Dynamic measurements beyond and above static ones are a critical requirement in bridge monitoring as dynamic loads from the traffic and other natural causes such as gale winds, tornadoes and earthquakes can cause permanent damage with serious consequences. Timely and precise measurements of pre-defined parameters will provide the data to understand the behaviour of the structure to monitor the rate of change. A combination of other static monitoring options such as deformation, displacement and settlement can be used to further provide an indication of the performance of the bridge.

As well as the local regulations outlining the requirements for the monitoring instruments, other factors such as the type of the bridge, its age, foundation type and seismicity of the area are amongst important considerations when specifying bridge instrumentation.

Contact us for a comprehensive consultation and discussion on your Bridge Monitoring requirements.

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**OUR SERVICES**

Advice
Consulting
Technical Proposal
Financial Offer
Planning
Installation
Training
Typical Viaduct Pier

For seismic monitoring of a viaduct pier you will require a simple installation with the following equipment:

1. 1 x CR Series Multichannel Seismic Recorder
2. 2 x AC-73 Accelerometer
3. 1 x AC-71 Accelerometer
4. 4 x GS-LVDT Linear Variable Displacement Transducers
5. 1 x GXX-GPS GPS Receiver
6. Cable and Software

Contact us for the cost of a Turnkey Solution

What can be measured?

There are a multitude of options for monitoring the changes in a bridge. Each project will have its own unique requirements. The structural engineers will dictate such requirements, which our experts can then provide as an appropriate package.

The most widely used packages for Bridge Monitoring:

1. Vibration: Structural health, behaviour and modal analysis
2. Strain: Fatigue and rainflow analysis
3. Displacement: Joints, cracks and differential settlements of foundations
4. Load: Cablestay and reaction forces
5. Environment: Wind speed and direction, humidity, solar radiation and temperature
6. Tilt: Tilting of piers or towers

Analysis Capabilities

A typical setup as above will provide valuable information about the health of the bridge. Thresholds for acceptable changes in the structure could be set to provide automatic notifications. After a natural disaster, at an instant valuable information about the change in structure of the bridge can be provided. Safety decisions about the viability of the structure at any given time can be made based on credible data and analysis.