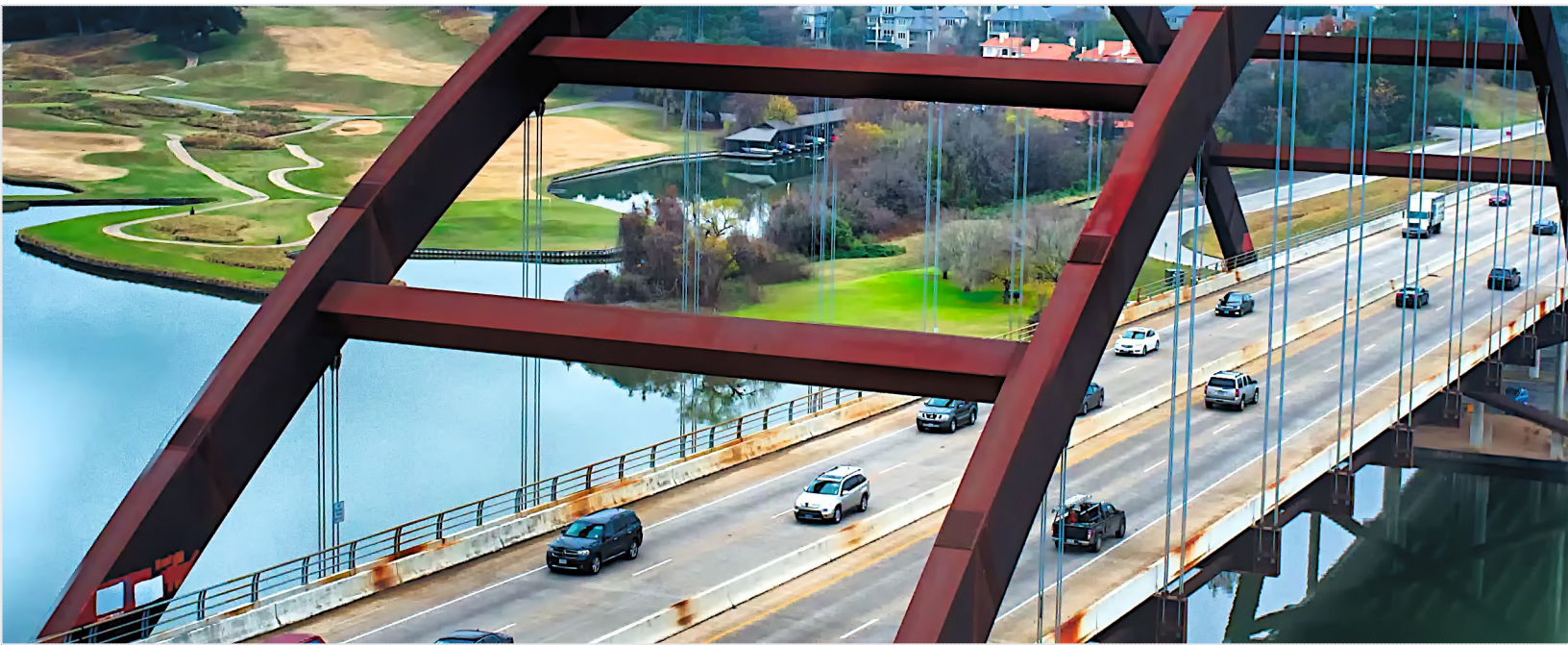




Case Study: Roadway Signal Analytics Inform Austin's COVID-19 Traffic Decisions



Austin's Mobility Management Center uses INRIX to flip the switch on COVID-19 signal timing for Slaughter Lane.

The Challenge

The City of Austin has 33 critical corridors, 1,000 signals and 600 + cameras. Austin's Mobility Management Center (MMC) is operated by signals expert and consultant Kimley-Horn. Kimley-Horn uses INRIX IQ to track and manage corridor and intersection flow.

COVID-19 affected traffic decisions in Austin's MMC at the end of March. In a matter of days, hundreds of thousands of trips disappeared. Seeing no need for an AM/PM peak signal pattern, Austin, like many cities in America, adjusted timings to accommodate reduced traffic volume and altered traffic patterns.

Over the next six months, traffic engineers tracked city and state COVID-19 decisions: closed schools, closed restaurants, and growing unemployment. Closures aligned precisely with corridor volumes.

TEXAS COVID Timeline

March 6: SXSW cancelled

March 11: Texas schools go on-line

March 13: Governor Abbott declares statewide emergency

March 19: All Texas bars and restaurants close

March 29: Texans applying for unemployment jumps 860%

March 31: Schools ordered closed until May 4

May: Some bars and restaurants reopen

The Analysis

The dynamic and unpredictable COVID-19 traffic changes were a perfect test case to spot and manage incremental changes on individual corridors and see the effectiveness of each intersection without driving into the field with a clipboard.

Each week, traffic engineers routinely remotely reviewed each of the 33 critical corridors. As part of that process, INRIX Probe Data showed travel times slowly increasing on Slaughter Lane and approaching pre-pandemic levels.

They reviewed the Aug. 30, 2020 data, compared it to Aug. 30, 2019, and saw a bump in travel time. It was clear. The COVID free-flow pattern was no longer working.

Results

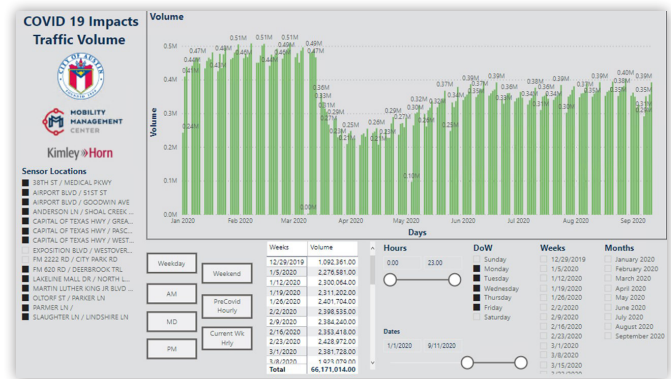
With this data, Kimley-Horn's engineers put the PM peak timing plan in place, then verified using three separate tools: CCTV, INRIX Travel Times, and Signal Analytics. "INRIX provides signal level metrics like delay and split failures that we cannot get from probe data analytics," Lance Ballard, P.E., Kimley-Horn traffic engineer.

A week later, travel times through the same corridor, compared to 2019 travel times - congestion bump gone. It worked. They verified a week later to confirm the decision, and the data showed improvement.

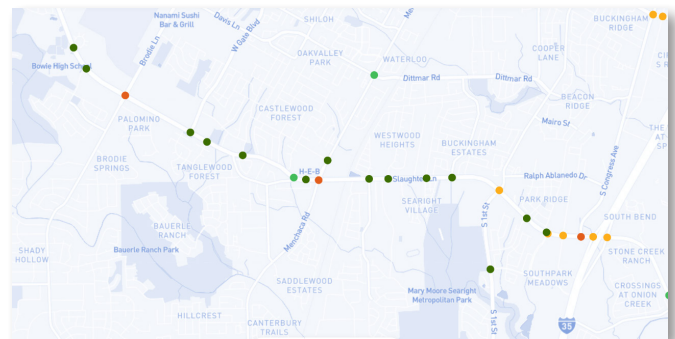
The Future: Signal Analytics on All Corridors

Each corridor will be analyzed by the flow at each signal to maximize throughput, detect anomalies, and identify opportunities. It can be done without field visits and on a regular cadence. Because post-COVID-19 traffic patterns shift constantly, this tool is the right tool for the right time.

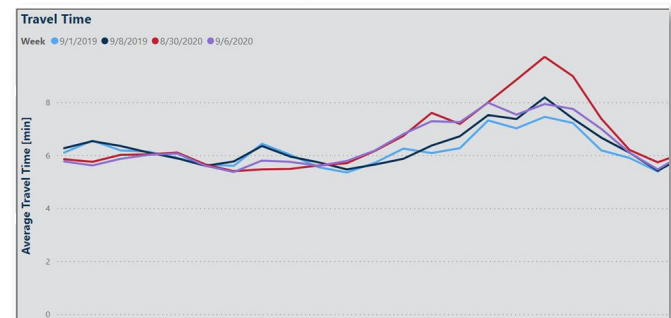
Signal Analytics is a game-changing break-through in signal and segment management. It is not hardware and requires no installation. Using a floating car data (FCD) platform and grabbing billions of anonymous data points, Signal Analytics uses sample vehicles with waypoints every three to five seconds on approach and as vehicles leave each intersection.



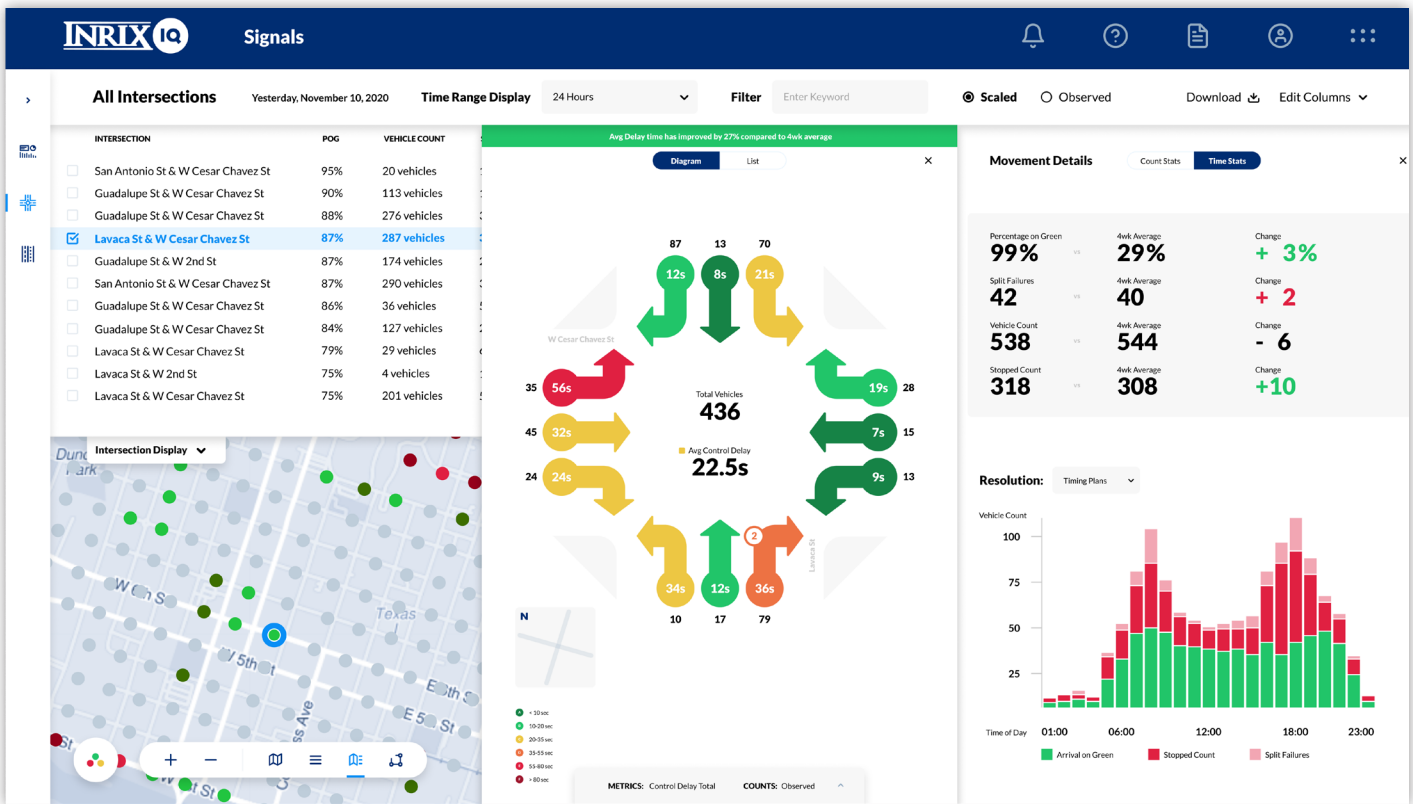
Traffic volume change by month on the 33 critical commute corridors



Signals along slaughter lane from Austin



Aug. 30, 2020 (Red), Sept. 1, 2019 (Light Blue), Sept. 8, 2019 (Dark Blue), Sept. 6, 2020 (Lavender)



It is the most comprehensive traffic analysis tool available.

The platform is scalable, easy-to-use, cost-effective, and requires no special training. There is nothing to install. Users can easily access metrics to identify, rank, and prioritize intersection signal projects to achieve maximum impact on traffic flow.

“The new updates in the Signal Analytics will help us do more regular checks,” said Ballard. Kimley-Horn used Signal Analytics as a pilot and will use V2 released in January 2021.