

# State wise distribution of HRD National Highways funding in India: a preliminary report (Jan 20, 2006)

Chitta Baral

Researcher, Center for promoting an equitable India  
445 S. Lake Mirage Dr. Gilbert, AZ 85233, USA  
[chitta@gmail.com](mailto:chitta@gmail.com), <http://www.equitableindia.org>

Professor in Computer Science and Engineering  
Arizona State University  
Tempe, AZ 85287, USA

[chitta@asu.edu](mailto:chitta@asu.edu), <http://www.public.asu.edu/~cbaral>

(With acknowledgements to Purna Mishra, Manoj Pradhan and Digambara Patra)

*Abstract: In this document we define a notion of HRD National Highways, justify our definition and use Government of India's data to compare how GOI budgets spending with respect to HRD-NHs across various states in India and the glaring disparity associated with it. For example one of our findings is that while the central government spends (in 2005-06) Rs 4.07 on HRD-NH per person in Orissa, it spends Rs 177.12 in Delhi, Rs 105.42 in Uttaranchal, Rs 105 in Arunachal Pradesh, Rs 77.7 in Assam, Rs 33.78 in Himachal Pradesh, Rs 28.10 in West Bengal, Rs 25.12 in Karnataka, Rs 17.79 in Tamil Nadu, Rs 17.09 in Maharastra, Rs 17.08 in UP, Rs 16.2 in Jharkhand, Rs 16.05 in Andhra, Rs 14.5 in J & K, Rs 13.38 in Punjab, Rs 8.52 in Haryana, Rs 7.9 in Kerala, Rs 7.39 in Chhattisgarh, Rs 7.2 in MP, Rs 4.87 in Gujurat, Rs 2.59 in Rajasthan, and Rs 1.87 in Bihar. We then give specific recommendations that will remove the disparity.*

## Introduction

The term national highway (NH) is used with respect to roads in India that are funded by the Government of India and is used for inter-state commerce and travel. These roads link various states, and at the same time give access to quality roads to the residents of states they are located in. They are thus very important for the development of a state.

The term HRD refers to "Human Resource Development." **Among all resources a state can have the most important resource is the Human resource.** The land poor Singapore and Japan and their standard of living are testament to the importance of developing this resource. Thus it is important that the central and state governments of India pay adequate attention to HRD and for balanced development each pay attention to avoid imbalances across parts of the country or parts of the state.

As in the case of NHs the government of India fully funds several higher education institutions through its HRD ministry and has also labeled several institutions as institutions of national importance. Although these institutions theoretically allow equal

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

access to students from all states, like NHs which are used more by the people where the particular NH stretch lies, students in a state where a particular institution is located have more awareness, and more access to it as it is more convenient for them. Moreover, these institutions to some extent already have and in the future are expected to have much more positive economic, social and educational impact in the area they are located in. The success of Bangalore (with IISc), Silicon Valley (with Berkeley and Stanford), Boston (with MIT and Harvard) are testament to this. These institutions are a magnet for educated people and since they employ and educate a lot of minds their presence prevents migration of minds from an area. Moreover by virtue of their status and brand name they attract talent from all over India thus even making otherwise unattractive locations attractive. As a result remote areas get a chance to develop in various dimensions. This has worked quite well in the North East where the central universities have attracted faculty from all over India. On the other hand teachers, and doctors posted to the remote KBK areas of Orissa often quit or maneuver a transfer rather than going there. *Because of the above mentioned importance of these institutions and their fully centrally funded status we refer to the above categorized institutions as HRD National Highways and focus on their distribution.*

### **List of India's HRD National Highways**

By HRD National Highways we refer to:

- (i) the higher education and technical education institutions that are fully funded by the HRD ministry consisting of :
  - a. 18 central universities including IGNOU and Central Agricultural University in Imphal, Manipur (listed at <http://www.education.nic.in/Annualreport2004-05/Techedu.pdf>) and
  - b. Technical institutions supported by the HRD ministry (listed at <http://www.education.nic.in/Annualreport2004-05/Uhe.pdf>), and
- (ii) the institutions of national importance. (listed at <http://www.ugc.ac.in/inside/utype.php?st=Institute%20of%20National%20Importance>)

For 2004-2005 the institutions of type (i) and their budget are listed in <http://indiabudget.nic.in/ub2004-05/eb/sbe58.pdf> and for 2005-2006 these institutions and their budget are listed in the page [http://indiabudget.nic.in/ub2005-06/download\\_index.htm](http://indiabudget.nic.in/ub2005-06/download_index.htm) (part 7, sbe58, sbe90).

The institutions of type (ii) include IITs (that also appear in list (i)), ISI Kolkata, Postgraduate Institute of Medical Education and Research - Chandigarh, All India Institute of Medical Sciences - New Delhi, Sree Chitra Tirunal Institute for Medical

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

Sciences and Technology, Thiruvananthapuram Kerala, National Institute of Pharmaceutical Education and Research – Mohali Punjab, and Dakshina Bharti Hindi Prachar Sabha- Chennai.

**HRD national highways sans the medical, pharmaceutical, Hindi prachar institutions, IGNOU and Central Agricultural University (HRD-NH) and their distribution across Indian states**

The following table shows the distribution of the various HRD national highways across the various states and union territories in India. We show all the HRD-NHs but ignore the medical, pharmaceutical, Hindi prachar institutions and IGNOU in our quantitative calculation. We ignore the medical and pharmaceutical institutes because they would more appropriately come under the heading of ‘Health’ and would be better clubbed together with other central government spending in Health related institutes. We ignore IGNOU because it has study centers all over India. We ignore the Central Agricultural University, as every state has an agricultural university that is at least partially funded by the central government.

In the following we use the 2005-2006 budget pages [http://indiabudget.nic.in/ub2005-06/download\\_index.htm](http://indiabudget.nic.in/ub2005-06/download_index.htm) (part 7, sbe58, sbe90) and the information in the last paragraph of page 143 of <http://www.education.nic.in/Annualreport2004-05/Uhe.pdf> to compute the total budget with respect to these HRD-NHs statewise. We use the population data from the site <http://www.kerala.gov.in/budget2005-6/b12.pdf>. *(Since the budget is given as a lump sum for 6 IIMs, 7 IITs, 18 NITs, 16 central universities, etc., and we could not get hold of data for individual institutions, we have divided them uniformly across each institution class. This would cause a bit of inaccuracy but will still give the broader picture. Hence, we consider this report as a preliminary report. We request anyone with more fine grained data on the budgets to contact us.)*

Sl. No.	State/Union Territory (population in crores)	HRD-NH: HRD national highways sans ... (corresponding budget for 2005-2006 in crores)	HRD-NH Rs per person	Times Orissa
1 <sup>S</sup>	Andhra Pradesh (7.7626)	University of Hyderabad (54.609) Maulana Azad Nat’l Urdu U (54.609), NIT Warangal (15.38) Total = 124.598	16.05	3.94
2 <sup>S</sup>	Arunachal Pradesh (.1142)	North Eastern Regional Inst. of Sc. (12.01)	105	25.8
3 <sup>S</sup>	Assam (2.7533)	Assam University (54.609), Tezpur University (54.609), IIT Guwahati (89.4), NIT Silchar (15.38) Total = 213.998	77.7	19.1

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

4 <sup>S</sup>	Bihar (8.2075)	NIT Patna (15.38)	1.87	0.46
5 <sup>S</sup>	Chhattisgarh (2.0796)	NIT Raipur (15.38) (GEC Raipur has been made to an NIT.)	7.39	1.81
6 <sup>S</sup>	Delhi (1.4839)	University of Delhi (54.609), Jamia Islamia (54.609), JNU (54.609), IIT Delhi (89.4), SPA Delhi (9.6), AIIMS Delhi, IGNOU Total = 262.83	177.12	43.52
7 <sup>S</sup>	Goa (.1379)	0	0	0
8 <sup>S</sup>	Gujarat (5.2628)	IIM Ahmedabad (10.25), NIT Surat (15.38) Total = 25.63	4.87	1.2
9 <sup>S</sup>	Haryana (2.2118)	NIT Kurukhetra (15.38) NITTTR Chandigarh (half = 3.47) Total = 18.85	8.52	2.09
10 <sup>S</sup>	Himachal Pradesh (.6269)	NIT Hamirpur (15.38) Indian Institute of Advanced Studies (5.8) Total = 21.18	33.78	8.3
11 <sup>S</sup>	Jammu & Kashmir (1.0603)	NIT Srinagar (15.38)	14.50	3.56
12 <sup>S</sup>	Jharkhand (2.6909)	Indian School of Mines, Dhanbad (19.95) NIT Jamshedpur (15.38) NIFFT Ranchi (8.31) Total = 43.61	16.2	3.98
13 <sup>S</sup>	Karnataka (5.438)	IISc (111), IIM Bangalore (10.25), NIT Surathkal (15.38) Total = 136.63	25.12	6.17
14 <sup>S</sup>	Kerala (3.2424)	IIM Kozhikode (10.25), NIT Calicut (15.38), Sree Chitra Tirunal Institute for Medical Sciences and Technology Total = 25.63	7.9	1.94
15 <sup>S</sup>	Madhya Pradesh (5.9206)	IIM Indore (10.25), IIITM Gwalior (10.03), NIT Bhopal (15.38), NITTR Bhopal (6.95), IIITD&M Jabalpur (+) Total = 42.61+	7.2+	1.77+
16 <sup>S</sup>	Maharashtra	Mahatma Gandhi Antarrashtriya Hindi	17.09	4.2

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

	(10.0641)	Vishwavidyalaya (54.609), IIT Mumbai (89.4), NIT Nagpur (15.38), NITIE Mumbai (11.6), BOAT Mumbai (1.04) AFMC Pune* Total = 172.04		
17 <sup>S</sup>	Manipur (.2514)	Central Agricultural University (Central U, not funded by UGC)	0	0
18 <sup>S</sup>	Meghalaya (.2426)	North Eastern Hill University (54.609)	225.1	55.3
19 <sup>S</sup>	Mizoram (.0935)	Mizoram University (54.609)	584.0	143.5
20 <sup>S</sup>	Nagaland (.2193)	Nagaland University (54.609)	249	61.18
21 <sup>S</sup>	Orissa (3.7762)	NIT Rourkela (15.38)	4.07	1
22 <sup>S</sup>	Punjab (2.5154)	National Institute of Pharmaceutical Education and Research, NIT Jalandhar (15.38), SLIET (14.7), NITTTR Chandigarh (half = 3.47)	13.38	3.29
23 <sup>S</sup>	Rajasthan (5.9275)	NIT Jaipur (15.38)	2.59	0.64
24 <sup>S</sup>	Sikkim (.0571)		0	0
25 <sup>S</sup>	Tamil Nadu (6.34)	IIT Chennai (89.4), NIT Trichy (15.38), NITTTR Chennai (6.95), BOAT Chennai (1.04) Dakshina Bharti Hindi Prachar Sabha Chennai Total = 112.77	17.79	4.37
26 <sup>S</sup>	Tripura (.328)		0	0
27 <sup>S</sup>	Uttaranchal (.848)	IIT Roorkee (89.4)	105.42	25.9
28 <sup>S</sup>	Uttar Pradesh (17.1829)	Aligarh Muslim University (54.609), BHU (54.609), B. Bhimarao Ambedkar U (54.609), IIT Kanpur (89.4), IIM Lucknow (10.25), IIIT Allahabad (13.63), NIT Allahabad (15.38), BOAT Kanpur (1.04) Total = 293.527	17.08	4.2
29 <sup>S</sup>	West Bengal (8.2803)	IIT Kolkata (89.4), IIM Kolkata (10.25), ISI Kolkata (55.08), Viswa Bharati (54.609)	28.10	6.90

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

		NIT Durgapur (15.38), NITTTR Kolkata (6.95), BOAT Kolkata (1.04) Total = 232.709		
30 <sup>u</sup>	Andaman & Nicobar	--		
31 <sup>u</sup>	Chandigarh	PG Inst. of Medical Education & Res		
32 <sup>u</sup>	Dadra & N. Haveli	--		
33 <sup>u</sup>	Daman and Diu	--		
34 <sup>u</sup>	Lakshadweep	--		
35 <sup>u</sup>	Pondicherry	Pondicherry University (54.609)		

### State Wise Distribution of HRD-National Highways across India

\*Other institute, <sup>s</sup> states, <sup>u</sup> union territory

### Orissa's position in HRD-NH budgeting

As an illustration let us consider Orissa, one of the states of India and compare it with the other states. One can say that while the central government spends Rs **4.07 on HRD-NH access per person in Orissa**, it spends Rs 177.12 in Delhi, Rs 105.42 in Uttaranchal, Rs 105 in Arunachal Pradesh, Rs 77.7 in Assam, Rs 33.78 in Himachal Pradesh, Rs 28.10 in West Bengal, Rs 25.12 in Karnataka, Rs 17.79 in Tamil Nadu, Rs 17.09 in Maharashtra, Rs 17.08 in UP, Rs 16.2 in Jharkhand, Rs 16.05 in Andhra, Rs 14.5 in J & K, Rs 13.38 in Punjab, Rs 8.52 in Haryana, Rs 7.9 in Kerala, Rs 7.39 in Chhattisgarh, Rs 7.2 in MP, Rs 4.87 in Gujarat, Rs 2.59 in Rajasthan, and Rs 1.87 in Bihar.

Comparing in another way, the Government of India's spending per person with respect to HRD-NHs, in comparison to Orissa, is 43.52 times in Delhi, 25.9 times in Uttaranchal, 19.1 times in Assam, 8.3 times in HP, 6.9 times in West Bengal, 6.17 times in Karnataka, 4.37 times in Tamil Nadu, 4.2 times in UP, 4.2 times in Maharashtra, 3.98 times in Jharkhand, 3.94 times in AP, 3.56 times in J&K, 3.29 times in Punjab, 2.09 times in Haryana, 1.94 times in Kerala, 1.82 times in Chhattisgarh, 1.77 times in MP, and 1.2 times in Gujarat.

The above becomes worse when one takes into account the announcements concerning IISERs in Pune, Kolkata and Punjab; central university status to Allahabad University, and the plans for upgraded IITs or deemed IITs for seven institutions. The new announced IIM in Shillong, although a good idea, may temporarily add to the imbalance in the Northeast. (However assurances have been given for new central universities in the North eastern states that do not have them.)

One can fathom the magnitude of the disparity by putting it in terms of roads. It would then mean, four years back, when NITs did not exist, Orissa did not have any National highways while many other states had plenty and now the per capita highway in West

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

Bengal would be 7 times more than in Orissa. This would of course be not acceptable and indeed the national highway numbers (per sq km) of various states are comparable. *But when it comes to HRD, the most important resource of a state, the imbalance is glaring.*

In contrast the following table shows how the National highways are much more evenly distributed across the country. The table is based on the NH data available at the site [http://morth.nic.in/motorstat/brs\\_table1.htm](http://morth.nic.in/motorstat/brs_table1.htm) and the area data available at the site [http://en.wikipedia.org/wiki/List\\_of\\_states\\_of\\_India\\_by\\_area](http://en.wikipedia.org/wiki/List_of_states_of_India_by_area).

Sl. No	State Name	NH in kms (31 <sup>st</sup> March 2004)	Area (sq thousand kms)	NH kms/ thousand sqkm
1	Andhra Pradesh	4472	275.068	16.26
2	Arunachal Pradesh	392	83.743	4.68
3	Assam	2836	78.483	36.13
4	Bihar	3537	94.164	37.56
5	Chhattisgarh	2184	135.194	16.15
6	Delhi	72	1.483	48.55
7	Goa	269	3.702	72.66
8	Gujarat	2871	196.024	14.65
9	Haryana	1468	44.212	33.20
10	Himachal Pradesh	1208	55.673	21.70
11	Jammu & Kashmir	823	222.236	3.70
12	Jharkhand	1805	79.7	22.65
13	Karnataka	3843	191.791	20.03
14	Kerala	1440	38.863	37.05
15	Madhya Pradesh	5200	308.144	16.88
16	Maharashtra	4176	307.713	13.57
17	Manipur	959	22.327	42.95
18	Meghalaya	810	22.429	36.11
19	Mizoram	927	21.081	43.97
20	Nagaland	494	16.579	29.80
21	Orissa	3704	155.707	23.79
22	Punjab	1557	50.362	30.92
23	Rajasthan	5585	342.236	16.32
24	Sikkim	62	7.096	8.74
25	Tamil Nadu	4183	130.058	32.16
26	Tripura	400	10.492	38.12
27	Uttaranchal	1991	53.566	37.17
28	Uttar Pradesh	5599	238.566	23.47
29	West Bengal	2325	88.752	26.2

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.

**Recommendations:** Ten to Fifteen years back the number of HRD-NHs was less than the number of states. Hence at that time the people in charge distributed the HRD-NHs across regions. For example, the 5 IITs were located in East (Kharagapur), West (Mumbai), South (Chennai), North (Delhi), and North-central (Kanpur). But now that is not the case and moreover with India shining and plans for more HRD-NHs such as IISERs, deemed IITs, universities of excellence etc., in addition to regional balance there must be state-wise balance in HRD-NH spending and the government should be especially careful in not aggravating the state-wise imbalance in the name of regional balance. *(The announced IISER locations fall under the later category in that they aggravate state-wise imbalance in the name of regional balance.)*

Thus we recommend that the Government of India and the Planning commission take note of the above data and make an emergency plan to remove the HRD-NH disparity across states of India. Otherwise India will continue to have parts that shine while other parts that are in misery and that is not good for India. *In particular, any new HRD-NH designation or creation or any major budget increase in existing HRD-NHs should be such that it reduces the imbalance.* Based on the above and the current developments in the HRD ministry some specific recommendations are:

- (i) Some of the new IISERs should be established in the three states that are in the bottom of HRD-NH list. They are Rajasthan (Rs 2.59 per person spending now), Bihar (Rs 1.87 per person spending) and Orissa (Rs 4.07 per person spending).
- (ii) The flaws of the process that identified 7 prospective institutes for upgradation to IITs or deemed IITs should be acknowledged. The glaring flaws are (a) they did not consider the NITs and there are 5 NITs that are better than 6 of the 7 short listed institutions and (b) they did not consider the HRD imbalance. (To support our claim in (a) please refer to the site <http://us.rediff.com/money/2005/jun/28spec.htm> for a ranking of various engineering colleges in India.)

*The seven short listed institutes are (i) Aligarh Muslim University-Zakir Hussain College of Engineering and Technology, Aligarh, Uttar Pradesh; (ii) Andhra University -College of Engineering, Visakhapatnam, Andhra Pradesh; (iii) Banaras Hindu University-Institute of Technology (IT-BHU), Varanasi, Uttar Pradesh; (iv) Bengal Engineering College, Howrah, West Bengal; (v) Cochin University of Science and Technology (CUSAT), Kochi, Kerala; (vi) Jadavpur University's Engineering and Technology Departments, Calcutta, West Bengal; and (vii) Osmania University-College of Engineering and College of Technology, Hyderabad, Andhra Pradesh. Among these institutes all except IT-BHU are ranked lower than the five NITs of Warangal, Allahabad, Rourkela, Surathkal, and Trichy in the above mentioned ranking. Thus it will not*

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.



*make any sense at all if these institutes are allowed to supersede the better NITs by being branded as deemed IITs or IITs. That would make the notion of using quality as a parameter of upgradation a big joke.*

Thus NITs should be considered and besides merit, mitigation of HRD imbalance should also be considered in deciding which institutions are upgraded to IITs or deemed-IIT status.

- (iii) New central universities should be established in backward district clusters of states that are in the bottom of the HRD-NH funding list.
- (iv) Budget increase in existing HRD-NHs should be tied to the development of satellite campuses or research centers of those institutes in states that are in the bottom of the HRD-NH funding list.

The media report <http://timesofindia.indiatimes.com/articleshow/1362356.cms> mentions that the HRD ministry is planning to establish at least one university of excellence in each state. This is a good step. However, it is not enough and we sincerely hope the HRD ministry considers the recommendations given above.

Finally, established centers of education and research such as Pune, Kolkata, Bangalore, Delhi, etc. should not feel that they are being punished because of their development by not being made part of the above mentioned new initiatives. To counter that more institutions outside the scope of HRD-NH such as national laboratories, special research institutes, autonomous science & technology institutions (a list is at [http://dst.gov.in/autonomous/autonomous\\_index.htm](http://dst.gov.in/autonomous/autonomous_index.htm)), etc. should be established in these places and the budget of such existing institutions should be increased appropriately.

**Last word:** In other words let all parts of India shine and develop together; the lagging ones with new HRD-NHs (mostly undergraduate and graduate level institutions) and the leading ones with new or enhanced research institutions (or HRD-freeways), as the later already have enough HRD-NHs.

In our calculation we have used the data from the 2005-2006 budget as available in the budget web page and the HRD 2004-2005 annual report. Since this data does not give exact budget for each IITs but rather gives the total budget for all 7 IITs, we use averaging. Same is true for the IIMs, NITs, central universities etc. This makes our findings a bit approximate. However, our findings still give a big picture of the disparity.