

STOA - The Future of Long Distance Transport in Europe - Baseline data

Transport activity	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Total change 2005-2050 (%)	Share 2005	Share 2050
Passenger transport total (Gpkm)	1827	2431	2997	3542	1232	4205	4585	2,1	151%	100%	100%
Private cars and motorcycles	700	833	944	1039	1093	1150	1210	1,2	73%	38%	26%
Rail	65	71	77	81	84	87	89	0,71	38%	4%	2%
Aviation	1026	1485	1929	2369		2911	3226	2,58	214%	56%	70%
Inland navigation	37	43	48	52	54	57	59	1,09	63%	2%	1%
Freight transport total (Gtkm)	2060	2505	2912	3283	3500	3733	3983	1,5	93%	100%	100%
Trucks	1364	1751	2111	2438	2631	2839	3064	1,8	125%	66%	77%
Rail	410	438	457	476	487	498	508	0,5	24%	20%	13%
Inland navigation	286	316	344	368	382	396	411	0,8	43%	14%	10%
CO2 Emissions by sector (kt)	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Total change 2005-2050 (%)	Share 2005	Share 2050
Tank-to-wheel (onboard) passenger transport (kt)	214937	234652	241140	265967	290347	317141	346557	1,1	61%	100%	100%
Private cars and motorcycles	72356	70839	72316	73404	77213	81220	85435	0,4	18%	34%	25%
Rail	2322	1807	1457	1451	1498	1545	1595	-0,8	-31%	1%	0%
* electric	1283	873	639	620	640	661	682	-1,4	-47%	1%	0%
* diesel	1039	934	818	831	857	885	913	-0,3	-12%	0%	0%
Total aviation	137990	159390	164465	188001	208381	230969	256007	1,4	86%	64%	74%
Inland navigation	2269	2616	2901	3111	3255	3406	3520	1,0	55%	1%	1%
Well-to-wheel, passenger transport (kt)	236430	258118	265254	292564	319382	348856	381213	1,1	61%	100%	100%
Private cars and motorcycles	79591	77923	79548	80744	84935	89342	93979	0,4	18%	34%	25%
Rail	2555	1987	1603	1597	1647	1700	1754	-0,8	-31%	1%	0%
* electric	1411	960	703	682	704	727	750	-1,4	-47%	1%	0%
* diesel	1143	1027	900	914	943	973	1004	-0,3	-12%	0%	0%
Total aviation	151789	175329	180912	206801	229219	254066	281607	1,4	86%	64%	74%
Inland navigation	2496	2878	3191	3422	3581	3747	3872	1,0	55%	1%	1%
Tank-to-wheel (onboard) freight transport (kt)	314354	382150	418220	458042	492705	530061	570018	1,3	81%	100%	100%
Trucks	277897	348606	385738	424738	458337	494593	533718	1,5	92%	88%	94%
Rail	18661	14147	11602	11232	11479	11730	11988	-1,0	-36%	6%	2%
* electric	10570	7340	5712	5309	5426	5545	5666	-1,4	-46%	3%	1%
* diesel	8091	6807	5889	5923	6053	6186	6321	-0,5	-22%	3%	1%
Inland navigation	17796	19396	20880	22073	22890	23737	24312	0,7	37%	6%	4%
Well-to-wheel, freight transport (kt)	345789	420365	460041	503847	541975	583067	627020	1,3	81%	100%	100%
Trucks	305686	383467	424312	467211	504170	544053	587090	1,5	92%	88%	94%
Rail	20527	15562	12762	12355	12626	12903	13187	-1,0	-36%	6%	2%
* electric	11627	8074	6284	5840	5968	6099	6233	-1,4	-46%	3%	1%
* diesel	8900	7487	6478	6515	6658	6804	6953	-0,5	-22%	3%	1%
Inland navigation	19576	21336	22968	24280	25179	26111	26743	0,7	37%	6%	4%
Tank-to-wheel energy demand (TJ)	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Total change 2005-2050 (%)	Share 2005	Share 2050
Total	6952391	8175227	8767902	9644656	10438819	11302037	12236463	1,26	76%	100%	100%
Private cars and motorcycles	974585	954162	974059	988705	1040015	1093989	1150763	0,37	18%	14%	9%
Trucks	3717808	4663787	5160546	5682300	6131799	6616856	7140283	1,46	92%	53%	58%
* diesel	13902	12490	10944	11117	11471	11837	12215	-0,29	-12%	0%	0%
* diesel	108243	91060	78792	79239	80978	82754	84569	-0,55	-22%	2%	1%
Aviation	1897361	2191614	2261399	2585016	2865235	3175829	3520092	1,38	86%	27%	29%
Inland navigation, freight	240492	262114	282162	298279	309321	320772	328540	0,70	37%	3%	3%
Well-to-wheel energy demand (TJ)	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Total change 2005-2050 (%)	Share 2005	Share 2050
Private cars and motorcycles	7722207	9080674	9738978	10712970	11595251	12554255	13592419	1,26	76%	100%	100%
Private cars and motorcycles	1082872	1060180	1082287	1098561	1155573	1215543	1278626	0,37	18%	14%	9%
Trucks	4130898	5181986	5733940	6313667	6813110	7352062	7933648	1,46	92%	53%	58%
* diesel	15446	13878	12160	12352	12746	13153	13572	-0,29	-12%	0%	0%
* diesel	120270	101178	87546	88044	89975	91949	93966	-0,55	-22%	2%	1%
Aviation	2108179	2435127	2512666	2872240	3183594	3528699	3911214	1,38	86%	27%	29%
Inland navigation, freight	264541	288325	310378	328107	340253	352849	361394	0,70	37%	3%	3%

Well-to-wheel energy efficiency	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Improvement 2005-2050 (%)
MJ per pkm/tkm									
Private car and motorcycles	1,55	1,27	1,15	1,06	1,06	1,06	1,06	-0,84	32
Aviation	1,7	1,6	1,4	1,3	1,2	1,1	1,0	-1,14	40
Trucks	3,03	2,96	2,72	2,59	2,59	2,59	2,59	-0,35	14
* electric, net (at train)	0,73	0,46	0,31	0,28	0,28	0,28	0,28	-2,09	61
* diesel, net (at train)	0,79	0,65	0,53	0,51	0,51	0,51	0,51	-0,99	36
* electric, net (at train)	0,96	0,62	0,46	0,41	0,41	0,41	0,41	-1,85	57
* diesel, net (at train)	0,98	0,77	0,64	0,62	0,62	0,62	0,62	-1,02	37
Inland Navigation	0,92	0,91	0,90	0,89	0,89	0,89	0,88	-0,11	5
Well-to-wheel carbon intensity	2005	2015	2025	2035	2040	2045	2050	05-'50 %/a	Improvement 2005-2050 (%)
(gCO2/pkm or tkm)									
Private car and motorcycles	114	94	84	78	78	78	78	-0,84	32
Aviation	125	114	103	92	86	80	75	-1,14	40
Trucks	224	219	201	192	192	192	192	-0,35	14
* electric, net (at train)	31	19	13	12	12	12	12	-2,09	61
* diesel, net (at train)	59	48	39	37	37	37	37	-0,99	36
* electric, net (at train)	41	26	20	18	18	18	18	-1,85	57
* diesel, net (at train)	72	57	47	46	46	46	46	-1,02	37
Inland Navigation	68	68	67	66	66	66	65	-0,11	5