

THIRUVANANTHAPURAM CITY
ROAD IMPROVEMENT PROJECT

The UN Recognition for achieving sustainable development goals

In a rare gesture of appreciation from the UN commune, the 42-km **Thiruvananthapuram City Road Improvement Project (TCRIP)**, an iconic project by Infrastructure Leasing and Financial Services (IL & FS) that has set up a world-class road network in the State capital, was in the Agenda in the Public Private Partnership (PPP) Forum of the United Nations Economic Commission for Europe (UNECE) held in the UN Headquarters in Geneva, from March 30 to April 1, 2016. **Anilkumar Pandala, Project Director, TCRIP** explains the reasons for TCRIP getting national and global recognition.



TCRIP was one of the twelve PPP projects from across the world that found a place in the forum; it was shortlisted from the initial list of 47 projects that was first narrowed down to 30 high calibre PPP case studies that fulfilled the Sustainable Development Goals of the UN Agenda 2030. The project was shortlisted for demonstrating good governance and achieving sustainable development goals.

The TCRIP has been widely acknowledged as a great initiative. It is referred to by the World Bank in its document on Urban Infrastructure Projects. It was also recognised by International Road Federation for the best Project in the World in the category of Urban Mobility. The Ministry of Urban Development had advised the Chief Secretaries of States and Union Territories to emulate the successful TCRIP model for planning and execution of Urban Infrastructure Projects. Minister for Road Transport and Highways, Nitin Gadkari acknowledged the contribution of the Project to Greening of Urban Spaces.

NRI's & Persons of Indian Origin coming to Thiruvananthapuram after a long period, visitors and tourists all react in awe seeing the transformation of the city. In fact, in the opinion of Dr Jancy James, former Vice Chancellor of Mahatma Gandhi University, Thiruvananthapuram was, and blissfully continues to be so, a "City With A Soul".

This is quite against the National trend, wherein congestion and confusion is constantly increasing almost without control and cities are becoming more and more un-inhabitable. The credit for this city's transformation should go to the planners in the Government for their vision, dedication of the Government Officials who rolled out the project, the support provided by Trivandrum Development Authority (TRIDA) in flawless land acquisition which made TCRIP possible, the commitment and



SPNCER LOAD REST CSR RESOTRATION MEDIA

innovation on the part of the executing agency, the involvement on the part of the people, a mature attitude on the part of the media – especially the print media, and above all, the team work of all involved in direct execution. It is because of these that the UN found it highly appropriate to include TCRIP in the reference material which would form the basis in preparation of a framework for achieving "UN Agenda 2030 for Sustainable Development Goals".

Why UN Agenda 2030

In the 1960s and 1970s, many Latin American countries, notably Brazil, Argentina, and Mexico, borrowed huge sums of money from international creditors for industrialisation; especially infrastructure programs. These countries had soaring economies at the time, so the creditors were happy to continue to provide loans.

The Asian model was led by Korea, followed closely by Thailand, Malaysia, Philippines, Indonesia and Singapore. These development initiatives, supported by respective Governments, were flaunted in the early 80's as the best way forward. Pointing at the tremendous success of these Countries, the World found pleasure in ridiculing India and

even said, "look to Mexico, Brazil, and Korea".

The sloth did India good. It did not look anywhere, and continued its drag. In mid nineties the development pundits asked not to look at Mexico, and such others, as their economies started plunging. The development models started collapsing, and fast. The paradigm changed and, instead, the World started asking developing countries to "look to India". This was a good slogan for us, but thankfully, even this did not make India heady. For numerous reasons – reasons that make India what it is – it always looked for a sustained growth, irrespective of Global pressures. In short, almost whatever India did, sustainability was an essential need.

By the end of the twentieth century and the beginning of the twenty-first century, the financial model of PPP gave the Governments the much needed breathing time and an extreme comfort level as the Private agency which will invest in the Project will find ways to recover the same from the public as user-fees or using the assets for a prescribed period. However, again the World was soon to find major flaws with this model, some of which were



SECOND FLYOVER AFTER OPENING

as follows:

1. Where user fees were concerned, the public was more at the receiving end. The control regime was more often ineffective than otherwise. Escalations, competition and unrealistic or fluctuating user numbers often made the Private investor seek revisions in Concession. Satisfying the Private investor was often at the cost of the Public comfort. On the other hand, denying a revision to the Private investors often found Governments in a legal spot. It was a losing proposition all over.
2. Land acquisition was a global issue. This assumed serious proportions when a Private investor was in the fray. Projects faced foreclosure because of this.
3. In countries like India, resistance to the new paradigm grew from within the administration too. Established Public Sector felt threatened by the advent of the Private Sector investment in any sort of infrastructure. The public perception of responsibility started evolving for the better. It was no more a level playing field as perceived before launching the Project.
4. Direct benefit of the infrastructure often failed to reach its desired
5. Global recession became a major spoiler of the PPP initiatives. Governments found it difficult to meet Annuity payments. Thrift made users find alternate ways, drastically upsetting projected revue models. There emerged an urgent need to have a direct people's involvement in the Projects, and a predictable cash flow to be generated more by innovation and involvement of local

The public now demands "TRDCL-type" roads that provide a very high quality of ride and life cycle of at least 15 years!

goals and the "stakeholders". For example, even though the quality and delivery of healthcare under PPP projects were superior, progressively it became less and less affordable to the ordinary man in the street. Some PPP project also upset or threatened an established local industry and its dependents.

population.

Numerous such issues came to the fore making the Governments rethink the emphasis on PPP projects. It was evident that while PPP model is a smart way to move ahead with development, it was time for introspection: the demand, whether and how the benefits reach the common man, whether the lifecycle is sufficiently long so that the cost set off does not affect his purse, and so on. That the Projects should make sense to the local economy to ensure recovery of investment in a sustained manner became a key indicator. It should also be such that global economic, demand-supply or socio-political related problems should have the minimum impact on the Project. In short, the Project should sustain all weather. Especially, since economies are becoming increasingly fragile, whatever the reasons may be.

This is what brought the UN into the fray. UNECE International Centre of Excellence Concessions / PPP, therefore, has been mandated to create the necessary framework for PPP projects in future by suggesting a "People First" approach. They have to draw from the valuable experience gained both from unsuccessful and successful PPP projects across the World.

TCRIP was in the chosen twelve "successful PPP Projects" of the World. From over 30 high-calibre case studies, TCRIP was chosen for its ingenious implementation which more than compensated for the pitfalls created by theoretical assumptions. And, in this case, credit certainly goes to the implementing Concessionaire.

The Rs. 450Cr TCRIP is the first PPP project in the country for Urban Infrastructure (city roads) development with the active participation of the State and the private sector. Thiruvananthapuram Road Development Company Ltd is the Concessionaire as per PPP norms, and is the Special Purpose Vehicle for the Project under IL & FS Transportation Networks Ltd.



TCRIP – In the Honour List!

The project involved developing 42.06km of city roads by strengthening surface, widening in acquired portions, correcting geometric and vertical profiles, providing proper facilities for drainage of storm water, enhancing pedestrian facilities such as footpaths, traffic islands and pedestrian refuges, improving overall safety by installing solar powered and GPS enabled traffic systems, installation of energy-saving street lighting systems, and landscaping and arboriculture. It also had other infrastructure components such as bridges, flyovers and underpass.

What made the difference?

Going the Extra Mile, is what made the difference. What is visible to the Public are good roads, pleasing junctions and grass patches, bright and smart traffic signals, good road marking, good road signs and a very enjoyable footpath and bright and pleasing street lighting. But this is not what the UN saw. At least, not this alone. The key elements are:

Difficulty in Execution: The project has migrated through three Political Administrations, and has worked under seven Minsters, ten Secretaries to the Government, and eight Project

The difficult and long, process adopted by the Concessionaire in delivering the project to specifications against adverse conditions - without compromising on any features - has proven that such urban initiatives can be replicated by taking the affected people into confidence.

Engineers. At one stage – end of 2006 to be precise – the first change of Ministry took place. It was at this time that there was a serious threat to the Project as it had reached its completion stage without progressing beyond one-third point on account of land acquisition issues. The effort of TRDCL in generating the required ownership for the project was the sole reason why this project was resumed by the new

Government and ensured continuity. The assiduous and long initiative took two years to bear fruit. All the while, IL&FS stood steadfast behind the SPV helping it progress in the path it had chosen.

Trust Deficit: Any initiative from the Governments’ side is usually viewed with doubt and disdain by the Public at large, on account of previous experiences. TCRIP was no exception. The innovative initiatives of the Concessionaire in establishing a people-to-people contact and involvement, contributed significantly to the success of the Project. Keeping the people updated about technology & quality of execution, the benefits of a strong Concession Agreement & the PPP model and the professionalism embedded in the Concession that gives no room for partisan decisions, all appealed to the Public. Sample stretches exceeded expectations, creating a bond of trust and camaraderie with the people that helped the project move forward.

A redefining of the “Stake Holder”, and educating all the affected people –including street vendors – about the compelling need for transition, were support elements that reversed the Trust Deficit.

Inertia: The balance struck between commitments, rights and responsibility in the case of a PPP model was a threat to the contract delivery system that prevailed. This resulted in unhappiness within the administration as the Project working model threatened to upset established working arrangements. The Concessionaire, through a series of initiatives, conveyed to those who were apprehensive of their future, the need for reform. TCRIP gave the officials who chose to involve in the Project a sense of pride, which was never in their dictionary till then.

Tweaking of specifications: TRDCL had to modify the design specification in many contexts so that the final product met all user requirements



Unesco meet 5 gandhiji 1 mail

on the ground while maintaining the design requirements as well as contractual obligations intact. This was a very difficult process. For example, it maintained low height footpaths, which could give the city an added friendly look and the pedestrians a very high level of comfort. Planting of more number of trees than specified, improving safety of pedestrians, reducing impact on environment, saving of energy and improving public appeal were all through tweaking of DPR specifications without affecting the Concession Agreement.

Poverty Alleviation: Poverty alleviation is a yardstick that the UN gives maximum importance to. In the case of TCRIP, the Concessionaires (TRDCL’s) contractor was initially Punj Lloyd Ltd. After the exit of PLL, the Concessionaire suggested execution of balance work through local contractors. Almost Rs 3000m.

The decision of TRDCL to continue the Project by developing local contractors has resulted in generation of close to 2,00,000 mandays of work for the local work force. In the process of execution, ITNL also developed enterprising ordinary skilled workers into 37 quality-conscious contractors, capable of working to deadlines, meeting quality standards and the prescribed safety and health requirements. This has substantially helped to upgrade skill, improve

employment opportunity and therefore, a significant effort to poverty alleviation.

Access to Services: Thiruvananthapuram, like many other Indian cities, had witnessed haphazard laying of utility lines. Water, Power, Communication and Sewage services have been reached to the public by laying the lines under pavement surface in varying depths. No utility agency has any map of the resource lines under the Bitumen top. Had the Concessionaire proceeded with work without waiting for the agencies to lay fresh lines wherever required, there would have been a need to dig up freshly laid roads. Though this has happened in a few cases, by and large the willingness to wait for the agencies to finish their work paid rich dividends.

Once new roads are laid, deterrent pricing for restoration of roads excavated for laying utility lines was the incentive for departments and agencies to think ahead, and sensibly. The Project also set out strict parameters of depth of laying utilities. This was in addition to the cross ducts which prevented, to an extent the need to cut open road surface.

This regime has, in effect, improved the quality of services and its availability without sacrificing on the quality and availability of the road infrastructure. And the road itself excelled in all respects. Excellent ride quality reduced

fuel consumption and wear and tear.

The most talked about feature in the Project is the footpath. The footpaths are low height mountable type and does not provide cutting for property entrances. This helps disabled and the old walk effortlessly from one junction to the other.

Designated pedestrian crossings, road signs and reflective road markings have all improved safety of both the pedestrians and the motorists. At junctions, traffic islands are provided to give refuge to the pedestrians who are crossing.

Mitigating the effects of Climate Change and Cutting Co2 Emissions:

Trivandrum is ranked 4th in the State of Kerala in terms green cover. 65% of the land area is covered by trees. With the increasing number of high-rise buildings and commercial districts, cutting down trees and reclaiming water bodies have become rampant. The people of Trivandrum are now against any form of environmental degradation. Cutting down even one tree for proper geometric alignment of the Road is now an impossible task.

In the face of such stiff resistance, the onus was on IL&FS to demonstrate the sincerity embedded in the Project and convince the people of Trivandrum that the Government and the Concessionaire are actually in agreement with the pressing need to protect environment while addressing development. Extensive greening beyond the scope and reduction in consumption of energy were resources used by IL & FS to reach out to the Public. TRDCL also educated them how good roads reduced CO2 emissions.

Against a specified 1200 trees in the Detailed Project Report, TRDCL planted 2600 trees. In fact, on completion, the number could be a little higher. Combined with meticulous care, this more than compensated for cutting down 374 trees for construction of the Project.

By cutting down 374 trees TCRIP had released approximately 75 T of CO2 per month (0.2T per month = one tree). But



MUSEUM JN MEDIA

by planting 2600 trees 520 T of CO₂ has been cut per month – a net gain of approximately 445 T of CO₂ per month. This is not accounting for the afforestation that the Concessioneing Authority had taken up in 2007 for planting and nurturing 3000 trees through Kerala Forest Development Corporation Ltd. It also does not take into consideration the additional landscaping, grass turf and shrubbery developed in the project.

Estimated savings of 2% on fuel per vehicle due to improved road design has also helped cut CO₂ emissions.

Usage of GPS enabled Solar Powered traffic signals have contributed to the environment in two ways:

- a. The system is synchronised in a corridor. This enables a vehicle with optimum speed to get green signal at all intervening junctions. The “Green Channel” reduces wait states at junctions, leading to lowering of emissions.
- b. By adopting solar powered signals, a further 0.12 tons per month of CO₂ emissions have been saved.

The project has 550 advanced street lighting systems that help save 29.7 MW of power a month. At 0.75kg of CO₂ per Unit of power, 75 T of CO₂ a month – or approximately 900 T of CO₂ in a year – is offset.

By advocating footpath paved with interlocking blocks, against the specification of granite tile on cement mortar, TRDCL has helped percolation of rain water which is in abundance in the region. Thus, though rainwater harvesting was not in the agenda when the project started, it has recharged the groundwater. Added with grass turf on road sides and traffic islands, TCRIIP has helped birds find its prey, kicking off a bio-diversity cycle. It has helped insects thrive, and have brought many a bird back.

TCRIIP, thus, qualifies in every way as one of the most ideal development projects that has consideration for the Planet!

Replicability and Skill

Development: Many features of the project threw up challenges to the public. Restricting entries to byroads on account of new medians, handrails provided for pedestrians safety restricting jaywalking and exposing the parking problem and so on. Extensive interaction with the public, educating them on technologies, principles, discipline and the way forward convinced them that sacrifice of certain comforts would be compensated by net gains like fast mobility, safety and better facilities on the streets.

This exercise convinced the people, the Government and people’s representatives the need for such changes. The consistent efforts on the part of TRDCL in keeping the footpaths free of encroachments and sustained maintenance of all features of the project have given the confidence to the Government and the public that similar projects are possible to be replicated in the region. TCRIIP has also empowered 37 small contractors to take up any challenge.

In summary TCRIIP has been acknowledged as a fitting example how PPP can be translated into a truly “Peoples” Project establishing, beyond doubt, the sustainability of each feature.



Mr. Anilkumar Pandala, Project Director, TRDCL addressing the Public Private Partnership (PPP) Forum of the United Nations Economic Commission for Europe (UNECE) held in Geneva.

Dr Sreejith Narayanan of the IL & FS and Harish Mathur, Managing Director of the Delhi Noida Toll Bridge Company Ltd (DND Flyway) also represented IL & FS. DND Flyway was the only other project from India to make it to the last 30.

The meet at UN Complex at Geneva was attended by officials like Nikhil Seth, (Assistant Secretary General of the United Nations), Christian Friis-Bach (Under Secretary General of the United Nations), Geoffrey Hamilton (Chief, UNECE PPP Programme), Gabriel Sipos (Transparency International), Nan Buzard (Executive Director, International Council of Voluntary Agencies), David Nabarro (UN Special Advisor on 2030 Agenda for Sustainable Development), James Stewart (Chairman, UNECE PPP Business Advisory Board), Pedro Neves (Member of the UNECE PPP Business Advisory Board).

For a change, the meeting did not include for tea, coffee, lunch and cocktails!