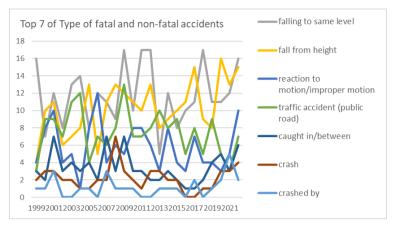
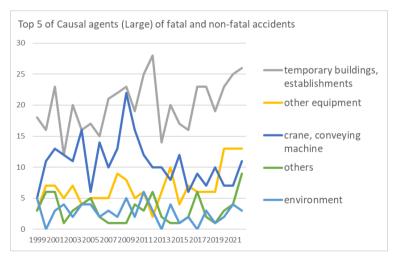
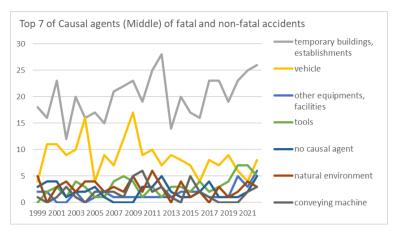
Transition of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



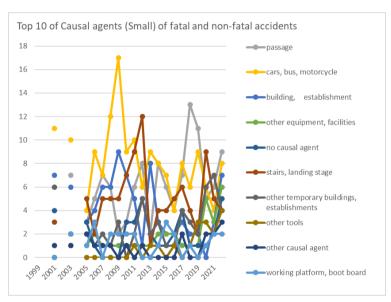
Transition of Top 7 of Type of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



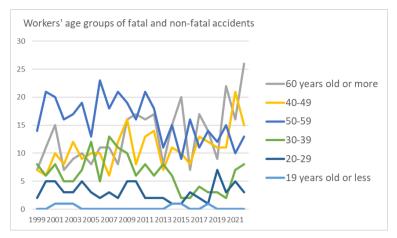
Transition of Top 5 of Causal agents (Large) of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



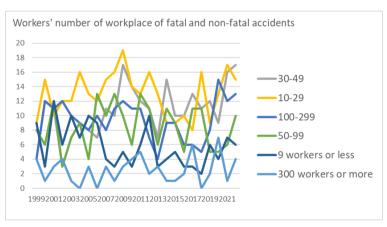
Transition of Top 7 of Causal agents (Middle) of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



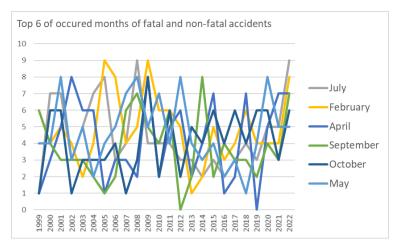
Transition of Top 10 of Causal agents (Small) of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



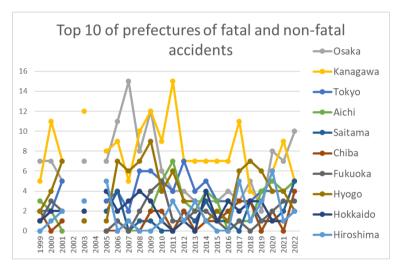
Transition of workers' age groups of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



Transition of workers' number of workplace of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



Transition of Top 6 of occured months of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)



Transition of Top 10 of prefectures of fatal and non-fatal accidents in 011603 city water service in Japan (1999-2022)

Transition of Type of fatal and non-fatal accidents in 011603 city water service 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
falling to same level	16	7	12	8	13	14	8	12	11	9	17	10	17	17	5	12	8	10	11	17	11	11	12	16	284	falling to same level
fall from height	4	10	11	6	7	8	13	5	11	13	12	11	10	13	8	9	10	11	15	9	8	16	13	15	248	fall from height

reaction to																										reaction to
motion/improper	4	8	10	4	5	1	8	12	4	6	5	8	8	6	3	8	4	3	7	4	4	3	5	10	140	motion/improper
motion																										motion
traffic accident (public		9	9	7	1.1	12		7	6	8	12	7	7	8	10	8	9	5		5	9	5		7	180	traffic accident
road)	3	9	9		11	12	4		0	0	13			0	10	0	9)	8	5	9	3	3		180	(public road)
1																									02	caught
caught in/between	3	2		3	4	3	4	2	/	3	7	3	3	2	2	3	2		I	2	4	5	3	6	82	in/between
crash	2	3	3	2	2	1	1	2	2	7	3	2	1	3	3	2	2			1	1	3	3	4	53	crash
crashed by	1	1	3			1	1		3	1	1	1			1	1	1		2		1	2	5	2	28	crashed by
struck by flying or																									53	struck by flying
falling object	1	3	2	3	2	1	4	2	2	1	1	4	3	3	2	3	3		ľ	3	3		4	1	53	or falling object
cut	1	1		2		3	1	3			3		4	4	1	1	1	1		3		2	2	1	34	cut
and the bink days																										contact to
contact to high/low-									3	1	1	2						1		1			4	1	14	high/low-
temperature																										temperature
collapse	1			1	1	1		2				1			1			1			1	1	1	1	13	collapse
unclassifiable				1							1		1											1	4	unclassifiable
others		1	2			1	2		1	2			2	1		1			1			2	2		18	others
																										contact to
contact to harmful	1	1		2	1	2		2	1	1						1	2	1				2			17	harmful
substance																										substance
drown						2		1			1		4					1	1				1		11	drown
electric shock	1	2		1						2		1										1			8	electric shock
injury to the sole of																										injury to the sole
the foot		1			1						1	1													4	of the foot
	1	1	-	1	1	╌		1	1	1	1	1	-	1	1	-	1			-	1	1	⊣ ├──		-	1

traffic accident																	1								,	traffic accident
(others)																										(others)
burst																							1		1	burst
fire								1																	1	fire
explosion																										explosion
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of Causal agents (Large) of fatal and non-fatal accidents in 011603 city water service 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
temporary buildings, establishments	18	16	23	12	20	16	17	15	21	22	23	19	25	28	14	20	17	16	23	23	19	23	25	26	481	temporary buildings, establishments
other equipment	3	7	7	5	7	4	5	5	5	9	8	5	6	2	6	10	4	7	6	6	6	13	13	13	162	other equipment
crane, conveying	5	11	13	12	11	16	6	14	10	13	22	16	12	10	10	8	12	6	9	7	10	7	7	11	258	crane, conveying machine
others	3	6	6	1	3	4	5	2	1	1	1	4	3	6	2	1	1	2	6	2	1	3	4	9	77	others
environment	5		3	4	2	4	4	2	3	2	5	2	6	3		4	1	2		3	1	2	4	3	65	environment
machine	1	3	2	5	1	4	3	4	4	2	2	1	6	5	2	2	3	1	1	2	3	4	3	2	66	machine
substance, material	2	3	3		3	2	5	8	5	4	2	4	2	2	2	2	4	2		1	2	1	2	1	62	substance, material
load	1	3	2	1			1	1	2	1	3	1		1		2	1		2	1			1		24	load
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of Causal agents (Middle) of fatal and non-fatal accidents in 011603 city water service 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		Causal (M) agents
temporary buildings, establishments	18	16	23	12	20	16	17	15	21	22	23	19	25	28	14	20	17	16	23	23	19	23	25	26	481	temporary buildings, establishments
vehicle	4	11	11	9	10	16	4	9	7	12	17	9	10	7	9	8	7	4	8	7	9	6	4	8	206	vehicle
other equipments,	2	2			2		1	2	1	1	1	1	1	1	1	2	2	2	1	1	1	5	3	6		other equipments, facilities
tools		2	3	1	4	3	1	1	4	5	4	1	3	1	3	3	2	4	2	3	4	7	7	5	73	tools
no causal agent	3	4	4	1	2	2	3	1				3	3	5	2	1	1	2	4	1	1	1	2	5	51	no causal agent
natural environment	5		3	4	2	4	4	2	3	2	5	2	6	3		4	1	2		3	1	2	4	3	65	natural environment
conveying machine	1		1	3	1		2	2	2	1	5	6	2	3	1		5	2	1				2	3	43	conveying machine
other causal agent		2	1		1	1	2	1	1	1		1		1					2			2	2	3	21	other causal agent
human power machine,	1	1	2	3		1	3	2		1	3	2	2		2	4		1	3	2	1		3	2	39	human power
materials	1	2	3		2		5	5	2	2	2	4	2	2	2	1	2	1		1	2		1	1	43	materials
general machine	1	3	1	4	1	1	2	2	2	1			2	1	1			1	1		3	3		1	31	general machine

construction machine			1						1	1				1									1	1	6	construction machine
unclassifiable			1			1					1									1				1	5	unclassifiable
load	1	3	2	1			1	1	2	1	3	1		1		2	1		2	1			1		24	load
hazards, harmful substances	1	1			1	2		3	3	2						1	2	1				1	1		19	hazards, harmful substances
power transmission mechanism						1		1			1		3		1	1	2						1		11	power transmission mechanism
woodworking machine				1		2		1			1		1	1		1				1		1	1		11	woodworking machine
electric equipment		2	2	1						2		1				1						1			10	electric equipment
crane			1					3	1			1									1	1	1		9	crane
metal manufacturing machine							1		1					2			1			1					6	metal manufacturing machine
engine												1													1	engine
pressure vessel					1																				1	pressure vessel
mobile silviculture machine																										mobile silviculture machine
chemical facilities																										chemical facilities

welding equipment																										welding
weiding equipment																										equipment
kiln, caldron																										kiln, caldron
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of Causal agents (Small) of fatal and non-fatal accidents in 011603 city water service in Japan (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
passage			6		7		3	5	7	6	2	3	6	8	2	8	6	4	7	13	11	5	6	9	124	passage
cars, bus, motorcycle			11		10		4	9	7	12	17	9	10	6	9	8	7	4	8	6	9	6	4	8	164	cars, bus, motorcycle
building, establishment			7		6		3	4	6	6	9	7	5	1	8	3	2	2	3	2	2		3	7	86	building, establishment
other equipment,					2		1	2	1	1	1	1	1	1	1	2	2	2	1	1	1	5	3	6	35	other equipment,
no causal agent			4		2		3	1				3	3	5	2	1	1	2	4	1	1	1	2	5	41	no causal agent
stairs, landing stage			3		2		5	2	5	5	5	7	9	12	1	4	4	5	6	4	2	9	5	4	99	stairs, landing stage
other temporary buildings, establishments			6		1		2	1	2	1	3		2	5	2	3	1	1	4	3	2	6	7	4	56	other temporary buildings, establishments
other tools					2								1		1	1		1		1	3	3	2	4	19	other tools
other causal agent			1		1		2	1	1	1		1		1					2			2	2	3	18	other causal agent
working platform, boot board					2		1	3		2	2	2	2			1	3	2		1		1	2	2	26	working platform, boot board
conveyor									1	1	2	2						1					2	2	11	conveyor
high/cold																										high/cold

temperature		1				1			1						1		1			3	2	10	temperature
environment																							environment
ladder		3	2	1	1	3	5	4	1	2	1	2	2	2	3	2	2	1	4	5	1	47	ladder
metal material		2	2	1	1	1	2	1	3	1	2	1		2	1		1	2			1	24	metal material
truck		1	1	1	2	1		1	3	2	2	1		5	1						1	22	truck
other general power machines		1	1	2	1	2	1			2	1	1			1	1		3	2		1	20	other general power machines
hand tool		1		2	1			3	2	1		2	1			2	2			2	1	20	hand tool
human power hauling equipment		1		1	1		1			1			2		1	1		1		1	1	12	human power hauling equipment
natural ground, rock			1	1				1	1					1							1	6	natural ground, rock
unclassifiable		1						1									1				1	4	unclassifiable
other construction machines																					1	1	other construction machines
opening		1		2		1	2	2			1	1	1	1	2	3		2	2			21	opening
other environments		1	1	2	1	1	2	2			2		3		1		2	1	1	1		21	other environments
load		2		1	1	2	1	2	1		1		2	1		2	1			1		18	load
power transmission mechanism					1			1		3		1	1	2						1		10	power transmission mechanism
water					1			2		6												9	water
stone, sand, substance				3	1	1		1		1			1									8	stone, sand, substance
other materials		1		1	3				1			1								1		8	other materials

harmful substance					2							1	2	1						6	harmful substance
other hazards, harmful substances			1				2											1	1	5	other hazards, harmful substances
standing tree		1		1		1					1	1								5	standing tree
excavating machine		1				1	1												1	4	excavating machine
other powered crane					3														1	4	other powered crane
roof, beam, haze, crossbeam, principal rafter			1							1	1								1	4	roof, beam, haze, crossbeam, principal rafter
inflammable gas					1	3														4	inflammable gas
chain saw											1					1		1		3	chain saw
other woodworking machines					1							1							1	3	other woodworking machines
other metal manufacturing machines						1					1					1				3	other metal manufacturing machines
mobile crane									1								1	1		3	mobile crane
forklift								2							1					3	forklift
electric power facilities							2		1											3	electric power facilities
scaffolding			1	1															1	3	scaffolding
circular sawing machine								1		1										2	circular sawing machine
grinding machine,																					grinding machine,

buffing machine									1		1					2	buffing machine
crane		1				1										2	crane
other powered conveying machines				1					1							2	other powered conveying machines
other vehicles									1				1			2	other vehicles
transmission										1				1		2	transmission
other electrical equipment		2														2	other electrical equipment
engine								1								1	engine
demolition machine									1							1	demolition machine
power press				1												1	power press
mixer, grinder					1											1	mixer, grinder
roll machine (except printingroll machine)														1		1	roll machine (except printingroll machine)
loader								1								1	loader
boiler			1													1	boiler
human power machine										1						1	human power
slinging tool						1										1	slinging tool
machine/equipment as load							1									1	machine/equipment as load
abnormal environment														1		1	abnormal environment

band sawing													band sawing
machine													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
leveling,													leveling,
transporting or													transporting or
loading machine													loading machine
foundation work													foundation work
machine													machine
hardening machine													hardening machine
vehicle for high lift													vehicle for high lift
work													work
lathe													lathe
drill press, milling													drill press, milling
machine													machine
forging pressure													forging pressure
hammer													hammer
shearing machine													 shearing machine

centrifugal machine														centrifugal machine
injection molding													li	injection molding
machine														machine
food manufacturing													I	food manufacturing
machine														machine
printing machine														printing machine
industrial robot													l	industrial robot
felling machine													1	felling machine
mobile logging														mobile logging
machine													ı	machine
skyline yarding														skyline yarding
machine														machine
other mobile														other mobile
silviculture machine														silviculture machine
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
railway equipment														railway equipment

straddle carrier														straddle carrier
rough terrain hauler														rough terrain hauler
railway vehicle														railway vehicle
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			<u> </u>									<u> </u>		equipment
kiln, caldron														kiln, caldron
industrial dryer														industrial dryer
other kiln, caldron														other kiln, caldron
human power														human power
cranes														cranes
timbering														timbering
explosive substance														explosive substance
inflammable														inflammable
substance														substance
radiation														radiation
lumber, bamboo														lumber, bamboo

total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total	
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Transition of workers' age groups of fatal and non-fatal accidents in 011603 city water service 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	7	11	15	7	9	10	8	11	11	8	16	17	16	17	8	15	20	7	17	14	9	22	16	26	317	60 years old or
more														'			20		17	17		22		20	317	more
40-49	7	6	10	8	12	9	10	10	6	12	16	8	13	14	7	11	10	8	13	12	11	11	21	15	260	40-49
50-59	14	21	20	16	17	19	13	23	18	21	19	16	21	18	11	15	9	16	11	14	12	15	10	13	382	50-59
30-39	8	6	8	5	5	7	12	5	13	11	10	6	8	6	8	6	2	2	4	3	3	2	7	8	155	30-39
20-29	2	5	5	3	3	5	3	2	3	2	5	5	2	2	2	1	1	3	2	1	7	3	5	3	75	20-29
19 years old or less			1	1	1											1	1			1					6	19 years old or less
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of workers' number of workplace of fatal and non-fatal accidents in 011603 city water service 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
30-49	4	12	11	3	7	9	8	7	11	10	17	14	12	11	7	15	10	10	13	11	12	9	16	17	256	30-49
10-29	9	15	10	12	12	16	13	12	15	16	19	14	13	16	13	9	9	10	8	16	9	13	17	15	311	10-29
100-299	4	12	11	12	10	9	8	10	8	11	12	11	11	7	4	9	9	6	6	5	8	15	12	13	223	100-299
50-99	8	6	12	3	7	9	4	13	10	13	10	6	13	11	6	11	9	5	11	11	5	5	6	10	204	50-99
9 workers or less	9	3	12	6	10	7	10	9	4	3	5	3	6	10	3	4	5	3	3	2	6	4	7	6	140	9 workers or less
300 workers or	1	1	3	1	1		2		3	1	2	1	5	2	2	1	1	2	6		2	7	1	4	61	300 workers or
more					<u> </u>					•						•	ľ								01	more
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of occured months of fatal and non-fatal accidents in 011603 city water service 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
July	1	7	7	3	5	7	8	3	4	9	4	4	4	3	3	2	3	2	3	4	3	5	5	9	108	July
February	6	4	5	4	2	4	9	8	4	5	9	6	6	5	1	2	5	3	4	6	4	4	4	8	118	February
April	1	3	5	8	6	6	1	3	3	2	8	2	5	6	2	4	7	1	2	7		5	7	7	101	April
September	6	4	3	3	3	2	1	2	6	7	5	4	6		2	8	2	4	3	3	2	4	3	7	90	September
October	1	6	6	1	3	3	3	4	1	3	8	2	6	2	5	4	6	4	6	4	6	6	3	6	99	October
May	4	4	8	3	5	2	4	5	7	8	5	7	4	8	4	3	4	2	3	1	4	8	5	5	113	May
November	4	7	4	7	3	3	1	3	3	1	5	5	3	9	1	6	3	5	3	3	6	1	4	5	95	November
December	1	2	2	2	1	2	3	4	5	2	5	1	4	6	3	4	2	3	6	4	4	3	6	5	80	December
August	3	1	3	2	4	7	6	6	6	3	7	8	5	4	3	3	3	7	4	5	2	2	7	4	105	August
June	4	6	2	5	5	5	3	2	3	7	1	6	5	3	3	4	2	1	8	4	7	7	4	4	101	June
March	2	3	10	2	4	5	4	3	5	6	5	4	9	5	2	4	3	1	2	2	1	2	5	3	92	March
January	5	2	4		6	4	3	8	4	1	4	3	3	6	7	5	3	3	3	2	3	6	6	2	93	January
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

Transition of prefectures of fatal and non-fatal accidents in 011603 city water service 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
Osaka	7	7	5		7		7	11	15	8	12	6	4	4	3	3	3	4	3	5	2	8	7	10	141	Osaka
Kanagawa	5	11	7		12		8	9	5	10	12	9	15	7	7	7	7	7	11	4	3	6	9	5	176	Kanagawa
Tokyo	2	2	5		3		3	4	2	6	6	5	4	7	4	5	3	3	2	3	4	4	4	5	86	Tokyo
Aichi	3	2			1			1			2	5	7	3	2	4	3		1	1	4	5	4	5	53	Aichi
Saitama	1	2	2		1		2	4		1	1			2	1	3	1	1		3	1	1	2	5	34	Saitama
Chiba	2		1		1				1		2	2		2		1	1	2	3	3		2		4	27	Chiba

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Fukuoka	1	3	2	2			1		2	4	5	1	1	2	2	1		1		1	2	3	3	37	Fukuoka
Hyogo	2	4	7	1		1	7	6	7	9	4	6	3	3	1	2	1	6	7	6	4	4	2	93	Hyogo
Hokkaido	1	2	2	2		4	2	3	4	3	1		1		4	1	3	2	3	3	1	1	2	45	Hokkaido
Hiroshima		1	2	3		5		1			1	3	1	3	1			5	1	3	6	1	2	39	Hiroshima
Toyama	1								1		1		2	1		1			1	1	1	3	2	15	Toyama
Gunma			2					1				1						1					2	7	Gunma
Kagawa		1	2			1	2	2	2		1	1	2	1	2	4		2	1	2	1	1	1	29	Kagawa
Niigata			4	2			1	1	1	1	3	1	2		1	2	1		2			1	1	24	Niigata
Yamaguchi		2	1	2										1	2	1	2	1			1	2	1	16	Yamaguchi
lwate			1	1			4	1		1	1	2					2						1	14	lwate
Kagoshima			1			2	2								1	1	1			2		2	1	13	Kagoshima
Okayama	1		1	1							2		1	1			1	1		1			1	11	Okayama
Ehime		1								1			1			1	2	2	1			1	1	11	Ehime
Nagasaki				2		1		2	1						1				1	1		1	1	11	Nagasaki
Nara										2	1					2	1			2		1	1	10	Nara
Okinawa						1		1	1										2	1		2	1	9	Okinawa
Aomori		1													2			1	1	2			1	8	Aomori
Shiga	3	1		1				1														1	1	8	Shiga
Wakayama						2			2		1	1											1	7	Wakayama
Mie	1							1						2			1						1	6	Mie
Akita			1									1	1			1							1	5	Akita
Shimane											1	1		1							1		1	5	Shimane
Oita				1							1	1				1							1	5	Oita

Tottori																								1	1	Tottori
Kyoto		2	5						1	1	3		1	6	1	6	2	3		2		2			35	Kyoto
Miyagi	1	2	2				1	1	2	3	1		6	4		1			1			2			27	Miyagi
Kumamoto		1	2				2		3			1	2		1	1		1	2			2	1		19	Kumamoto
Fukushima							1	2	1		3					1	1			1			1		11	Fukushima
Ibaraki	1				1				1		1			3			1			1		1	1		11	Ibaraki
Yamagata	1	1	1				2					1								1			1		8	Yamagata
Shizuoka	1	1								3	1											1			7	Shizuoka
Nagano					1												2			1	1		1		6	Nagano
Tochigi	1	1											2										1		5	Tochigi
Gifu			1		1																2	1			5	Gifu
Kochi	1						1			1				1	1										5	Kochi
Miyazaki	2		1														1		1						5	Miyazaki
Ishikawa			1											2								1			4	Ishikawa
Saga														1	1				1				1		4	Saga
Yamanashi					1						1												1		3	Yamanashi
Tokushima							2																1		3	Tokushima
Fukui		1																							1	Fukui
total	38	49	59	40	47	50	46	51	51	54	66	52	60	57	36	49	43	36	47	45	42	53	59	65	1,195	total

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