60,090
Estimated 24 hour.....	74,440

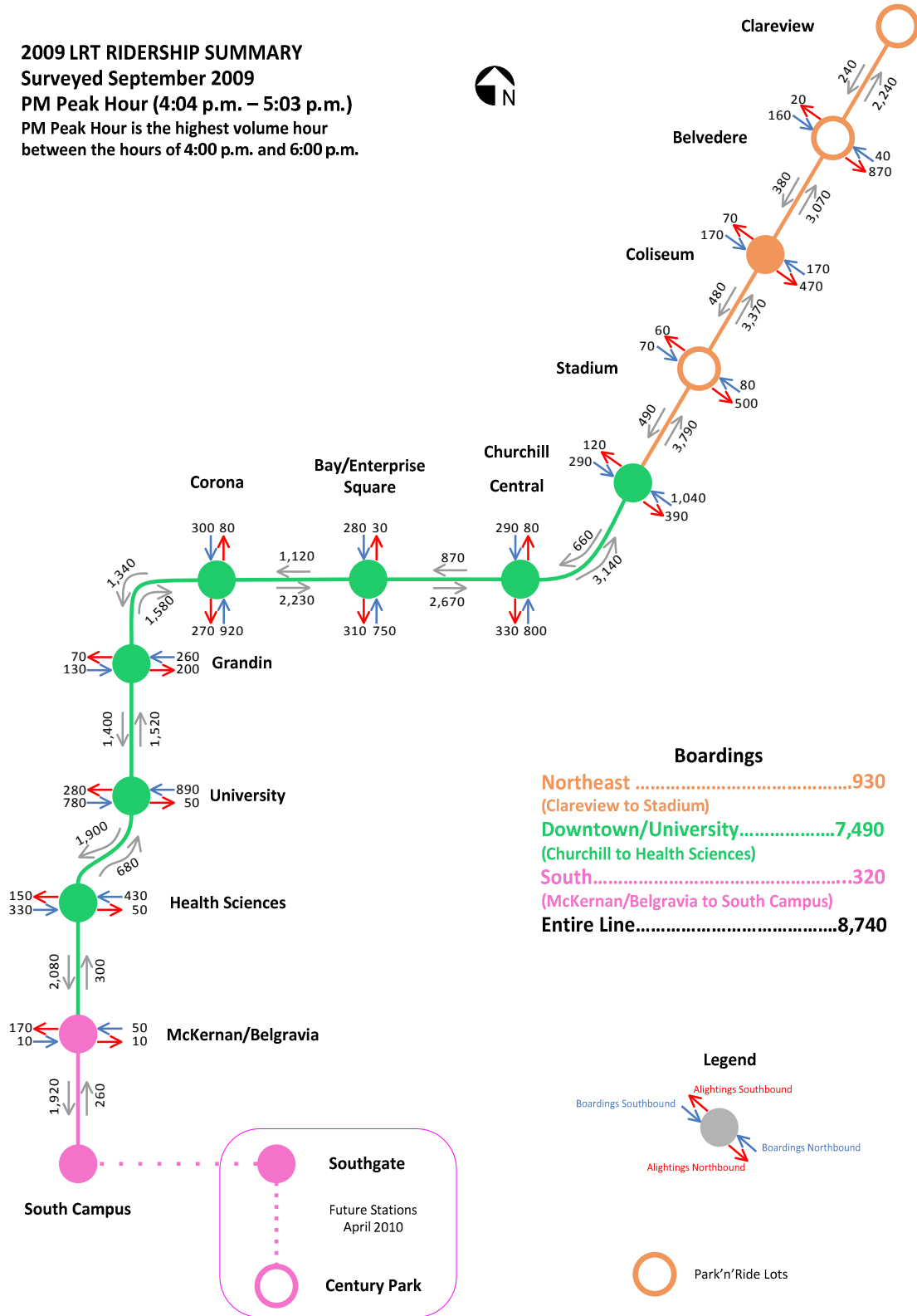
**LRT Flow Map 1: LRT Ridership (7:00 a.m. – 6:00 p.m)**

**2009 LRT RIDERSHIP SUMMARY**  
**Surveyed September 2009**  
**AM Peak Hour (7:12 a.m. – 8:11 a.m.)**  
 AM Peak Hour is the highest volume hour  
 between the hours of 7:00 a.m. and 9:00 a.m.



**LRT Flow Map 2: LRT Ridership – AM Peak Hour**

**2009 LRT RIDERSHIP SUMMARY**  
**Surveyed September 2009**  
**PM Peak Hour (4:04 p.m. – 5:03 p.m.)**  
 PM Peak Hour is the highest volume hour  
 between the hours of 4:00 p.m. and 6:00 p.m.



**LRT Flow Map 3: LRT Ridership – PM Peak Hour**

## ***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 ten 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 every year. Year to Year changes may be due to random events such as weather, accidents, or changes to service delivery. It is impossible to achieve complete accuracy and consistency of the reported data.

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