Foxton Level Crossing

Introduction
This document describes the level crossing at Foxton, covering the physical layout, operation, photographs, risks and problems.

Description of the Crossing
The crossing is located at the London End of Foxton Railway Station and takes the busy A10 across the busy London Kings Cross to Cambridge Railway. There is no footbridge at Foxton so there are also two pedestrian crossings across the railway. The aerial photograph below shows the layout crossing along with the various routes across it. The crossing is controlled from a Signal Box which has a clear view of both the road and pedestrian crossings.

The two pedestrian crossings are shown as solid red lines. There is a ‘wicket gate’ at each side of these crossings which is locked by the signalman before the signals are cleared for a train to pass. The road is also protected by gates which are marked with dotted red lines below. If the pedestrian crossings are out of use for any reason, then pedestrians have to use the alternative route marked with the orange line below taking them alongside the main road through the main crossing barriers.
The photograph below shows a wider area and how when the normal crossing route [1] is not in use, then a much longer diversion is required via the route marked [2].

Below is a map of the area showing how the crossing links the local villages:
Operation of the Crossing

The sequence for operating Foxton level crossing is for the signalman to do the following tasks:

1. Visually check the Station and Barrington Road foot crossings are clear of pedestrians.
2. Lock all 4 wicket gates (these are the gates which protect the pedestrian crossings)
3. Commence lower sequence for main road barriers (the sequencer is yellow light for 3-5secs, flashing Red for 4-6secs, lead barrier down for 6-8secs, exit barrier down for 6-8secs)
4. Check highway and pedestrian crossings are clear of obstructions
5. Press ‘crossing clear’ (this informs Cambridge signal box that the crossing is clear and then can then safely clear the signals to allow trains to pass through the crossing)

Note that the crossing is checked twice, once before the gates are locked and barriers are lowered, and again before the message is sent to Cambridge Signal Box to confirm that the crossing is clear and trains can be given clear signals through the area.

Note also that the crossing at Foxton is very different to the crossing at Shepreth which is protected using ‘automatic half barriers’.
Photographs

At the end of the document are a series of sets of photographs showing the various normal and diversionary routes through the crossing. The routes which are covered are:

1. The Barrington Road crossing
2. The Station Crossing
3. The Road Crossing
4. The Diversionary Crossing
5. The Diversionary Route from Barrington

Videos

Barrington Road Crossing (http://youtu.be/ljXPBsFOh5c) showing a train passing. Just as the train clears the crossing there is a click as the locks on the gates release.

Gate closing sequence on the road crossing (http://youtu.be/3iOIAPLBLAc) showing the following times relative to 6.00 seconds into the video when the gate closing sequence starts:

1. 0.00secs Yellow light and audible warning (this would be the time the pedestrian gates are locked)
2. 3.25secs Red light (note: at 5.5 secs a van passes through the flashing red lights)
3. 8.25secs Entrance barrier starts to close
4. 14.75secs Entrance barriers closed, exit barriers start to close,
5. 22.00secs Gates fully closed. Audible warning stops.

Although not included in the video, the train passes approximately 2mins 20secs after this.
Problems and Risks
Many problems are reported at the crossing. The following section describes some possible scenarios for problems at the crossing. Their inclusion in this list does not imply they have happened in practice. It does not cover issues which may be caused by lighting (e.g. after dark).

The Pedestrian Crossing Gates are out of Action

When there is a problem with the pedestrian gates, they are locked out of use by Network Rail and pedestrians need to use the diversionary route across the main road. The route across the railway is more dangerous than the normal pedestrian crossing due to its proximity to road vehicles passing nearby at 50mph. This has been improved as the walking area has been widened. However access to the crossing is very poor due to railings at either end.

At the South End the railing effectively blocks access to the path so the pedestrian needs to enter the road to reach the crossing.
At the North end it is necessary to walk to the right of the railing. This is sometimes made more difficult by cycles locked to the railing, which in turn are parked there because the station only has cycle racks for 10 bicycles.

A Wicket Gate does not lock
This should not happen, but if such a fault did occur then it would be possible for someone to enter the crossing when a train is passing.

The Signalman Locks a Pedestrian between the gates
If the gates were locked with someone between and the signals were cleared then there would be a risk of an incident. For this to happen 3 things would need to occur:

1. The signalman does not notice the person before the gates are locked
2. The signalman again fails to notice the person when the gate closing sequence is complete, but before the ‘crossing clear’ signal is sent to Cambridge
3. Even after that signal has been sent, the train will typically not arrive for another 2 minutes so during this time there would be an opportunity for the signalman to release the pedestrian gates to let the person through

Having mentioned the various ways in which an initial mistake could be mitigated, it could still be a traumatic experience even if the pedestrian was not at risk.
**The Gate locks but the Pedestrian attempts to cross via the Road**

The pedestrian ‘wicket gates’ are typically locked at the same time as the yellow light illuminates on the main crossing at the start of the Gate closing sequence. However if the pedestrian ignores the lights and audible warning they may have a few seconds when they can go round the railings and enter the road crossing under the barriers before they start to close.

Having entered the crossing that way, it may be tempting to cross back over to the normal pedestrian crossing, but if they do this they will find the exit gate is already locked.

Alternatively they could head for the exit barrier, but could have as little as 6 seconds from entering to exiting if they have ignored the audible warnings (if the warnings are observed then the time from the start of the audible warning to the exit barrier closing is about 15 seconds).

**A trapped person is unsure whether there is space for a train to pass**

The pedestrian gates at Foxton are flush with the railway’s boundary fence which is close to the track so if a pedestrian did get trapped then it would not be clear to them whether the best option was to stay where they were and stand close to the fence, or to try and escape via the road crossing exposing themselves to risk of tripping of falling into the path of the train as they do so. If the gates were set back from the fence line in a recess then it would be very clear to that the recess was a safe place to stand, so although the situation would not be ideal, it would no longer be risky or traumatic.
Photographs of the Barrington Road Crossing

View across the A10 to the southern end of the Barrington Road Crossing:

Waiting at the entrance gate to the crossing:
View across the crossing:

The entrance gate is locked until the train passes:
Network Rail Helpline number on the entrance gate:

Entering the crossing:
Crossing the railway:

Exiting the gate at the North side of the crossing:
The road North from the crossing towards Barrington:
Photographs of the Station Crossing

Approaching from the Foxton village side of the railway:

The lockable ‘wicket gate’ protecting the crossing:
Notices at the entrance with the phone number for the Network Rail Helpline:

Entering the crossing through the gate on the South Side:
Looking back towards the entrance gate to the South of the Crossing:

Entering the Crossing through the gate on the North Side:
Crossing the railway:
Photographs of the Road Crossing

View across the road crossing as the barriers rise behind a London to Cambridge train stopping at the station:
Photographs of the Diversionary Crossing
When the normal pedestrian route is out of action, the pedestrians need to cross under the main barriers alongside the main road. There is a notice at the entrance to this route explaining this should only be used when there is a failure on the normal route:

Another view of the barrier to the diversionary route:
The diversionary route alongside A10:
Photographs of the route from Barrington to Diversionary Crossing

When the Barrington Road crossing is out of use, pedestrians need to make the following long diversion when coming from the Barrington direction. Initially they will need to backtrack to this road junction:

Then continue to the A10:
Before walking alongside the A10 with lorries passing a couple of feet away at 50mph while trying to push past bushes overhanging the pavement:

The path then improves closer to the crossing. At some point along here it is necessary to cross the busy A10 as the routes across the railway are both to the East side of the road:
Finally at the crossing, the route across the railway is either by the normal route on the left or the diversionary crossing under the main barriers to the right of the fence.