

# Green Travel Pledge

Phase 1: Carbon emission data for  
Britain's top rail business routes



*Stakeholder pack  
Train vs Car & Train vs Plane  
April 2024*

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# Introduction

01



# What is *Green Travel Pledge?*

Green Travel Pledge is the rail industry's commitment to provide *detailed, accurate and reliable data* on the carbon emissions of rail journeys so that:



The sustainability benefits of travelling by train become clearer and even more compelling;



Businesses and their travellers are empowered to make more informed choices;



The business travel sector can make data on rail journey emissions easier to access and use at the point of sale;



Businesses can accurately measure the emissions of their rail travel to track their progress against sustainability goals.

The pledge will help encourage businesses to modal shift away from car and plane to stimulate additional business journeys by train.

Green Travel Pledge is a rail industry initiative being led by the Rail Delivery Group to create a recognised industry benchmark for carbon emissions.



# Top business route

## *Key Messages*

Our first phase release is detailed, accurate and reliable per passenger carbon emission data for some of the top station-to-station rail business routes across Britain

- Provisional Green Travel Pledge carbon data shows that you can substantially decrease emissions if you switch from car to train for business travel across Britain.
- Taking the train on the top 100 business routes in Britain is
  - Almost nine times greener than using a petrol/diesel car
  - More than four times greener than using a plug-in hybrid electric car
  - Almost two-and-a-half times greener than using a battery electric car
- This is the first time the rail industry has combined granular data on train occupancy, fuel type, exact journey distance and many other factors to create detailed, accurate and reliable carbon emission data for rail business travel.
- This is just the start – later this year we will be releasing carbon data for all point-to-point rail business routes across Britain.





## ***Award-winning*** **carbon data**

In November, Green Travel Pledge won ‘Sustainability & Net Zero Team of the Year’ at the RailStaff Awards in Birmingham.

The prestigious rail industry award was a recognition of the success of the minimum viable product (MVP) preliminary carbon data we released in June 2023 (more information in Section 2 of this document).

Green Travel Pledge also became a **finalist** for ‘Innovation of the Year’ at the Rail Business Awards February 2024.

RDG would like to put on record our gratitude to all our stakeholders across the rail industry, and business travel community that have embraced Green Travel Pledge.

We are currently working on independent accreditation of the Green Travel Pledge Methodology.

This sits behind all our business rail carbon data and will give additional assurance for businesses using Green Travel Pledge data that it is detailed, accurate and reliable.





**Deep dive into Green Travel Pledge**

**02**

# Data used to calculate rail carbon emissions



	Engine type	Fuel type	Journey distance	Number of carriages	Travel class	Occupancy	Timetable data
<b>Green Travel Pledge</b>	✓	✓	✓	✓	✓	✓	✓
<b>DESNZ GHG data (previously 'Defra data')</b>	✗	✓	✓	✗	✗	✗	✗

**Please note:** When we use the term 'Defra data' we are referring to the Greenhouse Gas Conversion Factors for Company Reporting (GHG) which were used in the past by Defra.

This is now done by the new Department for Energy Security & Net Zero (DESNZ). These calculations use an average figure for energy usage and distance travelled across the rail network to produce an average, per passenger carbon emission figure for rail travel in Britain.

We believe Green Travel Pledge carbon calculations offer a unique industry benchmark as they go beyond this, taking into account all seven data points listed above.

## Key



Full data set



Averaged/basic data



No data





# Carbon calculation *methodology*

We combine data on seven granular data points from across the rail industry in Britain including:

- Engine type
- Fuel type
- Journey distance
- Number of carriages
- Travel class
- Occupancy
- Timetable data

1. **Engine type** – drawing on train data from Network Rail, train operators and train manufacturers.
2. **Fuel type** – specific to each train service, including bi-mode.
3. **Journey distance** – exact journey distance, not straight line.
4. **Number of carriages** – exact length and formation of each train.
5. **Travel class** – taking into account carriage layout and additional space required for First Class seating.
6. **Occupancy** – modelled from actual ticket sales on that route over the last six-month's timetable period.
7. **Timetable data** – updated twice a year to reflect changes to services across Britain.

# Collaborative partners



## Black Box Partnerships

*Travel research & insights partner*

**Black Box Partnerships** continues to lead engagement across the business travel and technology community ensuring corporates, travel management companies, industry associations, online booking tools and rail technology systems remain engaged and aligned to Green Travel Pledge and wider rail industry initiatives.

## 3Squared

*Collaborative partner (rail data)*

Founded in 2002, Sheffield based **3Squared** specialises in the development of software applications for clients across the rail sector, delivering innovative technological solutions under the RailSmart brand. 3Squared are part of the **Velociti Group**.

The team at 3Squared utilised their decades of rail data experience to ensure the use of the most reliable and accurate data sets available to calculate carbon emissions.

## Thrust Carbon

*Collaborative partner (carbon methodology)*

**Thrust Carbon** mission is driving the travel industry to become effortlessly green. They are the market leading solution for travel emissions reporting, reduction, and behaviour change.

Their expertise on the project provides a robust methodology for calculating carbon emissions.

# The importance of reliable carbon data for the business travel community



“

*We've heard loud and clear from our members and the business travel community that consistency in carbon measurement is an imperative.*

*This initiative from RDG on behalf of the whole rail industry has the potential to provide clarity and a robust green message to all parts of business travel.*

”

Clive Wratten,

CEO at the Business Travel Association



“

*This will empower us to make better informed decisions about rail as a sustainable business travel option.*

*The Green Travel Pledge will offer a reliable evidence base to demonstrate rail's role in helping us to reach our CO2 sustainability goals.*

”

Sarah Ockendon,

Procurement Manager  
John Lewis Partnership



**Built for**  
***business travel***

“

*Last year the business travel community laid down the gauntlet and challenged us, in the rail industry, to provide accurate and reliable carbon emission data to prove the green credentials of rail.*

*We have answered that call. Green Travel Pledge data proves without a doubt what we all know, that rail is the green choice for business travellers.*

”

***Jacqueline Starr,***  
***CEO at the Rail Delivery Group***



We are making Green Travel Pledge carbon data available exclusively via the [Rail Data Marketplace](#).

Our first phase, top business route data, is accessible via the link above (you must first register your organisation on RDM).

Once carbon emission data has been created for all point-to-point business rail journeys (expected summer 2024) then we will look to make this data available through a secure data feed on the Rail Data Marketplace (RDM).

Data will be updated twice a year to take into account of the bi-annual timetable change.

If you have any questions or would like to be involved in the rollout, please contact [GreenTravelPledge@raildeliverygroup.com](mailto:GreenTravelPledge@raildeliverygroup.com)

# How you can access *Green Travel Pledge data*





## Frequently Asked *Questions*

### SAMPLE OF FAQs

**Is your carbon emission data per passenger or per train?**

The calculation is per passenger. This takes into account occupancy data to provide a reliable figure for how many people will be using each route.

**How do you factor in different fuel types, like diesel and electric trains?**

Our methodology takes into account the type of train – electric or diesel – operating on specific routes. This allows us to estimate emissions accordingly.

Where trains change from electric to diesel (and vice versa) en route, we will take this into account. We are also looking at the feasibility of measuring other fuel types, such as Hydrotreated Vegetable Oil (HVO).

**If the per passenger emission figures are high for a specific rail service, should I avoid travelling on that train to help reduce emissions?**

No, as a fuller train is always better for the environment. The quickest way to improve per person carbon emissions for rail travel is to have more people use those services.

Rail services are planned in advance and therefore are set to run no matter how many people use the service on the day so it's best to ensure as many seats are taken as possible.

As an industry, we are working hard to explore ways to encourage more people onto rail services through simplified and improved pricing, better customer service, and more reliable timetabling.

**Full FAQs available at**  
[www.raildeliverygroup.com/gtp](http://www.raildeliverygroup.com/gtp)



# Carbon emission data for Britain's top rail business routes

# 03

Origin	Destination	Average petrol/diesel car emissions (KGCO2e)	Rail average emissions per passenger (KGCO2e)	Number of times difference between rail and petrol/diesel car emissions
Edinburgh Haymarket	London King's Cross	119.08	6	19.85
London King's Cross	York	58.99	3.9	15.13
Darlington	London King's Cross	70.68	4.75	14.88
London King's Cross	Grantham	32.14	2.23	14.41
Ebbsfleet International	St Pancras International	7.31	0.52	14.05
London King's Cross	Newcastle	80.73	5.98	13.50
Wakefield Westgate	London King's Cross	53.51	3.98	13.45
London King's Cross	Leeds	56.25	4.23	13.30
Doncaster	London King's Cross	47.67	3.59	13.28
Ipswich	London Liverpool Street	23.93	1.86	12.86

# Train vs car route data

This table compares Green Travel Pledge per passenger emission data from rail business routes in Britain with the equivalent per passenger emission data using the Government Greenhouse Gas Conversion Factors for Business.

You can view the full Top 100 business routes on the [Green Travel Pledge](#) webpage.

# Average emissions on the Top 100 business journeys (kgCO<sub>2</sub>e)

Petrol &  
diesel car

36.82  
kgCO<sub>2</sub>e



Plug-in hybrid  
electric car

17.91  
kgCO<sub>2</sub>e



Battery  
electric car

10.09  
kgCO<sub>2</sub>e



Rail

4.26  
kgCO<sub>2</sub>e



Taking the train on the Top 100 business routes in Britain is:

- Almost nine times greener than using a petrol/diesel car
- More than four times greener than using a plug-in hybrid electric car
- Almost two-and-a-half times greener than using a battery electric car



# Train vs plane route data

This table compares per passenger emission data from rail business routes in Britain with the equivalent per passenger emission data for the same trip by plane (via [Thrust Carbon's](#) airline emission calculator, using Government Conversion Factors for Greenhouse Gas Reporting).

It shows that rail is up to 17 times greener than flying for business travel in Britain.

The data is also available on the [Green Travel Pledge](#) webpage.

Origin airport	Destination airport	Airline emissions (kgCO <sub>2</sub> e)	Origin rail	Destination rail	Train emissions (kgCO <sub>2</sub> e)	How many times greener is rail than airline business travel?
Edinburgh Airport	London Gatwick Airport	105.3	Haymarket (Edinburgh)	London King's Cross	6	<b>17.55</b>
Newcastle Airport	Heathrow Airport (London)	74.3	Newcastle	London King's Cross	5.98	<b>12.42</b>
Exeter Airport	Heathrow Airport (London)	60.7	Exeter St David's	London Paddington	6.33	<b>9.59</b>
Manchester Airport	Heathrow Airport (London)	66.4	Manchester Piccadilly	London Euston	7.13	<b>9.31</b>
Glasgow International	London Gatwick Airport	109.2	Glasgow Central	London Euston	15.12	<b>7.22</b>



# Carbon emissions for a business journey from Glasgow to London



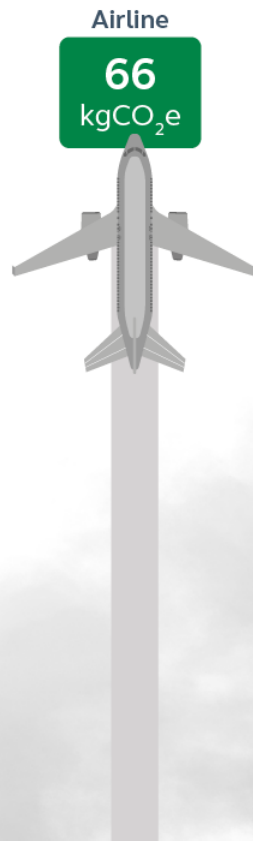
# Carbon emissions for a business journey from Edinburgh to London



# Carbon emissions for a business journey from Newcastle to London



# Carbon emissions for a business journey from Manchester to London



# Carbon emissions for a business journey from Exeter to London





# Communications Toolkit

## Green Travel Pledge

Carbon emission data for  
Britain's top rail business routes

Communications Toolkit  
28 Feb 2024

To promote the top 100 business routes data, we have produced a communications toolkit which in addition to this stakeholder pack includes a series of collateral, such as:

- Key messaging
- Wider business travel messaging
- Social assets
- CRM and website copy
- Graphics
- Press release
- Onboard announcement script

How much greener is it to take the train rather than a petrol or diesel car for business?

Average emissions (KGCO2e) rail per passenger vs petrol/diesel car


Origin	Destination	How much greener by train?
Haymarket	London King's Cross	20 times
York	London King's Cross	15 times
Darlington	London King's Cross	15 times
Grantham	London King's Cross	14 times
Ebbwfleet	St Pancras Int	14 times



[www.raildeliverygroup.com/gtp](http://www.raildeliverygroup.com/gtp)


Green Travel Pledge  
Comparing Green Travel Pledge train data with government GHG car data

Travel by train



Measured in kgCO2e per passenger by train

Travel by car



Measured in kgCO2e for single-occupancy car

GREEN TRAVEL PLEDGE DATA FOR TRAIN TRAVEL (BASED ON ACCOUNT)

- Engine type
- Fuel type
- Journey distance
- Number of train carriages
- Travel class
- Occupancy
- Timetable data

GOVERNMENT AVERAGE GREENHOUSE GAS DATA FOR CAR TRAVEL (BASED ON ACCOUNT)

- Diesel
- Petrol

[www.raildeliverygroup.com/gtp](http://www.raildeliverygroup.com/gtp)

This is available on our comms Sharepoint site.

If you require access, please contact:  
[Martin.Louey@raildeliverygroup.com](mailto:Martin.Louey@raildeliverygroup.com).



**Next steps**

**04**

# Green Travel Pledge timeline

## Green Travel Pledge development

*Summer / autumn 2023*

Work with Thrust Carbon and Fabrik to calculate carbon emission figures for Britain's top rail business routes.

## Phase 2 launch

*Early summer 2024*

Release rail carbon emission figures for all point-to-point rail business travel routes in Britain.

## Minimum viable product

*June 2023*

Release carbon emission results for London King's Cross to Edinburgh Waverley route.

## Phase 1 launch

*February & April 2024*

Release carbon emission results for Britain's top rail business routes. Compare with car journey emissions (Feb 2024) and airline journey emissions (Apr 2024).

← Continued engagement and validation with the business travel community →





For the latest on Green Travel Pledge, please visit:  
[www.raildeliverygroup.com/gtp](http://www.raildeliverygroup.com/gtp)

If you have any queries, please contact:  
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