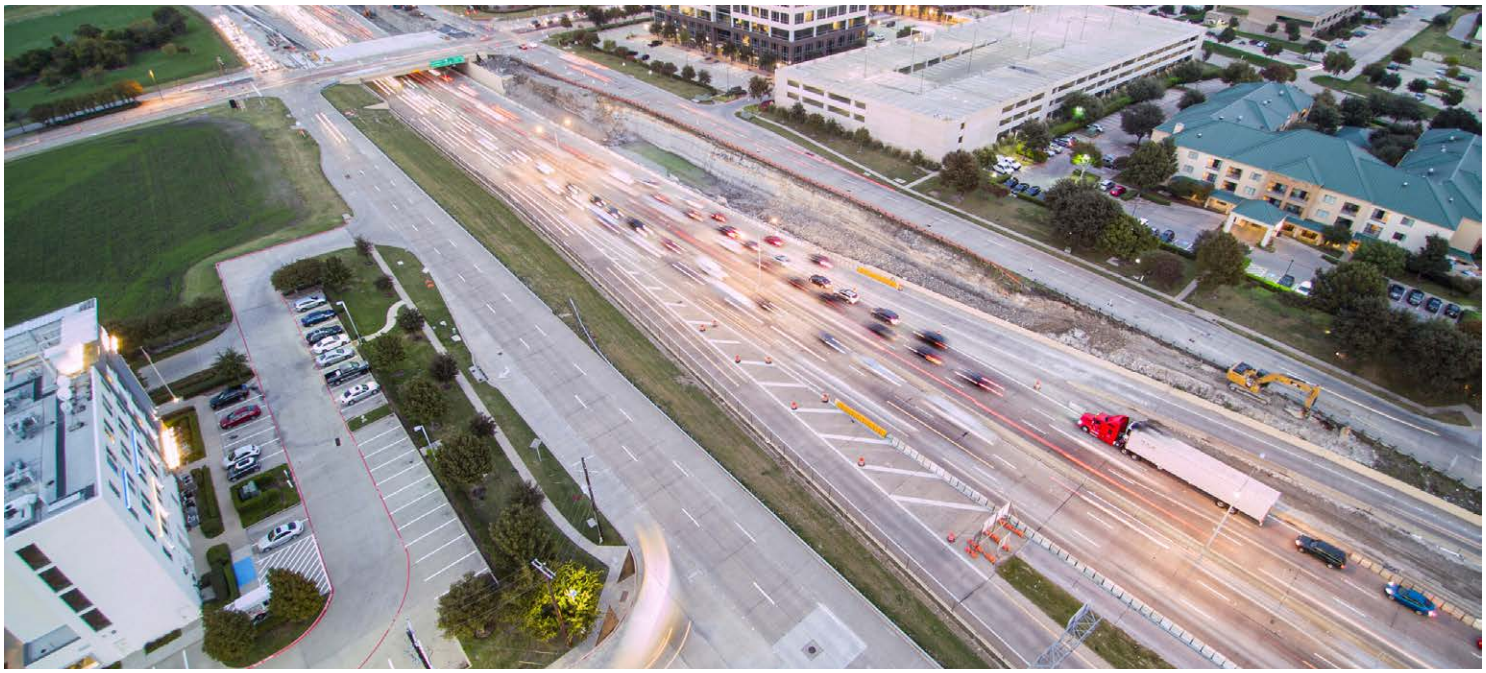
Case study



City of Plano Saves USD 500,000 in Road Maintenance

Blyncsy's automated AI-powered data collection and analysis makes road maintenance safer and more efficient

Making a busy road less dangerous

Road maintenance is a costly and labor-intensive task that requires significant, continuous investment. However, in the United States, state and federal agencies aren't always keeping up. According to the American Society of Civil Engineers, there is a USD 2.6 trillion investment gap in America's infrastructure over a 10-year period. This shortfall is due in part to the high cost of manual labor required for road maintenance, which can account for up to 50% of the cost of road repairs.

The city of Plano's transportation engineering division is responsible for maintaining roads in the Texas city and must often take action to ensure the safety of motorists. Recently, they received complaints and requests from multiple citizens about safety concerns and speeding along the Los Rios Boulevard corridor from 14th Street to Parker Road. As a result, the city of Plano determined that they should conduct a traffic safety audit to investigate and identify traffic safety issues, as well as develop solutions.

A slow and time-consuming process

To assess the condition of roads and determine what maintenance and repair activities are necessary, the city of Plano's usual process was to undertake manual surveys, which are time-consuming and require significant resources. This approach to fixing roads through frequent vehicle-based inspections also increases the carbon footprint of road maintenance operations. Additionally, these surveys bring a significant risk of liability for agencies, as sending out employees to analyze roadways puts both drivers and employees at risk.

Still, the city of Plano had a responsibility to serve the public and ensure the corridor was operating in a safe and efficient manner while complying with codes and standards. Five pairs of engineers conducted a visual survey of the four-mile road section, then shared their findings for internal discussion and created work orders to fix the identified issues. Each pair of engineers had to drive back and forth along the four mile stretch several times to survey the entire road properly. During the process, officials wondered if an automated, AI-based survey of the same area could truly produce accurate results while saving time and keeping workers safe.

Manual versus automated

Officials decided the Los Rios Boulevard project would be a perfect opportunity to compare the results of the manual survey with an

Project summary

Organization

The City of Plano

Solution

Roads and Highways

Location

Plano, Texas, United States

Project playbook

Blyncsy™

Project objectives

- The city of Plano's transportation engineering division learned of safety concerns and speeding along the Los Rios Boulevard corridor from 14th Street to Parker Road.
- Officials decided that this project would be a perfect opportunity to compare the results of the manual survey with an automated survey carried out with Blyncsy.
- Five pairs of engineers conducted a visual survey of the four-mile road section while the city also harnessed Blyncsy's crowdsourced dashcam imagery from over 400,000 vehicles nationwide.

ROI

- In those four miles, Blyncsy saved the city of Plano 20 resource hours, USD 1,304, and 450 pounds of carbon emissions.
- The potential savings of using the application were calculated to be USD 475,238.
- The city also determined that Blyncsy costs 90% less than surveying the traditional way.

> “Blyncsy’s inventory and detection capabilities have the potential to be really powerful when used on a wide scale to identify issues like streetlight outages and other potential safety concerns.”
>
> -Chad Ostrander, Senior Traffic Engineer, City of Plano’s Transportation Engineering Division

automated survey carried out with Blyncsy by Bentley. The city of Plano harnessed Blyncsy’s crowdsourced dashcam imagery, a database compiled from dashcams on over 1.5 million vehicles nationwide, selecting images from the four-mile roadway. They also conducted manual surveys of the same area for data comparison.

Next, they used Blyncsy to analyze the collected imagery using machine learning algorithms. As a result, they could identify signs, sidewalks, striping, crosswalks, light outages, and encroaching vegetation, giving the city of Plano deeper insight into the current state of their road system.

The city of Plano chose to compare the results of the manual survey with an automated survey carried out with Blyncsy.

Smarter use of resources

When compared to manual surveys, Blyncsy identified seven of the same maintenance issues, but it did it faster, more efficiently, and—most importantly—safer. In those four miles surveyed, Blyncsy saved the city of Plano 20 resource hours, USD 1,304, and 450 pounds of carbon emissions. Considering that the city has many miles of roads running it, the potential savings are USD 475,238. The city also determined that Blyncsy costs 90% less than surveying the traditional way. As for safety, the application reduces risk not just for surveyors, but also for drivers, pedestrians, and bicyclists. With the application, the city is also able to ensure improved lighting and better crosswalks in the area.

The city understands that manual surveys will always be needed for engineering judgment, making decisions, and developing solutions. However, for regular maintenance and less complex needs, the team found that Blyncsy was an ideal solution, allowing them to focus their energy on the more meaningful work. Moving forward, the city is excited to continue using the application for future projects.

In only four miles, Blyncsy saved the city of Plano 20 resource hours, USD 1,304, and 450 pounds of carbon emissions.

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