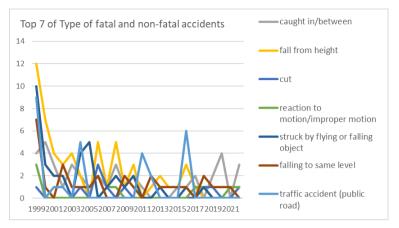
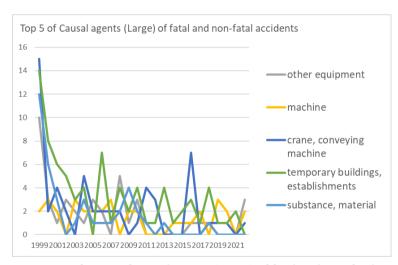
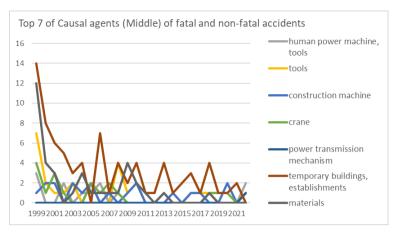
Transition of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



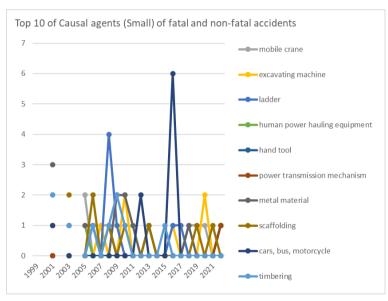
Transition of Top 7 of Type of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



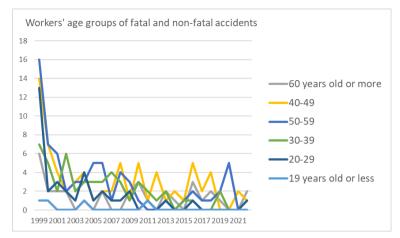
Transition of Top 5 of Causal agents (Large) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



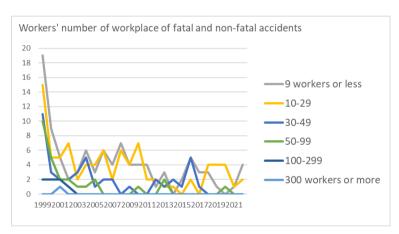
Transition of Top 7 of Causal agents (Middle) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



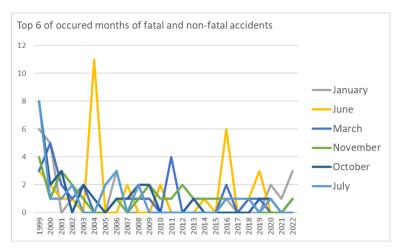
Transition of Top 10 of Causal agents (Small) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



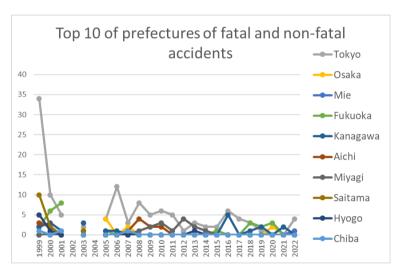
Transition of workers' age groups of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



Transition of workers' number of workplace of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



Transition of Top 6 of occured months of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)



Transition of Top 10 of prefectures of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

Transition of Type of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

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	2022	total	Type of accidents
caught in/between	4	5	3	1	3	2	1	2	1	3	1	2	1				1	1	2		2	4		3	42	caught in/between
fall from height	12	7	4	3	4	2		5	1	5	1	3		1	2	1	1	3	1					1	57	fall from height

cut	1					1		3	1		1									1	1			1	10	cut
reaction to motion/improper motion	3								1	1									1	1			1	1	9	reaction to motion/improper motion
struck by flying or falling object	10	3	2	2		4	5		1	2	1	2			1			1		1					35	struck by flying or falling object
falling to same level	7	1		3	1	1	1	2			2	1		2	1	1	1	1		2	1	1	1		30	falling to same level
traffic accident (public	9		1	1		5							4	2				6							28	traffic accident (public road)
crashed by	3	1	5	1	1	1	1		3		1	3	1		1	1									23	crashed by
collapse	5	2	2	1			1	1		1															13	collapse
crash	3	2		1			1				1				1					2	1				12	crash
contact to high/low- temperature		2																							2	contact to high/low- temperature
contact to harmful substance										1	1														2	contact to harmful substance
electric shock		1										1													2	electric shock
injury to the sole of the foot								1																	1	injury to the sole
drown				1																					1	drown
others															1										1	others
explosion																										explosion

burst																										burst
fire																										fire
traffic accident																										traffic accident
(others)																										(others)
unclassifiable																										unclassifiable
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of Causal agents (Large) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

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	2022	total	Causal (L) agents
other equipment	10	3	1	3	2	1	3	2		5	1	3			1			1	1	1				3	41	other equipment
machine	2	3	2		3	2	2	2	3		2	2				1	1	1	2		3	2		2	35	machine
crane, conveying machine	15	2	4	2		5	2	2	2	2		1	4	3				7		1	1	1		1	55	crane, conveying machine
temporary buildings, establishments	14	8	6	5	3	4		7	1	4	2	4	1	1	4	1	2	3	1	4	1	1	2		79	temporary buildings, establishments
substance, material	12	6	3		1	3	1	1	1	2	4	2	1		1					1					39	substance, material
load	2	1	1	2		1	1		1													1			10	load
others	2	1		1											1										5	others
environment				1			1							1		1									4	environment
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of Causal agents (Middle) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

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	2022	total	Causal (M) I agents
human power machine, tools	3			2		1	1	2		1					1									2	13	human power machine, tools
tools	7	2	1	1	2		2			4	1	2						1	1	1				1	26	tools
construction machine	1	2	2		2	1	2		1		1	2				1		1	1			2		1	20	construction machine
crane	4	1	3	1			2	1	2	1										1	1	1		1	19	crane
power transmission mechanism																								1	1	power transmission mechanism
temporary buildings, establishments	14	8	6	5	3	4		7	1	4	2	4	1	1	4	1	2	3	1	4	1	1	2		79	temporary buildings, establishments
materials	12	4	3		1	3	1	1	1	1	4	2	1		1					1					36	materials
conveying machine	3	1				5		1		1		1	4	1				1							18	conveying machine
vehicle	8		1	1										2				6							18	vehicle
load	2	1	1	2		1	1		1													1			10	load
woodworking machine	1				1	1		1	1		1														6	woodworking machine
general machine		1							1								1				2				5	general machine

			 	 \square			$\overline{}$	$\overline{}$	$\underline{}$	\blacksquare	 		$\overline{}$	 	\square	 	 =	 	
natural environment			1		1						1		1					4	natural environment
no causal agent	2	1	1															4	no causal agent
metal manufacturing machine						1									1	1		3	metal manufacturing machine
hazards, harmful substances		2						1										3	hazards, harmful substances
electric equipment		1								1								2	electric equipment
other causal agent												1						1	other causal agent
engine																			engine
mobile silviculture machine																			mobile silviculture machine
pressure vessel																			pressure vessel
chemical facilities																			chemical facilities
welding equipment																			welding equipment
kiln, caldron																			kiln, caldron
																			other

other equipments,																										equipments,
facilities																										facilities
unclassifiable																										unclassifiable
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of Causal agents (Small) of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

Transition of Causal a	igents	(Silia	11) 01 1	aldi di	na no	n-iala	i accic	ients i	111 030	105 5	ubwa	y cons	tructio	on wo	rk in J	apan	(1999	-2022)							
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	2022	total	Causal (S) agents
mobile crane			2				2		1	1										1	1	1		1	10	mobile crane
excavating machine			1		1				1			2						1				2		1	9	excavating machine
ladder					1					4	1							1	1					1	9	ladder
human power							1								1									1	3	human power
nauling equipment																										nauling equipment
hand tool								1		1														1	3	hand tool
power transmission mechanism																								1	1	power transmission mechanism
metal material			3				1	1			2	2	1		1					1					12	metal material
scaffolding			1		2			2		1		1			1						1		1		10	scaffolding
cars, bus, motorcycle			1											2				6							9	cars, bus, motorcycle
timbering			2		1			1		1	2	1					1								9	timbering
truck								1					4	1				1							7	truck
passage								2										1	1	1		1	1		7	passage
stairs, landing stage												1			2					3					6	stairs, landing stage
building,																										building,

establishment		1					2					1	1		1					6	establishment
slinging tool		1		2					2											5	slinging tool
other general power machines						1								1			2			4	other general power machines
other temporary buildings, establishments					1					1				1	1						other temporary buildings, establishments
circular sawing machine					1	1		1												3	circular sawing machine
grinding machine, buffing machine					1											1	1			3	grinding machine, buffing machine
opening		1			1				1											3	opening
working platform, boot board		1				1					1									3	working platform, boot board
stone, sand, substance						1		2												3	stone, sand, substance
load		1				1												1		3	load
leveling, transporting or loading machine		1	1																	2	leveling, transporting or loading machine
hardening machine													1			1				2	hardening machine
other construction machines				2																2	other construction machines
other powered crane					1	1														2	other powered

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other tools			1												1			2	other tools
other environments											1		1					2	other environments
other woodworking machines			1															1	other woodworking machines
demolition machine									1									1	demolition machine
crane		1																1	crane
railway equipment										1								1	railway equipment
other powered conveying machines								1										1	other powered conveying machines
other electrical equipment										1								1	other electrical equipment
human power cranes						1												1	human power cranes
harmful substance								1										1	harmful substance
lumber, bamboo			1															1	lumber, bamboo
other materials								1										1	other materials
machine/equipment as load					1													1	machine/equipment
natural ground, rock					1													1	natural ground, rock
other causal agent												1						1	other causal agent
engine																			engine
band sawing machine																			band sawing machine

wood planer													wood planer
machine													machine
hollow chisel													hollow chisel
mortiser, wood													mortiser, wood
borer													borer
chamfering													chamfering
machine, router,													machine, router,
woodworking													woodworking
milling machine													milling machine
chain saw													chain saw
foundation work													foundation work
machine													machine
vehicle for high lift													vehicle for high lift
work													work
lathe													lathe
drill press, milling													drill press, milling
machine													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
felling machine													felling machine
mobile logging machine													mobile logging machine
skyline yarding machine													skyline yarding machine
other mobile silviculture machine													other mobile silviculture machine
derrick crane													derrick crane
elevator, lift													elevator, lift
cargo lifting													cargo lifting appliance
gondola													gondola
lumberyard equipment, logging cableway													lumberyard equipment, logging cableway

	 	 	 	 		 	 	 11	 	 	 	п	п	 	1
simple skyline															simple skyline
yarding equipment															yarding equipment
forklift															forklift
conveyor															conveyor
loader															loader
straddle carrier															straddle carrier
rough terrain hauler															rough terrain hauler
railway vehicle															railway vehicle
other vehicles															other vehicles
boiler															boiler
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															transmission
					$\overline{}$		$\overline{}$						1	$\overline{}$	

electric power													electric power
facilities													facilities
human power													human power
machine													machine
other equipment,													other equipment,
facilities													facilities
roof, beam, haze,													roof, beam, haze,
crossbeam,													crossbeam,
principal rafter													principal rafter
explosive substance													explosive substance
inflammable													inflammable
substance													substance
inflammable gas													inflammable gas
radiation													radiation
other hazards,													other hazards,
harmful substances													harmful substances
standing tree													standing tree
water													water
abnormal													abnormal
environment													environment
high/cold													high/cold
temperature													temperature
environment													environment
no causal agent													no causal agent
unclassifiable													unclassifiable

total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of workers' age groups of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Age
60 years old or	6	2	2	2		1		2			2	3	1		2	1		3	1	2	1			2	33	60 years old or
more						•							'			•			•							more
40-49	14	7	4	2	3	4	1	2	2	5	1	5	1	4	1	2	1	5	2	4			2	1	73	40-49
50-59	16	7	6	2	3	3	5	5	1	4	3	1			1		1	2	1	1	2	5		1	70	50-59
30-39	7	5	2	6	2	3	3	3	4	3	1	3	2	1	2		1	1			2			1	52	30-39
20-29	13	2	3	2	1	4	1	2	1	1	2		1		1			1						1	36	20-29
19 years old or less	1	1				1							1												4	19 years old or less
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of workers' number of workplace of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

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	2022	total	Workers scale
9 workers or less	19	9	5	2	3	6	3	6	4	7	4	4	4	1	3		2	5	3	3	1		1	4	99	9 workers or less
10-29	15	5	5	7	2	4	4	6	2	6	4	7	2	2	1	1		2		4	4	4	1	2	90	10-29
30-49	11	3	2	2	3	5	1	2	2		1			2	1	2	1	5	1						44	30-49
50-99	10	5	2	2	1	1	2					1			2							1			27	50-99
100-299	2	2	2	1																					7	100-299
300 workers or			1																						1	300 workers or
more																										more
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of occured months of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Month
January	6	5		1				3				2			1			1				2	1	3	25	January
June	3	2	1	1		11			2			2				1		6		1	3			1	34	June
March	3	5	2	1	2			1	1	1	1		4					2		1	1			1	26	March
November	4	1	3	2	1			1		1	2	1	1	2	1	1	1	1	1	1				1	26	November
October	8	2	3		2	1		1	1	2	2				1						1	1			25	October
July	8	1	1	2			2	3		2								1	1	1		1			23	July
May	9	3		2			1	1				3							1	1					21	May
April	4	1	1	2		2	1	1	3		1	2					1		1						20	April
February	2		1	1		2	3	2		1				2	2	1	1								18	February
September	5	3	1	1	1		1	1		2					1					2					18	September
December	1		4		2		1			3	1	2		1	1			1				1			18	December
August	4	1		1	1		1		1	1	2		1										1		14	August
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

Transition of prefectures of fatal and non-fatal accidents in 030103 subway construction work in Japan (1999-2022)

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Prefecture
Tokyo	34	10	5		2		4	12	3	8	5	6	5	1	3	2	2	6	4	3	1			4	120	Tokyo
Osaka					1		4		2													2		1	10	Osaka
Mie									1															1	2	Mie
Fukuoka	2	6	8		1		1										1			3	2	3			27	Fukuoka
Kanagawa	2	3	1		3		1	1										5		1	2		2		21	Kanagawa
Aichi	3	2			1				1	4	2	2													15	Aichi

Miyagi								1	2	3	1	4	2	1				14	Miyagi
Saitama	10	2		1														13	Saitama
Hyogo	5	1											1					7	Hyogo
Chiba	1		1				1											3	Chiba
Kyoto			1			1												2	Kyoto
Yamagata										1								1	Yamagata
Tochigi			1															1	Tochigi
Shizuoka													1					1	Shizuoka
Okinawa															1			1	Okinawa
Hokkaido																			Hokkaido
Aomori																			Aomori
lwate																			lwate
Akita																			Akita
Fukushima																			Fukushim
lbaraki																			Ibaraki
Gunma																			Gunma
Niigata																			Niigata
Toyama																			Toyama
Ishikawa																			Ishikawa
Fukui																			Fukui
Yamanashi																			Yamanash
Nagano																			Nagano
Gifu																			Gifu

Shiga																										Shiga
Nara																										Nara
Wakayama																										Wakayama
Tottori																										Tottori
Shimane																										Shimane
Okayama																										Okayama
Hiroshima																										Hiroshima
Yamaguchi																										Yamaguchi
Tokushima																										Tokushima
Kagawa																										Kagawa
Ehime																										Ehime
Kochi																										Kochi
Saga																										Saga
Nagasaki																										Nagasaki
Kumamoto																										Kumamoto
Oita																										Oita
Miyazaki																										Miyazaki
Kagoshima																										Kagoshima
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	6	268	total

 $Data\ Source: \underline{https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.html}\ MHLW,\ Jaan$

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