Weigh-in-Motion Systems for Bridge Protection and Bridge Traffic Data
Bridge Over-load Detection for Enforcement Agencies

Prevent damage to bridges from over-loaded vehicles using IRD's WIM (Weigh-in-Motion) systems. WIM technology plays a vital role by monitoring truck weights in advance of bridges and on the structures themselves. This is especially the case for bridges that are under a load restriction due to distress. Continual monitoring by enforcement agencies enables the rerouting of over-weight vehicles before they can do damage to bridges that are compromised, or that were built to support lighter vehicles.

- Identify over-weight vehicles approaching bridges
- Automated diversion of over-weight vehicles using message signs
- Photo capture of over-weight vehicles
- License plate number recognition
- Over-dimension and over-height detection integration
- Screening against safety databases

Traffic Data for Loading Assessment by Bridge Experts

WIM sensors installed in advance of the bridge or on the bridge deck provide valuable data to assist in estimating the operational life of the bridge.

- Assess loading on bridges
- Monitor changes in traffic over time, including class and weight
- Discreetly collect unbiased data
- Continuous data collection (permanent installations)
- Temporary studies (portable/temporary systems)
- Live load monitoring
- Calculation of road damage
- Calculation of ESAL

More than 151,000 bridges or 24.9% were classified as either structurally deficient or functionally obsolete in the United States in 2012.

Source: 2013 ASCE Report Card
Controller

IRD’s iSINC electronics is a WIM controller suitable for integrating license plate cameras, variable/changeable message signs, and other sensors. A modular design allows the iSINC to provide additional functionality, including roadside data collection with web access.

• Controller for all types of in-road WIM sensors
• Hardened electronics with lightning protection
• Integrates machine vision technologies

Software

IRD’s Weigh-in-Motion display and iAnalyze software provide powerful data analysis and reporting capability.

iAnalyze is a software program that facilitates management, analysis and report generation of traffic data, while the web-based WIM display software allows you to monitor:

• Vehicles in real-time and historical records search
• Axle loads and gross vehicle weight (GVW)
• Axle distances and vehicle lengths
• Number of axles
• License plate and USDOT number recognition
• Vehicles flagged for enforcement

Sensor Options

IRD is the only company that provides international sales, installation, and service for a full range of weigh-in-motion sensors and scales, including Single Load Cell scales, IRD-PAT Bending Plate scales, Piezoelectric sensors, and Quartz sensors. IRD can advise on the best option for your application, so that your needs are met for accuracy, traffic speeds, and expected service life. Depending on the sensor selected, and road surface thickness, WIM may be installed in the roadway ahead of the bridge or on the bridge deck itself.

DIVERT OVER-LOADED VEHICLES
International Road Dynamics Inc. (IRD) is a highway traffic management technology company specializing in supplying products and systems to the global Intelligent Transportation Systems (ITS) industry. IRD is a North American company with sales and service offices throughout Canada, the United States, Latin America, India and China.

With more than 30 years of experience, IRD is a multi-discipline company offering proprietary technologies that include automated truck weigh station systems, Virtual Weigh-In-Motion systems, advanced traffic control, management and data collection systems, automated toll road systems, and in-vehicle driver monitoring systems. The Company supports its products and solutions with long-term service and maintenance contracts.

IRD has installed its world-leading ITS solutions in countries around the globe, and currently has the world’s largest installed base of Weigh-In-Motion with a growing presence in other related ITS applications and markets.