

IDEAS AND SUGGESTIONS FOR INTEGRATING HEALTHCARE & HOSPITAL INFRASTRUCTURE WITH THE CONTINUED SUCCESS IN ROADS & HIGHWAYS DEVELOPMENT

**- A RESEARCH PAPER PROMOTING BALANCED ECONOMIC DEVELOPMENT & HOLISTIC
HEALTH GROWTH FOR INDIA ESPECIALLY IN THE POST COVID 19 PANDEMIC SITUATION.**

IJSER

Written by:

DINESH BANDIWADEKAR

Founder & Director: The Engineers Forum and Persona Skill Development Institute
FLAT 53, B-WING PEREIRA NAGAR BLDG 7 C.H.S.; KHOPAT, THANE (W), PIN 400 601 INDIA

May 16, 2021

**IDEAS AND SUGGESTIONS FOR INTEGRATING HEALTHCARE & HOSPITAL INFRASTRUCTURE
WITH THE CONTINUED SUCCESS IN HIGHWAY DEVELOPMENT**

Author: Dinesh Bandiwadekar 91- 9619545460 dinesh.bandiwadekar@gmail.com

IJSER © 2021

<http://www.ijser.org>

ABSTRACT

THIS PAPER FOCUSES ON HOW WE SHOULD EFFECTIVELY UTILISE THE HIGHWAYS AND RELATED CIVIL ENGINEERING INFRASTRUCTURE BEING SUCCESSFULLY DEVELOPED- FOR THE MUCH NEEDED GROWTH AND DEVELOPMENT IN HEALTH CARE. IT WILL BE HIGHLY IMPERATIVE THAT INDIA BUILDS MORE MEDICAL FACILITIES INCLUDING LARGE AND SMALL PUBLIC / GOVT. HOSPITALS, PRIMARY AND SECONDARY HEALTH CARE FACILITIES. THIS NEEDS GOVERNMENT SUPPORT IN TERMS OF LAND, BUILDINGS, MEDICAL PERSONNEL, AND THEIR TRAINING COLLEGES IN THE FIRST PLACE. THE CIVIL INFRASTRUCTURE FOR HEALTH CARE IS EXTREMELY LACKING IN INDIA, AND CREATION OF THIS WILL IN TURN SET THE PACE FOR OTHER DEVELOPMENTS FOR SETTING UP MEDICAL EQUIPMENT, FACILITIES, HOSPITAL BEDS, SURGICAL UNITS AND OTHER RELATED EQUIPMENT. THERE HAS TO BE SOME ESTABLISHED GOVERNMENT BODY THAT DRIVES THE ENTIRE PROCESS OF CREATING A HEALTH INFRASTRUCTURE FIRST.

Items that are discussed more specifically are as under:

- Leveraging current /existing development and fresh investments in the form of infrastructure to kick start further health care growth on an all India basis.
- Leveraging infrastructure growth with healthcare mechanism
- Promoting growth and accessibility of medical facilities from a health perspective.
- Creating benefits for creating health care facilities to spur development by using the already well done highway infrastructure
- Creating hubs for medical excellence along with highway development.
- The paper takes the liberty of proposing multiple but closely related issues as listed above which should be possibly considered by the Government for further improvement and mainly swift improvement of our country.
- Especially it is to be noted that overall, India's public health expenditure (sum of central and state spending) has remained between 1.2% to 1.6% of GDP between 2008-09 and 2019-20. This expenditure is relatively low as compared to other countries such as China (3.2%), USA (8.5%), and Germany (9.4%).

Some of the main developments proposed are

-MEGA HOSPITALS WITHIN 10 KMS OF NH /SH FROM A CITY IN SINGLE/ MULTIPLE DIRECTIONS TO BE BUILT BY GOVERNMENT ON ANY RELEVANT PPP FORMAT/ ON ITS OWN

-MINOR HEALTHCARE CENTRES/ HOSPITALS TO BE BUILT ON STATE HIGHWAYS / DISTRICT ROADS

-MINI HOSPITALS THAT NEED TO BE BUILT ON RURAL ROADS

-PROPOSING AN INDEPENDENT HEALTHCARE CONSTRUCTION AUTHORITY OR ONE IN ASSOCIATION WITH AN EXISTING PERFORMING BODY – SUCH AS THE NHAI- (NATIONAL HIGHWAY AUTHORITY OF INDIA, FOR QUICK AND TIMELY FACILITATION OF HOSPITAL CONSTRUCTION)

KEYWORDS

India, healthcare, hospitals, development, medical infrastructure, hospitals, highways, roads, Income Tax, decongestion, leveraging existing development in roads and highways, growth, medical, Covid-19

INTRODUCTION

Most people know that the greatest difference between the functioning of many developing nations including India and the developed world is that Governments of the developed nations have proportionately a far higher investment in health care in their developmental budget. How do nations like India take care the medical and hospitalisation needs of its huge population? Are there ways of planning out a workable and fast medical infrastructure without burdening the corporate or individual payer and how can we leverage real time growth fast paced enough to meet another pandemic? The issue is not only of a pandemic like Covid-19, or any pandemics to follow, but of augmenting our healthcare abilities in any case.

1.0 Some important statistics related to India.

India is the second most populous country in the world, with a population of 135 crore (1.35 billion) people. In 2019, about 26.62 percent of the Indian population was in the 0-14 year category, 67 percent into the 15-64 age group and 6.38 percent were over 65 years of age. India is one of the largest countries in the world and its population is constantly increasing. It is the world's sixth-largest economy by nominal GDP and the third-largest by purchasing power parity (PPP).^[43] According to the International Monetary Fund (IMF), on a per capita income basis, India ranked 142nd by GDP (nominal) and 124th by GDP (PPP) in 2020. India is the world's largest manufacturer of generic drugs, and its pharmaceutical sector fulfils over 50% of the global demand for vaccines.

2.0. Movement of population into cities, a global and Indian phenomenon

By 2050, the global population is projected to increase to around 9.8 billion. It's estimated that more than twice as many people in the world will be living in urban (6.7 billion) than in rural settings (3.1 billion).i.e. 2/3 rd of the world will be living in cities. The same matches with the situation in India. This movement of people to cities can trigger a health crisis in time to come, especially during any pandemic.

Have a look at the current scenario in India:

- 350 million (35 crore) Indians will live in the cities by 2030
- 700 million (70 crore) Indians will live in the cities by 2050 (2 times the current entire current population of the USA)
- To accommodate these people India needs 100 to 200 new cities / towns/ satellite towns
- In India farming accounts for 58% of India's population, but accounts for only 14% of its GDP.
- To survive, Indian needs to grow at 8% but agriculture can only sustain growth at 3%. It is inevitable that millions of Indians will move from villages to the cities for employment, daily wages and lower level jobs.
- When we decided to create 100 Smart Cities, urbanisation was considered as an important and unavoidable necessity and for which smart cities were thought of as a solution.

3.0 Allotment of funds for Health Care through budgets

The Indian government budget 2021 increased the spending on healthcare by 137%, only due to the sudden impact of Corona/ Covid 19 pandemic. The increased spends on the healthcare sector through PM Atmanirbhar Swasth Bharat Yojana will improve infrastructure, and is in line with industry expectations of 2.5%-3% of the GDP, and also the GDP National Health Policy 2017 target of 2.5% by 2025. The past spends were to the extent of just about 1 percent or a little more.. While presenting the Union Budget 2021 India's Hon. Finance Minister Nirmala Sitharaman proposed an allocation of Rs. 2,83,846 lakh crore for the healthcare and wellness sector.

Mrs. Sitharaman also announced the launch of Aatmanirbhar Swastha Bharat Yojana with an outlay of Rs 64,180 crore, which will be used for developing primary, secondary, and tertiary healthcare over a period of six years. The funds will be utilised for developing healthcare systems and develop institutions for the detection and cure of new and emerging diseases.

Apart from the launch of Aatmanirbhar Swastha Bharat Yojana, Finance Minister Nirmala Sitharaman also proposed setting up 17,000 rural and 11,000 urban health and wellness centers while presenting the budget.

4.0 The Main Question:

Despite the above schemes announced the main question remains as to how we can urgently implement action to create new and adequate major/ minor hospitals and primary health care centres and all the new initiatives. The question remains of implementation and execution and delivery, something that the country has always lacked in, except some niche area or projects. What is needed is action to deliver and not just budgetary allocation and planning

5.0 INDIA HEALTH CARE BUDGET OVER THE YEARS

Some of the major initiatives taken by the Government of India to promote Indian healthcare industry are as follows:

- In the Union Budget 2021, investment in health infrastructure expanded 2.37x, or 137% YoY; the total health sector allocation for FY22 stood at Rs. 223,846 crore (US\$ 30.70 billion).
- The government announced An allocation of Pradhan Mantri Aatma Nirbhar Swastha Bharat Yojana with an outlay of Rs 64,180 crore over next six years to ramp up primary, secondary and tertiary level care institutions in the health system, existing national institutions, create new institutions, to cater to detection and cure of new and emerging diseases. This will be in addition to the National Health Mission.
- Health and Wellness Centres: The budget targets to improve 17,000 rural and 11,000 urban health and wellness centres
- In Union Budget 2021-22, the government announced its plans to launch 'Mission Poshan 2.0' to merge 'Supplementary Nutrition Programme' with 'Poshan Abhiyan' (Nutrition Mission) in order to improve nutritional outcomes across 112 aspirational districts.
- The Government of India approved continuation of 'National Health Mission' with a budget of Rs. 37,130 crore (US\$ 5.10 billion) under the Union Budget 2021-22.
- In the Union Budget 2021, the Ministry of AYUSH was allocated Rs. 2,970 crore (US\$ 407.84 million), up from Rs. 2,122 crore (US\$ 291.39 million).

5.1 Where does India stand as far as budgetary spends on healthcare is concerned over the years

- India is among the countries having the lowest public healthcare budget in the world, with the public healthcare system in the country merely getting 1.26% of the total GDP.
- Compare this with countries like the United Kingdom, Netherlands, New Zealand, Finland and Australia where all these countries spend over 9% of their total GDP in public healthcare system, while countries like the United States spends over 16% of their GDP in public healthcare, and Japan, Canada, France, Germany and Switzerland spend about 10% of their total GDP on public healthcare.
- Even some of the developing countries of the world have more contribution towards the public healthcare system with regards to their GDP compared to India. For example, Brazil has

a total budget of over 8% of its total GDP towards public healthcare expenditure. Even neighbouring countries like Bangladesh and Pakistan have over 3% of their GDP going towards public healthcare system.

5.2 Let us compare two very important areas of growth Health Care and the Highways sector

India: A comparison between Allocation for Health V/S for Allocation for Highways

(All values in INR Crore) Typical conversion factor as in May 2021 is USD 1 = INR 73

The emphasis of this chart is on depicting percentage spends of total.

Year	Allocation for Health (INR) crores	Percentage share of the total budget %	Allocation for Highways (INR) crores	Percentage share of the total budget %	Overall Budget for the year(INR) crores
2014-15	33121.42	1.8	28881	1.6	1794892
2015-16	30626.39	1.7	42914	2.4	1777477
2016-17	37671.3	1.9	55000	2.7	1978000
2017-18	51550.85	2.4	64900	3	2147000
2018-19	52800	2.1	71000	2.9	2442213
2019-20	62398	2.2	83015	2.9	2786349
2020-21	69000	2.0	91823	2.6	3450205
2021-22	223846 (post Covid	6.42	108230	3.1	3483236

Though the percentage utilisation compared to the total budget outlay remains comparable and really small, the figures seem to have done great justice to the highway development in the country, whereas the figures/ investments in healthcare seem to have totally gone off track and are inadequate. We have not reviewed the figures / investments in overall infrastructure as many areas of investments such as ports/ airports/ water supply/ waste water etc. may not be relevant for utilisation for healthcare infrastructure. The question of actual implementation of funds into action is yet another issue, just like the planning of a large project is one subject matter and the actual delivery of a project is yet another thing.

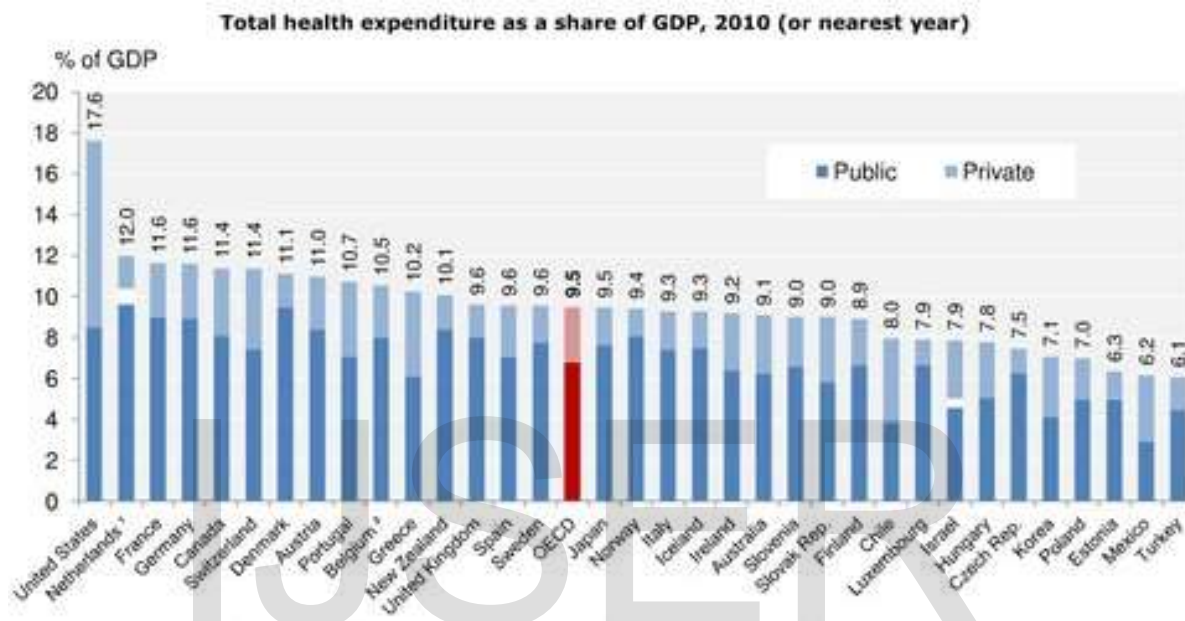
If the Indian budget for healthcare is going to be around even 5% hence forth of its total , you have the possibility of a spending of around INR 200,000 crores every year on healthcare. A large part of that is going to be mostly green field projects in physical or civil infrastructure for hospitals. The average spend in the last 5 years of the budget on health care was approximately only INR 45,000 crores every year. How will the healthcare officials manage quickly ramping up greenfield hospitals and new health centres, or even refurbishing of hospitals on a massive scale with a newly allocated budget 3 times that they have? Their experience needs assistance from an established government body at a national level -example: NHAI, that is adept at quickly moving projects to completion that will include land acquisition, design and construction, handover, and accessibility guarantee to millions of Indians. This massive initiative will involve dealing with thousands of large and small contractors, consultants and hospital specialists, who need to be deftly handled in technical, commercial and project management areas.

The **National Highways Authority of India (NHAI)** is an autonomous agency of the [Government of India](#), set up in 1988 and is responsible for management of a network of over 50,000 km of [National](#)

Highways out of 1,32,499 km. NHAI is mandated to implement the National Highways Development Project (NHDP) which is India's largest ever Highways Project in a phased manner. The National Highways have a total length of 1,32,499 (approx.) km to serve as the arterial network of the country.

The allocation for highways on the last budget is INR 108230 crores of which NHAI has a major responsibility of executing projects. It would be appropriate that all the capacity building for civil construction for healthcare sector could be entrusted to NHAI as a lot of synergy would be created between highway development and the healthcare sector

5.3 Comparison between countries as regards health cost v/s GDP



Just for comparison sake, and to get an idea of how less India spends, the following information is relevant. The U.S. is a very rich country, but even so, it devotes far more of its economy — 17.6 percent of GDP in 2010 — to health than any other country. The Netherlands is the next highest, at 12 percent of GDP, and the average among OECD countries was almost half that of the U.S., at 9.5 percent of its GDP

Even Mexico, Turkey & Hungary spend more on health care in terms of GDP than India. Where does the momentum need to be in health care movement in India? It will be highly imperative that India builds more medical facilities including large and small public / govt. hospitals, primary and secondary health care facilities. This needs government support in terms of land, buildings, medical personnel, their training colleges in the first place. The civil infrastructure for health care is extremely lacking in India, and creation of this will in turn set the pace for other developments for setting up medical equipment, facilities, hospital beds, surgical units and other related equipment. There has to be some established government body that drives the entire process of creating a medical infrastructure first.

6.0 India is a place where mega projects are getting built, but did hospital infrastructure get left behind all these years? And what is a quick way out of that?

Some of the older construction projects planned and now in execution are the Delhi Mumbai Industrial Corridor -originally conceived in the year 2009. (Cost approx. USD 100 billion / INR 700,000 Crores approx. with a length of 1483 km) which is required for the industrial growth of the nation. Another one is the Dholera Smart City or Dholera Special Investment Region (cost USD 5.70 billion or approx.

Rs. 40,000 crores), planned long time ago. This project of course has hospitals in it but the healthcare facilities will come up much later.

We still have a laundry list of investment projects coming up. Who will be investing in the manufacturing in these proposed industrial areas is possibly going to be a major issue, if there is no demand in the first place?

Some of the projects discussed above are individually costing more than the nation's entire health care budget. We have to rethink whether our infrastructure investments are in line with the priorities of our population and where did the infrastructure investments in healthcare get lost. Generally the health care budget has been a fraction of the total budget (say 2%) , and the healthcare budget has been just about 70% of the budget for highways.

Now is the time to think and link a very fast and successful vehicle moving forward (i.e the highways) with something that needs hand holding and assistance and ensure actual delivery of what is needed for the healthcare. To explain in layman's terms, a basic method would be to ensure hospital hubs of different types all along the highway- existing and planned within 5 kms. of any side of the toll booths created. Wherever possible infrastructure can be created and wherever plan are to be made, such an idea is to be incorporated. NHAI/ State Highway bodies / and other bodies have mastered the art of and procurement, contracts, leases and PPPs and they can fast leverage their expertise into action. Also one National body involved in the entire operation can perform faster and better with ownership of existing highway assets in a big way.

7.0 Phenomenal growth in road infrastructure already achieved to be leveraged into quick development for medical health care facilitation

We must note that we have already built around 50,000 kms. of highways in the last 7 years. The construction of highways reached 9,829 km during 2017-18, with an all-time high average pace of 27 km per day. Just 3 years later, 2020, NHAI itself built on a commendable average of 37 km of highways per day. By March 2020, India built 1,37,625 kms. of highways compared to only 91,287 kms in April 2014. The National Highways Authority of India (NHAI) recently achieved a major feat by building a four-lane highway of 2,580 metres length within 24 hours, creating a world record.

Under the Union Budget 2021-22, the Government of India has allocated Rs. 108,230 crore (US\$ 14.85 billion) to the Ministry of Road Transport and Highways.

The NHAI awarded 1,330 km of highways in the first half of FY21, which was 1.6x of the total awards in FY20 and 3.5x of the FY19-levels. NHAI, the nodal authority for building highways across the country, has set a target of awarding 4,500km of projects in FY21.

In February 2021, The Minister for MSMEs and Road Transport & Highways Mr. Nitin Gadkari approved construction of the 158-kms ring road worth Rs. 10,000 crore (US\$ 1.37) in Telangana.

In December 2020, the MoRTH (Ministry of Road Transport & Highways)proposed to develop additional 60,000 kms of national highways (in the next five years), of which 2,500 kms are expressways/access controlled highways, 9,000 kms are economic corridors, 2,000 kms are coastal and port connectivity highways and 2,000 kms are border road/strategic highways. The ministry also intends to improve connectivity for 100 tourist destinations and construct bypasses for 45 towns/cities.

The Government, through a series of initiatives, is working on policies to attract significant investor interest. A total of 200,000 km of national highways is expected to be completed by 2022.

In the next five years, National Highway Authority of India (NHAI) will be able to generate Rs. 1 lakh crore (US\$ 14.30 billion) annually from toll and other sources.

7.1 An example at the state level:

The state of Maharashtra which is building the Mumbai-Nagpur Samruddhi Expressway, at a cost of Rs. 45,000 crore (approx. USD 6 billion) is one of the most industrialised states of India, and has already built 225 industrial complexes on 1,300,000 acres (5,300 km²) of land over the last 60 years, and most of which are already functional . The state's Maharashtra Industrial Development Corporation (MIDC), has already developed specialized parks for different industrial sectors, including IT, BT, wine (grape processing) Park, Silver Zone, gems and jewellery, textiles, leather, chemical industry, electronics, food processing, floriculture etc. We must also note that there are 30,000 kms. of state highways and 6000 kms. of National Highways already in the state. If the presence of so many industrial estates and an extensive highway network has not created enough employment avenues, possibly more highways and industrial areas is not the answer to economic development. May be we need more manufacturing or service level activity to counter this issue. May be we need to divert funds into healthcare and divert land into state health care construction and also convert industrial estates into health estates along the highways.

8.0 Examining improvement and developments in economy due to highway sends- global research and allotting/ earmarking funds from highway projects into investments in healthcare infrastructure

8.1 Worldwide, highways are built to connect people and creation of jobs and boost economic development. In India it is the same, but perhaps the last two objectives are not being achieved, the way they were originally expected to.

8.2 In a research paper presented way back in the Journal of Advanced Transportation, Vol. 21, Spring 1987, based on work being performed at the University of Minnesota under contract to the Minnesota Department of Transportation; titled HIGHWAY IMPACTS ON REGIONAL EMPLOYMENT, the time-series analysis presented indicated that increases in highway expenditures do not, in general, lead to long term increases in employment levels. During the years of construction, employment levels do increase. However, this effect is only temporary and disappears when the construction ends. In conclusion, generally, changes in highway expenditures do not cause changes in total employment. Hence there have to be other methods of driving economic growth and employment to ensure investments in highways will ensure local development, and not just help move goods better and faster between two places.

8.3 In a research report on ECONOMIC DEVELOPMENT BENEFITS OF TRANSPORT INVESTMENT published in 2008 by Ian Wallis, Booz and Company (NZ) Ltd (formerly Booz Allen Hamilton, Ltd) Auckland, New Zealand for NZ Transport Agency Research (Report 35) the conclusions and observations were summarised as under :

- Evidence of a 'special role' played by transport infrastructure investment for economic growth (as opposed to the growth generated by other public spending, such as on education or health) is limited. The high rates of return to transport investment claimed by some past studies are likely the result of statistical correlation or other model specification issues.
- Likewise, there is nothing 'special' about investment in transport infrastructure from a regional perspective. While there is some evidence regarding the responsiveness of growth to investment in

transport infrastructure, this is no less true than other forms of public spending. It is unlikely that investment in transport infrastructure will have dramatic effects on regional economies.

- In general, development of transport infrastructure is a necessary, but not a SUFFICIENT condition for national and regional economic development and growth.
- The incremental economic gains of further investment in transport infrastructure in developed economies are likely to be small. Arguably, there is a spectrum within which some developed economies may experience greater gains more than others, but solid evidence to this effect is lacking.

8.4 A research paper on HIGHWAY INFRASTRUCTURE AND THE ECONOMY- IMPLICATIONS FOR FEDERAL POLICY, published in 2011 by the well known RAND Corporation in the USA, confirms that broad measures of public infrastructure have a positive and significant effect on economic outcomes, and that highways have such an effect on productivity and output specifically. However, it also observed that studies often do not take the next step of calculating whether the benefits stemming from the infrastructure outweigh the costs of building it. It also observed that private capital investment tends to have larger effects on economic outcomes than public capital investment or highway investment, although the public investment can serve as a complement to the private investment. In this connection, it has become really important that we must have some practical and rational ways of measuring the economic changes that the highway or overall government investments in transport infrastructure bring in to the economy of a particular region. A solution would be to promote hospital infrastructure along all types of highways

A methodology is proposed in the next few paragraphs for executing a change

9.0 Linking Highway Growth with Healthcare facilities

The entire budget for health care for 2020-21 was just Rs 64,000 crore, while the outlay for roads is a phenomenal Rs. 91,000 crore for another 20,000 kms to be built. The government has allocated ₹1,70,000 crore as budgetary allocation for the transport sector for 2020-21. This includes investment in roads, railways, shipping, ports and civil aviation. Unless you link health care investment as a percentage of infrastructure investment, you are not reaching to the masses across India. If we are planning infrastructure development across the nations, health care has to be linked to it. So for every 100 kms of highways built, an healthcare facility built such as hospitals, primary health care centres in the new areas that are going to develop because of the infrastructure.

10.0 RECOMMENDED STAGES FOR IMPLEMENTATION

10.1 First stage (developmental stage) : Exempt builders and developers from taxes if they set up office complexes for rent/ selling, and hospital parks in designated areas far from cities, and in the earmarked hospital code zones on the highways.. (Set a 5 year time frame from date of commencement of road project construction to building a complete hospital) .Smart cities have to be included in this initiative if they are green field projects and at least 100 km away from existing cities. Example: For say every 50 kms. -->The entire master planning must be driven by the NHAI itself, though local bodies will ensure engineering and architectural compliance. Tax benefits to those investing in greenfield smart cities is also a must.

10.2 Second stage: (Investment stage) Anyone investing in hospital infrastructure in these locations will get GST benefit. (5 year time frame from date of completion of road project construction)

10.3 Third Stage(Delivery/ Output stage) I.T. benefits will be applicable only for specific investments made / outputs from earmarked locations . (Set a 5 year time frame from date of commencement of the hospital project for tax free status)

11.0 Making a new developmental body that includes NHAI / NHHAI/ NHDA to drive integrated development (Highways and industries / healthcare combined)

Acronyms: NHAI: National Highways Authority of India,

Proposed: NHHAI: INDIA must consider a National Highway & Health Authority of India, NHIDA:OR India must consider a National Health Infrastructure Development Authority of India. The proposed NHHAI or NHDA could be subsidiaries of NHAI to integrate health care infrastructure development.

We have multiple bodies dealing into various objectives of development. We have Urban Local Bodies, Municipal corporations, Zilla Parishads, and now we have Smart Cities (and the SPVs created) , and we have the state PWDs / road development corporations in the business or process of developing roads . An integrated plan for development of roads, specially with health care, industrial corridors / hubs and real estate investment or even FDI needs to be driven by one organisation. NHAI as a national organisation with a fantastic delivery record, could be entrusted with a wider task and made responsible as an overall development authority for healthcare. A formula for driving calculated growth through investment in roads and highways with hospitals/ healthcare facilities in tow, associated residential and hostel hubs, all possibly needs to be driven by one single body, perhaps countrywide. The 35 crore (350 million) to 70 crore (750 million) Indians that are going to live into Urban India from 2030 to 2050 need to be spread over 50 to 100 new locations and you where you will need to have healthcare facilities in place.

When we say that 35 crore (350 million) Indians are going to live. Move into urban areas, they are actually going to move to new towns/ suburbs of existing cities and extensions of urban conglomeration that are under way automatically or in an planned manner. They all are going to need medical assistance/ hospitalisation someday. All these locations are actually closer to new highways being constructed. So highways are going to be the new link to healthcare in the years to come.

The focus of government policies and budget was always on public sector. The private health care providers cater to the need of about 60% population in rural and 70-80% in urban areas. Covid pandemic showed the lack of public trust in government hospitals. Second, there is a need to mainstream private sector in public health programmes to achieve public health goals. However the initial movement on a change on this has to originate from the government by creating a basic infrastructure plan in place.

Standardisation of new hospitals and health care facilities across India to cut down on design and development cost and other repetitive time consuming processes and make fast construction of new services possible.

- Setting standardised government hospitals at multiple locations (Say Type 1 , A, B and C, Type 2) depending on population, and so on.
- Setting open spaces for private hospitals (where private bidders can set up their own customised models on free government land acquired on lease , procured by NHAI.)
- Using standardised prefab modules/ manufacturing technology and latest BIM (Building Information Modelling) applications to ensure quick turnaround, and standardised drawings and interiors for mass purchase and cost reduction .

- The technical proposals and commercial proposals should be standardised using latest software and quantity estimation and cost control methods e.g. CADS-RC. This will save time each new hospital project comes up. Standardised tender documents for multiple facilities could be utilised with one tendering body such as NHAH which is adept contract management.
- Private investors should also have master plan ready for implementation even for customised hospital projects, drawn up by major international & local consultants as 100% FDI could be a solution.
- A tender for road development should now incorporate healthcare facilities as per plans as under for developing different types of facilities

TYPE 1: A Would mean Large Government run hospitals approximately 50,000 sq.ft in area handling multiple general medical needs, but within 5 kilometres outside the first toll gate outside the urban areas of large metropolises. (Tier 1 cities) These could be in multiple locations for one city. These will also incorporate medical colleges run by the centre or state boards. It will also include facilities for residences for doctors, nurses and relatives of patients.

TYPE 1 : B Would mean a Medium Scale Government run hospital approximately 25,000 sq.ft. in area handling above requirements but within 5 to 10 kilometres outside the first toll gate outside the urban areas of Tier 2 cities. These could be in multiple locations for one city. These could also include schools for nurses and para medical training.

TYPE 1 : C Would mean a Medium Scale Private run hospital approximately 25,000 sq.ft. in area handling above requirements but within 5 to 10 kilometres outside the first toll gate outside the urban areas of Tier 2 cities. These could be in multiple locations for one city

TYPE 2 : P Would mean open space allotment for private investors. This could be as per plots available near highways and which could be less in number than TYPE 1

TYPE 3: Would mean primary healthcare centres on state highways and rural roads.

11.0 Conclusions:

11.1 While the highways sector is doing a fantastic job by even over exceeding the demands, it is pertinent to link the healthcare budget in terms of its infrastructure creation to the highway budget.

11.2 One sets the process of go /no go of highways (greenfield / brownfield) after a detailed feasibility study is made, and after it is established that the highway is a necessity for the growth of the region. Automatically, hospitals should also logically exist in those locations on the roads/ highways within certain norms set.

11.3 NHAH/State highways act and acquire land and develops hospitals as its extension of activities, within a well defined model(s) such as PPP/ Cash contracts etc. The monitoring and progress of the healthcare facility will be a extra commercial responsibility of NHAH

11.4 Similar to toll collection , NHAH should get a revenue share from those government hospitals which it builds and finances to make a commercial success.

All the above be now be done considering that huge development has already happened in the roads sector and many places are now accessible, which were not earlier. The government has done a commendable job to get so many things in place and we have reached an adequate mass for a take off. To ensure rapid growth of the healthcare for the country it is now essential to mobilise and promote investment in well defined areas in healthcare services, across India.

11.5 If we do not give the healthcare industry the sops to move to cheaper/ accessible destinations at a low cost and close to the population, healthcare initiatives and manufacturing and developments will keep happening at select locations only and migration will keep happening to larger cities for healthcare which are more developed.

11.6 Also, unless we give workable direct and indirect tax benefits to hospital business in earmarked locations, we can rest be assured that large scale migration will keep happening to cities. 100% FDI is permitted in the road sector and similar extension could be thought about for the healthcare part of the investment.

Written by

DINESH BHASKAR BANDIWADEKAR

(All opinions and views are personal ones of the author)

Author information / contact:

- **Dinesh Bandiwadekar, 57**, is a B.E.(Hons.) (Civil) (VJTI -1985)(Mumbai University) graduate, and with a PGDM (IIFT/ 1987)(New Delhi) and PGDM (NICMAR), and holds a Certificate in Engineering Leadership from Rice University, Houston
- Holds qualifications and MOOC certifications from American, British and Swiss universities in Smart City Planning, Management of Smart Urban infrastructure, Financing Major Engineering Projects, Construction & Project Management, and also in Governance, Risk and Scope management,
- Hold a certification in Contract Management from The World Bank
- Has over 30+ years of experience in Civil Engineering/ Consulting / Marketing & International business and has travelled to several countries on business.
- Founder & Director: The Engineers Forum and Persona Skill Development Institute, Thane.
- Author of a book: *Being more than a B.E. (available on Amazon & Flipkart)*
- Contact: Email: dinesh.bandiwadekar@gmail.com / Mob: 91- 9619545460

CONVERSION CALCULATIONS

Approx. conversion: 1 BILLION USD = INR 7000 CRORE

MAIN RESEARCH PAPER REFERENCES (OTHER THAN GOVERNMENT OF INDIA FACTS AND FIGURES):

1. **HIGHWAY IMPACTS ON REGIONAL EMPLOYMENT:** Journal of Advanced Transportation, Vol. 21, Spring 1987, based on work being performed at the University of Minnesota under contract to the Minnesota Department of Transportation.

2. **ECONOMIC DEVELOPMENT BENEFITS OF TRANSPORT INVESTMENT** published by Ian Wallis, Booz and Company (NZ) Ltd (formerly Booz Allen Hamilton, Ltd) Auckland, New Zealand for NZ Transport Agency Research (Report 35), in 2008,

3. **HIGHWAY INFRASTRUCTURE AND THE ECONOMY- IMPLICATIONS FOR FEDERAL POLICY**, published in 2011 by RAND Corporation in the USA

4 **DEMANDS FOR GRANTS 2020-21** <https://prsindia.org/budgets/parliament/demand-for-grants-2020-21-analysis-health-and-family-welfare>

5.UNION BUDGET 2020-21 : UNREMARKABLE FOR THE HEALTH SECTOR
<https://www.downtoearth.org.in/news/health/union-budget-2020-21-unremarkable-for-health-sector-69113>

6. THE ECONOMIC TIMES:OUTLAY FOR THE HEALTH SECTOR

<https://economictimes.indiatimes.com/news/economy/policy/budget-2019-rs-62398-cr-outlay-for-health-sector-rs-6400-cr-earmarked-for-ab-pmjay/articleshow/70092337.cms?from=mdr>

7.OPEN BUDGETS INDIA: <https://openbudgetsindia.org/organization/about/ministry-of-road-transport-and-highways>

8. HEALTHCARE INDUSTRY IN INDIA: <https://www.ibef.org/industry/healthcare-india.aspx>

9. INTERVIEW OF MR. NITI GADKARI Minister for Road Transport & Highways and the Minister of Micro, Small and Medium Enterprises in the Government

<https://auto.hindustantimes.com/auto/news/india-will-spend-rs-15-lakh-crore-to-build-roads-in-next-2-years-nitin-gadkari-41619847120408.html>

10. HEALTH ALLOCATION IN 2021-22 BUDGET A MIRAGE OR A REALITY

<https://health.economictimes.indiatimes.com/news/industry/health-allocation-in-2021-22-budget-a-mirage-or-a-reality/80680305>

11.HEALTHCOSTS- HOW THE USA COMPARES WITH OTHER COUNTRIES

<https://www.pbs.org/newshour/health/health-costs-how-the-us-compares-with-other-countries>

WORDS IN ARTICLE: (including details like the Title/ Author details etc.) : 5923

Date: May 16, 2021
