

# Memorandum

To: [REDACTED]  
From: [REDACTED]  
Date: 16 December 2014  
Subject: 007 Investigation: Greenlane as a destination vs customer route demand.

## Background:

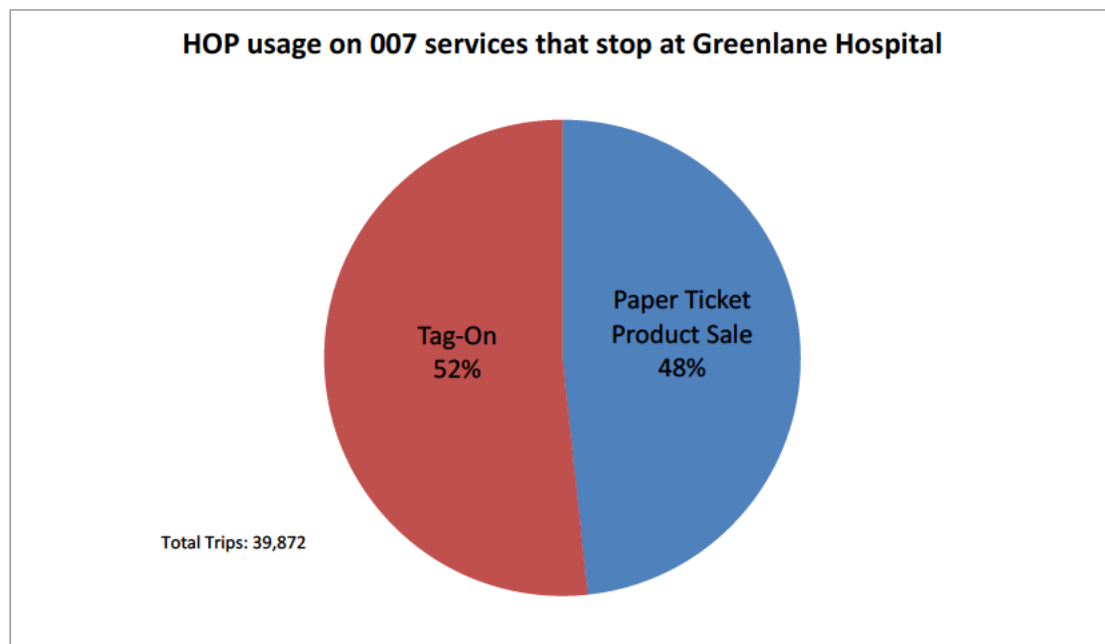
The 007 was investigated due to on-going conversations on route variants. Currently the 007 serves Greenlane Clinical Centre by going into the hospital grounds and using the bus stops present there. There has been on-going discussion if the 007 needs to serve Greenlane Clinical Centre by going into the hospital grounds, or to straighten the route and use the stops outside the Greenlane Clinical Centre on Greenlane West Road. The investigation was carried out to see the customer demand of Greenlane Clinical Centre as a destination on the route versus the route demand/other destinations on the route.

## Method:

Data for analysis will be gathered in two forms:

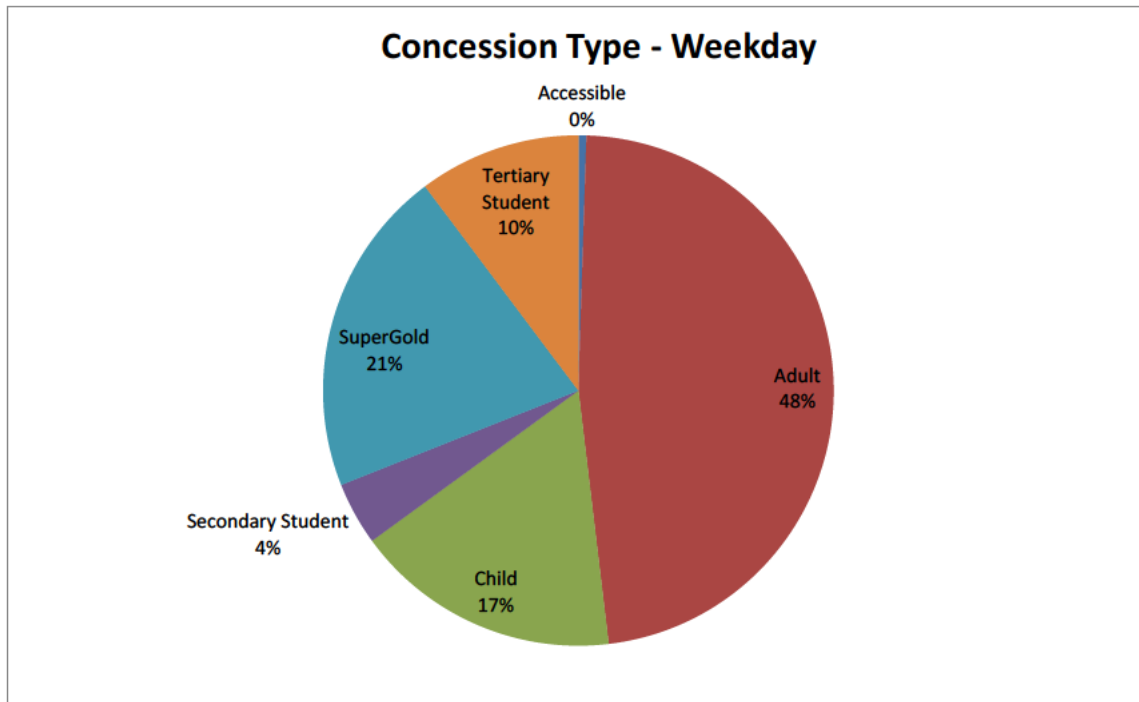
- Quantitative Data : AT Hop Data  
AT Hop data will be extracted from Business Objects reports to provide data on concession types, time of day patronage, time of day passenger type and boarding and alighting for each stop on the 007 route.
- Qualitative Data: Visual observations  
The 007 will be travelled at different times during the day to visually see the customer demand, key boarding/alighting destinations on route, current patterns and what is generally occurring.

## General Route Level Investigations:



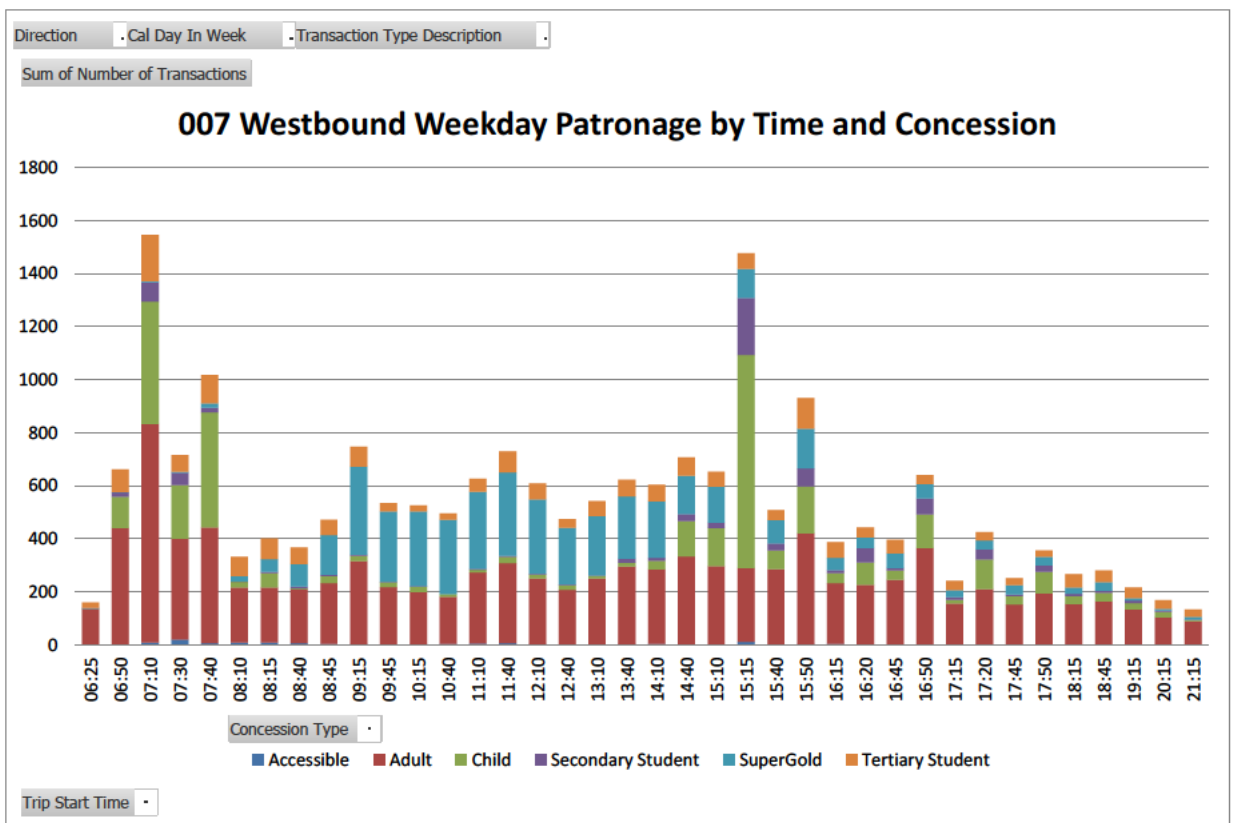
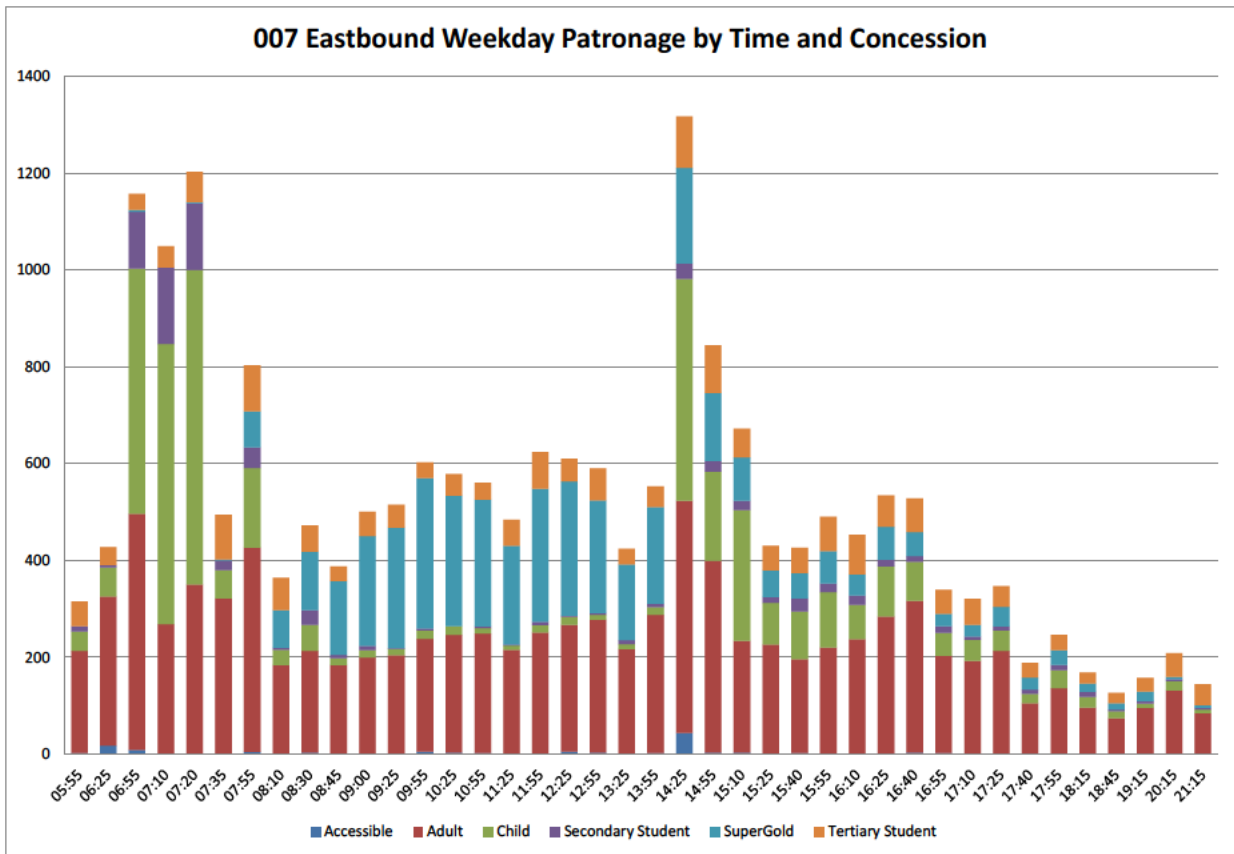
# Memorandum

The 007 has a mix of concession types, with 52% having a concession of some form. Super Gold cards and School fares are especially important.



The concession types vary significantly throughout the day. At school times, child/school concessions can make up over half of all patronage. The route serves a number of schools, with significant ones being Remuera Intermediate, Glendowie College, Sacred Heart and St Heliers School. Between 9am and 2pm SuperGold concessions make up nearly half of all trips.

# Memorandum



# Memorandum

The busiest stop is 170 Green Lane West, which is on the corner with Great South Road. This is the busiest stop for westbound services, and the opposite stop is the fifth busiest for eastbound services.

The other most important stops for westbound services are Glen Innes, Greenlane Clinical Centre and St Lukes.

The most important stops for eastbound services are St Lukes, Glen Innes, Point Chevalier, Balmoral Road (corner of Dominion) and 126 Carrington Road (Unitec).

## Boardings on Westbound 007 services that run via the hospital

Westbound Stop Name	Boardings
170 Greenlane West	3585
250 Taniwha St	1550
Greenlane Clinical Centre Building 17	1488
Outside St Lukes Mall	1299
405 Tamaki Dr	956
Opp 189 Balmoral Rd	911
24 Crossfield Rd	854
155 Mt Albert Rd	756
Greenlane West and Manukau Rd	739
Crossfield Rd opp Aragon Ave	558
Merton Rd near Morrin Rd	429
22 Pt Chevalier Rd	387
Opp 151 St Heliers Bay Rd	343
Opp 186 West Tamaki Rd	316
533 Remuera Rd	309
16 Riddell Rd	300
761 Remuera Rd	293
82 Riddell Rd	259
45 St Johns Rd	256
193 Carrington Rd	244
Opp 127 Crossfield Rd	239
Greenlane West near Greenlane Hospital	221
Greenlane West and The Drive	218
91 St Johns Rd	213
3 Strong St	194

## Boardings on Eastbound 007 services that run via the hospital

Eastbound Stop Name	Boardings
Outside St Lukes Mall	2106
235 Taniwha St	1629
39 Pt Chevalier Rd	1451
Balmoral Rd near Potters Park	1413
126 Carrington Rd	1331
175 Greenlane West	1083
Greenlane Clinical Centre Building 17	1039
10 Mt Albert Rd	957
50 Carrington Rd	547
39 Greenlane East	461
Greenlane West and Manukau Rd	455

# Memorandum

146 Mt Albert Rd	414
275 Balmoral Rd	404
203 Pt Chevalier Rd	372
61 Balmoral Rd	341
Pt Chevalier Rd outside Coyle Park	300
582 Remuera Rd	244
102 St Johns Rd	236
198 Carrington Rd	227
Greenlane West near Expo Centre	213
Carrington Rd near Segar Ave	210
786 Remuera Rd	206
295 Pt Chevalier Rd	199
69 Fowlds Ave	182
Shaftesbury Ave inside Selwyn Village	175

## Greenlane Clinical Centre Investigations:

The busiest alighting stops for people boarding at Green Lane Clinical Centre are 175 Greenlane West (corner of Great South Road), 3 Mt Albert Road (Mt Albert centre), Opp 189 Balmoral Road (Cnr of Dominion Rd), St Lukes Mall and 235 Taniwha St (Glen Innes).

The proportion of people on the 007 who get off at the hospital, vs the proportion that stay on the bus through the hospital has been measured to look at how many are inconvenienced by the hospital detour.

To do this the route has been split up into 3 segments. For the westbound routes the first segment is everywhere between St Heliers and the last stop before the hospital, segment 2 is just the Greenlane Clinical Centre and segment 3 is all stops east between Greenlane Clinical Centre and Point Chevalier. For the eastbound routes this order is reversed.

Note: this data is only created for trips using AT HOP, not for paper tickets. AT HOP use overall on the route is 52%. However, for people boarding at Green Lane, AT HOP use is only 41%. So there is a risk that these figures understate the usage of Green Lane Clinical Centre by about a third.

## Westbound services that divert via Greenlane Hospital

Boarding vs Alighting Segment	1 - Boarding East of Hospital	2 - Boarding at Hospital	3 - Boarding West of Hospital	Total
1 - Alighting East of Hospital	2820			2823
2 - Alighting at Hospital	273			273
3 - Alighting West of Hospital	3534	586	2794	6914
<b>Total</b>	<b>6627</b>	<b>586</b>	<b>2794</b>	<b>10010</b>

8.8% of people who are on Westbound services at Greenlane Hospital get off at the Hospital. 91.2% of people stay on.

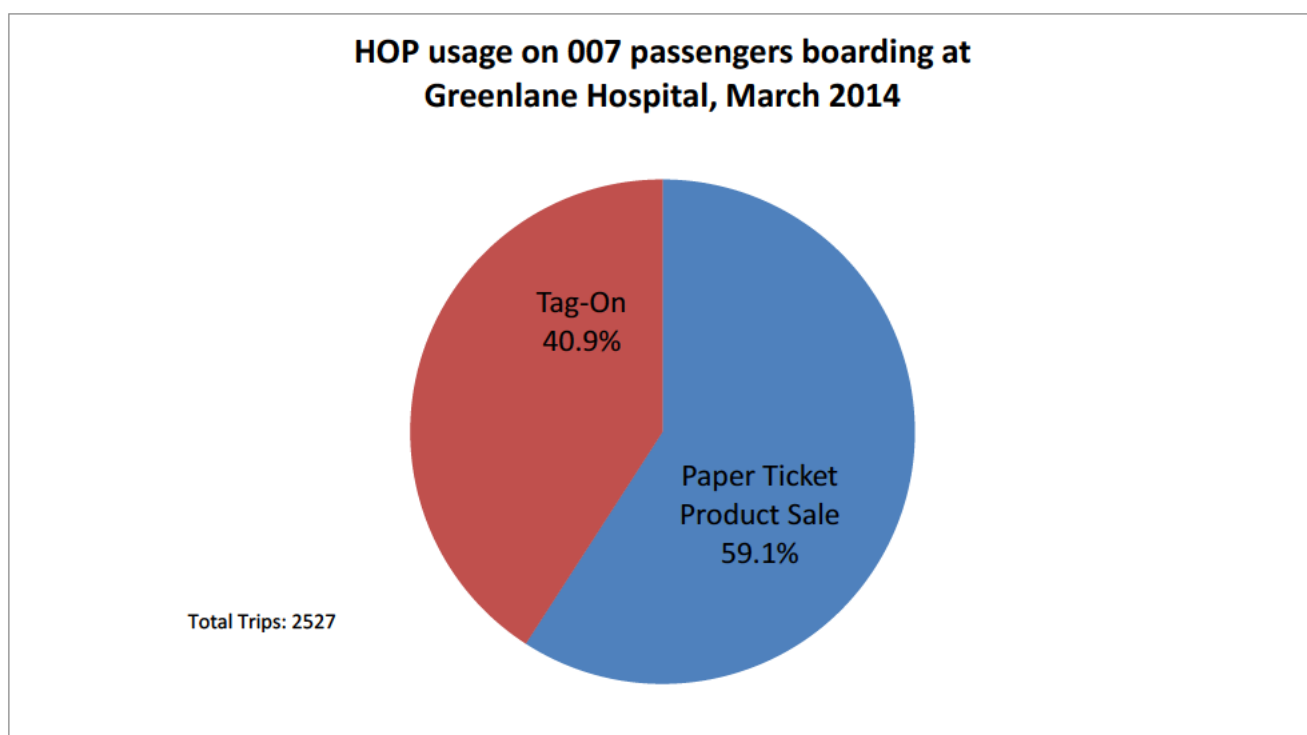


# Memorandum

## Eastbound services that divert via Greenlane Hospital

Boarding vs Alighting Segment	1 - Boarding West of Hospital	2 - Boarding at Hospital	3 - Boarding East of Hospital	Total
1 - Alighting West of Hospital	2992			2992
2 - Alighting at Hospital	591			591
3 - Alighting East of Hospital	3223	421	3024	6668
<b>Total</b>	<b>6806</b>	<b>421</b>	<b>3024</b>	<b>10251</b>

15.5% of people who are on Eastbound services at Greenlane Hospital get off at the Hospital. 84.5% of people stay on.

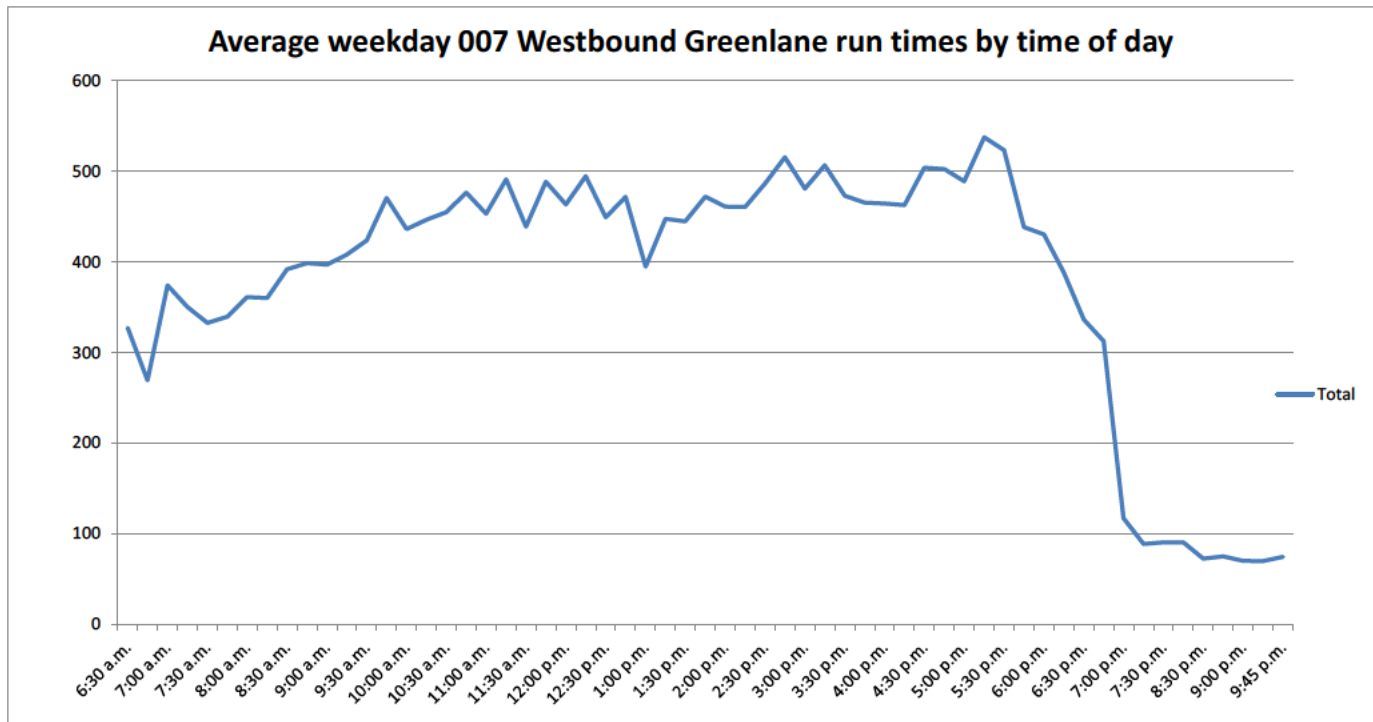


### Greenlane Clinical Centre Timing - current:

There is concern at the length of time it takes for the bus to travel around Greenlane Hospital. Using the RAPID data travel times has been measured from the stop immediately before Greenlane Clinical centre, to the stop immediately after.

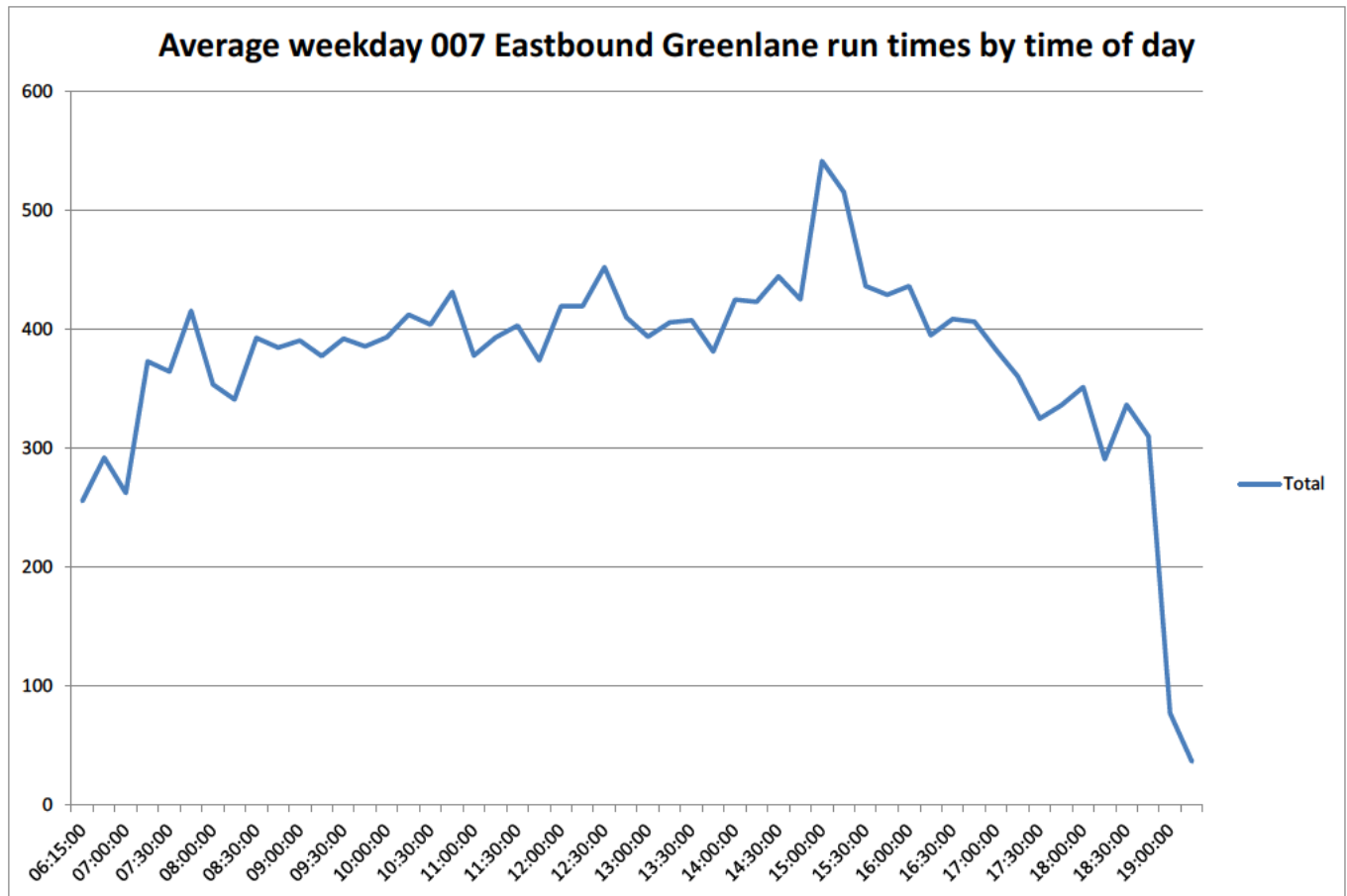
For Westbound trips the time is generally consistent throughout the day, with 450 - 500 second average from soon after 10am to 6pm, and a decline to 300 seconds until 7pm. Bus route variations that do not stop at the hospital average 80 seconds. However, note that this is only in evenings/weekends when traffic is generally not congested. Note: for Westbound trips this measure also includes the Green Lane/Manukau Road lights, which means the times could be overstated by 1 – 2 minutes.

# Memorandum



For Eastbound trips the time is generally consistent throughout the day, with 400 second average from soon after 7am to 4.30pm, and a decline to 300 seconds until 7pm. Bus route variations that do not stop at the hospital average 60 – 70 seconds. However, note that this is only in evenings/weekends when traffic is generally not congested.

# Memorandum



## Greenlane Clinical Centre Timing – proposed:

Earlier this year, a new bus stop location was identified within Greenlane Clinical Centre, to reduce the length of time buses spent to serve the clinical centre as a destination.

From the left turn at Green Lane West intersection to the proposed stop outside Greenlane Clinical Centre (image below), it took 42 seconds – given there was a green light for the left turn. It took 2.02 minutes from the proposed stop, around the roundabout and back out onto Green Lane West. The most time consuming aspect was getting past the barriers at Greenlane Clinical Centre. The entire detour took roughly 3-4 minutes. The bus did stop at the proposed stop for 1 alighting and 3 people boarded at the current stop.



# Memorandum



Red circle proposed bus stop location.

## Observations:

To ground proof the HOP data several observations runs have been taken, two westbound and one eastbound.

### Westbound Observation One:

The westbound trip was a 10:15 departure from St Heliers. The trip started on time. Patronage gradually built up along the route, with the maximum load point of 10 being reached at 170 Green Lane West, and continued through to Sandringham Road. Overall 27 people used the trip. The busiest stop was 170 Green Lane (corner Great South Road) where 3 people alighted, and 6 boarded.

The Green Lane Hospital detour took 5 minutes, 25 seconds from Green Lane, back onto Green Lane, and 6 minutes 10 seconds until the next stop (to match the above graph).

The Selwyn Village detour took 4 minutes from Point Chevalier Road, back onto Point Chevalier Road. 1 person got off, and no one got on.

There were issues with bus stop space at Point Chevalier beach. Both the 030 and 007 leave at exactly the same time, however bus bay only one bus long. Similar issues along Point Chevalier Road.

Bus drivers do not use the small bus lane outside St Lukes, leading to the the Wagener Place intersection, where buses turn right to access the main St Lukes Stop. Lane not used

# Memorandum

as buses need to access left hand queuing lane on Wagener Place, and suspect access from bus lane usually blocked by queuing traffic.

Euston Road/ Fowlds Avenue rather narrow residential streets, where the ADL seemed oversized for the streets.



A brief conversation with the driver at end of the run revealed following points. He said most of the Green Lane passengers were patients, and he thought they really wanted to the bus to go inside the hospital. He also noted issues with timing, for example 2 minutes from Point Chevalier Beach to Selwyn Village is impossible, so route gets behind time very quickly.

## Westbound Observation Two:

Another west bound trip was observed on the 12.10 timetabled services departing from St Heliers. However, the run was 20 minutes and I boarded at 12.30. To note: there was also a scheduled service at 12.40, causing confusion amongst customers waiting for the 12.40pm service – thinking the service was 10 minutes early.

Overall, 36 people used the 12.10 service and the driver did mention the run stopped more than usual due to significant time delays on the day. The most number of people boarded at the start of the route at Tamaki Drive and further along at Glenn Innes (5 people). St Johns Rd, Greenlane Clinical Centre and Pt Chevalier shops all had 3 boarding's. In general, the run has a consistent flow of people boarding, alighting and making short trips.

Drivers found it difficult to pull out of stop 8067, Greenlane West by Greenlane Hospital into the live lane, as bus stop is slightly indented and there was high traffic volumes moving past. This further added to the time delay.

A similar situation was witnessed on this run as the 10.15 service. Drivers were not using the small bus lane provided at Wagener Intersection.

# Memorandum

Buses found it difficult to turn right into Walker Rd when cars are stacked at the intersection. This forces the bus against the kerb and there is also a large tree present on the corner causing an obstruction as drivers try avoiding it whilst making the right turn.

The Selwyn Village detour took 4-5 minutes and only 1 person alighted with no boarding, similar to the 10:15 service.

There seems to be bus stop issues as mentioned earlier, at the end of the route at Point Chevalier beach. Due to being a summer's day, car park was full of cars and people making the manoeuvre difficult. Buses used for the school trips to the beach were also parked in the bus stop and layover space for the 007. The overcrowding witnessed at beach could be a seasonal variation.

The eastbound service was timetabled to start at 13:25 but actually started at 13:44.

Drivers comments included, the route constantly having reliability issues and sometimes unnecessary detours. For example, a suggestion, when dropping people off at Selwyn Village, boarding could take place at the same time. Therefore, saving time on the east bound run by not detouring through Selwyn Village again to pick up passengers.

## Eastbound:

I caught the service timetabled to depart Point Chevalier Beach at 16:40. The Eastbound trip started its run 18 minutes late according to RAPID data. I boarded at Point Chevalier at 17.04pm, when it should have arrived at 16:45. The trip had a maximum load of 17, reached at the corner of Balmoral and Sandringham Roads. Overall 23 people used the service. The busiest stop was St Lukes where 7 people got on, and 2 got off.

The late running of the service meant that it was overtaken by the 16:55 trip at Manukau Road, however this bus must have been following the 16:40 for some time. There was no communication between the drivers that meant one bus could run express or not do the hospital detour.

At Greenlane Hospital the turnaround took 4 minutes from Green Lane, back onto Green Lane. However the bus took a short cut, travelling in front of the main hospital entrance, rather than the full loop around the back of the hospital. The largest cause of the delay was 1 minute 30 seconds waiting for the right turn arrow into the hospital.

## **Conclusion:**

The 007 has multiple route variations, including more than one detour on the route and although the detours may add to time delays, they serve a social need and have customer demand. This is where the debate lies.

The bus stop location and movement proposed within Greenlane Clinical Centre reduces the time spent by buses on hospital grounds significantly.

There is a general flow of boarding and alighting throughout the route with most people making short trips. However, certain destinations have higher demand based on time of day and customer demand.

There are other issues on the route besides Greenlane Clinical Centre and may need to be explored further. For example, reliability issues, Selwyn Village detour, bus stop capacity versus seasonal variation at Point Chevalier Beach and some pinch points created at intersections for buses turning and narrow streets for an ADL.

# Memorandum

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