The report describes the state of the art video equipment used and experiences gained from the 6,800 mile field test. The first objective of this project was to determine if laser disc equipment could capture and store usable roadway images while operating in a mobile environment. The second objective was to evaluate methods of using optical disc storage and retrieval features to enhance highway planning and design function.

Several highway departments have attempted to use video technology to replace the traditional 16 and 35mm film format used in photologging. These attempts have met with limited success because of the distortion caused by video technology not being capable of dealing with highway speeds. The distortion has caused many highway signs to be unreadable and, therefore, clients have labeled the technology unusable.

Two methods of using optical laser disc storage and retrieval have been successfully demonstrated by Wisconsin and Connecticut Departments of Transportation. Each method provides instantaneous retrieval and linking of images with other information. However, both methods gather the images using 35mm film techniques. The 35mm film image is then transferred to laser disc. Eliminating the film conversion to laser disc has potential for saving $4 to $5 per logging mile. In addition to a cost savings, the image would be available immediately as opposed to delays caused by film developing and transferring to laser disc.

In June and November of 1986 Iowa DOT staff and cooperating equipment suppliers demonstrated the concept of direct image capture. The results from these tests were promising and a FHWA Demonstration program established. Since 1986 technology advancements have been incorporated into the design that further improves the image quality originally demonstrated.