



**We make
highways
talk™**

- **MANAGEMENT**
- **SAFETY**
- **PRESERVATION**

International Road Dynamics Inc. develops and maintains traffic management products and systems technology that make highways talk. What are they saying? They are providing information that roadway administrators need to manage traffic, preserve infrastructure and provide safety warnings to drivers.

IRD's multi-discipline, innovative and customer-focused team is expert in advanced technologies, advanced traffic solutions and custom-designed systems.



**CUSTOMER
DRIVEN™**

SINGLE LOAD CELL

Premium High Performance WIM Scale

The IRD Single Load Cell (SLC) Scale is an extremely accurate and durable Weigh-In-Motion (WIM) scale. Its reputation for reliability and performance is a result of over 20 years of operational history with medium and high-speed enforcement screening and data collection.

The SLC Scale can be used at all speeds, from slow speeds on ramps to highway speeds on the mainline. Its low maintenance, long service life and unequalled accuracy make it the top choice for long term vehicle weighing.



DESCRIPTION

The weighing element in this scale is a single load cell mounted centrally in each scale mechanism. The scale mechanism incorporates patented load transfer torque tubes, which effectively transfer all loading on the weighing surface to the load cell. Each lane will typically contain two 6 ft. (1.8 m) scales allowing each wheel set to be weighed individually, axle by axle. Each scale is mounted in a frame which is installed in a vault flush with the road surface. The SLC Scale is completely waterproof and functions in all weather and operating conditions, and includes all cable and drain access.

APPLICATIONS

- Mainline Screening
- Ramp Screening
- High Speed Data Collection
- Automated Toll Systems

SINGLE LOAD CELL

ACCURACY

The efficiency of a weigh station is directly related to the accuracy of the WIM System. The high accuracy of the SLC Scale provides maximum efficiency in screening operations. Reducing the accuracy of the WIM by as little as 3% results in a 14% loss of sorting efficiency. This loss of efficiency can create traffic jams and cause station closures. The SLC provides a screening efficiency of greater than 90%.

The SLC Scale is the most accurate scale available today. It has the highest documented accuracy of all WIM technologies. It meets or exceeds the ASTM E1318-02 Type III specification up to highway speeds. The SLC Scale will typically provide the following accuracies:



SPEED mph (km/h)	FUNCTION	ACCURACY (% of applied)		ASTM @ 95% Confidence level <small>Type III Tolerance for 95% probability of conformity</small>
		1σ	2σ	
2-10 (3-16)	Wheel Load	4	8	N/A
	Axle Load	2	4	N/A
	Axle Group Load	1.5	3	N/A
	GVW	1	2	N/A
11-25 (17-40)	Wheel Load	6	12	± 20
	Axle Load	4	8	± 15
	Axle Group Load	3	6	± 10
	GVW	2	4	± 6
26-45 (41-73)	Wheel Load	8	16	± 20
	Axle Load	5	10	± 15
	Axle Group Load	4	8	± 10
	GVW	3	6	± 6
46+ (74+)	Wheel Load	8	16	± 20
	Axle Load	6	12	± 15
	Axle Group Load	5	10	± 10
	GVW	3	6	± 6

NOTE: The site conditions must, as a minimum, meet the roads specification as identified in ASTM E1318-02.

SERVICING

Closing a lane of traffic on a busy Interstate is costly and dangerous, therefore selecting the best and most easily maintainable WIM System possible is a critical decision. Servicing of the Single Load Cell Scale is fast and easy. The load cell can be removed or serviced from the road surface with hand tools, eliminating the need to remove the entire scale from the road.

LIFE CYCLE COST

The IRD Single Load Cell Scale has a long service life requiring little maintenance. For instance, an IRD Single Load Cell Scale installed in Minnesota in 1981 has weighed more than 5.3 million 5-axle trucks and more than 10.5 million trucks of other types, and continues to weigh vehicles today with minimal maintenance. The Single Load Cell Scale has a proven track record of providing long term reliable service to the CVO industry. For reference see USDOT FHWA "States Successful Practices, Weigh In Motion Handbook" December 1997.

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