



Corrosion-resistant, multi-deck truck scale delivers reliable, one-stop weighing in harsh environments

The port of entry weigh stations located in Perry, Utah—north of Salt Lake City on Interstate 15 – are used by the Utah Department of Transportation Motor Carriers Division (UDOT MC) to ensure all passing motor carriers are within state regulations. These scales take quite the beating – and from more than the consistently heavy loads.

“Our biggest concerns are snow and icy roads, and we have to combat these conditions with large amounts of salt and other means,” said Kim Banks, UDOT MC facilities coordinator. “The salt can lead to corrosion in metal scales or cause concrete deck scales to crack.”

In addition, the Perry, Utah port is located directly off a wetland area, causing the water table to be very high. In this environment, a scale must not only withstand challenging conditions but also be easy to maintain. Previously, UDOT MC had employed several scales by Avery Weigh-Tronix for similar applications, finding that the scale systems demonstrated extreme durability and reliable operation. It was due to this that, for their recent port of entry renovation, UDOT MC approached Meldrum Scale Co. in Sandy, Utah for a new kind of Avery Weigh-Tronix solution.

“Avery Weigh-Tronix offers a galvanizing option that provides superior corrosion protection for their scales, making their weighing equipment better suited for harsh environments.. Plus, the fact that the equipment is self-checking has made the biggest difference for us, since we haven’t had to deal with checking rods or other extraneous equipment to ensure the scale is centered correctly,” Banks said. “Avery Weigh-Tronix weighing systems also come with a better warranty than competing models, and so far we’ve had nothing but good luck with the scales. There have been several we’ve used extensively without issue, including a double-ended strain gauge Weigh Bar type load cell scale, which is 21 years old and still operating well.”

The application UDOT MC was seeking for the Perry location, however, would vary significantly from prior scale installations. In order to weigh the semi-trucks more efficiently, UDOT MC decided to employ a 120-ft. long multi-deck truck scale that would allow the vehicles to only stop once, streamlining the weighing process.

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TECHNICAL

Avery Weigh-Tronix Truck Scale

- Delivers rugged, reliable performance in heavy use applications
- Features durable construction to withstand harsh surroundings
- Provides high performance for decades of dependable operation
- Offers simple maintenance—Weigh Bar style load cells and additional components are easily accessible

Avery Weigh-Tronix E1310 Indicator

- Displays up to 8 lines of data with over four million configurations of weight data, text and graphic displays
- Offers rugged IP67 stainless steel construction to resist challenging environments
- Includes alphanumeric keypad for simple user programming and one-button activation of application-specific routines
- Features large 39 mm x 131 mm display for excellent readability in all lighting conditions



“The Avery Weigh-Tronix truck scale consists of six decks, each configured to accommodate the most common truck axle configurations and arranged in a row, ensuring an entire semi-truck can be weighed in one step,” said Jeff Meldrum, co-owner of Meldrum Scale. “Over a three month period, we replaced the old existing single axle type port of entry scales with two sets of six multi-deck scales (one northbound and one southbound), rebuilt the scale approaches, and ensured all scales were configured according to their requirements.”

The six decks that comprise the scale are placed in a certain order according to size and length, and operators can select to stop a truck in one of several places on the scale—and most trucks only need to stop once. This arrangement makes the weighing process run smoothly for the port supervisor and crew, who were heavily involved in the scale’s configuration.

“When we were in the process of devising the scale system we wanted, we brought the idea of a multi-deck scale to the port supervisor and crew,” Kim Banks said. “After measuring hundreds of the vehicles they worked with on a regular basis, they determined the actual formula we’d need for the length and placement of these scales. Letting the people using the equipment be involved in the process was one of the smartest things we’ve done.”

The scales work in conjunction with Avery Weigh-Tronix E1310 indicators, which gather readings from all truck axles, as well as the total weight of the truck. The system has proved very driver-friendly – trucks simply pull up to the scale, the port operator presses the “Print” button on the indicator and all information is printed in a single step.

Banks said the assistance Meldrum and Avery Weigh-Tronix provided throughout the process was key to this project’s success.

“Avery Weigh-Tronix and Meldrum said, ‘tell us what you want, and we’ll build it,’” Banks said. “They have been more than helpful. We had a good idea, received great input, and whatever we’ve asked for, they’ve provided.”

An additional advantage to the scale’s design is the simple access it provides for maintenance. Since all the Weigh Bar type load cells and additional components can be accessed from above the scale, nearly all maintenance necessary can take place without needing to do any work underneath it – a great benefit when working in an area with a high water table.

By combining a team of UDOT MC employees, a flexible and helpful equipment provider, and the tested durability and high performance of Avery Weigh-Tronix weighing equipment, the Perry, Utah port of entry scale system is now in operation – and those involved in the project are excited about the results.

“These scales keep getting better and better,” Banks said. “They’re tough, durable—anything we’d want a scale to be.”

“I know I sound like a salesman,” Banks added, “but I’m a very thrilled customer.”