THE TRAIN ZONE MAP

DUURZAAM Erasmus MC

Erasmus MC Universitair Medisch Centrum Rotterdam

Map of Europe showing train travel zones with cities marked:

Stockholm, Gothenburg, Aalborg, Aarhus, Malmö, Odense, Copenhagen, Hamburg, Bremen, Hanover, Berlin, Leipzig, Essen, Bonn, Frankfurt, Nuremberg, Prague, Kraków, Luxembourg, Munich, Salzburg, Vienna, Innsbruck, Budapest, Strasbourg, Stuttgart, Freiburg, Basel, Bern, Zürich, Geneva, Venice, Milan, Turin, Rome, Glasgow, Edinburgh, Newcastle, Manchester, York, Liverpool, Leeds, Birmingham, Cambridge, Cardiff, Oxford, Bristol, London, Plymouth, Southampton, Brussels, Lille, Rouen, Brest, Compiègne, Rennes, Paris, Troyes, Belfort, Dijon, Nantes, Clermont-Ferrand, Lyon, Bordeaux, Toulouse, Montepellier, Marseille, Porto, Lisbon, Madrid, Barcelona, Rotterdam

Legend:

- Always train (green)
- Usually train (orange)
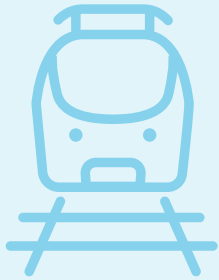- Train possible (red)
- **S** Schiphol Airport
- **r** Rotterdam Airport

Where are you travelling to?
- Train Zone
- Legend

TRAIN TRAVEL COSTS ABOUT 90% LESS CO$_2$ THAN AIR TRAVEL

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Travel has a major contribution to the carbon footprint of universities. The University of Ghent estimated that almost 15% of its total CO$_2$ emissions are caused by travel, mostly within Europe (https://www.ugent.be). Especially air travel has high carbon costs. For example, a return trip by air from Amsterdam to Madrid costs more than 0.8 tons CO$_2$. This is equivalent to the CO$_2$ emission from the average use of a car (15,000 km/yr) for five months.

Travel revisited

The average EU citizen has a carbon footprint of 7.2 tons CO$_2$ per year (https://ec.europa.eu/eurostat). In order to achieve the 2015 Paris Agreement's goals of keeping global warming to within 2°C above the pre-industrial level, each person on Earth has a yearly budget of about 2.3 tons CO$_2$ (www.atmosfair.de). To keep to this budget, we need to reduce our CO$_2$ emission substantially, a daunting task. For people working at Erasmus MC, one way to do this is by revisiting the way we travel.

Flying less is the most effective way to reduce your carbon footprint

The most important change is to fly less. The further you travel, the more CO$_2$ you produce. A return trip from Amsterdam to Singapore produces 4.9 tons of CO$_2$. Thus, limiting long-distance travel is key. Within Europe, an important step is to travel by train instead of by air. CO$_2$ emissions from train travel are 7 to 11 times lower than from travel by air (www.milieucentraal.nl). This Train Zone Map provides information about travelling by train instead of by air to the most common destinations in Europe.

WHERE ARE YOU TRAVELLING TO?

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Click on the country of your destination

Are you travelling within Europe? This map provides insight into destinations that are easily accessible by train.

Click on the country of your destination. You will reach a page for the country you have selected. For each destination you will find information on:

- The total travel time from Rotterdam Central Station to the centre of the city you are travelling to;
- The level of comfort on your journey: how many times you have to transfer?;
- The CO_2 emission of your journey.

Sweden

Denmark

Netherlands

United Kingdom

Poland

Germany

Belgium

Luxembourg

Czech Republic

Hongaria

Austria

France

Switzerland

Italy

Portugal

Spain

THE TRAIN ZONE

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TRAIN ADVICE	FROM SCHIPHOL (S) or ROTTERDAM AIRPORT (R)	DESTINATION	TRAVEL TIME			CO₂ EQUIVALENT EMISSION (KG)			NUMBER OF TRANSFERS		
		Country	✈	🚆	Difference	✈	🚆	Difference	✈	🚆	Difference
		GERMANY									
🟧	S	**Berlin**	5:05	7:30	2:25	135	12	123	3	2	1
🟩	S	**Bonn**	6:50	4:15	2:35	171	5	166	2	2	0
🟩	S	**Bremen**	4:25	5:00	0:35	64	8	56	2	2	0
🟩	S	**Essen**	4:11	2:55	1:16	43	4	39	2	2	0
🟩	S	**Frankfurt**	4:40	5:00	0:20	86	8	78	2	2	0
🟥	S	**Freiburg**	5:20	9:10	3:50	134	12	121	2	5	3
🟧	S	**Hamburg**	5:00	6:00	1:00	86	10	76	2	3	1
🟩	S	**Hanover**	4:35	5:00	0:25	77	8	69	2	1	1
🟧	S	**Leipzig**	6:20	8:00	1:40	130	14	116	3	2	1
🟧	S	**Munich**	5:15	8:00	2:45	157	16	141	2	2	0
🟧	S	**Nuremberg**	5:00	7:00	2:00	127	12	115	3	2	1
🟩	S	**Stuttgart**	5:00	6:15	1:15	118	11	107	2	2	0

🟩 Always train   🟧 Usually train   🟥 Train possible

THE TRAIN ZONE

DUURZAAM Erasmus MC

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TRAIN ADVICE	FROM SCHIPHOL (S) or ROTTERDAM AIRPORT (R)	DESTINATION	TRAVEL TIME			CO₂ EQUIVALENT EMISSION (KG)			NUMBER OF TRANSFERS		
		Country	✈	🚆	Difference	✈	🚆	Difference	✈	🚆	Difference
		UNITED KINGDOM									
🟧	S	**Birmingham**	4:40	6:00	1:20	108	12	96	2	3	1
🟧	S	**Bristol**	5:00	6:10	1:10	123	13	110	2	4	2
🟩	S	**Cambridge**	4:40	6:00	1:20	77	11	66	2	2	0
🟥	S	**Cardiff**	5:20	7:15	1:55	132	13	119	3	4	1
🟧	S	**Edinburgh**	5:30	9:30	4:00	155	20	135	2	2	0
🟧	R	**Edinburgh**	4:10	9:30	5:20	156	20	137	3	2	1
🟧	S	**Glasgow**	5:25	10:30	5:05	167	21	146	2	2	0
🟧	R	**Glasgow**	4:05	9:50	5:45	168	21	147	3	3	0
🟧	S	**Liverpool**	5:15	7:30	2:15	127	14	113	3	3	0
🟧	S	**Leeds**	5:00	7:30	2:30	108	15	93	3	2	1
🟩	S	**London (City)**	4:45	4:30	0:15	84	9	75	2	1	1
🟩	R	**London (City)**	3:30	3:50	0:20	74	9	65	2	1	1
🟥	S	**Manchester**	4:55	7:00	2:05	116	15	101	2	3	1
🟧	S	**Newcastle**	4:55	8:00	3:05	121	16	105	2	2	0
🟩	S	**Oxford**	5:10	6:00	0:50	100	11	89	3	3	0
🟩	S	**Plymouth**	6:50	7:55	1:05	156	15	141	3	3	0
🟥	S	**Southampton**	4:50	6:15	1:25	116	11	104	2	4	2
🟧	S	**York**	4:55	7:00	2:05	102	15	87	3	2	1

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TRAIN ADVICE	FROM SCHIPHOL (S) or ROTTERDAM AIRPORT (R)	DESTINATION	TRAVEL TIME			CO₂ EQUIVALENT EMISSION (KG)			NUMBER OF TRANSFERS		
		Country	✈	🚆	Difference	✈	🚆	Difference	✈	🚆	Difference
		FRANCE									
🟧	S	**Belfort**	6:05	6:34	0:29	128	18	110	3	4	1
🟧	S	**Bordeaux**	5:40	5:35	0:05	218	19	199	2	3	1
🟩	S	**Brest**	7:40	7:40	0:00	188	20	168	4	2	2
🟩	S	**Clermont-Ferrand**	7:35	7:35	0:00	175	16	159	3	3	0
🟩	S	**Compiègne**	5:55	4:46	1:09	85	9	76	3	2	1
🟧	S	**Dijon**	5:02	4:55	0:07	121	14	107	1	2	1
🟩	S	**Lille**	8:05	2:15	5:50	56	4	52	3	2	1
🟩	S	**Lyon**	5:40	5:30	0:10	173	16	157	3	2	1
🟧	S	**Marseille**	5:25	6:30	1:05	237	22	215	2	3	1
🟧	S	**Montpellier**	5:30	7:50	2:20	229	22	208	2	2	0
🟩	S	**Nantes**	5:55	6:00	0:05	173	15	158	3	2	1
🟩	S	**Paris**	5:10	2:40	2:30	104	8	97	2	0	2
🟩	S	**Rennes**	5:10	6:00	0:50	156	15	141	2	2	0
🟩	S	**Rouen**	6:55	5:00	1:55	99	9	90	3	3	0
🟩	S	**Strasbourg**	5:45	5:00	0:45	110	17	93	2	2	0
🟩	S	**Toulouse**	7:25	8:15	0:50	236	24	213	2	2	0
🟩	S	**Troyes**	6:55	5:21	1:34	108	11	97	3	1	2

🟩 Always train 🟧 Usually train 🟥 Train possible

THE TRAIN ZONE

TRAIN ADVICE	FROM SCHIPHOL (S) or ROTTERDAM AIRPORT (R)	DESTINATION Country	TRAVEL TIME ✈	TRAVEL TIME 🚆	Difference	CO₂ EQUIVALENT EMISSION (KG) ✈	CO₂ EQUIVALENT EMISSION (KG) 🚆	Difference	NUMBER OF TRANSFERS ✈	NUMBER OF TRANSFERS 🚆	Difference
		DENMARK									
🟥	S	**Aalborg**	4:45	12:40	7:55	144	16	128	2	4	2
🟧	S	**Aarhus**	7:55	11:15	3:20	128	15	112	4	3	1
🟥	S	**Copenhagen**	4:45	11:30	6:45	146	19	127	2	4	2
🟥	S	**Odense**	6:15	10:45	4:30	146	16	130	2	4	2
		SWEDEN									
🟧	S	**Gothenburg**	4:40	16:00	12:40	138	24	114	2	5	3
🟥	S	**Malmö**	8:40	12:20	3:40	282	15	267	3	5	2
🟥	S	**Stockholm**	4:46	20:00	15:14	203	28	175	1	5	4
		ITALY									
🟥	S	**Milan**	5:15	11:30	6:15	143	22	121	2	4	2
🟧	S	**Rome**	5:17	18:38	13:21	219	34	185	2	7	5
🟥	S	**Torino**	5:40	10:15	4:35	138	24	114	3	3	0
🟥	S	**Venice**	5:15	14:50	9:35	162	26	136	2	4	2
		SPAIN									
🟥	S	**Barcelona**	5:45	13:45	8:00	213	27	186	2	4	2
🟥	S	**Madrid**	6:30	15:00	8:30	255	34	221	2	5	3
		PORTUGAL									
🟥	S	**Lisbon**	6:40	23:45	17:05	321	50	271	2	5	3
🟥	S	**Porto**	5:30	23:45	18:15	268	52	216	1	5	4
		POLAND									
🟥	S	**Kraków**	5:45	17:00	11:15	185	25	161	3	4	1

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TRAIN ADVICE	FROM SCHIPHOL (S) or ROTTERDAM AIRPORT (R)	DESTINATION Country	TRAVEL TIME ✈	TRAVEL TIME 🚆	Difference	CO_2 EQUIVALENT EMISSION (KG) ✈	CO_2 EQUIVALENT EMISSION (KG) 🚆	Difference	NUMBER OF TRANSFERS ✈	NUMBER OF TRANSFERS 🚆	Difference
		LUXEMBOURG									
🟩	S	Luxembourg	4:35	5:30	0:55	75	7	67	2	2	0
		SWITZERLAND									
🟧	S	Basel	4:45	6:45	2:00	133	13	120	3	2	-1
🟧	S	Bern	6:20	8:15	1:55	134	15	118	3	3	0
🟧	S	Geneva	4:50	7:00	2:10	163	18	144	2	2	0
🟧	S	Zürich	4:50	8:00	3:10	144	15	129	2	2	0
		AUSTRIA									
🟧	S	Innsbruck	5:15	9:30	4:15	191	18	173	3	2	1
🟧	R	Innsbruck	3:35	10:25	6:50	168	18	150	3	3	0
🟧	S	Salzburg	5:10	10:00	4:50	181	17	164	2	2	0
🟥	R	Salzburg	3:25	10:00	6:35	180	18	162	2	3	1
🟧	S	Vienna	5:25	11:05	5:40	181	21	160	2	2	0
		CZECH REPUBLIC									
🟥	S	Prague	5:35	12:00	6:25	167	20	147	3	4	1
		HONGARIA									
🟥	S	Budapest	5:32	22:27	16:55	202	28	174	4	6	2
		BELGIUM									
🟩	S	Brussels	4:05	1:34	2:31	21	2	18	2	2	0

🟩 Always train   🟧 Usually train   🟥 Train possible
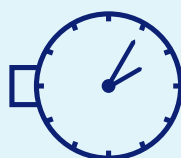
LEGEND

The Train Zone map – destinations
This map only displays a selection of destinations in Europe.
If you have any additions or alterations, please e-mail them to
duurzaam@erasmusmc.nl

Train travel time
The train travel times are based on the shortest travel time.
All journeys are calculated from Rotterdam Central Station
(8.00 a.m.) to the centre of the city you are travelling to.
Current search results may differ from the travel time displayed
in this document.

Travel time by air
Travel times by airplanes are based on flight duration + travel
time (to and from the airport) + waiting time (check-in and
customs between 1:15 - 2:30 hr). All journeys are calculated
from Rotterdam Central Station to the centre of the city you
are travelling to.
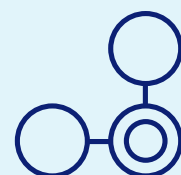
Number of transfers by train
The number of transfers has been based on the recommended
travel time (source Google Maps - departure 8.00 a.m.) and the
lowest number of transfers.

Number of transfers aeroplane
The number of transfers for travelling by air include transfers to
train/taxi/shuttle to get from Rotterdam to the airport and from
the airport to the centre of the city.
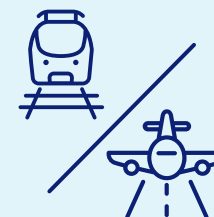
CO$_2$ emission (kg) flying versus travelling by train.
The CO$_2$ emission has been calculated by multiplying 0.026
(WTW* of Train International) or 0.238 (80% of WTW of Airplane
Regional < 700 km) or 0.160 (80% of WTW of Airplane Europe
between 700 – 2.500 km) with the number of kilometers from
Rotterdam Airport or Schiphol Airport to the destination.
The WTW values are from www.co2emissiefactoren.nl.

* WTW = Well to Wheel or source to wheel. This encompasses all emissions
   from energy generation to consumption.

Always train   **Usually train**   **Train possible**

Always by train: (travel time train is no more than by plane + 25% OR travel
time by train is 6 hours at most) AND the number of transfers is no higher
than travel by plane.

Usually by train: (travel time train is no more than by plane + 25% OR travel
time by train is 6 hours at most) BUT the number of transfers is higher than
travel by plane.

Usually by train: (travel time train is more than by plane + 25% OR travel
time by train is more than 6 hours) BUT the number of transfers is no higher
than travel by plane.

Train possible: (travel time train is more than by plane + 25% OR travel time
by train is more than 6 hours) AND the number of transfers is higher than
travel by plane.

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DUURZAAM Erasmus MC

Erasmus MC
Universitair Medisch Centrum Rotterdam

This Train Zone map is based on an idea and format of Utrecht University

Versie 2,0 2023

Reliable sites for booking and planning:
www.bahn.de & www.nsinternational.nl