

CO2 EMISSIONS PER PASSENGER BY MODE
INTERCITY TRAVEL EXAMPLES
 ENGLISH DISTANCE MEASURES (MILES)
 DRAFT ESTIMATES

Intinerary	Airline Distance: Mlles	Airline (A-321)	Rail: Amtrak	Mag-Lev (Transrapid)	High Speed Rail (200 MPH)	Intercity Bus	Average 2006 Auto	Hybrid Auto	Average 2006 SUV	2008 Peugeot 308 Diesel Hybrid
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CO2 Equivalent Kilograms per Passenger.

SHORT HAUL										
Atlanta-Chattanooga	105	30	24	26	17	8	25	14	29	10
Seattle-Portland	130	32	39	39	26	12	36	22	44	15
Chicago (MDW)-St. Louis	250	44	59	67	45	21	60	38	75	26
Chicago (ORD)-Minneapolis-St. Paul	333	53	88	91	62	29	82	51	103	35
Average	204	40	52	56	37	18	51	31	63	21
MEDIUM HAUL										
New York-Miami	1,089	130	288	287	193	91	249	162	324	111
LONG HAUL										
Los Angeles-New York	2,465	268	666	622	419	198	541	351	704	240

Intinerary	Airline Distance: Mlles	Airline (A-321)	Rail: Amtrak	Mag-Lev (Transrapid)	High Speed Rail (200 MPH)	Intercity Bus	Average 2006 Auto	Hybrid Auto	Average 2006 SUV	2008 Peugeot 308 Diesel Hybrid
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CO2 Equivalent Kilograms per Passenger Including Local Connecting Automobile Trips

SHORT HAUL										
Atlanta-Chattanooga	105	37	30	32	24	15	25	14	29	10
Seattle-Portland	130	38	45	45	32	19	36	22	44	15
Chicago (MDW)-St. Louis	250	51	65	73	51	28	60	38	75	26
Chicago (ORD)-Minneapolis-St. Paul	333	60	94	98	68	35	82	51	103	35
Average	204	46	59	62	44	24	51	31	63	21
MEDIUM HAUL										
New York-Miami	1,089	136	295	293	200	98	249	162	324	111
LONG HAUL										
Los Angeles-New York	2,465	274	672	629	425	204	541	351	704	240

Intinerary	Airline (A-321)	Rail: Amtrak	Mag-Lev (Transrapid)	High Speed Rail (200 MPH)	Intercity Bus	Average 2006 Auto	Hybrid Auto	Average 2006 SUV	2008 Peugeot 308 Diesel Hybrid
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CO2 Equivalent Grams per Air Passenger Mile: Excluding Auto Origin and Destination Connection

SHORT HAUL										
Atlanta-Chattanooga	288	228	244	164	78	235	138	276	94	
Seattle-Portland	246	299	297	200	94	277	167	336	115	
Chicago (MDW)-St. Louis	177	235	266	179	85	241	150	301	103	
Chicago (ORD)-Minneapolis-St. Paul	160	264	274	185	87	245	155	310	106	
Average	218	256	270	182	86	249	152	306	104	
MEDIUM HAUL										
New York-Miami	119	265	263	177	84	229	149	298	102	
LONG HAUL										
Los Angeles-New York	109	270	252	170	80	219	142	285	97	

Notes

Airline data estimated using SAS emissions calculator, assuming an A-320 aircraft and an 80% load factor (2006 US average load factor). <http://sasems.port.se/EmissionCalc.cfm?lang=1&utbryt=0&sid=advanced&left=advanced>.

Amtrak estimate based upon overall system fuel efficiency: 2004 (Transportation Energy Data Book).

Average auto: US fuel efficiency and load factor (1.57) Transportation Energy Data Book).

Urban driving assumption (for fuel economy): ATL-CHA 40%, SEA-POR 25%, DFW-HOU 25%, STL-CHI 20%, CHI-MSP 15%, Others 5%

Hybrid auto assumes overall fuel efficiency of 45 miles per gallon (Toyota Prius): Vehicle occupancy 1.57.

Average SUV: US fuel efficiency and load factor (1.72) with an assumption that 80 percent of travel would be highway (based on Transportation Energy Data Book).

Mag-lev energy High speed rail emissions based upon "High Speed Rail and Greenhouse Gas Emissions in the United States" (cnt.org), using US electricity generation factors

2008 Peugeot 308 Diesel-Hybrid at official 65.7 mpg (marketed in Europe): Vehicle Occupancy 1.57.

Local connecting automobile trips: Assumed at automobile rate, 15 miles at each end of non-auto and non-SUV trips

Fuel emission factors from USEPA and USDOE

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