

# Traffic Studies Related to Cycle Gate Junctions

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This report presents data collected to study the time required for cyclists to travel across a signalised junction. The time was measured from video surveys undertaken at three relevant junctions. All three junctions have a cycle box; one also has a separate cycle 'early release' signal. Times were measured for the first and last cyclist in the box to cross the junction and for the first motor to enter the junction.

## **Analysis of the videos**

We have the following videos from which we hope to be able to assess a necessary early release time for the Gower Street junctions:

- Guilford Street @ Grays Inn Road: a single lane approach
- Theobalds @ Lambs Conduit Street: a 2-lane approach to the junction
- Magdelene Street @ Chesterton Lane, Cambridge: has early release

In the first two studies, the time it takes the motor to enter the junction does not tell us much because we don't know when the motor started although we do know how far it had to travel to enter the junction. The videos indicate that in many cases, the cycles hold up the motor.

But in the study of the Cambridge early-release junction, the cycles are well into the junction before the motors are released. Therefore we can estimate how long the early release period should be for the slowest cycle to clear the junction.

## Study of cycle traversal at junction Guilford Street and Gray's Inn Road

Location: [goo.gl/maps/XJMUJ](https://goo.gl/maps/XJMUJ)

Street View: [goo.gl/maps/Jn7sQ](https://goo.gl/maps/Jn7sQ)

Dimensions (not to scale):

Timings for cycles leaving Guilford Street eastbound (measured off videos using frame numbers):

Video 1 ([youtu.be/aoNMz3cczFI](https://youtu.be/aoNMz3cczFI))

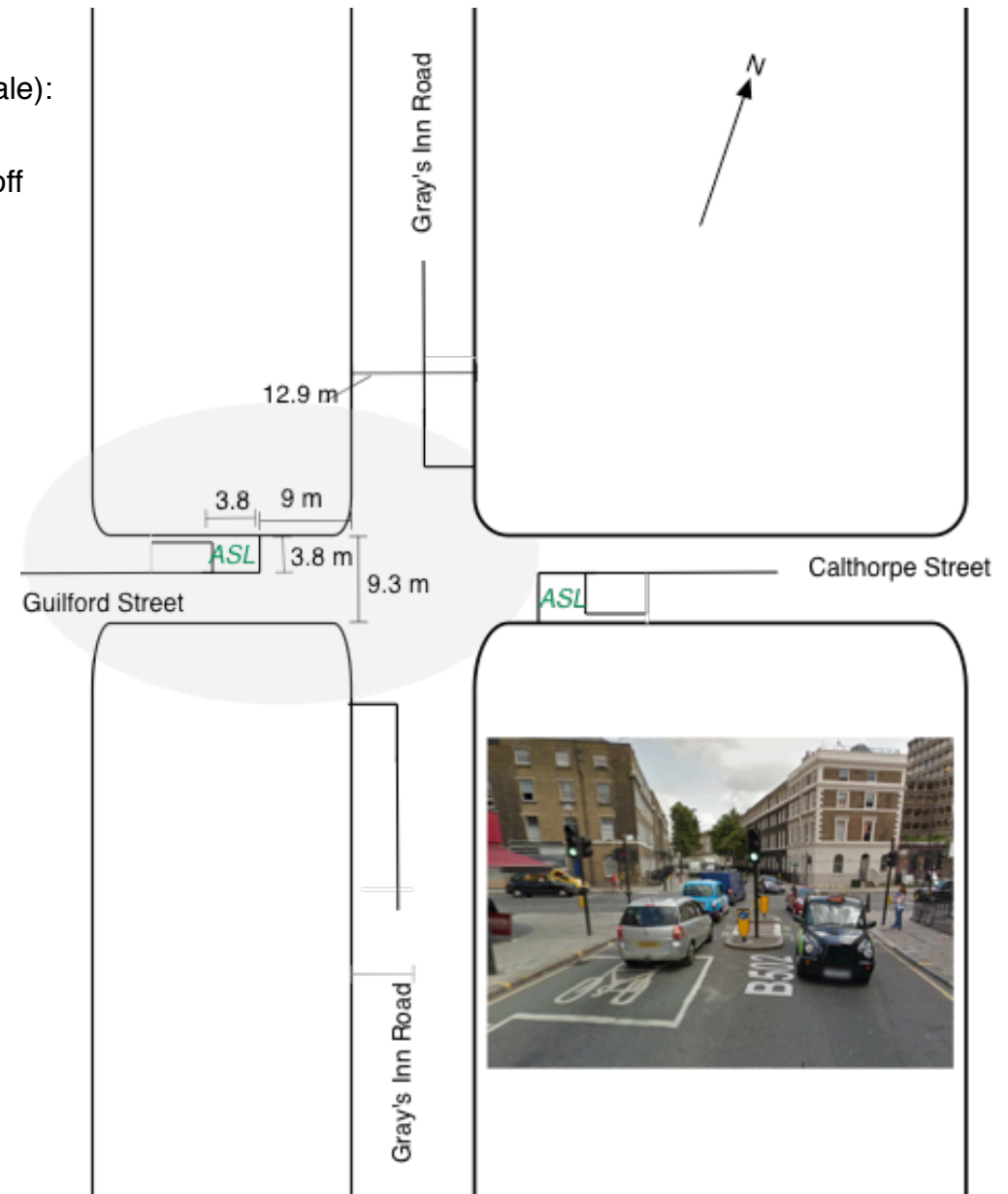
Time for front cyclist in box to clear junction: 7.7 s  
 Time for rear cyclist in box to clear junction: 11.6 s  
 First motor enters junction: 8.5 s

Video 2 ([youtu.be/CSWKBtkX0zc](https://youtu.be/CSWKBtkX0zc))

Time for front cyclist in box to clear junction: 7.6 s  
 Time for rear cyclist in box to clear junction: 12.0 s  
 First motor enters junction: 7.0 s

Video 3 ([youtu.be/uiAMW538Jml](https://youtu.be/uiAMW538Jml))

Time for front cyclist in box to clear junction: 8.9 s  
 Time for rear cyclist in box to clear junction: 11.0 s  
 First motor enters junction: 4.8 s



## Study of cycle traversal at junction Theobalds Road and Lambs Conduit Street

Location: [goo.gl/maps/xnnTe](https://goo.gl/maps/xnnTe)

Street View: [goo.gl/maps/ibkz9](https://goo.gl/maps/ibkz9)

Dimensions (not to scale):

Timings for cycles on Theobalds Road eastbound (measured off videos using frame numbers):

Video 1 ([youtu.be/Wg1PEG892I4](https://youtu.be/Wg1PEG892I4))

Time for front cyclist in box to clear junction: 4.6 s

Time for rear cyclist in box to clear junction: 7.6 s

First motor enters junction (having jumped red): 6.3 s

Video 2 ([youtu.be/puWjZNcC7T0](https://youtu.be/puWjZNcC7T0))

Time for front cyclist in box to clear junction: 7.0 s

Time for rear cyclist in box to clear junction: 7.7 s

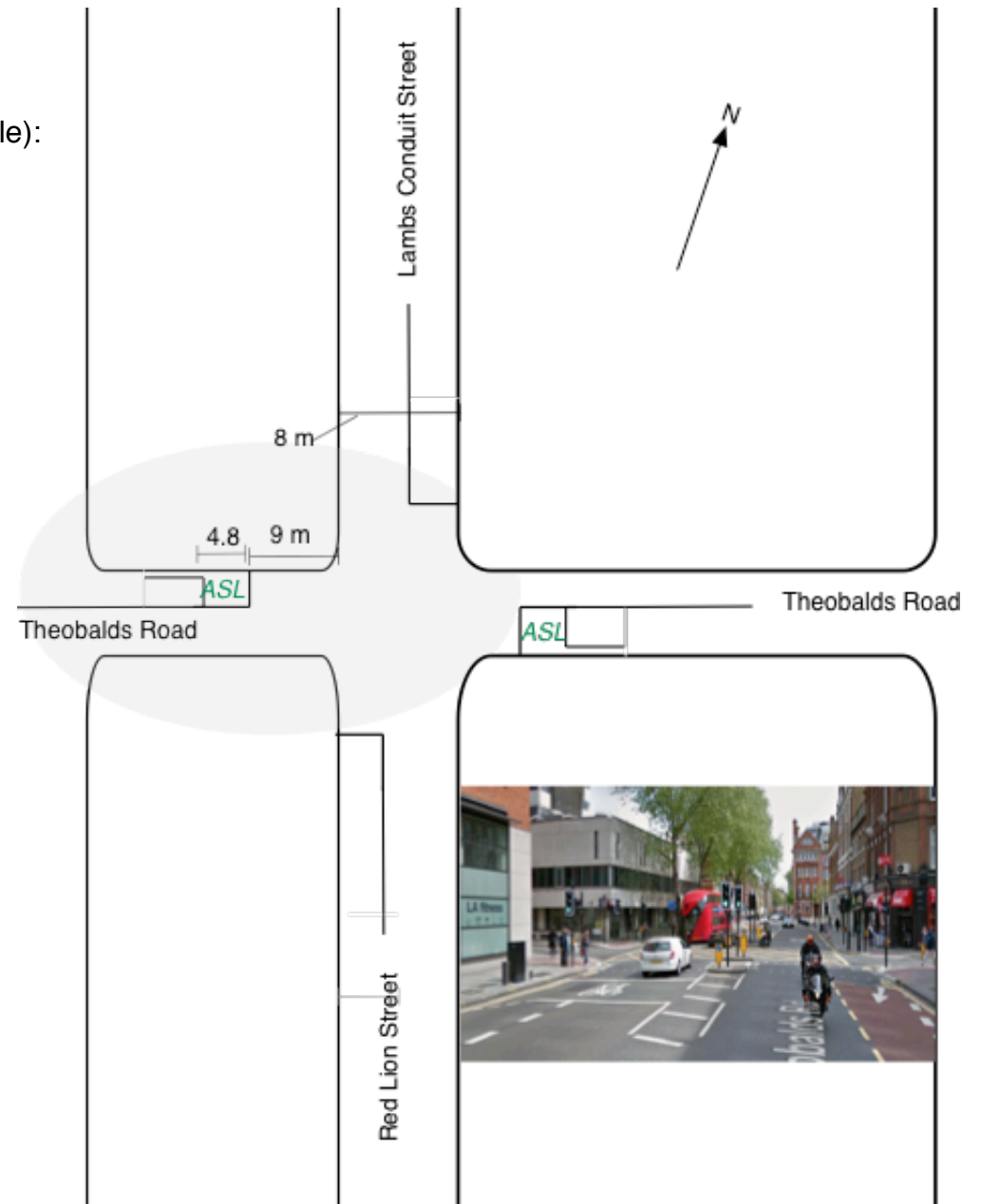
First motor enters junction: 7.2 s

Video 3 ([youtu.be/YCI2\\_LYL\\_MY](https://youtu.be/YCI2_LYL_MY))

Time for front cyclist in box to clear junction: 4.9 s

Time for rear cyclist in box to clear junction: 8.8 s

First motor enters junction (having jumped): 4.5 s



**Study of cycle early release junction  
at Magdelene Street and Chesterton Lane, Cambridge**

Location: [goo.gl/maps/e3QuS](http://goo.gl/maps/e3QuS)  
 Street View: [goo.gl/maps/y3oXq](http://goo.gl/maps/y3oXq)

Dimensions (not to scale):

Timings for cycles leaving Magdelene Street Northbound (measured off videos using frame numbers):

Video 1 ([youtu.be/r-nFtG4E\\_U](http://youtu.be/r-nFtG4E_U))  
 Cycle release - motor release (red/amber): 5 s  
 Time for front cyclist in box to clear junction: 7.8 s  
 Time for rear cyclist in box to clear junction: 11.2 s  
 First motor enters junction (having jumped red): 6.2 s

Video 2 ([youtu.be/P0q2ZSK\\_F](http://youtu.be/P0q2ZSK_F))  
 Cycle release - motor release (red/amber): 5 s  
 Time for front cyclist in box to clear junction: 9.5 s  
 Time for rear cyclist in box to clear junction: 13.0 s  
 First motor enters junction: 14.1 s

Video 3 ([youtu.be/SeDchttFqJk](http://youtu.be/SeDchttFqJk))  
 Cycle release - motor release (red/amber): 5 s  
 Time for front cyclist in box to clear junction: 10.5 s  
 Time for rear cyclist in box to clear junction: 11.3 s  
 First motor enters junction: 10.5 s

Front of box is 12 m from junction. If reduced to 6 m the crossing time might be reduced by ~ 2.5 secs (at 5 mph)

Northbound and southbound traffic run separately so there is no right-hook danger.

