

INRIX and Kimley-Horn Help the City of Austin out of a Jam with robust Roadway Analytics



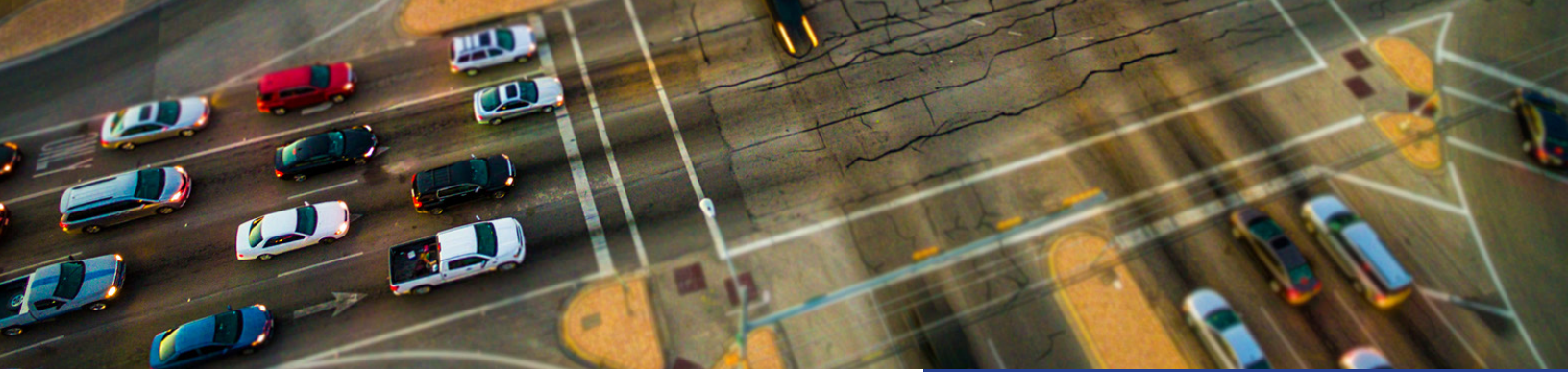
When cities find themselves in unexpected jams, INRIX Roadway Analytics can provide the vital data they need to get traffic patterns back to normal and communicate improvement gains to the public.

The Challenge: Blindsided by backups

For the city of Austin, the trouble began when the new southbound Mopac Express Lanes opened in early November of 2017. In theory, it made sense to drop commuters right onto Cesar Chavez St, a main thoroughfare in downtown Austin. But in reality, traffic volumes spiked dramatically and Cesar Chavez became a major choke point in eastbound and westbound directions. Angry drivers called the City's 311 line to complain about the surprise gridlock. Vehicles trying to exit parking garages onto Cesar Chavez and side streets during rush hour were stuck at a near standstill. In interviews with the media, some commuters said the new congestion was doubling their commute times.

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Kent Kacir, Kimley-Horn project manager



The Solution: Optimized timing

With pressure mounting on the city council, the Austin Transportation Department looked to their Kimley-Horn consultants Kent Kacir and Tom Hartmann for ideas to mitigate the problem. Fortunately, they had the INRIX data they needed, plus a solid track record for results: the City of Austin retimes nearly 350 traffic signals per year, Kimley-Horn has the most signal timing expertise in Texas, and Kimley-Horn staffs and monitors the City's Traffic Management Center. The team's efforts have collectively saved 7.5 percent of net travel time for drivers in Austin.

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Kimley-Horn traffic engineer Tom Hartmann points out that Cesar Chavez was an acute problem that the city needed to fix fast. "They did not have time to do an in-depth traffic study or full retiming project. We knew that retiming signals would be the best short-term solution. INRIX data gave us the metrics we needed to effectively measure the City's results and tell city leaders and the public how the City was addressing this new congestion."

INRIX Roadway Analytics:

INRIX Roadway Analytics is an on-demand, cloud-based analytics suite that leverages INRIX global traffic data to help public agencies and consultants more effectively monitor, measure and manage the performance of road networks.

Bringing a unique set of in-depth analytical tools, Roadway Analytics helps you understand what is happening on your roads, benchmark and improve roadway performance and maximize the investment of public funds.

The information collected and analyzed by INRIX includes historical GPS data from over 300 million global sources and features historical data availability for nearly 3 years up to the previous day. Launched in 2016, Roadway Analytics provides technical analyses, charts, tables and other visualizations to convey important information and recommendations to drivers, decision makers and the general public. Covering more than five million miles of road in 45 countries, it uses the world's largest traffic data network that is trusted by leading automakers and transportation agencies globally. INRIX Roadway Analytics portfolio of tools includes:

The Results: Back to (near) normal

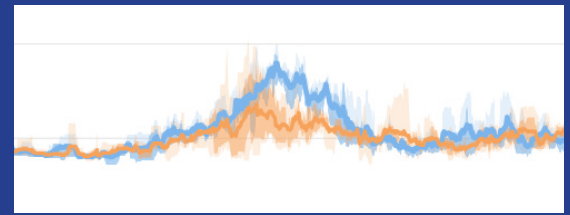
Using historical INRIX data for before and after the Mopac express lanes opened, Robin Osborne was able to observe, monitor, compare and then identify critical locations to optimize signal timing on a two-mile stretch of Cesar Chavez between Mopac and I-35 from on December and January of 2018.

“By retiming the signal lights along Cesar Chavez, the travel time has returned back to near normal levels before the Mopac Express Lanes opened,” said Kacir. Overall, the Austin Transportation Department and city leaders have been able to demonstrate improvement in downtown congestion with real data that supports their story. While Cesar Chavez will never become a free flowing corridor during peak hours, the unexpected delays caused by express lanes are nearly gone.

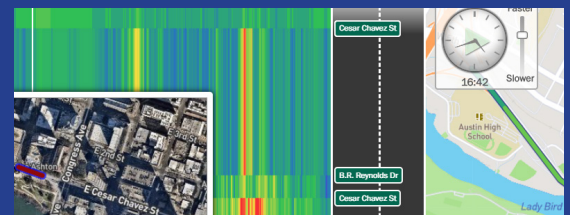
Drivers heading westbound between 7:15 and 9 a.m. are seeing two minutes taken off their commute, or a 25 percent shorter travel time on the road. Those going westbound between 4-5 p.m. and 6-6:30 p.m. are also seeing two minutes taken off, or a 20 percent reduction.

Drivers heading eastbound between 4:30-7 p.m., are getting a five-minute shorter commute, a 30 percent reduction in their travel time.

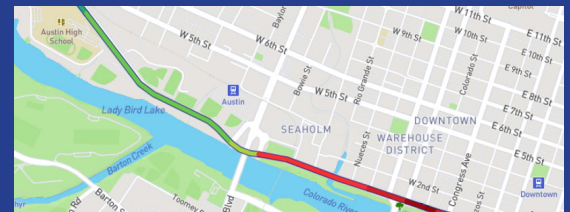
To test the results, the department relied upon INRIX Roadway Analytics to compare morning and evening peak travel times for the weeks before and after the new express lanes opened with the weeks after the signals were re-timed. Austin Transportation Department will continue to monitor and make adjustments as needed to optimize travel times along Cesar Chavez, which may include restriping intersections along the corridor,



Performance Charts produces line and bar graphs, which enable before and after studies and/or comparisons of roadways with visualizations to communicate findings



Congestion Scan uses heat maps to identify problem areas along a road, helping Austin pinpoint the location of congestion to better target improvement efforts



Trend Maps is a visual communication tool that illustrates the impact of roadway conditions throughout the day



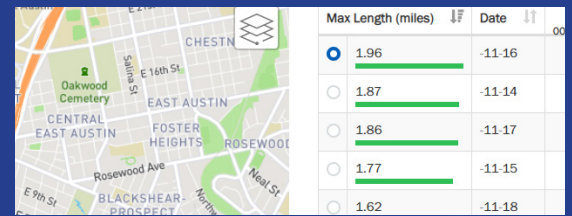
changing lane assignments and perhaps creating innovative intersections to improve flow. INRIX data will be used in modeling those changes as well as measuring their effectiveness once implemented.

Over the next year, the Austin Transportation Department plans to use INRIX Roadway Analytics and Kimley-Horn to help optimize mobility by retiming of traffic light for more than 300 intersections around the city.

What about your jams?

Is your city experiencing unexpected gridlock after roadway improvements, new construction or lane changes? Find out what INRIX Roadway Analytics and other products can do to help ease congestion and improve mobility where you work and live.

Learn more about INRIX Roadway Analytics
inrix.com/products/roadway-analytics



Bottleneck Ranking identifies hotspots or congested corridors during a specific analysis period within an area, and provides a ranking by determining the number of occurrences, length and duration of each bottleneck

The screenshot shows the Data Downloader interface with the following fields and options:

- Study Location: Cesar Chavez St EB
- Date Ranges: 2017-11-14 - 2017-11-18 (Mo,Tu,We,Th,Fr) and 2018-01-15 - 2018-01-19 (Mo,Tu,We,Th,Fr)
- Granularity: 1
- Name: Cesar_Chavez_St_EB_2017-11-14_to_18
- Email: ra_user@example.com
- Data Metric: Speed, Only show rows that have real-time speeds, Historical Average Speed
- Confidence: C-Value, C-Score

Data Downloader enables users to directly query INRIX XD Traffic speed archive data (from 24 hours prior) for any road segment and/or time period

