railroad service industry Code No.040101

Type of accidents in railroad service in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	63	52	49	54	65	73	62	69	61	55	61	61	59	58	46	50	48	55	54	66	65	62	69	1,357	fall from height
falling to same level	84	71	59	52	74	85	76	62	72	70	76	84	80	103	88	87	83	81	87	88	74	75	114	1,825	falling to same
crash	18	21	17	26	22	20	25	39	25	22	27	20	12	22	25	29	15	25	24	26	21	27	31	539	crash
struck by flying or falling object	13	12	10	10	10	13	11	9	9	8	7	8	12	10	2	4	6	6	7	9	5	12	5	198	struck by flying or falling object
collapse	1	1	3			1	1	4	1	2			1	5	1	1	4	1	1	1	3			32	collapse
crashed by	18	14	18	12	9	16	18	11	16	9	15	10	7	16	16	13	7	14	6	4	17	6	8	280	crashed by
caught in/between	41	38	31	24	32	44	40	46	40	39	33	34	27	30	56	29	27	26	39	26	33	27	31	793	caught in/between
cut	5	4	6	1	7	8	6	4	5	8	9	7	4	5	9	6	6	1	6	6	5	2	4	124	cut
injury to the sole of the foot			1			2	1	1		1		1	3				1		2			2		15	injury to the sole of the foot
drown																									drown
contact to high/low- temperature	2	3	4	2	1	2	2	3	3		4	1	2	1	3	3	2	5	4	7	4	6	3	67	contact to high/low- temperature

contact to harmful substance		1			2	1			1			1	2			1	3	1				1	1	15	contact to harmful substance
electric shock	2	5	2	4	2		4	2	5	3	1	2	1	1	3	2	2	2		3		2	1	49	electric shock
explosion										1					1				1					3	explosion
burst							2						1											3	burst
fire													1											1	fire
traffic accident (public road)	12	9	14	10	15	10	13	11	12	7	14	3	8	4	11	5	11	2	2	11	5	6	9	204	traffic accident (public road)
traffic accident (others)	3	6	3	3	6	3	8	11	4	2	2	4	1	2	3	3	2		4		5	1	2	78	traffic accident (others)
reaction to motion/improper motion	46	51	40	55	62	42	33	57	66	54	49	52	66	61	65	52	49	51	67	47	63	80	79	1,287	reaction to motion/improper motion
others	13	14	15	14	7	8	19	12	11	27	14	14	16	17	8	10	18	13	8	14	14	21	143	450	others
unclassifiable	6	2	5	8	11	10	3	7	6	8	7	5		6	2	2	5	3	3	2	1	1	1	104	unclassifiable
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Causal agents (large) of fatal and non-fatal accidents in railroad service in 1999-2021

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		Causal (L)
Causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2003	2010	2011	2012	2013	2014	2013	2010	2017	2010	2013	2020	2021	ll l	agents
machine	13	10	10	5	5	12	7	7	5	5	11	7	10	7	6	6	6	3	9	10	9	2	4	169	machine
crane, conveying																									crane,

machine	63	77	66	60	81	74	79	81	79	59	77	64	64	61	84	53	43	53	56	56	65	68	69	1,532	conveying
machine																									machine
athor aguinment	46	37	31	36	25	33	42	35	31	49	31	32	30	37	36	39	25	36	33	36	26	38	37	801	other
other equipment	40	57	31	30	23	33	42	33	31	49	31	52	30	37	30	39	23	30	33	30	20	36	57		equipment
tompovom buildings																									temporary
temporary buildings, establishments	119	101	90	83	119	135	115	131	134	118	109	121	106	130	125	111	114	111	132	128	129	113	165	2,739	buildings,
establistifferits																									establishments
substance, material	5	12	5	8	8	9	9	10	8	6	10	11	12	8	4	6	15	4	6	7	10	10	7	190	substance,
substance, material		12	5	0	0		9	10	0		10	11	12	0	4		13				10				material
load	6	9	7	9	8	4	5	10	7	2	5	3	2	3	7	2	3	6	9	3	9	6	6	131	load
environment	25	18	21	21	27	22	14	25	20	12	15	15	24	29	27	26	22	25	26	28	20	23	26	511	environment
others	50	40	47	53	52	49	53	49	53	65	61	54	55	66	50	54	61	48	44	42	47	71	187	1,351	others
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Causal agents (middle) of fatal and non-fatal accidents in railroad service in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (M) agents
engine	1	1																						2	engine
power transmission mechanism	1		1	2			1	1		1			3	1	1	1			2	2	2			19	power transmission mechanism
woodworking machine	1		1		2	2				1		1	1			2	1				1			13	woodworking machine

construction machine	1	4				1	 1	2	1		2		3		1		1	1	2	2	1	1	4	28	construction
																									machine
metal manufacturing																									metal
machine	4	2	4		2	2	1	1	1	1	2	1	3	2			1		2		1				manufacturing
																									machine
general machine	5	3	4	3	1	7	4	3	3	2	7	5		4	4	3	3	2	3	6	4	1		77	general
																									machine
mobile silviculture																									mobile
machine																									silviculture
]													machine
crane	1	3	2	2	2	2	1		1	2	3	1	3		1	2	1	2	3	3	3	6			crane
conveying machine	14	8	11	15	16	13	13	12	12	8	10	10	2	8	9	7	5	6	10	4	5	7	5	210	conveying
																									machine
vehicle	48	66	53	43	63	59	66	69	66	49	64	54	59	53	74	44	38	45	43	49	57	55	64	1,281	vehicle
pressure vessel																1								1	pressure vessel
chemical facilities																									chemical
enermed racinges																									facilities
welding equipment				1			1																	2	welding
weiding equipment																									equipment
kiln, caldron			1																					1	kiln, caldron
alastris aquinment	3	3	2	5	2	1	7	2	5	4	1	3		1	2	4	2	2	2	4	1	1	2	61	electric
electric equipment	3	3		3	2	I			5	4		3		 	3	4		3		4				01	equipment
human power machine,	9		6		9	11	11		5	16	8			12	12		,		7	7		7	9	186	human power
tools	9		0	8	9	11	11	8) 	16	o	4	5	12	13	7	3						9	100	machine, tools

tools	23	16	16	19	10	15	17	14	15	20	9	14	13	14	15	19	8	14	14	17	10	20	15	347	tools
other equipments,	11	11	6	3	4	6	6	11	6	9	13	11	12	10	5	8	12	12	10	8	8	10	11	203	other equipments, facilities
temporary buildings, establishments	119	101	90	83	119	135	115	131	134	118	109	121	106	130	125	111	114	111	132	128	129	113	165	2,739	temporary buildings, establishments
hazards, harmful substances		1			1	1	1	1	1		3		2		1	1	4	1	2		2			22	hazards, harmful substances
materials	5	11	5	8	7	8	8	9	7	6	7	11	10	8	3	5	11	3	4	7	8	10	7	168	materials
load	6	9	7	9	8	4	5	10	7	2	5	3	2	3	7	2	3	6	9	3	9	6	6	131	load
natural environment	25	18	21	21	27	22	14	25	20	12	15	15	24	29	27	26	22	25	26	28	20	23	26	511	natural environment
other causal agent	26	20	23	16	13	18	26	26	19	29	30	22	25	18	14	20	20	16	15	18	15	20	140	589	other causal agent
no causal agent	17	18	21	29	29	24	25	18	29	22	26	27	28	39	33	34	38	30	26	24	30	50	46	663	no causal agent
unclassifiable	7	2	3	8	10	7	2	5	5	14	5	5	2	9	3		3	2	3		2	1	1	99	unclassifiable
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Causal agents (small) of fatal and non-fatal accidents in railroad service in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents

engine																				engine
power transmission mechanism		1		1	1	1			3	1	1	1		2	2	2			16	power transmission mechanism
circular sawing machine		1	1					1				1	1			1			6	circular sawing machine
band sawing machine																				band sawing machine
wood planer machine																				wood planer machine
hollow chisel mortiser, wood borer																				hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																				chamfering machine, router, woodworking milling machine
chain saw			1			1			1			1							4	chain saw
other woodworking machines																				other woodworking machines
leveling, transporting or loading machine							1		1						1		1	1		leveling, transporting or loading machine
excavating machine					1														1	excavating machine
foundation work machine				1															1	foundation work machine

hardening machine																				hardening machine
demolition machine																				demolition machine
vehicle for high lift work										2				1				1	4	vehicle for high lift work
other construction machines					1	1		1				1	1		2	1	1	2	11	other construction machines
lathe		1	2	1				1	1	1									7	lathe
drill press, milling machine		1					1								1				3	drill press, milling machine
grinding machine, buffing machine		1				1		1		1	2		1		1		1		9	grinding machine, buffing machine
power press																				power press
forging pressure																				forging pressure
shearing machine																				shearing machine
other metal manufacturing machines		1			1					1									3	other metal manufacturing machines
centrifugal machine																				centrifugal machine
mixer, grinder									1										1	mixer, grinder
roll machine (except printingroll machine)																				roll machine (except printingroll machine)
injection molding																				injection molding

machine																					machine
food manufacturing																					food manufacturing
machine																					machine
printing machine																					printing machine
industrial robot																					industrial robot
other general power machines		4	1	4	3	3	2	7	4		4	4	3	3	2	3	6	4	1	58	other general power machines
felling machine																					felling machine
mobile logging machine																					mobile logging machine
skyline yarding machine																					skyline yarding machine
other mobile																					other mobile
silviculture machine																					silviculture machine
crane						1	2			1			1		1	1	2		1	10	crane
mobile crane			1					1					1		1		1			5	mobile crane
derrick crane																					derrick crane
elevator, lift		1						1								1		1	4	8	elevator, lift
cargo lifting																					cargo lifting
gondola																		1		1	gondola
lumberyard																					lumberyard
equipment, logging		1																		1	equipment, logging
cableway																					cableway

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simple skyline																							simple skyline
yarding equipment																						<u> </u>	yarding equipment
other powered				1					1		2		1				1		1	1		8	other powered
crane																			•				crane
truck		2		7	5	4	5	3	2	4	1	4		2	1		3	2	1	2	3	51	truck
forklift		2		1	1	1			4	1		1		1		1	1	1		3	2	20	forklift
railway equipment		3		5	4	4	3	4	2	1	1		4	2	1	2	3	1	1			41	railway equipment
conveyor					2	1									1							4	conveyor
loader																							loader
straddle carrier																							straddle carrier
rough terrain hauler																				1		1	rough terrain hauler
other powered		4			_																	42	other powered
conveying machines		4		3	ı	2	4	'	2	4		3	5	2	2	3	3		3			43	conveying machines
cars, bus,		14		21	14	8	15	9	13	6	12	9	10	5	10	4		7	7	5	9	180	cars, bus,
motorcycle		14		21	14	0	13		13	6	12	9		3	10	4	2	/		5	9	100	motorcycle
railway vehicle		36		38	47	58	45	38	43	43	42	42	62	33	24	38	36	39	45	41	49	799	railway vehicle
other vehicles		3		4	5	3	6	2	8	5	5	2	2	6	4	3	5	3	5	9	6	86	other vehicles
boiler																							boiler
pressure vessel																							pressure vessel
other pressure														1								1	other pressure
vessels														I								I	vessels
chemical facilities																							chemical facilities
gas welding					1																	1	gas welding

equipment																						equipment
arc welding equipment																						arc welding equipment
other welding equipment																						other welding equipment
kiln, caldron		1																			1	kiln, caldron
industrial dryer																						industrial dryer
other kiln, caldron																						other kiln, caldron
transmission		1	1	2	2	5	2		2			1	1		1	1	1				20	transmission
electric power facilities		1	1	4			1	1			1	1	2	2	2	1	2		1	1	21	electric power
other electrical equipment				1			1		1			1	1				1	1		1	8	other electrical equipment
human power cranes					1		3			1									1		6	human power cranes
human power hauling equipment		2	4	4	5	3	2	5	2	1	6	6	4	2	4	3	2	1	4	5	65	human power hauling equipment
human power																		1	1		2	human power machine
hand tool		4	5	7	2	2	11	3	2	3	6	7	3	1	3	4	5	5	1	4	78	hand tool
ladder		13	7	11	8	7	12	5	6	8	10	8	11	5	10	6	9	5	15	10	166	ladder
slinging tool		1				2					1										4	slinging tool
other tools		2	3	6	6	6	8	4	8	5	3	7	8	3	4	8	8	5	5	5	104	other tools
other equipment,																						other equipment,

facilities	6		4	6	11	6	9	13	11	12	10	5	8	12	12	10	8	8	10	11	172	facilities
scaffolding	2		1		1	1	1		1	1		1	1						1	2	13	scaffolding
timbering																						timbering
stairs, landing stage	18	3	30	28	36	38	33	25	27	23	41	27	17	28	26	43	33	37	30	38	578	stairs, landing stage
opening	2		1	4	4	1	3	4	2	2	2	4	3	2	2	3	2	3	5	1	50	opening
roof, beam, haze, crossbeam, principal rafter			2	3	4			1	1	1	1	2	1	2		1	1	1		1	22	roof, beam, haze, crossbeam, principal rafter
working platform, boot board	12	2	10	7	7	9	10	8	14	11	15	10	11	5	11	12	10	9	8	11	190	working platform, boot board
passage	2	1	36	36	37	36	38	34	41	32	42	40	43	43	40	47	52	43	31	74	766	passage
building, establishment	22	2	24	25	26	34	18	24	21	22	14	25	24	19	16	16	17	17	18	22	404	building, establishment
other temporary buildings, establishments	13	3	15	12	16	15	15	13	14	14	15	16	11	15	16	10	13	19	20	16	278	other temporary buildings, establishments
explosive substance								1													1	explosive substance
inflammable substance																		2			2	inflammable substance
inflammable gas												1									1	inflammable gas
harmful substance			1			1								2							4	harmful substance
radiation																						radiation
other hazards,				1	1			2		2			1	2	1	2					12	other hazards,

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metal material		4		5	5	3	2	2	1	3	5	2	1	2	4	2	2	3	1	6	4	57	metal material
lumber, bamboo				1	1	3		1	1	3	2	3	1	1	3				2	2	2	26	lumber, bamboo
stone, sand, substance		1			2	2	4	3	4	4	2	1	1		1	1	2	3	4	1	1	37	stone, sand, substance
other materials				1		1	1		1	1	1	2		2	3			1	1	1		16	other materials
load		3		6	5	9	7	2	5	3	1	3	6	2	2	6	8	2	9	5	4	88	load
machine/equipment as load		4		2		1					1		1		1		1	1		1	2	15	machine/equipment as load
natural ground,		3		2	2	4	4	4	2	2	7	4	8	2	2	2	4		4	1	5	62	natural ground, rock
standing tree		3		4	2	1	2	1	1	2	1	1	1	1	1	1				2	1	25	standing tree
water												1	1						1			3	water
abnormal environment				1															1			2	abnormal environment
high/cold temperature environment		1				1	2			1		1	2	1	1	2	3	6	2	5	1	29	high/cold temperature environment
other environments		14		20	10	19	12	7	12	10	16	22	15	22	18	20	19	22	12	15	19	304	other environments
other causal agent		23		13	26	26	19	29	30	22	25	18	14	20	20	16	15	18	15	20	140	509	other causal agent
no causal agent		21		29	25	18	29	22	26	27	28	39	33	34	38	30	26	24	30	50	46	575	no causal agent
unclassifiable		3		10	2	5	5	14	5	5	2	9	3		3	2	3		2	1	1	75	unclassifiable
total		277		325	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	6,180	total

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less	6	4	3	7	2	3	3	6	4	6	6	4	7	6	2	3	2	3	5	4	6	3	11	106	19 years old or less
20-29	64	67	64	60	80	77	80	72	69	56	66	58	61	72	83	59	51	62	61	62	69	82	108	1,583	20-29
30-39	70	62	41	53	58	58	64	78	73	69	78	68	63	82	78	61	67	53	62	51	63	65	109	1,526	30-39
40-49	98	72	73	75	96	97	80	96	97	86	64	69	51	64	50	49	50	56	62	67	66	62	94	1,674	40-49
50-59	71	86	85	65	80	87	72	76	77	77	77	78	91	94	90	98	86	87	91	86	70	68	123	1,915	50-59
60 years old or	18	13	11	15	9	16	25	20	17	22	28	30	30	23	36	27	33	25	34	40	41	51	56	620	60 years old or
more									.,															020	more
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Workers' number of workplace of fatal and non-fatal accidents in railroad service in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	25	16	16	11	15	17	18	23	13	19	9	16	11	19	10	7	9	10	11	11	12	19	12	329	9 workers or less
10-29	39	38	34	39	31	34	27	22	34	27	33	29	32	27	20	24	23	25	28	28	30	43	30	697	10-29
30-49	47	39	36	33	38	33	37	47	29	29	29	38	24	42	42	38	32	35	28	28	34	36	47	821	30-49
50-99	54	45	37	47	62	49	63	56	56	59	61	43	62	56	61	59	42	52	54	60	56	55	84	1,273	50-99
100-299	121	127	106	108	136	157	140	157	160	144	149	152	141	154	165	140	144	132	157	147	146	145	269	3,397	100-299
300 workers or	41	39	48	37	43	48	39	43	45	38	38	29	33	43	41	29	39	32	37	36	37	33	59	907	300 workers or
more																									more
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	25	22	30	33	36	27	36	35	27	37	32	40	53	33	45	33	34	27	35	35	44	30	39	788	January
February	40	30	26	25	31	37	37	37	31	32	31	32	29	37	39	35	33	29	31	37	32	31	52	774	February
March	38	29	29	34	31	34	27	30	39	31	31	32	27	42	29	32	30	33	29	22	27	32	26	714	March
April	27	21	16	16	28	28	25	30	24	22	39	31	20	23	27	29	18	24	29	26	31	24	31	589	April
May	25	17	21	19	25	21	25	20	24	16	19	24	19	30	18	19	16	23	11	21	21	23	57	514	May
June	24	26	24	22	32	22	25	37	22	21	21	24	16	33	24	19	25	19	28	22	19	28	33	566	June
July	23	27	25	29	23	27	16	29	24	27	22	22	22	27	25	16	30	31	28	21	22	18	53	587	July
August	24	28	27	20	27	17	22	20	24	21	26	25	17	15	26	25	16	20	21	30	20	27	79	577	August
September	23	28	17	18	24	41	32	26	39	22	27	20	26	32	26	26	27	22	25	31	23	26	33	614	September
October	28	22	17	16	29	22	16	26	29	26	25	17	19	26	31	15	18	18	20	17	28	27	36	528	October
November	28	27	25	24	18	28	30	29	27	28	22	22	23	19	22	16	23	18	23	19	23	20	23	537	November
December	22	27	20	19	21	34	33	29	27	33	24	18	32	24	27	32	19	22	35	29	25	45	39	636	December
total	327	304	277	275	325	338	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	7,424	total

Prefecture of fatal and non-fatal accidents in railroad service in 1999-2021

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido	11	15	12		15		16	8	14	10	12	14	16	16	19	10	13	23	20	18	25	29	45	361	Hokkaido
Aomori	2	4	2		4		8	1	3	1	3	3	5	7	2	3				1	3	3	3	58	Aomori
lwate	2		3		2		3	1	1	1	1	1		1	3	4	3	1	1	2	2	1	4	37	lwate

Miyagi	5	7	7	9	5	3	10	6	5	13	8	6	6	3	6	3	7	4	4	4	6	127	Miyagi
Akita	2	2	3	2	3	2	4	3	2	3	3	5	5	2	1	6	4	4	4	2	4	66	Akita
Yamagata	2	5	3	2		3	4	2	2	6	6	1	6	1		2	7	1	1	4	4	62	Yamagata
Fukushima	8	5	3	4	9	9	5	6	5	9	3	5	6	4	1	2	4	3	2	2	3	98	Fukushima
Ibaraki	7	7	11	11	2	7	5	1	3	3	2	7	8	4	1	1	3			3	5	91	lbaraki
Tochigi	2	2	2	2		4	3		1	1	2	2	1	3	1	1	2	4	1			34	Tochigi
Gunma	11	16	8	12	14	5	6	10	15	4	11	15	12	12	18	6	11	7	8	5	6	212	Gunma
Saitama	15	9	12	15	15	21	9	17	8	14	12	16	16	10	9	10	6	7	6	14	17	258	Saitama
Chiba	22	16	15	24	22	14	15	8	14	11	12	15	11	16	11	15	16	13	14	13	18	315	Chiba
Tokyo	48	25	41	45	36	53	47	55	42	59	42	51	31	38	46	46	43	43	47	37	45	920	Tokyo
Kanagawa	18	24	21	20	19	38	32	29	22	21	23	33	28	20	15	16	24	23	25	31	30	512	Kanagawa
Niigata	24	10	9	6	7	10	12	9	9	6	8	11	6	10	2	8	8	4	5	11	15	190	Niigata
Toyama	1	4	2	6	2	2	2		1	3	4	1	1	1	6	2	3	4	5	4	5	59	Toyama
Ishikawa	1		1	2	2	3	4	2		1	1	1	2	1	3	4	2	8	5	2	21	66	Ishikawa
Fukui	1	8	2	1	1	1		4	3	2	1	2		2		1	1			3	3	36	Fukui
Yamanashi	1		3	4	2	3	1	1	2		1		2		1	2	2	1		2	1	29	Yamanashi
Nagano	30	18	15	25	29	21	25	24	26	17	23	24	30	33	25	20	24	27	32	37	28	533	Nagano
Gifu		4	2	2	6	4	4	3	2	5	3	2	3	2	2		4	5	3	1	2	59	Gifu
Shizuoka	2	3	4	11	4	3	7	8	5	3	6	8	4	6	5	4	3	6	3	1	3	99	Shizuoka
Aichi	11	11	10	3	18	18	17	10	18	11	12	15	13	12	14	6	9	12	11	7	11	249	Aichi
Mie	5		4	2	4	4	3	3	4	2	2	1	4		3	5	2	2	4	2	2	58	Mie
Shiga	2	7	4	3	1	5	2	1	1	4	6	4	6	3	1	5	1	1	1	4	10	72	Shiga
Kyoto	6	1	2	1	9	8	8	3	8	4	9	8	16	17	7	11	11	12	10	11	13	175	Kyoto

Osaka	28	36	28	33	27	32	31	37	40	30	26	33	33	23	27	28	31	39	33	28	110	733	Osaka
Hyogo	15	14	11	5	12	12	10	10	5	13	12	14	12	9	16	12	13	11	11	19	15	251	Hyogo
Nara	1	1	2	1	1	1	3	3	1	1	1	1	3	2	4	4	4	1	1	4	3	43	Nara
Wakayama	2		1	1	3	2		2			2	1	1		1	3	2		1	1	4	27	Wakayama
Tottori	2			2	1	6			2						2				1	3		19	Tottori
Shimane		2	1	1		2	1	3	1					1			3			1	1	17	Shimane
Okayama	1	8	2	1	5	4	3	6	2	2	1	3	2	4	2	3	4	2	2	4	3	64	Okayama
Hiroshima	5	9	6	18	6	9	8	4	10	6	9	7	8	3	6	7	9	7	12	7	10	166	Hiroshima
Yamaguchi		1		2	1	2		3	4	1	4	3	4	1	3	3	3	3	5	2	2	47	Yamaguchi
Tokushima	1			2	4		2	3	5	1			1	1	5	4	3	2		1		35	Tokushima
Kagawa	7	3	6	7	6	8	10	2	7	5		4	4	2	2	4	3	5	5	3	13	106	Kagawa
Ehime	4	5	2	3	3	3	3	5	5	2	5	2	5	6	2	2	2	2	2	6	1	70	Ehime
Kochi	1	4	1	1	6	2	1	1	1	2	1		2	1		3	2	2	1	1	1	34	Kochi
Fukuoka	4	11	3	8	9	9	13	9	9	11	11	8	14	11	14	6	8	14	14	6	18	210	Fukuoka
Saga	1	1	1			1	1	2		2		2	1		1			1				14	Saga
Nagasaki	4		5	3	1	4	5	7	9	3	4	3	3	5	3	2	2	1	1	7	3	75	Nagasaki
Kumamoto	2	5	2				1	1	4	7	1	2	2	3	1	2	3	2	2	2	5	47	Kumamoto
Oita	3		3	2			2				1		1	2	2	1	1	3			1	22	Oita
Miyazaki	1			1						1	2						1	1		1	1	9	Miyazaki
Kagoshima	6	1	2	1	2			1			1	1	1	4	4	2	3	2	3	2	6	42	Kagoshima
Okinawa											1		1	2								4	Okinawa
total	327	304	277	325	324	348	337	316	319	307	303	341	339	297	289	286	315	310	315	331	501	6,811	total

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more. Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

Return to https://www.jisha.or.jp/english/statistics/2021e_industry.html

Fatal accidents in railroad service in Japan in 1999-2021

railroad service industry Code No.040101

Type of fatal accidents in railroad service in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height						1	1			1							1			2	1	2		9	fall from height
falling to same level													1		1	1						1		4	falling to same
lailing to same level																						•			level
crash																									crash
struck by flying or																									struck by flying
falling object																									or falling object
collapse																			1					1	collapse
crashed by			1				1																	2	crashed by
saught in/hotwoon				1				1		1		1						1		1				6	caught
caught in/between				ľ								I						ı						U	in/between
cut																									cut

injury to the sole of the foot																						injury to the sole
drown																						drown
contact to high/low- temperature																						contact to high/low- temperature
contact to harmful substance														1							1	contact to harmful substance
electric shock		1	1			1															3	electric shock
explosion																						explosion
burst																						burst
fire																						fire
traffic accident (public road)																			2		2	traffic accident (public road)
traffic accident (others)	1	1		2	1	2	6	2		1						1					17	traffic accident (others)
reaction to motion/improper motion																						reaction to motion/improper motion
others		1										1								1	3	others
unclassifiable																						unclassifiable
total	1	4	2	2	2	5	7	2	2	2	1	2	1	2	1	2	3	1	5	1	48	total

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L)
machine												1								1		1		3	machine
crane, conveying machine		1	2	1	2	1	3	7	2	1		1			1	1	1	1	1	1		3		30	crane, conveying machine
other equipment			1	1			1																	3	other equipment
temporary buildings, establishments							1			1			1							1				4	temporary buildings, establishments
substance, material																	1							1	substance, material
load																									load
environment						1													1		1			3	environment
others			1												1							1	1	4	others
total		1	4	2	2	2	5	7	2	2		2	1		2	1	2	1	2	3	1	5	1	48	total

Causal agents (middle) of fatal accidents in railroad service in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (M)
Causai (iii) agents	1999	2000	2001	2002	2003	2004	2003	2000	2007	2000	2009	2010	2011	2012	2013	2014	2013	2010	2017	2010	2019	2020	2021		agents

engine																				engine
power transmission mechanism																	1		1	power transmission mechanism
woodworking machine																				woodworking machine
construction machine																				construction machine
metal manufacturing machine																				metal manufacturing machine
general machine										1								1	2	general machine
mobile silviculture machine																				mobile silviculture machine
crane																				crane
conveying machine							1											2	3	conveying machine
vehicle	1	2	1	2	1	3	6	2	1	1		1	1	1	1	1	1	1	27	vehicle
pressure vessel																				pressure vessel
chemical facilities																				chemical facilities
welding equipment																				welding equipment

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kiln, caldron																			kiln, caldron
electric equipment		1	1		1													3	electric equipment
human power machine,																			human power
tools																			tools
other equipments,																			other equipments, facilities
temporary buildings, establishments					1		1		1					1				4	temporary buildings, establishments
hazards, harmful substances											1							1	hazards, harmful substances
materials																			materials
load																			load
natural environment				1									1		1			3	natural environment
other causal agent		1															1	2	other causal
no causal agent										1						1		2	no causal agent
unclassifiable																			unclassifiable
	\neg	\neg		 		 1		$\overline{}$	$\overline{}$			$\overline{}$	1					1	

total	1	ı	4	2	2	2	5	7	2	2		2	1		2	1	2	1	2	3	1	5	1	48	total	
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Causal agents (small) of fatal accidents in railroad service in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents
engine																									engine
power transmission mechanism																				1				1	power transmission mechanism
circular sawing machine																									circular sawing machine
band sawing machine																									band sawing machine
wood planer machine																									wood planer machine
hollow chisel mortiser, wood borer																									hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																									chamfering machine, router, woodworking milling machine
chain saw																									chain saw
other woodworking																									other woodworking

leveling,												leveling,
transporting or												transporting or
loading machine												loading machine
excavating machine												excavating machine
foundation work												foundation work
machine												machine
hardening machine												hardening machine
demolition machine												demolition machine
vehicle for high lift												vehicle for high lift
work												work
other construction												other construction
machines												machines
lathe												lathe
drill press, milling												drill press, milling
machine												machine
grinding machine,												grinding machine,
buffing machine												buffing machine
power press												power press
forging pressure												forging pressure
hammer												hammer
shearing machine												shearing machine
other metal												other metal
manufacturing												manufacturing
machines												machines

centrifugal machine													centrifugal machine
mixer, grinder													mixer, grinder
roll machine (except printingroll machine)													roll machine (except printingroll machine)
injection molding machine													injection molding machine
food manufacturing machine													food manufacturing machine
printing machine													printing machine
industrial robot													industrial robot
other general power machines						1					1	2	other general power machines
felling machine													felling machine
mobile logging machine													mobile logging machine
skyline yarding machine													skyline yarding machine
other mobile silviculture machine													other mobile silviculture machine
crane													crane
mobile crane													mobile crane
derrick crane													derrick crane
elevator, lift													elevator, lift

cargo lifting																				cargo lifting
appliance																				appliance
gondola																				gondola
lumberyard																				lumberyard
equipment, logging																				equipment, logging
cableway																				cableway
simple skyline																				simple skyline
yarding equipment																				yarding equipment
other powered																				other powered
crane																				crane
truck																		2	2	truck
forklift																				forklift
railway equipment																				railway equipment
conveyor							1												1	conveyor
loader																				loader
straddle carrier																				straddle carrier
rough terrain hauler																				rough terrain hauler
other powered																				other powered
conveying machines																				conveying machines
cars, bus,																				cars, bus,
motorcycle																				motorcycle
railway vehicle	1	2	1	2	1	3	6	2		1						1			20	railway vehicle
other vehicles									1			1	1	1	1		1	1	7	other vehicles
boiler																				boiler

	 			 		 	 	 	 	 	 	==	 	 -	<u> </u>
pressure vessel															pressure vessel
other pressure															other pressure
vessels															vessels
chemical facilities															chemical facilities
gas welding															gas welding
equipment															equipment
arc welding															arc welding
equipment															equipment
other welding															other welding
equipment															equipment
kiln, caldron															kiln, caldron
industrial dryer															industrial dryer
other kiln, caldron															other kiln, caldron
transmission		1												1	transmission
electric power					1										electric power
facilities			I											2	facilities
other electrical															other electrical
equipment															equipment
human power															human power
cranes															cranes
human power															human power
hauling equipment															hauling equipment
human power															human power
machine															machine

hand tool															hand tool
ladder															ladder
slinging tool															slinging tool
other tools															other tools
other equipment,															other equipment,
facilities															facilities
scaffolding															scaffolding
timbering															timbering
stairs, landing stage															stairs, landing stage
opening						1								1	opening
roof, beam, haze,															roof, beam, haze,
crossbeam,															crossbeam,
principal rafter															principal rafter
working platform,								1						1	working platform,
boot board															boot board
passage															passage
building,				1								1		2	building,
establishment												<u> </u>			establishment
other temporary															other temporary
buildings,															buildings,
establishments															establishments
explosive substance															explosive substance
inflammable															inflammable
substance															substance

inflammable gas															inflammable gas
harmful substance															harmful substance
radiation															radiation
other hazards,										_					other hazards,
harmful substances										1					harmful substances
metal material															metal material
lumber, bamboo															lumber, bamboo
stone, sand,															stone, sand,
substance															substance
other materials															other materials
load															load
machine/equipment															machine/equipment
as load															as load
natural ground,				1										1	natural ground,
rock														<u> </u>	rock
standing tree															standing tree
water															water
abnormal															abnormal
environment															environment
high/cold															high/cold
temperature															temperature
environment															environment
other environments											1	1		2	other environments
other causal agent		1											1	2	other causal agent

no causal agent												1							1		2	no causal agent
unclassifiable																						unclassifiable
total	1	4	2	2	2	5	7	2	2	2	1	2	1	2	1	2	3	1	5	1	48	total

Workers age of fatal accidents in railroad service in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less																									19 years old or less
20-29			2	1	1		3	1				1						1				2		12	20-29
30-39						1	1		1	1										1				5	30-39
40-49					1		1	5	1						1		1			1		2		13	40-49
50-59		1				1				1					1	1			2	1		1	1	10	50-59
60 years old or more			2	1				1				1	1				1				1			8	60 years old or more
total		1	4	2	2	2	5	7	2	2		2	1		2	1	2	1	2	3	1	5	1	48	total

Workers' number of workplace of fatal accidents in railroad service in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less									1						1									2	9 workers or less
10-29			1			1		2	1						1					1	1	1		9	10-29
30-49			1	1	2	1	1	5		2		1				1			1	1		1		18	30-49
50-99																	1		1			3		5	50-99
								\Box									\Box								

100-299	1	1	1			3					1				1		1			1	10	100-299
300 workers or		1				1				1				1								300 workers or
more						•																more
total	1	4	2	2	2	5	7	2	2	2	1	2	1	2	1	2	3	1	5	1	48	total

Month of fatal accidents in railroad service in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January			1					3							1	1	1							7	January
February			2							1			1				1		1		1			7	February
March					1	1	1					2								1				6	March
April							2																	2	April
May																							1	1	May
June				1	1																			2	June
July									1															1	July
August			1					1														3		5	August
September																						1		1	September
October				1				1	1															3	October
November						1				1										1				3	November
December		1					2	2							1			1	1	1		1		10	December
total		1	4	2	2	2	5	7	2	2		2	1		2	1	2	1	2	3	1	5	1	48	total

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido			1				1										1	1				2		6	Hokkaido
Aomori									1															1	Aomori
lwate																									lwate
Miyagi																									Miyagi
Akita																						1		1	Akita
Yamagata																									Yamagat
Fukushima																									Fukushin
Ibaraki																									Ibaraki
Tochigi								1																1	Tochigi
Gunma																									Gunma
Saitama												1												1	Saitama
Chiba					1							1												2	Chiba
Tokyo				1																		1		2	Tokyo
Kanagawa						1		2							1					1				5	Kanagaw
Niigata																									Niigata
Toyama																									Toyama
Ishikawa															1									1	Ishikawa
Fukui		1		1																				2	Fukui
Yamanashi																									Yamanas
Nagano										2						1	1		1	1	1	1		8	Nagano
Gifu			1																					1	Gifu

Shizuoka				1												1	Shizuoka
Aichi					1				1							2	Aichi
Mie		1														1	Mie
Shiga																	Shiga
Kyoto							1									1	Kyoto
Osaka			1		2										1	4	Osaka
Hyogo		1				1										2	Hyogo
Nara																	Nara
Wakayama																	Wakayama
Tottori						3										3	Tottori
Shimane																	Shimane
Okayama																	Okayama
Hiroshima																	Hiroshima
Yamaguchi																	Yamaguchi
Tokushima													1			1	Tokushima
Kagawa																	Kagawa
Ehime																	Ehime
Kochi					1											1	Kochi
Fukuoka												1				1	Fukuoka
Saga																	Saga
Nagasaki																	Nagasaki
Kumamoto																	Kumamoto
Oita																	Oita

Miyazaki																						Miyazaki
Kagoshima																						Kagoshima
Okinawa																						Okinawa
total	1	4	2	2	2	5	7	2	2	2	1	2	1	2	1	2	3	1	5	1	48	total

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

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