



INTERNATIONAL ROAD DYNAMICS INC.

702 - 43<sup>rd</sup> Street East Saskatoon, SK CANADA S7K 3T9

Ph: (306) 653-6600 Fax: (306) 242-5599 [www.irdinc.com](http://www.irdinc.com)

## - Site Report -

**Date:** January 10, 2012

**IRD Sales Order:** 11167

**To:** Cindy Ireland

**From:** Brent Eckhart

**Project Name/Location:** Danville, VA LTPP, RT 29

**Service Date(s):** 7/13/2011, 7/18/2011, 7/21/2011

**Job Description:** Site service was required as the site was producing a high volume of axle errors in both lanes and perform the bi-annual site inspection

### Work Completed:

**7/13/2011:** Upon arriving on site the Trigger LED on the SSM card was staying on without any response to traffic and I was not seeing any loop activity on the LSM card. A re-seat of the SSM card did not change the operational status of the SSM card, but a reset of the LSM card seemed to bring it back to life. After inspection of bending plate leads and electrical measurements, the sensors had ideal resistance measurements (990 ohms on excitation, 847 between signals and OL between on all leads and shield) but the SSM card was not supplying any excitation voltage with or without the sensors attached. Also, the diagnostic vehicle record showed erratic axle durations on all channels even without sensors attached. Rey Castro from Saskatoon dialed in and confirmed my findings and also confirmed that he now had communications with the LSM card since I reset it. A new SSM card was ordered.

**7/18/2011:** The new SSM card was installed. Excitation voltage (5Vdc) was returned to all sensors except for #3. The Trigger LED continued to be held on as long as #3 bending plate was attached. The system now made vehicle records without #3 attached, but sensor #1 produced a lot of ringing. I rechecked the resistance measurements for all sensors and did have some mixed results for #3 but am now led to believe it was related to my multimeter. After confirming with Rey, we decided to leave #3 disconnected so the system would at least make records and he would disable #1 (ringing) and #3 in the software. Note: A previous site visit made earlier this year did show that #1 was ringing, though all sensors appeared to be physically secure in road and did not make and no unusual audible noise was noticeable in traffic.

**7/21/2011:** It was decided to make yet one more trip out to site to check for any cable damage in junction boxes or bad splices (if any). There were no splices and after talking with Bruce Myers on the phone about the missing excitation only #3 bending plate, we switched sensor inputs and back ribbon cables to the adjacent SIOP. Excitation was restored to all 4 sensors. After remotely enabling #1 and #3 again, all 4 sensors were performing as they should. The ringing from #1 had disappeared as well. Bruce seemed happy that the SIOP swap and new SSM had cured the issues.

Site inspection was completed. Cabinet was clean, terminations were inspected and secure. Electrical measurements were taken and recorded. In road sensors were inspected. Loops are in good shape and bending plates are secure. As with previous inspections, there are some typical very minute hairline cracks in the road surface amongst our sensors but they do not seem to be getting bigger. Perimeter of the junction boxes were cleaned of debris and grass. Junction boxes themselves were clean and dry inside. Home runs for sensors were in good shape. Modem operation was confirmed when Bruce dialed in for remote support and configuration.



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**Work Remaining:** Remote monitoring of site from head office. We may want to replace the bad SIOP for redundancy and back up in case we have one go bad again in the future

**Schedule Include Estimate to Complete (on-track, ahead, behind):** N/A

**Parts Used:**

<i>Qty</i>	<i>P/N</i>	<i>S/N</i>	<i>Description</i>
• 1	195210		SSM interface card

**Pre-mature Equipment Failure:**

**Time Onsite:**

7/13/2011 – 3 hrs

7/18/2011 – 3.5 hrs

7/21/2011 – 3 hrs

**Mileage / Travel Time:**

7/13/2011 – 313 miles/6hrs

7/18/2011 – 204 miles/3hrs

7/13/2011 – 149 miles/3hrs

**Safety Concerns:** N/A

**Issues Related to Sub-Contractors:**

**Other Notes:**

**Action Items:**

<b>Item</b>	<b>Action Required</b>	<b>Ownership</b>
1.		
2.		
3.		
4.		