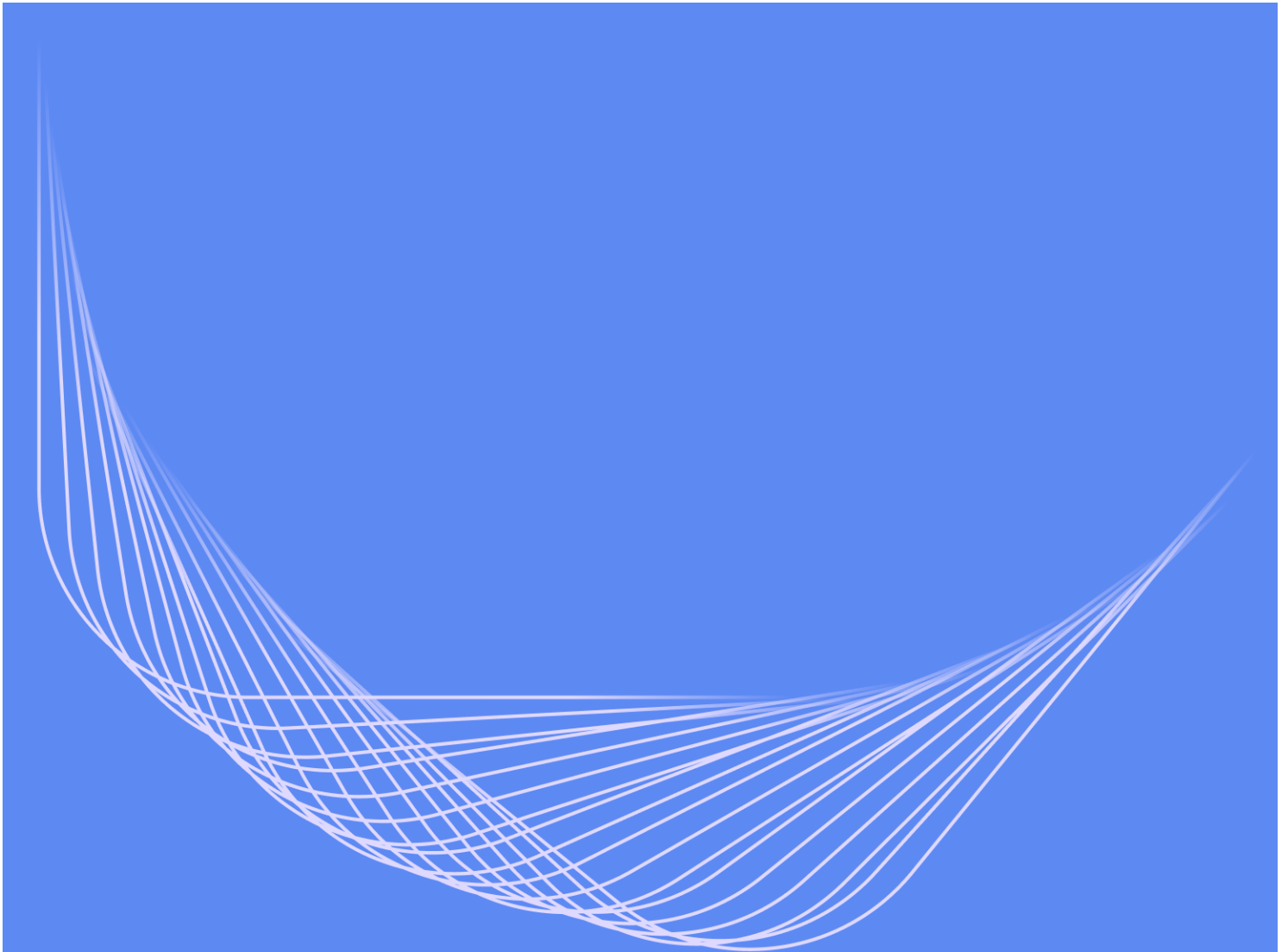


CASE STUDY

Optimus

SINGLE SITE DEPLOYMENT

Predictive Traffic Control (PTC) technology reduces travel times by 24% in congested roadways and improves mobility for Utah's citizens.



Executive Summary

UDOT significantly improves traffic flow and saves drivers \$1.4m each year with artificial intelligence.

Utah Department of Transportation (UDOT) decided to use advanced technologies to optimize their peak period signal timings.

Choosing to use Flow Labs' Predictive Traffic Control (PTC) software instead of the traditional signal timing process achieved the following benefits:

- 24%** Travel time reductions
- 11%** Increased arrivals on green
- 37%** Reductions in split failures

THE SITUATION

Constantly changing traffic patterns make it difficult to keep up with signal timing demands.

UDOT's core goal is to update the signal timings for their 1200+ statewide signals every 30 months. Alongside these ambitious operational goals, Utah is growing rapidly which has brought with it increasing vehicle volumes and increasingly rapid changes in traffic patterns. Updating timing plans every 30 months is no longer enough.

The US-89 corridor is a major commuter arterial connecting Utah's commercial hub, Salt Lake City, to surrounding residential communities serving up to 42,000 vehicles per day.

Despite having recently updated the signal timings on the corridor, UDOT wanted to be able to maximize corridor performance by using advanced technologies that would enable them to (1) develop better performing time-of-day plans and (2) update those time-of-day plans on a more frequent basis.

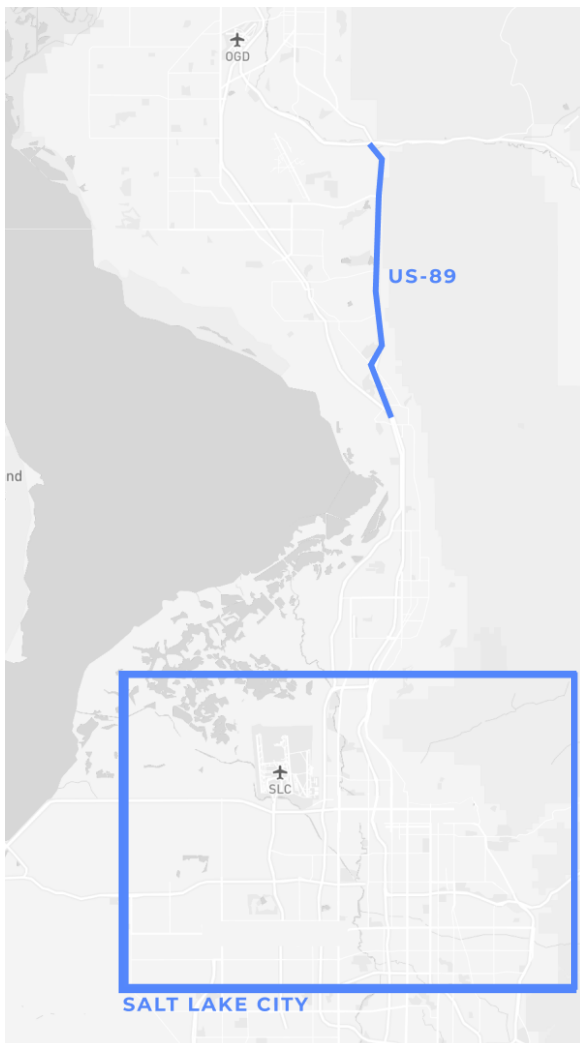
DEVIN SQUIRE | UDOT

STATEWIDE SIGNAL ENGINEER

The project results were quite impressive. We are excited about this new technology and its potential to improve our signal system and keep Utah moving.

THE SOLUTION

Flow Labs' Predictive Traffic Control technology fully automates the signal timing process.



UDOT relies on traditional signal timing that leverages time-of-day plans to control signals along a corridor. The timing process requires 50 hours of labor per intersection. Personnel constraints limit their ability to retime their signals on a more frequent basis. Flow Labs' **Optimus** platform uses **big data** and **artificial intelligence** technologies to automatically generate optimized time-of-day plans which can be updated whenever traffic patterns change.

The traditional signal timing process can often produce erroneous timing plans, requiring labor-intensive field observation. Flow Labs' **Optimus** software provides accurate performance predictions for each time-of-day, giving UDOT greater confidence and forward visibility on performance.

METRIC	PERFORMANCE	PREDICTIVE ACTIVITY
Travel Times	▼ 24%	± 3.2%
Arrivals On Green	▼ 11%	± 1.8%
Split Failures	▼ 37%	± 4.4%

Fig. 1

Flow Labs’ predictive traffic control technology significantly improved corridor performance.

Flow Labs’ **Optimus** platform enabled UDOT to select and optimize for any key metrics. UDOT chose the following performance goals:

MINIMIZE

Travel times

MAXIMIZE

Arrivals on green

MINIMIZE

Split failures

The technology was implemented through the corridor during AM and PM peak periods and UDOT successfully achieved their goal of improving mobility for their citizens. Project results showed a consistent improvement in all key metrics during both the AM and PM peak periods whilst providing accurate performance predictions (fig. 1)

ABOUT

About Predictive Traffic Control

Flow Labs' Predictive Traffic Control (PTC) software automatically optimizes and updates signal timing plans to accommodate traffic pattern changes in any type of road network. We leverage the latest advances in big data, artificial intelligence and software development to improve mobility on roadways without requiring new controller or sensor hardware deployments nor additional signal operations personnel. Our Predictive Traffic Control technology provides forward visibility on signal timings so you know what your signals are going to do and how they are going to perform. Predictive Traffic Control gives you greater confidence in your signal timings and greater control over improvements.