

TECHNICAL NOTE

Project	Twickenham Stadium – East Stand Extension
Report Title	Delivery and Servicing Trips
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Prepared for	London Borough of Richmond upon Thames

Executive Summary

- A review of the existing delivery and service operation at Twickenham Stadium, Marriott Hotel and Virgin Active (gymnasium) for an England International has been undertaken.
- Twickenham Stadium Major Event Day Food (ambient, chilled and frozen product) and Beverage servicing and delivery is limited by the Stadium's ability to cook and store food and distribute beverage around the stadium. This results in existing articulated vehicles having spare capacity.
- The Stadium (Food) Major Event Day deliveries currently comprise a **peak day of 5 articulated vehicles over a 3 hour period (on the days building up to the Event)**. The **East Stand Extension will increase this to 6 articulated vehicles over a 3 hour period**.
- The Stadium (Beverage) Major Event Day deliveries currently comprise a **peak day of 4 articulated vehicles over a 5 hour period period (on the days building up to the Event)**. The East Stand Extension will not increase these the peak day deliveries.
- The Marriot Hotel and Virgin Active deliveries comprise a **peak day of 2 articulated vehicles** (in total) in an hour (worst case scenario).
- With the East Stand extension, assuming 12 articulated vehicles arrived over a three hour period would equate to 4 articulated vehicles per hour, or one articulated vehicle every 15 minutes during the peak hour in a week.
- The proposed layout can accommodated 3 articulated vehicles outside of the security perimeter without encroaching on the public highway. This would equate to 45 minutes of contingency should the articulated vehicle be unable to enter the Stadium footprint.

On Non Major Event Day, Stadium Food and Beverage departments do not require articulated vehicles for servicing and delivery.

1.1 Introduction

- 1.1.1 In order to better understand the existing servicing and delivery trips associated with Twickenham Stadium, a review of the build up to an England International has been assessed. This review has focussed on Food, Beverage, Marriott Hotel and Virgin Active (gymnasium) which represent the majority of servicing and delivery trips to the precinct.
- 1.1.2 For the purpose of this review, articulated vehicle trips for a full attendance England International Event taking place on a Saturday has been assessed. This is considered a robust, worst case scenario.

1.2 Major Event Day – servicing and delivery Trips

- 1.2.1 Servicing and delivery trips associated with an England International commence approximately five days before the Event. The reasons are:
- Event Day food will require preparation before storage. Size of deliveries are therefore limited to the amount of food that can be prepared prior to storage;
 - Event Day beverage requires centralised storage and then distribution to the relevant locations in the Stadium. Size of deliveries are therefore limited to the ability to distribute goods around the Stadium.
- 1.2.2 Major Event Day activities may take place at the same time as Marriott Hotel and Virgin Active activities. These are discussed in the Non Major Event Day section.

Food

- 1.2.3 Food deliveries mostly use articulated vehicles and require use of three different vehicle types to transport different types of product:
- Ambient product
 - Chilled product
 - Frozen product
- 1.2.4 Given the need to separate different types of food, and the need to manage the rate at which food arrives (in order to cook and store the food), articulated vehicles transporting the goods are not necessarily currently full (i.e. there is spare capacity on the articulated vehicles).
- 1.2.5 Table 1 present the number of articulated vehicles currently delivering to the Stadium by day of the week, together with the increase forecast with the East Stand extension.

Table -1 Food Articulated Vehicle Delivery Trips - Existing and Future

Day of the Week	Existing Deliveries	East Stand Uplift	Forecast Deliveries
Monday	3	1	4
Tuesday	5	1	6
Wednesday	5	1	6
Thursday	3	1	4
Friday	2	1	3
Saturday	0	0	0
TOTAL	18	5	23

1.2.6 Food deliveries typically arrive between 07:00 and 10:30, in order to provide the kitchen with the remainder of the day for food preparation and subsequent storage. Based on the future peak demand of 6 vehicles over a three hour period, this would equate to **2 articulated vehicles per hour (or 1 vehicle every half an hour)**.

1.2.7 Anecdotally, the Food team have never experienced any issues with vehicle congestion due to deliveries, even for the 2015 Rugby World Cup.

Beverage Deliveries

1.2.8 Beverage deliveries for a Major Event take place on Monday to Friday in order to enable the Beverage team to distribute beverage to appropriate section of the Stadium. Table 2 presents the beverage suppliers, the number of vehicles arriving at the Stadium and the forecast uplift with the new East Stand.

Table -2 Beverage Delivery Trips - Existing and Future

Supplier	Existing Deliveries	East Stand Uplift	Forecast Deliveries
Green King	7	1	8
Heineken	1	0	1
Coors	1	0	1
Ecocup	1	0	1
Tato (crisps)	1	0	1
Gas*	2	0	2
Wine / Spirits*	3	2	5
Brakes (soft drinks)	3	1	4
Alice of Richmond*	1	1	2
Pastys	1	0	1
Billtong*	1	0	1
Total (all vehicles)	22	5	27
Total (articulated)	15	2	17

*lorries

1.2.9 Table 3 present the number of articulated vehicles currently delivering to the Stadium by day of the week together with the increase forecast with the East Stand extension.

Table -3 Beverage Articulated Delivery Trips - Existing and Future

Day of the Week	Existing Deliveries	East Stand Uplift	Forecast Deliveries
Monday	4	0	4
Tuesday	3	1	4
Wednesday	4	0	4
Thursday	2	1	3
Friday	2	0	2
Saturday	0	0	0
TOTAL	15	2	17

1.2.10 Beverage deliveries typically arrive between 06:00 and 11:00. Based on the peak demand of 4 vehicles over a five hour period, **this would equate to 1 vehicle per hour.**

1.3 Non Major Event Day – servicing and delivery Trips

1.3.1 Servicing and delivery trips associated with Non Major Event Days will be vastly reduced when compared to Event Day.

Food

1.3.2 Food deliveries for Non Major Event Day are done using vans rather than articulated vehicles. As for Major Event Day, these will require product to be separated into ambient, chilled and frozen. There are 10 van deliveries every day between 06:30 and 13:00. That equates to approximately 2 vans per hour, or one van every half an hour. These trips are not expected to increase with the new East Stand extension.

Beverage

1.3.3 Beverage deliveries do not typically take place during Non-Major Event Day. Delivery for Major Event Days typically requires an over provision of beverage, which is then stored on site (i.e. Logistics Compound, Hospitality Zones, Stadium Stands).

1.3.4 For Non Major Event Days beverage is typically sourced from surplus product remaining from Major Event Days.

1.3.5 Should additional beverage be required, this is transported on site using a small van or truck between 06:00 and 11:00.

Marriott Hotel

1.3.6 The Marriot Hotel deliveries mainly comprises linen and kitchen supplies. Table 4 presents the existing and future articulated vehicle deliveries.

Table -4 Marriott Hotel Articulated Delivery Trips - Existing and Future

Day of the Week	Existing Deliveries	East Stand Uplift	Forecast Deliveries
Monday	1	0	1
Tuesday	1	0	1
Wednesday	1	0	1
Thursday	1	0	1
Friday	1	0	1
Saturday	0	0	0
TOTAL	5	0	5

1.3.7 The Marriott Hotel deliveries typically arrive between 07:00 and 09:00. Based on the peak demand of 1 vehicles over a two hour period, this would equate to a **maximum of 1 articulated vehicle per hour.**

1.3.8 It should be noted that outside of the Major Event Season, when the hotel is less busy, these trips may decrease significantly.

Virgin Active (gymnasium)

1.3.9 The Virgin Active deliveries mainly comprises towels. Table 5 presents the existing and future deliveries.

Table -5 Virgin Active Delivery Trips - Existing and Future

Day of the Week	Existing Deliveries	East Stand Uplift	Forecast Deliveries
Monday	1	0	1
Tuesday	1	0	1
Wednesday	1	0	1
Thursday	1	0	1
Friday	1	0	1
Saturday	0	0	0
TOTAL	5	0	5

1.3.10 The Virgin Active deliveries typically arrive between 10:00 and 12:00. Based on the peak demand of 1 vehicles over a two hour period, this would equate to a **maximum of 1 articulated vehicle per hour.**

1.3.11 All other deliveries take place with smaller vehicles (vans) stopping front of house.

1.4 Summary of Servicing and Delivery Trips

- 1.4.1 Based on the review undertaken, a worst case scenario will occur during the preparation for a Major Event Day whilst the Marriot Hotel and Virgin Active developments continue with their normal operation.
- 1.4.2 Table 6 presents the peak **day** articulated vehicle arrivals on the build up to a Major Event Day.

Table -6 Peak Articulated Vehicle Demand - Existing and Future

Destination	Existing Peak Day	Future Peak Day	Difference
Stadium Food	5	6	+1
Stadium Beverage	4	4	+0
Marriott Hotel	1	1	+0
Virgin Active	1	1	+0
TOTAL	11	12	+1

- 1.4.3 Based on the information presentation in Table 6, the future peak arrival period will comprise of **12 articulated vehicles arriving over two to five hours**.
- 1.4.4 Assuming 12 articulated vehicles arrived over a three hour period, there would be 4 articulated vehicles arriving per hour in a peak hour of a week, or one articulated vehicle arriving at the Stadium every 15 minutes.
- 1.4.5 The proposed layout can accommodate 3 articulated vehicles outside of the security perimeter without encroaching on the public highway. This would equate to 45 minutes of contingency should the first articulated vehicle be unable to enter the Stadium footprint.
- 1.4.6 Based on the above, the proposed layout can comfortably accommodate future articulated vehicle demand without encroaching in the public highway.