

Ipswich, the A14 and the Orwell Bridge

Martin Fellows

Regional Director (East) Operations
Highways England

26th January 2017

Agenda

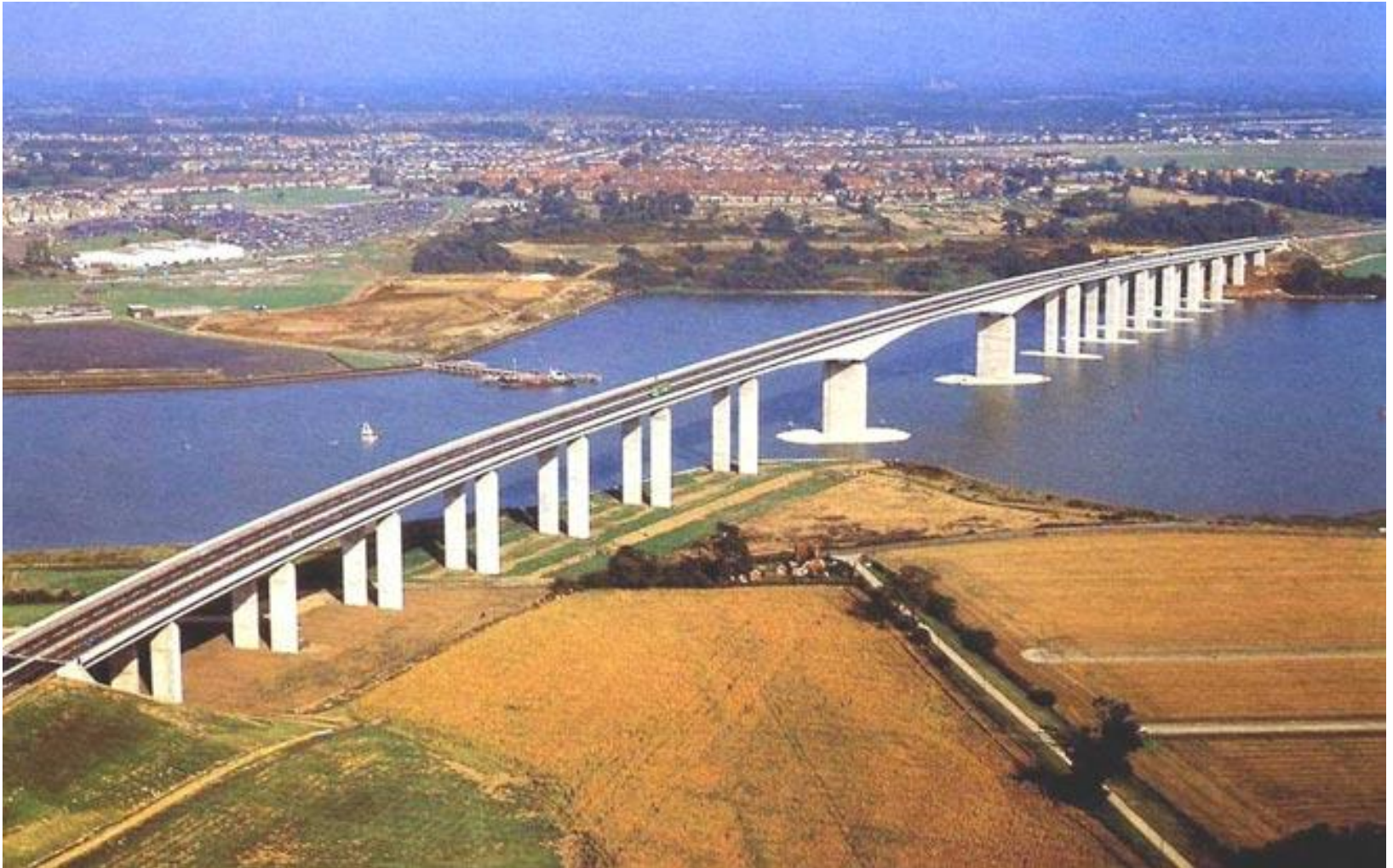
AGENDA		
Time	Description	Lead
11.00 – 11.15	Introduction and purpose	Martin Fellows
11.15 – 11.30	Suffolk County Council Introduction	James Finch
11.30 – 11.45	Bridge overview and operation	Simon Amor
11.45 – 12.00	The bridge in local infrastructure and economy <ul style="list-style-type: none"> • Impact of the bridge on local businesses • Traffic issues on the bridge and around Ipswich 	Simon Amor Nick Burfield
12.00 – 13.00	Managing bridge closures Including feedback from working groups e.g.: <ul style="list-style-type: none"> • Group 1 – Communications • Group 2 – Traffic Management Action planning	Nigel Allsopp
13.00 – 13.10	Road Investment Strategy and long term aspirations	Simon Amor
13.10 – 13.40	LUNCH	
13.40 – 13.50	Ipswich Samaritans	Anne Reeder
13.50 – 14:10	Suicide prevention	Simon Amor
14.10 – 14.45	Closing comments	Martin Fellows

Introduction and Purpose

Martin Fellows

Regional Director (East) Operations

Highways England



- The A14 is vital to the national economy in carrying freight from Felixstowe ports to all parts of the UK.
- The Orwell Bridge acts as an A14 southern bypass for Ipswich.
- It is a key asset for the region and nationwide.
- Disruption to either has an immediate and detrimental effect on Ipswich travel and business.
- Highways England is committed to working with partners to operate the A14 Orwell Bridge as effectively as possible.
- Today is not just about high winds!

Suffolk County Council

Cllr James Finch

Bridge overview and operation

Simon Amor
Highways England

1. Construction of the bridge commenced in October 1979 and was completed in December 1982.

2. It is 1287m long and 43m tall.

3. It has 18 spans.

4. Each carriageway has a separate deck.

5. When built it was the longest continuously post-tensioned concrete bridge in the UK.



9. Bearings are provided on the top of each pier which allows movement of the bridge deck to allow this expansion.

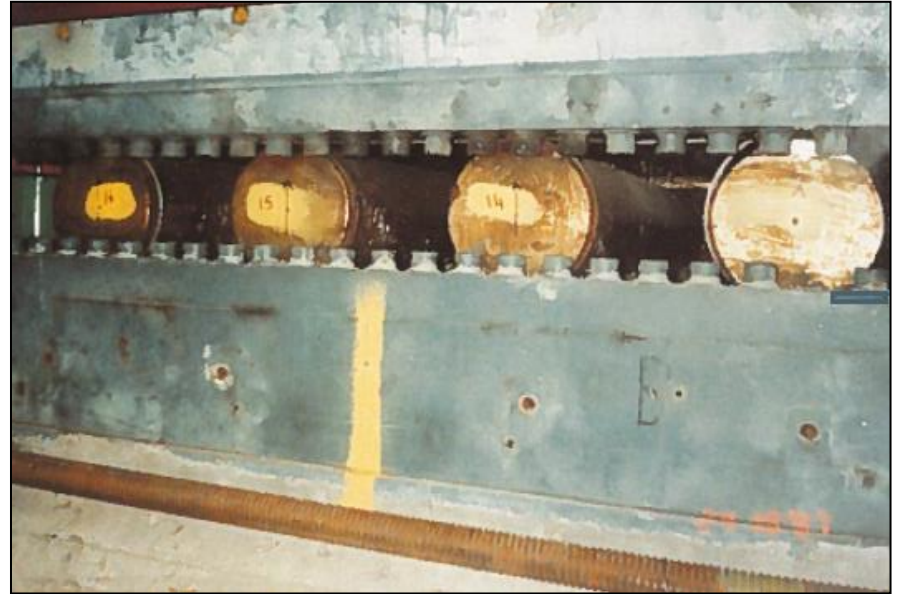
8. The bridge grows and shrinks in length by as much as 600mm due to thermal expansion.

7. The bridge carries a water main which supplies water to Felixstowe.

6. It is the longest bridge in the UK which isn't tolled.

Maintenance

- In 1997/98 cracked roller bearings were replaced at a central span pier.
- This was followed by bearing replacements in 1999 and 2007 for 3 other piers.
- We have an extensive monitoring regime for the other bearings to check that they are allowing deck movement and we intend to install further automatic monitoring in 2017.
- No further bearing replacements are planned for the near future, although further replacements are likely in the longer term.
- There are also large movement joints at each end of the bridge. These were replaced in 1998 and further maintenance work was carried out in 2008.

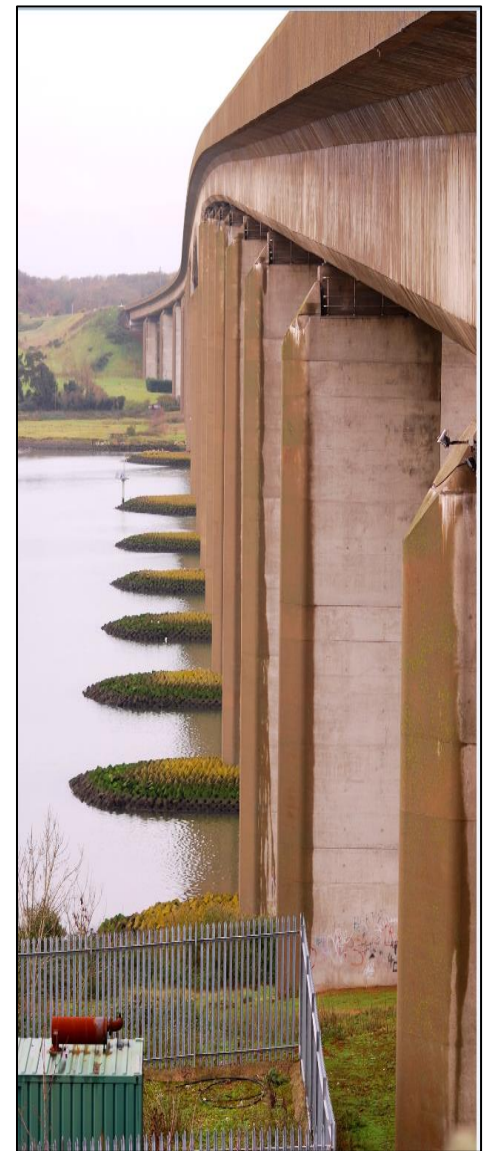


Routine maintenance

- We have monthly walk through inspections of the bridge and a programme of annual routine maintenance.

Planned work

- We carry out a detailed inspection of the bridge every 6 years.
- The next inspection is to be carried out in summer 2017. This involves abseiling on piers and the deck to allow all parts to be looked at. This work will take at least a month.



Operational Challenges

- 55,000 vehicles per day (annual average daily traffic).
- Carries high proportion of local traffic and long distance traffic.
- Disruption to either has an immediate and detrimental effect on Ipswich travel and business.
- Safety scheme implemented in 2016 – initial view is that the scheme has been successful in reducing the number and severity of incidents.
- We will carry out a formal review of how successful the scheme has been 12 month after completion.

Impact of closures on local businesses

Nick Burfield

Policy Director

Suffolk Chamber of Commerce

- Staff got into work very late: not until late in the afternoon; some simply gave up;
- Deliveries and collections were missed, 'slots lost and ad hoc storage arrangements had to be made;
- Public transport was badly constrained which caused a multiplier effect;
- Business lost quantifiable hours and productivity
- Could the closures only apply to high sided vehicles?
- Why was 'operation stack' not enacted?

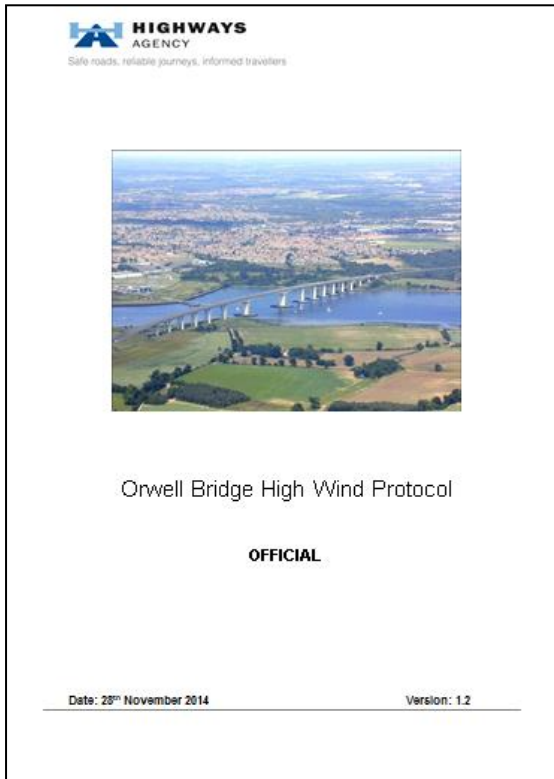
- Were people given enough prior warning?
- Not everyone listens to local radio; what other media were used? Twitter, Facebook and the e-information boards along the A14?
- Is there a list people can add themselves to that will circulate information and updates?
- Why are key contacts not identified directly e.g. the ports, Chamber of Commerce, Ipswich Buses?
- The approved diversion routes are not adequate and are not well enough signed;
- Communication during closure, clarification around likely re-opening and speed at which the Orwell Bridge was re-opened.

Managing Bridge Closures

Nigel Allsopp

Asset Development Team Leader

Highways England



- Protocol in existence since the bridge was built, part of our service provider's severe weather plan.
- Updated with the Local Resilience Forum (LRF), lessons learnt from the St Jude Storm (October 2013) and successive 2013/14 winter storms
- Latest version November 2014
- *Very Rarely Used*

Orwell Bridge Planned Closures

Incident Type	Whole carriageway closed	Total Closure (Both Carriage ways)	Slip road(s) closed	Rolling Closure	Opposite carriageway lanes closed	Junction Closed	4 lanes closed	2 lanes closed	1 lane closed	Total
Breakdown - live lane				2					35	37
Fire Incident							1		2	2
Infrastructure Defect				2					1	3
Obstruction	1								2	3
Other			1							1
Pedestrian	4	2		2					1	9
Planned Roadworks	8	1	1			1			50	61
Police Response	1									1
Road Traffic Collision	6	3		1	2			3	34	49
Spillage									1	1
Strong Winds	2	3								5
Suicide / Attempted Suicide	1	3							2	6
Total	23	12	2	7	2	1	1	3	128	179

January 2011 to September 2016 there were only 5 weather-related planned closures

Risk Assessment and Thresholds

- Decisions never taken lightly, have to balance expected disruption against public safety.
- Closure threshold is 60 mph.
- Risk assessment changes based on gust strength and direction.
- Early protocol triggers are at 45 mph.
- Have to take subjective judgment, based on weather forecast as to whether 60 mph is likely to be met.
- Intervention needs to be pre-60mph for practicality and safety.
- Multi-agency decision based on intelligence.

22nd/23rd November 2016

- Orwell Bridge Closed in excess of 12 hours for wind.
- Debrief indicated that while the closure itself went well, communication was poor.
- Disruption to Ipswich public and businesses was extreme.
- Public, political and business questions around closure options and risk assessments.
- At 19th December meeting, as well as today's "summit", HE agreed to chair two subgroups:

Communications

Traffic Management

Communications Sub-group

- Police HQ, Martlesham Heath, 12th January 2017, am.
- Civic, LRF, emergency service and business representation.
- Press officers from key stakeholders.
- HE led session to map communications routes:

Who needs to know what and when?

What are the risks and opportunities?

Define responsibilities.

Comms Sub-group - Outcomes

- Current protocol communicates decisions to emergency services and key stakeholders but not the public.
- *Highways England must lead on pro-active communication of planned Orwell Bridge Closures.*
- *Decision to inform the public should be taken earlier based on risk/probability.*
- The group felt that the risk of “crying wolf” was worth taking, if communicated properly.
- Protocol needs to be updated to reflect these changes.
- *12th Jan press release that bridge would not close on the 13th, based on current intelligence.*



What can we help you find?



Home

The Bridge

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Report a problem

Welcome to the Forth Bridges Unit

The Forth Bridges Unit is operated and maintained by Amey.

About us >



Last updated at 19 Jan 2017 16:05



Webcams



No restrictions

No restrictions on bridge

Last updated: 15:59 on 19 Jan 2017



Windspeed



Forth Road Bridge reopens

Recovery and temporary repairs completed to allow traffic back on the bridge Transport Minister Humza Yousaf has praised the Forth Road bridge team for their effort in getting the bridge open. A full press release is available on the Transport Scotland website. [Read more](#)

Last updated at 11 Jan 2017 21:15



News



Traffic Management Sub-group

- Police HQ, Martlesham Heath, 12th January 2017, pm.
- Civic, LRF, emergency service and business representation.
- Press officers and traffic managers from key stakeholders.
- HE led session to capture traffic management options:

What are the risks and thresholds?

Do we have to close the bridge?

How do we close the bridge?

What are the alternatives?

TM Sub-group – Outcomes 1

Existing Situation:

A) Planned closure for roadworks.

HE-led, pre-agreed diversion route through Ipswich, (J55 Copdock to J58 Seven Hills) symbol signed. Generally at night and in one-direction only for maintenance.

Issues: *Symbol signs are easily missed and can be ignored in favour of sat-nav or local knowledge.*

B) Planned Closure for weather.

Issues: *As above but daytime and both directions, huge disruption possible and probable.*

C) Unplanned closure for incidents.

Police led for public safety, closure likely to be J56 Wherstead to J57 Nacton.

Issues: *Unlikely to be time for pre-communication.*

TM Sub-group – Outcomes 2

Closure triggers:

Are the current criteria and risk assessments within the protocol correct?



There are consequences to getting it wrong!

<https://www.thesun.co.uk/wp-content/uploads/2017/01/nintchdbpict000293700816.jpg?strip=all&w=960>

Wind strength, direction and vehicle type all interact.

Is there any scientific literature?

TM Sub-group – Outcomes 3

Filtering Vehicles:

A list of questions that the sub-group could not immediately answer:

Can high-sided vehicles be split out?

What types of vehicles and what are the criteria?

How do we communicate and enforce it? What signage?

What physical measures and resources would be required?

What are the safety risks?

How long would it take?

TM Sub-group – Outcomes 4

Stacking vehicles:

Another list of questions that the sub-group could not immediately answer:

Where would we stack vehicles?

Is it enforceable?

How do we communicate and enforce it? What signage?

What capacity would it need?

What welfare considerations? And at what cost?

How long would it take?

TM Sub-group – Outcomes 5

Platooning vehicles:

Does taking small groups across slowly, under escort, possibly in lane 2 make it safer?

Many of the same questions as previously – how is it managed?

Speed limits:

How do we impose lower speed limits?

Does vehicle speed actually make a difference?

TM Sub-group – Outcomes 6

Wind Protection:

Other bridges at other locations have screens, baffles and buffers to allow traffic to pass in worse conditions.

What lessons can be learnt from other bridges?

What options are available for Orwell?

What are the engineering implications?

How much difference would it make?

At what cost?

TM Sub-group – Outcomes 7

Additional Highways England resource:

Police and our service providers currently manage and implement closures.

Contractual changes have meant that HE service providers no longer have Incident Support Units (ISU) on call.

The nearest HE Traffic Officer outstation location is Whittlesford depot, south of Cambridge, e.t.a. to Ipswich, 2 hours.

Can Highways England revisit ISU deployment?

Can HE Traffic Officers be located on A14/A12?

Sub-groups – Recommendations 1

- Highways England must lead on pro-active communication of planned Orwell Bridge Closures.
- Any decision to inform the public should be taken earlier based on risk/probability even if no action planned.
- A review of the current agreed diversions and investigation of alternative route options.
- An academic study to back up the trigger thresholds with scientific modelling. This would include vehicle types and speeds.
- A feasibility study into how and where vehicles could be split by height/weight/type.

Sub-groups – Recommendations 2

- A full study into the options and feasibility of an additional east-bound stack area before the Orwell Bridge.
- A feasibility study into wind protection options on the bridge.
- Highways England to review deployment of Incident Support Units (ISU) and Traffic Officers to facilitate bridge closures.
- Highways England to conduct a feasibility study into what additional Traffic Management options could be installed to facilitate closures of the bridge.
- Sub-groups to reconvene at appropriate dates to consider outcomes of the above.

Road Investment Strategy and long term aspirations

Simon Amor

Asset Development Manager

Highways England

The process of developing RIS2

Why

The Road Investment Strategy process enables a more strategic process of setting investment.

Previously, ministers have had to choose from a set of historically-determined options.

Now, it is possible to set the agenda and build up an investment programme from the beginning.

What

There are four parts to the RIS:

- ▶ ***Strategic Vision***
- ▶ ***Investment Plan***
- ▶ ***Performance Specification***
- ▶ ***Statement of Funds Available***

When and how

Process published with Budget 2016:

- ▶ **Research phase** gathers evidence for potential priorities and investments; seeks the views of stakeholders. This is scheduled to last **until the end of 2017**.
- ▶ Formal **negotiations** with Treasury and Highways England would **start in 2018**. This would determine the funding available and set the performance specification.
- ▶ The **RIS will be formally published by March 2020**, with construction starting from 2020

Where are we now

- ▶ **Strategic Studies** are well advanced
- ▶ Evidence collected for **Route Strategies** through online mapping tool
- ▶ Process for gathering **stakeholder views** to inform the RIS underway

How do we currently think RIS2 will look?

1

RIS2 has five key aims ...

- a) Economy
- b) Network Capability
- c) Integration
- d) Environment
- e) Safety

2

It seeks to take account of a changing world ...

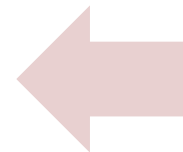
- a) Devolution
- b) Growth & Economic Change
- c) Population Growth & Demographic Shifts
- d) Environment & Climate Change
- e) Technology

3

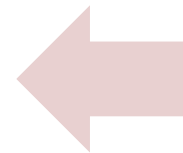
And will need to make decisions about ...

- a) Shape of the Network
- b) Lessons from RIS1
- c) Linking up our work with the National Infrastructure Commission
- d) National Roads Fund

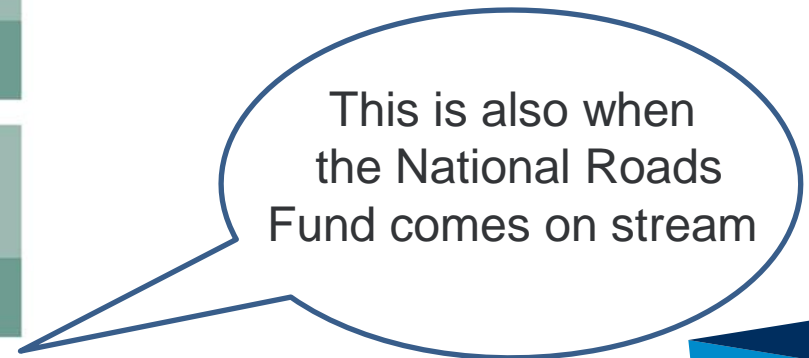
Road Investment Strategy: key dates



until the end of 2017



between 2018 and 2020



LUNCH

Suicide prevention

Simon Amor

Asset Development Manager

Highways England

Background

- Since Orwell Bridge was completed in 1982 there are records of some 44 suicides.
- We have phones located at the 4 corners of the bridge which link directly to Ipswich Samaritans.
- In March 2015 a comprehensive review of suicide prevention methods looked at options for reducing the number of suicides at the bridge, together with best practice from other bridges.
- The outcome was that we decided to upgrade the Samaritan phones which will be installed in 2017.
- This will provide more modern equipment and a better environment for those using the phones by moving them further from the A14 carriageway.



Public access

- In October 2016 we completed further study work on possible means of restricting pedestrian access to the bridge.
- At the end of February 2017, we will be closing the 3 laybys on the NE, NW and SW corners of the bridge.
- The laybys were used during several suicide attempts and closure will help to restrict pedestrian access to the bridge.
- We are developing proposals for permanently closing the laybys, but providing alternative means of access for our maintenance personnel.
- Orwell Bridge forms part of the Stour and Orwell Walk and uses the southern footway over the bridge.
- The footways are also essential for safe maintenance of the bridge and a refuge for drivers of broken down vehicles.
- As the walk only uses the southern footway, we are investigating further the closure of the northern footway, including closing access to the bridge from beneath.
- There are potential issues with any gate and/or kerb line fencing used to restrict access being within the working width of the safety barrier.

It is likely that any gate here would need to be passively safe.

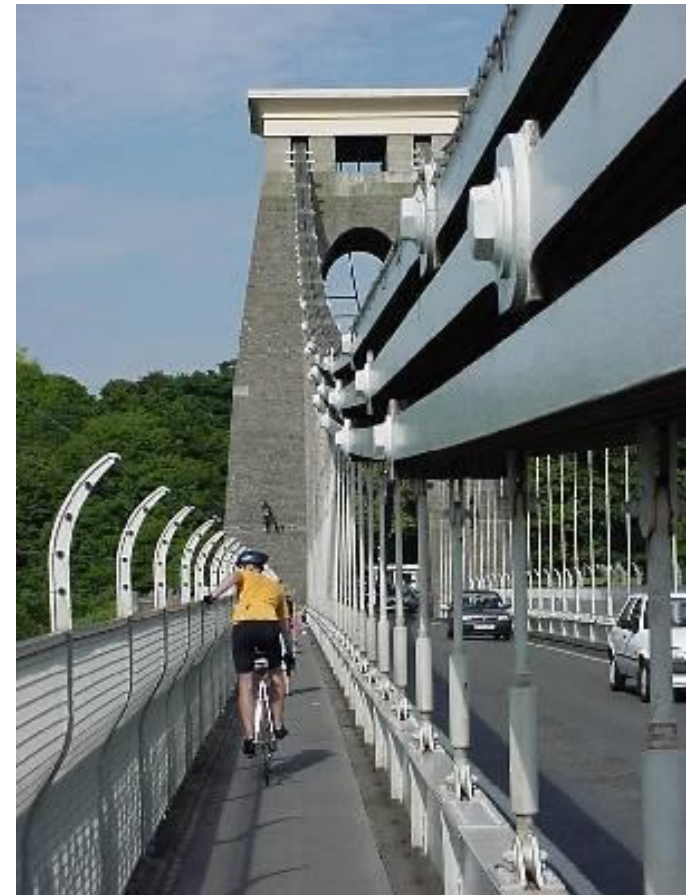
Barriers

- Barriers would be the most effective method of reducing suicides at Orwell Bridge.
- There is also the potential that they could reduce the number of bridge closures, by shielding the carriageways from high winds.
- Some outline assessment work has been carried out to investigate the effects of barriers on the structure, which could increase wind loading by 22%.
- In 2017 we will be carrying out more detailed assessment work to determine the structural effects of installing barriers.
- This will allow us to determine what style of barrier could be installed, and provide more accurate costs.



Grafton Bridge, Auckland, NZ

- Barriers are expensive due to the length of the bridge, and could cost well in excess of £2.5m.
- Addition of extensions to the parapets could pose a vehicle safety risk which would have to be looked into in detail and possibly requiring full scale impact testing.
- If barriers are installed, we must still be able to safely access all parts of the bridge for maintenance.
- Testing may also be needed on wind effects on the bridge.
- The bridge is in an environmentally sensitive area and barriers would affect the aesthetics of the bridge.



Clifton Bridge, Bristol

Going Forward

- Implement short term measures
- Continue to work on measures to make bridge less accessible
- Feasibility of longer term measures
- Work with partner organisations

The way forward

Martin Fellows

Regional Director (East) Operations

Highways England