



Transportation Research Division



Technical Report 08-12

*Field Evaluation of Automated Flagger Assistance Devices
(AFADS)*

Final Report

December 2008

Transportation Research Division

Field Evaluation of Automated Flagger Assistance Devices (AFADS)

The AFAD units performed well. The crews expressed favorable comments on their experience with the devices. Cost savings and better utilization of staff were benefits cited by the crews.

Introduction

Maine Department of Transportation purchased 10 automated flagger assistance devices (AFADS) for use in the 2007 construction season on a trial basis. The goal of this trial was to determine how the units performed during normal maintenance operations at locations where temporary traffic control zones were necessary, and also to determine if more of these devices should be deployed by the Department. This report summarizes the comments and ratings from each of the five MaineDOT regions.

Costs

The total cost of the units was \$121,000 for all 10 units. One additional handheld transmitter was purchased for \$800. The units came with a 1 year warranty, and 24 hour on call technical support.

Field Deployment of the AFAD Units

Two units were assigned to each of the five MaineDOT Regions. The particular units that were purchased were manufactured by RC Flagman Inc. The choice of this model was based on a previous limited trial that was done the preceding year. The AFADS were used in accordance with provisions of the Manual on Uniform Traffic Control Devices, (MUTCD) “Technical Provisions for AFADS Revised 1/27/05”.

Results

After several months of experience using the units, work crews were asked to provide evaluation comments through a structured survey. Crews that used the units were asked to rate the units on performance, ease of use, ease of set up, public acceptance, safety, durability, and general satisfaction. The rating scale was from 1 to 5, where 5 was the highest and 1 being the lowest. The two tables below summarize the rating provided by the users.

Performance Category	Average User Ranking
Overall Satisfaction	4.5
Ease of Operation	4.5
Comparison to conventional flagging	4.7
Documentation/Users manual	4.2
Public Acceptance	4.2

Performance Category	Comments
Towing, set-up, or positioning	No problems reported
Consistent operation of unit	No problems reported
Remote handheld unit	No problems reported
Range of the Remote	No problems reported
Gate Arm	1 instance of breakage reported. The part was promptly replaced by the vendor.
Solar Panels & Batteries	No problems reported
Percentage of Users Recommending Buying More Units	100%

Overall, the AFADS were used for a combined total of approximately 1,472 hours on a total of 59 individual projects or temporary traffic control zones (TTC). They were used on both low and high volume roads. About half of the crews reported that they sometimes used them in single units rather than in tandem. In one case, an extra remote was purchased so that the two units could be used in separate work zones. This is an acceptable method of deployment provided that the work zone meets certain conditions in accordance with MUTCD “Technical Provisions for AFADS Revised 1/27/05”.

Some crews reported receiving very favorable comments from the public about the devices. There were only three instances where the signs were ignored by drivers. No crashes or adverse events resulted on any of the work zones.

Comments

The following comments were received during this evaluation.

They seem to work best on roads other than high volume high speed roads

I only use on low volume and good visibility but it helps free a man that we are very short of.

These units were used on high & low volume roads with great success.

The person that operates it needs to be in line of sight.

They are a cost saver, labor saver, and are a safer way to control traffic, as less people are in the traffic.

I'm glad to have had them to use...I would not been able to work without them this summer. I was short of help.

When 2 units are being used it takes a person out of harms way.

The crew liked them, they felt safer being out of the way of the traveling public.

This gives you another person to utilize within the crew. Also gets the flaggers out of traffic and in a safe location.

The crew likes them very much; have very little trouble getting someone to flag.

A very good investment.

We look forward to utilizing these units more next year.

We want to get more of them; other crews have expressed a desire to have some.

Conclusions

The AFAD units performed very well. They were well received by the crews and the general public. They were judged to be a good investment. The crews felt that they increased safety, reduced costs, and allowed available workers to be utilized more efficiently. MaineDOT should continue to expand the use of these units if funding is available.

Prepared by:

Reviewed By:

Bill Thompson
Transportation Planning Specialist
Maine Department of Transportation
16 State House Station
Augusta, Maine 04333-0016
Tel. 207-624-3277
e-mail: william.thompson@maine.gov

Dale Peabody
Transportation Research Engineer
Maine Department of Transportation
16 State House Station
Augusta, Maine 04333-0016
Tel. 207-624-3305
e-mail: dale.peabody@maine.gov