

Transport in Focus

shaper of cities | builder of economies | connector of communities

Message from the SAICE Transportation Division Chairman: Jarendra Reddy

Transport month is a special time of the year, when as a nation we can showcase our achievements, celebrate the contributions made by those working in the transportation sector and build awareness about sustainable travel behaviour. We can also gaze to a future filled with possibilities, where transport can play a dynamic role in helping positively transform our great nation in every way.

According to the Siemen's Globescan MRC McLean Hazel Megacity Report,

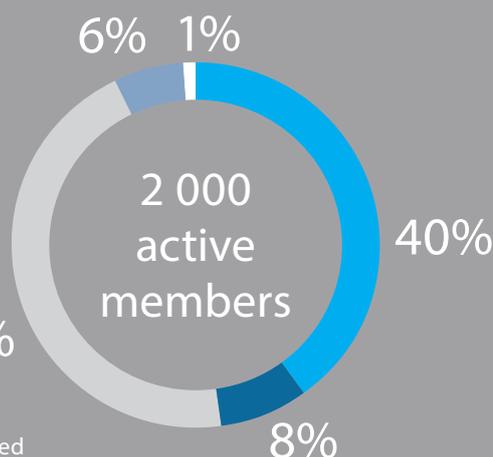
a survey in 2007 among 522 decision-makers from 25 global metropolises cite solving transportation challenges as the number one priority.

Why is this? The very shape of cities is influenced by the prevailing transportation technologies of the time. Transport connects communities to opportunities, businesses to markets and people to one another. Its obvious, but sometimes we forget. We focus on the 'product' instead of on what it enables.

The current and future challenges in transportation will demand more from transportation professionals than ever before. Our country's economy, and the livelihoods and social wellbeing of our communities depend on it. We have to be smarter, bolder and more engaged in addressing these challenges. In this issue of *Civil Engineering*, we share some updates from the Transportation Division, talk about the DNA of Transportation (by Vice-Chair Friedrich Slabbert), Future Transport and Engineer 3.0.

Membership Demographics

Shaping a diverse, high-impact community of transportation professionals



Women Members

Membership is steadily growing at 2% per annum. While there is growth, 50% of members are under 35 years of age. Women make up between 25–30% in the age group under 30 years of age. This is a positive shift and points to a more diverse future.



Hearing from our members

We asked our members a few questions

To gauge the perceived effectiveness of the SAICE Transportation Division Committee, together with expectations of the committee's role from the transport community, a survey was conducted in 2016. The survey was targeted at the SAICE Transportation Division membership and academic institutions nationally. The results were used to realign the focus of the SAICE Transportation Division Committee to better address stakeholder needs.

48%

responded to the survey

67%

of respondents work in consulting engineering

Respondents believe the Transportation Division should promote:



Knowledge creation and being a best practice portal



Skills development particularly to those responsible for key decision-making



Peer-review of emerging industry best practice and influence this

Engineer 3.0

A new professional to tackle the tough ...

The first generation of civil engineers focused on applying scientific principles to look after the interests of society. A core trait was being tuned into the challenges of the time and societal needs. (This remains at the core of the profession and will continue to do so.)

However, as the basic problems were solved, the more complex remained, leading to deeper specialisation and a greater emphasis on science and mathematics to solve more complex "engineering", giving rise to Engineer 2.0.

While Engineer 2.0 has moved humanity forward, Engineer 3.0 will have to help it make a quantum leap within the context of climate change, demographic

change, economic change and technological change.

What are some traits of Engineer 3.0?

- FLEXIBLE AND ADAPTABLE – in a rapidly changing world. Can identify threats and opportunities while moving the pivot to new heights.
- SKILLED COMMUNICATOR – of complex ideas, in a simple, impactful and interesting way.
- VALUES NETWORK OVER HIERARCHY – modern knowledge-based organisations are 'flat' and fueled by an ethos of collaboration within and between communities of diverse skills.

- EMBRACES DIVERSITY – successful organisations demonstrate that teams diverse in gender, age, race, etc, are able to develop solutions that are holistic and more innovative.
- IS EMPATHETIC – great solutions cannot be created without empathy with your user. What will delight or inspire the people your solutions touch?
- DIGITAL MASTER – understanding the digital world is no longer optional. Technology is not just transforming organisational productivity, but individual productivity too.
- EYE FOR AESTHETICS – appreciates the arts and creative expression. The aesthetic quality of places, infrastructure and other products matter, as it helps towards creating identity, interest and emotional connection, and it is inspiring.

The Transportation Division

Unleashing potential requires collaboration, focus, getting fit and settling for nothing short of excellence ...

How are we helping our members excel in the present while still preparing for a brave new future?

1



Knowledge Creation and Capacity Development

We are creating new short courses, engaging with universities on course curriculums and providing guidance on research and development priorities.

2



Being the 'Voice' of Transport

By liaising with government, undertaking student outreach initiatives and creating platforms for debate, we ensure that transport issues are made visible and are dealt with, while considering diverse perspectives.

3



Driving Professional Cohesiveness

Addressing the transportation challenges of our time requires professional cohesiveness like never before. Through networking events and professional recognition awards, professionals can feel more connected to one another and know they are a part of something "bigger". This fosters the exchange of ideas and creates a sense of community.

In achieving the above, the division continuously embraces being more:

Collaborative | Efficient | Diverse | Communicative

Future Transport

The future is bright, but the transport challenges are clear and present. The future of transport must be more than autonomous vehicles and hyperloops ...

While we envy those preparing to travel at 1 200 km/h, we take a look at some of the very real challenges that are impacting communities on the ground and how we can move away from the status quo towards more sustainable and integrated transport solutions. (Read the detail in the article on page 16 by our newest Transportation Division Committee member, Rochelle Rajasakran, as she explores re-engineering our cities, integrating our transport and embracing technological advances.)