Roads & Buildings Department
Second Gujarat State Highway Project
A World Bank Assisted Project

GSHP-II

ISSUE 10 | Jan-Mar 2018

LEADS PROJECT NEWSLETTER

PROJECT DEVELOPMENT OBJECTIVE

' Improve capacity, and enhance quality and safety of road services for the users of the core road network of state highways in Gujarat, through institutional strengthening and efficient contracting and financing strategies. '

- **A** Civil Works
- **B** Institutional Development
- **C** Road Safety

Project Size :	Duration :
19,380 m INR	2014-2019

OVERALL PROJECT PROGRESS

Financial Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Project Duration							5 Years
Till Date							4.3 Years
Disbursement							175 M USD
Till Date							59.92 M USD

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INTERIM TECHNICAL MISSION

World Bank (WB) Team visited Gujarat during the month of February, 2018. During the mission the progress of all the three components of Second Gujarat State Highway Project is reviewed.

Also discussed about extension of GSHP-II to utilize savings in loan. In this context PIU proposed additional corridors under component A1 - Civil Works.

WB officials visited the proposed additional corridors before considering for finalisation of the project extension.

Discussion at R&BD-PIU, Gandhinagar

Site Visit - Additional Corridors

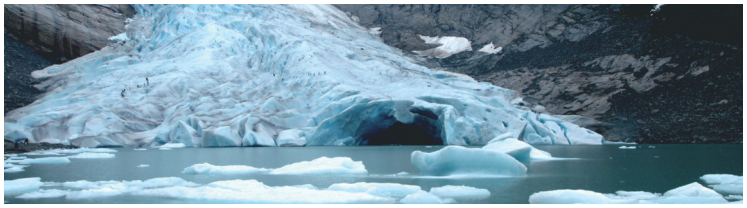
Site Vist Mehsana-Himmatnagar 4Laning Work under DBFOMT Annuity.

" I measure the progress of a community by the degree of progress which women have achieved"

~ Dr. B. R. Ambedkar

LEADS *ThinkSpace*

Climate Change and Adaption



Climate Change and its impact on human life and atmosphere has become one of the most important topics of discussion these days. The world is getting increasingly warmer every day. Statistics[1] indicate that the average global temperature for 2016 was 0.94°C (1.69°F) above the 20th century average of 13.9°C (57.0°F), surpassing the previous record warmth of 2015 by 0.04°C (0.07°F). Increased rainfall/snowfall prolonged droughts, storms have become a common phenomenon in major parts of the world creating a devastating impact on day to day life of people.

Climate change is predicted to intensify the severity of extreme weather events[2]. Capital assets and infrastructure such as public amenities, industries, transportation systems, and reservoirs are being lost. The impact on transportation systems mainly roads during the time of disasters creates a havoc on human life and related systems. Looking at the importance amongst other transportation systems, road transportation provides connectivity to remotest place of the nation.

Hence roads are considered as one of the most important assets for developing as well as developed countries. In India, the budget allocation for road development is witnessing a steep increase every year (24% higher than previous year (2016-17)). The Government of India is also committed in the improvement of road connectivity through various flagship programs such as NHDP, Bharatmala, Sagarmala, and PMGSY etc. Alongside development, India has also witnessed major climatic and natural disasters in the past 15-20 years including Gujarat earthquake (2001), Tsunami (2004), Uttarakhand flash floods (2013), Kashmir floods (2014), Chennai floods (2015), Gujarat Floods (2017), etc. causing damage of infrastructure, mainly road connectivity, thereby leading to spending huge amounts on replenishment activities increasing the economic burden on State as well as Central Governments.

To overcome such extreme climatic conditions, time has come to develop/design/construct **Climate Resilient Roads.** Development of Climate Resilient Roads stands by the famous saying, ***"Prevention is better than Cure".***

> In 2013, a study conducted by the World Bank states that **from 1980 to 2012, disaster-related losses amounted to US$3,800 billion worldwide. Around 87% of these reported disasters (18,200 events), 74% of losses (US$2,800 billion) and 61% of lives lost (1.4 million in total) were caused by weather extremes[3].**

Thus the agencies/institutions involved in designing and developing of road infrastructure need to take into account climate change factors at each stage of development. It is essential that Road Development Authorities shall work in tandem with line Departments and also shall take a pivotal role (figure) in preventing and mitigating the damage to infrastructure.

Rigorous R&D is the need of the day to understand the nature of climate change and developing resilient designs and materials which can adapt/sustain to worst climatic factors. The new road development programs as well as retrofitting of existing roads shall be planned by adopting climate resilient designs for sustained future.

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[1] *Source: www.climate.gov/news-features/understanding-climate/climate-change-global-temperature*

[2] *Source: https://unchronicle.un.org/article/economic-recovery-after-natural-disasters*

[3] *Source: Building Resilience, Integrating Climate and Disaster Risk into Development, The World Bank Group Experience, 2013.*

[4] *Source: Climate Resilience and Road Innovations in Rural Roads Program in India, The World Bank (2018)*

STAKEHOLDER'S SPACE

RKC Infrabuilt Pvt. Ltd. are the Concessionaire for developing Mehsana - Himatnagar State Highway to 4-Lane divided facility under modified annuity - DBFOMT basis as part of GSHP-II. Wherein Green Highway is also getting piloted.

RKC Infrabuilt is a fast growing infrastructure company aspiring to establish its unique place in the field of Highway Construction. Its moto is to give overwhelming satisfaction to its clients through completion of Projects of highest quality in shortest possible time. We are therefore always on lookout for such challenging Projects and are happy to report that we got one such Project in Development and Upgradation to four laning of existing two lane Mehsana Himmatnagar road, SH 55. As part of GSHP-II, in addition to being any other four laning road work, it contains certain unique features such as:

- Solar Powered Street Lights.
- Solar Fountains at six locations.
- Cattle Crossing Zones.
- Warm Mix Asphalt intervention piloting.
- Use of recycled pavement in new construction.
- Solid Waste Management.
- Environmental foot print and GHG Measurement.
- Provision of Noise Barriers near schools / colleges / hospitals / residential area / old age home etc.
- Silt Traps and rain water harvesting structures and Oil interceptors.
- Enhancement measures at two religious places along the project Highway
- Landscaping, provision of creepers, turfing etc.

The work has been bid out on Design, Build, Finance, Operate, Maintain and Transfer basis. Wherein the developer has not to only design and build the road but to operate and maintain it for 10 years in compliance with stiff parameters. We had to invest in future technologies, innovative work methodologies to implement above mentioned project along with Green Initiatives.

As a part of DBFOMT project and in order to make an economical and durable design, we carried out afresh all engineering surveys and prepared a design in full compliance to the laid down specifications and standards. Simultaneously we also looked around the world construction machinery market to search for latest machines and technologies which meets with highest standards of quality control and whose rated output is appropriate for completing the work in stipulated time limit. The search resulted in our acquiring a variety of machineries, some of which was being procured for the first time in the country by a construction company. The list includes asphalt pavers with self-compacting screeds, machines for 3D paving, soil stabilizers, slip form pavers etc.

Use of latest Machinery in construction

Our foresight in procuring latest machinery paid dividend. We could maintain a very fast pace of execution in all pavement layers, Warm mix Asphalt, milling of existing pavement layer and its reuse in new pavement, RCC median barrier which is New Jersey type 800 mm high structure.

Availability of Hindrance free site

It has been our experience that in any Highway Construction Project the predominant impediment is non-availability of hindrance free site. However to our great surprise and big satisfaction we found that the almost complete hindrance free site was made available to us from day one, and for which all credit should be given to the R&B department. This enabled us to maintain a steady pace of execution without any delay or disruption.

Role of Consultants

The other noteworthy feature of the bid was preparation of a very detailed and comprehensive project report by the DPR consultant. Their initial study and investigations led to smooth execution of works with major foreseeable issues already taken care of before we came to the site. Further appointment of Project Management Consultant by R&BD, ensured prompt resolution of unforeseen issues faced by both the Client and the Concessionaire. Appointment of a competent Independent Consultant by R&BD, has helped us for fine-tuning of our innovative construction methodologies. The Consultants in the project have been true catalyst between R&BD and the Concessionaires efforts to deliver a good project.

Provisions in the Concession Agreement

As described above, our agreement was a bit different compared to other model PPP project agreements. For instance, provision of completing works in continuous stretches of length has paid rich dividends. This provision coupled with our methodology led to least disturbance to the communities along the project Highway.

The appointment of Facilitating Agency led to detailed interactions with communities living along the highway. Small and low cost interventions for Solid Waste Management, Cattle Crossing and road safety has sensitized these communities to take care of the assets and facilities provided by the Government.

The list of lessons learnt is huge and has infused a new confidence in our team. We would sincerely like to thank the World Bank, R&BD, and the Consultants associated with the project for the support and cooperation we have received while working on this project.

~ RKC Infrabuilt Pvt. Ltd.

HIGHLIGHTS

CIVIL WORKS

- Continued with Joint Review and Way Forward Action
- SCDP progressing as per the milestones
- ICB-01-MH-DBFOMT work on the verge of completing milestones

CONSULTANCIES

- CSC continued with inputs for NCB-01
- IC contributing towards achievement of MH milestones
- IDAP-1: GOG accorded approval to New Road Sector Policy
- IDAP-2: Continued with training and capacity building
- IDAP-3 : Successfully conducted 1st Advance Seminar and Workshop on sustainable development of Road Infrastructure

PROCUREMENT

- OPRC : Procurement Initiated
- Road Safety Policy Consultant : Issued RFP to short-listed bidders, Pre-bid Conference held
- Upgradation of new web based GujRAMS: Procurement under process

PROGRESS

CIVIL WORKS

NCB-01
Dabhoi-Bodeli and Amod-Karjan
NG Projects Ltd. JV Tarmat Ltd.
PHY 94.58%
FIN 92.31%

ICB-01
Mehsana-Himatnagar
RKC Infrabuilt Pvt. Ltd. in JV with Chetak Enterprise Ltd.
PHY 65.00%

PHY
Physical Progress

FIN
Financial Progress (Civil Works)
Fees Disbursed (Consultancy)

Progress As On March 2018 End

CONSULTANCIES (Fees Disbursed)

PMC
LEA Associates South Asia Pvt. Ltd
FIN 83.40%

CSC
Stanley Consultants Inc.
FIN 88.70%

IDAP-GAAP 1
LEA Associates South Asia Pvt. Ltd
FIN 75.00%

IDAP-GAAP 2
ICT in JV with PWC
FIN 72.00%

IDAP-GAAP 3
Deloitte Touche Tohamatsu India Pvt. Ltd. in JV with CEG Ltd.
FIN 50.30%

Internal Auditor
Agarwal & Dhandhania
FIN 88.50%

OPRC
Feedback Infra Pvt. Ltd. in JV with Dong Myeong Engg. Consultants & Arch. Co. Ltd.
FIN 13.10%

IC
Sheladia Associates INC
FIN 27.20%

RAP-IA
Dr. Snehal Parmar
Independent Consultant
FIN 27.80%

WAY FORWARD

- OPRC Award and Execution
- Expedited ROB and SCDP-CW-1 progress
- Accomplishments on MH-DBFOMT
- Goods and Equipment Procurement
- Expedition of Procurement of TA-RS and GujRAMS

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