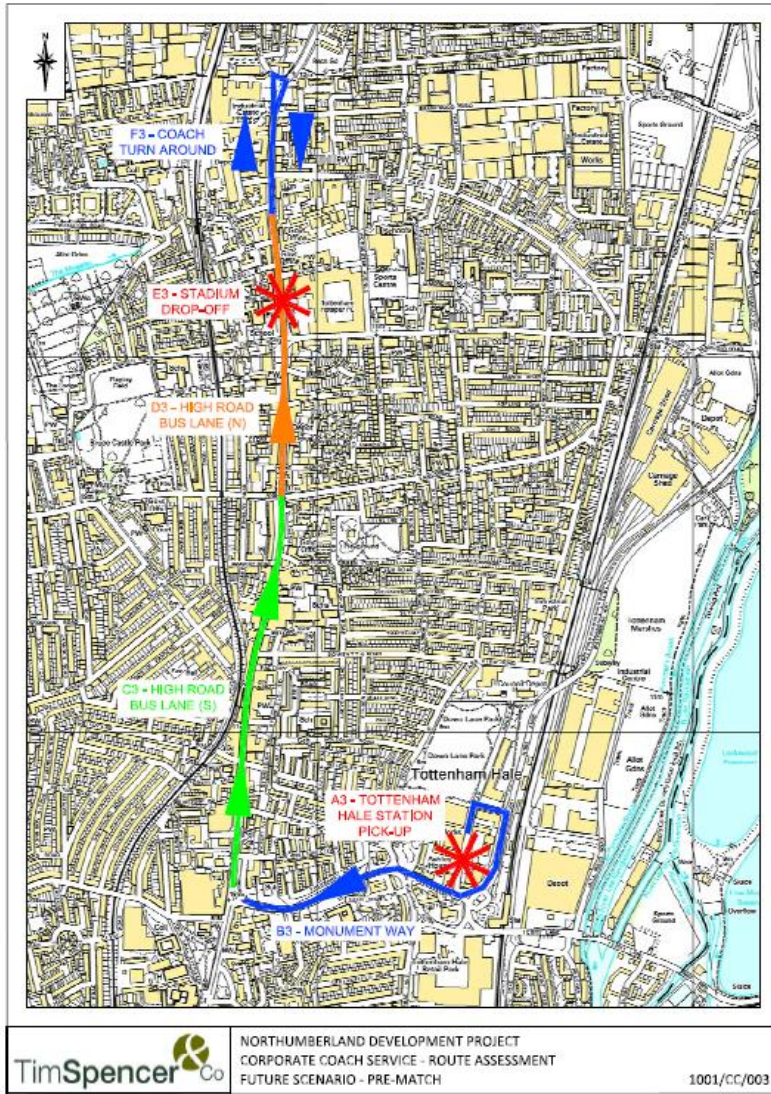


THFC New Stadium i Concert scenario Shuttle Bus Analysis

Service A i Tottenham Hale



⌚ The Tottenham Hale shuttle bus is designed to be a Premium Service, in line with the Hospitality proposals for the new stadium. The Stadium proposals include up to 9,000 seats at Box and Club levels. The scaling of the Premium Service is intended to provide capacity for a similar proportion of total attendees approaching via Tottenham Hale or environs. A Shuttle service open to all spectators travelling via these routes could not be sustained.

⌚ Note that as the service is aimed at principally those with access to hospitality, it is assumed that during the post-event period a different profile will apply to those using other modes of transport.

⌚ Buses on this route are assumed to have capacity for 50 people.

Service B i Alexandra Palace



- ⚠ The Alexandra Palace shuttle bus is designed to be a standard service, intended to capture attendees travelling on rail routes whose alternative route would be to interchange in Central London and arrive via Seven Sisters or Tottenham Hale.
- ⚠ All services will pick up at both Alexandra Palace and Wood Green, with the anticipated share of demand being split 75%:25% between Alexandra Palace and Wood Green station.
- ⚠ Buses on this route are assumed to have capacity for 90 people

General Assumptions

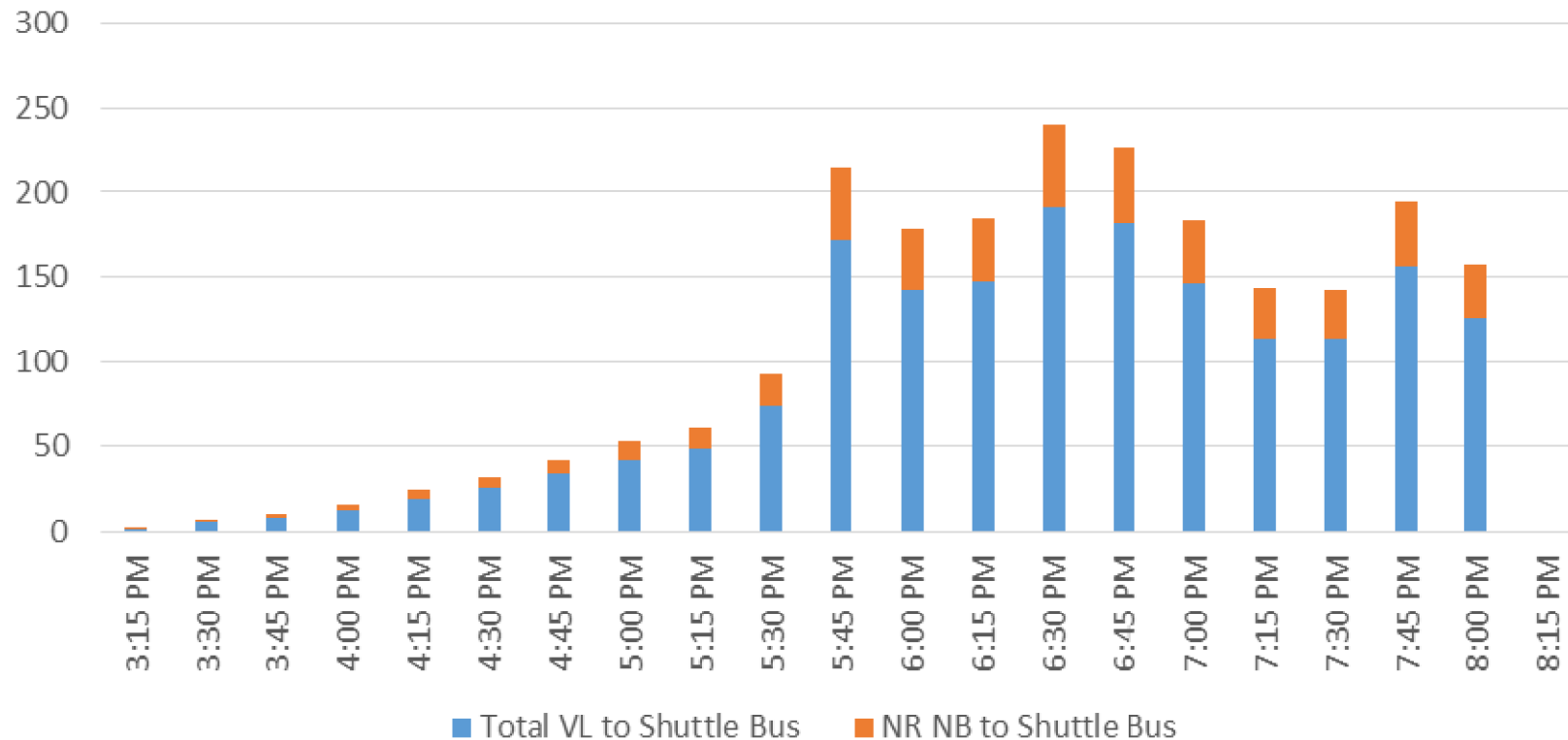
- ⚠ The operational configuration of the services will be discussed and agreed with TfL at a later stage, once THFC has contracted with a specific operator.
- ⚠ The key assumption is regarding availability of loading/unloading facilities at Tottenham Hale, where proximity and visibility will be key to the delivery of a Premium Service.
- ⚠ Assumptions regarding loading, unloading and turnaround times will be verified with the operator once selected.
- ⚠ NB. This report shows the results of a concert demand applied to Shuttle Bus frequencies and capacities proposed for the management of the Football scenarios. Alternative assumptions can be tested as required.



55K Concert Scenario

Tottenham Hale service i Arrivals

Spectator demand for the Tottenham Hale Shuttle bus service before the concert



2,200 attendees in total

- i 440 interchanging from National Rail services
- i 1,760 interchanging from London Underground services (880 NB, 880 SB)

Tottenham Hale service ï Arrivals

Analysis

- ï 50 pax/coach
- ï 2 minute loading time
- ï 3 minute frequency

Queue duration: N/A

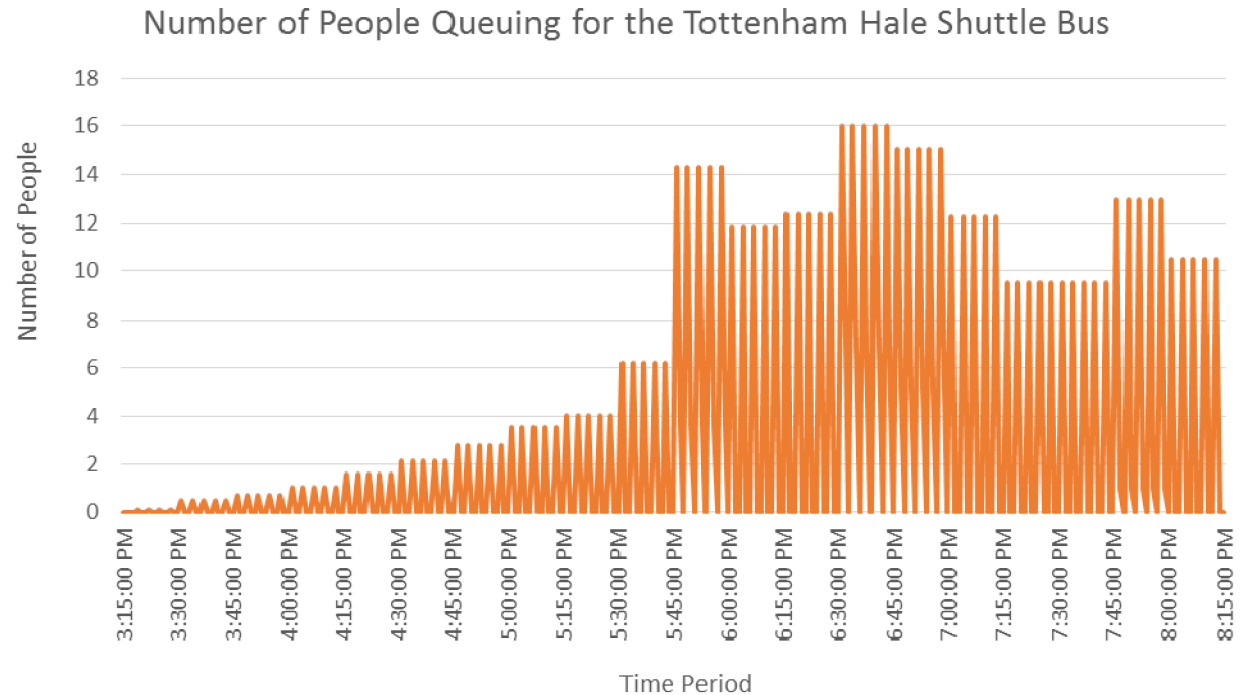
Max Queue: 16 ppl

Max Wait Time: 3mins

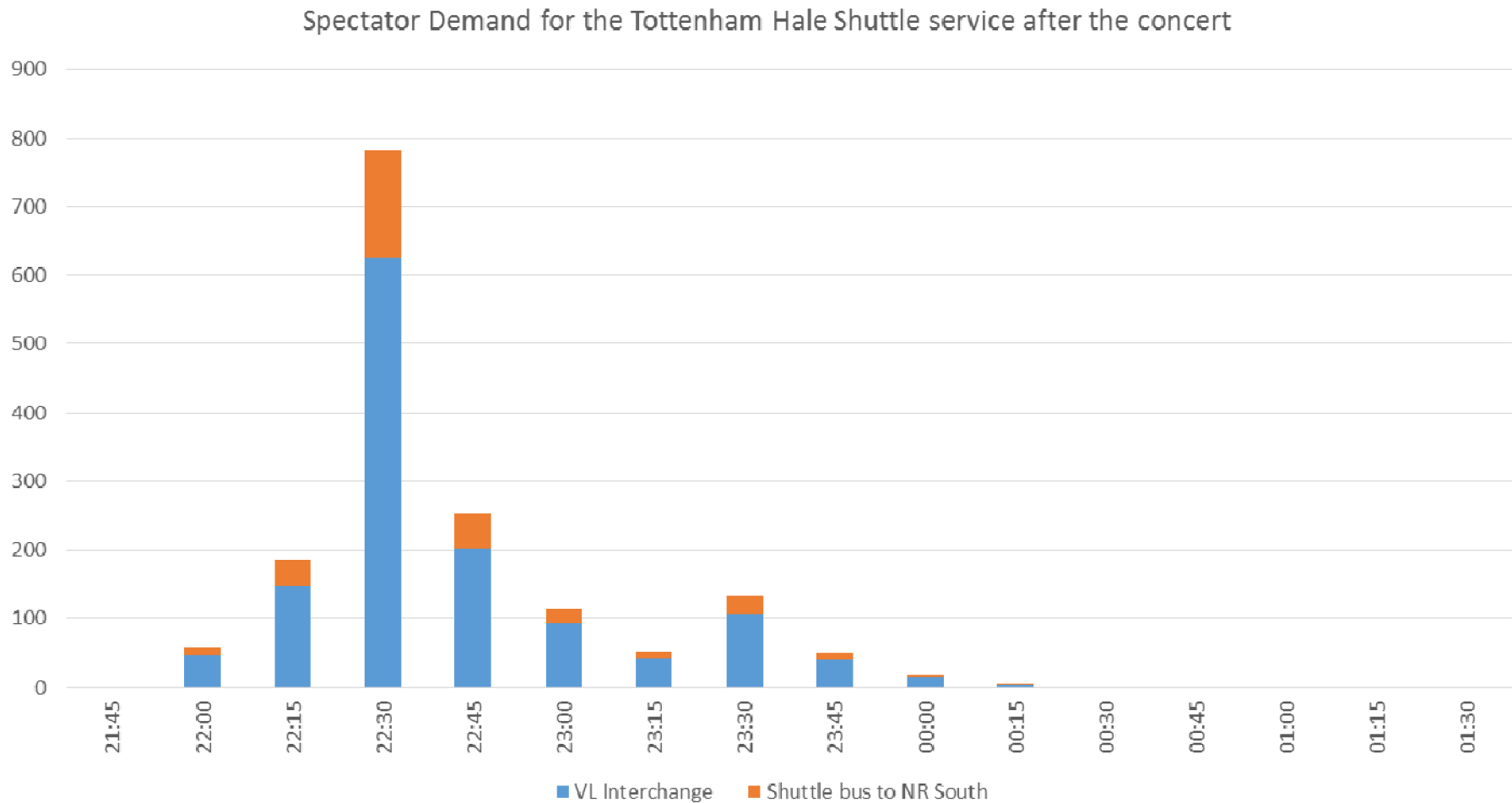
- ï i.e. 1 coach

Queue footprint: 8m²

- ï At 0.5m²/person



Tottenham Hale service i Departures



1,650 attendees in total

- i 330 interchanging to National Rail services
- i 1,320 interchanging to London Underground services

Tottenham Hale service i Departures

Å Flatter demand to represent post-event retention

Å Analysis

- ï 50 pax/coach
- ï 2 minute loading time
- ï 2 minute frequency for the first 24 minutes, then 3 minute frequency

Å Queue duration: 80min

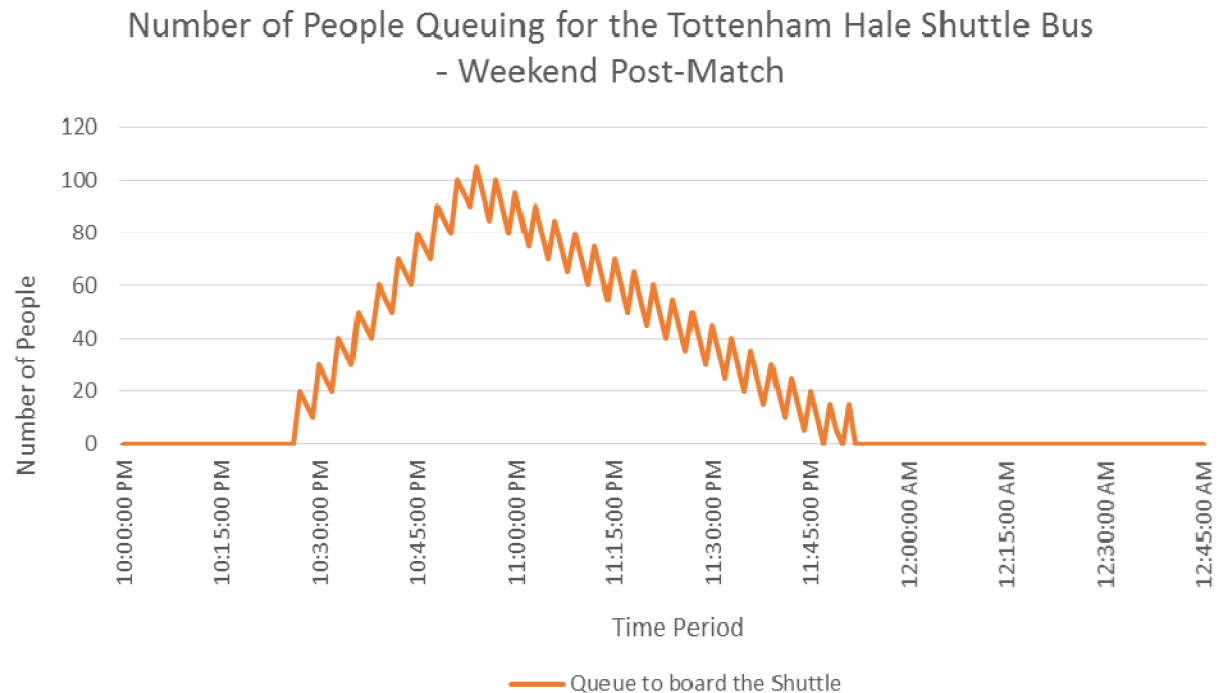
Å Max Queue: 100 ppl

Å Max Wait Time: 6mins

- i.e. 2 coaches

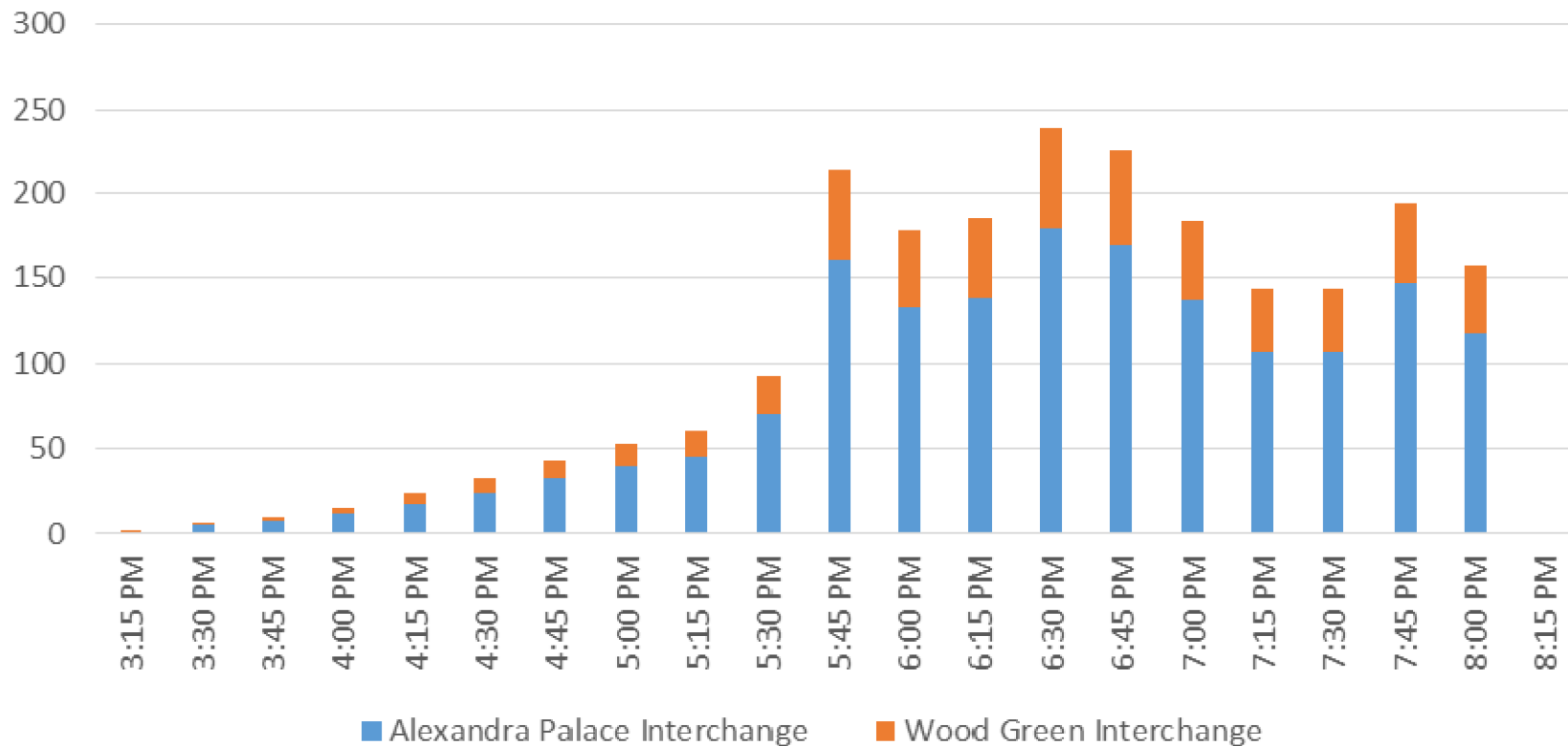
Å Queue footprint: 50m²

ï At 0.5m²/person



Alexandra Palace service i Arrivals

Spectator demand for the Alexandra Palace Shuttle bus service
before the concert



À 2,200 attendees in total

- i 550 interchanging at Wood Green station
- i 1,650 interchanging at Alexandra Palace station

Alexandra Palace service i Arrivals

Analysis of queuing at Alexandra Palace station

- i 67 pax/coach (75% of bus capacity)
- i 2 minute loading time
- i 3 minute frequency

Queue duration: N/A

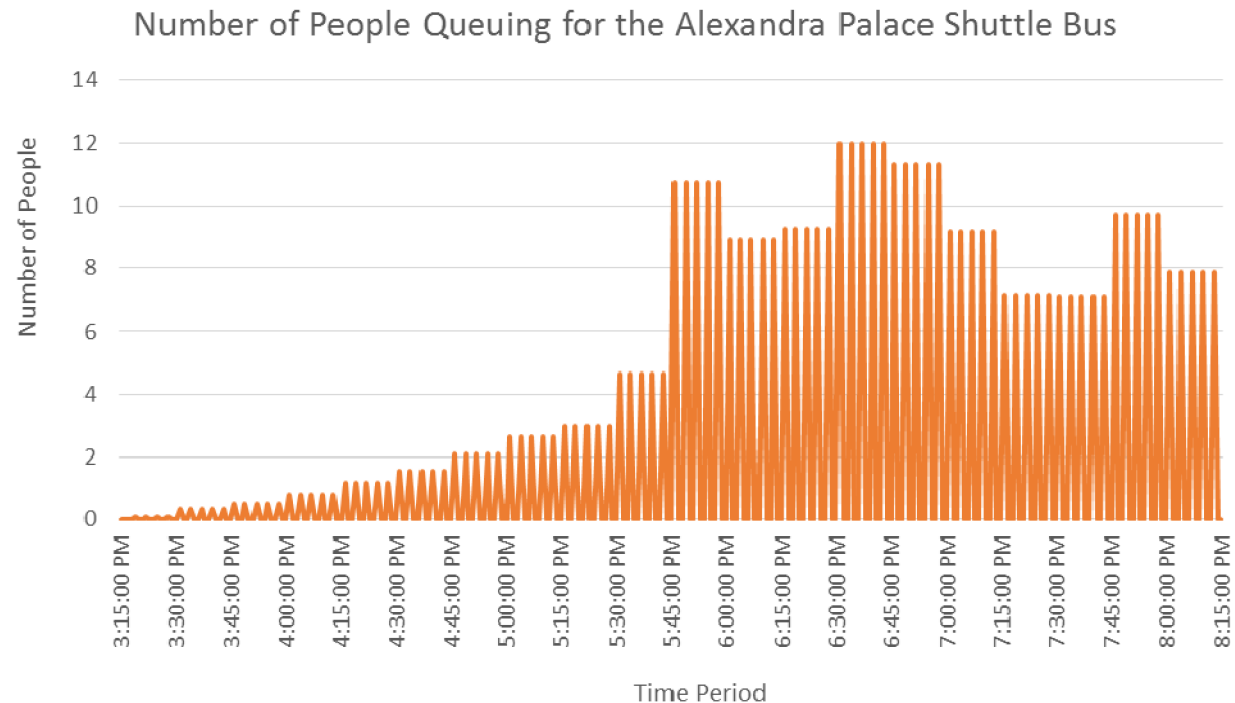
Max Queue: 12 ppl

Max Wait Time: 3 mins

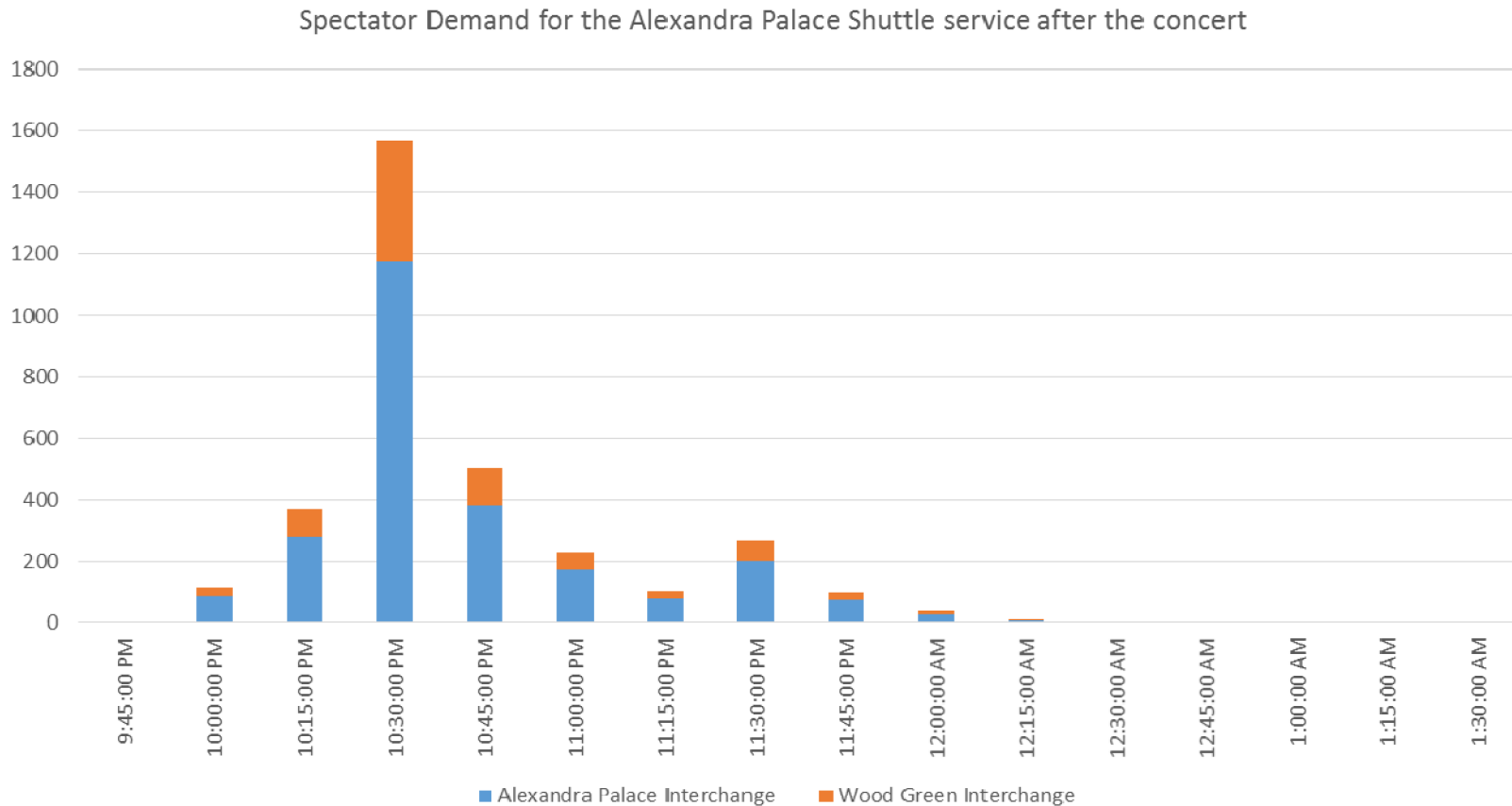
- i i.e. 1 coaches

Queue footprint: 6m²

- i At 0.5m²/person



Alexandra Palace service i Departures



3,300 attendees in total

- i 825 interchanging at Wood Green station
- i 2,475 interchanging at Alexandra Palace station

Alexandra Palace service ï Departures

Ä Analysis of queuing for services to Alexandra Palace station

- ï 90 pax/coach (100% of bus capacity)
- ï 2 minute loading time
- ï 2 minute frequency

Ä Queue duration: 52 mins

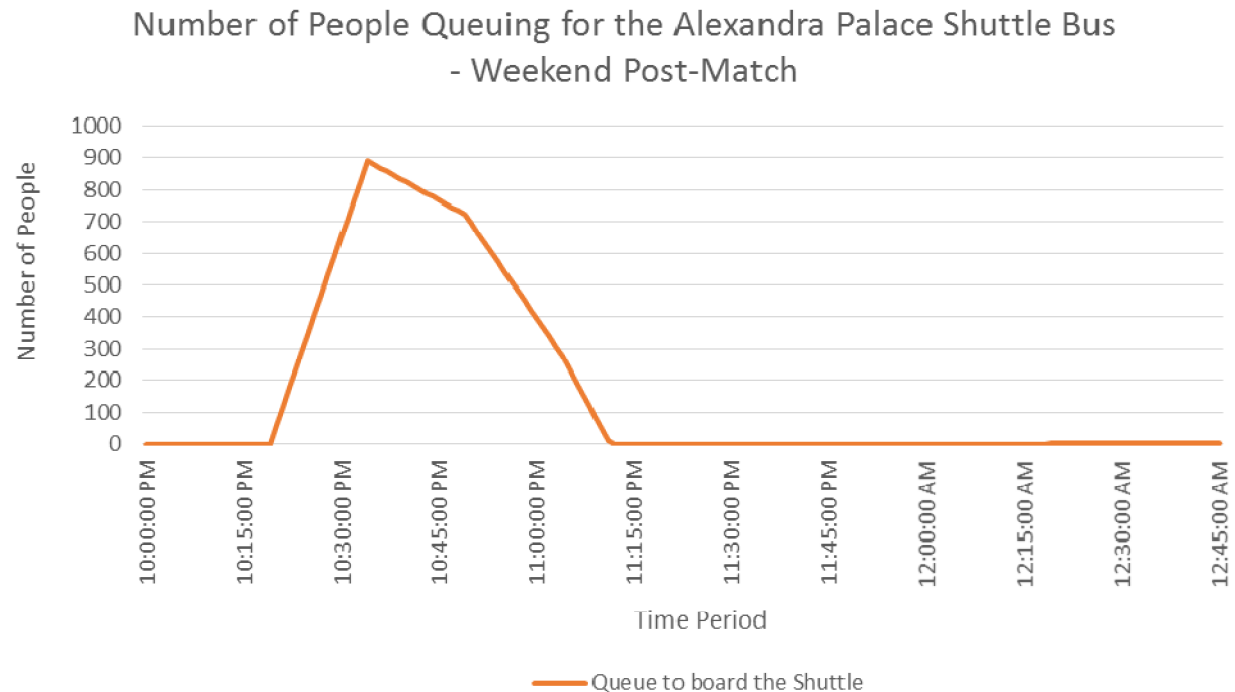
Ä Max Queue: 890 ppl

Ä Max Wait Time: 21mins

- ï i.e. 11 coaches

Ä Queue footprint: 445 m²

- ï At 0.5m²/person

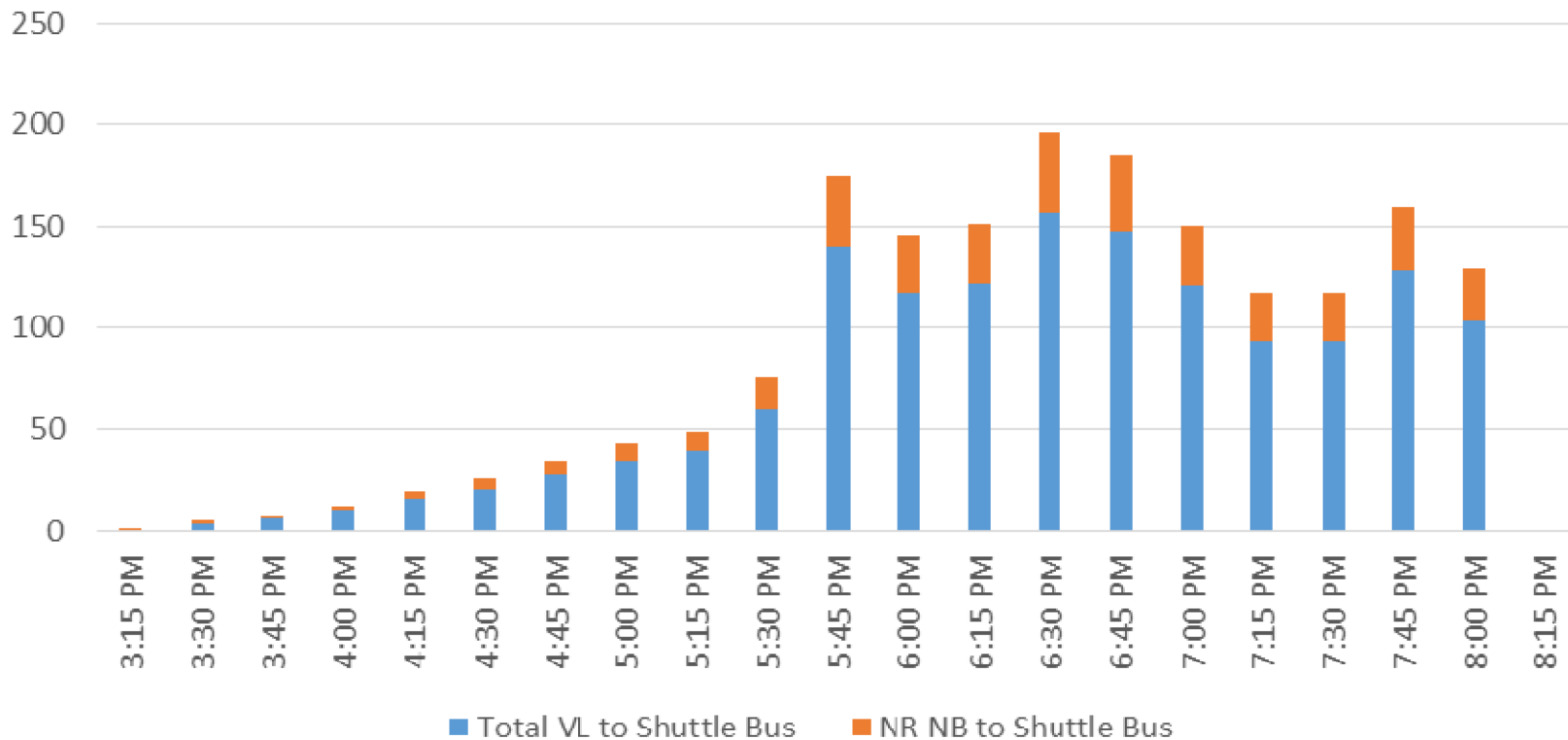




45K Concert Scenario

Tottenham Hale service i Arrivals

Spectator demand for the Tottenham Hale Shuttle bus service before the concert



1,800 attendees in total

- 360 interchanging from National Rail services
- 1,440 interchanging from London Underground services (880 NB, 880 SB)

Tottenham Hale service i Arrivals

Analysis

- 50 pax/coach
- 2 minute loading time
- 3 minute frequency

Queue duration: N/A

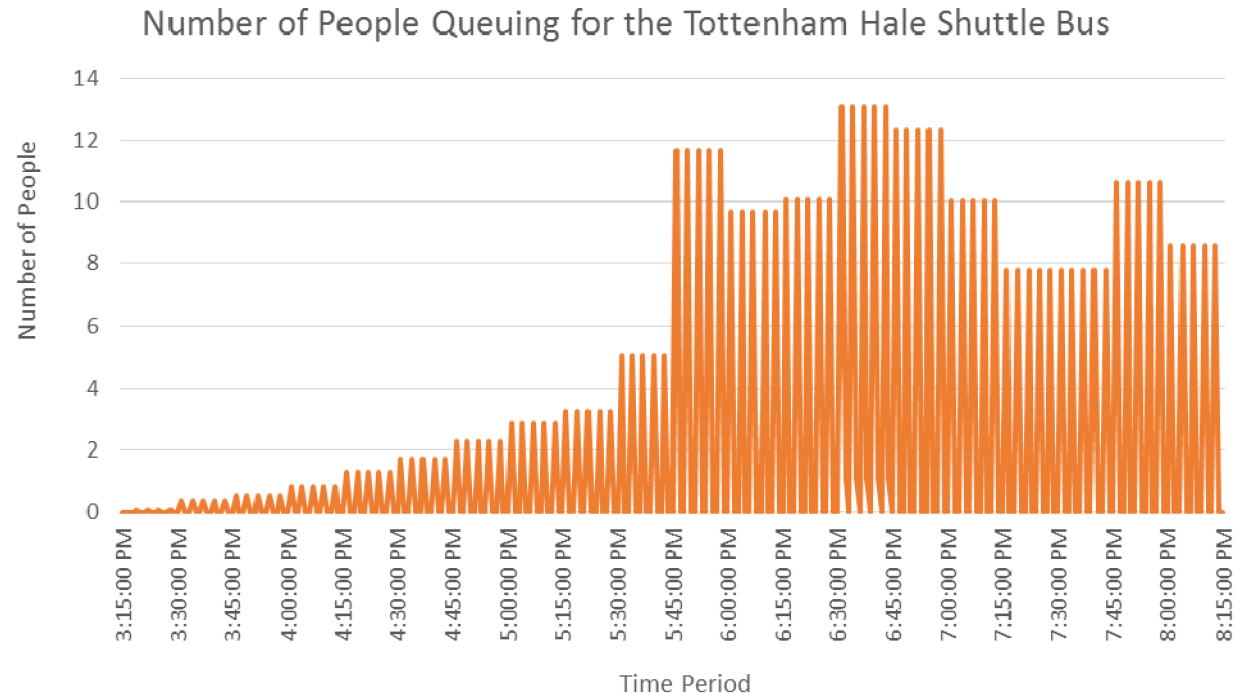
Max Queue: 13 ppl

Max Wait Time: 3mins

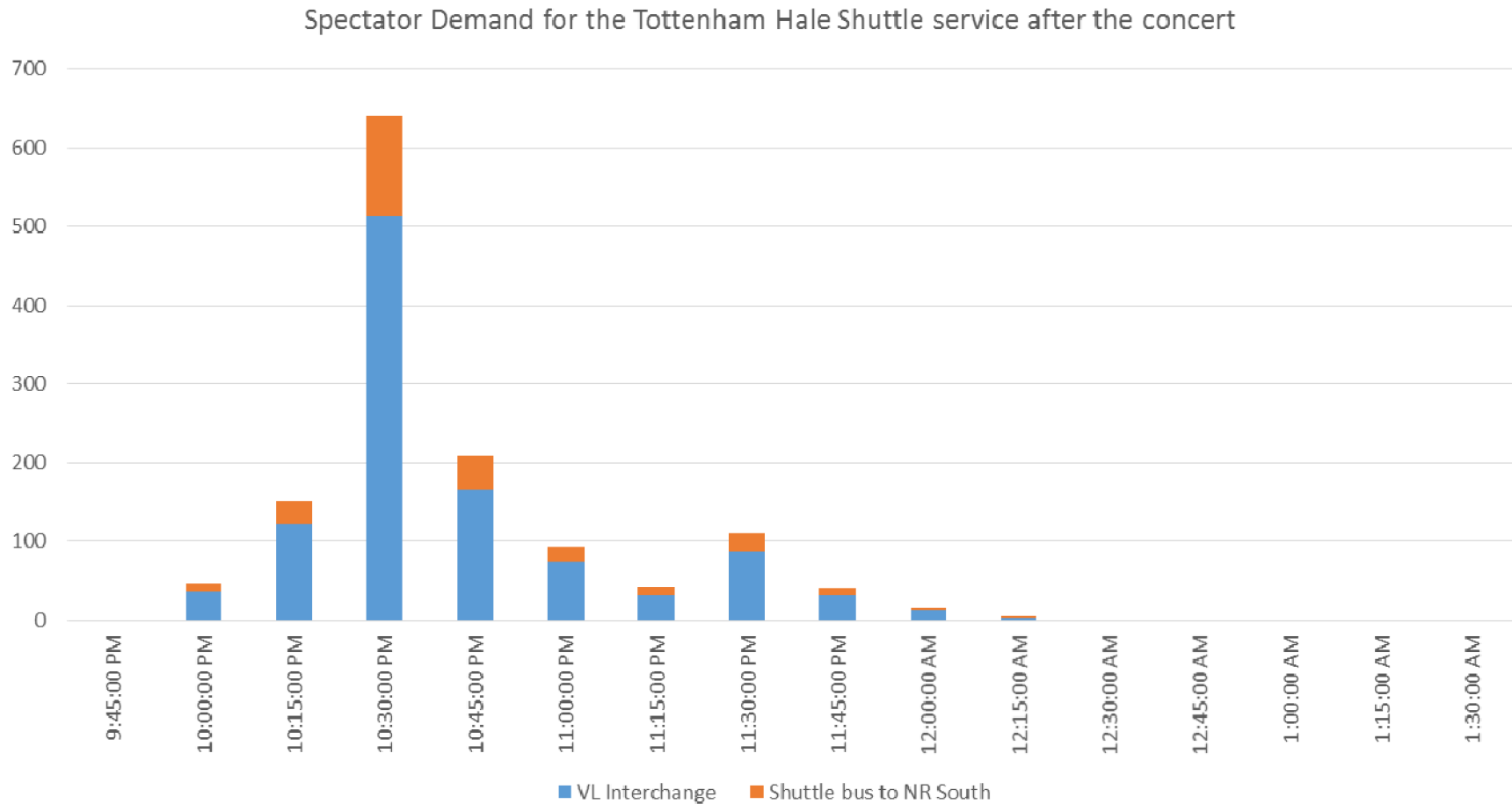
- i.e. 1 coach

Queue footprint: 7m²

- At 0.5m²/person



Tottenham Hale service i Departures



Å 1,350 attendees in total

- i 270 interchanging to National Rail services
- i 1,080 interchanging to London Underground services

Tottenham Hale service i Departures

Å Flatter demand to represent retention measures

Å Analysis

- ï 50 pax/coach
- ï 2 minute loading time
- ï 2 minute frequency for the first 24 minutes, then 3 minute frequency

Å Queue duration: 22min

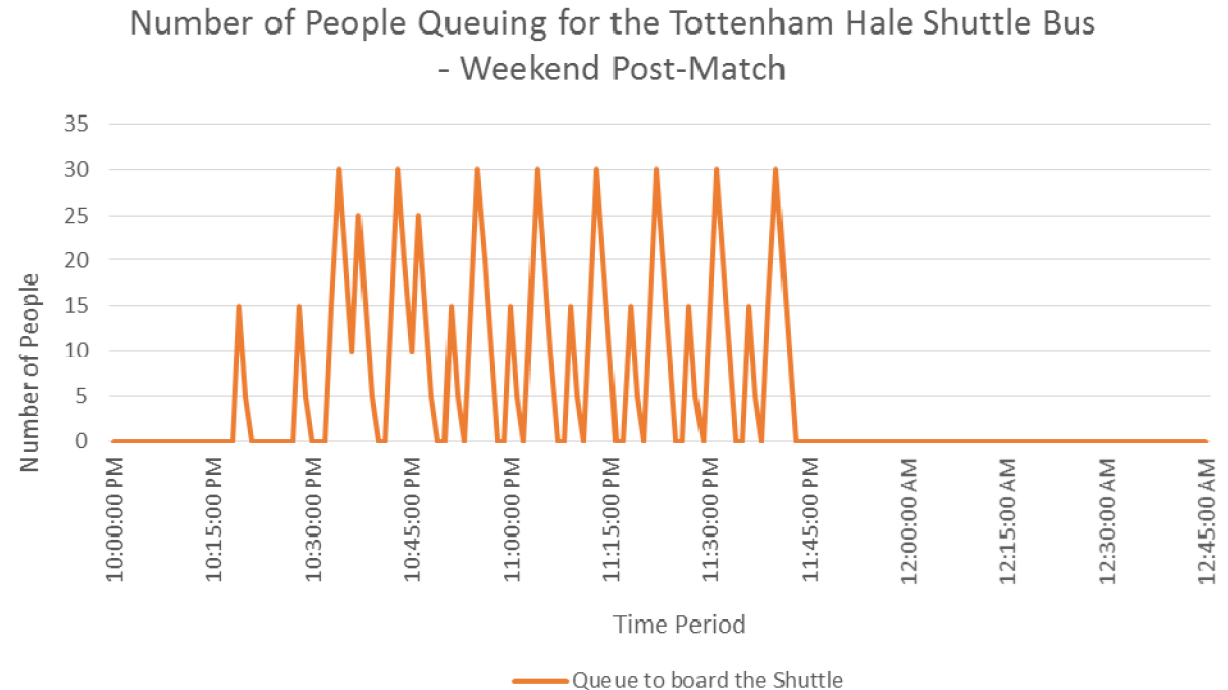
Å Max Queue: 30 ppl

Å Max Wait Time: 6mins

- i.e. 2 coaches

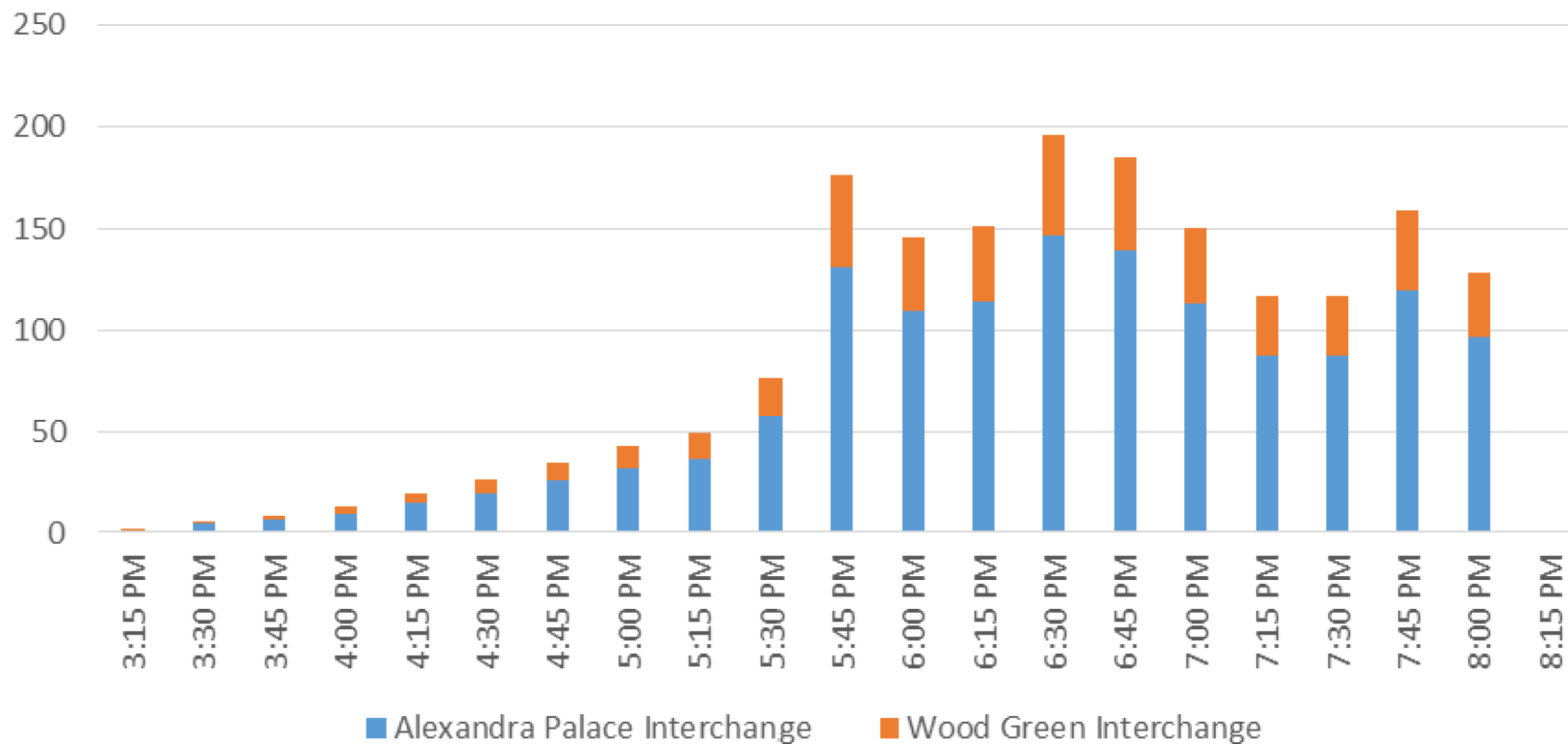
Å Queue footprint: 15m²

ï At 0.5m²/person



Alexandra Palace service i Arrivals

Spectator demand for the Alexandra Palace Shuttle bus service before the concert



∆ 1,800 attendees in total

- i 450 interchanging at Wood Green station
- i 1,350 interchanging at Alexandra Palace station

Alexandra Palace service i Arrivals

Analysis of queuing at Alexandra Palace station

- i 67 pax/coach (75% of bus capacity)
- i 2 minute loading time
- i 3 minute frequency

Queue duration: N/A

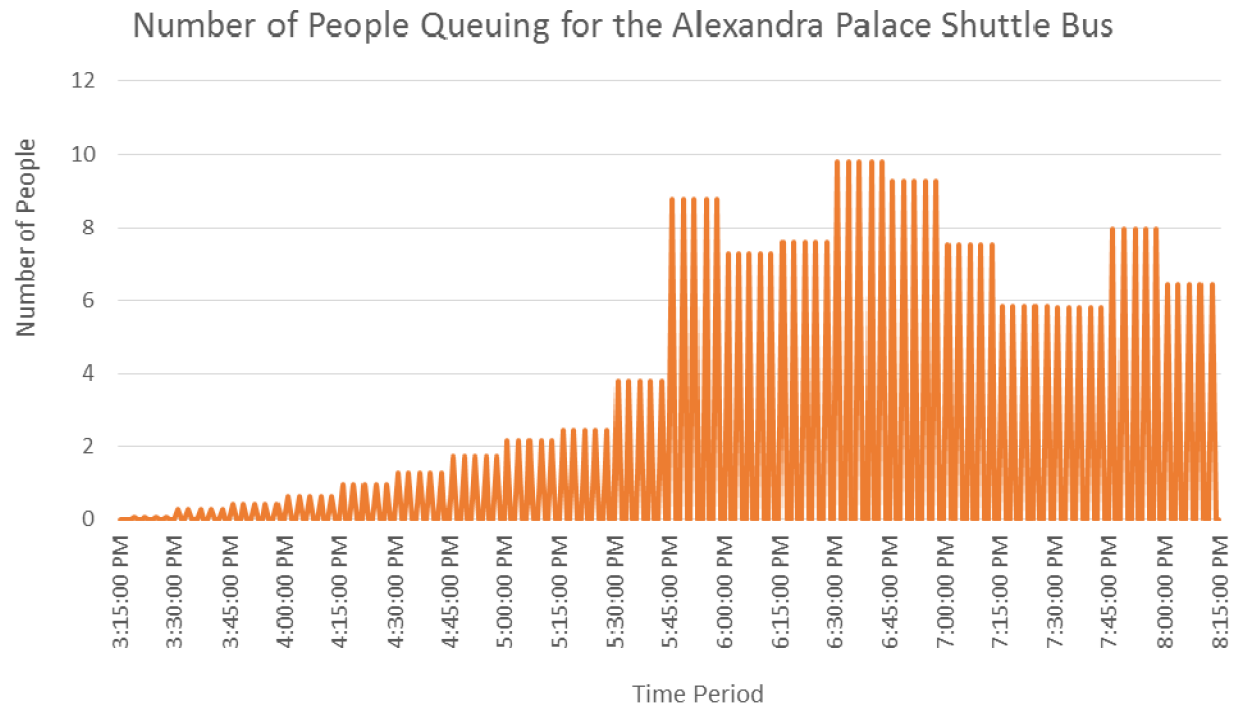
Max Queue: 12 ppl

Max Wait Time: 3 mins

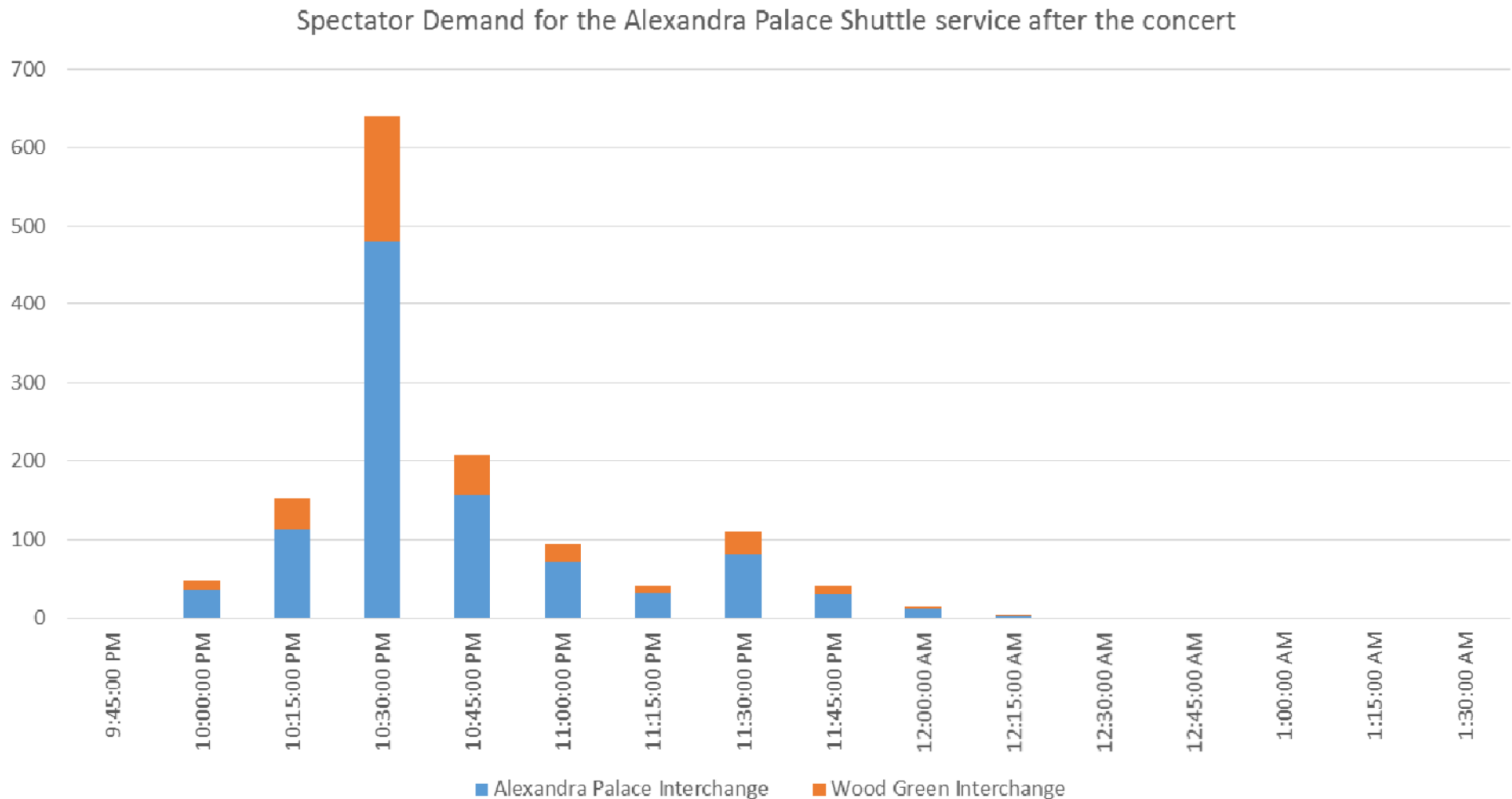
- i i.e. 1 coaches

Queue footprint: 6m²

- i At 0.5m²/person



Alexandra Palace service i Departures



∆ 1,350 attendees in total

- i 338 interchanging at Wood Green station
- i 1,013 interchanging at Alexandra Palace station

Alexandra Palace service ï Departures

Ä Analysis of queuing at Alexandra Palace station

- ï 90 pax/coach (100% of bus capacity)
- ï 2 minute loading time
- ï 2 minute frequency then 3 minute frequency

Ä Queue duration: 15 mins

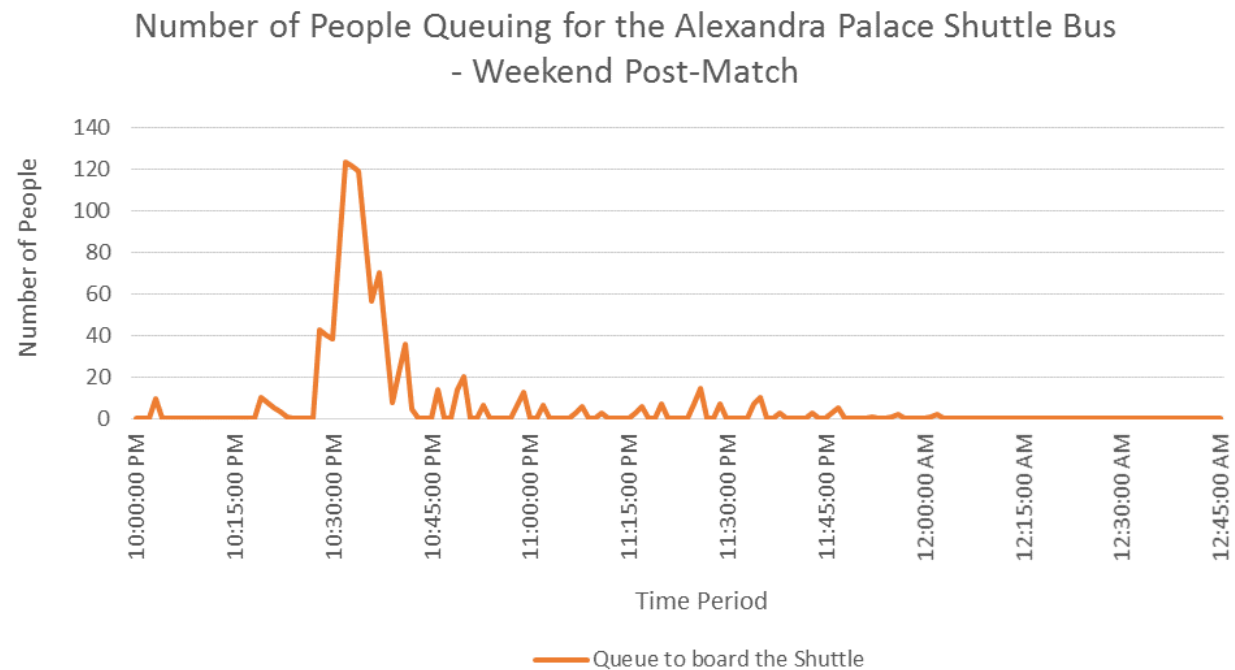
Ä Max Queue: 120 ppl

Ä Max Wait Time: 6 mins

- ï i.e. 2 coaches

Ä Queue footprint: 60m²

- ï At 0.5m²/person



Conclusions

- ⚠ The Shuttle Bus service plays an important role in the transport mix, and if successful, will reduce the attendee impact on other parts of the network, most notably the Seven Sisters/Tottenham Hale axis.
- ⚠ The frequencies and capacities highlighted in these notes have been generated to provide the best fit with the anticipated demand on football matchdays, and considered in the light of the concert scenarios. In most instances, limited delays would be experienced, with most attendees able to catch the first service. The most significant queues would be for the Alexandra Palace shuttle in the post-event period.
- ⚠ The ability to deliver these frequencies with minimal queuing will be driven by the efficiency of the operation and the operator who has not yet been contracted. Operational space requirements would need to be negotiated at that time.

info@movementstrategies.com

+44 (0)20 3540 8520

© Movement Strategies 2014

