



**Regulation to promote Seismic Retrofit of
Buildings along the Emergency
Transportation Roads in TMG**

**Building Planning Section
Urban Building Division
Urban Development Bureau**

1. Objective

Urgency of Earthquake Directly underneath Tokyo

Distribution of seismic centers of earthquake of more than 5.0 Magnitude occurred during 1994-2003



Earthquake probability within 30 years is 70% (as of 2007).
The recent damage prediction expects wider affected area under an earthquake with seismic intensity of 6 upper (Japanese Scale).

1. Objective

Lessons from the Great Hanshin-Awaji Earthquake

Major Roads Blocked by Collapsed Buildings

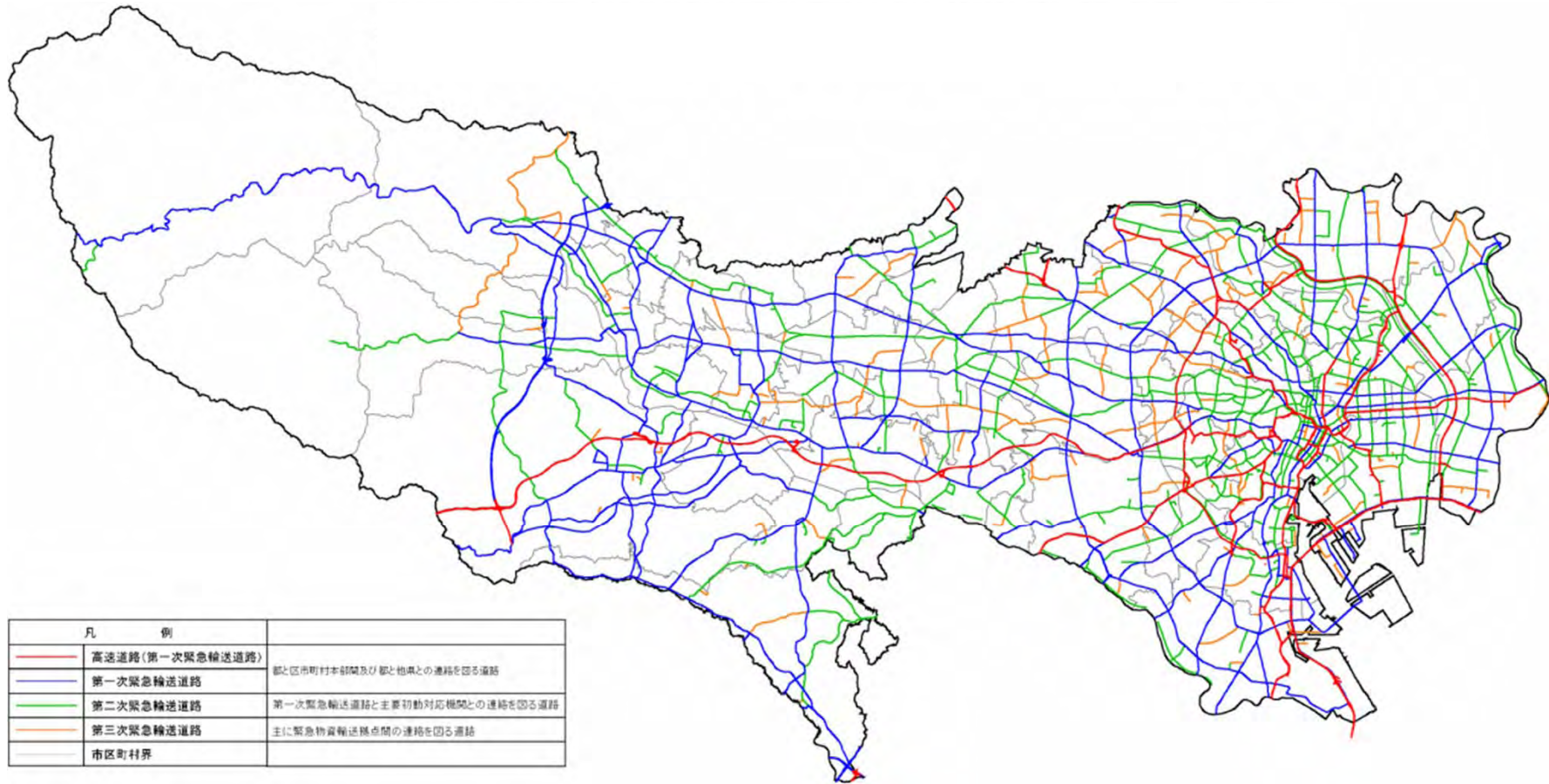




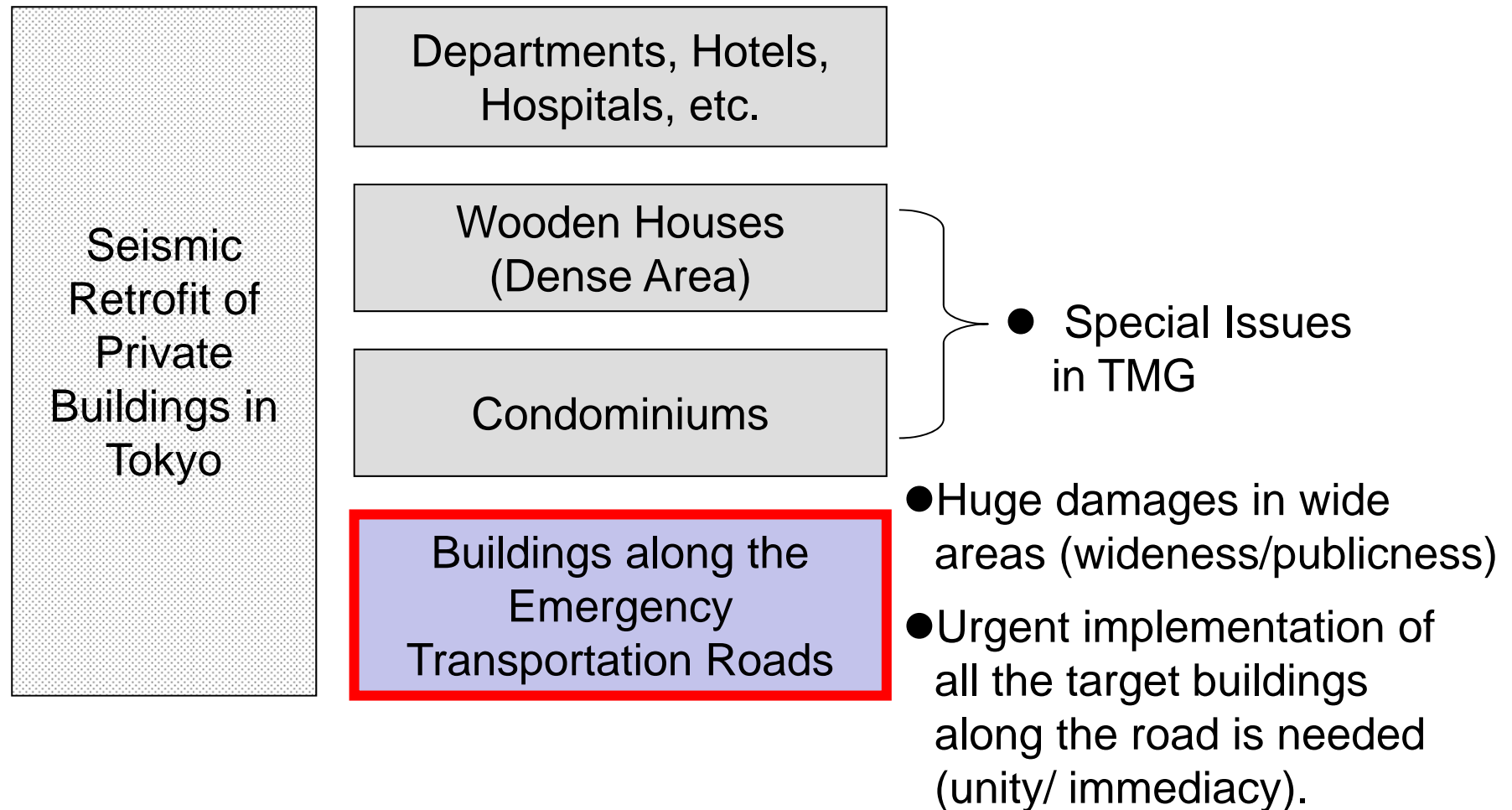


1. Objective

Emergency Transportation Roads



1. Objective



2. Regulation to promote Seismic Retrofit

Emergency Transportation Roads

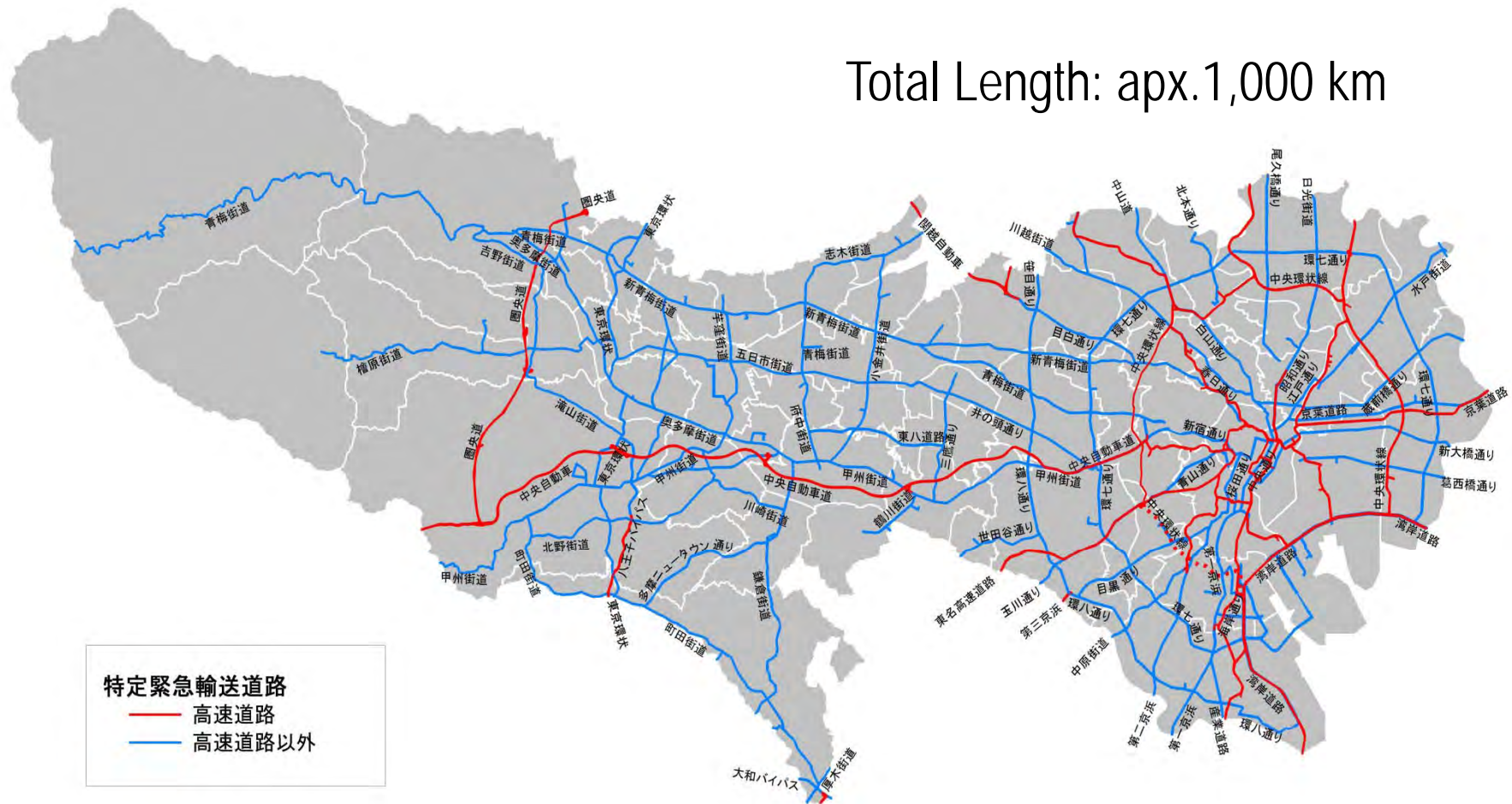
- It works as major arterial road for various persons and vehicles in daily.
- In case of emergency, it functions as lifeline/vital artery for evacuation, emergency rescue and fire fighting, transportation of emergency goods, and supporting rehabilitation and reconstruction



What is Specific Emergency Transportation Roads?

It means the roads which are specially required to promote seismic retrofit of the buildings along the road.

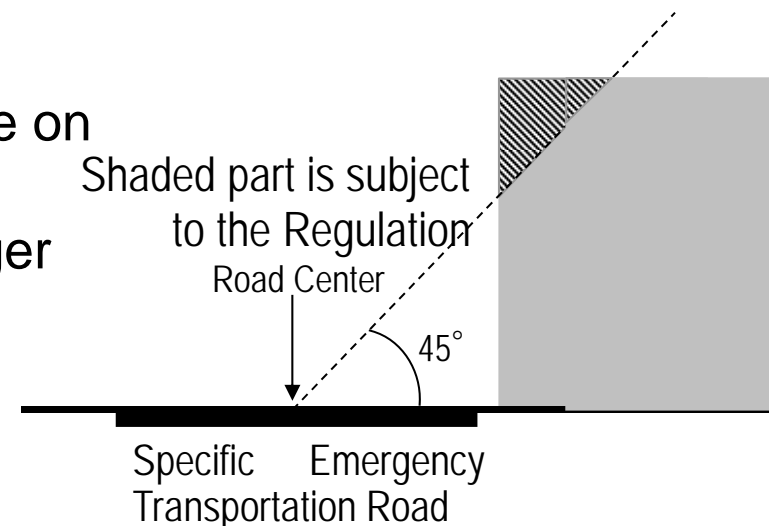
Total Length: apx.1,000 km



Outline of the Regulation Established by TMG

Specific Building along SETR includes;

- 1) Buildings of which their lot is attached to the Specific Emergency Transportation Roads (SETR).
- 2) Buildings build before new quake-resistance standards (come into force on June 1, 1980).
- 3) Buildings of which their height is bigger than a half of the road width.



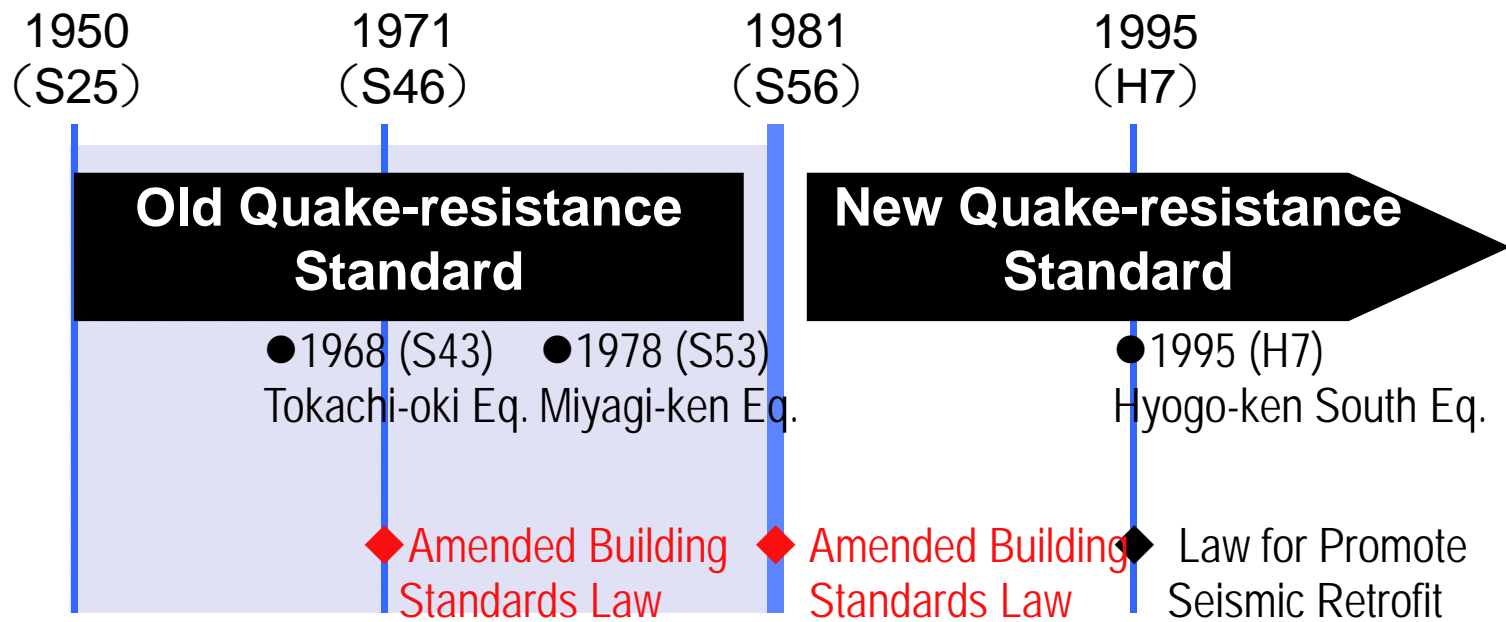
Obligations of the Owners of the Specific Building along SETR are;

- 1) Report of the progress of seismic retrofit procedure (**Obligation**)
- 2) Implementation and report of seismic diagnosis (**Obligation**)
- 3) Implementation of seismic retrofit (**by Effort**) and Report (**Obligation**)

3. Outline of the Regulation

Definition of the Specific Building along SETR

2) Buildings build before new quake-resistance standards
(come into force on June 1, 1980)

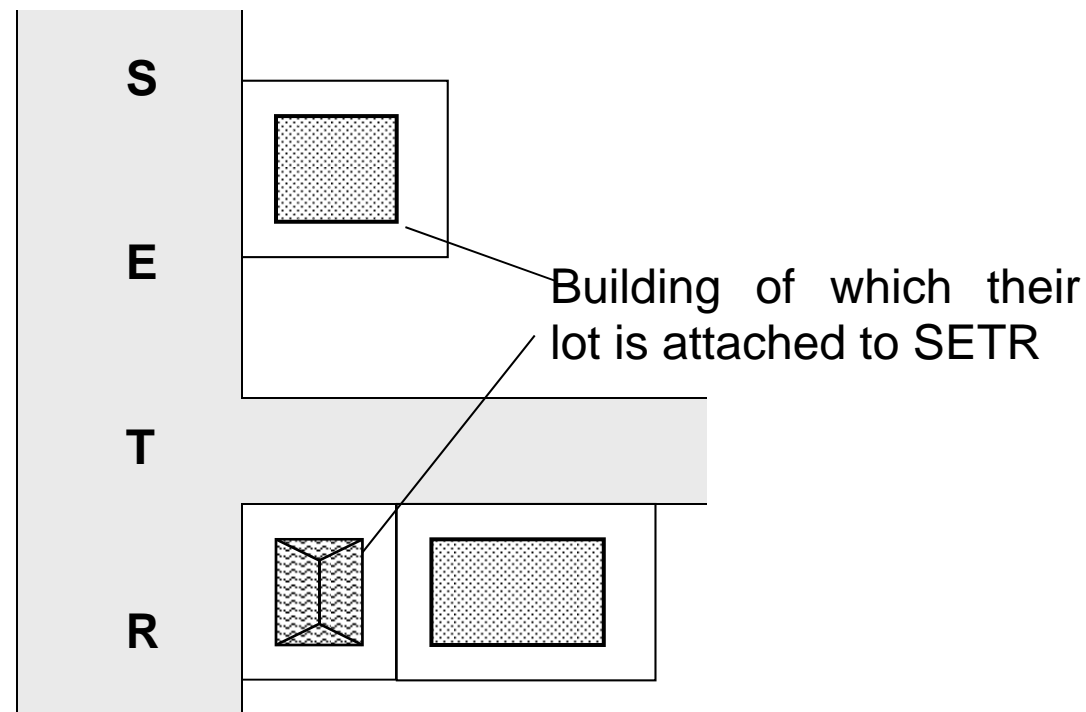


Except the building build after June 1, 1980

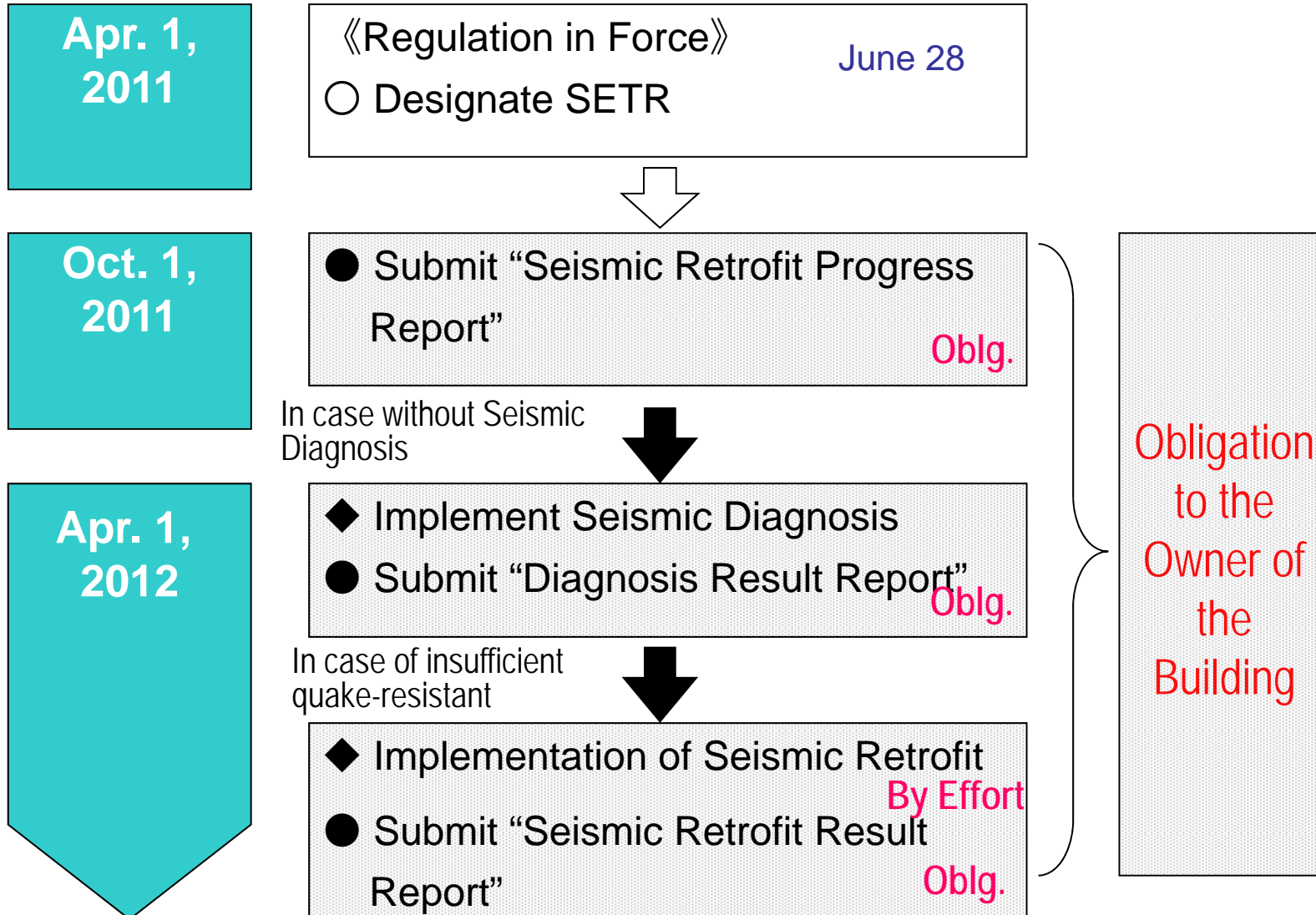
3. Outline of the Regulation

Definition of the Specific Building along SETR

- 1) Buildings of which their lot is attached to the Specific Emergency Transportation Roads (SETR)



Schedule



Q. Who is responsible for Seismic Diagnosis?

A. Registered Architects under Architects Law who is approved to design the buildings such as First-class architect, Second-class architect, and Wooden building architect.

TMG is implementing the seismic retrofit projects coordinating with the following three organizations.

- **Tokyo Association of Architectural Firms (TAAF)**
- **Japan Structural Consultants Association (JSCA)**
- **Japan Aseismic Safety Organization (JASO)**

4. Subsidy for Seismic Diagnosis

Subsidy Rate	Condominium and Building with total floor space less than 10,000 m ²		
	State 1/3	TMG Fixed Amount Subsidy	
Standard Unit Price	Buildings with total floor space over 10,000 m ²		
	State 1/3	TMG 14/30	Owner 1/5
Implementation Period	Less than 1,000m ² : ¥2,000/m ²		
	Over 1,000 m ² and less than 2,000m ² : ¥1,500/m ²		
	Over 2,000 m ² : ¥1,000/m ²		
	In case of total floor space less than 3,000 m², extra ¥150,000 per floor is added.		
	During 2011 and 2013		
	Subsidy starts from this year.		

5. Subsidy for Seismic Retrofit Design

Subsidy Rate

Without subsidy by city government

State 1/6	TMG 1/6	Owner 2/3
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With subsidy by city government (rate is 1/6)

State 1/3	TMG 1/6	City 1/6	TMG 1/6	Owner 1/6
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Standard Unit Price

Less than 1,000m² : ¥2,000/m²
 Over 1,000 m² and less than 2,000m² : ¥1,500/m²
 Over 2,000 m² : ¥1,000/m²

Implementation Period

During 2011 and 2014

6. Subsidy for Seismic Retrofit Works

Subsidy Rate

Without subsidy by city

Less than 5,000m²

State 1/6	TMG 1/6	Owner 2/3
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Over 5,000m²

St. 1/12	TMG 1/12	Owner 5/6
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1 / 12

Standard Unit Price

¥47,300/m² *

(Total project cost per building applied for subsidy should be less than ¥473 mil.)

* In case of specific construction method (ex. Seismic isolation, etc.) applied: ¥80,000/m²

Retirement/rebuild is covered (only seismic retrofit part)

Period

During 2011 and 2015

7. Subsidy for Seismic Retrofit Works

Subsidy Rate

With subsidy by city (rate is 1/6)

Less than 5,000 m²

State 1/3	TMG 1/6	City 1/6	TMG 1/6	Owner 1/6
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Over 5,000 m²

State 3/12	TMG 1/12	City 1/12	TMG 1/12	Owner 1/2
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1/12

Standard Unit Price

¥47,300/m² *

(Total project cost per building applied for subsidy should be less than ¥473 mil.)

* In case of specific construction method (ex. Seismic isolation, etc.) applied: ¥80,000/m²

Retirement/rebuild is covered (only seismic retrofit part)

Period

During 2011 and 2015

8. Other Assistances

Consultation Service Counter for Seismic Retrofit

Center for Disaster Prevention and Architecture

TEL: 03-5778-2790

Workday

Mon-Fri, 1st Sat, 3rd Sun

Working
Hour

9:00 ~ 17:00 (except Wednesday till 19:00)

Fee

Free



8. Other Assistances

Consultation Service Desk for Seismic Retrofit of Buildings along SETR

- Introduction of Architects' Organization:

The desk introduces contracted architects' organization to conduct seismic diagnosis.

Associated architects consult for technical matters.

Contracted organizations: TAAF, JSCA, JASO

- Telephone Consultation Services

Specialized staffs consult for seismic retrofit procedure.

8. Other Assistances

Low-interest Loan Mechanism

1. Loan Terms

Target Cost	Cost for Seismic Diagnosis	Cost for Seismic Retrofit Works
Target Building	Specific Buildings along Emergency Transportation Road	All Buildings along Emergency Transportation Road (limited for the building of which total area is below 10,000m ²)
Target Loan Customer	Owner of the Target Building Above	Owner of the Target Building Above (limited for individual or medium and small size company)
Loan Limit	Maximum ¥100 mil.	
Loan Period	Maximum 10 years	
Interest Rate	Reduced interest rate lower than ordinary over-the-counter rate	

8. Other Assistances

Low-interest Loan Mechanism

2. Available Banking Establishments

Banking Establishments	Banking Establishments
Mizuho Bank	Saikyo Shinkin Bank
Tsukuba Bank	Seibu Shinkin Bank
Bank of Okinawa	Tokyo Shinkin Bank
Yachiyo Bank	Ome Shinkin Bank
Tokyo Higashi Shinkin Bank	Kyouritsu Shinyokumiai

9. Mark to Proof Quake-Resilience

- 1) Target Building: Building of which their lot is attached to Specific Emergency Transportation Road
- 2) Application: Send the documents which prove the adaptation of the earthquake resistance standard
- 3) Destination: Office for TMG Quake-resilience Mark
- 4) Cost: Free
- 5) Contact: Office for TMG Quake-resilience Mark (03-5466-2023)

