

Improving Access to Transportation with Data and Analytics

A major state transportation department partnered with Syntasa to improve transportation access for North Carolina residents. By leveraging data sources that reflect travel patterns and resident feedback, along with advanced analytics, AI, and ML, they gained deeper insights into transportation needs across the state. This allowed them to make more informed decisions and enhance transportation services.

BACKGROUND

The transportation department is responsible for managing the state's transportation infrastructure, which includes roads, highways, and public transit systems. Their mission is to improve transportation accessibility and efficiency across the state.

Recognizing the value of data-driven decision-making, this agency sought to use advanced analytics to better understand citizen needs and improve service delivery.



CHALLENGES

Despite its essential role, the transportation department faced numerous challenges in fulfilling its mission effectively. One of the agency's biggest challenges was ensuring that all residents, especially those in rural and isolated areas with limited transportation options, had a voice in transportation planning and decision-making.

Public comments from the Public Engagement Hub provided limited insights and did not provide the detail needed to prioritize resources and outreach efforts effectively.

When looking at data at the county level, certain needs were overshadowed by broader regional trends. To address this, they needed a way to ensure all residents could provide input, making their perspectives a key factor in transportation planning.

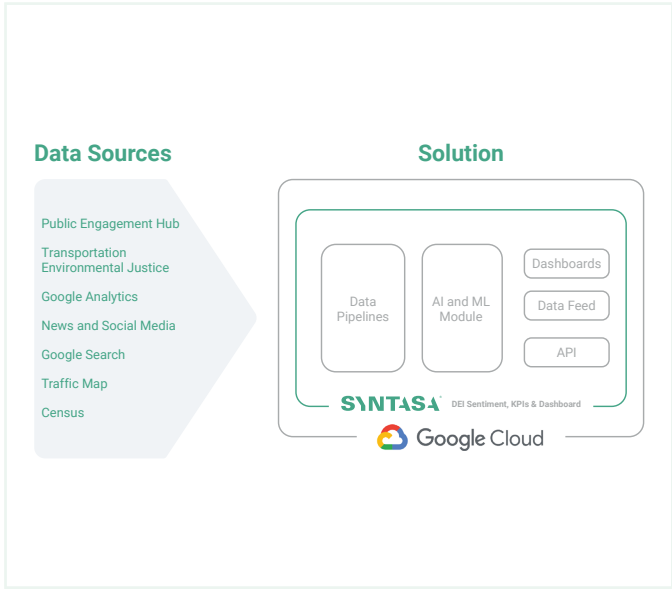
Key Points

- This major transportation department used behavioral data to shine the light on communities with limited access to transportation.
- Syntasa's Behavioral Sentiment Analytics solution provided a deeper understanding of citizen voices and fostered effective planning.
- Comprehensive data integrations and Looker dashboards enabled insights into access to transportation and citizen needs.

SOLUTION

In collaboration with the transportation department, Syntasa and Google played a pivotal role in addressing the transportation agency's challenges and driving impactful results. Syntasa's Behavioral Sentiment Analytics solution accelerated the development of a robust data hub within the Google Cloud Platform (GCP), enabling seamless integration of a wide variety of data sources (including websites, social media, news, search, and public comments) to inform decision-making. Combining outcome data with behavioral data enabled the transportation department to highlight transportation access gaps and discern citizen needs. Advanced AI and ML algorithms provided deeper insights into citizen voices, particularly from communities with limited access to transportation, and empowered the transportation department to tailor their initiatives accordingly.

Additionally, website analytics data, alongside demographic and geographic information, identified communities that have not been reached effectively with digital efforts and pinpointed areas requiring targeted outreach efforts, improving engagement with those communities. Integrating Google search data enabled a more timely understanding of community needs and emerging transportation access gaps, empowering the transportation department to respond swiftly to evolving needs and align transportation planning initiatives with community priorities.



TECHNOLOGY

The transportation department utilized cutting-edge technologies to support its data analytics initiatives. The Google Cloud Platform (GCP) served as its data infrastructure backbone, offering scalable and secure storage, processing, and analysis capabilities. Syntasa's Behavioral Sentiment Analytics Solution seamlessly utilized GCP services like BigQuery and Vertex AI to analyze data, enabling the transportation department to derive actionable insights from diverse datasets.



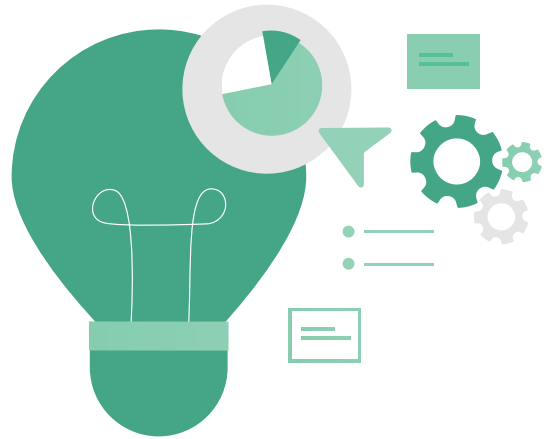
Google's industry-leading data analytics capabilities enabled the transportation department to perform complex data transformations and extract meaningful insights at scale, uncovering hidden patterns and trends within their data. Looker served as the primary interface for stakeholders and provided intuitive and actionable visualizations of transportation access gaps, community sentiment, and the impact of transportation decisions on public opinion.

/// Case Study

LOOKING AHEAD

By propelling a culture of data-driven decision-making and collaboration, the transportation department aims to increase transparency and accountability in the state's transportation system. Realizing the value that AI and machine learning have provided in this project, the transportation department aims to make greater use of the technology to improve their services further.

In addition to improving access to transportation for all citizens, they plan to explore the latest developments in Generative AI to address evolving equity challenges with their workforce and vendors. Through partnerships with communities, workers, vendors, and policymakers, they seek to establish a transportation network that meets the needs of all citizens within the state. As they continue to innovate, they remain committed to using technology to improve society and lead positive change in transportation.



SYNTASA®

Syntasa are digital behavior experts. Our no-code, low-code, pro-code application orchestrates cloud-native services and leverages the latest advances in AI and machine learning to gain insights from digital behavior and activate those insights autonomously. In the public sector, we analyze digital behavior and conversation within the community to get insights into needs and attitudes, as well as improve the experience of digital services.