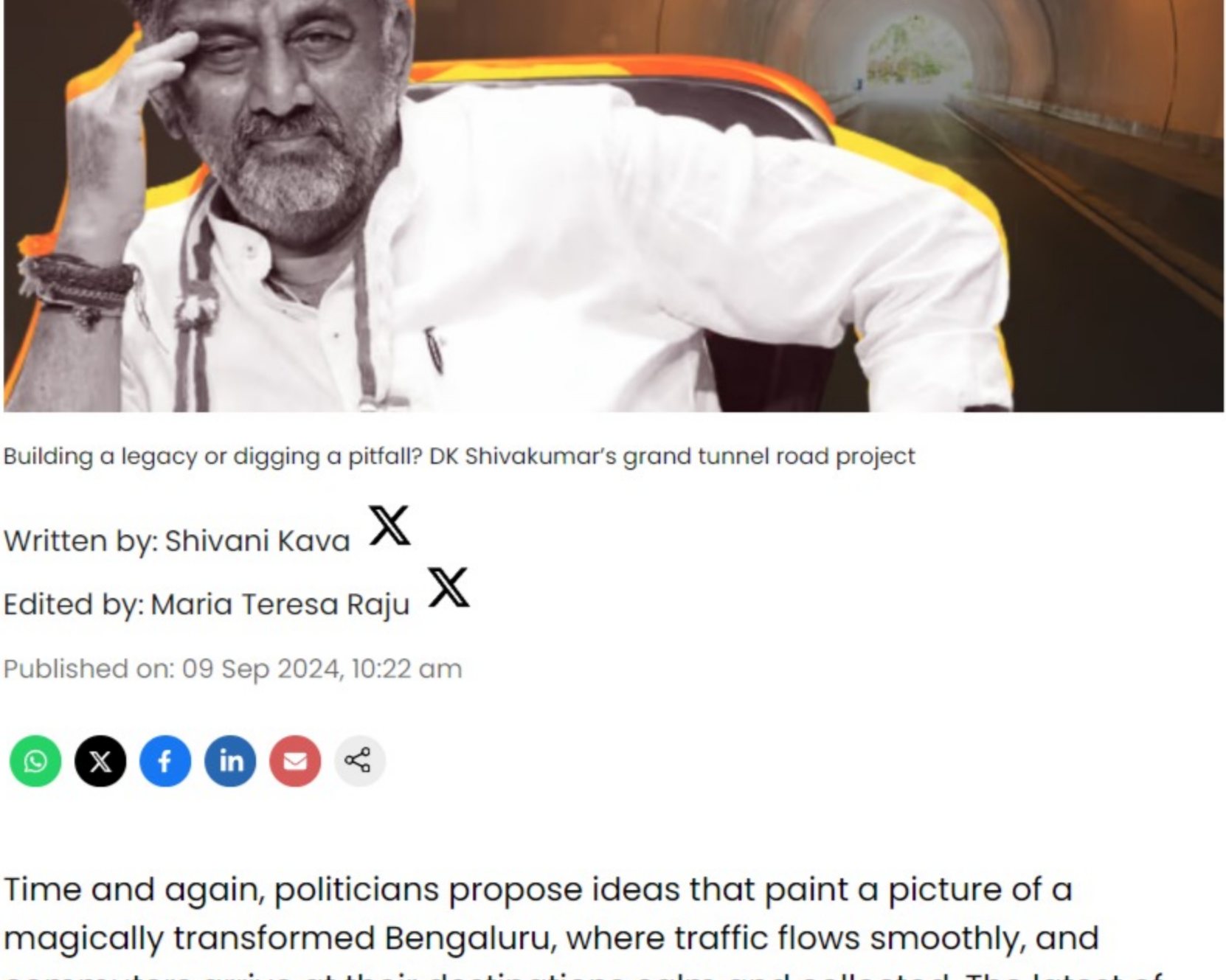


Building a legacy or digging a pitfall? DK Shivakumar’s grand tunnel road project

On paper, an underground road network connecting key areas in Bengaluru – Hebbal flyover to Central Silk Board – appears promising, but the practical challenges are daunting. Why is Deputy Chief Minister DK Shivakumar still determined to build the tunnels?

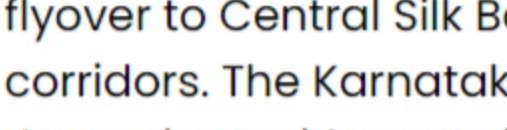


Building a legacy or digging a pitfall? DK Shivakumar's grand tunnel road project

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Time and again, politicians propose ideas that paint a picture of a magically transformed Bengaluru, where traffic flows smoothly, and commuters arrive at their destinations calm and collected. The latest of such visions has come from Deputy Chief Minister and Bengaluru Development Minister DK Shivakumar, who is advocating for a 18 km-long tunnel through the city. However, experts across various fields — geologists, civil engineers, mobility specialists, and activists — have raised concerns, arguing that the project will create additional problems that could further deteriorate the city’s quality of life.

The 18-km long and 14.5 m wide underground tunnel network from Hebbal flyover to Central Silk Board is designed to connect 11 high-density corridors. The Karnataka cabinet has already approved the construction of the project, with an estimated cost of Rs 12,690 crore.

Bengaluru’s notorious traffic woes are primarily owed to the large number of private vehicles. A report by the Indian Institute of Science (IISc), submitted in September 2023, to the Brand Bengaluru Committee on mobility solutions, stated that cars occupy eight times more space than buses in the city, while two-wheelers take up five times more space. “A person travelling on a car takes up 38 times more space on Bengaluru Metropolitan Region (BMR) roads during peak hours when compared to someone on a bus, while a two-wheeler traveller uses 4.8 times more space,” the report said.

This imbalance has contributed to Bengaluru having the highest traffic density among major cities in India. With a population of 1.3 crore, the city nearly matches this number in vehicles, with almost 1.25 crore vehicles on its roads — nearly one for every resident.

In 2022, Bengaluru was ranked the world’s second-most traffic-congested city, just behind London, according to the Dutch location technology specialist TomTom. On average, it takes 29 minutes and 10 seconds to cover a distance of 10 km in Bengaluru’s Central Business District, compared to 36 minutes and 10 seconds for the same distance in London. During the morning rush hour, an extra 15 minutes is needed to cover 10 km, and 19 minutes more during the evening rush hour, the report highlighted.

Bengalureans spend an average of 132 hours a year stuck in traffic, driving at a sluggish speed of just 18 km/hr.

It is as a solution to these issues that Shivakumar proposed the tunnel road project, announcing a grand vision of transforming Bengaluru’s traffic landscape. On paper, an underground road network connecting key areas appears promising, but the practical challenges are daunting. The plan suggests that by moving traffic underground, the city can free up surface space, reduce travel time, and create an efficient urban environment.

However, the reality of implementing such a massive infrastructure project is far from simple.

Critics argue that the construction of the tunnels could lead to a range of problems, from environmental degradation to major traffic congestion. Moreover, the project’s cost, estimated to be Rs 12,690 crore, raises questions about its financial viability.

Environmental impact and water crisis

The tunnel road project raises serious environmental concerns. Experts warn that tunnelling could destabilise Bengaluru’s delicate geological balance.

TJ Renuka Prasad, a former professor of Geology and coordinator of Biopark in Bangalore University, explained that the city’s landscape is the result of millions of years of geological processes. “Large scale tunnelling could potentially lead to catastrophic consequences,” Renuka Prasad warned.

The city rests on a hard rock terrain with ridges and valleys that shape its watersheds and influence underground aquifers. The hard rock terrain, already stressed by extensive deforestation and urbanisation, could be further destabilised by tunnel construction. The extensive digging required for the project would also destabilise the city’s water table and exacerbate issues of flooding — a problem Bengaluru is no stranger to.

“We are sitting on a crater that has experienced various geological changes, including fractures and earthquakes. The interconnected fracture systems in Bengaluru’s hard rock terrain are essential for groundwater storage and movement. Constructing tunnels, whether for metro or roads, could obstruct this natural groundwater flow, potentially leading to groundwater depletion. The city’s extensive concretisation has already put a strain on our groundwater recharge capacity, and further tunnel construction could worsen this problem,” he explained.

An IISc study highlighted the severe environmental degradation Bengaluru has undergone, revealing that over the past five decades, 93% of the city has lost its lake and forest cover to concrete and construction. In 1973, Bengaluru’s built-up area was just 8%, but by 2023, it had surged to 93.3%. The water spread area has similarly dropped from 2,324 hectares in 1973 to just 696 hectares in 2023.

Prasad also pointed out that natural dykes – wall-like structures within the rock that act as barriers to groundwater movement – could be disrupted by tunnel construction. “The dykes, some dating back 65 to 70 million years, have already been weakened by geological disturbances such as earthquakes. Adding tunnels could worsen these issues, leading to further declines in groundwater levels and depletion of recharge areas,” he said.

Renuka Prasad added that Bengaluru’s core areas, which have already experienced extensive deforestation and urbanisation, are at risk of further ecological damage. “The city, once known as the Garden City, is now largely concretised. If we continue to build more tunnels, roads, and large buildings, we risk triggering geological disturbances such as increased earthquake activity, sinkholes, and changes in the landscape,” he warned.

Additionally, Renuka Prasad pointed out that construction costs in hard rock areas like Bengaluru are significantly higher than in other regions.

A similar point was raised by professor Ashish Verma, mobility expert and convenor of Sustainable Transportation Lab at IISc. He said, “The cost of building a road tunnel is much higher than that of a metro tunnel because cars require a larger, more flexible right-of-way. The efficiency and economy of such an investment just don’t add up. The goal of a transport system should be to move the maximum number of people or goods efficiently and sustainably. By focusing on cars, we’re not achieving this goal.”

Ashish argued that the tunnel project fails to address the root causes of traffic congestion. “We’ve seen underpasses flood, leading to tragic incidents. The risk is real, especially if these tunnels are poorly constructed or maintained. We haven’t been able to properly manage and maintain drainage systems on these underpasses, so you can only imagine the situation with tunnel roads, especially if they’re constructed with poor vision, bad engineering, and corruption.”

He was referring to the death of a 22-year-old woman in May 2023 after the car she was travelling in was submerged in a flooded underpass at KR circle.

He also pointed to a potential exclusion of two-wheelers from the tunnels, which would lead to significant inequality in who benefits from this infrastructure. “We’ve seen how expressways like the Mysuru–Bengaluru highway have led to road safety issues and accidents, partly due to poor engineering,” Ashish said. The National Highway Authority had banned auto rickshaws and two-wheelers from the expressway, saying that slow moving vehicles pose danger on the high speed Mysuru–Bengaluru corridor. “Similar problems could arise with tunnel roads, especially if two-wheelers are eventually banned from them, making them exclusive to car owners and VIPs — essentially catering to the wealthiest 10% of the city’s population,” he added.

‘Shift focus to public transport’

Ashish advocated for a more comprehensive solution — a dense, interconnected metro network that would provide efficient and accessible transportation for all. “From a broader perspective, Bengaluru doesn’t need tunnels but rather a spider web-like network. A dense, interconnected system of radial and ring lines would allow people to travel via the shortest routes with seamless transfers, similar to what we see in cities like Paris and London. Ideally, every part of Bengaluru should be accessible by metro or suburban train stations within walking distance. That’s the vision we should be aiming for.”

The proposed tunnel roads, however, don’t align with this vision. Ashish pointed out that buses, which have multiple stops, might not benefit from these tunnels unless they connect only two points, with no other stops along the way. “Without buses or metros in these tunnels, we’re not catering to 50% of the city’s trips, which are made via public transport,” he explained.

Vinay Sreenivasa, a member of the Bengaluru Bus Prayanikara Vedike, criticised the tunnel project as “a waste of resources”. He said that investing in public transport, such as increasing the number of buses and improving bus services, would be a more effective and equitable solution.

“Over the last decade, the number of private vehicles in Bengaluru has more than doubled, but the number of buses has remained the same. The government claims they want to build the tunnel to reduce congestion, but the real cause of congestion is the rise in private vehicles. Even if the tunnel allows cars to move faster, once they exit, the traffic will simply create bottlenecks elsewhere. The perception that the tunnel will ease traffic could actually encourage more people to drive, increasing traffic even further,” Vinay said.

“Tunnels only add more road space, which will encourage people to buy more cars. But this added road space will not be made available for buses and other public transport. And let’s not forget the cost, it is over Rs 12,000 crore. The tunnel offers very little value for such a massive expenditure. If that money was used to double the number of buses and improve bus services, it would be a far better investment,” he added.

According to [a Deccan Herald report](#), the BBMP will spend Rs 9.45 crore on preparing the Detailed Project Report (DPR) for the tunnel project. In contrast, the cost of the DPR for Namma Metro is significantly lower. The Bangalore Metro Rail Corporation Ltd (BMRCL) spent just Rs 1.56 crore on preparing the DPR for the 37-km Sarjapur–Hebbal line, which was submitted in June this year.

Vinay also questioned the decision-making process, saying, “How is the state government deciding on this project without a functioning Bruhat Bengaluru Mahanagara Palike (BBMP) council and without consulting the Bangalore Metropolitan Planning Committee? They passed the BMLTA Act, which mandates a structured approach to transport projects, yet here we are with no due process being followed.”

The BBMP currently lacks an elected council and mayor, and the Revised Master Plan 2031 remains unapproved due to this. According to the 74th Constitutional Amendment, which grants constitutional status to Urban Local Bodies, the Bangalore Metropolitan Planning Committee (MPC) is envisioned as the constitutional body responsible for planning the Bengaluru Metropolitan Area. Major projects like the tunnel road should ideally be reviewed and cleared by the MPC. Despite this, the state is advancing with a significant infrastructure project for Bengaluru in the absence of an elected BBMP Council.

‘DK Shivakumar’s determination to build the tunnels’

Sources said that the concept for the tunnel road originated not from mobility experts, but from real estate developers. “It was primarily brought up by various builders during Brand Bengaluru meetings, and DK Shivakumar adopted it as his flagship project. His ties to the real estate sector are also an add-on,” a source said.

Besides the tunnel road, Shivakumar has been championing several other high-profile projects, including a skydeck, double-decker (metro and road) flyovers, elevated corridors, metro extensions to the city’s outskirts, and an amusement park near the Krishnaraja Sagar (KRS) dam in Mandya.

The push for these projects is said to be tied to Shivakumar’s political ambitions. He often credits influential figures from the Vokkaliga community, like the city’s founder Nadaprabhu Kempegowda, former Chief Ministers Kengal Hanumanthaiah, and SM Krishna, for Bengaluru’s growth.

Historian Janaki Nair argued that the project reflects a trend among politicians to mimic the grand visions of former leaders without addressing the core issues facing the city. “Ever since Bengaluru’s transformed from a small town into a metropolis, which happened in a very short span (1980s onwards), politicians have always desired to reflect the dreams of the bourgeoisie.”

This approach, she said, is reminiscent of former Chief Minister SM Krishna’s vision of a Singapore-like city, which led to the creation of the Bangalore Agenda Task Force (BATF). However, she noted that while gated communities have provided private solutions, public planning has largely failed.

Janaki also questioned the historical validity of linking the grand projects to the city’s founder Kempegowda, and criticised the notion of a ‘historical continuity’ that the project purports to offer. “Shivakumar has combined caste pride with real estate visions to produce this story of Vokkaliga contributions. That Kempegowda might have foreseen Bengaluru’s metropolitan development in the 16th century is a laughable proposition. It suggests a ‘historical continuity’, which certainly Bengaluru does not bear,” she explained.

“This has not stopped politicians from responding to business and popular demands in the best way they know; build big, build more, with no thought to sustainability, or even to actually solving the problems of the city,” Janaki said.

She criticised the approach of responding to business and popular demands by pursuing large-scale projects with little consideration of sustainability or genuine problem-solving. “What connects SM Krishna and DKS is not caste identity but their commitment to unrestrained capitalism.”

She added that if Shivakumar is serious about solving Bengaluru’s infrastructure and traffic problems, he should consider alternatives to large-scale projects. “It is easier to follow large-scale projects that will cripple the city for years, both physically and in financial terms. DK Shivakumars’ vision is nothing less than the vision of a real estate developer.”