Real-time Mobile Travel Map Helps Drivers Navigate State Highways

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Executive Summary

IDriveArkansas.com is a cloud-based interactive map developed by the Arkansas State Highway and Transportation Department (AHTD) that presents real-time highway travel and weather conditions, and helps drivers make informed decisions about navigating the roads. Anyone with a mobile device, laptop or desktop computer can use IDriveArkansas to get an overall understanding of what is happening on the highways.

The map is a unique combination of data provided by AHTD and pulled from open source products. At a glance, IDriveArkansas shows Arkansas highway construction zones and timelines for project completion. Highways are color-coded to show traffic flow and a weather radar overlay helps drivers see the impact of storms on traffic. Alternate routes, current road conditions, winter weather, welcome centers and rest areas, weight-restricted bridges and commuter lots are other layers of data available to drivers.

Arkansans enjoy going to one convenient place for highway travel and construction information. Analytics data indicate that drivers check IDriveArkansas often, especially during winter weather outbreaks as traffic spikes occur on dates of snow and ice storms. Hosting in the Amazon Web Services cloud enables IDriveArkansas to scale up automatically to support peak usage. More than 1.9 million unique visitors—roughly 80% of all licensed Arkansas drivers—have used IDriveArkansas.com launching more than 5.3 million sessions.

Enhancements have transformed the application into a communications platform that automatically sends emails and tweets to stakeholders (media, state police, etc.) regarding route and facility closures, winter weather outbreaks and other events set by AHTD.

Concept

IDriveArkansas was designed to provide Arkansas motorists with a convenient way to check current road conditions, view highway construction zone locations and other relevant information a motorist would need from any mobile or desktop device. While drivers can find some of this information in various locations and formats on the Internet, IDriveArkansas is the only mobile-optimized website that pulls it all together in one convenient place.

A major problem for Arkansas motorists each winter is determining whether snow- and ice-covered roads are passable, and if not, planning alternate routes. A winter weather feature enhancement allows drivers to see real-time road conditions and precipitation from November to April. AHTD maintenance crews who are on the scene clearing roads during winter weather update these conditions at least every three hours from mobile admin tools. This is critical information that only AHTD can provide, and before IDrive it was not readily available to the public. Also before IDrive, AHTD relied on media outlets to broadcast construction information and published on its website PDF road maps that showed highway construction zones.

IDriveArkansas has been marketed to Arkansas motorists through coordinated, multi-channel communications that urge drivers to "Travel Smart, Travel Safe" by checking IDriveArkansas.com for current road conditions:

- Preliminary debut and public hands-on demos at Arkansas State Fair in early October 2013. More than 320,000 Arkansans attended the fair, which is one of the largest events in the state.
- Press release announcing site launch and aggressive media pitching that resulted in coverage on several TV and radio news stations, and stories in statewide and local newspapers.
- Publication in November 2013 issue of *Arkansas Highways* magazine
- Continuous media pitching during periods with increased highway traffic including holidays, inclement weather and announcements of new highway construction projects.
- Inclusion in all AHTD press releases and public communication as the recommended way to view highway construction projects and current traffic conditions.
- Promotion on AHTD's website, ArkansasHighways.com. More than 66% of all new users are referred from ArkansasHighways.com.
- IDriveArkansas billboards on highways throughout the state.
- Targeted, rich media advertising on Pandora Internet Radio

- Public service announcements aired throughout Arkansas on local television and radio networks
- Social media promotion on AHTD's Twitter account and on the social media accounts of partner agencies including Arkansas.gov, Arkansas State Police Department, Arkansas Department of Parks & Tourism, Arkansas Department of Health, Arkansas Department of Health & Human Services and others, especially during extreme weather incidents. More than 5% of new visitors are referred from social media posts.
- Search engine optimization for relevant keyword phrases including "Arkansas traffic," "Arkansas road conditions," "Arkansas road map" and "Arkansas highway construction." IDriveArkansas.com appears within the first page of Google search results for these and other highly popular search terms that each return more than 35 million results.

Significance

Arkansas motorists, citizens who use Arkansas roads, AHTD and many other state agencies benefit from the use of IDriveArkansas.

First and foremost, Arkansas motorists are using it as a tool to help them drive smarter by enabling them to view real-time road conditions and plan safer travel routes. This brings the potential to reduce vehicle accidents, injuries and deaths on Arkansas roadways, and alleviate traffic jams as drivers know to avoid high volume areas. These benefits are amplified to all citizens who use Arkansas roads, and will continue to be realized as more motorists use IDriveArkansas regularly to check road conditions before they drive.

The Arkansas State Highway Transportation Department has improved its level of customer service through IDriveArkansas. Public information office employees no longer rely on the media to be the primary messenger of construction updates. The responsive website empowers them to deliver the right information to the right people on the right device at the right time.

Several other state agencies benefit from the use of IDriveArkansas, particularly Arkansas Department of Parks and Tourism and the Arkansas State Police. Tourists use it as a tool for conducting research and planning driving routes around Arkansas construction zones, making it easier for them to visit the Arkansas and boost the state's economy. IDriveArkansas has proven to be a critical safety tool for Arkansas State Police Department troopers and local police

officers that use it to view real-time traffic flow and construction locations while serving citizens.

The application is hosted in the Amazon Web Services cloud and maintained by the network manager for the state of Arkansas, and benefits from the accessibility, security and privacy policies that are stand for Arkansas state information technology.

IDriveArkansas is the result of coordination between several state agencies and commissions that have a stake in state highway activity, and includes relevant features that help those organizations achieve their missions. For example, the Keep Arkansas Beautiful Commission receives reports of litter submitted through an IDriveArkansas feedback form. Locations of Arkansas Department of Parks and Tourism Welcome Centers and Rest Areas are plotted on the map to help encourage their use. This cross-agency collaboration is an innovative approach to getting the most out of government-funded projects.

IDriveArkansas cost $97,091 to develop in its first release, which included 1,142 hours of development and project management time. The actual project cost was 14% less than the amount AHTD budgeted for the project.

Impact

The Arkansas State Highway & Transportation Department's service level in communicating critical construction zone information has dramatically improved since the launch of IDriveArkansas.

The application saves motorists a significant amount of time by gathering data from multiple sources on the Web and presenting it on one mobile-friendly map. To get all the information IDriveArkansas provides at a glance, a driver would need to download several apps and study dozens of construction route PDFs. That could take 30 minutes or more each time a driver wanted to know what the traffic, construction and weather conditions were like around the state.

Before IDrive, AHTD relied on media outlets to broadcast construction information and published on its website PDF road maps that showed highway construction zones. In a world where GPS-enabled smartphones give drivers turn-by-turn directions from one place to the next, this was not how citizens wanted to find and view construction zones. More families in Arkansas have abandoned their landline Internet connections in favor of wireless and mobile access than anywhere in the country. According to a recent CDC study, more than 35% of adults and 46% of children in Arkansas live in families with only

wireless phone service. Arkansans have come to expect and demand information that is designed for consumption on mobile devices, and that's especially true of road maps.

The department is able to monitor winter weather clearing efforts in real time with the highway crews updating conditions through an admin tool. This helps the state plan for future snow and ice removal equipment and plan route clearing schedules. Using IDriveArkanasas, department personnel can quickly determine when primary routes are cleared and provide public information about secondary and tertiary routes as needed.

The projected usage rate within the first two years was 100,000 unique users. The current adoption rate is 80% of the eligible population based on more than 1.9 million unique visitors to the website from October 2013 to April 2016. Adoption has far exceeded the usage goal within its first two years of use.

Users are also highly engaged as 64% are returning visitors--a 10% increase over the previous year--with an average session duration of 00:02:11.

Aggressive marketing, useful information, high availability during peak usage times, website usability and mobile-optimized design all contribute to the high adoption and engagement rates.