

# Qualification System and Inspection and Diagnosis Practices (Role of JBEC)

Système de certification et pratiques d'inspection et de diagnostic (rôle du JBEC)



## MLIT qualification registration system (since 2014)

- ✓ Review and registration of private qualification by national government
- ✓ 402 qualifications (maintenance 299, bridge maintenance 129)

**Bridge inspector qualification system by JBEC**

- ✓ Training → Examination → Work experience → Registration (Fig. 1)
- ✓ Inspectors 9,380/Assistant Inspectors 1,449 (Fig. 2)

Fig. 2 Numbers of participants and graduates of bridge inspectors training course (as of March 2025)

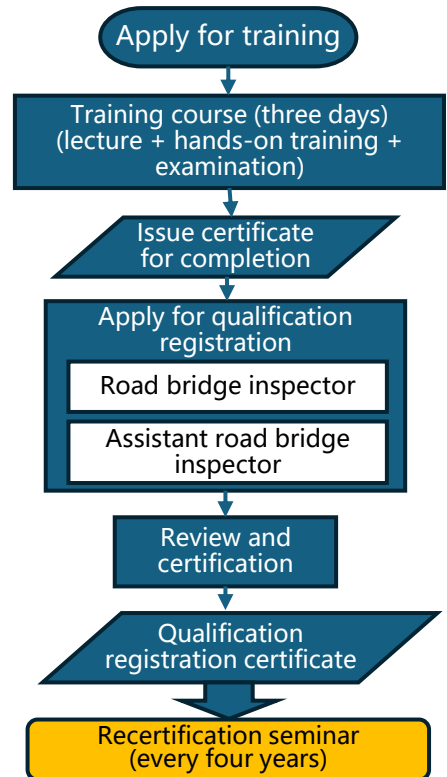
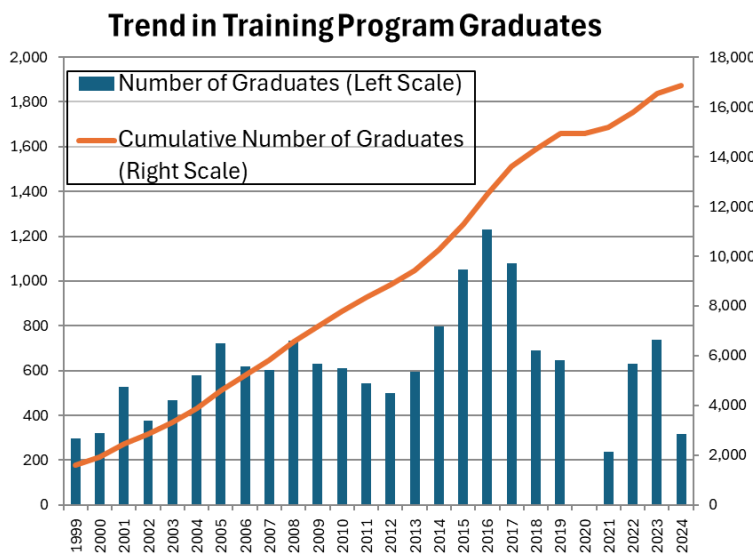


Fig. 1 Qualification registration process

## Inspection record (determination and recording of bridge conditions)

1. Basic information and comprehensive evaluation
2. Element-by-element evaluation
3. Prevention of third-party damages/injuries
4. Photographs, damage diagram, data records

These measures keep soundness and resilience of bridges nationwide.



Photo 1 Field training

## Diagnosis (engineering judgment and forecast)

- ✓ Evaluation of structural soundness and durability
- ✓ External influences (earthquakes, floods, frost damage, salt damage)
- ✓ Forecasting future deterioration (for five years)
- ✓ Repair/reinforcement planning → with an emphasis on preventive maintenance

Table 1 Concept of bridge soundness assessment (elements × external influences) Concept of structural soundness assessment

Element	Increase in live load	Earthquake	Heavy rain/flood
Superstructure	Fatigue/deflection	Deformation	Corrosion/leakage
Superstructure/substructure connection	Bearing abnormality	Collapse risk	Bearing deterioration
Substructure	Increase in footing reaction	Seismic stability	Scour
Fail safe structure	-	Restraining function	-
Overall bridge category	I - IV		

