FHWA Technical Support Service Center (TSSC) offers two types of Intelligent Compaction (IC) workshops for soils/aggregate and asphalt compaction:

- IC Data Management (ICDM) workshops
- IC Overview workshops

**ICDM Workshops**
- Hands-on IC training
- Intended for contractors and agencies who are ready to implement IC
- Workshop only: 1 day
- Workshop with equipment demo: 1½ days
- Presentation, hands-on Veda experience, optional equipment demonstration
- Instructor: Dr. George Chang, The Transtec Group
- Laptop computer required
- Contact: Antonio Nieves
  FHWA Office of Asset Management, Pavement, and Construction
  +1 (202) 366 4597
  Antonio.Nieves@dot.gov

**IC Overview Workshops**
- Overview of IC concepts and methods
- Intended for those interested in learning IC basics and benefits to contractors and agencies
- 4 hours
- Presentation and discussion
- Instructor: Bob Horan, Asphalt Institute
- Computer not required
- Contact: Michael Arasteh
  FHWA Resource Center (Baltimore)
  +1 (410) 962 0678
  Michael.Arasteh@dot.gov
ICDM Workshops

Objectives

- To familiarize attendees with the intelligent compaction technologies and Veda software.
- To inform attendees of the advantages, limitations, and pitfalls related to analyzing and interpreting intelligent compaction and related data.
- To provide an interactive and hands-on approach for facilitating practical IC implementation.

Who Should Attend

- DOT Construction Engineers
- QC/QA Personnel
- Specification Writers
- Roller operators
- Paving Managers/Superintendent
- Earthworks Managers
- IC/GPS dealers and technical support

“Going through IC case studies with hands-on Veda exercises, you can implement IC yourselves in the future!”

Day-1 ICDM Workshop Agenda

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Length (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Overview</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Fundamentals of Intelligent Compaction</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Break</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Global Positioning System (GPS)</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>IC Systems and Measurement Values</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Break (lunch – not provided by FHWA)</td>
<td>60</td>
</tr>
<tr>
<td>5</td>
<td>Practical Implementation of IC – I</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>Practical Implementation of IC – II</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Break</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>More Hands-on with Veda</td>
<td>50</td>
</tr>
<tr>
<td>8</td>
<td>Q &amp; As</td>
<td>30</td>
</tr>
</tbody>
</table>

Optional Day-2 IC Equipment Demo Agenda

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Length (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Introduction and Overview</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>IC Systems (vendors1~4)</td>
<td>80</td>
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<tr>
<td></td>
<td>Break</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>IC equipment demo (static show &amp; tell)</td>
<td>120</td>
</tr>
</tbody>
</table>

For the Hosting Agencies

Each workshop includes presentations and hands-on exercise materials for a one-day training. PCs with internet connection and pre-installed with Veda workshop software are required for all participants. Host agency should provide a facility (40~60 people) in classroom style with a LCD projector, a screen, electricity outlets and/extension cords. Optional equipment demo requires a parking facility.
IC technology is an exciting innovation that can provide many benefits to both the agency and contractors, however there are challenges that need to be understood and addressed to accomplish a successful construction project using IC technology.”

### Half-Day IC Overview Workshop

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Length (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Welcome and Introductions</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Workshop Introduction</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Importance of Compaction</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Major Factors Effecting Compaction</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>IC and Global Positioning System (GPS) Basics</td>
<td>60</td>
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<tr>
<td></td>
<td>Break</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>IC Research Findings</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>Using IC for QC on an Asphalt Project: Part 1</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Break</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>Using IC for QC on an Asphalt Project: Part 2</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>(Including Veda Software Overview)</td>
<td></td>
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<tr>
<td>8</td>
<td>Discussion/Q&amp;A</td>
<td>10</td>
</tr>
</tbody>
</table>

### Objectives
- Discuss the importance of compaction and list critical factors in the compaction process
- Introduce the basics of IC and GPS for IC
- Describe existing IC technology and equipment
- Explain the benefits of IC to agencies and contractors, and the challenges
- Show how IC can be used for Quality Control (QC) on pavement materials construction projects
- Provide an overview on the role of the agency and contractor to conduct a successful project using IC, including use of the generic IC specification, data management and Veda software.

### Who Should Attend
- DOT Construction Engineers
- QC/QA Personnel
- Specification Writers
- Paving Managers/Superintendent
- Earthworks Managers

### For the Hosting Agencies
Each workshop includes presentations and Q&A for a half-day training. Host agency should provide a facility (40~80 people) in conference style with a LCD projector and a screen.

Michael Arasteh  
+1 (410) 962 0678
How to Request and Host IC Workshops?

State/city agencies may request either ICDM or IC Overview workshop, or combine both workshops in consecutive days or as separate events. Check out the latest workshop schedule on the FHWA TSSC IC workshop webpage (http://www.fhwa.dot.gov/construction/ictssc/workshop.cfm).

Here are the steps to host IC workshops:

1. Look through the workshop comparison chart on page 1 and workshop details on page 2 and page 3.
2. Determine which workshop or both workshops (with an option for IC equipment demo) you like to host. If in doubt, please call us.
3. Pick a workshop location and select three preferred dates with at least two months lead time.
4. Promote the events to target audiences (see "Who Should Attend" on page 2 and page 3).
5. Work with workshop instructors to meet the facility requirements and regarding other details.

What is TSSC?

The Intelligent Compaction (IC) Technical Support Service Center (TSSC) is sponsored by the FHWA Every Day Counts (EDC) 2 initiative to provide public support for IC.

TSSC is part of the FHWA efforts to deploy nationally Intelligent Compaction.

For further Information, contact:
Antonio Nieves Torres
FHWA EDC IC Team Lead
(202) 366-4597 Antonio.Nieves@dot.gov

George K. Chang
The Transtec Group, Inc.
(512) 451-6233 gkchang@thetranstecgroup.com

Michael M. Arasteh
FHWA Resource Center
(410) 962-0678 Michael.Arasteh@dot.gov

What is Veda?

Veda (pronounced as "Vehda"-meaning "knowledge") is a powerful software for viewing and analyzing geospatial data. It is developed by The Transtec Group and sponsored by the Minnesota Department of Transportation.

Veda can import data from various intelligent compaction (IC) machines and MOBA PAVE-IR thermal profile to perform viewing, editing, point tests correlation, and statistical analysis. Veda is essential for standardization of IC technologies.

Training and data management is critical when implementing IC. Training workshops built around IC technologies and Veda will bridge gaps in IC implementation at any levels.

IC Support Hotline: +1 (512) 659-1231
IC Support Email: ICsupport@TheTranstecGroup.com
FHWA EDC IC Website www.fhwa.dot.gov/Construction/ICTSSC