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Transport in Review Working Paper Series: Nepal

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Contributors: Sudhir Gota, Hemant Tiwari, Hare Ram Shrestha, Alvin Mejia, Choudhury Rudra Charan Mohanty, Ganesh Raj Joshi, Mel Eden, Adwait Limaye,
Vibek Gupta, Saujanya Nepal, Nestor Benjamin Soco, Aaron Salang

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Abbreviations

ADB	Asian Development Bank
ATO	Asian Transport Observatory
BRT	Bus Rapid Transit
CAAN	Civil Aviation Authority of Nepal
CDRI	Coalition for Disaster Resilient Infrastructure
CFIT	Controlled Flight into Terrain
DOR	Department of Roads
DoRW	Department of Railways
DUBC	Department of Urban Development and Building Construction
EIE	Environmental Insights Explorer
EST	Environmentally Sustainable Transport
EV	Electric Vehicle
FCCPTA	Federal Capital City Public Transport Authority
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GVA	Gross Value Added
HSR	High-speed rail
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICDs	Inland Clearance Depots
IHME	Institute for Health Metrics and Evaluation
iRAP	The International Road Assessment Programme
ITDP	Institute for Transportation and Development Policy
ITS	Intelligent Transport Systems
ITU	International Telecommunication Union
KSUTP	Kathmandu Sustainable Urban Transport Project
KVDA	Kathmandu Valley Development Authority
KVU	Kathmandu Valley Urban area
LDC	Least Developed Country
LDV	Light-Duty Vehicle
LPI	Logistics Performance Index
LRT	Light Rail Transit
LTS	Long-term low greenhouse gas emission development strategy

MoPIT	Ministry of Physical Infrastructure and Transport
MoU	Memorandum of understanding
MSME	Micro, small medium-sized enterprises
Mt	Million tons
NASP	National Aviation Safety Plan
NDC	Nationally Determined Contribution
NITDB	Nepal Intermodal Transport Development Board
NLSS	Nepal Living Standards Survey
NMT	Non -Motorized Transport
NOx	Nitrogen oxides
NSTS	National Sustainable Transport Strategy
NTP	National Transport Policy
NUDS	National Urban Development Strategy
NUP	National Urban Policy
NURS	Nepal Urban Road Standard
OECD	Organisation for Economic Co-operation and Development
PM	Particulate matter
PPP	Public–Private Partnership
RAI	Access Index
RBN	Roads Board Nepal
RTR	Rapid Transit to Resident Ratio
SDGs	Sustainable Development Goals
SFT	Sustainable Freight Transport
SNDi	Street -Network Disconnectedness Index
SOTEN	Society of Transport Engineers Nepal
SOx	Sulfur oxides
SRN	Strategic Road Network
SSP	State Safety Programme
SUTI	Sustainable Urban Transport Index
USD	United States Dollar
TAR	Trans -Asian Railway
TIA	Tribhuvan International Airport
TOD	Transit -Oriented Development
UN	United Nations
UNCRD	United Nations Centre for Regional Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USD	United States Dollars
WHO	World Health Organization

Executive Summary

Nepal's transport system is shaped by its mountainous geography, landlocked position, and rising development ambitions, while remaining highly exposed to climate and disaster risks. As the country prepares to graduate from Least Developed Country (LDC) status in 2026, transport plays a central role in connecting people, markets, and regions and in supporting long-term economic resilience. Over the past two decades, the sector has expanded rapidly, yet persistent structural weaknesses remain across connectivity, access, safety, environmental sustainability, and governance.

Connectivity and freight transport remain heavily road dependent. Roads account for around 98% of transport energy consumption, reflecting historical investment patterns and limited modal diversification. While the road network has expanded substantially, logistics performance continues to lag behind regional peers due to infrastructure gaps, customs inefficiencies, and weak multimodal integration. Railways are re-emerging as a strategic priority, with proposals for an electrified East–West Railway and cross-border rail links with India and the People's Republic of China intended to reduce logistics costs and strengthen regional connectivity. Aviation plays a critical role in domestic and international access, particularly for tourism and remote regions, but remains constrained by capacity and affordability.

Access to transport has improved markedly, but disparities persist. By 2022/23, approximately 80% of households lived within a 30-minute walk of a paved road, up from just over half in 2010/11. However, majority of rural communities continue to face long travel times to essential services such as healthcare, education, and markets. In urban areas, road coverage is relatively high, yet access to reliable and affordable public transport remains limited, particularly in rapidly expanding peri-urban zones.

Safety, security, and resilience remain major challenges. Pedestrians account for the largest share of road crash fatalities, and nearly 56% of deaths occur among people aged 15–44, imposing substantial social and economic costs. Transport infrastructure is also highly vulnerable to climate hazards, including floods and landslides, particularly in mountainous and monsoon-affected areas. Policy frameworks increasingly emphasize road safety management, institutional capacity building, and data systems, but implementation gaps persist. Aviation safety is also a key challenge.

Environmental pressures are intensifying. Transport energy demand nearly tripled between 2015 and 2022, rising from 23 to 62 thousand terajoules, driven almost entirely by road transport. The fuel mix remains overwhelmingly dependent on imported oil products. As a result, transport has become the fastest-growing source of greenhouse gas emissions in Nepal, with its share of national emissions increasing from 4.8% in 2015 to about 12.5% today, diverging sharply from global and regional trends where growth has moderated.

Science, technology, and innovation are increasingly shaping the transport sector. Internet use expanded from 8% of the population in 2010 to 56% in 2023, enabling greater use of digital tools in planning, management, and enforcement. However, digital readiness remains uneven: only around half of the population was covered by 3G networks in 2022, and mobile internet speeds remain relatively low, constraining the deployment of intelligent transport and data-driven systems at scale.

Cross-cutting dynamics influence outcomes across all subsectors. Transport contributes significantly to employment and economic activity but also represents a notable share of household expenditure, raising affordability concerns for lower-income groups. Motorization has been strongly accelerating, shaping infrastructure demand, safety outcomes, energy use, and emissions. Transport equipment trade is dominated by imports, with a rapid rise in electric vehicle imports and penetration in new entrants to the vehicle fleet, alongside continued reliance on conventional vehicles and fuels, affecting the trade balance, fiscal revenues, and energy security. Persistent gender disparities in access, employment, and participation further highlight the need for more inclusive transport policies.

Overall, Nepal's transport sector is at a critical juncture. While access and connectivity have improved, rising emissions, safety risks, and climate vulnerability threaten to offset these gains. Achieving sustainable transport outcomes will require translating policy ambition into implementation through sustained investment, stronger coordination across levels of government, and accelerated shifts toward safer, cleaner, and more resilient transport systems aligned with the objectives of the Aichi 2030 Declaration (2021-2030) (UNCRD 2021) and the UN Decade of Sustainable Transport (2026-2035) (UN 2025).

Over the past two decades, the transport sector has expanded rapidly, yet persistent structural weaknesses remain across connectivity, access, safety, environmental sustainability, and governance.

Introduction

Nepal is set to graduate from its Least Developed Country (LDC) status to a developing country this November 2026 (UN General Assembly 2021), aligned with its national aspiration to transition fully to a middle-income economy by 2026 (Baral 2025; UNDP 2024). This goal is built on a foundation of proven economic resilience. Since the mid-1990s, Nepal has maintained macroeconomic stability and moderate growth despite persistent political volatility and multiple disasters.

But this progress remains fragile. A series of economic shocks, beginning with the 2015 earthquake, caused a spike in debt. The more enduring obstacle is geography, as Nepal is landlocked by the Himalayas. Its distinctive challenge lies in its topography. Taken together, these conditions shape a transport system characterized by high costs, constrained accessibility, and heightened vulnerability to disruption.

The country's transport sector plans are hinged on improving national access and connectivity. It underpins efforts to link the mountainous regions with the Terai plains and modernizing infrastructure. This internal focus is paired with an external one: to re-establish the country as a vital economic bridge between India and People's Republic of China.

Achieving this vision requires balancing conflicting, urgent priorities. Economic and social goals must be weighed against environmental and climate vulnerability. This balancing act is critical. It must happen in a sector that, by its nature, must expand to accommodate the demands of a growing economy.

This report deconstructs this challenge. It provides a data-driven baseline, benchmarking Nepal's transport performance against regional and global standards. Our findings paint a nuanced picture: while significant strides have been made, vulnerabilities persist. This dual narrative is particularly crucial as the UN Decade of Sustainable Transport kicks off in December 2025 (ATO 2025a). This report, therefore, isn't just an analysis; it's the critical baseline Nepal needs to monitor its journey throughout this pivotal decade.

We utilize several indicators to track progress and identify gaps. Sustainable transport is examined through seven interconnected lenses (UN 2025): ensure access to sustainable transport for all; sustainable connectivity and freight; make transport safe and secure; shape people centric urban mobility; advanced low carbon resilient and environmentally sound transport systems and leverage science, technology and innovation for sustainable transport and crosscutting dimension focusing on mobility, equity and prosperity (Figure 1). This framework also complements all six goals of the Aichi 2030 Declaration on EST (UNCRD 2021) and highlights the symbiotic relationship between the Declaration and the Asian Transport Observatory as its tracking instrument.

The country's transport sector plans are hinged on improving national access and connectivity.

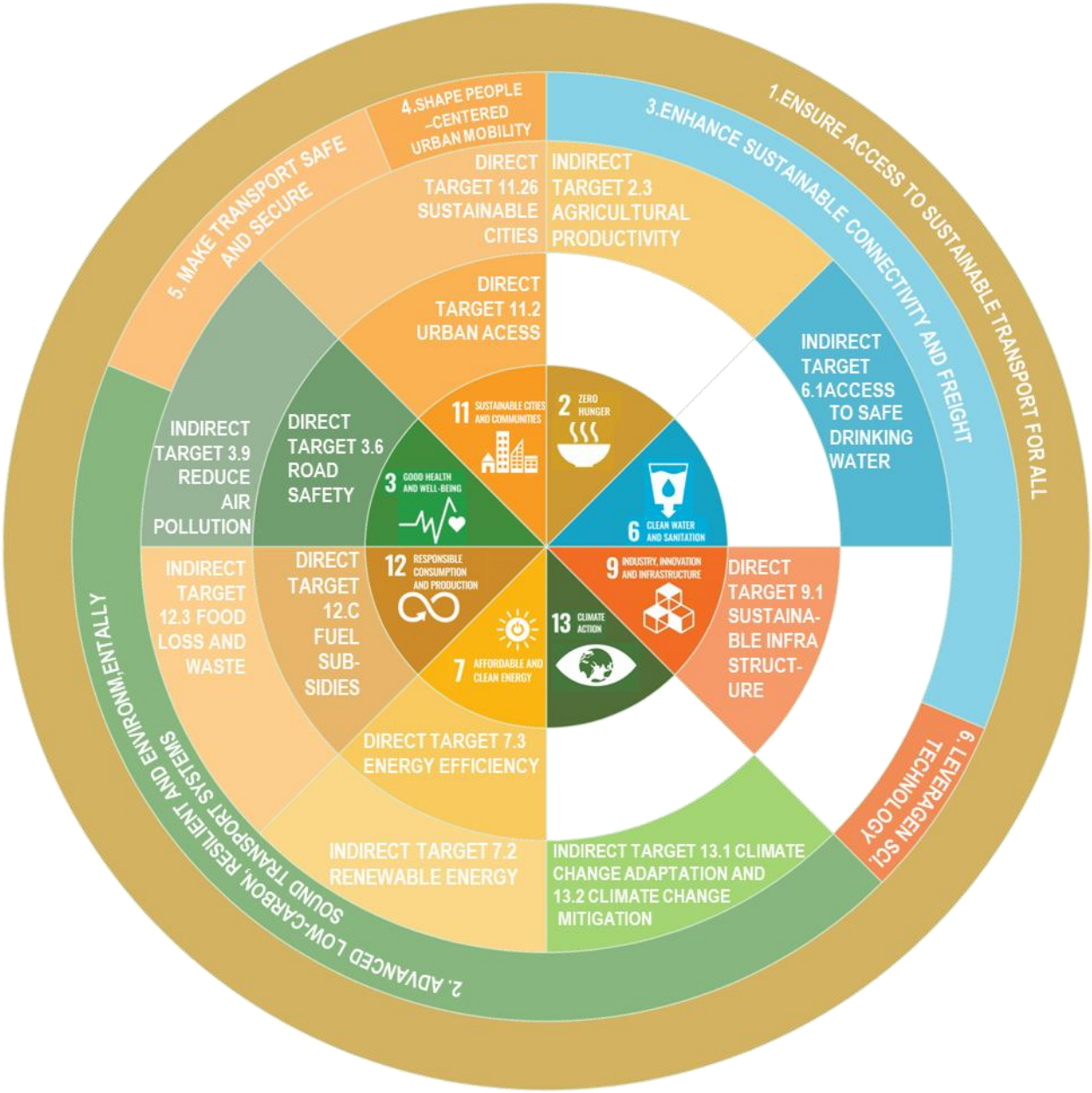

Figure 1. Sustainable Transport Assessment Framework
Source: (ATO 2025a)

Enhance Sustainable Connectivity and Freight

Enhance Sustainable Connectivity and Freight

Quality infrastructure is the backbone of economic and social progress. It is foundational, directly underpinning Sustainable Development Goal 9 and influencing the entire 2030 Agenda. It also directly complements the Goal 3, Goal 4, Goal 5 and Goal 6 of the Aichi 2030 Declaration on EST (UNCRD 2021). In the transport sector, the quality, resilience, and inclusiveness of infrastructure determine access to markets, essential services, and economic opportunities, particularly in geographically constrained countries and those that are highly vulnerable to natural disasters.

Road Sector

Nepal's road network spans more than 100,000 kilometers (kms), including federal, provincial, and local roads. National highways—which are under the purview of the Department of Roads— only constitute around 15 thousand kms. Measured per thousand inhabitants, this translates to 3.8 kilometers (Figure 2), positioning Nepal close to the broader Asian context (average 4.8 km per thousand people) but substantially behind OECD nations, which average 17 km per thousand people. The picture changes when land area is considered. Road network density is around 790 meters per square kilometer, surpassing both the Asian average (440 m) and the OECD average (670 m). Such density points towards extensive reach, yet questions linger around the network's composition and condition.

Existing estimates suggest that primary roads constitute a minute proportion of the total road network. Wiedenhofer et al. estimate primary roads being 1% of the total road infrastructure (2024), while an investigation of the latest available OpenStreetMap data reveals that 4% of the network consists of primary roads.[1]

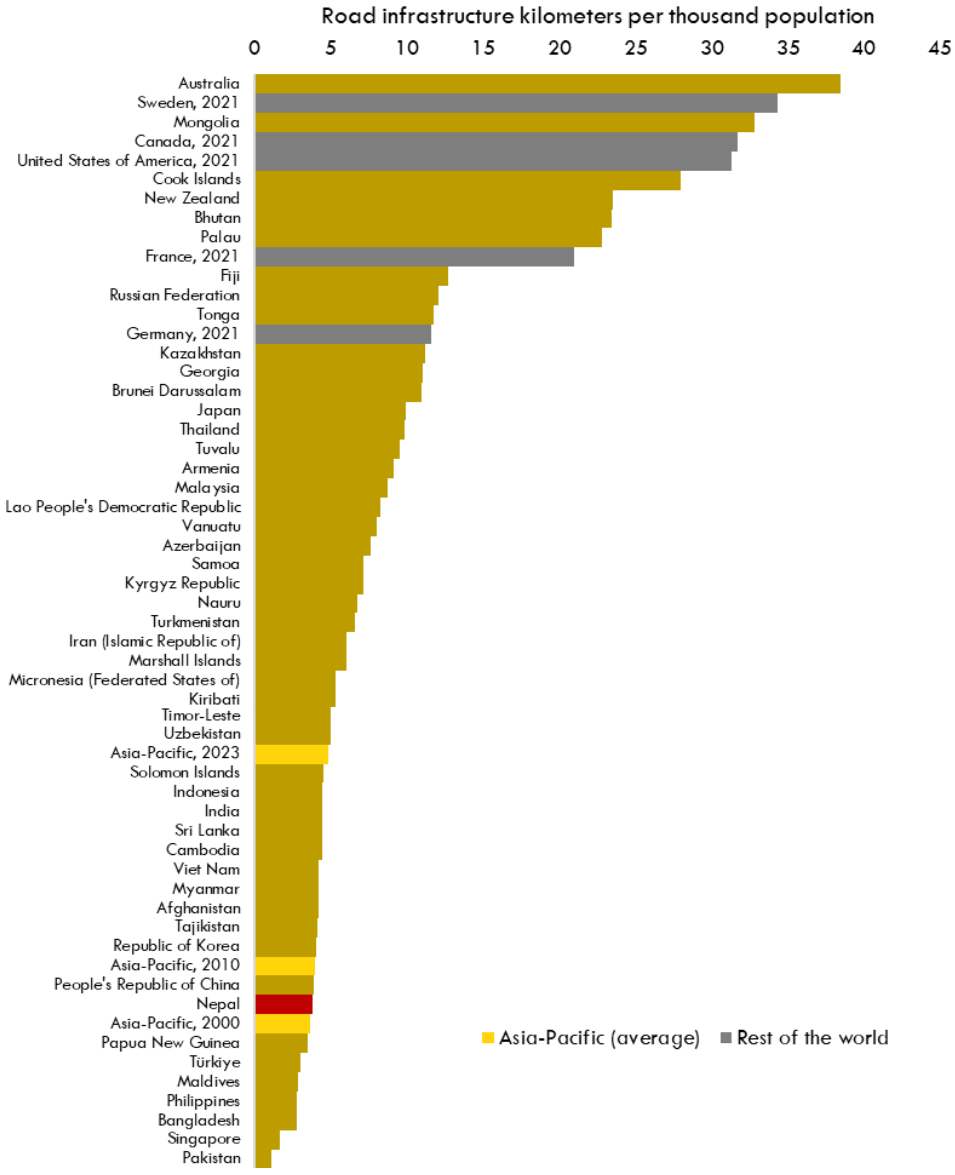

Figure 2: Road Infrastructure Kilometers per Thousand Population
Source: ATO (2025b)

[1] Primary roads in this exercise refers to motorways, trunk roads, primary roads, and their links. The data is from (Geofabrik GmbH and OpenStreetMap Contributors 2026).

High-income economies historically show an increasing share of primary roads correlating with economic development. Nepal appears to be oriented towards this trajectory, though it is currently dominated by lower-tier roads. Pavement coverage presents a mixed signal. Official figures suggest that about 61% of the national highways are paved. A study by van Dissel and Anyala (2024) which analyzed more than 75 thousand km in total, suggests that the road network is around 15% paved. This discrepancy highlights potential data inconsistencies or differing definitions. Our own analysis of the data from OpenStreetMap reveals that 16% of the total road lengths have been classified as paved.[2]

Sustaining this network requires significant resources. Annual maintenance needs are estimated at USD 290 million (van Dissel and Anyala 2024). This presents a considerable financing challenge. Ongoing network expansion and paving efforts will only amplify these requirements. Current budget allocations, however, are insufficient. The designated USD 87 million covers a mere 30% of the estimated need, revealing a critical funding gap.

Road user revenues appear substantial, estimated at USD 745 million annually. Yet this revenue stream harbors a significant vulnerability. Nearly half derive from fuel-based charges on gasoline and diesel. The impending transition towards electric vehicles consequently threatens the financial stability of mechanisms like the Road Fund, which depend heavily on the fuel levy.

Road infrastructure development is guided by the National Transport Policy (NTP) 2001 (Government of Nepal 2001), which is currently undergoing its final stage of updating. Its core aim: to foster a reliable, cost-effective, safe, and sustainable transport system that contributes to national advancement. A strong emphasis on expanding the road network is evident, as reflected in achievements such as connecting all district headquarters and constructing the Mid-Hill Highway. A key NTP 2001 principle is delineated responsibilities: central agencies handle national highways, while local bodies manage sub-national roads. Practice seems to deviate from policy, though; the Department of Roads (DOR) frequently remains involved in local projects. Specific frameworks like the Local Infrastructure Policy 2005 target district and local systems, while the Trail Bridge Strategy 2006 (Government of Nepal 2006) focused on rural accessibility through local initiative. Maintenance funding operates under the Roads Board Act 2002 (Government of Nepal 2002) establishing the Roads Board Nepal (RBN). RBN generates and disburses funds to maintain various road classes that meet specific criteria. Its allocation formula directs 70% to the central system via DOR offices and 30% to sub-national systems. Encouraging private sector involvement is another stated NTP 2001 strategy. Institutionally, while NTP 2001 envisioned consolidation, Nepal's 2015 federal constitution established a three-tier government. This structure, along with the Local Government Operation Act 2017 (Government of Nepal 2017a), largely aligns with the policy's decentralization intent, assigning non-central road responsibilities to local governments.

Annual road maintenance needs are estimated at USD 290 million. This presents a considerable financing challenge.

[2] Limited to those roads which have pavement classifications only. Paved surfaces include asphalt, concrete, paving stones, sett, cobblestone, chipseal, sealed, tartan, metal, wood. 75% of the total length of the primary roads are classified as paved, while it is 47% for secondary roads, and 13% for tertiary roads.

Railways

Roads exclusively comprise Nepal's surface infrastructure landscape. Heavy railways are currently non-operational. The nation's railway history started small: a 48 km line from Amalekhagunj to Raxaul (India) operated from 1927 to 1960, and a 51 km service linked Jayanagar (India) to Janakpur and Bijalpura from 1937. Recognizing rail's potential – reliable, cost-effective transport crucial for development – the government prioritized network expansion and interconnection. This led to the formation of the Department of Railways (DoRW) under the Ministry of Physical Infrastructure and Transport in 2011 (2068/03/01 B.S.) in 2011 to guide policy and development.

Ambitious plans began to take shape around 2010. At the core is the proposed 945 km electrified East-West Railway, envisioned to traverse the country. Construction began in 2014 on the initial 108 km Bardibas-Simara section and remains ongoing. Several smaller projects, mainly cross-border links with India totaling about 180 km, have been proposed. Connectivity with the People's Republic of China is another strategic goal. A 2024 pre-feasibility study outlined a 628 km standard-gauge railway linking Kathmandu with Xigazê, including a 72 km segment within Nepal.

Policy frameworks envision rail becoming a cornerstone of sustainable transport, reducing road dependency. National strategies emphasize electrified networks, integration with other modes, and better cross-border connections. The Fifteenth Plan (2019/20–2023/24) (Government of Nepal 2020b) included railway construction based on feasibility studies. The National Sustainable Transport Strategy (2015–2040) (Government of Nepal 2015) targets the Mechi–Mahakali–Kathmandu–Pokhara electric railway and aims to build capacity for environmentally sound rail services, and considers High-Speed Rail (HSR) potential for the East-West line. By 2030, Nepal aims for 200 km of electric rail networks for passengers and freight (Government of Nepal 2025b). These efforts support broader goals: boosting trade, mobility, and regional integration via a resilient, inclusive, low-carbon system managed by bodies like DoRW and the Nepal Railway Company.

Nepal's approach to railway development, as outlined in the 2001 National Transport Policy (Government of Nepal 2001), positions railways as a long-term, energy-efficient, and sustainable mode of transport. The policy emphasizes identifying feasible corridors, preparing long-term railway plans, and integrating them into the broader transport system, while focusing on expanding and institutionalizing railway operations with private sector participation, coordinating cross-border development in partnership with Indian Railways, and promoting electrified railways to harness Nepal's hydropower potential and reduce dependence on fossil fuels.

At the strategic level, Nepal signed the Trans-Asian Railway (TAR) agreement in 2006 and ratified it in 2012, reinforcing its ambition to connect with regional and global networks. The national railway policy framework also prioritizes electrification, lowering CO_2 emissions, and offering viable alternatives to road-based transport.

The Draft of National Transport Policy 2024, which is yet to be approved, further reinforces these priorities by articulating a vision towards an integrated, safe, and sustainable multimodal system, with railways positioned as the backbone for long-distance and high-capacity movement. It highlights expanding cross-border connectivity with India and China, fostering public-private partnerships (PPPs) and innovation, ensuring safety and inclusivity in planning, and building a climate-resilient, low-carbon railway network.

Aviation

Aviation forms a critical artery for Nepal, shaped by its landlocked geography and highly challenging terrain. The sector is overseen by the Civil Aviation Authority of Nepal (CAAN), the nodal agency for civil aviation. Air travel supports trade, tourism, and essential connectivity. In 2023, the sector directly employed over 12 thousand people and generated USD 256.9 million (0.6% of GDP) (IATA 2023). Its influence extends much further via tourism, contributing an estimated USD 542 million to GDP and supporting more than 260 thousand jobs (IATA 2023). Spending by international air arrivals is substantial, estimated at USD 633.7 million annually (The Rising Nepal 2025). Yet the sector faces significant obstacles.

In 2022, tourism arrivals in Nepal exceeded 600 thousand, with approximately 96% arriving by air, underscoring the reliance of tourism on aviation (Figure 3). These arrivals accounted for a fifth of total tourism arrivals in South Asia. While this represents a three-fold increase compared to 2021, arrival levels remain significantly well below pre-pandemic volumes (UN Tourism 2025).

Aviation infrastructure in Nepal presents a mixed picture. Of the country's 55 domestic airports, only 35 are operational (CAAN 2025b). New international airports at Bhairahawa and Pokhara function but await regular commercial schedules. Plans for the Nijgadh international airport persist after environmental reassessment. Nepal has signed Bilateral Air Services Agreements and MoU with 42 different countries since 1963 (CAAN 2025b). Nepal adopted a liberal sky policy in 1992. Since then, it has gradually pursued an open sky policy in accordance with the Civil Aviation Policy 2006 (CAAN 2006). Tribhuvan International Airport (TIA) remains the dominant international gateway, handling nearly 5 million passengers in 2024 (The Rising Nepal 2025). It also handles almost the same number of domestic passengers (4.5 million), underscoring its vital role despite challenges such as dated infrastructure and operational inefficiencies.

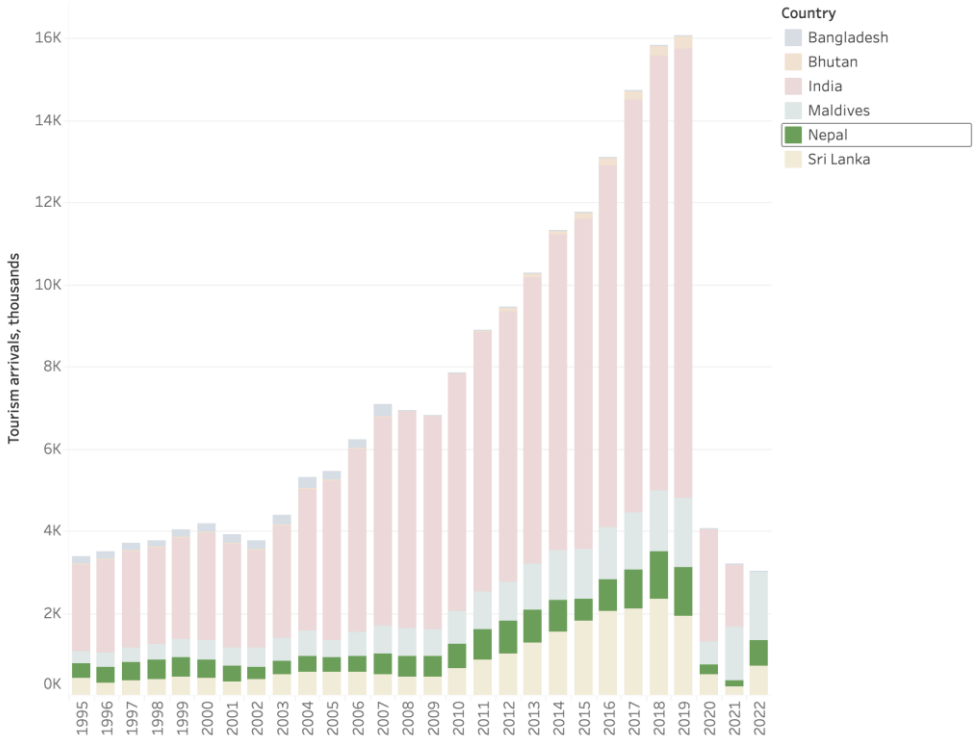

Figure 3: Tourism Arrivals – Nepal and South Asian Countries
Source: ATO analysis and visualization based on UN Tourism (2025)

Aviation forms a critical artery for Nepal, shaped by its landlocked geography and highly challenging terrain.

International traffic accounted for 38% of origin-destination departures in 2023 (2.5 million passengers), ranking Nepal 84th globally (IATA 2023). Asia Pacific dominates these flows (52%), followed by the Middle East (30%) and Europe (12%) (IATA 2023). Total passenger traffic in 2023 was around 2.38 million (73rd globally) (IATA 2023). Connectivity (Figure 4) shows improvement; since 2014, Nepal's international air connectivity index rose 14% within Asia Pacific and 120% with other regions (IATA 2023).

Registered carrier departures per thousand population (Figure 5) climbed from 0.41 (2000-2010 average) to 1.39 (2010-2021 average) (IATA 2023). Nepal is overwhelmingly a destination, not a transit hub; 99% of international arrivals ended their journey in Nepal or continued overland. Air cargo, though smaller (26,400 tons in 2023; 90th largest market), plays a role in trade (122nd largest market) (IATA 2023). Despite the demand and gradual improvement, Nepal only ranks 69th in the IATA Airport Connectivity Index by 2024, trailing behind its South Asian peers Sri Lanka (67th), Bangladesh (50th), and India, (3rd) (IATA 2023).

Affordability remains a binding constraint, despite improvements. Average real airfares fell 37% between 2011 and 2023, yet affording a ticket required an estimated 38.6 days of work for the average citizen (IATA 2023). Overall usage was 211 flights per 1,000 population in 2023 (IATA 2023).

Aviation safety is a key concern for Nepal, shaped by a combination of difficult topography, rapidly expanding air travel, along with systemic regulatory and operational constraints. According to the projections by Airbus, Nepal is poised to have one of the highest increases in terms of propensity to travel,[3] ranking 10th out of 94 countries, and almost quadrupling the trips per capita between 2019 to 2044 (Airbus n.d.). Based on data from the EM-Dat International Disaster Database, Nepal ranked 12th globally in terms of total fatalities related to aviation disasters from 2000-2025 (Figure 6) (CRED 2026). In 2024, there were 349 aviation safety occurrences as reported by CAAN (CAAN 2025a).

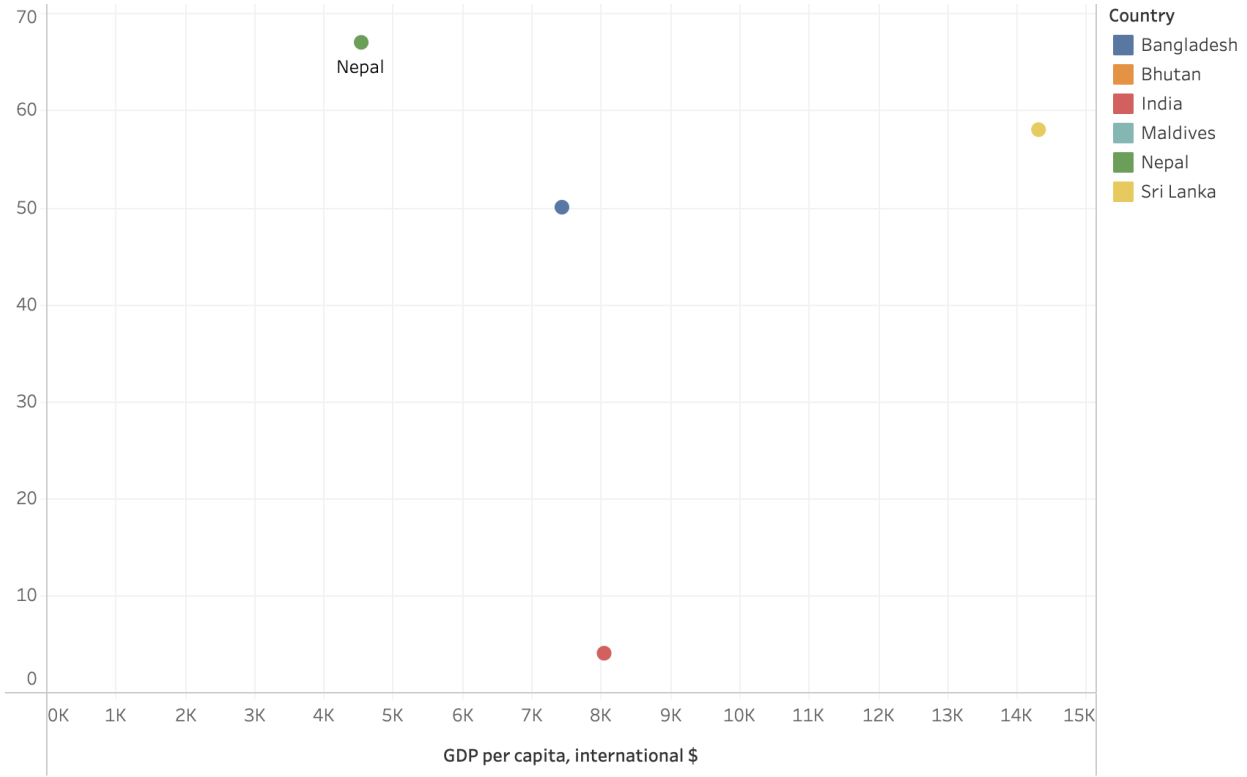

Figure 4: IATA Air Connectivity Indicator, ranking in South Asia (2024)
Source: ATO analysis and visualization based on World Bank Group (2024)

[3] Trips per capita for passengers originating from the countries.

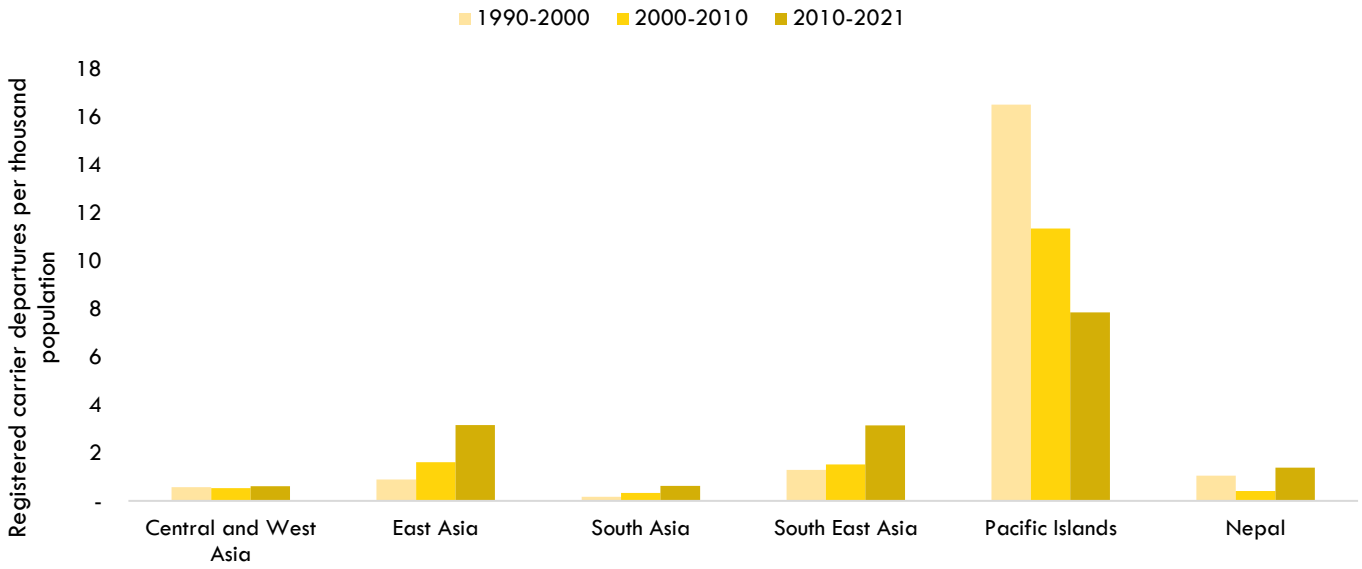

Figure 5: Registered Carrier Departures per Thousand Population
Source: ATO analysis and visualization based on World Bank (2021a)

Considering these factors, improving aviation safety is critical moving forward. Issues related to various factors need to be addressed - ground-handling systems and coordination, timely aviation and weather information provision, oversight improvements, and ensuring the primacy of essential safety systems and facilities (CAAN 2018; Prasain 2025).

Nepal's aviation policy aims to stimulate growth and modernize. The Air Transport Policy 2006 (CAAN 2006) sought "to develop the air transport system... based on the concept of open sky policy, while making air services safe, reliable, standard, easily available, accessible... sustainable and effective", emphasizing private sector participation. Six objectives supported this: "(a) develop a domestic industry meeting global standards; (b) maintain highest safety and security; (c) foster healthy competition; (d) build international airports with modern facilities; (e) pursue institutional development and strengthen training; (f) establish aviation as a reliable service industry, including air recreation" (CAAN 2006). Building on this framework, a draft Civil Aviation Policy proposes significant Foreign Direct Investment (FDI) liberalization: up to 90% in international airlines, maintaining 49% for domestic carriers. Higher ceilings are suggested for manufacturing (95%) and other services (80%). This new policy, replacing the 2006 version, also intends to meet stricter aircraft import standards. In parallel, a phased Open Skies policy is envisaged to boost international connectivity (The Kathmandu Post 2025). Despite these reform ambitions, near-term growth prospects remain modest. Industry projections suggest that passenger traffic is expected to reach around 2.42 million by 2028, implying annual growth of just 0.3% from 2023 levels (Airbus 2024).

To improve aviation safety, the CAAN has adopted the National Aviation Safety Plan (NASP) for 2023-2025, aligned with the ICAO Global Aviation Safety Plan, which sets six goals including reducing operational risks through safety enhancement initiatives targeting high-risk categories: controlled flight into terrain (CFIT) and loss of control in flight (LOC-I), strengthening safety oversight to achieve an 95% Effective Implementation score by 2030, implementing a robust State Safety Programme (SSP), and fostering regional collaboration, expanding the use of industry programmes and safety information sharing networks among service providers, and ensuring appropriate infrastructure is available for safe operations. Recommendations emphasize separating regulatory and service provider roles, establishing an independent accident investigation body, enacting pending aviation legislation, and modernizing airport systems to align with international standards, though slow progress highlights the need for accelerated reforms to mitigate ongoing hazards.

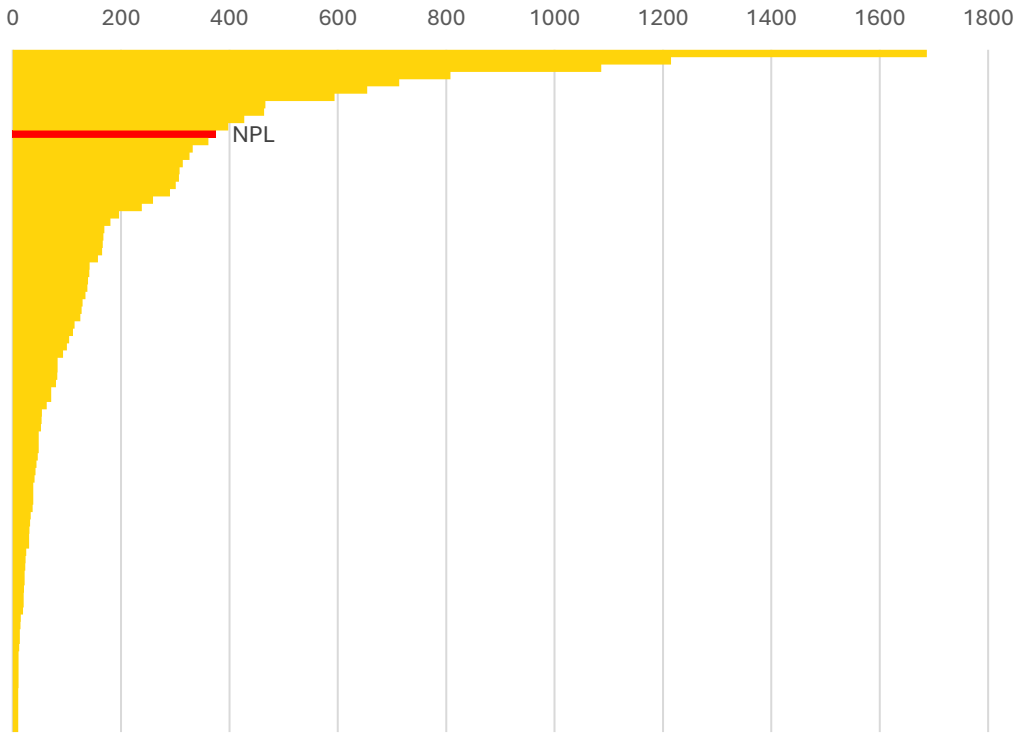

Figure 6. Total Fatalities from Air Transport-related Disasters (2000-2025)
Source: ATO analysis and visualization based on CRED (2026)

Freight and Logistics Performance Challenges

The Government of Nepal has established the 'Nepal Intermodal Transport Development Board (NITDB) on 19th January 1998 with a mandate to oversee the economical and efficient management of Inland Clearance Depots (ICDs) for facilitation of Nepal's foreign trade. At present, six ICDs— Birgunj, Biratnagar, Bhairahawa, Kakarvitta, Tatopani, Chobar —are operational. In addition, two ICDs (Rasuwa and Chadani Dodhara) are at different stages of construction.

Logistics performance reflects the combined states of infrastructure, connectivity, and policy. Composite metrics such as the World Bank's Logistics Performance Index (LPI) assess key dimensions including customs efficiency, infrastructure quality, ease of arranging shipments, logistics competence, tracking, and timeliness (World Bank 2024). Nepal's LPI history shows gradual improvement from a low base. Ranked 130th in 2007, it slipped to 151st in 2012, then improved to 124th in 2016 and 114th in 2018 (World Bank 2024).

UNCTAD's Sustainable Freight Transport (SFT) index (UNCTAD, n.d.) provides an additional benchmark for assessing freight transport performance across >160 economies. Scores range from 0 (lowest worldwide) to 100 (highest). Nepal records an overall score of 51, placing it 94th globally. This position results from scores of 42 on economic dimensions, 47 on social factors, and 62 on environmental aspects (UNCTAD, n.d.).

To tackle these challenges, Nepal initiated its Trade Logistics Policy, 2022 (Government of Nepal 2022). This policy sets out a vision for a modern, efficient, integrated system to enhance trade competitiveness. Reducing logistics costs is key. The policy is anchored around three core objectives. First, it seeks to develop integrated logistics infrastructure through the preparation of a national logistics master plan, expansion of international network access, and mobilization of investment—including private sector via PPPs—for multifunctional facilities. Emphasis is placed on cross-government coordination to establish a coherent national logistics network aligned with international standards. Second, the policy aims to strengthen the trade-related supply chain. Key strategies include prioritizing logistics services, setting standards, enhancing the skills of logistics service providers, improving micro, small, medium-sized enterprises (MSME) access, promoting technology uptake (e-commerce, digital customs), and building resilience. Third, it focuses on strengthening good governance and institutional effectiveness. This includes streamlining regulations, joining conventions, coordinated border management, stakeholder participation, capacity building, research, and a digital Trade Logistics Information System. It aims for an institutional structure that oversees policy guidance and implementation. Complementary national plans further support these objectives by promoting the development of dry ports, supporting multimodal integration, encouraging freight electrification, reducing empty truck runs, and improving urban freight management.

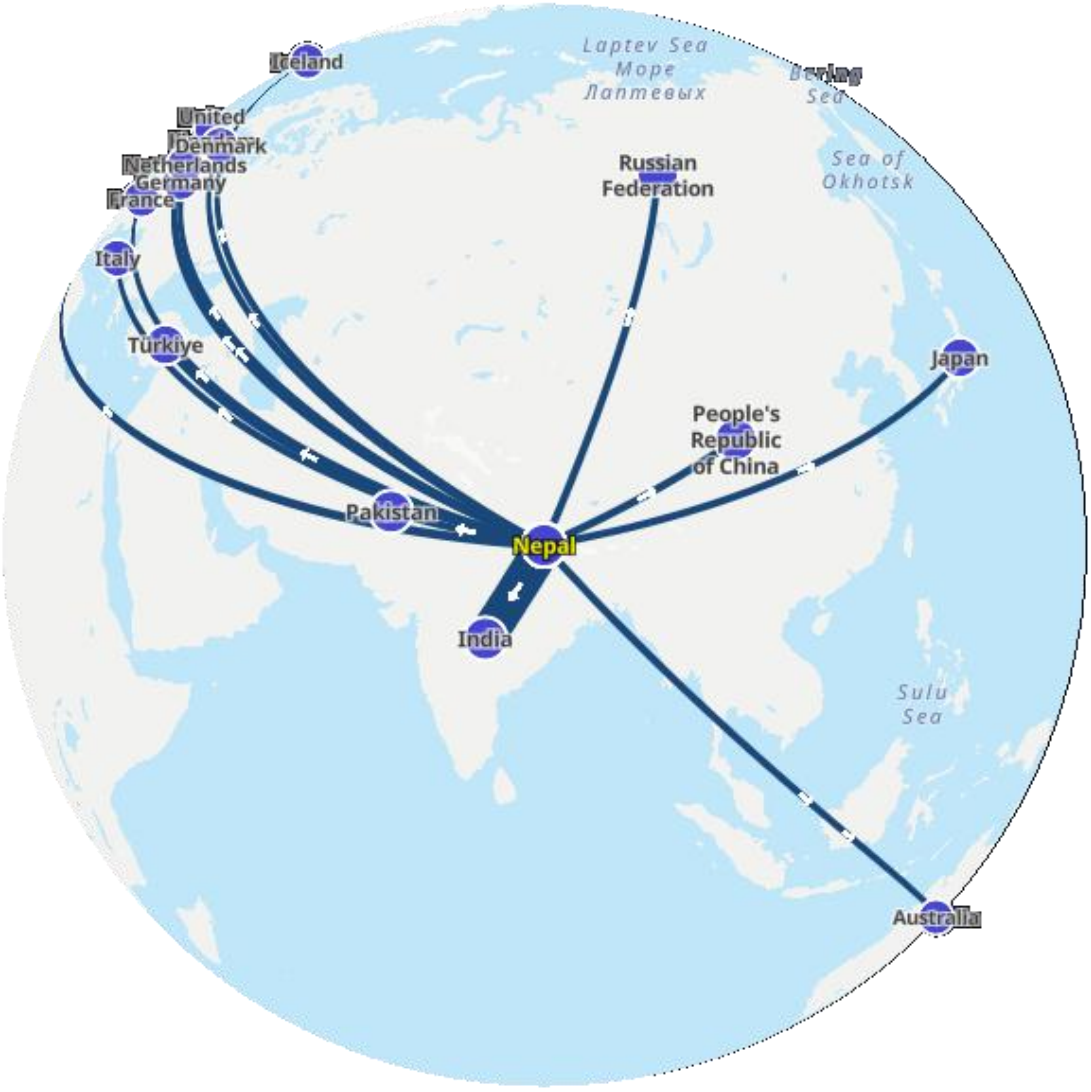

Figure 7: Mapping Freight Transport Across the Globe to and from Nepal
Source: ATO (2025c)

Ensure Access to Sustainable Transport for All

Ensure Access to Sustainable Transport for All

Access to transport is access to opportunity. In urban areas, good access means shorter, safer commutes and stronger local economies. In rural areas, it bridges isolation, connecting communities to markets, schools, and essential services. Across both contexts, equitable and reliable access to transport is a foundational element of sustainable transport systems. Access directly complements the Goal 4, Goal 5 and Goal 6 of the Aichi 2030 Declaration on EST (UNCRD 2021).

National Access

Significant strides in paved road accessibility are reported by the Nepal Living Standards Survey (NLSS) 2022/23 (Government of Nepal 2024b). Around 80% of households now live within a 30-minute walk of such infrastructure (Table 1). This marks substantial progress from 51.4% in 2010/11. While a broader measure shows that over 60% live near paved roads, the 30-minute benchmark reveals sharp geographical differences. Access to such facilities in urban areas reaches up to 90% (in certain regions), while in rural areas, it remains substantially lower (Table 2),[4] highlighting the challenge of equitable infrastructure deployment. Provincial data highlight these variations (Government of Nepal 2024b).

Table 1: Access to Road Facilities as per the Nepal Living Standards Surveys

Facility	Nepal Living Standards Survey			
	1995/96	2003/04	2010/11	2022/23
Paved Road	33.1	37.2	51.4	80
Dirt road vehicle passable	58	67.6	79.8	76.8
Dirt road vehicle impassable	-	94.3	97.1	NA

Source: Government of Nepal (2024b)

Equitable and reliable access to transport is a foundational element of sustainable transport systems.

[4] Table 3 depicts that access to dirt roads are higher in rural areas.

Table 2: Distribution of Households by Time Taken to Reach, Average Time and Percent of Users of Paved Roads

Region	Nearby House	Up to 30 min	30 min to 1 hour	1-2 hours	More than 2 hours	Not Applicable (NA)	Mean Time in min	Per cent of users (12 months)
Nepal	60.2	19.8	6.1	5.3	7.1	1.6	32.5	97
Province								
Koshi	53.1	20.7	3.9	4.6	10.4	7.3	42.6	97.1
Madhesh	73.8	24.3	1.3	0	0	0.5	6.4	97.8
Bagmati	70.2	13.5	6.3	5.5	4.4	0.1	22.1	97
Gandaki	55.8	22	10.2	6.1	5.9	0	27.4	97.2
Lumbini	63.5	19.8	5.7	5	5.1	1	22.8	97.4
Karnali	16.5	18.4	18.8	16	29.4	1	130.3	94.4
Sudurpaschim	41.1	23.1	8.8	11	16	0	68.5	95.3
Urban/Rural								
Kathmandu Valley Urban (KVU)	91.6	8	0.4	0	0	0	3.6	98.1
Urban Regions (Except KVU)	67.8	20.9	5.1	3.2	2	1.1	16.5	97.8
Rural Regions	33.2	22.3	10.2	11.3	19.9	3.1	75.6	95
Poverty Status								
Poor	40.5	26.6	8	9	13	2.8	54.7	95.4
Non-poor	64.2	18.4	5.7	4.5	5.9	1.3	28.1	97.3

Source: Government of Nepal (2024b)

Table 2: Distribution of Households by Time Taken to Reach, Average Time and Percent of Users of Paved Roads

Region	Nearby House	Up to 30 min	30 min to 1 hour	1-2 hours	More than 2 hours	Not Applicable (NA)	Mean Time in min	Per cent of users (12 months)
Nepal	73.7	3.1	0.4	0.6	0.6	21.6	9	99.1
Province								
Koshi	83.1	5.2	0.4	1.8	0.6	9	12.9	99.3
Madhesh	59.5	0.8	0	0	0	39.7	2.6	99.8
Bagmati	63	1.5	0.2	0.2	0.2	35	3.8	98.6
Gandaki	80.6	0.9	0.1	0.1	0	18.3	2.8	98.6
Lumbini	82.5	1.9	0.1	0.6	1.2	13.7	12.6	99.7
Karnali	76.2	16.2	1.2	2.6	2.7	1.2	18.1	99.1
Sudurpaschim	86	5.7	2.7	0.4	1.6	3.6	13.6	98.5
Urban/Rural								
Kathmandu Valley Urban (KVU)	47.4	0.3	0	0	0	52.3	2.5	99.2
Urban Regions (Except KVU)	73.3	2.1	0.2	0.6	0.3	23.4	7.1	99.3
Rural Regions	84.7	6.1	1	0.9	1.4	6	13.4	99
Poverty Status								
Poor	80.1	5.5	0.8	1.8	1	10.8	9.6	99.4
Non-poor	72.4	2.6	0.3	0.4	0.6	23.7	8.9	99.1

Source: Government of Nepal (2024b)

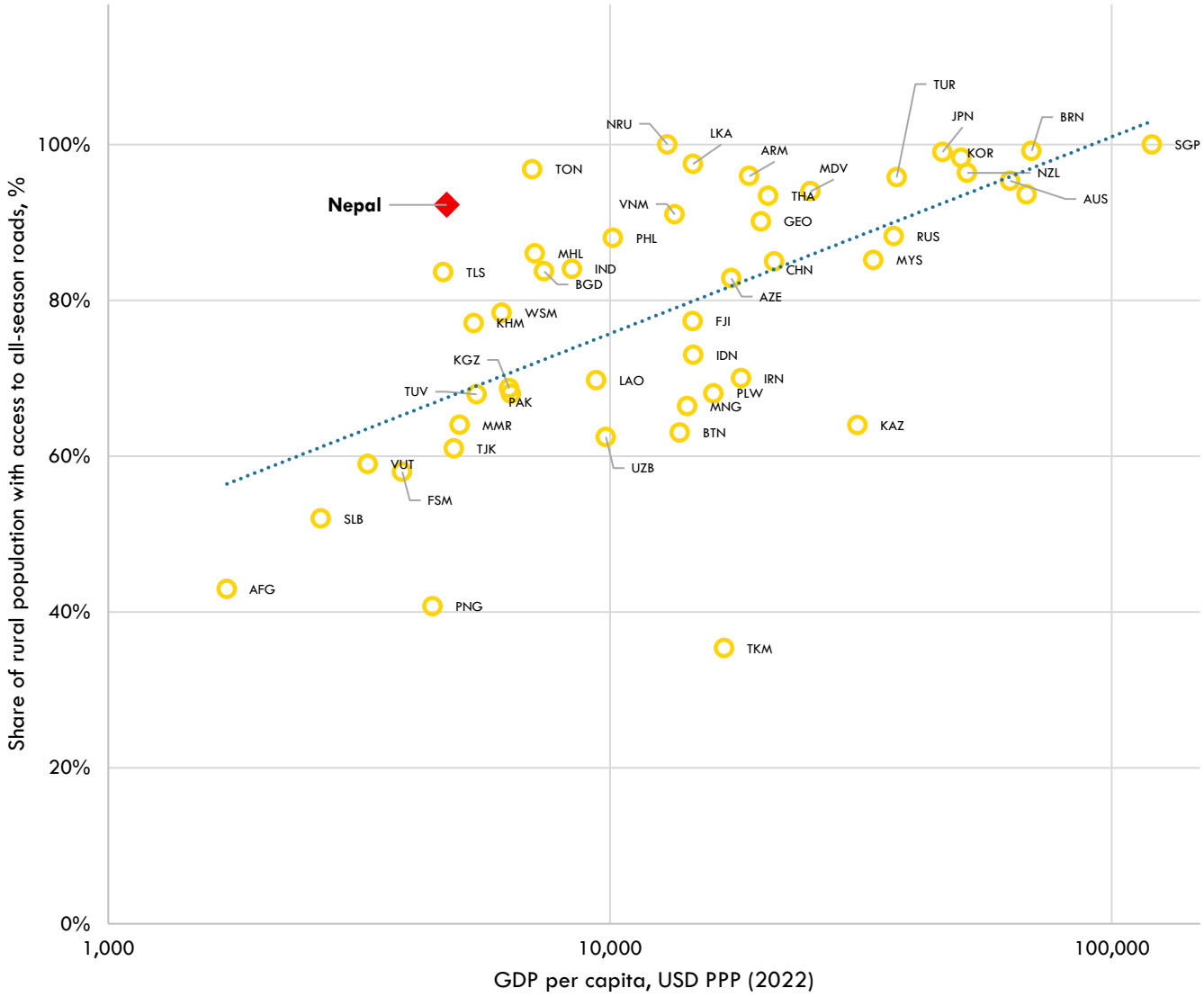

Figure 8. Rural access index vs. GDP per capita (2022)
Source: ATO analysis and visualization based on Center for International Earth Science Information Network (2023a), World Bank (2023)

Rural Access

Comprehensive rural access remains a complex challenge. The estimated Rural Access Index[5] (RAI) stands at 92% (Figure 8), suggesting a relatively high proximity to all-season roads at the national level (Center for International Earth Science Information Network 2023a). However, data from the Nepal Living Standards Survey (NLSS) 2022/23 paint a more nuanced picture: only 55% of rural households are within 30 minute walk to a paved road (Government of Nepal 2024b). Nearly one-fifth face travel times exceeding two hours to reach one. Access improves markedly considering basic motorable or dirt roads; about 91% of rural households are within 30 minutes of these.

[5] The Rural Access Index (RAI) measures the proportion of the rural population within 2 km of an all-season road

Disaggregated NLSS data further reveal significant intra-rural disparities (Government of Nepal 2024b). Proximity to basic infrastructure (motorable roads, early childhood centers, basic schools) is relatively better. While the access to higher-level services – secondary/higher education, advanced health facilities, market centers, financial institutions – remains limited for the rural population (Table 4).

Table 4: Share of Households within 30 minutes Reach to Various Facilities in Urban/Rural Regions

	Kathmandu Valley Urban (KVU)	Urban Regions (Except KVU)	Rural Regions
Early Childhood Development Centre	99.9	97.6	90.8
Basic School	100	93.7	81.6
Secondary School	99.3	85.3	61.8
Campus/College	93.6	69.8	30.4
Basic Or Urban Health Center	93.8	64.8	44.6
Health Post	85.3	72.2	61.6
Primary Health Centre	78.2	45.8	30
Government Hospital	84.4	53.4	18.4
Community Hospital	86.8	32.9	11.9
Private Clinic	99.6	85.3	64.2
Private Hospital	92.2	64.2	26.2
Paved Road	99.6	88.7	55.5
Dirt Road/Motorable Road	47.7	75.4	90.8
Haat Bazaar (Open-air markets)	5.6	57.7	35.1
Main Market Centre	99	78.6	50.9
Bank/Financial Institution	99	80.1	52.9
Police Station	98.8	84.4	55.4
Ward Office	99.2	88	67.9

Source: Government of Nepal (2024b)

Rural accessibility in Nepal presents a unique challenge compared to other countries. The country's mountainous terrain means that access is not limited to rural roads but also relies heavily on an extensive network of trail bridges. Significant efforts by the government and civil society organizations, such as Helvetas, have greatly improved rural accessibility. The provision of trail bridges has been shown to increase school attendance, healthcare consultations, and local business activity (Helvetas 2023).

Urban Access

Within Nepal, the Kathmandu Valley Urban area (KVU) exhibits superior access compared to other urban centers. NLSS 2022/23 (Government of Nepal 2024b) shows nearly all KVU households are within 30 minutes of education (all levels), private clinics/hospitals, paved roads, main markets, financial institutions, police stations, and ward offices (Table 4). Specifically, 99.6% access private or government/community hospitals within 30 minutes, contrasting with 88.7% in other urban areas. Educational access in KVU is similarly high: 100 per cent for basic schools, 99.3 per cent for secondary schools, and 93.6 per cent for campus/college within 30 minutes. Other urban areas generally maintain good access, often supplemented by private healthcare providers.

Monitoring urban access as per the Sustainable Development Goal (SDG) target 11.2 involves measuring proximity to quality public transport, typically population within 0.5 km of buses/trams or 1 km of trains/subways/ferries. By this standard metric, Kathmandu's performance seems limited (Figure 9). Only about 20% of residents live within these walking distances (relying solely on bus stop proximity). This is slightly below the average (23%) for comparable high-density cities in India and PRC, though access varies widely (2% to 66%) within that group. Tulsipur shows higher access (31%), while Pokhara resembles Kathmandu (~20%) (Center for International Earth Science Information Network 2023b).

The data reveal a clear pattern: urban areas have good, paved road access but face constraints in convenient public transport access. Important caveats apply calculations use only mapped stops, potentially underrepresenting extensive informal transit. Furthermore, urban area boundaries in international comparisons may not align perfectly with official definitions, affecting reported percentages.

Current transport access measures increasingly prioritize inclusive and environmentally sound mobility. Early policy signals appeared in the National Transport Policy (NTP) 2001 (Government of Nepal 2001), which mentioned expanding solar and electric-powered transport. Its urban action plan cited operating gas, electric, and solar vehicles like buses and trams, alongside restricting polluting vehicles and setting distinct urban vehicle standards.

Building significantly on this foundation, the government introduced the Environment-friendly Vehicle and Transport Policy 2014 (2071) (Government of Nepal 2014). Its vision seeks "To achieve sustainable economic, social, and environmental development by optimal use of safe, comfortable, affordable, and reliable environment-friendly vehicle and transport service for the dynamism of the economy and protecting the basic rights of mobility of the people". The policy actively promotes electric vehicles (EVs). It places special focus on converting existing fossil fuel-based vehicles to electric power. Financing mechanisms draw upon government sources, a dedicated Environment-friendly Vehicle and Transport Development Fund, and contributions from NGOs and the private sector. An institutional framework arose under the Environment-Friendly Vehicle and Transportation Act 2015. This Act established a three-tiered structure: a Central Operation Committee (chaired by the Minister) for high-level approvals; an Implementation Committee (led by the Secretary) for execution; and a Kathmandu Valley Committee (headed by the KVDA Chief) focused specifically on the capital region.

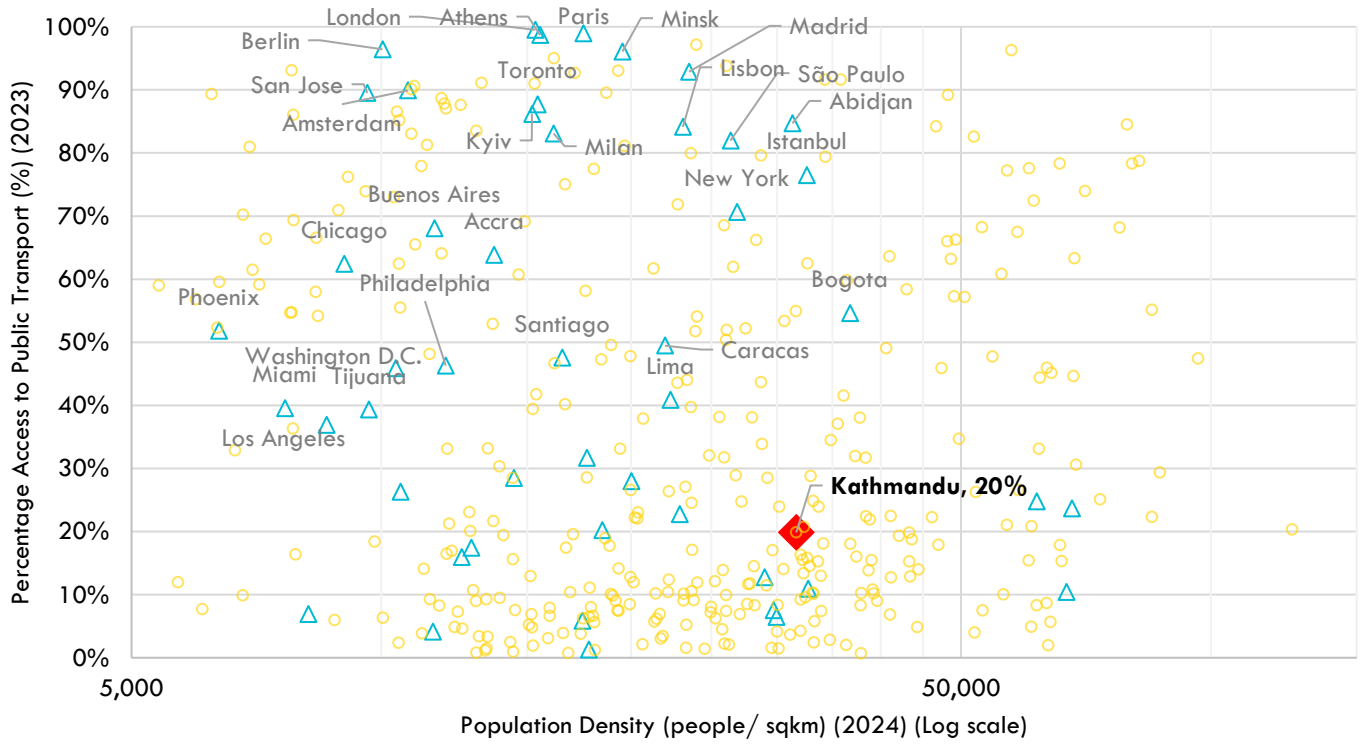

Figure 9. Share of population with convenient access to public transport (2022)

ATO analysis and visualization based on Center for International Earth Science Information Network (2023b), ITDP (2024a)

Shape People Centric Urban Mobility

Shape People Centric Urban Mobility

Urban Transport

Assessments of urban transport mode share in Kathmandu vary significantly depending on data sources and methodologies. According to the Google Environmental Insights Explorer (Google 2025), Kathmandu's urban transport relies heavily on private vehicles. Automobiles—private vehicles and taxis—dominate trip-making (Figure 10; Figure 11). This points to a system heavily favoring individual motorized travel. Public transport and active mobility modes, despite their recognized importance for sustainable urban futures, currently account for only a minor fraction of total mode share, revealing a profound systemic imbalance. However, these findings differ from other studies. For example, the Sustainable Urban Transport Index (SUTI) report by UNESCAP estimates that the modal share of active and public transport in commuting in 2017 was close to 70% (UNESCAP 2017).[6] In 2012, JICA estimated that in 2011, 40% of the travel in Kathmandu Valley was done on foot, while 27% were accounted for by buses, and 26% by motorcycles. JICA's study forecasted, by 2020, walking mode share would decrease marginally to 38% (Bhattarai and Shahi 2021).

This situation underscores the need for strategic reorientation towards integrated, multimodal transport solutions. Such a shift aligns with global imperatives to decarbonize urban mobility and improve city livability. Data underpinning this assessment, derived from Google's 2025 (Google 2025) analysis, establishes a critical baseline for policy interventions.

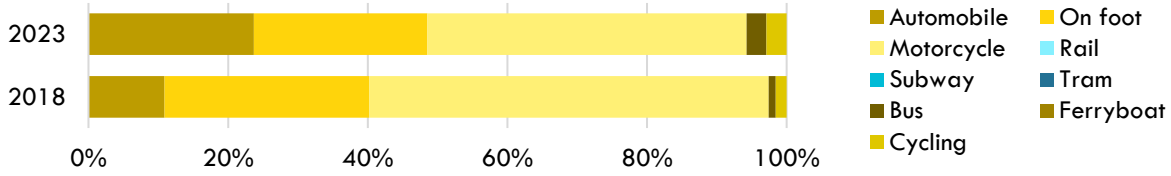

Figure 10: Mode Share in Kathmandu Based on Google Data (Percentage of Trips)
Source: ATO visualization based on Google (2025)
Note: Google's estimates may significantly vary from other sources due to various reasons such as the coverage, inclusions/exclusions; underlying activity data. Please see Google (n.d.) for the details.

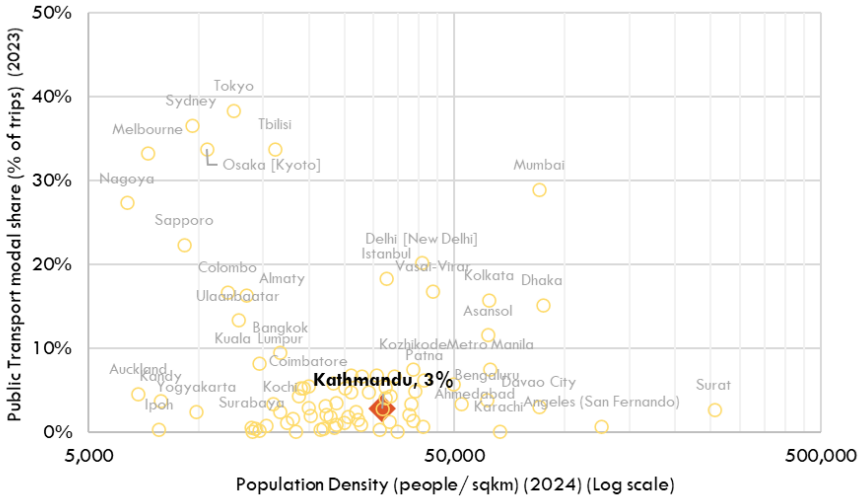

Figure 11: Public Transport Mode Share (% PKM) and Population Density
Source: ATO analysis and visualization based on Google (2025), ITDP (2024b)[7,8]

[6] It needs to be noted that the Google's Environmental Insights Explorer (EIE) (Google 2025) estimates are based on the Kathmandu City, whereas, UNESCAP's SUTI report (UNESCAP 2017) is based on the data for Kathmandu Valley region, which includes Kathmandu, Bhaktapur and Lalitpur districts.
[7] Kathmandu modal share data is for the year 2023.
[8] Google's Environmental Insights Explorer (EIE) estimates modal share by combining aggregated mobility data from Google Maps with third-party datasets and standardized emissions factors. Using machine learning, it infers how trips are distributed across modes such as walking, cycling, public transport, and private vehicles. To ensure privacy, techniques like federated analytics and differential privacy are applied so that only aggregated patterns are visible.

Nepal's urban transport landscape has largely evolved from a period of uncoordinated development. Roads within cities grew organically, often following highway design principles ill-suited for urban needs, lacking dedicated space for pedestrians or cyclists. Multiple government bodies—the Department of Roads, municipalities, and specialized committees like Kathmandu Valley's Bagmati Civilization group—developed segments, leading to an ad hoc expansion without overarching standards.

The National Transport Policy (NTP) of 2001 (Government of Nepal 2001) marked the first significant attempt to codify urban transport responsibilities. Its principal objective was broad: a reliable, cost-effective, safe, and sustainable national transport system fostering holistic development. For urban areas, it assigned municipalities stewardship over local roads (excluding the central network), mandating public participation in their construction and maintenance. Responsibilities for parking infrastructure, bus terminals, and green belt conservation were similarly devolved. The policy envisioned master plans guiding infrastructure development at both central and local levels, with urban transport aligning specifically with urban development blueprints. Measures outlined within NTP 2001 aimed to manage traffic based on the city carrying capacity, separate utilities and cycle lanes from new road pavements, restrict vehicles in core areas, promote cleaner public transport (gas, electric, solar), control vehicle density through ownership limits and parking fees, and mandate designated parking. Pollution control and specific planning for Kathmandu Valley were also included.

Implementation, however, lagged policy intent. A lack of detailed follow-up guidelines and manuals undermined the policy's ambition. Simultaneously, Nepal experienced accelerated urbanization, particularly over the last two decades.

The promulgation of the Federal Constitution in 2015 fundamentally reshaped local governance, formally designating 293 of 753 local units as municipalities and sharpening their focus on urban road development. Consequently, the Department of Urban Development and Building Construction (DUBC) introduced the Nepal Urban Road Standard (NURS) (Government of Nepal 2019b) in 2020. This standard finally provided specific technical guidance, mandating provisions for essential urban elements: stormwater drainage, underground utilities, traffic controls, sidewalks, cycle tracks, medians, pedestrian refugees, parking lanes, and crossings. Supported by donor-funded projects, municipalities are now beginning to implement roads designed to these urban-centric specifications.

Subsequent national strategies have further refined the vision for urban transport within the broader context of development goals. The National Urban Development Strategy (NUDS) 2017 (Government of Nepal 2017b) provides a 15-year blueprint for managing urbanization, aiming for balanced, inclusive, resilient, and networked cities. It promotes a hierarchical urban system and emphasizes regional equity. It set specific transport milestones concerning road density, paving percentages, public transport usage (targeting 50% mode share), and inter-urban speeds. It explicitly advocates for mass transit, non-motorized transport (NMT), multimodal connectivity, and compact, mixed-use development, indirectly aligning with Transit-Oriented Development (TOD) principles. NUDS also made initial provisions for coordinating across newly established federal, provincial, and local government tiers.

Building on the above strategies, the National Urban Policy (NUP) 2025 (Government of Nepal 2025a) offers an updated roadmap that reflects the federal structure and sustainability commitments. It envisions a scientifically classified urban system (including concepts such as Mega Cities and Smart Cities) and aims to significantly improve the urban infrastructure index by 2036. A key strength is its clearer delineation of responsibilities: the federal government sets standards and manages large infrastructure, provincial governments foster economic hubs, and local governments lead planning and service delivery. NUP 2025 reinforces the emphasis on multimodal transport systems, green technologies, TOD, and smart mobility, anticipating greater integration of digital platforms and EV infrastructure in future implementation.

Across these evolving policies, several consistent themes have emerged. Chief among these is a sustained emphasis on modal shift toward strengthened public transport systems. Policies repeatedly prioritize improving the quality and attractiveness of public transit—including comfort, reliability, safety, service frequency, availability, and affordability—while simultaneously seeking to reduce the sector's environmental footprint.

Implementation remains uneven, with weak enforcement and fragmented institutional mandates frequently constraining progress. Urban transport governance is dispersed across municipal, provincial governments, and federal bodies like the Department of Roads (DoR) which retains responsibility for highways passing through urban areas. Provincial transport management offices in each province oversee vehicle regulation. These functions operate alongside the Traffic Police, and specific metropolitan authorities. Such fragmentation can lead to overlapping responsibilities, coordination gaps, and delays in implementation.

The establishment of the Federal Capital City Public Transport Authority (FCCPTA) in 2022 represents a significant move towards integrated governance, specifically tasked with regulating and managing public transport within the Kathmandu Valley. It signals a potential pathway towards more coherent and effective urban transport systems in Nepal.

Urban Rapid Transit

Nepal lacks dedicated urban rapid transit infrastructure – no Light Rail Transit (LRT), Bus Rapid Transit (BRT), or Metro systems exist. Kathmandu stands in contrast to comparable Asia-Pacific cities such as those from India and the People's Republic of China, with similar population densities, and boast rapid transit network ranging from 3 to 55 kilometers per million inhabitants (Figure 12). Kathmandu, by comparison, has no such system, underscoring a substantial deficit in high-capacity urban transport infrastructure.

Policy frameworks now increasingly highlight improved urban mobility. Both the Fifteenth Five-Year Plan (2019/20–2023/24) (Government of Nepal 2020b) and the National Sustainable Transport Strategy (NSTS) 2015–2040 identifies BRT as a key solution (Government of Nepal 2015). The NSTS specifically promotes adding bus lanes to suitable existing roads and integrating them into new expressways, potentially including dedicated peak-hour lanes. Modernizing road-based public transport with high-capacity buses is also an NSTS priority.

Figure 12: Rapid Transit to Resident Ratio

Source: ATO analysis and visualization based on European Commission Joint Research Centre (2025), ITDP (2024a)

More capital-intensive systems remain under consideration for the longer term. The concept of urban rail in Nepal emerged formally with a 2012 feasibility study for a Kathmandu metro, marking the first systematic exploration of high-capacity urban transit in the country. The Fourteenth Plan (2016/17–2018/19) acknowledged the need for metro and monorail feasibility studies, especially for Kathmandu. The subsequent Fifteenth Plan (Government of Nepal 2020b) built upon this, proposing private investment attraction for such projects, contingent on detailed project reports (DPRs).

Overall progress has been limited. In practice, Nepal's focus has shifted from early feasibility assessments to incremental upgrades of existing road infrastructure to support mass transit—most notably through BRT corridors, bus lanes, and the integration of intelligent transport systems (ITS). Simultaneously, groundwork is being laid for potential advanced rail systems in dense areas like Kathmandu Valley, with increasing exploration of public-private partnership models to address financing and implementation constraints.

Increasing Street Sprawl

Urban accessibility depends heavily on the structure of the road network. "Street sprawl"—road expansions are characterized by dead ends and long distances between intersections—undermines connectivity. The Street-Network Disconnectedness Index (SNDi) provides a comparative measure of this phenomenon across urban areas by assessing nodal degree, the prevalence of dead ends, network circuity, and street sinuosity. A higher SNDi signifies greater sprawl and less connectivity.

Globally, a trend toward reduced street disconnection began after the early 2010s, averaging a -3.3% change annually (Figure 13). The Asia-Pacific region lags with a -1.5% annual change. Alarmingly, cities in low-income Asian economies buck this trend, experiencing a 5% increase in dysconnectivity each year. Kathmandu reflects these regional challenges; its SNDi rose from 3.7 in 1990 to 4.1 in 2020, indicating increasing street network disconnection (Barrington-Leigh and Millard-Ball 2025).

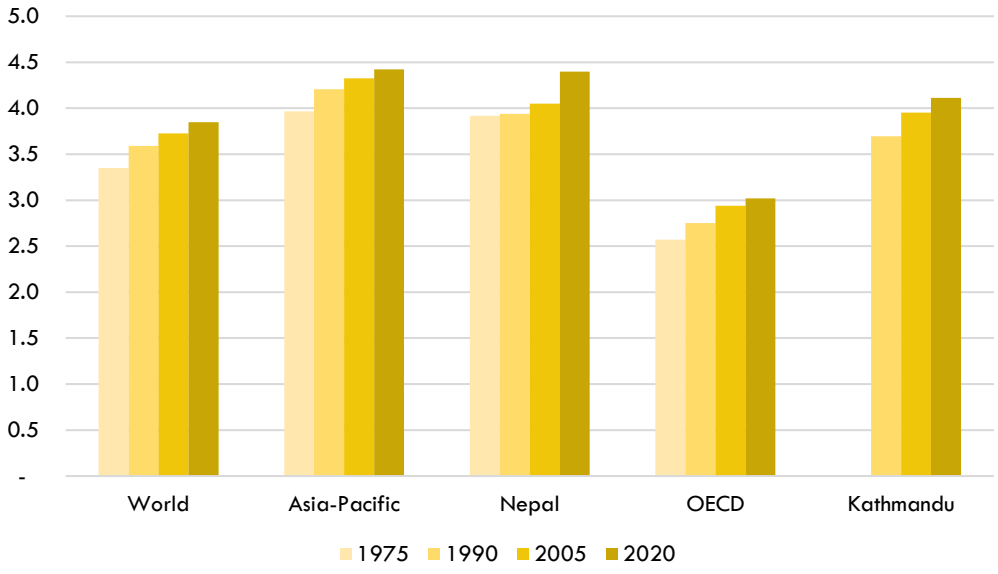

Figure 13: Street Network Disconnectedness Index (0 = least sprawl)
Source: ATO visualization based on Barrington-Leigh and Millard-Ball (2025)

In Kathmandu, the SNDi rose from 3.7 in 1990 to 4.1 in 2020, indicating increasing street network disconnection

Make Transport Safe And Secure

Make Transport Safe And Secure

Road Crashes: A Persistent Public Safety Challenge

Road safety remains a significant concern in Nepal, with road crashes accounting for one-third of external transport costs. While precise figures can vary across sources – with the World Health Organization (WHO) estimating approximately 8,500 (with 95% confidence interval) road crash fatalities in 2021, and the country statistics reporting 2,883 fatalities in 2021 – the human cost is high, accounting for about 0.9% of all deaths in the country (WHO 2023).

In terms of relative safety indicators, Nepal's performance places it as the second highest in Asia, with 78 fatalities per thousand kilometers of road in 2021 and 28 fatalities per 100,000 inhabitants in 2021 (Figure 14 and Figure 15).[9]

An analysis of vehicle types involved in road crashes indicates that motorized vehicles are predominantly involved, with powered 2- and 3-wheeler users taking more than half share of the involved vehicles (Laxman et al. 2025). As per WHO's estimates, 34% of the road crash fatalities are users if powered 2- and 3-wheeler users, while LDV users account for 35% of the share. Road crashes involving cyclists and pedestrians are also a significant concern, sharing 27% of fatalities (Figure 16).

Road crash fatalities are concentrated by user type, gender, and age. Pedestrians consistently bear the burden of road crashes, accounting for the highest numbers of both fatalities and injuries. The proportion of female fatalities remains unchanged from 28% in 2010 to 29% in 2021. Furthermore, the economic impact is concentrated within the most productive segments of the population, with almost 56% of fatalities occurring among those aged 15-44 (Figure 17) (WHO 2023).

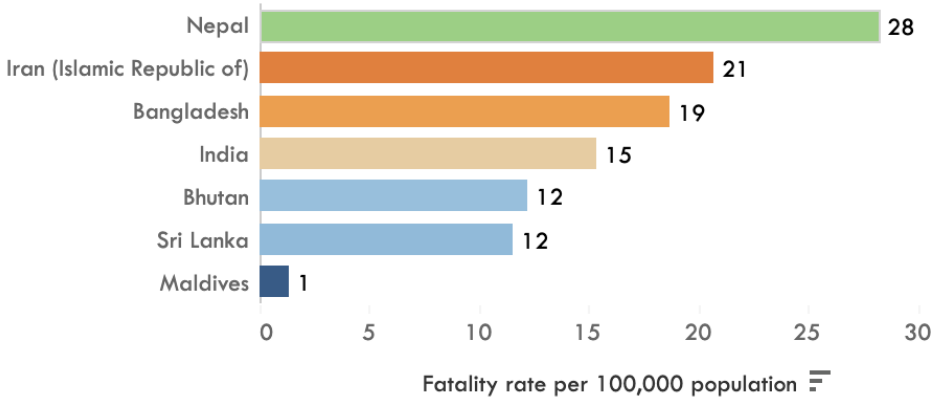

Figure 14: Road crash fatality rate in Nepal compared to other countries in South Asia (2021)
Source: ATO analysis and visualization based on WHO (2023)

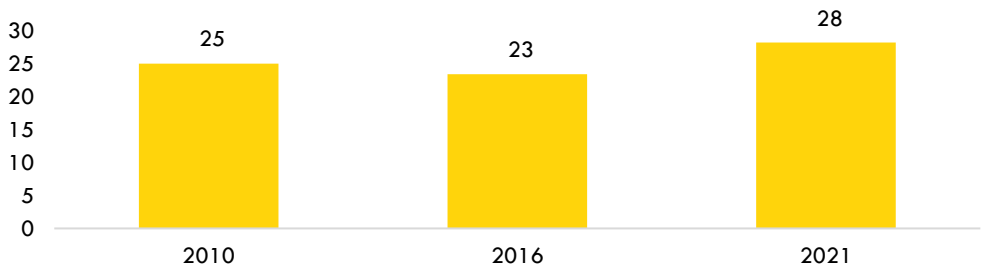

Figure 15. Road Crash Fatalities per 100 thousand Population
Source: ATO analysis and visualization based on WHO (2023)

[9] ATO analysis using data from WHO Global status report on road safety (WHO 2023), (Nirandjan et al. 2021), and UN (2024)

Road infrastructure safety for pedestrians and bicyclists needs improvement, with only 17% and 32% of roads meeting 3-star or better standards, respectively (iRAP 2024).

The financial burden of road crashes is substantial, with fatalities and serious injuries estimated to have cost Nepal approximately 3 billion USD in 2021, representing roughly 7% of its Gross Domestic Product. The International Road Assessment Programme (iRAP) posits that an annual investment of USD 134 million (0.4% of GDP) could avert close to 3000 lives each year (iRAP 2024).

Road safety remains a crucial issue affecting the sustainability of the transport sector. It connects with the Goal 2 of the Aichi 2030 Declaration on EST (UNCRD 2021).

Despite the challenges, Nepal has taken steps to address road safety. The Nepal Road Safety Action Plan (2021-2030), published in 2022, provides a framework for improving road safety (Government of Nepal 2021b). Other policy documents, such as the National Sustainable Transport Strategy (Government of Nepal 2015) and the National Transport Policy (Government of Nepal 2001), indirectly contribute to road safety. However, the lack of specific road safety targets is a key gap. While Nepal has targets related to infrastructure, public transport, and transport finance, specific, measurable targets for road safety are crucial for tracking progress and ensuring accountability.

The primary focus is protecting pedestrians and cyclists, who are the most vulnerable users. The core intervention is physical segregation. The National Road Safety Action Plan calls for "segregating pedestrians, bicycles, NMT, and other slow-moving vehicles from fast-moving vehicles." This is supported by specific infrastructure mandates, including safe and comfortable road crossings and new bicycle lanes in urban areas.

Where segregation is not total, policy mandates strict speed controls and vehicle restrictions. This includes "enforcing 30 km/h speed limits in pedestrian zones" and declaring "Vehicle Free Zones" in densely populated cities and settlements".

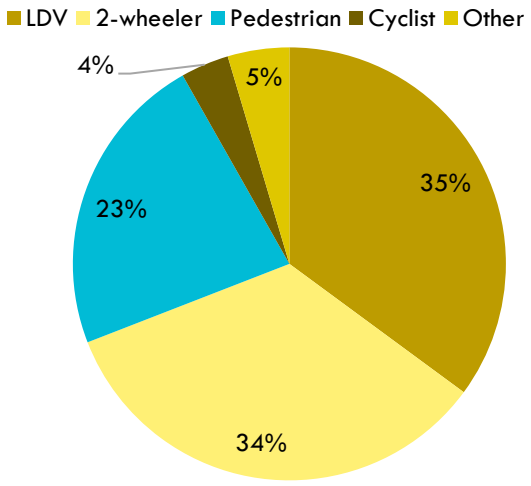

Figure 16. Share of road crash fatalities by user
Source: ATO analysis and visualization based on WHO (2023)

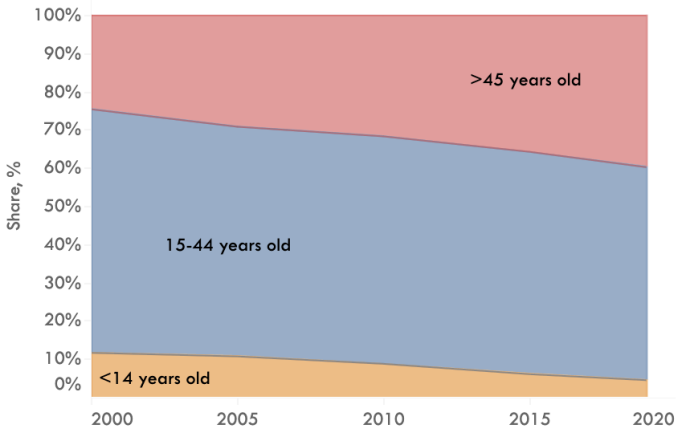

Figure 17: Road Crash Fatalities Share by Age Group
Source: ATO analysis and visualization based on IHME (2021)

Road safety remains a significant concern in Nepal, with road crashes accounting for one-third of external transport costs.

These systemic interventions are paired with direct enforcement and behavioral mandates. Policy calls for "compulsory use of seatbelt by front-seat car passengers" and the mandatory "use of helmets by both motorcycle riders and pillion riders" This is supported by "nationwide road-safety awareness campaigns".

The strategy extends beyond prevention to include data and post-crash response. The Fifteenth Plan (Government of Nepal 2020b) requires that "An information management system on road accidents will be implemented." The Road Safety Action Plan (Government of Nepal 2021b) further details this, calling for a "national database" to record "crash history" and driver history. This is complemented by a mandate to "Establish a network of trauma care facilities" and "Provide trauma-care training" for medical personnel.

Capacity building is treated as a central, system-wide pillar of Nepal's road safety framework. The Nepal Road Safety Action Plan (2021-2030) (Government of Nepal 2021b) mandates the "production of a pool of qualified road safety auditors through training and certification." Importantly, this requirement is operational rather than aspirational: certified auditors are required to participate in at least one road safety audit per year, embedding skills through continuous practice.

The Sixteen Periodic Plan (Government of Nepal 2024c) demands high-quality training for all road sub-sector human resources , while the NSTS (Government of Nepal 2015) targets the "technical capacity of private firms." Specialized training is a clear priority. This includes trauma-care training for medical personnel and a TOT (Training of Trainers) program for all trainers and mechanics of the driving training school/ centers. The long-term goal is to embed this expertise permanently. The Road Safety Action Plan (Government of Nepal 2021b) calls to "Facilitate for the establishment of Centre of Excellence on road safety." This new capacity will be data driven. Mandates are in place for a nation-wide rollout of web-based road crash database and provincial and national databases to track vehicle "inspection history, crash history, ownership history, and driver history".

Road infrastructure safety for pedestrians and bicyclists needs improvement, with only 17% and 32% of roads meeting 3-star or better standards, respectively.

Advance low-carbon, resilient, and environmentally sound transport systems

Advance low-carbon, resilient, and environmentally sound transport systems

Advancing low-carbon, resilient, and environmentally sound transport systems is central to sustainable development. Reducing emissions, improving energy efficiency, and addressing air pollution are essential for aligning transport with climate and environmental goals, while strengthening resilience to climate risks ensures that infrastructure and services remain reliable in the face of disruptions. It also directly complements Goal 1a, Goal 1b, and Goal 1c of the Aichi 2030 Declaration on EST (UNCRD 2021).

Transport Energy and Carbon Emissions

Nepal's transport energy consumption is rising fast. The sector's demand nearly tripled in just seven years, increasing from 23 thousand terajoules in 2015 to 62 thousand in 2022 (Figure 18) (United Nations Statistics Division, 2024). This 2022 figure accounts for 9.7% of the country's total energy consumption. Analyzing this demand shows a nearly complete reliance on a single source. The road sector consumes 98% of all transport energy. The fuel mix is even less varied. By 2022, almost all this energy came from oil products.

Globally and regionally, transport emissions growth has begun to moderate. Worldwide, annual greenhouse gas (GHG) emissions from transport slowed from an average of 1.9% between 2000 and 2015 to around 0.7% in the post-Paris Agreement period. A similar deceleration is evident in Asia, where growth declined from approximately 4% to 1.7% per year. Nepal is an exception. Its transport emissions growth has not slowed, but has accelerated, from 5.3% to about 12% annually.

A decomposition of the timeline reveals pronounced volatility in Nepal's transport greenhouse gas (GHG) emissions (Figure 19). From 2000 to 2007, emissions remained stagnant, holding at a low base of 0.8 to 0.9 million tons. The period from 2008 to 2014 established a new, higher plateau hovering around 2 million tons. The fundamental shift began after 2015. Emissions doubled in three years, reaching 4.1 million tons by 2018. This growth was immediately erased by a severe contraction in 2019, where we saw emissions being reduced by nearly 40%. The sector then rebounded with a new and more aggressive growth phase, doubling again to 5.1 million tons by 2024.

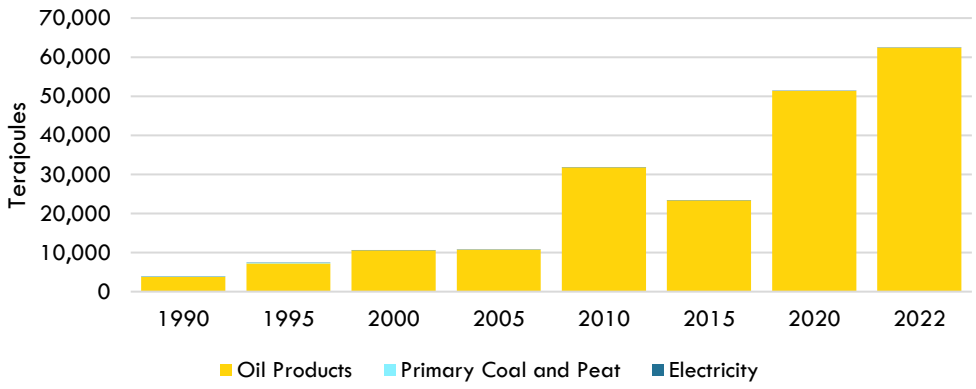

Figure 18. Share of Transport Energy Consumption by Source (2022)
Source: ATO analysis and visualization based on United Nations Statistics Division (2024)

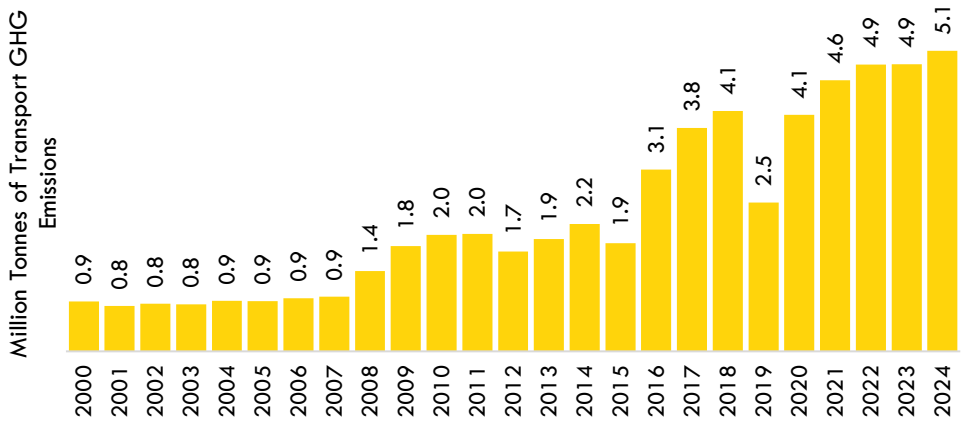

Figure 19: Million Tons of Transport GHG Emissions (2000 to 2024)
Source: ATO analysis and visualization based on European Commission (2024)

Transport's role in total national GHG emissions has fundamentally changed. Its share expanded from 4.8% in 2015 to 12.5% currently (Figure 20). Such a strong emissions growth trend is not uniform across Nepal's sectors. Since the implementation of the Paris Agreement, transport has been the fastest-growing sector of GHG emissions. Its annual growth rate has been 14 times higher than that of all other sectors combined.

A high-level national vision anchors Nepal's low-carbon transport strategy. The Long-Term Strategy (LTS) (Government of Nepal 2021a) mandates a "transition to zero-emission transport". This is quantified by the Nationally Determined Contribution (NDC) (Government of Nepal 2025b), which targets a 50% decrease in transport's dependency on fossil fuels by 2050.

Multiple policies converge on electrification as the foundation for transport decarbonization. The National Climate Change Policy (2019) (Government of Nepal 2019a) promotes electric vehicles, the Fifteenth Plan (Government of Nepal 2020b) gives "priority... for the use of the electric vehicles" , and the National Transport Policy (Government of Nepal 2001)calls "To operate bus, tram and other vehicles powered by... electricity".

This strategy is defined by a set of escalating and highly ambitious sales targets. The First NDC (Government of Nepal 2016b) aimed for a 20% EV share by 2020. The Second NDC (Government of Nepal 2020a) significantly raised this goal, targeting 25% of private and 20% of public sales by 2025, and then leaping to 90% of private and 60% of public sales by 2030. The Third NDC (NDC 3.0) (Government of Nepal 2025b) confirmed this trajectory, adjusting the 2030 goal to 70% for public vehicles and adding a 2035 target of 95% private and 90% public sales. The policy signal is explicit. The goal is to achieve near-total substitution of fossil-fuel vehicle sales within 15 years.

This rapid transition requires aggressive market and infrastructure intervention. The Fifteenth Plan (Government of Nepal 2020b) calls for the establishment of charging stations for EVs, while the National Energy Strategy (Government of Nepal 2013) mandates a continuous supply of electricity for such. These supportive elements ought to be financed through powerful fiscal incentives. The Budget Speech (2016/2017) (Government of Nepal 2016a) set the customs duty for private EVs at 10%—compared to 80% for fossil fuel vehicles—and granted a full exemption from value added tax (VAT). Nepal's Central Bank at one point supported a maximum loan-to-value ratio for EV loans of 80%. This has been reduced to 60% early 2025 (Nepal News 2025).

The policy framework also signals a definitive pivot to mass transit, aiming to engineer a modal shift by "Making public transport attractive". The Fifteenth Plan (Government of Nepal 2020b) is clear: "A bus rapid transit system will be prioritized". The NSTS (Government of Nepal 2015) echoes this, prioritizing "high-capacity buses, provision of bus lane or Bus Rapid Transit (BRT) system". The electrification of this system is a priority, from electric buses in Kathmandu to a national "electric rail network". NDC 3.0 (Government of Nepal 2025b) quantifies the near-term objective: "Build and operate at least 50 km by 2030... of integrated electric bus, trolley and light rail transit system in Kathmandu Valley".

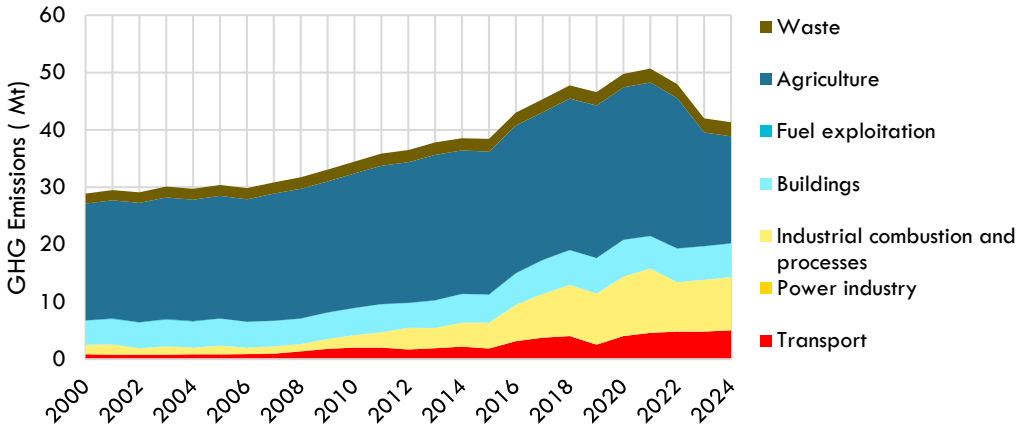

Figure 20: GHG Emissions by Sector (Million Tons)
Source: ATO analysis and visualization based on European Commission (2024)

To reduce reliance on motorized transport, policies emphasize the enhancement of walking and cycling. The NSTS (Government of Nepal 2015) emphasizes the importance of providing adequate pedestrian and Non-Motorized Transport (NMT) facilities, ensuring universal accessibility for children, the elderly, and people with disabilities, and integrating walkways, cycle lanes, and safe crossings in both urban and rural areas. Key initiatives include constructing pedestrian paths and bicycle lanes along highways that pass-through settlements, promoting bicycle infrastructure in tourist towns, recognizing active mobility to improve public health, and discouraging the shift from bicycles to motorcycles through awareness programs. These actions support broader goals of reducing congestion, emissions, and road fatalities. The Ministry of Physical Infrastructure and Transport (MoPIT) leads strategy development, while local governments are responsible for planning and implementation.

Local-level plans confirm this focus. The Municipal Transport Master Plans for various municipalities within Kathmandu Valley and other municipalities around the country prioritize walking as the main daily mode of travel and suggest the addition of new cycle tracks and pedestrian pathways. The Kathmandu Sustainable Urban Transport Project (KSUTP) (Town Development Fund 2023), funded by the Asian Development Bank (ADB) and the Global Environment Facility (GEF), has already promoted active mobility by pedestrianizing a 3 km heritage route and completing more than 19 km of new or improved sidewalks.

Climate resilience and disaster preparedness in transport

Nepal's transport network is defined by its structural vulnerability. This is not a simple maintenance issue. It presents a challenge due to its topography, landlocked geography, and extreme climate risk. The system's reliance on road transport is almost absolute. Ninety per cent of all passenger and goods movement depends on it (World Bank 2022a).

Climate hazards are increasing in frequency and intensity. This includes floods in the Terai region, landslides, mudflows, and wildfires. When roads are damaged, the economy is impacted. Supply chains for agriculture and manufacturing are disrupted. The economic impact is both direct and indirect, resulting in reduced access to jobs, healthcare, and education. Perishable goods spoil. Food insecurity rises. Micro, small, and medium businesses—a segment that contributes 22 per cent to GDP and employs 2.7 million people—are disproportionately at risk. These impacts signify that resilience is not optional.

The World Bank found that direct repair costs for the Strategic Road Network (SRN) alone will amount to 0.11 per cent of GDP annually. This translates to NPR 3–6 billion (USD 25–50 million) annually over the next decade (World Bank 2025a). However, these estimates vary significantly based on the assumptions and climate scenarios considered. The CDRI 2023, estimates that the transport infrastructure damages are projected at USD 14 million (approximately 0.01% of Nepal's GDP), with roads accounting for 96%, rail for 4%, and airports for less than 1% (CDRI 2023). Bridges and tunnels, which account for only 0.2% of infrastructure, contribute to 0.7% of potential annual losses (Figure 21) (CDRI 2023; Wiedenhofer et al. 2024).

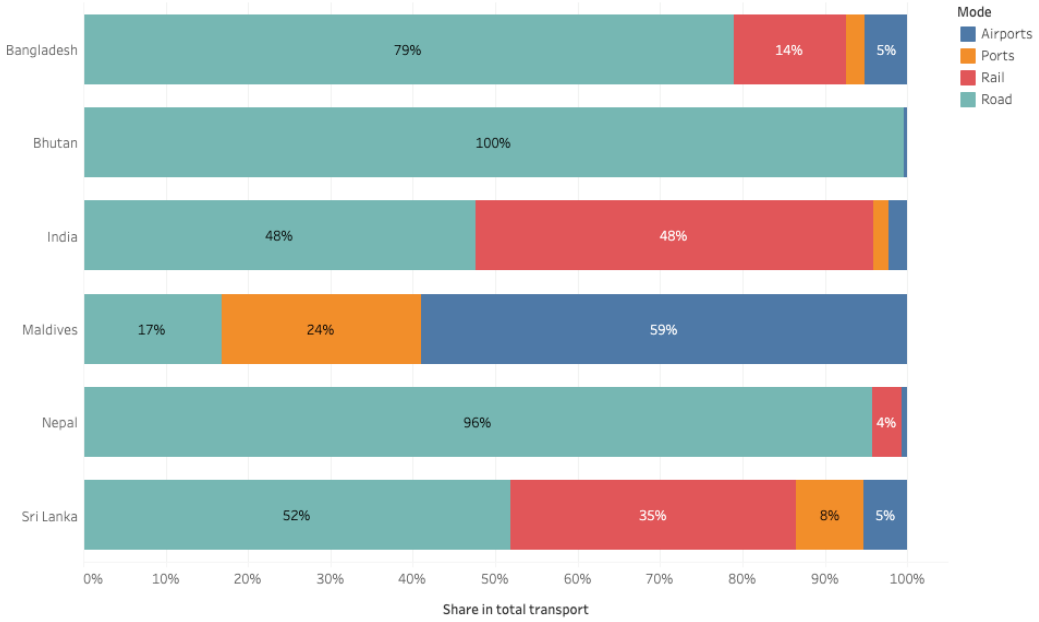

Figure 21: Share in Estimated Annual Infrastructure Damages by Mode (Nepal)
Source: ATO analysis and visualization based on CDRI (2023)

The indirect costs are where the real threat lies. These costs are estimated at 50–75 per cent of the direct costs if repairs are prioritized. If damage is not addressed, the indirect costs spiral to 400 per cent of the direct damage.

Nepal ranks 153rd out of 208 countries in the national road vulnerability index, indicating that its limited infrastructure and network redundancies increase the likelihood of disruptions. This is a crucial element of resilience that is often overlooked. (Koks et al. 2023). This is the policy gap. The government currently spends approximately USD 8 million annually on these climate-related repairs. The Nationally Determined Contribution (NDC) 3.0 (Government of Nepal 2025b) suggests that major highways will be equipped with early warning systems. Furthermore, it is proposed that climate-resilient planning in transport infrastructure projects will be incorporated into revised regulations.

Transport Air Pollution

Beyond vehicle crashes, the transport sector also contributes to air pollution, which is a silent killer. Major contributors to air pollution include the transport sector, residential fuel burning, energy production, industrial activities, agriculture, windblown dust, waste incineration, and construction. The contribution of these sources to ambient particulate matter (PM) 2.5 levels vary around the world. In 2021, surface transport was responsible for about 6% of ambient PM2.5 pollution in Nepal. (State of Global Air 2025).

The transport sector in Nepal accounts for approximately 44% of nitrogen oxides (Nox) emissions and 47% of total Black carbon emissions. However, its contribution to sulfur oxides (SOx) and PM10 emissions is much lower, at only 0.1% and 8%, respectively (Figure 23). Air pollution loading from transport in Nepal is increasing. Since 2015, emissions of PM2.5, NOx, and Black carbon from the transport sector have been rising annually by 3.6%, 5.1%, and 3.5%, respectively.

In 2021, air pollution caused 8.1 million deaths worldwide, ranking as the second leading risk factor for mortality, especially among children under five. About 90% of these deaths are linked to noncommunicable diseases such as heart disease, stroke, diabetes, lung cancer, and COPD—all rooted in poor air quality (IHME 2021). Research indicates that in 2019, air pollution from transportation led to approximately 800 premature deaths each day globally (McDuffie et al., 2021), and about 3 such premature deaths occur daily in Nepal.

In Nepal, the World Bank estimates that premature mortality and morbidity caused by PM2.5 air pollution amount to about 10% of the country's GDP in 2019 (Figure 24) (World Bank 2022b). The cost was calculated based on the statistical value of life for premature deaths and years lived with disability for related health issues.

The transport sector plays a significant role in serious health issues such as respiratory and cardiovascular diseases, cancer, and adverse birth outcomes.

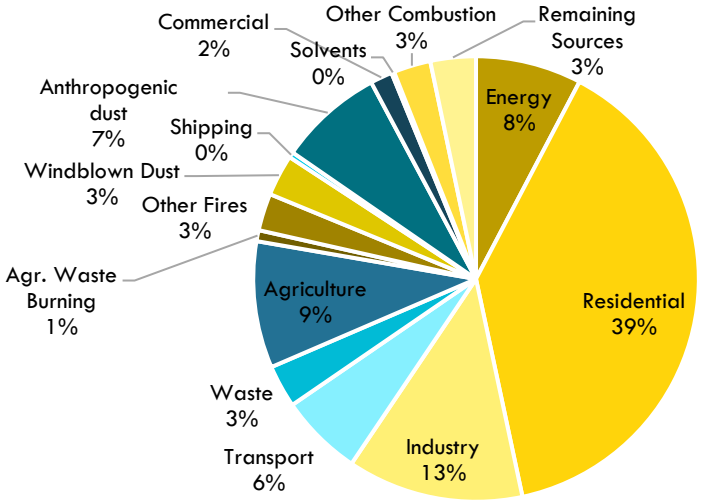

Figure 22: Ambient PM2.5 in Nepal, contribution by source
Source: ATO analysis and visualization based on IHME (2025)

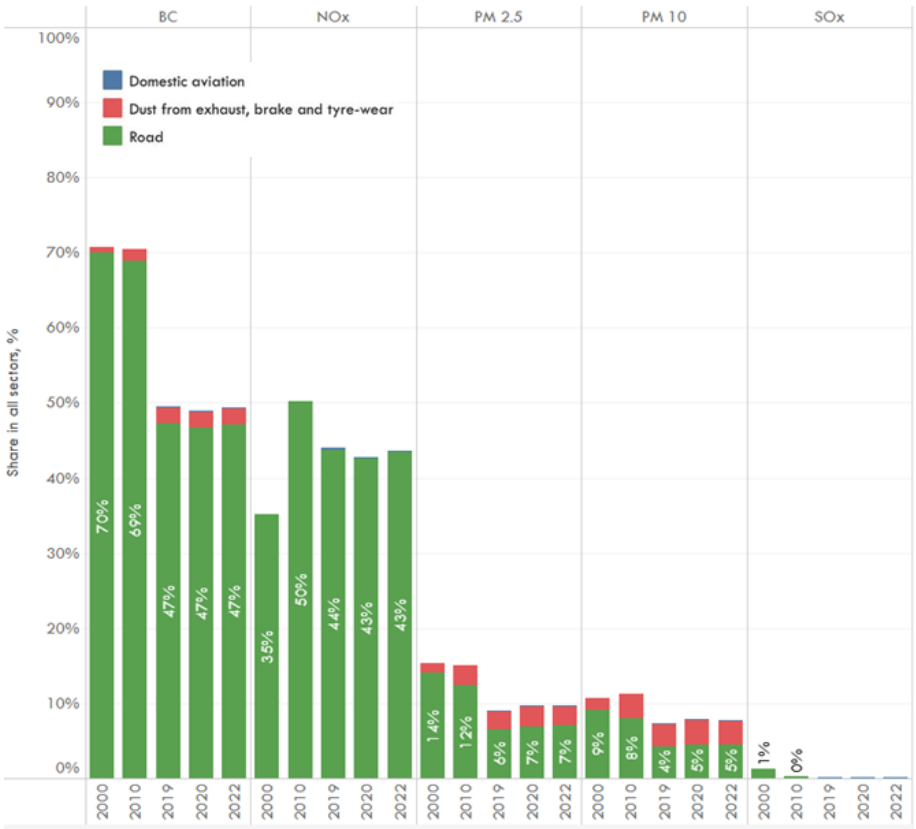

Figure 23: Share of Domestic Transport in Total Economy-Wide Air Pollutant Emissions, By Mode and Substance
Source: ATO analysis and visualization based on European Commission (2024)

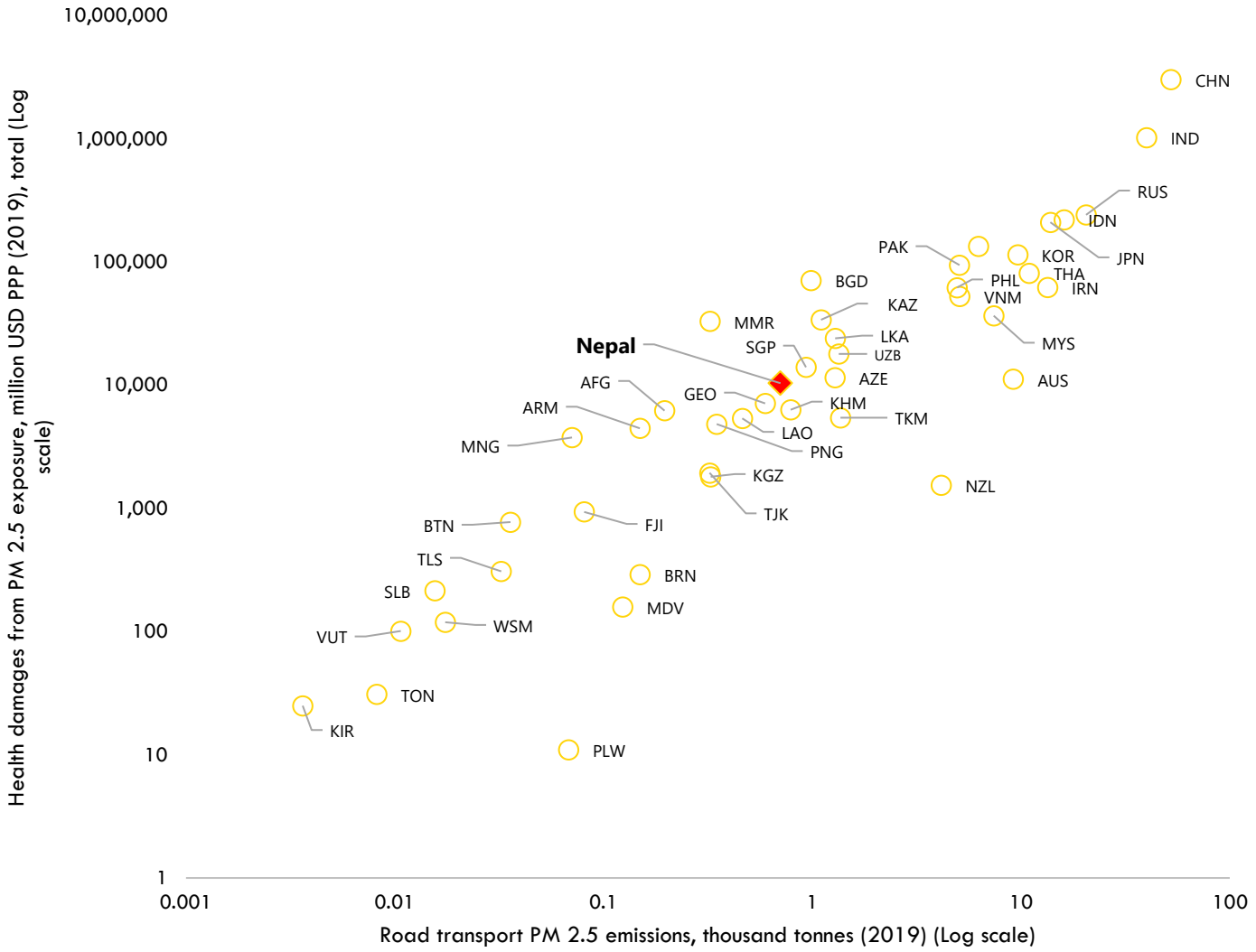

Figure 24. Estimated Health Damages from PM 2.5 exposure and Road Transport PM2.5 (2019)
Source: ATO analysis and visualization based on World Bank (2022c)

Apart from two major interventions discussed earlier – electric vehicles and inducing modal shift to public transit and active mobility, Nepal's policies target transport-related air pollution on three fronts: restricting polluting vehicles, upgrading standards, and eliminating the oldest fleet. The Nepal First NDC (Government of Nepal 2016b) provides the high-level objective: to "decrease the rate of air pollution through proper monitoring of sources". This includes "old and unmaintained vehicles." The National Transport Policy (Government of Nepal 2001) mandates that "sound and air polluting vehicles shall be restricted." The primary intervention is through stringent standards. The NSTS (Government of Nepal 2015) calls for upgraded emission standards. Enforcement relies on new technology and penalties. The Fifteenth Plan (Government of Nepal 2020b) mandates "Automated technology... for measuring vehicle pollution" at the provincial level. The NSTS demands strict monitoring of compliance and strengthening vehicle testing and green sticker systems. The National Energy Strategy of Nepal reinforces this, calling to "Make vehicle emission standard stringent and monitored... by fixing high penalty" (Government of Nepal 2013).

The final strategy is fleet removal. This begins at the border, where the National Transport Policy (Government of Nepal 2001) seeks to "restrict... The import of the vehicles older than five years." For the domestic fleet, the NSTS (Government of Nepal 2015) is even more blunt, calling to "Implement the policy decision of phasing out 20 years old vehicles."

Leverage Science, Technology, and Innovation for Sustainable Transport

Leverage Science, Technology, and Innovation for Sustainable Transport

Internet access in Nepal has expanded rapidly in the recent past. In 2010, just 8% of Nepal's population had access to the internet. By 2023, this figure had risen exponentially to 56% (Figure 25). Despite this remarkable progress, Nepal continues to lag behind the Asia-Pacific average, where about 73% (simple average) of the population uses the internet. Only about half of Nepal's population was covered by 3G networks in 2022. Consequently, broadband internet speeds have reached 72 Mbps, but mobile internet speeds are only at 22 Mbps at the latest recording 2022. E-commerce remains uncommon in the country, with only 4.4% of the population using the internet to shop online (World Bank 2026).

Growing digitalization is reshaping policies. For example, the Nepal Road Safety Action Plan (2021–2030) (Government of Nepal 2021b) pledges to strengthen digital and technological capacities in road safety and traffic management. It commits to providing real-time traffic and safety information to drivers through FM radio, mobile applications, and SMS alerts at the provincial level. The said Plan further calls for equipping all traffic police offices with computers and internet connectivity, while the existing toll-free hotline will be enhanced and complemented by a new mobile app to report crashes or to request assistance. The plan also includes the deployment of speed-measuring devices along high-risk road links to support enforcement.

The Fifteenth Plan (Fiscal Year 2019/20–2023/24) outlines several measures that leverage digital technologies to enhance efficiency and transparency in Nepal's road and transport sector (Government of Nepal 2020b). It commits to developing a fully automated electronic system that uses information technologies to improve institutional effectiveness by facilitating access to data on road infrastructure development, expansion, maintenance, and operations. The plan also promotes vehicle tracking through GPS for better monitoring and management of transport activities. Additionally, it calls for the adoption of electronic systems for collecting transport-related revenues and road charges, supporting modernization and accountability in financial transactions.

The Sixteenth Plan (Fiscal Year 2024/25–2028/29) emphasizes the application of modern and digital technologies in the road and transport sector to improve system management, transparency, and operational effectiveness. It prioritizes strengthening road asset management systems, including road maintenance expenditure systems and road bridge management information systems, and interconnecting road assets under federal, provincial, and local jurisdictions through digital platforms (Government of Nepal, 2024c). The updated Plan calls for using the latest technologies in urban public transport systems to control traffic pressure, enhance road safety, and reduce environmental pollution, including the construction of automatic toll gates on major roads to improve road tax collection and traffic safety. It also highlights the regulation of heavy vehicles, transparency in construction processes, simplified procedures, and trade facilitation at transit points, and the development of a multimodal transport system based on.

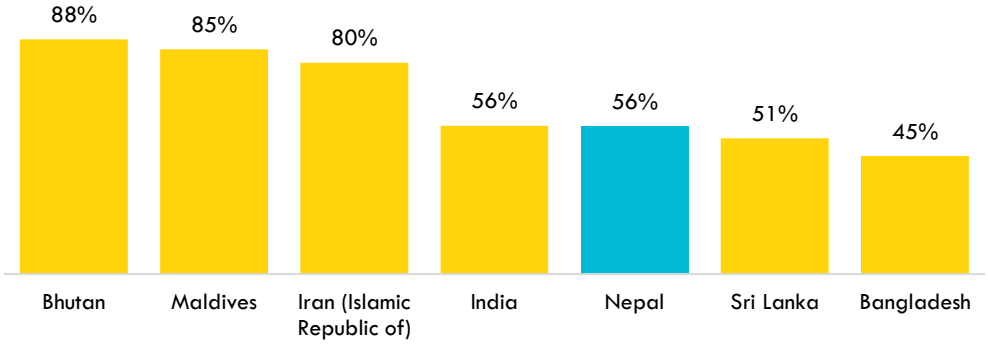

Figure 25: Share of the Population using the Internet
Source: ATO analysis and visualization based on ITU (2025)

Crosscutting

Transport Sector's Economic Contribution and Employment

Since 2000, the GDP has grown at an annual rate of approximately 7.2% (World Bank 2025b),[10] roughly nine times the population growth rate. This pace of expansion has put fresh demands on Nepal's transport system, which must keep pace with economic growth, urbanization, and the country's development as a regional transit hub.

The transport sector is a rapidly growing and strategically important part of the economy. It is estimated to contribute nearly 9% of GDP and to employ about 120 thousand people directly, i.e., about 1.5% of total employment. Since 2000, employment in the transport sector has increased by 4%, outpacing the Asian average rate of 2.5%, while also outpacing population growth by 0.8% and total employment growth by 1.5% (International Labour Organization 2024; UNDESA - Population Division 2022).

Moreover, notable productivity gains are occurring in the transport sector (Figure 26). Despite the COVID pandemic, average labor productivity in Gross Value Added (GVA) per employee has nearly tripled over the last 20 years (International Labour Organization, 2024). Interestingly, this progress exceeds the Asia-Pacific average and across major employment-generating sectors in Nepal (Figure 27).

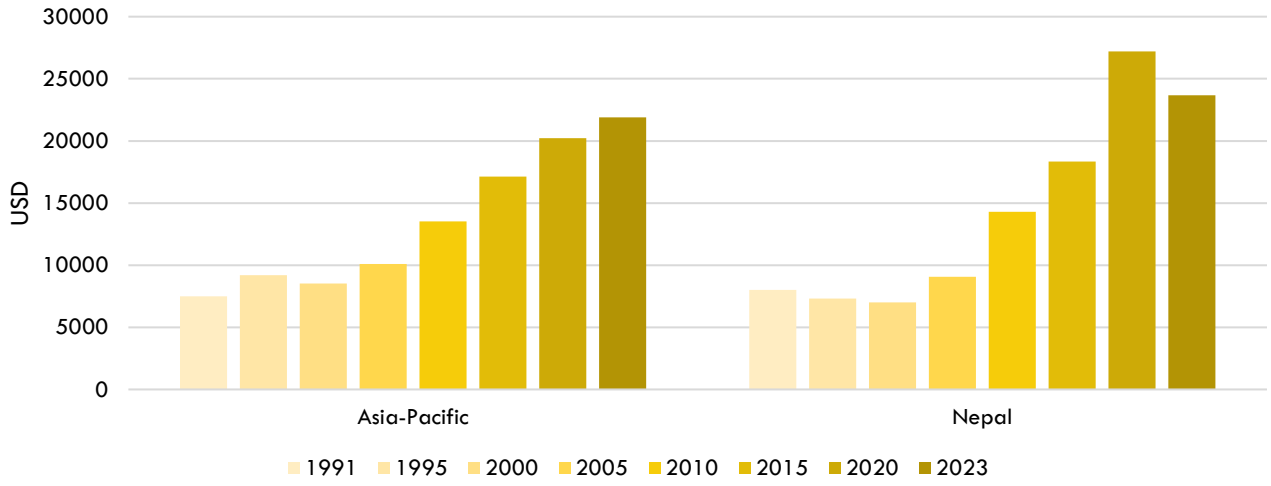

Figure 26. Transport GVA per Employee – Nepal and Asia-Pacific (1991 – 2023)
Source: ATO analysis and visualization based on International Labour Organization (2024)

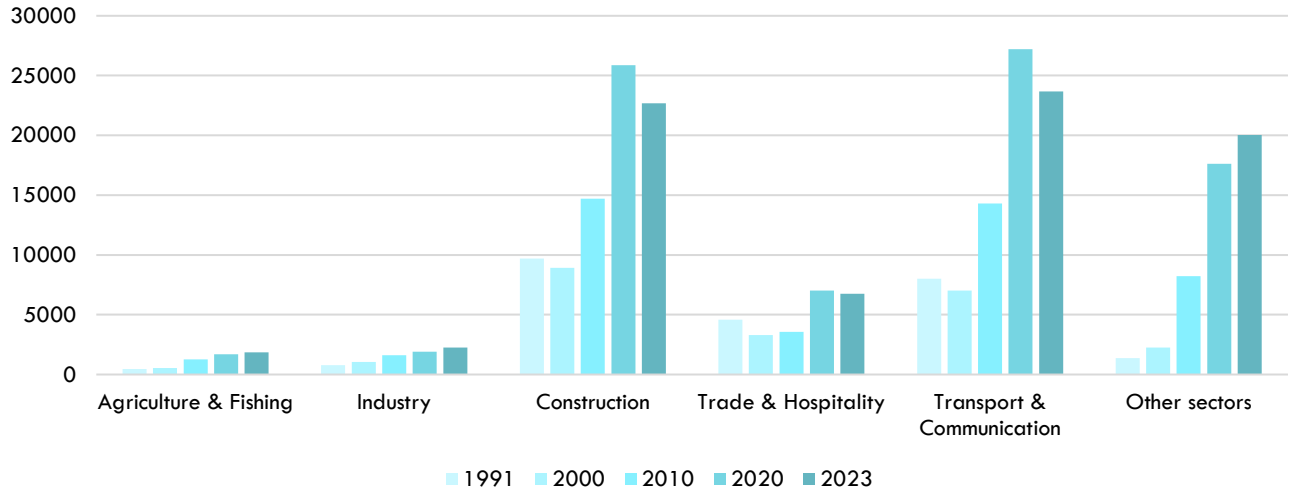

Figure 27: GVA per Employee by Sector
Source: ATO analysis and visualization based on ILO (2026), UNDESA Statistics Division (2023)

[10] Based on current international USD values. The corresponding average annual growth rate using constant 2015 USD is 4%.

Transport Share in Household Expenditure

Nationally, transport constitutes a minimal portion of household budgets in Nepal (World Bank 2021b), accounting for only about 2.8% of total household consumption expenditure (Figure 28). This encompasses spending by resident households on vehicles and transport services, alongside other essentials such as food, housing, energy, and healthcare. The financial burden shifts dramatically in urban settings. In Kathmandu, travel costs account for approximately 11% of household income, underscoring the significant resources required for daily mobility. High transport expenditure shares can signal heavy reliance on private vehicles, relatively expensive public transport systems, or a combination of both. The contrast between the low national expenditure share and Kathmandu's high-income share underscores a pronounced urban-rural divide in mobility costs and potentially access needs.

Figure 27: GVA per Employee by Sector
Source: ATO analysis and visualization based on ILO (2026), UNDESA Statistics Division (2023)

Motorization

In 2024, Nepal had 5,85 million vehicle registrations, which translates to approximately 195 vehicles per thousand people (Figure 29) (Government of Nepal 2024a). Due to lack of proper database some old vehicles are not deducted on the registered vehicles. This rate is higher than Bangladesh's 32 vehicles per thousand and slightly more than three fourth of India's 248 vehicles per thousand. Vehicle registrations in Nepal have steadily grown at an average annual rate of 14% since 2000, while India's growth has been slightly lower at 10% per year period.

Figure 29: Vehicle Registrations per Thousand Population
Source: ATO analysis and visualization based on Country official Statistics

Transport Equipment Trade

Nepal's transport equipment trade is defined by a structural dependency. Imports constitute the entire market. Vehicle exports over the 2010-2024 period remained negligible, often non-existent. This import-only market demonstrates extreme volatility, a clear signal of high sensitivity to economic conditions and regulatory interventions. The market's behavior confirms this as depicted in Figure 30. Rapid growth culminated in a peak of over USD 1 billion in 2018, only to be followed by a sharp fall in 2020. A brief rebound in 2021 was erased by a severe contraction through 2022-2023 before a partial recovery in 2024. This pattern suggests a sector driven not by steady growth, but by sudden shocks and policy shifts.

The composition of Nepal's vehicle import market has shifted towards electrification (Figure 31). In 2018, the import share of electric and plug-in hybrid vehicles was statistically insignificant at only 0.64%. This situation has been reversed. The electric share began a rapid acceleration in 2022, capturing 17% of the market. This trend intensified, reaching 47% in 2023 and climbing to 53% by 2024. This share is second only to Norway's 65%. Whether this trajectory positions Nepal to become the global import leader in 2025 is a question of domestic policy sustainability. The conclusion for today, however, is clear. Electric vehicles are no longer a niche. By value, they now command more than half of all vehicles import trade.

The impressive uptake of electric vehicles is also seen in the recent statistics on passenger car sales. The estimates from Segment Y shows the leapfrog that has happened from 2023 in terms of the penetration of EVs and hybrids in the cars sold in Nepal (DePillis and Sharma 2025).

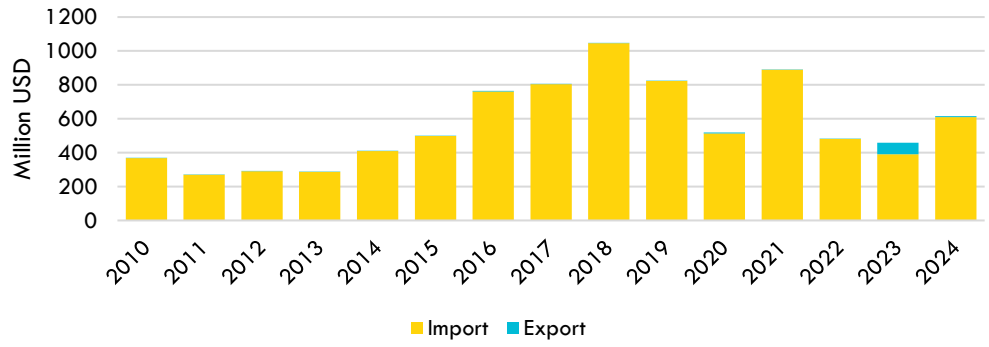

Figure 30. Transport Equipment Trade Value in Million USD (2015 – 2023)
Source: ATO analysis and visualization based on International Trade Centre (n.d.)

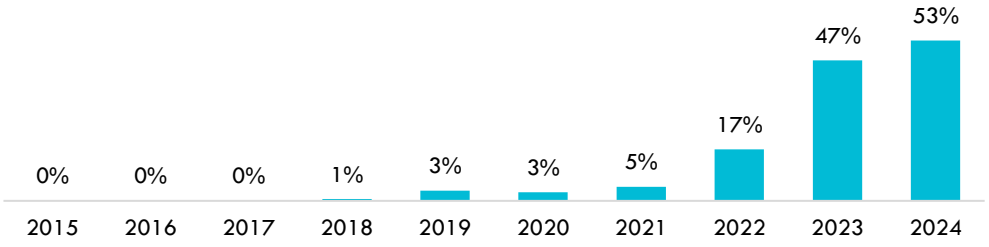

Figure 31: Share of Electric Road Vehicle Total (Including Plug-In Hybrid-Electric) in Total Road Vehicle Imports
Source: ATO analysis and visualization based on ITC (2025)

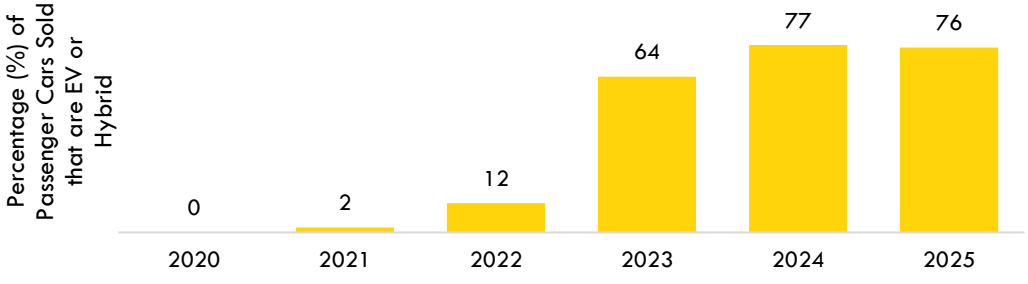

Figure 32. Percentage of Passenger Car Sales that are Electric or Hybrid
Source: ATO analysis and visualization based on DePillis and Sharma (2025)

Gender in the Transport Sector: Addressing Disparities

Nepal's transport sector operates with a gender imbalance. This is not a demographic anomaly. Women constitute most of the population (52.1%) and constitute a significant head (28%) of all households. Though women are constituting a small amount of the transport workforce, the data suggests progress (Figure 33). Female employment share rose from 6.3% in 2000 to 13.8% in 2023. This apparent progress, however, masks stagnation. At the start of the SDGs in 2015, the share had already reached 11.9%, meaning that most of the gains occurred before 2015. Eight years later, it had barely moved, with the share rising only marginally to 13.8%. Moreover, when compared to the overall economy, where women account for 36% of total employment in 2023, the transport sector lags significantly behind in achieving gender balance.

Nepal's transport policies incorporate a few specific measures to address gender and enhance the accessibility of public transport for women. The Motor Vehicles and Transport Management Act, 2049 (1993) (Government of Nepal 1993) provides a direct legal mandate, stating it is the "duty of the owner or manager" of passenger vehicles on both local and long routes "to reserve... two seats for female passengers." This provision for dedicated seating is complemented by broader national strategies. The Fifteenth Plan (Fiscal Year 2019/20 - 2023/24) (Government of Nepal 2020b), for example, outlines a high-level goal that "Access to and use of public transport will be enhanced for... women," placing them alongside other priority groups such as senior citizens and people with disabilities. Together, these policies illustrate an approach that combines specific, mandatory legal actions with broader strategic objectives to improve women's safe access to mobility.

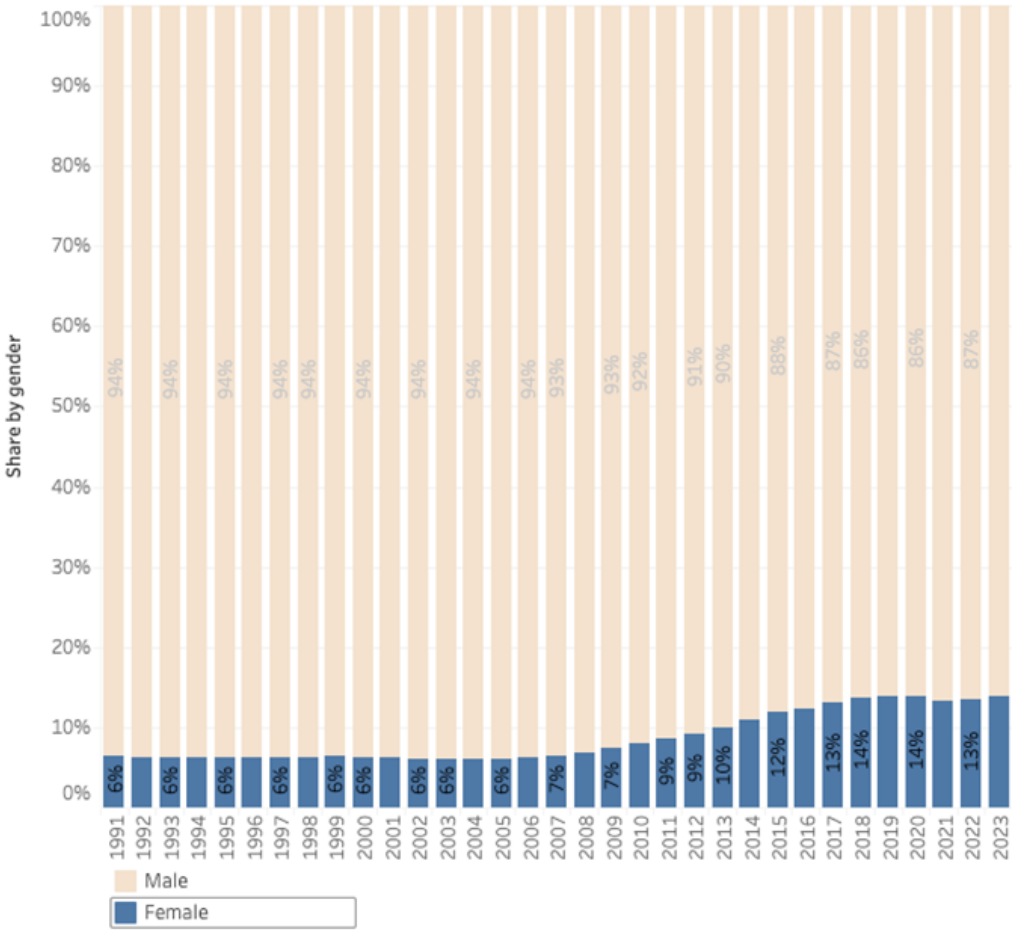

Figure 33: Share of female in transport sector employment
ATO analysis and visualization based on ILO (2026)

Summary

Nepal's transport system sits at the intersection of geography, development ambition, and climate vulnerability. As a landlocked, mountainous country preparing to graduate from Least Developed Country (LDC) status in 2026, transport plays a decisive role in connecting people, markets, and regions while shaping long-term economic resilience. The sector has expanded rapidly over the past two decades, yet structural weaknesses persist across infrastructure quality, accessibility, safety, and sustainability. In this context, Nepal's transport policies and investments need to increasingly align with the goals of the Aichi 2030 Declaration on EST (UNCRD 2021), which calls for advancing low-carbon, safe, inclusive, and resilient transport systems across the Asia-Pacific region.

Enhance Sustainable Connectivity and Freight

Nepal's transport system remains heavily road-dependent, reflecting both its mountainous geography and historical investment patterns. While the national road network has expanded rapidly, logistics performance continues to lag behind regional peers, constrained by infrastructure quality, customs efficiency, and limited multimodal integration. Railways are re-emerging as a strategic priority, with plans for an electrified East–West Railway and cross-border rail links with India and the People's Republic of China intended to reduce logistics costs and improve regional connectivity. Aviation plays a critical role in international and domestic connectivity, particularly for tourism and remote access, but remains constrained by airport capacity, affordability, and limited diversification of gateways. The Trade Logistics Policy 2022 articulates a coherent reform agenda focused on integrated infrastructure, dry ports, multimodal connectivity, and governance reform, though implementation capacity remains uneven.

Ensure Access to Sustainable Transport for All

Access to transport in Nepal has improved significantly, yet disparities persist across geography and income groups. Around 80% of households now live within a 30-minute walk of a paved road, marking substantial progress over the past decade. However, disparities exist, particularly between urban and rural areas, with the latter continuing to face long travel times to higher-order services such as hospitals, markets, and secondary schools. Trail bridges and basic motorable roads remain essential in extending access in rural areas. In urban areas, while road coverage is relatively high, access to reliable and affordable public transport remains limited.

Make Transport Safe and Secure

Road safety remains a major challenge, with pedestrians accounting for the largest share of fatalities and injuries and more than half of deaths occurring among the economically productive age group of 15–44. There is strong emphasis on institutional capacity building, enforcement, and data systems, including certified road safety auditors, trauma-care training, and nationwide crash databases. Transport infrastructure is also highly exposed to climate risks, particularly floods and landslides, which disproportionately affect roads and bridges in mountainous and monsoon-prone regions, underscoring the need for resilient design and maintenance. Aviation safety is also a key concern.

Advance Low-Carbon, Resilient, and Environmentally Sound Transport Systems

Transport energy demand in Nepal has increased rapidly, nearly tripling between 2015 and 2022, with the road sector accounting for around 98% of total transport energy consumption. The fuel mix remains overwhelmingly dominated by imported oil products. As a result, transport has become the fastest-growing source of greenhouse gas emissions in the country, diverging sharply from global and regional trends where growth has slowed. Policy responses increasingly emphasize vehicle electrification, cleaner emission standards, and modal shift toward public and non-motorized transport, but implementation remains at an early stage.

Leverage Science, Technology, and Innovation for Sustainable Transport

Nepal is increasingly leveraging digital technologies and innovation to improve transport system management, safety, and efficiency, although progress remains uneven. Rapid growth in internet access—rising from 8% of the population in 2010 to 56% in 2023—has expanded the potential for technology-enabled transport solutions. However, digital readiness remains constrained by uneven network coverage, with only around half of the population covered by 3G networks in 2022, and relatively low mobile internet speeds compared to fixed broadband. Electric mobility uptake has also been impressive in the last few years. Policy frameworks increasingly emphasize the application of information and communication technologies across the transport sector. Broader national plans reinforce this shift by encouraging digital platforms for road asset management, vehicle tracking, electronic revenue collection, and data integration across government levels. Together, these measures signal a gradual move toward a data-driven and technology-enabled transport system, while underscoring ongoing challenges related to digital infrastructure, institutional capacity, and system integration.

Cross-Cutting Elements

Transport contributes to Nepal's economy through employment and economic activity, while also accounting for a notable share of household expenditure, raising affordability concerns for lower-income groups. Motorization is accelerating, reshaping infrastructure demand, energy use, safety outcomes, and emissions. Transport equipment trade is increasingly dominated by imports, with a rapid rise in electric vehicle imports alongside continued reliance on conventional vehicles and fuels, carrying implications for the trade balance, fiscal revenues, and energy security. Across these dimensions, gender disparities persist within the transport sector, affecting access, employment, and participation, and highlighting the need for more inclusive transport policies.

Nepal's transport system sits at the intersection of geography, development ambition, and climate vulnerability.

References

Airbus. 2024. “Global Market Forecast.” May 15. https://www.airbus.com/en/products-services/commercial-aircraft/global-market-forecast.

Airbus. n.d. “Global Market Forecast.” https://www.airbus.com/sites/g/files/jlcbta136/files/2021-07/GMF-2019-2038-Airbus-Commercial-Aircraft-book.pdf.

ATO. 2025a. “A Dashboard for Sustainable Transport in Asia and the Pacific - Asian Transport Observatory.” https://asiantransportobservatory.org/analytical-outputs/sdg-and-decade-of-action-2025/.

ATO. 2025b. “Asia and the Pacific’s Transport Infrastructure and Investment Outlook 2035.” https://asiantransportobservatory.org/analytical-outputs/asia-transport-infrastructure-investment-needs/.

ATO. 2025c. Beyond Borders: Mapping Trade Flows and Multi-Hazard Risks to Transport Systems. https://asiantransportobservatory.org/vis/trade-001/.

Baral, Biswas. 2025. “Nepal’s LDC Graduation Masks Deep Economic Fragility.” https://thediplomat.com/2025/08/nepals-ldc-graduation-masks-deep-economic-fragility/.

Barrington-Leigh, Christopher, and Adam Millard-Ball. 2025. A High-Resolution Global Time Series of Street-Network Sprawl. https://journals.sagepub.com/doi/10.1177/23998083241306829.

Bhattarai, Deepak Kumar, and Padma Bahadur Shahi. 2021. Integrated Multi-Modal Transportation System: A Sustainable Approach for Urban Transport in Kathmandu. http://ssrn.aviyaan.com/road_network/getProvinceCategoryAndPavement/1.

CAAN. 2006. Aviation Policy 2063 (2006). https://caanepal.gov.np/storage/app/media/civil-aviation-policy-2063-bs-2006-70231.pdf.

CAAN. 2018. “National Aviation Safety Plan, Nepal.” https://www.icao.int/sites/default/files/safety/GASP/GASP%20Library/National%20aviation%20safety%20plans/Nepal-NASP-2023-2025.pdf.

CAAN. 2025a. “Aviation Safety Report 2025 Nepal.” https://caanepal.gov.np/storage/app/media/2025/sm/Aviation%20Safety%202025%20CAAN.pdf.

CAAN. 2025b. CAAN Report 2025. https://caanepal.gov.np/storage/app/uploads/public/695/5fa/288/6955fa288f6c0535486467.pdf.

CDRI. 2023. “Building & Infrastructure | GIRI.” https://giri.unepgrid.ch/facts-figures/building-infrastructures.

Center for International Earth Science Information Network. 2023a. “SDG Indicator 9.1.1: The Rural Access Index (RAI), 2023 Release: Sustainable Development Goal Indicators (SDGI) | SEDAC.” https://sedac.ciesin.columbia.edu/data/set/sdgi-9-1-1-rai-2023.

Center for International Earth Science Information Network. 2023b. “SDG Indicator 11.2.1: Urban Access to Public Transport, 2023 Release.” Earth Science Data Systems, NASA, July 31. https://www.earthdata.nasa.gov/data/catalog/sedac-ciesin-sedac-sdgi-uapt-2023-2023.00.

CRED. 2026. “EM-DAT - The International Disaster Database.” EM-DAT - The International Disaster Database. https://www.emdat.be/.

Crippa, Monica, Diego Guizzardi, Federico Pagani, et al. 2024. "GHG Emissions of All World Countries." Preprint. https://doi.org/10.2760/4002897.

DePillis, Lydia, and Bhadra Sharma. 2025. "The Country Where 76% of Cars Sold Are Electric." Business. The New York Times, July 28. https://www.nytimes.com/2025/07/28/business/nepal-electric-vehicles-china.html.

Dissel, Serge Cartier van, and Michael Anyala. 2024. Road Maintenance Financing and Cost Recovery Options: The Future of Road User Revenues in Developing Asia and the Pacific. no. 100 (November). Bangladesh,Cambodia,Kyrgyz Republic,Mongolia,Nepal,Pakistan,Papua New Guinea,Timor-Leste,Uzbekistan,Vanuatu. https://www.adb.org/publications/road-maintenance-financing-cost-recovery-options.

European Commission. 2024. "Global Air Pollutant Emissions EDGAR v8.1." https://edgar.jrc.ec.europa.eu/dataset_ap61#sources.

European Commission Joint Research Centre. 2025. "Global Human Settlement - Urban Centre Database R2024A - European Commission." https://human-settlement.emergency.copernicus.eu/ghs_ucdb_2024.php.

Geofabrik GmbH and OpenStreetMap Contributors. 2026. "Geofabrik Download Server." Geofabrik Download Server. https://download.geofabrik.de/.

Google. 2025. "Google Environmental Insights Explorer." April 18. https://insights.sustainability.google/places/ChIJbTgmYNLIIzMR0HiSrNoj7V8?hl=en_us.

Google. n.d. "Methodology - Google Environmental Insights Explorer - Make Informed Decisions." Accessed January 8, 2026. https://insights.sustainability.google/methodology?hl=en_us.

Government of Nepal. 1993. Motor Vehicles and Transport Management Act, 2049 (1993). https://nepaltradeportal.gov.np/resources/docs/motor-vehicles-and-transport-management-act-2049-1993.pdf.

Government of Nepal. 2001. National Transport Policy. https://dor.gov.np/home/circular/force/national-transport-policy-2058.

Government of Nepal. 2002. Roads Board Act. https://dor.gov.np/krrp/law/force/road-board-act-2002-english.

Government of Nepal. 2006. Trail Bridge Strategy 2006. http://nepaltrailbridges.org.np/upload/files/Trail%20Bridge%20Strategy%20English.pdf.

Government of Nepal. 2013. National Energy Strategy of Nepal. https://policy.asiapacificenergy.org/sites/default/files/National%20Energy%20Strategy%20of%20Nepal%202013%20%28EN%29.pdf.

Government of Nepal. 2014. Environment-Friendly Vehicle and Transport Policy 2014 (2071). https://kms.pri.gov.np/dams/pages/view.php?ref=13904&search=%21collection1805&k=0e27cc7aaa.

Government of Nepal. 2015. National Sustainable Transport Strategy (NSTS) for Nepal (2015-2040). https://www.uncrd.or.jp/content/documents/3377Background%20Paper%20-EST%20Plenary%20Session%202%20(No.%201).pdf.

Government of Nepal. 2016a. Budget Speech of Fiscal Year 2016/17. https://old.mof.gov.np/uploads/document/file/20160601173941.pdf.

Government of Nepal. 2016b. "Nepal First NDC." https://unfccc.int/documents/497802.

Government of Nepal. 2017a. Local Government Operation Act 2017. https://dpnet.org.np/resource-detail/333.

Government of Nepal. 2017b. National Urban Development Strategy 2017. https://app.climatepolicyradar.org/document/national-urban-development-strategy-2017_ee3c?sf=date&so=desc&l=nepal.

Government of Nepal. 2019a. National Climate Change Policy - 2076. https://climate.mohp.gov.np/31-acts/153-climate-change-policy.

Government of Nepal. 2019b. Nepal Urban Road Standard - 2076. http://dudbc.gov.np/uploads/default/files/ae0b4f05ccb43bd80c1e5c39e3f69267.pdf.

Government of Nepal. 2020a. Nepal Second NDC. https://unfccc.int/sites/default/files/NDC/2022-06/Second%20Nationally%20Determined%20Contribution%20%28NDC%29%20-%202020.pdf.

Government of Nepal. 2020b. The Fifteenth Plan (Fiscal Year 2019/20 - 2023/24). https://www.npc.gov.np/images/category/15th_plan_English_Version.pdf.

Government of Nepal. 2021a. Nepal LTS. https://unfccc.int/sites/default/files/resource/NepalLTLEDS.pdf.

Government of Nepal. 2021b. Nepal Road Safety Action Plan (2021-2030). https://www.nepalindata.com/resource/WORD-FILE---NEPAL-ROAD-SAFETY-ACTION-PLAN--2021-2030/.

Government of Nepal. 2022. Trade Logistics Policy. https://giwmscdnone.gov.np/media/app/public/6/posts/1706521266_44.pdf.

Government of Nepal. 2024a. Economic Survey 2081/82. https://giwmscdnone.gov.np/media/pdf_upload/%E0%A4%86%E0%A4%B0%E0%A5%8D%E0%A4%A5%E0%A4%BF%E0%A4%95%20%E0%A4%B8%E0%A4%B0%E0%A5%8D%E0%A4%B5%E0%A5%87%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A4%A3%202081-82_ksjdgmv.pdf.

Government of Nepal. 2024b. NEPAL LIVING STANDARDS SURVEY IV 2022/23. https://giwmscdnone.gov.np/media/app/public/36/posts/1719375782_27.pdf.

Government of Nepal. 2024c. Sixteenth Plan (Fiscal Year 2024/25 - 2028/29). https://npc.gov.np/content/6462/the-sixteenth-plan--fical-year-2024-25-2028-29-/.

Government of Nepal. 2025a. National Urban Policy. https://kms.pri.gov.np/dams/pages/view.php?ref=25852&k=0e27cc7aaa&search=&offset=&order_by=&sort=&archive=.

Government of Nepal. 2025b. Nationally Determined Contribution (NDC) 3.0. https://unfccc.int/sites/default/files/2025-05/Nepal%20NDC3.pdf.

Helvetas. 2023. “Trail Bridges for Safe Routes.” https://www.helvetas.org/en/switzerland/what-we-do/how-we-work/our-projects/asia/nepal/nepal-infrastructure-suspension-bridge.

IATA. 2023. THE VALUE OF AIR TRANSPORT TO NEPAL. https://www.iata.org/en/iata-repository/publications/economic-reports/the-value-of-air-transport-to-nepal/.

IHME. 2021. Global Burden of Disease Study 2021. https://ghdx.healthdata.org/gbd-2021.

IHME. 2025. “State of Global Air 2025 | Institute for Health Metrics and Evaluation.” https://www.healthdata.org/research-analysis/library/state-global-air-2025.

ILO. 2026. “Data Tools to Find and Download Labour Statistics.” ILOSTAT. https://ilostat.ilo.org/data/.

International Labour Organization. 2024. “Indicators and Data Tools.” ILOSTAT. https://ilostat.ilo.org/.

International Trade Centre. n.d. “Trade Map - Trade Statistics for International Business Development.” https://www.trademap.org/Index.aspx.

iRAP. 2024. “Safety Insights Explorer.” iRAP. https://irap.org/safety-insights-explorer/.

ITC. 2025. “Trade Map - Trade Statistics for International Business Development.” https://www.trademap.org/Index.aspx.

ITDP. 2024a. “The Atlas of Sustainable City Transport.” https://atlas.itdp.org/.

ITDP. 2024b. “The Atlas of Sustainable City Transport.” Institute for Transportation and Development Policy - Promoting Sustainable and Equitable Transportation Worldwide, May 15. https://itdp.org/publication/the-atlas-of-sustainable-city-transport/.

ITU. 2025. “Individuals Using the Internet.” https://www.itu.int:443/en/ITU-D/Statistics/Pages/stat/default.aspx.

Koks, Elco, Julie Rozenberg, Mersedeh Tariverdi, et al. 2023. “A Global Assessment of National Road Network Vulnerability.” Environmental Research: Infrastructure and Sustainability 3 (2): 025008. https://doi.org/10.1088/2634-4505/acd1aa.

Laxman, C., Jiwnath Ghimire, Kumud Raj Kafle, and Bikash Adhikari. 2025. “Road Safety in Numbers: Using Data to Illustrate the Nepal’s Scenarios.” American Journal of Traffic and Transportation Engineering 10 (5): 120–34. https://doi.org/10.11648/j.ajtte.20251005.13.

Nepal News. 2025. “Nepal Central Bank Tightens Loan Rules for Electric Vehicles.” Nepal News, February 25. https://english.nepalnews.com/s/business/nepal-central-bank-tightens-loan-rules-for-electric-vehicles/.

Nirandjan, Sadhana, Elco E. Koks, Philip J. Ward, and Jeroen C. J. H. Aerts. 2021. “A Spatially-Explicit Harmonized Global Dataset of Critical Infrastructure.” Version v1.0.0. Zenodo, June 15. https://doi.org/10.5281/zenodo.4957647.

Prasain, Sangam. 2025. “Nepali Sky Remains Unsafe as Reforms Stall, Report Warns.” The Kathmandu Post, November 10. https://kathmandupost.com/money/2025/11/10/nepali-sky-remains-unsafe-as-reforms-stall-report-warns.

State of Global Air. 2025. “Ambient Particulate Matter Pollution.” https://www.stateofglobalair.org/data/#/health/table?country=AFG&pollutant=pm25&measure=death&deathMetric=number&geography=country&region=country&subregions=&outcome=burden&regionToggle=0&globals=false&hideCountry=false.

The Kathmandu Post. 2025. “New Civil Aviation Policy Proposes 90 Percent FDI in International Airlines.” https://kathmandupost.com/money/2025/06/26/new-civil-aviation-policy-proposes-90-percent-fdi-in-international-airlines.

The Rising Nepal. 2025. “Examining Nepal’s Aviation Struggles.” https://risingnepaldaily.com/news/56649.

Town Development Fund. 2023. “Kathmandu Sustainable Urban Transport Project (KSUTP).” https://tdf.org.np/node/647.

UN. 2025. “UN Decade of Sustainable Transport (2026 - 2035) - The Road towards the Launch and the Implementation Plan: A Stakeholder Briefing | Department of Economic and Social Affairs.” https://sdgs.un.org/events/un-decade-sustainable-transport-2026-2035-road-towards-launch-and-implementation-plan.

UN General Assembly. 2021. “Resolution Adopted by the General Assembly on 24 November 2021.” https://documents.un.org/doc/undoc/gen/n21/355/26/pdf/n2135526.pdf?_gl=1*15e1giw*_ga*MTcyMjU3MDk5OS4xNzEwODI1MjM4*_ga_TK9BQL5X7Z*czE3Njc3Njk0OTUkbzQwJGcwJHQxNzY3NzY5NDk1JGo2MCRsMCRoMA..

UN Tourism. 2025. “Tourism Statistics Database.” https://www.untourism.int/tourism-statistics/tourism-statistics-database.

UNCRD. 2021. “Aichi 2030 Declaration on Environmentally Sustainable Transport - Making Transport in Asia Sustainable (2021-2030).” https://uncrd.un.org/sites/uncrd.un.org/files/files/documents/2022/Jun/10_aichi_2030_declaration-20_oct_2021-adopted.pdf.

UNCTAD. n.d. “UNCTAD Framework for Sustainable Freight Transport.” Accessed November 22, 2024. https://sft-framework.unctad.org/.

UNDESA - Population Division. 2022. “World Population Prospects.” https://population.un.org/wpp/.

UNDESA Statistics Division. 2023. “National Accounts Section of the United Nations Statistics Division.” UNSTATS. https://unstats.un.org/unsd/snaama/Downloads.

UNDP. 2024. “LDC Graduation - Smooth Transition Strategy.” UNDP. https://www.undp.org/nepal/publications/ldc-graduation-smooth-transition-strategy.

UNESCAP. 2017. “Piloting Sustainable Urban Transport Index (SUTI) in Kathmandu Valley, Nepal.” https://repository.unescap.org/items/260c7649-d95a-4566-b1fc-c0b7a47fb30b.

United Nations Statistics Division. 2024. “UNSD — Energy Statistics.” https://unstats.un.org/unsd/energystats/data.

WHO. 2023. “Global Status Report on Road Safety 2023.” https://www.who.int/teams/social-determinants-of-health/safety-and-mobility/global-status-report-on-road-safety-2023.

Wiedenhofer, Dominik, André Baumgart, Sarah Matej, et al. 2024. “Mapping and Modelling Global Mobility Infrastructure Stocks, Material Flows and Their Embodied Greenhouse Gas Emissions.” Journal of Cleaner Production 434 (January): 139742. https://doi.org/10.1016/j.jclepro.2023.139742.

World Bank. 2021a. “Air Transport, Registered Carrier Departures Worldwide.” World Bank Open Data. https://data.worldbank.org.

World Bank. 2021b. “ICP 2021.” https://databank.worldbank.org/source/icp-2021.

World Bank. 2022a. Country Climate and Development Report: Nepal. https://openknowledge.worldbank.org/server/api/core/bitstreams/30a1cb25-232c-41ab-bd96-7046d446c2fc/content.

World Bank. 2022b. The Global Health Cost of PM2.5 Air Pollution: A Case for Action Beyond 2021. https://openknowledge.worldbank.org/server/api/core/bitstreams/550b7a9b-4d1f-5d2f-a439-40692d4eedf3/content.

World Bank. 2022c. The Global Health Cost of PM2.5 Air Pollution: A Case for Action Beyond 2021. The World Bank. https://doi.org/10.1596/978-1-4648-1816-5.

World Bank. 2023. “GDP, PPP (Current International $).” World Bank Open Data. https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD.

World Bank. 2024. “Home | Logistics Performance Index (LPI).” Logistics Performance Index. https://lpi.worldbank.org/.

World Bank. 2025a. “Country Climate and Development Report for Nepal.” https://www.worldbank.org/en/country/nepal/brief/key-highlights-country-climate-and-development-report-for-nepal.

World Bank. 2025b. “World Bank Open Data GDP , PPP (Current International $).” World Bank Open Data. https://data.worldbank.org.

World Bank. 2026. Global Findex 2025. https://www.worldbank.org/en/publication/globalfindex.

World Bank Group. 2024. “Airport Connectivity Score.” World Bank Data360. https://data360.worldbank.org/en/indicator/WEF_TTDI_IATACONNECTIDX.

Annex 1. Economy ISO Codes

ISO CODE	ECONOMY NAME	REGION	INCOME GROUP
AFG	Afghanistan	Asia	Low income
ARM	Armenia	Asia	Upper middle income
AUS	Australia	Oceania	High income
AZE	Azerbaijan	Asia	Upper middle income
BGD	Bangladesh	Asia	Lower middle income
BTN	Bhutan	Asia	Lower middle income
BRN	Brunei Darussalam	Asia	High income
KHM	Cambodia	Asia	Lower middle income
CHN	People's Republic of China	Asia	Upper middle income
COK	Cook Islands	Oceania	Upper middle income
FJI	Fiji	Oceania	Upper middle income
GEO	Georgia	Asia	Upper middle income
IND	India	Asia	Lower middle income
IDN	Indonesia	Asia	Upper middle income
JPN	Japan	Asia	High income
KAZ	Kazakhstan	Asia	Upper middle income
KIR	Kiribati	Oceania	Lower middle income
KGZ	Kyrgyz Republic	Asia	Lower middle income
LAO	Lao People's Democratic Republic	Asia	Lower middle income
MYS	Malaysia	Asia	Upper middle income
MDV	Maldives	Asia	Upper middle income
MHL	Marshall Islands	Oceania	Upper middle income
FSM	Micronesia (Federated States of)	Oceania	Lower middle income
MNG	Mongolia	Asia	Upper middle income
MMR	Myanmar	Asia	Lower middle income
NIU	Niue	Oceania	Upper middle income
NRU	Nauru	Oceania	High income
NPL	Nepal	Asia	Lower middle income
NZL	New Zealand	Oceania	High income
PAK	Pakistan	Asia	Lower middle income
PLW	Palau	Oceania	High income
PNG	Papua New Guinea	Oceania	Lower middle income
PHL	Philippines	Asia	Lower middle income
KOR	Republic of Korea	Asia	High income
WSM	Samoa	Oceania	Lower middle income
SGP	Singapore	Asia	High income
SLB	Solomon Islands	Oceania	Lower middle income
LKA	Sri Lanka	Asia	Lower middle income
TJK	Tajikistan	Asia	Lower middle income
THA	Thailand	Asia	Upper middle income
TLS	Timor-Leste	Asia	Lower middle income
TON	Tonga	Oceania	Upper middle income
TKM	Turkmenistan	Asia	Upper middle income
TUV	Tuvalu	Oceania	Upper middle income
UZB	Uzbekistan	Asia	Lower middle income
VUT	Vanuatu	Oceania	Lower middle income
VNM	Viet Nam	Asia	Lower middle income
IRN	Iran (Islamic Republic of)	Asia	Upper middle income
RUS	Russian Federation	Asia	High income
TUR	Türkiye	Asia	Upper middle income


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