

Supporting the Dart Charge Project through Training and Development

Connect Plus is Highways England's (formerly known as the Highways Agency) main service provider for the whole M25. As part of a thirty year private finance initiative contract, Connect Plus has responsibility for delivering a number of large-scale, high profile road improvement projects around the M25.

Connect Plus Services (CPS), their operational and maintenance delivery partner, is making on-road changes at the Dartford Crossing to enable the implementation of a new free flow traffic charging system - the Dart Charge Project.

The Project

The Dartford Tunnel experiences 50 million crossings per year, with its original design capacities frequently exceeded causing traffic congestion and delay

The new Dart Charge scheme introduces free flow charging at the crossing. Automatic number plate recognition technology is used to record vehicles as they pass, without the need to stop at barriers. Work for the Dart Charge Project included removing the old charge barriers, reconfiguring the road layout and installing a new traffic safety system to protect the Dartford Tunnels.

In addition to improving congestion and average journey times, the scheme had to ensure continuity of service throughout the works, without a reduction in safety performance.



Hosting



Content
Development



Training

Case Study: Connect Plus Services

Pre-construction work began in November 2013. In May 2014 the new charging gantries were installed and testing began.

Prior to commencement of the major on-road works, encompassing reconfiguration of the road layout and introduction of the new charging system, CPS needed to implement a training programme.



Original Layout

Proposed Layout

A total of 127 personnel required training across the Project, including the Tunnel Operation Centre, Network Operation Centre, Incident Support Unit, Maintenance and Security operatives as well as Plaza operatives during the construction phase.

The training needed to be future proof, designed to meet the requirements of existing personnel migrating to new or re-structured roles, those working during the construction phase, and new starters recruited after completion of the Project.

The training also needed to be robust, demonstrating competence and safety compliance.

The Solution

CPS identified the need for a partner to develop and deliver the training programme and consulted with Larmer Brown following a tender process in May 2014.

“We had quite a unique requirement in terms of the

type of knowledge to be transferred and assessed,” commented Gerry Magennis, Training Manager at CPS.

“Larmer Brown’s proposal demonstrated an understanding of our requirements and the challenges we were likely to encounter, by providing a hybrid solution comprising a range of tools which have proven both robust and engaging to the learner.”

Larmer Brown’s solution would deliver training and competency assessment as well as point-of-use support for all operatives throughout the Project.

Larmer Brown proposed three tools that they had considerable experience of, to add value to the Project.

Engage Process Modeler - a dynamic business process management tool that would help to provide the initial conceptual information, by mapping out the processes that needed to be captured within the training content.

dominKnow Learning Systems’ Claro - this HTML5 content authoring tool would be used to develop all of the learning content, for both eLearning and classroom training delivery. Given that the main bulk of content needed to reflect the processes being followed on the motorway, tunnel and bridge, the choice of tool here was crucial.

Oracle’s User Productivity Kit (UPK) Professional - this would provide the repository for all of the learning content as well as a secure Training Portal to access the eLearning. UPK could also be utilised to create assessments, making it possible to track results and provide data required for management reports.

Initially, Larmer Brown created a prototype of

the proposed solution, with the HTML content proceeded by the process flows wrapped in UPK, to ensure efficient tracking and reporting.

Larmer Brown worked with CPS subject matter experts to develop the learning content for the four key training phases:

1. Kent Marshalling Area (KMA) Theory

The KMA is where haulage vehicles arrive when they come to the Dartford crossing. The Highways England Traffic Officers were responsible for the KMA but this was passed to CPS security operatives at the beginning of the Dart Charge Project.

It was therefore crucial that initial training was designed and delivered to ensure that CPS operatives understood their role, the regulations and how to handle the numerous potential scenario.

2. Phase 1 - Initial Construction

Learning content needed to be developed to provide different perspectives for each job role. Larmer Brown utilised maps of the new road layout. During initial training the construction had not started so the maps enabled operatives to visualise the new road structure and understand the procedures for handling different types of vehicle approaching the tunnel.

3. Phase 2 - Major Construction

This section of training introduced learners to a new graphical user interface. A new job role, the 'Spotter' was also introduced at this stage and learning content was re-designed to accommodate this.

4. The End State Phase

At this point the content was broken down into

smaller learning objectives so each section could be taught or referenced stand alone. It was important that this learning would still be beneficial beyond completion of the Project.

Each phase of learning included 'drag and drop' exercises to help consolidate what had been learned so far. An assessment was undertaken at the end of each training phase to evaluate comprehension. A pass rate was agreed and set which the learner needed to reach in order to continue with further learning modules.

In order to show operatives the new road layout early in the construction process, the Highways England had commissioned production of Virtual Reality Simulations. Larmer Brown integrated these videos into the eLearning content to make the new road layout as real as possible to the learners.

Initial training sessions were held in October 2014 to roll out the KMA theory content. These were delivered in the classroom by Larmer Brown Instructors supported by CPS subject matter experts.



Training Workshops were delivered to consolidate understanding, using a blend of classroom material and the eLearning content.

Larmer Brown delivered Train-the-Trainer sessions to the CPS Trainers during the first three phases.

Case Study: Connect Plus Services

By the final End State phase the CPS Trainers were comfortable with both the eLearning interface and navigation so able to undertake the learning without a Larmer Brown Trainer being present.

This blended learning approach, utilising a mix of classroom training and eLearning, combined with ongoing assessment, suited the learning style of CPS operatives across each of the roles. They are practical learners and needed to be trained in a way that would increase retention.

The Outcome

Gerry Magennis summarised:

“The results that we have seen are excellent. More than half of learners have achieved 100 per cent first time. Those that didn’t reach our target pass mark were able to go back into the eLearning content to review where they had issues or questions, get up to speed and then retake the assessment.”

“The Larmer Brown eLearning system used to train our current Dangerous Goods and Abnormal Load Officers was easy to use and intuitive. The use of interactive slides keeps everybody interested and gave the course deliverer the chance to reinforce specific areas, track results and gain feedback.”

Mark Coomber, Deputy Charging Operations Manager (Egis)

The Future

CPS will continue to refine processes and therefore the learning content as the Project beds in. They intend to re-certify the learners annually to ensure that their knowledge reflects the current processes.

If there is significant amount of change then CPS will be able to run re-tests for learners on any element of the training.

About Larmer Brown

Larmer Brown’s primary business objective is to help organisations with the implementation of learning initiatives through content development and end user training delivery programs.

Larmer Brown is an Oracle Gold Partner. We are also a Reseller and Services Partner for both dominKnow Learning Systems and Engage Software.

More Information

There are two videos that accompany this case study, which can be found on the Larmer Brown website and also on the Larmer Brown YouTube channel.

To view these videos on our website, use the following link and click on the Connect Plus logo:

www.larmerbrown.com/case-studies/

To view these videos on YouTube, use the following link:

<https://www.youtube.com/c/Larmerbrown>