

**TRANSPORT FOR LONDON**

**SURFACE TRANSPORT PANEL**

**SUBJECT: UPDATE ON A4 HAMMERSMITH FLYOVER**

**DATE: 8 FEBRUARY 2012**

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**1 PURPOSE AND DECISION REQUIRED**

- 1.1 The purpose of this paper is to brief the Surface Transport Panel on the current state of the Hammersmith Flyover and the proposed short term and longer term actions.

**2 BACKGROUND**

- 2.1 The Hammersmith Flyover forms part of the A4, a key route into Central London from the West and part of the Olympic Route Network. The flyover was constructed in the early 1960s and carries the A4 over the Hammersmith Gyratory. It has a very unusual form of construction, consisting of a series of concrete boxes, held together by steel cables pulled through them, tensioned and anchored just below the road surface. Water has been seeping into the deck, which, exacerbated by salting in winter months, has caused the steel cables to corrode and break. TfL took over responsibility for the structure from the Highways Agency in 2000 and has been monitoring its condition since.
- 2.2 In 2009, TfL carried out detailed structural investigations which included some intrusive surveys of the cables and a load assessment. These investigations highlighted some concerns over the longevity of the structure. This resulted in a sophisticated monitoring system being installed in the flyover to monitor the on-going deterioration and help ascertain the time remaining before significant structural works would be required. At that time the need for strengthening or replacement was thought to be more than 10 years.
- 2.3 The monitoring system revealed that, since March 2011, there has been a significant increase in the rate of deterioration. In September 2011, TfL commenced a programme of detailed physical investigation into the condition of the tensioning cables, which involved drilling into the concrete around the cables to expose them for visual inspection. In parallel to this, TfL commenced a programme of propping to support the structure temporarily to enable exploration of the most appropriate repair methodology.
- 2.4 In exposing the cables, their condition was found to be significantly worse than that predicted by the earlier non-invasive monitoring and, on the evening of 22 December 2011, TfL made a decision to close the flyover immediately to all traffic, pending yet more detailed investigation of the entire structure. The flyover was closed to all traffic later that evening. That decision was endorsed by Dr. Chris Burgoyne, an independent expert from Cambridge University.

### **3 PROGRESS UPDATE**

- 3.1 Once the flyover was closed to traffic, TfL immediately commenced more detailed analysis of the entire length of the structure to:
- (a) be certain of its remaining load bearing capacity and whether or not it could be reopened, even partially, to any form of traffic; and
  - (b) to expedite the development of the permanent solution as it was evident that this could not wait until after the Olympic Games. Engineers have been working 24 hours a day, including over the Christmas break, to progress these investigations. One of the first priorities was to ensure that the bridge could support its own weight and that it was safe to continue to allow traffic and pedestrians to use the roads under the bridge; which it is.
- 3.2 Following confirmation from structural engineers and leading independent experts that the structure is safe to take light traffic, the flyover was reopened on 13 January 2012 to cars, vans and other light vehicles. Traffic restrictions are being enforced by a 2m (6'6") width restriction at either end of the flyover to prevent large vehicles such as Heavy Goods Vehicles (HGVs) and coaches from crossing. One lane of light traffic is permitted in each direction, while work continues to design the strengthening of key sections of the flyover.
- 3.3 TfL is doing all it can to mitigate the disruption caused. Local traffic diversions are already in place, along with Variable Messaging Signs – including on Highways Agency roads – advising drivers to avoid the area. While the flyover is now open to light traffic, drivers are still being advised to continue to plan routes carefully and avoid the area if possible.
- 3.4 TfL has created an extra lane on the Talgarth Road and traffic signal plans are in place to reduce disruption and ease traffic flow. Plans are also in place to divert traffic from the M4 to other routes as necessary. In addition, dedicated MPS Road Response Teams have been on site to help manage traffic. TfL is also working closely with the relevant local authorities to ensure local businesses and organisations are aware and disruption can be minimised.
- 3.5 TfL is also working with utility companies and the Borough to ensure that all non-essential road works are postponed in the surrounding area, including planned London Underground works that would have placed an additional burden on the road network due to the need for a rail replacement bus service.
- 3.6 LB Hounslow has put in place temporary parking and bus lane restrictions on A315 Chiswick High Road to minimise disruption to bus services.

### **4 NEXT STEPS**

- 4.1 TfL has worked with its contractor, Amey, to establish a long term strengthening solution to ensure that the flyover can be fully reopened to all classes of vehicles ahead of the Olympic Games. Work will focus initially on strengthening six of the 16 spans of the structure and will see the installation of additional steel cables both within and outside the structure, allowing it to take fully 44 tonne HGV loadings. This is expected to take around four months, allowing the flyover to reopen to all traffic well ahead of the Games.

- 4.2 Following the Games, TfL will return to the structure to strengthen the remaining ten spans of the flyover, as well as carry out additional work to re-waterproof the entire road deck to complete the strengthening. This work is expected to take place in a way that will allow as much traffic as possible to use the flyover during the works. Once completed, with proper maintenance, it is anticipated that the flyover will then have many decades of operational life ahead.

## **5 RECOMMENDATION**

- 5.1 The Panel is asked to NOTE the paper and the works needed to maintain the safe operation of the Hammersmith Flyover going forward.

## **6 CONTACT**

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