Swiftview

Swiftview will revolutionise the way you visualise and manage possession data

SBRI Global Rail Export Innovation for Australia, Canada, and India

D2 RAIL in partnership with UKRI Innovate UK

Planning
your vision,
delivering
your promise

About D2 Rail

With nearly two decades spent delivering major infrastructure projects, our founder David Diesbergen, continuously faced the same challenges project after project – a lack of early "Real Planning" engagement. 'Real planning', is where realistic and achievable programmes are developed by individuals that can relate to both the building and sequencing of works. Since its launch in 2011, the company have been dedicated in their pursuit of providing integrated 'real planning' services.

Today our business is the result of visionary leadership and a high-quality support team that help clients to plan their vision effectively. However, much of our heritage defines who we are and what we do every day. We strive to continue to develop as a strong and independent company through creating maximum value for our clients, other stakeholders, and ourselves. From the executive team to our newest colleagues, our combined effort will give rise to an even higher quality of product and service than ever before.
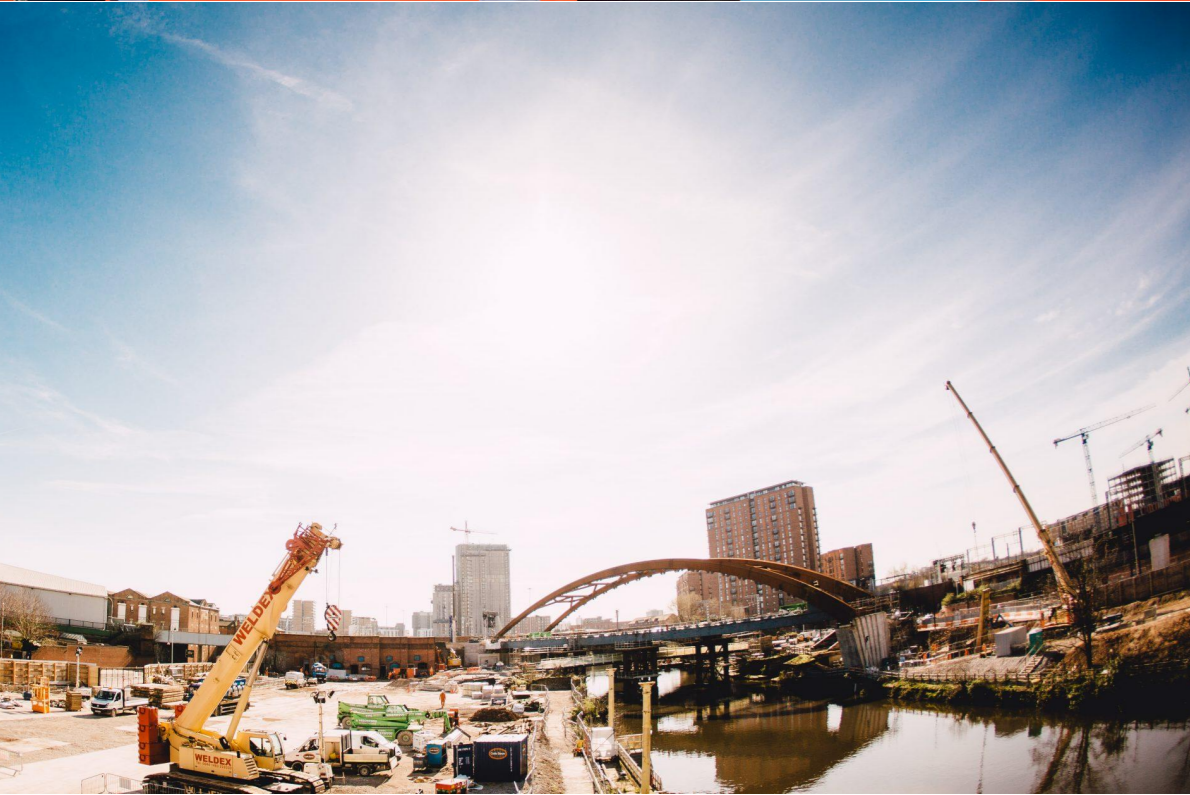
The Challenge

With support from Innovate UK, D2 was awarded a contract to investigate how it could provide Digital Innovation to the Canadian Rail system. We chose to develop a system that could improve possession planning and visualisation tools.

For several years, D2 Rail has been researching and developing a digital solution to possession management and geographical rail visualisation within th UK. Determined to make access planning easier, quicker, and more efficient, D2 Rail started development of an online resource that enables real time upload, management, and visualisation of possession data.

By pulling in geographical route information, real time data, possession information, and building routing algorithms, D2 found the system could accurately represent planned rail works in a geographical format and in a standardised data format that could be easily understood. This opened the doors for fast data analysis that would previously be a time consuming, manual effort. Further research and development resulted in the ability to quickly detect clashes in work between projects, diversionary route analysis, train scheduling impact reporting, change tracking and more.

For this project, D2 aimed investigate how a similar, digital planning and operations tool could be developed in Canada to provide a safer, more efficient way to gain visibility of works with improved access planning and analysis. The focus was to investigate what geographical rail data is available and how it can be used in conjunction with maintenance planning data.

The solution provides planning tools, artificial intelligence, analytics and better visibility, efficiency and safety to planners, operators, the public and all other involved parties.

The Deliverables

Data Analysis and Format Definitions

The first goal focused on the data we needed to extract to be able to import Canadian possession information, visualise it, and accurately represent the rail network. Our data scientists and software developers investigated existing, open-source data sources and also liaised with industry experts to gain an understanding of data relations and formats. This understanding of the data would drive our development of the solution.

Data transformers and Automation

Following the data analysis, our software developers went to task and created a full data mapping between the data sources identified, and our own data structure requirements. This allowed us to create automated tools that allow for the transformation of the data from multiple sources into our own, unified system.

We now had a consistent set of geographical data to work with including, rail line data, mile markers, and stations. We also applied our standard possession data format which would allow us to link possession information to the geographical data we had processed.

User Interface Proof of Concept

We now had all the data we needed and in the right format. This allowed our software developers to adapt our existing code base for use with the new data and regions.

New tile sets were created for the map views that incorporated the Canadian rail data obtained and formatted in previous steps. Path and route-finding algorithms were defined and loaded with the new location and timing data to provide real time network visualisation when dealing with possession data.

We also set to work expanding our analysis features, building a diversionary route analysis system. This system allows user defined rule definitions for what routes can be blocked together. The system then automatically looks at all possession data in the system and finds any instances where these rules are broken.
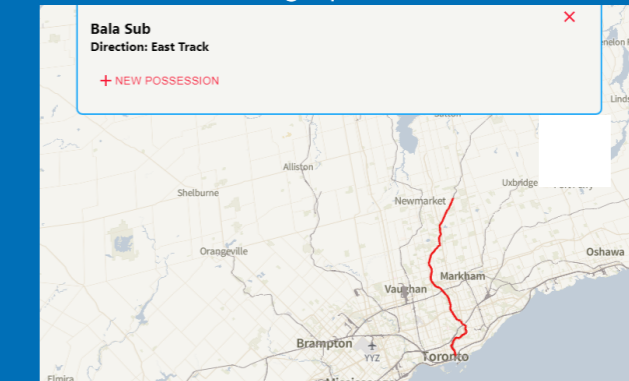
The solution, Swiftview

The product of our deliverables, Swiftview is a possession planning tool that allows for automated possession import, geographical visualisation, data management, and analysis. The system is an online tool accessed through a secure website. Data query and edit is done through a secured API, with all data stored in relational databases. Users work in Teams to build and manage projects, with data access controlled through user roles, permissions, and delegation.
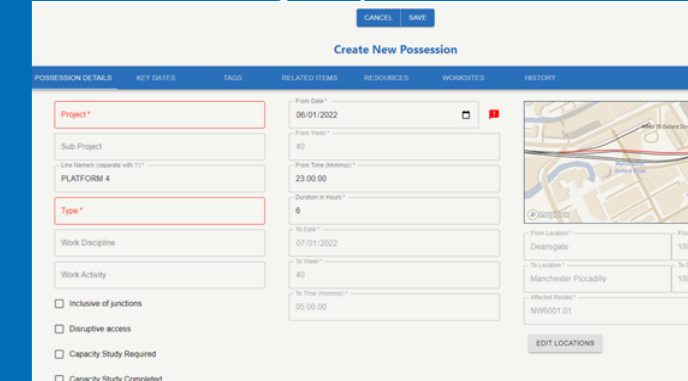
Swiftview brings all of the data you need into one place for better visibility of projects, timescales, and impact.
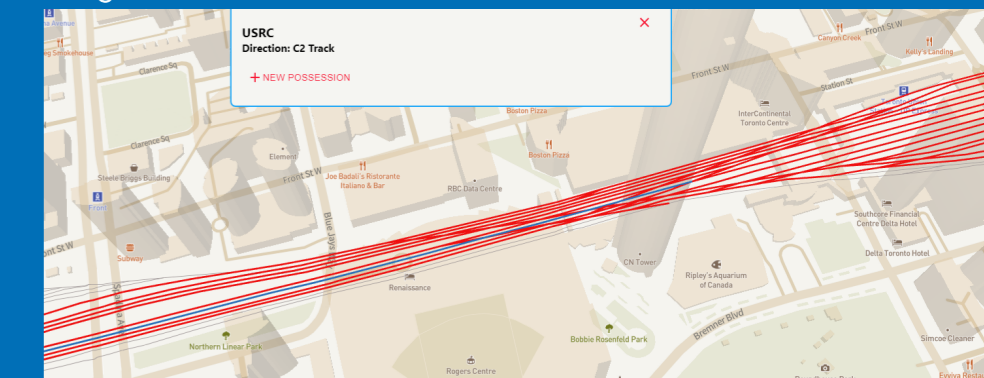
At a Glance

Visualise Geographic Route Data

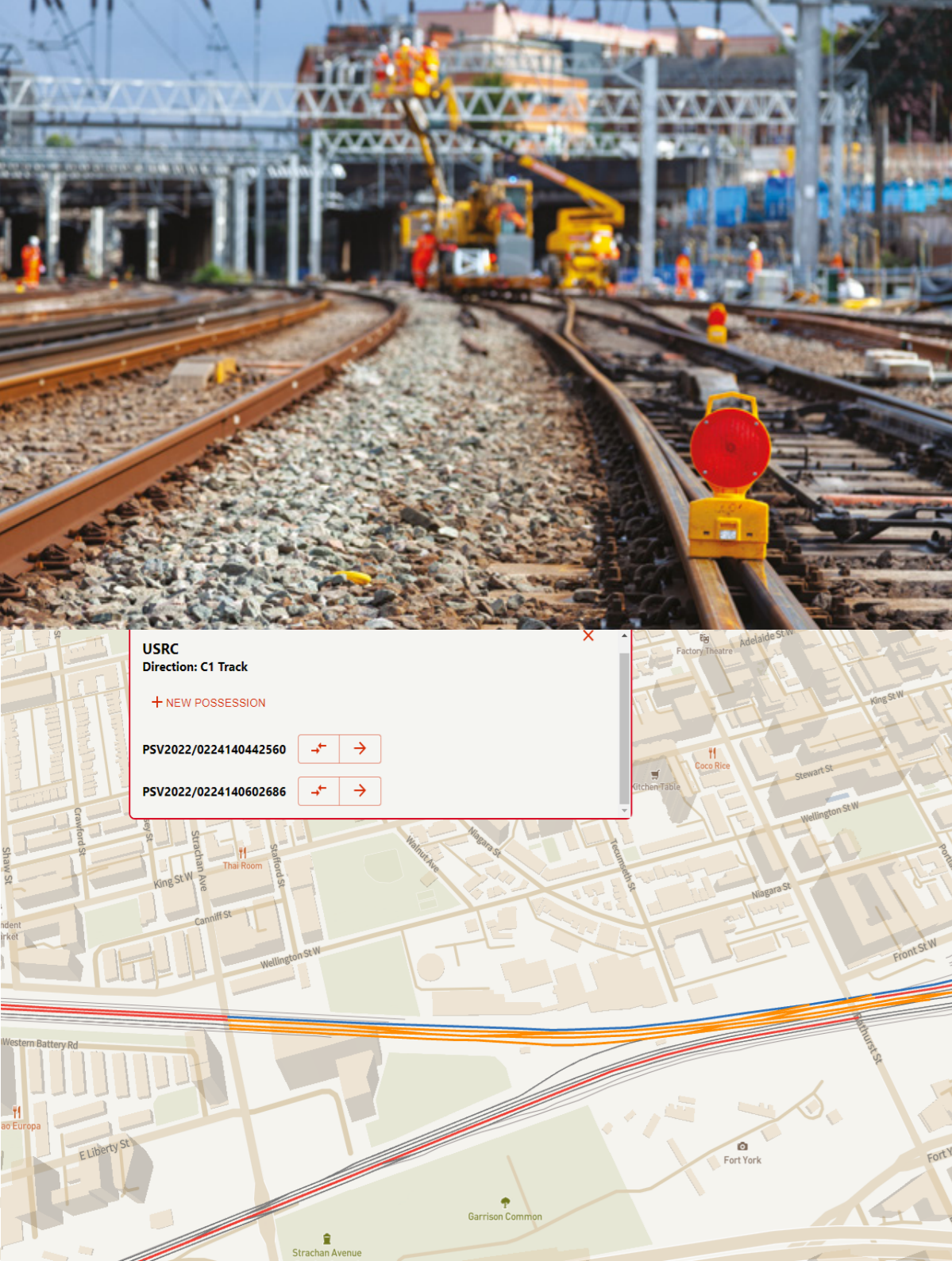

Build and Manage Project Possessions

Search Data Easily

High Levels of Detail

USRC
Direction: C1 Track

+ NEW POSSESSION

PSV2022/0224140442560

PSV2022/0224140602686

A new offering from industry experts D2 Rail, Swiftview will completely transform the way you interpret and apply possession data.

This bespoke system has been meticulously designed by specialist system engineers, specifically for the rail and freight industry, to provide a safer and more efficient way to work.
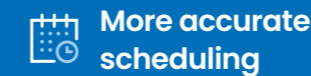
The platform has been developed by users, for users. We have based our Swiftview system on the highly-valuable knowledge and experience of industry experts.

Whether used stand alone, or integrating into existing systems, Swiftview can help bring greater visibility and understanding to your data.

The dynamic Swiftview system takes possession data in various formats and seamlessly overlays it. This means you'll see any possessions, conflicts or areas of concern in seconds - leaving you free to focus on other important things.

Built in analysis tools allow for the reduction in manual checking and human error. Quickly see the impact a planned works may have on other works and data, Analyse schedules to see how the project may impact running services.

The key advantages of using Swiftview

More accurate scheduling

Swiftview helps possession planners and other users to quickly determine where and when a possession is planned, providing faster and clearer visibility of the required possession information; helping users to identify possession opportunities.

Reduced project cost

Swiftview successfully simplifies a complex, time-consuming process - giving your whole Project Team the ability to visualise Possession data. By saving your team time across various levels of expertise, you'll also reduce project costs.

Improved health & safety

Swiftview helps to minimise health and safety risks by clearly identifying clashes and errors that may exist within the possession system.

Better project efficiency

Swiftview saves users time previously spent on interpreting Possession data, by creating an immediate and clear visual output - letting you work faster and smarter.

So, what does Swiftview do?

Clearly visualises possession data

Whether for engineering works, route planning, maintenance or other projects, Swiftview provides your team with a simple, user-friendly way to visualise Box Plans and Possession data.

Clash detection

Swiftview allows users to quickly see and react to potential possession clashes, giving you a strategic advantage and facilitating efficient diversion planning.

Provides real time analysis

The system allows you to visualise "what if" possession data and make any necessary changes well in advance.

Reduces admin

Using Swiftview to import Possession data, convert to Box Plans, report and edit possessions and export to your required format will enable your team to focus on other important tasks. Swiftview takes all Possession data, translating huge, highly complex spreadsheets into a range of outputs.

Quickly searches through data

Swiftview efficiently navigates through data sets. Selecting Date and Time, Line and even down to individual Track. The unique Map View can provide high levels of detail, drilling right down into individual possessions.

Secure and efficient

Swiftview is cloud-based for maximum efficiency, enabling large volumes of users at any given time. Data security is built into the very core of the system, giving you peace of mind that Swiftview handles your data with complete integrity.

Swiftview -
backed by the experts

D2 Rail is a trusted and experienced partner working on major rail industry infrastructure projects across the the UK.

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