

Sep - 2025

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CROWN FOR GLOBAL INSIGHTS

**Anuj Narula:
A Visionary
Mind Behind
Responsible
Road Design**

The Most
Influential
Leader in Roads &
Highway
Infrastructure - 2025

**The Future of Smart
Highways in India:
Technology, Safety,
and Sustainability**

“
Civil engineering is not just
a career, it's a contribution.
The value of a civil engineer
increases with time, because
structures carry risk, and
wisdom comes with experience.”

Mastermind of Miles

Dr. SANJAY

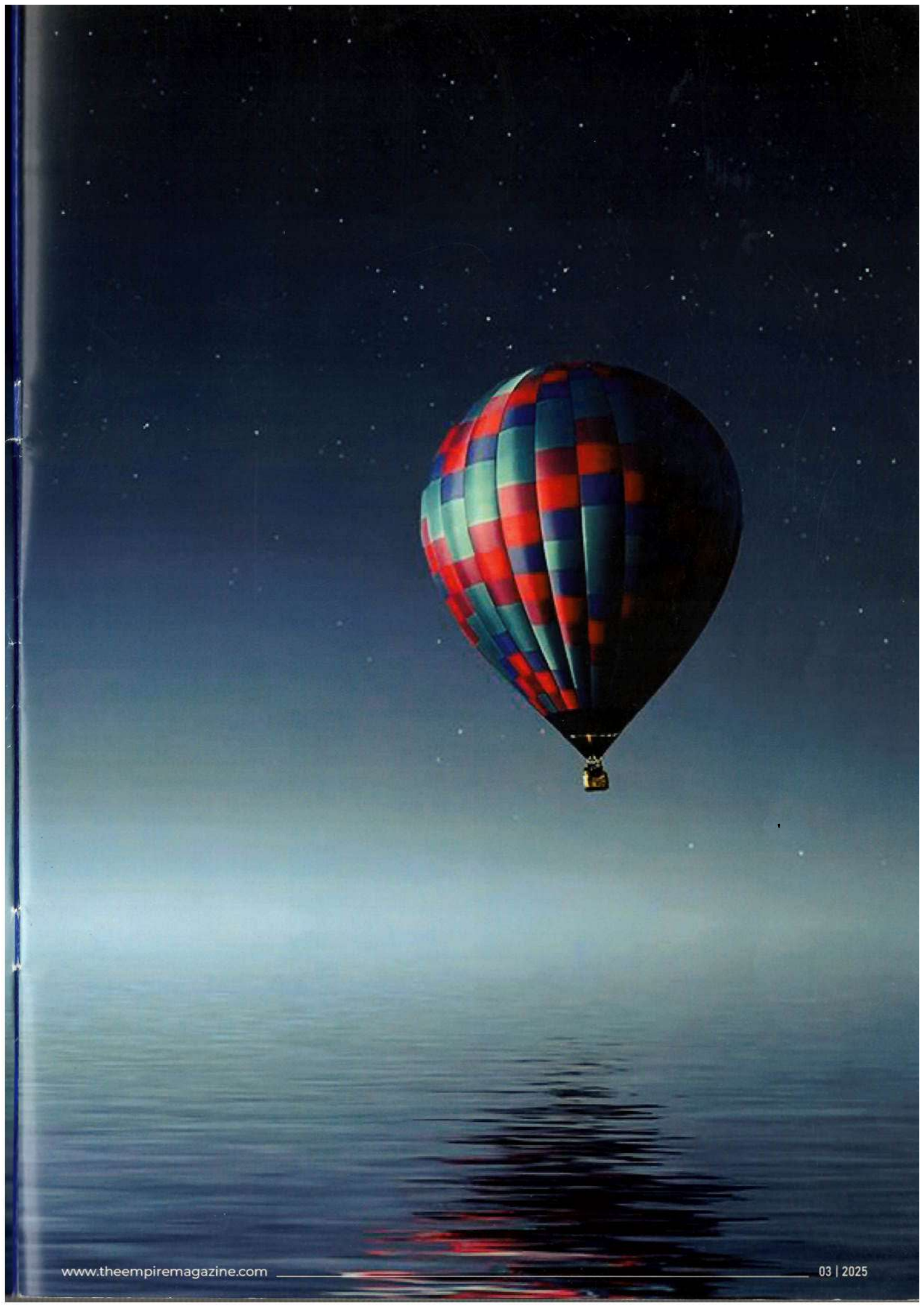
Agarwal

Leadership In
India's Highway
Growth

**ANUJ
NARULA**

Founder and CEO - Techhub Engineering and Advisory Pvt. Ltd.

**Do not go where the
path may lead, go
instead where there
is no path and leave
a trail.**



Editor's **NOTE**



Infrastructure is more than the foundation of a nation's economy. It is the invisible force that drives opportunity, connects communities, and fuels progress. Among the pillars of development, roads and highways hold a special place. They carry the stories of millions who travel daily for work, trade, and dreams, and they shape the future of industries, logistics, and global competitiveness.

In this special edition of **The Empire Magazine**, we shine a spotlight on the leaders and visionaries redefining India's highway and infrastructure landscape. At the forefront is our Cover Story feature, **Mr. Anuj Narula**, whose dynamic leadership and commitment to innovation are reshaping the way we think about mobility and connectivity. His vision exemplifies the blend of strategic foresight, technical expertise, and people-centric leadership that modern infrastructure demands.

Alongside Mr. Narula, we feature **Dr. Sanjay Agarwal**, whose contributions bring depth and perspective to the broader narrative of sustainable development in India's road sector. Both leaders remind us that true impact is created not only by building stronger roads but also by creating smarter, greener, and safer pathways for generations to come.

This edition also explores "**The Future of Smart Highways in India: Technology, Safety, and Sustainability**", a forward-looking essay on how highways will evolve into intelligent, sustainable ecosystems. From advanced traffic management and digital tolling to eco-friendly construction and renewable-powered corridors, the story illustrates how India is preparing for the next chapter of mobility.

As you turn the pages of this edition, you will encounter stories of resilience, innovation, and responsibility. These are not just articles about infrastructure. They are narratives about people who dare to imagine roads as more than transport corridors—who see them as lifelines of growth, progress, and connection.

We hope this edition inspires you to look at highways not just as concrete and asphalt, but as powerful enablers of transformation.

**Happy Reading,
Editor-in-Chief**



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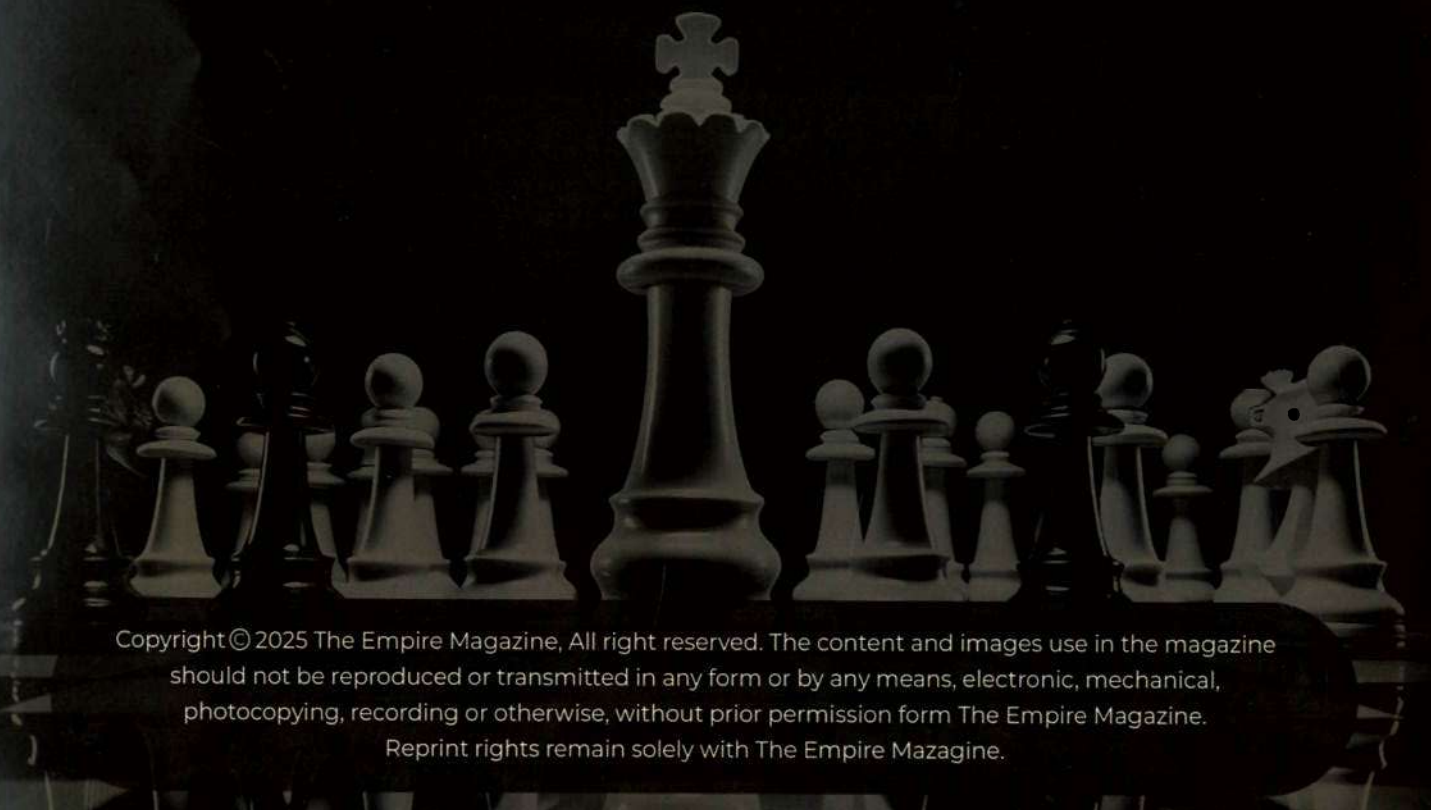
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The Most Influential
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Founder and CEO - Techhub Engineering and Advisory Pvt. Ltd.

Media Highlights YouTube

Deep Dialogues: Building a Nation by Designing Highways

DD National Morning Show: Construction of Green Roads

“

I always believed that if I focus on excellence and stay patient, the work will eventually speak for itself, and it did.”

**ANUJ
NARULA**

Founder and CEO, The Global Engineering and Architecture Firm Ltd.

Anuj Narula: A Visionary Mind Behind Responsible Road Design

Of the many things that shape a nation's progress, infrastructure leaves the deepest and most visible imprint. Yet behind every bridge, expressway, or corridor lies a quiet layer of decisions, ones that impact not just movement, but safety, access, and lives. This is where the role of a civil engineer becomes far more than technical. It becomes civic.

Anuj Narula, Founder and CEO of Techhub Engineering and Advisory Pvt. Ltd., has spent over two decades working at this intersection. From national expressways to local black spots, his work reflects a steady commitment to detail, responsibility, and long-term thinking. His approach is grounded, shaped not by headlines but by outcomes, designs that reduce accidents, processes that strengthen teams, and methods that put people at the centre of infrastructure. In an industry where shortcuts are common and pace often outweighs precision, Anuj has built a career and now a company that chooses to do things differently.

A Journey Engineered by Resilience

Anuj's professional path was never linear, nor was it expected. His journey began not with engineering but with biology, and he was taken up in school out of a desire to fulfill his grandfather's dream of seeing him become a doctor. It was a path chosen from love, not conviction. His father, a seasoned civil engineer who had dedicated over four decades to public infrastructure, allowed him the space to explore.

After a year in BSc, it became evident that Anuj wasn't anchored to the medical field either. What followed was a candid conversation with his father, a conditional agreement, and a modest percentage drop in his B.Sc. 1st year results that ultimately led him to enrol in a diploma in civil engineering.

The transition to degree-level engineering came with its challenges. He did not clear his first mathematics exam in Engineering college. But he used that setback as fuel. He adjusted, pushed harder, and finished with honors, again among the top performers in his batch. Over time, he discovered an instinct for engineering, an ease with concepts, a growing curiosity, and a natural drive to dive deeper. His performance in the diploma program earned him a top rank in Rajasthan, which allowed him to secure a lateral entry into MBM Engineering College, Jodhpur.

This moment was especially meaningful to his family. Anuj had quietly achieved what his father had once only dreamed of: becoming a Graduate of civil engineering.

At the time Anuj was beginning his career, the civil engineering industry in India was going through a slow phase, and opportunities for fresh graduates were limited. Recognizing the need to broaden his options, he moved to Delhi to prepare for competitive exams.



He cleared the GATE exam with a national rank in the 300s, which led to his admission into the M.Tech. program at IIT Kanpur. For someone who had entered engineering from a non-traditional background, securing a seat at IIT wasn't just a professional milestone; it represented a significant personal shift as well.

During his time at IIT, Anuj began to expand his focus beyond academics. With a strong technical base already established, he turned his attention to communication, leadership, and building a presence that could carry weight in the professional world. In his second year, he worked on a project focused on landslide soil testing, a topic with growing relevance across Indian terrain. The project received national recognition at the IIT Tech Fest, reinforcing his confidence in translating technical knowledge into real-world impact.

After completing his M.Tech. at IIT Kanpur, Anuj stepped directly into the industry and took on his first role as an Assistant highway engineer. While the position may not have matched the expectations often associated with an IIT graduate, what mattered to him was the alignment with the kind of work he wanted to do. The role offered hands-on exposure to real infrastructure challenges, and he committed to it fully.

Over the next twelve years, he worked across both Indian and multinational engineering firms, steadily building depth in his domain. He approached each project as an opportunity to sharpen his skills and expand his perspective.

One of his early breakthrough assignments involved the design of a 350-kilometre highway stretch in Rajasthan. He often put in long hours, returning to the office late in the evening, not because it was required, but because he treated the project like his own. That stretch of work marked a turning point. It gave him a space to take ownership, earn the trust of senior engineers, and develop a rhythm that would define his approach to design and delivery moving forward.

Turning a Career into a Calling

By 2018, Anuj had built a solid foundation, technically, professionally, and as a leader. He had reached a stage in his career where the work he was doing no longer matched what he was capable of contributing. Years of hands-on experience made it clear that continuing within the limits of employment would hold back the next phase of his growth. With clarity and conviction, he decided to step away and build something of his own.



Not long after, the pandemic began reshaping how infrastructure work was delivered. While many sectors faced disruption, the shift to remote collaboration created new flexibility in how highway design services could operate. Anuj adapted quickly. Working from the basement of his home in Gurgaon, he set up a simple space with whatever was available and got to work.

What began as a solo setup soon gained momentum. In less than two years, the practice grew into a team of more than twenty people, moving through multiple office spaces to keep pace with the scale of operations. But the growth was never just about numbers or expansion; it was about building with intent.

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The goal that is very close to my heart is to be in the authoritative committees that shape how roads are built in this country so that we can make more significant and impactful changes.”

From the start, the foundation of his organization was shaped by something deeper than technical ability. Anuj had always been passionate about teaching. In his early career, he spent time mentoring aspiring engineers, often informally and without expectation. Many of those he once trained eventually joined him, becoming core members of the team. That culture continues today. Internal training remains a strategic priority, not just to raise capability, but to shape consistency, shared values, and long-term commitment.

Over the years, Anuj has personally trained more than 500 highway engineers through sessions across universities, technical institutions, the Indian Academy of Highway Engineers, and private industry. For him, it has never been about scale for its own sake. It has been about building people the way he built himself, with patience, clarity, and a deep respect for the learning process.

Anuj's journey was never driven by titles or the need to stay ahead of others. What mattered was making each step meaningful and staying grounded in purpose. As the path continues to unfold, the values that shaped the beginning remain unchanged: a commitment to technical depth, a mindset of continuous learning, and a strong belief in the potential of people when given the space to grow.

Finding Guidance in the Unplanned Moments

Anuj never had just one mentor. Throughout different phases of his life, certain people showed up, offered guidance, and helped shape the direction he would take, often without realizing the impact they had in the moment.

Early on, it was his father who laid the foundation and his mother supported him in every possible way. They both gave Anuj space to choose his own path while quietly influencing the values that would carry forward: integrity, discipline, and belief in process over shortcuts.

During his engineering years, his closest friends became an unexpected source of strength. Just days before the GATE examination, Anuj met with a serious accident. His friends, who were preparing for the same exam, put their own studies aside to stay with him through recovery. As the exam approached, he made the decision to step away and let them focus, choosing to prepare on his own. Their quiet support during that time left a mark that stayed with him well beyond those days.

At IIT Kanpur, a few individuals helped sharpen his thinking and broaden his sense of what technical excellence could look like. Dr. Sachin Singh Gautam and Dr. Arindam Dey, both now faculty at IIT Guwahati, brought a level of clarity and rigor to his academic journey that changed the way Anuj approached learning. A very close friend of him at IITK, Mohd. Waseem who even delayed his own thesis to support Anuj's thesis work of making an Equipment for landslide soil testing, to support him.

Dr. Amit Prashant, a faculty member who had recently returned from postdoctoral research abroad, brought a different kind of mentorship. Their conversations, often casual, carried lessons that extended far beyond the classroom. He often reminded Anuj not to chase perfection, but to pursue excellence with optimism and discipline.





Bringing Vision to Everyday Infrastructure

Anuj's mission has remained clear throughout his journey. It isn't just about designing highways, it's about reducing preventable loss of life. India records nearly two lakh road fatalities every year, and many of these accidents are the result of avoidable factors: engineering flaws, lack of awareness, and systemic gaps in road design. That reality has shaped the purpose behind his work.

For Anuj, even the smallest improvement in design has the potential to save lives. He often says his ultimate satisfaction will come the day newspapers no longer report fatal road accidents, not because they go unnoticed, but because they no longer happen. Until then, he continues to treat each project as a chance to shift that outcome.

Among the wide range of projects he has been part of, two expressways stand out for their scale and national relevance, one being a 40-kilometre segment of the Delhi–Mumbai Expressway, and the other a 230-kilometre stretch of the Amritsar–Jamnagar Expressway, which is now approaching completion. Both are significant to the country's evolving infrastructure needs, and both involve a level of design effort that combines engineering with a deep sense of responsibility.

But the project that stays closest to Anuj's heart had little to do with its scale or visibility, and everything to do with the difference it made.

The project that holds the deepest personal significance for Anuj was not marked by scale or visibility, but by the difference it made. On the outskirts of Rishikesh, there was a stretch of road known for frequent accidents. One particularly severe incident involved a truck overturning into a roadside well, raising alarm among the local community. Anuj was called in as a road safety expert to assess the site and recommend corrective measures. After a detailed review, the team removed a hazardous roundabout, introduced speed tables with mild gradients, and made critical layout adjustments to improve traffic movement and visibility.

The change was noticeable. When Anuj visited the site several months later, he spoke with residents who confirmed that there had been no serious accidents since the redesign. For him, it was a quiet but powerful validation that meaningful impact doesn't always come with headlines, but often shows up in the absence of tragedy.

“

We generally think it is only the responsibility of engineers and authorities, but that's not the case. Road safety also depends on how people use what we build, and how mindful they are of each other.”

Pushing Forward Through Unspoken Challenges

Every career has its share of challenges, but for Anuj, they have often been shaped by something deeper than technical difficulty. In his field, the work is complex, not because of the engineering alone, but because of how the system operates. Road construction in India sits in a space where visibility and reality don't always align. What is shown publicly and what happens behind the scenes often exist in two different layers. While infrastructure should be a matter of national responsibility, many within the ecosystem view it purely as a business.

This disconnect becomes more pronounced when public safety is involved. Road safety, despite its direct impact on human life, is frequently sidelined. Anuj has had to make space for it in rooms where it's not the priority. Putting it at the center of discussion, pushing for design corrections, and refusing to overlook avoidable risks has never been the easy path. He has walked away from projects when the request was to dilute safety measures to fit a narrative or a timeline. These weren't small decisions, but for Anuj, some lines aren't up for negotiation.

Early in his career, the challenges were different, though no less defining. Coming from an academic background, he entered the field with a clear sense of right and wrong, structure, and solution. But theory didn't always meet reality. The industry was full of nuance and driven by priorities that didn't always follow logic. For someone new to that environment, it could feel disorienting. There were rejections, missed opportunities, and moments that made him question if he was on the right path.



Over time, he learned to read the room differently. What helped him bridge that gap was not just his experience but also his wife Ritu's support. She encouraged him to focus on what he brought to the table, not on what the system seemed to lack. That shift helped him steady himself when the external environment felt unpredictable.

Looking back, those early struggles weren't setbacks; they were the groundwork. They taught him how to navigate people, processes, and resistance without letting go of what mattered most. Today, that clarity is not just part of his method; it's part of the culture he's built around him.

Changing Perceptions Through Firsthand Experience

Anuj often speaks directly to young students in civil engineering and to their parents, because the perception of the field, especially in India, is often shaped more by outdated assumptions than by present-day reality.

One of the most common myths is that a career in civil engineering means a difficult, physically demanding life spent entirely on construction sites. While that may have been more common in the past, the field has evolved significantly. Tools, technologies, work environments, and expectations have changed. He acknowledges that the early years can be financially modest, but adds that this is largely because civil engineering involves large-scale, high-risk structures. In the beginning, most professionals still earned trust. Once that trust is built, however, the career path moves upward quickly and sustainably.

He points out that while the starting point may look less lucrative than other industries, the long-term picture tells a different story. By the time a civil engineer reaches 10 to 15 years of experience, they're often operating at a higher earning level and with greater long-term value than peers in faster-paced, high-turnover sectors like IT. That's because civil engineering doesn't fade with time; it matures. As engineers gain experience, their ability to take on risk and manage it responsibly becomes an asset the industry deeply values.

Another concern he often hears is from parents, particularly when it comes to daughters entering the field. There's a belief that civil engineering may not be suitable for them, but Anuj is clear that this perception is outdated. Many firms, including his own, are actively building better work cultures, stronger teams, and environments where women are not only welcomed but thrive.

Beyond that, he urges both students and institutions to look at the scale of opportunity. Infrastructure contributes the second-largest share to India's GDP, just after defense, and even that category includes a significant portion of civil work. Roads, bridges, and public systems cannot move forward without engineering minds behind them.

Yet, many colleges are shrinking their civil engineering programs, just as the industry faces a shortage of well-prepared professionals. There's a growing gap between what the industry needs and what institutions are producing.

To help address this, Anuj has also co-founded a small training startup that prepares students for the realities of the industry. The goal is to bridge the disconnect between academic learning and practical application, between potential and preparedness.

His message is simple but firm: civil engineering is not a fallback option. It's a branch with deep relevance, long-term opportunity, and national importance. The country needs to build, and to do that, it needs civil engineers who are ready to lead that effort. For those willing to commit, it remains a field to be proud of.



“

“Even a small change in engineering design can save a lot of lives. I will truly be happy the day I find no news in the paper about fatal accidents or road injuries.”



6-Lane Access Controlled Greenfield Highway from Km 1+900 to Km 30+000 of Amritsar-Jamnagar (RD-1) under Bharatmala

Name of Contractor- NKC Projects Pvt Ltd



Creating Solutions That Go Beyond Scope

Anuj's approach to projects is built on a clear and consistent philosophy: engineering must deliver excellence, but it must also evolve. At Techhub Engineering and Advisory Pvt. Ltd., this belief is reflected right beneath the company's logo:

"Engineering. Excellence. Evolution." These aren't just words; they shape how each project is approached, regardless of size, scope, or location.

What sets his work apart is the emphasis on integrating innovative, sustainable solutions into mainstream infrastructure practices that are often treated as optional or secondary by others in the field. His team actively researches and applies alternative materials, including plastic waste, steel slag, and fly ash, into highway designs. These materials don't just reduce the environmental impact of construction; they also make projects more cost-effective and resource-efficient.

Rather than presenting these solutions as afterthoughts, they are built into the core of the proposal. Contractors benefit from cost savings. Government bodies welcome the environmentally responsible approach. And the engineering team knows they've contributed to reducing the strain on natural resources, all without compromising on quality or durability.

This model is applied consistently. Whether a project is large-scale or more modest, Anuj ensures that each one carries a layer of thoughtful innovation. It's not about adding features, it's about reshaping the mindset behind delivery. That belief in engineering with responsibility is what continues to differentiate Techhub Engineering and Advisory Pvt. Ltd. in an industry that often prioritizes speed over sustainability.

Receiving Recognition That Reflects Purpose

Recognition has followed Anuj not because he pursued it, but because of the depth and direction of the work he's been doing through Techhub Engineering and Advisory Pvt. Ltd.

Among the many acknowledgements, a few moments hold particular significance for him. One was being invited by the Central Road Research Institute (CRRI) to speak on road sustainability. The opportunity to present his views and solutions at a forum of national importance, among leading experts and researchers, felt both validating and personally meaningful.

He was also invited twice to Doordarshan National, where he spoke as an infrastructure expert on environmentally sustainable road development. These appearances weren't just media moments, they were platforms to shift public understanding and bring attention to practices that often go unnoticed outside the industry.

In addition to these, the work of Techhub Engineering and Advisory Pvt. Ltd. has been featured by Great Companies, Amazing Workplaces, and most recently, Startup Times. Each of these recognitions highlights not just business performance, but culture, intent, and the values driving the firm's evolution.

For Anuj, it's these platforms, the ones that open up dialogue, invite trust, and elevate purpose, that remain closest to his heart.

Calling for Shared Responsibility on Roads

For Anuj, road safety is not the sole responsibility of engineers or enforcement agencies. The people using the roads carry just as much responsibility as those who design or maintain them. No matter how well a highway is built or how detailed the traffic plans are, real safety depends on the way individuals choose to behave once they're behind the wheel.

He often points to examples from countries like Bhutan, Norway, and Sweden. Their infrastructure may not always be extensive, yet their road accident rates remain low. What makes the difference is public awareness. People in those places treat road safety as a shared responsibility. They follow basic rules, drive mindfully, and stay alert to those around them, not because they're told to, but because they understand the consequences.

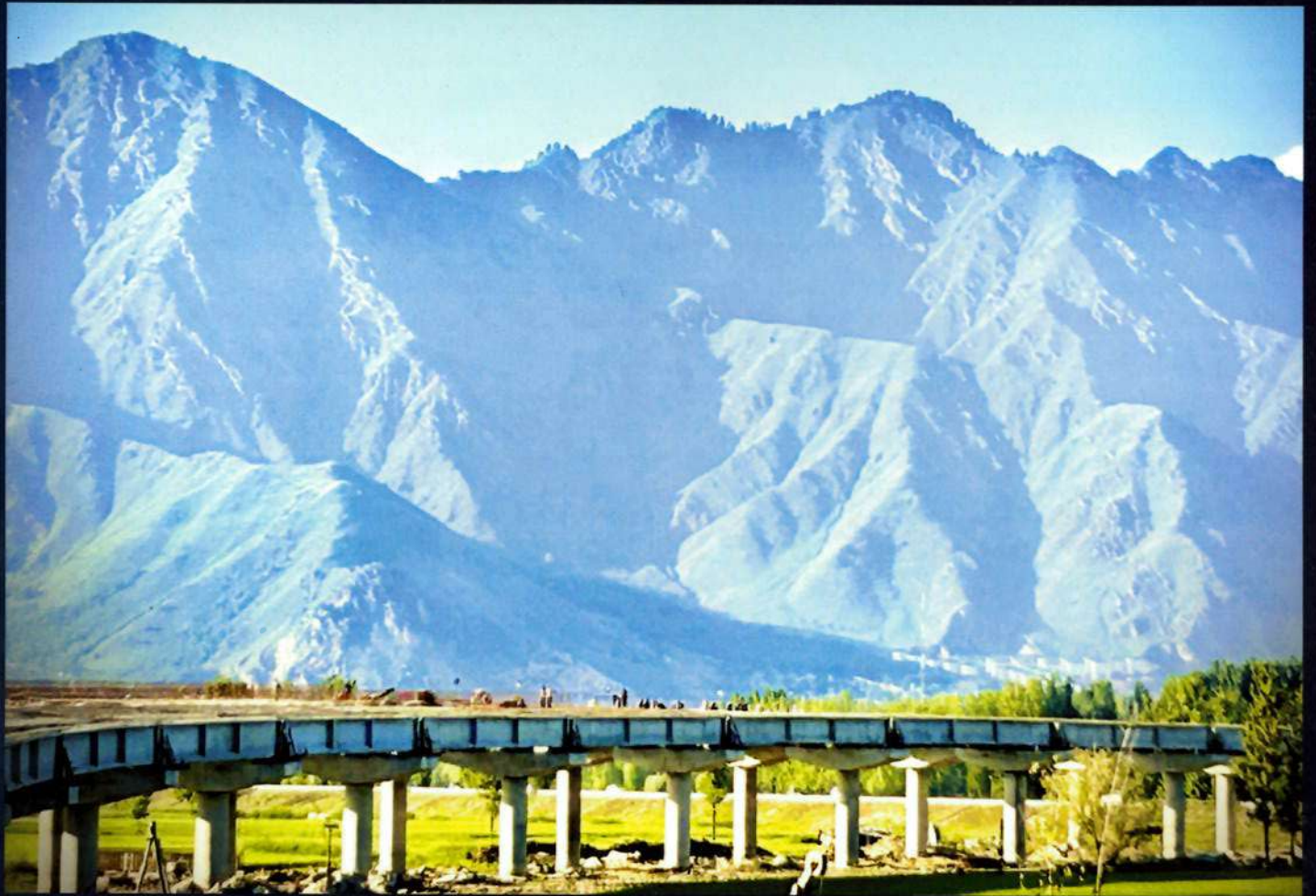
Anuj believes that in India, a similar shift is long overdue. He refers to the three pillars of road safety: engineering, enforcement, and environment. That third pillar, environment, includes the attitudes, habits, and awareness of the public. If that pillar remains weak, the other two cannot hold the system together.

Through his work and outreach, Anuj continues to urge people to become more informed, more alert, and more mindful on the roads. He encourages parents to pass these values on to the next generation so road awareness becomes a cultural norm, not just a regulatory expectation.

Good design and strong policy may create the framework, but lasting safety comes from how people choose to engage with the roads they use every day.

“

I've trained more than 500 highway engineers across colleges, institutions, and private firms, not as a formality, but because building people is as important as building roads.”



A full-length portrait of Dr. Sanjay Agarwal, a middle-aged man with grey hair and a mustache, wearing glasses, a dark suit, a white shirt, and a red patterned tie. He is standing with his arms outstretched against a plain white background.

Dr. Sanjay Agarwal
Founder
SA Associates

www.sassociate.in



Mastermind of Miles:

Dr.
SANJAY
Agarwal

Leadership in India's Highway Growth



Leadership isn't about how loud your voice is—it's about how consistent your values are when no one's watching."



The Roadmaker of Modern India: How Dr. Sanjay Agarwal Transformed Infrastructure Leadership

India a nation as vast & diverse its infrastructure encompasses more than just steel & concrete, Roads aren't just corridors; they are commitments - commitments of availability, of advancement, of collective prosperity. & behind most of them, both physically & symbolically stands a name that resonates with respect on either side of boardrooms and construction sites: Dr. Sanjay Agarwal.

With more than 38 years of experience in civil engineering and infrastructure management, Dr. Agarwal has coordinated the construction of more than 5,000 lane kilometres of highway, influenced landmark policy, and guided hundreds of engineers who now spread his philosophy of ethical, visionary development. But his legacy isn't measured in numbers—it's in how he's redefined leadership in one of the nation's most complicated industries.

To know Dr. Agarwal's tale is to chart India's own modern infrastructure story. From the beginnings of industrial growth to the age of hyper-connectivity in the 2000s, he has been witness and builder to the country's march forward.

The Early Blueprint: Seeds of Purpose

With a keen mind for analysis and a profound understanding of purpose, Sanjay Agarwal pursued Civil Engineering at the esteemed Manipal Institute of Technology, a renowned institution of higher learning. He graduated in 1986, during a period of significant transformation—not only for him but also for India's economic trajectory. The infrastructure industry was slowly stirring from decades of neglect & regulatory inaction was gradually awakening. For a young man with aspirations of scale & grandeur, this was an opportune moment.

Dr. Agarwal's formative years were spent working with IRCON, a public sector entity tasked with large-scale Industrial, transport & energy connectivity projects. He has made significant technical contributions for projects such as the Kapurthala Rail Coach Factory, the railway connection of the Dadri Power Plant, railway bridge multi-span N type steel Girders for steel Giant TISCO in Jamshedpur & Flyover 4 lane 4.0 KM amid urban area of Senen in Jakarta which were technically challenging but logistically complex.

What impressed even in the early days wasn't only his engineering acumen—it was his vision. He didn't regard a rail line as a utility. He viewed it as a driver of growth. He didn't simply optimize workflows—he motivated teams, taught systems thinking, & started shaping the collaborative leadership approach that would define him.

IJM & the Art of Global Execution

Dr. Agarwal made a big leap in 1996—moving to IJM Corporation, a Malaysian multinational with an increasing footprint in Asia. His decision was not merely to construct but to construct to global standards. Tasked by the ambitious Desa Sri Puteri high-rise residential complex in Malaysia, Dr. Agarwal was right at the cutting edge of construction technology. By using the sophisticated Wall and Table Form system—a groundbreaking technique in India then—the country was not just seeing slabs and beams laid down; it was witnessing a cultural change toward automation, accuracy, and world's best practices.

On his return to India 1999, Dr. Agarwal had a new vision to pursue his career in field of Infrastructure & soon enough, he took charge of varied projects: from BOT roads in AP, Tamil Nadu to construction of integrated townships in Hyderabad, & cable-stayed bridge in Kolkota apart other various Highway projects. His mark was now all over urban and rural India & more significantly, his projects weren't merely being executed—they were breaking new records in timelines, quality, and sustainability.

They have described the years since then as transformative. "He wasn't just building infrastructure," a former engineer remembered. "He was building capability, trust, and a belief in Indian excellence."



You're not just laying concrete and steel; you're building the arteries of a nation's progress."

Entrepreneurial Spirit: Founding TUIPL

Whereas others would settle for scaling the corporate ladder, Dr. Agarwal was thinking of something different: autonomy. In 2008, he started Team Universal Infratech Pvt. Ltd. (TUIPL)—a private company that would go on to become one of India's best managed infrastructure firms which was aptly recognised by CIDC.

The move wasn't only a professional change. It was a testament to his conviction that visionary leadership must make room for innovation, mentorship, and long-term value creation. During his tenure, TUIPL didn't merely expand—it flourished. From humble origins, the business expanded exponentially, covering more than 300 professionals and recording revenues of ₹2,200 crore in 12 years.

At TUIPL, Dr. Agarwal was not just a founder but also a cultural builder. He implemented policies to promote gender diversity in engineering positions, introduced safety-first training modules years before they became mandatory, and mentored junior employees one-on-one. Many of these mentees today lead projects of their own throughout India.

Record-Breaking Roads: Solapur-Bijapur Highway

If there is one project that encapsulates the audacity and precision of Dr. Agarwal's leadership, it is the Solapur-Bijapur Highway.

In 2021, amidst the challenges of the post-COVID economy and a tight delivery window, Dr. Agarwal led a team that laid 25.54 kilometers of four-lane highway in just 17 hours and 45 minutes—a feat that not only entered record books but stunned the global infrastructure community.

Behind the statistics lies a richer story. The achievement required coordinated planning, Team Work & meticulously synchronised supply chain, real-time data integration, and a workforce working across shifts in physically demanding conditions. Dr. Agarwal's leadership wasn't just about setting the target—it was about ensuring every cog in the wheel believed they could achieve it.

"It was a masterclass in collective belief," noted one site manager. "He made us feel like we weren't just building a road—we were rewriting what Indian engineering could mean."

Leadership Anchored in Ethics

In an industry usually plagued by cost overruns, delays, and compromises on compliance, Dr. Agarwal has always stood in a singular distinction—he never compromised on ethical leadership.

He is frequently quoted as saying, "Ethics is not a strategy—it's the foundation. Everything else builds on it."

This philosophy was never more pronounced than in the time of COVID-19 lockdowns. When thousands of workers got stuck at project locations, Dr. Agarwal ordered groups to deploy not just shelter and food, but also internet access so workers could communicate with families, in-house medical services, and psychiatric counselling. TUIPL was one of the earliest to deliver direct relief kits to rural communities around construction areas—well before regulations caught up.

His moral compass also carried over into the realm of contract negotiations and public-private partnerships. His fairness reputation earned him the role of trusted intermediary among government agencies and private contractors, frequently bridging contentious negotiations with diplomacy & openness.

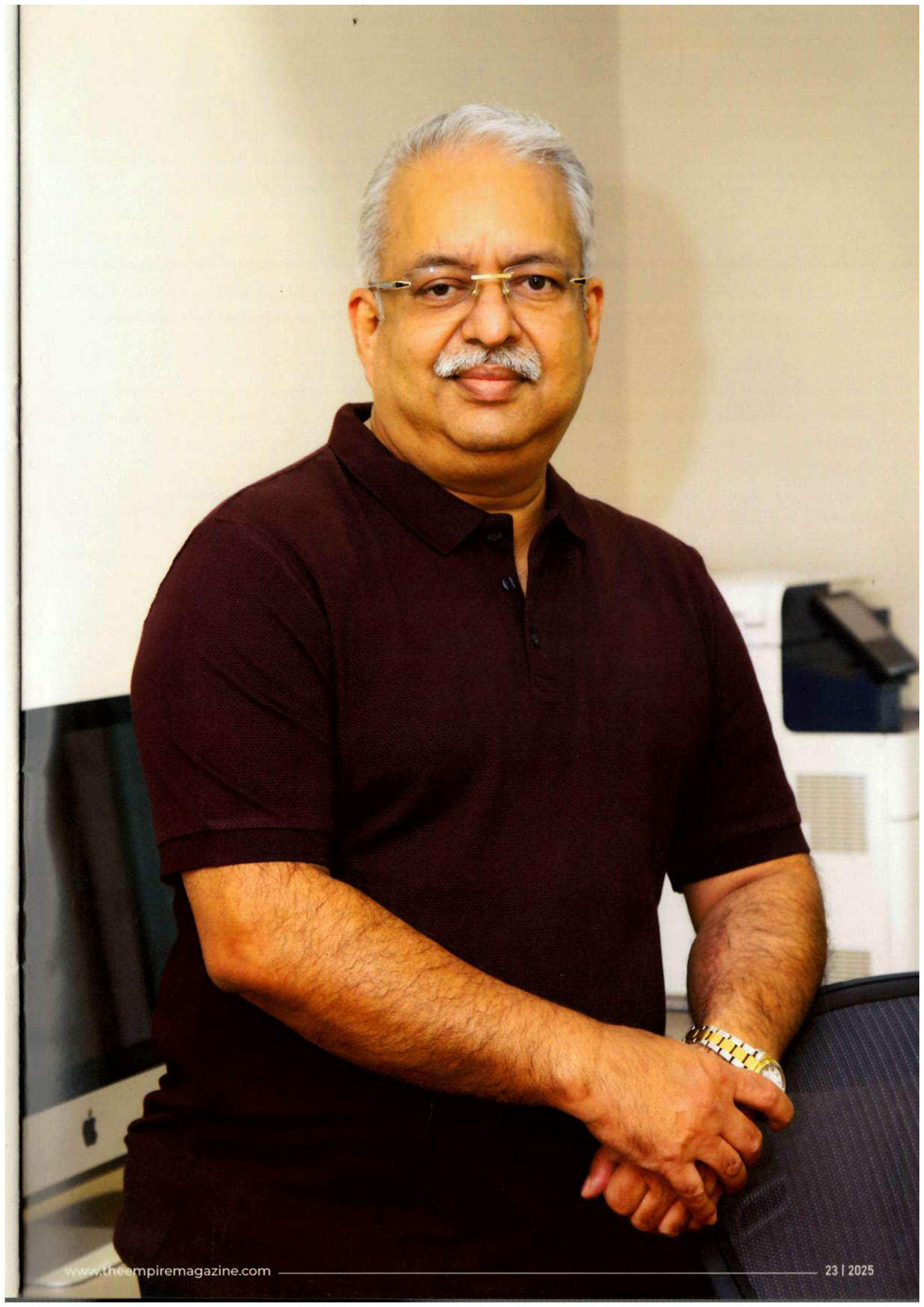
Sustainability Before It Was Trendy

Well before "green building" became a cliché, Dr. Agarwal had already made it a habit.

It was in the early 2000s when the majority of developers viewed trees as detriments, that he initiated one of India's initial tree transplantation schemes along national highways—preserving thousands of mature trees that would otherwise have been sacrificed to development.

He advocated for the use of biodiesel-powered machinery, solar-powered site offices, and electronic record-keeping to cut down paper usage. He also proposed dual-lane planning that minimized avoidable land acquisition, hence minimizing environmental disturbance.

His efforts are today admired by environmentalists not only as compliant—but visionary. His philosophy is that infrastructure should never be at the expense of nature, and this has guided hundreds of project designs during his tenure.



The Mentor Beyond Titles

In April 2024, Dr. Agarwal officially retired from his executive role at IJM. But characteristically, he didn't retire—he revamped.

As Advisor & Director of IJM India Infrastructure Limited, and founder of SA Associate, an advisory platform, Dr. Agarwal has embarked on a new mission: to mentor the next generation of infrastructure leaders.

Through SA Associate, he collaborates closely with construction tech startups, delivers leadership workshops for mid-career engineers, and even consults government think tanks on sustainable transport policy. He also mentors at his alma mater, Manipal, where he sponsors scholarships to disadvantaged youth studying engineering.

His own style of mentorship is integrated. "Leadership isn't technical skill or domain knowledge," he maintains. "It's emotional intelligence, ethics, and the power to inspire trust."

Maybe what sets Dr. Agarwal apart is his absolute commitment to the people side of infrastructure. Talk to those who have worked with him—from machine operators to top executives—and one hears a consistent refrain: he listens.

He listens to suggestions. He listens to fears. And he responds with a singular combination of compassion and precision.

He is renowned for spontaneous on-site visits, eating meals with employees, holding direct conversations on safety, and acknowledging team achievements publicly. These gestures might appear minor, but they've helped foster a culture in which staff feel noticed, valued, and inspired.

One of his past HR directors said: "He didn't just manage people—he elevated them."



The real legacy of a leader is not in the milestones they reach, but in the people they raise along the way."

A Legacy Still in Motion

India's future infrastructure aspirations are enormous—green highways, EV-capable roads, smart logistics corridors & more. But with this new era, such leaders as Dr. Sanjay Agarwal aren't just important—they are crucial.

Among his current projects are promoting public-private cooperation for the development of border roads, experimenting with modular techniques in highway construction, and actively participating in national discussions on transit-oriented development.

Yet when asked what he considers his greatest achievement, he doesn't mention records or revenues. He simply says, "It's the people I've had the privilege to grow with."

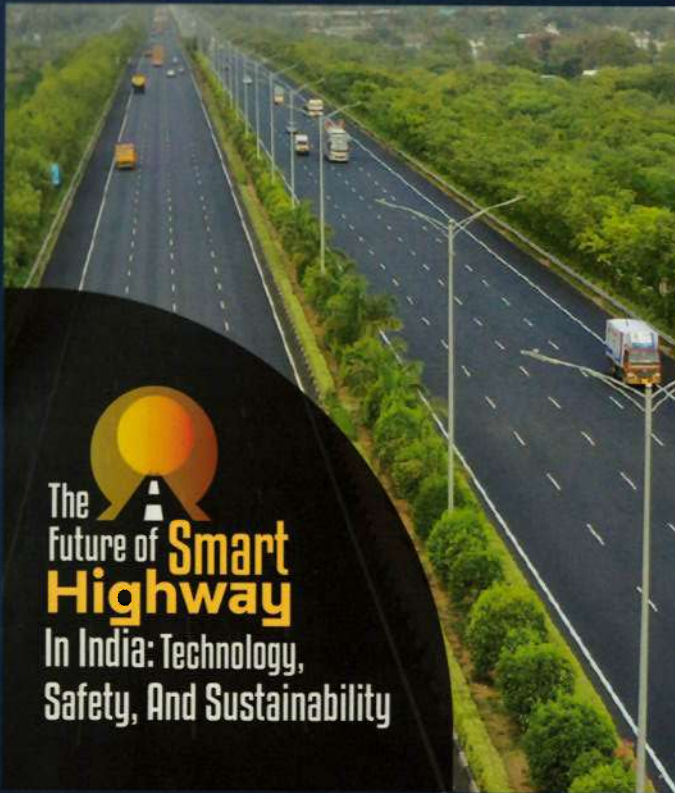
Final Reflections: A Road Well Traveled

In an arena where projects can take center stage, Dr. Sanjay Agarwal's legacy stands out as being something other than the norm. His tale is not one of publicity-driven titles or loud proclamations. It is one of unassuming resolve, persistent excellence, and a conviction that India is worthy of world-class infrastructure constructed in the best possible manner.

He has constructed roads—but above all, he has constructed a philosophy: that leadership is service, that growth is sustainable, & that success is collective.

With India charting its course towards a \$5 trillion economy, the journey ahead could be long—but thanks to visionaries such as Dr. Agarwal, it will be paved with intent, precision, and pride.





India has one of the largest road networks in the world with more than 6.3 million kilometers of roads. Highways in particular have always been the backbone of national growth, connecting cities, towns, villages, ports and industries. They carry more than 60 percent of freight and nearly 90 percent of passenger traffic. In the last two decades, the pace of road building in India has been impressive, but the future requires more than speed and size. The future is about intelligence, sustainability and safety.

The next generation of highways in India will not simply be about adding lanes or cutting travel time. They will be about creating corridors that can think, adapt and respond. Smart highways combine modern engineering with digital technologies, renewable energy and green design. They allow vehicles to move more efficiently, reduce accidents, cut emissions and improve the overall driving experience.

This feature takes a closer look at how technology, safety and sustainability will shape the highways of tomorrow in India.

Technology: Building Intelligent Corridors

Technology is the heart of smart highways. The idea is to turn a stretch of road into a living system that can communicate with vehicles, authorities and users in real time.

Intelligent Traffic Management

Congestion is one of the biggest problems on Indian highways. Smart highways will use sensors, cameras and drones to track the flow of traffic in real time. The data will be sent to central command centers that can predict bottlenecks, divert vehicles to alternative routes and control traffic lights more effectively.

For example, if an accident occurs, nearby drivers can receive alerts immediately through mobile apps or connected vehicle systems.

Vehicle-to-Infrastructure Communication

One of the most exciting developments is V2I communication. In this system, vehicles talk to the road and the road talks back. Smart road signs can inform drivers about speed limits, upcoming diversions, road conditions or weather warnings. Connected vehicles will be able to adjust their speed or route automatically. This is especially important as India moves toward electric and autonomous vehicles in the future.

Smart Lighting and Energy Use

Smart lighting systems powered by solar panels are already being piloted on some Indian highways. These systems reduce electricity costs and improve safety at night. Some advanced projects abroad are even testing road surfaces that can generate electricity from solar cells or kinetic energy. While India is still in the early stages, the potential for renewable energy highways is enormous.

Digital Payment and Tolling

Fastag has already changed toll collection in India by making it digital and faster. The next stage is seamless tolling, where vehicles will be charged automatically without stopping, using satellite-based tracking. This not only saves time but also reduces fuel consumption and emissions caused by vehicles idling at toll booths.

Safety: Saving Lives on the Road

India unfortunately records one of the highest numbers of road accidents in the world. More than 150,000 people die on Indian roads each year. Smart highways offer a chance to bring these numbers down significantly by using data, design and enforcement in new ways.

Accident Detection and Emergency Response

Highways of the future will have embedded sensors that can detect accidents instantly. Drones and connected cameras will provide live footage to control rooms. This will allow emergency services to reach the spot much faster. Golden hour treatment, the critical one hour after an accident, can save thousands of lives if medical teams arrive quickly.

Smart Road Design

Traditional roads often fail because of poor design, sharp curves or lack of safety barriers. Smart highways will include intelligent crash barriers that can absorb impact, rumble strips that alert drivers when they drift off, and glow-in-the-dark paint that improves visibility at night.

AI-based Enforcement

Artificial intelligence can be used to monitor overspeeding, drunk driving and wrong-side driving. Instead of relying only on traffic police,

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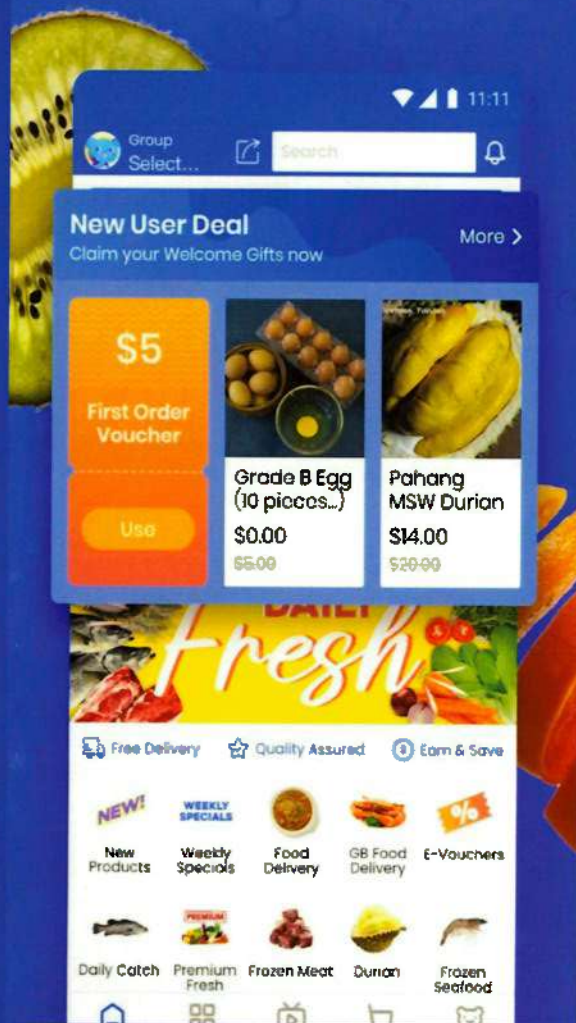
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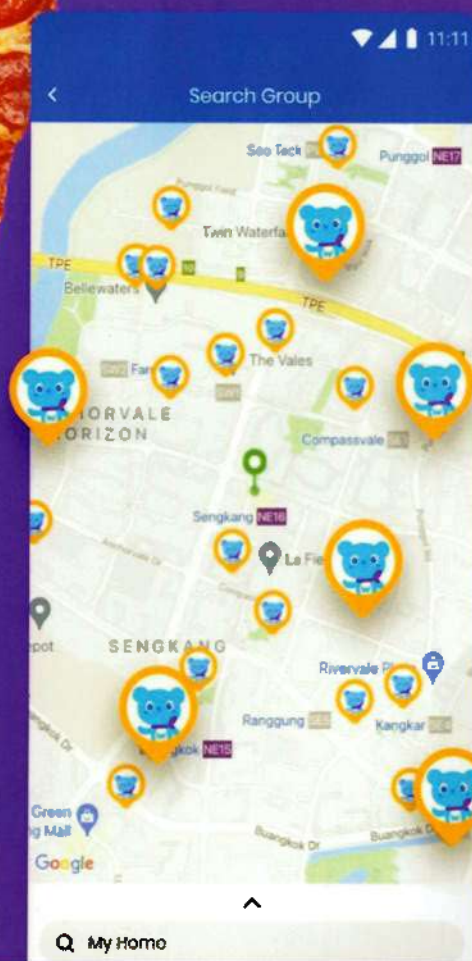
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