# Via Service Definition for G-Cloud 15

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# Via

## Via Introduction

At Via, we build innovative software and power highly efficient operations that enable our customers to transform their legacy transportation systems into smart, data-driven, technology-enabled networks. Using our software, customers achieve a greatly enhanced level of visibility and control over their operations, simultaneously lowering operating costs and increasing quality of service.

Since Via's founding in 2012, we have built a suite of software and operational services designed to allow authorities and transport agencies to manage every aspect of public mobility. We offer solutions for demand responsive transport (DRT), dial-a-ride, integrated trip planning and payment systems, electric vehicle (EV) charge management, autonomous vehicle (AV) fleet management, and school bus routing. To date, we have deployed solutions in partnership with over 750 authorities and transport agencies in 40 countries around the world, powering more than 140 million rides.




In the UK, we are trusted by authorities and transport agencies to power over 30 DRT services which have transported over 12 million passengers to date. We work with the likes of Transport for London on their citywide Dial-a-Ride service transporting over 2,000 passengers every day and Milton Keynes City Council on their 30 vehicle DRT

service which replaced their subsidised fixed-routes and in doing so saves the Council in excess of £3M/year versus their old network.

In the UK our partners include:

**County Councils**

- Lincolnshire - CallConnect (DRT)
- Leicestershire County Council - Fox Connect (DRT)
- Worcestershire - Worcestershire on Demand (DRT)
- Kent - Go2, Hopper (DRT)
- Staffordshire - Moorlands Connect (DRT)
- Shropshire - Shropshire Connect on Demand (DRT)
- Nottinghamshire - Nottsbus on Demand (DRT)
- Buckinghamshire - PickMeUp (DRT)

**Unitary Authorities**

- Milton Keynes - MK Connect (DRT)
- Wiltshire Council - Wiltshire Connect (DRT)
- Cheshire East - GoToo (DRT)
- North East Lincolnshire - Phone n Ride (Dial-a-ride)
- Telford and Wrekin (DRT)

**Welsh Councils**

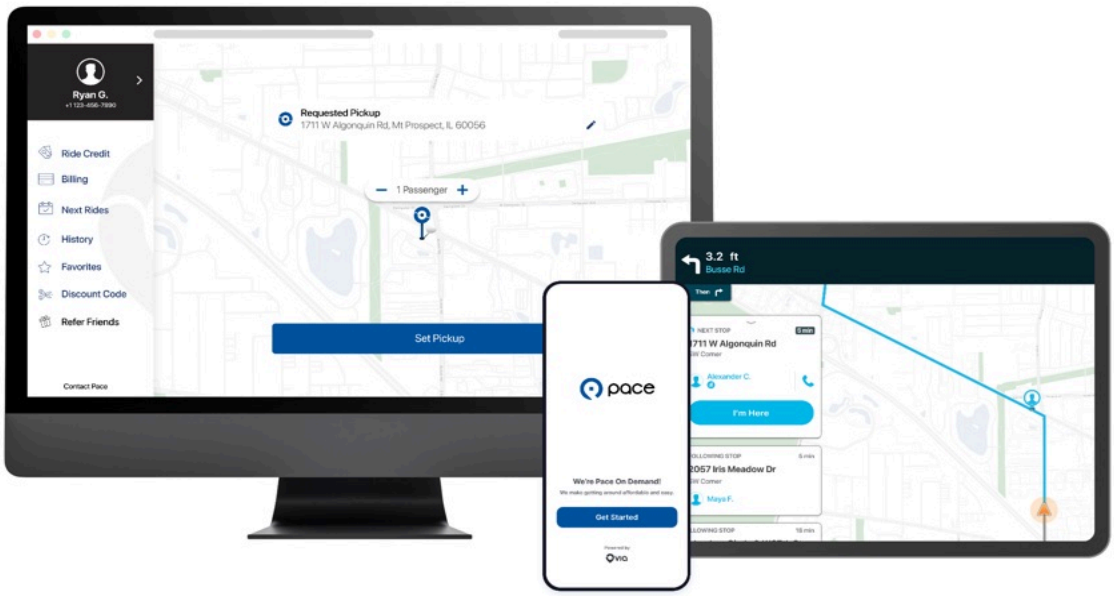
- Pembrokeshire - Fflecsi (DRT)
- Conwy Valley - Fflecsi (DRT)
- Denbighshire - Denbigh, Prestatyn, Ruthin Fflecsi (DRT)
- Flintshire - Buckley, Holywell Fflecsi (DRT)
- Blaenau Gwent - Machynlleth, Dolgellau Fflecsi (DRT)
- Cyngor Gwynedd - Fflecsi (DRT)

**Transport / Combined Authorities**

- Transport for Greater Manchester - Ring & Ride, Local Link (DRT, Dial-a-ride)
- Transport for West Midlands - West Midlands On Demand (DRT, Dial-a-ride)
- Transport for London - Dial-a-Ride
- Isle of Man Transport - MannGo (DRT)
- West of England Combined Authority - WESTLink (DRT)

# Via Platform Overview

Via's comprehensive, cloud-based technology system will power and enhance scheduling, dispatching, and trip booking for our partners and its riders. As described on the following pages, our software suite consists of three core components — the **Via Operations Center (VOC)**, the **Driver App**, and the **Rider App / web app** — which speak to each other in real time to create efficient and functional transport networks. The **VOC** is a highly automated, centralised software administrative platform that manages scheduling, dispatch, booking, routing, and service oversight for our partners including adjusting for real-time disruptions and changes. Our **Driver App**'s real-time turn-by-turn navigation, intelligent guidance, and hands-free display help drivers perform their tasks more efficiently and eliminate excess communication throughout the day, while our best-in-class **Rider App and web app** drive service utilisation and eliminates the hassle of booking rides through intuitive self-serve tools.

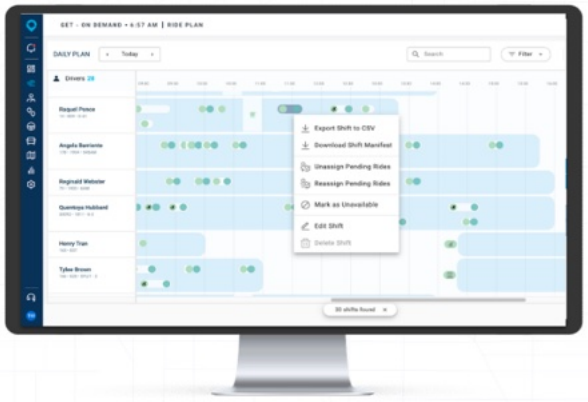



# Administrative Dashboard

The Via Operations Center, or the VOC, is the central application designed for administrators to manage every aspect of a service, regardless of how many zones or sub-services are being powered. The console features a set of sophisticated automations

designed to minimise the amount of manual intervention necessary by dispatchers, while still preserving the flexibility they need to do their job. The VOC also provides streamlined reporting to help drive continuous service optimization and cost efficiency. The VOC is cloud-hosted, accessible on any browser and device from anywhere in the world, and allows multiple users to access it at once. The VOC provides customers with best-in-class solutions for:

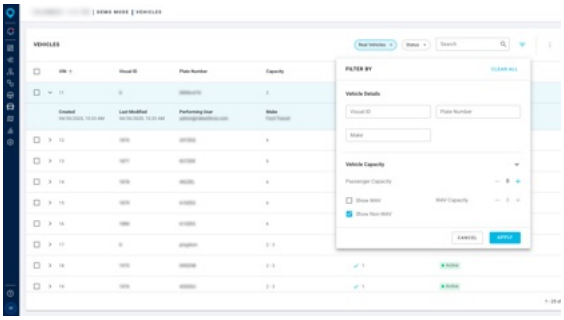
## Real-time Performance Management



The **Via Hub** and **Ride Plan** allow administrators to monitor and control service in real-time. Notifications alert dispatchers to pending issues giving them the option to let the software automatically resolve or to manually intervene. If dispatchers want to make a manual intervention, the tool provides a simple interface to communicate with riders and drivers, access more information about a rider or trip, and add, edit, or cancel trips as necessary.

Our software uses up-to-date mapping technology and leverages real-time speed and location data to continuously optimise for on-time performance. Via's mapping interfaces are updated every quarter, and road closures are updated live. Our partners can also update any closures manually in the VOC. If our partners (or its operators) know of any significant changes, Via can push a map update. If the software recognises that a vehicle is running late to a pickup, and there is another vehicle available to reach the pickup quicker, it will automatically reassign the trip and notify the riders and drivers. If the dispatcher wants to make a manual intervention, the tool provides a simple interface to communicate with riders and drivers, access more information about a rider or trip, and adjust trip parameters as necessary. The VOC also allows for specific parameter configurations, such as maximum wait times or detour, so the service can be tailored around the partner's specific requirements for their service.

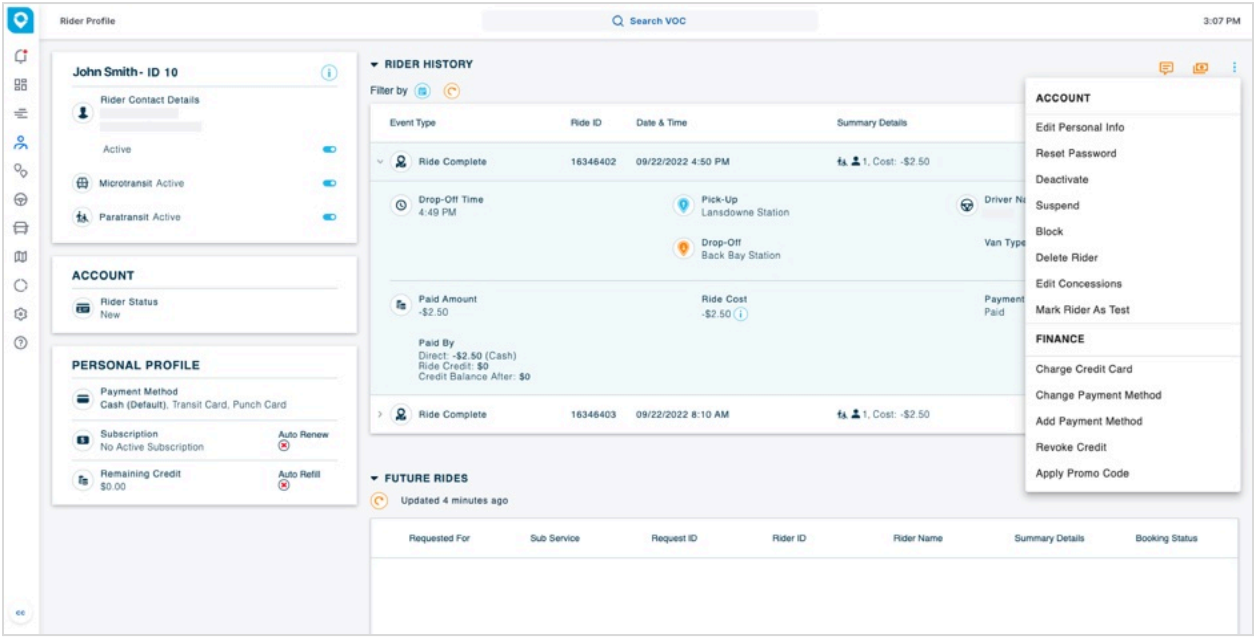
## Fleet and Driver Management



Our extensive suite of fleet and driver management features allows customers to manage the workflow of their operations including vehicle tracking, driver management, and shift scheduling. Dispatchers can also monitor shift status, visualise shifts across dates and times, and add or edit shifts. For example, operators will be able to manage driver breaks or monitor if a driver's vehicle is out of service. If desired, operators can configure specific parameters for driver breaks through the VOC.

## Rider Profile Management

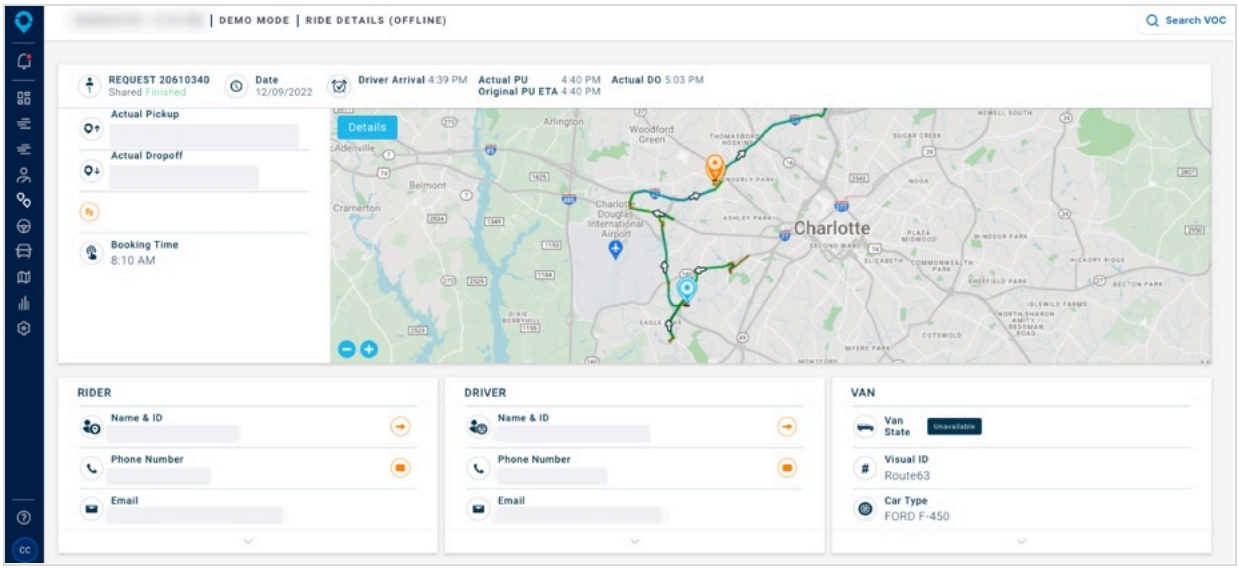
Our rider management features allow administrators to manage every aspect of a rider's account details, from initial account creation to reviewing a passenger's ride history. The VOC clearly displays all the necessary elements of a rider's profile, including the rider's status (active, inactive, suspended), trip history, future reserved trips, accessibility and eligibility details, mobility equipment specifications, payment and contact information, and other relevant profile data. We can also configure custom fields based on our partner's specific needs for the service, such as ENCTS number.



Authorised staff (based on assigned role-based user permissions) can edit information in the customer database, such as adding ride credit or promo codes to waive fares for eligible riders, or add relevant comments to Rider Profiles at any time. Additionally, partners can set up parameters to automatically block riders from booking rides if they have excessive no-show rates or for other reasons.

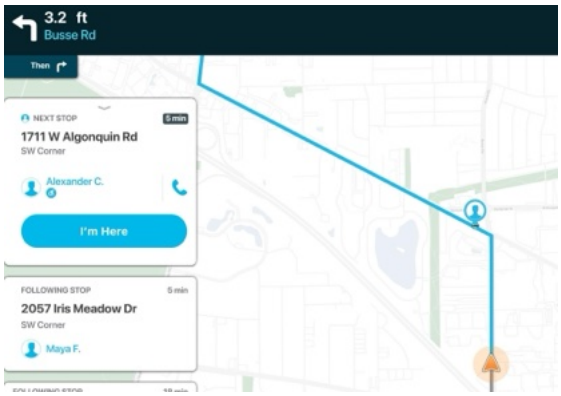
## Service Log Management

The VOC enables audits and reviews of past dispatching through our map-based ride history visualisation feature within the VOC. Our system logs key actions in a searchable database, where administrators will have access to service replay controls, which visualise sequences for a given trip (as shown below).




# Driver Application

Our Driver-facing application has been developed to make drivers' jobs safer and easier and can run on a variety of cellular enabled tablets and smartphones. The app provides a single interface where a driver can access the information they need before, during, and after their shifts. This includes turn-by-turn navigation, a ride manifest that updates in real-time as new rides are booked, automated notifications, and “one click” task

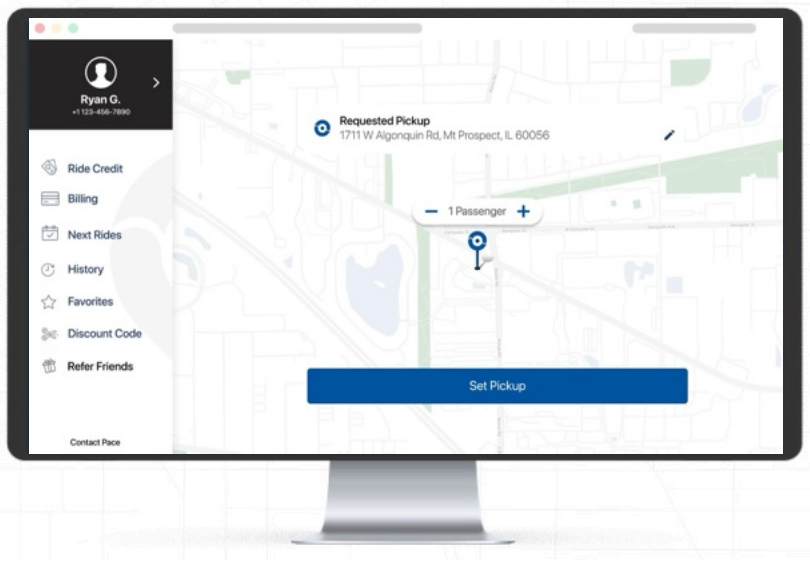


acknowledgements. Real-time location data from the rider and driver apps feeds back into our algorithms, allowing for dynamic optimization of routing and trip assignments. Via's Driver App is able to send ridership information to operators, including, but not limited to, customer name, pick-up and drop-off address, individual trip notes, and estimated trip time. Through the Driver App, drivers are able to communicate with both riders and dispatchers, mark trips as completed, or mark riders as no-shows. Via's Driver App also features an emergency alert ("Silent Alarm"), which will automatically alert dispatchers if drivers are in need of assistance.

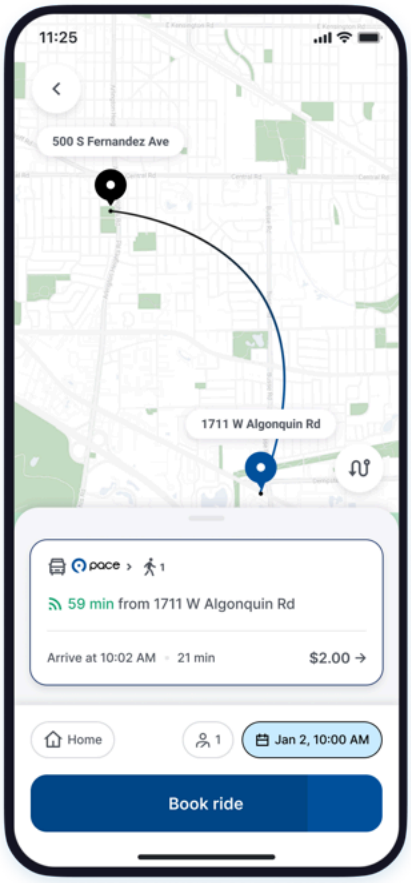
The Driver App ingests information from Via's system, which will dynamically adjust pickup / dropoff times, reschedule, or add trips based on operating delays, including road closures and traffic speeds. If an incident impacts trip times, the resulting delays on arrivals or trip times are automatically updated. If an accident occurs which results in a vehicle being taken out of service, staff can remove that vehicle from service, re-book trips on other vehicles, and the system will update schedules based on new bookings.

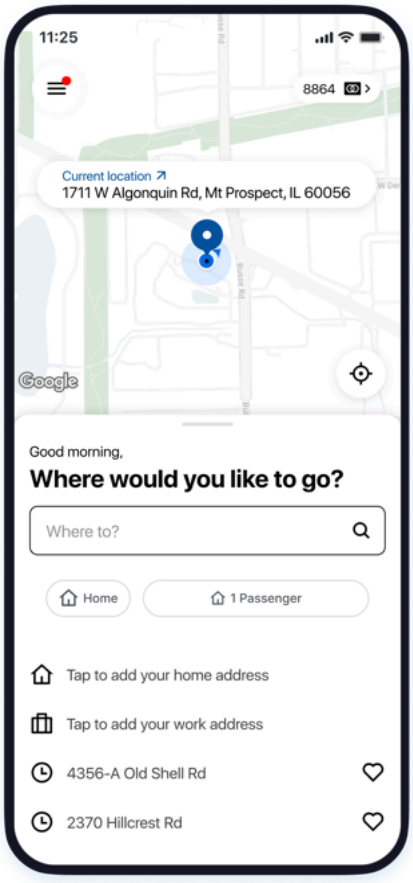
# Rider Application

Our simple and customer-friendly Rider App drives service adoption by delivering a superior customer experience to any other app on the market. It has been downloaded by millions of passengers and consistently receives glowing reviews for its ease of use. Introducing a high-quality mobile app with WCAG-compliant accessibility features, including screen reading capabilities and high contrast capabilities, can transform the rider experience — providing a user-friendly and convenient option for booking and tracking rides, and contacting support in real-time. We also offer riders a web-based application, accessible from any internet-enabled desktop or laptop computer (such as those available at a public library).




The app will be white-labelled to reflect our partner's branding. Riders will have the same ride booking experience regardless of the zone they are booking a ride from: upon opening the Rider App, riders will automatically be a proposal based on the logic of the zone from which they are booking.



Our rider app is designed with accessibility at the forefront and includes a host of features for those in need of visual, audio, cognitive, or mobility accommodations. The app is also available in many languages, and a web app is available for those who prefer. Via works to ensure that our technology platforms are accessible for its target audiences. For individuals without smartphones or internet access, or for those who simply prefer, Via's system allows riders to book rides by calling a customer support representative. Personal Care Attendants will be able to call and book rides on behalf of riders who are not able.

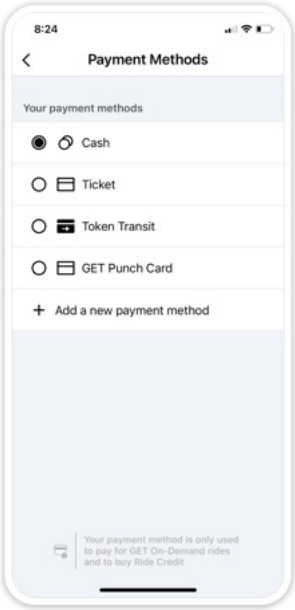
Upon creating an account and opening the app, users will clearly see the geofenced zone(s) in which service is offered and will be invited to set a pick-up location. Moving the pick-up pin beyond a valid service zone greys out the map and displays an "Out of Zone" message, so riders always know where their service is available. If a rider wishes to add or subtract passengers to their group, they simply tap the "+" or "-" icon within the app. Riders can request pre-scheduled or on-demand trips; the ability to request pre-scheduled or on-demand trips can also be limited to specific user groups.

Riders may book a ride by entering a place name (such as a library, school, store, or service) as well as by entering an address. The booking page can also suggest Points of Interest (POIs) that are defined by our partner and easily searchable by all riders, as well as additional "Favourites" a rider may customise, such as home and work. Upon receiving an on-demand trip request, the Via algorithm matches the requested ride with an available seat and assigns the rider to a vehicle for a convenient personal trip that also optimises for efficiency across the entire service. This guarantees reliable service for riders, including a high rate of on-time performance and customer satisfaction.

## Rider Registration and Fare Payment

New riders create accounts by entering their email address, phone number, and password, followed by optional information about preferred fare payment methods, vehicle types, and accessibility needs. The information in a Rider Profile helps Via properly assign riders to rides, taking options such as wheelchair-accessible vehicles or curb-to-curb service into account. Riders who would prefer to call a customer support representative may create an account over the phone. Within the Rider Profile, riders will have access to their accounts and past ride history.

Via will handle all management of data, the implementation of our partner's desired fare structure, and validation of payments and reporting. Our flexible fare payment system can accept payment through our Rider App using credit cards, prepaid debit cards, and passes.




We also offer payment options for passengers without bank accounts, including cash cards and electronic vouchers which may be purchased with cash at convenient locations. All fares will be automatically registered within the Via system. Via can easily support different fares for different rider groups, such as youth concessions. Via's Rider App already has various APIs for numerous integrations, such as standard payment processors, and we would be happy to scope further integrations.

Via uses trusted third party payment processors such as Braintree, Stripe, and Logpay to save credit card information. While we do not directly store rider credit card information in our platform, riders receive personalised tokens and their sensitive information is encrypted and stored through one of our third-party vendors. This allows riders to both easily access their credit card information when booking rides while keeping it secure.

## Passenger Pick-up and Drop-off

Pick-up and drop-off parameters allow Via to balance between system efficiency and user experience. They may all be deployed within a single service:

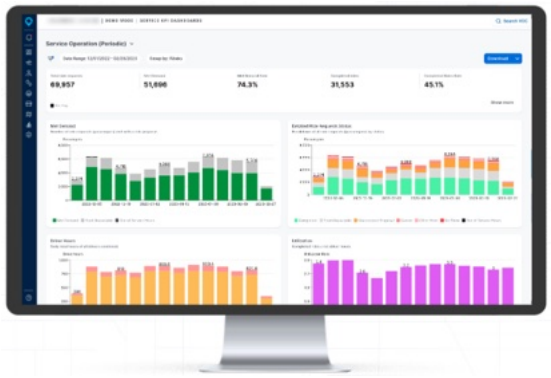
- Via offers **stop-to-stop service** — in which riders are picked up and dropped off directly at their requested locations — and **door-to-door service**, in which drivers assist the rider from the door of their pickup location to the vehicle, and from the vehicle to the door of their destination.

- We also offer a **corner-to-corner service**, in which riders could be asked to walk a block or two to or from a particular location — to one of Via's patented "Virtual Bus Stops" (VBS) — for their pickup or drop-off, which enables more efficient routing and lower trip times. We can also direct riders to existing physical stops to take advantage of shelters and other infrastructure.

The system will assign a rider to a specific type of ride based on their individual needs, accounting for rider accessibility status, local conditions, and optimizations of trip proposals. To reach the ideal balance of quality of service, efficiency, and accessibility, we work with partners to define the maximum acceptable walking distance to and from VBS, maximum deviation to pick up additional passengers, and a maximum wait time from Via's original quote. We also refine the descriptions and locations of our Virtual Bus Stops, as well as the criteria that determine when to provide corner-to-corner, stop-to-stop, or door-to-door service.

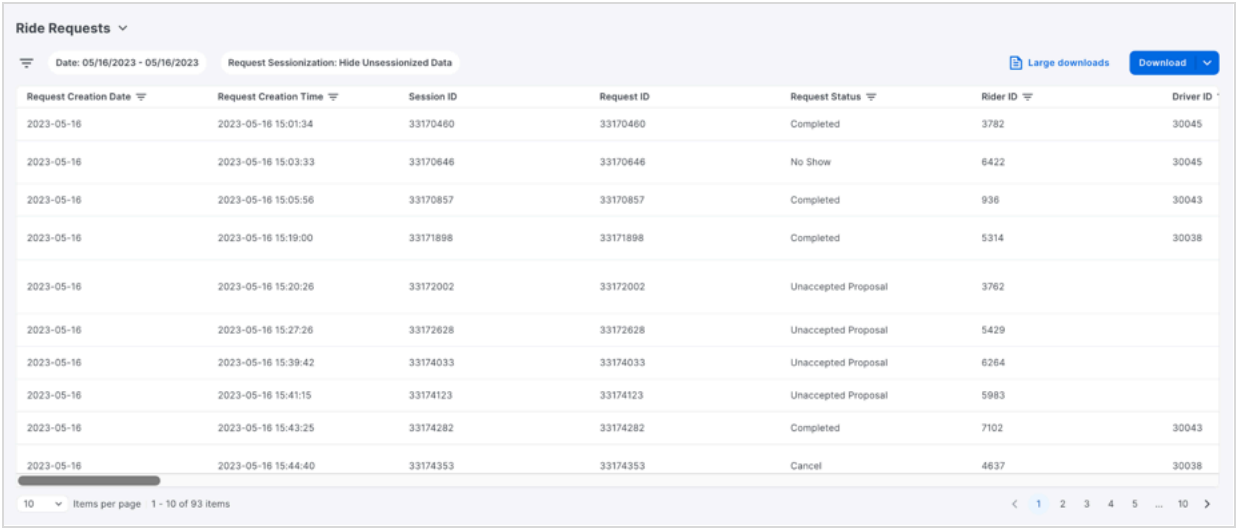
# Data and Performance Monitoring

Via provides partners with an advanced analytic suite that generates real-time insights into the on-demand program's performance. High quality and easily accessible reporting is critical to inform the deployment's optimisation and long-term planning. Reports are able to be queried and filtered for specific insights or treated as ongoing dashboards. We are also pleased to provide partners with Direct Data Access to **raw service data collected within Via's system using a machine-to-machine connection to data tables.** This enables partners to easily generate and access unique data points, combine various data fields, and build additional reports outside of our system as needed. Our standard reporting includes:



- **Service KPI Reports** allows partners to assess service patterns and track key performance indicators (KPIs). These reports form the basis of regular check-ins with Via's Project Team, providing clear data to measure service performance and identify the areas that work well and areas that require additional attention.

- The **Data Generator** consolidates all service data into filterable and exportable tables. Authorised administrators can review and download data into various formats and tables for granular review or analysis in third-party reporting tools.




Via's reporting and analytics suite — which our partners will have access to 24/7 — in order to provide partners and operators with relevant metrics for the evaluation and monitoring of performance.

# Remix

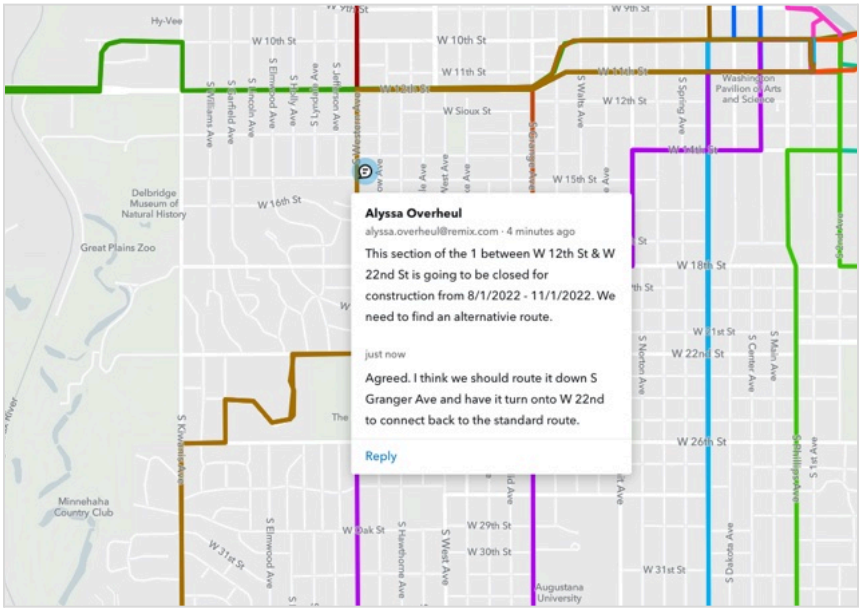
## Remix Overview

Remix Transit is a best-in-class, easy-to-use tool for network development, planning and evaluating public transport: from the placement of a single bus stop, to the introduction of a new bus route, to a complete network redesign. With Remix Transit, users will be able to collaboratively analyse different service scenarios and evaluate existing and proposed fixed-route services, as well as better understand the potential financial, operational, ridership, and social impacts of making service alterations. Purchasing members will also benefit from the ways in which Remix Scheduling seamlessly integrates with Remix Transit for a continuous workflow from planning through implementation. Together, Remix Transit and Scheduling enable scenario planning, simultaneous cost estimation, geospatial data analysis, and equity analysis, all flowing directly into timetabling, blocking, runcutting, and rostering.

## Fully Customisable Network Development and Planning Scenarios

Remix Transit gives partners full control over the service design experience through the following progression of steps:

1. Users can create service windows by indicating the span, frequency, and runtime of a service. These windows generate trips with timepoints that can be added or removed through the easy-to-use interactive timetable.
2. After sketching geometries, users can assign patterns to non-standard trips in the timetable. Additionally, users can bulk edit trip start times and timepoint-to-timepoint runtimes across all trips in a service window. Users can also change the span of a service in the corresponding window to bulk edit all timetabled trips. The platform can also include a model that enables the system to predict runtimes based on historical operator data.
3. For easy collaboration, staff can export timetables to Excel or share a URL with collaborators. To solicit feedback from internal and external stakeholders, users can send a Remix project URL or embed the URL on a public website. From there, collaborators can leave geolocated comments anywhere in the project, and staff can reply to, archive, and export comments in CSV format.

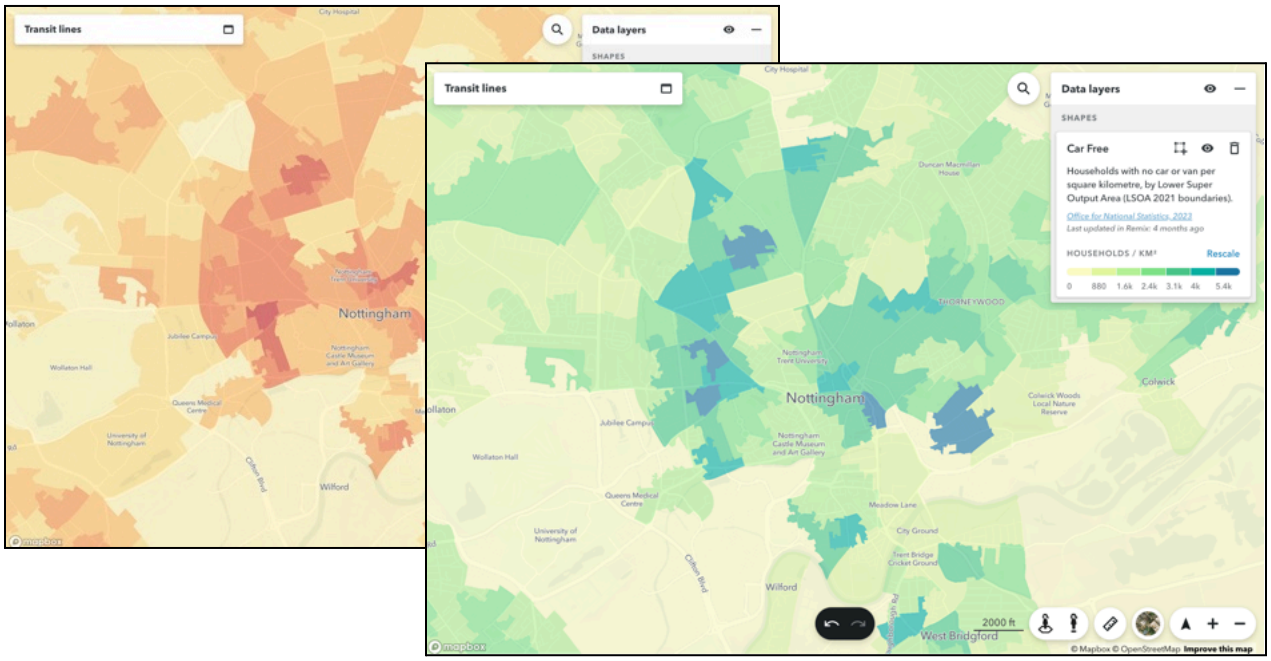



*Users can easily leave comments anywhere in the project.*

## Demographic Analysis

Remix is designed to enable quick, flexible, and intuitive data analysis. We offer the following Census data layers as standard: all UK 2021 Census information at the LSOA level, including: population, jobs, car free households, and socioeconomic background.

Our data layers are fully interactive and include features like quick filtering, rescaling of information, and delta layers showing comparative changes over time. In addition to our standard layers, purchasing members can also request custom data layers to display in the platform. For example, we can incorporate point and line data provided by a member as data layers to integrate that member's GTFS or TransXchange feed. Sample images of our available data layers can be found below.




## Ridership Modelling

Ridership Modelling enables authorities to understand how proposed changes to the transport network are likely to affect demand before those changes are implemented. Delivered within Remix, it combines network design with Citymapper journey data to estimate where people travel, which routes they choose, and how their behaviour changes under different scenarios. The model predicts impacts on ridership, travel times,

walking distances, and transfers, helping planners compare options and identify trade-offs. By fusing observed journey behaviour with existing local data, it produces robust demand estimates even where traditional origin-destination data is limited. This allows authorities to make faster, evidence-based decisions and prioritise network changes that better meet passenger needs.

## Features for Internal and External Collaboration

Remix Transit includes several collaborative functions, including text annotations, threadable commenting, the ability to drag and drop transport routes across maps, and shared organisation-wide settings that are customizable per member. As previously mentioned, Remix also makes it easy for users to collect all digital comments and export the comments into a spreadsheet in order to more effectively address stakeholder feedback. In-map text annotations allow map creators to bring attention to project areas with additional context that helps teammates or members of the community better understand the motivation or the neighbourhood context behind a proposed project. Shared maps can even be optimised for view and commenting on mobile devices.

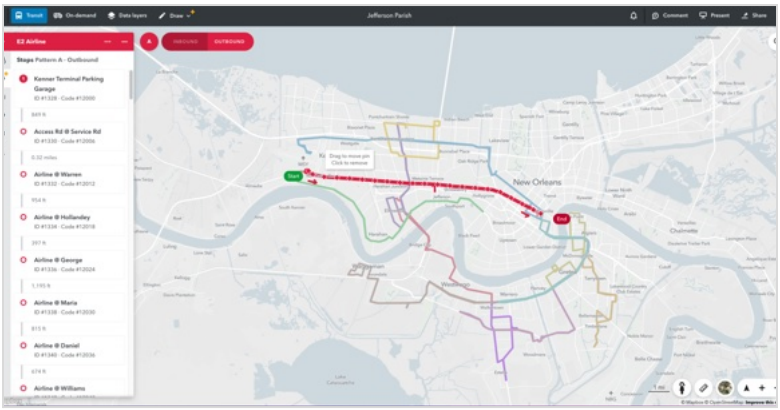
Comments are geotagged, so staff can see exactly where or what feature the comment refers to, and comments can also be downloaded into a spreadsheet for further sorting and response. Projects are also easily shareable across the organisation's departments and read-only versions of projects are shareable with external stakeholders via a hyperlink. Because Remix is accessible via internet browser, users can also easily create and display Remix maps in live meeting settings (such as board presentations, public workshops, and internal meetings).

Transport planning and network development doesn't end with the development of service — it's critical that planners can communicate ideas and changes effectively to all stakeholders. The "Presentation Studio" module within Remix Transit will allow purchasing member staff and planners to easily create beautiful, presentation-ready visuals. Users can stylise stops, routes, labels, legends and north arrows in "Presentation Studio" to bring clarity to detours, service changes, or service proposals for stakeholders and community members. **Also, users have the unique ability to offset overlapping lines in Presentation Studio, thus allowing for maximum clarity and readability of visuals.** Being able to quickly create uniform and professional visuals within Remix eliminates the labor-intensive process of creating visuals in Adobe Illustrator, Microsoft Word, or Powerpoint, tools that were not created for mapping or service planning work.

# Fixed-Route Transportation Scheduling Software

Launched in November 2022, Remix Scheduling enables transportation professionals to make smarter service decisions by combining the art and the science of scheduling.

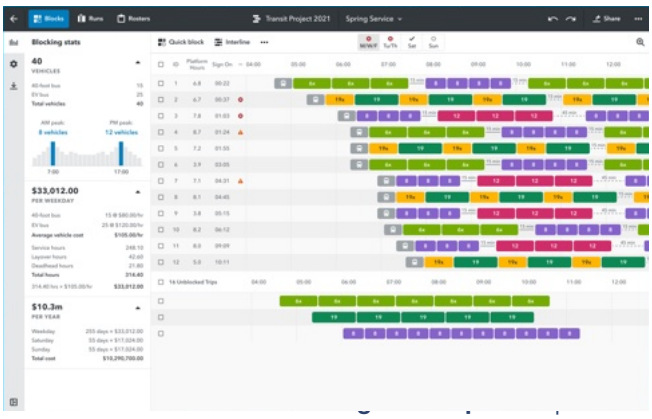
## Routing



Remix Scheduling includes scheduling and routing capabilities for the variety of routes, days, and times within a member's services. Our GTFS import feature analyses and automatically breaks down run times during different periods and between time points on each route. Users are also able to measure and visualise average moving speeds on vehicles based on their scheduled timetables during different times of the day by route.

To maximise productivity, **our scheduling process is seamlessly integrated into and supported by our Remix Transit Planning product.** For example, purchasing members will be able to import their existing service maps into Remix Transit Planning and then immediately view data points about cost, number of vehicles, number of stops, average distance, and more. Members can then explore new routes and compare performance indicators to get a clear, measurable readout on the impact of those changes. Remix allows for calendaring, enabling partners to view and plan service for multiple service periods at once.

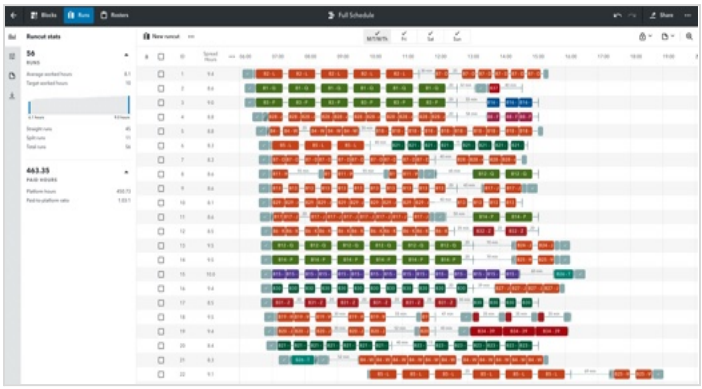
## Blocking and Assigning Trips



Remix Scheduling automatically links trips together based on the map information from Remix Transit Planning.

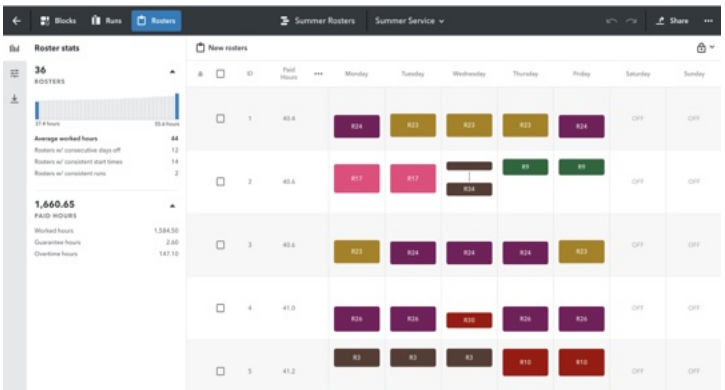
A quick block sequence will link trips together as efficiently as possible and list any deadheads generated. Users can easily move trips by clicking on either individual or bulk trips. Users are also able to create new trips in real time or onto an existing schedule. Users can override estimated deadhead times and create deadhead windows for different points in the day. Each block assignment will produce platform time and mileage, revenue time, layover time, recovery time, deadhead time, and deadhead mileage. Once the system is blocked, Remix automatically calculates vehicle requirements for each hour of service and the entirety of the service.

## Run-cutting



The Runcut Generator in Remix Scheduling will allow purchasing members to automatically generate multiple versions of their schedule for all trips (including loop, inbound, outbound, and short turn patterns) based on GTFS information and various parameters, including work hours, relief vehicles, maximum runs, and labour rules. Although the Runcut Generator is highly automated, administrators and service planners can also make manual adjustments through user-friendly controls based on a variety of factors and options.

## Rostering

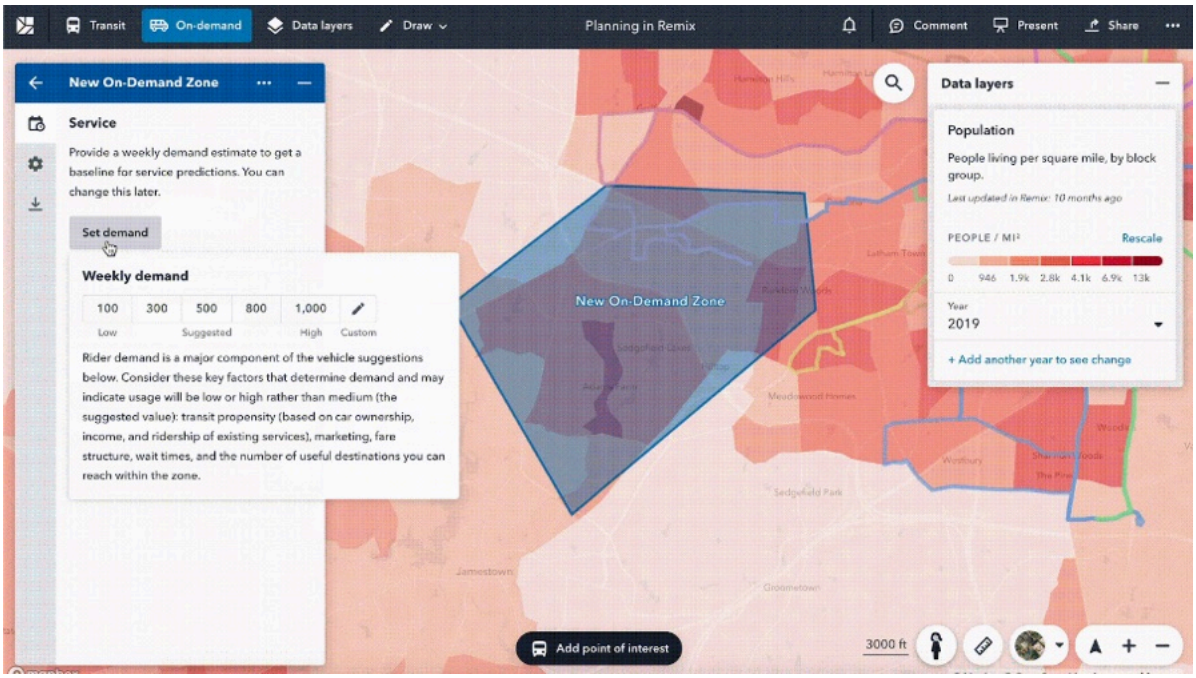


Our scheduling interface generates a roster-style schedule as shown in the visual to the right, with preferences that purchasing members can set, such as hour requirements, maximum days worked, hours of rest between work days, run consistency, start time consistency, and days off consistency. Rostering will display start and end times, days off, run assignments, and type of work assignment. Users are also able to manually adjust each roster, set custom rosters, lock rosters, and re-generate rosters for leftover work if manual changes were made. Remix Scheduling provides the number of paid hours on each roster and provides

a visual on the number of work hours per roster, system paid hours, overtime, and guarantees. Rostered work can be developed based on start time, total weekly pay, and/or full day's work.

## On-Demand Transportation Planning Software

Remix On-Demand Planning (ODP) is the first planning platform for on-demand transport and other flexible mobility services. Remix ODP is a powerful tool for the visualisation and quantification of how various on-demand services can complement and extend the reach of fixed-route transport lines. The tool allows planners to easily draw multiple service areas and generate instant demographic analysis and cost estimates, in order to rapidly evaluate tradeoffs between demand scenarios and understand impact.




With Remix ODP, users can perform:

1. **Transport Market + Network Analysis:** Identify the potential for transport across gaps in the existing network (spatial, temporal, use case specific).

2. **Zone identification and use cases:** Identify target DRT zones informed by use cases and goals, and understand impact to these communities across a variety of demographic data.
3. **Resource estimates:** Work with DRT experts on Via Strategies, Via's in-house consulting team, to refine vehicle requirements, program and service design, and estimate costs.
4. **Go live and grow ridership:** Leverage Via's suite of operational tools, turnkey service management, and in-house rider growth and engagement expertise to deploy new services and continue to grow ridership.

# Citymapper

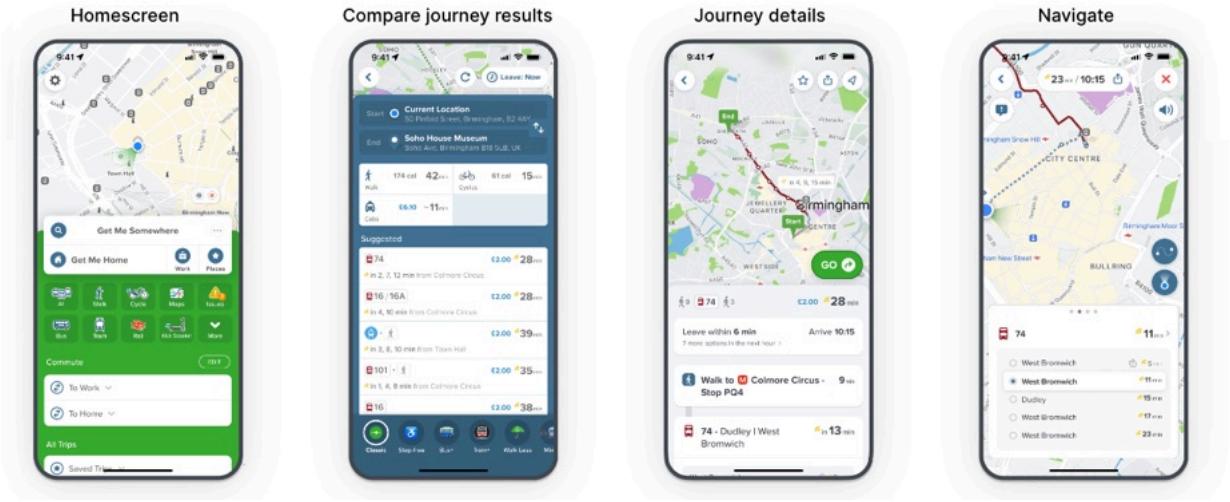
## Citymapper Overview

Citymapper is a best-in-class consumer application with over 50 million users globally and more than 3 million unique users per month in the UK. Trip planning and customer experience applications are most successful when they operate as a Software-as-a-Service (SaaS) / commercially available off-the-shelf model. This model offers authorities and transport agencies a range of advantages, including significantly faster launch timelines, meaningful cost savings, lower implementation risks, and ongoing access to new feature development. SaaS solutions also have the benefit of reducing the risk, cost, and lift of ongoing maintenance and upgrades, significantly improving the longevity and reliability of the application. Over the past twelve years — leveraging continuous, invaluable feedback from those 50 million users — we have invested approximately $100 million USD in developing Citymapper, which has been awarded Apple's "Apps of the Year" award five years in a row, and counting.

## Citymapper Solution

### Intuitive user flows

Citymapper learns from user journey choices to display the options that matter to them. Users can modify search results based on their current preferences with one touch, whether the user wants to walk less, look for the cheapest or shortest trips, or minimise transfers.  Preferences for travel can change depending on the time of day, purpose of trip, even the weather and Citymapper enables users to seamlessly adjust their preference on a trip by trip basis. The below shows a typical flow for a customer looking to travel from their current location to a destination:

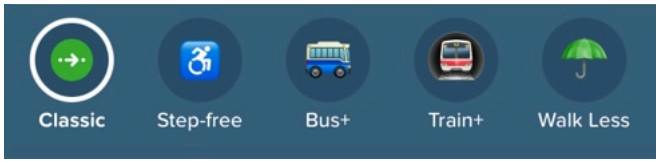


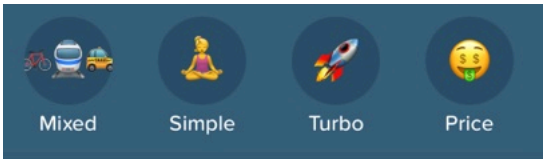

The map on the **homescreen** shows nearby stops, stations and micro-mobility options. Tapping on these enables users to see upcoming departures. Users can filter the map to only see information for their preferred mode. On this screen, users also see saved and recent trips, including their commute. Users can also easily tap the "Get Me Home" button to instantly receive suggested journey plans home from wherever they are.

On the **journey comparison** screen, riders can view door-to-door multi- and intermodal journey planning information, including static timetable information, live and disruptions data and modes relevant to the region. This screen enables users to easily compare their journey options seeing realtime ETAs, next departures, multimodal routing and price comparison all in one place.

Our routing powers enable users to choose their journey planning preferences. Possible options include:

- Classic (based on CM's proprietary "Crowdbrain" machine-learning algorithms which learn from real user choices)
- Single mode only
- Step-free / accessible
- Mixed (e.g. bike + train)
- Walk more / less
- Private operator modes only
- Fastest
- Simplest



- Cheapest

Future planning options are also supported. These include door-to-door planning for upcoming arrival- or departure-anchored trips as well as proposals that preview yet-to-be-launched routes / lines to understand upcoming journey improvements.

The **journey details** screen enables users to see all the details they need to take their trip. This includes real-time departure information, enabling the user to pick the relevant departure for them, accurate ETAs, best exit and entrance locations, vehicle crowdedness, disruptions and best carriage, alongside walk routes etc.

On the **on-trip navigation** screen, users can view turn-by-turn navigation for all steps of their chosen journey, including audio guidance and specialised shared-mobility routing that aligns with geofencing restrictions and considers parking spaces / docks. This screen also includes an ETA that updates in real time and alerts that remind users to get off of the bus or subway when approaching the correct stop.

## High-quality Data

As the best-in-class journey planning app, Citymapper alone has an in-house data factory that allows us to deliver the highest quality data with the broadest coverage to our partners. The data we provide includes:

- **Timetables:** whenever new timetables are released, they undergo a series of automated checks and review by our analysts; this allows us to find and fix errors before shipping new data to ensure accuracy
- **Real-time departures**: through our probabilistic matching model, we can process significantly more real-time-departure data sources, with 300+ different data sources integrated and maintained. This ensures that 80%+ of our trips globally have real time departures data. We also process automatic vehicle location (AVL) feeds so that we can generate accurate departure predictions, display vehicles on the map, and to estimate traffic to ensure accurate travel time predictions
- **Real-time disruptions:** 90% of Citymapper trips taken via metro systems have real-time disruption information. We use Natural Language Processing to extract intelligence from unstructured inputs. This includes identifying detours from feeds and automatically applying relevant stop closures in our data model to ensure that we can route users around these effectively. Our custom built disruption tools

enable our data analysts to instantly edit and create missing disruptions: 160+ different data sources are integrated and maintained

## Private Mobility Integrations

Citymapper not only covers all public transport options but also integrates and routes with private mobility operators. We support bikes, scooters, car share and ride-hail, including docked and free floating schemes, with real-time availability & battery, pricing, coverage, parking, etc.

Citymapper can also support Park and Ride journeys by displaying Park and Ride locations as mapped options within the app, enabling users to compare sites and incorporate parking availability, including live space data where available, into end-to-end journey planning.

## Safe Travel Assistance

Citymapper has built a range of functions to help users make the best decision in terms of how they use active transportation options such as biking or walking. Like many aspects of Citymapper, a user can influence what choices they are shown and what information is provided based on their preferences. Below are some are examples of functionalities designed to ensure safety and comfort for Walking

- **Nighttime walking / walking along main roads:** Citymapper will direct a user to walk only on main and / or well-lit roads. This function was implemented in response to direct feedback from many users who wanted to walk but did not want to be routed down side streets. A user can easily select the “Main Roads” function to be guided to walk down safe, well lit roads. This function is often used at night and gives users greater peace of mind making connections to public transport.

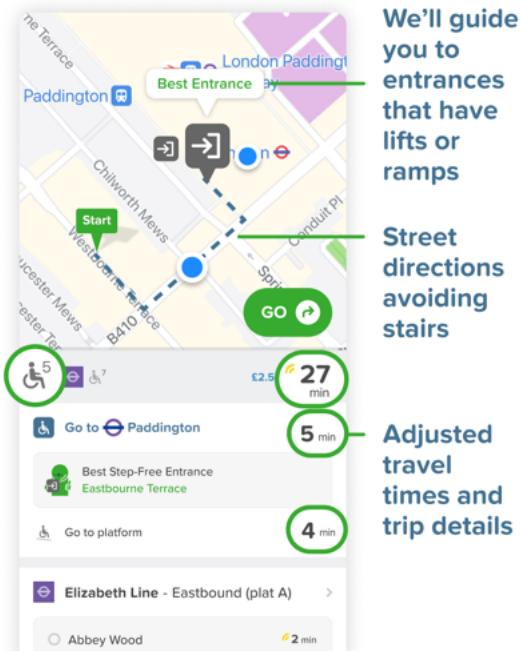
- **Walking less:** This function was implemented to assist users who may have unique mobility needs and would prefer to limit the amount of active travel needed between stops. This function is also helpful on hot days wherever there may be a preference for less walking.

- **Cycling:** Our proprietary cycling router gives users the option of quiet, balanced, or fast routes. These take into account a range of factors, including road speeds, the number of lanes on a road, road surface, and elevation in order to offer users

routes appropriate to their needs and confidence level. We consistently hear from users that our quiet routes are particularly helpful for people just getting into cycling for the first time, helping to enable more people to use active transportation.

## Accessibility Features

Accessibility is at the core of Via's — and Citymapper's — mission. As we have begun to describe above, Citymapper recognises that each user has unique needs and preferences, and we have built a suite of functions to ensure that users with mobility or additional needs are able to access the information important to them. Some of our accessibility-oriented features include:

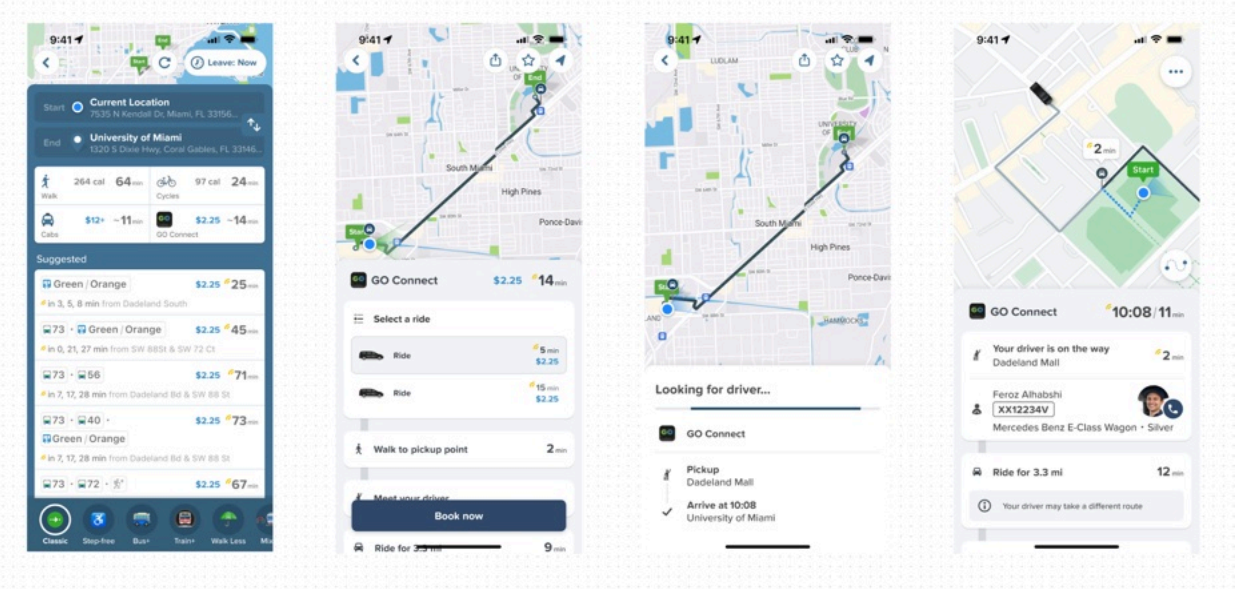



- **Step-free routing:** Step-free routes prioritise simplicity over travel times, and walking times are adjusted for people with reduced mobility. These routes are available to everyone. Step-free routes avoid stairs and wide gaps and direct users to accessible station entrances and exits. They also avoid complicated transfers and wide gaps between trains and platforms. Citymapper includes internal mapping that guides users to elevators within a station, with the additional time to take an elevator factored into transfer times.
- **Audible directions:** Citymapper provides detailed audible directions to assist users who may prefer to be guided audibly. This function can be helpful for users who are blind or visually impaired, riding a bike / scooter, or do not want to be looking at their phone. Citymapper provides timely updates on the progress of a trip and makes clear what actions the user should take next (such as getting off of a subway at a specific stop or taking a left turn on their bike).

## Integration with DRT

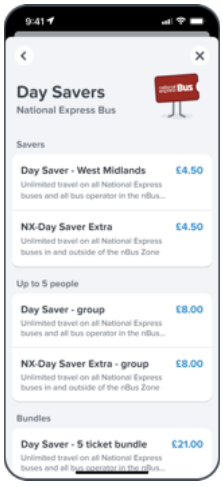
Citymapper integrates with Via-powered on-demand services to enhance connections with the wider transport network. This includes inter-modal routing that shows users how

to combine on-demand and fixed route transport into a single trip. In fact, Citymapper is the only journey planning app going beyond this to enable native in-app demand-response trip booking. This includes the ability to book and pay for an intermodal journey that includes Via's demand-response services. The unique depth of on-demand integration offered by Citymapper ensures you truly offer a one stop shop for all your public transport, enabling users to easily plan and pay for on-demand transport as they would any public transport. Below is a flow that shows a user selecting and booking an on-demand trip from within the Citymapper app:




## Integration with Ticketing

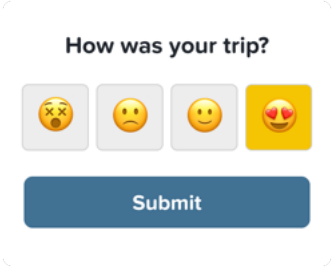
Citymapper has extensive integration capabilities that allow users to plan, book, and pay for a variety of public and private transportation solutions. We have worked with a number of major transport agencies to understand their current and future objectives in terms of payment types and how payment is integrated into different aspects of technology. For example, Citymapper has offered contactless EMV fares in London, has partnered with Masabi and Ticketer to offer QR code ticketing, and continues to expand other available ticketing and payment integrations. Future payment options in the Citymapper app may include:




- Displaying fares by journey and total fare for multimodal journeys
- Purchasing tickets directly through Citymapper using debit / credit cards
- Purchasing tickets directly through Citymapper using a customer's physical or digital transit card

- Purchasing passes which may provide time-based solutions, as with subscription models
- Configuring purchasable fares to reflect specific programs such as Fare Assist programs

## Surveys




In order to solicit qualitative feedback from users regarding their transport experience across the network, Citymapper offers the capacity to rapidly deploy in-app surveys. Surveys are a vital tool to help planners understand the sentiment of their rider and build rider trust. Surveys can also help to identify areas of improvement that are otherwise hard to capture from more quantitative data.

## Language

Citymapper works with the language of the customer, automatically reflecting the language selected by the user on their phone. For example, if a user has selected French on their phone as their preferred language, then that user will experience a French-language Citymapper.

## Integration with Remix

Citymapper's rider-facing user interactions generate unique demand data about how users want to move around a city or region, including journey plan start and end locations and times, actual journeys taken, mode and route preferences, and more. This rich data enables authorities and transport agencies to better understand and improve the way that riders experience their network in real life. For example, Citymapper can allow our partners to identify point-to-point trips that require long walks to bus stops or that have poor journey times versus cars. By using this data to deliver targeted interventions addressing real rider pain points, cities and agencies can achieve their policy objectives far more effectively and efficiently, and see the impact of their changes in real time.

To be useful, this data needs to be delivered as actionable insights to transport planners. Citymapper is unique amongst MaaS apps in that it is tightly integrated with an

award-winning public transport planning platform — Remix. Via has a dedicated data science team that works to extract the value from Citymapper data and contextually deliver insights within Remix, which provides demand analytics at the times and in the formats that already exist within current workflows.