

One more hour, every night

How Caltrans District 11 extended lane closure windows on SR-78 –
and **cut an estimated 13 working days off an 87 day paving schedule**
– without adding delay for road users.



**+1 hr
added**

to every night's
closure window



**~13 days
saved**

working days off an
87-day operation



~US\$250K

estimated
cost saving



≤5 min

peak delay, at
closure setup

SR-78, San Diego County (EA 11-43164)
Caltrans District 11
Skanska USA Civil West
Mooven

Findings drawn from Caltrans District 11's independent evaluation of the
Mooven transportation data analytics platform, completed May 2026.

Find out more:
mooven.com



Executive summary

Caltrans District 11, in collaboration with **Mooven** and **Skanska**, piloted the Mooven AI-powered traffic monitoring platform to help determine the most efficient lane closure windows for an active construction project on SR-78 (EA 11-43164). Designed to help teams confidently build, maintain, or operate transport networks in complex urban environments, Mooven enables agencies to deliver projects faster, safer, and with fewer complaints.

Caltrans District 11 has evaluated multiple metrics to determine the possibility of extending construction lane closure windows. Evaluation through the Mooven program has included:



Vehicle counts



Live journey times



Peak delay/queue



Live vehicle speed



Additional closure window safety



Streamlined data collection/reporting

A measure, test and implement methodology was used to identify low risk changes, validate the benefits and risk, and then implement ongoing improvements to delivery.

Initial analysis during June and July 2025 indicated potential extensions to closure windows with minimal delay impacts. An early lane closure trial shifted the evening start time from 10:00 PM to 9:00 PM (1 hour extension) while volumes remained below ~1,000 vehicles per hour (vph) during working hours. There was minimal to no increase in delay observed inside the closure window, suggesting additional flexibility could be tested in future phases.

Mooven's platform gave unprecedented visibility by combining vehicle volume data, lane closure schedules, as well as real time traffic performance to measure actual impact.

What that hour is worth

District 11's evaluation found that one extra hour per shift was operationally feasible and could **shorten the paving operation by 13 working days** over three months. Fewer working days means fewer nightly mobilizations and less overhead: an estimated saving of roughly **\$250,000**, subject to final cost reconciliation. It also means 13 fewer nights of crews and traffic control exposed on a live mainline.

This paper summarizes how that result was reached, what the data showed, and what it takes to repeat it on another corridor.

The problem:

Closure windows set by aggregated, city-wide trends

Conservative closure windows are a rational response to aggregate, poor information. If you can't get rich location specific data or see what delay a closure is actually causing, you buffer – and the buffer is paid for over and over:

- **Contractors bid more working days to fit the same quantity of work into shorter shifts.**
- **Agencies absorb more nights of traffic control, more mobilizations and more overhead.**
- **Crews spend more total nights exposed on a live mainline, and more time doing manual traffic checks.**
- **Communities live with a longer project, and complaints are argued from impressions rather than evidence.**

The reason those buffers survive is that the evidence needed to shrink them safely has historically been hard to get. Traditional traffic studies are slow and expensive, and often out of date by the time construction starts. During construction, it's difficult to measure if actual delays aligned with the assumed impact, or not.



The project

Objective



Determine whether real-time, evidence-based insight could safely extend closure windows, lift field productivity and reduce community impact — while improving compliance reporting and stakeholder transparency

Agency

Caltrans District 11 —
North County Corridor Construction

Contractor

Skanska USA Civil West

Monitored locations

Melrose Dr, Civic Center Dr and Mar Vista Dr, within the project limits



How Mooven approached it

Mooven is a cloud-based, AI-powered traffic monitoring platform.

On SR-78 it aggregated four data sources into one view of the corridor:



Floating vehicle data

Journey time and delay context, used to verify real-world impacts and detect anomalies.

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Caltrans PeMS loop data

Core counts and speed metrics, informing capacity thresholds and closure timing.



Caltrans Lane Closure System schedules

So analysis stayed aligned with the agency's own operational record.



Optional Bluetooth / WiFi travel-time sensors

A useful additional input, strongest when combined with loop data.

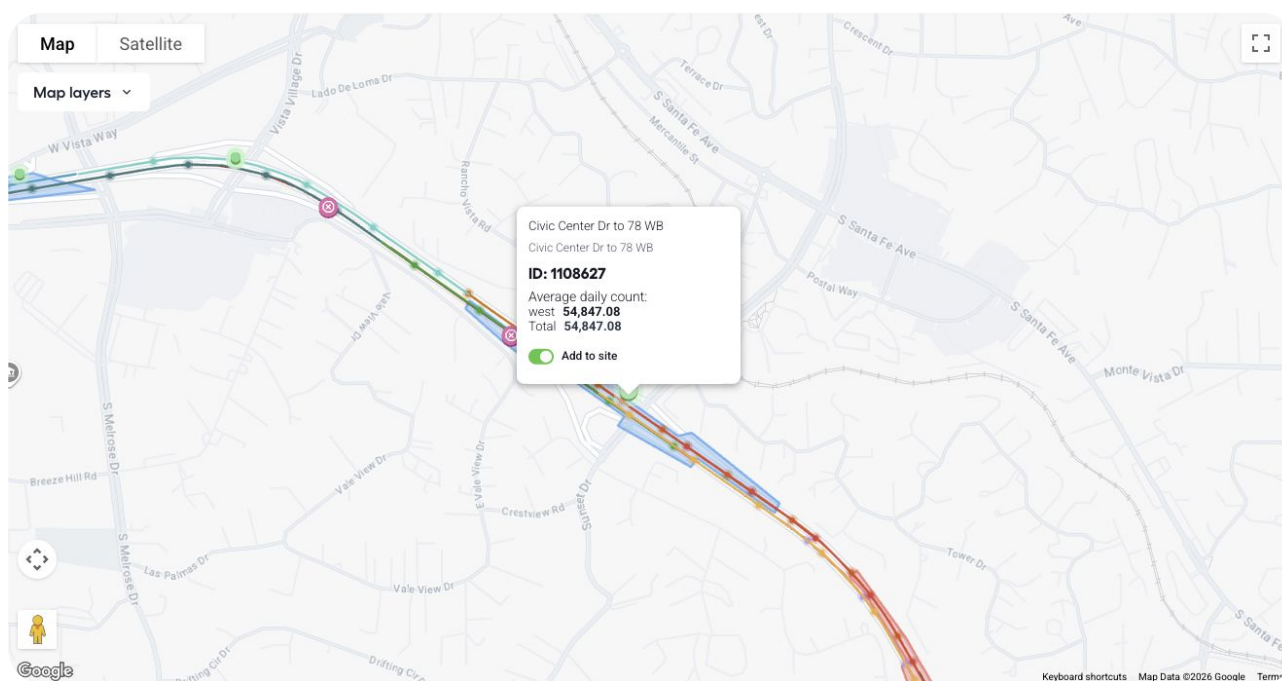


Figure 1 — Mooven platform: monitored routes and average daily counts across the SR-78 project limits.

Phase 1 (June–July 2025)

Baseline and opportunity analysis

Mooven compiled PeMS counts and floating-vehicle journey times throughout the project limits and identified where the corridor had headroom. Rather than proposing the largest possible change, the analysis recommended the smallest defensible one: closures starting 30 minutes earlier on Sunday and Monday at low-risk locations, to demonstrate data-driven decision-making with almost no downside.

Phase 2 (October–November 2025)

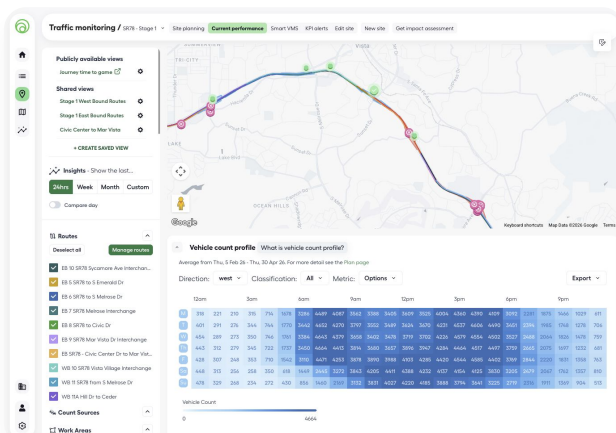
Early closure testing

An early closure test starting at 9:30 PM confirmed minimal delay during working hours at multiple locations. Critically, the trial ran with operational guardrails in place: alert parameters were configured, traffic was tracked before, during and after each closure window, and a contingency plan committed the team to reverting to default closure times if delay greater than 20 minutes was ever observed.

Phase 3

Accepted extension

On the strength of that evidence, the closure start time was moved from 10:00 PM to 9:00 PM — a full hour added to every shift, with monitoring left running to confirm the result held.



How lane closure opportunities were identified

Detailed volume profiles were created to understand how site specific conditions compared to lane closure charts. This enabled Caltrans to determine when traffic volumes result in delay.

A conservative threshold of approximately 1,300 vehicles per lane per hour (vphpl) on westbound SR-78 was established from April–June 2025 Caltrans PeMS data, to serve as a low-risk baseline for testing.

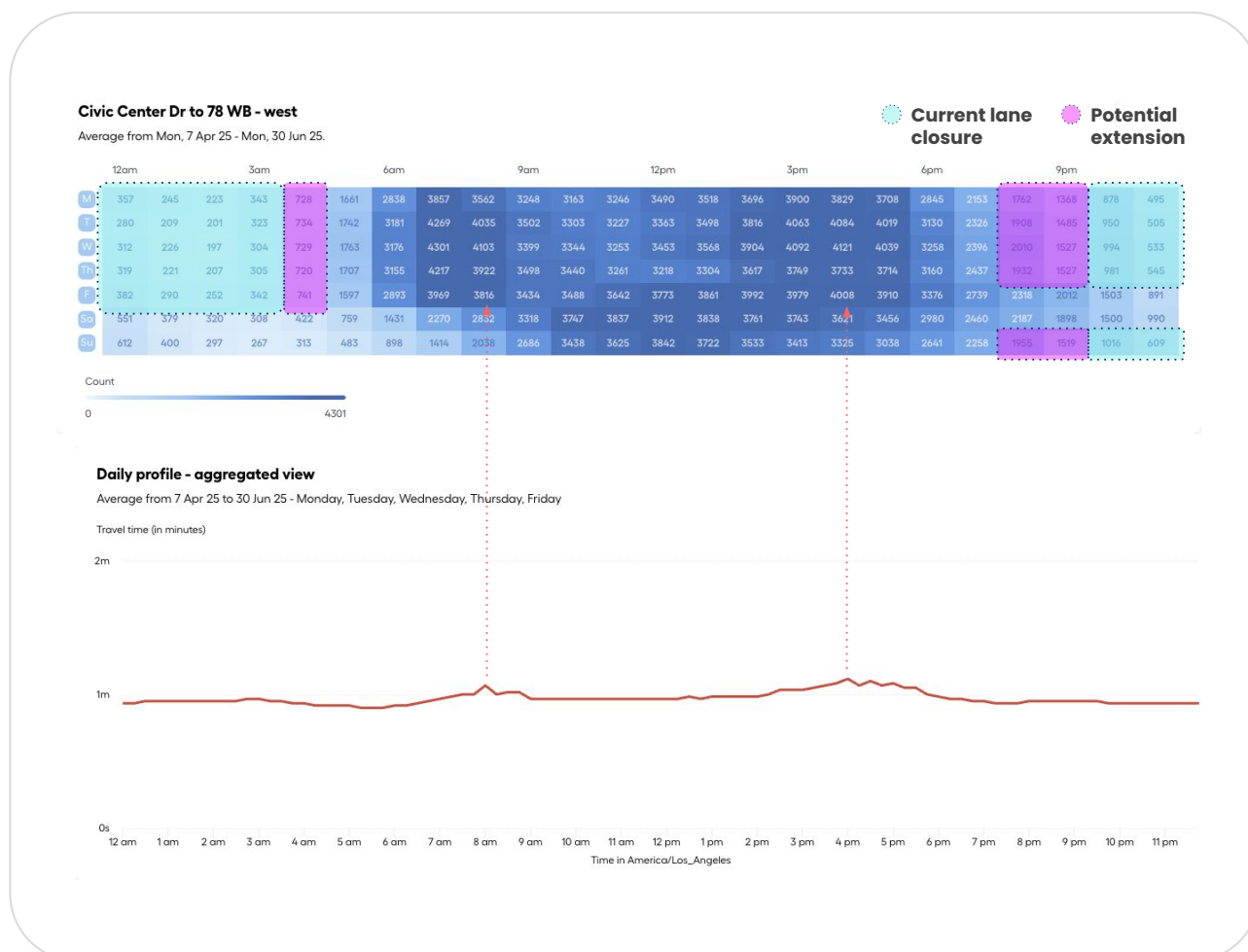


Figure 2 – Baseline vehicle count profile, Civic Center Dr to SR-78 westbound (April–June 2025). The dashed overlays show the existing closure chart against the potential extension identified by Mooven.

What the data showed

The trial then tested that threshold against reality. Westbound analysis at Civic Center Dr showed the corridor successfully handling up to 1,591 vphpl during closures with minimal additional delay — comfortably above the conservative baseline.

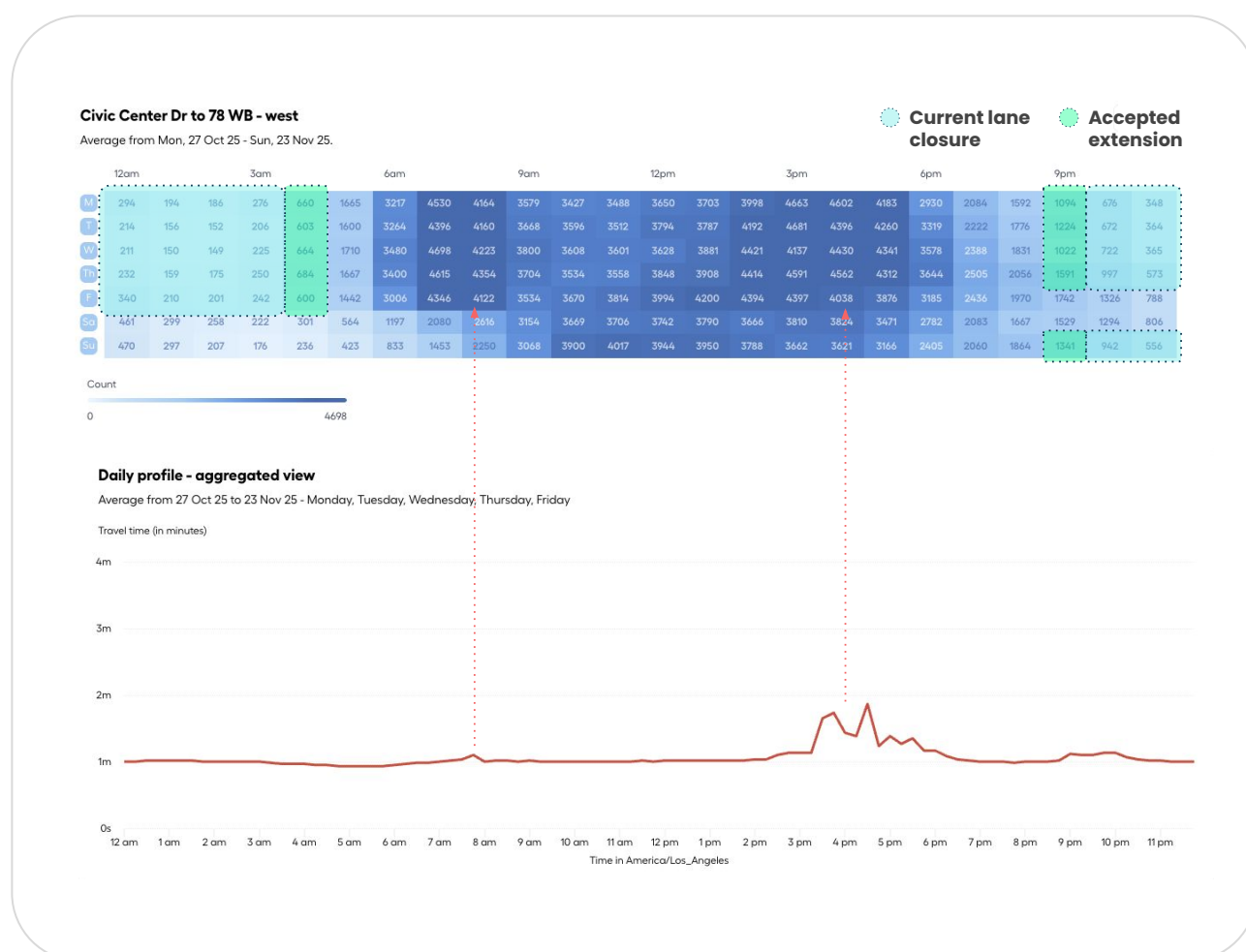


Figure 3 — Vehicle count profile during the October–November 2025 trial, showing the accepted extension in place.

The benefits Mooven brought to the project

Benefit	What Mooven delivered	Evidence from the pilot
 Improved schedule	Proved that a one-hour closure extension was feasible, then kept monitoring to confirm it held.	Approximately 13 working days saved on an 87-day paving operation.
 Reduced cost	Fewer working days means fewer nightly mobilizations and less overhead.	Estimated saving of roughly \$250,000, pending final cost reconciliation.
 Worker safety	Fewer nights on a live mainline, and fewer manual traffic checks — delay is read from the platform instead of the shoulder.	Reduced on-site exposure and lower traffic control exposure across the shortened schedule.
 Confidence to decide	Turned closure negotiation from a judgement call into an evidence review, with a defined revert threshold as a safety net.	Extension accepted after a trial confirmed minimal delay, with a plan to revert if delay exceeded 20 minutes.
 Insights and reporting	Dashboards, KPI scorecards and event annotations replaced manual compilation.	Streamlined weekly reporting and a shareable record of conditions before, during and after each closure.
 Stakeholder clarity	Live charts made the link between field operations and traffic legible to non-specialists.	District 11's closure group reported greater comfort interpreting the data and discussing impacts.
 Planning quality	Gave engineers and planners early traffic and delay data outside the traditional traffic study cycle.	Baseline analysis available within weeks, at project locations rather than generic count sites.

Volumes inside the extended window stayed below roughly 1,000 vph during working hours, and the corridor demonstrated capacity up to 1,591 vphpl during closures. For single-lane closures, the data supports potential extension windows of one to two hours.

What the project team reported

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Mooven confirmed minimal delay with earlier closures which helped decrease construction timeframe.

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Thomas Davis

Senior Transportation Engineer
District 11 Closure Manager

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Strong confidence in the Mooven platform, emphasizing its ability to deliver clear operational benefits and support better decision making. Mooven helps achieve public facing savings by enabling quicker field operations and reducing disruptions, while also improving team safety through less time spent on the mainline, contributing to lower TRO exposure. They also point to important soft cost efficiencies, since crews and staff don't need to be onsite as frequently. Overall satisfaction is high, with appreciation for how live system data clearly illustrates how operations affect traffic. This improved clarity has also helped Traffic closure group feel more comfortable interpreting charts, reinforcing Mooven's value as both an operational and communication tool.

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Nick Moss

Office Engineer
District 11 North County Corridor
Construction Consultant

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Mooven increased confidence in early closure decisions. With the trial/error method, an earlier closure period can be implemented to show delays of less than 30 minutes. Mooven data collection identified traffic patterns such as heavier traffic flow on Wednesday/Thursday. Mooven also optimized longer work windows which means fewer working days and cost reduction.

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Yong Pak

Senior Transportation Engineer
District 11 North County Corridor Construction

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Mooven adds value for negotiation, productivity, and stakeholder engagement. The application's future potential grows with historical data collection and design-phase planning.

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James Sidney

Field Engineer
SKANSKA USA Civil West



Capabilities this pilot didn't need – yet

SR-78 used a narrow slice of the platform. District 11's evaluation noted that future projects have potential to gain significant value from the capabilities the pilot left on the table:



Site Diaries/Shift tracking

A live map of scheduled and active work across a network, automatically highlighting exceptions and giving instant access to responsible contacts. Crews report issues from the field; stakeholders stay informed through integrated messaging. Paired with live network monitoring, it links crew activity directly to real-time traffic impact.



Community engagement and Smart VMS

Live journey-time advice and adaptive detour messaging on roadside signs — data-driven, without manual updates or additional hardware — plus dynamic public landing pages. Complaints get grounded in objective data, clarifying whether an impact came from project activity or something else entirely.



Business and transit impact assessment

Mooven summarizes nearby businesses, their operating hours and affected transit services, with a CSV export for outreach — so closures can be planned around the economic and mobility impacts that drive perceived risk.



Project management

Gantt and list views for shift, task and phase scheduling, cost management, and reporting on job completion rates, on-time starts and overruns.

Looking ahead

The SR-78 pilot provides a repeatable model for evidence-led construction access: establish a baseline, identify a lower-risk opportunity, test incrementally, monitor live conditions and document the result.

Future applications could begin earlier in project planning, giving teams more historical data and allowing closure opportunities to be considered before construction pricing is finalized.

With the right approval workflows, operating protocols and data governance in place, the same approach could help other projects make better use of available road space while managing delay, safety and community impact.

For Caltrans District 11, the pilot answered a specific operational question on SR-78. More broadly, it showed how bringing the right data together can convert traffic insight into productive construction time – and productive time into measurable public value.



Find productive time hidden in your construction program.

Mooven helps infrastructure teams combine traffic and project data, test better ways of working and turn operational insight into measurable value.

[Talk to us](#)

Find out more:
mooven.com

