

# **IOWA DOT** Smart Arrow Board Deployment Plan

January 26, 2020 summary update for ATSSA Convention in New Orleans



## **(DRAFT) New/Additional wording and Location in Iowa DOT Specifications:**

### **2528.N. Arrow Boards.**

#### **1) General:**

Furnish, place, operate, and maintain arrow boards at locations shown on the contract documents. Ensure all arrow boards meet the current requirements for a Type C arrow board described in the current edition of the MUTCD (Part 6) and Section XXXX (Materials Spec Section).

#### **2) Operation:**

Operate them in a sequential chevron mode when indicating a lane change.

#### **3) GPS capability and remote communications:**

If the arrow board is required in the contract documents for use on an Interstate route, starting with projects in the October 2020 letting, the arrow board must also meet the GPS capability and remote communications requirements stated in the document dated 8/14/2019 (Version 1.0)

<https://iowadot.gov/workzonereferencelibrary/docs/Smart-Arrow-Board-Deployment-Plan.pdf>

### **Testing and Configuration:**

The arrow board is manufactured by a company on the approved manufacturer's list in Materials I.M. XXX.XX (QPL) with an approved [Smart Arrow Board Protocol](#) (SABP). This can be found on the Iowa DOT's web page: <https://iowadot.gov/workzonereferencelibrary/docs/Smart-Arrow-Board-Deployment-Plan.pdf> dated 8/14/2019 (version 1.0). It will be used to submit to the Iowa DOT Specification Committee for final approval.

The approval requires:

- Arrow board should update SABP on pattern change within 2 minutes
- Device should update SABP if moved 500' within 2 minutes
- Device should provide a health check every 30 minutes
- SABP should contain all arrow boards that fall within the State of Iowa border including a 1 mile buffer. A map showing the border is available [here](#).

### **Proposed Testing Procedure:**

Step 1 – Make sure device is off and at the start location

Make sure it is off and the data feed represents this

Step 2 – Right Chevron

Turn the chevron to right and wait at least 5 minute so the data is archived

Step 3 – Left Chevron

Turn the chevron to left and wait at least 5 minute so the data is archived

Step 4 – Move 500'

Move the arrow board at least 500' (try to minimize as much as possible)

Step 5 – Wait 5 minutes after 1<sup>st</sup> move

Wait 5 minutes to see if the location is refined

Step 6 – Move 500' again

Move the arrow board again at least 500' (try to minimize as much as possible)

Step 7 – Wait 5 minutes after 2<sup>nd</sup> move

Wait 5 minutes to see if the location is refined

Step 8 – Right Chevron again

Change to right chevron to make sure the device location and information is updated

Step 9 – Wait 1 hour (if on roadway wait as long as possible)

Wait 1 hour to see how much the check-in occurs

Step 10 – Turn Device Off

Turn the device off and record information.