



navigation

- Main Page
- Projects
 - 3D Laser Scanning
 - Bridge Profiling
 - Cone Placement and Retrieval Vehicle
 - Crack Sealing
 - Fleet Management
 - GPS Automated Travel Diary
 - GPS Differential Signals
 - Litter and Debris Control
 - Mobile Snow Information System
 - Mountain Pass Road Opening
 - Roadside Inventory
 - Snow and Ice
 - Traffic Management System
 - Vegetation Control
 - Work Zone Barriers (Toolbox)
 - Other Projects
- News
 - News and Events
- Reports
 - Employee Safety
 - Homeland Security
 - Planning and Operational Efficiency
 - Roadsides
 - Roadways
 - Robotics
 - Winter Maintenance
 - Other / AHMCT
- Other
 - About AHMCT
 - People
 - Videos
 - Links
 - Documents
 - Work Zone Safety
 - Disclaimer
 - Site Map

search

Trip Notes on Mobile Barriers MBT-1

The following is an edited (for style) version of of an email sent by Robert Bosler, AHMCT, to Larry Orcutt, Caltrans DRI, describing a trip to evaluate the Mobile Barriers MBT-1 trailer.

Notes

Dan Delle and I visited Denver on June 16 to see the Colorado DOT Mobile Barrier. We did not visit the Mobile Barriers corporate site, just the CDOT yard. Our hosts were Kevin Groeneweg (Designer/CEO) and Walt Black (Marketing/former CDOT equipment manager). We did not talk with CDOT personnel.

Summary

Dan and I found the MBT-1 to be as described on the web site <http://www.mobilebarriers.com/>.

Dan and I feel that the MBT-1 Mobile Barriers can be a good candidate for evaluation by Caltrans for use as for short-term, mobile, positive protection of maintenance workers. We see its advantages as cost, length and depth of protection area, robust design, availability, and storage areas for equipment. Its disadvantages include time to reconfigure for left/right protection and overall length while on the highway traveling to a work site.

Direct Observations

First Look -- We saw a 60' foot configuration. This is much more impressive in reality than in pictures. This is a big, solid barrier with room for a pickup to easily drive into the protection area.

Engineering -- Dan and I felt the design was consistent, robust, and direct. For example, it uses bolts and thick pins to fasten sections rather than hydraulics or fasteners.

Positive Protection -- With lots of tire rubber on the road, the crash videos and assertions of a 6" bounce from a level 3 hit seem entirely believable.

Equipment storage -- The inside of the barrier consists of deep storage bins with room for all kinds of equipment. Dan felt that there was enough room to eliminate a separate equipment truck for many or most maintenance tasks.

Deployability -- The 60' configuration is a long-load, but it is deployed nightly by CDOT and seemed to Dan to be appropriate for highway use.

Details -- The fit and finish were excellent, and there were many well- thought out details. For example, there are stanchions for night lights positioned so that motorists see no direct light while workers have bright illumination on their tasks. For another example, the scorpion attenuator is fitted so that solar panels for the message sign recharge in the retracted position and the attenuator assembly does not vibrate in the wind when driving to a site. Also, the barrier height was just right to provide its own gawk screen: workers could see traffic while standing; motorists could not see the work being performed.

Assertions by Mobile Barriers personnel

Reconfiguration -- Before leaving a yard, you must know whether you want right or left side protection. Reconfiguration probably takes at least an hour, although shorter times were asserted.

Repair -- Close inspection of the crash videos and discussions with MB personnel suggest no

replacement of panels is needed after a Level 3 hit. The panels are modular and designed so that they can be replaced even after a hit deforms the connection areas. However, this feature is a trade-off with the reconfiguration process, because the robust design is what impedes quick reconfiguration.

Fabrication -- Barriers are manufactured by a subcontractor in North Dakota. We were assured of 3 week delivery of a complete system, and 1 week delivery of replacement panels and add-ons.

CDOT experience -- We were told that the MBT-1 has been rotated through many CDOT districts and tasks with positive comments. We had no way of confirming this.

Other

Attached are several pictures.

We have since learned that Joe Jeffrey of Road-Tech will be representing this product in California.

Pictures









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