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INDIA

India Infrastructure

13 December 2007

Description of the NHDP

Different phases of NHDP

Phase I	GQ (5,846 km) and NS-EW Corridor (981km), port connectivity (356 km) and others (315 km)
Phase II	NS-EW Corridor (6,161 km) and other national highways of 486 km length
Phase III	upgradation and 4 laning at 8074 km
Phase V	6 laning of 6,500 km
Phase VI	1000 km of expressways

Source: NHAI

National Highways: The road ahead

Event

- The NHAI has invited financial bids for five large projects totalling 1,095km under Phase V of the national highway development program. We expect the actual award to take place in another couple of months.

Impact

- **Activity resumes after a lull of almost 18 months based on new MCA:** The NHAI recently invited financial bids for five projects in Phase V (six-laning of golden quadrilateral) on a BOT (Built-Operate-Transfer) basis. The packet sizes of contracts have been increased to attract global players in the highway development program.
- **Costs of projects much higher than NHAI estimates.** Our channel checks among industry sources suggest that the estimates of the cost of these projects are extremely conservative. The total project costs are expected to be at least 2x of the NHAI estimated costs (Rs70bn for the five projects).
- **These projects are based on new MCA.** The lull in the activity was due to a delay in finalising the MCA. With these projects, a significant hurdle in road projects has been crossed. We expect a significant pickup in activity in the roads sector over the next 12 months.
- **Strong pipeline being built for awards in near term.** The NHAI has received in-principle approval from the Cabinet for the award of Phases III, V and VII. It can now proceed with the ground work for the award of about 16,700km of roads. Another 700km of road projects have recently put up for bidding.
- **Mother of all road projects – Ganga Expressway.** This is a huge project for 1,047km of an eight-laned access controlled expressway proposed by the government of Uttar Pradesh at an estimated cost of Rs298bn. A large number of real estate and infrastructure companies have participated in the initial round of the bidding. Developers would get land development rights along the road stretch as a part of the deal.
- **Regime neutral sector.** The political will to push ahead with the road sector has not changed with two successive governments headed by each of the large political parties. We do not expect major policy changes even if the current regime changes.

Outlook

- We recommend mid-cap construction companies such as Nagarjuna Constructions (NJCC IN, Outperform, Rs343, TP: Rs377), IVRCL (IVRC IN, Outperform, Rs512, TP: Rs597) as the best bets to play the road sector because of the significant leverage to the sector.

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Bids submitted for 1,095km of projects

Under Phase V, NHAI plans to convert 6,500km of existing four-lane national highways into six-lane national highways. NHAI recently invited bids for five stretches in NHDP Phase V. The project will be executed as a BOT (toll) project on a DBFO (Design Build Finance Operate) pattern.

The packet sizes of contracts being awarded are gradually increasing, making the projects profitable for the companies, and the increasing size reduces competition. Such measures make road projects more attractive compared to the lacklustre profitability such projects previously offered.

Fig 1 Recent bids

Stretch	NH	Length (km)	Estimated cost	
			(Rs m)	(US$m)
Panipat-Jalandhar	1	300	21,980	555
Gurgaon-Kotputli-Jaipur	8	230	18,960	479
Chennai-Tada	5	50	5,400	136
Chilkaluripet-Vijayawada-Elluru-Rajamundri	5	270	6,750	170
Surat-Dahisar	8	245	16,930	428
Total		**1,095**	**70,020**	**1,768**

Source: NHAI, Macquarie Research, December 2007

The most coveted stretches were of Surat-Dahisar and Panipat-Jalandhar, which have each attracted 11 bidders. The other stretches have been bid for by four bidders each. Most of the large construction names, such as L&T, GMR, IVRCL and Reliance Energy, have participated in the bidding program. We expect the actual award to take place in the next couple of months.

NHAI cost estimates are way off the mark

Our channel checks, which include many of the bidders for these sectors, suggest that the cost estimates of NHAI are substantially below the actual cost of the project. The total project costs are expected to be 2x the stated costs by NHAI. For example, in the case of the Panipat-Jalandhar stretch, the cost estimates are in the range of Rs40–50bn vs the NHAI estimate of Rs22bn. NHAI estimates are based on outdated prices for key raw materials like bitumen, cement and steel.

Cashflows from day 1: Concessionaires would be allowed to collect tolls on these roads from day one of concession rather than waiting for the six-laning to be completed. Currently on these projects, toll is collected by the NHAI.

Debt-to-equity ratios to be 90:10: Because the project would generate cash during the construction period, most of the developers are targeting aggressive capital structures. Feedback from the developers suggests that the debt-to-equity ratio would be around 90:10.

Projects based on new MCA

These five projects are based on the new model concession agreement (MCA). Key features of the MCA follow.

- **Revenue-sharing mechanism:** The new MCA does away with negative grants. Under the new structure, companies need to bid for days, after which they would start sharing revenue with NHAI. Initially, the revenue share would be 1% of the revenues and would keep increasing by 1% after each year. Thus, in the second year, the revenue share would be 2%.
- **Variation in the concession period based on actual traffic:** MCA would specify the expected traffic on a target date that would generally be 10 years after the date of the project award. If the traffic is lower than expected by 1%, the concession period would be increased by 1.5%, subject to a cap of a 20% increase in the concession period. If the traffic is better than expected by1%, the concession period would be reduced by 0.75% with a cap on reduction of 10%.
- For the determination of actual traffic on the target date, the average of traffic one year prior to the target date, on the target date and one year after the target date is taken. The sampling exercise is carried out for one week, including the target/anniversary date.

Strong pipeline being built for awards in near term

The NHAI has received in-principle approval from the Cabinet for the award of Phases III, V and VII. The model concession agreement (MCA), which was the biggest hurdle, has been cleared. It can now proceed with the ground work for the award of about 16,700km of roads. Projects totalling Rs120bn are currently in various stages of bidding.

More recently, RFQs for projects for 761km, worth Rs55.2bn, have been invited by the NHAI in December 2007. Again, going by the Phase V experience, the cost of these stretches could be much higher.

All of these projects are upgradings and four-lanings of various stretches. The announcement of pre-qualified bidders is expected to come out in February 2008.

Fig 2 Recent projects for which RFQs have been invited

Project	State	Section	NH	Project Length (km)	Estimated Cost (Rsm)	Date of submitting PQ	Cost per km (Rs m)
NHDP/PH-III/BOT/Orissa/01	Orissa	Panikoili-Keonjhar-Rimuli from 0km to 163km	215	166.2	10,860	17-Jan-08	65.4
NHDP/PH-III/BOT/Orissa/02	Orissa	Rimuli-Roxy-Rajamundri, 163km to 269km	215	96.5	6,540	17-Jan-08	67.8
NHDP/PH-III/BOT/Orissa/03	Orissa	Chandikhole-Talcher 301.89km to 428.03km	200	133	8,100	17-Jan-08	60.9
NHDP/PH-III/DL-4/09	Rajasthan	Jaipur Reengus 246.3km to 298.075km	11	52.7	3,430	17-Jan-08	65.1
NHDP/PH-III/BOT/AP/01	AP	4/6laning of Vijaywada-Hyderabad 40km to 221.5km	9	182	14,600	17-Jan-08	80.2
NHDP/PH-III/BOT/AP/02	AP	4/6laning of Vijaywada-Machalipatnam 0km to 63.8km	9	64.8	4,680		72.3
NS-88/J&K	J&K	4-laning and strengthening of the existing 2-lane carriageway from km.256 to km. 286 in Jammu and Kashmir	1	30	3,950	21-Nov-07	131.7
NS-92/J&K	J&K	4-laning and Strengthening of the existing 2-lane carriageway from km.220 to km. 256 in Jammu and Kashmir	1	36	3,080	21-Nov-07	85.6
Total				**761**	**55,240**		

Source: NHAI, Macquarie Research, December 2007

Mid-cap construction companies to benefit

We believe that the mid-cap construction companies such as Nagarjuna Constructions (NJCC IN, Outperform, Rs345,TP: Rs377), IVRCL (IVRC IN, Outperform, Rs512, TP: Rs597), Patel Engineering (PEC IN, Outperform, Rs875, TP: Rs1,028) and HCC (HCC IN, Not rated, Rs216) will be the key beneficiaries from this ramp-up in award activity.

Fig 3 Roads as a % of order book in FY07

	Roads as % of order book
NJCC	24.2%
IVRC	22.2%
PEC	14.7%
HCC	40.0%

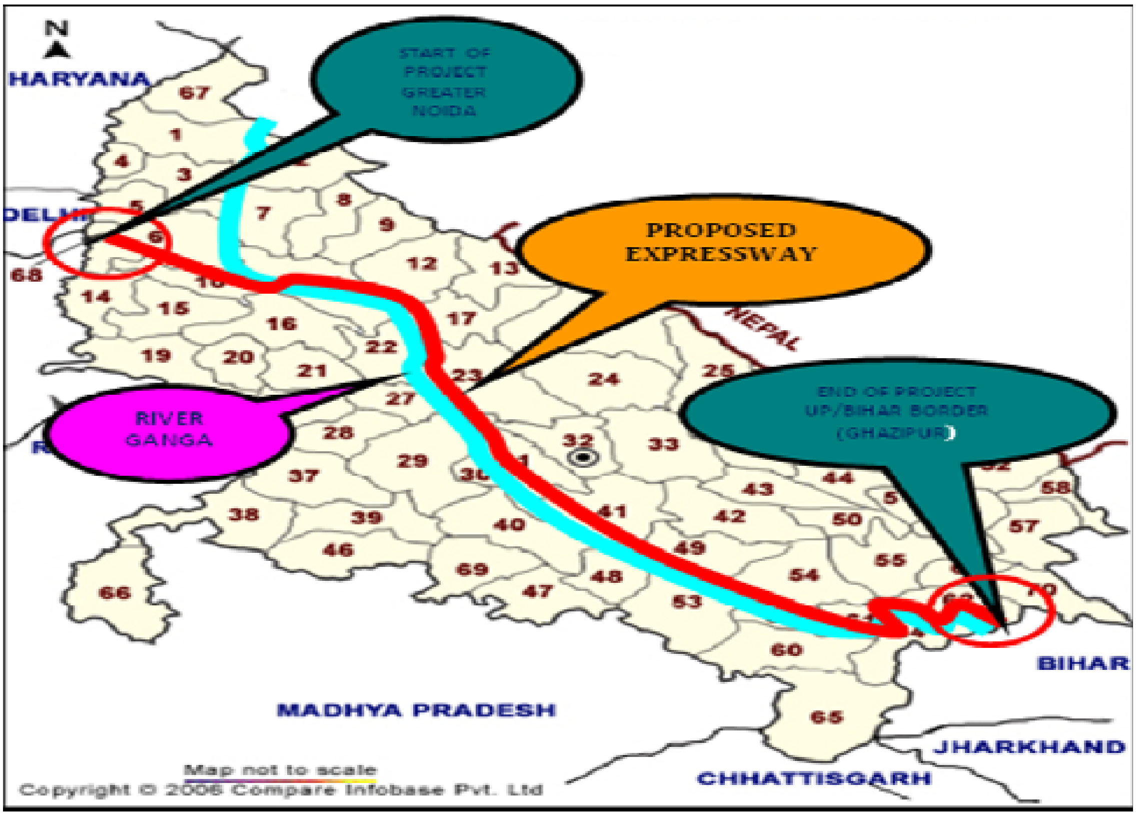
Source: Macquarie Research, December 2007

Mother of all road projects – Ganga Expressway

The government of Uttar Pradesh (UP) has planned to develop an access-controlled eight-lane expressway of about 1,047kms, at an estimated cost of about Rs298bn (US$7.4bn), from Greater Noida (near Delhi) to Ballia along the left bank of the river Ganga based on a PPP (Public Private Partnership) model.

The expressway will be built on embankments along the river and will provide flood protection to the area along with high speed direct connectivity from western to eastern boundaries of the state of UP. The developers would be awarded roughly 1,000 acres of land along the road stretch that can be commercially developed.

Fig 4 Proposed expressway in the state of UP



Source: UP Government

The construction of the project has been divided into four phases as follows.

Fig 5 Ganga Expressway project

Stretch	Length (km)	Estimated Cost (Rs bn)
Greater Noida to Fatehgarh	253	76.3
Fatehgarh to Dalmau	305	80.1
Dalmau to Aurai	211	61.2
Aurai to Ballia	278	80.2
Total	1047	297.8

Source: UP Government documents,Macquarie Research, December 2007

Keen interest from the real estate developers

Many real estate majors in the country have shown interest in participating in this project because land parcels are being awarded along with the road stretched.

The estimated cost of this project is higher than that of other road projects (Rs285m/km) because it is a new alignment and because it involves raising the level of the road above the river to prevent any damage from floods.

Eighteen companies have submitted pre-qualification bids; some of the names are listed below.

Fig 6 Bidders for Ganga Expressway

Jaiprakash Associates (JPA IN, Not rated, Rs2017)
Reliance Energy (RELE IN, Not rated, Rs1932)
DLF (DLFU IB, Outperform, Rs1021, TP: Rs1220)
Consortium of Omaxe (OAXE IN, Not rated, Rs591) - GVK (GVKP IN, Not rated, Rs819.5) - NJCC (NJCC IN, Outperform, Rs345, TP: Rs377)
GMR Infrastructure (GMRI IN, Not rated, Rs243)
L&T (LT IN, Outperform, Rs4235, TP: Rs4269)
Unitech (UT IN, Outperform, Rs485, TP: Rs444)
DS Construction (Unlisted)
Zoom developers (Unlisted)

Source: Macquarie Research, December 2007

Eligibility criteria

The eligibility of the bidders will be judged on two criteria: the technical experience in construction and project execution and the financial capability.

Technical experience: The technical qualification would depend on the project/construction experience in roads and core infrastructure projects. Consortiums need to identify a lead member of the project, and the lead member should have at least 50% of the threshold technical experience score for the consortium. The lead member should also commit to hold a minimum equity stake equal to 51% of the aggregate shareholding of the consortium in the SPV.

Financial capability of the companies will be judged on the basis of net worth for last-audited accounts and positive cash accruals for the last three accounting periods.

- The net worth should be at least **Rs7.5bn** as of 31 March 2007 for each contract package for which an application has been submitted.
- The cumulative cash accruals of the bidder (either sole or consortium) of the last three audited financial years should be at least **Rs3.5bn** for the package for which an application has been submitted.
- For **consortiums**, the net worth and cash accruals would be a summation of net worth of the individual members of the consortium.

Government keen on the project, but execution challenges remain

We have spoken to various bidders and interested companies in this project. Key takeaways on the project follow.

- **The government is keen to push ahead with the project.** After inviting the RFQ on the project, the state government sent the bidders the list of queries. The final list of the qualified bidders can be out as soon as the end of December 2007.
- **Land acquisition is critical to success of the project.** Implementation of the project would depend on the ability of the current regime to acquire land. The government is hoping that, because the land is flood prone and only one crop can be produced annually, the acquisition of land would not be a big issue.
- **Actual award may still be six months away.** Players think that the project may be awarded towards the end of 1H CY08 because companies could take at least 3–4 months to assess the viability of the project because it is a new alignment.
- **Cost could be higher than the estimates.** The government has put out estimates for a total cost of Rs298bn. Our channel checks suggest that the total cost of the projects may be as high as Rs400bn (US$10bn).

- **Effect on NHAI road project in UP.** The expressway could severely affect toll revenues of a part of GQ (Golden Quadrilatral) connecting Delhi and Varanasi, which runs alongside the Ganga Expressway. The NHAI may seek the Centre's intervention regarding this issue. However, it is unlikely that these objections would delay the project.
- **Pure construction players to benefit.** If real estate developers manage to take a large part of the project, they will need to outsource the construction of the project because realty majors lack the skill set for road construction.

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand
Outperform – return >5% in excess of benchmark return (>2.5% in excess for listed property trusts)
Neutral – return within 5% of benchmark return (within 2.5% for listed property trusts)
Underperform – return >5% below benchmark return (>2.5% below for listed property trusts)

Macquarie - Asia
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie First South - South Africa
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie - Canada
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie - USA
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Volatility index definition*

This is calculated from the volatility of historic price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to Australian/NZ stocks only

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 September 2007

	AU/NZ	Asia	RSA	USA	CA
Outperform	47.39%	64.32%	64.58%	54.55%	71.65%
Neutral	40.77%	19.28%	33.33%	27.27%	25.98%
Underperform	11.85%	16.40%	2.08%	18.18%	2.36%

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K.Y. Nam (Korea)	(822) 3705 8607
Derek Wilson (London) (N Asia)	(44) 20 7065 5856
Julien Roux (London)	(44) 20 7065 5887
Lena Yong (Malaysia)	(603) 2059 8888
Ismael Pili (Philippines)	(65) 6231 2840
Greg Norton-Kidd (New York)	(1 212) 231 2527
Luke Sullivan (New York)	(1 212) 231 2507

Regional Heads of Sales cont'd

Mark Lawrence (New York)	(1 212) 231 2516
Sheila Schroeder (San Francisco)	(1 415) 835 1235
Giles Heyring (Singapore)	(65) 6231 2888
Mark Duncan (Taiwan)	(8862) 2734 7510
Angus Kent (Thailand)	(662) 694 7601
Dominic Henderson (Tokyo)	(813) 3512 7820
Nick Cant (Tokyo)	(813) 3512 7821
Charles Nelson (UK/Europe)	(44) 20 7065 2032
Rob Fabbro (UK/Europe)	(44) 20 7065 2031

Sales Trading

Adam Zaki (North Asia)	(852) 2823 3528
Duncan Rutherford (ASEAN, India)	(65) 6231 2888
Mona Lee (Hong Kong)	(852) 2823 3519

Sales Trading cont'd

Stuart Goddard (Europe)	(44) 20 7065 2033
Brendan Rake (India)	(9122) 6653 3204
Edward Robinson (London)	(44) 20 7065 5883
Robert Risman (New York)	(1 212) 231 2555
Isaac Huang (Taiwan)	(8862) 2734 7582
Jon Omori (Tokyo)	(813) 3512 7838

Alternative Strategies

Convertibles - Roland Sharman	(852) 2823 4628
Depository Receipts - Robert Ansell	(852) 2823 4688
Derivatives - Tim Connolly	(852) 2249 3380
Futures - Tim Smith	(852) 2823 4637
Hedge Fund Sales - Darin Lester	(852) 2823 4736
Structured Products - Andrew Terlich	(852) 2249 3225