

UDAP

(Urban Data Access Platform)

Impact Report

Report period: March 2026

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Version: 1.0 — First edition

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EXECUTIVE SUMMARY

March 2026

Ecosystem	3,937 connected assets of which 1,311 are operational More than 4 million connected road users 14 active service providers 96 active road authorities (agencies)
Operational Reliability	>30 billion messages processed 100% uptime 100% of message processed within 100 milliseconds Zero safety or privacy incidents
EVA – Emergency Vehicle Approaching use-case	941 active EVA vehicles 127,397 ambulance trips EVA alerts delivered during 63,699 ambulance trips €2.07 million in annual societal savings enabled by EVA
Traffic Signal Priority	208,815 intersection crossings 95,800 priority requests granted (45.9%) Average travel time reduction of 2 minutes >1,000 hrs of cumulative time savings for emergency services during March 2026
Informing Road Users	1,194 Traffic Light Controllers (TLCs) successfully transmitting SPAT messages 2.7 million road users reached in March 2026

UDAP: The Dutch National Platform for Real-Time Traffic Information (RTTI) and Safety-Related Traffic Information (SRTI)

This report provides a factual overview of the performance and impact of UDAP during the reporting period of March 2026

The **Urban Data Access Platform (UDAP)** is an operational platform that enables the secure, bi-directional exchange of real-time data between road users, road authorities, and service providers across the Netherlands—from municipalities and the national road authority to ambulances and cyclists. UDAP facilitates data exchange, quality assurance, and governance, while ensuring security and privacy.

Real-Time Traffic Information (RTTI)* and **Safety-Related Traffic Information (SRTI)*** are two key information services mandated by the European Union as part of Cooperative Intelligent Transport Systems (C-ITS). They enable direct wireless data exchange between vehicles (V2V) and between vehicles and infrastructure (V2I), improving both road safety and traffic flow.

Traffic congestion, road safety incidents, and delayed emergency response have measurable societal and economic consequences. Digital infrastructure that connects stakeholders in real time contributes to safer and more efficient mobility without requiring additional physical infrastructure.

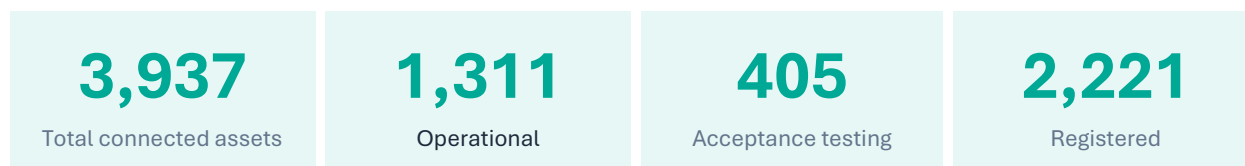
This is the first edition of the UDAP Impact Report, covering the reporting period of March 2026. Starting with the second edition, the report will be published quarterly, with each edition presenting the cumulative results for the preceding quarter.

* See [Definitions & Sources](#) (section 06) for additional information.

Participating Organizations

The UDAP ecosystem consists of road authorities, service providers, and road users that exchange real-time data through the platform. The size and composition of this network determine the reach of the available use cases and, ultimately, their societal impact. The figures below show the status of the ecosystem during the March 2026 reporting period.

Connected Assets* in UDAP (TLCs, bollards, etc)



* See [Definitions & Sources](#) (section 06) for description of each category. Period: March 2026.

Of the 3,937 registered connected assets, 1,716 are actively exchanging data through UDAP, including 1,311 operational assets and 405 assets in acceptance testing. The remaining 2,221 assets are registered within the platform but are not yet exchanging data.

Service providers

During March 2026, 14 service and information providers were actively connected to UDAP.

Service providers	Information Services
ANWB	ANWB Onderweg (app)
Be-Mobile	Da's zo gefietst (app)
HAAS Alert	Flitsmeister (app)
Kia Connect	Hyundai (direct in dashboard)
Locatienet	KIA (direct in dashboard)
Mercedes-Benz	LogiConnect (Truck on board units)
Miovision	MobyCoach (Truck on board units)
Rydian	Onderweg app (Locatienet)
Swarco	Pharox (Truck on board units)
TomTom	Skoda (direct in dashboard)
VodafoneZiggo	TomTom maps en navigatie (app)
Yunex	

At the time of publication, approximately five to eight additional organizations are in the process of connecting to UDAP.

Road Users

During the reporting period, **more than 4 million road users** were connected to UDAP, including ambulances, freight vehicles, cyclists, public transport vehicles and passenger cars.



Road Authorities

A total of 96 road authorities were active during March 2026, including municipalities, provinces and the national road authority.

A road authority is considered active* when at least one connected asset is operational or in acceptance testing.

* See [Definitions & Sources](#) (section 06) for the definition of an active road authority.

Measured performance: March 2026

About the Performance Metrics

The Service Level Agreement (SLA) targets reflect the operational requirements of safety-critical and traffic management systems. All performance metrics are measured, independently verified, and reported monthly.

UDAP operates under a contractually defined Service Level Agreement (SLA) designed to meet the operational requirements of safety-critical and traffic management systems.

The platform is measured against the following performance targets:

- **Availability:** minimum 99.9% uptime per calendar year
- **Latency:** 99.95% of all messages processed within 100 milliseconds, with the remaining 0.05% processed within a maximum of 200 milliseconds

The figures below represent the measured performance during the reporting period of March 2026.



Uptime. 100% - No unplanned interruptions or service incidents occurred during the reporting period.

SLA target: 99.9%

Status: Achieved

Latency. 100% of all messages processed within 100 milliseconds. Every processed message remained within the 100-millisecond threshold.

SLA target: 99.95% within 100 milliseconds; remaining 0.05% within 200 milliseconds.

Status: Achieved

Since its deployment, UDAP has consistently met all contractual performance requirements.

Measured Outcomes: March 2026

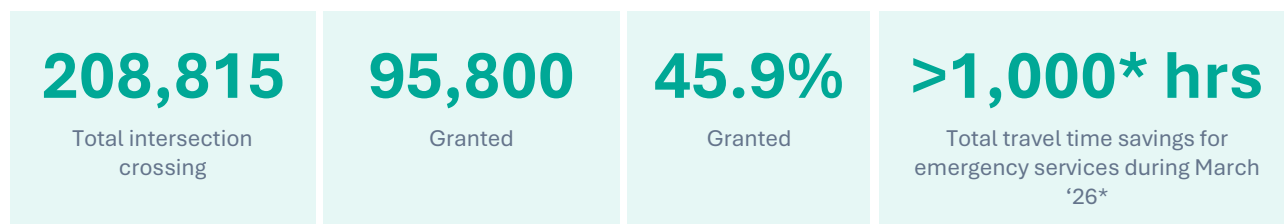
The following use cases demonstrate the measured and calculated societal impact of UDAP during March 2026. Unless stated otherwise, all figures are based on platform data and publicly available sources

1. Traffic Signal Priority

In March 2026, UDAP enabled more than 1,000 hours of cumulative travel-time savings for emergency services by coordinating traffic-signal priority.

For out-of-hospital cardiac arrest (OHCA), every minute reduction in response time increases the chance of survival by approximately 6%. The time savings achieved, therefore, represent a direct contribution to improved patient outcomes in life-threatening situations.

UDAP facilitates the exchange of priority requests between road users and connected Traffic Light Controllers (TLCs). Vehicles granted priority receive an extended or early green phase, while conflicting traffic movements remain safely controlled.



**Based on an average travel time reduction of two minutes for emergency service trips receiving priority and an assumption of three intersections per trip. Reporting period: March 2026.*

Of the 208,815 priority requests submitted during March 2026, 95,800 (45.9%) were granted. The remaining requests were not granted due to conflicting traffic movements or technical limitations.

Traffic Signal Priority is currently available for:

- Emergency services
- Public transport
- Freight transport
- Cyclists

Faster Intersection Crossings

Research shows that granted traffic signal priority reduces emergency service travel times by an average of two minutes per trip, based on an average journey time of ten minutes.**.

***Source: https://pure.tue.nl/ws/portalfiles/portal/278761573/2023_01_31_SBC_Oosterbos_G.pdf*

Faster Emergency Response

In March 2026, this resulted in more than 1,000 hours of cumulative travel-time savings for emergency services across the Netherlands.

Encouraging Cycling

UDAP is increasingly used to enable cyclists to cross intersections more quickly. As adoption continues to grow, future editions of this report are expected to quantify both the number of connected cyclists and the associated societal benefits.

Improved Survival Rates

For out-of-hospital cardiac arrest (OHCA), every minute reduction in emergency response time increases the chance of survival by approximately 6%*. The cumulative time savings of >1,000 hours therefore represent a direct contribution to improved survival outcomes for patients in life-threatening situations.

Reduced CO2 Emissions

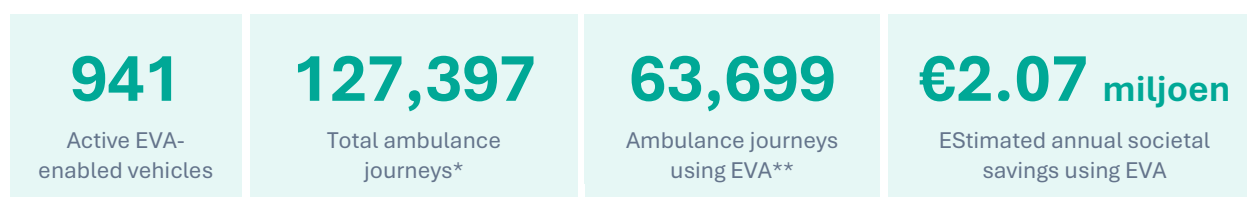
For freight and logistics vehicles, priority at signalized intersections (on designated corridors) results in significant fuel savings, lower CO₂ emissions, and more reliable operations. As the number of connected heavy-duty vehicles continues to grow, these benefits will increase and become easier to quantify. It is expected that this impact can be quantified in the next reporting period.

*Source: <https://www.amsterdamumc.org/nl/vandaag/amsterdam-umc-onderzoek-bewijst-noodzaak-van-snelle-eerste-schok-bij-hartstilstand>

2. Emergency Vehicle Approaching (EVA)

EVA reduces the number of conflict situations between ambulances and surrounding traffic. The resulting societal savings from prevented ambulance-related accidents amount to €2.07 million per year, based on a conservative assumption of a 40% reduction, while international studies suggest a reduction of 70–90%.

EVA provides nearby road users with real-time warnings of approaching emergency vehicles. This allows drivers to anticipate sooner, enabling ambulances to reach their destination both faster and more safely.



*Estimated number of ambulance journeys, based on an annual national volume of approximately 1.5 million ambulance journeys (bron: <https://www.ambulancezorg.nl/sectorkompas/sectorkompas-2024>), converted to the 31 days of March 2026.

**Ambulance journeys during which the EVA use case was active. Reporting period: March 2026.

Approximately 50% of all ambulance journeys in March 2026 made use of the EVA use case, resulting in 63,699 active EVA journeys.

Safety Impact

International research*** on Emergency Vehicle Approaching technology shows a 70–90% reduction in ambulance-related traffic accidents.

For this report, UDAP applies a conservative 40% reduction assumption. Based on the historical average of 26 ambulance-related accidents per year in the Netherlands, this corresponds to approximately 10.4 prevented accidents annually.

Impact	Value
Reduction in ambulance-related accidents	40% (~10,4 per year)
Estimated societal costs per accident	€199.000
Total annual societal savings	€2,07M

Source: <https://swov.nl/nl/factsheet/kosten-van-verkeersongevallen>

***Source:

https://www.researchgate.net/publication/392822573_Adaptive_Traffic_Light_Control_and_Ambulance_Prioritization_through_Kalman_Filter-Based_Congestion_Prediction_and_Accident_Alerts

Informing — GLOSA & TTG

Real-time speed advisory information enables road users to avoid unnecessary stops, accelerate more efficiently when traffic lights turn green, and drive more smoothly.

Through UDAP, intelligent traffic light controllers (TLCs) transmit SPAT (Signal Phase and Timing) messages that provide vehicles with real-time and predictive traffic signal information. Based on these messages, vehicles can adjust their speed accordingly, resulting in fewer unnecessary braking events, lower fuel consumption, and improved traffic flow.

1,194

Traffic light controllers transmitting SPAT messages*

97%

Traffic light controllers transmitting error-free SPAT messages

2.7 million

Road users receiving SPAT messages

**Reporting period: March 2026*

During the reporting period, 1,194 intelligent traffic light controllers actively transmitted SPAT messages with signal timing information. Based on traffic intensity data (CAM messages), the reach is estimated at approximately 2.7 million road users.

This estimate is based on an average of 2,300 unique road users per active intersection per month, derived from historical CAM data collected through the UDAP platform.

Expanding the Ecosystem

In March 2026, the UDAP platform connected 96 active road authorities, 14 service providers, and millions of connected road users across the Netherlands. The focus for the coming period is to further expand this ecosystem by connecting more road users and more intelligent traffic light controllers, as every new connection increases the platform's societal impact.

1

More Connected Road Users

Ambulances, public transport, freight vehicles, and cyclists are already connected to the EVA and Priority use cases. By the end of 2026, all fire engines in the Netherlands are expected to be connected as well.

Several ongoing initiatives will further accelerate the growth of connected road users, including:

- Connecting cyclists through cycling applications;
- Connecting public transport through the DMI programme;
- Connecting freight traffic through Connected Transport;
- Connecting additional OEMs through DFRS.

2

More Traffic Light Controllers

The number of active traffic light controllers has grown steadily, increasing from 1,202 in March 2022 to 1,706 in March 2026—a 42% increase over four years.

Following data clean-up and the introduction of stricter onboarding requirements, the year-on-year growth compared with March 2025 stands at 1.2% in March 2026.

Definitions & sources

This report applies the following definitions and assumptions. Unless stated otherwise, all figures are based on data collected through the UDAP platform for the reporting period of March 2026.

Definitions

Active Ambulance Journeys

Ambulance journeys during which the Emergency Vehicle Approaching (EVA) use case was active.

Active Road Authority

A road authority with at least one object in production or acceptance. Road authorities with only an account and no active objects are not included.

TLC (Traffic Light Controller)

An intelligent traffic signal controller capable of exchanging real-time data with connected road users and mobility services.

Object in Acceptance

An object that is capable of transmitting messages but is still in the validation and testing phase.

Registered Object

An object that has been registered in the system but has not yet been assigned to a domain and is not yet exchanging data via UDAP.

Object in Production

An object that has been fully validated and is operationally exchanging data through UDAP.

OHCA

Out-of-Hospital Cardiac Arrest.

Reporting Period

Unless stated otherwise, all figures represent cumulative results for the reporting period of March 2026.

SLA

Service Level Agreement.

Total Objects

The total number of intelligent infrastructure components capable of exchanging data through UDAP.

UDAP

Urban Data Access Platform

Sources

Safety-Related Traffic Information (SRTI) & Real-Time Traffic Information (RTTI) European Commission – ITS Directive

https://transport.ec.europa.eu/transport-themes/smart-mobility/road/its-directive-and-action-plan/safety-related-traffic-information-srti-real-time-traffic-information-rtti_en

Cost of Road Traffic Accidents - SWOV – Institute for Road Safety Research

<https://swov.nl/nl/factsheet/kosten-van-verkeersongevallen>

Estimated Number of Ambulance Journeys (127,397)

<https://www.ambulancezorg.nl/sectorkompas/sectorkompas-2024>

OHCA Survival Rates (6% per Minute) - Amsterdam UMC – Research on Early Defibrillation

<https://www.amsterdamumc.org/nl/vandaag/amsterdam-umc-onderzoek-bewijst-noodzaak-van-snelle-eerste-schok-bij-hartstilstand>

EVA Accident Reduction (Conservative 40%; International Studies 70–90%)

https://www.researchgate.net/publication/392822573_Adaptive_Traffic_Light_Control_and_Ambulance_Prioritization_through_Kalman_Filter-Based_Congestion_Prediction_and_Accident_Alerts

Ambulance-Related Traffic Accidents in the Netherlands - Netherlands Institute for Public Safety (NIPV) <https://nipv.nl/wp-content/uploads/2022/10/20220912-NIPV-Ongevallenstatistiek-voorrangsvoertuigen-2020-2021.pdf>

Travel Time Savings through Traffic Signal Priority (2 Minutes per Priority Journey) -
Eindhoven University of Technology (TU/e)

https://pure.tue.nl/ws/portalfiles/portal/278761573/2023_01_31_SBC_Oosterbos_G.pdf

SPAT Reach (2,300 Unique Road Users per Intersection)

Estimate based on historical CAM data from the UDAP platform.