

Connected Road Infrastructure Market Forecasts to 2034 – Global Analysis By Infrastructure Type (Smart Intersections, Connected Traffic Signals, Roadside Units, Intelligent Highway Systems and Other Infrastructure Types), Communication Technology, Component, Road Type, End User, and Geography

<https://marketpublishers.com/r/C21044037F0FEN.html>

Date: August 2026

Pages: 0

Price: US\$ 4,150.00 (Single User License)

ID: C21044037F0FEN

Abstracts

According to Statistics MRC, the Global Connected Road Infrastructure Market is accounted for \$32.8 billion in 2026 and is expected to reach \$82.6 billion by 2034 growing at a CAGR of 12.2% during the forecast period. Connected road infrastructure refers to transportation infrastructure equipped with digital communication technologies that enable real-time interaction between roads, vehicles, traffic management systems, and roadside equipment. These solutions incorporate IoT sensors, vehicle-to-infrastructure (V2I) communication, intelligent traffic signals, cameras, edge computing, and cloud-based analytics to improve traffic flow, road safety, and infrastructure management. Connected road infrastructure supports autonomous vehicles, predictive maintenance, and smart mobility services while enhancing transportation efficiency. Growing investments in smart cities and intelligent transportation systems are accelerating global adoption.

Market Dynamics:

Driver:

Growing smart city investments

Governments are prioritizing intelligent transport systems to improve safety, reduce

congestion, and enhance urban mobility. Enterprises are deploying fiber optic networks, sensors, and communication platforms to support smart traffic management. Consumer demand for efficient and sustainable urban transport reinforces adoption. Advances in IoT and AI enable real-time monitoring and adaptive traffic solutions. Public-private partnerships are accelerating deployment across metropolitan regions. Collectively, smart city investments ensure strong momentum for connected road systems.

Restraint:

Limited communication standardization

Interoperability challenges hinder seamless integration of vehicle-to-infrastructure platforms. Enterprises face high costs in developing solutions that comply with multiple standards. Smaller firms struggle to adapt compared to larger competitors with global reach. Regulatory differences across jurisdictions further complicate deployment. Consumer trust in connected systems depends on reliable and consistent communication. As a result, limited standardization remains a barrier to widespread adoption.

Opportunity:

Vehicle-to-infrastructure communication expansion

Vehicle-to-infrastructure systems enable real-time data exchange between vehicles and road networks, improving safety and efficiency. Enterprises benefit from new revenue streams in smart mobility services. Governments are encouraging V2I adoption as part of intelligent transport strategies. Consumers increasingly demand safer and more responsive driving environments. Advances in edge computing and 5G accelerate the scalability of V2I platforms.

Threat:

Delays in public infrastructure funding

Large-scale projects often depend on government budgets and approvals, which can be unpredictable. Enterprises face challenges in planning long-term investments without assured funding. Smaller firms are particularly vulnerable to project delays compared to larger competitors. Regulatory frameworks tied to budget cycles add further uncertainty.

Consumer demand for improved road safety and efficiency is often unmet due to funding gaps. Unless financing stabilizes, delays will remain a challenge.

Covid-19 Impact:

The pandemic disrupted infrastructure projects, slowing down deployments of connected road systems. Lockdowns delayed construction and reduced short-term investment in smart mobility. However, recovery plans emphasized digital transformation and resilient transport networks. Governments introduced funding programs to accelerate smart city and road infrastructure adoption post-pandemic. Enterprises renewed focus on scalable and adaptive technologies to manage traffic remotely. Overall, Covid-19 created temporary setbacks but reinforced the long-term case for connected road infrastructure.

The fiber optic networks segment is expected to be the largest during the forecast period

The fiber optic networks segment is expected to account for the largest market share during the forecast period as these systems provide the backbone for high-speed. Fiber optics enable seamless data transmission between vehicles, sensors, and traffic management platforms, ensuring real-time monitoring and control. Enterprises rely on fiber networks to support advanced applications. Governments are prioritizing fiber deployment as part of broader smart city initiatives, reinforcing its importance. Consumers benefit from safer and more efficient mobility through improved connectivity. Consequently, fiber optic networks remain the most critical enabler of connected road systems.

The edge computing units segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the edge computing units segment is predicted to witness the highest growth rate due to rising demand for real-time data processing. These units enable localized decision-making, reducing latency in traffic management. Enterprises are investing in edge computing to support autonomous and connected vehicles. Governments are encouraging adoption as part of intelligent transport frameworks. Consumers increasingly demand responsive and adaptive road systems. Advances in AI integration further boost the efficiency of edge computing platforms.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to early adoption of smart city and intelligent transport initiatives. The U.S. leads in deploying fiber optic networks and V2I communication platforms. Enterprises are investing heavily in edge computing and AI-driven traffic solutions. Consumer demand for safe and efficient mobility is higher compared to other regions. Regulatory frameworks support innovation while ensuring compliance. Governments are funding pilot projects for autonomous vehicle integration.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rapid urbanization and large-scale infrastructure investments. Countries such as China, India, and Japan are scaling up smart city projects with connected road systems. Rising middle-class populations are fueling demand for efficient and safe transport. Governments are introducing supportive policies to encourage domestic innovation in mobility technologies. Local companies are expanding production to meet both domestic and export requirements. Advances in 5G and edge computing accelerate adoption in this region.

Key players in the market

Some of the key players in Connected Road Infrastructure Market include Siemens Mobility GmbH, Swarco AG, Kapsch TrafficCom AG, Yunex Traffic, Cisco Systems, Inc., Huawei Technologies Co., Ltd., Iteris, Inc., Cubic Corporation, Q-Free ASA, TransCore, Jenoptik AG, ST Engineering, NEC Corporation, Teledyne FLIR LLC and Hitachi, Ltd.

Key Developments:

In April 2026, Kapsch TrafficCom AG implemented an integrated corridor management solution across a key metropolitan highway network in Latin America. The intelligent network automatically adjusts smart traffic signals and dynamic toll lane pricing to stabilize vehicular throughput.

In October 2025, Cisco Systems, Inc. launched its Catalyst industrial routing architecture specifically designed for roadside and trackside command loops. The hardware establishes highly secure, ultra-low latency edge communication nodes tailored for automated highway and signaling networks.

Infrastructure Types Covered:

- Smart Intersections
- Connected Traffic Signals
- Roadside Units
- Intelligent Highway Systems
- Other Infrastructure Types

Communication Technologies Covered:

- DSRC
- C-V2X
- 5G
- Fiber Optic Networks
- Other Communication Technologies

Components Covered:

- Sensors
- Cameras
- Communication Devices
- Edge Computing Units
- Other Components

Road Types Covered:

Urban Roads

Highways

Expressways

Rural Roads

Other Road Types

End Users Covered:

Transportation Authorities

Highway Operators

Municipal Governments

Smart City Authorities

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY INFRASTRUCTURE TYPE

- 5.1 Smart Intersections
- 5.2 Connected Traffic Signals
- 5.3 Roadside Units
- 5.4 Intelligent Highway Systems
- 5.5 Other Infrastructure Types

6 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY COMMUNICATION TECHNOLOGY

- 6.1 DSRC
- 6.2 C-V2X
- 6.3 5G
- 6.4 Fiber Optic Networks
- 6.5 Other Communication Technologies

7 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY COMPONENT

- 7.1 Sensors
- 7.2 Cameras
- 7.3 Communication Devices
- 7.4 Edge Computing Units
- 7.5 Other Components

8 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY ROAD TYPE

- 8.1 Urban Roads
- 8.2 Highways
- 8.3 Expressways
- 8.4 Rural Roads
- 8.5 Other Road Types

9 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY END USER

- 9.1 Transportation Authorities
- 9.2 Highway Operators
- 9.3 Municipal Governments
- 9.4 Smart City Authorities
- 9.5 Other End Users

10 GLOBAL CONNECTED ROAD INFRASTRUCTURE MARKET, BY GEOGRAPHY

- 10.1 North America
 - 10.1.1 United States
 - 10.1.2 Canada
 - 10.1.3 Mexico
- 10.2 Europe
 - 10.2.1 United Kingdom
 - 10.2.2 Germany
 - 10.2.3 France
 - 10.2.4 Italy
 - 10.2.5 Spain
 - 10.2.6 Netherlands
 - 10.2.7 Belgium
 - 10.2.8 Sweden
 - 10.2.9 Switzerland
 - 10.2.10 Poland
 - 10.2.11 Rest of Europe
- 10.3 Asia Pacific
 - 10.3.1 China
 - 10.3.2 Japan
 - 10.3.3 India
 - 10.3.4 South Korea
 - 10.3.5 Australia
 - 10.3.6 Indonesia
 - 10.3.7 Thailand
 - 10.3.8 Malaysia
 - 10.3.9 Singapore
 - 10.3.10 Vietnam
 - 10.3.11 Rest of Asia Pacific
- 10.4 South America
 - 10.4.1 Brazil

- 10.4.2 Argentina
- 10.4.3 Colombia
- 10.4.4 Chile
- 10.4.5 Peru
- 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
 - 10.5.1 Middle East
 - 10.5.1.1 Saudi Arabia
 - 10.5.1.2 United Arab Emirates
 - 10.5.1.3 Qatar
 - 10.5.1.4 Israel
 - 10.5.1.5 Rest of Middle East
 - 10.5.2 Africa
 - 10.5.2.1 South Africa
 - 10.5.2.2 Egypt
 - 10.5.2.3 Morocco
 - 10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

13 COMPANY PROFILES

- 13.1 Siemens Mobility GmbH
- 13.2 Swarco AG
- 13.3 Kapsch TrafficCom AG
- 13.4 Yunex Traffic

- 13.5 Cisco Systems, Inc.
- 13.6 Huawei Technologies Co., Ltd.
- 13.7 Iteris, Inc.
- 13.8 Cubic Corporation
- 13.9 Q-Free ASA
- 13.10 TransCore
- 13.11 Jenoptik AG
- 13.12 ST Engineering
- 13.13 NEC Corporation
- 13.14 Teledyne FLIR LLC
- 13.15 Hitachi, Ltd.

List Of Tables

LIST OF TABLES

Table 1 Global Connected Road Infrastructure Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Connected Road Infrastructure Market, By Infrastructure Type (2023–2034) (\$MN)

Table 3 Global Connected Road Infrastructure Market, By Smart Intersections (2023–2034) (\$MN)

Table 4 Global Connected Road Infrastructure Market, By Connected Traffic Signals (2023–2034) (\$MN)

Table 5 Global Connected Road Infrastructure Market, By Roadside Units (2023–2034) (\$MN)

Table 6 Global Connected Road Infrastructure Market, By Intelligent Highway Systems (2023–2034) (\$MN)

Table 7 Global Connected Road Infrastructure Market, By Other Infrastructure Types (2023–2034) (\$MN)

Table 8 Global Connected Road Infrastructure Market, By Communication Technology (2023–2034) (\$MN)

Table 9 Global Connected Road Infrastructure Market, By DSRC (2023–2034) (\$MN)

Table 10 Global Connected Road Infrastructure Market, By C-V2X (2023–2034) (\$MN)

Table 11 Global Connected Road Infrastructure Market, By 5G (2023–2034) (\$MN)

Table 12 Global Connected Road Infrastructure Market, By Fiber Optic Networks (2023–2034) (\$MN)

Table 13 Global Connected Road Infrastructure Market, By Other Communication Technologies (2023–2034) (\$MN)

Table 14 Global Connected Road Infrastructure Market, By Component (2023–2034) (\$MN)

Table 15 Global Connected Road Infrastructure Market, By Sensors (2023–2034) (\$MN)

Table 16 Global Connected Road Infrastructure Market, By Cameras (2023–2034) (\$MN)

Table 17 Global Connected Road Infrastructure Market, By Communication Devices (2023–2034) (\$MN)

Table 18 Global Connected Road Infrastructure Market, By Edge Computing Units (2023–2034) (\$MN)

Table 19 Global Connected Road Infrastructure Market, By Other Components (2023–2034) (\$MN)

Table 20 Global Connected Road Infrastructure Market, By Road Type (2023–2034)

(\$MN)

Table 21 Global Connected Road Infrastructure Market, By Urban Roads (2023–2034)

(\$MN)

Table 22 Global Connected Road Infrastructure Market, By Highways (2023–2034)

(\$MN)

Table 23 Global Connected Road Infrastructure Market, By Expressways (2023–2034)

(\$MN)

Table 24 Global Connected Road Infrastructure Market, By Rural Roads (2023–2034)

(\$MN)

Table 25 Global Connected Road Infrastructure Market, By Other Road Types
(2023–2034) (\$MN)

Table 26 Global Connected Road Infrastructure Market, By End User (2023–2034)
(\$MN)

Table 27 Global Connected Road Infrastructure Market, By Transportation Authorities
(2023–2034) (\$MN)

Table 28 Global Connected Road Infrastructure Market, By Highway Operators
(2023–2034) (\$MN)

Table 29 Global Connected Road Infrastructure Market, By Municipal Governments
(2023–2034) (\$MN)

Table 30 Global Connected Road Infrastructure Market, By Smart City Authorities
(2023–2034) (\$MN)

Table 31 Global Connected Road Infrastructure Market, By Other End Users
(2023–2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) are also represented in the same manner as above.

I would like to order

Product name: Connected Road Infrastructure Market Forecasts to 2034 – Global Analysis By Infrastructure Type (Smart Intersections, Connected Traffic Signals, Roadside Units, Intelligent Highway Systems and Other Infrastructure Types), Communication Technology, Component, Road Type, End User, and Geography

Product link: <https://marketpublishers.com/r/C21044037F0FEN.html>

Price: US\$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/C21044037F0FEN.html>