

2. 地域危険度とは

What Is Community Earthquake Risk?

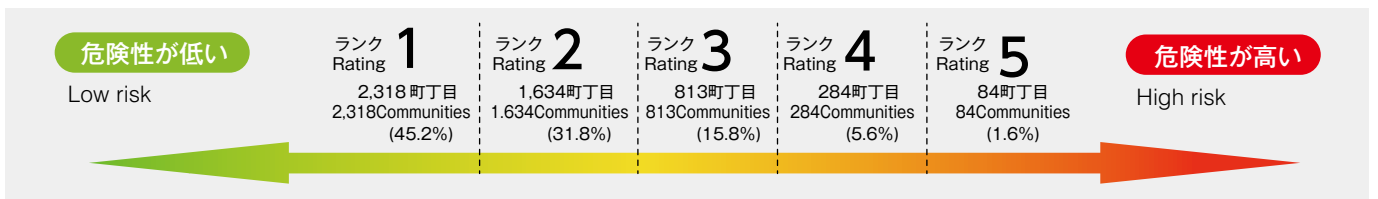
本調査では、以下の危険性を町丁目ごとに測定しています。

第7回調査から、災害時の避難や消火・救助活動のしやすさ(困難さ)を加味するため、「災害時活動困難度」(災害時の活動を支える道路等の基盤状況を評価する指標)を考慮した危険度の測定を始めました。

- 建物倒壊危険度 (建物倒壊の危険性)
- 火災危険度 (火災の発生による延焼の危険性)
- 総合危険度 (建物倒壊や延焼の危険性)
- 「災害時活動困難度」を考慮した危険度【新規】 (災害時の避難や消火・救助等の活動のしやすさ(困難さ)を考慮した危険性)

なお、地域危険度はそれぞれの危険度について、町丁目ごとの危険性の度合いを5つのランクに分けて、以下のように相対的に評価しています。

Community earthquake risk is a relative assessment that rates communities on a scale from 1 to 5 as follows according to the community's degree of vulnerability to the hazard.



(注) 危険度のランクは相対評価のため、安全性が向上していても、他の町丁目の安全性がさらに向上している場合には、危険な方向にランクが変化している場合があります。

Note: Since risk rating is a relative assessment, a community's rating could, despite safety improvements, change to the worse if other communities make even larger improvements.

どのような地震を想定しているのか

地震はいつ、どこで起きるか分かりません。そこで本調査では、特定の地震を想定するのではなく、全ての地域において、地震の強さなどを同じ条件で設定し危険性を測定しています。

災害時活動困難度とは

地震により建物が倒壊したり火災が発生したりした時には、危険地域からの避難や、消火・救助活動のしやすさ(困難さ)が、その後の被害の大きさに影響します。このような活動のしやすさ(困難さ)を、地域の道路網

の稠密さや幅員が広い道路の多さなど、道路基盤の整備状況から評価した指標が「災害時活動困難度」です。

どのように地域の危険性を測るのか

本調査では、木造、鉄筋コンクリート造などの建物構造、建築年代、階数などの種別ごとの棟数、建物用途ごとの火気器具や電熱器具の使用状況、道路や公園の整備状況などのデータをもとに、科学的に地震による危険性を測定しています(測定フロー参照)。

原則として、区部及び多摩地域の市街化区域を対象に、町丁目を単位として測定しています。

This study assesses each community's vulnerability to the following hazards. Risk in light of emergency response difficulty (an index derived from assessments of the existing roadway network, which supports emergency operations), was also assessed from this seventh study to take into account how easy (difficult) it would be to conduct emergency response operations such as evacuation and firefighting.

- Building collapse risk (danger of building collapse)
 - Fire risk (danger of spread of fire)
 - Combined risk (danger of building collapse and spread of fire)
 - Risk in light of "emergency response difficulty" [new]
- (Risk in light of the ease (difficulty) of conducting emergency response operations such as evacuation and firefighting)

What Kind of Earthquake Is Assumed in the Study?

As it is not known when or where an earthquake will hit, this study does not assume the occurrence of a specific earthquake, but assesses risk by applying the same conditions, such

as seismic intensity, for all areas.

What Is "Emergency Response Difficulty"?

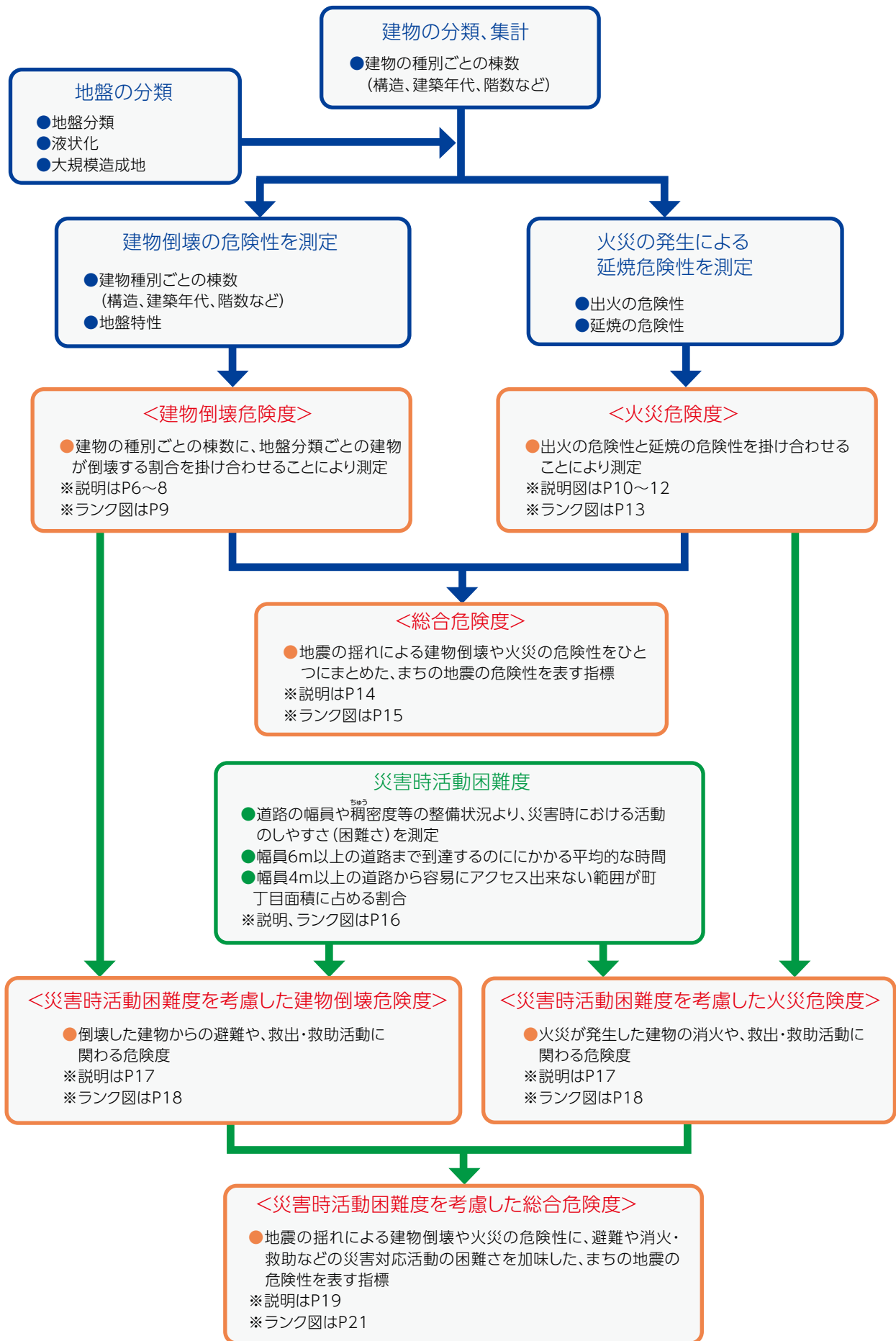
When buildings collapse or fires break out from an earthquake, how easy (or difficult) it is to evacuate from the stricken areas or conduct firefighting and rescue activities will affect the scale of further damage. "Emergency response difficulty" is an index of the ease or difficulty of such operations based on assessments of the existing road infrastructure including the density of the road network and the number of wide roads.

How Is Community Earthquake Risk Assessed?

This study scientifically assesses earthquake risk based on data such as the number of buildings by type of structure (wooden, reinforced concrete, etc), age, number of stories, etc.; the use of open-flame appliances or electric heating appliances by building purpose; and the state of roads and parks (see assessment flowchart). In principle, assessments were conducted for each community in the urbanization areas of the 23-ward area and Tama area of Tokyo.

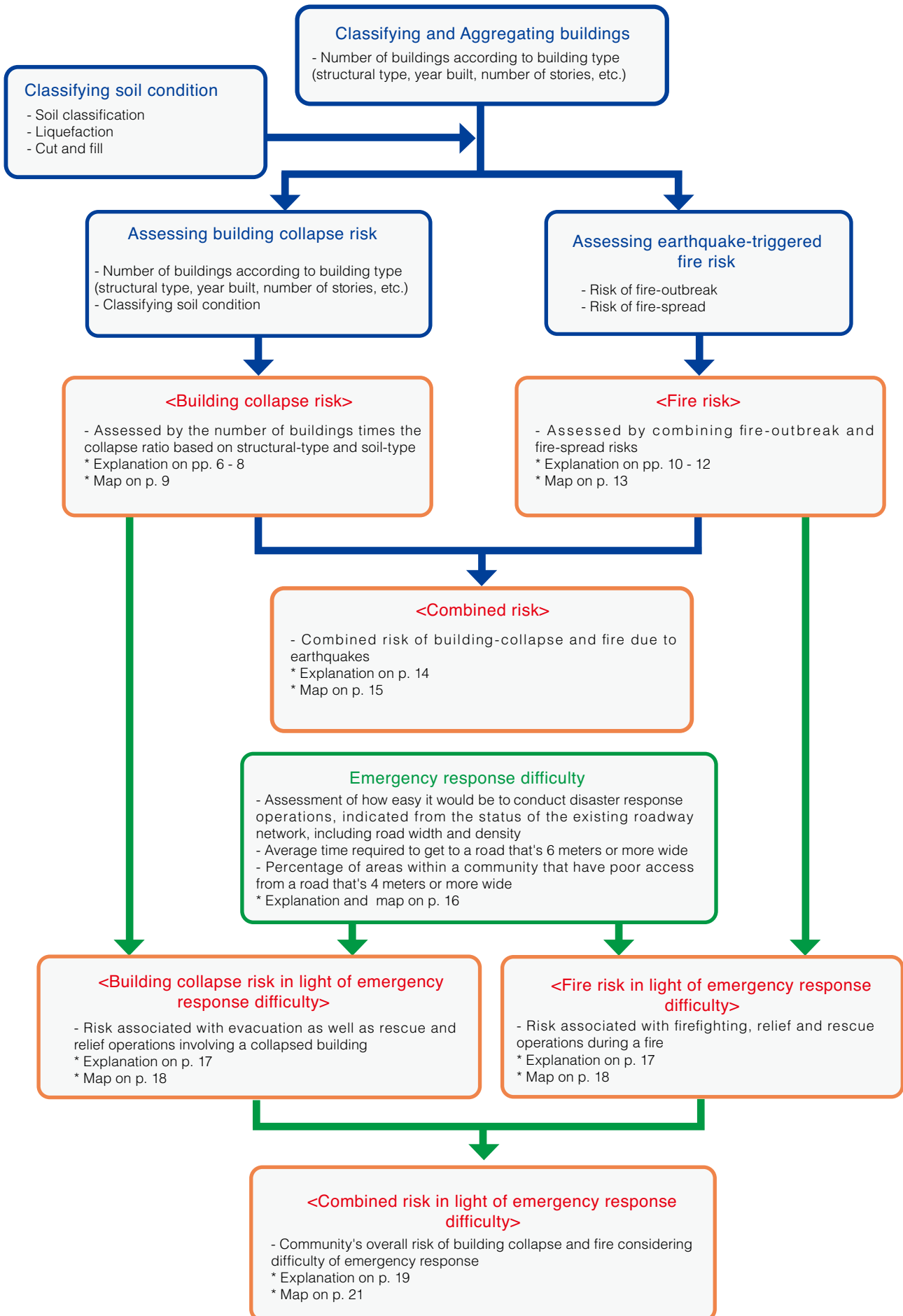


地域危険度の測定フロー Flowchart of Community Earthquake Risk Assessment





地域危険度の測定フロー Flowchart of Community Earthquake Risk Assessment





Q. 地域危険度は、東京都のまちづくりにどのように活用されるのですか？

How Will Earthquake Risk Assessment Be Used for Tokyo's Community Development?

A. 東京都では、地震被害から都民の生命と財産を守るために防災都市づくりを積極的に進めており、その一環として、地域危険度を測定し公表しています。

地域危険度は、「防災都市づくり推進計画」や延焼遮断帯となる沿道一体整備事業、建物の不燃化などを進める木造住宅密集地域整備事業などの各種事業を実施する地域の選定にも活用しています。

The Tokyo Metropolitan Government is pushing ahead with measures to build a disaster-resilient city in order to protect the lives and assets of its residents from earthquake damage. The publication of community earthquake risk assessments is one facet of such efforts. The earthquake risk assessment is also used in selecting areas to implement various projects such as the "Project to Promote Creation of a Disaster-Resilient City," road development projects to create firebreak belts, and projects to redevelop districts with close-set wooden houses by promoting measures such as the fire-resistance of buildings.

Q. 東京都の「被害想定」とは何が違うのですか？

How Does This Differ from the Tokyo Metropolitan Government "Earthquake Damage Estimates"?

A. 平成24年4月に公表した「首都直下地震等による東京の被害想定」は、特定の地震を想定していることから、想定した震源地から離れると揺れが少ない等、影響を受ける地域やその程度が限定的なものとなっています。一方、地域危険度は、都内の町丁目の地震に対する危険性を比較するため、特定の地震を想定するのではなく、全ての町丁目直下の地盤で同じ強さの揺れが生じた場合の危険性を測定している点が大きく異なります。

The damage estimates announced by the Tokyo Metropolitan Government in April 2012, are based on specific types of earthquakes. Because of this, the areas affected and the degree to which they are affected will be limited; for instance, less shaking would occur in areas located at a distance from the epicenter of the earthquake. A major difference between the 2012 damage estimate and this earthquake risk assessment is that this assessment attempts to compare the earthquake risks of communities within Tokyo by measuring risk when the same level of shaking occurs in the ground directly under all the communities, as opposed to a specific earthquake.