

Earthquake Hazard Map

~ Be ready when Earthquake occurs ~

Special Issue

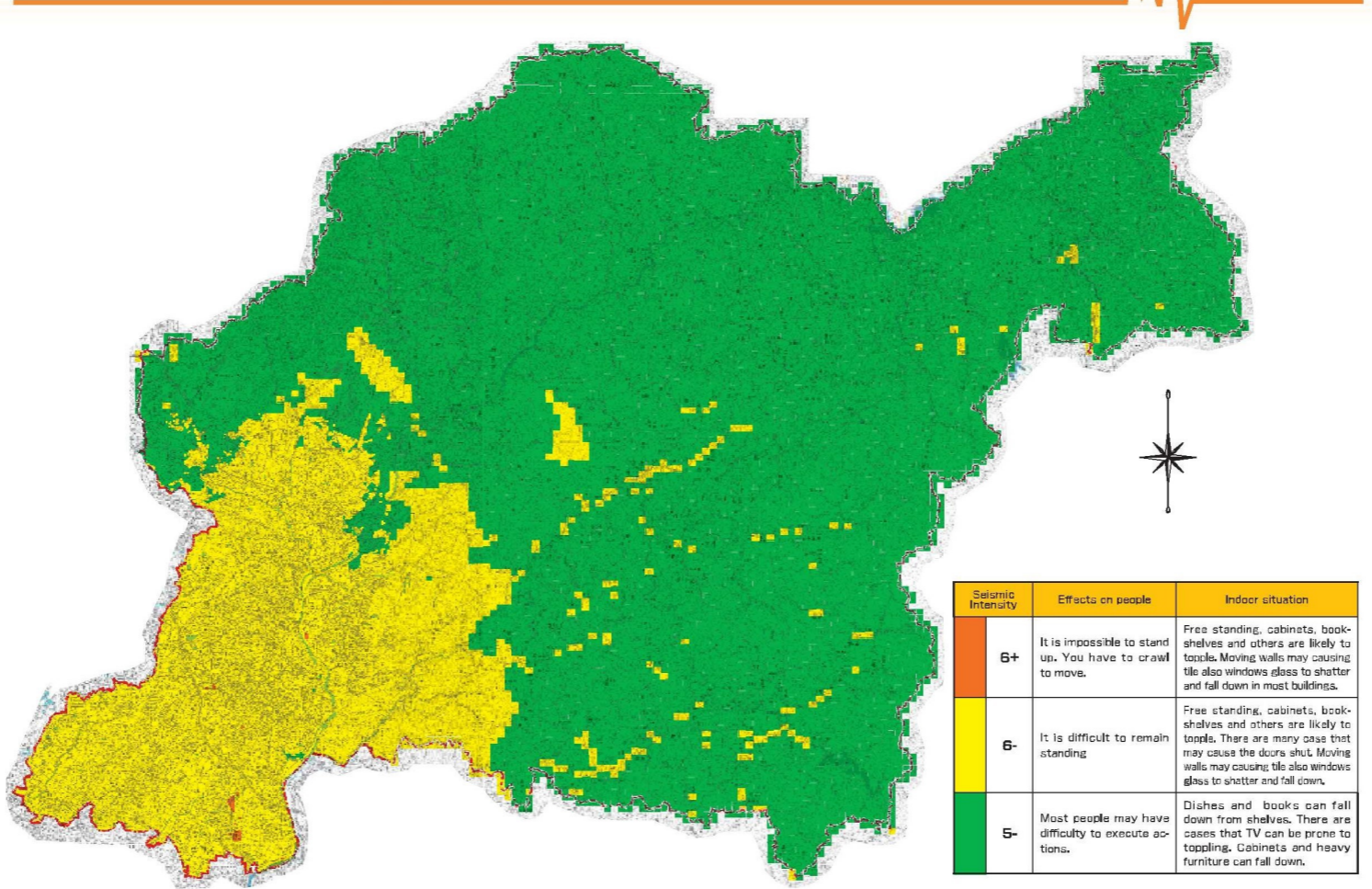
- This map has been elaborated based on the "Earthquake Damage Prediction Survey Result Report" summarized on March 2015.
- Earthquake Damage Report estimates the intensity and damage caused by the Nankai Trough Earthquake based on two models: "Past Earthquakes" and "Maximum Earthquake Damages", according to the National Disaster Prevention Council and Aichi Prefecture guidelines.
- The supposed damages are based on theoretical studies and do not necessary mean that all damages will occur as described here.
- You may find different results for the same area because both models consider different epicenters for the earthquake. For a better prevention, please take as reference the largest estimated damages.

Toyota City

Information Toyota City Hall Natural Disaster Preparedness Division
 Toyota-shi Nishimachi 3-60 TEL 0565-31-1212 TEL 0565-34-6750

Seismic intensity map (Past Earthquakes)

※This model is based on Nankai Trough Earthquake historic during 100 - 150 years (Hoei, Ansei-Nankai, Showa-Tonankai, Showa-Nankai)



Damage Prediction

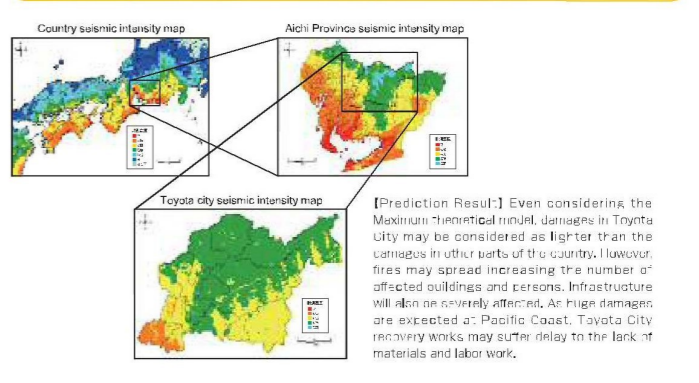
Human Damage (Number of deaths)	Item	Model of the Largest Earthquakes in the Past (Season: Winter / Time of the day: midnight)	Maximum theoretical model (Season: Winter / Time of the day: evening)
	Building Collapse, etc.	23 people	94 people
Steep Slope Collapse, etc.	7 people	7 people	
Fire	1 person	83 people	
Black Wall Toppling, Falling objects from outdoor	0 person	0 person	
Total	31 people	184 people	

Buildings Damage (Completely destroyed and burned)	Item	Model of the Largest Earthquakes in the Past (Season: Winter / Time of the day: evening)	Maximum theoretical model (Season: Winter / Time of the day: evening)
	Seismic ground motion (total collapse)	502 buildings	2,326 buildings
	Earthquake soil liquefaction (total collapse)	25 buildings	25 buildings
	Steep Slope Collapse, etc.	108 buildings	110 buildings
Fire (completely burned)	41 buildings	1,472 buildings	
Total	677 buildings	3,933 buildings	

Lifeline Damage	Item	Model of the Largest Earthquakes in the Past (Season: Winter / Time of the day: evening)
	waterworks (432,000 parameters)	about 393,000 people (91%)
	sewage system (276,000 parameters)	about 7,700 people (3%)
energy (224,000 parameters)	about 199,000 people (89%)	

※It is estimated damage pattern (winter/evening, summer/daytime, winter/midnight), and between these 3 it is described the lowest pattern. ※Due to the fraction of cases, there are case that this amount does not correspond.

Toyota city condition by the country's point of view (Maximum theoretical model)



Preparatives for Earthquakes

Prevention against injuries More than 50 percent of injuries are caused by **falling furniture and home electronics.**

PREVENTION MEASURES indoor On the Hanshin-Awaji (Kobe, Province of Hyogo) Earthquake Damage, although the buildings has remained standing, many people get injured due to overturning furniture, falling objects etc. Even those who remained intact had their escape routes obstructed due to overturned furniture. Let's be ready fixing and arranging the furniture properly.

- 1 Preventing furniture falling**
 - Even if the building is intact, furniture may fall down causing injuries. Large objects may obstruct the escape routes also the residents can be pinned down by fallen objects.
 - Furniture should be fixed or attached to the walls or wall studs using a "L" type support or attachment.
 - A padlock on drawers and cabinets may prevent the objects in its interior from falling down.
 - Apply an anti-scattering film on the cabinets' glass doors.
 - Consider the best way to make your home safer according to the walls and furniture's materials.
- 2 Preventing home electronics falling**
 - Home electronics and lamps may fall down causing serious injuries.
 - Attach firmly TV and computers to the cabinets, pillars etc. by using adhesives, clips or chains.
 - Suspended lamps should be fixed using several chains.
 - Change the lamps to antiscattering lamps or impact resistant lamps.

Items	Last inspection
Tissue, disinfecting sheet	
Towel	
Blanket	
Mask for dust	
Callphone charger	
Personal seal	
Cash (2,000 yen note is best, only 10 yen are 100 yen counter are used at public places)	
Gauze, bandage, etc. to stop bleeding	
Match or lighters	
Underwear, gloves	
Radio	
Instant food and cooked food	
Helmet or disaster headwear	
Batteries	
Water	
Glasses, contact lens	

Items	Last inspection
Water, kallon	
Portable gas stove (camping stove)	
Gas cartridges	
Portable water	
Living ware	
Portable water (3 liters/day per person)	
Instant noodle and cooked food (more than 3 days)	
First-aid kit (including band-aids, ointment, etc.)	
Knife and can opener	
Blanket	
Clothes	
Candle	
Portable toilet	
Wet towel	
Antibacterial sprays or sheets, disinfectants	
First-aid set	
Cleaning tool (broom, dustpan)	

It is also necessary

- Families with a baby** Baby food, milk powder, heating up-cups, disinfectants, paper diapers, tissues, baby car seat, etc.
- Person with disease** Medicines, doctor or hospital contact addresses and medicine, memo, copy of medical records.
- Families with pets** Veterinary contact address, leash, cage, animal food, excretion articles, home etc.

Reference: Aichi Prefecture (Disaster Prevention / Reduction Guide)

Damage assumption during an earthquake at Toyota City

- 1 Injuries and fire in a residential area**
Due to liquefaction, buildings with fragile structure may collapse during the earthquake. There is a risk to fire occurs in several places at overcrowded residential area. Also, there is risk to injuries and deaths due to building collapse and falling furniture.
- 2 People around station who have difficulty returning home**
If public facilities such as railway and bus around the station, many people will be close to get and will aggregate at station. An evacuation route may be difficult to get back home.
- 3 Railway damage**
Due to earthquake shaking, train track causing track deformation, it will take time to return on operating. There are some cases that the track came out of operating.
- 4 Building damage**
Cracking wall, shattering glass, falling plaster, collapsing buildings, leaning building, due to liquefaction, etc. occur during earthquake due to shaking ground.
- 5 High building indoor damage**
What occurs resonance among earthquake shaking and buildings atiding. High buildings shaking greatly causing floor to overturning furniture.
- 6 Traffic Jam**
Highway traffic will be closed. Due to the traffic restriction and road closure, it causes traffic jam in general road. Also, collapsed buildings may block the road.
- 7 Bridge Damage**
Many bridges that are not reinforced to seismic-proof so as blocking the road.
- 8 River Damage**
There is a risk to collapse of bridge due to liquefaction.
- 9 Landslide Damage**
Due to the earthquake shaking, there are case of cliff, mountain landside occurrence and the ground slides down slowly.

(photo provided by) Kobe City, Fire Science Center

Support after the earthquake occurrence

How to proceed after stopping earthquake tremors

- Please calm down and check the situation around yourself
- Open the door and window to ensure an exit
 - You must wear shoes to do not get hurt
 - Make sure if all family members are safe
 - Put out the fire at the beginning
 - Check and evacuate your house if has risk to collapse

To obtain the correct disaster information

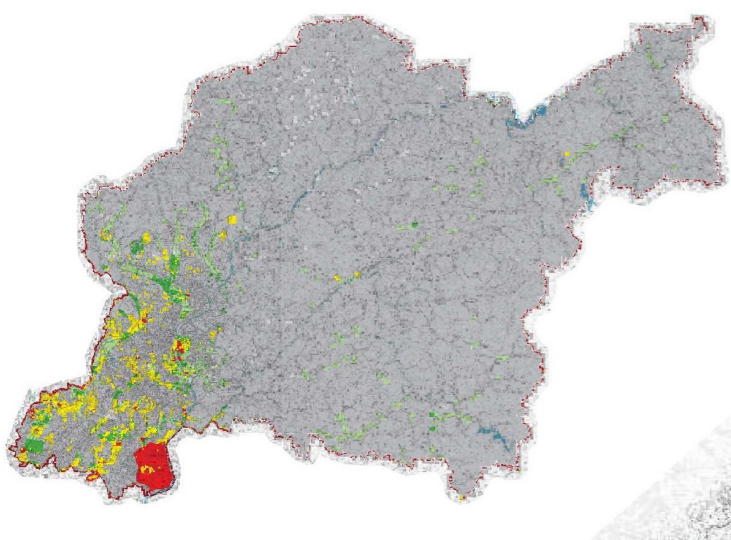
Toyota city disaster information will be transmitted by

- TV / Radio**
 - Himawari Network Channel 12 (NHK's broadcasting and Channel 126 (CATV))
 - Radio Loveat 78.6MHz
- E-mail**
 - Toyota Emergency Mail
 - Emergency Information also Weather Report will be transmitted to mail address registered in advance
 - Area mail / Emergency Alert mail
 - It will be transmitted by mail to mobile Phone in the city (compatible model)
- Disaster Prevention Administration Radio**
We will let you know the emergency information through the siren at the time of disaster
- Disaster Prevention Call Service**
You can verify the broadcast content by the disaster prevention administrative radio
 - Toll-free 0120-34-0174
 - 0565-37-3530

Impact caused by earthquake at Toyota city (Maximum theoretical model)

※The earthquake that has probability to occur in the Nankai Trough is assumed by the model of higher class taking into account all possibility to occurs. The frequency of occurrence is once or less than thousand years.

Distribution Map of Liquefaction Risk Degree

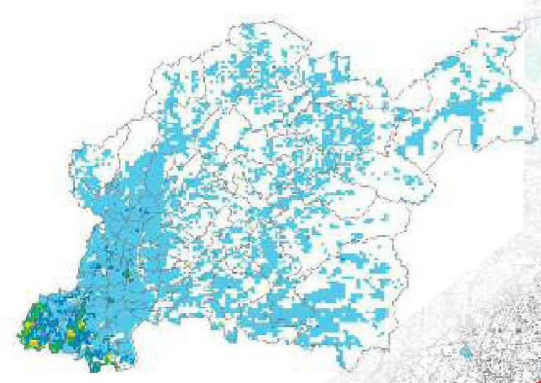


Risk for liquefaction
 ■ extremely high
 ■ High
 ■ Low
 ■ extremely low
 ■ excluded the target layer calculation
 ■ excluded from calculation

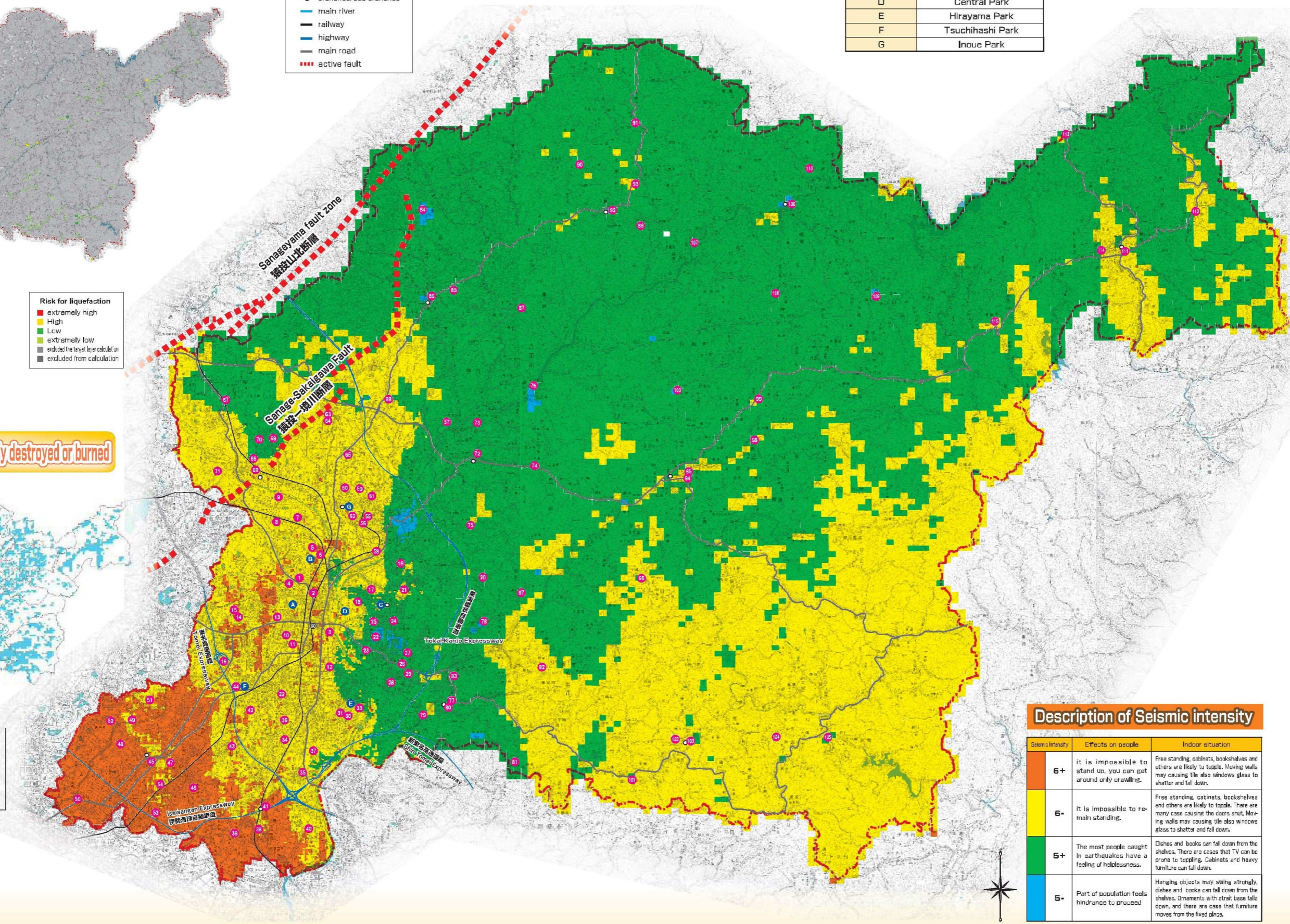
Seismic Intensity Map

Explanation
 ● City Hall
 ○ branches/sub-branches
 — main river
 — railway
 — highway
 — main road
 - - - active fault

Scale of buildings completely destroyed or burned



Completely destroyed or burned (mesh unit)
 □ Elementary school district
 ■ more than 40%
 ■ more than 30% and less than 40%
 ■ more than 20% and less than 30%
 ■ more than 10% and less than 20%
 ■ more than 5% and less than 10%
 ■ less than 5%



Evacuation wide area

Number ①-⑥	facilities places
A	Himori Park
B	Nishiyama Park
C	Kamogawa Park
D	Central Park
E	Hirayama Park
F	Tsuchihashi Park
G	Inoue Park

Description of Seismic intensity

Seismic Intensity	Effects on people	Indoor situation
6+	It is impossible to stand up, you can get around only crawling.	Free standing, cabinets, bookshelves and others are likely to topple. Moving walls may causing the also windows glass to shatter and fall down.
6-	It is impossible to remain standing.	Free standing, cabinets, bookshelves and others are likely to topple. There are many case causing the doors shut. Moving walls may causing the also windows glass to shatter and fall down.
5+	The most people caught in earthquakes have a feeling of helplessness.	Dishes and books can fall down from the shelves. There are cases that TV can be prone to toppling. Cabinets and heavy furniture can fall down.
5-	Part of population feels hindrance to proceed	Hanging objects may swing strongly, dishes and books can fall down from the shelves. Ornaments with strap base fall down, and there are case that furniture moves from the fixed place.

Emergency Evacuation Place and/or Evacuation Place

(-) Available.
 x = No. available depending on the disaster type.

District Name	Facilities places	Evacuation Destination	Open/Close	Use/Not Use	Evacuation Place
新栄区 Shin'e-ku Shin'e	1 Ekokan Junior High School	Gymnasium	○	○	○
	2 Koromo Elementary School	Gymnasium	○	○	○
	3 Matsuro Elementary School	Gymnasium	○	○	○
相模原市 Saihara-shi Saihara	4 Asahi Elementary School	Gymnasium	○	○	○
	5 Uetsubashi Junior High School	Gymnasium	○	○	○
	6 Uetsubashi Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	7 Usui Junior High School	Gymnasium	○	○	○
	8 Usui Elementary School	Gymnasium	○	○	○
	9 Usui Elementary School	Gymnasium	○	○	○
新田区 Shinden-ku Shinden	10 Asahigaki Junior High School	Gymnasium	○	○	○
	11 Cojama Elementary School	Gymnasium	○	○	○
	12 Nagawa Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	13 Karanaka Elementary School	Gymnasium	○	○	○
	14 Azuma Junior High School	Gymnasium	○	○	○
	15 Kashiwa Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	16 Miyama Elementary School	Gymnasium	○	○	○
	17 Tarashi Junior High School	Gymnasium	○	○	○
	18 Tarashi Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	19 Hirai Elementary School	Gymnasium	○	○	○
	20 Yaha Elementary School	Gymnasium	○	○	○
	21 Hagi Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	22 Nori Elementary School	Gymnasium	○	○	○
	23 Higashiyama Elementary School	Gymnasium	○	○	○
	24 Higashiyama Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	25 Hirakawa Elementary School	Gymnasium	○	○	○
	26 Masutani Junior High School	Gymnasium	○	○	○
	27 Kawanaka Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	28 Kawanaka Elementary School	Gymnasium	○	○	○
	29 Kawanaka Elementary School	Gymnasium	○	○	○
	30 Honan Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	31 Masuyama Elementary School	Gymnasium	○	○	○
	32 Yamada Elementary School	Gymnasium	○	○	○
	33 Hatawa Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	34 Sanchi Junior High School	Gymnasium	○	○	○
	35 Sumo Elementary School	Gymnasium	○	○	○
	36 Otagashi Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	37 Natakano High School	Gymnasium	○	○	○
	38 Kamaga Junior High School	Gymnasium	○	○	○
	39 Takama Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	40 Utsuki Elementary School	Gymnasium	○	○	○
	41 Kamaga Community Center Hall	Hall	○	x	○
	42 Ryuin Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	43 Takemura Elementary School	Gymnasium	○	○	○
	44 Tsuchihashi Elementary School	Gymnasium	○	○	○
	45 Takasaka Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	46 Banayoshi Elementary School	Gymnasium	○	○	○
	47 Banayoshi Elementary School	Gymnasium	○	○	○
	48 Miyayoshi Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	49 Tsutsumi Elementary School	Gymnasium	○	○	○
	50 Kamaba Elementary School	Gymnasium	○	○	○
	51 Tsutsumi Nursery School	Hall	○	○	○
津島区 Tsushima-ku Tsushima	52 Tsutsumi Nursery School	Hall	○	○	○
	53 Wakazome Junior High School	Gymnasium	○	○	○
	54 Wakazome Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	55 Sanagasaki Junior High School	Gymnasium	○	○	○
	56 Aoki Elementary School	Gymnasium	○	○	○
	57 Nishihara Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	58 Koshida Nursery School	Hall	○	○	○
	59 Isoto Junior High School	Gymnasium	○	○	○
	60 Shiga Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	61 Inoue Elementary School	Gymnasium	○	○	○
	62 Sanage North High School	Gymnasium	○	○	○
	63 Sanage Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	64 Kano Elementary School	Gymnasium	○	○	○
	65 Nanzen Kokusa Junior & Senior High School	Gymnasium	○	○	○
	66 Honan Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	67 Ohta Elementary School	Gymnasium	○	○	○
	68 Ito Elementary School	Gymnasium	○	○	○
	69 Hatahara Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	70 Nishihara Elementary School	Gymnasium	○	○	○
	71 Toyota Sports Center	Indoor Sports Center	○	○	○
	72 Bahiro Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	73 Higashiyama Elementary School	Gymnasium	○	○	○
	74 Nukagawa Elementary School	Gymnasium	○	○	○
	75 Kamitani Nursery School	Hall	○	○	○
津島区 Tsushima-ku Tsushima	76 Nankawa Toyota High School	Gymnasium	○	x	○
	77 Matsumoto Nursery School	Hall	○	○	○
	78 Kikai Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	79 Iwazumi Elementary School	Gymnasium	○	○	○
	80 Kugudera Elementary School	Gymnasium	○	○	○
	81 Takikawa Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	82 Toyematsu Elementary School	Gymnasium	○	○	○
	83 Matsudaira High School	Gymnasium	○	○	○
	84 Ishidate Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	85 Fujisaki Junior High School	Gymnasium	○	○	○
	86 Fujisaki Athletic Center	Gymnasium	○	○	○
	87 Mitakuni Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	88 Nakayama Elementary School	Gymnasium	○	○	○
	89 Honin Elementary School	Gymnasium	○	○	○
	90 Obara Welfare Center	Nursing Room	○	○	○
津島区 Tsushima-ku Tsushima	91 Obara North Improvement Center	Meeting Room	○	○	○
	92 Obara Library Training Center	Training Room	○	○	○
	93 Obara Cultural and Recreational Center	Hall	○	○	○
津島区 Tsushima-ku Tsushima	94 Asuka Junior High School	Gymnasium	○	○	○
	95 Asuka Elementary School	Gymnasium	○	○	○
	96 Hieda Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	97 Obara Welfare Center	Meeting Room	○	x	○
	98 Hieda Elementary School	Recreation Room	○	○	○
	99 Shimizu Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	100 Okura Elementary School	Gymnasium	○	○	○
	101 Hanayama Elementary School	Gymnasium	○	○	○
	102 Shimoyama Junior High School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	103 Shimoyama Major Welfare Center	Hall	○	○	○
	104 Shimoyama Health and Welfare Center	East Side Hall	○	○	○
	105 Tomiyama Elementary School	Gymnasium	○	○	○
津島区 Tsushima-ku Tsushima	106 Asahi Branch	Meeting Room	○	○	○
	107 Sasado Public Hall	Hall	○	○	○
	108 Shikishima Public Hall	Hall	○	○	○
津島区 Tsushima-ku Tsushima	109 Tsuchikubo Public Hall	Hall	○	○	○
	110 Asano Public Hall	Hall	○	x	○
	111 Inaki Cultural and Recreational Center	Training room	○	○	○
津島区 Tsushima-ku Tsushima	112 Nomi Community House	Meeting room	○	○	○
	113 Shijima Area Development Facility	Training room	○	○	○
	114 Inaba Junior High School	Hall	○	○	○
津島区 Tsushima-ku Tsushima	115 Inaba Cottage Remodeling Home for the Aged	Meeting room	○	x	○
	116 Inaba Cottage Remodeling Home for the Aged	Meeting room	○	x	○

Scale: 1:78,000

This map was produced under authorization of National Geospatial Information Agency (No.S75/2015). You may find locations on the map with the former name used before the surrounding cities merge to Toyota in 2005.