

Reliability of journeys on Highways Agency roads, England: October to December 2014

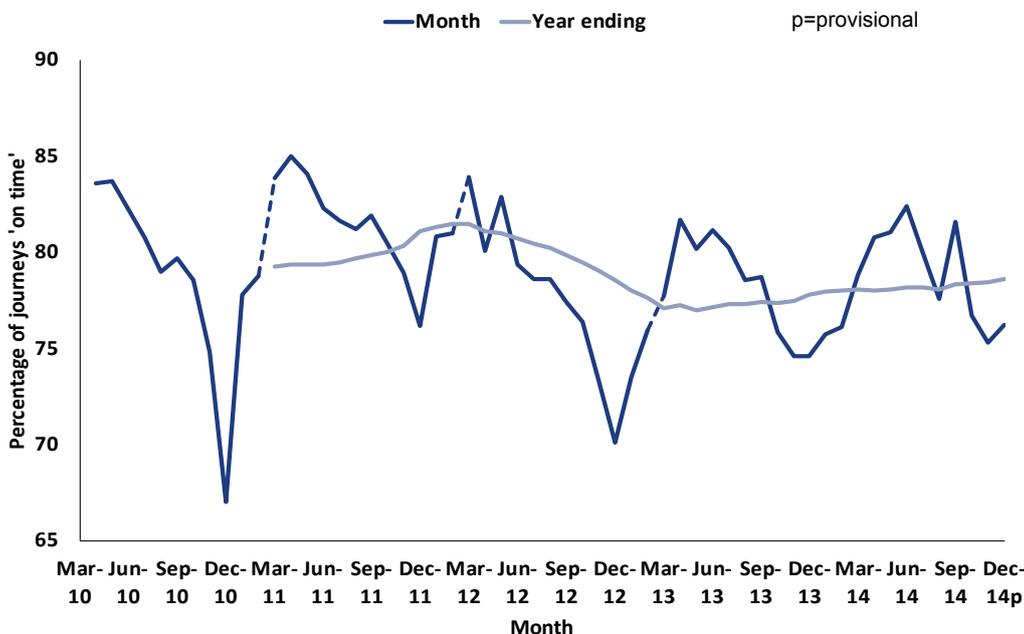


Department for Transport

Main findings: Reliability of journeys broadly stable since March 2013

- ▶ **78.6% of journeys on the Highways Agency's network were 'on time'** in the year ending December 2014, a **0.3 percentage point increase** compared to the year ending September 2014.

Percentage of 'journeys' on Highways Agency roads that are 'on time': monthly and annual averages from April 2010-December 2014 p (Table [CGN0104](#))



- Reference times are updated for the April data each year.
- Data to December 2012 were revised in March 2013 as a result of the implementation of planned methodology changes

Important note - planned changes to these reliability statistics

- We propose to cease production of statistics relating to the current 'on time' reliability measure after March 2015 data is published, in May 2015.
- We propose to publish statistics on a new reliability measure later in 2015. These will replace the 'on time' reliability statistics currently published.

For more information about why we are proposing these changes, and for proposals to publish new, additional travel time statistics please see page 3 of this release. If you would like to provide feedback on these proposals, or would like further information, please use the contact details at the bottom of this page.

About this release

This statistical release presents information about the reliability of journeys on motorways and 'A' roads managed by the Highways Agency, known as the [strategic road network](#). The reliability of journeys on Highways Agency roads is measured by the percentage of 'journeys' that are 'on time', comparing journey times with historical data for individual sections of road. This reliability measure is one of a number of indicators in the Department's [2012-2015 Business Plan](#).

In this publication

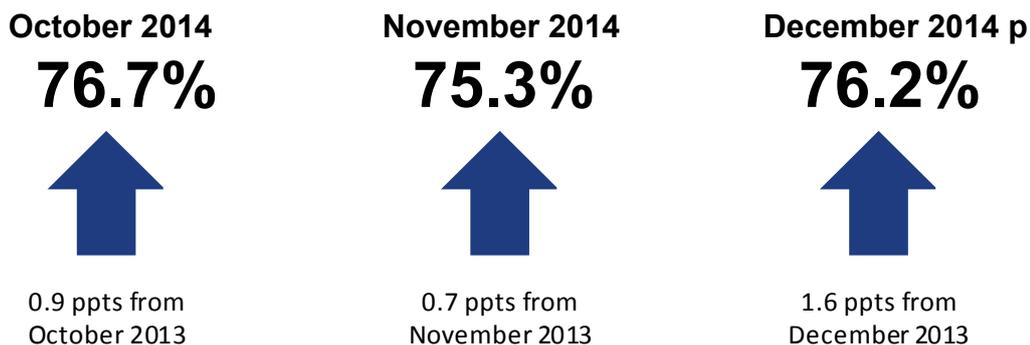
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National overview of reliability

Latest statistics: 78.6% of journeys on the Highways Agency managed network between January and December 2014 were 'on time'. This is a 0.3 percentage points (ppts) increase compared to the year ending September 2014.

During the month of October 2014, the percentage of journeys 'on time' was 76.7% (up 0.9 percentage points from October 2013). In November 2014 it was 75.3% (up 0.7 percentage points from November 2013) and it was 76.2% during December 2014 (up 1.6 percentage points from December 2013).

Change in monthly reliability performance ([CGN0104](#))



p=provisional while final checks on the raw data sources underpinning the statistics are carried out. They will be finalised in table [CGN0104](#) in March 2015, but are unlikely to change from the provisional estimates.

Recent trends: The annual reliability measure (percentage of journeys on time) consistently increased from the year ending March 2011 up to March 2012, but decreased in each of the following twelve months to March 2013. The changes in reliability over this period are believed to be predominantly due to large changes in rainfall and periods of heavy snowfall in England, relative to the previous year.

The reliability measure has been broadly stable since the year ending March 2013. During the rest of 2013, this relative stability was believed to relate to a combination of lower levels of rainfall (which in itself is likely to lead to improved reliability) and increases in traffic on motorways and rural 'A' roads (which may lead to lower levels of reliability), relative to the previous year.

During 2014 we have continued to observe small increases in traffic on motorways and rural A roads and rainfall in England, has, in many months, been higher than in the same months in 2013. In this context we may have expected reliability levels to fall in some months, so the reasons for continued stability throughout 2014 are less clear. Reference journey times updates for April 2014 data may partly help to explain recent trends (see Background information section for more details).

Towards the end of 2014, rainfall was lower in most months compared to the same months in 2013 which may partly explain small increases in reliability since August 2014.

Introduction

The Highways Agency's network of motorway and 'A' roads accounts for around 2% of all roads in England, but carries around a third of all traffic.

The reliability of journeys on the Highways Agency's roads is a measure of how predictable journeys are on the network. For the statistics in this release, reliability is measured by the percentage of 'journeys' that are 'on time' where:

- ▶ 'Journeys' are defined as travel between adjacent junctions on the network
- ▶ An 'on time journey' is defined as one completed within a set reference time, based on historic data on that section of road.

The data are based on journey times which are estimated using in-vehicle Global Positioning Systems (GPS) and traffic flows estimated using automatic traffic counters.

For further information, a useful [introduction to the Department's road congestion and reliability statistics](#) is available.

Update on future plans

Important note: Proposed changes to the reliability statistics

- We propose to cease production of statistics relating to the current 'on time' reliability measure after March 2015 data is published, in May 2015.
- However, we still intend to measure reliability and we propose to publish statistics on a new reliability measure later in 2015. These will be published as 'Experimental' statistics and will replace the 'on time' reliability statistics.
- In addition, we propose to start publishing statistics on average speeds and congestion (measured by average delay) on the strategic road network (SRN).

The new reliability measure we are proposing to introduce later in 2015 is known as the Planning Time Index (PTI). The PTI aims to measure the additional time that drivers need to leave to ensure that they arrive at their destination 'on time' most of the time (e.g. I need to leave an extra 20% of time - on top of the expected time under free-flow conditions - to arrive 'on time' most of the time).

These proposals have been made following feedback from a number of local authorities and other stakeholders, to ensure our statistics continue to meet the needs of our users. Moreover, they are the result of a long programme of work with the Highways Agency. Taken together, the three proposed measures aim to provide a more holistic evaluation of travel time performance on the SRN.

We are planning to publish more information and ad-hoc analysis of the proposed new measures alongside the next statistical release in May.

If you would like to provide feedback on these proposals, or would like further information, then please use the contact details on the front cover of this release.

Experimental Statistics: Reliability for individual road sections

Following their introduction in August 2013, we have continued to publish 'on time' reliability statistics for individual road sections. Examples of how these analyses can be presented are shown on the next page. These statistics are currently 'badged' as 'Experimental' and are undergoing evaluation. As discussed in the May and August 2014 statistical releases, the analyses are now presented on an annual basis. The following analyses present performance for the year ending December 2014 and, where relevant, compare it with the year ending December 2013. We continue to welcome any feedback to improve the presentation of these statistics for future releases. Please contact us using the details provided on the front page of this release.

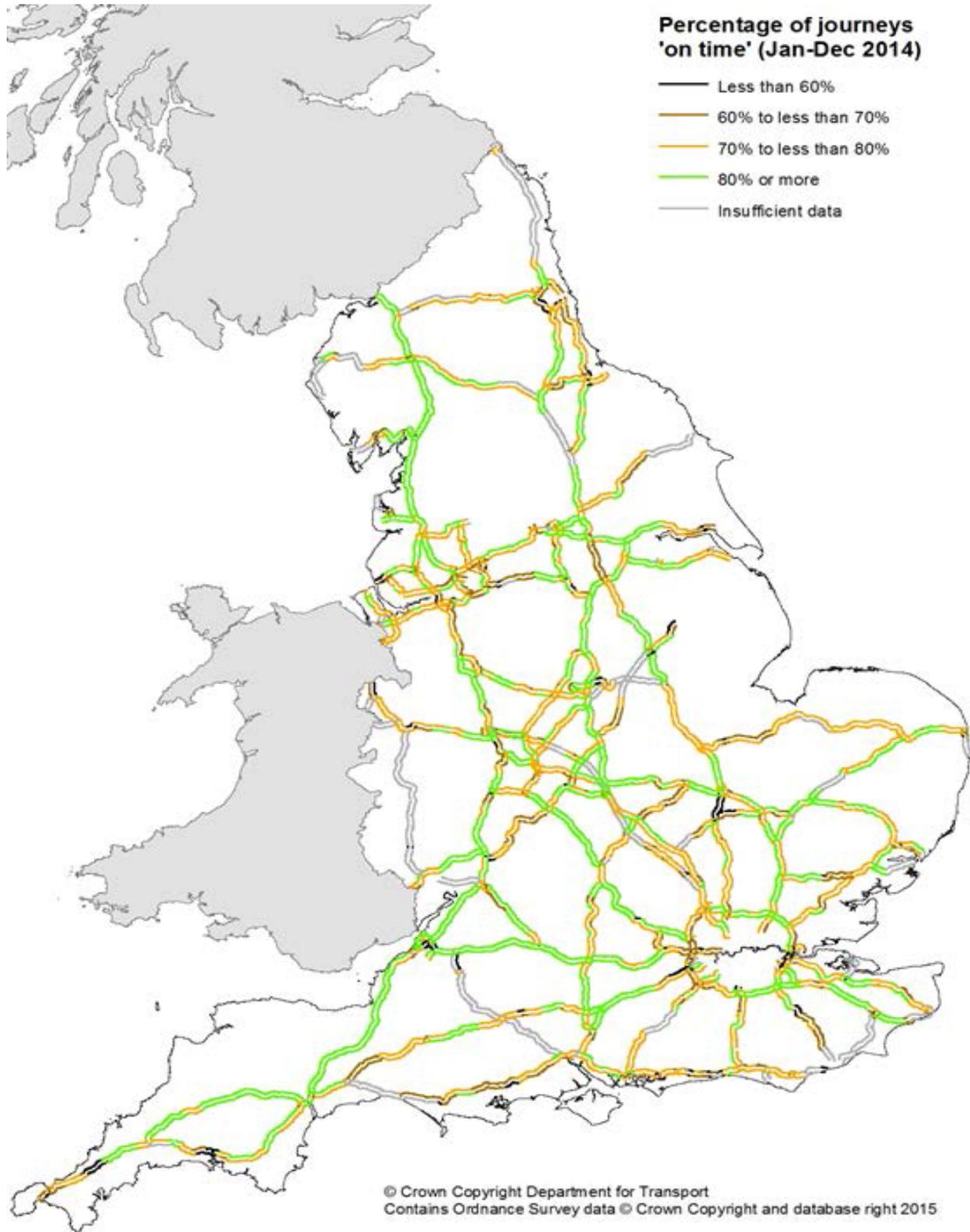
Please note

We will be unable to produce statistics for the current 'on time' reliability measure on a consistent basis following the publication of data to March 2015. This is because the Highways Agency are replacing the geographical network on which the current statistics are based.

Experimental Statistics

The statistics for individual road sections on the strategic road network in this publication are labelled as Experimental Statistics. These official statistics are labelled as Experimental so that users and stakeholders can be involved in their development. It is accepted and expected that the quality of Experimental Statistics improves in the light of stakeholder use and feedback – to the point that they can be formally designated as National Statistics.

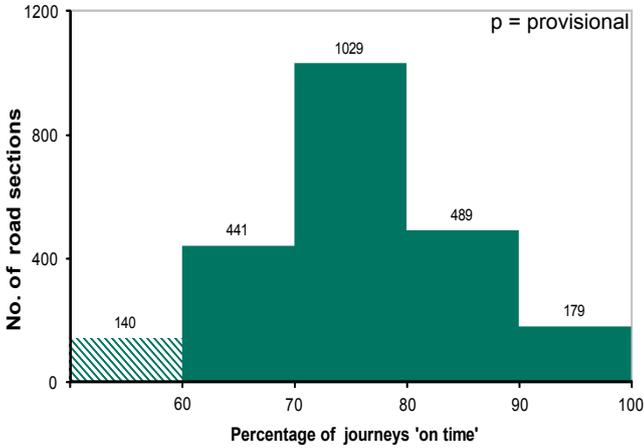
Experimental Statistics: CGN0107, Percentage of journeys on Highways Agency roads that are 'on time': by individual road section, year ending December 2014 p
(Table [CGN0106](#))



Insufficient data - Individual road sections where the level of national imputation is high or corresponding references are of poor quality. If you require a copy of this map in different colours please contact the congestion statistics team.

p = provisional

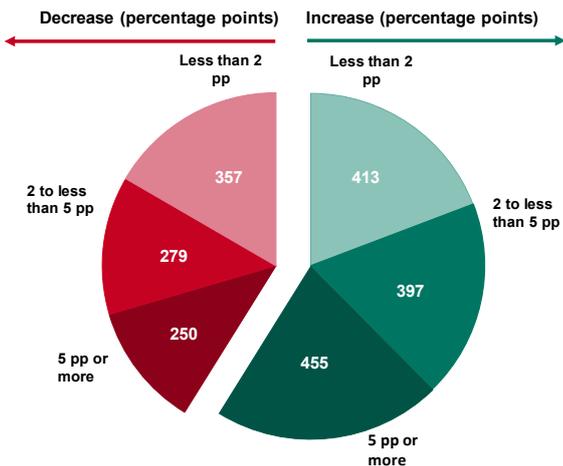
Experimental Statistics: Percentage of journeys 'on time' for each road section on Highways Agency roads: year ending December 2014 p



The 'hashed' area of the chart represents the number of road sections where the percentage of journeys 'on time' was less than 60%.

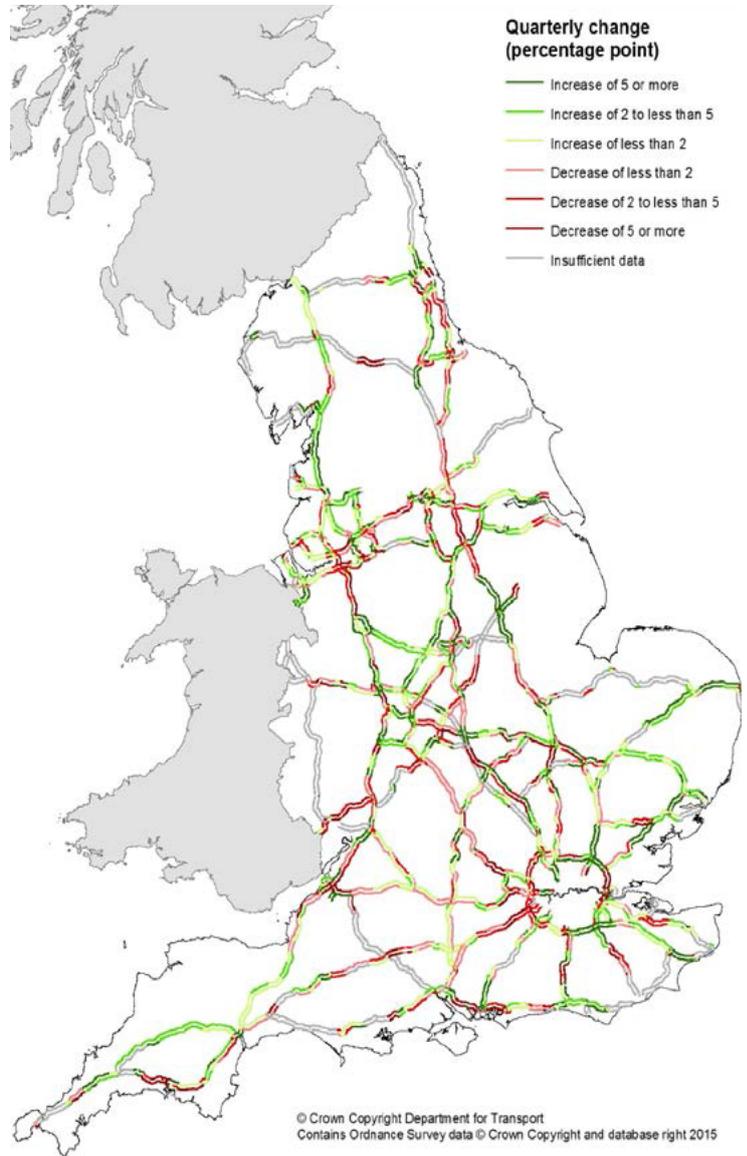
Road sections with insufficient data have been excluded.

Experimental Statistics: Percentage point change in journeys 'on time' for each road section on Highways Agency roads: from year ending December 2013 to year ending December 2014 p



Road sections with insufficient data have been excluded.
p = provisional

Experimental Statistics: Percentage point change in journeys 'on time' for each road section on Highways Agency roads: from year ending December 2013 to year ending December 2014 p



Insufficient data - Individual road sections where the level of national imputation is high or corresponding references are of poor quality.

If you require a copy of this map in different colours please contact the congestion statistics team.

p = provisional

Background information

Strengths and weaknesses of the data

As a measure that is based on comparing current journey times on the network to road users' previous experiences on similar types and times of day, these statistics are very useful in monitoring how predictable journey times on the network are. However, they do not directly measure whether congestion, in a physical sense, has improved or deteriorated over time.

For example, journeys on a particular stretch of road could be very slow moving at certain times of the day with lots of congestion evident. However, if the effects of this congestion were fairly predictable and journey times were similar day to day, these journeys would be considered reliable. Similarly, journeys on another stretch of road could be fairly fast moving on average, but equally would be considered unreliable if conditions varied wildly from day to day, with some journeys experiencing very little congestion while others were affected severely.

Methodology and technical detail

The statistics used to monitor journey time reliability on the Highways Agency's motorway and 'A' road network are compiled from in-vehicle GPS data and from flows estimated using automatic traffic counters.

Real, observed, journey time data with a good temporal match are used to estimate reliability for each section of road. Where no data of this quality are available for a particular section of road or time period, reliability levels are imputed. Imputation is predominantly based on corresponding monthly day-time and night-time averages for individual sections of road. Where there is insufficient data for individual road sections, national day-time and night-time averages are used to impute reliability levels.

There has been a reduction in the imputation levels from October 2013 due to the relatively large increase in the vehicle fleet (used to estimate journey times, which are used to produce the reliability statistics) at that point. A monthly breakdown of the amount of data requiring imputation is available [here](#).

Reference journey times are updated annually for the start of each financial year and are predominantly based on journey time data from the previous calendar year. This ensures that reliability levels are measured relative to the latest conditions experienced on each part of the network. Therefore, differences observed when comparing reliability for months in different financial years will partly reflect the change in the references used. For the latest reference change, which took effect from April 2014 data, the impact on the national measure is around +2.3 percentage points. This is due to slightly slower reference times from 2013, compared to the previous reference year's times. Although 2013 was generally drier than 2012 (which is likely to have reduced journey times in general), the slower reference times from 2013 may



Links for further information

[Guidance on the methods used to compile the reliability statistics](#) is available.

The historic reliability data series to December 2012 was revised in the March 2013 release, as a result of [planned methodology changes](#).

Reliability tables

Both the main tables on the reliability statistics, plus map CGN0107, are available [from the reliability tables page](#).

relate to heavy snowfall observed early in the year (particularly in January), combined with the small increases in traffic on Highways Agency roads.

Reliability data for individual road sections in table [CGN0106](#) are not published where the level of national imputation used in that estimate is greater than 20%, or where corresponding references are of very poor quality.

The estimates of journey reliability for individual road sections may reflect the impact of a number of factors, including roadworks. Where the time and location of roadworks are published in advance at <http://www.highways.gov.uk/traffic-information/traffic-information-services/scheduled-roadworks/> estimated impact of those works will be taken into account in the reliability estimates provided.

Next updates

Provisional 'on time' reliability figures for January and February 2015 will be published in table [CGN0104](#) on 12 March 2015 and 9 April 2015 respectively. The next release of 'on time' reliability statistics will contain final figures for January and February 2015, and provisional figures for March 2015. These will be published on 21 May 2015, as will the next update of sub-national statistics on individual road sections (in table [CGN0106](#)).

Request for feedback

We are keen to receive feedback from users of transport statistics. If you have any comments about how the statistics in this release are presented or analysed, please contact us using the details listed on the release's front page.

National Statistics

In July 2012, the United Kingdom Statistics Authority confirmed the designation of the national level statistics in this publication as National Statistics. This signifies compliance with the [Code of Practice](#) for Official Statistics.

A limited number of [ministers and officials](#) receive pre-release access to these statistics up to 24 hours before their release.