Asset Management Strategy of Tancarville and Normandie Bridges

The End of the Concession Period

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CCI Seine Estuaire’s Status and Mission

- The Chamber of Commerce & Industry is a public institution of the French State
- 3 central missions:
  - Support companies (16,300: industrialists, merchants and service providers)
  - Facilitate training and employment
  - Promote economic development and regional planning by financing, building, maintaining and modernizing infrastructures:
    - Bridges of Tancarville and Normandy
    - Deauville Airport
    - Port of Fécamp
    - Paris Seine Normandy
CCI Seine Estuaire’s Concessions

▪ The CCI manages infrastructures, particularly the Tancarville and Normandy bridges, which promote the economic development of its territory

▪ Key Figures:
  ▪ 3 major bridges
  ▪ 9 common bridges
  ▪ Retaining walls and high embankments
  ▪ 12 kms of road
  ▪ 2 toll stations
  ▪ Buildings, sewerage, networks...

Source: www.viamichelin.fr
Tancarville Bridge

Key figures:

- 1st motorway concession contract in France
- In 1959, la CCI has built the 1st bridge over the Seine
- Design: Suspension bridge
- Total length: 1,420 meters (4,660 ft)
- Width: 12.50 meters (41 ft)
- Longest span: 608 meters (1,995 ft)
- Clearance below: 50.85 meters (166.8 ft)
Normandy Bridge

- **Key figures:**
  - **Commissioning date:** 1995
  - **Design:** Cable-stayed bridge
  - **Total length:** 2,143.21 meters (7,032 ft)
  - **Width:** 23.60 meters (77 ft)
  - **Height:** 214.77 meters (705 ft)
  - **Longest span:** 856 meters (2,808 ft)
  - **Clearance above:** 52 meters (171 ft)
Grand Canal Viaduct

- Key figures:
  - Commissioning date: 1995
  - Design: Delta frame bridge
  - Total length: 1 410 m meters (4625 ft)
  - Width: 23.60 meters (77 ft)
  - Height: 50 meters (164 ft)
  - Longest span: 275 meters (902 ft)
Asset Management Practices

- **Commitment:**
  - Maintain high performance of our asset portfolio: safety, traffic and environment...
- **AM practices...**
  - Based on Technical Instruction for Inspection and Maintenance of civil engineering structures (ITSEOA)
  - Completed since 2018 by the implementation of best standards and practices to efficiently manage our assets (ISO 55 001)
Asset Management Practices

- **Inspection:**
  - Every year, the CCI assesses the condition state of its assets according to a reference system common to the French bridge managers (IQOA)

- **Diagnosis:**
  - Specific diagnostics are run when specific events are detected during regular inspections

- **Monitoring:**
  - Digital monitoring is deployed to help decision making in order to enhance service life

- **Routine and specialized maintenance:**
  - Several maintenance contracts are used on Normandy (stay cable) and Tancarville (hangers and tuned mass damper, main cables, anchorages) bridges
Asset Management Practices

- **Heavy maintenance**
  - Major maintenance operations were conducted in the past.
  - CCI draws up and updates annually an heavy maintenance plan until the end of the concession, i.e., 2027.
  - 7 years before the end of concession, an audit will be realized by the State to identify the heavy maintenance operations to be scheduled until 2027.
  - CCI wants to prepare this dialogue by using innovative methods and tools in compliance with standards (ISO 55 001, ISO 31 000 and NF EN 13269).
Risk-based Asset Management Methodology

**Objectives:**
- Value and improve Asset Knowledge
- Predict ageing and mitigate risks, to secure safety, traffic and environment
- Define, prioritize and schedule heavy maintenance operations
- Simulate several investments scenarios
- Align decision and practises over lifecycle regarding performance, risk, cost
- Communicate and report to the State
- Promote collaborative work between the team

**Some examples of (fictitious) results:**
- Risk Mapping © SIMEO™
- Financial trajectory until 2027
- Heavy maintenance scheduling © SIMEO™
To be continued

- An innovative ways to effectively prepare the end of the concession
- Make the State-planned end of concession audit successful
- Extend implementation of Asset Management to all assets of the 2 concessions: roads, hydraulic works, buildings...
- Digitalize Asset Management
Thank you for your attention

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