In early March, we reported that the compulsory rear-view camera regulation originally scheduled for the end of 2011 was being delayed a second time and will be issued by Dec. 31.

The proposed rule, estimated to cost $2.7bn, was listed as one of the 5 most expensive pending U.S. regulations. Requiring backup cameras will add $58 to $203 to the cost of a vehicle. In 2010, NHTSA estimated the rule may save about 146 lives a year by improving drivers' rearward view. While the law doesn't explicitly require a rearview camera, no other technology currently meets the standard.

So, what is the best location for a backup camera display?

According to Ethan Lee, Systems Manager for Displays at Gentex Corporation, a recent study released by SAE found that the driver's ability to avoid a surprise rearward accident increased up to an average of 45 % in some cases by locating the rear camera display in the rear view mirror.

A study commissioned by Gentex and carried out by Exponent ran more than 70 people through a series of backing manoeuvres in vehicles equipped with backup cameras. The first vehicle was equipped with a 20-cm display in the centre console, the second with an 11-cm display located slightly higher in the centre console, and the third with an 8.4-cm display in the rear view mirror. A sophisticated eye-tracking system monitored each driver's eye movements during reversing tasks while a computer collected acceleration and brake-displacement data. During the final reversing task, a dynamic, surprise obstacle appeared in the vehicle's rearward path. The study found that those individuals driving a vehicle equipped with the mirror-integrated display (made by Gentex) had a high obstacle avoidance rate and a more natural scan pattern, spent more time utilising the display, had a higher percentage of productive glances to the display and mirrors, and reacted twice as fast in potential accident situations compared with those driving vehicles equipped with displays in the other locations.