
Alaska Department of
Transportation & Public Facilities
Weigh-in-Motion (WIM) Program
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Learning Outcomes

- What is Weigh-in-Motion ?
- The Alaska WIM program
- What its used for
- Available WIM resources

What is Weigh in Motion?

- Weigh in motion (WIM) systems are designed to capture and record weights as vehicles drive over a measurement site. This makes the weighing process more efficient, and, in some applications can allow for trucks under the weight limit to bypass static scales or inspection.

WIM Technology

- Strain gauge based dynamic weighing system (measures bending)

Bending Plate WIM

WIM Technology

Single Load Cell WIM Scales

Typical Accuracy

	Single Load Cell WIM	Bending Plate WIM
Low Speed	1-2%	2-3%
Medium Speed	3-5%	4-6%
High Speed	4-6%	5-8%

1 σ Confidence

WIM in Alaska

Alaska WIM Sites

Anchorage Area:

- Minnesota Drive
- Tudor Road
- Seward Highway at 76th Avenue Ramp
- Ocean Dock Road (Port of Anchorage)
- Glenn Highway , Milepost 9*

Other Areas:

- Glenn Highway, Milepost 53 (Palmer)
- Steese Highway, Milepost 10 (Fox)
- Alaska Highway, Milepost 1310 (Tok)
- Sterling Highway (Soldotna)

* At weigh station

WIM in Alaska

A WIM Station provides the following data:

- vehicle gross weight*
- vehicle weight by axle*
- vehicle speed by lane and direction
- vehicle length*
- vehicle classification*
- vehicle volume
- vehicle speed
- time stamp
- overweight by vehicle classification or axle
- location by lane and direction

* data also collected at traditional weigh stations.

What is WIM Used for ?

- Pavement design, monitoring, and research
- Bridge design, monitoring, and research
- Size and weight enforcement
- Planning
- Legislation and regulation

Pavement Design & Maintenance

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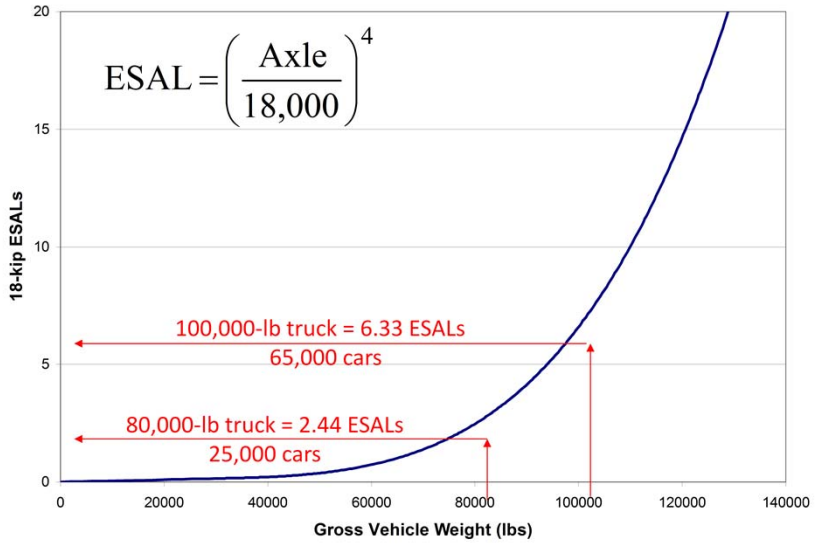
Pavement Design & Maintenance



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Bridge Design & Loading

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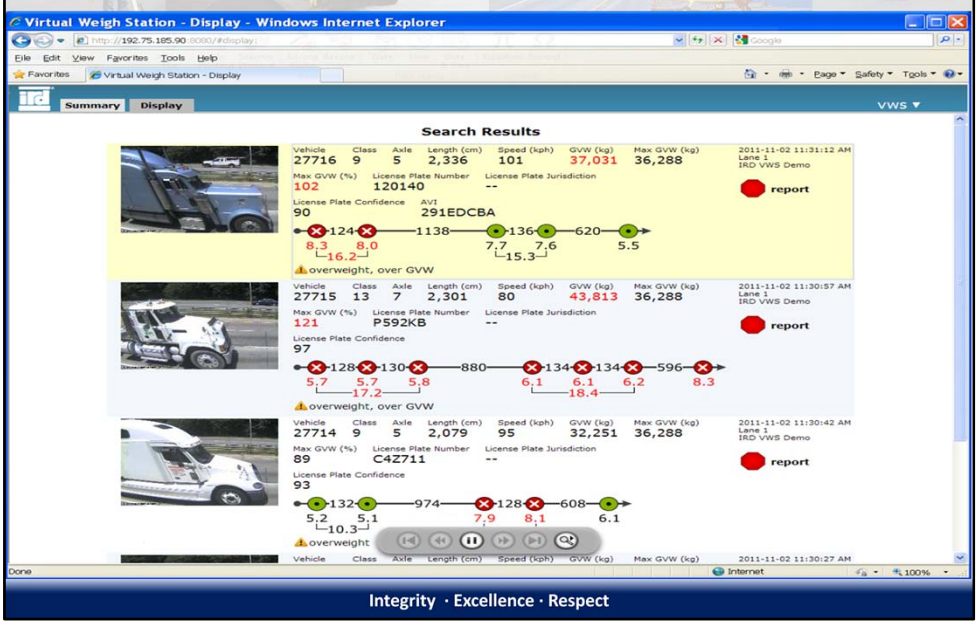
Enforcement

Weigh-In-Motion systems are is integrated with other technology and used to keep industry moving

Secondary weight enforcement by the DOT&PF Division of Measurement Standards & Commercial Vehicle Enforcement (MS&CVE)

Real Time Display via Internet



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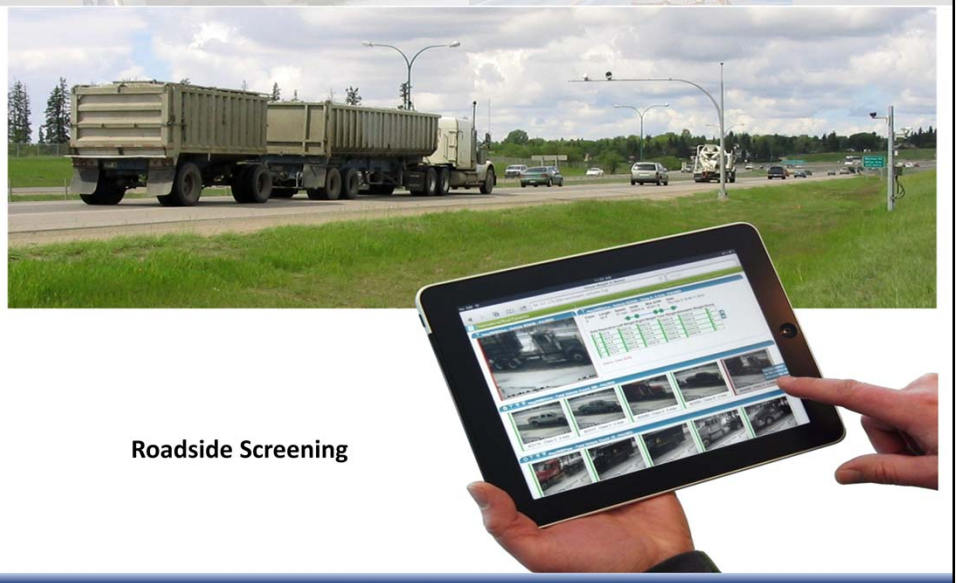
Virtual Weigh Station



Roadside Screening

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Planning

- To calculate Average Annual Daily Traffic (AADT) volumes
- to meet federal reporting requirements (Travel Monitoring, HPMS, Performance Management Initiatives)
- to upload data into Federal Highway Administration (FHWA) Travel Monitoring Analysis Software (TMAS)
- Data will be available in the State's Traffic Monitoring System Alaska Traffic Server
- Travel Demand Modeling
- Freight Planning

Weigh- in-Motion Data Resources

- Alaska DOT
  http://www.dot.alaska.gov/stwdplng/transdata/traffic_WIM.shtml
- FHWA

  VTRIS :http://www.fhwa.dot.gov/ohim/ohimvtis.cfm

  Traffic Monitoring Guide:
  http://www.fhwa.dot.gov/policyinformation/tmguide

Questions?

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