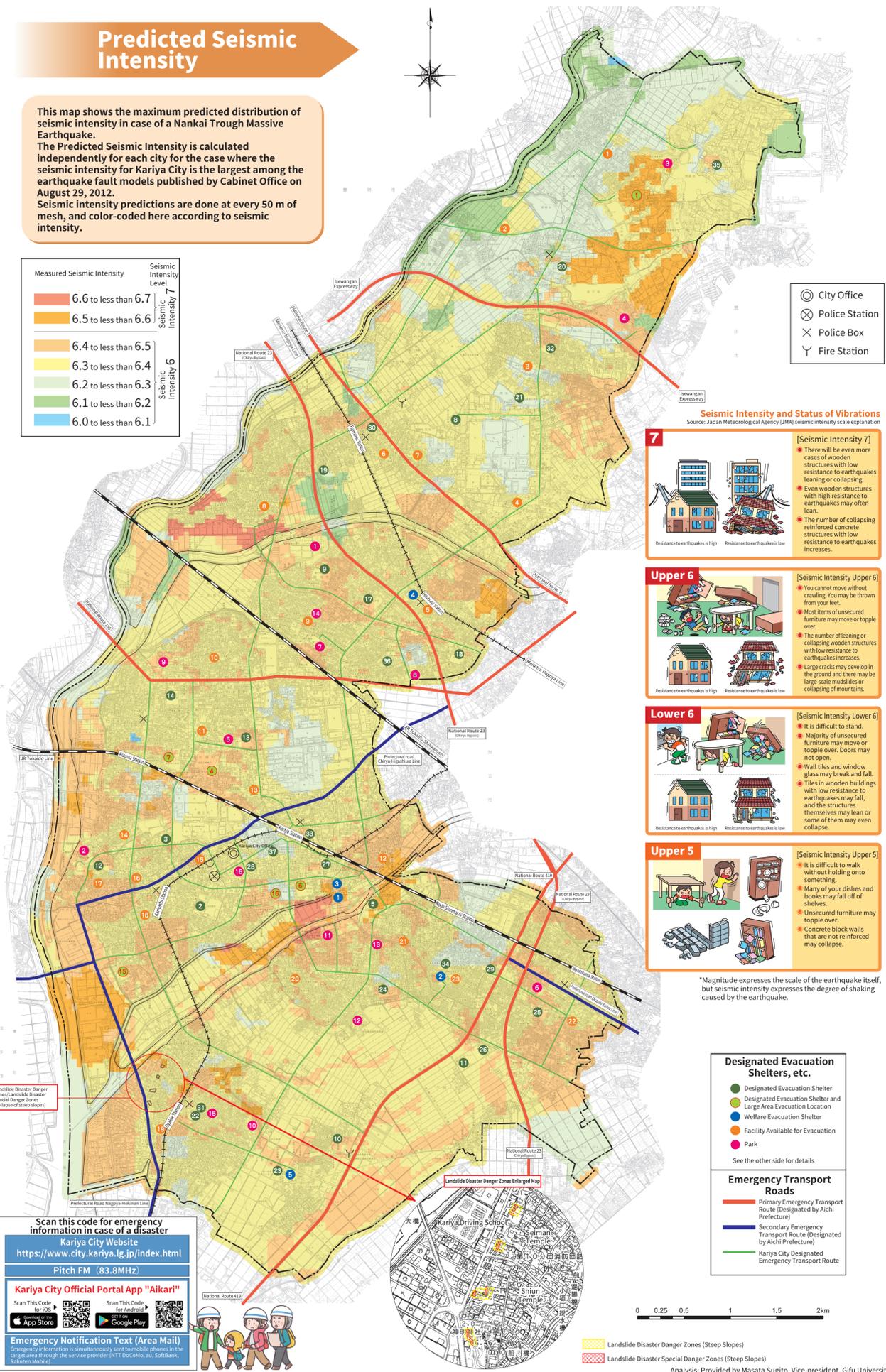
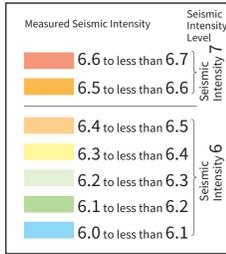


# Kariya City Earthquake Hazard Map

## Predicted Seismic Intensity

This map shows the maximum predicted distribution of seismic intensity in case of a Nankai Trough Massive Earthquake. The Predicted Seismic Intensity is calculated independently for each city for the case where the seismic intensity for Kariya City is the largest among the earthquake fault models published by Cabinet Office on August 29, 2012. Seismic intensity predictions are done at every 50 m of mesh, and color-coded here according to seismic intensity.



### Seismic Intensity and Status of Vibrations

Source: Japan Meteorological Agency (JMA) seismic intensity scale explanation

- Seismic Intensity 7**
  - There will be even more cases of wooden structures with low resistance to earthquakes leaning or collapsing.
  - Even wooden structures with high resistance to earthquakes may often lean.
  - The number of collapsing reinforced concrete structures with low resistance to earthquakes increases.
- Upper 6**
  - You cannot move without crawling. You may be thrown from your feet.
  - Most items of unsecured furniture may move or topple over.
  - The number of leaning or collapsing wooden structures with low resistance to earthquakes increases.
  - Large cracks may develop in the ground and there may be large-scale mudslides or collapsing of mountains.
- Lower 6**
  - It is difficult to stand.
  - Majority of unsecured furniture may move or topple over. Doors may not open.
  - Wall tiles and window glass may break and fall.
  - Tiles in wooden buildings with low resistance to earthquakes may fall, and the structures themselves may lean or some of them may even collapse.
- Upper 5**
  - It is difficult to walk without holding onto something.
  - Many of your dishes and books may fall off of shelves.
  - Unsecured furniture may topple over.
  - Concrete block walls that are not reinforced may collapse.

\*Magnitude expresses the scale of the earthquake itself, but seismic intensity expresses the degree of shaking caused by the earthquake.

### Designated Evacuation Shelters, etc.

- Designated Evacuation Shelter
- Designated Evacuation Shelter and Large Area Evacuation Location
- Welfare Evacuation Shelter
- Facility Available for Evacuation
- Park

See the other side for details

### Emergency Transport Roads

- Primary Emergency Transport Route (Designated by Aichi Prefecture)
- Secondary Emergency Transport Route (Designated by Aichi Prefecture)
- Kariya City Designated Emergency Transport Route

Analysis: Provided by Masata Sugito, Vice-president, Gifu University

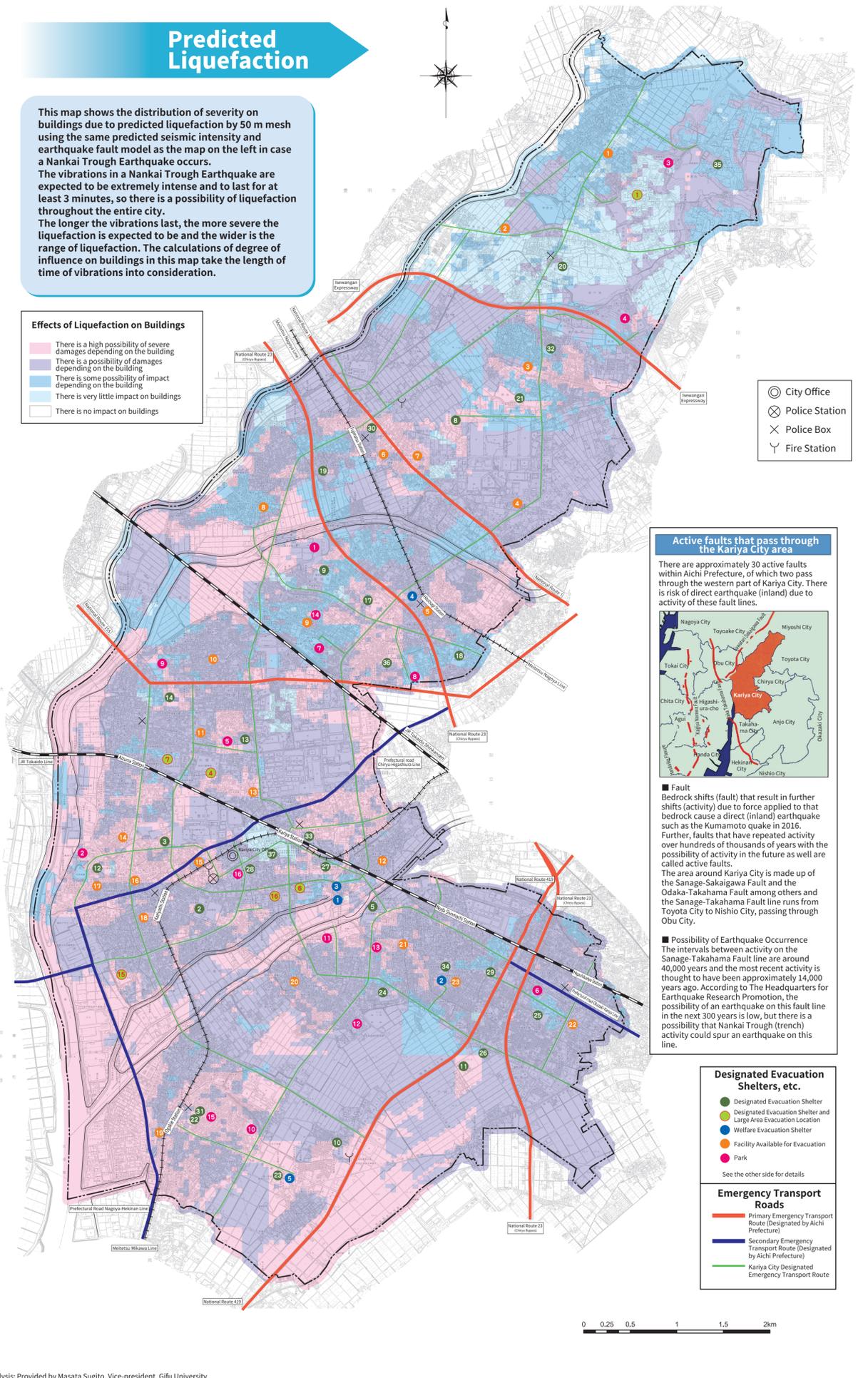
# Preparing for Nankai Trough Earthquakes

## Predicted Liquefaction

This map shows the distribution of severity on buildings due to predicted liquefaction by 50 m mesh using the same predicted seismic intensity and earthquake fault model as the map on the left in case a Nankai Trough Earthquake occurs. The vibrations in a Nankai Trough Earthquake are expected to be extremely intense and to last for at least 3 minutes, so there is a possibility of liquefaction throughout the entire city. The longer the vibrations last, the more severe the liquefaction is expected to be and the wider is the range of liquefaction. The calculations of degree of influence on buildings in this map take the length of time of vibrations into consideration.

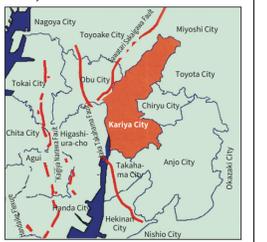
### Effects of Liquefaction on Buildings

- There is a high possibility of severe damages depending on the building
- There is a possibility of damages depending on the building
- There is some possibility of impact depending on the building
- There is very little impact on buildings
- There is no impact on buildings



### Active faults that pass through the Kariya City area

There are approximately 30 active faults within Aichi Prefecture, of which two pass through the western part of Kariya City. There is risk of direct earthquake (inland) due to activity of these fault lines.



**Fault**  
Bedrock shifts (fault) that result in further shifts (activity) due to force applied to that bedrock cause a direct (inland) earthquake such as the Kumamoto quake in 2016. Further, faults that have repeated activity over hundreds of thousands of years with the possibility of activity in the future as well are called active faults. The area around Kariya City is made up of the Sanage-Sakaigawa Fault and the Odaka-Takahama Fault among others and the Sanage-Takahama Fault line runs from Toyota City to Nishio City, passing through Obu City.

**Possibility of Earthquake Occurrence**  
The intervals between activity on the Sanage-Takahama Fault line are around 40,000 years and the most recent activity is thought to have been approximately 14,000 years ago. According to 'The Headquarters for Earthquake Research Promotion, the possibility of an earthquake on this fault line in the next 300 years is low, but there is a possibility that Nankai Trough (trench) activity could spur an earthquake on this line.

### Designated Evacuation Shelters, etc.

- Designated Evacuation Shelter
- Designated Evacuation Shelter and Large Area Evacuation Location
- Welfare Evacuation Shelter
- Facility Available for Evacuation
- Park

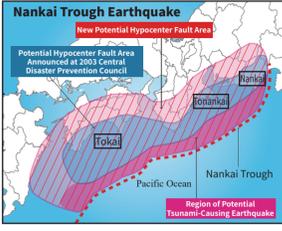
See the other side for details

### Emergency Transport Roads

- Primary Emergency Transport Route (Designated by Aichi Prefecture)
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- Kariya City Designated Emergency Transport Route

Analysis: Provided by Masata Sugito, Vice-president, Gifu University

This Kariya City Earthquake Hazard Map shows a variety of useful information to prepare for a natural disaster, such as the seismic intensity expected during a Nankai Trough Earthquake (defined as magnitude 9). The seismic intensity, liquefaction and other prediction information shown here has been calculated by applying the earthquake fault model published by Cabinet Office to Kariya City's ground data, and therefore, the accuracy and certainty of this information is not guaranteed. Depending on natural conditions such as the hypocenter, depth, scale and tide level at the time an earthquake occurs may reduce the level of danger or conversely, increase the level of danger in seemingly low-risk zones shown on the map.

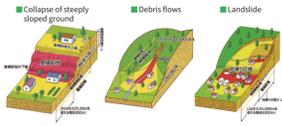


The Nankai Trough Earthquake potential hypocenter fault area according to the estimation of damage published by the Cabinet Office on August 29, 2012 (shaded part)

### About Nankai Trough Earthquake

- A trough is a depression in the ocean floor up to 6,000 m deep. The Nankai Trough is a 4,000-m deep depression on the floor of the Pacific Ocean, where the Philippine Sea plate on the ocean side slips into the Eurasian plate on the land side, and it runs from Suruga Bay in Shizuoka Prefecture down to Kyushu. A series of earthquakes including the Tokai Earthquake, the Tonankai Earthquake and the Nankai Earthquake with magnitudes in the 8-level range occur along the Nankai Trough every 100-150 years. Earthquakes that are generated from these three hypocenter regions and spread over a wide area are called "Nankai Trough Earthquakes".
- The Great East Japan Earthquake has taught us that based on the most recent scientific findings at this point, the Nankai Trough Earthquakes are predicted to be the biggest ever, and according to publications by the Cabinet Office, the maximum estimated magnitude (scale) of an earthquake is 9.0. A magnitude 9.0 earthquake is massive, on the same scale as the Great East Japan Earthquake.

### Types of landslide disasters



A phenomenon in which moisture that has penetrated the land weakens the soil and is pushed downstream all at once due to rain or earthquake causes the slope to suddenly collapse.

This is a phenomenon in which part of a slope moves slowly downward due to groundwater and gravity.

A phenomenon in which rainwater or groundwater moves down a slope and causes a landslide.

### Landslide Disaster Danger Zones and Special Danger Zones

This map indicates the zones prone to landslide disaster according to Aichi Prefecture, based on the Landslide Disaster Countermeasures for Landslide Disaster Danger Zones Act (Landslide Disasters Prevention Act) designed to promote countermeasures against sediment disasters in these zones.

### What are Landslide Disaster Danger Zones?

These are areas where there is risk of death or injury to residents in case a steep slope collapses.

### What are Landslide Disaster Special Danger Zones?

These are areas where there is a risk of damage to buildings and a particularly high risk of death or injury to residents in case a steep slope collapses. Designations in Kariya City are all due to potential collapse of steeply sloped ground.

Special Danger Zones are subject to the following regulations

- Licensing system for specified development activities
- Structure regulations for buildings
- Recommendations for relocation of buildings, etc.

Scan this code for emergency information in case of a disaster

Kariya City Website  
<https://www.city.kariya.lg.jp/index.html>

Pitch FM (83.8MHz)

Kariya City Official Portal App "Aikari!"

Scan This Code for iOS

Scan This Code for Android

Emergency Notification Text (Area Mail)

Emergency information is simultaneously sent to mobile phones in the target area through the service provider: NTT Docomo, au, SoftBank, Rakuten Mobile!

