



NEWSLETTER

Society of Transport Engineers Nepal

MESSAGE FROM PRESIDENT



On behalf of The Society of Transport Engineers of Nepal (SOTEN), I am delighted to introduce you to this very first issue of the newsletter initiated by the Fifth Executive Committee. SOTEN was established through the initiative of a few enthusiastic engineers to promote engineering knowledge and skills in the transport sector of the country. Now the society has grown and matured into a strong organization with 371 members and this number is increasing steadily.

At this stage, we have decided to regularly publish a newsletter that will be a platform for sharing our society's activities and knowledge in the field of transport and mobility. Only through the inspiration and support from you all we have been able to reach this milestone passing through many difficult times.

This publication is a testament to our commitment to keeping you informed and engaged with the latest developments in our field as well as the activities of the society.

As we look forward, I cordially welcome and encourage each of you to continue sharing your knowledge, experiences, and ideas. Together, we can drive progress and make significant strides toward a more efficient, sustainable, and interconnected transportation system.

I would like to extend my heartfelt thanks to newsletter committee members, Krishna Bhattarai, Niraj Bohora, Sandesh Poudel, Deepak Kuwar, Reshu Poudel and Samridhi Singh for their hard work under the guidance of our General Secretary in bringing this issue to the current form. The input received from all the Fifth Executive Committee members is also highly appreciated. Your dedication and expertise are what make this newsletter a valuable resource for all of us.

I hope you find this newsletter both informative and inspiring.

Warm Regards

Rajendra Raj Sharma

President

Society of Transport Engineers Nepal



About SOTEN

SOTEN is a professional society dedicated to professional development by generating and disseminating knowledge and sharing professional experiences in the transportation sector. SOTEN is a professional society member of Eastern Asia Society of Transport Studies (EASTS) and International Road Federation (IRF). Since its establishment in 2009, SOTEN has been involved in various capacity building activities and promoting research and innovation in transportation sector. SOTEN has successfully completed two international conference and many national seminars. Addition to that, SOTEN has Memorandum of Understanding with various professional and academic institutions. The outreach is even expanded beyond the national boundary, and we are pleased to collaborate with Asian Transport Outlook, Korean Society of Transportation, Sri Lanka Society for Transportation and Logistics and others. SOTEN was recently awarded with the title of "Outstanding Domestic Society of EASTS 2021-23".

SOTEN Executive Members

Fifth Executive Committee (2024-26)

President	Er. Rajendra Raj Sharma
Vice-President	Er. Hare Ram Shrestha, Ph.D
General Secretary	Er. Hemant Tiwari
Secretary	Er. Shrawan Kumar Thapa
Treasurer	Er. Bindu Adhikari
Members	Er. Anga Lal Rokaya
	Er. Binayak Bhattarai
	Er. Binod Bhattarai
	Er. Pradeep K. Shrestha, Ph.D
	Er. Ram Kumar Shrestha
	Er. Saujanya Nepal
	Er. Shiva Ram K.C.
	Er. Top Bahadur Baniya

SOTEN Activities

Knowledge Sharing Series

With a vision to disseminate knowledge and enhance technical expertise, SOTEN initiated the KNOWLEDGE SHARING SERIES in April 2024. The series is designed to feature two episodes each month, one with a national expert and the other with an international expert. These episodes are presented in collaboration with various national and international organizations, including the Asian Transport Outlook (ATO), the Department of Roads, and the Institute of Engineering Pulchowk Campus.

Cable Propelled Transit (CPT) as an Alternative Mode of Urban Mobility

The inaugural episode of the session on 28th April 2024, delved into the topic of "CPT as an alternative mode of urban mobility". **Harold Hurel**, esteemed public transportation and urban mobility expert from France presented about the technology and its suitability in context of Nepal. The speaker shed light on technical strengths and weaknesses of the system.





Upgradation of National Highway executed by Project Directorate ADB, DOR: Status and Way Forward

As part of the SOTEN Knowledge Sharing Series, the second episode concluded on May 12, 2024. Er. **Chuda Raj Dhakal**, Project Director at PD (ADB), Department of Roads presented on "Upgradation of National Highway executed by PD (ADB), DOR: Status and Way Forward." addressed the issues and lessons learned during the execution of large projects. Additionally, Dr Bijay Jaisi, Deputy Director General of the DOR, discussed projects supported by other donor agencies, including JICA and the World Bank, highlighting the common issues and challenges during project implementation.



Tunnel Engineering in Nepal

The third episode of Knowledge Sharing Series focused discussions on "Tunnel Engineering in Nepal" held on 26 May, 2024 where Er. **Naresh Man Shakya**, Director, Quality Research and Development Center (QRDC), DOR delivered insights of ongoing activities in tunneling sector, its problems along with discussions on tunnel construction methods in Nepal.



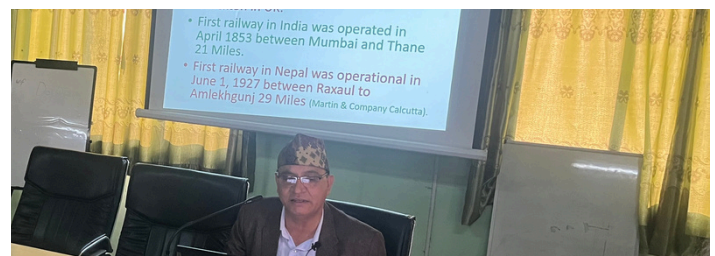
Benchmarking Nepal: Data Trends and Policies for Climate Mitigation and Adaptation in Asian Transport Sector

Mr. **Adwait Limaye**, Policy and Data Analyst at Asian Transport Outlook (ATO), delivered the fourth episode of the SOTEN Knowledge Sharing Series on June 9, 2024. The presentation, titled "Benchmarking Nepal: Data Trends and Policies for Climate Mitigation and Adaptation in the Asian Transport Sector," highlighted key narratives exploring the drivers of the transport sector and their impact on emissions, energy consumption, modal share, and trends in EV usage. Mr. Limaye also discussed emerging trends in the country's policy landscape. This event witnessed the long-term collaboration with ATO and was joined by Sudhir Gota, Co Team leader of ATO.

Society of Transport Engineers Nepal (SOTEN)
KNOWLEDGE SHARING SERIES
 An initiative of capacity building in transport sector.
 Episode # 4
 "Benchmarking Nepal: Data Trends and Policies for Climate Mitigation and Adaptation in Asian Transport Sector"
 June 9, Sunday
 Time : 5:30 to 7:00 p.m.
 via ZOOM
 Meeting ID : 465 105 3676
 Passcode: SOTEN
 Mr. Adwait Limaye
 Policy and Data Analyst,
 Asian Transport Outlook
 (ATO)
 In collaboration with : Asian Transport Outlook
 Supported by :

Railways in Nepal

Er. **Rohit Kumar Bisural**, Former Director General, Department of Railway delivered the *fifth episode* on June 23, 2024 of Knowledge Sharing Series on "Railways in Nepal". Mr. Bisural shed light on the history, current status and future plan of Railways in Nepal, and also shared his experiences in the field.





Guest Lectures and Talk Program

Road Safety Perspective and It's Implication in New Generation of Society

In collaboration with Safe and Sustainable Travel Nepal (SSTN) and SOTEN, Universal Engineering & Science College hosted a Talk Program on May 19, 2024, focusing on "Road Safety Perspective and Its Implications for the New Generation of Society." Mr. **Jagat Man Shrestha**, former Superintendent of Police, Nepal Police, presented various facts and figures regarding road safety from both global and Nepalese perspectives. Attendees gained insights into the anticipated evolution of road safety and the responsibilities of different stakeholders for enhancing the road safety scenarios.



An overview of Airport Engineering and Aviation in Nepal

As per MOU with Kantipur Engineering College, Er. **Binayak Bhattarai**, Aerodrome Engineer, Civil Aviation Authority of Nepal (CAAN) delivered *guest lecture*, held on May 28, 2024 focusing in history, present status and future scenario of aviation industry in Nepal. Guest lecture also underscored the potential research in context of aviation of Nepal.



Transport Infrastructure Development: Current Status, Issues and Way Forward

Er. **Hemant Tiwari**, General Secretary of SOTEN delivered a guest lecture on Transport Infrastructure Development: Current Status, Issues and Way Forward to Master in Infrastructure Engineering & Management Students at Institute of Engineering, Western Regional Campus on April 2024



Conference and Symposium

Symposium on Traffic & Transportation Engineering at KEC Conference 2024.

SOTEN collaborated with Kantipur Engineering College (KEC) and Safe and Sustainable Travel Nepal (SSTN) in organizing KEC Conference 2024 on 25 April 2024. The collaboration resulted in a dedicated **Symposium on Traffic and Transportation Engineering** as a part of the Conference. Er. **Rajendra Raj Sharma**, president of SOTEN delivered Keynote Speech on "Hill Road Management: Challenges and Way Forward in Context of Nepal"



Er. **Subhash Dhungel**, Chairperson of Traffic & Transport Unlimited Solution delivered a Special presentation on “Emerging Research Areas in Traffic and Transportation Engineering with focus on ITS application in Nepal” at the start of technical session. Fourteen papers were presented during the two technical sessions.



Prof. Dr. **Thusitha Chadani Shahi**
Director, Nepal Engineering College - center for post graduate studies (NEC-cps)



and Er. Sambriddhi Shrestha, Deputy Manager, CAAN chaired the two technical sessions. Majority of research papers were presented representing Nepal transportation scenario and were highly appreciated by the participants.



Low Value Grant from UNDP

SOTEN received Low Value Grant from UNDP in April 2024 for Implementation of Road Safety Education and Training to Road Users (School Teachers and Public Vehicle Drivers) and Road Safety and Crash Response Training to First Responders and Rescue Workers. The program will focus on three provinces Damauli of Gandaki, Butwal of Lumbini province and Attariya of Sudurpaschim province. The project will be implemented between the period of May-December 2024

Memorandum of Understanding

MOU between SOTEN and LEC

SOTEN signed an MOU with Lalitpur Engineering College (LEC) on April 09, 2024 for coordination and collaboration in capacity building, knowledge sharing and research activities in the field of transportation engineering.



Representation of SOTEN

Training organized by SCAEF

SOTEN had participated on various programs organized by Society of Consulting Architectural and Engineering Firms (SCAEF) Nepal in collaboration with Construction Business Development Implementation Committee (CBDIC) and Federation of Contractor Association of



Nepal (FCAN). Members of SOTEN participated in Training on Design of Bridges for Beginners (7-11 April, 2024), Training on Design of Bridges for the Intermediate level (21-25 April 2024), Training on "Oracle's PRIMAVERA P6 Professionals - Intermediate Level (22-25 April 2024), Discussion on Design, Construction and Maintenance of Steel Bridges (5 May, 2024).



UNESCAP National Workshop

SOTEN supported "National Workshop on Inclusive Transport and Innovation for Nepal" organized by UNESCAP on 3-4 April 2024 recommending female professionals working in transport sector. The focus of the program was on inclusivity in public transport, especially from gender perspective. More than 10 female engineers participated in the program representing SOTEN.



Electrifying Public Transportation in Nepal Workshop

SOTEN participated in a workshop entitled, "Electrifying Public Transport in Nepal" organized by Sajha Yatayat, Wuppertal Institute in collaboration with other agencies

as a part of SOLUTION plus project on 24 April 2024.



Nepal Engineering Council's Workshop

Vice President Dr. Hare Ram Shrestha participated in the Workshop on Professional Engineers Registration Bylaw, 2081 organized by Nepal Engineering Council on 03 June 2024 representing SOTEN.



Research and Publication

SOTEN co-developed E-Mobility Profile of Nepal in collaboration with Asian Transport Outlook (ATO), Urban Electric Mobility Initiative (UEMI). The e-mobility profile was launched during Asia Pacific Transport Forum May 2024.

A research paper title on "Unveiling the Nexus Between Fuel Consumption, Vehicle Registration, Population and GDP of Nepal" was published on Journal of Engineering and Technology for Industrial Application (ITEGAM-JETIA). The paper was authored by SOTEN members, Niraj Bohara and Hemant Tiwari.

Other Activities

SOTEN has published Table Calendar for 2081 B.S. (2024/25)



BLOG

Public Transport and Its Comfort: Why is it Important?

*Krishna Bhattarai
Researcher, Center for Infrastructure Development Studies, IOE, Lalitpur*

Public transportation is vital component of urban infrastructure, providing mobility to thousands of people daily. Comfort is where a transport system meets the needs of the people who use it. When we talk about comfort in public transportation, we're looking at several factors that contribute to a pleasant travel experience. This includes how comfortable people feel before, during, and after their journey. From planning a trip to walking to the bus stop, waiting for the bus, and finally reaching their destination, every step matters.



Fig. Struggle to onboard public vehicle

In Nepal, more than 80% of daily commuters travel through public vehicle, which is quite a significant number. However, the concern is that most of these commuters are either student or lower income traveler who are not in position to afford their own vehicle. This indicates people's indifference towards commuting via public vehicle if possible. The primary reason for this apathy is that Nepal's public transportation, especially busses, has become a hardship, and as a means to avoid due to lack of cleanliness, poor in-vehicle temperature conditions, poor surveillance, safety and security issues, conductor and driver's behavior and many more. Including these factors, public

transportation comfort encompasses various aspects such as noise levels, seat comfort, standing spaces and crowdedness. Nepal's authorities seem to take these matters very lightly, resulting in a noticeable rise in the number of private vehicles each year as depicted in graph below (CEIC, 2023).

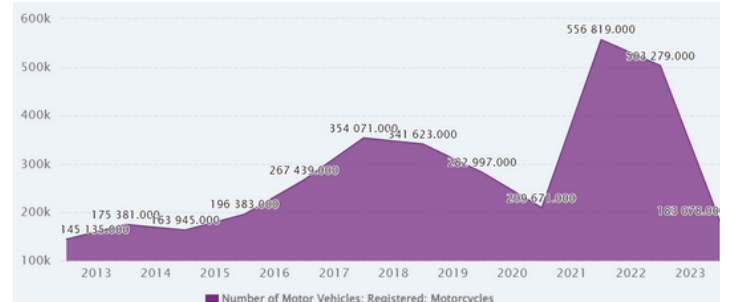


Fig. Motorcycles registered each year

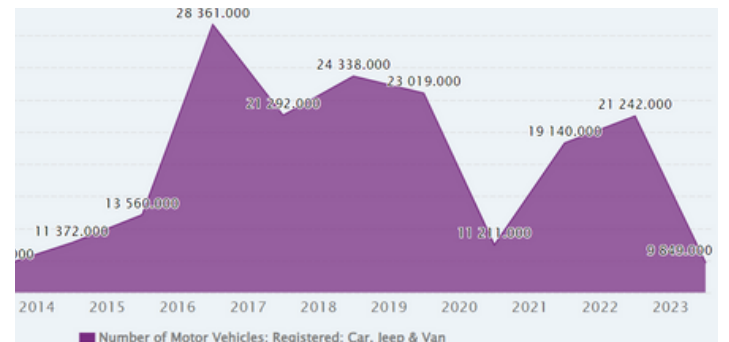


Fig. Category B vehicle registered each year

It is very imperative to optimize these elements so that public transport becomes a pleasurable experience rather than a hardship. Authority should comprehend that comfort in public transportation is more than just a luxury, it is a necessity that affects passengers physical well-being and psychological satisfaction. In general, comfort is a state of physical well-being and psychological satisfaction. Transport comfort is emerging as a key factor that significantly affects passenger satisfaction. It influences the cost-benefit judgement of passengers with regard to mode selection. Enhanced level of comfort in public transport uplifts their perception and may attract new passengers. Inconvenience and discomfort are among the main reasons why people do not use public transport despite having good accessibility.



Transportation Sector- Current National Affairs

Paradigm Shift : Road Tunnels in Nepal

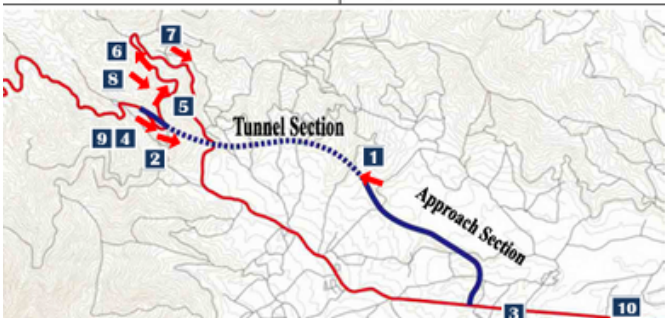
Nagdhunga tunnel completed

Breakthrough was made on 15 April, 2024 which was celebrated in the presence of the then-prime minister Hon. Pushpa Kamal Dahal (Prachanda). The total length of the tunnel is 2688m and the breakthrough section was at chainage 1+929.20m. The tunnel is set to connect Sisnekhola of Dhading to Totipakha in Kathmandu. Deputy Prime Minister and Minister of Physical Infrastructure and Transport, Hon. Raghuraj Mahaseth also witnessed the breakthrough. The tunnel also consists of an Evacuation tunnel of 2557m length which observed breakthrough on August 7, 2023. The tunnel is 2 lanes with a total carriageway width of 9.5m with a grade of 3.5%. A 128 meters long flyover (interchange) is being constructed at Balambu to connect the tunnel approach road towards the eastern portal and the Tribhuvan Highway. The project also consists of the construction of 3 underpasses, 4 box culverts, 1 overpass, and 3 bridges.



Image of East Side Tunnel Portal (KTM Side)

Image of West Side Tunnel Portal (Naubise side)



Source: JICA, Preparatory Survey for Nagdhunga Tunnel Construction in Nepal, (2015)

The project is being constructed by Hazama Ando Corporation and the construction was undertaken from July 2023 (The Annapurna Express, April 15, 2024).

Lendanda tunnel of Kathmandu Terai Fast-Track Project completed

Another major construction, that is, taking pace is the Kathmandu Terai Fast Track Project. The project has been undertaken by the Nepal Army of a length of 70.977 kms where 6 tunnels of total 10.055 kms length, and 89 bridges with a total length of 12.885 kms are to be constructed. After the completion of the project, the expected travel time to reach Nijgadh from Kathmandu via this fast-track would be around 1 hour and 2 minutes. The work has been divided into 11 clusters where contracts have been awarded to Chinese companies and also some Nepali and Indian joint ventures. (My Republica, September 1). The tunnels that are going to be constructed are in line with the Asian Highway Standards and are going to be 2 lane tunnels in both directions.



Under package no. 2, the section of Lendanda tunnel which joins Kathmandu to Nijgadh (one of the twin-tube tunnels in Lendanda), the breakthrough was observed on 17 May, 2024, whereas other



tunnel in Dhedre, which is also one of the twin-tube tunnels, breakthrough was observed on May 24th, 2024. This marks one of the major achievements of the whole Fast-track project. However, there still exists a problem related to land acquisition in the Kokhana section along with the construction of long and high bridges. (Source: Nepal Army)

Siddhababa Road Section to get stabilized with a tunnel section

Construction of tunnel in Siddhababa Section, under Engineering, Procurement and Construction project procurement, between chainage 28+200m (near Siddha Baba Mandir) and Chainage 30+600 m, a 1.126 km section of two lanes tunnel with a carriageway width of 7.5m with 0.5m shoulders on either side of the carriageway was proposed in the Bidding document of this 2.4 km section. A maximum gradient of 6.7% was proposed in the document along with concrete culverts, rockfall barriers, and rock-shed. The contract was assigned to M/S China State Construction Engineering Corp. Ltd. on March 9, 2022 at a worth of NPR 7.342 Billion.



Fig. Portal of Siddhababa Tunnel (Source: My Republica, post on June 18, 2024)

After 22 months of the contract, China State Construction Engineering Corporation started from this mid of January 2024. According to the press

release by Siddhababa Tunnel Project on July 21, 2024, the construction had already achieved a physical progress of 15.20% where the tunnel has already completed the excavation of 316.60 meters from both portals out of the total length of 1.126 kms. The excavation is ongoing from the Northern and the Southern portal of the tunnel.

Ill-fated Roads of Nepal, Safety the major concern

On March 6, in Trishuli, a bus enroute to Kapilvastu on Prithivi Highway veered off at Ghatbesi in Dhading killing 7 people and injuring 30 people. (The Kathmandu Post, July 25, 2024). 9 people died in a crash in Baglung injuring 28 individuals on Madhya Pahadi Lokmarga directed to Kathmandu. The bus fell off a 150 meters cliff immediately taking seven unfortunate lives. The incident took place on March 18, 2024. (My Republica, March 19, 2024). Another bus bound for Kathmandu from Bardibas in Sindhuli met an accident injuring passengers where the bus fell 30 meters off the road on May 30, 2024. (Nepalkhabar, 30 May, 2024). A section in onlinekhabar, reports two big crashes in April. 3 deaths with 52 injuries in Sindhupalchowk and 14 injuries in Dang. These encountered crashes don't only demand proper safety practices but also the investment and proper policy to be enacted by respective stakeholders.

Creating Networks Connecting Places

A 104-meter new suspension bridge connected Tasinam village with Gongar of Bigu Rural Municipality across the Tamakoshi River on March 12, 2024. Before the bridge construction, people had to take a 2 to 3 hours of walk to reach health institutions and schools Gandaki Province has set the target of constructing 300 kms of blacktopped roads, 25 RCC bridges along with 20 suspensions of which 80% of



the plans are being implemented as reported by Dr. Mahendra Baniya, acting head of the Infrastructure Development Directorate of Gandaki Province (May 19, My Republica). In this year's budget of 2081/82 of Bagmati Province, the provincial government has decided to prioritize all-weather roads in the province along with the construction of bridges that would connect provincial roads with proper coordination among stakeholders (local bodies). The budget also mentioned the preparation of clear policies related to the construction of suspension bridges (foot-bridge) and working procedures for implementation bodies. Bagmati province budget also mentions the proper implementation of the Provincial Transport Master Plan in all the network of Province roads.



Fig. Tasinam's people thrilled with the construction of the suspension bridge (Source: The Kathmandu Post, July 25, 2024)

Call for Papers

SOTEN in collaboration with different academic institutions is continuously organizing national and international conference. Accordingly, we call researchers and professional to submit their paper for LEC Conference 2024, organized jointly by LEC, SOTEN and SSTN.

Lalitpur Engineering College (LEC)
in collaboration with
Safe and Sustainable Travel Nepal (SSTN) and Society of Transport Engineers Nepal (SOTEN)
announces
LEC Conference 2024
International Conference on
Engineering Technology and Infrastructure Development

CALL FOR PAPERS

Submissions from following streams:
Civil Engineering
Computer Science and IT Engineering
Artificial Intelligence
Environmental Engineering
Machine Learning and Data Science

Conference day:
Mangsir 23th, 2081
December 5th, 2024

Full paper submission deadline:
Bhadra 15th, 2081
Aug 31st, 2024

For more information:
<https://lec.edu.np/conference>
<https://soten.org.np>
<https://sstn.org.np>

For any inquiry e-mail us at: lec-conference@lec.edu.np

Call for Contribution



Hemant Tiwari
General Secretary
SOTEN

This Newsletter is the initiative of 5th Executive Committee of SOTEN where we bring the summary of SOTEN activities together with major national affairs on transport sector. Being the first issue, the newsletter may have some rooms for improvement, and we will keep enhancing the quality of newsletter in future. We planned to publish newsletter quarterly. In this regard, we would like to request all SOTEN members to share any of your individual or organizational achievement or blogs/articles. There is also a dedicated space on SOTEN website for our member's blogs/articles. Promoting research and publication is one of the major goals of SOTEN and we are moving on that track through these kinds of initiatives. Feel free to provide us feedback.

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