

A Sign of the Times



New tools help state agencies manage outdoor billboard compliance

BY YOGESH KHANDELWAL AND DAN LIGGETT

Advertising billboards, for better or worse, are part of the American landscape. Commonly seen from our many miles of interstates and national highways, outdoor billboards are considered an essential marketing tool for business. While some motorists find them informative and entertaining, others regard them as eyesores or unnecessary distractions from the nation's natural beauty.

ESTABLISHING EFFECTIVE CONTROL

As the usage and popularity of outdoor billboards began to escalate in the 1950's, the Federal government took action to create some basic parameters. Signed into law by President Eisenhower, the Federal-Aid Highway Act of 1958 was an incentive for states to establish control of outdoor advertising (ODA) within 660 feet of the right of way along interstates. States that complied received an additional one half of one percent of their interstate construction cost in return.

Whereas this legislation sought voluntary action, the next federal law made the controls mandatory and set punitive measures on states for noncompliance. Signed into law by President Johnson, the Highway Beautification Act (HBA) of 1965 required that states provide effective control of their billboards along both interstates and federal-aid primary routes within 660 feet of the edge of the right of way. With HBA's passage, ODA effective control regulations expanded to cover more than 265,000 highway miles.

Nearly 50 years later, the HBA has left an indelible mark on the appearance and maintenance of the national highway system, while significantly impacting the operations of the Department of Transportation (DOT) in each of the 50 states. It required states to enter into agreements with the U.S. DOT and develop detailed regulations to assure effective control was being maintained along all controlled routes. State laws prompted by HBA regulate virtually every aspect of ODA

programs along controlled routes, and the law continues to have ramifications on the nation's highway system.

THE COST OF COMPLIANCE

The financial stakes of HBA compliance are high. States that don't maintain effective control could lose 10 percent of their annual allotment of federal highway funds, which can amount to millions of dollars. Yet operating an effective ODA program can be complex and expensive. The cost needed for personnel, travel and equipment can add up quickly. Some DOTs have established offices and entire departments to manage the process. The cost of overseeing the program and maintaining accurate records can soar into the millions.

Effective control must include size, lighting and spacing of billboards based on customary use as determined by each state. The scope of those state laws varies, leading to inconsistency. For example, the maximum size for sign facing might be 1,200 square feet in one state and 642 square feet in another.

We spoke with Clyde Johnson, a 30-year industry veteran who developed the Federal Highway Administration (FHWA) Outdoor Advertising Effective Control Workshop and teaches it nationwide. "Maintaining effective control with limited resources can create an administrative burden for some states, which results in increased program costs," Clyde said.

The original intent of a state's HBA permit system was to allow states to charge enough for each permit and renewal to cover the cost of administering the statewide program. In 2009, Clyde conducted the Outdoor Advertising Sign Regulation Study, which included a comprehensive analysis of state practices and control measures. Clyde's research found that the cost of permits and renewals has not been increased in most states to offset the administrative cost of maintaining effective control. Additional funding is needed, but ODA control is generally not a top priority. His research also showed

that DOT personnel overseeing the programs typically have other responsibilities, and agencies would rather allocate their limited funds on road improvements rather than addressing ODA issues. Figure 1 shows a comparison of the volume and budgets managed by six DOTs.

MANAGING MORE WITH LESS

Only recently have technological advances become available to help DOTs meet their state's requirements. Faced with limited budgets and staffs, more DOTs are implementing these advances to achieve greater program efficiency.

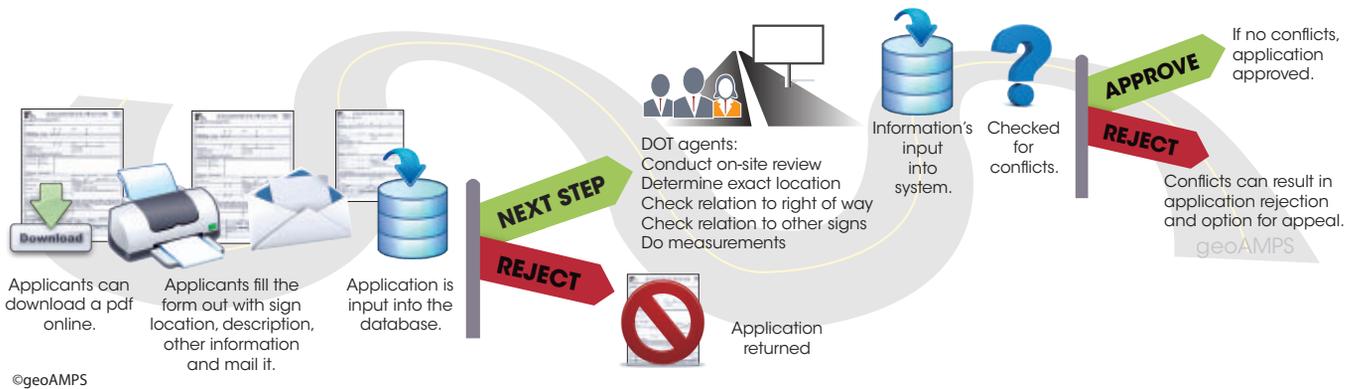
Use of technology has begun helping DOTs to fill these funding and manpower gaps, thereby lessening the administrative burden. States are able to become more advanced in their recordkeeping and managing their inventory. They are going out on the road with a laptop and using GPS and other innovations to produce a database of their ODA inventories. Clyde says that this is a relatively new development, as it was only about five years ago that state DOTs were still monitoring information on each sign using paper-based forms, which they attached to a corresponding billboard photo. Today, a number of DOTs maintain an internal database to keep records on each sign, and some are implementing more advanced solutions.

Jason Probst, Public Information Officer for the California Department of Transportation (Caltrans), says they use new ODA surveying equipment with Global Positioning System (GPS) capabilities, as well as laser-pointers to measure sign dimensions. Even so, it's a challenging task for Caltrans to track billboards along 22,000 highway miles with limited staff and an annual budget of roughly \$1.2 million, which includes equipment and travel. "We need an appropriate balance between areas of control and available resources. Our primary challenges are in enforcement and maintaining the right staffing levels," said Jason.

Figure 1: A comparison of ODA programs and budgets in six states.

State	Highway Miles Monitored	Permits	Staff	Budget
California Department of Transportation	22,000 miles	10,000 permits	6 inspectors, 3 office staff	\$1.2 million
Delaware Department of Transportation	4,480 miles	1,721 permits	5 staff	\$500,000
Florida Department of Transportation	12,000 miles	17,000 active permits	14-16 staff	\$1.3 million
Indiana Department of Transportation	4,325 miles	357 permits (2012)	approx. 25 staff	Varies by district
Iowa Department of Transportation	9,400 miles	3,500 permits	8 staff	\$500,000
Oregon Department of Transportation	approx. 8,620 miles	2,379 permits	3 staff	\$378,000

Figure 2: An example of the permit application review process for new outdoor advertising.



Florida DOT operates its program on a \$1.3 million budget, and by statute, the agency is required to recoup the cost of its billboard control program with permit fees. It has issued 30,000 permits since the inception of its Outdoor Advertising Control Program, with more than 17,000 currently active. They employ 10 people, including field inspectors, with others staffed through an engineering contractor to conduct ODA inventories. The agency is charged with tracking billboards over 12,000 interstate, federal-aid primary and national highway miles.

Rob Jessee is Manager of Outdoor Advertising Control for the Florida DOT, which uses a complex relational database to track applications, permits, sign violations and field work. “DOTs generally do not limit application reviews to office work and on-site inspections are routine. If all you’re doing is looking at a computer screen, you’re going to miss something,” said Rob. “Without current technology, our centralized program would be difficult to operate. As technology changes, it is imperative that our staff be flexible enough to implement new ideas, rethink processes and strive to be as efficient as possible.”

The Delaware DOT is tasked with tracking billboards along 4,480 miles on a budget of roughly \$500,000. With a staff who divides their time between ODA and right of way issues, the agency is currently testing a new web-based, centralized software system. According to Jeff Leonard, Outdoor Advertising and Roadway Control Manager, “A centralized system would ensure all our employees are working on the same system and following the same process. It would not only improve workflow, it would enable staff to access information through mobile devices while in the field.”

STREAMLINING THE PROCESS

Substantial public resources go into processing sign applications, and even more staff time is required for renewal of existing sign permits and inventorying and patrolling ODA. In a number of states, applicants must fill out and mail the application, and in turn, DOT staff inputs the information into a database, or processes and files the paper copy. Processing one new permit application can exceed three hours of in-house personnel time, depending on discrepancies in the application (see Figure 2). Complicating matters for DOTs is the federal Moving Ahead for Progress in the 21st Century (MAP-21) program. It is expected to add control miles to the national highway system, but without the prospect of additional funding.

Efficiencies can be realized with a web-based, centralized system that supports online submission and download of documentation. Software with built-in automation offers an end-to-end solution from application submission to the agency’s decision. It can also enhance the quality of information and make on-site reviews more efficient with mobile devices that access the agency’s software system.

REAL-TIME FEEDBACK

Having experienced benefits from using technology, the Florida DOT is now planning to implement an online application submission system where staff can make an initial review of information like square footage, height, estimated location and other special specifications, such as lighting. Working from the state’s ODA regulations, the software can bring attention to details in the application which may not

pass legal muster, while reducing the amount of staff time spent on non-conforming applications.

Figure 3 shows how DOT staff can do on-site analysis and receive feedback in real time. Photos taken on site can be uploaded into a case file in the software. Field inspector notes about topography, land use, buildings, or distances from other ODA or the nearest intersection or interchange can be added instantly. The use of voice-to-text can greatly reduce the amount of time spent preparing field notes.

Consider, for example, a new ODA application in Oregon. The state's application requires the applicant provide details about location, square footage, height and more. It even asks for a sketch of the proposed sign. An inspector can use technology on-site to analyze the proposed location and get real-time feedback on the closest sign in any direction. With a mobile device, a user can check and upload details like topography, vegetation and distance from the nearest interchange or intersection. Using location-based spatial analysis, the inspector can determine the exact location at which the sign should be placed to achieve compliance with the state's minimum proximity of 2,000 feet to existing billboards in rural areas.

For example, a proposed billboard along a stretch of Oregon interstate highway is 2,200 feet from one sign and 1,800 feet from another. Using a mobile device with mapping software, the agent can "move" the sign 200 feet and upload the modified location, along with notes on the necessary action, into the case file stored in the software. The applicant could agree to the new location or withdraw the application. See Figure 4.

KEEPING RECORDS

Recordkeeping of previous inquiries about specific locations for billboards varies from state to state. Many utilize a database, while others still rely on the memory of its staff. Not having a centralized system of previous applications and inquiries for the same location causes unnecessary work which can easily be avoided.

"Some states will issue a permit at a specific location and give the applicant a limited time to erect a sign," Clyde said. "If no sign goes up, the permit is pulled and the applicant can't apply for another permit at that location for a certain amount of time. Yet, other applicants can request a permit for that location."

Systems can be configured to have these types of checks built into the process and present users with information on previous inquiries. Location-specific searches can be accomplished



Figure 3: With web-based software, DOT staff can use mobile devices for on-site analysis of permit applications and receive feedback in real time.

quickly, providing access to records on decisions made on previous inquiries and applications, as well as the proximity of existing ODA.

DOTs maintain information on active permits in a database, but the effectiveness of each system varies with age and capabilities. The quality of information also depends on the timely updates of permit information. DOTs typically rely on each permit holder to keep the agency notified of any changes of information. Some DOTs require notification in writing within 30 days of a change of name and/or address. Absent such notification, permit revocation action can follow.

The majority of states also process sign renewals. Many of these are processed annually at a designated time of year or individually on the anniversary of when the permit was originally approved. In the second instance, the agency can be peppered with renewals throughout the year, and the volume can cause significant challenges. The processing time can increase significantly if there is no response to the agency's renewal notice, which means the DOT must contact the landowner, obtain information and, worst case, start action to have the sign removed.

Software can automate the entire process. Once the information is input, including the sign owner, history, cost, billing address and renewal date, DOT staff can generate the permit renewal information automatically. Invoices can be mailed or sent online, depending on requirements and preferences, and the software can also track payments.

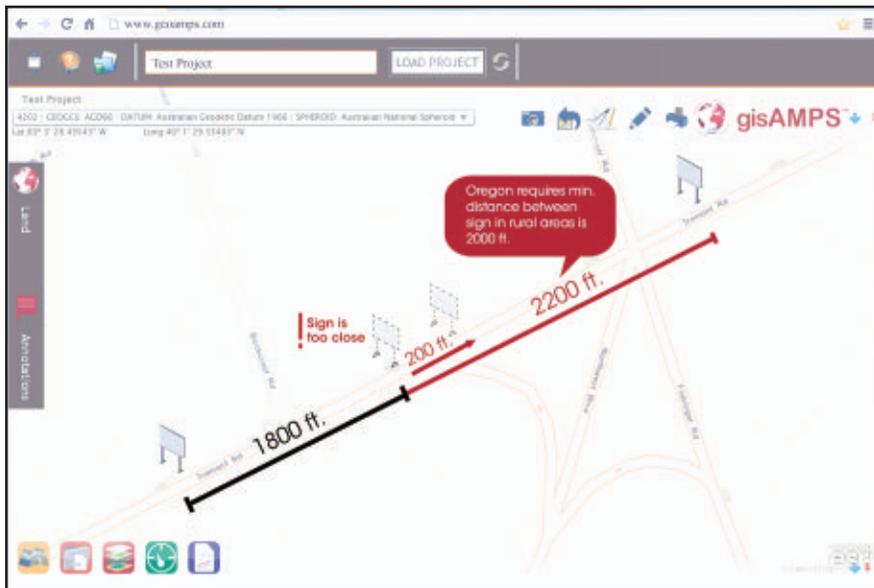


Figure 4: Using mapping software, a DOT inspector in the field can “move” a proposed billboard so it can meet state requirements.

When a DOT is at the point of adopting software to increase the efficiency and effectiveness of its ODA program, selecting the best system is definitely not a “one size fits all” proposition. Due to wide disparity among states regarding ODA requirements, number of affected miles, staff and budgets, it is important to contract with a provider that can customize the software solution to meet each state’s specific requirements, while offering the flexibility to adapt to changes in regulations and meet other future needs.

A NATIONAL INVENTORY

Manpower and resources are concerns DOTs share in conducting regular, accurate ODA inventories. Clyde projects that less than 50 percent of states have a complete, up-to-date inventory that includes identification of all conforming and non-conforming signs together with a program to expeditiously remove illegal signs. Again, it comes back to personnel and resources dedicated to the program. The FHWA has not required a national inventory of ODA in a number of years, but some believe it should. In a 2009 report to the American Association of State Highway Transportation Officials subcommittee of the National Transportation Research Board, findings included some less than stellar statistics on the frequency of ODA inventories done by state DOTs. As of 2009, nine states reported the last inventory dating back three to 38 years. Only 15 states reported doing an annual sign inventory.

The same software used for on-site reviews of new applications can also be used for regular inventories. With mobile devices and other tools, inspectors can check the signage seen from the roadway against the web-based system. The inspector can learn instantaneously whether a new sign was erected according to required specifications. Using these tools, the DOT staff can inventory ODA along many miles of applicable highways in an efficient manner. Unauthorized or illegal signs can be identified, and their location and photos can be shared electronically with agency officials for possible enforcement action, including removal. Such information is critical in the preparation of reports required by FHWA officials conducting what the federal agency calls a “process review” of a state’s ODA program. The outcome of such a review can reaffirm the state’s ongoing compliance with ODA requirements or put a multi-million-dollar scare into a state’s transportation budget.

CONCLUSION

With fiscal austerity pressures building at all levels of government, new technology could be the answer to taxpayers’ demands that more be done with less. In the case of complying with HBA, fortunately there are technological solutions for state DOTs charged with striking the balance between meeting the needs of our consumer-based economy and maintaining the natural wonders as seen from our national highway system.

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