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# CONSTRUCTION & INFRASTRUCTURE

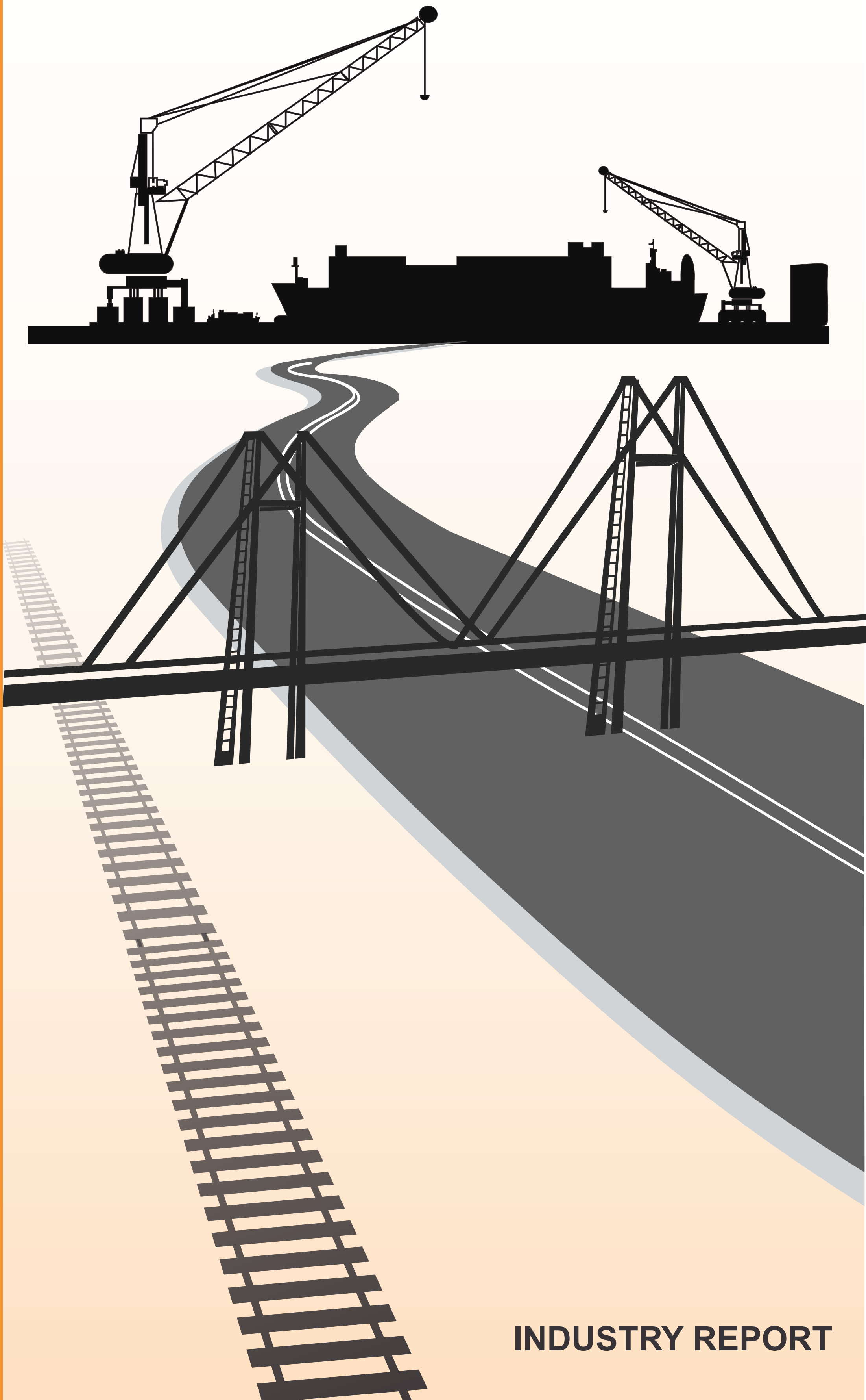
## Bridging the chasm …long road ahead

January 5, 2016

**Given the government thrust on the infrastructure investment, we witnessed that over the last two years project awarding picked up from the urban infrastructure segments like Roads, Buildings, and Metro projects. We believe that capex on urban infrastructure projects will continue given the strong bid pipeline from road and metro projects.**

**The issues with respect to land acquisition and weak balance sheets of infrastructure companies got addressed as the government increased capex spending on EPC mode rather BOT/PPP projects which, helped companies raise funds; as well as funding from multilateral agencies also increased**

**Given the importance of government spending in driving the order books of our coverage universe as well as the increasing importance of the states in becoming enablers of growth, we have analyzed certain states which form 50% of India's GDP. Our analysis reveals that the states are easing bottlenecks with respect to land acquisition and other clearances and infrastructure capex rather than industrial capex remains the core focus**

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**INDUSTRY REPORT**

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## Companies

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# Construction & Infrastructure

# Bridging the chasm …long road ahead

- Given the government thrust on the infrastructure investment, we witnessed that over the last two years project awarding picked up from the urban infrastructure segments like Roads, Buildings, and Metro projects. We believe that capex on urban infrastructure projects will continue given the strong bid pipeline from road and metro projects. The issues with respect to land acquisition and weak balance sheets of infrastructure companies got addressed as the government increased capex spending on EPC mode rather BOT/PPP projects which, helped companies raise funds; as well as funding from multilateral agencies also increased
- Given the importance of government spending in driving the order books of our coverage universe as well as the increasing importance of the states in becoming enablers of growth, we have analyzed certain states which form 50% of India's GDP. Our analysis reveals that the states are easing bottlenecks with respect to land acquisition and other clearances and infrastructure capex rather than industrial capex remains the core focus
- In the Railway sector, the capex outlay over the next five years is estimated at Rs8.5 trn. We believe that, given the large social obligation on Indian Railways, international resource generation will continue to remain a constraint. In order to fund capex, the reliance on long term funding and market borrowing will remain crucial for the railways
- In the Defence sector, we see that the government has been according AoNs (Acceptance of Necessity) to the projected and necessary requirements of the Armed forces, however the follow up action on issuance of RFP and subsequent procurement steps is not keeping pace largely due to a) change in Defence Procurement Procedure – The new government promoting indigenous defence industrial base due to which every project is getting re-evaluated; b) since 90% of the capital allocation is already tied up towards committed liabilities of earlier orders, it does not leave substantial funding for fresh big ticket orders
- In the Ports sector, container volume on the western coast is likely to witness growth of 4% in FY16E largely driven by weak international trade versus growth of 8.6%/11.1% in FY15/FY14. In our container demand-supply model, we have factored in a volume CAGR of 6.5% (incremental volume of 1.21 mn TEUs) on the west coast over FY16-18E against a CAGR of 6% over FY14-16. We expect container traffic on the west coast to be largely driven by: a) improvement in the overall EXIM cycle, and b) large shipping lines MSC, Maersk, CMA-CGM developing Indian ports as a trading hub
- Our preferred picks in the sector remains IRB Infrastructure, KNR Construction, Ahluwalia Contracts and J. Kumar Infraprojects

### Financial Snapshot (Consolidated)

| | EPS | | EV/EBITDA | | P/E | |
|---|---|---|---|---|---|---|
| (Rs mn) | FY17E | FY18E | FY17E | FY18E | FY17E | FY18E |
| Adani Ports | 14.9 | 16.3 | 13.2 | 12.1 | 17.3 | 15.8 |
| Ahluwalia Contracts | 16.2 | 19.4 | 10.2 | 8.6 | 17.7 | 14.8 |
| Ashoka Buildcon | 5.9 | 5.5 | 8.4 | 8.3 | 33.1 | 35.5 |
| Gujarat Pipavav | 6.3 | 8.1 | 13.6 | 10.5 | 25.0 | 19.4 |
| IL&FS Transportation | 7.3 | 9.2 | 11.2 | 9.5 | 12.6 | 10.0 |
| IRB Infrastructure | 19.8 | 20.7 | 8.1 | 7.3 | 13.0 | 12.5 |
| J Kumar | 21.6 | 28.5 | 8.9 | 7.3 | 17.0 | 12.9 |
| Larsen & Toubro | 57.0 | 71.2 | 15.0 | 12.9 | 22.0 | 17.6 |
| NCC | 4.7 | 5.5 | 8.1 | 7.2 | 16.2 | 13.8 |
| Sadbhav Engineering | 11.4 | 14.3 | 15.2 | 12.7 | 14.5 | 14.4 |
| Simplex Infrastructure | 25.6 | 32.3 | 6.2 | 5.8 | 12.2 | 9.7 |
| KNR Construction | 32.9 | 44.6 | 9.2 | 7.2 | 17.2 | 12.7 |

*Source: Emkay Research* ***Note:*** *Sadbhav Engg. P/E ratio is FY16E/17E implied P/E as we have valued the company on SoTP basis and estimate only standalone EPS.*

| Company | Rating | CMP | Target Price |
|---|---|---|---|
| Adani Ports | ACCUMULATE | 258 | 306 |
| Ahluwalia Contracts | BUY | 287 | 355 |
| Ashoka Buildcon | ACCUMULATE | 194 | 230 |
| Gujarat Pipavav | HOLD | 157 | 185 |
| IL&FS Transportation | HOLD | 92 | 110 |
| IRB Infrastructure | BUY | 258 | 320 |
| J Kumar | BUY | 369 | 456 |
| Larsen & Toubro | ACCUMULATE | 1,256 | 1,400 |
| NCC | ACCUMULATE | 76 | 90 |
| Sadbhav Engineering | BUY | 345 | 376 |
| Simplex Infrastructure | ACCUMULATE | 312 | 380 |
| KNR Construction | BUY | 565 | 720 |
| PNC Infratech | NOT RATED | 540 | NA |
| ITD Cementation | NOT RATED | 112 | NA |

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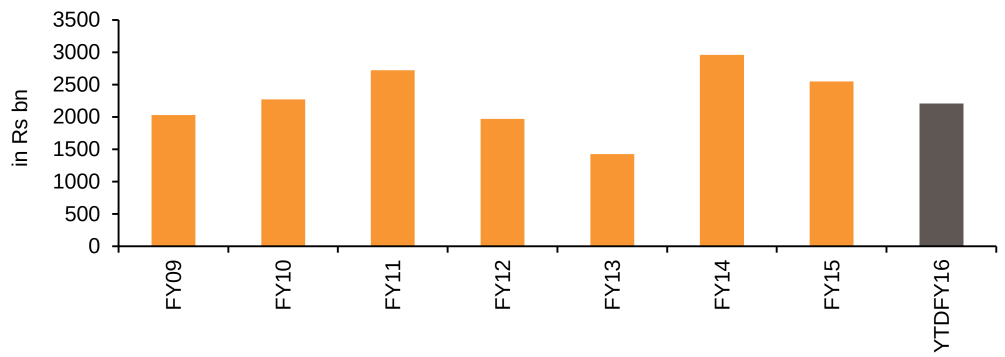
## Projects awarding: First leg of capex revival driven by Urban Infrastructure projects

Given that the government thrust is on infrastructure investment, we witnessed that over the last two years project awarding picked up from the urban infrastructure segments like Roads, Buildings, Water and Metro projects *(as highlighted in our Infrastructure sector: Crossing the chasm).* Apart from urban infrastructure projects, awarding also increased from power distribution segment largely driven by Power Grid, states like Bihar, Andhra Pradesh, Uttar Pradesh and the GCC region.

As per our analysis, the percentage contribution from Roads, Buildings (Hospitals, Community Services which includes Educational Institutes) and Water accounts for 23%, 23%, and 28% respectively of the capex incurred in FY14, FY15 and YTDFY16. The percentage contribution from the power distribution segment accounts for 12%/20%/16% of the capex incurred in FY14/FY15/YTDFY16.

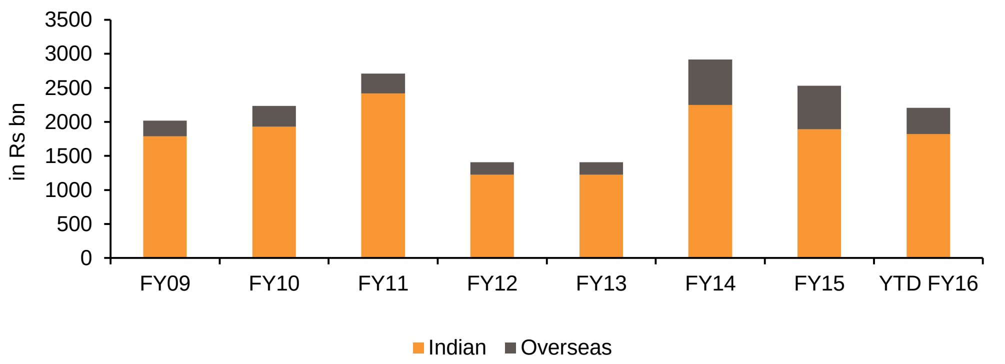
We also witnessed that project awarding increased significantly from the international markets especially from GCC countries like Bahrain, Qatar, and Saudi Arabia. The percentage contribution from the international markets in the total project awarding increased from 13% in FY09 to 34% in FY15 and 21.5% in YTDFY16. However given the low oil prices lot of infrastructure projects in GCC region are getting re-evaluated which we believe will lower project awarding from the region.

**Exhibit 1: In YTDFY16, total project awards up 27.0% YoY**



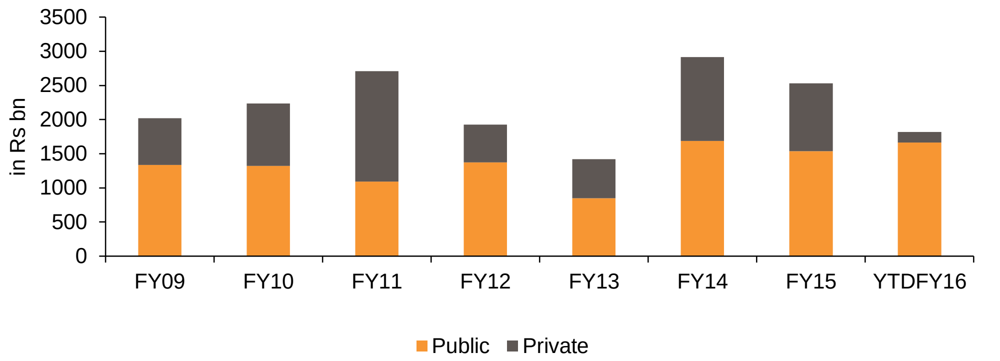

*Source: ProjectsToday, Emkay Research*

**Exhibit 2: Breakup of Indian & Overseas project awards**



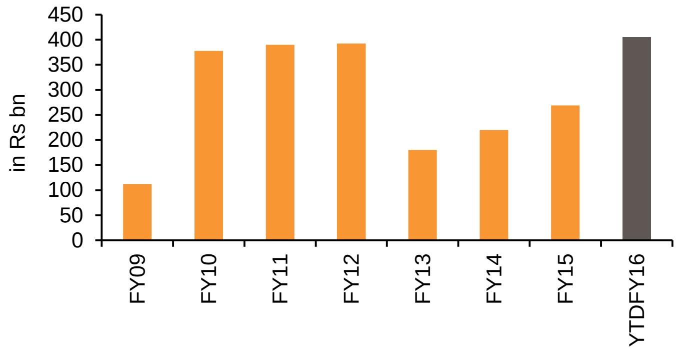

*Source: ProjectsToday, Emkay Research*

**Exhibit 3: Breakup of Public and Private project awards**



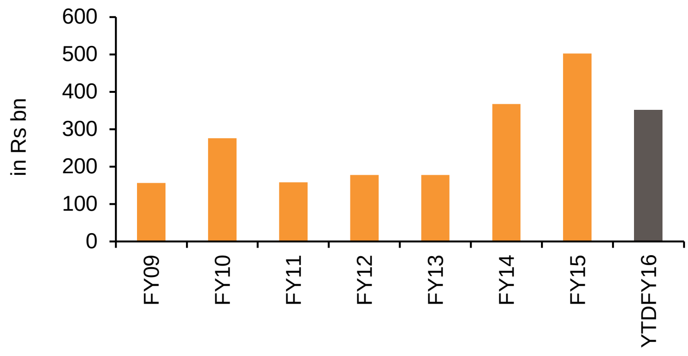

*Source: ProjectsToday, Emkay Research*

**Exhibit 4: In YTDFY16, Roadways awards up 152.5% YoY**



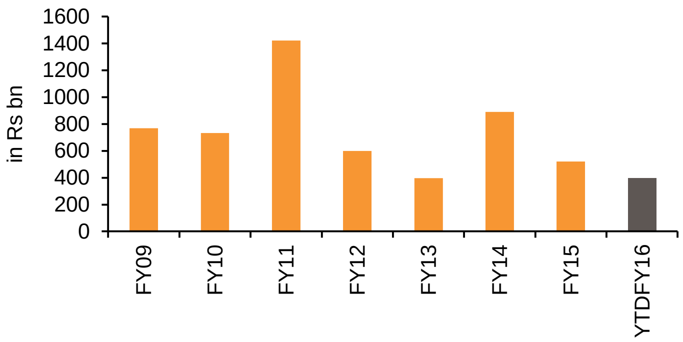

*Source: ProjectsToday, Company*

**Exhibit 5: In YTDFY16, Power Distribution awards up 30% YoY**



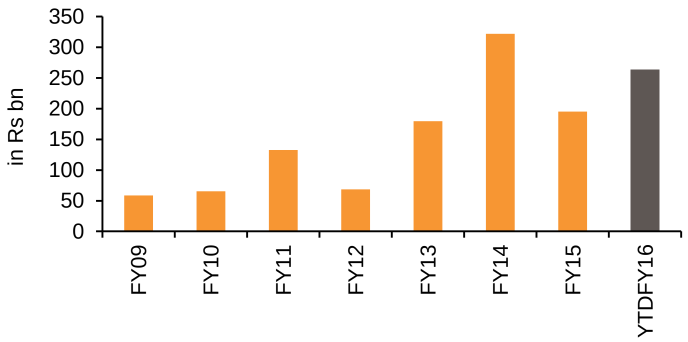

*Source: ProjectsToday, Company*

**Exhibit 6: In YTDFY16, Power Equipments awards up 4.1% YoY**



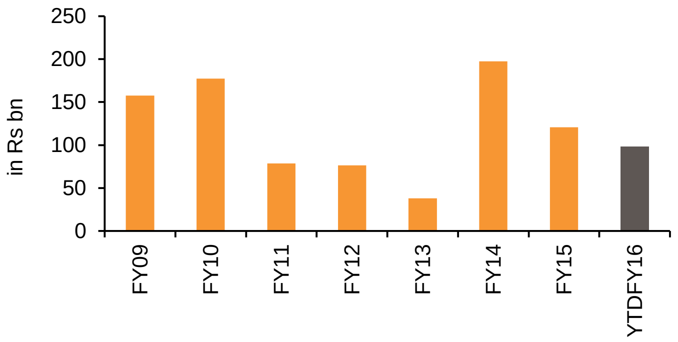

*Source: ProjectsToday, Emkay Research*

**Exhibit 7: In YTDFY16, Railways awards up 79.2% YoY**



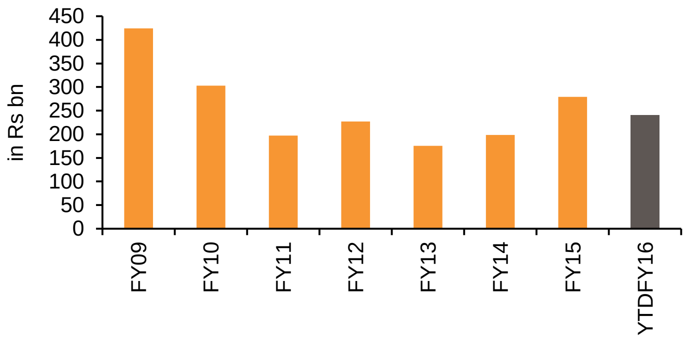

*Source: ProjectsToday, Emkay Research*

**Exhibit 8: In YTDFY16, Real Estate awards up 34.7% YoY**



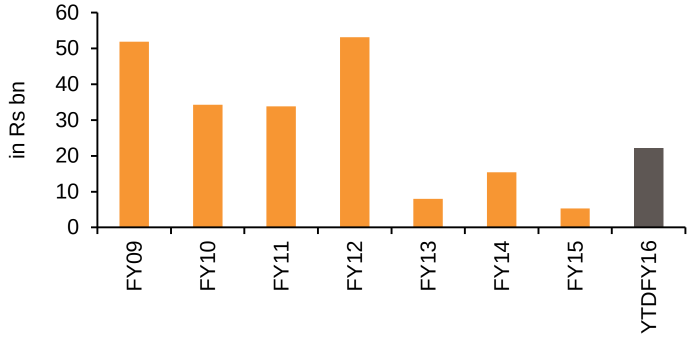

*Source: ProjectsToday, Emkay Research*

**Exhibit 9: In YTDFY16, Process awards up 3.8% YoY**



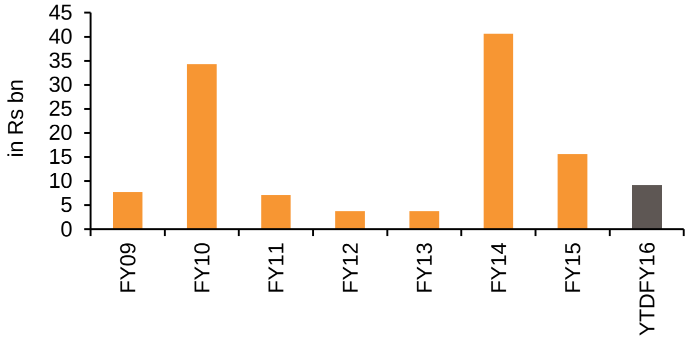

*Source: ProjectsToday, Emkay Research*

**Exhibit 10: In YTDFY16, Pipeline awards up 968.3% YoY**



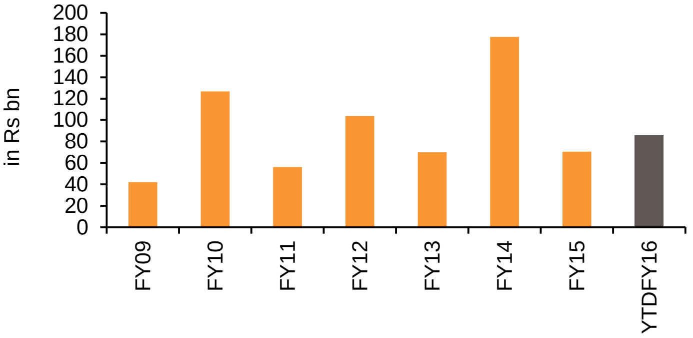

*Source: ProjectsToday, Emkay Research*

**Exhibit 11: Hospitals awards**



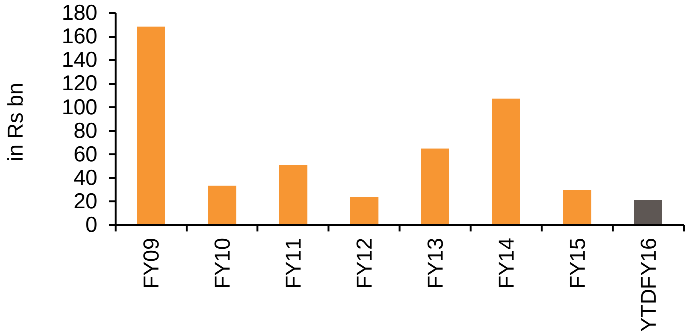

*Source: ProjectsToday, Emkay Research*

**Exhibit 12: In YTDFY16, Water Supply awards up 78.8% YoY**



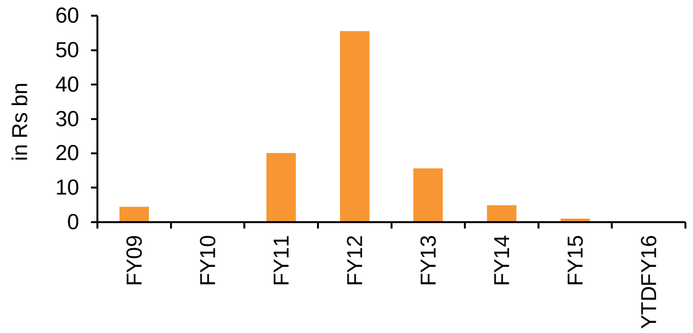

*Source: ProjectsToday, Emkay Research*

**Exhibit 13: Irrigation awards**



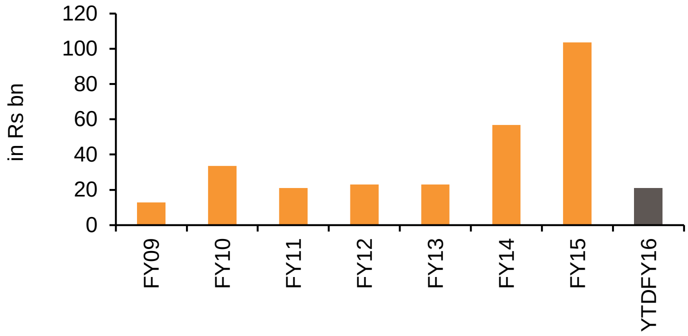

*Source: ProjectsToday, Emkay Research*

**Exhibit 14: In YTDFY16, Mining awards down significantly YoY**



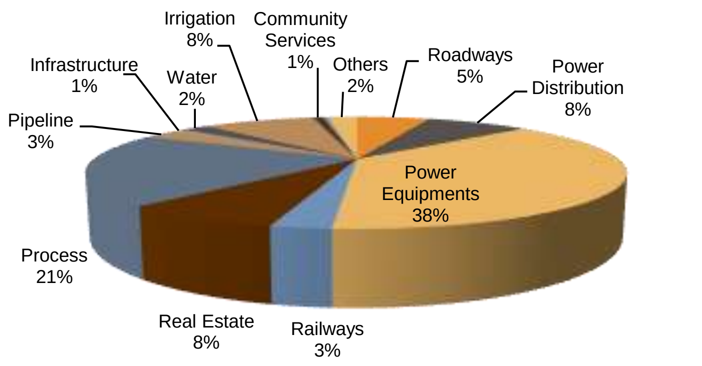

*Source: ProjectsToday, Emkay Research*

**Exhibit 15: Community Services awards**



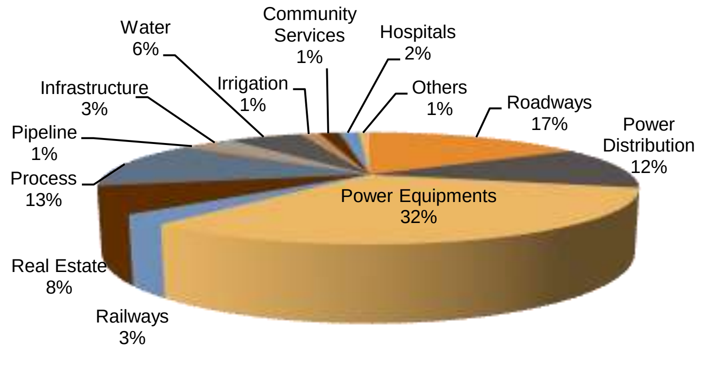

*Source: ProjectsToday, Emkay Research*

**Exhibit 16: Breakup in value terms of projects awarded in FY09**



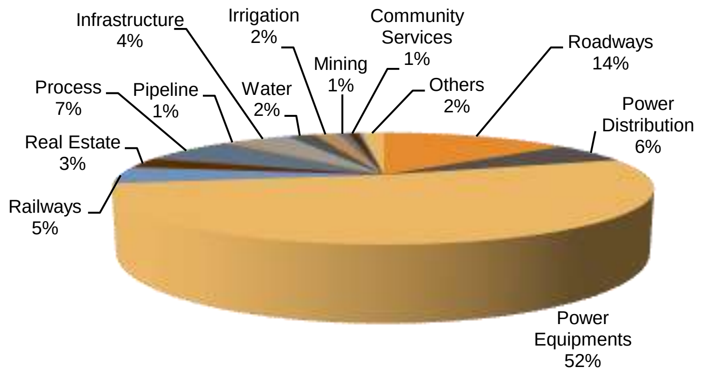

*Source: ProjectsToday, Company*

**Exhibit 17: Breakup in value terms of projects awarded in FY10**



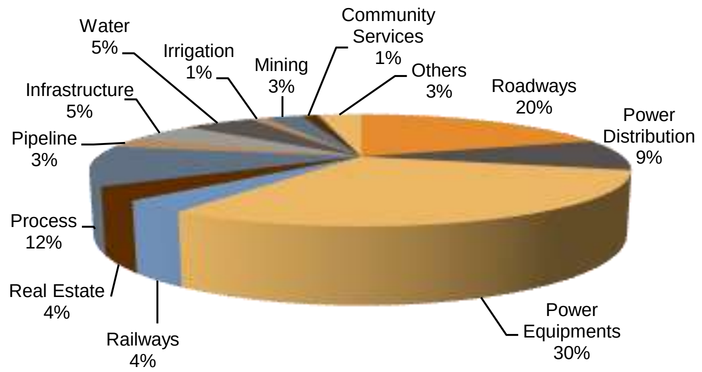

*Source: ProjectsToday, Company*

**Exhibit 18: Breakup in value terms of projects awarded in FY11**



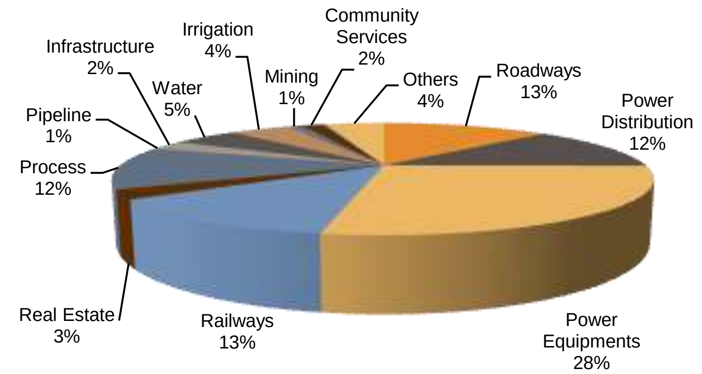

*Source: ProjectsToday, Emkay Research*

**Exhibit 19: Breakup in value terms of projects awarded in FY12**



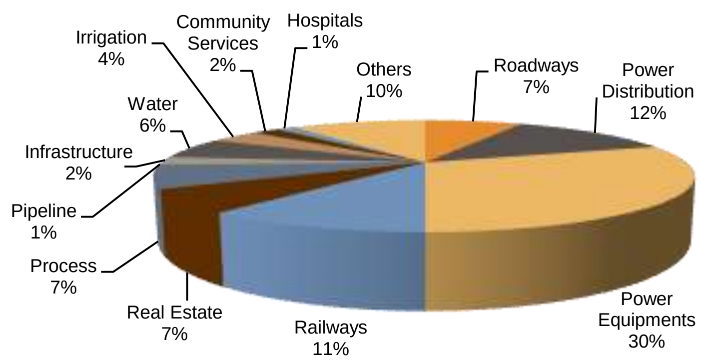

*Source: ProjectsToday, Emkay Research*

**Exhibit 20: Breakup in value terms of projects awarded in FY13**



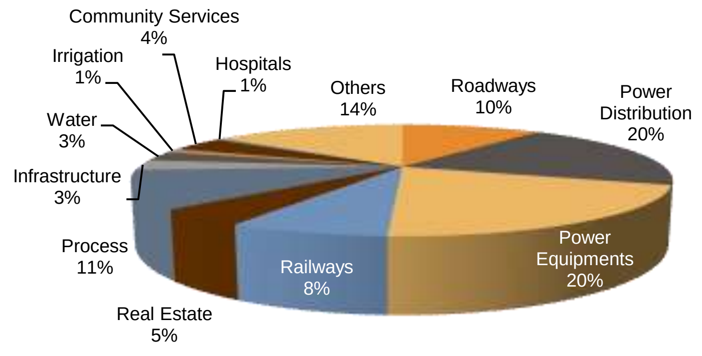

*Source: ProjectsToday, Emkay Research*

**Exhibit 21: Breakup in value terms of projects awarded in FY14**



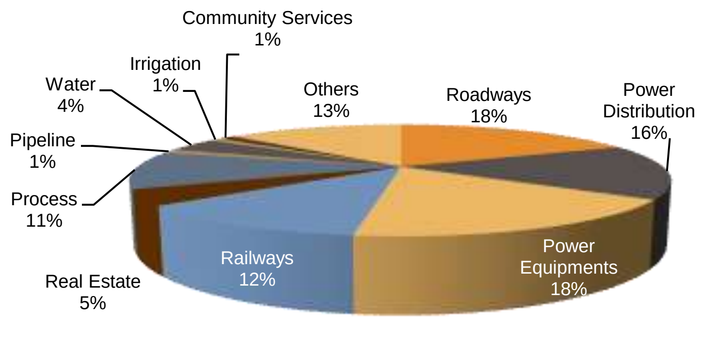

*Source: ProjectsToday, Emkay Research*

**Exhibit 22: Breakup in value terms of projects awarded in FY15**




*Source: ProjectsToday, Emkay Research*

**Exhibit 23: Breakup in value terms of projects awarded in YTDFY16**




*Source: ProjectsToday, Emkay Research*

**Exhibit 24: Power projects awarded in FY15**

| Projects | Developer | Winner | MW |
|---|---|---|---|
| Katwa | NTPC | Doosan Corporation | 1320 |
| Wanakbori | Gujarat SEB | BHEL | 800 |
| Shree Singaji TPP | MP Genco | L&T | 1320 |
| Tanda | NTPC | L&T (Boiler)<br>Bharat Forge-Alstom (Turbine) | 1320 |
| Ennore SEZ (Tiruvallur) | TANGEDCO | BHEL | 1320 |
| Khargone Thermal Power | NTPC | L&T | 1320 |
| Bhadradri Thermal Power (Manuguru) | Telangana State Power Gen Co (TSGENCO) | BHEL | 1080 |
| Yelahanka (Gas Based Combined Cycle Power) | Karnataka Power Corp | BHEL | 370 |
| Kothagudam Thermal Power (Stage VII) | TSGENCO | BHEL | 800 |
| **Total** | | | **9650** |

*Source: Company, Emkay Research*

**Exhibit 25: Power projects awarded in YTDFY16**

| Projects | Developer | Winner/L1 | MW |
|---|---|---|---|
| Pudimadaka | NTPC | BHEL (TG)<br>Doosan (Boiler) | 4000 |
| Hardauganj ext | UPRUVNL | Doosan-Toshiba | 600 |
| Ramagundam | NTPC | BHEL (Boiler)<br>Bharat Forge-Alstom (TG) | 1600 |
| Bhusawal | Mahagenco | BHEL | 660 |
| Bareti (UP) | NTPC | BHEL | 2640 |
| Nalgonda | Telangana State Power Gen Co (TSGENCO) | BHEL | 4000 |
| Krishnpatnam | Apgenco | BHEL | 800 |
| Vijaywada | Apgenco | BHEL | 800 |
| Maitri power project (Bangladesh) | NTPC | BHEL | 1320 |
| **Total** | | | **16420** |

*Source: Company, Emkay Research*

**Exhibit 26: State GenCo thermal power projects pipeline**

| Utility | Location | State | MW |
|---|---|---|---|
| NTPC | Karim Nagar | AP | 1600 |
| Tangenco | Udangudi | TN | 1600 |
| Neyveli Lignite | Jayamkondam | TN | 1320 |
| Tangenco | Uppur | TN | 2400 |
| NLC + UPEB | Ghatampur | UP | 1980 |
| UPSEB | Panki | UP | 660 |
| UPSEB | Obra | UP | 660 |
| Megha | Tuticorin | TN | 525 |
| WBEB | Sagardighi | WB | 500 |
| Raj SEB | Banswada | Raj | 1320 |
| Haryana SEB | Panipat | Haryana | 1320 |
| Haryana SEB | Hisar | Haryana | 1320 |
| NTPC - SAIL | Rourkela | Orrisa | 250 |
| Durgapur Power | Durgapur | WB | 1320 |
| **Total** | | | **16775** |

*Source: Company, Emkay Research*

# Roadways sector: Awarding picked up, momentum to continue in FY17E

## Awarding activity picked up via EPC projects, 30% of stalled contracts got Re-bid, EPC awarding to propel momentum further

In FY15 and YTD FY16 the NHAI has awarded projects worth Rs3533 km/Rs330 bn (EPC projects 2412 km/Rs215 bn, BOT projects 1121 km /Rs115 bn) and 2712 km/Rs304 bn (EPC projects 1918 km/Rs196 bn, BOT projects 803 km/Rs108 bn) respectively. In FY15 and YTD FY16 we witnessed that 30%/1926 km of projects got re-bid largely on EPC mode which were earlier awarded in FY12 (Expect bids of another 640 km of stalled projects).

NHAI targets to award 5600 km (3000 km will be under EPC mode, 2000 km under BOT mode and remaining 600 km under hybrid mode) in FY16E and 7000 km in FY17E. MORTH is looking to award 10000 km in FY16E (Includes NHAI target of 5600 km).

Current bids worth Rs255.7 bn/1760 km lined up to get awarded under the EPC mode. Bids worth Rs314 bn/2347 km lined up to get awarded under the BOT mode. Bids worth Rs125 bn/543 km lined up to get bid under Hybrid annuity mode.

## Pace of competitive intensity moderated

In FY15 the competitive intensity increased significantly for EPC projects, largely attributed to pick up in the award of EPC projects in the system (in the last 9 years NHAI has awarded 4712 km/18% of the total projects awarded), where we saw contractors like GR Infrastructure, Dilip Buildcon, Corson Corivam Const (Isolux) had bid aggressively and won the projects at 15%-18% below the benchmark cost. The company gets the scope for bidding 5-7% below the benchmark cost due to the variation in the machinery cost assumptions (Machinery cost accounts for 15% of the overall EPC project cost which NHAI assumes to be new in the project cost assumption). We witnessed new project wins in YTDFY16 won at 2-3% below the benchmark barring two projects which were won 12-18% below the NHAI benchmark project cost.

Given that FY15 awarding was largely dominated by regional contractors and their appetite getting over, we believe that pace of competitive intensity to moderate.

## Model concession agreement (MCA) gets amended

NHAI has redrafted the MCA in order to address the various setbacks it has faced in the past, enable faster decision making and ensure that it provides relevant solutions for problems faced by the road development sector.

We believe that reworking the Model concession agreement at this juncture will help provide a solution to the actual ground risk the road project faces with respect to the land acquisition, equity infusion/financial closure, event risk which ultimately will help avoiding the mismatch in the project cash flows. Model concession agreement will be applicable for the new/future BOT projects.

### Few of the key amendments for BOT projects are:

- **Appointed date:** Assigning the official date for the commencement of a project or the appointed date, after meeting all the conditions precedent met like environmental clearances are in place, 100% of the land required (ROW) is acquired and the concessionaire has tied up required funds. The amendment states that the conditions precedent are non waivable whereas as per previous concession agreement it was based on mutual agreement.
- **Deemed termination:** In case of non-fulfilment of CPs (conditions precedent) by either party after the first anniversary (one year) of the date of signing of CA (concession agreement). Earlier the concession didn’t have provision of deemed termination.
- **Revenue shortfall loan**: Non-political event like mining ban (Revenue shortfall loan available additionally for judicial pronouncements impacting cash flows) to also be included for purpose of revenue shortfall loan versus current mechanism, which includes indirect political event or political event. We have seen lot of road projects traffic growth hit by mining ban across states.
- **Premium payments**: Back ending of quoted premium payments from the 4th year of COD and escalating it by 3% upto 10th Year of COD and 8% thereafter till the end of the concession period, to solve mismatch of cash inflows and outflows of the Concessionaire in initial years.

- **Equity contribution**: Equity support (including O&M) by authority shall not be more than two times the promoter's equity, and cannot exceed 40% of the project cost versus earlier provision of equity support, which stated that equity support should not be more than the equity of the developer nor can it exceed 20% of the project cost.

## Key amendments to MCA for EPC projects

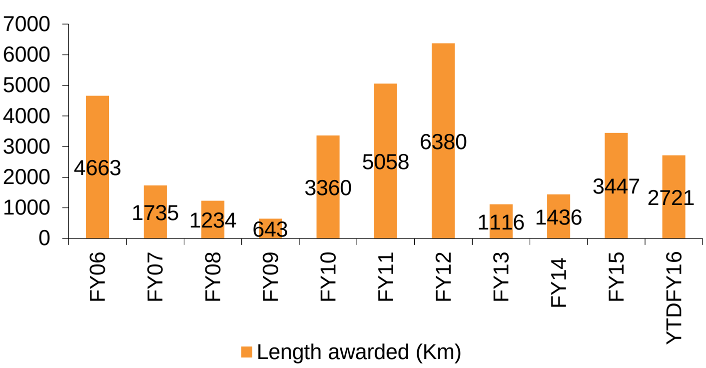
**Mobilization advance** of 10% of the contract price will now be paid in two instalments instead of three currently.

**Maintenance period** post completion of construction has been increased to four years from two earlier. The payments for such maintenance will be as specified in the concession agreement. This measure puts more responsibility on the contractor to construct and maintain the roads according to the specified quality standards.

**The Defect Liability Period (DLP)** has been increased to four years from two earlier. The additional DLP of three years for structures and major bridges has now been scrapped.

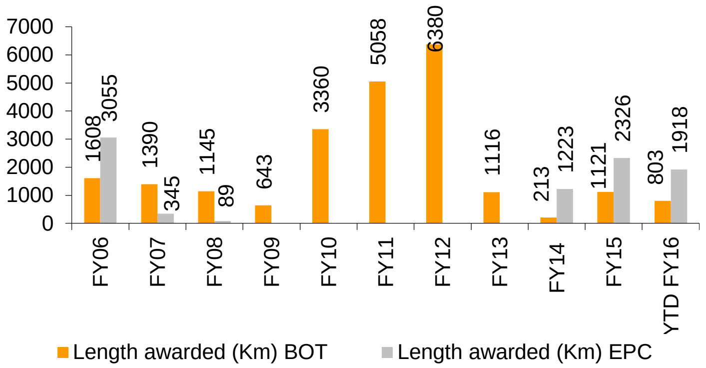
**The performance security** during the normal DLP period has been reduced to 5% of the contract price from 7.5% earlier.

**Exhibit 27: NHAI road length awarded**



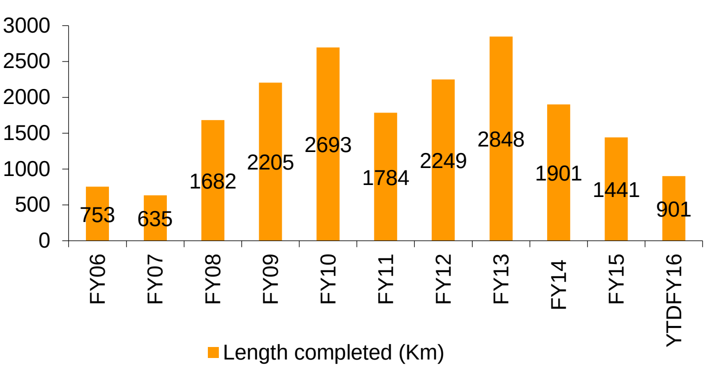

*Source: NHAI, Emkay Research*

**Exhibit 28: Breakup of NHAI road length awarded**




*Source: NHAI, Emkay Research*

**Exhibit 29: NHAI road length completed**




*Source: NHAI, Emkay Research*

**Exhibit 30: NHDP Progress**

| | Total Length (km) | Completed (km) | Under Implementation (km) | Under Implementation (No. of Contracts) | LoA issued/ agreement signed & work to be started (km) | LoA issued/ agreement signed & work to be started (No. of Contracts) | Balance for award of civil works (km) | Estimated cost (Rs bn) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| GQ | 5846 | 5846 | | | | | 0 | | |
| NS&EW Phase I & II | 7142 | 6414 | 305 | 36 | 156 | 3 | 267 | 16 | Balance work of GQ and EW-NS corridors |
| NHDP Phase III | 12109 | 6634 | 1600 | 57 | 1708 | 22 | 2167 | 250 | Widening to 4/6 lane including strengthening |
| NHDP Phase IV | 13203 | 1585 | 1048 | 22 | 3620 | 35 | 6950 | 430 | Widening and strengthening of 2- lane with paved shoulders |
| NHDP Phase V | 6500 | 2264 | 518 | 17 | 883 | 5 | 2835 | 320 | 6-lanning of selected stretches on GQ and others |
| NHDP Phase VI | 1000 | | | | 135 | 6 | 865 | 300 | Development of expressway |
| NHDP Phase VII | 700 | 22 | | | 19 | 1 | 659 | 150 | Ring Roads, Bypasses, Grade Separators, Service Roads etc |
| **NHDP Total** | **46500** | **22765** | **3471** | **132** | **6521** | **72** | **13743** | **1466** | |
| Port Connectivity | 402 | 379 | 1 | 1 | 22 | 2 | 0 | 15 | |
| Other NHs | 1807 | 1518 | 232 | 7 | 109 | 3 | | | |
| SARDP-NE | 388 | 105 | 5 | 1 | | | 278 | 15 | |
| **Total by NHAI** | **49097** | **24767** | **3709** | **141** | **6652** | **77** | **14021** | **1496** | |

*Source: NHAI, Emkay Research*

**Exhibit 31: NHDP phase-wise expenditure**

| (in Rs mn) | Awarded cost of contracts under implementation or BOT grant Annuity Payment | Expenditure | | |
|---|---|---|---|---|
| | | During the reporting month (Oct'14) | Current Financial Year | Cumulative till Oct'14 |
| GQ | 0 | 2266.4 | 4239.8 | 321973.2 |
| NS&EW Phase I & II | 95700 | 1506.1 | 15688.2 | 652709.4 |
| NHDP Phase III | 121850 | 8938.5 | 57742.4 | 850375.1 |
| NHDP Phase IV | 66200 | 2971.1 | 32828.4 | 96538.7 |
| NHDP Phase V | 32820 | 4511.4 | 30835.6 | 306767.9 |
| NHDP Phase VI | 0 | 1.8 | 16.7 | 938.7 |
| NHDP Phase VII | 5610 | 11.3 | 1172 | 17279.1 |
| NHDP Total | 322180 | 20207 | 142523 | 2246582 |
| Port Connectivity | 4220 | | | |
| Other NHs | 32610 | 171.3 | 3630.8 | 109229.8 |
| SARDP-NE | 970 | | | |
| **Total by NHAI** | **359980** | **20378** | **146154** | **2355812** |

*Source: NHAI, Emkay Research*

**Exhibit 32: List of tenders issued under EPC mode**

| Road Stretch (EPC Route) | State | NH No. | Length | Project Cost Rsmn | Completion yrs. | Main-tenance |
|---|---|---|---|---|---|---|
| 4-laning of Varanasi Gorakhpur section [Package-III Birnon Village To Amilla Village] | Uttar Pradesh | 29 | 60.0 | 8523.2 | 2.5 | 4 |
| 4-laning of Varanasi Gorakhpur section [Package-IV Amilla Village to Gorakhpur] | Uttar Pradesh | 29 | 60.3 | 10381.5 | 2.5 | 4 |
| Four laning of Ghoshpukur – Salsalabari Section (pckg - 2) | West Bengal | 31D | 71.1 | 9720.0 | | |
| Two Laning with paved shoulder of Chhapra – Gopalganj | Bihar | 85 | 94.3 | 6406.8 | | |
| Four laning of Yadgiri- Warangal Section | Telangana | 163 | 99.1 | 11410.0 | | |
| Four laning of Bakhtiyarpur – Mokama section | Bihar | 31 | 44.6 | 9861.4 | | |
| Four laning of Simaria- Khagaria | Bihar | 31 | 60.2 | 6072.5 | | |
| Four laning of Aunta – Simaria (Ganga bridge with approach rd) | Bihar | 31 | 8.2 | 4898.9 | 2.5 | 4 |
| Four Laning of Nerchowk-Kullu stretch [Aut-Takoli Section (Tunnel), Package-V] | Himachal Pradesh | 21 | 6.7 | 5561.1 | 2.5 | 4 |
| Four laning of Nerchowk - Kullu stretch [Rehukaldhar - Aut Section (Tunnel), Package-IV] | Himachal Pradesh | 21 | 4.6 | 5751.4 | 2.5 | 4 |
| Nerchowk-Kullu stretch [Bata-Rehukaldhar Section (Tunnel), Package-III] | Himachal Pradesh | 21 | 2.6 | 3774.3 | 2.5 | 4 |
| Four laning of Nerchowk-Kullu stretch [Pandoh-Bata Section (Tunnel), Package-II] | Himachal Pradesh | 21 | 13.0 | 6907.8 | 2.5 | 4 |
| Dalkhola Bypass section from Design Chainage | West Bengal | 34 | 5.4 | 809.3 | 2 | 4 |
| 4-laning of Varanasi Gorakhpur [package-II from Sandah to Birnon] | Uttar Pradesh | 29 | 76.0 | 8566.4 | 2.5 | 4 |
| Service Road and RCC Drain incld. Storage Lane at Chat Junction on Ambala-Chandigarh | Punjab | 22 (new NH-152) | 2.8 | 240.6 | | |
| Upgradation of Kullu-Manali section from Km 272.00 to Km 309.345 (Designed Chainage) | Himachal Pradesh | NH-21 (now NH-3) | 37.3 | 2184.7 | 2 | 4 |
| Rehabilitation and upgradation of Birmitrapur – Barkote section by Two/Four laning of NH – 23 | Odisha | 23 | 126.0 | 8600.5 | 2.5 | 4 |
| Four Laning With PS From Chichra To Kharagpur | West Bengal | 6 | 50.8 | 7696.3 | 2.5 | 4 |
| Six laning of Kamrej - Chalthan Section | Gujarat | 8 | 16.3 | 2994.4 | 2 | 3 |
| Flyover at (km 544/650), including ROB incld Services Roads, Footpath for RCC drains on Urban link to Nagpur-Raipur road | Maharashtra | 6 | | 4086 | 3 | 4 |
| Four laning of Chandigarh-Kharar section from Sector-39 (Round about) at Chandigarh to Kharar | Punjab | 21 & 95 | 10.2 | 4473 | 2.5 | 4 |
| Rehab & Upgradation of Four Laning with PS of Talibani to Sambalpur Section | Odisha | 6 | 50.7 | 5228 | 2.5 | 4 |
| 4 Laning of Sargaon- Bilaspuraa (Package III) | Chhattisgarh | 200 (new NH130) | 35.5 | 4132 | 2 | 4 |
| 4 Laning of Simga - Sargaon (Package II) | Chhattisgarh | 200 (new NH130) | 42.4 | 4784 | 2 | 4 |
| 4/6 laning of Raipur- Simga (Package I) | Chhattisgarh | 200 (new NH130) | 48.6 | 5867 | 2 | 4 |
| 4- Laning of Vijayawada – Machilipatnam | Andhra Pradesh | 9 | 64.6 | 8711 | 2 | 4 |
| Rehab & upgrade of Jharpokharia Baripada Baleshwar section | Odisha | 5 | 80.6 | 8571 | 2.5 | 4 |
| Four laning of Haridwar Nagina section | Uttarakhand/UP | 74 | 73.0 | 9895 | 2.5 | 4 |
| Four Laning of Nagina-Kashipur section | Uttarakhand/UP | 74 | 102.0 | 12908 | 2.5 | 4 |
| Six laning of Kamrej - Chalthan Section | Gujarat | 8 | 16.3 | 2994 | 2 | 3 |
| New 4 lane Bridge across Varsova Creek & its approaches with Interchange on NH-8 (New NH-48) between Surat –Dahisar section | Maharashtra | 8 (New NH-48) | | 1651 | 2 | 4 |
| Four Laning of Mahulia-Baharagora- JH/WB Border Section of NH-33 & NH-6 | Jharkhand | 33 & 6 | 71.6 | 8233 | 2.5 | 4 |
| ROB cum Flyover at Ranichak upto Haldia Dock Complex | West Bengal | 41 | | 1889.8 | 2.5 | 4 |
| New 4 lane Bridge across Varsova Creek & its approaches with Interchange on NH-8 (New NH-48) between Surat –Dahisar | Maharashtra | 8 (New NH-48) | | 1651 | 2 | 4 |
| Four Laning of Mahulia-Baharagora- JH/WB Border Section of NH-33 & NH-6 | Jharkhand | 33 & 6 | 71.6 | 8233 | 2.5 | 4 |

*Source: NHAI, Emkay Research*

**Exhibit 32: List of tenders issued under EPC mode (*Contd…*)**

| Road Stretch (EPC Route) | State | NH No. | Length | Project Cost Rsmn | Completion yrs | Main-tenance |
|---|---|---|---|---|---|---|
| ROB cum Flyover at Ranichak upto Haldia Dock Complex | West Bengal | 41 | | 1889.8 | 2.5 | 4 |
| Four Laning of Hassan to Maranahally (pkg 1) | Karnataka | 75 | 45.2 | 7014 | 2 | 4 |
| Four Laning of Hospet-Bellary-Karnataka/AP Border | Karnataka | 63 | 95.4 | 11674 | 2 | 4 |
| Four-Laning of Balance Connectivity Road from Visakhapatnam Port | Andhra Pradesh | 16 | | 829 | 1.5 | 4 |
| Four Laning Of From Addahole (Near Gundya) to Bantwal Cross - Pckg 2 | Karnataka | 75 | 65.0 | 8700 | 2.5 | 4 |
| Four Laning of Hubli - Hospet Section from Proposed Hubli Bypass to Hospet (Hitnal NH-13 Junction) | Karnataka | 63 | 143.7 | 16642 | 3 | 4 |
| Four Laning of Kerala/Tamil Nadu Border to Villukuri | Tamil Nadu | 47 | 27.3 | 7078 | 2 | 4 |
| Four Laning of Villukuri to Kanyakumari and Nagercoil to Kavalkinaru | Tamil Nadu | 47B | 42.8 | 6412 | 2 | 4 |
| **Total** | | | **1759.7** | **255726.4** | | |

*Source: NHAI, Emkay Research*

**Exhibit 33: List of tenders issued under BOT mode**

| Road Stretch (BOT Mode) | State | NH No. | Length (In Km) | Project cost (Rs Mn) | Type |
|---|---|---|---|---|---|
| Six Laning of Handia Varanasi Section | Uttar Pradesh | 2 | 72 | 23617 | BOT(TOLL) |
| Six Laning of Chakeri Allahabad section | Uttar Pradesh | 2 | 145 | 16616 | BOT(TOLL) |
| Six- Laning of Baleshwar-Chandikhole | Odisha | 5 | 137 | 2177 | BOT(TOLL) |
| Four-Laning from Telebani to Sambalpur | Odisha | 6 | 75 | 6589 | BOT(TOLL) |
| Dimapur – Kohima (4 laning) | Nagaland | 39 | 49 | 10899 | BOT(Annuity) |
| Nagina-Kashipur | Uttarakhand | 74 | 99 | 10990 | BOT(TOLL) |
| Lucknow-Sultanpur | UP | 56 | 126 | 12760 | DBFOT |
| Four Laning of Haridwar - Nagina | Uttarakhand | 74 | 72 | 9150 | BOT |
| Four Laning from Singhara to Binjabahal Section | Odisha | 6 | 104 | 10780 | BOT |
| 4-laning of Cuttack – Angul | Odisha | 42 | 112 | 13771 | BOT |
| Six Laning of Kharar to Ludhiana | Punjab | 95/21 | 76 | 12820 | DBFOT |
| 4/6-laning of Chikli-Fagne (Package-II) | Maharashtra | 6 | 150 | 18881 | DBFOT |
| Four Laning of Binjhabahal to Telebani Section | Odisha | 6 | 78 | 8588 | DBFOT (Toll) |
| Four laning of Kodinar to Veraval Section (Package-VI) | Gujarat | 8E | 41 | 7807 | DBFOT (Toll) |
| Four/Six laning of Bhavnagar-Talaja Section (Package –I) | Gujarat | 8E | 48 | 8412 | DBFOT (Toll) |
| Two/ Four Laning of Tamil Nadu/Karnataka Border to Bangalore Section | Karnataka | 209 | 171 | 6674 | DBFOT (Toll) |
| Six Laning of Bihar- Jharkhand Border (Chordaha) to Barwa Adda Section | Jharkhand | 2 | 152 | 27687 | BOT(toll) |
| Six Laning of Aurangabad to Bihar - Jharkhand Border (Chordaha) Section | Bihar | 2 | 70 | 10055 | BOT(toll) |
| Six Laning Of Vijayawada – Gundugolanu Section Of NH-5 Including 6-Lane Hanuman Junction Bypass And 4-Lane Vijayawada Bypass | Andhra Pradesh | 16 | 78 | 12479 | DBFOT (Toll) |
| Four laning of Barhi-Hazaribagh Section | Jharkhand | 33 | 41 | 3768 | BOT(toll) |
| Six laning of Chilakaluripet - Vijayawada Section | Andhra Pradesh | 16 (old NH5) | 83 | 37160 | BOT(toll) |
| Six Laning of Kishangarh Udaipur Ahmedabad Section (near Gulabpura) to (end of Chittorgarh bypass) - package 2 | Rajasthan | 79 | 125 | 11823 | BOT(toll) |
| Six Laning of Kishangarh to Gulabpura Section | Rajasthan | 79 & 79A | 90 | 9838 | DBFOT (Toll) |
| Four/Six Laning of Bodare to Dhule section | Maharashtra | 211 (new NH-52) | 67 | 8396 | DBFOT (Toll) |
| Four/six Laning of Aurangabad to Telwadi road section | Maharashtra | 211 (new NH-52) | 87 | 12522 | DBFOT (Toll) |
| **Total** | | | **2346.6** | **314257.8** | |

*Source: NHAI, Emkay Research*

**Exhibit 34: List of projects awarded under EPC Type (in Rs Mn) in YTDFY16 – Competitive intensity moderating**

| Projects | Bidder | Length (in Km) | Type | Project Cost (including land cost plus R&R) | EPC work cost | Awarded Cost | NH No | LOA Issue Date | % Bidding below benchmark cost |
|---|---|---|---|---|---|---|---|---|---|
| Madurai- Ramanathapuram (NHDP - 3) | KNR Const | 115.0 | EPC | | 9370.8 | 9370.8 | 49 | | 0.0% |
| UP/Haryana border-Yamunanagar-Saha-Barwala-Panckula Section (Pckg 1) | Sadbhav Engg | 44.3 | EPC | 6008.5 | 4800.0 | 4680 | 73 | 5/19/2015 | -2.5% |
| UP/Haryana border-Yamunanagar-Saha-Barwala-Panchkula Section (Pckg 2) | Sadbhav Engg | 45.2 | EPC | 5623.4 | 4500.0 | 4365 | 73 | 5/19/2015 | -3.0% |
| Four Laning of existing Thiruvananthapuram Bypass from Kazhakkoottam (Thiruvananthapuram) to Mukkola Junction | KNR Const | 26.8 | EPC | 8452.4 | 6212.0 | 6690.6 | 47 | 5/14/2015 | 7.7% |
| Balance Work of 4-Laning of Gorakhpur - Gopalganj Section | Punj Lloyd | 41.1 | EPC | | 4838.1 | 5418.4 | 28 | | 12.0% |
| Four laning of Ghoshpukur – Salsalabari Section (Pckg 1) | L&T Ltd | 83.8 | EPC | 18172.3 | 10830.0 | 11330.2 | 31D | 6/1/2015 | 4.6% |
| Two Laning with P.S. of Gulabpura to Uniara Section | Dilip Buildcon - Ranjit Buildcon JV | 204.0 | EPC | 8299.4 | 5707.3 | 5970.0 | 148D | 6/12/2015 | 4.6% |
| Four laning of Koilwar to Bhojpur | PNC Infratech | 110.0 | EPC | | 8140.0 | 8250.0 | 30/84 | Aug-15 | 1.4% |
| Four laning of Bhojpur to Buxar | PNC Infratech | 47.6 | EPC | | 6420.0 | 6810.0 | 84 | Aug-15 | 6.1% |
| Eastern Peripheral Expressway (6 lane) Pckg 1 | Sadbhav Engg | 22.0 | EPC | | 7711.8 | 7920.0 | NE-11 | Aug-15 | 2.7% |
| Eastern Peripheral Expressway (6 lane) Pckg 2 | Sadbhav Engg | 24.5 | EPC | | 7857.8 | 7560.0 | NE-11 | Aug-15 | -3.8% |
| Eastern Peripheral Expressway (6 lane) Pckg 3 | JP Associates | 24.5 | EPC | | 7885.1 | 7470.0 | NE-11 | Aug-15 | -5.3% |
| Eastern Peripheral Expressway (6 lane) Pckg 4 | Ashoka Buildcon | 22.0 | EPC | | 7893.1 | 7898.9 | NE-11 | Aug-15 | 0.1% |
| Eastern Peripheral Expressway (6 lane) Pckg 5 | Oriental Structures | 21.0 | EPC | | 6645.3 | 6588.8 | NE-11 | Aug-15 | -0.9% |
| Eastern Peripheral Expressway (6 lane) Pckg 6 | Gayatri Projects | 22.0 | EPC | | 7685.6 | 6750.0 | NE-11 | Aug-15 | -12.2% |
| 4 laning of Ghaghra Bridge to Varanasi section (package 1,2 & 3) | Gayatri Projects | 59.9 | EPC | | 6670.0 | 7410.0 | 233 | Aug-15 | 11.1% |
| 4 laning of Ghaghra Bridge to Varanasi section (package 1,2 & 3) | Gayatri Projects | 59.0 | EPC | | 6868.9 | 7850.0 | 233 | Aug-15 | 14.3% |
| Four laning of Sultanpur to Varanasi [Package-I] | Gayatri Projects | 74.5 | EPC | | 10275.3 | 9860.0 | 56 | Aug-15 | -4.0% |
| Four Laning Of Sultanpur-Varanasi [Package-II] | Gayatri Projects | 58.0 | EPC | | 8152.8 | 8060.0 | 56 | Aug-15 | -1.1% |
| 4 Lanning of Baharagora to Singhara Section | L&T Ltd | 111.6 | EPC | 12829.4 | 9087 | 7435.0 | 6 | 7/6/2015 | -18.2% |
| Section D-E, D-G JNPT Phase-II (Package IV) | Ashoka Buildcon | 10.6 | EPC | 4744.2 | 3955.1 | 4140.0 | 4B | 9/18/2015 | 4.7% |
| Amra Marg JNPT Phase II (Package III) | J. Kumar Infra-JM Mhatre Infra JV | 12.2 | EPC | 5476.7 | | 5000.0 | 348A, SH54 | Aug-15 | |
| Gavanphata Interchange JNPT Phase-II (Package –II) | J. Kumar Infra-JM Mhatre Infra JV | 24.2 | EPC | 6518.5 | | 5947.0 | 4B, SH54 | | |
| Karalphata Interchange JNPT Phase-II, (Package-I) | J. Kumar Infra-JM Mhatre Infra JV | 9.8 | EPC | 5700.7 | | 5390.0 | 4B, SH54 | | |
| 4 - lane Islampur Bypass | Ashoka Buildcon | 10.3 | EPC | | 2385 | 2770.0 | 31 | | 16.2% |
| Rehab & upgradation of existing road to 2-lane with PS config in Jowai – Meghalaya/Assam Border section | G. R. Infraprojects | 102.3 | EPC | | 4792.1 | 4682.7 | 44 | 9/10/2015 | -2.3% |
| Rehabilitation and Augmentation of 4 Laning Of Kharar-Kurali Section | M.G. Contractors Pvt. Ltd. | 14.1 | EPC | | 2392.3 | 2122.4 | 21 | 9/24/2015 | -11.3% |
| Improvement of Amritsar bypass by construction of additional structures and service road | Varaha Infra | 24.6 | EPC | | 2731 | 2293.4 | 1 | 9/4/2015 | -16.0% |
| 2-Lane With PS Chhapra-Rewaghat-Muzaffarpur Section | G. R. Infraprojects | 73.1 | EPC | 5161.3 | 3370 | | 102 | Aug-15 | |
| Two Laning With P.S. Of Biharsharif-Barbigha-Mokama (2nd Call) | G. R. Infraprojects | 54.6 | EPC | 3995.4 | 2300.6 | | 82 | Aug-15 | |
| Four laning of Patna to Koilwar | Madhucon Projects | 43.93 | EPC | 5560.7 | 4919 | | 30 | Aug-15 | |
| Two Laning with paved shoulder of Chhapra – Gopalganj | G. R. Infraprojects | 94.26 | EPC | 8548.0 | 6407 | | 85 | Aug-15 | |
| Four-Laning of Forbesganj to Jogbani Section (ICP at Jogbani) | JKM Infraprojects | 9.3 | EPC | 3220.9 | 2581 | | 57A | Aug-15 | |
| 2 laning with PS of Uncha Nagla-Khanuawa-Roppas-Dolpur | H G Infra Eng. Pvt Ltd | 75 | EPC | | 2759 | | 12 | Aug-15 | |
| Aligarh Moradabad | PNC Infratech | 146.4 | EPC | | 5033 | 6445.0 | 93 | | 28.0% |
| **Total** | | **1771.9** | | **108311.8** | **196225.8** | **186478.2** | | | |

*Source: NHAI, Emkay Research*

**Exhibit 35: List of projects awarded under EPC Type (in Rs Mn) in FY15 – Competitive intensity high**

| Projects | Bidder | Length (in Km) | Type | Project Cost (including land cost plus R&R) | EPC work cost | Awarded Cost | NH No | LOA Issue Date | % Bidding below benchmark cost |
|---|---|---|---|---|---|---|---|---|---|
| 2/4 lane Jaisalmer-Barmer | GR Infra Projects | 131.41 | EPC | 4822.7 | 3712.2 | 2987.7 | 15 | 11-04-14 | -19.5% |
| Tirumayam to Manamadurai | Dilip Buildcon | 77.72 | EPC | 4011.1 | 2525.3 | 2520 | 226 | 30-04-14 | -0.2% |
| Jodhpur to Pachpadra | Sadbhav Engg | 85.61 | EPC | 2647.2 | 2124 | 2124 | 112 | 11-04-14 | 0.0% |
| Bagundi to Barmer | GR Infra Projects | 74.1 | EPC | 2061.2 | 1671.7 | 1671.7 | 112 | 11-04-14 | 0.0% |
| Construction flyover at Bahalgarh & 2 lane bridge near Rasoi | Gawar Const | | EPC | 779.7 | | 698.1 | 1 | 05-05-14 | 0.0% |
| 2 Laning with PS Chappra – Rewaghat – Muzaffarpur | Supreme Infra | 73.08 | EPC | 4157.1 | 3144.9 | 3370 | 102 | 04-06-14 | 7.2% |
| 2 lanning Thanjavur -Pudukottai | Gayatri - SPL | 55.22 | EPC | 2832.7 | 1661 | 1589.2 | 226 | 10-09-14 | -4.3% |
| 2/4 Laning of Talchar - Dubari-Chandikhole | Corson Corivam Const | 132.35 | EPC | 14765.6 | 9964 | 8580 | 23/200 | 30-10-14 | -13.9% |
| Phalodi -Jaisalmer | Corson Corivam Const | 160.45 | EPC | 5675.1 | 5675 | 4278.5 | 15 | 28-10-14 | -24.6% |
| 4 laning of Patna-Gaya-Dobhi | ILFS Eng | 127.2 | EPC | 20156 | 11,270 | 12319.8 | 83 | 09-10-14 | 9.3% |
| 2 laning with PS of Karaikudi - Ramanathapuram | Transstroy | 80 | EPC | 4515.8 | 2897 | 2800 | 210 | 27-10-14 | -3.4% |
| 2 laning with PS of Sitarganj - Tanakpur | HG Infra Engg | 52 | EPC | 3600 | 2264 | 2431.1 | 125 | 09-10-14 | 7.4% |
| 4 Laning of Ludhiana – Talwandi Bhai section | Ceigall India Ltd | 6.0 | EPC | 465.7 | | 378.1 | 95 | 26-11-14 | -10.0% |
| 2 Laning with PS of Jodhpur - Pokaran section | GR Infraprojects Ltd | 139.3 | EPC | 4556 | 3068 | 2650 | 114 | 31-12-14 | -13.6% |
| 2 Laning with PS of Chas - Ramgarh | Dilip Buildcon Ltd | 78.2 | EPC | 3416.1 | 3416 | 3330 | 23 | 31-12-14 | -2.5% |
| Development & Upgradation of Bijapur - Gulbarga – Homnabad | Larsen & Toubro Ltd | 220.1 | EPC | 7090 | 7090 | 5230 | 218 | 1/2/2015 | -26.2% |
| Widening & Strengthening of Barmer-Sanchor- Gujarat Border | M/s Montecarlo Ltd | 106.3 | EPC | 5380.8 | 4203.3 | 3438 | 15 | 1/9/2015 | -18.2% |
| 4 laning Varanasi bypass incld. 4 laning of NH-29 | Apco Infratech Pvt Ltd | 16.6 | EPC | 2673.4 | 2673.4 | 2610.9 | 29/56 | 1/6/2015 | -2.3% |
| Ambala - Kaithal (4 laning) (Pckg 2) | Sadbhav Engg | 44.5 | EPC | 4602 | 4602 | 4590 | 65 | 3/3/2015 | -0.3% |
| Ramban-Banihal | HCC | 36 | EPC | 21690 | 12387 | 17830 | 1A | 9/23/2015 | 43.9% |
| Udhampur-Ramban | Gammon | 43 | EPC | 21370 | 13317 | 17090 | 1A | 9/23/2015 | 28.3% |
| Shahdol to MP/CG Border | Dilip Buildcon | | EPC | | 3647 | 3402 | | | |
| Ambala - Kaithal (4 laning) (Pckg 1) | Dilip Buildcon Ltd | 50.86 | EPC | 4831 | 4831 | 4577 | 65 | 3/30/2015 | -5.3% |
| Hisar-Dabwali (Pckg 1) | GR Infra Projects | 57 | EPC | 5798 | 5798 | 5490 | 10 | 3/3/2015 | -5.3% |
| Hisar-Dabwali (Pckg 2) | GR Infra Projects | 87.66 | EPC | 6954 | 6954 | 6480 | 10 | 3/3/2015 | -6.8% |
| Parwanoo to salon | GR Infra Projects | 39.14 | EPC | 9344.6 | 691 | 748.77 | 5 | 3/30/2015 | 8.4% |
| Rewa Jabalpur 1 | L&T | 69.19 | EPC | 7943 | 7943 | 6220 | 7 | 3/31/2015 | -21.7% |
| Rewa Jabalpur II | L&T | 69.07 | EPC | 7957.6 | 7957 | 6220 | 7 | 3/31/2015 | -21.8% |
| Rewa Jabalpur IV | L&T | 68.7 | EPC | 8102 | 8102 | 6630.4 | 7 | 3/31/2015 | -18.2% |
| Jabalpur -Lakhandon | L&T | 80.82 | EPC | 9288 | 9288 | 7426 | 7 | 3/31/2015 | -20.0% |
| 2 laning with PS Nagapattinam – Thanjavur Section | Madhucon Projects | 78.5 | EPC | 5639.2 | 4134 | 3969.5 | 67 | 3/3/2015 | -4.0% |
| 4 laning of Ghaghra Bridge to Varanasi section(package 1) | Dilip Buildcon - Varha Infra JV | 58.62 | EPC | 6116.5 | 6117 | 6743.4 | 233 | 3/31/2015 | 10.2% |
| **Total** | | **2325.6** | | **209084.8** | **166615.8** | **163793.1** | | | |

*Source: NHAI, Emkay Research*

## Hybrid annuity: NHAI targets to awards 576km in FY16E/1105 km in FY17E

The government is looking at awarding 576 km of national highway projects under the new hybrid annuity model (HAM) in FY16E The NHAI has identified 12 road projects, entailing an investment of Rs159.05 bn and spanning Delhi, Uttar Pradesh, Himachal Pradesh, Jharkhand and Maharashtra. Further, for FY17E, the government has identified 15 road projects - at a total length of 1105 km – and entailing an investment of Rs121.85 bn.

The HAM is a mix of engineering, procurement and construction (EPC) and build-operate-transfer (BOT) formats, with the government and the private companies sharing the total project cost in the ratio of 40:60 respectively. The government also shoulders the responsibility of revenue collection. The NHAI will collect toll and refund the amount in instalments over a period of 10 years in 20 equated instalments.

**Exhibit 36: Tenders published by NHAI in the HAM mode**

| Road Stretch (Hybrid Annuity Mode) | State | NH No. | Length km | Project cost (Rs mn) | Type |
|---|---|---|---|---|---|
| Delhi – Meerut Expressway (UP Border to Dasna) - Package II | Delhi/UP | 24 | 19.3 | 13765.1 | DBOT (Hybrid Annuity) |
| Four Laning of Meerut-Bulandshahr section | Uttar Pradesh | 235 (New NH-334) | 61.2 | 6803.8 | DBOT (Hybrid Annuity) |
| Four Laning of Solan Kaithalighat Section (NHDP Phase-III) | Himachal Pradesh | 5 | 22.9 | 5211.4 | DBOT (Hybrid Annuity) |
| 4-Laning of Rampur-Kathgodam section [Package-II] | Uttarakhand | 87 (New NH No. 9, 109) | 49.8 | 5714.4 | DBOT (Hybrid Annuity) |
| 4-Laning of Rampur-Kathgodam section [Package-I] | Uttar Pradesh | 87 (New NH No. 9) | 43.4 | 6159.4 | DBOT (Hybrid Annuity) |
| Four laning of Ner Chowk – Pandoh including Pandoh Bypass section (Package – I) | Himachal Pradesh | 21 | 31.3 | 9593.3 | DBOT (Hybrid Annuity) |
| Four Laning of Takoli Kullu section | Himachal Pradesh | 21 | 28.7 | 4048.5 | DBOT (Hybrid Annuity) |
| Four Laning of Gagalheri-Saharanpur-Yamunanagar (UP/Haryana Border) section | Uttar Pradesh | 73 | 51.5 | 10093.6 | DBOT (Hybrid Annuity) |
| 4-Laning of Chutmalpur-Ganeshpur section & Roorkee-Chutmalpur-Gagalheri section | Uttar Pradesh/Uttarakhand | 72A & 73 | 53.3 | 8098.8 | DBOT (Hybrid Annuity) |
| Four Lane Stand Alone Ring Road/Bypasses for Nagpur City, Package-II | Maharashtra | | 28.0 | 5479.9 | DBOT (Hybrid Annuity) |
| Four Lane Stand Alone Ring Road / Bypass for The Nagpur City, Package-I | Maharashtra | | 33.5 | 4955.6 | DBOT (Hybrid Annuity) |
| Construction of new link (NH-133B) (Junction of NH-133B and 131A on Manihari Bypass) and Construction of Manihari Bypass (Junction of NH-133B and 131A on Manihari Bypass) near Narenpur in Bihar including Ganga Bridge to 4 lane standard | Jharkhand/Bihar | 131A | 21.9 | 19055.5 | DBOT (Hybrid Annuity) |
| Four Laning of Tuljapur – Ausa (including Tuljapur Bypass) Section | Maharashtra | 361 | 67.4 | 9050 | DBOT (Hybrid Annuity) |
| **Total** | | | **512.2** | **108039.3** | |

*Source: NHAI, Emkay Research*

**Exhibit 37: Projects awarded by NHAI in the HAM mode**

| Projects | Bidder | Length (Km) | NH no. | Type | Project Cost (Rs mn) | Awarded Project Cost (Rs mn) | NPV of Project Cost incld. O&M (Rs mn) | Annual O&M cost (Rs mn) |
|---|---|---|---|---|---|---|---|---|
| Delhi – Meerut Expressway (Dasna to Hapur) - Package III | APCO | 22.3 | 24 | DBOT (HAM) | 10236.9 | 10570 | 10200 | 171 |
| Delhi – Meerut Expressway - Package I | Welspun | 8.7 | 24 | DBOT (HAM) | 6636 | 8410 | 7350 | 39.5 |
| **Total** | | **31** | | | **16872.9** | **18980** | **17550** | |

*Source: NHAI, Emkay Research*

## NHAI awarded two road projects in Hybrid Annuity mode

NHAI has awarded two packages of the Delhi – Meerut Expressway (package 1 & 3) under the Hybrid Annuity mode.

### Delhi – Meerut Expressway (Dasna to Hapur) - Package III

- APCO was the lowest bidder (L1) in this project with awarded project cost of Rs10.57 bn, project NPV of Rs10.2 bn and annual O&M cost of Rs171 mn.
- L2 was Sadbhav with bid project cost of Rs12.06 bn, project NPV of Rs12 bn and annual O&M cost of Rs240 mn.
- L3 was PNC Infra with bid project cost of Rs15 bn, project NPV of Rs13.85 bn.
- L4 was Ashoka with bid project cost of Rs15.8 bn, project NPV of Rs15.29 bn.

### Delhi – Meerut Expressway - Package I

- Welspun was the lowest bidder (L1) in this project with awarded project cost of Rs8.41 bn, project NPV of Rs7.35 bn and annual O&M cost of Rs39.5 mn.
- L2 was Ashoka with bid project cost of Rs13.06 bn, project NPV of Rs12.6 bn and annual O&M cost of Rs211.5 mn.

The difference between the L1 and L2 remains large which itself signifies that no developer wants to bid aggressively given the strong bid pipeline in HAM model.

**Exhibit 38: Total projects identified under HAM**

| Project Name | NH No | NHDP Phase | Length (Km) | TPC (Rs bn) |
|---|---|---|---|---|
| Singhara-Binjhabahal | 6 | 4 | 104 | 11.5 |
| Binjhabahal-Telebani | 6 | 4 | 78 | 9 |
| Govindpur (Rajgunj)-Chas-West Bengal Border | 32 | 4 | 57 | 5.5 |
| Waranga-Warda (Package 1) | 361 | 4 | 68 | 6.8 |
| Waranga-Warda (Package 2) | 361 | 4 | 78 | 7.8 |
| Waranga-Warda (Package 3) | 361 | 4 | 70 | 7.2 |
| Tuljapur-Ausa including Tuljapur bypass | 361 | 4 | 67 | 6.2 |
| Chutmalpur-Ganeshpur & Roorkee-Chutmalpur-Saharanpur-Yamunagar | 72A & 73 | 4 | 105 | 14.0 |
| Lucknow-Sultanpur | 56 | 4 | 126 | 13.0 |
| Rampur-Kathgodam | 87 | 3 | 93 | 10.5 |
| Meerut-Bulandshahr | 235 | 4 | 61 | 6.5 |
| Nagpur Bye-pass | 73 | 7 | 61 | 9.2 |
| Talaja to Mahuva | 8E | 4 | 45 | 6.8 |
| Mahuva to Kagavadar | 8E | 4 | 40 | 6.3 |
| Kagavadar to Una | 8E | 4 | 41 | 5.9 |
| Una to Kodinar | 8E | 4 | 41 | 6.6 |
| Delhi-Dasna-Hapur (part of Delhi-Meerut Expressway | 24 | | 49 | 28.2 |
| NerChowck-Kullu | 21 | 4 | 75 | 43.7 |
| Shimla-Solan | 22 | 3 | 51 | 25.5 |
| Kharar-Ludhiana | 95 | | 76 | 13.3 |
| **Total** | | | **1386** | **243.5** |

*Source: NHAI, Emkay Research*

## Back ended cash flows - 2/3rd of the Annuity payments to be made in the last 1/3rd of concession period, balanced out by accompanied interest payments in earlier years on balance annuities

As per our calculation there are few aspects which remain critical to make project IRR accretive

- The equity IRR is highly sensitive to O&M payments, making it an important driver of returns for the concessionaire (as per our calculation O&M should be above 2% plus to make IRR attractive, see sensitivity tables below), higher O&M payments make the IRR increasingly attractive.
- The size of the project (Total Project Cost-TPC) also affects returns with the IRR becoming increasingly unattractive for smaller sized projects.
- Fall in WPI, CPI would put at risk the returns arising from adjusted O&M payments.

Hybrid annuity model requires lower equity investments which could attract EPC contractors and road developers to bid for projects to garner EPC margin and as this is an ideal asset for securitization, such a product could also be an attractive asset for foreign pension funds. Given that BOT projects are not seeing participation, we believe that government will convert BOT projects into hybrid annuity projects.

**Exhibit 39: Revenue flow of HAM project**

| Revenues (in Rs mn) | FY16E | FY17E | FY18E | FY19E | FY20E | FY21E | FY22E | FY23E | FY24E | FY25E | FY26E | FY27E | FY28E | FY29E | FY30E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annuity Payments | 37.8 | 77 | 120.4 | 176.4 | 232.4 | 296.8 | 364 | 438.2 | 527.8 | 630 | 750.4 | 893.2 | 1065.4 | 1271.2 | 1519 |
| Interest on Balance annuity | 919.8 | 915.6 | 904.8 | 888.4 | 865.9 | 836.8 | 800.5 | 756.4 | 703.2 | 639.6 | 563.6 | 473.2 | 365.5 | 237 | 83.5 |
| O&M Payments | 140 | 147 | 154.4 | 162.1 | 170.2 | 178.7 | 187.6 | 197 | 206.8 | 217.2 | 228 | 239.4 | 251.4 | 264 | 277.2 |
| **Total Revenue** | **1097.6** | **1139.6** | **1179.5** | **1226.9** | **1268.5** | **1312.3** | **1352.1** | **1391.6** | **1437.9** | **1486.7** | **1542.1** | **1605.9** | **1682.3** | **1772.2** | **1879.7** |
| *% growth* | | *4%* | *4%* | *4%* | *3%* | *3%* | *3%* | *3%* | *3%* | *3%* | *4%* | *4%* | *5%* | *5%* | *6%* |

*Source: NHAI, Emkay Research*

### Hybrid Annuity Model - Sensitivity to key variables

#### O&M Sensitivity

TPC - Rs14 bn, Bank Rate - 8%, Borrowing Cost - 11%, D:E - 70:30, Escalation Rate - 5%

**Exhibit 40: Sensitivity to O&M Payments**

| O&M as a % of TPC | Equity IRR |
|---|---|
| 0.50% | 9.40% |
| 1% | 11.40% |
| 1.50% | 13.30% |
| 2% | 15.30% |
| 2.50% | 17.20% |

*Source: NHAI, Emkay Research*

#### Total Project Cost (TPC) Sensitivity

O&M Payment - 1% of TPC, Bank Rate - 8%, Borrowing Cost - 11%, D:E - 70:30, Escalation Rate - 5%

**Exhibit 41: Sensitivity to Project cost**

| TPC (Rs mn) | Equity IRR |
|---|---|
| 5000 | 10.00% |
| 6500 | 10.50% |
| 8000 | 10.80% |
| 9500 | 11.00% |
| 12000 | 11.20% |
| 14000 | 11.40% |

*Source: NHAI, Emkay Research*

### Borrowing Cost Sensitivity

TPC - Rs14 bn, O&M Payment - 1% of TPC, Bank Rate - 8%, D:E - 70:30, Escalation Rate - 5%

**Exhibit 42: Sensitivity to borrowing cost**

| Borrowing Cost % | Equity IRR |
|---|---|
| 7% | 15.10% |
| 8% | 14.10% |
| 9% | 13.20% |
| 10% | 12.20% |
| 11% | 11.40% |

*Source: NHAI, Emkay Research*

## Contours of HAM Concession agreement

### Conditions precedent

The Authority has to satisfy Conditions Precedent after 30 days of submission of Performance Security (PS) within the next 30 days.

**Deemed Termination upon delay**- If Appointed date does not occur before the 1st Anniversary or the extended period, the project will be deemed to be terminated.

### Commencement of Concession Period

The date on which Financial Close is achieved and all the Conditions Precedent are satisfied shall be the Appointed Date which shall be the date of commencement of the Concession Period. The concessionaire shall notify the authority and thereupon be entitled to commence construction on the Project.

### Performance Security

The concessionaire is required to provide performance security (approx. 5% of the bid project cost) to the authority within 30 days of inking the agreement. Until such time as the performance security is provided, the bid security shall remain in force and effect, and only upon the provision of performance security shall the authority release the bid security.

### Release of Performance Security

The performance security shall be released one year after the Appointed Date or after the concessionaire has expended an aggregate sum of 30% of the bid project cost on construction of the project, however, the Performance Security shall not be released and shall be kept alive by the Concessionaire if the Concessionaire is in breach of this Agreement.

### Deemed Performance Security

Upon release of the Performance Security, a substitute Performance Security for a like amount shall be deemed to be created for and in respect of the remaining Concession Period (the **"Deemed Performance Security"**). The Deemed Performance Security shall be unconditional and irrevocable, and shall constitute the first and exclusive charge on an equivalent balance in the Escrow Account, subject only to the statutory dues and Taxes and on all amounts due and payable by the Authority to the Concessionaire, and the Authority shall be entitled to enforce the Deemed Performance Security through a withdrawal from the Escrow Account or by making a deduction from the amounts due and payable by it to the Concessionaire

### Additional Performance Security

The Concessionaire shall along with the Performance Security provide to the Authority an irrevocable and unconditional guarantee from a Bank for a sum equivalent to 10% of the difference in the Estimated Project Cost and the Bid Project Cost as security to the Authority if the Bid of the **Selected Bidder is lower by more than 10% with respect to the Estimated Project Cost.** The Additional Performance Security will be released on achievement of Milestone-III.

### Right of way

The authority is obligated to provide right of way to the extent of at least 80% of the length of the project prior to the appointed date. Failure to do so shall make the authority liable to payment damages. Works on the lands provided within 180 days of the Appointed Date are to be completed within the Scheduled Completion Date.

### Construction of the Project

The concessionaire shall undertake the construction of the project on or after the appointed date, with the 550th day from the appointed date being the scheduled date for completion of the project (the "Scheduled Completion Date").

The concessionaire will construct the project in accordance with the Project Completion Schedule, in the event of failure to achieve any project milestone within 90 days of the set date, due to reasons attributable to none other than the concessionaire itself, it shall be liable to pay damages to the authority (0.2% of Performance Security for each day of delay). However in case the project is completed on or before the scheduled completion date then the authority shall refund the amount paid as damages.

If the project is delayed (not achieved COD) for more than 270 days beyond the Scheduled Completion Date, and the delay is not on account of Force Majeure or attributable to the Authority, then the authority is entitled to terminate this agreement.

### Commercial Operation Date

The project shall be deemed completed on receipt of Completion certificate or Provisional certificate and the date of receiving the same will be considered the Commercial Operation Date (COD). The project shall enter into commercial service on COD and the concessionaire shall be entitled to Annuity Payments.

In case of land acquisition delay, a Provisional Completion Certificate shall be issued on completion of 100% of the length made available to the concessionaire within 6 months of Appointed Date.

### Change of scope

Any Change of Scope is to be determined as per Schedule of Rates (SOR). **For reduced scope of work, the bid project cost shall be reduced by 115%** of the reduction in cost and further multiplied by a factor of bid project cost/estimated project cost.

### Operation & Maintenance

During the concession period the concessionaire is obligated to operate and maintain the project in compliance with the agreement. Carrying out periodic maintenance involves undertaking routine maintenance as well as major maintenance works.

### Financial Closure

**The concessionaire is required to achieve financial close within 150 days of signing the agreement with the authority**. Failing this the authority will give two extensions of 120 days and 95 days subject to prepayment of damages. If Financial close is not achieved even after the extended period the contract shall be deemed terminated.

### Payment of bid project cost

The bid project cost agreed upon shall include cost of construction, interest during construction, working capital, physical contingencies and all other costs, expenses and charges for and in respect of construction of the Project, save and except any additional costs arising on account of variation in Price Index, Change of Scope, Change in Law, Force Majeure or breach of this Agreement, which costs shall be due and payable to the Concessionaire in accordance with the provisions of the Agreement. **The evaluation of the bid will be based upon the NPV (life cycle cost).**

### Adjusted bid project cost

The bid project cost will be revised from time to time in order to reflect the variation in Price Index (Reference Index = 70% WPI + 30% CPI) over the elapsed time period between periodic payments as well as at the start, between bid date and actual commencement of construction.

The amount due for the reference period would be multiplied by the Price Index Multiple (change in Price index during that period) to account for variation in costs.

### Payment of Bid Project cost

**Completion cost:** The Bid Project Cost adjusted for price variation at the stages of Milestones till the date of completion.

40% of the bid project cost adjusted for the Price Index Multiple shall be paid to the concessionaire in 5 equal instalments (8%) each during the construction period.

The remaining 60% shall be paid in 30 bi-annual instalments spanning a period of 15 years commencing from 180$^{th}$ day of COD.

#### Payment during Construction period

The Payment Milestone for release of payment during Construction Period shall be as under:

- I (first) Payment Milestone - On achievement of 20% Physical Progress
- II (second) Payment Milestone - On achievement of 40% % Physical Progress
- III (third) Payment Milestone – On achievement of 60% Physical Progress

- IV (fourth) Payment Milestone - On achievement of 75% Physical Progress
- V (fifth) Payment Milestone – On achievement of 90% Physical Progress

Provided that in case of Change of Scope, the Physical Progress shall be recalculated to account for the changed scope.

### Bonus on Early Completion

In the event that the Concessionaire shall achieve COD more than 30 days prior to the Scheduled Completion Date, the Authority shall pay to the Concessionaire a bonus equal to 0.5% of 60 % of the Bid Project Cost for every month by which COD shall precede the Scheduled Completion Date. The Bonus shall be due and payable to the Concessionaire along with the 1st (first) Annuity Payment.

### Annuity Payments during the operation period

The Completion Cost shall be the summation of below milestones:

- 20% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the date of report confirming 20% Physical Progress.
- Another 20% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the date of report confirming 40% Physical Progress.
- Another 20% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the date of report confirming 60% Physical Progress.
- Another 15% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the date of report confirming 75% Physical Progress.
- Another 15% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the date of report confirming 90% Physical Progress.
- Another 10% of the Bid Project Cost adjusted for the Price Index Multiple as applicable on the Reference Index Date preceding the COD.

The Parties agree that 40% of the Completion Cost shall be deemed to have been paid during the Construction Period and the balance remaining shall be due and payable during the Operation Period.

The remaining 60% shall be paid in 30 bi-annual instalments spanning a period of 15 years commencing from $180^{th}$ day of COD.

**Exhibit 43: Semi-annual annuity payments due and payable during the years following COD**

| Annuity following the COD | Percentage of Completion Cost |
|---|---|
| 1st Annuity | 0.10% |
| 2nd Annuity | 0.17% |
| 3rd Annuity | 0.24% |
| 4th Annuity | 0.31% |
| 5th Annuity | 0.38% |
| 6th Annuity | 0.48% |
| 7th Annuity | 0.58% |
| 8th Annuity | 0.68% |
| 9th Annuity | 0.78% |
| 10th Annuity | 0.88% |
| 11th Annuity | 1.00% |
| 12th Annuity | 1.12% |
| 13th Annuity | 1.24% |
| 14th Annuity | 1.36% |
| 15th Annuity | 1.48% |
| 16th Annuity | 1.65% |
| 17th Annuity | 1.80% |
| 18th Annuity | 1.97% |
| 19th Annuity | 2.15% |
| 20th Annuity | 2.35% |
| 21st Annuity | 2.56% |
| 22nd Annuity | 2.80% |
| 23rd Annuity | 3.05% |
| 24th Annuity | 3.33% |
| 25th Annuity | 3.64% |
| 26th Annuity | 3.97% |
| 27th Annuity | 4.34% |
| 28th Annuity | 4.74% |
| 29th Annuity | 5.20% |
| 30th Annuity | 5.65% |

*Source: NHAI, Emkay Research*

### Interest Payments

Each of the biannual instalments payable hereunder shall be paid along with interest. Interest shall be due and payable on the reducing balance of Completion Cost at an interest rate equal to the applicable Bank Rate plus 3% [Bank Rate + 3%]. Such interest shall be due and payable biannually along with each instalment.

### O&M Payments

The O&M cost will be borne by the concessionaire and in lieu of the same the Authority shall provide a lump sum amount in the form of bi-annual payments computed from the O&M cost quoted by the concessionaire in their O&M bid (1$^{st}$ year O&M cost). The payments will be adjusted for the Price Index Multiple for the period elapsed between payments throughout the concession period.

### Mobilization Advance

**The authority shall provide mobilization advance of a sum not exceeding 10% of the bid project cost** upon the concessionaire furnishing a bank guarantee. The rate of interest on the mobilization advance shall be equal to the bank rate, compounded annually. The Mobilization Advance shall be deducted by the Authority in 4 equal instalments from each of the payments to be made to the Concessionaire during construction period and the interest thereon shall be recovered as the 5th and final instalment 120 days after the date of recovery of the 4th instalment.

## Force majeure

Upon the occurrence of any Force Majeure Event prior to the Appointed Date, the period set forth for fulfilment of Conditions Precedent and for achieving Financial Close shall be extended by a period equal in length to the duration of the Force Majeure Event.

At any time after the Appointed Date, if any Force Majeure Event occurs:

- before COD, the Construction Period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
- After COD, the Concessionaire shall be entitled to receive Annuity Payments plus interest due and payable under this Agreement.

Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of the Authority, if any.

## Defect liability & Retention money

The concessionaire will be responsible for repairing and rectifying any defects in the project for a period of 120 days after termination or transfer of the project on completion of concession period. In order to enforce the same a sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date shall be retained in the Escrow Account for a period of 120 days after Termination/Transfer for meeting the liabilities.

## Change in law

If there is an increase in costs due to change in law, the concessionaire may notify the Authority and propose amendments to the concession agreement such that the concessionaire remains in the same financial position (Net Present Value of cash flows for the Project remain intact) as if no change in law has occurred. Consequently if the change in law benefits the concessionaire then the Authority can similarly amend the agreement such that the concessionaire remains in the same financial position as before the change in law.

## Termination

### Termination for Concessionaire Default

**Termination during Construction Period** is based on the Payment Milestone achieved which is in terms of the Physical Progress made by the Concessionaire in the Project.

**Exhibit 44: Termination for Concessionaire default during construction period**

| Payment Milestone | Termination Payment |
|---|---|
| 1st Payment Milestone | NIL |
| 2nd Payment Milestone | 50% of Debt Due or 9% of Bid Project Cost , whichever is lower |
| 3nd Payment Milestone | 60% of Debt Due or 16% of Bid Project Cost , whichever is lower |
| 4th Payment Milestone | 70% of Debt Due or 24% of Bid Project Cost , whichever is lower |
| 5th Payment Milestone | 80% of Debt Due or 32% of Bid Project Cost , whichever is lower |

*Source: NHAI, Emkay Research*

In case of **Termination during Operation Period,** an amount equal to 65% of the remaining Annuities will be payable.

### Termination for Force Majeure due to Non-Political Event

On **Termination for Force Majeure due to Non-Political Event,** Termination Payment during Construction Period will be as follows

**Exhibit 45: Termination for Force Majeure due to Non-Political Event**

| Payment Milestone | Basis of calculation for termination payment |
|---|---|
| 1st Payment Milestone | 90% Debt Due or 8.10% of Bid Project Cost, whichever is lower |
| 2nd Payment Milestone | 90% Debt Due or 16.20% of Bid Project Cost, whichever is lower |
| 3nd Payment Milestone | 90% Debt Due or 24.30% of Bid Project Cost, whichever is lower |
| 4th Payment Milestone | 90% Debt Due or 30.38% of Bid Project Cost, whichever is lower |
| 5th Payment Milestone | 90% Debt Due or 36.45% of Bid Project Cost, whichever is lower |

*Source: NHAI, Emkay Research*

**Termination Payment during Operation Period** shall be calculated as an amount equal to 75% of sum of Annuity Payments remaining unpaid for and in respect of the Concession Period.

**Termination for Force Majeure due to Indirect Political Event**

On **Termination for Force Majeure due to Indirect Political Event**, Termination Payment during Construction Period will be as follows

**Exhibit 46: Termination for Force Majeure due to Indirect Political Event**

| Payment Milestone | Basis of calculation for Debt Due payment |
|---|---|
| 1st Payment Milestone | Debt Due or 9% of Bid Project Cost , whichever is lower |
| 2nd Payment Milestone | Debt Due or 18% of Bid Project Cost , whichever is lower |
| 3nd Payment Milestone | Debt Due or 27% of Bid Project Cost , whichever is lower |
| 4th Payment Milestone | Debt Due or 33.75% of Bid Project Cost , whichever is lower |
| 5th Payment Milestone | Debt Due or 40.50% of Bid Project Cost , whichever is lower |

*Source: NHAI, Emkay Research*

Additionally the concessionaire shall also receive 110% of Adjusted Equity.

**Termination Payment during Operation Period** shall be calculated as an amount equal to 90% of sum of Annuity Payments remaining unpaid for and in respect of the Concession Period.

**Termination for Authority Default / Political Force Majeure**

On **Termination for Authority Default / Political Force Majeure**, Termination Payment during Construction Period will be as follows

**Exhibit 47: Termination for Authority Default / Political Force Majeure**

| Payment Milestone | Basis of calculation for Debt Due payment |
|---|---|
| 1st Payment Milestone | Debt Due or 9% of Bid Project Cost , whichever is lower |
| 2nd Payment Milestone | Debt Due or 18% of Bid Project Cost , whichever is lower |
| 3nd Payment Milestone | Debt Due or 27% of Bid Project Cost , whichever is lower |
| 4th Payment Milestone | Debt Due or 33.75% of Bid Project Cost , whichever is lower |
| 5th Payment Milestone | Debt Due or 40.50% of Bid Project Cost , whichever is lower |

*Source: NHAI, Emkay Research*

Additionally the concessionaire shall also receive 150% of Adjusted Equity.

**Termination Payment during Construction Period** shall be calculated as an amount equal to 100% of Annuity remaining unpaid for and in respect of the Concession Period.

## Project Completion schedule

During Construction Period, the Concessionaire shall comply with the requirements set forth for each of the Project Milestones and the Scheduled Completion Date (the "Project Completion Schedule"). The Concessionaire shall notify the Authority of such compliance within 15 days of the date of each Project Milestone.

**Project Milestone-I**

- Project Milestone-I shall occur on the date falling on the 120$^{th}$ day from the Appointed Date (the "Project Milestone-I").
- Prior to the occurrence of Project Milestone-I, the Concessionaire shall have expended not less than 20% of the total capital cost set forth in the Financial Package.
- Prior to the occurrence of Project Milestone –I, the Concessionaire shall have commenced construction of the Project and achieved 20% Physical Progress.

**Project Milestone-II**

- Project Milestone-II shall occur on the date falling on the 270$^{th}$ day from the Appointed Date (the "Project Milestone-II").
- Prior to the occurrence of Project Milestone-II, the Concessionaire shall have expended not less than 35% of the total capital cost set forth in the Financial Package. Provided, however, that at least 70% of the expenditure referred to hereinabove shall have been incurred on physical works which shall not include advances of any kind to any person or expenditure of any kind on plant and machinery.

- Prior to the occurrence of Project Milestone –II, the Concessionaire shall have commenced construction of the Project and achieved 35% Physical Progress

**Project Milestone-Ill**

- Project Milestone-Ill shall occur on the date falling on the 365th day from the Appointed Date (the "Project Milestone-Ill").
- Prior to the occurrence of Project Milestone-Ill, the Concessionaire shall have commenced construction of all Project Facilities and expended not less than 75% of the total capital cost set forth in the Financial Package.
- Prior to the occurrence of Project Milestone –III, the Concessionaire shall have commenced construction of the Project and achieved 75% Physical Progress

### Scheduled Completion Date

- The Scheduled Completion Date shall be the 550th day from the Appointed Date.
- On or before the Scheduled Completion Date, the Concessionaire shall have completed the Project in accordance with this Agreement.

### Extension of period

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

## Conditions Precedent

The Authority is required to satisfy the Conditions Precedent after 30 days of submission of Performance Security (PS) within next 30 days. If the appointed date does not occur before the 1st Anniversary or the extended period, the project will be deemed to be terminated.

### For the authority

- procured for the Concessionaire the Right of Way to the Site
- procured all Applicable Permits relating to environmental protection, and conservation in respect land forming part of the Right of Way
- procured forest clearance for and in respect land forming part of the Right of Way, save and except permission for cutting trees; and
- procured approval of the General Arrangement Drawings for the road over bridges/under bridges at level crossings on the Project

### For the concessionaire

- provided Performance Security to the Authority along with the Additional Performance Security, if required, within 30 days of signing of this Agreement;
- executed and procured execution of the Escrow Agreement;
- executed and procured execution of the Substitution Agreement;
- procured all the Applicable Permits specified in Part-I of Schedule-E unconditionally or if subject to conditions, then all such conditions required to be fulfilled by the date specified therein shall have been satisfied in full and such Applicable Permits are in full force and effect;
- executed the Financing Agreements and delivered to the Authority 3 (three) true copies thereof, duly attested by a Director of the Concessionaire
- delivered to the Authority 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders; and
- delivered to the Authority {from the Consortium Members, their respective} confirmation of the correctness of the representations and warranties

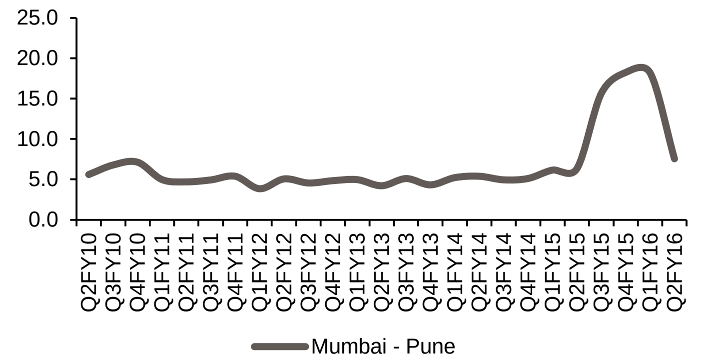
## Key policies announced in the road sector

- **Nov 18:** Cabinet allowed NHAI to consider extension of toll collection (concession agreement period) for the projects which have faced delays due to slow land acquisition, shifting of utilities, environment clearances, or issues related to railway over bridges and under bridges.
- **Sep 15:** Amendments to MCA
- **Aug 15:** Removal of clause related to investment of money earned on exits in other NHAI projects
- **May 15:** NHAI funding for projects that are stuck in advanced stages of completion
- **May 15:** 100% exit for developer after two years of project completion both for pre-2009 and post-2009 projects
- **Feb 15:** Govt budgetary support to NHs raised by 178% to Rs 856.1 bn in Union Budget 2015-16
- **Dec 14:** 5:25 scheme which allowed banks to refinance or sell their long-term project loans every 5 years
- **Aug 14:** Fast track clearances: i)States to clear projects with up to 40 acres of forest land, ii) Increased limit for sand mining, iii) Online filing and clearing of ROBs and RUBs
- **Aug 14:** Waiver of charges for mutual usage of land between the railways and roads ministries
- **Jul 14:** Bidding of tenders only after 80% land has been acquired
- **Mar 14:** Premium rescheduling for stressed projects
- **Mar 13:** De-linking of forest and environmental clearances

## Traffic growth picked up, negative WPI moderates toll hike

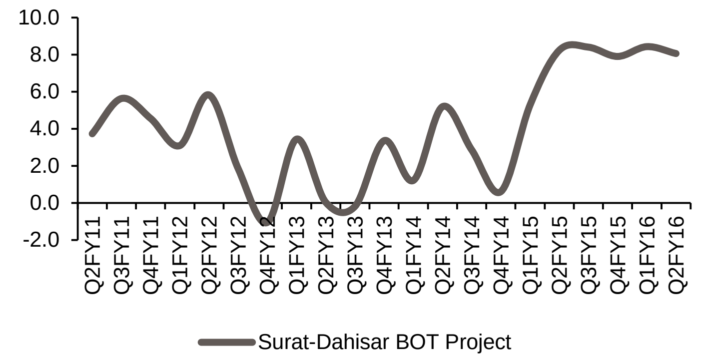
We have seen that Traffic growth picked up from Q3FY14 onwards, weighted average traffic growth increased from 4.7% in Q3FY14 (Sample size includes BOT portfolio of IRB Infrastructure, Sadbhav Engineering, Ashoka Buildcon , ITNL covering 2341 km) to 10.1% in Q1FY16 however pace of traffic growth moderated in Q2FY16 to 6.1% (from Q3FY16 larger base likely to moderate the traffic growth). For FY16 tariff hike across road projects was in the range of 2-3% (some negative as well) due to the decline in WPI.

**Exhibit 48: IRB Infra - Volume growth 7.5% YoY in Q2FY16**



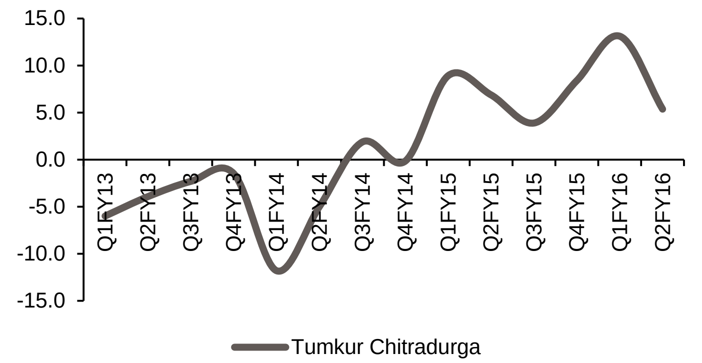

*Source: Company, Emkay Research*

**Exhibit 49: IRB Infra - Volume growth 8.1% YoY in Q2FY16**



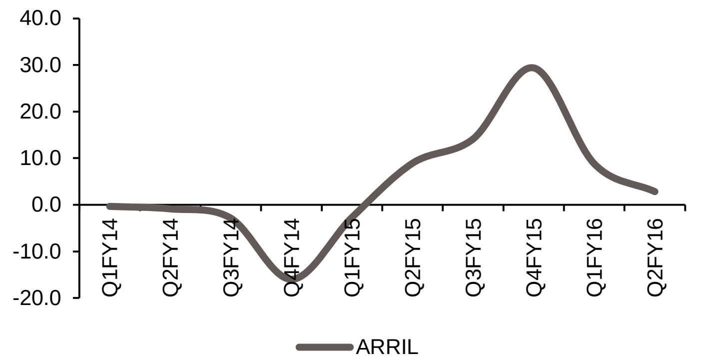

*Source: Company, Emkay Research*

**Exhibit 50: IRB Infra - Volume growth 5.4% YoY in Q2FY16**



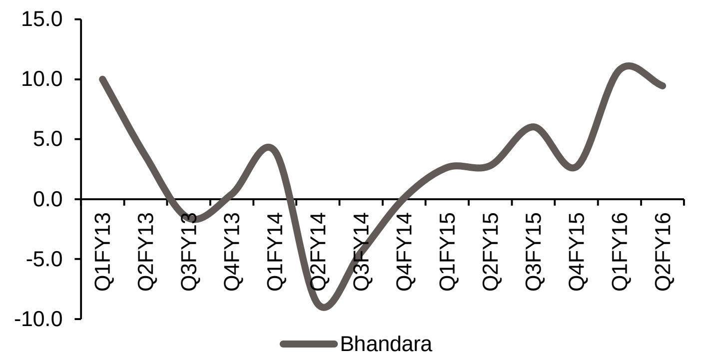

*Source: Company, Emkay Research*

**Exhibit 51: Sadbhav Engg - Volume growth of 3.4% YoY in Q2FY16**



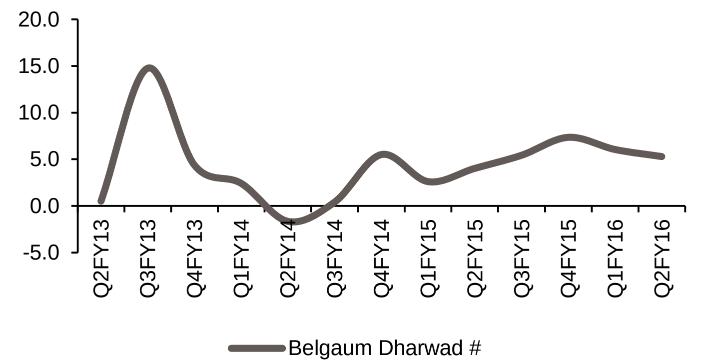

*Source: Company, Emkay Research*

**Exhibit 52: Ashoka Buildcon - Volume growth of 9.4% YoY in Q2FY16**




*Source: Company, Emkay Research*

**Exhibit 53: Ashoka Buildcon - Volume growth of 5.3% YoY in Q2FY16**



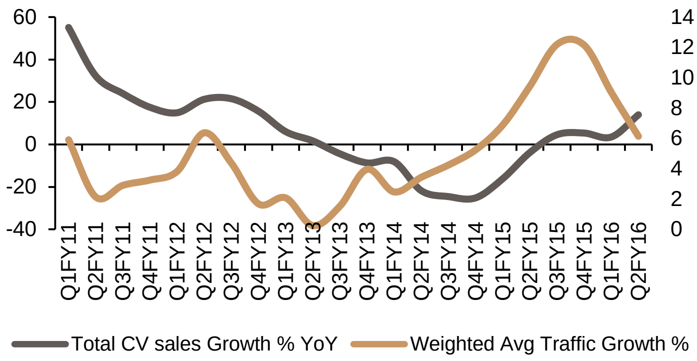

*Source: Company, Emkay Research*

**Exhibit 54: BOT Traffic growth**

| BOT Projects | State | NH | Length Kms | Q2FY13 | Q3FY13 | Q4FY13 | Q1FY14 | Q2FY14 | Q3FY14 | Q4FY14 | Q1FY15 | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IRB Infra** | | | | | | | | | | | | | | | | |
| Mumbai - Pune | Maharashtra | NH-4/Exp. | 206 | 4.2 | 5.1 | 4.3 | 5.2 | 5.4 | 4.9 | 5.1 | 6.2 | 6.3 | 15.6 | 18.2 | 18.2 | 7.5 |
| Surat-Dahisar BOT Project | Gujarat/Maha | NH-8 | 239 | 0.0 | -0.2 | 3.4 | 1.2 | 5.2 | 2.9 | 0.6 | 5.3 | 8.2 | 8.4 | 7.9 | 8.4 | 8.1 |
| Tumkur Chitradurga | Karnataka | NH-4 | 114 | -3.9 | -2.3 | -1.5 | -11.8 | -5.0 | 1.9 | -0.2 | 8.9 | 6.9 | 3.9 | 8.4 | 13.1 | 5.4 |
| Bharuch Surat Project | Gujarat | NH-8 | 65 | 6.4 | -3.2 | 10.4 | -2.5 | -5.7 | 3.2 | -6.7 | 3.0 | 6.9 | 8.3 | 3.8 | 5.2 | 3.4 |
| Thane - Ghodbunder | Maharashtra | SH-42 | 15 | 5.8 | 5.3 | 2.6 | -7.1 | 4.5 | -3.3 | -34.8 | -14.0 | 12.5 | 24.7 | 72.3 | 33.8 | -25.3 |
| Ahd-Vadodara | Gujarat | NH-8/Exp. | 195 | | | | | | | 15.8 | 19.5 | 25.1 | 24.3 | 23.3 | 17.8 | 2.1 |
| **Ashoka Buildcon** | | | | | | | | | | | | | | | | |
| Dhankuni Kharagpur | West Bengal | NH-6 | 112 | | | | 23.6 | 24.8 | 21.1 | 23.9 | -4.8 | -0.8 | 1.7 | 3.3 | 7.1 | 5.5 |
| Indore -Edalabad | MP | SH-27 | 203 | 1.7 | 1.7 | 11.8 | 19.2 | 12.9 | 12.1 | 18.2 | 32.3 | 45.5 | 38.4 | 18.7 | 8.5 | 8.7 |
| Jaora - Nayagaon ** | MP | NH-79 | 85 | | | 20.6 | 9.0 | 12.6 | 8.7 | 12.4 | 0.0 | -5.6 | -1.1 | 2.1 | 15.6 | 21.8 |
| Bhandara | Maharashtra | NH-6 | 83 | -2.3 | -1.6 | 0.4 | 4.0 | -1.3 | 3.1 | 7.6 | 5.1 | 3.8 | 7.0 | 2.7 | 10.8 | 9.4 |
| Belgaum Dharwad # | Karnataka | NH-4 | 82 | 6.4 | 14.8 | 4.4 | 2.4 | -9.2 | -7.1 | -2.0 | 0.1 | 3.0 | 4.4 | 7.4 | 6.0 | 5.3 |
| Durg | Chhatisgarh | NH-6 | 71 | | | 0.0 | 2.4 | 2.7 | 4.9 | 8.2 | -191.3 | 8.9 | 12.0 | 3.4 | 5.8 | 8.6 |
| **Sadbhav Engg** | | | | | | | | | | | | | | | | |
| ARRIL | Gujarat | | 76 | | | | -0.3 | -0.9 | -2.9 | -16.0 | -2.7 | 8.9 | 11.8 | 29.4 | 8.8 | 2.8 |
| AJTL* | Maharashtra | SH-30 | 66 | | | | | | | -2.0 | 4.4 | 13.6 | 105.3 | 16.6 | 7.7 | -13.4 |
| BHTPL | Karnataka | NH-13 | 97 | | | | | | | -4.6 | -1.0 | 4.9 | 5.2 | 30.0 | 8.2 | 5.3 |
| HYTPL | Telangana | | 36 | | | | | | | 10.3 | 11.6 | 16.4 | 10.5 | 12.9 | 16.5 | 7.3 |
| DPTL | Maharashtra | NH-3 | 89 | | | | 15.9 | 45.0 | 68.0 | 61.2 | 47.2 | 16.6 | 2.2 | 2.7 | 2.6 | 12.7 |
| **IL&FS Trans** | | | | | | | | | | | | | | | | |
| Ahmedabad Mehsana Road | Gujarat | SH-41 | 52 | 0.6 | 0.6 | 1.3 | -7.1 | -7.1 | -7.1 | -7.1 | 11.7 | 13.7 | 22.9 | 29.1 | 6.1 | 13.6 |
| Vadodra Halol Road | Gujarat | SH-87 | 32 | 0.8 | -14.2 | -14.9 | -9.3 | -14.7 | -6.9 | -6.9 | -17.0 | -10.1 | -6.7 | -7.6 | 2.7 | 6.5 |
| Mega Highways – (Ph-I) | Rajasthan | | 1053 | 21.9 | 32.9 | 18.9 | 20.7 | 6.8 | -23.6 | -9.2 | -12.8 | -19.6 | 8.1 | -7.0 | -12.1 | -3.4 |
| Mega Highways – (Ph-II) | Rajasthan | | 264 | | | | | | | | | | 12.2 | 10.6 | 1.7 | 5.1 |
| Beawer Gomti | Rajasthan | NH-8 | 116 | -10.2 | -3.8 | 2.9 | 5.6 | 17.2 | 13.0 | 14.6 | 16.2 | 7.7 | 1.8 | 4.8 | 1.3 | 4.7 |
| Baleshwar Khargpur | Orissa/WB | NH-60 | 119 | | | | | | | | -22.2 | 5.7 | 13.4 | 34.0 | 19.2 | 17.6 |
| Pune Sholapur | Maharashtra | NH-9 | 101 | | | | | | | | | | 6.6 | 9.5 | 6.9 | 8.0 |

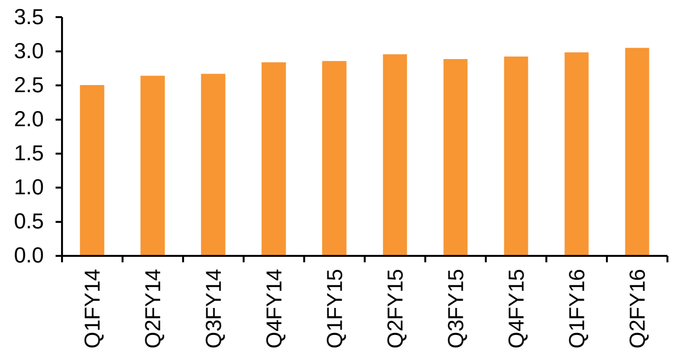
*Source: Company, Emkay Research*

**Exhibit 55: Total CV Sales - Volume growth of 14.0% YoY in Q2FY16**



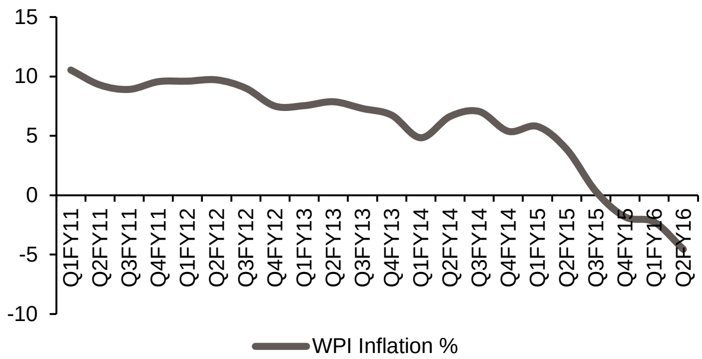

*Source: Emkay Research*

**Exhibit 56: Port Container Volume (in mn MT) – Q2FY16: +3.3% YoY**




*Source: Emkay Research*

**Exhibit 57: In Q2FY16 WPI Inflation came at -4.55%**




*Source: GoI, Emkay Research*

# Attempt to revive stuck projects

Recently cabinet has allowed one time fund infusion by NHAI for revival of BOT Projects which are languishing in the construction stage. Subject to adequate due diligence of such projects on case to case basis through an institutional mechanism NHAI is likely to form a company to take over the stalled projects where the promoters are financially constrained (short of resources) and are not able to complete them.

Under the proposal, if a project comes to a halt due to the promoter not having enough funds, NHAI will obtain a no objection certificate from the lender to the project as well as the concessionaire and put in the requisite funds to complete construction. NHAI will then toll the project till it recovers its funds and thereafter, hand it back to the concessionaire, who will operate the project for the remaining period of the concession and the interests of both lenders and the concessionaire will be protected.

The government has received four applications for capital infusion to the tune of Rs 9.59 bn. Overall, 12 such projects are delayed and it is estimated that Rs Rs32.35 bn would be required to put them back on track

This model of reviving stuck projects has been tested with the Jaipur- Gurgaon expressway to which a consortium of lenders had given approximately Rs16 bn of loans and Rs6 bn of further fund infusion was required, which was funded by the bankers.

Cabinet Allowed NHAI to consider extension of toll collection (concession agreement period ) for the projects which have faced delays due to slow land acquisition, shifting of utilities, environment clearances, or issues related to railway over bridges and under bridges. Currently 34 projects covering 3,687 km, with a total cost of Rs380.80 bn faced the delay and nearly half the road projects are being constructed under the build, operate and transfer (BOT) model.

**Exhibit 58: List of stuck projects for one time fund infusion**

| Project name | Developer | Km | Project cost (Rs mn) | Type |
|---|---|---|---|---|
| Bareilly sitapur | Era Infra | 151 | 22410 | BOT (Toll) |
| Muzaffarnagar-Haridwar | Era Infra | 80 | 11000 | BOT (Toll) |
| Haridwar-Dehradun | Era Infra | 34 | 6520 | BOT (Toll) |
| Barasat-Krishnanagar | Madhucon Infra | 70 | 12000 | BOT (Toll) |
| Krishnanagar-Berhampore | SEW SPV | 78 | 7000 | BOT (Annuity) |
| Farakka-Raiganj | HCC | 103 | 13780 | BOT (Toll) |
| Panvel-Indapur | Mahavir Infra | 84 | 9420 | BOT (Toll) |
| Chhapra-Hajipur | Madhucon Infra | | | BOT (Annuity) |
| Motijari-Raxaul | | | | BOT (Toll) |
| Ranchi-Rargaon-Jamshedpur | Madhucon Infra | | | BOT (Toll) |
| Kundapur-Kerala-border | | | | BOT (Toll) |
| Raiganj-Dalkhola | HCC | 103 | 13980 | BOT (Toll) |
| Barhi Hazaribaugh | Abhijit Group | 40 | 4500 | BOT (Toll) |
| Patna Muzaffarpur | Gammon Infra | 63 | 10000 | BOT (Annuity) |
| Srinagar-Banihal | Ramky Infra JPTEG | 66 | 14400 | BOT (Toll) |

*Source: Emkay Research*

# Outlook and opportunities at the state level

Apart from central government authorities (NHAI, MoRTH) we witnessed that investments in the road sector has been lined up by states with maximum investments envisaged by states Uttar Pradesh, Karnataka, Maharashtra, Haryana, Telangana and Bihar (though largely led by central government).

## Karnataka

Significant opportunities exist in Karnataka with the state lining up 29 projects worth Rs239 bn for bidding under PPP mode. Some of the key projects envisaged are the Peripheral Ring Road from Hosur Road to Tumkur road, elevated corridor from Gnanabharathi-Rajarajeshwari Nagar on Mysore Road to Varthurkodi, elevated corridor from Central Silk Board on NH-7 to Jayamahal road, four to six laning of 130 km Bengaluru-Mysore state highway (Rs30 bn project, state govt contribution – Rs11 bn) and bypasses at Bidadi, Ramanagaram, Channapatna, Maddur and Mandya.

Six projects worth Rs11.5 bn are also being proposed under the EPC mode. The Karnataka government has also approved construction of 5 signal free corridors in Bengaluru. The corridors to be developed are Yeshwanthpur Circle to Okalipuram road, Central Silk Board to Vellara road, the Mysore road junction to Central Silk Board road, Vellara junction to Kundalahalli road, and the Mekhri Circle to Hope Farm road. Work is yet to begin.

Apart from the state led projects, MoRTH has also announced that 12 highway projects worth Rs110 bn (awarded till date projects worth Rs34 bn) in Karnataka. The projects are; Hosapete-Chitradurga, Hosapete-Ballari, Hassan-BC Road, Shivamogga-Mangaluru, Ankola-Hubballi, Hubballi-Hosapete, Vijayapura-Kalaburagi-Humnabad, Dindigul-Bengaluru, Nelamangala-Tumakuru, Chitradurga –Haveri.

**Exhibit 59: Upcoming PPP projects in Karnataka**

| PPP Projects | SH No. | Length (km) | Project Cost (Rs bn) | Agency |
|---|---|---|---|---|
| Kamalnagar-Gunahalli | | 70.0 | 0.9 | KRDCL |
| Gotur-Kagewad | | 60.7 | 1.9 | KRDCL |
| Bangarpet-Bagepalli | | 106.7 | 2.2 | KRDCL |
| Sindhnoor-Lingasugur | | 52.0 | 1.9 | KRDCL |
| Jath-Jamboti Road | | 76.0 | 3.0 | KRDCL |
| Andhra Pradesh border-Yelahanka | | 72.0 | 2.1 | KRDCL |
| Kudchi-Raibagh-Gataprabha | | 50.0 | 1.0 | KRDCL |
| Jamakhandi-Maharashtra border | | 79.0 | 1.6 | |
| Hirekerur to Ranebennur | | 58.0 | 1.2 | KRDCL |
| Afzalpur-Kajuri | | 74.0 | 1.5 | KRDCL |
| Neelamangala-Chikballapur | | 59.0 | 1.2 | KRDCL |
| Peripheral Ring Road from Hosur road to Tumkur road | | 65.0 | 38.0 | BDA |
| Elevated Corridor from Central Silk Board on NH-7 to Jayamahal road | | | 15.0 | BDA |
| Elevated Corridor from Gnanabharathi-Rajarajeshwari Nagar on Mysore road to Varthurkodi | | | 28.0 | BDA |
| Improvement of road from Sankeshwar-Yeragatti via Gokak | SH-44/45 | 73.0 | | KRDCL |
| Improvement of road from Bilikere to Belur via Hassan | SH57 | 119.0 | | KRDCL |
| Improvement of road from Mysore to Madikeri | | 119.0 | | KRDCL |
| Improvement of road from Andhra Pradesh border (Medak) to Shahpur via Yadgir | SH-16 | 86.0 | | KRDCL |
| Improvement of road from Hiriyur to Bellary | SH-19 | 144.0 | | KRDCL |
| Improvement of road from Hungund-Belgaum via Bagalkot-Lokapur to Maharashtra border | SH-20 | 170.3 | | KRDCL |
| Improvement of road from Wadi to Raichur | SH-51 | 88.0 | 1.4 | KRDCL |
| Improvement of road from Kalmala to Budhguppa via Sindhnoor | SH-20 | 77.0 | | KRDCL |
| Improvement of road from Hattigudur to Bidar | SH-19 | 105.0 | | KRDCL |
| Development of existing state highway from Managuli to Devapur | | 110.0 | 2.5 | KRDCL |
| Development of outer ring road to Belgaum | | | 9.9 | DULT |
| Improvement of road from Bijapur to Lokapur via Krishna Bridge, Mudhol to Jamakhandi | SH-34 | 103.7 | | |
| Six-laning of Bengaluru-Mysore State Highway | | 130.0 | 30.0 | |
| **Total** | | **2147.4** | **143.0** | |

*Source: KRDCL, BDA, Directorate of Urban Land Transport*

**Exhibit 60: Upcoming NHAI & MoRTH road opportunity in Karnataka**

| Road Stretch | NH No. | Length (km) | Project Cost (Rs mn) | Type | Winner |
|---|---|---|---|---|---|
| Development and Upgradation of Bijapur - Gulbarga – Homnabad | 50 | 220 | 7090 | EPC | Larsen & Toubro |
| Four laning of Hospet – Chitradurga | 13 (New NH-50) | 120 | 13880 | DBFOT (Toll) | TRIL Roads |
| Four/Six Laning of Solapur- Bijapur Section | 13 (New NH-52) | 109 | 13775 | DBFOT (Toll) | Uniquest Infra Ventures |
| Hosapete-Ballari | | 95 | 11674 | | |
| Hassan-BC Road | | 133 | 15000 | | |
| Shivamogga-Mangaluru | | 190 | 23000 | | |
| Ankola-Hubballi | | 130 | | | |
| Hubballi-Hosapete | 63 | 144 | 16642 | EPC | |
| Vijayapura-Kalaburagi-Humnabad | | 250 | 5780 | | |
| Dindigul-Bengaluru | | 204 | 7700 | | |
| Four laning of Hassan to Maranahally (Pckg 1) | 75 | 45 | 7014 | EPC | |
| Four laning from Addahole (near Gundya) to Bantwal Cross (Pckg 2) | 75 | 65 | 8700 | EPC | |
| Four Laning of Tamil Nadu/Karnataka Border to Bangalore Section | 209 | 171 | 6674 | DBFOT (Toll) | |
| Nelamangala-Tumakuru | | | | | |
| Chitradurga -Haveri | | | | | |
| **Total** | | **1876** | **136929** | | |

*Source: NHAI, Emkay Research*

## Uttar Pradesh

Over the last two years road project awarding picked up in Uttar Pradesh, awarded projects worth Rs31bn and Rs76 bn in FY15E/YTD FY16E. The biggest project awarded was Agra Lucknow Expressway on EPC mode. The 302 km long Lucknow to Agra Expressway would be the country's longest access controlled six lane expressway. The project would cost nearly Rs150 bn of which Rs115 bn would be for construction of the expressway and the rest for purchasing land at market rates. The state has lined up for projects worth Rs100 bn to get bid out under EPC Mode.

**Exhibit 61: Upcoming road opportunities in Uttar Pradesh**

| Name of Road | SH/NH No. | Length (km) | Project Cost (INR bn) | Type |
|---|---|---|---|---|
| Pukhrayan-Ghatampur-Bindaki Road Section | SH-46 | 83.7 | 17.0 | DBFOT |
| Allahbad-Foolpur-Mungrabad-Shahpur Road | SH-07 | 40.9 | 3.8 | DBFOT |
| Azamgarh-Dohrighat Road | SH-66 | 38.7 | 2.6 | DBFOT |
| Garh-Meerut Road | SH-14 | 36.5 | 4.2 | DBFOT |
| Meerut-Baghpat Road | SH-14 | 40.1 | 4.5 | DBFOT |
| Chandausi-Badaun Road | SH-43 | 164.2 | 9.0 | DBFOT |
| Shahjahanpur-Hardoi-Lucknow Road | 25 | 162.4 | 12.9 | PPP (DBFOT) |
| Basti-Mehndawal-Kaptanganj- | 64 | 166.1 | 3.3 | PPP (DBFOT) |
| Akbarpur-Jaunpur-Mirzapur-Dudhi Road | 5 | 207.5 | 18.7 | PPP (DBFOT) |
| Gorakhpur-Maharajganj road | 81 | 53.2 | 5.9 | PPP (DBFOT) |
| Balrampur-Gonda-Jarwal Road | 1A | 88.0 | 7.7 | PPP (DBFOT) |
| Aligarh-Mathura Road | 80 | 39.0 | 4.2 | PPP (DBFOT) |
| Etah-Tundla Road | 31 | 57.2 | 1.9 | PPP (DBFOT) |
| Etah-Sikohabad Road | 85 | 51.4 | 3.6 | PPP (DBFOT) |
| Varanasi-Bhadohi-Gopiganj Road | 87 | 60.1 | 3.6 | PPP (DBFOT) |
| Tarighat-Bara Road | 99 | 39.2 | 1.9 | PPP (DBFOT) |
| Muzaffarnagar-Saharanpur via Deoband Road | 59 | 52.7 | 7.7 | PPP (DBFOT) |
| Bahraich-Gonda- Faizabad Road (may be extended up to Ambedkarnagar) | 30 | 190.0 | 21.0 | PPP (DBFOT) |
| Bareilly-Badaun-Kasganj-Hathras Road (may be extended up to Rajasthan Border Via Mathura) | 33 | 232.0 | 25.5 | PPP (DBFOT) |
| Bharwari-Manjhanpur-Chitrakoot Road | 94 &MDR-26B | 78.0 | 8.6 | PPP (DBFOT) |
| Sitapur-Lakhimpur Kheri road (may be extended upto Palia and Dudhwa) | 21 | 45.0 | 5.0 | PPP (DBFOT) |
| Pilibhit-Farukhabad-Bewar Road | 29 | 214.0 | 23.5 | PPP (DBFOT) |
| Windhamganj-Kon-Kota-Chopan Road | ODR | 59.3 | 4.2 | PPP (DBFOT) |
| Aligarh-Mathura Road | SH-80 | 39.0 | | PPP (DBFOT) |
| Sikohabad-Mainpuri Road | SH-84 | 61.8 | | PPP (DBFOT) |
| Manauri Sarai-Akil-Kaushambi Road | SH-95 | 36.9 | | PPP (DBFOT) |
| Highway starting from Km 160 of Lucknow-Gorakhpur NH-28 and going to Guthni at Bihar Border through Kalwari-Dhanghata-Sikriganj-Urwa Bazar | SH-72 | 189.8 | | PPP (DBFOT) |
| Widening & strengthening of Bijnor-Noorpur-Chhajlet-Moradabad Road under four lane widening | | | 2.1 | PPP (DBFOT) |
| Widening of four lane of Meerut-Budaun Road | SH-18 | 45.4 | 2.3 | PPP (DBFOT) |
| Widening & strengthening of Etah-Kasganj Road (ODR) and Bareilly-Mathura Road (SH-33) | SH-33 | 40.8 | 2.6 | |
| Construction of three-lane road on both side of Sharda Sahayak feeder canal from Lucknow Faizabad Road to Lucknow-Sulthanpur Road | | | 2.5 | |
| Upgradation & Maintenance of Hamirpur-Rath Section | SH-42 | 74.4 | 2.7 | EPC |
| Rehabilitation & Upgradation of Rudhauli to Basti Side Approach of Ghaghra Bridge Sec. | NH-233 | 56.4 | 3.1 | EPC |
| Rehabilitation and Upgradation of Indo Nepal Border to Rudhauli Sec. | NH-233 | 65.9 | 3.6 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) access controlled expressway green field project from Kabirpur-Hussainpur (Pkg-I) | | 59.2 | 23.0 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) from Hussainpur-Kurebhar (Pkg-II) | | 64.8 | 21.7 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) from Kurebhar-Hamirpur (Pkg-III) | | 60.5 | 21.9 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) from Hamirpur-Miria Rerha (Pkg-IV) | | 52.7 | 19.0 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) from Miria Rerha-Surar (Pkg-V) | | 59.0 | 21.3 | EPC |
| Implementation of Lucknow to Ballia (via Azamgarh) from Surar-Bharauli (Pkg-VI) | | 51.3 | 17.0 | EPC |
| **Total** | | **3156.9** | **342.8** | |

*Source: UPSHA, UPEIDA, UP PWD, Emkay Research*

**Exhibit 62: NHAI Road Opportunity in Uttar Pradesh**

| Road Stretch | State | NH No. | Length (km) | Project Cost (Rs mn) | Project Type |
|---|---|---|---|---|---|
| 4-laning of Varanasi Gorakhpur section [Package-III Birnon Village To Amilla Village] | Uttar Pradesh (UP) | 29 | 60.0 | 8523.2 | EPC |
| 4-laning of Varanasi Gorakhpur section [Package-IV Amilla Village to Gorakhpur] | Uttar Pradesh | 29 | 60.3 | 10381.5 | EPC |
| 4-Laning Of Varanasi Gorakhpur [Package-II From Sandah To Birnon] | Uttar Pradesh | 29 | 76.0 | 8566.4 | EPC |
| Four laning of Haridwar Nagina section | Uttarakhand/UP | 74 | 73.0 | 9895.4 | EPC |
| Four Laning of Nagina-Kashipur section | Uttarakhand/UP | 74 | 102.0 | 12907.9 | EPC |
| Six Laning of Handia Varanasi Section | Uttar Pradesh | 2 | 72.4 | 23616.6 | BOT(Toll) |
| Six Laning of Chakeri Allahabad section | Uttar Pradesh | 2 | 145.1 | 16616.0 | BOT(Toll) |
| Lucknow-Sultanpur | Uttar Pradesh | 56 | 125.9 | 12760.0 | DBFOT |
| Delhi – Meerut Expressway (UP Border to Dasna) - Package II | Delhi/UP | 24 | 19.3 | 13765.1 | Hybrid Annuity |
| Delhi – Meerut Expressway (Dasna to Hapur) - Package III | Delhi/UP | 24 | 22.3 | 10236.9 | Hybrid Annuity |
| Delhi – Meerut Expressway - Package I | Delhi/UP | 24 | 8.7 | 6636.0 | Hybrid Annuity |
| Four Laning of Meerut-Bulandshahr section | Uttar Pradesh | 235 (New NH-334) | 61.2 | 6803.8 | Hybrid Annuity |
| 4-Laning of Rampur-Kathgodam section [Package-I] | Uttar Pradesh | 87 (New NH No. 9) | 43.4 | 6159.4 | Hybrid Annuity |
| Four Laning of Gagalheri-Saharanpur-Yamunanagar (UP/Haryana Border) | Uttar Pradesh | 73 | 51.5 | 10093.6 | Hybrid Annuity |
| 4-Laning of Chutmalpur-Ganeshpur section & Roorkee-Chutmalpur-Gagalheri section | UP/Uttarakhand | 72A & 73 | 53.3 | 8098.8 | Hybrid Annuity |
| **Total** | | | **974.4** | **165060.6** | |

*Source: NHAI, Emkay Research*

## Haryana

The state authorities are trying to create significant opportunities in the road sector both at State Highway and National Highway projects. The National Highway Authority of India (NHAI) is expected to roll out several projects worth Rs60 bn over the next one year. The state is moving progressively in the execution of the NHAI projects by supporting them in land acquisition, utility shifting, and environment clearances. NHAI has also invited bids for feasibility study report for four laning of four new national highways in Haryana, on EPC basis amounting to Rs42 bn. The state is also expected to undertake projects PPP worth Rs28 bn.

**Exhibit 63: NHAI road opportunity in Haryana**

| Road Stretch (BOT Mode) | State | NH No. | Length | Project cost Rsmn | Type |
|---|---|---|---|---|---|
| Roorkee-Chutmalpur-Saharanpur-Yamunanagar (4 laning) | UP/Haryana Border | 72A/73 | 105 | 13900 | DBFOT |

*Source: NHAI, Emkay Research*

**Exhibit 64: Upcoming PPP projects in Haryana**

| Project | Cost (Rsbn) |
|---|---|
| Rai Malikpur | 12 |
| Panipat-Sanoli road | 1.2 |
| Palwal-Aligarh road | 1.2 |
| Meerut -Sonepat road | 1 |
| Yamunanagar -Ladwa section of SH-6 | 4 |
| Kond -Moanik-salwan-Aasandh | 2 |
| Ambala saha, jind-bhiwani, Balsamand -Hissar | 3 |
| Kaithal Cheeka | 4 |
| **Total** | **28.4** |

*Source: Emkay Research*

## Telangana

In the road sector the main focus is on laying of new roads, construction of new bridges and widening and strengthening of the existing roads.

- Widening of single lane roads to double lane -4717 km to cost Rs62 bn.
- Construction of bridges worth Rs19.74 bn.
- Maintenance works of 10,000 km worth Rs24 bn.

The government of Telangana to award 580 km of road projects under PPP mode.

As on 30 Jan 2015 there are 16 national highways in the state of Telangana covering length 2592 km crisscrossing the state. In addition government of India have declared 3 new national highways (around 285 km).

**Exhibit 65: NHAI Road Opportunity in Telangana**

| Road Stretch (EPC Route) | State | NH No. | Length | Project Cost Rsmn | Type |
|---|---|---|---|---|---|
| Four laning of Yadgiri- Warangal Section | Telangana | 163 | 99.103 | 11410 | EPC |

*Source: NHAI, Emkay Research*

**Exhibit 66: Details of Roads proposed under PPP-BOT mode**

| Name of the Road | Length in Km |
|---|---|
| Sangareddy - Narsapur - Toopran - Gajwel - Bhongir - Chityal Road | 164.0 |
| Mahaboobnagar - Nalgonda Road | 163.2 |
| Hyderabad - Narsapur Road. | 28.0 |
| Jangaon - Cherial - Duddeda road. | 46.4 |
| Jangaon - Suryapet Road. | 84.4 |
| Suryapet - Mothey - Khammam Road. | 58.3 |
| Hyderabad - Bijapur Road | 36.4 |
| **Total** | **580.7** |

*Source: GoTS*

## Punjab

The Punjab state is the recent entrant to upgrade and award road projects. Recently Union and highway transport ministry approved highway projects worth Rs33 bn totalling 222 km. The execution will be done by PWD Punjab.

The seven projects are Sangrur-Dogal Kalan (30 Kms), Dogal Kalan-Punjab Haryana border (27 Kms), Sangrur-Dhanaula bye-pass (18 Kms), Patiala bye-pass (19 Kms), Patiala-Sangrur (41 Kms), Sangrur-Tapa (46 Kms) and Tapa-Bathinda (41 Kms).

The central government also promised Rs180 bn investment on Punjab's road infrastructure including 5 railways over bridges (ROBs).

**Exhibit 67: NHAI Road opportunity in Punjab**

| Road Stretch | State | NH No. | Length (kms) | Project Cost (Rs mn) | Project Type |
|---|---|---|---|---|---|
| Service Road and RCC Drain incld. Storage Lane at Chat Junction on Ambala-Chandigarh | Punjab | 22(new NH-152) | 2.8 | 241 | EPC |
| Four laning of Chandigarh-Kharar section from Sector-39 (Round about) at Chandigarh to Kharar | Punjab | 21 & 95 | 10.2 | 4473 | EPC |
| Six Laning of Kharar to Ludhiana | Punjab | 95/21 | 76 | 12820 | DBFOT |
| **Total** | | | **89.0** | **17533.0** | |

*Source: NHAI, Emkay Research*

# Finances of NHAI and Government

## Funding Intact

The fund for development of National Highways by the NHAI is provided from cess levied on petrol and High Speed Diesel (HSD) and toll collected by NHAI on the NH stretches entrusted to NHAI. NHAI is allowed to leverage cess fund for market borrowing

The allocation of Rs827 bn to MoRTH which comprises of Rs400 bn from budgetary support which has come from road cess and Rs427 bn from IEBR which we believe the government has allocated from hike in additional excise duty in diesel and petrol products. The government has tweaked the basic excise duty and additional excise duty (while keeping the total duty unchanged) which led to increase in additional excise duty (AED) by Rs4/litre which will get allocated for funding the road projects.

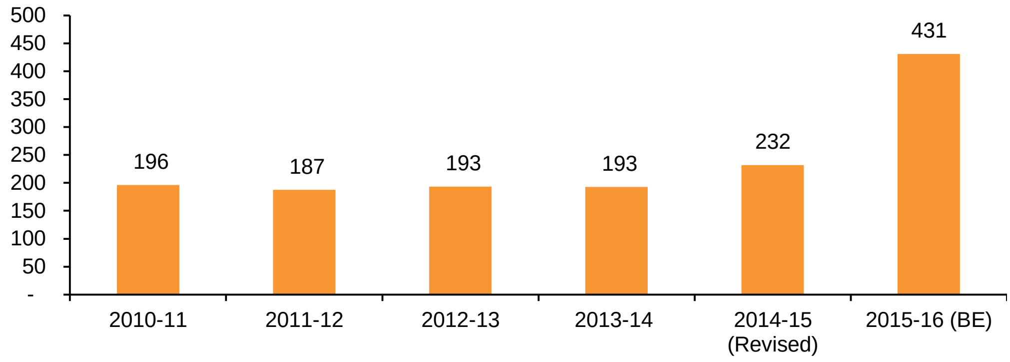
NHAI also has the plan to raise Rs240 bn via tax free bonds of this Rs72 bn can be raised through the private-placement route.

**Exhibit 68: Proceeds from road cess**

| Proceeds from road & petrol duties for road cess | Rsbn |
|---|---|
| 2010-11 | 196 |
| 2011-12 | 187 |
| 2012-13 | 193 |
| 2013-14 | 193 |
| 2014-15 (Revised) | 232 |
| 2015-16 (BE) | 431 |

*Source: GoI, Emkay Research*

**Exhibit 69: Central Plan Outlay - Rs bn**




*Source: GoI, Emkay Research*

**Exhibit 70: Roadways Budget**

| Road Transport & | 2013-14 (A) | | | 2014-15 (A) | | | 2014-15 (RE) | | | 2015-16 (BE) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Highways (in Rs bn)** | **Plan** | **Non Plan** | **Total** | **Plan** | **Non Plan** | **Total** | **Plan** | **Non Plan** | **Total** | **Plan** | **Non Plan** | **Total** |
| Revenue | 76.84 | 29.01 | 105.85 | 104.51 | 35.22 | 139.73 | 100.82 | 38.17 | 138.99 | 69.54 | 28.39 | 97.93 |
| Capital | 130.38 | 18.52 | 148.9 | 157.86 | 19.42 | 177.28 | 150.32 | 17.37 | 167.69 | 330.48 | | 330.48 |
| **Total** | **207.22** | **47.53** | **254.75** | **262.37** | **54.64** | **317.01** | **251.14** | **55.54** | **306.68** | **400.02** | **28.39** | **428.41** |

*Source: GoI, Emkay Research*

**Exhibit 71: Revenue from hike in AED (Additional excise duty) – Rs bn**

| Revenue from hike in AED | Rs bn |
|---|---|
| Revenue from excise duty | 95.2 |
| Revenue from excise duty | 338.8 |
| **Total** | **434** |

*Source: GoI, Emkay Research*

# Land Acquisition for road projects increased on higher cost

Given that awarding remained quite low in FY12/13 which gave enough time to authorities to acquire land. It should also be noted pick up in awarding in FY15 was also led by cancellation of older projects which got re-bid where NHAI was able to acquire the land. The cost of land acquisition for highway projects has gone up 70% in the last three years. Though the phenomenon is being seen across the country, as per our interaction, the authorities said the sharpest rise in land prices has been seen in Maharashtra, Punjab and Haryana.

## Land Acquired by NHs

The details of land acquired by the National Highways Authority of India (NHAI) during the last three years and the current year is as below:

**Exhibit 72: Total Land acquisition by NHAI**

| Land Acquistion by NHAI | FY12 | FY13 | FY14 | FY15 | FY16 (Sep) |
|---|---|---|---|---|---|
| Land Acquistion (Hectares) | 9802 | 6925 | 8655 | 6800 | 4900 |
| Compensation paid (Rs mn) | 50000 | 54040 | 77930 | 90978.8 | 67620 |
| Average cost of land (Rs lakh/hectare) | 51 | 78 | 90 | 135 | 138 |

*Source: NHAI, Emkay Research*

**Exhibit 73: Year wise Land Acquisition of States for all projects**

| Name of States | Possession in Ha. | | | |
|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2014-15 | CY 2015-16 upto June 2015 |
| Andhra Pradesh | 197 | 455 | 153 | 0 |
| Assam | 41 | 0 | 0 | 0 |
| Bihar | 439 | 235 | 351 | 97 |
| Chattisgarh | 381 | 563 | 66 | 14 |
| Gujarat | 550 | 302 | 151 | 0 |
| Goa | 0 | 0 | 0 | 0 |
| Haryana | 687 | 218 | 87 | 0 |
| Himachal Pradesh | 0 | 159 | 0 | 51 |
| Jammu & Kashmir | 15 | 66 | 0 | 0 |
| Jharkhand | 120 | 37 | 0 | 0 |
| Karnataka | 213 | 668 | 749 | 107 |
| Kerala | 2 | 5 | 24 | 0 |
| Madhya Pradesh | 483 | 1992 | 883 | 38 |
| Maharashtra | 391 | 1336 | 561 | 111 |
| Meghalaya | 0 | 14 | 13 | 0 |
| Orissa | 396 | 236 | 190 | 507 |
| Punjab | 41 | 47 | 50 | 13 |
| Rajasthan | 1506 | 458 | 1723 | 379 |
| Tamil Nadu | 803 | 315 | 855 | 39 |
| Uttrakhand | 11 | 23 | 89 | 0 |
| Uttar Pradesh | 473 | 1227 | 566 | 64 |
| West Bengal | 176 | 299 | 222 | 131 |
| **TOTAL** | **6925** | **8655** | **6733** | **1551** |

*Source: NHAI, Emkay Research*

## Other projects capex beyond FY17E once NHDP capex starts tapering off

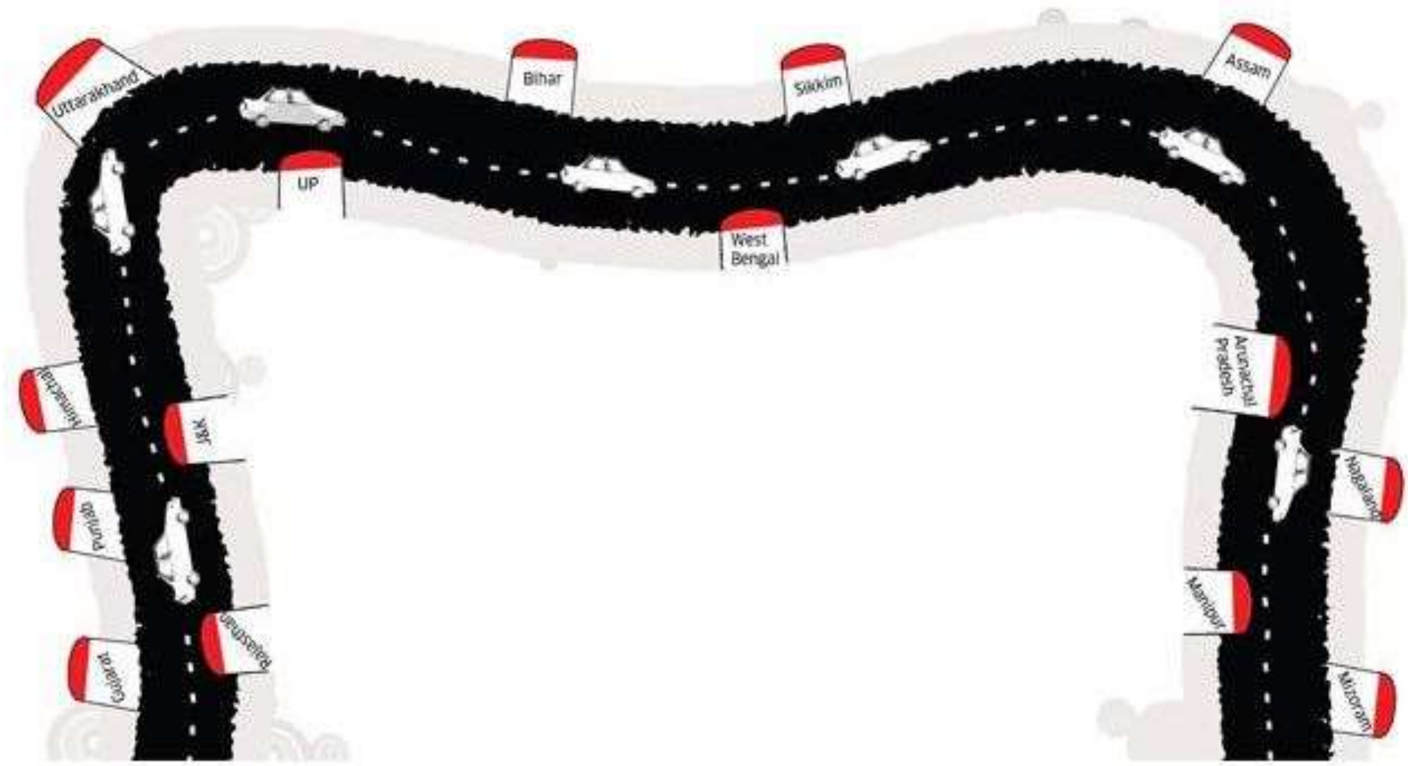
### Bharat Mala Project (Project cost Rs800 bn)

Bharat Mala is the name given to an ambitious program - a road built along India's vast west-to east land border, from Gujarat to Mizoram, and linking that to a road network in coastal states, from Maharashtra to Bengal. The project will start from Gujarat and Rajasthan, move to Punjab and then cover the entire string of Himalayan states - Jammu and Kashmir, Himachal Pradesh, Uttarakhand - and then portions of borders of Uttar Pradesh and Bihar alongside Terai, and move to Sikkim, Assam, Arunachal Pradesh, and right up to the Indo-Myanmar border in Manipur and Mizoram.

Rajasthan (1,500 km), Odisha (650 km) and Tamil Nadu (600-km) were among the states to be the biggest beneficiaries of the project, which aims to provide smooth connectivity along the states on the border and coast for strategic reasons.

The project will cover 7000 km and is estimated to cost Rs800 bn. The NHAI has invited bids for preparation of DPRs.

**Exhibit 74: Bharat Mala States**




*Source: ET, Emkay Research*

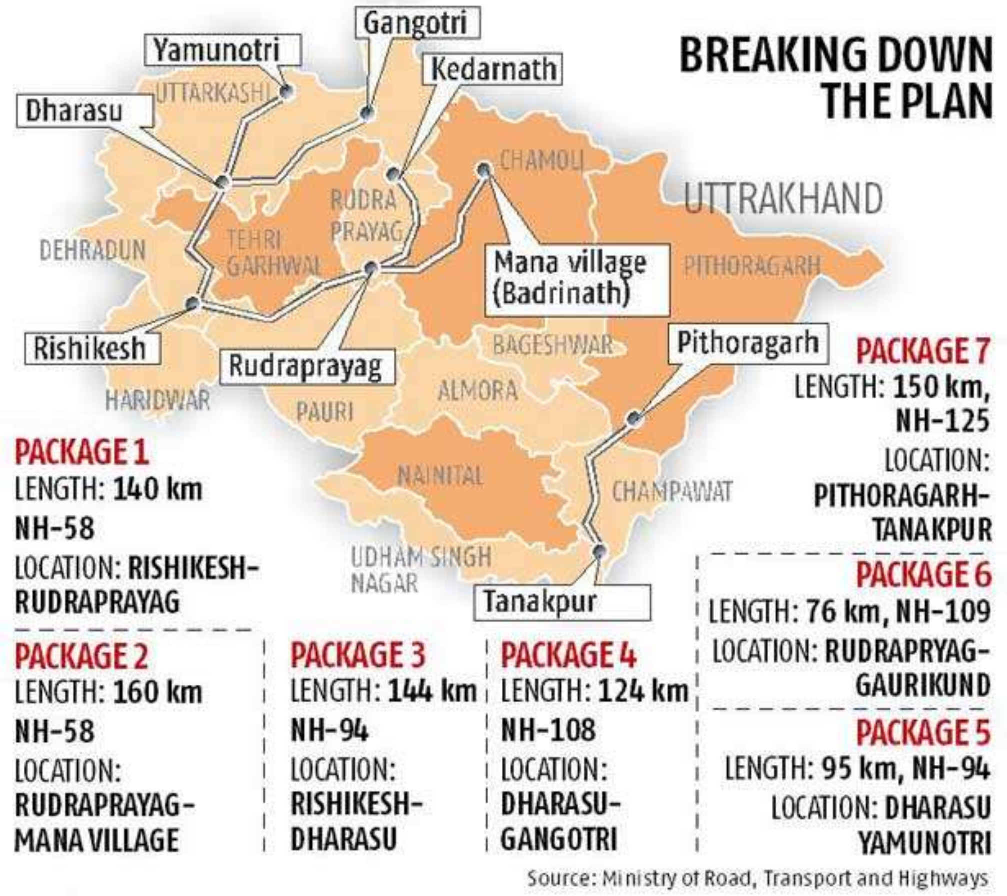
### Setu Bharat (Project cost Rs400 bn).

The Road Transport and Highways Ministry is planning to rebuild 150 bridges as part of an ambitious project called 'Sethu Bharatam' or 'Bridging India'. The government is also planning to build over 200 rail over bridges.

## Char Dham Project (Project cost Rs200 bn)

The Ministry of Road Transport & Highway plans to connect Kedarnath, Badrinath, Gangotri and Yamunotri in Uttarakhand with 889 km of disaster-proof two-lane roads at a cost of Rs200 bn The DPR for the project is in the final stages of preparation. The road network will be built in seven packages over three years. To expedite the project execution, the ministry intends to award each EPC contractor projects not more than Rs10 bn.

**Exhibit 75: Chaar Dham Road Map**




*Source: MoRTH, Emkay Research*

## Upgradation of Existing Highways to Express Highways

The Government of India had earlier approved a plan for constructing 1000 km of Expressways under NHDP Phase-VI at a cost of Rs166.8 bn on DBFOT basis. Following stretches have been approved for upgradation of expressways:

- 249 km length of Delhi-Chandigarh section on NH-1 and NH-22
- 334 km length of Bangalore-Chennai section of NH-4
- 261 km length of Delhi-Jaipur section of NH-8
- 277 km length of Kolkata-Dhandbad section of NH-2
- 200 km length of Delhi-Agra section of NH-2
- 400 km length of Vadodara-Mumbai corridor
- 66 Km length of Delhi-Meerut expressway section of NH-24 & NH-58

Feasibility study of remaining projects (except Delhi-Hapur section) is in different stages. The work shall be taken up after finalization of feasibility study and completion of land acquisition activity etc.

# Infrastructure Investment Trust

The Infrastructure Investment Trust or InvIT is a new structure cleared by the capital-market regulators, Securities and Exchange Board of India (SEBI), which eases access to funds for infrastructure developers. Funding via infrastructure investment trust mechanism will help providing long term refinance for existing, under construction and new projects; freeing up current developer capital/funds (will help infrastructure companies to exit commissioned projects), refinancing existing high cost debt with low cost long term capital, attracting international finance. We believe this mechanism of financing infrastructure projects to benefit road developers like L&T IDPL, IRB Infrastructure, Ashoka Buildcon, Sadbhav Engineering & IL&FS Transportation.

## Investment conditions

- InVITs shall invest in infrastructure projects, either directly or through SPV. In case of PPP projects, such investments shall only be through SPV.
- Atleast 80% of the value of the assets in the completed and revenue generating Infrastructure assets.
- Not more than 20% may be invested in under construction infrastructure projects provided that investment in such assets shall not exceed 10% of the value of the assets of the InVITs.
- An InvIT which proposes to invest more than 10% of the value of their assets in under construction infrastructure projects(shall necessarily raise funds through private placement from Qualified Institutional Buyers and body corporate) shall mandatorily invest atleast in one completed and revenue generating project and one pre-COD project. Pre –COD infrastructure projects should have achieved completion of at atleast 50% of the construction certified by an independent manager. In such InVITs there should be at least five QIBs and a maximum of 1,000 institutional investors holding units.

## SPV eligible for InvITs

- in which the InvIT holds or proposes to hold controlling interest and not less than 51% of the equity share capital or interest.
- which holds not less than 90% of its assets directly in infrastructure projects and does not invest in other Special Purpose Vehicles
- which is not be engaged in any other activity other than activities pertaining to and incidental to the underlying infrastructure projects;

**Profit distribution:** At least 90% of net distributable income after tax of the SPV shall be distributed in the proportion of its holding in the SPV and at least 90% of the post-tax InvIT income will be distributed to the unit holders.

**Exhibit 76: InvIT Scenarios**

| Valuation (Rs mn) | IRB Infrastructure | Sadbhav Infra Projects |
|---|---|---|
| EV (NPV of Post Tax EBDITA at 10% discount rate) | 135,111 | 96,661 |
| Debt outstanding | 83,290 | 58,688 |
| Equity Valuation of BOT Projects | 51,822 | 37,973 |
| Investment in Units of InvIT for 3 years by Sponsor (25% stake) | 33,778 | 24,165 |
| Net Cash in Hand on sale of Equity stake | 18,044 | 13,808 |

*Source: Company, Emkay Research*

**Exhibit 77: Return to InvIT & Unit Holders**

| | |
|---|---|
| Interest payment by SPVs to InvIT | |
| Repayment of Debt to InvIT | |
| Dividend Payment by SPV to InvIT | |
| Total EBDITA (Post Tax) | |
| Less : DDT by SPV | |
| Net Cash flow to InvIT | |
| Less : Withholding Tax on Interest payment | 7.5% |
| Less : Withholding Tax on Principal repayment | 7.5% |
| Less : Expenses (as % of EV) | 0.3% |
| Cash flow distributed to Unit Holders | |

*Source: Company, Emkay Research*

# Railways: A slow start; capex driven by metro and dedicated freight corridor projects

Indian Railways is the third largest railway network in the world. Considering its continuous loss of market share to the road sector, the government has made an attempt to enhance its efficiency by investing in rail modernization in areas of tracks & bridges, signaling systems, rolling stock, stations & terminals, logistics parks and dedicated freight corridor

## Dedicated freight corridor: Awarding picked up

DFCCIL (Dedicated Freight Corridor Corporation of India Ltd) is planning to fully commission the entire DFC by 2019. Phased commissioning of DFC will start from 2018 onwards.

The Cabinet Committee has given its approval for the revised cost estimate of Rs814.59 bn for the Eastern and Western Dedicated Freight Corridor (DFC) Project, including land costs and financing plan.

The revised cost estimate of Rs814.59 bn comprises of construction cost of Rs733.92 bn of the Eastern and Western DFC (Eastern DFC - Rs266.74 bn and Western DFC- Rs461.78 bn). The land acquisition cost will be Rs80.67 bn. This excludes the cost of the 534 kms Sonnagar-Dankuni section proposed to be implemented through the Public Private Partnership (PPP) route.

**Exhibit 78: Comparison of DFC with existing railway lines**

| Feature | Existing | DFC |
|---|---|---|
| Height | 4.265 m | 7.1 m for western DFC |
| | | 5.1 m for eastern DFC |
| Width | 3200 mm | 3660m |
| Container stack | Single stack | Double stack |
| Train length | 700 m | 1500m |
| Train load | 4000 ton | 15000 ton |
| Axle load | 22.9t/25t | 32.5t/25t for track superstructure |
| Track loading Density | 8.67t/m | 12t/m |
| Maximum speed | 75kmph | 100 kmph |
| Grade | up to 1 in 100 | up to 1 in 200 |
| Curvature | upto 10 degree | upto 2.4 degree |
| Traction | Electrical (25 KV) | Electrical (2*25 KV) |
| Station spacing | 7-10 km | 40 km |
| Signaling | Absolute/Automatic with 1km spacing | Automatic with 2km spacing |
| Communication | Emergency Sockets/Mobile Train Radio | Mobile Train Radio |

*Source: DFCCIL, Emkay Research*

### Out of the total requirement of Rs814.59 bn for the Eastern and Western DFC project

- Rs761.43 bn funding will be required during project construction, as interest during construction of Rs53.16 bn for the Western DFC would need to be paid by the Ministry of Railways to the Ministry of Finance, after the moratorium period of 10 years.
- Rs523.47 bn would flow from debt from JICA and World Bank. Equity requirement from the Ministry of Railways (including land) for the project is Rs237.96 bn.

### 85% of the Land Acquired

Over 84% of land has been acquired with land compensation award of over Rs69 bn declared according to the provisions of the Railway Amendment Act, 2008.For the total length of DFC of 3300km, around 10,537 hectares of land has to be acquired and 8956 (85%) hectares of land has been acquired

As per our interaction with the officials around 245 km of land has to be acquired out of the total length of 1839 km on eastern corridor and on the western corridor there are patches of land to be acquired for 113kms of the corridor (out of length of ~1483kms). Most of the un-acquired patches are in UP and Bihar (on EDFC) and Gujarat and Maharashtra (on WDFC).

## Western Freight Corridor

The Western Corridor has a total route length of 1502km from Dadri to Mumbai and passes through five states of Delhi, Haryana, Rajasthan, Gujarat and Maharashtra.

**Exhibit 79: States covered by Western DFC**

| States | Length (in kms) |
|---|---|
| Haryana | 177 |
| Rajasthan | 567 |
| Gujarat | 565 |
| Maharashtra | 177 |
| Uttar Pradesh | 18 |
| **Total** | **1504** |

*Source: DFCCIL, Emkay Research*

### 64% of track laying/civil work awarded, remaining awards expected over the six months

Out of the total length of Rs1502 km, 946 km of track laying/civil work has been awarded to players like L&T –Sojitz and Mitsui-Ircon-Tata projects, Aldesa of Spain, GMR Infrastructure. DFCCIL expects to award remaining awards by March 2016 and given track laying cost/km averaged around Rs120-130 mn/ km, implies opportunity worth Rs60-70 bn.

**Exhibit 80: Section Timelines – Western DFC**

| Stretch | Length | Completion Month-Year |
|---|---|---|
| Rewari-Iqbalgarh | 625 | Dec-18 |
| Iqbalgarh-Vadodara | 325 | Dec-19 |
| Vadodara-JNPT | 425 | Dec-19 |
| Rewari-Dadri | 127 | Dec-19 |

*Source: DFCCIL, Emkay Research*

**Exhibit 81: Awarded contracts in Western Corridor**

| Package | Date of Award (Month-Year) |
|---|---|
| Civil & Track Package, CTP - 1 & 2 (Rewari - Iqbalgarh) | Aug-13 |
| Special Bridge Package - 3A ( R) Sabarmati & Mahi Rivers | Aug-14 |
| Electrical Package, EMP-4 (Rewari Makarpura) | Nov-14 |
| PMC for Phase I | Apr-14 |
| Special Bridge Packages, SBP-15A, 15-B & 15-C | Jun-15 |
| Civil & Track Package, CTP - 12 & 13 (Makarpura - Vaitarna) | May-15 |
| Signal & Telecom Package, STP-5 (Rewari - Makarpura) | Jun-15 |
| Construction of 54 bridges | Feb-09 |
| Signal & Telecom Package, STP-5A | LoA issued on 12.08.2015 |

*Source: DFCCIL, Emkay Research*

### Western Corridor contracts to be awarded

- Civil & Track Package, CTP-3R (Iqbalgarh - Makarpura)
- Civil & Track Package, CTP-11 (JNPT - Vaitarna)
- Integrated Civil, Electrical and S&T Package, CTP-14 (Rewari - Dadri)
- Electrical Packages, EMP-16 (Makarpura - JNPT)
- Signal & Telecom Package, STP-17, (Makarpura - JNPT)
- PMC for Phase II

### Funding of the western corridor

Western corridor (60% of capex in WDFC) is to be funded by Japan International Co-operation Agency (JICA) to the extent of 77% of the project through Special Terms of Economic Partnership (STEP) loan of JPY 677 bn (Rs385 bn) for the construction of western DFC as well as procurement of locomotives for the Ministry of Railways.

**As per the guidelines of the JICA loan:** (1) Prime contractor should be from Japan; and (2) Sub-contractors could be from any country. Further, in the case of a JV, the JV will be eligible provided the lead partner is Japanese and the Japanese partners have a >50% share of the contract. Also, a bidder that has been determined ineligible by JICA would not be awarded the contract. The rest of the project cost for the Western Corridor will be borne by the Ministry of Railways as equity funding to the DFCCIL.

## Eastern Freight Corridor

**Exhibit 82: States covered by Eastern DFC**

| States | Kms |
|---|---|
| Punjab | 88 |
| Haryana | 72 |
| Uttar Pradesh | 1058 |
| Bihar | 239 |
| Jharkhand | 196 |
| West Bengal | 203 |
| **Total** | **1856** |

*Source: DFCCIL, Emkay Research*

### 67% of track laying/civil work awarded, remaining awards expected over the six months

Given that 1130 km is funded by the World Bank and Indian Railways, DFCCIL has awarded 760 km of track laying/civil work and DFCCIL expects to award remaining patches by March/April 2016 and given track laying cost/km averaged around Rs120-125 mn/km, implies opportunity worth Rs50-60 bn.

**Exhibit 83: Section Timelines – Eastern DFC**

| Stretch | Length | Completion Month-Year |
|---|---|---|
| Bhaupur-Khurja | 342 | Mar-18 |
| Bhaupur-Mughalsarai | 402 | Dec-18 |
| Dadri-Khurja-Ludhiana | 450 | Dec-19 |
| Mughalsarai-Sonnagar | 123 | Dec-17 |

*Source: DFCCIL, Emkay Research*

**Exhibit 84: Awarded contracts in Eastern Corridor**

| Package | Date of Award (Month-Year) |
|---|---|
| EDFC-1, Bhaupur - Khurja (343 km), Civil Contract | Mar-13 |
| EDFC-2, Civil Contract (402 km), Mughalsarai - Bhaupur | Mar-15 |
| Mughalsarai-Sonnagar, Civil Work (114 kms) (excluding track) | Dec-08 & Nov-13 |
| Mughalsarai-Sonnagar System Contract (66 kms Durgawati - Sasaram - Karwandiya) | May-13 |
| Mughalsarai-Sonnagar Track Work (66 kms Durgawati - Sasaram - Karwandiya) | Jul-12 |
| Sone Bridge | Oct-13 |
| PMC EDFC-1 | Oct-13 |
| PMC EDFC-2 | Mar-15 |
| EDFC-1, System Contract Package 104 | Jul-15 |

*Source: DFCCIL, Emkay Research*

### Eastern Corridor contracts to be awarded

- EDFC-2, Signal & Telecom Contract, Package 203
- EDFC-2, Electrical Contract, Package 204
- EDFC-3, Civil Contract, Package 301 (Saharanpur - Ludhiana)
- EDFC-3, Civil Contract, Package 302 (Khurja - Dadri)
- EDFC-1, System Contract, Package 105 (Khurja - Dadri)
- EDFC-3, System Contract, Package 304 (Saharanpur - Ludhiana)
- EDFC-3, Khurja - Saharanpur, Civil Contract, Package 303
- EDFC-3, Khurja - Saharanpur, System Contract, Package 305
- PMC for Khurja - Dadri
- PMC for Pilkhani - Sahnewal
- PMC for Khurja - Pilkhani
- Dehri on Sone-Sonnagar Junction Civil work (16 km)
- Dehri on Sone-Sonnagar Junction and Durgawati - MGS (60 km) Track work + Rails
- Dehri on Sone-Sonnagar Junction and Durgawati - MGS (60 km) System work

### Funding of the Eastern corridor

**Exhibit 85: World Bank Funding of Phases I, II and III (USD mn)**

| Section | DFCCIL's contribution | World Bank | Total |
|---|---|---|---|
| Khurja - Kanpur | 483 | 975 | 1458 |
| Kanpur – Mughalsarai | 550 | 1100 | 1650 |
| Khurja – Ludhiana | 365 | 700 | 1065 |

*Source: World Bank, DFCCIL, Emkay Research*

## Metro Projects: Capex visible, funding intact by Multilateral agencies

As highlighted in our previous report (*Infrastructure sector: Crossing the chasm*) that given the capital intensive nature of the project and difficulty in cost recovery based on fare we believe that all upcoming Metro projects will be planned under the EPC mode, very few being planned under private participation.

In the last one and half years we have seen projects worth Rs72.14 bn already awarded including Rs11 bn rolling stock and signaling order won by Alstom Transport India Ltd. for Lucknow Metro. Over and above that MMRDA has also declared lowest bidders for the 7 packages of Mumbai Metro Line 3 worth Rs231 bn. The funding of the projects is being done by multilateral agencies amounting to ~50% of aggregate project cost.

We believe that the project cost worth Rs879 bn driven by Ahmedabad Metro, Mumbai Metro (elevated), DMRC-IV and Nagpur likely to be awarded over 6-8 months. The funding done by multilateral agencies for these projects is slated to be ~53% of TPC.

**Exhibit 86: List of metro projects**

| Project | State | Metro | Length (km) | Total Project Cost (Rs bn) | Funding Structure |
|---|---|---|---|---|---|
| **Delhi Metro** | **Delhi** | Phase I Completed | 65 | 105 | |
| | | Phase II Completed | 125 | 191 | |
| | | Phase III Under construction | 135 | 350 | |
| | | Phase IV DPR Prepared, Securing funding | 109 | 550 | |
| **Mumbai** | **Maharashtra** | Metro Phase I Completed | 12 | 43.2 | |
| | | Metro Phase IIA Planning (Dahisar-DN Nagar section) | | | State – 48% |
| | | Metro Phase IIB Planning (DN Nagar- BKC) | 40 | 256.1 | |
| | | Metro Phase IIC Planning (BKC-Mankhurd) | | | |
| | | Metro Phase III Packages awarded | 33 | 231 | JICA – 57% |
| | | Dahisar (East) to Andheri (East) - Planning | 16.5 | 62 | State – 52% |
| | | Navi Mumbai Metro phase I Initial stages | 23.4 | 40.68 | |
| | | Navi Mumbai Metro phase II | 54 | | |
| | | Navi Mumbai Metro phase III | 29 | | Central -25% |
| | | | | | State-25% |
| | | | | | JICA-50% |
| **Pune** | **Maharashtra** | Phase -I Planning | 31.52 | 69.6 | PMC & PCMC-10% |
| | | Phase -II Planning | 29 | 32.24 | State government-20% |
| | | | | | Central Government-20% |
| | | | | | Loans -50% |
| **Nagpur** | **Maharashtra** | Phase I One tender worth Rs3 bn out, further tendering in 1-2 months | 42 | 86.8 | Central & state -20% |
| | | | | | NT&NMC-5% |
| | | | | | Financial institutions-75% |
| **Bangalore** | **Karnataka** | Phase I Under Implementation | 42.3 | 138 | Central Government-25% |
| | | | | | State-Government-30% |
| | | | | | JICA-45% |
| | | Phase II Planning | 35 | 264 | Central government-35% |
| | | | | | State government-45% |
| | | | | | Debt-20% |
| **Kolkata** | **West Bengal** | Phase I Running | 28 | | |
| | | Phase II Under implementation | 14.67 | 50 | Central Government- |
| | | | | | State-Government- |
| | | | | | JICA-45% |
| | | Phase III Under implementation | 16.7 | | |
| | | Phase IV Under implementation | 18.5 | | |
| | | Phase VI (New Garia-Airport metro) | 24 | 4 | |
| **Chennai** | **Tamil Nadu** | Phase I Phased commissioning begun | 45 | 140 | Central Government-20% |
| | | | | | State-Government-21% |
| | | | | | JICA-59% |
| | | Phase II | 60 | 360 | Central Government-20% |
| | | | | | State-Government-21% |
| | | | | | JICA-59% |
| **Hyderabad** | **Andhra Pradesh** | Phase I Under Construction | 71 | | |
| | | Phase II Planning | 73.5 | | |
| **Ahmedabad** | **Gujarat** | Metro-Link Express between Gandhinagar and Ahmedabad (MEGA) - One package of Rs3.5 bn awarded, tendering lined up for Rs7 bn | 82.36 | 180 | State and central-60% |
| | | | | | Debt from Financial institutions-40% |
| **Surat** | **Gujarat** | DPR prepared | 100 | 150 | Central govt-50% |

*Source: GoI, Emkay Research*

**Exhibit 86: List of metro projects *(Contd…)***

| Project | State | Metro | Length (km) | Total Project Cost (Rs bn) | Funding Structure |
|---|---|---|---|---|---|
| **Jaipur** | **Rajasthan** | Phase I Trial runs | 12 | 35 | Central Government-15% |
| | | | | | State-Government-8.43% |
| | | | | | JICA-56.57% |
| | | Phase II Planning (PPP mode) | 23 | 70 | |
| **Kanpur** | **Uttar Pradesh** | Preparation of DPR | 27 | 6.5 | |
| **Lucknow** | **Uttar Pradesh** | Phase I (North South) | 22 | 80 | Central & State Government-20% |
| | | Phase II (East West) | 11 | 40 | Financial institutions-80% |
| | | Phase III (Gomti Nagar) | 3.5 | 20 | |
| **Agra** | **Uttar Pradesh** | Preparation of DPR | | | |
| **Allahabad** | **Uttar Pradesh** | Monorail DPR prepared | 70 | 110 | |
| | | Metro Preparation of DPR | | | |
| **Indore** | **Madhya Pradesh** | Preparation of DPR | 32.16 | 75 | |
| **Bhopal** | **Madhya Pradesh** | Preparation of DPR | 28.5 | 60 | |
| **Kochi** | **Kerala** | Under construction | 25.56 | 51 | Central Govt -20% |
| | | | | | State & Financial institutions-80% |
| **Coimbatore** | **Tamil Nadu** | Preparation of DPR | | | |
| **Patna** | **Bihar** | Preparation of DPR | 40 | 80 | Central Govt -20% |
| | | | | | State & Financial institutions-80% |
| **Kozhikode** | **Kerala** | Preparation of DPR | 32.6 | 30 | |
| **Odisha** | | Detailed study going on | 40 | | |
| **Guwahati** | | Preparation of DPR (3 phases) | 65 | 140 | |
| **Vijayawada** | **Andhra Pradesh** | Approved by AP govt. | 26.3 | 68.23 | Central Govt – Rs8.66 bn |
| | | | | | State Govt – Rs8.66 bn |
| | | | | | JICA – Rs30 bn |

*Source: GoI, Emkay Research*

# Core Railway Capex: Focus on Doubling/new track laying and station development

### Indian Railways Snapshot

- 65% trains are passenger carrying, yielding less than 30% of revenue
- 35% are freight trains, yielding 70% revenue yet receive lowest priority in train running
- 65% of sections on High Density Network on IR are saturated
- 492 out of 1219 sections (40%) running at more than 100% capacity
- 18% network carrying 56% traffic

## Underinvestment led to loss of freight share

Over the last 10 years India has focused on creating infrastructure in roads (transportation infrastructure), Power (Generation, T&D) with significant increase in the private participation however capacity creation has lagged in railways  no major investment done by private sector leading to loss of market share to roadways.

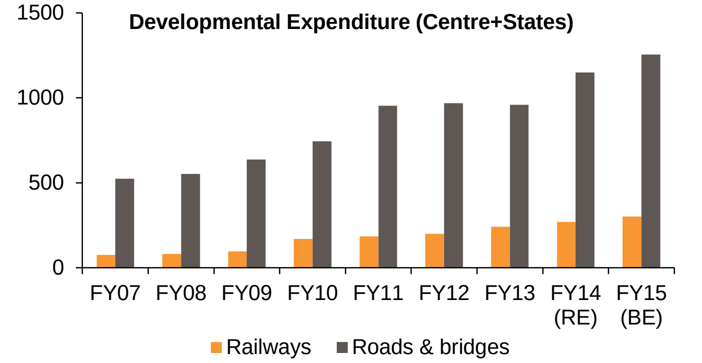
The high density networks of the Indian Railways are facing acute capacity constraints coupled with low passenger fares thereby leading to increases in freight tariffs to cross subsidize passenger revenues. However, that only enables recovery of costs and does not leave enough resources for investment in network expansion and replacement of assets.

**Exhibit 87: Railway Statistical Snapshot**

| Particulars | FY14 |
|---|---|
| Number of passengers carried (millions) | 8,397 |
| Passenger kilometres (billion) | 1,159 |
| Passenger earnings as % of gross earnings | 25.28 |
| Express long-distance passenger as % of passenger earnings | 80.49 |
| Average suburban lead (km) | 37 |
| Average non-suburban lead (km) | 257.5 |
| Number of railway stations | 7,172 |
| Number of railway stations identified for multi-functional complexes | 196 |
| Number of daily passenger trains | 12,961 |
| Average speed of mail/express trains on broad gauge (km/hour) | 50.6 |
| Average speed of ordinary passenger trains on broad gauge (km/hour) | 36 |
| Average rate per passenger km (paise) | 31.53 |
| Revenue originating tonnes (million)* | 1,051.64 |
| Net tonnes km (billion) | 691.66 |
| Bulk freight as % of goods earnings | 88.87 |
| Number of daily goods trains | 8,637 |
| Wagon turn-around time on broad gauge (days) | 5.13 |
| Average speed of goods trains on broad gauge (km/hour) | 25.9 |
| Average net load of goods trains on broad gauge (tonnes) | 1,686 |
| Average rate per NTKM (paise) | 137.5 |
| Proposals for private freight terminals | 47 (19 finalized) |
| Working expenses as % of gross earnings (operating ratio) | 93.6 |
| Number of employees (thousands) | 1,334 |
| Wage bill as % of working expenses | 49.13 |
| Rate of return on capital (%) | 7.42 |
| Number of locomotives | 9,956 |
| Wagons | 245,267 |
| Coaches | 66,392 |
| Land owned by IR | 4.55 lakh hectares** |

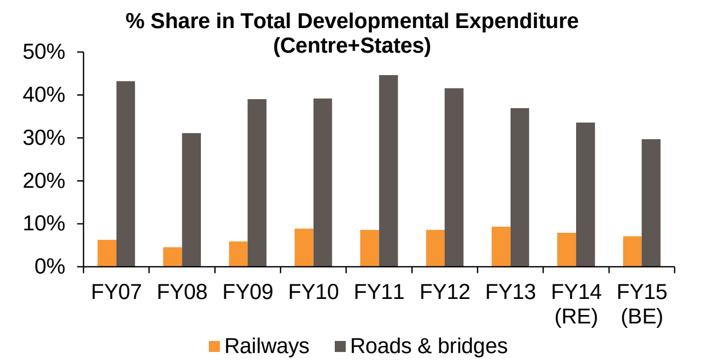
*Source: GoI, Emkay Research*
**Excluding Konkan Railway*
***90% required for operational and allied usage*

**Exhibit 88: Developmental Expenditure (Revenue+Capital)**



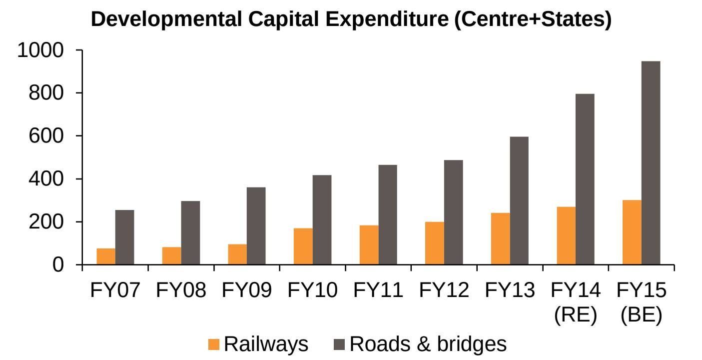

*Source: GoI, Emkay Research*

**Exhibit 89: % share (Revenue+Capital)**



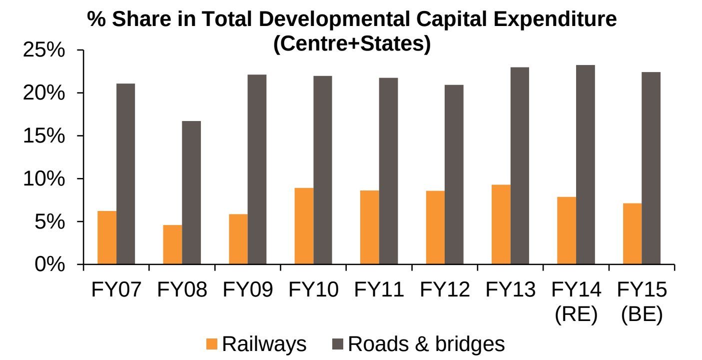

*Source: GoI, Emkay Research*

**Exhibit 90: Developmental Expenditure (Capital)**



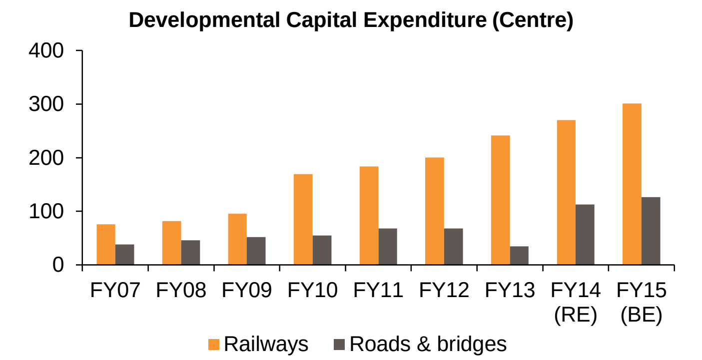

*Source: GoI, Emkay Research*

**Exhibit 91: % share (Capital)**



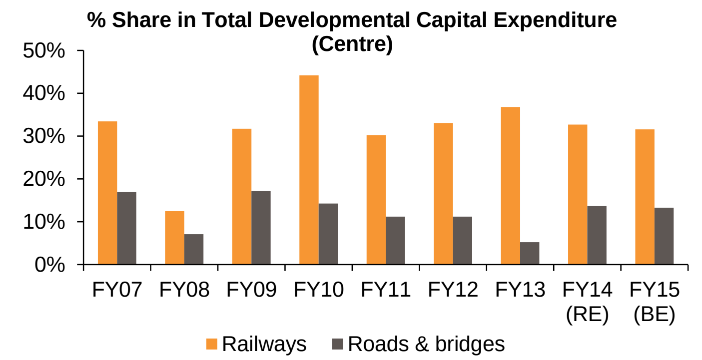

*Source: GoI, Emkay Research*

**Exhibit 92: Developmental Expenditure (Capital)**



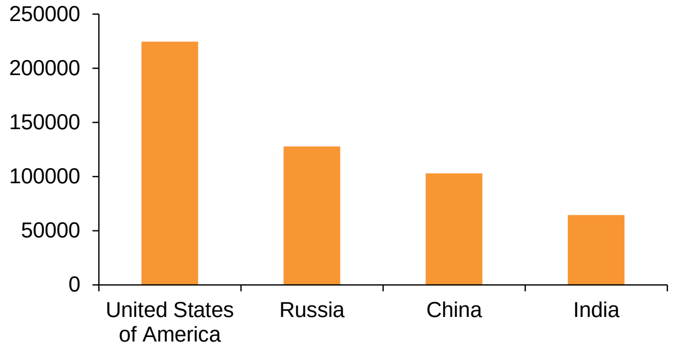

*Source: GoI, Emkay Research*

**Exhibit 93: % share (Capital)**



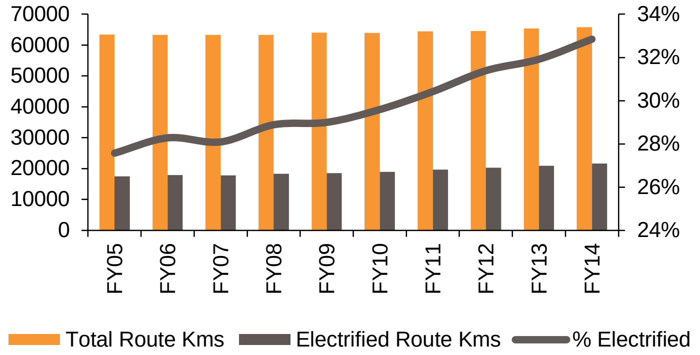

*Source: GoI, Emkay Research*

**Exhibit 94: Railway Network (Length kms)**



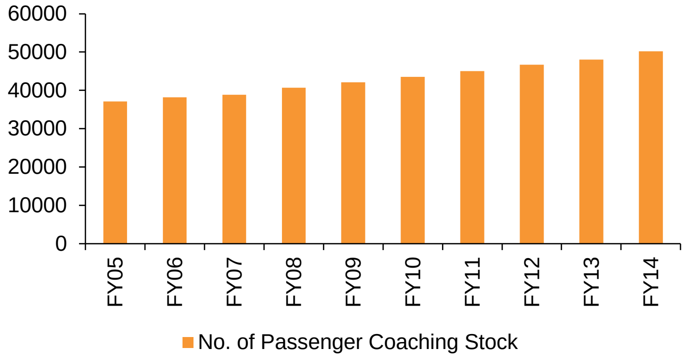

*Source: GoI, Emkay Research*

**Exhibit 95: Indian Railway Network (Length kms)**



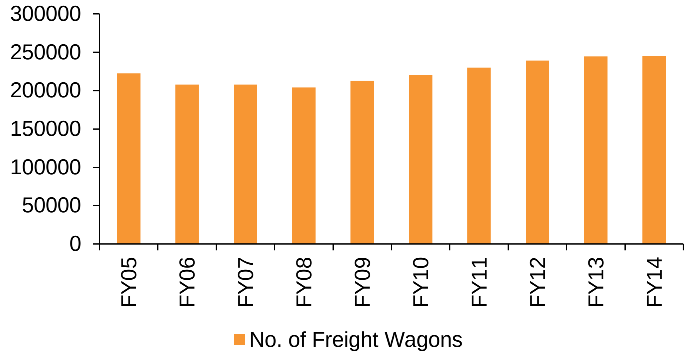

*Source: GoI, Emkay Research*

**Exhibit 96: No. of Passenger Coaching Stock**



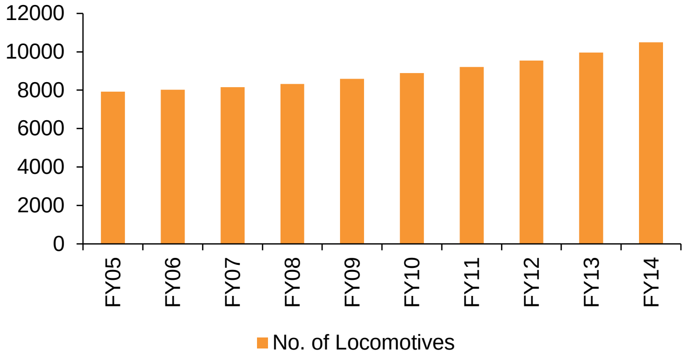

*Source: GoI, Emkay Research*

**Exhibit 97: No. of Freight Wagons**



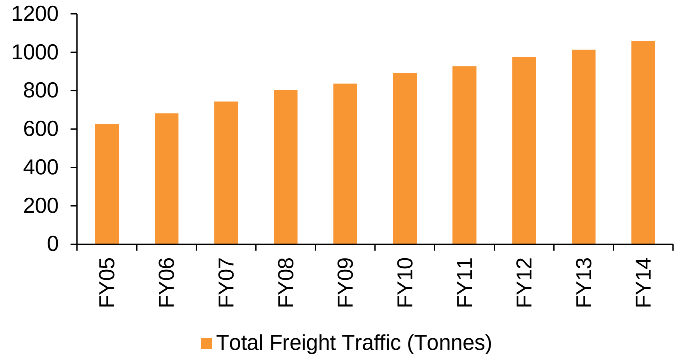

*Source: GoI, Emkay Research*

**Exhibit 98: No. of Locomotives**



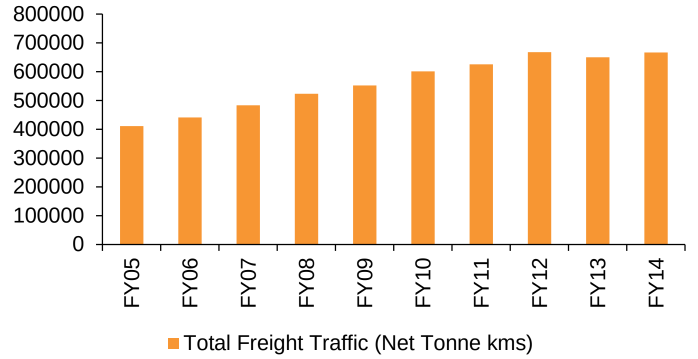

*Source: GoI, Emkay Research*

**Exhibit 99: Total rail freight traffic (in tonnes)**



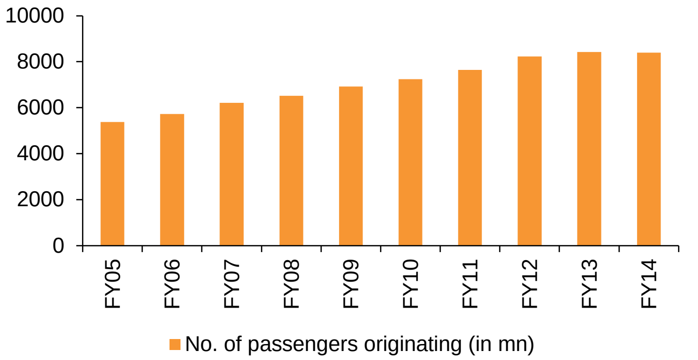

*Source: GoI, Emkay Research*

**Exhibit 100: Total rail freight traffic (in net tonne kms)**



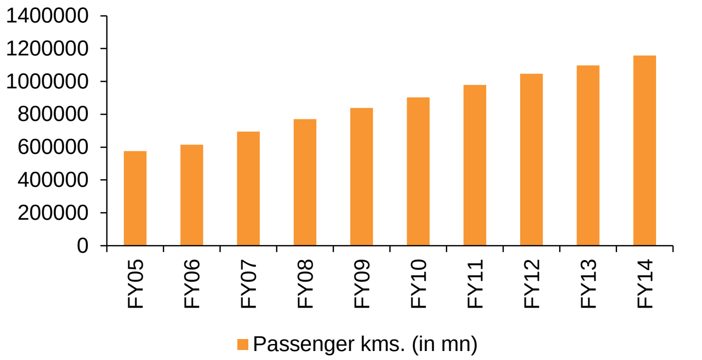

*Source: GoI, Emkay Research*

**Exhibit 101: Total rail passengers originating traffic (in mn)**




*Source: GoI, Emkay Research*

**Exhibit 102: Total rail passenger kms (in mn)**




*Source: GoI, Emkay Research*

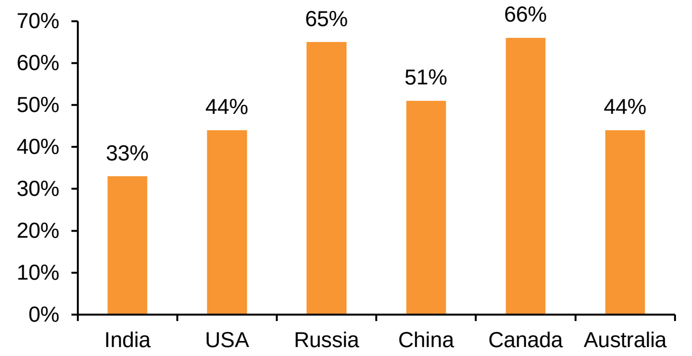
# Railways: What went wrong?

## Growing congestion led to loss of market share in freight volumes and lower productivity

Given the under investment in the railway sector towards improving network, over 65% of sections are running at 100% + capacity utilization (compared to 80% optimum capacity utilization) has led to loss of share of railways in freight traffic (reduced to 30-35% from 65% in late 1970s). According to the McKinsey Study (2010) continuation of the current state of affairs in India would imply the share of railways in freight traffic declining further to 25% by 2020. The low share of rail in overall freight traffic (compared to road) is detrimental to overall economic activity because as compared to road, railways consume 75-90% less energy for freight transport and 5-21% less energy for passenger traffic (as per studies done by NTDPC (National Transport Development Policy Committee– 2014).

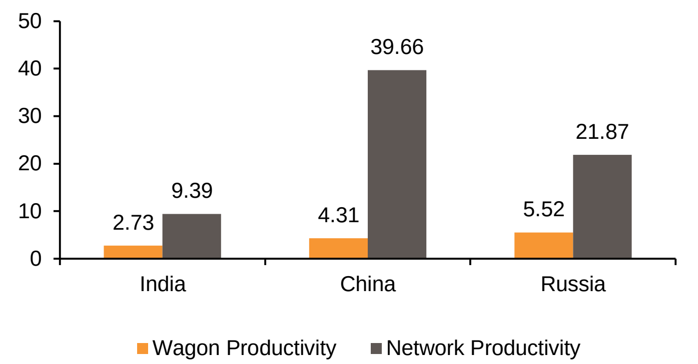
The under investment also led to slow average speed of Indian trains. Average speed of an express passenger train is 51 kmph. Average speed of ordinary passenger train is 36 kmph and average speed of freight train is just about 26 kmph. It should be noted that freight transportation suffers even more because passenger trains utilize 65% of network capacity.

**Exhibit 103: Modal share of railways in domestic freight (%)**




*Source: ESI, Emkay Research*

**Exhibit 104: Benchmarking Efficiency: India vis-à-vis China & Russia**




*Source: ESI, Emkay Research*
*Note: Network productivity (as measured by NTKM (mn) /network length), Wagon productivity (as measured by NTKM (mn)/wagon holding)*

**Exhibit 105: Capacity Utilization for Sections on IR**

| Railway | <80% | 80-100% | 100-120% | 120-150% | >150% | One train only system | Total |
|---|---|---|---|---|---|---|---|
| Central | 34 | 9 | 11 | 12 | 7 | 1 | **74** |
| East Coast | 16 | 9 | 9 | 16 | 2 | 4 | **56** |
| East Central | 16 | 13 | 19 | 22 | 16 | 5 | **91** |
| Eastern | 22 | 22 | 41 | 1 | 0 | 3 | **89** |
| North Central | 11 | 3 | 7 | 22 | 2 | 1 | **46** |
| North Eastern | 12 | 6 | 12 | 6 | 6 | 0 | **42** |
| North Frontier | 18 | 10 | 4 | 14 | 3 | 11 | **60** |
| Northern | 70 | 26 | 29 | 23 | 10 | 4 | **162** |
| North Western | 39 | 7 | 6 | 3 | 1 | 4 | **60** |
| South Central | 20 | 32 | 23 | 8 | 9 | 0 | **92** |
| South Eastern | 24 | 13 | 14 | 17 | 1 | 2 | **71** |
| South East Central | 9 | 6 | 9 | 7 | 2 | 0 | **33** |
| Southern | 53 | 38 | 25 | 15 | 0 | 0 | **131** |
| South Western | 38 | 12 | 0 | 0 | 0 | 1 | **51** |
| West Central | 1 | 4 | 7 | 6 | 3 | 0 | **21** |
| Western | 32 | 18 | 17 | 21 | 4 | 48 | **140** |
| **Total** | **415** | **228** | **233** | **193** | **66** | **84** | **1219** |

*Source: GoI, Emkay Research*

**Exhibit 106: Capacity Utilization for Sections on IR along the High Density Network**

| Railway | <80% | 80-100% | 100-120% | 120-150% | >150% | Total |
|---|---|---|---|---|---|---|
| Central | 12 | 4 | 7 | 12 | 5 | **40** |
| East Coast | 5 | 0 | 6 | 8 | 1 | **20** |
| East Central | 1 | 5 | 4 | 3 | 3 | **16** |
| Eastern | 0 | 3 | 7 | 0 | 0 | **10** |
| North Central | 0 | 1 | 5 | 19 | 1 | **26** |
| North Eastern | 1 | 3 | 6 | 1 | 3 | **14** |
| North Frontier | 0 | 3 | 0 | 5 | 1 | **9** |
| Northern | 3 | 4 | 5 | 7 | 2 | **21** |
| South Central | 0 | 14 | 2 | 2 | 2 | **20** |
| South Eastern | 2 | 2 | 6 | 6 | 0 | **16** |
| South East Central | 0 | 0 | 3 | 5 | 1 | **9** |
| Southern | 5 | 8 | 4 | 0 | 0 | **17** |
| West Central | 1 | 0 | 2 | 2 | 2 | **7** |
| Western | 0 | 9 | 2 | 9 | 2 | **22** |
| **Total** | **30** | **56** | **59** | **79** | **23** | **247** |

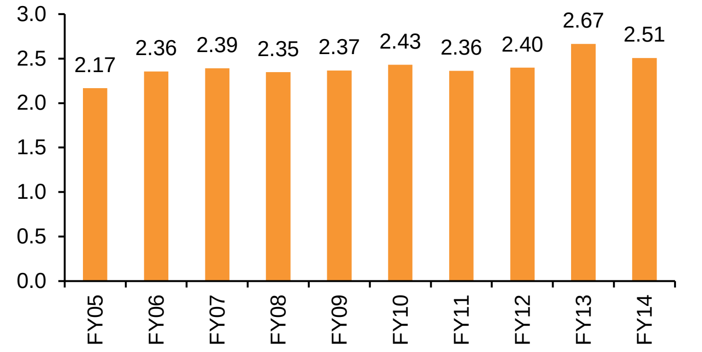
*Source: GoI, Emkay Research*

## Pricing: Cross subsidy continues to be high on social obligation

There has been a consistent problem with respect to increase in the tariff especially for the freight segment. Freight tariff to passenger tariff ratio (freight tariff in paise per ton km/ passenger tariff in paise per passenger km) was 2.14x in FY1951. Over the next thirty years (by FY1981) it grew to 2.64x. By FY01 (further twenty years down the line), it grew to 3.22x. Then in the next 10 years (i.e. by FY2010), the ratio jumped to 3.66x. In the next 4 years (FY10 to FY14), the ratio jumped to 4.37x.

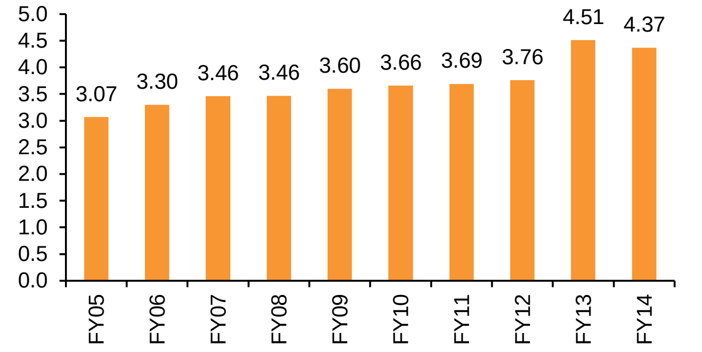
This shows that freight tariffs have not only grown much faster than passenger tariffs, but this relative pace of growth of freight tariffs v/s passenger tariffs has accelerated very sharply in the recent past. This distortion in tariff structure has led to a situation where passenger operations of railways contribute only 25% of railways traffic earnings even though they consume ~65% of track capacity.

**Exhibit 107: Ratio of Freight Earnings to Passenger Earnings**



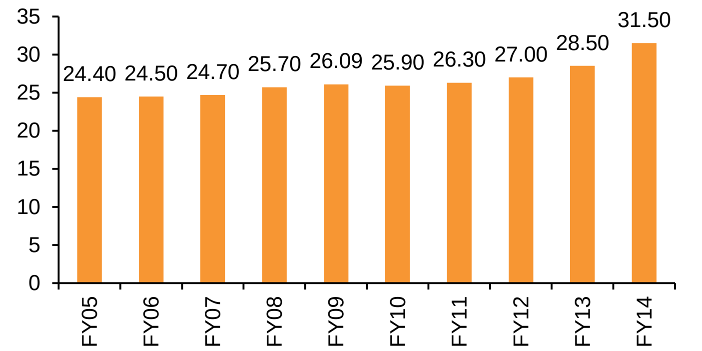

*Source: GoI, Emkay Research*

**Exhibit 108: Ratio of Freight Tariff to Passenger Tariff**



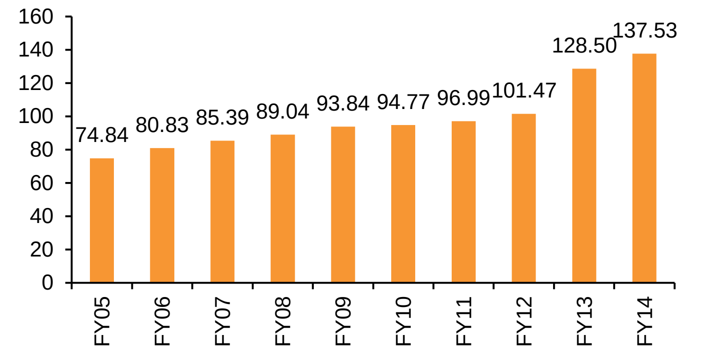

*Source: GoI, Emkay Research*
*Note: Freight Tariff (as measured by Paise per Tons Kms) divided by Passenger Tariff (as measured by Paise per Passenger Kms)*

**Exhibit 109: Passenger Tariff (Paise per Passenger Kms)**




*Source: GoI, Emkay Research*

**Exhibit 110: Freight Tariff (Paise per Tons Kms)**




*Source: GoI, Emkay Research*

**Exhibit 111: Comparison of Freight cost of Coal in India and China**

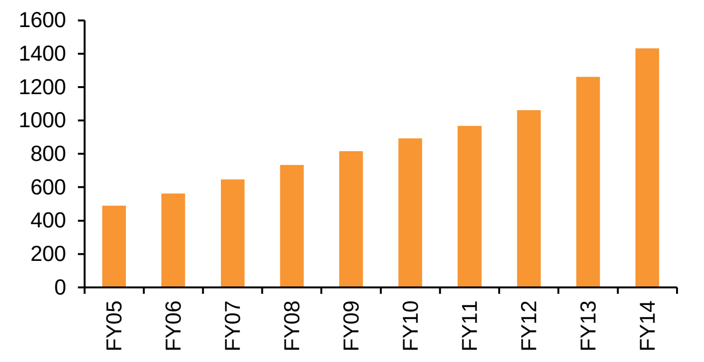
| Particulars | India | China | Ratio (India/China) |
|---|---|---|---|
| 1. Average distance (km) | 639 | 653 | 0.98 |
| 2. Cost ($) | 0.021 | 0.016 | 1.31 |
| 3. Cost(PPP terms) ($ per ton-km) | 0.064 | 0.029 | 2.21 |
| 4. Load carried by avg. freight train (ton) | 1700 | 3500 | 0.49 |
| 5. Avg. freight train speed (km/hr) | 25 | 34 | 0.74 |
| **Indicators** | | | |
| 6. Time inefficiency (hours) (1/5) | 25.6 | 19.2 | 1.33 |
| 7. Capacity (ton/hour)(4/6) | 67 | 182 | 0.37 |
| 8. Cost inefficiency($/ton )in PPP terms (1x3) | 40.89 | 19.23 | 2.13 |

*Source: ESI, Emkay Research*

## Railway Finances: Inadequate internal funds generation for capacity creation

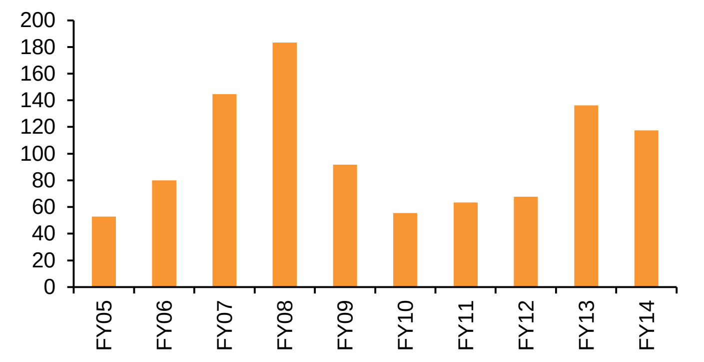
In FY15, net railway revenue was still at Rs165bn, much below levels seen in FY08. An Important data point to measure for profitability and capacity to generate additional funds for railways is operating ratio i.e. the railways revenue to cost ratio. An operating ratio of 75% is considered desirable as it indicates ability to generate funds from operations for increasing capacity. The operating ratio of Indian Railways had consistently improved from a high of ~98.34% in FY01 to 75.94% in FY08. However since FY09 onwards (after recommendations of the 6th pay commission), it has consistently stayed above 90% and was at 93.6% in FY14.

**Exhibit 112: Gross Revenue Receipts (Rs bn)**



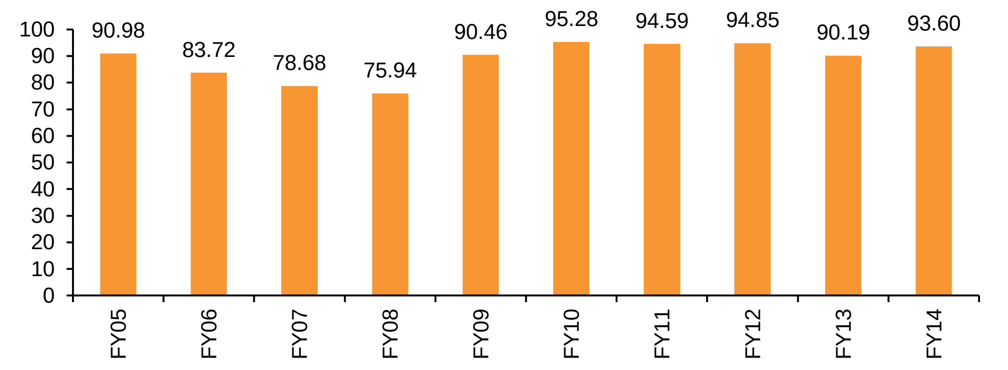

*Source: GoI, Emkay Research*

**Exhibit 113: Net Revenue Receipts (Rs bn)**



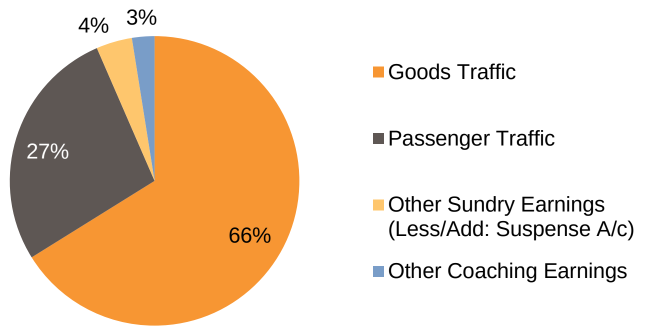

*Source: GoI, Emkay Research*

**Exhibit 114: Operating Ratio**



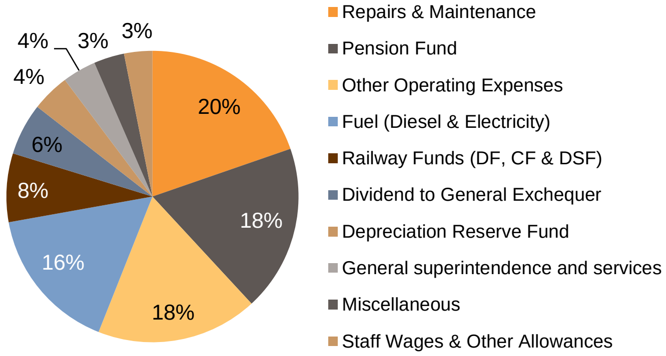

*Source: GoI, Emkay Research*
*Note: Operating Ratio = Working Expenditure (excluding suspense account but including appropriation to DRF and Pension Fund) x100/ Gross Revenue Receipts*

**Exhibit 115: Where the rupee comes from? – FY16BE (Rail Budget)**




*Source: GoI, Emkay Research*

**Exhibit 116: Where the rupee goes? – FY16BE (Rail Budget)**




*Source: GoI, Emkay Research*

**Exhibit 117: Indian Railway Budget (Rs bn)**

| Railway - Net Financial Results | FY14A | FY15RE | FY16BE |
|---|---|---|---|
| **Total Traffic Revenues** | **1398.4** | **1592.0** | **1835.3** |
| Goods Traffic | 939.1 | 1069.3 | 1214.2 |
| Passenger Traffic | 365.3 | 430.0 | 501.8 |
| Other Coaching Earnings | 36.8 | 40.3 | 46.1 |
| Other Sundry Earnings | 57.2 | 52.4 | 73.2 |
| Less/Add: Suspense A/c | -2.8 | 0.5 | 0.5 |
| **Gross Traffic Receipts** | **1395.6** | **1592.5** | **1835.8** |
| *% yoy* | *12.8* | *14.1* | *15.3* |
| **Net Ordinary Working Expenses** | **975.7** | **1089.7** | **1194.1** |
| *% yoy* | | *11.7* | *9.6* |
| General superintendence and services on Railways | 56.4 | 63.5 | 69.9 |
| **Repairs & Maintenance of -** | | | |
| Permanent ways and works | 91.7 | 104.3 | 116.6 |
| Motive power | 44.6 | 48.9 | 54.6 |
| Carriages and wagons | 103.3 | 113.1 | 125.5 |
| Plants and equipment | 54.1 | 64.3 | 72.4 |
| **Operating Expenses -** | | | |
| Rolling stock and equipment | 88.0 | 101.2 | 113.9 |
| Traffic | 167.9 | 192.9 | 221.3 |
| Fuel | 292.9 | 302.0 | 303.0 |
| Staff Welfare and Amenities | 45.1 | 52.1 | 58.6 |
| Miscellaneous working expenses | 43.0 | 55.4 | 63.3 |
| Provident Fund, Pension and other retirement benefits | 255.3 | 303.5 | 345.7 |
| Credits or recoveries | -19.0 | -18.8 | -18.5 |
| Deduct - Amount recouped from funds | -247.6 | -292.9 | -332.2 |
| Suspense Expenditure | -5.6 | -2.2 | -2.2 |
| Appropriation to Depreciation Reserve Fund | 79.0 | 77.8 | 79.0 |
| Appropriation to pension fund | 248.5 | 292.3 | 349.0 |
| **Total working expenses** | **1303.2** | **1459.7** | **1622.1** |
| **Net traffic receipts** | **92.4** | **132.8** | **213.7** |
| *% yoy* | | *43.7* | *60.9* |
| **Miscellaneous Transactions** | | | |
| Total miscellaneous receipts | 36.6 | 42.0 | 49.8 |
| Total miscellaneous expenses | 11.4 | 10.3 | 12.7 |
| **Net railway revenue** | **117.5** | **164.5** | **250.8** |
| *% yoy* | | *40.0* | *52.4* |
| Dividend to general revenues | 80.1 | 91.7 | 108.1 |
| **Excess (+)/Shortfall (-)** | **37.4** | **72.8** | **142.7** |
| Apppropriation to Capital Fund | 5.0 | 59.2 | 76.2 |
| Apppropriation to Railway Development Fund | 30.8 | 13.1 | 57.5 |
| Apppropriation to Debt Service Fund | 1.7 | 0.5 | 9.0 |

*Source: GoI, Emkay Research*

*Net Railway Revenue is defined as -*

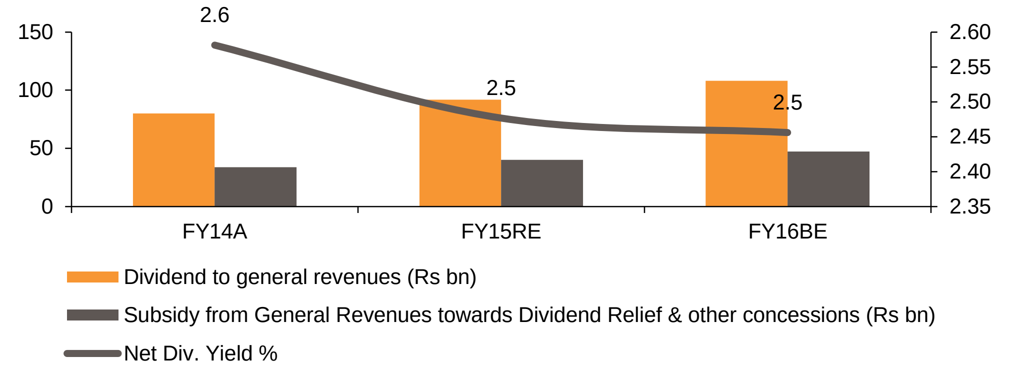
*Net Railways Revenue = Gross Traffic Receipts – Ordinary working expenses – Appropriation to Depreciation Reserve Fund (DRF) – Appropriation to pension fund + Net Miscellaneous Receipts*

## Appropriations to Depreciation Reserve Fund and dividend to centre are inadequate

As per the Railways reforms report neither DRF (depreciation reserve fund) nor dividends paid to the Centre are objectively determined as one would assume in a commercial framework. Instead, with dividends and appropriations to the pension fund fixed, a “desirable” operating ratio is determined and appropriation to DRF is the residual. Thus, whenever the appropriations to pension fund have increased, for example after a Pay Commission, appropriations to DRF have declined to maintain a desirable operating ratio. This under provisioning can be seen from the fact that appropriation to DRF stood at Rs79 bn in FY14, against a total investment in assets of Rs3246.6 bn, just 2.4% of assets. This would imply an assumption of blended life of 40 years for all railway assets.

Even dividends paid to the centre are subject to the desired operating ratio and are insufficient from a commercial standpoint. Net Dividend yield calculated after deducting subsidies towards dividend relief and other concessions comes at 2.6% for FY14. (Dividend yield is calculated on capital at charge pertaining to core railways asssets)

**Exhibit 118: Net dividend (after deducting subsidy) as a % of capital at charge**




*Source: GoI, Emkay Research*

## Financing plan: IR spends so much on revenue expenditure that it is unable to invest in capital expenditure.

Over the last many years we have seen that railways largely relies on Gross Budgetary Support for its Capex plan. Funds raised through IRFC have been used primarily for funding rolling stock of Indian Railways.

For financing the capex in 2014-15

- 46% of the resources for financing the capex came from gross Budgetary Support versus 40% envisaged for 2015-16
- 23% from internal resources versus 17.8% envisaged for 2015-16
- 27% from extra budgetary sources versus 40.6% envisaged in 2015-16

### Government supports Rs60-70 bn against the social commitment of Rs260 bn

Budgetary support from General Revenues, received for creation of assets, is held as capital-at charge on the IR. The Railways pay the Ministry of Finance dividend set as a percentage of the capital-at-charge. The capital-at-charge is maintained in the books of Railways at historical value of the assets created. In MoF, the Budgetary Support (i.e. capital-at-charge) is treated as loan extended to the Railways and the dividend being paid as interest. There is no reduction in this capital unless it is amortized or write-back adjustments are affected by debit to internally generated resources of the Railways and hence is a loan in perpetuity. Every time an asset is replaced, the historical value of the asset continues to be reflected under capital-at-charge. **Thus, the total capital-at-charge of IR stands at Rs1796 bn as of March, 2014.**

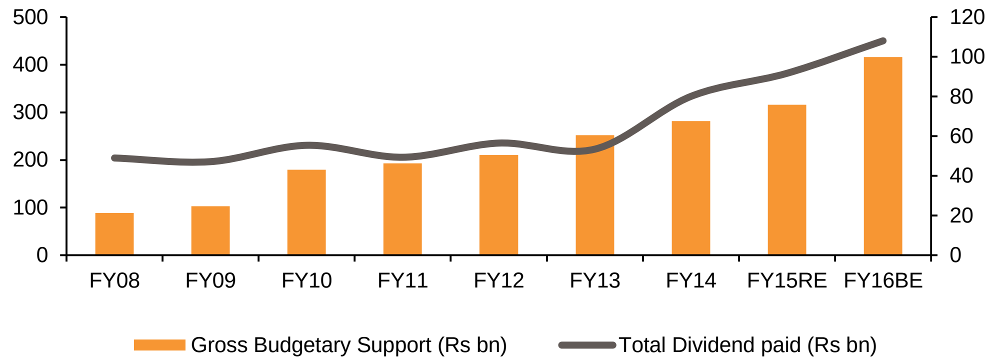
In 2014-15 (BE), the dividend payable has been estimated at Rs91.7 bn whereas the subsidy is being claimed at Rs40 bn. Thus, on the net basis Rs 51.7 bn would be the outgo on account of dividend in 2014-15 (BE). Thus, the effective rate of dividend payable to MoF works out to roughly 2.5% of the dividend bearing capital-at-charge.

According to railway reform committee support to IR from GOI is therefore not the entire extent of budgetary support, but the difference between what the GOI's borrowing cost and the return it gets from IR. At current levels of GOI bond yields, of 7.5% to 8%, this would imply an amount of roughly 3% to 3.5% of the capital-at-charge, approximating to about Rs60 bn - Rs70 bn against the social obligation of Rs260 bn annually. **(Net Social Service Obligation borne by IR in 2013-14 is assessed at Rs213.91 bn and estimated for 2014-15 at Rs260 bn.)**

**The main elements of Social Service Obligation of IR are losses relating to**

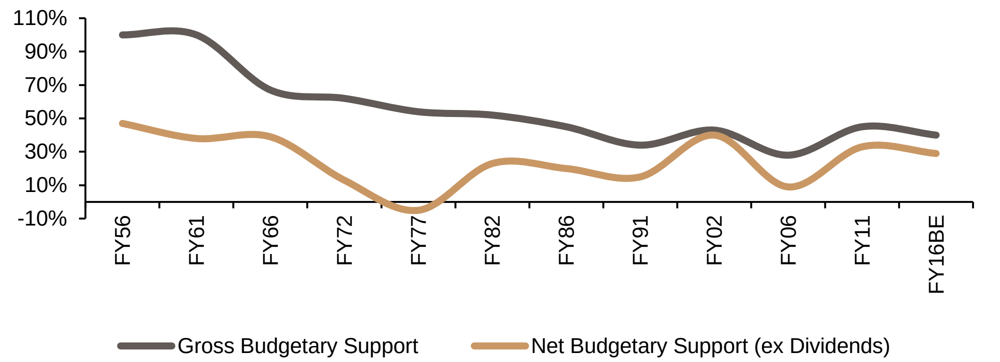
- Essential commodities carried below cost- essential commodities of mass consumption like fruits and vegetables, organic manures, paper, charcoal, bamboos, cotton raw pressed etc. are carried below cost of operation in order to contain their market prices.
- Passenger and other coaching services including concessions, low tariff particularly in the second class all contribute to the losses.
- **Operation of uneconomic branch lines:** Despite concerted efforts to enhance earnings on branch lines, most of these lines remain commercially unviable. The Railway Reforms Committee recommended closure of 40 such lines but due to stiff public resistance and opposition by State Governments towards withdrawal of such services, only 15 lines have been closed permanently by the Railways. A review of the financial results of existing 88 uneconomic branch lines for the year 2011-12 shows that, on an original investment on these lines of the order of Rs17.19 bn, loss during the year 2011-12 amounted to Rs13.66 bn.
- New lines opened for traffic during the last 15 years.

**Exhibit 119: Indian Railways (IR) - Gross Budgetary Support & Dividend Payment to Government**




*Source: GoI, Emkay Research*

**Exhibit 120: Share of Net and Gross Budgetary support to IR as share of Plan Outlay (%)**




*Source: GoI, Emkay Research*

## Increases reliance on market borrowings

Investments have been financed through internal resources or budgetary support and gross budgetary support to IR has been declining. Borrowings from external sources have increased sharply, to bridge the gap between available resources and the Plan size, though market borrowings were initially expected to have only a limited role. A substantial part of annual borrowings are now ploughed back to IRFC as repayments. Indeed, in 2014-15, repayments exceeded the borrowing.

**Exhibit 121: Financing the Railway Plan**

| Particulars (Rs bn) | FY10 | FY11 | FY12 | FY13 | FY14 | FY15BE | FY16BE |
|---|---|---|---|---|---|---|---|
| Budgetary Support | 169.1 | 183.9 | 200.1 | 241.3 | 270.3 | 301.0 | 400.0 |
| *% share of total* | *42.6%* | *45.1%* | *44.4%* | *47.9%* | *50.3%* | *46.0%* | *40.0%* |
| Railway Safety Fund | 8.1 | 11.0 | 13.2 | 15.8 | 19.8 | 22.0 | 16.5 |
| *% share of total* | *2.0%* | *2.7%* | *2.9%* | *3.1%* | *3.7%* | *3.4%* | *1.6%* |
| Internal Resources | 122.0 | 115.3 | 89.4 | 95.3 | 96.8 | 153.5 | 177.9 |
| *% share of total* | *30.7%* | *28.3%* | *19.8%* | *18.9%* | *18.0%* | *23.5%* | *17.8%* |
| Extra-budgetary resources | 97.6 | 97.8 | 147.9 | 151.4 | 150.9 | 178.0 | 405.7 |
| *% share of total* | *24.6%* | *24.0%* | *32.8%* | *30.1%* | *28.0%* | *27.2%* | *40.6%* |
| **Total** | **396.7** | **407.9** | **450.6** | **503.8** | **537.8** | **654.5** | **1000.1** |

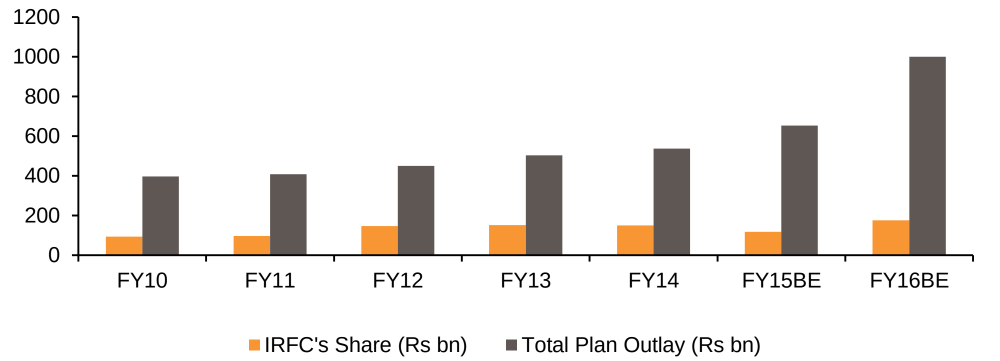
*Source: GoI, Emkay Research*

**Exhibit 122: Source of Funds (Rs bn)**

| Source | FY11 | FY12 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| Gross Budgetary Support | 193.2 | 210.7 | 252.3 | 281.4 | 316.0 |
| Internal Resources | 115.3 | 89.4 | 95.3 | 92.5 | 153.5 |
| IRFC-Borrowings | 97.8 | 147.9 | 151.4 | 150.9 | 118.0 |
| IRFC-Repayments | 65.8 | 78.9 | 95.5 | 111.7 | 131.8 |

*Source: GoI, Emkay Research*

**Exhibit 123: IRFC's Share of Total Plan Outlay of Indian Railways**




*Source: GoI, Emkay Research*

**According to the railway reform committee– funding through IRFC could be arranged through:**

- Funding through multilateral agencies like World Bank/ADB/JICA
- Issuing government guarantee backed bonds
- Tax free bonds
- Securitization of IRFC lease receivables
- International Rupee Bond
- Increasing equity base of IRFC through infusion of equity by NIIF (National Infrastructure Investment Fund) which would allow for additional leverage

## Railway capex: A slow start

Railways FY16 capex plan has been increased to Rs1 trillion from Rs654.5bn in FY15 – an increase of 53% YoY and till Oct 2015 the railway has incurred capex worth Rs378 bn which grew by 6.8% YoY Between 2010 and 2014, Railways incurred cumulative capex of Rs1 trn versus a planned capex of Rs8.6 trillion over 2015-2019 .

### Backlog of projects worth US$34 bn

During the last four years, whereas new lines have registered a growth of 74%, Doubling and Electrification have grown at 167% & 21% respectively. According to Indian Railways there are projects worth Rs2081 bn pending across new lines, gauge conversion, doubling, traffic facilities, signaling, telecommunication, railway electrification and workshops.

**Exhibit 124: Status of priority projects**

| | Projects | Length | Rs. in bn (original estimated cost) | | | |
|---|---|---|---|---|---|---|
| **Plan Head** | **(no.)** | **(km)** | **Cost** | **Anti. Exp.** | **Outlay** | **Balance** |
| New line | 154 | 17105 | 1734.5 | 423.3 | 92.1 | 1219.1 |
| Gauge conversion | 42 | 9704 | 418.0 | 203.1 | 24.8 | 190.2 |
| Doubling | 166 | 9272 | 531.3 | 134.1 | 49.3 | 347.9 |
| Traffic facility | 560 | 0 | 95.4 | 37.8 | 7.3 | 50.2 |
| Signal & Telecom | 517 | 0 | 94.6 | 32.1 | 6.0 | 56.5 |
| Railway electrification | 36 | 10004 | 106.9 | 41.7 | 11.3 | 53.9 |
| Workshop | 479 | 0 | 264.6 | 75.0 | 26.8 | 162.8 |
| **Total** | **1954** | **46086** | **3245.3** | **947.0** | **217.7** | **2080.5** |

*Source: GoI, Emkay Researc*

### Five year Capex plan – Focus on Capacity Enhancement

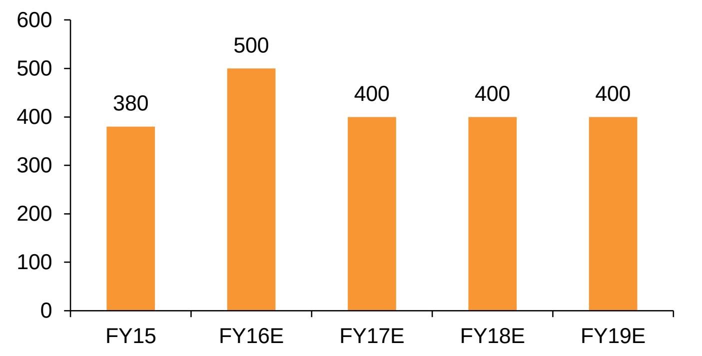
Under the new government, Indian Railways has laid out an investment plan of Rs8.6 trillion (~US$140bn) over 2015 to 2019. As a first step to achieving total investment of Rs8.6 trillion over 2015-2019, the investment plan in FY16, has been sharply increased by 52% to Rs1000.11bn (~US$16.5bn) from Rs657.98bn (~US$11bn) in FY15.

**Exhibit 125: Indian Railways Sector - Proposed Investment Plan (2015-2019)**

| Particulars | Rs bn | US$ bn |
|---|---|---|
| Network Decongestion (Incl. DFC) | 1,993 | 32.4 |
| Network expansion (including electrification) | 1,930 | 31.4 |
| National Projects (North Eastern & J&K connectivity) | 390 | 6.3 |
| Safety (Track renewal, Signaling, Telecom) | 1,270 | 20.7 |
| IT and Research | 50 | 0.8 |
| Rolling stock | 1,020 | 16.6 |
| Passenger amenities | 125 | 2 |
| High speed rail and elevated corridor | 650 | 10.6 |
| Station redevelopment and logistics parks | 1,000 | 16.3 |
| Others | 132 | 2.1 |
| **Total** | **8,560** | **139** |

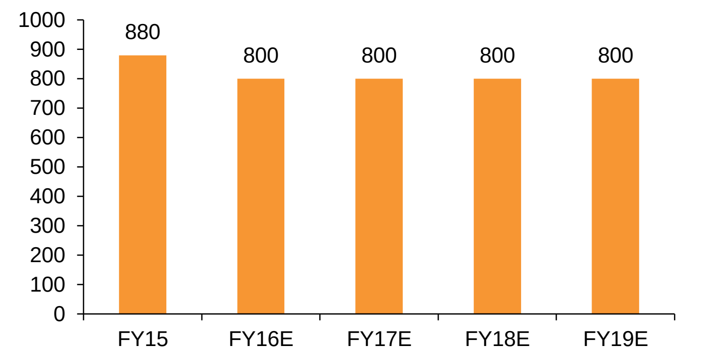
*Source: GoI, Emkay Research*

**Exhibit 126: New Line (kms)**



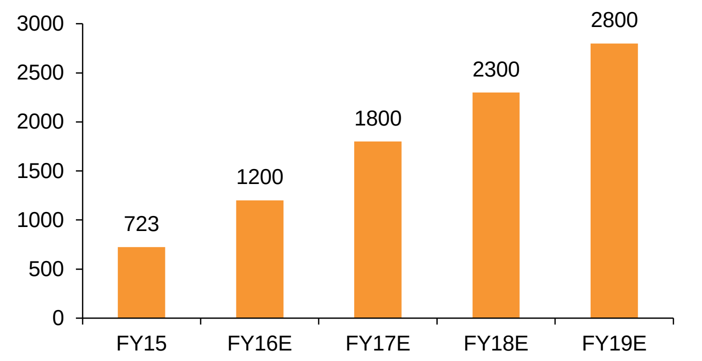

*Source: GoI, Emkay Research*

**Exhibit 127: Gauge Conversion (kms)**



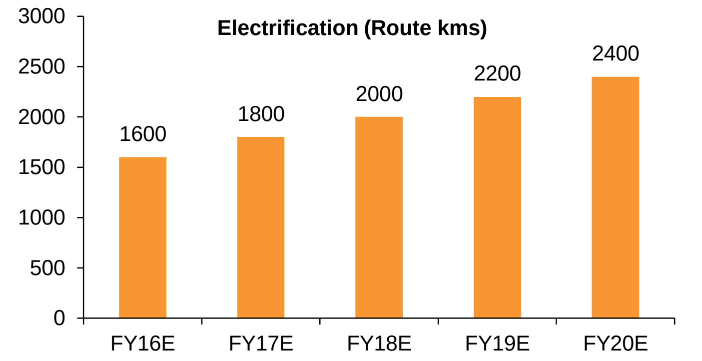

*Source: GoI, Emkay Research*

**Exhibit 128: Doubling (kms)**



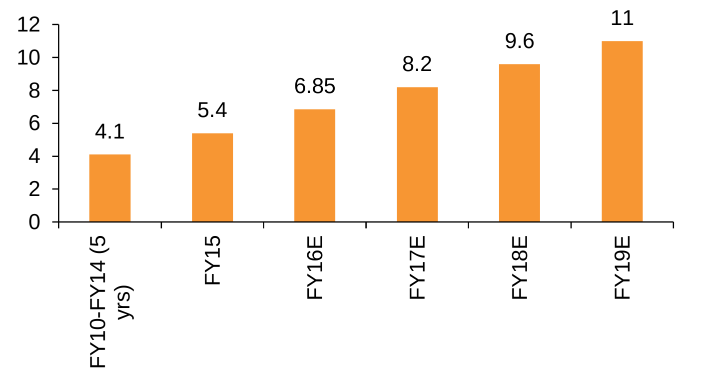

*Source: GoI, Emkay Research*

**Exhibit 129: Electrification (Route kms)**




*Source: GoI, Emkay Research*

**Exhibit 130: Commissioning of new track: average per day (kms)**




*Source: GoI, Emkay Research*

## Station Development

The Indian railways focussed on new policy for developing 400 stations through invitation of open bids. A proposal to redevelop about 400 railways stations in metros and major cities besides pilgrim centres and tourist spots was cleared by the cabinet.

Under this model, interested parties coming through open bids would develop the stations with their designs and business ideas while commercial development of real estate would be allowed by the Zonal Railways.

RFQ of Anand Vihar and Bijwasan was issued in Oct 2015 and stations like Chandigarh, Shivaji Nagar, Surat and Gandhinagar are slated to bid out next year.

## Outlook

There will be a significant increase in the capex outlay over the next five years which is estimated at Rs8.5 trn. We believe that, given the large social obligation on Indian Railways, international resource generation will continue to remain a constraint which also should be seen in context of 6$^{th}$ Pay commission **(6$^{th}$ Pay Commission pay-out impacted the financials of the Indian Railways which led to increase in the operating ratio to 95.28% in FY10).** In order to fund railway capex, the **reliance on long term funding and market borrowing will remain crucial. For example, LIC has agreed to provide Rs1.5 trn under the institutional financing mechanism over the next 5 years, utilized for priority works under various plan heads; including new lines, gauge conversion, doubling and signaling. In our coverage universe, L&T will likely be a key beneficiary of this capex.**

## States That Will Matter

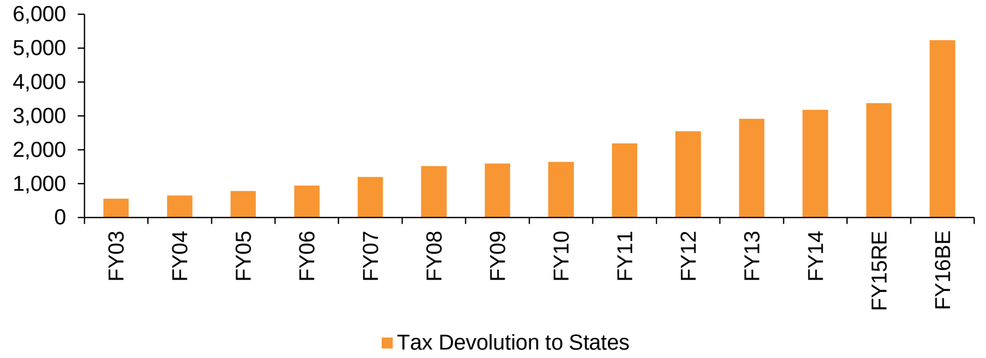
In the last one and a half years capital expenditure is largely executed by the central government, however, in order to sustain capex for the longer term horizon, we believe, focus of Indian states towards infrastructure and industrial capex remains critical.

In order to empower the states financially, the central government of India has accepted the recommendations of the 14th Finance commission regarding greater devolution to States (from 32% to 42% of the Union's net tax receipts) which to an extent would be offset by a reduction in grants. This has resulted in total devolution to States increasing from approximately Rs3.48 trn to Rs5.26 trn – an estimated increase of Rs1.78 trn for the current year (2015-16). On YTD basis, from April to October 2015, the central tax devolution to States stands at Rs2.62 trn. However, the allocation of the spending will be totally at the discretion of the states.

We have analyzed certain states which form 50% of India's GDP and we believe are becoming important enablers of growth.

Our analysis reveals that the states are easing bottlenecks with respect to land acquisition and other clearances and infrastructure capex rather than industrial capex remains the core focus.

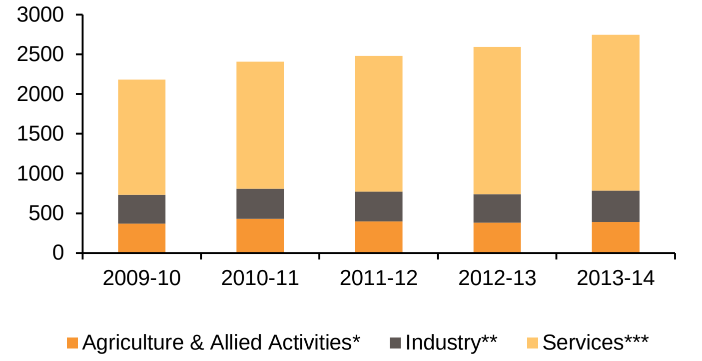
**Exhibit 131: YTD devolution of tax to States for Apr - Oct 2015 stands at Rs2.62 trn**




*Source: GoI, Emkay Research*

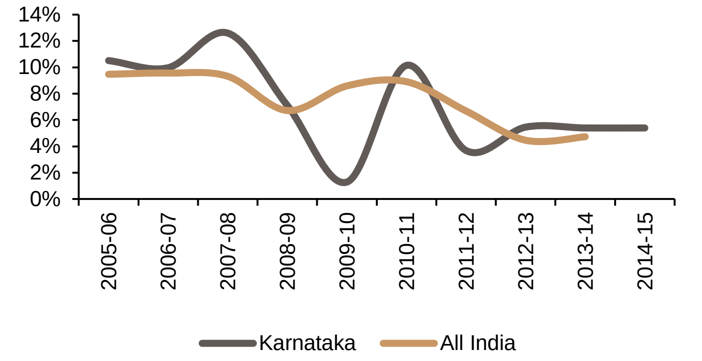
# Karnataka: Focus on roads, urban transport

**Exhibit 132: Net State GDP components (in Rs bn)**



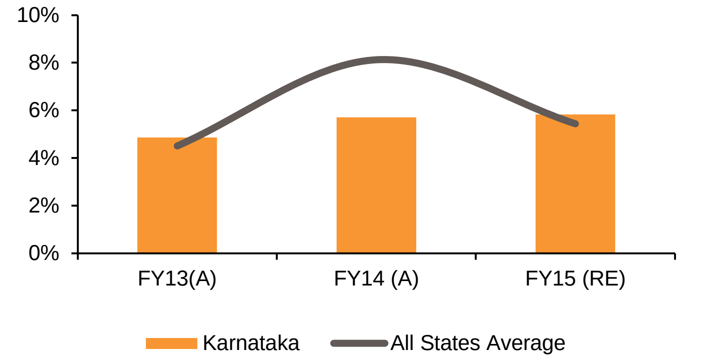

*Source: GoI, Emkay Research*

**Exhibit 133: State GDP growth (%) vs National GDP growth (%)**



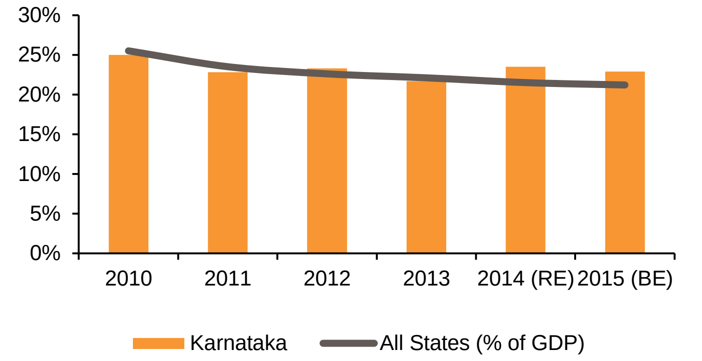

*Source: GoI, Emkay Research*

**Exhibit 134: State fiscal deficit (as % of state GDP)**



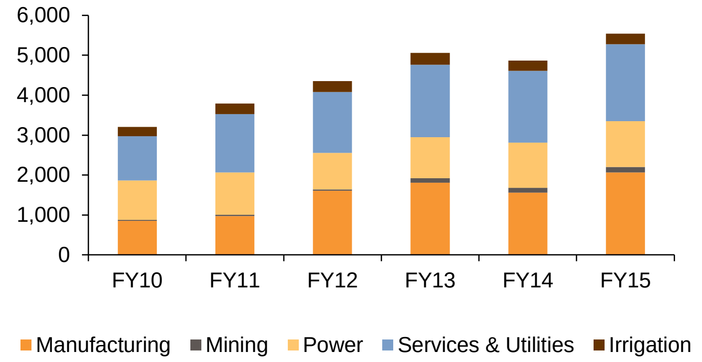

*Source: GoI, Emkay Research*

**Exhibit 135: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 136: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

***Note:*** **Agriculture & Allied Activities: Agriculture, Forestry & Logging, Fishing*

***Industry: Mining & Quarrying, Manufacturing, Electricity, Gas & Water Supply*

****Services: Construction, Transport, Storage & Communication, Trade, Hotels & Restaurants, Banking & Insurance, Real Estate, Ownership of Dwelling & Business Services, Public Administration, Other Services*

Karnataka has actively pushed for road construction in the state through its nodal agencies like the state PWD, Karnataka Road Development Corp. Ltd. (KRDCL), the Bangalore Development Authority (BDA). The state has a road network of about 131815 km and has a reasonable road density of 98.4 km per 100 sq km compared to national average of 101.7 km per 100 sq km.

**Exhibit 137: Road Network**

| Karnataka Road Network | Km |
|---|---|
| National Highways | 4491 |
| State Highways | 20749 |
| Major District Roads | 49885 |
| Other roads | 56691 |
| **Total** | **131815** |

*Source: GoK, KRDCL, Emkay Research*

## Push for accelerated road development

The state has come up with several schemes and projects, most notable among them, the Karnataka State Highways Improvement Project – I (KSHIP), funded along with the World Bank, and completed by 2007. After that KSHIP-II was initiated but has since languished in its implementation. Most road projects in Karnataka have suffered delays largely due to land acquisition issues, environmental clearances and utility shifting. But the state government has come up with several policy enablers to address these issues like the Policy on Road Development, 2009 for capacity building, institutional strengthening and facilitating projects being developed on PPP basis and the Karnataka Infrastructure Transformation-I Scheme, specifically focusing on facilitating implementation of infrastructure projects on PPP mode.

The state has allocated Rs75 bn to the state PWD for road development financing in the FY15-16 State Budget along with launching several key projects in a renewed push to accelerate road construction activity.

## Upcoming Opportunity

Significant opportunities exist in Karnataka with the state lining up 29 projects worth Rs239 bn for bidding under PPP mode. Some of the key projects envisaged are the Peripheral Ring Road from Hosur Road to Tumkur road, elevated corridor from Gnanabharathi-Rajarajeshwari Nagar on Mysore Road to Varthurkodi, elevated corridor from Central Silk Board on NH-7 to Jayamahal road, four to six laning of 130 km Bengaluru-Mysore state highway (Rs30 bn project, state govt contribution – Rs11 bn) and bypasses at Bidadi, Ramanagaram, Channapatna, Maddur and Mandya.

Six projects worth Rs11.5 bn are also being proposed under the EPC mode. The Karnataka government has also approved construction of 5 signal free corridors in Bengaluru. The corridors to be developed are Yeshwanthpur Circle to Okalipuram road, Central Silk Board to Vellara road, the Mysore road junction to Central Silk Board road, Vellara junction to Kundalahalli road, and the Mekhri Circle to Hope Farm road. Work is yet to begin.

Apart from the state led projects, MoRTH has also announced 12 highway projects worth Rs110 bn (projects worth Rs34 bn awarded till date) in Karnataka. The projects are; Hosapete-Chitradurga, Hosapete-Ballari, Hassan-BC Road, Shivamogga-Mangaluru, Ankola-Hubballi, Hubballi-Hosapete, Vijayapura-Kalaburagi-Humnabad, Dindigul-Bengaluru, Nelamangala-Tumakuru, Chitradurga-Haveri.

**Exhibit 138: Upcoming PPP projects in Karnataka**

| PPP Projects | SH No. | Length (km) | Project Cost (Rs bn) | Agency |
|---|---|---|---|---|
| Kamalnagar-Gunahalli | | 70.0 | 0.9 | KRDCL |
| Gotur-Kagewad | | 60.7 | 1.9 | KRDCL |
| Bangarpet-Bagepalli | | 106.7 | 2.2 | KRDCL |
| Sindhnoor-Lingasugur | | 52.0 | 1.9 | KRDCL |
| Jath-Jamboti Road | | 76.0 | 3.0 | KRDCL |
| Andhra Pradesh border-Yelahanka | | 72.0 | 2.1 | KRDCL |
| Kudchi-Raibagh-Gataprabha | | 50.0 | 1.0 | KRDCL |
| Jamakhandi-Maharashtra border | | 79.0 | 1.6 | |
| Hirekerur to Ranebennur | | 58.0 | 1.2 | KRDCL |
| Afzalpur-Kajuri | | 74.0 | 1.5 | KRDCL |
| Neelamangala-Chikballapur | | 59.0 | 1.2 | KRDCL |
| Peripheral Ring Road from Hosur road to Tumkur road | | 65.0 | 38.0 | BDA |
| Elevated Corridor from Central Silk Board on NH-7 to Jayamahal road | | | 15.0 | BDA |
| Elevated Corridor from Gnanabharathi-Rajarajeshwari Nagar on Mysore road to Varthurkodi | | | 28.0 | BDA |
| Improvement of road from Sankeshwar-Yeragatti via Gokak | SH-44/45 | 73.0 | | KRDCL |
| Improvement of road from Bilikere to Belur via Hassan | SH57 | 119.0 | | KRDCL |
| Improvement of road from Mysore to Madikeri | | 119.0 | | KRDCL |
| Improvement of road from Andhra Pradesh border (Medak) to Shahpur via Yadgir | SH-16 | 86.0 | | KRDCL |
| Improvement of road from Hiriyur to Bellary | SH-19 | 144.0 | | KRDCL |
| Improvement of road from Hungund-Belgaum via Bagalkot-Lokapur to Maharashtra border | SH-20 | 170.3 | | KRDCL |
| Improvement of road from Wadi to Raichur | SH-51 | 88.0 | 1.4 | KRDCL |
| Improvement of road from Kalmala to Budhguppa via Sindhnoor | SH-20 | 77.0 | | KRDCL |
| Improvement of road from Hattigudur to Bidar | SH-19 | 105.0 | | KRDCL |
| Development of existing state highway from Managuli to Devapur | | 110.0 | 2.5 | KRDCL |
| Development of outer ring road to Belgaum | | | 9.9 | DULT |
| Improvement of road from Bijapur to Lokapur via Krishna Bridge, Mudhol to Jamakhandi | SH-34 | 103.7 | | |
| Six-laning of Bengaluru-Mysore State Highway | | 130.0 | 30.0 | |
| **Total** | | **2147.4** | **143.0** | |

*Source: KRDCL, BDA, Directorate of Urban Land Transport*

## Chennai Bengaluru Industrial Corridor: Strong focus on development along Industrial Corridors to promote manufacturing hubs

The Master plan for the Chennai Bengaluru Industrial corridor is in progress. The corridor plans to come up along Chennai, Sriperumbudur, Ponnapanthangal, Ranipet, Chittoor, Bangarupalem, Palamaner, Bangarpet, Hoskote and Bangalore. It is expected to boost commerce between south India and east Asia by enabling quicker movement of goods from these places to Chennai and Ennore ports.

In his Budget speech, finance minister P Chidambaram said the project with assistance from the Japan International Cooperation Agency (JICA) will be developed in collaboration with the governments of three southern states.

**Exhibit 139: Chennai Bengaluru Industrial Corridor (CBIC)**


*Source: GoK, Emkay Research*

## Sakleshwar Gundia Express Highway project

The project involves construction of a 20 km tunnel from Sakleswar to Gundia in the Western Ghats. It also involves construction of a 26 km express highway and 2 km arch bridge. While JICA is expected to fund the project as per the state government, the state public works department is likely to appoint a feasibility consultant for the project shortly.

## Metro projects

### Bangalore metro phase-II

The Bangalore metro is divided into two phases. The first phase of the metro is for 42.3km (Phase-I might be completed only by March 2016 as against last year's projected deadline of December 2015), with 72km in Phase-II. Orders for Phase-II of the project are expected in the next few months.

The 72.1 km stretch would cost Rs138.45 bn, of which apart from Central funds and other loans, Karnataka would bear a cost of Rs50 bn. Bengaluru Metro Rail Corporation Ltd. (BMRCL) is gearing up to complete land acquisition for Phase-II of the Metro project by the time phase I is ready. The process, which has already begun, will have to be completed in eight months.

## Suburban rail project

The Rail India Technical and Economic Service (RITES) has submitted a report on a suburban rail project for Bengaluru which has been under consideration for a long time. The estimated cost is about Rs85 bn.

There are no other metros planned besides the Bangalore metro. The Mysore metro has been announced but no progress has been made.

## Smart cities

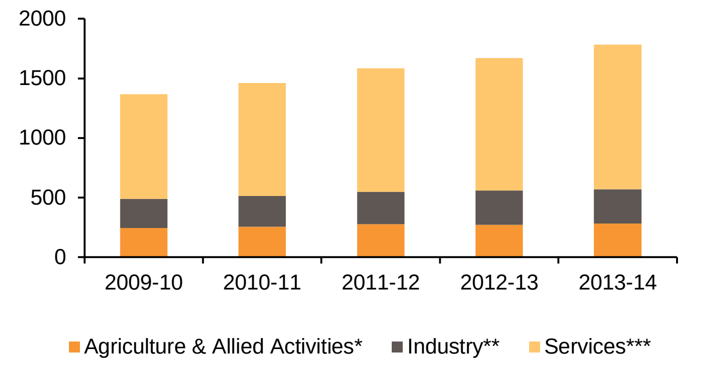
The state government has proposed 11 cities to be developed as smart cities to the central government. However the central government has selected 6 Cities in for Smart City Challenge.

### 6 Cities in Karnataka selected for Smart City Challenge

- Tumakuru
- Huballi-Dharawad
- Mangalore
- Davangere
- Shivamogga
- Belagavi

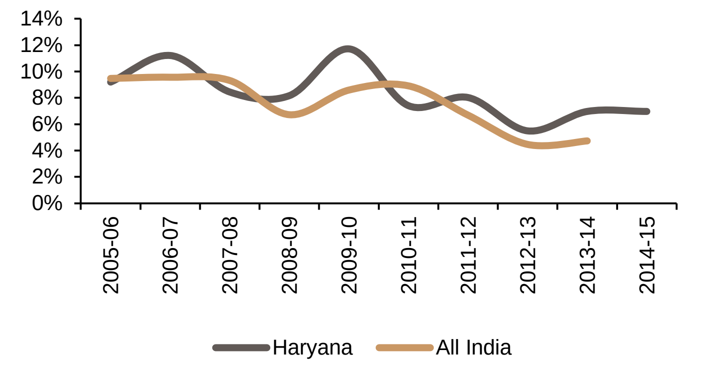
# Haryana: Beneficiary of DFC and DMIC projects, focus on road awards as well

**Exhibit 140: Net State GDP components (in Rs bn)**



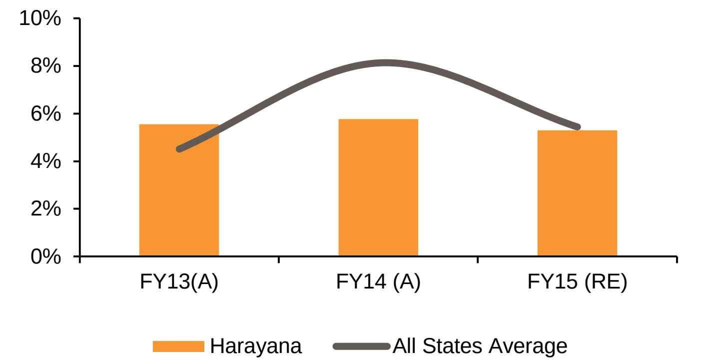

*Source: GoI, Emkay Research*

**Exhibit 141: State GDP growth (%) vs National GDP growth (%)**



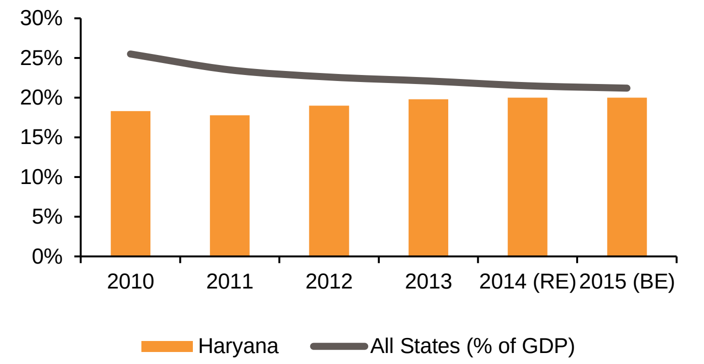

*Source: GoI, Emkay Research*

**Exhibit 142: State fiscal deficit (as % of state GDP)**



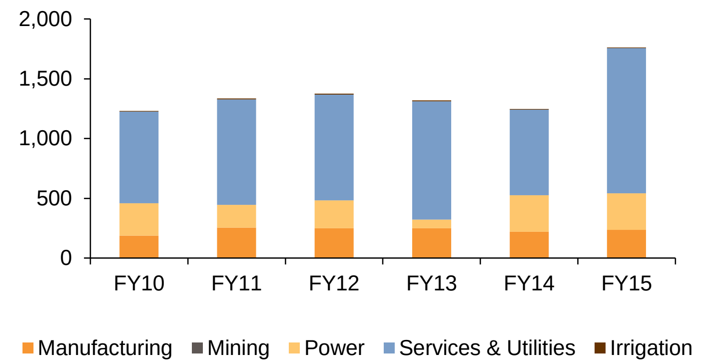

*Source: GoI, Emkay Research*

**Exhibit 143: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 144: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Road development scenario

Road construction work is primarily undertaken by the Haryana State Roads & Bridges Development Corporation Ltd. (HSRBDCL), and Haryana Public Works Department (PWD). Road projects in Haryana are predominately funded through state budgetary resources. Under the 2014-15 state legislative budget state allocated Rs29.4 bn for road development. Currently ten national highway projects worth Rs107 bn are under implementation in the state includes key ongoing project four laning of various roads in Rewari, four laning from Haryana to Uttar Pradesh and improvement in roads in Gurgaon.

The participation from the private players has remained very low in the state due to

- Absence of well-defined policy framework
- Lacks multilateral aid for road network
- Complex road network, the state faces issue of completing and parallel roads makes it difficult to implement BOT projects
- Unwillingness of road users to pay toll charges

Apart from private sector participation there are other issues with respect to district roads –district roads are severely damaged due to water diffusion from crop plantations along the alignment. The progress under PMGSY (Pradhan Mantri Gram Sadak Yojana) has been slow - only 334 rural roads witnessed construction over the last 10 years.

**Exhibit 145: Road network**

| Haryana road network | Km |
|---|---|
| Other district roads | 21,675 |
| Major district road | 1,471 |
| State highways | 2,422 |
| National Highway | 1,565 |
| **Total** | **27,133** |

*Source: NHAI, Emkay Research*

## Upcoming Opportunity

The state authorities are trying to create significant opportunities in the road sector both at state highway and National Highway projects. The National Highway authority (NHAI) is expected to roll out several projects worth Rs60 bn over the next one year. The state is moving progressively in the execution of NHAI projects by supporting them in land acquisition, utility shifting, and environment clearances. NHAI has also invited bids for feasibility study report for four laning of four new national highways in Haryana, on EPC basis amounting to Rs42 bn. The state is also expected to undertake projects PPP worth Rs28 bn.

**Exhibit 146: Upcoming PPP projects in Haryana**

| Project | Cost (Rsbn) |
|---|---|
| Rai Malikpur | 12 |
| Panipat-Sanoli road | 1.2 |
| Palwal-Aligarh road | 1.2 |
| Meerut -Sonepat road | 1 |
| Yamunanagar -Ladwa section of SH-6 | 4 |
| Kond -Moanik-salwan-Aasandh | 2 |
| Ambala saha, jind-bhiwani, Balsamand -Hissar | 3 |
| Kaithal Cheeka | 4 |
| **Total** | **28.4** |

*Source: Emkay Research*

## Recent Initiative

The Haryana government approved the revised tolling policy to mitigate the high toll charges implemented under the toll policy for national highway 2008. Under the revised policy five toll points on NH-7, NH-71 and NH-2 received concession on toll rates.

The state government to bear 75% of the expenditure on issue of passes for private vehicles using the Dighal, Makrauli, Kalan, Dahar and Gangaycha Jat toll plazas.

The state has also tried innovative methods of road construction –allowed use of plastic as a binding material for bitumen, use of recycled waste helped to overcome the issue of non-availability of aggregates due to ban on the mining activity.

## Will benefit from DFC and DMIC projects

### DMIC-Haryana

With over 60% area of the state under DMIC, Haryana is another state that abuts the National Capital. Some of the major urban centers of the state viz. Gurgaon and Faridabad are part of the National Capital Region of Delhi. In Haryana, two investment regions and two industrial areas have been envisaged keeping in view of the locational advantages and the intrinsic strengths of the locations in various industrial sectors. The Manesar-Bawal-Nimarana investment region would be spanning over Haryana and Rajasthan and across the interstate border.

**Proposed components in each node are briefly discussed below:**

**Node No.3: Faridabad-Palwal Industrial Area**

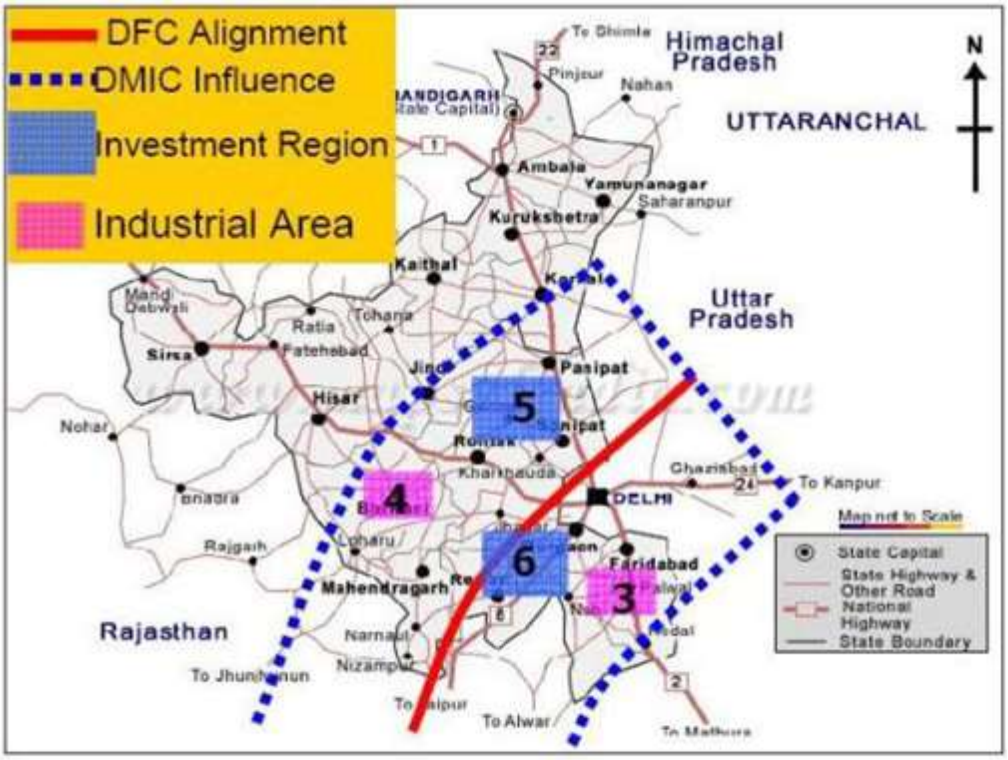
- **Augmentation of Existing Industrial Estates**: Augmentation of industrial estate by about 2000 Acres along with provision of requisite infrastructure. Typical industries expected at this location include Light Engineering, Casting & Forging, Electrical Appliances, Textile and Apparels.
- **Integrated Logistics Hub:** This region would include an Integrated Logistic which constitutes an Inland Container Depot and a truck terminal with warehousing facility.
- **Export-oriented Industrial Units/ SEZ:** With excellent connectivity to various hinterland locations across the country and proximity to Delhi, Faridabad has good potential for investments in setting up export-oriented industrial units.
- **Feeder Road and Rail Links:** Development of Feeder Rail links also includes construction of over bridges/ underpasses wherever required so as to avoid level crossings. Developing MRTS connectivity between Faridabad and Gurgaon, Faridabad- Palwal as well as to proposed international airport at Jeur near Greater Noida in Uttar Pradesh.

**Node No.4: Rewari-Hissar Industrial Area:** Truck Terminal with Warehouse near Bhiwani, Integrated Township and feeder rail links.

**Node No.5: Kundli-Sonepat Investment Region**: The nearest major urban centers are Delhi and Panipat, the base of Indian Oil Corporation (IOC) Refinery in the state. Potential industry sectors at the investment region include agro-processing industry, leather, carpet, textile/handloom and handicraft industries.

**Node No.6: Manesar-Bawal Investment Region** Export-oriented Industrial Units/ SEZ, Integrated Logistics Hub with ICD, Integrated Township and feeder rail links.

**Exhibit 147: Delhi Mumbai Industrial Corridor - Haryana**




Location Map for Proposed Development Nodes in DMIC-Haryana

*Source: GoI, Emkay Research*

### Dedicated freight corridor

Both the eastern and western sections of dedicated freight corridor project passes through the state of Haryana. From the total length of 1839 km of the Eastern Freight Corridor, 72 km passes through Haryana and from the 1483 km of the Western Freight Corridor, 192 km passes through Haryana.

Till date civil work of 946 km on the western corridor and 760 km on the eastern corridor has been awarded and we expect complete awarding of civil work of DFC by March 2016. Both the section of the western corridor passing through Haryana (Dadri to Rewari) and the section of the Eastern Corridor passing through Haryana are yet to be awarded.

**Exhibit 148: Eastern DFC**

| State | Distance Covered (km) |
|---|---|
| Punjab | 88 |
| Haryana | 72 |
| Uttar Pradesh | 1049 |
| Bihar | 93 |
| West Bengal/Jharkhand | 538 |
| **Total** | **1839** |

*Source: DFCCIL, Emkay Research*

**Exhibit 149: Western DFC**

| State | Distance Covered |
|---|---|
| Haryana | 192 |
| Rajasthan | 553 |
| Gujarat | 588 |
| Maharashtra | 150 |
| **Total** | **1483** |

*Source: DFCCIL, Emkay Research*

## Metro Project

### Old Gurgaon to get Rapid Metro link

The Haryana Mass Rapid Transport Corporation (HMRTC) has given its nod for Metro connectivity to Old Gurgaon. According to Rapid Metro, the route will stretch for 12 km and have 11 stations and project is going to cost Rs3 bn per km, amounting to about Rs42 bn for the 12 km route.

### JICA to survey Gurgaon-Manesar-Bawal metro project

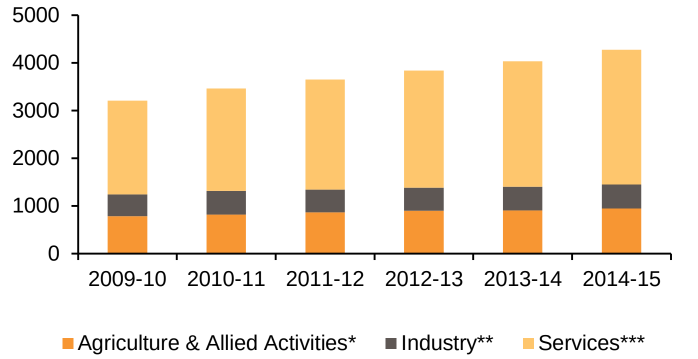
The Japan International Cooperation Agency (JICA) will start survey work on the Gurgaon-Manesar-Bawal metro rail project. According to Haryana Mass Rapid Transport Corporation (HMRTC), the 108 km long project will cost Rs274 bn. Currently Detailed Project Report is getting prepared.

## Smart cities

The central government has selected Karnal and Faridabad for Smart City project in Haryana. However, the state seems to be keen to develop the NCR town, Gurgaon also as a Smart City by raising the required funds by itself. In addition, the central government also intends to develop 800 acres of land in Haryana along the lines of a smart city. The land was returned from Reliance Haryana SEZ. The region is likely to be developed via an equal partnership between the Haryana government and the DMIC.

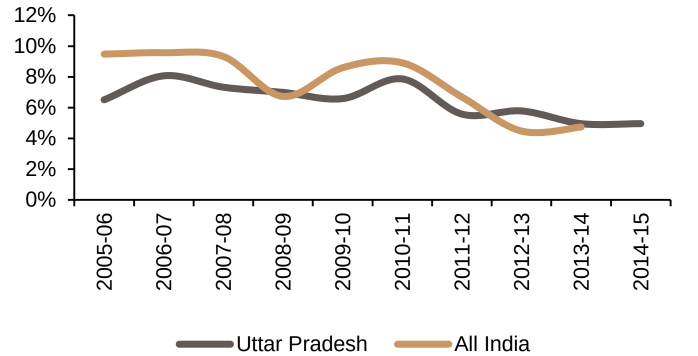
# Uttar Pradesh: Focus on Road and metro projects

**Exhibit 150: Net State GDP components (in Rs bn)**



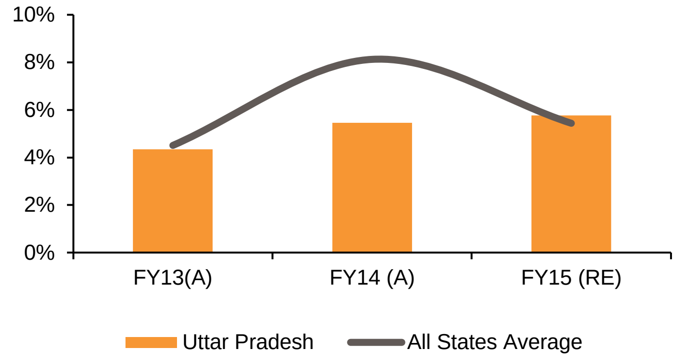

*Source: GoI, Emkay Research*

**Exhibit 151: State GDP growth (%) vs National GDP growth (%)**



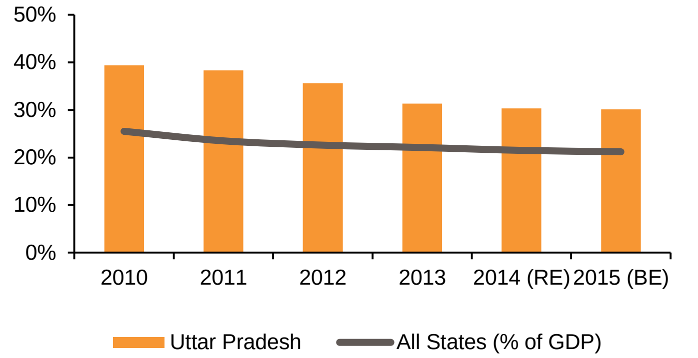

*Source: GoI, Emkay Research*

**Exhibit 152: State fiscal deficit (as % of state GDP)**



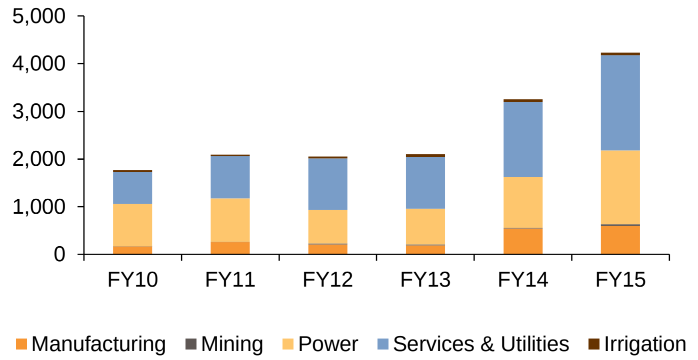

*Source: GoI, Emkay Research*

**Exhibit 153: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 154: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Road sector

Over the last two years road project awarding picked up in Uttar Pradesh, awarded projects worth Rs31bn and Rs76 bn in FY15E/YTD FY16E. The biggest project awarded was Agra Lucknow Expressway on EPC mode. The 302 km long Lucknow to Agra Expressway would be the country's longest access controlled six lane expressway. The project would cost nearly Rs150 bn of which Rs115 bn would be for construction of the expressway and the rest for purchasing land at market rates. The state has lined up for projects worth Rs100 bn to get bid out under EPC Mode.

**Exhibit 155: Upcoming road projects in Uttar Pradesh**

| Name of Road | SH No. | Length (km) | Project Cost (INR crore) | Type |
|---|---|---|---|---|
| Pukhrayan-Ghatampur-Bindaki Road Section | SH-46 | 83.66 | 1700 | DBFOT |
| Allahbad-Foolpur-Mungrabad-Shahpur Road | SH-07 | 40.9 | 380 | DBFOT |
| Azamgarh-Dohrighat Road | SH-66 | 38.7 | 255 | DBFOT |
| Garh-Meerut Road | SH-14 | 36.5 | 420 | DBFOT |
| Meerut-Baghpat Road | SH-14 | 40.1 | 450 | DBFOT |
| Chandausi-Badaun Road | SH-43 | 164.17 | 900 | DBFOT |
| Shahjahanpur-Hardoi-Lucknow Road | 25 | 162.4 | 1288.6 | PPP (DBFOT) |
| Basti-Mehndawal-Kaptanganj- | 64 | 166.12 | 328.49 | PPP (DBFOT) |
| Akbarpur-Jaunpur-Mirzapur-Dudhi Road | 5 | 207.47 | 1865 | PPP (DBFOT) |
| Gorakhpur-Maharajganj road | 81 | 53.16 | 586.91 | PPP (DBFOT) |
| Balrampur-Gonda-Jarwal Road | 1A | 88 | 765 | PPP (DBFOT) |
| Aligarh-Mathura Road | 80 | 38.96 | 424.39 | PPP (DBFOT) |
| Etah-Tundla Road | 31 | 57.16 | 186.61 | PPP (DBFOT) |
| Etah-Sikohabad Road | 85 | 51.42 | 358.21 | PPP (DBFOT) |
| Varanasi-Bhadohi-Gopiganj Road | 87 | 60.12 | 362.7 | PPP (DBFOT) |
| Tarighat-Bara Road | 99 | 39.2 | 188.93 | PPP (DBFOT) |
| Muzaffarnagar-Saharanpur via Deoband Road | 59 | 52.7 | 773.8 | PPP (DBFOT) |
| Bahraich-Gonda- Faizabad Road (may be extended up to Ambedkarnagar) | 30 | 190 | 2100 | PPP (DBFOT) |
| Bareilly-Badaun-Kasganj-Hathras Road (may be extended up to Rajasthan Border Via Mathura) | 33 | 232 | 2552 | PPP (DBFOT) |
| Bharwari-Manjhanpur-Chitrakoot Road | 94 &MDR-26B | 78 | 858 | PPP (DBFOT) |
| Sitapur-Lakhimpur Kheri road (may be extended upto Palia and Dudhwa) | 21 | 45 | 495 | PPP (DBFOT) |
| Pilibhit-Farukhabad-Bewar Road | 29 | 214 | 2354 | PPP (DBFOT) |
| Windhamganj-Kon-Kota-Chopan Road | ODR | 59.3 | 416 | PPP (DBFOT) |
| Aligarh-Mathura Road | SH-80 | 38.96 | | PPP (DBFOT) |
| Sikohabad-Mainpuri Road | SH-84 | 61.8 | | PPP (DBFOT) |
| Manauri Sarai-Akil-Kaushambi Road | SH-95 | 36.85 | | PPP (DBFOT) |
| Highway starting from Km 160 of Lucknow-Gorakhpur NH-28 and going to Guthni at Bihar Border through Kalwari-Dhanghata-Sikriganj-Urwa Bazar | SH-72 | 189.82 | | PPP (DBFOT) |
| Widening & strengthening of Bijnor-Noorpur-Chhajlet-Moradabad Road under four lane widening | | | 205 | PPP (DBFOT) |
| Widening of four lane of Meerut-Budaun Road | SH-18 | 45.4 | 225.47 | PPP (DBFOT) |
| Widening & strengthening of Etah-Kasganj Road (ODR) and Bareilly-Mathura Road (SH-33) | SH-33 | 40.8 | 257 | |
| Construction of three-lane road on both side of Sharda Sahayak feeder canal from Lucknow Faizabad Road to Lucknow-Sulthanpur Road | | | 252.08 | |
| Upgradation & Maintenance of Hamirpur-Rath Section (GT) | SH-42 | 74.44 | 270 | EPC |
| Rehab & Upgradation of Rudhauli to Basti Side Approach of Ghaghra Bridge Sec. [Revised-4] | NH-233 | 56.4 | 313.45 | EPC |
| Rehab & Upgradation of Indo Nepal Border to Rudhauli Sec. [Revised] | NH-233 | 65.87 | 355.04 | EPC |
| **Total** | | **2809.38** | **21886.68** | |

*Source: UPSHA, UP PwD, Emkay Research*

**Exhibit 156: Road Network**

| Uttar Pradesh Road Network | Km |
|---|---|
| National Highways | 7500 |
| State Highways | 7026 |
| Major District Roads | 7426 |
| Other District roads | 39599 |
| Village Roads | 135571 |
| **Total** | **197122** |

*Source: UP PwD, Emkay Research*

## Metro projects

### Lucknow Metro

The state government has recently launched the Lucknow Metro Rail which is scheduled to get completed by 2017 which would provide better connectivity to the residents of the city. The completion cost of the project is estimated at Rs68.8 bn.

### Two metro projects in Noida

The Noida Authority Board approved two metro projects worth Rs67.1 bn along with allotting 210 acre land to Taiwan Industrial Association (TIMA) for electronic manufacturing cluster. The first metro project is from sector 71, Noida which will pass through sector 122 and 123 and reach Greater Noida west at sector 4 and further extends to Ecotech 12, sector 2, 3, 10, 12 and end at Knowledge Park 5.

The other proposed metro project is from Okhla bird sanctuary in Noida till Sector 142 connecting sectors along Greater Noida Expressway. The Board has also approved hike in land compensation for direct purchase of flood zone land along Yamuna and Hindon river in Noida.

### Kanpur Metro

Rail India Technical and Economic Service (RITES) has submitted a Detailed Project Report (DPR) of Metro rail project in Kanpur to the Kanpur Development Authority (KDA).

The DPR submitted by RITES is for two routes. As per plan, in the first phase there would be two routes. One is from IIT to Naubasta and is 25-km-long while the second one is 10-km-long and is from Chandra Shekher Azad University for Agriculture to Barra. The cost of IIT to Naubasta route is around Rs95 bn and the Metro would be underground for half of the route while the other half would be elevated. The proposed route would begin from IIT and would pass through Kalyanpur, Rawatpur, Mall Road, Phoolbagh, Kanpur Central Station, Jhakarkati Bus Terminal, Transport Nagar, Bara Devi, Kidwai Nagar and Naubasta.

The state is also planning to launch metro rail in Allahabad, Meerut and Varanasi.

## Airport: International airport proposed near Kanpur

The Kanpur Dehat Administration has proposed setting up of an international airport in Rasoolabad area of the district which comes under Kannauj.

Earlier, the Airport Authority of India (AAI) had asked the state government to provide 300-metre-wide and 3-kilometre-long piece of land in Kanpur Dehat to construct the airport according to international standards. The AAI authorities had also conducted a prefeasibility study in the district for the project.

## Trans Ganga project

The state government has laid foundation stone for Trans-Ganga Project in the Unnao district, situated strategically between the state capital of Lucknow and industrial town of Kanpur. The Unnao project would span 1,156 acres near Ganga Barrage in Kanpur City. It would be 70 km from Lucknow International Airport and had been conceptualised for spurring investment, job creation, education, health and industrial development in the region. According to the state the Trans-Ganga Project is expected to generate investments of around Rs100 bn.

## Dedicated freight corridor

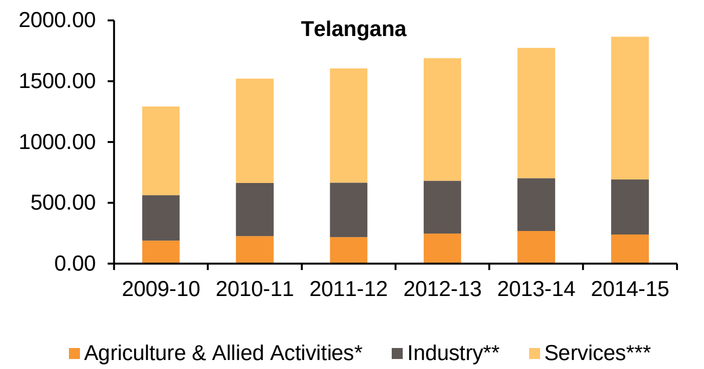
Uttar Pradesh has highest share of around 57% (measuring 1,049 km dissecting the state) in Eastern Dedicated Freight Corridor project. Around 36,068 sq. km (15%) of DMIC catchment area across 12 districts of UP.

## Smart cities

The central government has recently launched three mega urban schemes viz., 100 Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Housing for All in urban area. Uttar Pradesh has the highest share of number of cities to be transformed into smart cities as around 12 out of the 100 smart cities are from Uttar Pradesh. Smart city would get a Central assistance of Rs5 bn over a period of five years with Rs1 bn to be given each year for the development of public and civic amenities and to plan their growth.

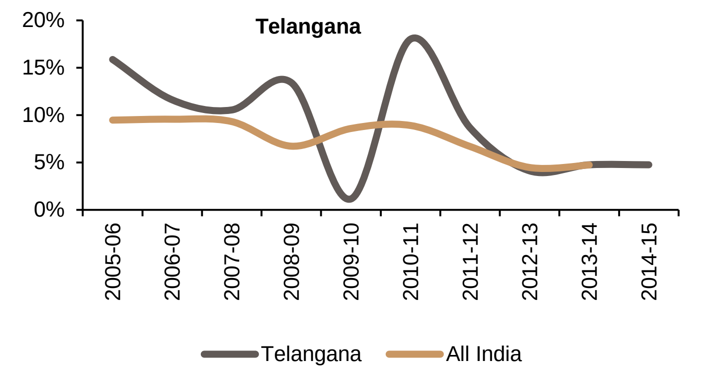
# Telangana: Focus on roads, water and industrial development

**Exhibit 157: Net State GDP components (in Rs bn)**



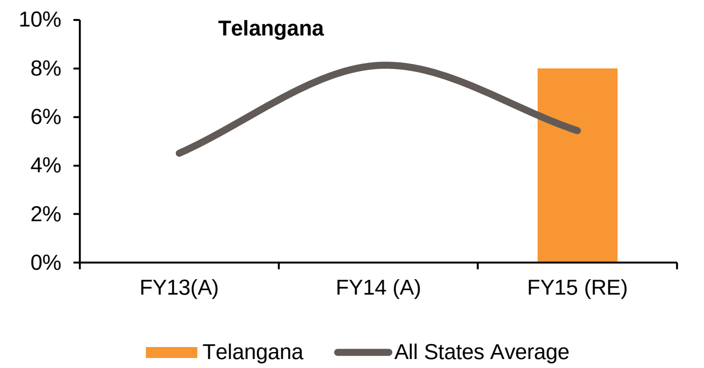

*Source: GoI, Emkay Research*

**Exhibit 158: State GDP growth (%) vs National GDP growth (%)**



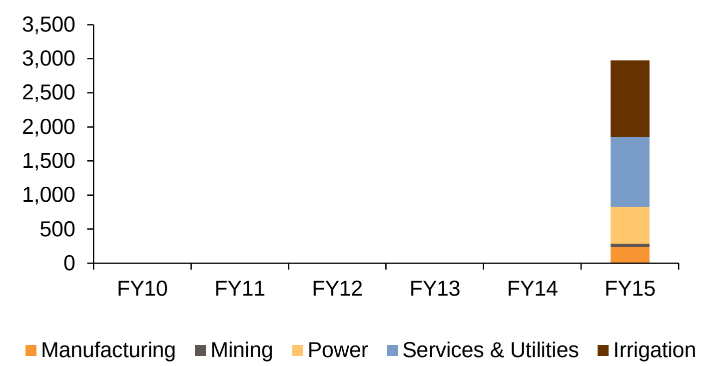

*Source: GoI, Emkay Research*

**Exhibit 159: State fiscal deficit (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 160: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Road development scenario

In the road sector the main focus is on laying of new roads, construction of new bridges and widening and strengthening of the existing roads.

- Widening of single lane roads to double lane - 4717 km to cost Rs62 bn.
- Construction of bridges worth Rs19.74 bn.
- Maintenance works of 10000 km worth Rs24 bn.

The government of Telangana to award 580 km of road projects under PPP mode.

As on 30 Jan 2015 there are 16 national highways in the state of Telangana covering length 2592 km crisscrossing the state. In addition government of India have declared 3 new national highways (around 285 km).

**Exhibit 161: Road network**

| Telangana Road Network | Length in Kms |
|---|---|
| National Highways | 2592 |
| State Highways | 3152 |
| Major District Roads | 12079 |
| Rural Roads | 9014 |
| **Total Road length in Kms** | **26837** |
| State Roads (Excluding National Highways) | 24245 |
| Core Net Roads | 4020 |

*Source: GoTS*

**Exhibit 162: Category- Wise Details of The Roads (Length in Kms)**

| Classification of Road | Four Lane & Above | Double Lane | Intermediate Lane | Single Lane | Total |
|---|---|---|---|---|---|
| National Highways | 964 | 1264 | 153 | 211 | 2592 |
| State Highways | 377 | 2484 | 88 | 203 | 3152 |
| Major District Roads | 281 | 3274 | 478 | 8046 | 12079 |
| Other District Roads | 10 | 335 | 53 | 8616 | 9014 |
| **Total** | **1632** | **7357** | **772** | **17076** | **26837** |

*Source: GoTS*

**Exhibit 163: Details of Roads proposed under PPP-BOT mode**

| Name of the Road | Length in Km |
|---|---|
| Sangareddy - Narsapur - Toopran - Gajwel - Bhongir - Chityal Road | 164.0 |
| Mahaboobnagar - Nalgonda Road (Km. 0/0 to Km. 163/2 ) | 163.2 |
| Hyderabad - Narsapur Road. | 28.0 |
| Jangaon - Cherial - Duddeda road. | 46.4 |
| Jangaon - Suryapet Road. | 84.4 |
| Suryapet - Mothey - Khammam Road. | 58.3 |
| Hyderabad - Bijapur Road (from Km. 23/6 to 60/0 - Manneguda) | 36.4 |
| **Total** | **580.7** |

*Source: GoTS*

## Focus on completion of pending irrigation projects

The government of Telangana is focusing on reviving all the stalled irrigation projects and directed the officials to look into the cost overruns claimed by the contractors. Citing huge cost-overruns, the construction firms had expressed inability to execute the balance works of over Rs200-220 bn that were extended beyond the agreement period. Nearly 60% of the irrigation projects taken up by the then undivided AP state fall in the geographical territory of Telangana with corresponding share in stalled works. The governments will approve cost overruns based on a fixed formula which will not take into account the idling charges, overheads and interest cost.

## Mission Kakatiya

Tanks remains the major source of irrigation in Telangana however due to lack of proper maintenance and siltation, some of these tanks have either shrunk or become defunct. Reduced availability of surface water has resulted in over stress on the available ground water resources. In the state there are about 46,531 minor irrigation sources irrigating a total area of 1.02 mn hectares.

Telangana has well diversified farming base with large variety of crops which include food, horticulture and cash crops. The cultivable land is about 67% of the total geographical area, 60% of which is under food crops. Paddy is the predominant food crop and is sown in 25% of the cultivated area. The government of Telangana has taken up the program of restoring 46,531 minor irrigation sources, to complete the restoration of all the tanks in the next five years at an investments of Rs200 bn. In order to fund flagship program mission Kakatiya in the next 5 years the government is in talks with JICA, AIBP, World Bank.

**Exhibit 164: Details of New Major Irrigation Schemes and Projects**

| Name of the Project | Details |
|---|---|
| Palamuru-Ranga Reddy Lift Irrigation Scheme | ▪ Project aims to provide drinking water to Hyderabad<br>▪ Irrigate 7 lakh acres in Mahabubnagar, 2.7 lakh acres in Ranga Reddy and 0.3 lakh acres in Nalgonda districts by lifting 70 TMC of flood water from Krishna River near Jurala project<br>▪ Estimated cost is about Rs250 Bn. |
| Nakkalagandi Project | ▪ Planned to irrigate 3.41 lakh acres of chronically fluoride and drought affected areas of Nalgonda District and a part of Mahabubnagar District<br>▪ Estimated cost of Rs60 bn utilizing 30 TMC of flood water to be drawn from the SLBC Tunnel being constructed from Srisailam Project |
| Jurala-Pakhala Flood Flow Canal | ▪ The Jurala-Pakhala Flood Flow Canal is under investigation from the foreshore of Jurala Project<br>▪ Has a silt level at +311.000 (at Jurala) to Pakhala Reservoir in Warangal district<br>▪ Potential to feed approximately 700 tanks situated in drought prone areas of Mahabubnagar, Nalgonda and Warangal districts during flood season in 35 days by diverting 24,000 cusecs for total 70 TMC |

*Source: GoTS*

**Exhibit 165: District and year-wise Plan of Restoring the Tanks**

| District | No of Sources | No of tanks proposed during the year | | | | |
|---|---|---|---|---|---|---|
| | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Karimnagar | 5939 | 1188 | 1210 | 1220 | 1200 | 1121 |
| Adilabad | 3951 | 790 | 800 | 800 | 800 | 761 |
| Warangal | 5839 | 1168 | 1170 | 1180 | 1200 | 1121 |
| Khammam | 4517 | 903 | 910 | 920 | 930 | 854 |
| Nizamabad | 3251 | 650 | 650 | 650 | 650 | 651 |
| Medak | 7941 | 1588 | 1590 | 1600 | 1610 | 1553 |
| Ranga Reddy | 2851 | 570 | 500 | 570 | 600 | 611 |
| Mahaboobnagar | 7480 | 1496 | 1500 | 1510 | 1510 | 1464 |
| Nalgonda | 4762 | 952 | 978 | 980 | 980 | 872 |
| **Total** | **46531** | **9305** | **9308** | **9430** | **9480** | **9008** |

*Source: GoTS*

## Other Highlights

- TSGENCO plans capacity addition of 6 GW in the next five years, 2 GW by Singareni Collieries and 4 GW through NTPC.
- Government of India has accorded approval for setting up of National Investment and Manufacturing zone and Medak district to an extent of 5000-6000 hectares. The estimated investment flow to NIMZ is estimated at Rs300 bn. The land acquisition in Medak district is under process.
- Intercity Bus terminal is proposed in 55 acres of land of HMDA (Hyderabad Metropolitan Development Authority) at Miyapur on PPP mode.
- The logistics park at Batasingaram on Vijaywada highway is on 40 acres Mangalapally on Nagarjunasagar highway is 22 acres is taken up by HMDA.
- Construction of skywalks, major corridors & roads and flyovers with estimated budget of Rs216 bn.

## Industrial corridors

The Government shall develop the Industrial corridors along the roadways of important national and state highways linking Hyderabad to Warangal on a priority basis.

- The developed corridors will be modelled after Special Investment Zones like the DMIC or the PCPIR.
- Each district headquarters of the State will be connected by high speed rail and road network.

The Industrial Corridors that will be developed initially are: (a) Hyderabad-Warangal Industrial Corridor, (b) Hyderabad-Nagpur Industrial Corridor and (c) Hyderabad-Bengaluru Industrial Corridor.

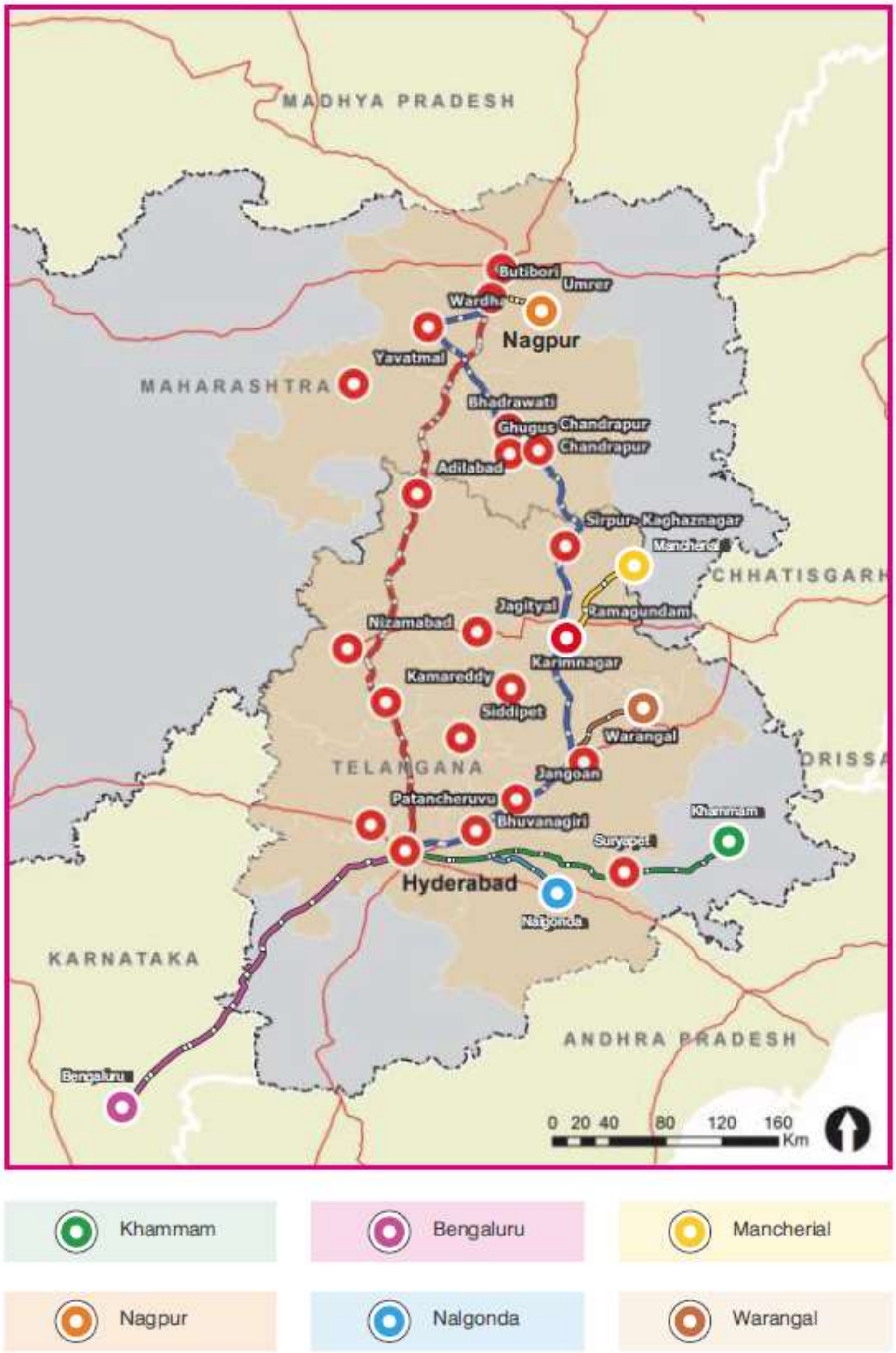
In the second phase, the corridors to be developed include: (a) Hyderabad-Mancherial Industrial Corridor, (b) Hyderabad-Nalgonda Industrial Corridor and (c) Hyderabad-Khammam Industrial Corridor

While the available government lands will be utilized to spark industrial activities in the corridor, the privately held lands will also be regulated through special zoning regulations so that the desired growth of industries and support facilities can materialize.

**Exhibit 166: Industrial corridors**


*Source: GoTS*

**Exhibit 167: Proposed Industrial Corridors**




*Source: GoTS*

## Water Pipeline & Distribution sector tenders from Telangana in Q2FY16

In Q2FY16, the state of Telangana came out with tenders worth Rs276.7 bn in the Water & Pipeline Distribution sector primarily under the Telangana Drinking Water Programme.

**Exhibit 168: Water Pipeline & Distribution sector tenders from Telangana in Q2FY16**

| Tender | Issuer Name | Tender Type | Value (Rs mn) |
|---|---|---|---|
| **Jul-15** | | | |
| Providing primary & secondary transmission system to provide drinking water to 55 mandals & 9 municipalities of Mahaboob Nagar (Mahabubnagar) | RWSSD, Telangana | Original - general | 59530 |
| Providing water supply to five constituencies with AKBR as source in Nalgonda | RWSSD, Telangana | Original - general | 21060 |
| Providing drinking water supply to 17 mandals in Warangal and 1 mandal in Khammam | RWSSD, Telangana | Original - general | 17000 |
| Providing water supply to four constituencies with tail pond (Krishna River) as source in Nalgonda | RWSSD, Telangana | Original - general | 14850 |
| Providing drinking water to habitations in Palair segment covering Palair, Khammam & Madhira and Wyra, Sathupally & Madhira in Khammam | RWSSD, Telangana | Original - general | 9930 |
| Providing drinking water to habitations in HMWSSB segment in Warangal district | RWSSD, Telangana | Original - general | 8400 |
| Providing drinking water to Gajwel segment from Yellampally-HMWS&SB at Kondapaka in Medak district | RWSSD, Telangana | Original - general | 7000.5 |
| Providing drinking water to habitations in Gadwal & Alampur constituencies from Jurala Project Mahaboob Nagar (Mahabubnagar) | RWSSD, Telangana | Original - general | 7000 |
| Providing drinking water to Sangareddy segment from singur source in Medak district | RWSSD, Telangana | Original - general | 6800 |
| Providing drinking water to habitations in Yellampally, Mancherial & Chennur segments and Khanpur constituency (Khanapur, Kadem & Jannaram mandals) | RWSSD, Telangana | Original - general | 6700 |
| **July 2015 Total** | | | **158271** |
| **Aug-15** | | | |
| Providing drinking water to Habitations in Godavari and Pusur segments covering Bhadrachalam, Pinapaka, Aswaraopet, Satupally (part), Kothagudem | RWSSD, Telangana | Original - general | 11911.2 |
| Providing drinking water to Bodhan, Banswada & Jukkal in Nizamabad district | RWSSD, Telangana | Original - general | 10630.9 |
| Providing drinking water to habitations in Komarambheem-Asifabad Segment | RWSSD, Telangana | Original - general | 10181.5 |
| Providing drinking water to Siricilla, Vemulawada & Choppadandi Constituencies &providing drinking water to habitations in Yellampally | RWSSD, Telangana | Original - general | 9676 |
| Providing drinking water to habitations in Korutla , Jagityal & Dharmapuri Segment | RWSSD, Telangana | Original - general | 9424.6 |
| Providing drinking water to habitations in SRSP-Adilabad segment in Adilabad district | RWSSD, Telangana | Original - general | 9353.1 |
| Providing drinking water to Balkonda, Armoor, Nizamabad, Kamareddy & part of Yellareddy Constituencies | RWSSD, Telangana | Original - general | 8202.3 |
| Providing drinking water to Medak segment from Singur source in Medak district | RWSSD, Telangana | Original - general | 5400.2 |
| Providing drinking water to Narsapur Segment from Singur Source in Medak district | RWSSD, Telangana | Original - general | 2243.8 |
| **August 2015 Total** | | | **77023.6** |
| **Sep-15** | | | |
| Providing drinking water to Chevella, Vikarabad, Pargi, Tandur & Maheshwaram Constituencies | RWSSD, Telangana | Original - general | 14505.6 |
| Providing drinking water to habitations in LMD-Karimnagar, Ramadugu Segment & LMD-Manakondur, Husnabad, Huzurabad Segment | RWSSD, Telangana | Original - general | 10256.8 |
| Providing drinking water supply to 10 mandals in Warrangal district | RWSSD, Telangana | Original - general | 8586.6 |
| Providing drinking water to habitations in Manthani, Bhupalapally Segment | RWSSD, Telangana | Original - general | 5520.8 |
| Balance work to CPWS Scheme in Suryapet and Thungathurthy constituency and augmentation of Nalgonda drinking water supply scheme | RWSSD, Telangana | Original - general | 2543 |
| **September 2015 Total** | | | **41412.8** |
| **Total** | | | **276707** |

*Source: ProjectsToday, Emkay Research*

*Note: RWSSD - Rural Water Supply & Sanitation Dept., Telangana*

The state of Telangana awarded projects worth Rs85 bn involving civil works for the Telangana Drinking Water Programme (Phase I).

**Exhibit 169: List of Awards**

| Segments | L1 | Contract Value (Rs bn) | Awarded Value (Rs bn) | Discount % |
|---|---|---|---|---|
| Mahbubnagar-Rangareddy | Megha Engg | 39.32 | 39.24 | 0.2% |
| Jurala-Gadwala | Indian Hume Pipes | 4.18 | 4.15 | 0.6% |
| Medchal | Kaveri Infra | 1.21 | 1.19 | 1.2% |
| Nalgonda Tailpond | GVPR Engg | 10.44 | 10.37 | 0.75% |
| Sangareddy | Pratibha Industries | 3.80 | 3.76 | 1.1% |
| Gajwel | Megha Engg | 5.50 | 5.48 | 0.35% |
| Yellampalli-Mancherial-Khanapur | Koya & Company | 3.97 | 3.92 | 1.2% |
| Paleru-Warangal | Megha Engg | 9.97 | 9.93 | 0.4% |
| Warangal Metro | NCC Ltd | 6.05 | 6.01 | 0.7% |

*Source: Emkay Research*

The officials opened the technical bids for the second-phase works in September, 2015. In the second phase of the project, tenders were invited in ten packages for works worth Rs140 bn. As many as 44 bids were filed by various companies (NCC, Megha Engg, L&T, Kaveri Infra, GVK Infra and others).

## Industrial Policy Highlights

### Thrust areas

The Telangana State Government has conducted detailed studies and consulted experts to identify the competitive advantages the State can have, given its geographical location, available resources and skill-base, raw material availability, existing manufacturing practices, and expertise.

### Classification of projects

The classification of projects into large, medium, small and micro sectors will be based on the Government of India, MSME Ministry definitions, as amended from time to time. The definition of a mega project is a Telangana State determined one.

### Industrial Land bank

An extent of 150,000 acres of Government land has been transferred and is now vested with Telangana State Industrial Investment Corporation (TSIIC). This land is ready to be occupied for industrial purposes. This transferring of land to TSIIC will help save crucial time for industries and is an investment friendly initiative. In addition, TSIIC also has 150 ready to occupy Industrial Parks. Some of the industrial parks will also permit multi-sector activities and general manufacturing units.

### Industrial water

To support industrialization, the Government of Telangana has earmarked 10% of water from all existing and new irrigation sources for industrial use. Water pipelines will be laid as a part of infrastructure creation for each industrial park by TSIIC. The TSIIC will coordinate with the appropriate department that is responsible for the creation of the Telangana Water Grid so that industrial water for local MSMEs is made available through the Grid.

### Land pricing

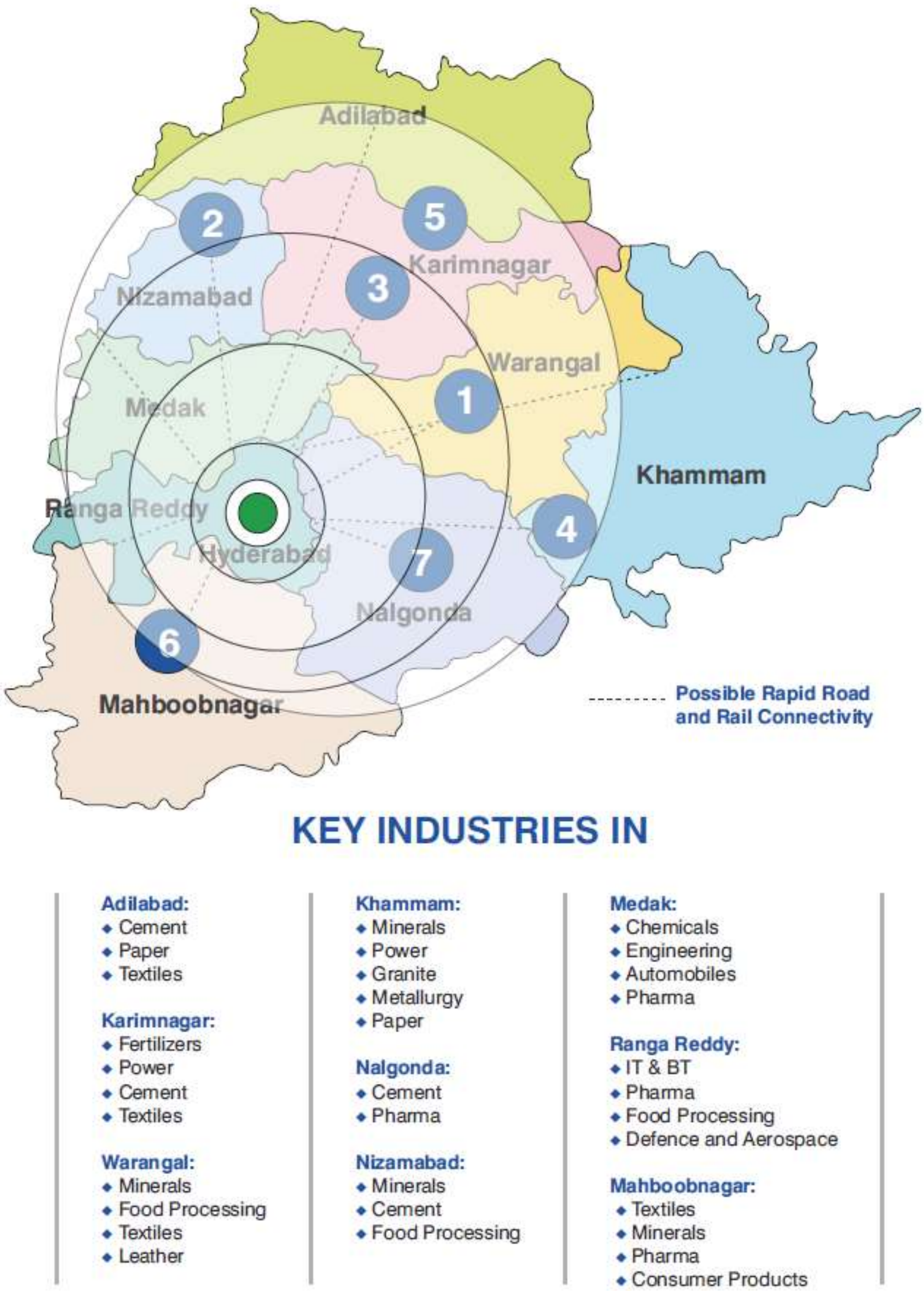
A Price Fixation Committee (PFC) constituted within TSIIC will determine the prices of all the land parcels in different Industrial Parks by following an objective criterion. The final price will be the aggregate of the prevailing land price in that area as ascertained from the Registration records, the cost incurred in land development and infrastructure creation, and a nominal administrative charge. The land prices will also be displayed on the website, along with other information. The land price will have validity for a specified time period, and will get revised periodically. A separate pricing mechanism will be followed for the plots earmarked for Common Facilities. Land for location of industry will be available on outright purchase/sale or on a lease basis

### Central government incentives

As per Section 94 (1) of the Andhra Pradesh Reorganization Act 2014, the Central Government shall take appropriate fiscal measures, including offer of tax incentives to the successor States, to promote industrialization and economic growth in both the States.

- 100% central excise benefit for 5 (or more) years
- 100% income tax benefit for 5 years; 30% for the next 5 years
- Other investment subsidy benefits
- The government will pass on these benefits to the entrepreneurs once they get notified by the Government of India.

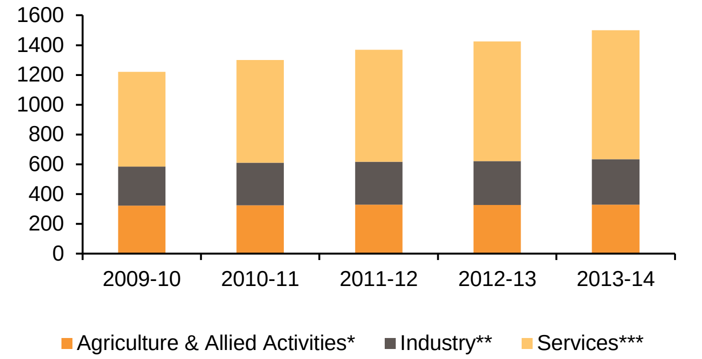
**Exhibit 170: Key industries**




*Source: GoTS*

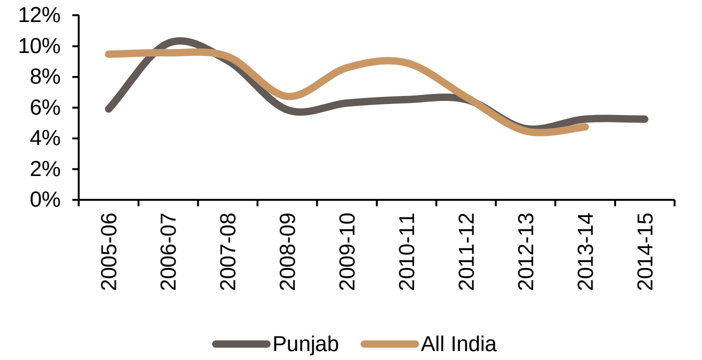
# Punjab: Centre to do major capex, state level finances restricts capex growth

**Exhibit 171: Net State GDP components (in Rs bn)**



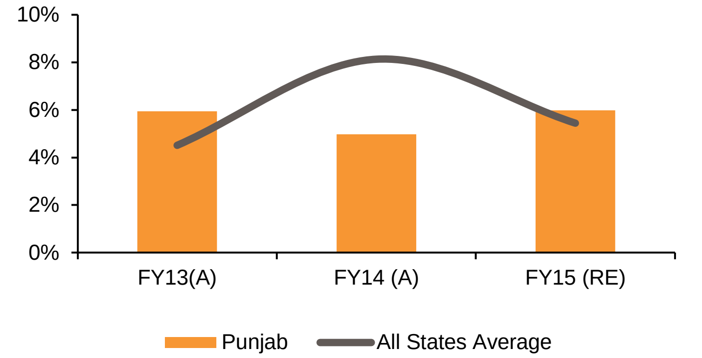

*Source: GoI, Emkay Research*

**Exhibit 172: State GDP growth (%) vs National GDP growth (%)**



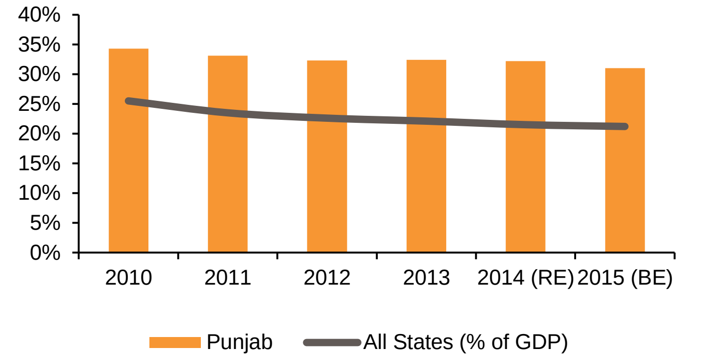

*Source: GoI, Emkay Research*

**Exhibit 173: State fiscal deficit (as % of state GDP)**



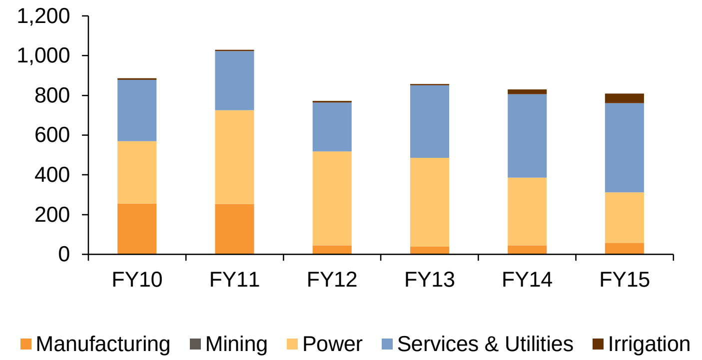

*Source: GoI, Emkay Research*

**Exhibit 174: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 175: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Recent entrant in road development

The Punjab state is the recent entrant to upgrade and award road projects. Recently Union and highway transport ministry approved highway projects worth Rs33 bn totalling 222 km. The execution will be done by PWD Punjab.

The seven projects are Sangrur-Dogal Kalan (30 Kms), Dogal Kalan-Punjab Haryana border (27 Kms), Sangrur-Dhanaula bye-pass (18 Kms), Patiala bye-pass (19 Kms), Patiala-Sangrur (41 Kms), Sangrur-Tapa (46 Kms) and Tapa-Bathinda (41 Kms).

The central government also promised Rs180 bn investment on Punjab's road infrastructure including 5 railways over bridges (ROB's).

**Exhibit 176: Road Network**

| Punjab Road Network | Km |
|---|---|
| National Highways | 1739 |
| State Highways | 1462 |
| Major District Roads | 1797 |
| Other District roads | 4114 |
| **Total** | **9112** |

*Source: GoP, Emkay Research*

## Metro projects

### Ludhiana metro

Ludhiana Metro is a proposed rapid transit system for the city of Ludhiana, Punjab. It is expected to cost Rs120 bn. The metro in Ludhiana will be of total 29 kms, of which 22 kms will be elevated and 7 km will be underground. Currently there is no clarity on the project with respect to funding. DMRC has submitted the feasibility report however state is also planning a project to build a bus rapid transport system (BRTS) in Ludhiana which has put on hold the Ludhiana metro project.

### Chandigarh, Haryana, Punjab sign MoU to form special purpose vehicle for Metro

The Tri-city has signed a memorandum of understanding (MoU) for mass rapid metro system as Chandigarh, Haryana and Punjab.

The SPV will be called Greater Chandigarh Transport Corporation (GCTC) whose prime job will be to develop metro project connecting Chandigarh, Mohali and Panchkula in its first phase and then covering other semi-urban areas in Chandigarh region to create seamless mobility solution.

As per the MoU, the initial equity of GCTC will be Rs1 bn which would be equally contributed, that is 25% each by the Ministry of Urban Development (MoUD), Chandigarh Administration, Punjab and Haryana government.

According to the detailed project report (DPR) prepared in 2009, the total length of the Chandigargh metro project connecting the tri-city is approximately 40 km in Phase I at an estimated cost of Rs120 bn.

## Amritsar-Kolkata industrial corridor

The Amritsar-Kolkata Industrial Corridor is proposed to be developed in a band of 150-200 km on either side of the Eastern Dedicated Freight Corridor in a phased manner. It would comprise a belt of at least 5.5 lakh square km in the seven states of Punjab, Haryana, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.

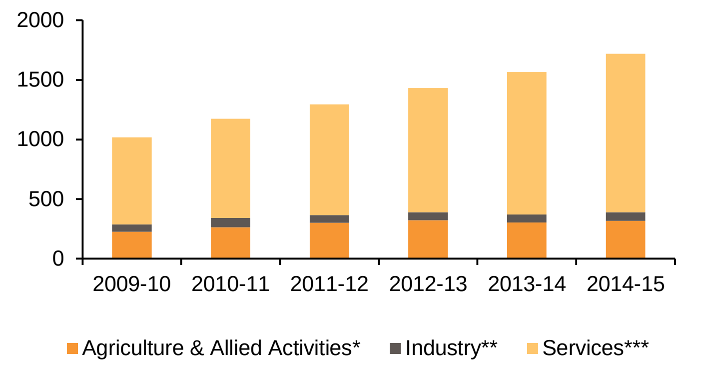
At least 40% land in each cluster would be permanently earmarked for manufacturing and agro-processing, considering that substantial part of the area in these states is under agriculture, except in Jharkhand. Currently no progress has been made on this project.

## Smart Cities

The government of India has nominated three smart cities in the state of Punjab-Ludhiana, Jalandhar and Amritsar.

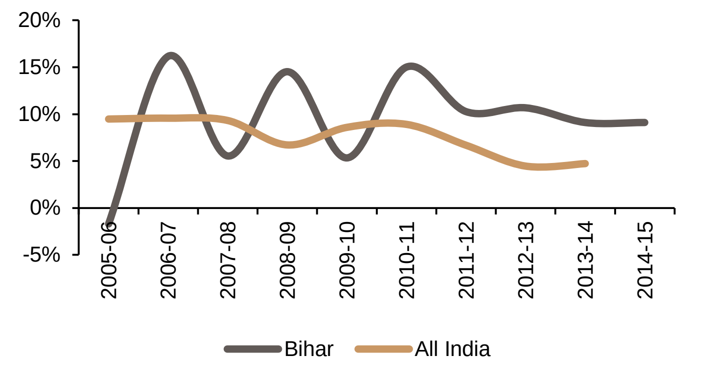
# Bihar: Capex concentration towards Roads

**Exhibit 177: Net State GDP components (in Rs bn)**



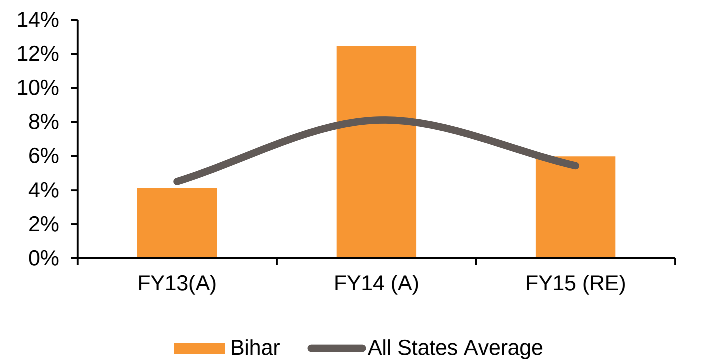

*Source: GoI, Emkay Research*

**Exhibit 178: State GDP growth (%) vs National GDP growth (%)**



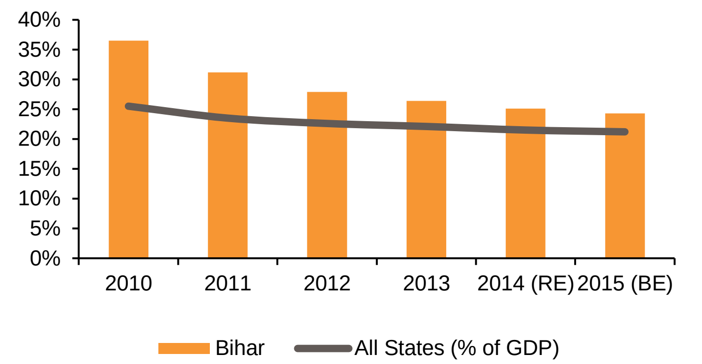

*Source: GoI, Emkay Research*

**Exhibit 179: State fiscal deficit (as % of state GDP)**



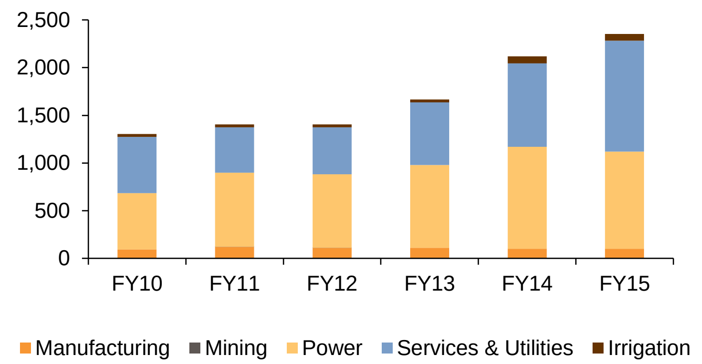

*Source: GoI, Emkay Research*

**Exhibit 180: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 181: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Central government package for Bihar

Given the upcoming state elections in Bihar, the central government has announced capex worth Rs1250 bn spread across Road, Power, Railways and petroleum sector. The central government would also provide Rs400 bn to the state for the ongoing existing projects besides the financial package which will take the financial assistance for Bihar upto Rs1650 bn.

The package announced includes Rs547 bn for highways, Rs 214 bn for petroleum and gas, Rs 161 bn for electricity/Power sector, Rs 138 bn for the rural roads, Rs 88.7 bn for doubling and electrification of railway lines and Rs 27 bn for airports, including construction of a new airport in Patna.

## No announcements for metro projects and smart cities

There was no announcement being done for Patna metro project and smart cities. A detailed project report for the Patna metro (project cost Rs120bn) has been prepared. The metro is expected to be 28km long, comprising a 15.5km underground railway and 12km section above ground.

Smart cities in Patna: Given that most of the cities in Bihar are under developed and lack even the basic amenities, the central government has selected 5 cities in Bihar to be developed as smart cities 1) Muzaffarapur 2) Patna 3) Gaya 4) Bhagalpur 5) Bihar Sharif.

**Exhibit 182: Complete list of Rs1.25 trn package for Bihar**

| Sectors | Amount (Rs Bn) | Highlights |
|---|---|---|
| Farmer's Welfare | 30.94 | Up-gradation of Rajendra Prasad Agriculture University to Central University, creation of new Research Centre |
| | | Development of Fisheries, Farm water management,Storage capacity, Farm mechanisation, Seed productionsystems |
| | | Construction of new Godowns for foodgrains |
| Education | 10.00 | Central University near Bhagalpur |
| | | IIM at Bodhgaya |
| Skill Development | 15.50 | Establishment of Mega Skill University |
| | | Training of 1 lakh youth |
| Health | 6.00 | Up-gradation of 3 medical colleges at Patna, Bhagalpur, Gaya |
| Electricity | 161.30 | 1,300 MW new power plant at Buxor |
| | | Electrification of villages under Deen Dayal Upadhyay Gram Vidyut Yojana (sufficient for farms, uninterrupted for homes) |
| | | Electrification of towns-cities under Integrated Power Development Scheme |
| Rural Roads | 138.20 | 22,500 kms of Rural Roads |
| Highways | 547.13 | 2,775 kms of National Highways (four-laning & widening) |
| | | Construction of Bridges (across Ganga, Sone, Kosi) |
| | | Construction of 12 Rail overbridges |
| Railways | 88.70 | Doubling and Tripling of 676 kms of Railway line |
| | | Electrification of 574 kms |
| Airports | 27.00 | Construction of new airport at Patna |
| | | Development of airports at Gaya, Raxaul, Purnea |
| Digital Bihar | 4.49 | Software Technology Parks, Rural BPOs, Training Centres |
| | | 1,000 new Mobile towers to increase coverage and quality |
| | | 30 WiFi hotspots across prominent tourist places |
| | | Common Service Centres to be scaled up from 8,800 to 26,000 |
| Petroleum & Gas | 214.76 | Expansion of Barauni Refinery + new Petrochemical Plant |
| | | Construction of Gas pipelines, new LPG plants and massive expansion in domestic LPG connections |
| | | Petrol-Diesel pipeline from Raxaul to Nepal |
| Tourism | 6.00 | Development of 7 Tourist circuits |
| **Total** | **1,250.02** | |

*Source: PIB, Emkay Research*

**Exhibit 183: Other Investments**

| Category | Amount (Rs Bn) |
|---|---|
| Unspent amount of 2013 Package (of Rs120 bn) | 82.82 |
| Ongoing works of National Highways | 123.75 |
| UMPP (Ultra Mega Power Project) in Banka under PPP | 200.00 |
| **Total** | **406.57** |

*Source: PIB, Emkay Research*

***Note:*** *Prime Minister's Bihar Package over and above on-going national social sector schemes:Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Suraksha Bima Yojana, Pradhan Mantri Jeevan Jyoti Bima Yojana, Atal Pension Yojana, Sukanya Samruddhi Yojana, MUDRA, Free LPG connections to BPL, Swachh Vidyalaya Abhiyan and so on*

**Exhibit 184: National Highways Capex Details**

| Project Name | Length (km) | TPC (in Rs Bn) |
|---|---|---|
| **A. Projects under process for award/bidding stage** | | |
| Biharsharif – Barbigha – Mokama section of NH-82,NHDP Phase-IV | 55.0 | 4.00 |
| 4- laning of Patna-Koilawar section of NH 30 | 33.0 | 4.92 |
| 4- laning of Koilawar- Bhojpur section of NH-30 and NH-84 | 44.0 | 7.50 |
| 4 laning of Bhojpur-Baxar section of NH-84 | 48.0 | 5.95 |
| 4 laning of Bakhtiyarpur-Mokama section of NH-31 | 45.0 | 9.70 |
| New 4-laned bridge across river Ganga at Mokama on NH-31 | 9.0 | 5.20 |
| 4lane of Simaria – Khagaria on NH-31,NHDP Phase-III | 60.0 | 10.63 |
| km 0.0-km 69.6 of Fatua-Harnaut-Barh section of NH-30A | 71.8 | 5.91 |
| Upgradation of Sheohar-Sitamarhi-Jaynagar-Narahiya (km 40-217) of NH 104 in three packages | 180.0 | 7.01 |
| Upgradation of Birpur-Bihpur (km 0-106) section of NH-106 | 105.2 | 5.75 |
| 2-laning with paved shoulder of Gopalganj - Chhapra section | 94.0 | 7.48 |
| Widening and strengthening to 2-lane with paved shoulder & geometric improvement Betiah -Khushinagar Section from km 25.00 to km 40.00 on EPC mode | 15.0 | 0.89 |
| Strengthening and Widening to 2 Lane with Paved Shoulder from km 65 to 97 on EPC mode | 33.0 | 2.07 |
| 2-laning with paved shoulder of Chhapra - Rewaghat - Muzaffarpur | 73.0 | 4.21 |
| Strengthening and Widening to 2 Lane with Paved Shoulder from km. 0.00 to 10.903 | 10.9 | 0.28 |
| Strengthening & Widening to 2 Lane with Paved Shoulder from km. 0.00 to 25.010 on EPC mode | 25.0 | 0.78 |
| Strengthening & widening work of existing 2-Lane to two lane with paved shoulder from Km. 93.612 to Km. 98.000 | 4.4 | 0.65 |
| 4 laning of Forbesganj-Jogbani section of NH-57A | 9.0 | 2.00 |
| 4 laning of Patna - Gaya - Dobi section of NH 83 with JICA ODA loan assistance | 127.0 | 12.32 |
| Construction of Bhagalpur Bypass | 13.0 | 2.68 |
| **Total** | **1055.3** | **99.91** |
| **B. Projects in the Pipeline** | | |
| 4 laning of Mokama-Khagariya section of NH-31 | 60.0 | 8.10 |
| Bridge at Munger | 18.7 | 23.62 |
| Development to 2-laned with paved shoulder of Maheshughat-Saharsa-Purnia section of NH-107 | 171.0 | 10.00 |
| Development of Manjholi-Chirkot section | 65.0 | 7.00 |
| 4/6 laning of Patna Ring Road | 65.0 | 15.00 |
| 4 laning of Kishanganj Bypass at NH-31 | 20.0 | 2.50 |
| 4-laning of Munger-Mirzachowki section of Nh-80 | 120.0 | 12.00 |
| Development to 2-lane with paved shoulder of sections on NH-2C, NH80, NH81, NH99 and NH527 A. | 116.0 | 6.80 |
| Construction of MG Setu with JICA assistance | 5.6 | 28.00 |
| Construction of bridge across Kosi river an Km 136 of NH-106 | 20.0 | 30.00 |
| **Ensuring Connectivity Across Major Rivers** | | |
| Bridge on river Ganga connecting Manihari in Bihar to Sahibganj in Jharkhand | | 20.00 |
| Bridge over river Sone connecting Panduka(Nauhata) on NH-2C in Bihar and Shrinagar(Garhwa District) in Jharkhand | | 20.00 |
| A new 4-laned bridge on river Ganga parallel to existing MG Setu | | 50.00 |
| Improving Connectivity- Declaration of New National Highway and its development | 436.6 | 66.00 |
| New National Highway connecting Buxar on NH-84-Chausa-Ramgarh-Mohania on NH-2 | 64.0 | 9.60 |
| **Projects under “Bharatmala Programme”** | | |
| Roads connecting Raxaul and Sonbarsa (Parallel to Indo-Nepal Border) | 90.0 | 18.00 |
| Chakia- Bargainia connectivity | 50.0 | 10.00 |
| **Projects For Improving Connectivity Of Places Of Religious Interest** | | |
| Development of Rampur -Khajuriya -Kesariya end of NH-722 to 4 lane standard | 58.0 | 11.60 |
| Development of Umgaon-Basopatti-Benipatti-Rahua-Madhubani-Rampatti-Awam-Laufa-Bheja-Supaul-Mehsi-Saharsa which connects Uchchait Bhagwati Sthan to Mehsi Taraesthan to 2 lane with paved shoulder or 4-lane standard with a bridge over river Kosi | 160.0 | 50.00 |
| Development of Ram-Janki Marg as already declared recently part of which falls in Bihar from UP Bihar Border to Siwan-Madhubani-Sitamarhi-Indo-Nepal Border to 4 lane standard | 200.0 | 40.00 |
| **Rail Over Bridge (ROB)** | | |
| 12 ROBs | | 9.00 |
| **Total** | **1719.9** | **447.22** |
| **Grand Total for NH** | **2775.1** | **547.13** |

*Source: PIB, Emkay Research*

**Exhibit 185: Other Capex Details**

| Rural Development - Roads | Value (Rs bn) |
|---|---|
| **To complete about 22,500 km of PMGSY roads in Bihar** | **138.2** |
| **Petroleum & Natural Gas** | |
| The Barauni Refinery would be expanded from 6 million tons to 9 million tons | 120 |
| A Polyproplene Recovery Plant for petro-chemical products would also be set up. | 35 |
| The implementation of the 617 Kms pipeline relating to Bihar in Jagdishpur-Haldia pipeline | 23 |
| Raxaul Amlekhganj pipeline | 2 |
| Extension of Paradip-Haldia- Durgapur LPG pipeline | 18 |
| New LPG Plant at Muzaffarpur | 1.1 |
| Creation of additional capacity for LPG plant at Patna | 0.15 |
| Implementation of BS IV fuel at Barauni Refinery | 15 |
| Augumentation of Patna LPG Plant from 60 to 120 TMTPA | 0.45 |
| Upgradation of Purnea LPG Plant | 0.06 |
| **Total** | **214.76** |
| **Civil Aviation** | |
| Construction of a Greenfield Airport at Patna | 20 |
| Development of Gaya Airport for Airbus 321-200 type of aircraft operations with new terminal building and apron, runway extension, CAT-I approach lighting | 3 |
| Development of Raxual Airport for ATR-72 / Q-400 type of aircrafts for VFR operations | 2.5 |
| Development of Civil Enclave at Purnea Airport for Airbus 321-200 type of aircraft | 1.5 |
| **Total** | **27** |
| **Higher Education** | |
| Establishment of a Central University near Bhagalpur at the historic site of Vikramshila University | 5 |
| Establishment of IIM, Bodh Gaya | 5 |
| **Total** | **10** |
| **Skill Development** | |
| To train one lakh youth under Pradhan Mantri Kaushal Vikas Yojana | 3 |
| 25,000 youth to be trained in Power sector | |
| Mega Skill University in Bihar | 12.5 |
| **Total** | **15.5** |
| **Agriculture** | |
| Upgradation of PUSA (Bihar) to the level of a Central Agricultural University | 4 |
| Development of fisheries | 2 |
| Farm Water Management (Micro irrigation, creation of water resources) | 7.5 |
| Development of Storage Capacity | 6 |
| Farm Mechanization | 6 |
| Seed production systems | 3 |
| National Research Centre on Integrated Farming System, Motihari, Bihar | 0.3 |
| Construction of new godowns at Supaul, Madhepura, Hazipur and Chakia Bazar | 2.14 |
| **Total** | **30.94** |
| **Railways** | |
| **Doubling/Tripling of Railway Line** | |
| Rampur Dumra - Tal - Rajendrapul Addl Bridge and doubling - 14 Km length | 9.38 |
| Hajipur - Bachwara - 72 kms | 7.56 |
| Samastipur - Darbhanga 38 kms | 3.99 |
| **Railway Electrification** | |
| Kiul - Gaya 123 kms | 12.92 |
| 3rd line between Dhanbad - Sonnagar (partly in Bihar ) - 429 kms | 47.25 |
| Kiul - Tilaiya 87 kms | 0.85 |
| Valmikinagar - Narkatiaganj-Sugauli-Muzaffarpur including Sugauli-Raxaul 240 kms | 3.97 |
| Ammapali Halt - Kiul including Tinpahar-Rajmahal (Part of Bonidanga link cabin/Bonidanga-Barharwa- Sahibgang-Kiul section incl Tinpahar-Rajmahal) Length 247 kms | 2.79 |
| **Total** | **88.71** |

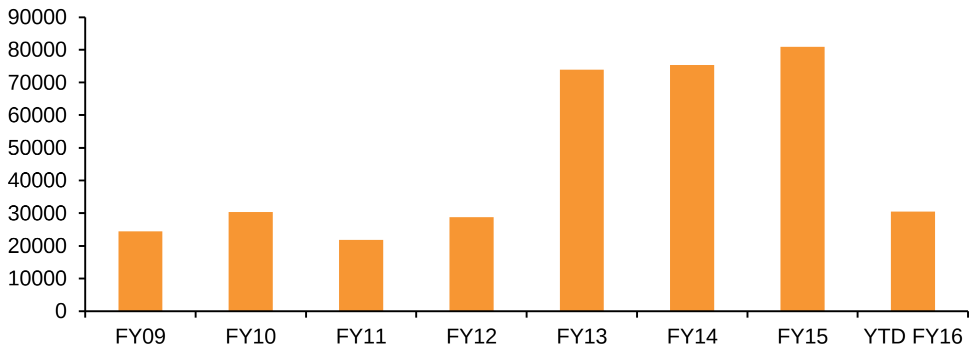
*Source: PIB, Emkay Research*

**Exhibit 185: Other Capex Details (Rs bn) (contd…)**

| **Power** | **Value (Rs bn)** |
|---|---|
| Construction of 1300 MW Power plant at Buxar {PIB has recently appraised the project and recommended Rs4.37 bn as pre-investment activity to kick start the project.} | 100 |
| Deen Dayal Upadhyay Gram Vidyut Yojana | 58.8 |
| Under Integrated Power Development Scheme (IPDS). | 2.5 |
| **Total** | **161.3** |
| **Telecommunication – Digital Bihar** | |
| 1000 new BTS (towers) to be installed in Bihar | 2.5 |
| Setting up of 2 new STPI centres (Software Technology Park of India) in Darbhanga and Bhagalpur and Rural BPO scheme for small towns and rural areas. This will help in promoting the IT entrepreneurs and start-ups in Bihar. | 0.2 |
| Setting up 2 new NIELIT Centres in Muzaffarpur and Buxar apart from upgrading the existing centre in Patna, Medical Incubator at IIT Patna, Electronics and ICT Academy at NIT Patna. | 0.14 |
| Electronic Manufacturing clusters in Bihar for which 50% subsidy for greenfield and 75 % subsidy for Brownfield EMCs are available. | 1.5 |
| 30 WiFi hotspots will be rolled out in Bihar, by BSNL at prominent tourist places such as Rajgir, Vaishali, Gaya, Nalanda and Patna | 0.15 |
| **Total** | **4.49** |
| **Tourism** | |
| Vaishali and Bodhgaya development alongwith other places in buddhist circuit including Vikramshla | 2 |
| Sultanganj to Deoghar project | 0.5 |
| Patna Sahib under Prasad | 0.5 |
| Mahatma Gandhi Circuit | 0.5 |
| Ramayan Circuit | 1 |
| Jain Circuit including Champa puri | 0.5 |
| circuit for Mandar Hills and Ang Pradesh | 0.5 |
| IITTM chapter in Bihar | 0.5 |
| **Total** | **6** |
| **Health** | |
| Upgradation of 3 Medical colleges at Patna, Bhagalpur & Gaya under PMMSY in Bihar | 6 |
| **Grand Total of the Package** | **1,250.03** |

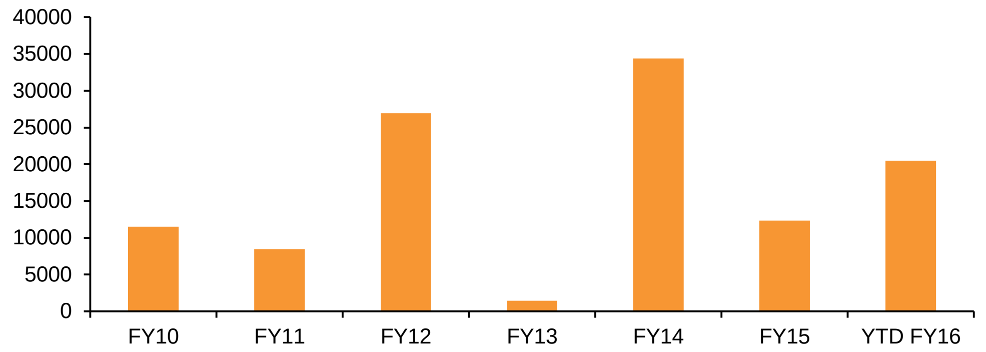
*Source: PIB, Emkay Research*

**Exhibit 186: Total Capex in Bihar in Roads, Power Distribution, Power Equipment, Buildings & Water (in Rs mn)**



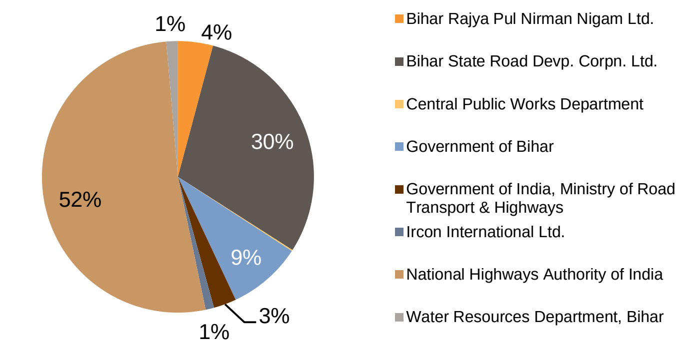

*Source: ProjectsToday, Emkay Research*

**Exhibit 187: Road Capex in Bihar (in Rs mn)**



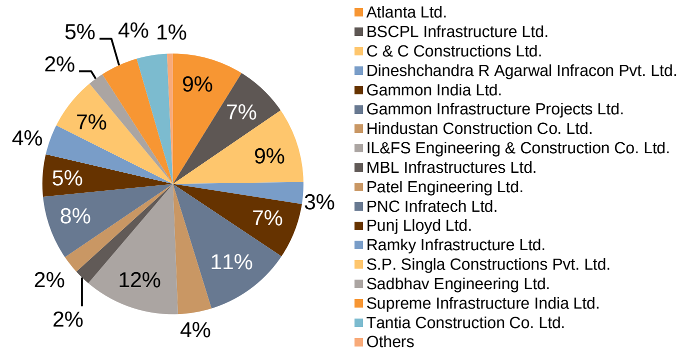

*Source: ProjectsToday, Emkay Research*

**Exhibit 188: Awarder Share - Roads**



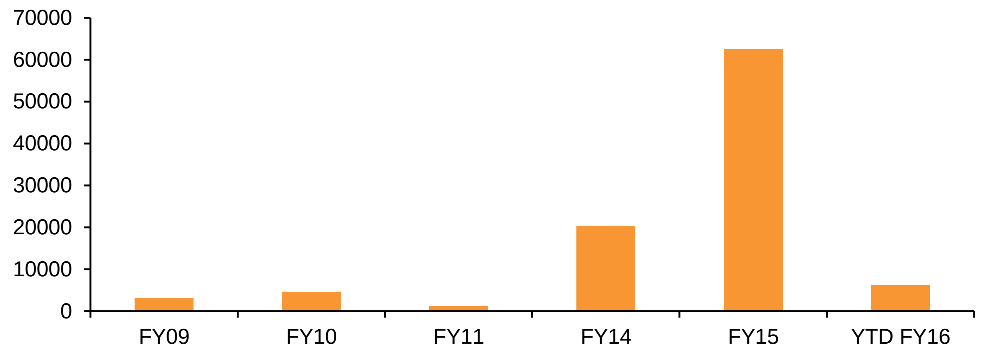

*Source: ProjectsToday, Emkay Research*

**Exhibit 189: Awardee Market share - Roads**



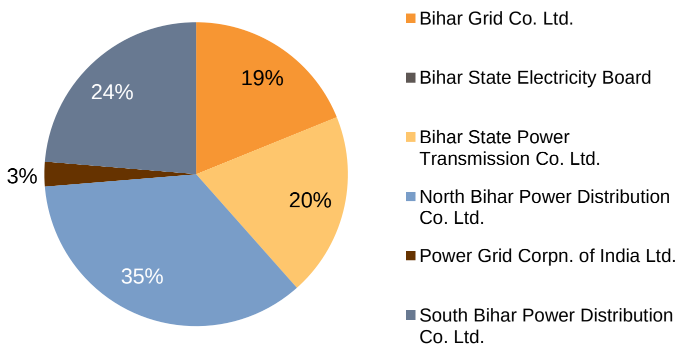

*Source: ProjectsToday, Emkay Research*

**Exhibit 190: Power distribution capex in Bihar (in Rs mn)**



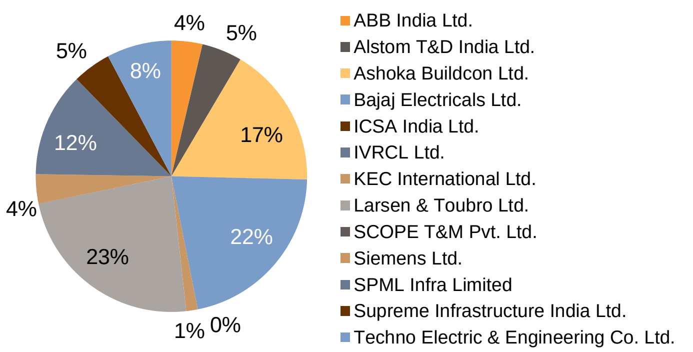

*Source: ProjectsToday, Emkay Research*

**Exhibit 191: Awarder share – Power Distribution**



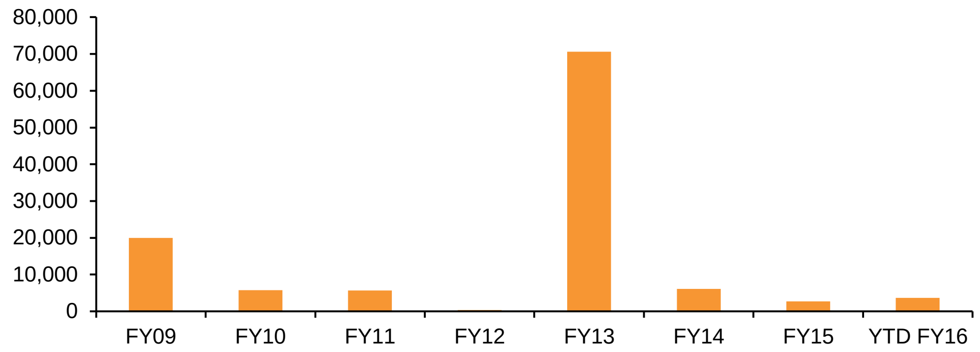

*Source: ProjectsToday, Emkay Research*

**Exhibit 192: Awardee Market share – Power Distribution**



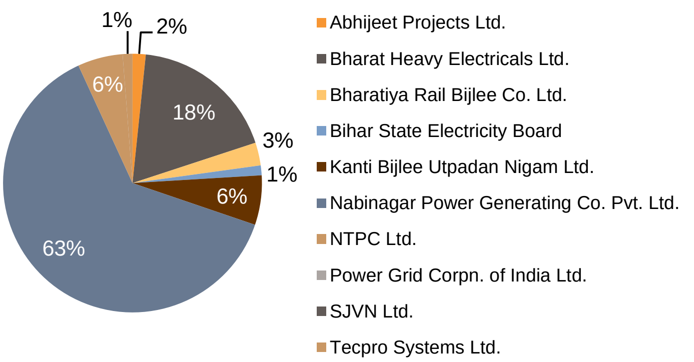

*Source: ProjectsToday, Emkay Research*

**Exhibit 193: Power equipment capex in Bihar (in Rs mn)**



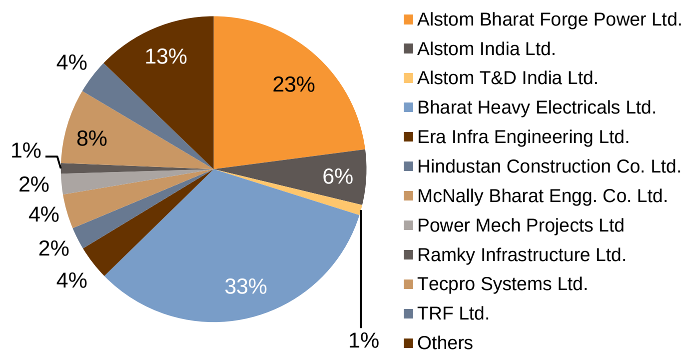

*Source: ProjectsToday, Emkay Research*

**Exhibit 194: Awarder share – Power equipment**



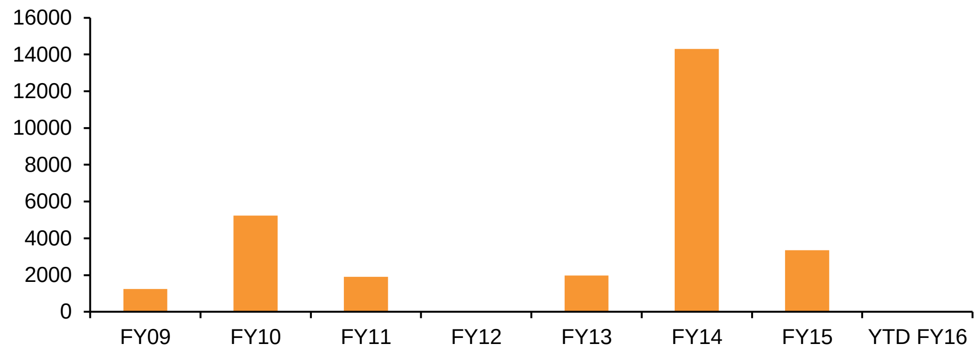

*Source: ProjectsToday, Emkay Research*

**Exhibit 195: Awardee Market share – Power Equipment**



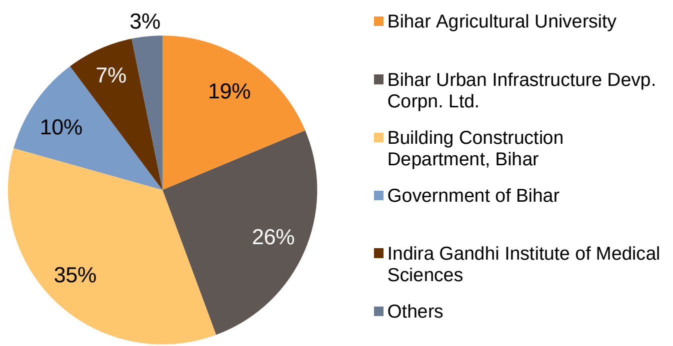

*Source: ProjectsToday, Emkay Research*

**Exhibit 196: Buildings (Community Services, Hospitals, Real Estate) capex in Bihar (in Rs mn)**



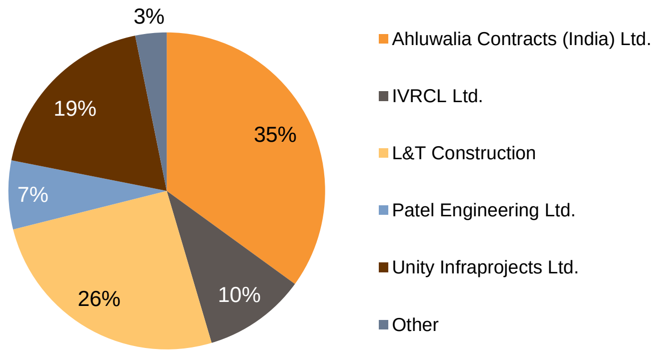

*Source: ProjectsToday, Emkay Research*

**Exhibit 197: Awarder share - Buildings**



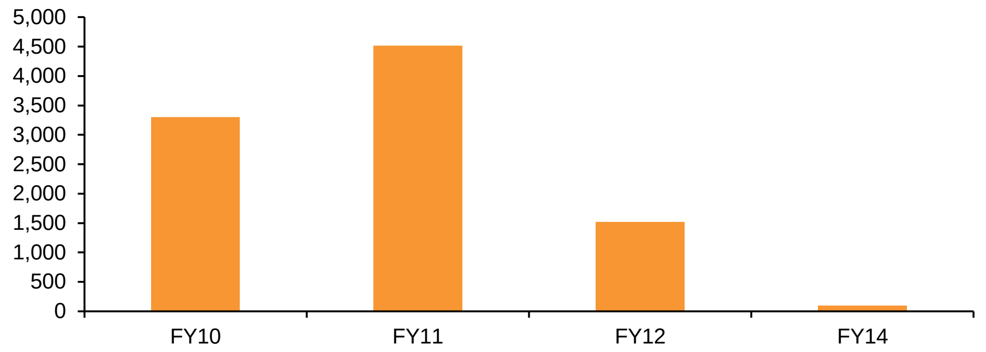

*Source: ProjectsToday, Emkay Research*

**Exhibit 198: Awardee Market share - Buildings**



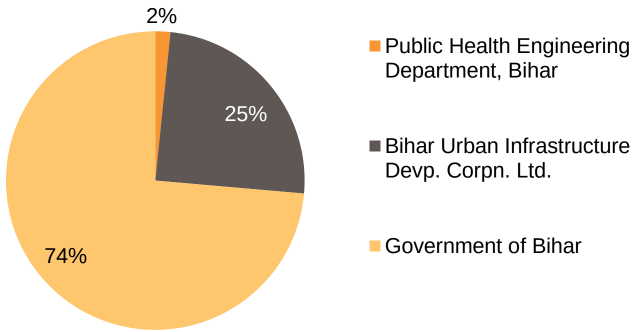

*Source: ProjectsToday, Emkay Research*

**Exhibit 199: Water sector capex in Bihar (in Rs mn)**



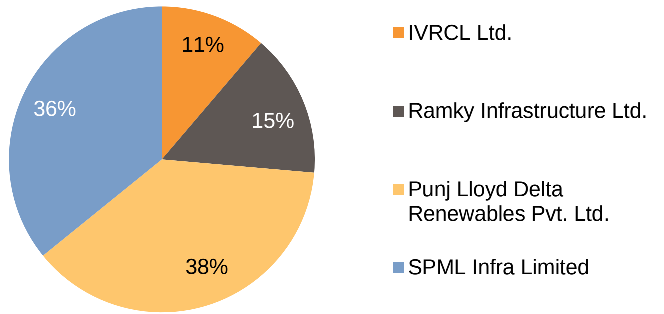

*Source: ProjectsToday, Emkay Research*

**Exhibit 200: Awarder share - Water**




*Source: ProjectsToday, Emkay Research*

**Exhibit 201: Awardee Market share - Water**




*Source: ProjectsToday, Emkay Research*

## Patna Metro

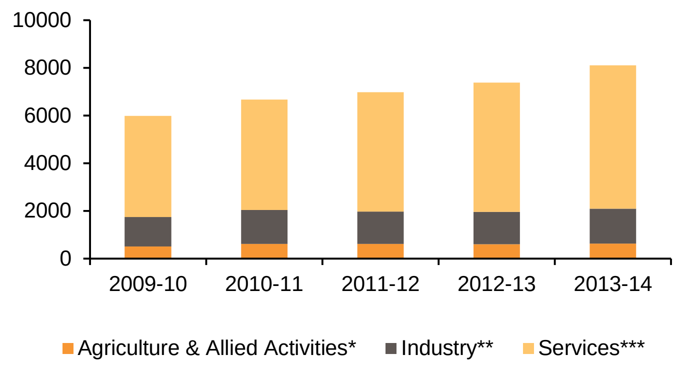
The DPR has been prepared by RITES and is estimated to cost Rs120 bn.The expected time for completion of the project is five years. The 27.88 km Metro Rail project from Danapur to Mithapur (east-west corridor) and Patna Junction to ISBT (north-south corridor) will have an underground stretch of over 15km and elevated stretch of over 12km. Tenders for civil work awaited.

## Smart cities

The central government has selected 3 cities Muzaffarapur, Bhagalpur and Bihar Sharif to be developed as smart cities in Bihar.

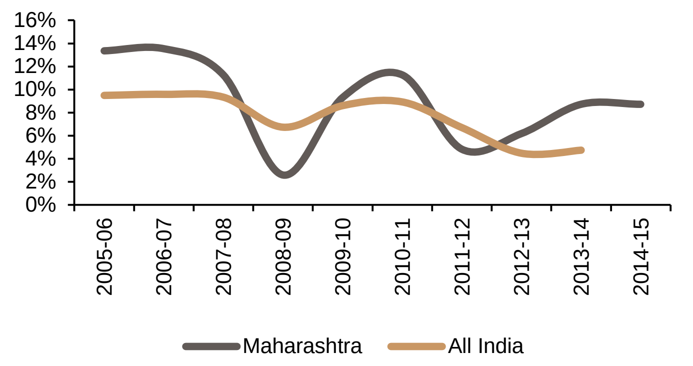
# Maharashtra: Focus on Urban infrastructure projects

**Exhibit 202: Net State GDP components (in Rs bn)**



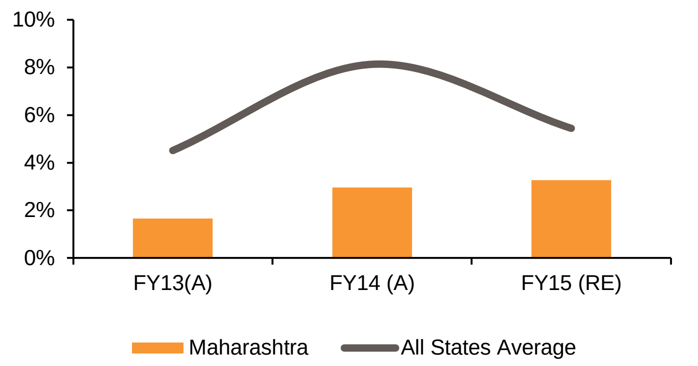

*Source: GoI, Emkay Research*

**Exhibit 203: State GDP growth (%) vs National GDP growth (%)**



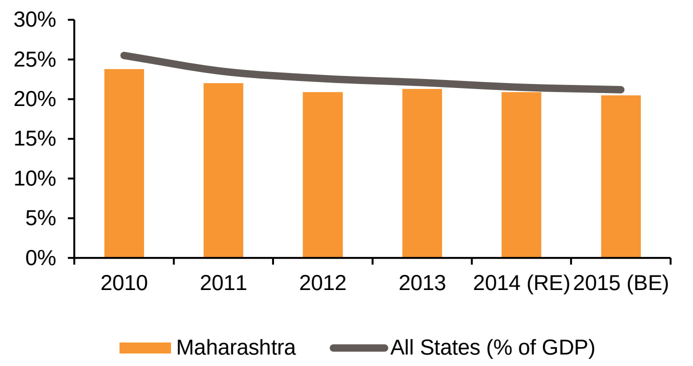

*Source: GoI, Emkay Research*

**Exhibit 204: State fiscal deficit (as % of state GDP)**



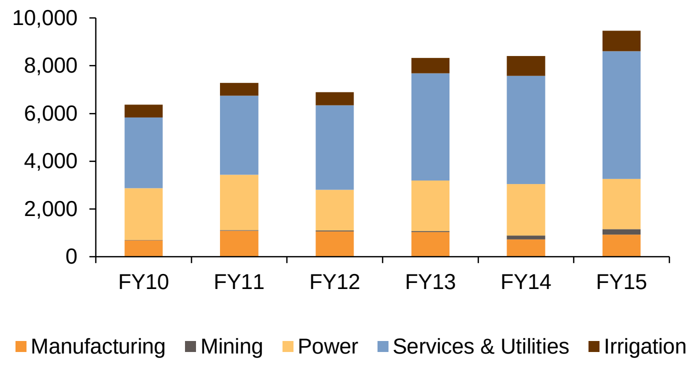

*Source: GoI, Emkay Research*

**Exhibit 205: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 206: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

The government of Maharashtra has planned to increase their capital expenditure towards the urban infrastructure projects like metro corridors. Currently, there are a large number of metro, road, sea-link, airport projects in the works.

## Metro projects

### Mumbai Metro phase - III (Colaba – Bandra – SEEPZ, 33.5 km)

MMRC (Mumbai Metro Rail Corporation) has awarded the seven civil construction packages of Mumbai metro line Phase - III worth Rs185 bn. The Mumbai Metro Rail Corporation aims to commission the project by 2021-22.

**Exhibit 207: Mumbai Metro Phase III Underground L1 matrix**

| L1 Bidders | Package | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| L&T - Shanghai Tunnel Engg | **L1** | L3 | L4 | L4 | L5 | L6 | **L1** |
| J. Kumar - China Railway No.3 Engg Grp | L4 | L4 | | L2 | **L1** | **L1** | |
| Continental Engg Corp - ITD Cem - Tata Projects | | L2 | L2 | **L1** | L3 | L2 | |
| OSJC Moscow Metrostroy - HCC | L3 | **L1** | | L3 | L2 | L3 | |
| Pratibha Industries - Guandong Yuantian Engg | L2 | | | | L4 | L5 | |
| Afcons Infra - Kyivmetrobud | | | L3 | | | L7 | |
| Dogus - Soma | | | **L1** | | | L4 | |
| Unity Infra - IVRCL - China Railway Tunnel Grp | | | | | | | |

*Source: Company, Emkay Research*

**Exhibit 208: Mumbai Metro Phase III Underground Package Bids**

| Bidders | Package Project cost (Rs bn) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 ($ mn) | 5 | 6 ($ mn) | 7 |
| L&T - Shanghai Tunnel Engg | **34** | 31 | 35 | 541 | 34 | 424 | **26** |
| J. Kumar - China Railway No.3 Engg Grp | 37 | 34 | | 490 | **30** | **361** | |
| Continental Engg Corp - ITD Cem - Tata Projects | | 29 | 32 | **481** | 31 | 370 | |
| OSJC Moscow Metrostroy - HCC | 36 | **27** | | 515 | 30 | 389 | |
| Pratibha Industries - Guandong Yuantian Engg | 35 | | | | 32 | 401 | |
| Afcons Infra - Kyivmetrobud | | | 33 | | | 463 | |
| Dogus - Soma | | | **27** | | | 399 | |
| Unity Infra - IVRCL - China Railway Tunnel Grp | | | | | | | |
| *Difference between L1 and L2 Bids* | *-4.1%* | *-6.8%* | *-14.9%* | *-1.8%* | *-1.5%* | *-2.5%* | |

*Source: Company, Emkay Research*

## Dahisar to DN Nagar (18.5 km) and Dahisar (E) to Andheri (E) (16.5 km)

The Mumbai Metropolitan Region Development Authority (MMRDA) plans to start work on two elevated metro routes - Dahisar to DN Nagar and Dahisar (E) to Andheri (E)—by January which will cost around Rs120 bn. It will be the first time the MMRDA initiates construction of a project on its own, a decision taken to speed it up. The MMRDA is planning to partially finance the Metro lines through a loan from the Asian Development Bank.

MMRDA has recently invited bids on the Dahisar (E) to Andheri (E) metro line for the following contract packages:

- Part design & construction of elevated viaduct & 5 elevated stations viz., Andheri Metro (East), Shankarwadi, JVLR JN., Mahanand & New Ashok Nagar (excluding architectural finishing & pre-engineered steel roof structure of stations) from chainage (-) 450 mt to 5799.53 mt of Andheri (East)-Dahisar (East) corridor of Mumbai Metro Rail Project of MMRDA. **The estimated cost of the project is Rs4.34 bn and is scheduled to be completed in 30 months.**
- Part design & construction of elevated viaduct & 6 elevated stations viz., Aarey, Dindoshi, Pathan Wadi, Pushpa Park, Bandongri & Mahindra & Mahindra (excluding architectural finishing & pre-engineered steel roof structure of stations) from chainage 5799.53 mt to 11667.47 mt to 16559 mt of Andheri (East)-Dahisar (East) corridor of Mumbai Metro Rail Project of MMRDA. **The estimated cost of the project is Rs4.31 bn and is scheduled to be completed in 30 months.**
- Part design & construction of elevated viaduct & 5 elevated stations viz., magathane, Devipada, National park, Ovaripada & dahisar Metro (East) (including overlapped portion of Line-2 but excluding architectural finishing & pre-engineered steel roof structure of stations) from chainage 11667.47 mt to 16559 mt of Andheri (East)-Dahisar (East) corridor of Mumbai Metro Rail Project of MMRDA. **The estimated cost of the project is Rs4.22 bn and is scheduled to be completed in 30 months.**

### Wadala- Kasarvadavali metro project

The project is in the planning stage as not all the approvals have been received. This project was cleared by the MMRDA in November 2014. The line will be 31 km long with 24 underground and 6 elevated stations. Fifty percent of the cost is expected to come from loans from international finance agencies, 20% from the central government and the remaining 30% from the state government and the MMRDA. The estimated cost is envisaged at Rs88 bn.

Recently the state government has suggested a change in the alignment of the proposed Wadala-Ghatkopar-Teen Hath Naka (Thane)-Kasarvadavali metro railway to cover the Eastern Express Highway. The Mumbai Transformation Support Unit (MTSU) says shifting the alignment of the 30.7 km long Wadala-Ghatkopar-Mulund-Teen Haat Naka (Thane)-Kasarvadavali partially underground corridor from the LBS road to the Eastern Freeway will help tap the potential ridership of the metro on the Eastern Express Highway and areas flanking it.

### Pune Metro

The Delhi Metro Rail Corporation (DMRC) is preparing the revised proposal for Pune Metro. The revised proposal would include realigning the Vanaz-Yerawada route via Mutha riverside from RTO office to Deccan instead of earlier proposed route via Jangli Maharaj Road.

The state government had earlier approved the detailed project report (DPR) for two proposed corridors, 16.59-km-long Chinchwad to Swargate and 14.925-km-long Vanaz to Ramwadi. The Union government had given its in-principle approval for the same last year. However, opposition from citizen groups and political parties to the elevated rail for Vanaz to Ramwadi route led to reconsideration of the proposal to make it underground.

A committee formed for the purpose had suggested that the realignment of the route be done as underground Metro rail was not feasible.

### Nagpur Metro

Nagpur Metro Rail Project will consist of 38.215 Km metro corridor, 36 stations and 2 Depots, North - South corridor (length 19.65 km, 17 stations) and East - West corridor (length 18.55 km, 19 stations). Till date 77% of the land has been acquired and estimated to cost Rs86.8 bn.

## CST-Panvel fast rail corridor

This involves the construction of 60 km of rail corridor connecting CST in South Mumbai and Panvel in Navi Mumbai (which will now run from Palm Beach Road in Navi Mumbai). A government model of engineering, procuring and construction (EPC) is being considered to execute the Rs140 bn CST-Panvel fast-track elevated corridor project instead of the earlier PPP model.

The Indian Railways and the state government continue to remain partners in developing the ambitious project, the sharing of 50:50 cost.

## Mumbai Trans Harbour Link

The project, worth Rs110 bn, envisages a 22.5 km long, 6 lane bridge from Sewri to Nhava-Sheva. This includes a 16.5 km sea link and 5.5 km viaduct inland. MMRDA is in the process of financially closing the project with JICA for funding 80% of the project. The project has already obtained the green nod from the Maharashtra Coastal Zone Management Authority (MCZMA) and the State Wildlife Board has also given green signal to the project. The centre recently approved the Coastal Regulatory Zone (CRZ) clearance and a forest clearance to speed up the execution of the project. The state expects to float tenders by March 2016.

## Coastal road project

Maharashtra government had proposed to connect Nariman Point to Kandivali via a 35.6 km long coastal highway via reclaimed land, bridges and tunnels, on the western coast of Mumbai. The road, to be built at an estimated cost of Rs120 bn, is to come up in the engineering procurement and construction mode. The ministry of environment & forests has cleared coastal road project in Maharashtra. Environmentalists are planning to approach courts and National Green Tribunal over perceived threats of flooding due to mangroves destruction (18 km of land to be reclaimed from sea and mangroves).

## Railway projects

### Maha govt, Railways sign agreements to boost projects

In a bid to ensure speedy implementation of railway projects in Maharashtra, Union Ministry of Railways and Maharashtra government signed several agreements including a Memorandum of Understanding for setting up a Special Purpose Vehicle (SPV).

The agreements including Concession Agreement for Jaigad Port Connectivity, launching of Mumbai Urban Transport Projects (MUTP)-3 and Implementation of e-Office in Mumbai Railway Vikas Corporation (MRVC) .

Both the state and Centre have launched Rs114.4 bn projects under MUTP-3. Few of the projects that include in the MUTP-3 are quadrupling of Virar-Dahanu Road (Rs35.55 bn), New Suburban Railway Corridor between Panvel-Karjat (Rs20.24 bn), Procurement of Rolling Stock (Rs28.99 bn), Redevelopment of 21 stations of Central Railway and and Western Railway (Rs19.5 bn) and Trespass Control on Central and Western Railway at 22 Mid-sections (Rs5.2 bn).

Apart from this **Konkan Railway Corporation** plans to develop a Rs31.96 bn Chiplun-Karad rail connectivity project in Maharashtra and on Katra-Dharam section under Udhampur-Srinagar-Baramulla Rail Link Project (USBRL) in Jammu & Kashmir. The contract value is Rs11 bn (tender is already floated).

## Rural roads

Plans to spend Rs138.3 bn in 5 years on rural road scheme (Mukhyamantri Gram Sadak Yojna (CMGSY). Under this, 30,000 km of roads will be repaired and 730 km of new roads will be constructed.

## Mumbai Nagpur highway

The 800 km highway connecting Nagpur with Mumbai is supposed to be completed by 2019 and the project cost is estimated to be Rs300 bn. It will pass through Ghoti, Aurangabad and Amravati and will cut the travel time between Mumbai and Nagpur to ten hours from the existing 15 hours. It's under planning stage and recently Ernst and Young has been appointed as the consultant

## Plan to add lanes on Mumbai-Pune Expressway

The augmentation plan of Mumbai-Pune Expressway by constructing two new bridges and two new tunnels has got an impetus as the state government will float the tenders for project soon. There is also a plan of widening the Expressway and National Highway 4 (Old Mumbai-Pune highway). The estimated cost of the project is around Rs70 bn. This would be implemented on a Built-Operate-Transfer basis and expected to be ready in just over four years.

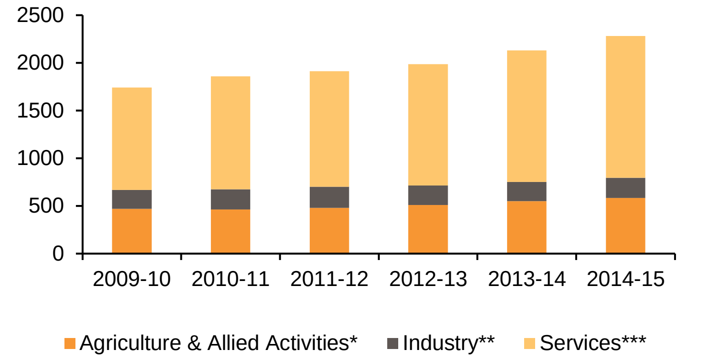
As per the proposed plans, a cable-stayed bridge of 810 metres would begin from Khalapur toll post followed by a tunnel of 1620 metres. Once again, there would be a cable-stayed bridge of 865 metres and finally a 7765 metre-long tunnel which will culminate next to the Sinhgad Institute.

## Navi Mumbai airport

According to government estimates, the delayed Navi Mumbai International Airport will cost Rs140 bn and is likely to be completed by 2019. The project faces land acquisition issues. Four companies have shown interest in the project including GMR, GVK, Zurich Airport with Hiranandani Developers and MIA Infrastructure with Tata Realty. The project is being developed on 1,160 hectares of land and is expected to have a capacity of 60 mn planes per annum by 2030.

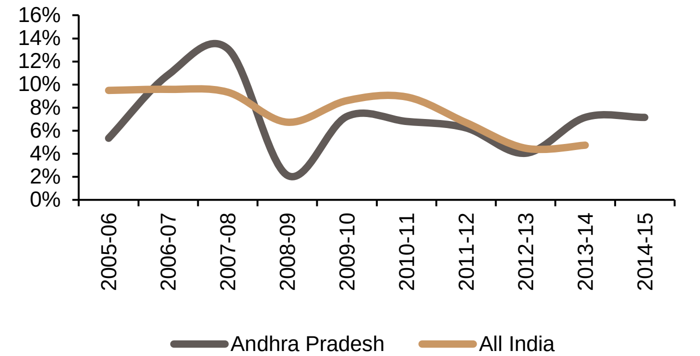
# Andhra Pradesh: Plans for new capital city to drive capex

**Exhibit 209: Net State GDP components (in Rs bn)**



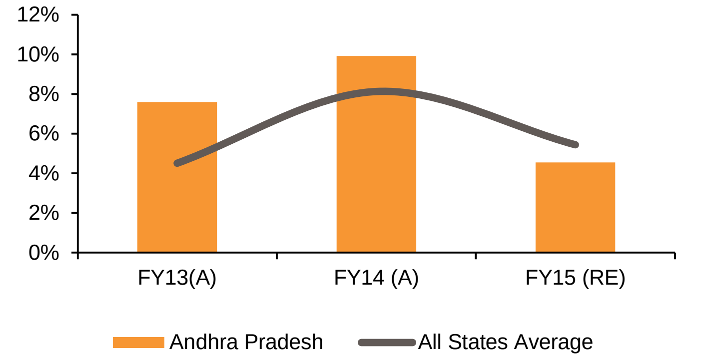

*Source: GoI, Emkay Research*

**Exhibit 210: State GDP growth (%) vs National GDP growth (%)**



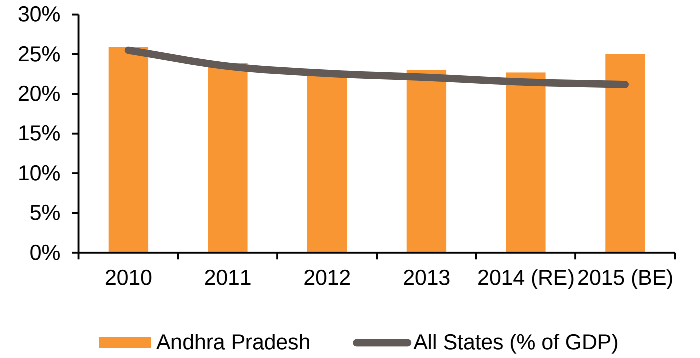

*Source: GoI, Emkay Research*

**Exhibit 211: State fiscal deficit (as % of state GDP)**



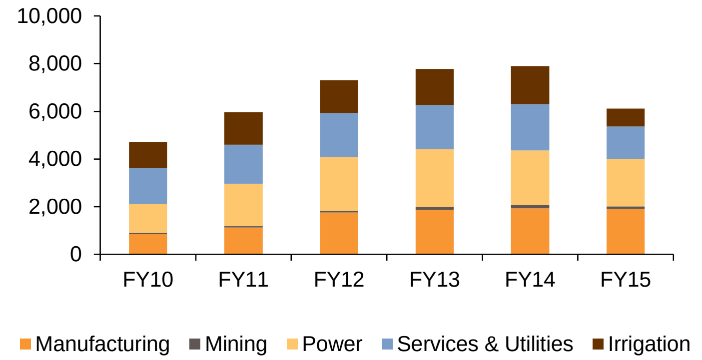

*Source: GoI, Emkay Research*

**Exhibit 212: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 213: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

Andhra Pradesh is planning to build its new capital Amaravati as well as 3 smart cities (Vishakhapatnam, Tirupati, and Kakinada). The Andhra Pradesh government, through the AP Capital Region Development Authority, acquired 30000 acres of land and requires another 3000 acres which has still not been procured.

## Transportation

In the first phase, road development will be taken up with a special focus on connecting all important towns to the new capital city of Amaravati and developing alternative roads to important destinations like Hyderabad. Similarly, connectivity is to be improved to the proposed industrial hubs and corridors. Some of the roads identified for development include the

- Guntur-Hyderabad stretch via Sattenapalli-Amaravati-Nalgonda;
- Guntur-Bapatla-Chirala up to National Highway 216;
- Guntur-Tenali-Repalle road up to Nizampatnam port;
- Kurnool-Nandyala-Timmanayunipeta road;
- Koilakuntal-Allagadda; Adoni-Gadwala;
- Kurnool-Atmakur road up to Guntur; Chittoor-Tiruttani;
- Chittoor-Satyavedu; Molakala Cheruvu-Tamballapalli

It is estimated that the development of these roads is likely to cost Rs60 bn. Out of the total road length of 40000 km in Andhra Pradesh, several corridors with a total length of 3500 km have been identified in the 13 districts for the purpose of private participation.

### 4 lane road connecting Donakonda to NH 5 (Project cost Rs8.5 bn)

As part of developing Donakonda in Prakasam district as an industrial hub, the state government had sanctioned Rs8.5 bn for four-lane road connectivity from Donakonda to national highway 5.

Proposals for expansion of a double lane road connecting Ongole, Santhanuthalapadu, Podili and Darsi to 4-lane one with a 120 feet width has been submitted to the government.

### Largest ring road

The Andhra Pradesh government is planning to develop largest ring road of 180 km at a cost of $5 bn.

### AP okays Rs4.75 bn for expansion of roads and repair

Andhra Pradesh government has sanctioned a sum of Rs4.75 bn for expansion and repair of 99 main roads across 13 districts in the state.

## Corridors

The Vijayawada, Guntur, Tenali, Mangalagiri Urban Development Authority (VGTMUDA) has expressed the need to develop a corridor from Pamarru to Vijayawada, covering a distance of 40 km; another corridor between Vijayawada and Edlapadu via Guntur covering a distance of 68 km; and a 100 km circular corridor connecting Vijayawada-Guntur-Tenali.

## Metro Projects

### Vijayawada Metro (Project cost Rs70 bn, 26 km)

According to the Detailed Project Report, the first phase of Vijayawada Metro Rail project is estimated to cost Rs68.23 bn and the total length covered by the two corridors will be 26.03 km and the cost per km works out to Rs2.09 bn.

As much as 31.039 hectares of land would be required for the project - 29.444 hectares of private land and 1.595 hectares of government land. It stated that 11.34 hectares would be required for construction of Metro Rail Depot.

### Vizag metro rail project (Project cost Rs135 bn, 30 km)

The Delhi Metro Rail Corporation (DMRC) will execute the Visakhapatnam metro rail project at an estimated cost of Rs135 bn. The proposed funding pattern under SPV model is as follows according to the DPR: equity by central government Rs15.04 bn (14.17%), state government Rs15.04 bn (14.17%), JICA loan (1.4%) and another 8.5% of funds to be raised in the form of market borrowings (tax free bonds on roll over basis).

## BRTS

BRTS has been planned in two cities, Vishakhapatnam and Vijaywada. BRTS in Vishakhapatnam is planned to be 42 km and is estimated to cost Rs4.5 bn. While a 15.5 km route was planned in Vijaywada, only a 3.5 km route could be completed.

## Vizag-Chennai corridor: ADB provides Funding

Two important industrial corridors will be passing through Andhra Pradesh, one from Visakhapatnam to Chennai covering the nine Coastal districts and the other from Bangalore to Chennai touching Hindupur, Krishnapatnam and Chittoor, triggering growth in the State.

The Asian Development Bank had been appointed the lead agency for the Vizag-Chennai corridor and the detailed proposals  This corridor, likely to be extended to Tuticorin on one side and Kolkata on the other later, is the most important one for AP as it covers all the ports and Chennai city.

In a bid to help Andhra Pradesh's industrial development plans, Asian Development Bank (ADB) has said it will assist the government to set up industrial zones in the state within six months with an estimated investment of $2.5 bn. The project includes developing five industrial zones as part of the Visakhapatnam-Chennai Industrial Corridor. These zones would come up in Visakhapatnam, Kakinada, Machilipatnam, Anantapur and Erpedu-Srikalahasti.

ADB has already provided $500 mn for the development of infrastructure along the 900 km long coastline for Gangavaram-Kankipadu, Yerpadu-Srikalahastri, Kakinada and Vizag nodes and the Andhra Pradesh government is in talks with Asian Development Bank to get another $200 mn for the Visakhaptnam-Chennai industrial corridor in the form of a retractive loan.

## Godavari-Krishna river link to be taken up with Rs13 bn

Andhra Pradesh Government has approved diversion of 80 tmc of water from Godavari river to Krishna river as a part of the mega Polavaram multipurpose project entailing an investment of Rs13 bn.

## Water grid (Project cost Rs300 bn)

The Andhra Pradesh government is planning to form a mega water grid with a cost of Rs300 bn to ensure drinking and irrigation water supply in rural areas and for industrial needs in the state.

## Airports

The Government has planned six Greenfield airports at Bhogapuram, Dagadarthi, Orvakallu, Kuppam, Tadepallgudem and Ongole with Bhogapuram in Vizianagram proposed to be an international airport.

## Port development

### Andhra Pradesh Govt to develop 14 Minor Ports under PPP mode

Andhra Pradesh Government has decided to develop 14 minor ports in addition to the existing non-major ones, according to the Budget for 2015-16. The Government proposes to develop Machilipatnam port under PPP mode, but experts say that only four ports will be viable, going by the volume of traffic being handled by all the ports in the country and in the wake of capacity augmentation work going on in the state.

The 14 notified non-major ports are Bhavanapadu, Meghavaram, Kalingapatnam, Bheemunipatnam, Gangavaram, Nakkapalli, Kakinada SEZ, Kakinada, S.Yanam, Narsapur, Machilipatnam, Nizampatnam, Vadarevu and Krishnapatnam.

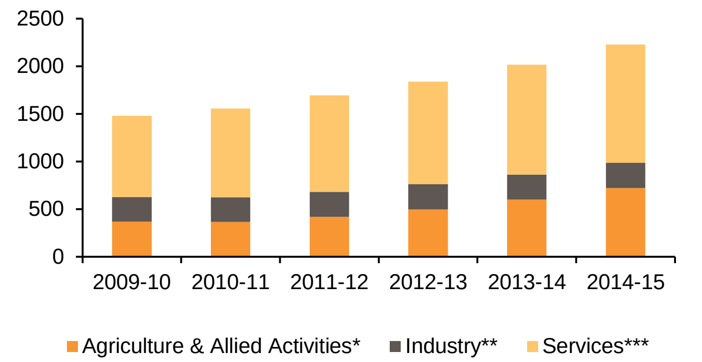
## Andhra Pradesh seeks to ensure basic infrastructure in 31 AMRUT cities at a cost of Rs287.56 bn

Seeking to ensure basic infrastructure relating to water supply, sewerage and septage management, drainage, urban transport and green spaces and parks during the next five years under Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Government of Andhra Pradesh has proposed a comprehensive AMRUT Action Plan for 31 Mission cities and towns in the state at an estimated cost of Rs287.56 bn.

- The State Government projected a cost of Rs61.17 bn for ensuring universal coverage of urban households in Mission cities in respect of water supply and Rs108.88 bn for providing sewerage networks and septage management over the next five years.
- To provide adequate drainage facilities in the Mission cities in the state, the State Government has proposed construction of outfall drains, major and minor drains besides rejuvenation of existing drains covering a total length of 6753 km at an estimated cost of Rs68.15 bn.
- Regarding improving urban transport, the State Government has proposed development of 336.50 kms of pathways at a cost of Rs1.78 bn, 232 km of cycle tracks at a cost of Rs115 mn, 215 kms of BRTS (Bus Rapid Transport Systems) corridors at a cost of Rs7.02 bn and procurement of 710 buses at a cost of Rs3.76 bn. Total investments proposed in urban transport sector over the next five years is Rs19.99 bn.
- Development of green spaces and parks will be undertaken at a cost of Rs1.2 bn under Atal Mission.
- Capacity building of urban local bodies will be taken up at a cost of Rs1.2 bn. Administrative and Other Expenses during the Mission period till 2019 is estimated to be Rs26.14 bn.

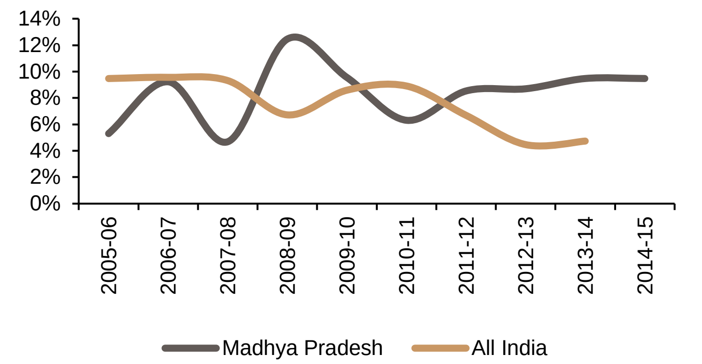
# Madhya Pradesh: Focus on roads, metros and industrial corridor

**Exhibit 214: Net State GDP components (in Rs bn)**



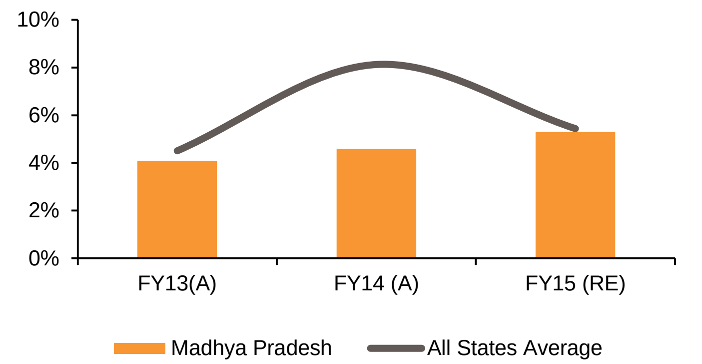

*Source: GoI, Emkay Research*

**Exhibit 215: State GDP growth (%) vs National GDP growth (%)**



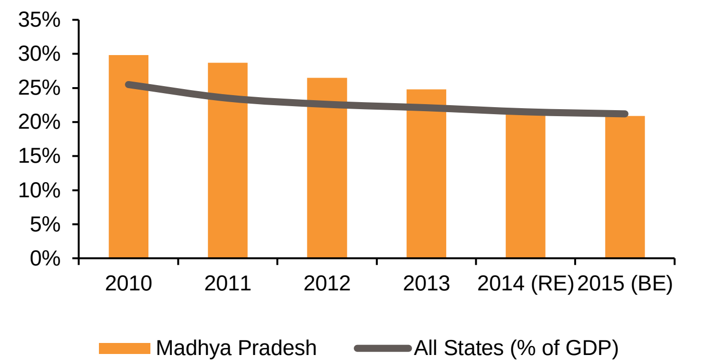

*Source: GoI, Emkay Research*

**Exhibit 216: State fiscal deficit (as % of state GDP)**



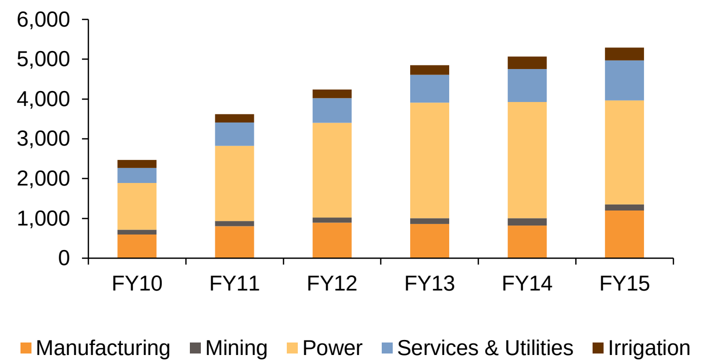

*Source: GoI, Emkay Research*

**Exhibit 217: Outstanding liabilities (as % of state GDP)**




*Source: GoI, Emkay Research*

**Exhibit 218: Project Investment in Major Sectors (Rs bn)**




*Source: ProjectsToday, Emkay Research*

## Transportation

### Bhopal and Indore metro rail project

**Light metro rail** systems have been planned for Indore and Bhopal with detailed project reports. In addition, light metro rail systems at Jabalpur and Gwalior are also in the planning stage and feasibility reports for these are being prepared. The project cost estimated at Rs180 bn. JICA has agreed to fund to the tune of Rs162 bn. Of the total proposed investment the financial agency has agreed to extend a loan of Rs120 bn for the Indore-Bhopal metro.

The government is also planning Bus depots, Terminal and Bus Stops/Shelters on PPP Basis estimated at Rs1 bn and ring roads and other related infrastructure assets estimated at Rs10 bn.

### ADB approves $350 mn for upgradation of roads in MP

Asian Development Bank (ADB) will provide $350 mn loan assistance for upgradation of district roads in Madhya Pradesh. The project will upgrade 1600 km of major district roads in the State through lane widening, surface improvements, and strengthening of culverts and bridges. ADB′s loan will cover 70% of the total project cost of $500 mn, with the State Government of Madhya Pradesh providing the balance of $150 mn.

## Investment corridors

To enhance employment opportunities and industrial development, the State Government is developing state investment corridors.

## Housing

The government is planning 5,00,000 dwelling units planned for development in the urban areas for the next 5 years, out of which 2,50,000 dwelling units are planned to be developed through private sector participation. It is estimated to cost Rs400 bn.

## Indore Smart City Project awaits Centre’s approval

The Madhya Pradesh Government is awaiting final clearance from the Central government to develop Indore smart city. The city will be developed on a 300 acre non-processing area of Indore special economic zone (SEZ). The state government has applied to the Centre for de-notification of the non-processing area.

The identified land is part of the 681 acres of land allocated to the Indore SEZ. The feasibility study has been done and approved by the state government. Once the Central government de-notifies the land, tenders will be floated for selecting a developer.

## Water projects

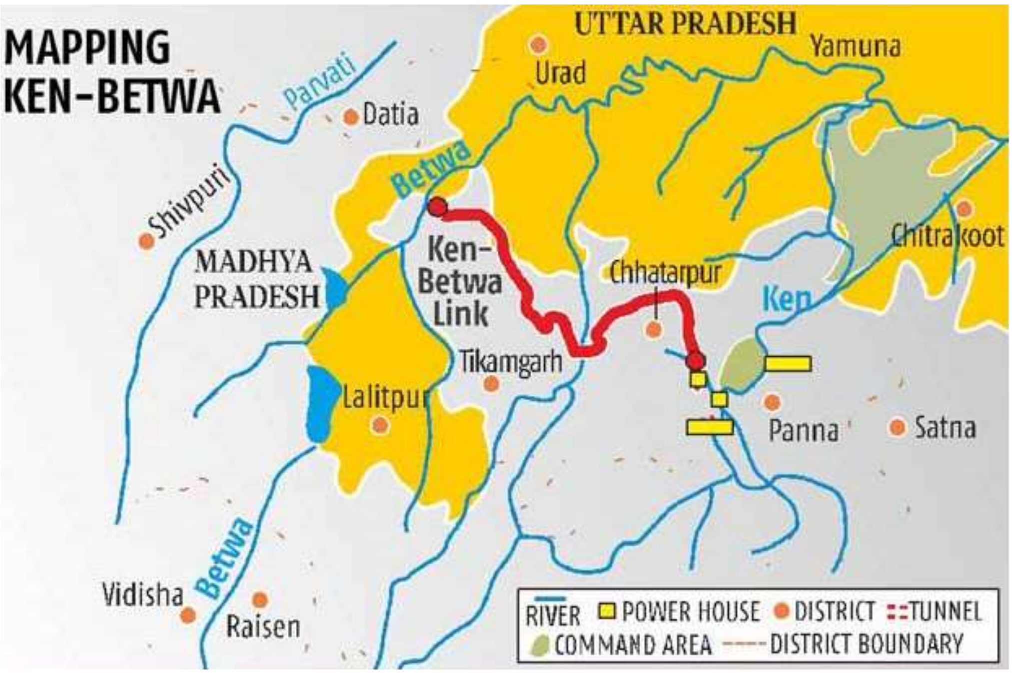
### Ken-Betwa link

The 30-link project will start with the linking of Ken and Betwa rivers to provide irrigation facility to water-deficient Raisen and Vidisha districts of central Madhya Pradesh. The two rivers, that constitute Phase-I and II of the project, flow through MP and Uttar Pradesh.

The estimated cost of the project is more than Rs94 bn. The Ken-Betwa link will facilitate the annual irrigation of 4.46 lakh ha of land. The formalities are completed and the project is expected to start from March 2016.

A group of activists have raised a banner of protest against the environment impact assessment (EIA) carried out to implement the first river interlinking project connecting Ken and Betwa rivers in Madhya Pradesh. The National Democratic Alliance government has repeatedly said work on the Rs100 bn project will start by December. Now the activists’ group has written to the Union environment ministry’s Expert Appraisal Committee (EAC) demanding a fresh assessment report citing what it called inadequate assessment and a series of violations.

**Exhibit 219: Ken-Betwa Link**




*Source: GoMP, Emkay Research*

### Inter-Linking of River Taken up on a High Priority

The Detailed Project Reports (DPR) of Ken – Betwa Link Project, Damanganga – Pinjal Link Project and Par-Tapi-Narmada link project have been completed. The various clearances in respect of Ken-Betwa link project, Phase-I are in the advanced stage of processing.

- The Phase-I of the project will irrigate 6.35 lakh hectares of land and provide 49 of MCM of drinking water supply at estimated cost of Rs93.93 bn to Bundelkhand region of Madhya Pradesh and Uttar Pradesh.
- The DPR of Damanganga – Pinjal link was completed in March, 2014 and submitted to Governments of Maharashtra and Gujarat. The Municipal Corporation of Greater Mumbai (MCGM) which has been made the nodal organization by Govt. of Maharashtra has submitted the Detailed Project Report of Damanganga – Pinjal link project to Central Water Commission in January, 2015 for appraisal. This project will take care of the drinking water needs of the city of Mumbai.
- The Detailed Project Report of Par-Tapi-Narmada link has been submitted to the Governments of Gujarat and Maharashtra in August, 2015. The issue of water sharing between Gujarat and Maharashtra in respect of Damanganga-Pinjal and Par-Tapi-Narmada link projects is being taken up on a priority basis.

In addition to NPP links, National Water Development Agency (NWDA) has taken up the proposals of Intra-State links in a vigorous manner. Prefeasibility Reports of 35 Intra-State links have been prepared and submitted to the concerned State Governments. Further, DPRs of two Intra-State link projects namely (i) Burhi Gandak-Noon-Baya-Ganga and (ii) Kosi-Mechi have already been prepared and submitted to Government of Bihar. These are being examined in CWC. Four other DPRs of Intra-State links of various States are under preparation.

**Exhibit 220: Upcoming investment opportunities in Madhya Pradesh**

| | Projects | Estimated Value (Rs mn) |
|---|---|---|
| **Transportation** | Bhopal and Indore Metro Rail Project | budget outlay – 180000 |
| | Operation of Public Transport Modes | 15000 |
| | Freight Terminal in District Headquarters on PPP Basis | 2400 |
| | Bus Depots, Terminal and Bus Stops/Shelters on PPP Basis | 10000 |
| | Multi-Level Parking in Major Cities on PPP Basis | 1000 |
| | Pedestrian and Non-Motor Transport Infrastructure like Sky Walks, Foot Over Bridges (FOBs) etc. | 7500 |
| | Ring Roads and Other Related Infrastructure on PPP Basis | 10000 |
| **Water Supply** | Water Supply Projects Sanctioned in 95 Towns | 2046 |
| | Water Supply Projects Proposed in 142 Towns | 21000 |
| | Mid-term Service Contracts for Operations and Maintenance | – |
| **Sanitation & SWM** | Waste Water Collection/Treatment in 11 Religious/ Tourist Towns | 260 |
| | Integrated Municipal Solid Waste Management (MSWM) Project in 3 Clusters i.e. Dewas, Sagar, Katni | 1550 |
| | 22 Regional MSW Cluster Development | 12000 |
| **Housing** | 5,00,000 dwelling units planned for development in the urban areas for the next 5 years, out of which 2,50,000 dwelling units are planned to be developed through private sector participation | 400000 |
| | Integrated Township by Bhopal Development Authority | – |
| **Economic Development** | Super Corridor Project in Indore | 8170 |
| | Urban Densification Project in Indore | 9340 |

*Source: GoI, Emkay Research*

# Ports sector

## Container volume growth moderates on weak international trade

Container volume on the western coast is likely to grow 4% in FY16E largely driven by weak international trade versus growth of 8.6%/11.1% in FY15/FY14. The container terminals on the western coast handled around 8.61 mn TEUs in FY15 which we believe will increase to 8.98 mn TEUs driven by Adani Ports. The container market on the eastern coast is likely to remain flat in FY16E versus 9.4% growth in FY15. We believe that growth on the eastern coast in FY15 was also driven by diversion of traffic from the Andhra region, now getting handled at eastern coast, which earlier used to get handled at JNPT. We have also witnessed direct calling by mother vessels on the eastern coast which boosted the volume growth.

## We build in container volume CAGR of 6.5% over FY16-18E

In our container demand-supply model, we have factored in a volume CAGR of 6.5% (incremental volume of 1.21 mn TEUs) on the west coast over FY16-18E against a CAGR of 6% over FY14-16. We expect container traffic on the west coast to be largely driven by: a) improvement in the overall EXIM cycle, and b) large shipping lines MSC, Maersk, CMA-CGM developing Indian ports as a trading hub.

We expect Adani Port and Gujarat Pipavav to be the biggest beneficiaries of the 1.21 mn TEUs incremental container volume estimates. Good hinterland connectivity, better traffic and capacity constraints at major ports are likely to ensure strong growth momentum for Adani Ports and Gujarat Pipavav. Out of the estimated 1.21 mn TEUs incremental container volume in the west coast, we expect the following break up for the ports

- Of this 62%/0.75 mn TEUs of the incremental volume to be driven by commissioning of CT-IV terminal and Hazira Container terminal.
- 18%/0.22 mn TEUs of the incremental volume will be garnered by Gujarat Pipavav.
- 19%/0.23 mn TEUs of the incremental volume will be garnered by JNPT.

**Exhibit 221: West coast container volumes**

| Container Volumes (mteu) | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|
| JNPCT (Owned by JNPT trust) | 0.80 | 0.78 | 0.88 | 1.09 | 1.21 | 1.31 | 1.29 | 1.40 | 1.41 | 1.41 |
| *% YoY growth* | | *(3.0)* | *12.9* | *24.3* | *10.9* | *13.0* | *0.5* | *8.1* | *0.5* | *0.5* |
| NSICT (Private owner) | 1.51 | 1.53 | 1.54 | 1.48 | 1.04 | 0.97 | 1.16 | 1.20 | 1.23 | 1.25 |
| *% YoY growth* | | *1.5* | *0.3* | *(4.0)* | *(29.3)* | *(13.0)* | *24.0* | *4.2* | *2.0* | *2.0* |
| GTI (Private owner) | 1.73 | 1.75 | 1.86 | 1.92 | 2.01 | 1.88 | 2.01 | 1.84 | 1.91 | 2.00 |
| *% YoY growth* | | *1.6* | *5.9* | *3.2* | *4.8* | *(8.0)* | *6.5* | *(8.5)* | *4.0* | *4.8* |
| **Total JNPT Volumes** | **4.04** | **4.06** | **4.27** | **4.48** | **4.26** | **4.16** | **4.46** | **4.44** | **4.55** | **4.67** |
| *% YoY growth* | | *0.7* | *5.1* | *4.9* | *(4.9)* | *(2.3)* | *7.2* | *(0.4)* | *2.4* | *2.7* |
| Mundra Port | 0.50 | 0.76 | 1.01 | 1.26 | 1.74 | 1.71 | 1.80 | 1.88 | 1.97 | 2.07 |
| *% YoY growth* | | *52.0* | *32.9* | *24.4* | *38.5* | *(1.5)* | *5.0* | *4.3* | *5.0* | *5.0* |
| Mundra CT-III (JV with MSC) | | | | | | 0.68 | 0.95 | 1.04 | 1.10 | 1.15 |
| *% YoY growth* | | | | | | | *40.0* | *10.4* | *5.0* | *5.0* |
| Mundra CT-IV (JV with CMA – CGM) | | | | | | | | | 0.20 | 0.40 |
| *% YoY growth* | | | | | | | | | | *100.0* |
| Gujarat Pipavav | | | 0.50 | 0.64 | 0.57 | 0.69 | 0.79 | 0.72 | 0.82 | 0.94 |
| *% YoY growth* | | | | *28.5* | *(11.4)* | *21.3* | *15.7* | *(9.3)* | *14.0* | *14.0* |
| Hazira | | | | | | 0.09 | 0.15 | 0.30 | 0.33 | 0.35 |
| *% YoY growth* | | | | | | | *77.4* | *94.3* | *10.0* | *6.1* |
| Others (Kandla, Cochin, Murmagao, New Mangalore) | 0.67 | 0.66 | 0.65 | 0.75 | 0.57 | 0.60 | 0.45 | 0.59 | 0.60 | 0.61 |
| *% YoY growth* | | *(1.5)* | *(2.1)* | *16.2* | *(24.1)* | *5.2* | *(24.5)* | *31.1* | *1.0* | *1.0* |
| **Total** | **5.21** | **5.48** | **6.42** | **7.13** | **7.14** | **7.92** | **8.61** | **8.98** | **9.57** | **10.18** |
| *% YoY growth* | | *5.3* | *17.2* | *11.0* | *0.1* | *11.1* | *8.6* | *4.3* | *6.5* | *6.5* |

*Source: IPA, Emkay Research*

**Exhibit 222: West coast container capacities**

| Container Capacities (mteu) | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|
| JNPCT (Owned by JNPT trust) | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |
| NSICT (Private owner) | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| NSICT New terminal (expansion) | | | | | | | | 0.80 | 0.80 | 0.80 |
| GTI (Private owner) | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 |
| **Total JNPT** | **4.10** | **4.10** | **4.10** | **4.10** | **4.10** | **4.10** | **4.10** | **4.90** | **4.90** | **4.90** |
| Mundra Port | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| Mundra CT-III (JV with MSC) | | | | | | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| Mundra CT-IV (JV with CMA – CGM) | | | | | | | | | 1.40 | 1.40 |
| Gujarat Pipavav | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hazira | | | | | | 0.75 | 0.75 | 1.50 | 1.50 | 1.50 |
| Others (Kandla, Cochin, Murmagao, New Mangalore) | 0.52 | 0.52 | 0.52 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| **Total** | **7.97** | **7.97** | **7.97** | **8.03** | **8.03** | **10.28** | **10.28** | **11.83** | **13.23** | **13.23** |

*Source: IPA, Emkay Research*

**Exhibit 223: West coast container capacity utilization**

| Capacity Utlization (%) | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|
| JNPCT (Owned by JNPT trust) | 72.7 | 70.6 | 79.7 | 99.0 | 109.8 | 119.3 | 117.7 | 127.2 | 127.9 | 128.5 |
| NSICT (Private owner) | 125.8 | 127.7 | 128.1 | 123.0 | 87.0 | 80.8 | 96.3 | 60.2 | 61.4 | 62.6 |
| GTI (Private owner) | 95.8 | 97.4 | 103.1 | 106.4 | 111.5 | 104.4 | 111.7 | 102.2 | 106.3 | 111.4 |
| **Total JNPT** | **98.4** | **99.1** | **104.1** | **109.3** | **103.9** | **101.5** | **108.8** | **90.7** | **92.8** | **95.3** |
| Mundra Port | 20.0 | 30.4 | 40.4 | 50.2 | 69.6 | 68.6 | 72.0 | 75.1 | 78.9 | 82.8 |
| Mundra CT-III (JV with MSC) | | | | | | 45.0 | 63.0 | 69.6 | 73.0 | 76.7 |
| Mundra CT-IV (JV with CMA – CGM) | | | | | | | | | 14.3 | 28.6 |
| Gujarat Pipavav | | | 58.5 | 75.2 | 66.6 | 80.8 | 93.5 | 84.7 | 96.6 | 110.1 |
| Hazira | | | | | | 11.6 | 20.6 | 102.4 | 103.4 | 104.5 |
| Others (Kandla, Cochin, Murmagao, New Mangalore) | 128.8 | 126.9 | 124.3 | 129.5 | 98.4 | 103.4 | 78.1 | 20.0 | 22.0 | 23.3 |
| **Total** | **65.3** | **68.8** | **80.6** | **88.8** | **88.9** | **77.1** | **83.7** | **75.9** | **72.3** | **77.0** |

*Source: IPA, Emkay Research*

**Exhibit 224: West coast container market share**

| Market share (%) | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|
| JNPCT (Owned by JNPT trust) | 19.8 | 19.1 | 20.5 | 24.3 | 16.9 | 16.6 | 15.0 | 15.6 | 14.7 | 13.9 |
| NSICT (Private owner) | 37.4 | 37.7 | 36.0 | 32.9 | 14.6 | 12.2 | 13.4 | 13.4 | 12.8 | 12.3 |
| GTI (Private owner) | 42.8 | 43.2 | 43.5 | 42.7 | 28.1 | 23.7 | 23.4 | 20.5 | 20.0 | 19.7 |
| **Total JNPT** | **77.5** | **74.1** | **66.5** | **62.9** | **59.7** | **52.5** | **51.8** | **49.5** | **47.5** | **45.9** |
| Mundra Port | 9.6 | 13.9 | 15.7 | 17.6 | 24.4 | 21.6 | 20.9 | 20.9 | 20.6 | 20.3 |
| Mundra CT-III (JV with MSC) | | | | | | 8.5 | 11.0 | 11.6 | 11.5 | 11.3 |
| Mundra CT-IV (JV with CMA – CGM) | | | | | | | | | 2.1 | 3.9 |
| Gujarat Pipavav | 0.0 | 0.0 | 7.7 | 9.0 | 7.9 | 8.7 | 9.2 | 8.0 | 8.6 | 9.2 |
| Hazira | | | | | | 1.1 | 1.8 | 3.3 | 3.4 | 3.4 |
| Others (Kandla, Cochin, Murmagao, New Mangalore) | 12.9 | 12.0 | 10.1 | 10.5 | 8.0 | 7.6 | 5.3 | 6.6 | 6.3 | 6.0 |

*Source: IPA, Emkay Research*

**Exhibit 225: East coast container volumes**

| Container Volumes (mteu) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kolkata | 0.24 | 0.30 | 0.30 | 0.38 | 0.38 | 0.41 | 0.46 | 0.45 | 0.53 | 0.55 | 0.56 | 0.57 |
| *% YoY growth* | | *24.3* | *1.7* | *25.2* | *(0.3)* | *9.3* | *12.4* | *(3.0)* | *17.6* | *5.0* | *1.0* | *1.0* |
| Haldia | 0.11 | 0.13 | 0.13 | 0.12 | 0.15 | 0.14 | 0.14 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 |
| *% YoY growth* | | *16.4* | *(0.8)* | *(2.4)* | *20.2* | *(6.0)* | *(2.1)* | *(16.8)* | *(10.5)* | - | - | - |
| Vizag | 0.06 | 0.07 | 0.09 | 0.10 | 0.14 | 0.23 | 0.25 | 0.26 | 0.25 | 0.27 | 0.29 | 0.30 |
| *% YoY growth* | | *26.8* | *26.8* | *7.8* | *48.5* | *62.5* | *6.0* | *6.0* | *(5.7)* | *10.0* | *5.0* | *5.0* |
| Chennai | 0.89 | 1.13 | 1.14 | 1.22 | 1.52 | 1.56 | 1.54 | 1.47 | 1.55 | 1.40 | 1.45 | 1.51 |
| *% YoY growth* | | *27.3* | *1.3* | *6.4* | *25.2* | *2.3* | *(1.2)* | *(4.6)* | *5.7* | *(10.0)* | *4.0* | *4.0* |
| Tuticorin | 0.38 | 0.45 | 0.44 | 0.44 | 0.47 | 0.48 | 0.48 | 0.51 | 0.56 | 0.61 | 0.64 | 0.67 |
| *% YoY growth* | | *19.4* | *(2.4)* | *0.2* | *6.1* | *2.1* | *0.4* | *6.1* | *10.2* | *9.0* | *5.0* | *5.0* |
| Krishnapatnam | | | | | | | | 0.06 | 0.09 | 0.09 | 0.10 | 0.10 |
| *% YoY growth* | | | | | | | | | *56.3* | *2.0* | *2.0* | *2.0* |
| Kattupalli (L&T) | | | | | | | | | 0.05 | 0.11 | 0.11 | 0.12 |
| *% YoY growth* | | | | | | | | | | *2.0* | *5.0* | *5.0* |
| Ennore | | | | | | | | | | | 0.10 | 0.20 |
| *% YoY growth* | | | | | | | | | | | | *100.0* |
| **Total** | **1.67** | **2.07** | **2.10** | **2.26** | **2.66** | **2.82** | **2.87** | **2.86** | **3.13** | **3.13** | **3.35** | **3.56** |
| *YoY Growth %* | | *24.3* | *1.3* | *7.3* | *18.0* | *6.1* | *1.6* | *(0.2)* | *9.4* | *0.2* | *6.8* | *6.5* |

*Source: IPA, Emkay Research*

**Exhibit 226: East coast container capacities**

| Container Capacities (mteu) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kolkata | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 |
| Haldia | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| Vizag | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| Chennai | 1.50 | 1.50 | 1.50 | 1.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Tuticorin | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| Krishnapatnam | | | | | | | | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| Kattupalli (L&T) | | | | | | | | | | 1.20 | 1.20 | 1.20 |
| Ennore | | | | | | | | | | | 0.80 | 0.80 |
| **Total** | **2.92** | **2.92** | **2.92** | **2.92** | **4.92** | **4.92** | **4.92** | **6.12** | **6.12** | **7.32** | **8.12** | **8.12** |

*Source: IPA, Emkay Research*

**Exhibit 227: East coast container capacity utilization**

| Capacity Utlization (%) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kolkata | 52.2 | 64.8 | 65.9 | 82.5 | 82.3 | 90.0 | 101.1 | 98.0 | 115.3 | 121.0 | 122.3 | 123.5 |
| Haldia | 33.0 | 38.4 | 38.1 | 37.2 | 44.7 | 42.0 | 41.1 | 34.2 | 30.6 | 30.6 | 30.6 | 30.6 |
| Vizag | 26.9 | 34.1 | 43.3 | 46.6 | 69.2 | 112.5 | 119.2 | 126.4 | 119.2 | 131.2 | 137.7 | 144.6 |
| Chennai | 59.1 | 75.2 | 76.2 | 81.1 | 43.5 | 44.5 | 44.0 | 41.9 | 44.3 | 39.9 | 41.5 | 43.2 |
| Tuticorin | 90.4 | 107.9 | 105.3 | 105.5 | 112.0 | 114.4 | 114.9 | 121.8 | 134.3 | 146.4 | 153.7 | 161.4 |
| Krishnapatnam | | | | | | | | 4.9 | 7.6 | 7.8 | 7.9 | 8.1 |
| Kattupalli (L&T) | | | | | | | | | | 8.8 | 9.2 | 9.6 |
| Ennore | | | | | | | | | | | 12.5 | 25.0 |
| **Total** | **57.2** | **71.1** | **72.1** | **77.3** | **54.1** | **57.4** | **58.3** | **46.8** | **51.1** | **42.8** | **41.2** | **43.9** |

*Source: IPA, Emkay Research*

## Policy for Determination of Tariff for Major Port Trusts, 2015

In January 2015 the government issued policy guidelines to set tariff rates for services provided by the government-owned port trusts, which had thus far been governed by the 2005 guidelines. Firstly, the TAMP has issued the policy guidelines 'Policy for determination of Tariff at Major Ports, 2015' allowing market linked tariff for Major Port Trusts.

The guidelines also provide for the major ports to adhere to performance standards committed by them in order to get the indexation benefits, wherein the rates would be automatically fully indexed to WPI every year. If a particular port trust does not fulfil the performance standard, no indexation would be allowed during the next year.

### Key Contours of Tariff for Major Port Trusts, 2015

- Each Major Port Trust will assess the Annual Revenue Requirement (ARR) which is the average of the sum of Actual Expenditure as per the final Audited Accounts of the three years plus Return at 16% on Capital Employed including capital work-in-progress versus earlier approach of cost plus regime where tariff for all the components are fixed by TAMP.
- The ARR assessed will be indexed by 100% of the Wholesale Price Index (WPI) as communicated by TAMP to the Major Port Trusts versus previous regime of no indexation
- The indexed ARR determined is the ceiling Annual Revenue Requirement based on which the Major Port Trusts will draw the Scale of Rates (SOR).
- While going for a change in SOR the Major Port Trusts have to ensure that as a result of the changes in SOR there will not be a loss of traffic. The responsibility of ensuring this would rest with the Chairman of the Major Port Trusts.
- The indexed SOR will be effective from 1st April 2015 and shall remain valid for 3 years subject to annual indexation.
- The indexation of SOR will be subject to achievement of Performance Standards committed by Major Port Trusts. If a particular port does not fulfil the Performance Standard, no indexation would be allowed during the next year.

**However as per the TAMP the tariff hike can be in range of 15-20% under the new guidelines (Tariff for Major Port Trusts, 2015).**

**Exhibit 228: Major Ports – Contours under 2005 & 2015 guidelines**

| Major Ports | 2005 | 2015 |
|---|---|---|
| a) | Cost Plus approach (Tariff fixed by TAMP for all components) | ▪ ARR (Average revenue requirement) and market determined rates subject to ARR Ceiling<br>▪ Approval for ARR to be given by TAMP |
| b) | 50% of the Surplus/Deficit gets adjusted in the subsequent tariff cycle | Entire surplus can be retained and deficit will not be passed in subsequent tariff cycle |
| c) | Proceeds from Revenue share/Royalty/Estate rentals used to get utilized towards infrastructure capex (50%) and operating expenditure (50%) | Entire Proceeds can be towards Infrastructure spending if the port so desires |
| d) | Estate income/Revenue share used to get adjusted in calculating tariff | Estate rentals/Revenue share will not get adjusted in tariff calculation |
| e) | No WPI Indexation | 100% WPI Indexation (subject to achievement of performance parameters as indicated by port at beginning of year) |
| f) | Working capital calculated as Current Assets less Current Liabilities, CWIP not included for ROCE calculation | Working capital calculated as Current Assets, CWIP included for calculating ROCE |

*Source: TAMP, Emkay Research*

**Exhibit 229: Projects under PPP – Contours under2005, 2008 & 2013 guidelines**

| Terminal Operators | 2005 | 2008 | 2013 |
|---|---|---|---|
| a) | Cost plus regime (3 year tariff orders) | Normative cost regime (30 year concession reviewed every 5 years, escalation by 60% WPI) | ▪ Applicable to Ports commissioned/awarded after July 2013 -Normative cost regime<br>▪ Incentives of 15% post WPI indexation(subject to achievement of operators indicative performance benchmarks) |
| b) | 16% ROCE calculated on Net Block | 16% ROCE calculated on Gross Block | 16% ROCE calculated on Gross Block |
| c) | No WPI indexation | 60% WPI Indexation | 60% WPI Indexation |
| d) | Tariff fixed by TAMP on cost plus basis | Market determined rates, Tariff fixed by TAMP is ceiling rate | Can adopt existing port tariff, or tariff at other ports or can submit new tariff proposal |
| e) | | Royalty calculated on tariff ceiling rate | Royalty calculated on tariff ceiling rate |

*Source: TAMP, Emkay Research*

### Tariff setting for private terminals at Major Ports, 2013

The Revenue share will be calculated on ceiling rate determined by the TAMP rather than market determined rate. With respect to 15% incentives which will get added to tariff given on account of achieving respective performance parameter (average moves per hour, turnaround time for ships etc).

The 15% incentives will be given over and above the 60% WPI indexation which will become the new ceiling rate which we believe can become tricky for private operator in weak demand environment where he will not able to charge the 15% higher tariff to users but will have to pay 15% higher revenue share due to new ceiling rate however incentive hike is negotiable.

**However as per the TAMP the tariff hike in case of NSCIT (Nhava Sheva) if gets aligned with 2013 guidelines/new tariff lines will increase by 107% to Rs5170/TEU.**

### Attorney General (AG) has agreed for migration of old terminal operators at major ports to July 2013 guidelines; Cabinet approval awaited

The Attorney General (AG) has agreed for migration of old terminal operators at major ports to July 2013 guidelines though cabinet approval awaited. As the second major development, Attorney General of India (AG) has agreed with the MoS's plan to allow existing private operators at major ports operating under the tariff guidelines framed in 2005 and 2008 to migrate to the new market-linked tariff regime announced in July 2013. With the approval from the AG, the proposal now requires approval from the cabinet. Once the Cabinet approves the above proposal from the MoS, all the ports/ terminal operators operating under different rate regimes would be brought under a common platform. In effect, the tariff setting at the existing private operators at major ports would move from a cost-plus method to a normative cost-based method (for those operating under 2005 guidelines).

### Attorney General (AG) view on NSCIT and GTI case

Private container terminals Nhava Sheva International Container Terminal Pvt. Ltd. (NSICT) and GTI (APM Terminals) witnessed steep tariff cut in March 2012. Post this event container operators like NSCIT, GTI, PSA (Port of Singapore) challenged the order in the court.

Recently attorney general (AG) asked TAMP to make changes in existing order with respect to

- TAMP used to calculate tariff on net revenue which is Gross revenue less Discounts which the AG has asked to change and calculate on Gross revenue.
- Upto 20% surplus will be retained by the operator and any incremental surplus will be shared with the port in 50:50 ratio. The surplus will be considered if both the physical and financial parameters are met.

# Defence Sector

## Eighth Amendment to DPP (Defence Procurement Procedure)

Given that previous DPP has not been able to materialise acquisition and procurement, the government is working to amend the DPP for the eighth time in order to facilitate the 'Make in India' campaign. The committee has given its recommendation with respect to amendments to DPP which focuses on two important aspects:

### Facilitating Make in India

#### Strategic Partnership model

The model recommended for creating capacity in the private sector on a long term basis. Such a capacity will be created over and above the capacity and infrastructure that exists in Public Sector units

A Task Force needs to be constituted to lay down the criteria in detail for selection of Strategic partners in the six segments

- Aircraft - fighter, transport and helicopters and their major systems
- Warships of stated displacements and submarines and their major systems
- Armoured Fighting Vehicles and their major systems/ weapons
- Complex weapons which rely on guidance systems, to achieve precision hits, which may include anti-ship, air defence, air to air; air to surface, anti-submarine, land attack
- Command, Control, Communication and Computers, Intelligence, Surveillance, Target acquisition and Reconnaissance (C4ISTR), and (vi) Critical materials (Titanium alloys, Aluminium alloys, Carbon composites, Nickel/ Cobalt alloys etc.)

The compensation package to the SPs have to be subjected to a rigorous audit, including cost audit. The contract would allow for inspection of books for the purpose. DDP should set up a Facilitation Desk, through an internal mechanism, to maintain a two way communication with private industry including MSME.

**Under the strategic partnership model the committee and the government wants to select one company for each project and other company will not be allowed to work in the same project or bid for future projects in the same category. For example if L&T gets selected by the government as a strategic partner to build P75 (i) submarine project then other companies will not be allowed to work in the submarine projects in future.**

#### Scope of Make Category

The scope under the 'Make' category needs to be broad based and include the following sub-categories:

- Make (large projects) with DPSU / Private industry as the lead developer with support from the DRDO
- Make (large projects) with DRDO as the lead developer with support from the industry as co-producer
- Make (components and sub-systems or spares) by the Industry
- Make (components and sub-systems) by the DPSU / OFB
- Make (components, sub-systems or spares) by the Service Workshops / Repair Depots

#### Linkage to Acquisition Plan

- Publication of TPCR (Technology Perspective Capability Roadmap) with its content made specific with respect to the nature of systems that would be required during the next 15 years.
- Schemes amenable for 'Make' procedure be shared with the industry.
- The details of other schemes to be included in 5 years Services Capital Acquisition Plan (SCAP) be shared with the industry

**Indigenous Content (IC)**

- Minimum IC threshold for Buy (Indian) and Buy & Make (Indian) categories should be revised to 40% and 60% respectively. For Make category, minimum IC for prototype stage should also be revised to 40%.
- Categorisation Committee to be empowered to give specific recommendations for lower or higher IC threshold for the total contract value.
- There is a need to create adequate mechanism in defence production so that such provisions of IC as outlined in DPP can be effectively assessed, monitored as well as enforced.

**Transfer of technology (ToT)**

- Eligibility criteria for selection of Production agency (from amongst private Indian industry) to receive ToT in case of Buy & Make category schemes and Indian entity to receive ToT (transfer of technology) for maintenance in case of Buy (Global) category schemes need to be devised and promulgated.
- Provisions for ToT to Strategic Partners in the specific segments as mentioned need to be made in DPP, after promulgation of relevant policy guidelines.
- Existing technical arrangements, if any, of the foreign OEMs with Indian industry be taken cognizance of while selecting an Indian entity to receive ToT for maintenance in Buy (Global) category schemes.
- Provisions for keeping the option of negotiating ToT at a date after signing of main contract may be reviewed. In case such provisions have not been made use of, since their incorporation in DPP, these may even be removed.

**Incentives to Private Industry Including MSMEs**

- Sharing Infrastructure of R&D, qualification testing and proof firing ranges. Private and MSMEs be provided access to all the government agencies.
- A single window system for clearance of project proposals in the defence sector to meet Buy (Indian) and Buy and Make (Indian) regulatory and compliance requirements for commencement of business operations should be created
- A part of the proposed technology development fund may be reserved for funding development projects and limited production from the MSME sector. Whenever MSME is granted TDF, 30% advance should be extended.
- Defence export for offset contracts in Buy (Global) cases, benefits can be considered with preference for direct purchase from Indian Industry.

**Technology Security Policy:** MOD should start working on formulation of an appropriate technology security policy and necessary institutional framework to implement the policy.

**Ordnance Factory Board (OFB):** The committee fully endorses the recommendations of previous committees for the need to alter the management structure of the OFB. The corporatisation of the OFB can also be seen in the context of the 'Make in India' policy with its emphasis on a level playing field.

**Shipyards:** The committee recommends that the four shipyards within the MoD fold be merged into one corporate entity, retaining the yard facilities in their present geographical locations but working under one single management

**DRDO**

- The Committee feels that the proposal for setting up a commercial arm on the lines of the Antrix Corporation of ISRO, for providing different services including exports must be considered.
- DRDO may hold the AHSP for all such projects and DRDO may ensure to keep alive the product support teams in the respective labs for encouraging subsequent upgrade.

## Removing bottlenecks and simplifying procedure

**Request for Information:** RFI be listed as the first function in the acquisition process before SQR function (Services Qualitative Requirements) in the DPP. Process be instituted to maintain an up-todate 'Competency Map' of the Indian industry.

### Acceptance of necessity (AoN)

- Period of validity of AoN for 'Buy (Indian)', 'Buy & Make' and 'Buy (Global)' categories be reduced to 6 months from the existing one year.
- The authorities which are empowered to approve issue of RFP may also be delegated the authority to accord extension of validity period of AoN for a further 8 weeks, provided that conditions of original decision and categorisation have not changed.

### Technical Evaluation

- In a single vendor situation, post technical evaluation by TEC (Technical evaluation committee), retraction of RFP may be resorted to as an exception rather than a rule.
- Suitable provisions need to be made in the DPP to address "single vendor, multiple bids" and "multiple vendors, single product" as are likely to emerge in 'Buy & Make (Indian)'or 'Buy & Make' cases.
- Existing authorities for acceptance of TEC report may be reviewed. It should be carried out entirely at SHQs.

### Contract Negotiations

- CNC may be constituted on acceptance of the Staff Evaluation Report, with the caveat that opening of commercial bids and negotiations with the vendor would not be done till acceptance of TOC Report (Technical Oversight Committee).
- In a multi-vendor situation, at CNC stage, benchmarking and price negotiation with the L1 vendor should not be required.
- Services of experts/consultants could be utilized for benchmarking.

### Single Vendor Situations

- The DPP provisions regarding 'ab-initio' single vendor situations should, in addition to DPSUs, also cover equipment / systems produced by Indian private industry under 'Make', 'Buy and Make (Indian)' or 'Buy and Make' categories and those being produced under ToT from DRDO.
- A provision to consider single vendor situation at bid submission stage needs to be made where there may not be scope for review of SQRs or other vendors may have abstained from submitting their bids on account of own inabilities
- There is a case for making suitable contractual and legal measures so that Government can enforce cost control, its verification /audit and also take punitive steps in case of violation by participant industry.

### Bid Evaluation criteria

- 'L1' method of bid evaluation as is prevalent now may be continued with.
- 'L1-T1' concept be taken up for some specific cases in which number of parameters to be weighted are manageable (say 5 or less) and their effect clearly quantifiable. For example, a laser guided bomb with "Circular Error of Probability" as a parameter could be put through such a process. There is a need to build expertise in this area of bid evaluation for complex systems.
- PBL model is recommended to be adopted for all acquisition schemes, as considered necessary by Service HQ. (AMC provisions already exist in DPP. Adoption of DCF technique is also permitted for evaluation of such bids.) . This is also considered a better option as compared to Annual Maintenance Contract (AMC) model.
- TCA model (Total cost of acquisitions) be adopted for all platforms / systems such as aircrafts, helicopters, Main Engines / Gas Turbines of Ships. For these, major elements of cost are quantifiable and verifiable either on time basis or running hour basis.

**Procedure for Make category**

- Eligibility criteria, for participation at EOI stage, may be reviewed. Its linkage to D&E cost (development and engineering) rather than total cost of the sheme at AON stage, may be considered. The companies need to have a minimum credit rating of ICRA B++ and a net worth that's 40% of development cost of the project. Moreover, companies seeking contracts must also not be in the midst of corporate debt restructuring (CDR) especially for large and strategic projects.
- Requirement of minimum 40% Indegenous content.
- List of Make projects drawn from Long Term Integrated Perspective Plan (LTIPP), AoN for which is to be taken up up during the next 2-3 years (envisaged fructification of scheme during the next 5-8 years) should be shared with industry. There should be a 3 year roll plan for Make schemes to be reviewed every year.

**Exhibit 230: Salient evolutionary changes in DPP are briefly enumerated below so as to get an overall perspective**

| Version | Salient Features Introduced |
|---|---|
| **DPP 2002-2003** | a) Applicable to 'Buy' Decision of the DAC |
| | b) 'Buy & Make' category included |
| **DPP 2005-2006** | a) Included procurements under "Fast Track Procedure" (FTP) and "Make" category |
| | b) Procedure for shipbuilding incorporated |
| | c) Concept of Offsets introduced |
| | d) Transfer of Technology envisaged in 'Buy and Make' category |
| **DPP 2008** | a) Concept of Offset Banking introduced |
| | b) Removal of offset obligation for contracts with at least 50% indigenous content |
| | c) Change in licensing policy with private company requiring license only if stipulated under licensing requirement for defence industry |
| **DPP 2009** | a) Buy & Make (Indian) category introduced |
| | b) Decision to introduce a public version of Long Term Integrated Perspective Plan (LTIPP) of services, covering a period of 15 years, to be widely publicised for benefit of Indian industry |
| **DPP 2011** | a) Avenues for discharge of offsets expanded to include synergistic sectors viz. internal security and civil aviation as well as services |
| **DPP 2013** | a) Introduced a preferred order of categorisation, in decreasing order of preference i.e. "Buy (Indian)", "Buy and Make (Indian)", "Make", "Buy and Make", and "Buy (Global)" |
| | b) Services Qualitative Requirements (SQRs) for "Buy" category cases to be finalised before accord of Acceptance Of Necessity (AoN) |
| | c) Validity period for AoN reduced from 2 years to 1 year for "Buy" category cases of equipment |
| | d) Offset guidelines revised (the provision of services as an avenue for discharge of offsets has been held in abeyance) |
| | e) "Make" procedure revised |

*Source: GoI, Emkay Research*

**Exhibit 231: India's defence procurement categories**

| Procurement Category | Meaning | Indigenous Requirement | Nature of Involvement of domestic |
|---|---|---|---|
| Buy Indian | Outright purchase | 30% | 100% Owned Indian company, majority Holding Indian JV |
| Buy Global | | NA | No Restriction on procurement. A majority holding Indian company can participate in global tender |
| Buy & Make (Indian) | Purchase from an Indian vendor (including JV/ production arrangement with OEM). | 50% indigenous content on a total cost basis | |
| | Indigenous production with partnership with foreign company | Min 30% indigenous Indian content | Majority holding Indian JV |
| Make Indian | This includes high technology complex systems or critical equipment for weapons systems to be designed, developed, and produced indigenously | Minimum of 30% of indigenous content is required on a total cost basis. | Indian Company |
| Buy & Make with ToT | Import followed by indigenous production through ToT. This includes purchase from a foreign vendor and then indigenous manufacture in the country | Supposed to increase to 100% as production matures | |

*Source: GoI, Emkay Research*

## Defence Procurement: Follow up on RFP (Request For Proposal) not keeping pace

We see that the government has been according AoNs (Acceptance of Necessity) to the projected and necessary requirements of the Armed forces, however, the follow up action on issuance of RFP and subsequent procurement steps is not keeping pace largely due to a) change in Defence Procurement Procedure – The new government promoting indigenous defence industrial base due to which every project is getting re-evaluated; b) since 90% of the capital allocation is already tied up towards committed liabilities of earlier orders, it does not leave substantial funding for fresh big ticket orders; c) change in requirement (based on technological changes or operational necessity) for the defence equipment by Armed and Navy forces.

### Procurement process cycle

The first step towards formulating the proposal for any procurement is framing of the basic Services Qualitative Requirements (SQR) followed by Acceptance of Necessity after which tendering process starts. As per DPP the entire procurement process comprising of 17 stages from granting of AoN to RFP for contract**.** The government has built in a momentum by clearing and granting AoN to prolonged and necessary defence projects worth US$47 bn however very few projects have reached the stage of issuance of tender.

**Exhibit 232: Number of proposals granted under AoN**

| Year | No. of Proposals Granted AoN | Cost (in Rs bn) |
|---|---|---|
| 2013-14 | 34 | 276.1 |
| 2014-15 | 56 | 1178.3 |
| 2015-16 | 40+ | 1645.6 |

*Source: MOD, Emkay Research*

**Exhibit 233: Procurement of 145 BAE M777 Ultra Light Howitzer: A 7 years saga**

| Year | Event |
|---|---|
| 2007-08 | Army expresses interest in buying 155 mm Ultra Light Howitzers |
| 2008 | UPA government considers the purchase of 145 BAE M777 Ultra Light Howitzer |
| Jan 2010 | Government clears outright purchase of 145 ULHs under FMS. The US Defence Security Cooperation Agency (DSCA) notifies the US Congress about the possible sale of 145 M777 howitzers to India for $647 million |
| May 2012 | DAC grants AoN |
| April 2013 | DSCA issues another letter to US Government about the possible sale of 145 M-77 howitzers to India for $885 million |
| 2014 | The purchase is postponed but then cleared and given AoN in May 2014 |
| July 2014 | Government announces it would not order the guns because of cost issues |
| Nov 2014 | The selection process is restarted under the "Make in India" program by the new NDA Government |
| May 2015 | DAC gives AoN to buy 145 American M-777 ultra light howitzers from US and is value around Rs56.1 bn. CCS clearance and subsequently inking of contract is still awaited |

*Source: Defence ProAc, Emkay Research*

**Exhibit 234: Stages of Procurement and Agencies Involved**

| QR | SOC | AON | RFP | TEC | Trials | CNC |
|---|---|---|---|---|---|---|
| Users | SHQ | SHQ | Users | SHQ | SHQ | SHQ |
| SHQ | AM/TM/FM | DRDO | SHQ | | Users | HQ IDS |
| DRDO | | HQ IDS | DRDO | | DRDO | AM/TM/FM |
| DDP | | MoD Finance | DDP | | DGQA | MoD Finance |
| DGQA | | MoD | DGQA | | | MoD |
| | | | AM/TM/FM | | | |

*Source: Defence ProAc, Emkay Research*

***Note 1:*** *QR: Qualitative Requirements, SOC: Statement of Case, AON: Acceptance of Necessity, RFP: Request for Proposal, TEC: Technical Evaluation Committee, CNC: Contract Negotiation Committee*

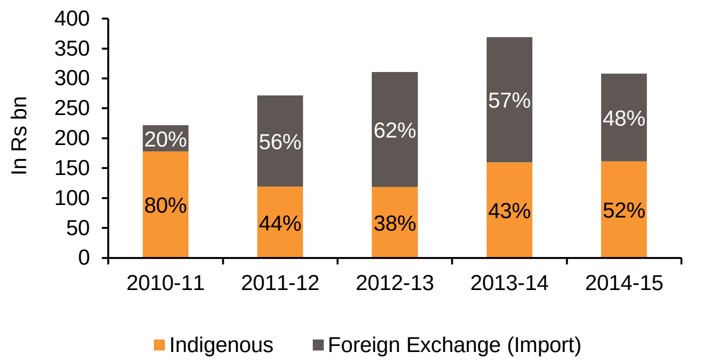
***Note 2:*** *SHQ: Service Headquarters, DRDO: Defence Research and Development Organisation, DDP: Department of Defence Production, DGQA: Director General of Quality Assurance, AM/TM/FM: Acquisition Manager/Technical Manager/Finance Minister, HQ IDS: Headquarters Integrated Defence Staff, MoD: Ministry of Defence*

**Exhibit 235: Recent Procurement Decisions**

| Programmes | Quantity | Worth (Rs bn) | Remarks |
|---|---|---|---|
| 155 mm/52 caliber mounted gun system for the Indian Army | 814 | 157.5 | DAC clearance given in Nov 2014. The programme is under Buy-Make (Indian) |
| Project 75I Conventional Submarines for Indian Navy | 6 | 500 | AoN given in Oct 2014. Construction of 6 submarines by Indian Shipyards through technology transfer arrangement with a foreign submarine manufacturer. |
| Refit of Submarines for Indian Navy | 6 | 48 | DAC clearance granted in Aug 2014. Refit to be done for four Russian-origins, Kilo-class, and two German-origins HDW submarines. Of the Kilo class vessels, two will be refitted in Russia, and the other two by MDL. |
| Sonars for Indian Navy | 11 | 17.7 | DAC clearance in Aug 2014. To be bought from abroad and used on 11 warships - seven frigates being built under Project 17A, and four destroyers being built under Project 15B |
| Midget Submarines for Indian Navy | 2 | 20 | AoN given in Oct 2014. To be built by HSL. |
| Survey Vessels | 4 | 23.24 | DAC clearance given in Dec 2014. RFP yet to be issued. |

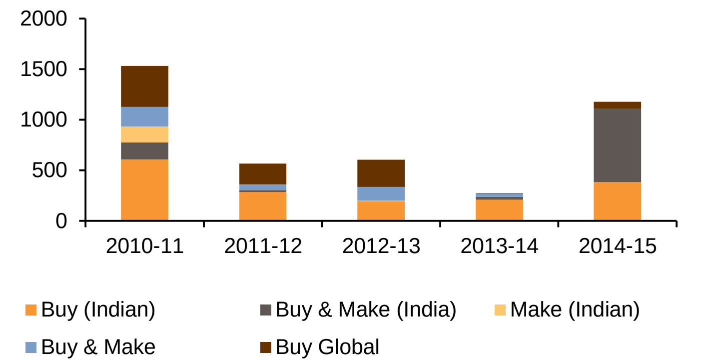
*Source: MoD, Emkay Research*

**Exhibit 236: Foreign Exchange Content in Annual Capital Budget**



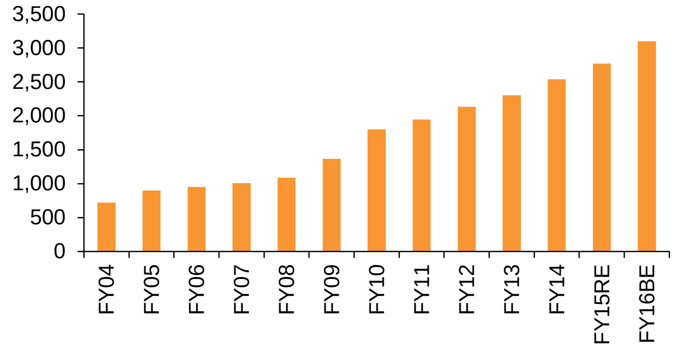

*Source: GoI, Emkay Research*

**Exhibit 237: AoNs Category wise Approvals (in bn)**



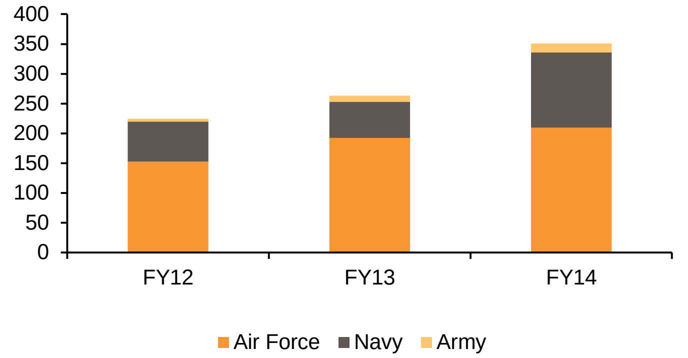

*Source: GoI, Emkay Research*

**Exhibit 238: Defence Expenditure (Rs bn)**



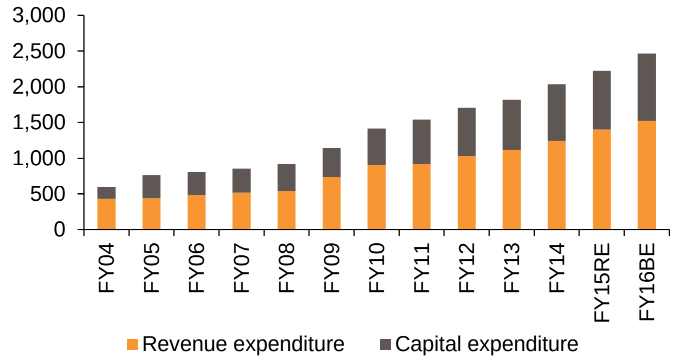

*Source: GoI, Emkay Research*

**Exhibit 239: Value of foreign direct import (Rs bn)**



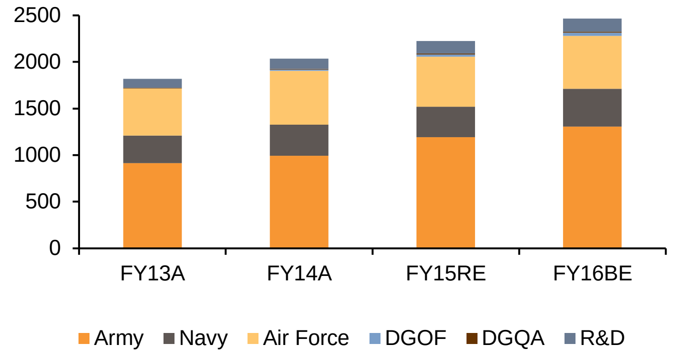

*Source: GoI, Emkay Research*

**Exhibit 240: Core Defence Expenditure (Services) (Rs bn)**



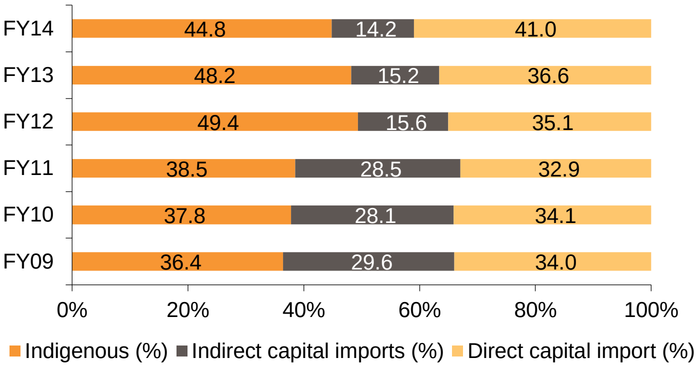

*Source: GoI, Emkay Research*

**Exhibit 241: Break up of Defence Expenditure (Rs bn)**



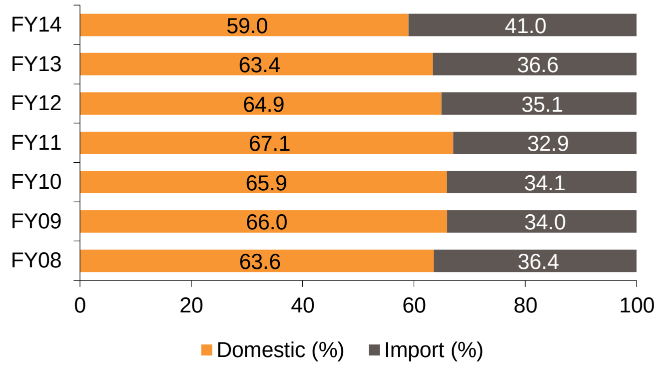

*Source: GoI, Emkay Research*

**Exhibit 242: Self Reliance Index**




*Source: GoI, Emkay Research*

**Exhibit 243: Capital Procurement**




*Source: GoI, Emkay Research*

## Resource allocation for defence modernization

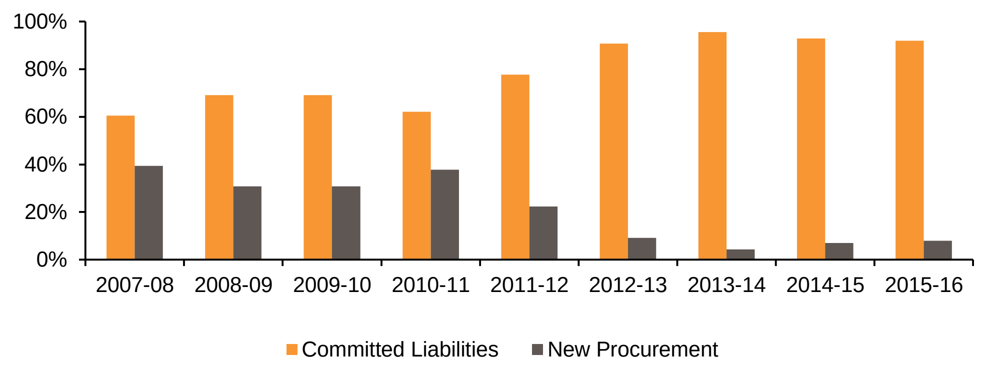
Although the current government focuses on modernizing and upgrading the Indian defence industrial base however the pace of modernizing has been slow majorly because of the lack of funds on the capital account for major new defence procurements. In the year 2014-15 there were committed liabilities of ~Rs700 bn which left only ~Rs54 bn for new acquisitions.

**The army has identified a few projects which are at advance stage of procurement:**

- 2 x Pinaka regiments
- BrahMos 4th Regiment
- Weapon locating radar
- Milan 2T missiles
- 3rd generation Anti tank Guided missiles
- Hand held Thermal Imager with laser range finder
- Ammuniation for 84 mm rocket Launcher Mark-III
- Medium range surface to Air Missiles
- Advance light helicopter
- Maintenance Reserve and Strike off wastage (MR & SOW)
- 155 mm/52 calibre Tracked self propelled guns

Out of these projects, the Ministry of Defence has awarded 155 mm/52 calibre Tracked self propelled guns (Media reports). Larsen and Toubro has emerged as the finalist for a $750 mn (about Rs50 bn) contract to supply 100 self-propelled artillery guns to the Indian Army.

**Exhibit 244: New Procurement vs Committed Liabilities**




*Source: IDSA, Emkay Research*

## Major Defence Procurements

### Artillery guns

**L&T outguns global rivals to bag Rs50 bn Indian Army artillery contract for 155 mm self-propelled tracked artillery gun**

Larsen and Toubro has emerged as the finalist for a $750 mn (about Rs50 bn) contract to supply 100 self-propelled artillery guns to the Indian Army. The 155 mm artillery guns are specially designed for operation in the desert areas and have been a longstanding requirement of the Army. The K9 VAJRA-T howitzer, pitched by L&T in partnership with Samsung, has been shortlisted for the contract. Once signed, the final process could take another six months. The Vajra will be produced at L&T's Pune facility and could be considered for exports in the future, along with an expected follow on order for more guns for the Army.

**L&T is also in contention for the Rs150 bn, 1500 155mm towed artillery contract**

Larsen & Toubro & Kalyani Group company, Kalyani Strategic systems Ltd (KSSL) are the only two Indian companies currently in contention for the towed artillery gun pie that is valued at around Rs150 bn. Field trials for the 155-mm/52 caliber gun — one from the KSSL subsidiary BF-Elbit JV and the other from L&T and French defence major Nexter teaming — are nearing completion and the winner of the order is expected to be declared over the next few months. The contract involves the supply of 1500 towed artillery guns for the Indian Army, including 1100 that must be produced indigenously under the 'Make-in-India' initiative. The other 400 are to be delivered as complete units from the relevant overseas JV partner in three years' time. With each gun costing in the region of Rs100 mn, the value of any contract, including lifetime support, will run into billions.

**Field Artillery Rationalization Plan**

Presently the Indian army has guns of various calibers, a mix of 105 mm field guns and 130 mm & 155 mm howitzers (400+35) of different vintages in its inventory which are approaching obsolescence. In 1999 the army launched an US$8 bn artillery modernization program called the Field Artillery Rationalization Plan (FARP) aimed at acquiring between 2700-3600 guns over the next 15-20 years (2020-25) but things have hardly moved and there have been no new inductions. The key acquisitions planned under the FARP include:

- 155 mm/39 calibre Ultra-Light Howitzers (ULH)
- 155 mm/52 calibre Wheeled guns
- 155 mm/52 calibre Towed guns
- 155 mm/52 calibre Self-Propelled Tracked & Wheeled guns (L&T-Samsung - K9 Vajra-T)
- 155 mm/52 calibre Mounted Gun System (MGS)

**Exhibit 245: 155 mm/39 calibre Ultra-Light Howitzers (ULH)**

*Source: Emkay Research*

**Exhibit 246: 155 mm/52 calibre Wheeled guns**

*Source: Emkay Research*

**Exhibit 247: 155 mm/52 calibre Towed guns**

*Source: Emkay Research*

**Exhibit 248: 155 mm/52 calibre Self-Propelled Tracked & Wheeled guns (L&T–Samsung JV – K9 Vajra-T)**

*Source: Emkay Research*

**Exhibit 249: 155 mm/52 calibre Mounted Gun System (MGS)**

*Source: Emkay Research*

**Exhibit 250: Chronology of events for artillery acquisition for Indian army**

| | |
|---|---|
| **155mm Towed Artillery Gun** | 2001: First RFP issued in Dec 2001. |
| | 2002-2007 (trials): The trials were carried out in four phases over 4 years between May |
| | 2002-2007 resulting in inordinate delay with none of the guns could meet certain technical parameters of the GSQR |
| | 2007: New RFP was issued in March 2008 based on revised GSQR. |
| | 2010: Army HQ in July 2010 retracted the RFP due to single vendor situation. |
| | 2011: Fresh RFP was issued on 28th January 2011 based on revised GSQR. |
| **Self Propelled Guns (Wheeled)** | 2002: RFP was issued in January 2002. |
| | 2005: the procurement process was closed by Ministry in July 2005 due to ban on M/s Dene; |
| | 2007: Another RFP was issued in February 2007. |
| | 2007: RFP was retracted due to single vendor situation. |
| | 2008: A fresh RFP was issued in February 2008. |
| | 2010-2011: Trials of two vendors were completed. |
| | 2011: MoD cancels RFP in Sep 2011 after allegations surfaced about manipulations in the evaluation process of the field-trials. |
| | 2012: RFI re-issued. |
| **Self Propelled Guns (Tracked)** | 1994: A global RFP is issued. |
| | 1995 (July-Sep): Trials conducted. |
| | 1997: None of the guns were found to fulfill requisite parameters. |
| | 1998: GSQRs are amended. |
| | 1999: Held from September 1999. |
| | 2002: In June 2002, RFP issued to M/s Denel & M/s BEML. |
| | 2005: Procurement comes to end as Denel getting blacklisted. |
| | 2008: New RFP is issued in May 2007 but subsequently retracted on 19 September 2007 owing to single vendor situation. |
| | 2008: MoD re-issues RFP in August 2008. |
| | 2009: RFP is withdrawn as only one vendor responded. |
| | 2011: Fresh RFI is issued in mid-January. |
| **155 mm Mounted Gun system** | 2002: MoD issues RFP on February 18, 2002. |
| | 2013: Previously issued RFP withdrawn and a RFI is re-issued in June 2013. |
| **155 mm Ultra Light Howitzer** | 2008: MoD issues RFP in January 2008. ST Kinetics and BAE systems responded. |
| | 2009: Contract was scrapped as MoD due to single vendor situation. |
| | 2011: Govt initiates procurement of BAE's M777 through FMS route in May 2011. |
| | 2013: Procurement gets DAC approval. Contract yet to be signed. |

*Source: Defence ProAc, Emkay Research*

**Exhibit 251: The market opportunity available for players in the different categories of artillery**

| Type | Total Quantity | Category | Tentative Cost | Likely Induction | Likely Contenders/Vendors |
|---|---|---|---|---|---|
| 155mm Towed Gun | Total: 1580 = 400 (direct purchase) + 1180 (to be built through ToT) | Buy and Make | $1.78 bn | 2016-17 | French Nexter CAESAR; Swedish BAE-Bofors FH77-BW-L52 Archer Israeli Soltam ATHOS 2052 led by Elbit Systems |
| 155mm Tracked Self Propelled Gun | 100 | Buy-Make | $750-778 mn | 2019-20 | Larsen & Toubro (L&T) tied up with South Korean company Samsung Techwin, Bharat Earth Movers Ltd. BEML has partnered with Slovakian company Konstruktaand Russia's Rosoboron export. |
| 155mm Wheeled Self Propelled Gun | Total : 400 = 180 (direct purchase) + 220 (to be built indigenously) | Buy-Make (Global) | $889 mn | Delivery within three years from the date of order. | Konstrukta Defence Konstrukta; SpGHZuana 2; Nexet CAESAR; Rheinmetall - RWG-52; BAE-Bofors FH77 BW L52 Arche; Samsung Techwin and Soltam |
| 155mm Mounted Gun | Total: 814 = 200 (direct purchase) + 614 (to be built indigenously) | Buy-Make (Indian) | $1.9 bn | 2018-19 | Tata Power SED with DENEL Land Systems for customized version of the T-5 52 Mk2000 Condor, Mahindra Land Systems has teamed up with BAE for FH-77BW L52 Archer, and L&T has teamed up with Nexter for Caeser gunerbia's Yugoimport SDPR teamed with Punj Lloyd for Nora B52K1, Krauss Maffei-Wegmann teamed with Ashok Layland for AGM (oN A 6X6 TRUCK) |
| 155mm Ultra Light Howitzer | 145 | Buy (through FMS) | $647 mn | 2015-16 | BAE Systems |

*Source: Defence ProAc, Emkay Research*

**Dhanush: India's 155-mm artillery gun in trial stages**

The Ordnance Factory Board (OFB) has developed the electronically upgraded desi version of the original Swedish 155mm Bofors howitzer, and the guns are currently at the trial stage. The long-forgotten designs obtained under transfer of technology (ToT) provisions in the infamous Rs14.37 bn Bofors contract in 1986 for 410 howitzers have been used to develop the new guns. The Army wants 414 such guns. They have been upgraded to 45 calibre from the original 39 calibre to give the new howitzer a 38 km range compared to the 30 km of the original Bofors gun. The OFB has already been given an over Rs12.6 bn order to make 114 howitzers.

Both the Army and OFB, claim the Dhanush performs 20-25% better than the original Bofors gun in virtually all parameters like range, accuracy, consistency, low and high angle of fire and shoot-and-scoot ability. Dhanush is around 80% indigenous now. It costs just about Rs140 mn apiece. Only its APU (auxiliary power unit), electronic dial sights and a few other small items are imported. The Army-OFB team began work a few years ago on the original designs. The Dhanush programme is for 155 mm/45 calibre towed howitzers and is different from the 155 mm/52 calibre towed howitzers order under the Field Artillery Rationalization Plan (FARP).

**Exhibit 252: Dhanush - 155 mm/45 calibre towed howitzers**


*Source: Emkay Research*

**Exhibit 253: Dhanush - 155 mm/45 calibre towed howitzers**


*Source: Emkay Research*

### Battlefield Management system (BMS)

The BMS system will integrate all surveillance resources available at the battalion or regiment level, including from locally launched UAVs and ground sensors, accurate location of all the troops and key weapons platforms as well as the location of enemy troops and terrain analysis to achieve improved situational awareness. In the next 5-7 years when BMS will be deployed by the Indian army it will cover more than 70% of the soldiers while digitising the tactical battlefield and creating a secure IoT (Internet of things) for the Army.

The Expression of Interest for BMS was issued in Nov 2013 under Make category at an estimated cost of Rs400 bn to 14 contenders (L&T, Bharat Electronics, Rolta, Tata Power SED, Hindustan Computers Ltd, Wipro, ECIL, ITI, Bharat Forge, Punj Lloyd, TCS, Infosys Technology, Tech Mahindra and CMC).

**Under the 'make' category of the Defence Procurement Policy of 2013 (DPP-2013),** both consortia will develop separate prototype BMS systems, with the MoD reimbursing 80% of the expenditure. A special MoD 'integrated project management team' (IPMT) will select the better prototype, and both consortia will then bid for the contract to mass-produce the BMS for the military. While development agencies are chosen on the basis of their technology and indigenisation plans, the contract to mass-produce the BMS will be awarded to the lower bidder. The 'make' category procedure mandates an Indian company must lead a project, though it could have foreign partners. At least 30% of the system that is built must be indigenous.

**Recently Tata Power, its strategic engineering division (Tata Power SED), in a consortium with Larsen and Toubro Ltd**, is one of the two selected development agencies for the BMS project. Tata Power SED leads the consortium. The other consortium is Rolta–BEL. Each of these DAs will be asked to develop four BMS prototypes for mountain, jungle, plains and desert operations. The development of the prototypes is estimated to cost about Rs4 bn.

Given the prototype order it will take both the consortium at least 2-3 years to develop the concept of integration and post that the order of Rs400 bn (to get executed over 5-7 years) will be given. The expected amount involved in the development phase expected around Rs4 bn of which 80% will get reimbursed by MOD.

However we believe this order (work space) will be significantly profitable for the company who will win the order as currently in India there is hardly any integration between the Indian army, Navy and Air force and scope of work with further work like AMS (Annual maintenance service) and upgradation of technology.

Though it is not clear that once the prototype is over the order will be shared amongst the two consortium in a fixed ratio, however, given the complexity of the order with respect to integration of software, hardware and tactical communication systems, we believe that giving integration work to two consortia will further increase the complexity of the project (order should be given to consortium who will be lowest bidder for mass supply in future).

### FICV (Future Infantry Combat Vehicle)

The FICV project under Make Category is intended to replace 2600 BMP-2s at an estimated cost of Rs500 bn. The first EOI was issued in 2010 to TATA, Mahindra, L&T and OFB to submit proposals to develop an FICV however it was withdrawn due to technical reason and fresh EOI was issued in July 2015 to 10 companies (Mahindra, Bharat Forge, L&T, Punj Lloyd, Tata Motors, Tata Power, Pipavav Defence, Rolta, Titagarh Wagons and OFB).

Industries have been given 90 days to respond to the EoI with detailed proposals. This will involve forming consortia with Indian and foreign vendors, and conceiving and proposing the design of an FICV that would best suit the army's requirements. Two vendors will be shortlisted, and they will then evolve and submit a detailed project report (DPR), comprising of a detailed technical and financial proposal. The better design will be chosen by an "integrated project management team" (IPMT), comprising of experts from various defence ministry departments.

The estimated cost of this project stands at US$10 bn and development cost should be 10% of the project cost US$1 bn. The project has the provision for sharing of development cost by MoD (80%) and industry (20%).

**Exhibit 254: Timeline of the projects**

| Project | EOI | DPR | D&D | Trials | Contract | LSP | Remarks (Expected Time Line) |
|---|---|---|---|---|---|---|---|
| BMS | 2013 | 2014-15 | 2015-16 | 2017-18 | 2018-19 | 2020 onwards | 5-7 years |
| FICV | 2010/14 | 2017-18 | 2022-24 | 2025-26 | 2027-28 | 2030 onwards | 15-20 years |

*Source: Defence ProAc, Emkay Research*
**D&D – Design & development prototype, LSP – Limited series production*

## Submarine Acquisition

Naval submarine fleet strength being precariously low at 14 vessels at present consist of 9 Russian SSK Kilo (Sindhugosh), 4 German SSK U209 (Shishumar) besides a leased nuclear powered Akula class SSN INS Chakra from Russia.

About 11 Indian conventionally powered submarines are over 20 years old while 8 of them are over 25 years old. The approved acquisition programme was divided into three groups a) Six Scorpene submarines to be acquired under project P75 b) Additional six submarines to be built under Project P75 (I) c) Remaining 12 to be constructed indigenously .

**Project P75 (I):** The MoD wants to build 6 conventional submarines which will be equipped with land-attack capability and air independent propulsion (AIP). AIP designed to allow conventional submarine to stay underwater longer than other conventional submarine; the capability to lauch land attack cruise missiles; and enhanced stealth features to reduce noise and vibration. The current project is estimated to cost Rs800 bn.

The manufacturing of all the six submarines will be carried out indigenously with foreign technology input. Apart from MDL, HSL and L&T which are currently engaged in submarine work, no other shipyard has the experience of submarine building. The four potential foreign collaborations in the fray are French DCNS Scorpene, Russia's Rubin Amur 1650, the German HDW Type 214, and Spain's Navantia S-80.

The government is planning to do away with the process of awarding contract to lowest bidder while acquiring high-tech defence assets and instead entering into "strategic partnership", which can apply to P75 (I) submarine project.

**Exhibit 255: Submarine Acquisition: Road Map**

| Programme | Approx Cost (Rs bn) | Category | Time Line: Incept/ Likely Induction | Manufacturers/ Contenders and Remarks |
|---|---|---|---|---|
| Project 75 | 230 | Buy-Make | Programme Initiated: 2005. First Delivery of submarine by September 2016 followed by induction of one submarine after every 9 months. | These are built by MDL in collaboration with Armaris - a joint venture between DCN and Thales. All the 6 submarines are in various stages of construction. |
| Project 75 I | 530 | Buy-Make (India) | Programme Initiated: 2007. First Delivery of submarine by 2025-26. A new submarine could be ready for induction between every eight months to a year, so delivery will be till 2030-31. | Indian Shipyards - GRSE, HSL, Goa Shipyard, L&T, MDL, ABG and Pipavav Shipyard - have been shortlisted. Tender expected shortly. Likely Foreign Collaborators: DCNS 'Scorpene', Rubin Amur 1650, German HDW Type 214, Spain's Navantia S-80. |
| Lease of INS Chakra | 42 | On Lease | Programme Initiated: 2004. Already Inducted. | As of April 2012 India has inducted the Akula-II submarine, christened INS Chakra, on a 10 year lease from Russia. |
| Lease of second nuclear Sub | 54 | On Lease | Programme Initiated: 2014. Likely Induction: 2018. | Negotiations with Russia has begun for the lease of nuclear submarine K-322 Kashalot of the Project 97. |
| Three Arihant-class nuclear submarines | 360 | Make (India) | Programme Initiated: 1998. All the three vessels are expected to be in commission by 2023. | Indian Navy, Bhabha Atomic Research Centre (BARC) and DRDO, HSL, Tata Power, L&T, Walchandnagar Industries, Heavy Engineering Corporation, BHEL Audco India. Russian designers also assisted in building the vessel. As of now the programme is under development. Reactor of the first submarine INS Arihant is activated and now undergoing sea trial. |
| Six nuclear-powered attack submarines | 1000 | Make (India) | - | Directorate of Naval, DRDO, Shipbuilding Centre Vishakhapatna, Bhabha Atomic Research Centre. In Feb 2105, the Indian Government gave approval for the constructionof these submarines. |
| Two Midget Submarines | 20 | Make (India) | Programme Initiated: 2009. Both the submarines are to be delivered by 2019-20. | To be built by HSL. In Oct 2014, DAC granted clearance to the project. |

*Source: Defence ProAc, Emkay Research*

**Exhibit 256: Key Proposals**

| Proposals | Quantity | Project Cost (USD mn) |
|---|---|---|
| MiG -29 upgrade | 67 | 677 |
| Medium Light helicopter | 172 | 286 |
| Additional operation capability | 7 | 71 |
| VVIP helicopter | 12 | 167 |
| Multi Role Combat Aircraft (MRCA) | 126 | 9333 |
| ASW Helicopter | | 391 |
| 155 artillery field gun | 140 | 667 |
| KA 28 upgrade | | 100 |
| Short Range Quick Reaction Surface to Air Missiles (QRSAM) | 78 | 1400 |
| Advanced MRMR planes | 6 | 320 |
| Transportable radars | | 1200 |
| AFV protection & counter measure system | | 270 |
| Tracked howitzers | 100 | 2000 |
| EL/M-2083 Aerostat air search radars | 9 | 2700 |
| Air defence system | | 1000 |
| T-90s EW system | 1657 | |
| C 130Js Transport aircraft | 6 | 1100 |
| Naval Muti role helicopters | 16 | 1000 |
| Light combat aircraft engine | 99 | 600 |
| Combat helicopters | 22 | 550 |
| Airborne early warning and control systmen | | 400 |
| Ultra light howitzers | 145 | 667 |
| Wheeled howitzers | 185 | 1000 |
| Diesel electric submarines | 6 | 6200 |
| **Total** | **2853** | **32099** |

*Source:MODI, Emkay Research*

**Exhibit 257: Key orders lined up for next year**

| Authority | Amount | Contracts | Status |
|---|---|---|---|
| Indian Coastal Guards | Rs40 bn | To supply training ships and support vehicles | Already bid for, final decision expected to be taken by the end of the year. |
| Govt. of India | Rs250 bn | Two multi-purpose landing platform dock projects | Bidding not yet started. Request for proposal issued. |
| Ministry of Defence, Govt of India | USD10 bn | Futuristic Infantry Combat Vehicle (FICV)-Make category | EOI was issued. in july 2015 to 10 companies (Mahindra, Bharat Forge, L&T, Punj Lloyd, Tata Motors, Tata Power, Pipavav defence, Rolta, Titagarh wagons and OFB). |
| Ministry of Defence, Govt of India | USD2 bn | Defence systems (TCS). Tactical communications systems are a mobile commnications grid for advancing tank formations. Order under Make category | In collaboration with Tata Power and HCL competing with Bharat Electronics. L&T has a 56.67% stake in the joint bid while Tata Power has 33.33% and HCL 10% |
| Ministry of Defence, Govt of India | USD5 bn | Battle Field Management System for national army | Recently Tata power, its strategic engineering division (Tata Power SED), in a consortium with Larsen and Toubro Ltd, is one of the two selected development agencies for the BMS project. Tata Power SED leads the consortium. The other consortium is Rolta –BEL. Each of these DAs will be asked to develop four BMS prototypes for mountain, jungle, plains and desert operations. The development of the prototypes is estimated to cost about Rs4bn. |
| Indian Navy | USD10 bn | Project 75-I Submarines, | Due to change in the DPP there has been delay in awarding. |
| Ministry of Defence, Govt of India | USD7 bn | Rafale fighter aircraft | 50% offset clause |
| Ministry of Defence, Govt of India | USD4 bn | Boeing Apache, Chinook helicopters | 30% offset clause |

*Source: MOD, Emkay Research*

## Opening up of defence for domestic manufacturing to benefit Larsen & Toubro

L&T has industrial licenses for a wide range of products, after Government of India's decision to open up defence production to the private sector. The licenses issued cover design, development, construction/ manufacturing and assembly of:

- Warships, Submarines, Weapon platforms (off-shore, floating and submerged), Highspeed boats and crafts etc.
- Radars, Sonar systems, associated subsystems, Electronic Warfare equipment and System Sensors.
- Arms and Armament including Weapon Launchers.
- Armored and Combat vehicles, including associated systems, sub-systems such as Turrets, Turret mounts, Bridge laying systems on tanks, etc.
- Airborne assembly systems & equipment for Aircrafts, Helicopters and Unmanned
- Aerial Vehicles (UAV) and equipment for aviation sector

### L&T Defence Facilities

- Manufacturing and fabrication facilities at Mumbai (Maharashtra), Vadodara (Gujarat), Hazira (Gujarat), and Visakhapatnam (Andhra Pradesh).
- Spectrum Infotech Private Limited, a wholly owned subsidiary of L&T located in Bangalore, has capabilities in avionics systems and defence electronics. Its main focus is on development of embedded solutions, control and signal processing products for the defence sector.
- L&T Cassidian Limited is a joint venture between L&T and EADS has capabilities in radar, avionics, mobile systems and electronic warfare.
- L&T has shipyards at Hazira (Gujarat) and Kattupalli (Tamil Nadu). The Hazira plant has the capacity to build ships up 2,000 tonnes deadweight capacity and 160 metres in length. The Kattupalli capacity, along with ship building, has a dedicated machine and electrical shop for ship repairs, refits and conversion activities.
- Strategic submarine design centre in Mumbai.

**Exhibit 258: Larsen & Toubro Defence product portfolio**

| Integrated Naval Combat Systems | ASW Systems | Combat Management Systems | Integrated Naval Engineering Equipment & Systems | Integrated Land Based Systems |
|---|---|---|---|---|
| Weapon Delivery Systems | ASW Rocket Launcher (IRL) | Integrated Platform Management System (IPMS) | Steering Gear & Fin Stabilizer with associated controls | Weapon Launch Systems |
| Universal Vertical Missile Launcher (BrahMos) | Twin Tube Torpedo Launcher (ITTL) for 21" torpedoes | Dual Multi Function Consoles | Stern Gear Systems including Propulsion/Shafting systems | Bridging Systems |
| Stabilized Multi-barrel Rocket Launchers (WM18A) | Triple Tube Torpedo Launchers (TTL) for 13" torpedoes | Stabilized Platforms for Radar Systems | Helicopter Landing Grids/ Traversing Systems/ Hanger Shutters | Air Defence & Artillery Systems |
| Stabilised Launch Platforms for missile | Winch & Handling Systems for Towed Array Sonars | | Degaussing systems Electrical Switchboards/EDC/APMS | Mobile Radars |

*Source: Company, Emkay Research*

**Exhibit 259: L&T Acquisitions and JV in Defence Sector**

| Entity | Defence products |
|---|---|
| Boeing | P-8I reconnaissance planes, Naval systems |
| EADS | Manufacture high-end Defence electronics Technology collaboration in radar, avionic, electronic warfare and mobile system segments |
| Raytheon | Upgrade of T-72 tanks |
| Pratt & Whitney | Aircraft engine components |
| Fincanteri | Fleet refuelling tankers, naval systems |
| Spectrum Infotech | Acquisition, capabilities in avionics systems and defence electronics |
| Mitsubishi Heavy | Design and construction of efficient specialized ships |
| Pipavav Defence | A JV, collaboration of L&T's engineering capabilities and Pipavav's shipmaking facilities |
| Thales | Thales provides solutions for naval warships, mercantile ships, vessels and floating systems |
| Nexter systems | Collaborate for key Artillery Gun programmes of the Indian Army. These include the 155mm/ 52 Cal Towed Gun System (TGS) and Mounted Gun System (MGS) programme, with Nexter Systems as lead partner and a 130mm/39 Cal M-46 up-gunning programme, with L&T as lead partner. |

*Source: Company, Emkay Research*

# IRB Infrastructure

## Growth momentum to accelerate

| CMP | Target Price |
|---|---|
| Rs245 | Rs320 (▲) |
| **Rating** | **Upside** |
| BUY (▪) | 30.7 % |

- Prospects improve with potential benefits from (a) premium restructuring scheme (aid near-term cash flows and value for Ahmedabad-Vadodara project), (b) new project wins in the construction arm, c) macro recovery to help BOT business (traffic growth steady, interest rate cut visible across BOT projects)
- Earnings CAGR of 10% over FY15-18E, expect a CAGR of 17% in cash profits, providing the ability to fund equity in new projects, the stock trades at FY17E/18E P/B of 1.4x/1.3x and EV/EBITDA of 7.9x/7.2x
- Given its large operating portfolio, strong order backlog and is best positioned to benefit from a pickup in traffic growth and execution environment. Maintain Buy with target price of Rs320/share (Roll forward valuations to FY18E, introduced Agra Etawah in our SOTP valuation)

### EPC: Revenue Momentum in 2HFY16E/FY17E

IRB witnessed some slowdown in its construction revenues in FY15 on completion of four of its BOT projects (Talegaon-Amravati, Jaipur-Deoli, Amritsar-Pathankot and Tumkur-Chitradurga). The Ahmedabad-Vadodara project contributed the major portion of its construction business revenues at Rs19.6 bn in FY14 and Rs9 bn in FY15. However, given the projects that it won in late FY15 and 1HFY16, orders worth Rs64 bn (Solapur Yadeshi, Yadeshi Aurangabad, Goa Kundapur, Rajasthan Kaithal) will be going under the execution mode whereas Agra Etawah, worth Rs21.7 bn, will start getting executed in FY17E. We build in construction revenue CAGR of 24% over FY15-18E.

IRB Infrastructure's total order book as at September 2015 stands at Rs114.7 bn. The backlog includes Rs1.15 bn worth of Ahmedabad Vadodara, Rs12.6 bn worth of Goa Kundapur and Rs82.57 bn worth of orders from newer projects like Solapur Yadeshi, Yadeshi Aurangabad and Kaithal Rajasthan, Mumbai Pune extension, Agra Etawah. Adding new projects to order book kitty provides a reasonable visibility of 5.2x FY15 construction revenues.

### Comfortably placed to meet the equity requirement

The current equity requirement of the company including the newly won projects stands at Rs24 bn of which equity worth Rs3 bn/Rs12 bn/Rs5 bn/Rs5 bn is to be invested in H2FY16E/FY17E/FY18E/FY19E. We believe, given the cash balance of Rs14 bn, along with operating cash flow from BOT projects (bulk of this originates from the Mumbai-Pune project), and the construction business, would be sufficient to meet the equity requirement. The recent premium restructuring scheme, which offsets the lower negative cash flows from Ahmedabad-Vadodara and Tumkur-Chitradurga projects, also supported cash flows. However, we note that any further award wins in 2HFY16E (Apart from Zozila Tunnel) may put equity funding of new projects from internal cash flows under strain.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 37,319 | 38,475 | 47,340 | 58,798 | 70,024 |
| EBITDA | 17,537 | 22,117 | 26,772 | 33,064 | 38,860 |
| EBITDA Margin (%) | 47.0 | 57.5 | 56.6 | 56.2 | 55.5 |
| APAT | 4,591 | 5,429 | 6,350 | 6,974 | 7,269 |
| EPS (Rs) | 13.8 | 15.4 | 18.0 | 19.8 | 20.7 |
| EPS (% chg) | (17.0) | 11.6 | 16.6 | 10.3 | 4.2 |
| ROE (%) | 13.5 | 13.7 | 12.7 | 11.6 | 11.1 |
| P/E (x) | 17.7 | 15.9 | 13.6 | 12.3 | 11.8 |
| EV/EBITDA (x) | 9.7 | 8.9 | 8.9 | 7.9 | 7.2 |
| P/BV (x) | 2.3 | 2.0 | 1.5 | 1.4 | 1.3 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | 3.2 |
| Previous Reco | BUY |

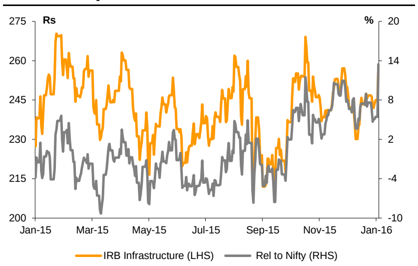
| Emkay vs Consensus | | |
|---|---|---|
| EPS Estimates | | |
| | FY16E | FY17E |
| Emkay | 18.0 | 19.8 |
| Consensus | 16.2 | 17.6 |
| Mean Consensus TP | | Rs 301 |

| Stock Details | |
|---|---|
| Bloomberg Code | IRB IN |
| Face Value (Rs) | 10 |
| Shares outstanding (mn) | 351 |
| 52 Week H/L | 276 / 197 |
| M Cap (Rs bn/USD bn) | 86 / 1.30 |
| Daily Avg Volume (nos.) | 720,851 |
| Daily Avg Turnover (US$ mn) | 2.7 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 57.8% |
| FIIs | 27.4% |
| DIIs | 8.5% |
| Public and Others | 6.3% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | (2) | 4 | 3 | (7) |
| Rel. to Nifty | - | 4 | 11 | (2) |

**Relative price chart**




*Source: Bloomberg*

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**Exhibit 260: Equity Requirement over the next 3.5-4 years**

| Road Project | Equity Requirement (Rs bn) |
|---|---|
| Goa-Kundapur | 2.65 |
| Yadeshi-Aurangabad | 4.26 |
| Solapur-Yadeshi | 1.5 |
| Kaithal-Rajasthan | 2.88 |
| Agra-Etawah | 7.5 |
| Mumbai-Pune Phase 2 | 6 |
| **Total** | **24.79** |

*Source: Company, Emkay Research*

### Interest rate cut visible and steady traffic growth to support value

IRB was recently able to refinance the debt for one of its projects at sub-10% interest rate (MVR Infra). It expects its portfolio of operational projects to have a similar interest rate in the near-term (presently at 10.5%). The company has seen average traffic growth rate of 6% plus over the last 5 quarters and expects traffic growth to sustain at 5% plus levels at its key patches.

**InvIT Mechanism:** Expects monetization to cover pending and incremental near-term funding requirements

The company is looking to transfer 12-15 road assets investment trust and expects to list the Investment trust by FY16 end. The company is looking at a yield of 10-yr G-Sec rate plus 2-2.5% spread on its InvIT instrument.

The company expects to free up equity in the range of Rs50 bn from operational projects and intends to transfer it to the investment trust assuming it holds on to a minimum 25% stake in the trust. If realized, this will likely cover up pending equity commitments (Rs25 bn) as well as investments for incremental project wins for the next 1-2 years.

### Received the Letter of Award (LOA) for Zozila Tunnel

IRB Infrastructure received the Letter of award (LOA) from MORTH for Construction, Operation and Maintenance of Zozila Tunnel on DBFOT Annuity basis (DBFOT).

**Salient features of the project**

- Project involves construction of tunnel spanning length of 14.08 kms.
- The estimated project cost stands at Rs100.5 bn and the Project will involve semi annuity of Rs9.81 bn.
- Concession period of the project is 22 years including construction period of 7 years.
- The construction scope of the project stands at Rs70 bn. The project will get financed in debt to equity ratio of 75:25.

It is the largest project bagged by the company after the Ahmedabad Vadodara project. We see this development as positive given the revenue visibility that this project will provide (assuming construction work of Rs70 bn can add Rs10 bn worth of recurring construction revenue for 7 years).

We believe, given that this project will entail equity funding requirement over the next 7 years (Should not add more than Rs3.5-4 bn per year) will not be seen as a constraint. We believe that project construction will start by April 2017 (FY18E).

We have not accounted this project revenue and valuation in P&L and SOTP valuation.

**Exhibit 261: Investments made by the company in road projects and other subsidiaries (Rs mn)**

| Project (Rs mn) | FY13 | | | | FY14 | | | | FY15 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Equity | Loans & Advances | | Total | Equity | Loans & Advances | | Total | Equity | Loans & Advances | | Total |
| | | ST | LT | | | ST | LT | | | ST | LT | |
| **Investments in road projects** | | | | | | | | | | | | |
| Thane-Bhiwandi bypass | 611 | | | **611** | 611 | | | **611** | 610 | | | **610** |
| Mumbai-Pune Expressway | 778 | 295 | | **1073** | 778 | | | **778** | 778 | | | **778** |
| Pune-Sholapur | 451 | | | **451** | 451 | | | **451** | 451 | | | **451** |
| Pune-Nashik | 519 | | | **519** | 519 | | | **519** | 519 | | | **519** |
| Ahmednagar-Karmala-Tembhurni | 80 | | | **80** | 80 | | | **80** | 80 | | | **80** |
| Bridge over Patalganga River-Kharpada | 80 | | | **80** | 80 | | | **80** | 80 | | | **80** |
| Thane-Ghodbunder | 222 | 6 | | **228** | 222 | | | **222** | 222 | | | **222** |
| Bharuch-Surat | 872 | 2680 | | **3552** | 872 | 1068 | | **1940** | 872 | 974 | | **1845** |
| Integrated Road Development in Kolhapur | 1336 | 566 | | **1902** | 1336 | 710 | | **2046** | 1336 | 1151 | | **2487** |
| Surat-Dahisar | 4653 | 848 | | **5501** | 5323 | | | **5323** | 5323 | | | **5323** |
| Pathankot-Amritsar | 774 | 8 | 2326 | **3109** | 887 | | 2665 | **3553** | 887 | | 2665 | **3553** |
| Talegaon-Amravati | 364 | 352 | 1093 | **1810** | 364 | | 1093 | **1458** | 364 | | 1093 | **1458** |
| Jaipur-Deoli | 975 | 481 | 2925 | **4380** | 975 | | 2925 | **3900** | 975 | | 2925 | **3900** |
| Panaji-Goa | 311 | | 1173 | **1485** | 311 | | 1173 | **1485** | 311 | | 1173 | **1485** |
| Tumkur-Chitradurg | 1111 | 316 | 1111 | **2537** | 1526 | | 1418 | **2943** | 1555 | | 1447 | **3002** |
| Ahmedabad-Vadodara Expressway | 1000 | 34 | 2950 | **3984** | 2053 | 99 | 4268 | **6420** | 3302 | 258 | 7489 | **11049** |
| MVR Infra | 802 | 973 | | **1775** | 802 | 69 | | **870** | 802 | | | **802** |
| West coast tollway private ltd | | | | | 440 | 11 | | **451** | 744 | | 528 | **1271** |
| Kaithal | | | | | | | | | 1 | | 21 | **22** |
| Yadeshi aurangabad | | | | | | | | | 1100 | | 3264 | **4365** |
| Solapur Yadeshi | | | | | | | | | 248 | | 1717 | **1965** |
| **Subtotal - Investment in road projects (a)** | **14939** | **6558** | **11578** | **33075** | **17630** | **1956** | **13542** | **33128** | **20560** | **2382** | **22322** | **45265** |
| **Investments in other subsidiaries** | | | | | | | | | | | | |
| Construction subsidiary | 312 | 957 | | **1269** | 312 | 6917 | | **7229** | 312 | 7299 | | **7610** |
| Real estate subsidiary | 586 | 1 | | **587** | 586 | 85 | | **671** | 586 | 85 | | **671** |
| Hospitality subsidiary | 0 | 182 | | **182** | 0 | 258 | | **258** | 0 | 382 | | **382** |
| Sindhudurg Airport | 0 | 211 | | **211** | 0 | 218 | | **218** | 0 | 526 | | **526** |
| **Subtotal - Investment in other subsidiaries (b)** | **898** | **1351** | | **2249** | **898** | **7478** | | **8376** | **898** | **8292** | | **9190** |
| **Total investments in subsidiaries (a+b)** | **15837** | **7909** | **11578** | **35324** | **18528** | **9434** | **13542** | **41504** | **21458** | **10674** | **22322** | **54455** |

*Source: Company, Emkay Research*

**Exhibit 262: SoTP of Rs320 per share**

| Asset Operated | Holding | Valuation Measure | Disc rate | Value (Rs mn) | Value/Share |
|---|---|---|---|---|---|
| EPC Business | 100% | PER | 9 | 33944 | 96.6 |
| PV of O&M Contracts | 100% | NPV | 13.0% | 3,298 | 9.4 |
| **Value of Construction segment - (a)** | | | | **37,243** | **106** |
| Mumbai Pune Expressway & NH4 (inc ext) | 100% | FCFE | 12.5% | 26,321 | 74.9 |
| Surat Dahisar | 90% | FCFE | 13.0% | 5,627 | 16.0 |
| Bharuch Surat | 100% | FCFE | 13.0% | 3,560 | 10.1 |
| Mohol-Mandrup Road | 100% | FCFE | 13.0% | -178 | -0.5 |
| Kharpada-Patalganga Bridge | 100% | FCFE | 13.0% | 266 | 0.8 |
| Ahmednagar Tembhurni Road | 100% | FCFE | 13.0% | 281 | 0.8 |
| Thane Ghodbunder | 100% | FCFE | 13.0% | 1,017 | 2.9 |
| Pune Nashik | 100% | FCFE | 13.0% | 139 | 0.4 |
| Pune Sholapur | 100% | FCFE | 13.0% | 667 | 1.9 |
| Thane Bhiwandi Bypass | 100% | FCFE | 13.0% | 1,780 | 5.1 |
| Kolhapur City Roads | 100% | FCFE | 14.0% | 2,580 | 7.3 |
| Namakkal - Omallur - NH-7 | 100% | FCFE | 13.0% | 2,626 | 7.5 |
| Amritsar Pathankot | 100% | FCFE | 13.0% | 3,274 | 9.3 |
| Jaipur - Deoli | 100% | FCFE | 13.0% | 6,013 | 17.1 |
| Amravati Talegaon | 100% | FCFE | 13.0% | 840 | 2.4 |
| Tumkur Chitradurga | 100% | FCFE | 13.0% | 6,725 | 19.1 |
| Ahmedabad Vadodara | 100% | FCFE | 14.0% | 8,421 | 24.0 |
| Goa - Kundapur | 100% | FCFE | 13.5% | 6,752 | 19.2 |
| Solapur Yadeshi | 100% | FCFE | 13.5% | 3,988 | 11.3 |
| Yadeshi Aurangabad | 100% | FCFE | 13.5% | 7,212 | 20.5 |
| Kaithal Rajasthan | 100% | FCFE | 13.5% | 4,389 | 12.5 |
| Agra Etawah | 100% | FCFE | 13.5% | -3,092 | -8.8 |
| **Gross value of BOT** | | | | **89,209** | **254** |
| Less : Net Debt at Parent Level | | | | -16,444 | -47 |
| **Value of BOT - Net of debt - (b)** | | | | **75146.7** | **214** |
| **Total Value - (a+b)** | | | | **112,389** | **320** |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **37,319** | **38,475** | **47,340** | **58,798** | **70,024** |
| **Expenditure** | **19,782** | **16,358** | **20,568** | **25,734** | **31,163** |
| **EBITDA** | **17,537** | **22,117** | **26,772** | **33,064** | **38,860** |
| Depreciation | 4,771 | 7,071 | 8,758 | 10,686 | 12,839 |
| **EBIT** | **12,766** | **15,046** | **18,014** | **22,378** | **26,021** |
| Other Income | 1,214 | 1,130 | 991 | 1,010 | 1,199 |
| Interest expenses | 7,562 | 9,312 | 10,598 | 13,919 | 17,010 |
| **PBT** | **6,419** | **6,864** | **8,408** | **9,470** | **10,210** |
| Tax | 1,823 | 1,441 | 2,086 | 2,554 | 2,976 |
| Extraordinary Items | 0 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 5 | (6) | (29) | (58) | (35) |
| **Reported Net Income** | **4,591** | **5,429** | **6,350** | **6,974** | **7,269** |
| **Adjusted PAT** | **4,591** | **5,429** | **6,350** | **6,974** | **7,269** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 3,324 | 3,515 | 3,515 | 3,515 | 3,515 |
| Reserves & surplus | 32,283 | 40,094 | 52,911 | 60,009 | 63,908 |
| **Net worth** | **35,607** | **43,609** | **56,426** | **63,523** | **67,423** |
| **Minority Interest** | **356** | **351** | **322** | **263** | **228** |
| **Loan Funds** | **102,945** | **126,062** | **163,317** | **186,270** | **198,744** |
| Net deferred tax liability | 143 | 170 | 170 | 170 | 170 |
| **Total Liabilities** | **139,051** | **170,191** | **220,234** | **250,226** | **266,565** |
| **Net block** | **85,544** | **317,637** | **215,002** | **228,170** | **291,081** |
| **Investment** | **145** | **88** | **88** | **88** | **88** |
| **Current Assets** | **26,469** | **27,814** | **23,834** | **22,542** | **18,439** |
| Cash & bank balance | 15,000 | 16,322 | 11,258 | 10,482 | 6,320 |
| Other Current Assets | 0 | 0 | 0 | 0 | 0 |
| **Current liabilities & Provision** | **17,986** | **223,714** | **97,090** | **91,734** | **80,080** |
| **Net current assets** | **8,483** | **(195,900)** | **(73,256)** | **(69,192)** | **(61,642)** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **139,039** | **170,178** | **220,221** | **250,214** | **266,552** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **5,205** | **5,734** | **7,416** | **8,459** | **9,011** |
| Other Non-Cash items | 0 | 0 | 0 | 0 | 1 |
| Chg in working cap | (210) | 205,731 | (127,708) | (4,840) | (11,712) |
| **Operating Cashflow** | **15,505** | **226,407** | **(103,022)** | **25,670** | **24,173** |
| Capital expenditure | (30,934) | (242,650) | 63,843 | (36,614) | (21,628) |
| **Free Cash Flow** | **(15,429)** | **(16,243)** | **(39,180)** | **(10,944)** | **2,546** |
| Investments | 475 | 57 | 0 | 0 | 0 |
| Other Investing Cash Flow | (13) | 3,434 | 7,940 | 1,742 | (1,683) |
| **Investing Cashflow** | **(29,257)** | **(238,029)** | **72,774** | **(33,862)** | **(22,112)** |
| Equity Capital Raised | 0 | 191 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 23,884 | 23,117 | 37,255 | 22,953 | 12,474 |
| Dividend paid (incl tax) | (1,942) | (1,260) | (1,473) | (1,618) | (1,686) |
| Other Financing Cash Flow | (339) | 207 | 0 | 0 | (1) |
| **Financing Cashflow** | **14,042** | **12,944** | **25,184** | **7,416** | **(6,223)** |
| **Net chg in cash** | **290** | **1,322** | **(5,064)** | **(776)** | **(4,162)** |
| Opening cash position | 14,710 | 15,000 | 16,322 | 11,258 | 10,482 |
| **Closing cash position** | **15,000** | **16,322** | **11,258** | **10,482** | **6,320** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 47.0 | 57.5 | 56.6 | 56.2 | 55.5 |
| EBIT Margin | 34.2 | 39.1 | 38.1 | 38.1 | 37.2 |
| Effective Tax Rate | 28.4 | 21.0 | 24.8 | 27.0 | 29.1 |
| Net Margin | 12.3 | 14.1 | 13.4 | 11.8 | 10.3 |
| ROCE | 11.1 | 10.5 | 9.7 | 9.9 | 10.5 |
| ROE | 13.5 | 13.7 | 12.7 | 11.6 | 11.1 |
| RoIC | 20.0 | 16.3 | 15.3 | 16.0 | 14.0 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 13.8 | 15.4 | 18.0 | 19.8 | 20.7 |
| CEPS | 28.2 | 35.6 | 43.0 | 50.2 | 57.2 |
| BVPS | 107.1 | 124.1 | 160.6 | 180.7 | 191.8 |
| DPS | 2.8 | 3.1 | 3.6 | 4.0 | 4.1 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 17.7 | 15.9 | 13.6 | 12.3 | 11.8 |
| P/CEPS | 8.7 | 6.9 | 5.7 | 4.9 | 4.3 |
| P/BV | 2.3 | 2.0 | 1.5 | 1.4 | 1.3 |
| EV / Sales | 4.5 | 5.1 | 5.0 | 4.5 | 4.0 |
| EV / EBITDA | 9.7 | 8.9 | 8.9 | 7.9 | 7.2 |
| Dividend Yield (%) | 1.1 | 1.3 | 1.5 | 1.6 | 1.7 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 2.5 | 2.5 | 2.7 | 2.8 | 2.9 |
| Net Debt/EBIDTA | 5.0 | 5.0 | 5.7 | 5.3 | 5.0 |
| Working Cap Cycle (days) | (63.7) | (2,013.3) | (651.6) | (494.6) | (354.3) |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 1.2 | 3.1 | 23.0 | 24.2 | 19.1 |
| EBITDA | 7.4 | 26.1 | 21.0 | 23.5 | 17.5 |
| EBIT | 7.1 | 17.9 | 19.7 | 24.2 | 16.3 |
| PAT | (17.5) | 18.2 | 17.0 | 9.8 | 4.2 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 8,832 | 9,638 | 9,904 | 11,089 | 11,492 |
| EBITDA | 5,230 | 5,554 | 5,706 | 6,285 | 6,049 |
| **EBITDA Margin (%)** | **59.2** | **57.6** | **57.6** | **56.7** | **52.6** |
| PAT | 1,218 | 1,326 | 1,382 | 1,660 | 1,491 |
| **EPS (Rs)** | **3.5** | **3.8** | **3.9** | **4.7** | **4.2** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 61.1 | 61.1 | 57.8 | 57.8 | 57.8 |
| FIIs | 23.7 | 24.6 | 27.0 | 26.5 | 27.4 |
| DIIs | 6.0 | 6.5 | 8.0 | 9.1 | 8.5 |
| Public and Others | 9.2 | 7.8 | 7.2 | 6.6 | 6.3 |

# Sadbhav Engineering

## The appeal of EPC vs transient pain of BOT

| CMP | Target Price |
|---|---|
| Rs345 | Rs376 (▲) |
| Rating | Upside |
| BUY (▪) | 9.0 % |

- Given that the order book provides 2.5 years plus visibility, and order intake visibility also remains strong, we build revenue of Rs33.7 bn/Rs40.6 bn/Rs47 bn for FY16E/FY17E/FY18E, CAGR of 16.7% over FY15-18E. We build in earnings CAGR of 29% over FY15-18E
- As captive BOT projects to get largely executed in FY16E and EPC cash contracts to form 60% of the overall FY17E/18E revenue, we expect margins to remain at 11% over FY17E/18E
- Given that order book remains steady and intake visibility remains high we believe consistent cash flow generation to continue in EPC business and BOT portfolio to be cash break even in FY18E (Steady cash generation from this portfolio from FY18E will more than take care of any shortfall in funding new projects). Any correction should be used as an opportunity to buy. Roll forward valuations to FY18E, revise target price to Rs376/share Maintain Buy

### Order book steady and order intake visibility strong

The current book stands at Rs90 bn which implies 2.5 years plus revenue visibility and order intake in 1HFY16 stood at Rs26 bn driven by EPC cash contracts (Roads). The order intake visibility remains high over the next 6 months from the road sector (Rs300 bn) and mining sector (Rs50 bn) and the company is also evaluating two stuck road projects totaling Rs20 bn (20-25% complete) where the outstanding job is Rs14-15 bn. The company has negotiated to put equity in such projects at the last leg and initially fund the project through debt only. We build in order intake of Rs50bn/Rs51 bn/Rs53 bn in FY16E/FY17E/FY18E.

Given that the order book provides 2.5 years plus visibility, and order intake visibility also remains strong, we build revenue of Rs33.7 bn/Rs40.6 bn/Rs47 bn, CAGR of 16.7% over FY15-18E.

### EBITDA margins steadfast at 10.8%%/10.9%/11.2% over FY16E-18E

Given that order book from the captive BOT projects will get completely executed in FY16E (FY16 margin expansion restricted due to the execution of the irrigation projects which were in JV with GKC, JV partner of Sadbhav) and revenue growth will be driven by EPC road projects (60% of revenue to be driven by EPC road cash contracts). We believe margins to remain at 11% over FY17E/18E.

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 23,581 | 29,698 | 33,694 | 40,598 | 47,119 |
| EBITDA | 2,494 | 3,002 | 3,655 | 4,425 | 5,262 |
| EBITDA Margin (%) | 10.6 | 10.1 | 10.8 | 10.9 | 11.2 |
| APAT | 1,143 | 1,113 | 1,519 | 1,959 | 2,456 |
| EPS (Rs) | 6.7 | 6.5 | 8.9 | 11.4 | 14.3 |
| EPS (% chg) | 246.4 | (2.6) | 36.5 | 29.0 | 25.3 |
| ROE (%) | 12.8 | 9.6 | 10.7 | 12.5 | 13.8 |
| P/E (x) | 51.7 | 53.1 | 38.9 | 30.2 | 23.7 |
| EV/EBITDA (x) | 26.9 | 23.2 | 18.7 | 15.4 | 12.7 |
| P/BV (x) | 6.2 | 4.4 | 4.0 | 3.6 | 3.1 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA/(3.4) |
| Target Price change (%) | 10.6 |
| Previous Reco | BUY |

**Emkay vs Consensus**

| EPS Estimates | | |
|---|---|---|
| | FY16E | FY17E |
| Emkay | 8.9 | 11.4 |
| Consensus | 7.2 | 9.4 |
| Mean Consensus TP | | Rs 370 |

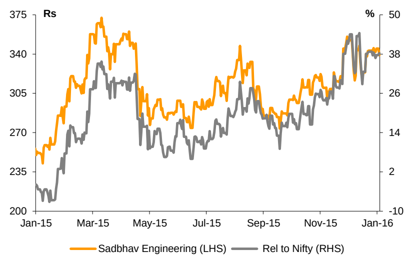
| Stock Details | |
|---|---|
| Bloomberg Code | SADE IN |
| Face Value (Rs) | 1 |
| Shares outstanding (mn) | 172 |
| 52 Week H/L | 385 / 241 |
| M Cap (Rs bn/USD bn) | 59 / 0.89 |
| Daily Avg Volume (nos.) | 54,069 |
| Daily Avg Turnover (US$ mn) | 0.3 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 47.1% |
| FIIs | 14.7% |
| DIIs | 27.1% |
| Public and Others | 11.1% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| **Absolute** | (3) | 15 | 15 | 34 |
| **Rel. to Nifty** | 1 | 15 | 23 | 41 |

**Relative price chart**




*Source: Bloomberg*

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## BOT Portfolio to get fully commissioned by FY17E, equity funding completed, benefit of interest reduction visible

There is no further equity requirement in SIPL (Sadbhav Infrastructure Projects Ltd) for the current portfolio from the SEL (Sadhbav Engineering) end, while the Rs790 mn equity requirement of Mysore-Bellary project will be furnished by SIPL itself. The total equity investments in the BOT portfolio stands at Rs21.15 bn of which SEL total equity infusion stands at Rs10.45 bn (Rs5.85 bn given as debt, Rs4.6 bn given as equity) and Rs6.7 bn was taken as debt on SIPL balance sheet and remaining Rs4 bn was invested by Xander and Norwest.

A large portion (65%) of the total equity commitment has been commissioned and remaining 35% to get commissioned in the next 1.5 years, which will drive the toll revenue/EBITDA over the next 3 years (toll revenue/EBITDA CAGR of 38%/35% over FY15-18E).

The company has been able to refinance some of its road projects like Aurangabad Jalna, Hyderabad Yadgiri, Dhule Palesnar and Bijapur Hungund and has seen reduction in the interest cost by 140 bps.

## Eyeing Mine Development and Operator (MDO) business

The company is looking to bid for the mine operating rights for the Kiloni block of Karnataka Power Corporation Ltd. (KPCL) The contract stipulates extraction of 125 mn MT in a period of 25 years. The company expects cumulative contract revenue of Rs250 bn (bidding parameter) over the life of the project. The project will entail an initial capex of Rs7 bn for procuring trucks, excavators and other mining equipment. Given that the life of such equipment is 7-8 years, the company will be engaging in two additional cycles of capex through the life of the project. Given that it's an already operational mine we don't see any risk for getting environment and forest clearance by the MDO.

**Exhibit 263: SoTP of Rs376 per share**

| Buisiness | Value (Rs mn) | Stake (%) | Value adjusted for stake (Rs mn) | Per share (Rs) | Methodology |
|---|---|---|---|---|---|
| **EPC Business** | **35475** | **100** | | **207** | **Based on FY18E EBITDA - 8.5X for construction business** |
| **Sadbhav Infrastructure Projects** | **55123** | **68.95** | | | **Based on FCFE valuation of projects** |
| Aurangabad Jalna | 2788 | 100 | 2788.1 | 11.2 | Cost of Equity 13% |
| Ahmedabad Ring Road | 4111 | 100 | 4111.0 | 16.5 | Cost of Equity 13% |
| Nagpur-Seoni | 459 | 100 | 458.5 | 1.8 | Cost of Equity 13% |
| Dhule | 6688 | 100 | 6688.4 | 26.9 | Cost of Equity 13% |
| Mumbai Nasik | 3600 | 20 | 720.0 | 2.9 | Cost of Equity 13% |
| MBCPNL | 18021 | 78 | 14056.3 | 56.5 | Cost of Equity 13% |
| Rohtak-Panipat | -243 | 100 | -242.9 | -1.0 | Cost of Equity 13% |
| Hyderabad-Yadgiri | 2377 | 100 | 2376.6 | 9.6 | Cost of Equity 13% |
| Bijapur-Hungund | 7202 | 77 | 5545.7 | 22.3 | Cost of Equity 13% |
| Gomti ka Chauraha | 1980 | 100 | 1979.7 | 8.0 | Cost of Equity 13% |
| Rajsamanad-Bhilwara | 3596 | 100 | 3596.5 | 14.5 | Cost of Equity 13% |
| Rohtak Hissar | 2813 | 100 | 2813.2 | 11.3 | Cost of Equity 13% |
| Karnataka | 1,731 | 100 | 1730.7 | 7.0 | Cost of Equity 13% |
| **BOT Value per share** | | | **272** | **188** | |
| Less: Holding company discount | 10% | | | 19 | |
| **Target price** | | | | **376** | |

*Source: Company, Emkay Research*

**Exhibit 264: We have revised our FY17E EPS downwards by 3.4%**

| | FY17E | | |
|---|---|---|---|
| **Particulars** | **Earlier** | **Revised** | **Change %** |
| Sales | 42,001 | 40,598 | -3.3% |
| EBIDTA | 4,624 | 4,425 | -4.3% |
| *EBIDTA (%)* | *11.0%* | *10.9%* | *-11 bps* |
| Net Profit | 2,028 | 1,959 | -3.4% |
| EPS | 11.8 | 11.4 | -3.4% |

*Source: Company, Emkay Research*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **23,581** | **29,698** | **33,694** | **40,598** | **47,119** |
| **Expenditure** | **21,087** | **26,696** | **30,040** | **36,173** | **41,857** |
| **EBITDA** | **2,494** | **3,002** | **3,655** | **4,425** | **5,262** |
| Depreciation | 474 | 817 | 885 | 987 | 1,047 |
| **EBIT** | **2,020** | **2,185** | **2,769** | **3,438** | **4,214** |
| Other Income | 364 | 164 | 100 | 100 | 100 |
| Interest expenses | 1,181 | 891 | 858 | 854 | 903 |
| **PBT** | **1,203** | **1,459** | **2,011** | **2,684** | **3,411** |
| Tax | 61 | 346 | 492 | 725 | 955 |
| Extraordinary Items | (196) | 25 | (118) | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **947** | **1,137** | **1,401** | **1,959** | **2,456** |
| **Adjusted PAT** | **1,143** | **1,113** | **1,519** | **1,959** | **2,456** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 383 | 172 | 172 | 172 | 172 |
| Reserves & surplus | 9,189 | 13,349 | 14,630 | 16,469 | 18,804 |
| **Net worth** | **9,572** | **13,521** | **14,801** | **16,640** | **18,976** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **8,633** | **10,964** | **10,000** | **10,000** | **9,600** |
| Net deferred tax liability | 357 | 244 | 244 | 244 | 244 |
| **Total Liabilities** | **18,562** | **24,728** | **25,045** | **26,884** | **28,820** |
| **Net block** | **4,982** | **5,394** | **5,368** | **5,181** | **4,734** |
| **Investment** | **5,210** | **5,313** | **6,653** | **7,653** | **8,653** |
| **Current Assets** | **20,088** | **24,544** | **26,410** | **30,734** | **34,539** |
| Cash & bank balance | 762 | 315 | 752 | 840 | 850 |
| Other Current Assets | 464 | 641 | 641 | 641 | 641 |
| **Current liabilities & Provision** | **11,717** | **10,522** | **13,385** | **16,684** | **19,106** |
| **Net current assets** | **8,370** | **14,022** | **13,024** | **14,050** | **15,433** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **18,562** | **24,728** | **25,046** | **26,885** | **28,820** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **456** | **1,294** | **1,793** | **2,584** | **3,311** |
| Other Non-Cash items | 267 | (37) | 0 | 0 | 0 |
| Chg in working cap | (241) | (2,963) | 1,434 | (937) | (1,373) |
| **Operating Cashflow** | **2,191** | **148** | **4,479** | **2,763** | **2,933** |
| Capital expenditure | (2,116) | (1,248) | (860) | (800) | (600) |
| **Free Cash Flow** | **75** | **(1,101)** | **3,619** | **1,963** | **2,333** |
| Investments | 174 | (103) | (1,340) | (1,000) | (1,000) |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **(1,577)** | **(1,187)** | **(2,100)** | **(1,700)** | **(1,500)** |
| Equity Capital Raised | 232 | (212) | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 1,003 | 2,330 | (964) | 0 | (400) |
| Dividend paid (incl tax) | (124) | (145) | (120) | (120) | (120) |
| Other Financing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Financing Cashflow** | **(70)** | **592** | **(1,942)** | **(974)** | **(1,424)** |
| **Net chg in cash** | **544** | **(447)** | **437** | **89** | **10** |
| Opening cash position | 218 | 762 | 315 | 752 | 840 |
| **Closing cash position** | **762** | **315** | **752** | **840** | **850** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 10.6 | 10.1 | 10.8 | 10.9 | 11.2 |
| EBIT Margin | 8.6 | 7.4 | 8.2 | 8.5 | 8.9 |
| Effective Tax Rate | 5.0 | 23.7 | 24.5 | 27.0 | 28.0 |
| Net Margin | 4.8 | 3.7 | 4.5 | 4.8 | 5.2 |
| ROCE | 13.7 | 10.9 | 11.5 | 13.6 | 15.5 |
| ROE | 12.8 | 9.6 | 10.7 | 12.5 | 13.8 |
| RoIC | 17.4 | 13.8 | 15.1 | 19.1 | 22.4 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 6.7 | 6.5 | 8.9 | 11.4 | 14.3 |
| CEPS | 9.4 | 11.3 | 14.0 | 17.2 | 20.4 |
| BVPS | 55.8 | 78.9 | 86.3 | 97.1 | 110.7 |
| DPS | 0.6 | 0.7 | 0.6 | 0.6 | 0.6 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 51.7 | 53.1 | 38.9 | 30.2 | 23.7 |
| P/CEPS | 36.6 | 30.6 | 24.6 | 20.1 | 16.6 |
| P/BV | 6.2 | 4.4 | 4.0 | 3.6 | 3.1 |
| EV / Sales | 2.8 | 2.3 | 2.0 | 1.7 | 1.4 |
| EV / EBITDA | 26.9 | 23.2 | 18.7 | 15.4 | 12.7 |
| Dividend Yield (%) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 0.8 | 0.8 | 0.6 | 0.6 | 0.5 |
| Net Debt/EBIDTA | 3.2 | 3.5 | 2.5 | 2.1 | 1.7 |
| Working Cap Cycle (days) | 117.8 | 168.5 | 132.9 | 118.8 | 113.0 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 30.2 | 25.9 | 13.5 | 20.5 | 16.1 |
| EBITDA | 60.1 | 20.4 | 21.7 | 21.1 | 18.9 |
| EBIT | 63.6 | 8.2 | 26.7 | 24.1 | 22.6 |
| PAT | 0.8 | 20.2 | 23.2 | 39.8 | 25.3 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 5,946 | 7,223 | 9,674 | 8,293 | 7,459 |
| EBITDA | 596 | 734 | 957 | 894 | 807 |
| **EBITDA Margin (%)** | **10.0** | **10.2** | **9.9** | **10.8** | **10.8** |
| PAT | 102 | 377 | 389 | 395 | 262 |
| **EPS (Rs)** | **0.6** | **2.2** | **2.3** | **2.3** | **1.5** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 47.9 | 47.1 | 47.1 | 47.1 | 47.1 |
| FIIs | 15.6 | 15.4 | 16.0 | 15.9 | 14.7 |
| DIIs | 26.0 | 25.0 | 24.3 | 25.0 | 27.1 |
| Public and Others | 10.5 | 12.5 | 12.6 | 12.0 | 11.1 |

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Your success is our success

# Ashoka Buildcon

## EPC Business to drive growth

| CMP | Target Price |
|---|---|
| Rs194 | Rs230 (▲) |
| **Rating** | **Upside** |
| ACCUMULATE (▪) | 18.3 % |

- Given the recent order wins, a strong order pipeline can support 14.3% CAGR in EPC revenues over FY15-18E
- Traffic growth picked up over the last 5 quarters stays around 6% plus, premium deferment on Dhankuni project to address cash flow mismatch, however, traffic collections still lower than bid assumptions on Sambalpur, Pimpalgaon Nashik road projects can lead to higher dilution of company's stake in ACL portfolio
- Given that existing BOT portfolio is completely funded and issues with respect to cash flow mismatch are partly addressed, we believe that the value addition to be driven by newer project wins and increase stake in the profitable projects (Jaora Nayagoan).We have extended the concession life of Sambalpur, Pimpalgaon Nashik project by 20% on estimated traffic shortfall. Maintain accumulate with a revised target price of 230/share (roll forward valuations to FY18E)

### Order intake remains strong implies construction revenue momentum in FY17E

The company has bagged orders worth Rs24 bn on YTD basis driven by EPC road projects taking the order backlog to Rs44 bn which implies 2 years plus revenue growth. The backlog now has 70% share of road projects, which should account for the majority of revenues in FY17. The company targets order inflow of Rs37-38 bn in FY16E and anticipates such strong ordering momentum to sustain for the company in FY17 as well. We build in order intake of Rs37 bn/Rs35 bn/Rs40 bn in FY16E/17E/18E and construction revenue CAGR of 14.3% over FY15-18E.

### Existing BOT Portfolio completely funded, traffic collections still lower than bid assumptions

The company (ABL invested Rs8.5 bn as an equity commitment, Rs2.3bn towards shortfall funding) and SBI Macquarie (invested Rs7 bn as an equity commitment and Rs1 bn towards shortfall funding) has invested Rs18.8 bn in the BOT portfolio. The recent two annuity projects would have a combined annuity payment of about Rs1.3 bn. Net of the grant, these projects would require equity commitment of Rs1.1 bn. We have seen projects like Sambalpur where toll collection stands at Rs1.05 mn/day at 83% completion (full COD pending), way below expectation. The management stated that at 100% completion the toll collection will reach Rs1.3-1.35 mn/day including additional Rs1-1.5 lakh per day toll leakage that is happening currently as certain users are unwilling to pay toll until 100% commissioning. The management estimated toll collection of Rs2.5 mn/day at the time of bidding for the project. Similar miss in traffic assumptions was seen on Pimpalgaon Nashik project.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 17,949 | 23,197 | 27,730 | 33,991 | 36,386 |
| EBITDA | 3,945 | 4,730 | 7,351 | 9,827 | 10,110 |
| EBITDA Margin (%) | 22.0 | 20.4 | 26.5 | 28.9 | 27.8 |
| APAT | 1,131 | 835 | 818 | 1,094 | 1,020 |
| EPS (Rs) | 7.2 | 5.3 | 4.4 | 5.9 | 5.5 |
| EPS (% chg) | 13.2 | (26.2) | (17.0) | 33.7 | (6.7) |
| ROE (%) | 9.8 | 6.4 | 5.0 | 5.7 | 5.1 |
| P/E (x) | 27.1 | 36.8 | 44.3 | 33.1 | 35.5 |
| EV/EBITDA (x) | 15.6 | 14.6 | 11.1 | 8.4 | 8.3 |
| P/BV (x) | 2.4 | 2.3 | 1.9 | 1.8 | 1.8 |

*Source: Company, Emkay Research*

**Change in Estimates**

| | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA/(4.8) |
| Target Price change (%) | 14.4 |
| Previous Reco | ACCUMULATE |

**Emkay vs Consensus**

| EPS Estimates | | |
|---|---|---|
| | FY16E | FY17E |
| Emkay | 4.4 | 5.9 |
| Consensus | 3.7 | 5.3 |
| Mean Consensus TP | | Rs 222 |

**Stock Details**

| | |
|---|---|
| Bloomberg Code | ASBL IN |
| Face Value (Rs) | 5 |
| Shares outstanding (mn) | 187 |
| 52 Week H/L | 221 / 133 |
| M Cap (Rs bn/USD bn) | 36 / 0.55 |
| Daily Avg Volume (nos.) | 121,398 |
| Daily Avg Turnover (US$ mn) | 0.4 |

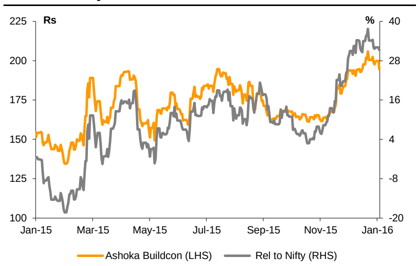
**Shareholding Pattern Sep '15**

| | |
|---|---|
| Promoters | 57.2% |
| FIIs | 10.6% |
| DIIs | 19.1% |
| Public and Others | 13.1% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| Absolute | - | 16 | 6 | 27 |
| Rel. to Nifty | (1) | 19 | 16 | 38 |

**Relative price chart**




*Source: Bloomberg*

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## Management rationale for international foray

The recent Rs2.7 bn order win for the company in Maldives may be an indication of more such projects to come. The company is looking at projects in Africa and Mauritius as well and anticipates slightly better margin on such overseas projects. The company comforted investors on the project, citing (1) JV partner having working relationships with the government of Maldives, (2) the company bagging only the pure construction contract for the project and (3) first 15% mobilization advance to be put in by the government of Maldives, with the remaining related to tie up of debt funding.

**Exhibit 265: SOTP of Rs230/share**

| Description | Cost of Equity | Equity value (Rs mn) | Stake | ABL Value (Rs mn) | ABL Value (Rs per share) |
|---|---|---|---|---|---|
| **Ashoka Concessions Ltd.** | | | | | |
| Dhankuni - Kharagpur | 13.0% | 4,845.0 | 100.0% | 4,845.0 | 26.0 |
| Sambhalpur - Baragarh | 13.0% | 1,218.1 | 100.0% | 1,218.1 | 6.5 |
| Belgaum - Dharwad | 13.0% | 2,642.3 | 100.0% | 2,642.3 | 14.2 |
| Pimpalgaon - Nasik | 13.0% | (4,624.5) | 26.0% | (1,202.4) | (6.5) |
| **Value for Under construction projects** | | **4,080.89** | | **7,503.0** | **40.3** |
| Jaora - Naigaon | 13.0% | 14,270.5 | 37.5% | 5,351.4 | 28.7 |
| Durg - Chhattisgarh | 13.0% | 1,811.4 | 51.0% | 923.8 | 5.0 |
| Chhattisgarh - Bhandara | 13.0% | (437.3) | 51.0% | (223.0) | (1.2) |
| Chennai ORR | 12.5% | 3,754.1 | 50.0% | 1,877.0 | 10.1 |
| **Value of ACL at 61% stake – (a)** | | **23,479.5** | **61.0%** | **9,413.7** | **50.5** |
| Jaora - Naigaon (ABL stake) | 13.0% | 14270.5 | 37.5% | 5351.4 | 28.7 |
| Indore - Edalabad | 13.0% | 1,249.4 | 100.0% | 1,249.4 | 6.7 |
| Waiganga river Bridge | 13.0% | 776.7 | 50.0% | 388.4 | 2.1 |
| Pune - Shirur | 13.0% | - | 100.0% | - | |
| Dewas Bypass | 13.0% | 591.5 | 100.0% | 591.5 | 3.2 |
| Katni Bypass | 13.0% | - | 99.9% | - | |
| A'nagar - Karmala | 13.0% | - | 100.0% | | |
| A'nagar - Aurangabad | 13.0% | (95.5) | 100.0% | | - |
| Nasirabad Road ROB | 13.0% | - | 100.0% | | |
| Mudhol Maharashtra Road Project | 12.0% | 1,250.7 | 51.0% | 637.9 | 3.4 |
| Sherinallah Bridge | 13.0% | - | 100.0% | | |
| Dhule Bypass | 13.0% | - | 100.0% | | |
| Anwali Kasegaon | | | 5.0% | | |
| Hungund-Muddebihal-Talikot | 13.0% | 741.4 | 100.0% | 741.4 | 4.0 |
| Bagewadi-Bailhongal-Saundatti | 13.0% | 753.1 | 100.0% | 753.1 | 4.0 |
| FOBs - Eastern Exp H'way - 6 | 13.0% | 23.2 | 100.0% | 23.2 | 0.1 |
| **Value for operating projects – (b)** | | | | **7,894.0** | **52.2** |
| **Total BOT Fair value – (a + b)** | | | | **15,408.1** | **102.8** |
| Add: Net holding company cash/debt | | | | (887) | (5) |
| **Net Value of BOT** | | | | **14,521** | **98** |
| **Add: EPC valuation** | | | | **24,259.00** | **131** |
| **Fair value per share** | | | | **38,780.3** | **230** |

*Source: Company, Emkay Research*

**Exhibit 266: We have revised our FY17E EPS downwards by 4.79% on higher tax outgo**

| | FY17E | | |
|---|---|---|---|
| **Particulars** | **Earlier** | **Revised** | **Change %** |
| Sales | 33,134 | 33,991 | 2.59% |
| EBIDTA | 9,989 | 9,827 | -1.63% |
| *EBIDTA (%)* | *30.1%* | *28.9%* | *-124 bps* |
| Net Profit | 1,149 | 1,094 | -4.79% |
| EPS | 6.2 | 5.9 | -4.79% |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **17,949** | **23,197** | **27,730** | **33,991** | **36,386** |
| **Expenditure** | **14,003** | **18,467** | **20,378** | **24,164** | **26,276** |
| **EBITDA** | **3,945** | **4,730** | **7,351** | **9,827** | **10,110** |
| Depreciation | 1,389 | 1,517 | 2,522 | 3,280 | 3,454 |
| **EBIT** | **2,556** | **3,213** | **4,829** | **6,547** | **6,656** |
| Other Income | 173 | 290 | 409 | 450 | 473 |
| Interest expenses | 1,335 | 2,721 | 4,515 | 5,316 | 5,301 |
| **PBT** | **1,394** | **782** | **723** | **1,681** | **1,828** |
| Tax | 688 | 775 | 739 | 1,205 | 1,146 |
| Extraordinary Items | (157) | 0 | (353) | 0 | 0 |
| Minority Int./Income from Assoc. | 425 | 828 | 834 | 618 | 338 |
| **Reported Net Income** | **974** | **835** | **465** | **1,094** | **1,020** |
| **Adjusted PAT** | **1,131** | **835** | **818** | **1,094** | **1,020** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 790 | 793 | 935 | 935 | 935 |
| Reserves & surplus | 11,838 | 12,776 | 18,068 | 18,697 | 19,717 |
| **Net worth** | **12,628** | **13,569** | **19,003** | **19,632** | **20,652** |
| **Minority Interest** | **4,645** | **5,047** | **4,253** | **4,987** | **4,712** |
| **Loan Funds** | **31,926** | **38,726** | **45,982** | **46,963** | **48,301** |
| Net deferred tax liability | (21) | (99) | (99) | (99) | (99) |
| **Total Liabilities** | **49,179** | **57,244** | **69,139** | **71,483** | **73,566** |
| **Net block** | **40,250** | **125,712** | **123,059** | **139,149** | **142,024** |
| **Investment** | **2,847** | **2,345** | **1,967** | **1,967** | **1,967** |
| **Current Assets** | **12,444** | **16,946** | **18,234** | **19,613** | **20,830** |
| Cash & bank balance | 945 | 410 | 640 | 469 | 484 |
| Other Current Assets | 835 | 1,013 | 1,013 | 1,013 | 1,013 |
| **Current liabilities & Provision** | **85,983** | **89,265** | **83,369** | **91,733** | **92,256** |
| **Net current assets** | **(73,539)** | **(72,319)** | **(65,135)** | **(72,120)** | **(71,425)** |
| Misc. exp | 0 | 0 | 0 | 0 | 1 |
| **Total Assets** | **49,179** | **57,244** | **69,139** | **71,484** | **73,567** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **1,394** | **782** | **723** | **1,681** | **1,828** |
| Other Non-Cash items | (50) | 347 | 0 | 0 | 0 |
| Chg in working cap | (38) | (1,317) | (6,954) | 6,814 | (679) |
| **Operating Cashflow** | **3,593** | **3,898** | **68** | **15,885** | **8,758** |
| Capital expenditure | (10,802) | (8,872) | (7,611) | (12,609) | (4,842) |
| **Free Cash Flow** | **(7,210)** | **(4,973)** | **(7,543)** | **3,276** | **3,916** |
| Investments | (23) | 507 | 378 | 0 | 0 |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **(9,220)** | **(8,122)** | **(7,234)** | **(12,609)** | **(4,842)** |
| Equity Capital Raised | 14,054 | (106) | 5,000 | 0 | 0 |
| Loans Taken / (Repaid) | (6,663) | 6,811 | 7,256 | 981 | 1,338 |
| Dividend paid (incl tax) | 0 | (290) | (384) | (465) | 0 |
| Other Financing Cash Flow | 0 | 0 | 39 | 1,352 | 63 |
| **Financing Cashflow** | **6,056** | **3,694** | **7,396** | **(3,447)** | **(3,901)** |
| **Net chg in cash** | **428** | **(530)** | **230** | **(171)** | **15** |
| Opening cash position | 518 | 945 | 410 | 640 | 469 |
| **Closing cash position** | **946** | **415** | **640** | **469** | **484** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 22.0 | 20.4 | 26.5 | 28.9 | 27.8 |
| EBIT Margin | 14.2 | 13.8 | 17.4 | 19.3 | 18.3 |
| Effective Tax Rate | 49.4 | 99.1 | 102.2 | 71.7 | 62.7 |
| Net Margin | 3.9 | 0.0 | (0.1) | 1.4 | 1.9 |
| ROCE | 6.4 | 6.6 | 8.3 | 10.0 | 9.8 |
| ROE | 9.8 | 6.4 | 5.0 | 5.7 | 5.1 |
| RoIC | (5.3) | 34.3 | 8.8 | 10.6 | 9.7 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 7.2 | 5.3 | 4.4 | 5.9 | 5.5 |
| CEPS | 16.0 | 14.9 | 17.9 | 23.5 | 24.0 |
| BVPS | 80.0 | 85.9 | 102.0 | 105.4 | 110.8 |
| DPS | 1.5 | 1.5 | 1.8 | 2.1 | 2.3 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 27.1 | 36.8 | 44.3 | 33.1 | 35.5 |
| P/CEPS | 12.2 | 13.1 | 10.8 | 8.3 | 8.1 |
| P/BV | 2.4 | 2.3 | 1.9 | 1.8 | 1.8 |
| EV / Sales | 3.4 | 3.0 | 2.9 | 2.4 | 2.3 |
| EV / EBITDA | 15.6 | 14.6 | 11.1 | 8.4 | 8.3 |
| Dividend Yield (%) | 0.8 | 0.8 | 0.9 | 1.1 | 1.2 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 2.5 | 2.8 | 2.4 | 2.4 | 2.3 |
| Net Debt/EBIDTA | 7.9 | 8.1 | 6.2 | 4.7 | 4.7 |
| Working Cap Cycle (days) | (1,514.7) | (1,144.4) | (865.8) | (779.5) | (721.4) |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | (3.1) | 29.2 | 19.5 | 22.6 | 7.0 |
| EBITDA | 6.1 | 19.9 | 55.4 | 33.7 | 2.9 |
| EBIT | 6.7 | 25.7 | 50.3 | 35.6 | 1.7 |
| PAT | 15.7 | (14.3) | (44.3) | 135.1 | (6.7) |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 4,314 | 4,556 | 8,030 | 6,302 | 6,512 |
| EBITDA | 935 | 1,054 | 1,713 | 1,836 | 2,070 |
| **EBITDA Margin (%)** | **21.7** | **23.1** | **21.3** | **29.1** | **31.8** |
| PAT | 58 | 13 | 378 | 124 | 754 |
| **EPS (Rs)** | **0.3** | **0.1** | **2.0** | **0.7** | **4.0** |

| Shareholding Pattern (%) | Dec-14 | Mar-15 | Apr-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 67.5 | 67.5 | 57.2 | 57.2 | 57.2 |
| FIIs | 3.7 | 5.4 | 1.4 | 10.4 | 10.6 |
| DIIs | 12.4 | 11.8 | 16.5 | 18.4 | 19.1 |
| Public and Others | 16.4 | 15.3 | 24.9 | 13.9 | 13.1 |

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## Leverage issues persist

| CMP | Target Price |
|---|---|
| Rs92 | Rs110 (▪) |
| **Rating** | **Upside** |
| HOLD (▪) | 19.6 % |

- Robust order backlog (5x FY15 consolidated revenue) to help construction revenue CAGR of 9% over FY15-18E, but high margin fee income to stagnate, implying a muted EBITDA
- Five projects to start toll collection over FY15-17E. However contribution to PAT will remain muted due to higher capital cost
- The company continues to face issues with raising debt from bankers for projects like Jorbat-Shillong and Chenani-Nashri. The total interest during construction (IDC) limit, as per the approved project cost at the time of securing the funding, has been exhausted and the bankers are unwilling to fund the excess IDC capitalized
- Standalone debt to surge higher given the equity requirement and company's strategy to bid for newer projects, dilution imminent in FY17E as standalone leverage unsustainable. Maintain Hold rating. Roll forward valuations to FY18E, revise target price to Rs110/share

### Fee income contribution to stagnate

Given that majority of the fee income got booked in FY15 and in FY16E, fee income will be driven by newly won project bagged in FY15 end which are Srinagar Sonmarg Tunnelway, GRICL Rail Bridge, Fagne-Gujarat/Maharashtra border, Amravati-Chikhli. Winning new awards may help ITNL in generating more fee income, but would simultaneously compound balance sheet leverage concerns. Supported by back-ended FY15 order wins (Rs82 bn), ITNL's order book currently stands at healthy Rs150 bn. With robust revenue visibility (5x FY15E construction revenues), we expect the standalone construction revenues to surge at a CAGR of 9% over FY15-18E.

### Leverage pressure to persist

Due to a lower contribution of fee income to the overall revenue, we see ITNL resorting to taking further debt on the standalone book to infuse equity requirements towards funding its new projects. Hence, we see a surge in debt on the standalone balance sheet from Rs46.2bn (debt equity of 1.55x) in FY14 to Rs85bn (debt equity of 1.83x) by FY18E, which would lead to a further deterioration in its leverage ratios, which, in turn, would maintain the interest burden on ITNL. The current equity requirement stands at Rs19.5 bn over a period of 3 years for existing and newly won projects. The company has recently raised Rs7.4 bn via rights issue to fund the equity requirement which, we believe would not suffice to infuse the complete equity requirement given that the company will continue to bid for newer projects. The company continues to face issues with raising debt from bankers for certain projects. For example, in the Jorbat-Shillong project and Chenani-Nashri road project the total interest during construction (IDC) limit, as per the approved project cost at the time of securing the funding, has been exhausted and the bankers are unwilling to fund the excess IDC capitalized.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 65,870 | 65,034 | 73,019 | 85,090 | 93,735 |
| EBITDA | 18,896 | 21,409 | 23,312 | 27,779 | 34,183 |
| EBITDA Margin (%) | 28.7 | 32.9 | 31.9 | 32.6 | 36.5 |
| APAT | 4,630 | 4,436 | 735 | 2,399 | 3,033 |
| EPS (Rs) | 14.1 | 2.4 | (0.6) | 7.3 | 9.2 |
| EPS (% chg) | (47.4) | (83.1) | (126.8) | 0.0 | 26.4 |
| ROE (%) | 10.7 | 8.3 | 1.2 | 3.6 | 4.4 |
| P/E (x) | 6.5 | 38.6 | (143.9) | 12.6 | 10.0 |
| EV/EBITDA (x) | 11.2 | 12.0 | 12.7 | 11.2 | 9.5 |
| P/BV (x) | 0.6 | 0.5 | 0.5 | 0.5 | 0.4 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | NA |
| Previous Reco | HOLD |

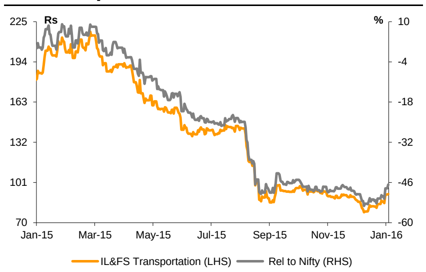
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | (0.6) | 7.3 |
| Consensus | 16.5 | 7.3 |
| Mean Consensus TP | | Rs 146 |

| Stock Details | |
|---|---|
| Bloomberg Code | ILFT IN |
| Face Value (Rs) | 10 |
| Shares outstanding (mn) | 329 |
| 52 Week H/L | 224 / 77 |
| M Cap (Rs bn/USD bn) | 30 / 0.45 |
| Daily Avg Volume (nos.) | 417,487 |
| Daily Avg Turnover (US$ mn) | 0.6 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 70.8% |
| FIIs | 7.9% |
| DIIs | 2.5% |
| Public and Others | 18.8% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | 7 | (5) | (35) | (51) |
| Rel. to Nifty | 2 | (3) | (29) | (47) |

**Relative price chart**




*Source: Bloomberg*

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**Exhibit 267: Funds raised over the last 3 years**

| Year | Type of Issue | Amount Raised (Rs mn) |
|---|---|---|
| FY14 | Preference shares | 7529 |
| FY15 | Rights issue | 5245 |
| FY16 | Rights issue | 7401.6 |

*Source: Company, Emkay Research*

***Note:*** *Consent obtained from shareholders for preference share issue up to Rs10000 mn*

In order to address the balance sheet concerns, the company has so far issued three tranches of preference shares, totaling 376.45 mn shares or Rs7.5 bn in FY14. Given their compulsorily redeemable nature, we believe it to be more like debt than equity. ITNL reported 1HFY16 standalone/consolidated leverage at 2.32/4.48x; however, if preference shares are treated as debt, then leverage would have been 3.18/5.29x.

## Other Highlights

- Higher provisions in the P&L are due to cost overruns in SPVs. Claims amounting to Rs20 bn are pending at the parent level.
- Receivables are also on the higher side as the SPVs are not in a position to settle given pending claims.
- Average cost of debt for the BOT portfolio stood at ~12.5% (got 30 bps reduction from lenders).
- The company is looking to add Rs50 bn worth orders every year. It is looking to concentrate on Hybrid Annuity Model.
- Sikar Bikaner has already started collecting toll, Jorbat Shillong has already applied for COD while Baleshwar Kharagpur will be applying for COD soon. Chenani Nashri is on track for commissioning in May 2016.
- The Kenya road project has seen some changes in selection criteria and thus has been put up for rebid by the authorities.
- The company expects average daily toll collection for the company to reach Rs127.5 mn by mid-2017 (ITNL's share) after commissioning all projects except Srinagar-Sonmarg project.

**Exhibit 268: SOTP of Rs110/share**

| SPV | Holding | | Valuation Measure | Disc Rate | Equity Value (Rs mn) | Stake Value (Rs mn) | Value/ Share |
|---|---|---|---|---|---|---|---|
| **BOT** | | | | | | | |
| Gujarat Road and Infrastructure Co. Ltd. | 42.0% | Operational | FCFE | 12.5% | 8,658.1 | 3,636.4 | 11.1 |
| WGEL | 100.0% | Operational | FCFE | 13.0% | 2,210.7 | 2,210.7 | 6.7 |
| Delhi - Noida | 25.4% | Operational | FCFE | 13.0% | 11,535.0 | 2,924.1 | 8.9 |
| Gomti - Beawar | 100.0% | Operational | FCFE | 13.0% | 4,826.3 | 4,826.3 | 14.7 |
| RIDCOR | 50.0% | Operational | FCFE | 13.0% | 14,612.3 | 7,306.1 | 22.2 |
| RIDCORII | 50.0% | Under development | FCFE | 13.5% | 7,814.4 | 3,907.2 | 11.9 |
| Pune Sholapur NH-9 Road Project | 100.0% | Under Construction | FCFE | 13.5% | 1,598.1 | 1,598.1 | 4.9 |
| Chadrapur Warora Road Project | 35.0% | Under development | FCFE | 13.5% | 3,735.5 | 1,307.4 | 4.0 |
| Narkatapally to Addanki Road Project | 50.0% | Under development | FCFE | 13.5% | 5,652.8 | 2,826.4 | 8.6 |
| Moradabad Bareilly Road Project | 100.0% | Under development | FCFE | 13.5% | 13,850.8 | 13,850.8 | 42.1 |
| Kharagpur - Baleshwar | 100.0% | Under development | FCFE | 13.5% | 2,879.0 | 2,879.0 | 8.8 |
| Kiratpur Ner Chowk | 100% | Under development | FCFE | 13.5% | 15,198.1 | 15,198.1 | 46.2 |
| Sikar Bikaner | 100% | Under development | FCFE | 13.5% | 3,758.7 | 3,758.7 | 11.4 |
| Khed Sinnar | 100% | Under development | FCFE | 13.5% | 1,503.2 | 1,503.2 | 4.6 |
| Barwa adda panagarh | 100% | Under development | FCFE | 13.5% | 2,123.3 | 2,123.3 | 6.5 |
| **Toll Projects - (A)** | | | | | **192,527.1** | **62,470.6** | **189.9** |
| North Karnataka expressway ltd Road Project | 94% | Operational | FCFE | 13.0% | 1,341.9 | 1,254.7 | 3.8 |
| Thiruvananthapuram Road Development Co. Ltd. Road Project | 50% | Operational | FCFE | 13.0% | -136.5 | -68.2 | -0.2 |
| Andhra Pradesh expressway ltd Road Project | 100% | Operational | FCFE | 13.0% | -878.6 | -878.6 | -2.7 |
| East Hyderabad expressway ltd Road Project | 74% | Under Construction | FCFE | 13.0% | 1,061.0 | 785.1 | 2.4 |
| Hyderabad Ring Road | 26% | Under Construction | FCFE | 13.0% | 245.0 | 63.7 | 0.2 |
| Hazaribaug Ranchi expressway ltd Road Project | 74% | Under Construction | FCFE | 13.0% | 662.9 | 490.5 | 1.5 |
| Jharkhand - Ph - I Road Project | 100% | Under Construction | FCFE | 13.0% | 254.2 | 254.2 | 0.8 |
| Jharkhand Ph - II Road Project | 100% | Under development | FCFE | 13.0% | 429.5 | 429.4 | 1.3 |
| Shillong Jorbat Road Project | 50% | Under development | FCFE | 13.0% | 2,230.6 | 1,115.3 | 3.4 |
| Srinagar Sonmarg Tollway Ltd | 100% | Under development | FCFE | 11.0% | -1,889.2 | -1,889.2 | -5.7 |
| Chenani Nashri Road Project | 100% | Under development | FCFE | 13.0% | 6,696.1 | 6,696.1 | 20.4 |
| **Annuity Projects - (B)** | | | | | **10,017.0** | **8,253.1** | **25.1** |
| Vansh Nimay Infraprojects Limited | 100% | Operational | FCFE | 13.0% | 328.4 | 328.3 | 1.0 |
| ITNL ENSO Rail system limited | 70% | Under Construction | FCFE | 13.0% | 5,411.3 | 3,787.9 | 11.5 |
| MP Check post | 51% | Under development | BV | 1x | 1,174.2 | 1,174.2 | 3.6 |
| YuHe Project - Chongqing Road project | 49% | Operational | BV | 1x | | 1,470.0 | 4.5 |
| **Urban Infra Projects - (C)** | | | | | **6,913.9** | **6,760.4** | **20.6** |
| Investments in Elsamax | 100% | | BV | 1.5x | 4,083.3 | 4,083.3 | 12.4 |
| Investments in Other Companies | | | | | 0.0 | 1,109.3 | 3.4 |
| **Other Subsidiaries - (D)** | | | | | **4,083.3** | **5,192.7** | **15.8** |
| E&C business | | | EV/EBITDA | 4x | 26,182 | 26,182 | 79.6 |
| **Construction business - (E)** | | | | | **26,182.4** | **26,182.4** | **79.6** |
| Net Debt at parent levels | | | | | -72,570 | -72,570 | -221 |
| **Total Value (A+B+C+D+E)** | | | | | **167,154.1** | **36,289.5** | **110** |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **65,870** | **65,034** | **73,019** | **85,090** | **93,735** |
| **Expenditure** | **46,974** | **43,624** | **49,708** | **57,311** | **59,552** |
| **EBITDA** | **18,896** | **21,409** | **23,312** | **27,779** | **34,183** |
| Depreciation | 1,510 | 1,521 | 2,346 | 2,862 | 4,241 |
| **EBIT** | **17,386** | **19,888** | **20,966** | **24,917** | **29,942** |
| Other Income | 2,155 | 3,249 | 2,654 | 3,354 | 3,154 |
| Interest expenses | 14,710 | 18,331 | 23,261 | 25,396 | 28,664 |
| **PBT** | **4,831** | **4,806** | **359** | **2,875** | **4,433** |
| Tax | 265 | 804 | 344 | 1,350 | 1,330 |
| Extraordinary Items | 65 | 435 | 719 | 874 | (71) |
| Minority Int./Income from Assoc. | (65) | (435) | (719) | (874) | 71 |
| **Reported Net Income** | **4,630** | **4,436** | **735** | **2,399** | **3,033** |
| **Adjusted PAT** | **4,630** | **4,436** | **735** | **2,399** | **3,033** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 5,707 | 6,232 | 7,054 | 7,054 | 7,054 |
| Reserves & surplus | 44,331 | 50,960 | 57,938 | 60,001 | 62,698 |
| **Net worth** | **50,038** | **57,192** | **64,992** | **67,056** | **69,752** |
| **Minority Interest** | **4,588** | **2,911** | **2,192** | **1,319** | **1,389** |
| **Loan Funds** | **188,165** | **235,135** | **270,090** | **282,550** | **294,753** |
| Net deferred tax liability | 1,810 | 1,084 | 1,084 | 1,084 | 1,084 |
| **Total Liabilities** | **244,602** | **296,322** | **338,359** | **352,009** | **366,979** |
| **Net block** | **133,548** | **165,605** | **172,206** | **193,173** | **220,801** |
| **Investment** | **4,691** | **6,625** | **6,691** | **6,758** | **6,826** |
| **Current Assets** | **47,550** | **61,489** | **88,460** | **83,522** | **79,473** |
| Cash & bank balance | 6,713 | 7,771 | 3,485 | 1,639 | 1,671 |
| Other Current Assets | 10,028 | 17,332 | 23,929 | 24,127 | 24,189 |
| **Current liabilities & Provision** | **26,546** | **22,755** | **14,356** | **16,802** | **25,479** |
| **Net current assets** | **21,004** | **38,734** | **74,103** | **66,720** | **53,994** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **244,601** | **296,323** | **338,359** | **352,009** | **366,979** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **4,831** | **4,806** | **359** | **2,875** | **4,433** |
| Other Non-Cash items | (99) | 0 | 0 | 0 | 0 |
| Chg in working cap | 515 | (16,671) | (39,656) | 5,538 | 12,758 |
| **Operating Cashflow** | **17,972** | **7,182** | **(14,034)** | **35,321** | **48,765** |
| Capital expenditure | (40,844) | (33,512) | (8,946) | (23,829) | (31,869) |
| **Free Cash Flow** | **(22,872)** | **(26,330)** | **(22,980)** | **11,492** | **16,896** |
| Investments | (1,061) | (1,934) | (66) | (67) | (68) |
| Other Investing Cash Flow | 6 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **(41,233)** | **(35,446)** | **(9,013)** | **(23,896)** | **(31,937)** |
| Equity Capital Raised | 7,529 | 5,245 | 7,402 | 0 | 0 |
| Loans Taken / (Repaid) | 35,554 | 46,969 | 34,955 | 12,460 | 12,203 |
| Dividend paid (incl tax) | (943) | (1,155) | (336) | (336) | (336) |
| Other Financing Cash Flow | 2,690 | (1,441) | 0 | 0 | 0 |
| **Financing Cashflow** | **24,369** | **31,288** | **18,760** | **(13,271)** | **(16,797)** |
| **Net chg in cash** | **1,109** | **3,024** | **(4,286)** | **(1,846)** | **32** |
| Opening cash position | 3,638 | 4,747 | 7,771 | 3,485 | 1,639 |
| **Closing cash position** | **4,747** | **7,771** | **3,485** | **1,639** | **1,671** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 28.7 | 32.9 | 31.9 | 32.6 | 36.5 |
| EBIT Margin | 26.4 | 30.6 | 28.7 | 29.3 | 31.9 |
| Effective Tax Rate | 5.5 | 16.7 | 95.7 | 47.0 | 30.0 |
| Net Margin | 6.9 | 6.2 | 0.0 | 1.8 | 3.3 |
| ROCE | 9.1 | 8.6 | 7.4 | 8.2 | 9.2 |
| ROE | 10.7 | 8.3 | 1.2 | 3.6 | 4.4 |
| RoIC | 13.6 | 11.5 | 9.5 | 9.9 | 11.3 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 14.1 | 2.4 | (0.6) | 7.3 | 9.2 |
| CEPS | 18.7 | 18.1 | 9.4 | 16.0 | 22.1 |
| BVPS | 152.1 | 173.9 | 197.6 | 203.8 | 212.0 |
| DPS | 3.9 | 3.0 | 0.9 | 0.9 | 0.9 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 6.5 | 38.6 | (143.9) | 12.6 | 10.0 |
| P/CEPS | 4.9 | 5.1 | 9.8 | 5.8 | 4.2 |
| P/BV | 0.6 | 0.5 | 0.5 | 0.5 | 0.4 |
| EV / Sales | 3.2 | 4.0 | 4.1 | 3.7 | 3.4 |
| EV / EBITDA | 11.2 | 12.0 | 12.7 | 11.2 | 9.5 |
| Dividend Yield (%) | 4.3 | 3.3 | 0.9 | 0.9 | 0.9 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 3.6 | 4.0 | 4.1 | 4.2 | 4.2 |
| Net Debt/EBIDTA | 9.6 | 10.6 | 11.4 | 10.1 | 8.6 |
| Working Cap Cycle (days) | 79.2 | 173.8 | 353.0 | 279.2 | 203.7 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | (0.9) | (1.3) | 12.3 | 16.5 | 10.2 |
| EBITDA | 2.8 | 13.3 | 8.9 | 19.2 | 23.1 |
| EBIT | (0.3) | 14.4 | 5.4 | 18.8 | 20.2 |
| PAT | (11.0) | (4.2) | (83.4) | 226.5 | 26.4 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 15,016 | 19,539 | 14,836 | 16,444 | 18,718 |
| EBITDA | 6,151 | 5,307 | 4,316 | 5,302 | 6,592 |
| **EBITDA Margin (%)** | **41.0** | **27.2** | **29.1** | **32.2** | **35.2** |
| PAT | 983 | 1,303 | 778 | 29 | 692 |
| **EPS (Rs)** | **3.0** | **4.0** | **2.4** | **0.1** | **2.1** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 70.8 | 70.8 | 70.8 | 70.8 | 70.8 |
| FIIs | 4.8 | 5.2 | 5.9 | 7.6 | 7.9 |
| DIIs | 2.5 | 2.3 | 2.7 | 2.5 | 2.5 |
| Public and Others | 21.9 | 21.7 | 20.7 | 19.1 | 18.8 |

**Company Update**

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Your success is our success

# Larsen & Toubro

## A tightrope walk

| CMP | Target Price |
|---|---|
| Rs1,256 | Rs1,400 (▼) |
| **Rating** | **Upside** |
| ACCUMULATE (▼) | 11.5 % |

- Order inflow growth remains challenging given lost out major orders in 1HFY16, order outlook from the domestic market would not be sufficient enough to drive a recovery in domestic wins and international prospects being in the Middle East, we see risk of delays in ordering given the weak oil pricing environment, which implies that market share in domestic orders may have to be much larger
- We believe that if order tendering edges lower from the GCC region it may compel L&T to bid aggressively in the domestic orders and we have built in flattish margins for E&C (ex services) in FY16E, 100 bps improvement over FY16-18E
- We have reduced earnings for FY17E by 5.4% on lower revenue growth from consolidated E&C segment from 15% to 13.5%. Roll forward our valuation to FY18E and lower our E&C multiple to 20x (earlier 25x), revised target price to Rs1400/share. Downgrade to Accumulate

### Order inflow growth challenging, dependence on domestic orders is higher to meet guidance

Given that order intake remained weak in 1HFY16 (down 30% YoY) and order outlook (ex defence) over the one year will be largely driven by roads, building segment and railways with respect to metro projects, we believe would not be sufficient enough to drive a recovery in domestic wins. International ordering (25% of FY15 consolidated inflows) may remain patchy given weak oil pricing. To achieve management's new order inflow guidance, an Rs500bn quarterly win run rate is required, which in our view is difficult.

As per management, many of the large Middle East orders are currently in review mode. In FY15, 25% of the total order inflows were from Middle East which looks difficult to get repeated implying higher dependence on domestic orders to meet the FY16 guidance. The company is likely to moderate the order inflow guidance for FY17E. We build in order intake (ex services) of Rs1250 bn (down 8% YoY)/Rs1327 bn/Rs1424 bn (up 6%/7% YoY) for FY16E/17E/18E. Management highlights that the order prospects at the start of the year were around Rs6.3 trn. This has come to around Rs3.7 trn for the balance of the year, even after some slippages and new prospects added during the year.

- Geographically, within the order prospects, overseas prospects are at around Rs1 trn, while Rs2.7 trn is from the Indian market.
- Segment-wise, prospects include around Rs1.55 trn from infrastructure, Rs600 bn from power, Rs300 bn from power transmission and distribution, Rs250 bn from mining and material handling and Rs400 bn from hydrocarbon.
- The company is well placed as L1 in some large orders. Management highlights that neither the defence order nor the Mumbai metro order has come into the order book.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 851,284 | 927,617 | 1,022,122 | 1,170,955 | 1,355,602 |
| EBITDA | 107,166 | 120,927 | 115,077 | 143,075 | 171,647 |
| EBITDA Margin (%) | 12.6 | 13.0 | 11.3 | 12.2 | 12.7 |
| APAT | 45,740 | 51,742 | 40,135 | 52,631 | 65,716 |
| EPS (Rs) | 53.2 | 56.1 | 43.5 | 57.0 | 71.2 |
| EPS (% chg) | 2.4 | 5.4 | (22.4) | 31.1 | 24.9 |
| ROE (%) | 12.8 | 13.2 | 9.4 | 11.4 | 13.0 |
| P/E (x) | 23.6 | 22.4 | 28.9 | 22.0 | 17.6 |
| EV/EBITDA (x) | 17.6 | 15.9 | 17.5 | 15.0 | 12.9 |
| P/BV (x) | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | (4.2)/**(5.4)** |
| Target Price change (%) | (17.6) |
| Previous Reco | BUY |

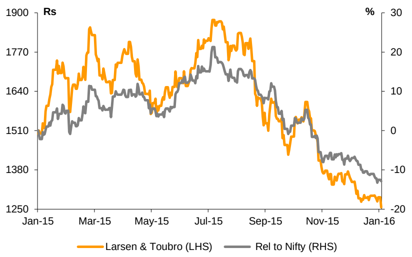
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | 1,026.1 | 1,170.5 |
| Consensus | 45.8 | 50.7 |
| Mean Consensus TP | | Rs 1,625 |

| Stock Details | |
|---|---|
| Bloomberg Code | LT IN |
| Face Value (Rs) | 2 |
| Shares outstanding (mn) | 931 |
| 52 Week H/L | 1,894 / 1,253 |
| M Cap (Rs bn/USD bn) | 1,170 / 17.56 |
| Daily Avg Volume (nos.) | 1,469,115 |
| Daily Avg Turnover (US$ mn) | 28.4 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | -% |
| FIIs | 18.2% |
| DIIs | 37.0% |
| Public and Others | 44.8% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | (6) | (16) | (31) | (18) |
| Rel. to Nifty | (1) | (14) | (24) | (11) |

**Relative price chart**




*Source: Bloomberg*

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### Consolidated E&C (ex-services) revenue and margin growth challenges persist

Despite having a strong order backlog the management revised its revenue guidance from 15% to 10-15% on execution challenges with respect to real estate orders which implies that revenue growth for 2HFY16 may not recover significantly. While the Hydrocarbon business stabilized in 1HFY16, Heavy Engineering has reported a loss in Q2FY16, of which, the company claims that a large part is one time. We believe that if order tendering edges lower from the GCC region it may compel L&T to bid aggressively in the domestic orders and we have built in flattish margins for E&C (ex services) in FY16E, 100 bps improvement over FY17-18E. At a PAT level, though, IDPL remains one of the key risks to growth and the commissioning of Hyderabad Metro in FY17 will further impact consolidated losses.

The management highlighted that the proportion of fixed-price contracts has increased to 50% of overall order book (from 40% earlier), the risk to margins from delays (if any) is likely to be offset by the tailwinds of weak commodity prices.

**Exhibit 269: Segmental breakup of L&T consolidated EPS**

| EPS Calculation (Rs per share) | Q1FY15 | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|---|
| Core E&C EPS | (4.8) | 6.8 | 7.0 | 19.1 | 4.2 | 4.9 |
| IT EPS | 2.6 | 2.6 | 3.1 | 3.5 | 3.4 | 3.6 |
| Financial services EPS | 2.1 | 1.2 | 0.6 | 1.1 | 1.0 | 1.2 |
| Development projects EPS | (4.2) | (1.5) | (0.4) | (1.7) | (1.4) | (1.2) |
| **Total EPS from operations** | **(4.3)** | **9.1** | **10.4** | **22.0** | **7.3** | **8.6** |
| Minority per share | (0.4) | 0.2 | (1.0) | (0.7) | (0.7) | (1.2) |
| Exceptional per share | 15.2 | - | - | 1.1 | - | 3.4 |
| **Total consolidated EPS** | **10.5** | **9.3** | **9.4** | **51.6** | **6.5** | **10.8** |

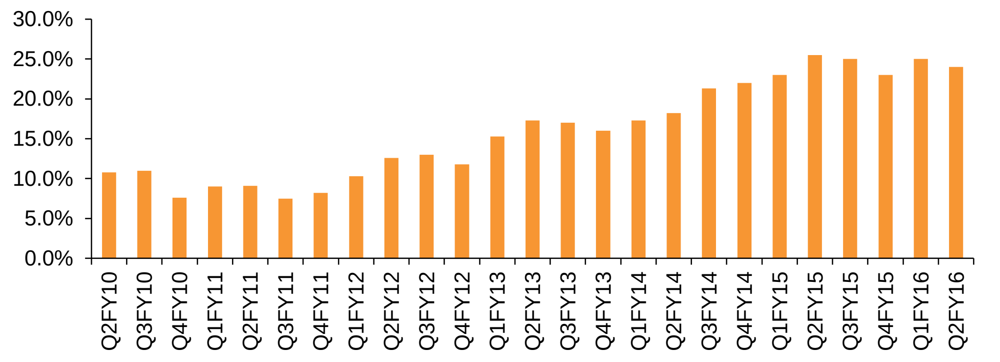
*Source: Company, Emkay Research*

***Note:*** *Q1FY15 Core E&C EPS is negative as the company took a write off in Hydrocarbons segment during the quarter. Hydrocarbons PAT came at loss of Rs7.13 bn in Q1FY15. Q1FY15 Exceptional EPS includes Rs6.1 bn gain from divestment of Dhamra port and Rs5.5 bn from Dhamra port loss reversal.*

### Focus on divestment to improve working capital

The company has focused on divestment of its non-core investments like Dhamra Port (already sold last year), Kattupalli port, real estate land parcels in Bengaluru and other areas, sale of Elante mall (Chandigarh). We believe that proceeds from stake sale will aid recovery in the working capital position of the company which currently at 24% of sales vs. 26% in FY15.

**Exhibit 270: Net working capital (as % of sales)**




*Source: Company, Emkay Research*

**Exhibit 271: SoTP of Rs1400 per share**

| | Valuation basis | Target multiple (x) | Value (Rs bn) | Value (Rs bn) | Value (Rs/share) |
|---|---|---|---|---|---|
| **Construction Business** | | | | | |
| Core E&C business (consolidated) | P/E | 20 | 813 | 813 | 1,075 |
| **Service segments** | | | | | |
| L&T Finance Holdings | | | 113 | 76 | 83 |
| L&T Infotech | P/E | 13.0 | 205 | 205 | 222 |
| **Asset Ownership / Project Developer** | | | | | |
| IDPL | P/B | 1.0 | 58 | 57 | 62 |
| Power development | P/B | 1.0 | 27 | 27 | 30 |
| Others | | | | | |
| General Insurance & Others | P/B | 1.0 | 10 | 10 | 11 |
| **Total subsidiaries** | | | **413** | **375** | **407** |
| Less: Holding Company Discount of 20% | | | | | (81) |
| **Grand total** | | | **1,226** | **1,189** | **1,400** |

*Source: Company, Emkay Research*

## Earnings Revision

We have revised our FY16E EPS estimate downward by 4.24% as we have cut our EBITDA margins due to loss posted in Heavy Engineering segment. We have reduced our FY17E EPS estimate as we lower our revenue estimates as well as cut our EBITDA margins in the Infrastructure and Heavy Engineering segments.

**Exhibit 272: We have revised our FY16E/FY17E EPS downward by 4.24%/5.42%**

| | FY16E | | | FY17E | | |
|---|---|---|---|---|---|---|
| **Particulars** | **Earlier** | **Revised** | **Change %** | **Earlier** | **Revised** | **Change %** |
| Sales | 1,002,830 | 1,022,122 | 1.92% | 1,200,774 | 1,170,955 | -2.48% |
| EBIDTA | 123,691 | 115,077 | -6.96% | 163,041 | 143,075 | -12.25% |
| *EBIDTA (%)* | *12.3%* | *11.3%* | *-108 bps* | *13.6%* | *12.2%* | *-136 bps* |
| Net Profit | 44997 | 43,090 | -4.24% | 58,992 | 55,793 | -5.42% |
| EPS | 48.7 | 46.7 | -4.24% | 63.9 | 60.4 | -5.42% |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **851,284** | **927,617** | **1,022,122** | **1,170,955** | **1,355,602** |
| **Expenditure** | **744,118** | **806,690** | **907,046** | **1,027,880** | **1,183,955** |
| **EBITDA** | **107,166** | **120,927** | **115,077** | **143,075** | **171,647** |
| Depreciation | 14,080 | 26,225 | 27,743 | 29,498 | 31,626 |
| **EBIT** | **93,085** | **94,702** | **87,334** | **113,577** | **140,021** |
| Other Income | 9,819 | 10,072 | 10,070 | 10,775 | 11,206 |
| Interest expenses | 31,355 | 28,507 | 31,847 | 40,023 | 46,643 |
| **PBT** | **71,550** | **76,266** | **65,557** | **84,329** | **104,584** |
| Tax | 26,284 | 22,836 | 22,467 | 28,536 | 35,658 |
| Extraordinary Items | 3,340 | 3,477 | 5,459 | 0 | 0 |
| Minority Int./Income from Assoc. | (382) | 1,710 | 2,985 | 3,192 | 3,240 |
| **Reported Net Income** | **49,080** | **47,648** | **45,593** | **52,631** | **65,716** |
| **Adjusted PAT** | **45,740** | **51,742** | **40,135** | **52,631** | **65,716** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 1,854 | 1,859 | 1,859 | 1,859 | 1,859 |
| Reserves & surplus | 375,262 | 407,232 | 442,662 | 480,521 | 528,924 |
| **Net worth** | **377,116** | **409,091** | **444,522** | **482,380** | **530,783** |
| **Minority Interest** | **31,792** | **49,986** | **47,001** | **43,809** | **40,570** |
| **Loan Funds** | **836,348** | **905,714** | **978,229** | **1,110,572** | **1,185,291** |
| Net deferred tax liability | 6,179 | 5,396 | 5,396 | 5,396 | 5,396 |
| **Total Liabilities** | **1,251,434** | **1,370,186** | **1,475,147** | **1,642,157** | **1,762,039** |
| **Net block** | **422,707** | **448,163** | **483,544** | **536,022** | **575,984** |
| **Investment** | **81,090** | **96,121** | **100,927** | **105,974** | **111,272** |
| **Current Assets** | **1,153,378** | **1,343,102** | **1,441,094** | **1,638,656** | **1,829,976** |
| Cash & bank balance | 41,353 | 58,555 | 22,483 | 24,158 | 17,740 |
| Other Current Assets | 254,547 | 245,890 | 280,034 | 320,810 | 334,258 |
| **Current liabilities & Provision** | **448,793** | **571,655** | **604,872** | **692,949** | **809,647** |
| **Net current assets** | **704,585** | **771,447** | **836,222** | **945,707** | **1,020,328** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **1,251,434** | **1,370,186** | **1,475,147** | **1,642,157** | **1,762,039** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **61,731** | **58,624** | **65,557** | **84,329** | **104,584** |
| Other Non-Cash items | 344 | (5,735) | 0 | 0 | 0 |
| Chg in working cap | (151,984) | (78,840) | (100,846) | (107,811) | (81,039) |
| **Operating Cashflow** | **(70,550)** | **5,945** | **1,834** | **17,502** | **66,156** |
| Capital expenditure | (66,787) | (67,714) | (63,123) | (81,976) | (71,588) |
| **Free Cash Flow** | **(137,337)** | **(61,769)** | **(61,290)** | **(64,474)** | **(5,432)** |
| Investments | 11,877 | 13,088 | (4,806) | (5,046) | (5,299) |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **21,696** | **23,160** | **(4,806)** | **(5,046)** | **(5,299)** |
| Equity Capital Raised | 1,441 | 989 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 172,450 | 114,493 | 72,515 | 132,343 | 74,719 |
| Dividend paid (incl tax) | (14,184) | (16,028) | (18,058) | (18,058) | (18,058) |
| Other Financing Cash Flow | 0 | (4,385) | 7,414 | (3,068) | (5,703) |
| **Financing Cashflow** | **120,679** | **55,812** | **30,024** | **71,194** | **4,314** |
| **Net chg in cash** | **5,038** | **17,203** | **(36,072)** | **1,674** | **(6,417)** |
| Opening cash position | 36,314 | 41,352 | 58,555 | 22,483 | 24,157 |
| **Closing cash position** | **41,352** | **58,555** | **22,483** | **24,157** | **17,740** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 12.6 | 13.0 | 11.3 | 12.2 | 12.7 |
| EBIT Margin | 10.9 | 10.2 | 8.5 | 9.7 | 10.3 |
| Effective Tax Rate | 36.7 | 29.9 | 34.3 | 33.8 | 34.1 |
| Net Margin | 5.3 | 5.8 | 4.2 | 4.8 | 5.1 |
| ROCE | 9.0 | 8.0 | 6.8 | 8.0 | 8.9 |
| ROE | 12.8 | 13.2 | 9.4 | 11.4 | 13.0 |
| RoIC | 9.5 | 8.4 | 7.1 | 8.2 | 9.2 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 53.2 | 56.1 | 43.5 | 57.0 | 71.2 |
| CEPS | 64.8 | 84.5 | 73.5 | 89.0 | 105.5 |
| BVPS | 408.5 | 443.2 | 481.6 | 522.6 | 575.0 |
| DPS | 12.4 | 16.4 | 16.4 | 16.4 | 16.4 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 23.6 | 22.4 | 28.9 | 22.0 | 17.6 |
| P/CEPS | 19.4 | 14.9 | 17.1 | 14.1 | 11.9 |
| P/BV | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 |
| EV / Sales | 2.2 | 2.1 | 2.0 | 1.8 | 1.6 |
| EV / EBITDA | 17.6 | 15.9 | 17.5 | 15.0 | 12.9 |
| Dividend Yield (%) | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 |
| Net Debt/EBIDTA | 6.8 | 6.3 | 7.4 | 6.9 | 6.2 |
| Working Cap Cycle (days) | 284.4 | 280.5 | 290.6 | 287.3 | 269.9 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 14.3 | 9.0 | 10.2 | 14.6 | 15.8 |
| EBITDA | 9.3 | 12.8 | (4.8) | 24.3 | 20.0 |
| EBIT | 13.2 | 1.7 | (7.8) | 30.0 | 23.3 |
| PAT | (5.7) | (2.9) | (4.3) | 15.4 | 24.9 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 211,594 | 238,479 | 280,226 | 202,522 | 233,942 |
| EBITDA | 23,342 | 28,900 | 36,090 | 22,902 | 25,927 |
| **EBITDA Margin (%)** | **11.0** | **12.1** | **12.9** | **11.3** | **11.1** |
| PAT | 8,618 | 8,666 | 20,696 | 6,062 | 9,978 |
| **EPS (Rs)** | **9.3** | **9.4** | **22.4** | **6.6** | **10.8** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | - | - | - | - | - |
| FIIs | 18.8 | 18.1 | 16.8 | 19.0 | 18.2 |
| DIIs | 35.7 | 36.1 | 36.0 | 36.6 | 37.0 |
| Public and Others | 45.5 | 45.9 | 47.2 | 44.4 | 44.8 |

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# NCC

# Margin improvement key catalyst

| CMP | Target Price |
|---|---|
| Rs76 | Rs90 (▪) |
| Rating | Upside |
| ACCUMULATE (▪) | 18.6 % |

- Given that 1HFY16 EBITDA margin adjusted for land sale came at 7.9% improved by 20 bps YoY, margins have not improved despite 85% plus of the order book consists of newly won orders. We have built in EBITDA Margin of 8.9%/9.1%/9.1% for FY16E/17E/18E
- Increase in the order intake run rate remains crucial for revenue growth for FY17E/18E as current order book provides revenue visibility for two years
- As first leg of re-rating on account of de-leveraging is over, improvement in working capital and margin expansion will drive the next leg of re-rating. We maintain accumulate rating with a target of Rs90 (Roll forward earnings to FY18E. lower E&C multiple from 14x to 13x)

## Order intake steady, order book provides 2 years revenue visibility

The order inflow for the company remains steady for YTDFY16E at Rs43.5 bn largely driven by the water and Building segment taking its total order book at Rs148 bn (ex-international) which implies the revenue visibility for two years based on FY15 construction revenue (Revenue base for FY15 remains high due to majority of execution of in-house power plant). We believe that order inflow to remain steady for FY16E/17E/18E at Rs81/Rs88/Rs90 bn. Given the high base of FY15, revenue growth for FY16E will decline however we have built in revenue CAGR of 8% over FY16-18E driven by stable order intake.

## Core E&C Margin improvement yet to be seen

Given that H1FY16 EBITDA margin adjusted for land sale came at 7.9% improved by 20 bps YoY, margins have not improved despite 85% plus of the order book consist of newly won orders .The management expects to do EBITDA margin to the tune of 8.8-9% in FY16E, an improvement of 100-120 bps, and 9-9.25% in FY17E which we believe includes the proceeds from land sale as well. We have built in EBITDA Margin of 8.9%/9.1%/9.1% for FY16E/17E/18E.

## Focus on Balance sheet and working capital improvement

The company is in talks to sell 2 road projects 1) Western UP Tollway & 2) Bangalore Elevated Tollway and expects to garner around Rs2.2 bn which we believe will largely get used towards working capital requirements as this year's easing of working capital is largely led by recovered mobilization advances worth Rs4686 mn and recovered retention money worth Rs3178 mn from NCC Power Projects Ltd (Power plant sold to SembCorp) which is involved in the development of 1320 MW Coal Based Thermal Power Project in Muthukur Mandal, Nellore District of Andhra Pradesh.

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 61,173 | 82,969 | 79,085 | 85,403 | 92,223 |
| EBITDA | 4,049 | 6,493 | 7,036 | 7,760 | 8,382 |
| EBITDA Margin (%) | 6.6 | 7.8 | 8.9 | 9.1 | 9.1 |
| APAT | 405 | 1,118 | 1,934 | 2,602 | 3,053 |
| EPS (Rs) | 1.6 | 2.0 | 3.5 | 4.7 | 5.5 |
| EPS (% chg) | (35.3) | 27.3 | 73.0 | 34.6 | 17.3 |
| ROE (%) | 1.6 | 3.9 | 5.9 | 7.4 | 8.1 |
| P/E (x) | 48.1 | 37.7 | 21.8 | 16.2 | 13.8 |
| EV/EBITDA (x) | 10.7 | 9.4 | 8.9 | 8.1 | 7.2 |
| P/BV (x) | 0.8 | 1.3 | 1.2 | 1.2 | 1.1 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | NA |
| Previous Reco | ACCUMULATE |

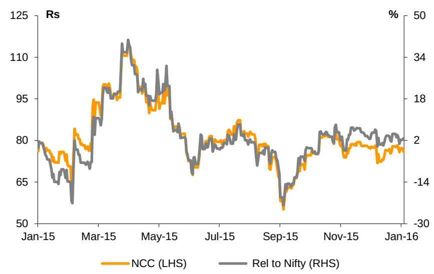
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | 3.5 | 4.7 |
| Consensus | 3.3 | 4.7 |
| Mean Consensus TP | | Rs 96 |

| Stock Details | |
|---|---|
| Bloomberg Code | NJCC IN |
| Face Value (Rs) | 2 |
| Shares outstanding (mn) | 556 |
| 52 Week H/L | 118 / 53 |
| M Cap (Rs bn/USD bn) | 42 / 0.63 |
| Daily Avg Volume (nos.) | 38,47,184 |
| Daily Avg Turnover (US$ mn) | 4.5 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 20.5% |
| FIIs | 26.6% |
| DIIs | 14.5% |
| Public and Others | 38.4% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | (2) | 2 | (4) | (7) |
| Rel. to Nifty | - | 4 | 5 | 1 |

**Relative price chart**




*Source: Bloomberg*

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**Exhibit 273: SoTP of Rs90 per share**

| Project/Business | Equity investment (Rs mn) | Valuation (Rs mn) | Rs/ share | Valuation methodology |
|---|---|---|---|---|
| **Value of standalone construction business** | | **39,684** | **71.4** | **13x FY18E earnings** |
| Value of international subsidiary | | 2,505 | 4.5 | 5x FY18E earnings |
| Investments in real estate | 3,674 | 2,939 | 5.3 | 0.8x invested book |
| **Investments in BOT assets** | **5,024** | **5,024** | **9.0** | |
| **Total** | | **50,152.3** | **90** | |

*Source: Company, Emkay Research*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **61,173** | **82,969** | **79,085** | **85,403** | **92,223** |
| **Expenditure** | **57,124** | **76,476** | **72,049** | **77,643** | **83,841** |
| **EBITDA** | **4,049** | **6,493** | **7,036** | **7,760** | **8,382** |
| Depreciation | 895 | 1,118 | 1,179 | 1,239 | 1,345 |
| **EBIT** | **3,153** | **5,375** | **5,857** | **6,520** | **7,037** |
| Other Income | 1,535 | 1,951 | 1,951 | 1,951 | 1,951 |
| Interest expenses | 4,660 | 5,736 | 4,944 | 4,588 | 4,432 |
| **PBT** | **29** | **1,590** | **2,865** | **3,884** | **4,556** |
| Tax | (376) | 472 | 931 | 1,282 | 1,504 |
| Extraordinary Items | 0 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **405** | **1,118** | **1,934** | **2,602** | **3,053** |
| **Adjusted PAT** | **405** | **1,118** | **1,934** | **2,602** | **3,053** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 513 | 1,112 | 1,112 | 1,112 | 1,112 |
| Reserves & surplus | 24,690 | 30,932 | 32,665 | 35,000 | 37,785 |
| **Net worth** | **25,203** | **32,044** | **33,777** | **36,111** | **38,896** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **24,746** | **19,951** | **21,051** | **21,136** | **19,155** |
| Net deferred tax liability | 125 | 142 | 142 | 142 | 142 |
| **Total Liabilities** | **50,074** | **52,138** | **54,971** | **57,390** | **58,194** |
| **Net block** | **6,916** | **6,323** | **5,944** | **5,585** | **5,140** |
| **Investment** | **11,643** | **11,568** | **11,843** | **11,843** | **11,902** |
| **Current Assets** | **72,655** | **76,362** | **78,913** | **83,662** | **86,910** |
| Cash & bank balance | 732 | 1,127 | 694 | 833 | 751 |
| Other Current Assets | 11,787 | 14,619 | 15,167 | 15,443 | 16,423 |
| **Current liabilities & Provision** | **41,245** | **42,194** | **41,808** | **43,778** | **45,836** |
| **Net current assets** | **31,410** | **34,169** | **37,105** | **39,884** | **41,074** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **50,074** | **52,138** | **54,971** | **57,390** | **58,194** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **(1,506)** | **(360)** | **914** | **1,933** | **2,605** |
| Other Non-Cash items | (81) | (31) | 0 | 0 | 0 |
| Chg in working cap | (4,100) | (2,363) | (3,369) | (2,640) | (1,273) |
| **Operating Cashflow** | **244** | **3,627** | **2,736** | **3,838** | **5,606** |
| Capital expenditure | (518) | (447) | (800) | (880) | (900) |
| **Free Cash Flow** | **(274)** | **3,180** | **1,936** | **2,958** | **4,706** |
| Investments | 893 | 75 | (275) | 0 | (58) |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **2,428** | **2,026** | **1,675** | **1,951** | **1,892** |
| Equity Capital Raised | 0 | 5,987 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 2,496 | (4,795) | 1,100 | 85 | (1,981) |
| Dividend paid (incl tax) | (60) | (268) | (201) | (268) | (268) |
| Other Financing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Financing Cashflow** | **(2,224)** | **(4,811)** | **(4,044)** | **(4,770)** | **(6,680)** |
| **Net chg in cash** | **(70)** | **395** | **(432)** | **139** | **(82)** |
| Opening cash position | 801 | 732 | 1,127 | 694 | 833 |
| **Closing cash position** | **732** | **1,127** | **694** | **833** | **751** |

### Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 6.6 | 7.8 | 8.9 | 9.1 | 9.1 |
| EBIT Margin | 5.2 | 6.5 | 7.4 | 7.6 | 7.6 |
| Effective Tax Rate | (1,298.1) | 29.7 | 32.5 | 33.0 | 33.0 |
| Net Margin | 0.7 | 1.3 | 2.4 | 3.0 | 3.3 |
| ROCE | 9.6 | 14.3 | 14.6 | 15.1 | 15.6 |
| ROE | 1.6 | 3.9 | 5.9 | 7.4 | 8.1 |
| RoIC | 8.8 | 14.0 | 14.3 | 15.0 | 15.6 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 1.6 | 2.0 | 3.5 | 4.7 | 5.5 |
| CEPS | 5.1 | 4.0 | 5.6 | 6.9 | 7.9 |
| BVPS | 98.2 | 57.6 | 60.8 | 65.0 | 70.0 |
| DPS | 0.2 | 0.4 | 0.3 | 0.4 | 0.4 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 48.1 | 37.7 | 21.8 | 16.2 | 13.8 |
| P/CEPS | 14.9 | 18.7 | 13.5 | 10.9 | 9.5 |
| P/BV | 0.8 | 1.3 | 1.2 | 1.2 | 1.1 |
| EV / Sales | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 |
| EV / EBITDA | 10.7 | 9.4 | 8.9 | 8.1 | 7.2 |
| Dividend Yield (%) | 0.3 | 0.5 | 0.4 | 0.5 | 0.5 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 1.0 | 0.6 | 0.6 | 0.6 | 0.5 |
| Net Debt/EBIDTA | 5.9 | 2.9 | 2.9 | 2.6 | 2.2 |
| Working Cap Cycle (days) | 183.1 | 145.4 | 168.0 | 166.9 | 159.6 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 6.9 | 35.6 | (4.7) | 8.0 | 8.0 |
| EBITDA | (14.0) | 60.4 | 8.4 | 10.3 | 8.0 |
| EBIT | (16.8) | 70.5 | 9.0 | 11.3 | 7.9 |
| PAT | (35.3) | 175.9 | 73.0 | 34.6 | 17.3 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 22,457 | 23,515 | 22,101 | 17,225 | 20,964 |
| EBITDA | 1,815 | 1,740 | 1,849 | 1,584 | 1,844 |
| **EBITDA Margin (%)** | **8.1** | **7.4** | **8.4** | **9.2** | **8.8** |
| PAT | 221 | 420 | 507 | 292 | 550 |
| **EPS (Rs)** | **0.4** | **0.8** | **0.9** | **0.5** | **1.0** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 20.4 | 21.3 | 20.7 | 20.7 | 20.5 |
| FIIs | 29.2 | 31.5 | 30.1 | 28.9 | 26.6 |
| DIIs | 11.4 | 11.1 | 12.4 | 12.1 | 14.5 |
| Public and Others | 39.0 | 36.1 | 36.8 | 38.3 | 38.4 |

# J Kumar

## Strong Earnings visibility

| CMP | Target Price |
|---|---|
| Rs369 | Rs456 (▲) |
| **Rating** | **Upside** |
| BUY (▪) | 23.7 % |

- The current order book of Rs37 bn provides a revenue visibility 2.5 years and given that the company has bagged orders from Mumbai Metro worth Rs53 bn, implies good revenue visibility for the next 3 years
- Company to maintain EBITDA margins of 16.8%/17% in FY17E/18E and is confident of attaining 17-18% EBITDA margins in Mumbai Metro projects and a profit of Rs3.5-4 bn
- Given that the capex from the urban infrastructure projects like roads, metros remains high and the recent fund raising worth Rs4 bn we believe will be sufficient enough to meet the current working capital requirement and target for new orders
- Given that order intake visibility in metro and other projects (roads) remains strong which along with resilient execution, better working capital position which will drive the operational profitability, resulting in the company's trading at premium to its peers. We roll forward our valuations to FY18E. Maintain Buy with a revised target price Rs456/share

### Order book scaled higher, visibility for urban infrastructure projects remains high

The current orders book of Rs37 provides a revenue visibility 2.5 years and given that the company has bagged orders from Mumbai metro worth Rs53 bn. The company expects the Mumbai Metro Phase – III LoAs to be signed by Jan2016 and work to begin by end of Jan2016. The company has bid in a JV with China Railway where the company's stake is 74%. We believe that execution of the Mumbai metro project will be back ended with 55% of the revenue to get booked in FY18-19E which implies good revenue visibility for the next 3 years. The company is confident of attaining 17-18% EBITDA margins on the Mumbai Metro projects and a profit of Rs3.5-4 bn.

Given that the capex from the urban infrastructure projects like roads, metro's remains high and the recent fund raising worth Rs4 bn we believe will be sufficient enough to meet the current working capital requirement and target for new orders.

The company expects the Dahisar – D N Nagar metro line to be tendered by Dec2015. The total project cost is Rs56 bn and out of that civil works is Rs40 bn. The company also expects the Andheri East – Dahisar East metro line to be tendered by Jan2016. The company sees opportunity of Rs1 trn in the Mumbai Metropolitan Region itself. (Metros – Rs350 bn, Coastal Road Project – Rs130 bn, Mumbai Trans Harbour Link – Rs120 bn, BMC roads, MMRDA projects).

### Financial Snapshot (Standalone)

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 11,686 | 13,181 | 15,377 | 20,169 | 26,004 |
| EBITDA | 1,876 | 2,254 | 2,504 | 3,396 | 4,426 |
| EBITDA Margin (%) | 16.1 | 17.1 | 16.3 | 16.8 | 17.0 |
| APAT | 841 | 944 | 1,144 | 1,636 | 2,157 |
| EPS (Rs) | 15.1 | 14.6 | 15.1 | 21.6 | 28.5 |
| EPS (% chg) | 11.0 | (3.2) | 3.3 | 42.9 | 31.8 |
| ROE (%) | 15.6 | 13.8 | 11.0 | 12.0 | 14.2 |
| P/E (x) | 24.4 | 25.2 | 24.4 | 17.0 | 12.9 |
| EV/EBITDA (x) | 13.2 | 12.1 | 11.0 | 8.9 | 7.3 |
| P/BV (x) | 3.6 | 3.0 | 2.2 | 1.9 | 1.7 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | 14 |
| Previous Reco | BUY |

**Emkay vs Consensus**

| EPS Estimates | | |
|---|---|---|
| | FY16E | FY17E |
| Emkay | 15.1 | 21.6 |
| Consensus | 16.8 | 16.7 |
| Mean Consensus TP | | Rs 422 |

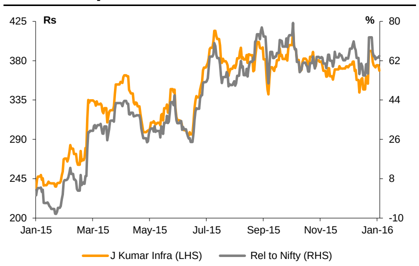
| Stock Details | |
|---|---|
| Bloomberg Code | JKIL IN |
| Face Value (Rs) | 5 |
| Shares outstanding (mn) | 76 |
| 52 Week H/L | 450 / 227 |
| M Cap (Rs bn/USD bn) | 28 / 0.42 |
| Daily Avg Volume (nos.) | 18,207 |
| Daily Avg Turnover (US$ mn) | 0.1 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 51.0% |
| FIIs | 21.3% |
| DIIs | 9.7% |
| Public and Others | 18.0% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| Absolute | (2) | (7) | (1) | 42 |
| Rel. to Nifty | - | (5) | 9 | 55 |

**Relative price chart**




*Source: Bloomberg*

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### Focus on profitable growth

Backed by a fairly healthy executable backlog now in place we expect the company to clock revenue of Rs20 bn/Rs26 bn implying revenue CAGR of 30% over FY16-18E and to maintain EBITDA margin of 16.8%/17% in FY17E/18E. The company's operating margins, leverage and working capital are amongst the best in the industry, so are its return ratios (ROE upwards of 16% in FY14, however due to dilution in FY15E/FY16E ROE edged lower to 14%/11%) which we believe will be 12%/14% in FY17E/18E. The reason behind the company's high margins is its strategy of not sub-contracting work to smaller contractors. Also, JKIL is steering clear of BOT projects as it aims to keep its balance sheet light.

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **11,686** | **13,181** | **15,377** | **20,169** | **26,004** |
| **Expenditure** | **9,810** | **10,926** | **12,873** | **16,772** | **21,578** |
| **EBITDA** | **1,876** | **2,254** | **2,504** | **3,396** | **4,426** |
| Depreciation | 348 | 474 | 518 | 614 | 743 |
| **EBIT** | **1,529** | **1,781** | **1,985** | **2,782** | **3,683** |
| Other Income | 291 | 382 | 462 | 482 | 400 |
| Interest expenses | 576 | 768 | 739 | 822 | 888 |
| **PBT** | **1,243** | **1,395** | **1,708** | **2,441** | **3,195** |
| Tax | 402 | 451 | 564 | 806 | 1,038 |
| Extraordinary Items | 0 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **841** | **944** | **1,144** | **1,636** | **2,157** |
| **Adjusted PAT** | **841** | **944** | **1,144** | **1,636** | **2,157** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 278 | 322 | 378 | 378 | 378 |
| Reserves & surplus | 5,475 | 7,569 | 12,590 | 13,996 | 15,592 |
| **Net worth** | **5,753** | **7,891** | **12,968** | **14,375** | **15,971** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **5,559** | **5,154** | **5,403** | **5,753** | **5,853** |
| Net deferred tax liability | 71 | 131 | 71 | 71 | 71 |
| **Total Liabilities** | **11,382** | **13,176** | **18,441** | **20,198** | **21,894** |
| **Net block** | **3,255** | **4,301** | **4,132** | **5,018** | **5,775** |
| **Investment** | **23** | **11** | **11** | **11** | **11** |
| **Current Assets** | **11,500** | **11,978** | **17,688** | **19,813** | **22,279** |
| Cash & bank balance | 1,212 | 1,548 | 5,640 | 3,568 | 1,333 |
| Other Current Assets | 1,890 | 2,193 | 2,528 | 3,426 | 4,417 |
| **Current liabilities & Provision** | **5,148** | **3,746** | **4,023** | **5,277** | **6,804** |
| **Net current assets** | **6,352** | **8,232** | **13,665** | **14,536** | **15,475** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **11,382** | **13,176** | **18,441** | **20,198** | **21,894** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **952** | **1,013** | **1,246** | **1,960** | **2,795** |
| Other Non-Cash items | 73 | 3 | 0 | 0 | 0 |
| Chg in working cap | (2,000) | (1,559) | (1,342) | (2,943) | (3,173) |
| **Operating Cashflow** | **(453)** | **311** | **598** | **(353)** | **214** |
| Capital expenditure | (2,254) | (428) | (350) | (1,500) | (1,500) |
| **Free Cash Flow** | **(2,706)** | **(117)** | **248** | **(1,853)** | **(1,286)** |
| Investments | (128) | (107) | 0 | 0 | 0 |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **163** | **275** | **462** | **482** | **400** |
| Equity Capital Raised | 0 | 1,372 | 4,093 | 0 | 0 |
| Loans Taken / (Repaid) | 3,205 | (433) | 248 | 350 | 100 |
| Dividend paid (incl tax) | (113) | (141) | (160) | (229) | (561) |
| Other Financing Cash Flow | (90) | (107) | 0 | 0 | 0 |
| **Financing Cashflow** | **2,426** | **(77)** | **3,442** | **(701)** | **(1,348)** |
| **Net chg in cash** | **(118)** | **81** | **4,152** | **(2,072)** | **(2,234)** |
| Opening cash position | 1,119 | 1,212 | 1,548 | 5,640 | 3,567 |
| **Closing cash position** | **1,001** | **1,293** | **5,700** | **3,567** | **1,333** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 16.1 | 17.1 | 16.3 | 16.8 | 17.0 |
| EBIT Margin | 13.1 | 13.5 | 12.9 | 13.8 | 14.2 |
| Effective Tax Rate | 32.3 | 32.3 | 33.0 | 33.0 | 32.5 |
| Net Margin | 7.2 | 7.2 | 7.4 | 8.1 | 8.3 |
| ROCE | 19.3 | 17.6 | 15.5 | 16.9 | 19.4 |
| ROE | 15.6 | 13.8 | 11.0 | 12.0 | 14.2 |
| RoIC | 88.1 | 56.2 | 133.1 | 35.8 | 20.5 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 15.1 | 14.6 | 15.1 | 21.6 | 28.5 |
| CEPS | 21.4 | 22.0 | 22.0 | 29.7 | 38.3 |
| BVPS | 103.5 | 122.4 | 171.4 | 190.0 | 211.1 |
| DPS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 24.4 | 25.2 | 24.4 | 17.0 | 12.9 |
| P/CEPS | 17.4 | 16.9 | 16.9 | 12.5 | 9.7 |
| P/BV | 3.6 | 3.0 | 2.2 | 1.9 | 1.7 |
| EV / Sales | 2.1 | 2.1 | 1.8 | 1.5 | 1.2 |
| EV / EBITDA | 13.2 | 12.1 | 11.0 | 8.9 | 7.3 |
| Dividend Yield (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 0.8 | 0.5 | 0.0 | 0.2 | 0.3 |
| Net Debt/EBIDTA | 2.3 | 1.6 | (0.1) | 0.6 | 1.0 |
| Working Cap Cycle (days) | 160.5 | 185.1 | 190.5 | 198.5 | 198.5 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 19.6 | 12.8 | 16.7 | 31.2 | 28.9 |
| EBITDA | 30.3 | 20.2 | 11.1 | 35.6 | 30.3 |
| EBIT | 27.8 | 16.5 | 11.5 | 40.1 | 32.4 |
| PAT | 11.0 | 12.2 | 21.2 | 42.9 | 31.8 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 2,955 | 2,967 | 3,934 | 3,546 | 3,216 |
| EBITDA | 576 | 530 | 583 | 584 | 514 |
| **EBITDA Margin (%)** | **19.5** | **17.8** | **14.8** | **16.5** | **16.0** |
| PAT | 203 | 239 | 273 | 259 | 232 |
| **EPS (Rs)** | **3.1** | **3.7** | **4.2** | **4.0** | **3.6** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 |
| FIIs | 17.9 | 19.5 | 21.0 | 21.7 | 21.3 |
| DIIs | 10.4 | 10.1 | 10.3 | 10.4 | 9.7 |
| Public and Others | 20.7 | 19.4 | 17.7 | 16.9 | 18.0 |

**Company Update**

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# Ahluwalia Contracts

## Well placed

| CMP | Target Price |
|---|---|
| Rs287 | Rs355 (▲) |
| **Rating** | **Upside** |
| BUY (▪) | 23.7 % |

- Given the ramp up seen in the order intake from the government entities like DDA (Delhi Development Authority), NBCC , HSCC (Hospital Services Consultancy Corporation) and other state level authorities, the total order book stands at Rs40.05 bn +21% YoY, provides 3.5 years visibility for revenues
- Given a) increase in the order intake, 85% from the government agencies which has escalation clause b) completion of loss making projects, the execution run rate to ramp up over the next 2-3 quarters which will help the company improve operational profitability
- We expect Revenue/EBITDA/PAT CAGR of 21%/24%/27% over FY15-18E with EBITDA Margin to remain steadfast at 11.3%/11.8%/11.9% for FY16E/17E/FY18E. We roll forward valuations to FY18E and revise our target price to Rs355

### Order book & order intake visibility steady

Given the ramp up seen in the order intake from the government entities like DDA (Delhi Development Authority), NBCC , HSCC (Hospital Services Consultancy Corporation) and other state level authorities , the total order book as of Q2FY16 order book stands at Rs40.05 bn +21% YoY, provides 3.5 years visibility for revenues. The order intake for YTDFY16 stands at Rs13.5 bn (including recently won orders worth Rs1.2 bn). Major chunk of YTDFY16 order inflow is in the social infrastructure sector (healthcare, education) while residential orders are worth around Rs1 bn. The company is currently L1 in projects worth Rs2 bn. The company has an order pipeline of Rs14 bn including a couple of large hospital projects by HSCC (Rs6 bn), educational institutions like IITs, IIMs (Rs2 bn) and rest being embassy work, SEZs, IT Parks (has bid for an SEZ project of Rs1.5 bn size), other orders like South Asian university in Delhi worth Rs4 bn.

The company has been successfully able to garner orders from government entities (71% YTDFY16 order inflow came from government organizations). The Government sector accounts for 60% of the order book which management intends to lower by 10% over the next two years.

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 9,603 | 10,599 | 12,723 | 16,144 | 18,561 |
| EBITDA | 417 | 1,149 | 1,438 | 1,905 | 2,209 |
| EBITDA Margin (%) | 4.3 | 10.8 | 11.3 | 11.8 | 11.9 |
| APAT | 76 | 641 | 799 | 1,084 | 1,300 |
| EPS (Rs) | 3.5 | 9.6 | 11.9 | 16.2 | 19.4 |
| EPS (% chg) | 0.0 | 176.3 | 24.6 | 35.7 | 19.9 |
| ROE (%) | 3.5 | 22.7 | 21.2 | 23.0 | 22.0 |
| P/E (x) | 82.8 | 30.0 | 24.0 | 17.7 | 14.8 |
| EV/EBITDA (x) | 47.3 | 17.6 | 13.7 | 10.2 | 8.6 |
| P/BV (x) | 8.0 | 5.7 | 4.6 | 3.7 | 2.9 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | 27 |
| Previous Reco | BUY |

| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | 11.9 | 16.2 |
| Consensus | 11.8 | 13.0 |
| Mean Consensus TP | | Rs 310 |

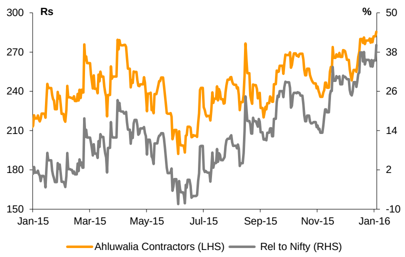
| Stock Details | |
|---|---|
| Bloomberg Code | AHLU IN |
| Face Value (Rs) | 2 |
| Shares outstanding (mn) | 67 |
| 52 Week H/L | 300 / 188 |
| M Cap (Rs bn/USD bn) | 19 / 0.29 |
| Daily Avg Volume (nos.) | 12,524 |
| Daily Avg Turnover (US$ mn) | 0.1 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 66.9% |
| FIIs | 12.5% |
| DIIs | 8.2% |
| Public and Others | 12.4% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| **Absolute** | 9 | 7 | 18 | 25 |
| **Rel. to Nifty** | 4 | 10 | 30 | 36 |

**Relative price chart**




*Source: Bloomberg*

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The company has announced orders worth Rs13.5 bn as of YTDFY16, 71% of the order intake came from government entities:

- Construction work for OPD block & other assoc. services, AIIMS Delhi of Rs2.94 bn
- Construction work for Mother & Child Block, AIIMS Delhi of Rs2.04 bn
- Construction of Office Bldg, Income Tax Dept. Mumbai of Rs1.63 bn
- Construction of Commercial Bldg, Kumar Builder of Rs150 mn
- Construction of IITD campus of Rs2.2 bn
- Construction of Hiland Residential complex of Rs498.3 mn
- Construction of Diplomatic Staff housing for Royal Danish Embassy of Rs483 mn
- Construction of civil package work for Brookfield Assets Management Ltd of Rs1.54 bn
- Construction of Bennett University for Times of India of 664.7 mn
- Construction of Medical College (HSCC), in Kolkata of Rs800 mn
- Construction of Residential complex of Duratech Builders in Mumbai for Rs430 mn

## Booked 95% of loss making orders

The current order book consists of orders from Residential private (32%), Residential government (11%), Institutional (25%), Hospitals (14%), Infrastructure (11%), Commercial (7%). Of the about Rs10 bn Residential order book, 50% are active, Rs2 bn of which are totally dormant (fixed price contracts) and balance are moving but at snail's pace. Total slow moving orders with the company amount to about Rs2 bn (all residential).

Given a) increase in the order intake, 85% from the government agencies which has escalation clause b) completion of loss making projects the execution run rate to ramp up over the next 2-3 quarters which will help the company increase the operational profitability. We expect revenue/EBITDA/PAT CAGR of 21%/24%/27% over FY15- 18E with EBITDA Margin to steadfast at 11.3%/11.8%/11.9% for FY16E/17E/FY18E.

## Leverage and working capital to ease further

Given the fund infusion by Promoters worth Rs500 mn via preferential issue and sale of non-core business has reduced the debt from Rs2.5 bn in FY14 to Rs1.46 bn The Company aims to reduce debt to Rs1 bn by FY17E. The current borrowing cost of the company stands at 13%. Recently CARE ratings have upgraded the company's credit rating and the company is leveraging that to negotiate with bankers to further reduce its borrowing cost. The company expects cost of borrowing to come down by 100 bps on account of the ratings upgrade

The company has receivables of Rs2.65 bn pending for over 6 months and Rs650 mn pending for over 1 year as of September 2015. The company expects net working capital to turn negative from end of FY17.

**Exhibit 274: Movement in Net working capital (days)**

| Particulars | FY11 | FY12 | FY13 | FY14 | FY15 | H1FY16 |
|---|---|---|---|---|---|---|
| **Current assets** | **171** | **217** | **199** | **296** | **258** | **262** |
| Inventory | 36 | 59 | 44 | 65 | 57 | 59 |
| Sundry debtors | 109 | 129 | 122 | 179 | 166 | 168 |
| Other current assets | 11 | 6 | 3 | 5 | 7 | 8 |
| Loans and advances | 15 | 23 | 29 | 47 | 28 | 27 |
| **Current liability and provisions** | **132** | **167** | **158** | **227** | **183** | **186** |
| **Net working capital** | **40** | **50** | **41** | **69** | **75** | **77** |

*Source: Company, Emkay Research*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **9,603** | **10,599** | **12,723** | **16,144** | **18,561** |
| **Expenditure** | **9,186** | **9,451** | **11,286** | **14,239** | **16,352** |
| **EBITDA** | **417** | **1,149** | **1,438** | **1,905** | **2,209** |
| Depreciation | 122 | 212 | 215 | 232 | 261 |
| **EBIT** | **296** | **937** | **1,223** | **1,673** | **1,948** |
| Other Income | 144 | 117 | 100 | 120 | 100 |
| Interest expenses | 363 | 386 | 311 | 244 | 191 |
| **PBT** | **77** | **668** | **1,012** | **1,549** | **1,857** |
| Tax | 1 | 26 | 212 | 465 | 557 |
| Extraordinary Items | 141 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **218** | **641** | **799** | **1,084** | **1,300** |
| **Adjusted PAT** | **76** | **641** | **799** | **1,084** | **1,300** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 126 | 134 | 134 | 134 | 134 |
| Reserves & surplus | 2,136 | 3,243 | 4,042 | 5,126 | 6,426 |
| **Net worth** | **2,262** | **3,377** | **4,176** | **5,260** | **6,560** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **2,265** | **1,731** | **1,598** | **1,275** | **812** |
| Net deferred tax liability | (162) | (154) | (154) | (154) | (154) |
| **Total Liabilities** | **4,364** | **4,955** | **5,620** | **6,382** | **7,219** |
| **Net block** | **1,307** | **1,164** | **1,199** | **1,267** | **1,506** |
| **Investment** | **15** | **63** | **63** | **63** | **63** |
| **Current Assets** | **8,344** | **8,259** | **10,407** | **12,639** | **14,396** |
| Cash & bank balance | 545 | 765 | 1,170 | 984 | 997 |
| Other Current Assets | 136 | 209 | 209 | 199 | 229 |
| **Current liabilities & Provision** | **5,979** | **5,316** | **6,050** | **7,588** | **8,747** |
| **Net current assets** | **2,365** | **2,943** | **4,358** | **5,051** | **5,650** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **4,364** | **4,955** | **5,620** | **6,382** | **7,219** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **(67)** | **551** | **912** | **1,429** | **1,757** |
| Other Non-Cash items | (238) | (100) | 0 | 0 | 0 |
| Chg in working cap | 69 | (504) | (1,009) | (879) | (586) |
| **Operating Cashflow** | **248** | **518** | **216** | **561** | **1,066** |
| Capital expenditure | (172) | (261) | 534 | (300) | (500) |
| **Free Cash Flow** | **75** | **258** | **750** | **261** | **566** |
| Investments | 191 | (124) | 0 | 0 | 0 |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **336** | **(7)** | **100** | **120** | **100** |
| Equity Capital Raised | 0 | 499 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | (142) | (655) | (134) | (323) | (462) |
| Dividend paid (incl tax) | 0 | 0 | 0 | 0 | 0 |
| Other Financing Cash Flow | (216) | 511 | 0 | 0 | 0 |
| **Financing Cashflow** | **(721)** | **(31)** | **(445)** | **(567)** | **(653)** |
| **Net chg in cash** | **(310)** | **220** | **405** | **(186)** | **13** |
| Opening cash position | 855 | 545 | 765 | 1,170 | 984 |
| **Closing cash position** | **545** | **765** | **1,170** | **984** | **997** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 4.3 | 10.8 | 11.3 | 11.8 | 11.9 |
| EBIT Margin | 3.1 | 8.8 | 9.6 | 10.4 | 10.5 |
| Effective Tax Rate | 0.7 | 3.9 | 21.0 | 30.0 | 30.0 |
| Net Margin | 0.8 | 6.1 | 6.3 | 6.7 | 7.0 |
| ROCE | 10.3 | 22.6 | 25.0 | 29.9 | 30.1 |
| ROE | 3.5 | 22.7 | 21.2 | 23.0 | 22.0 |
| RoIC | 9.8 | 29.0 | 31.6 | 34.4 | 33.9 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 3.5 | 9.6 | 11.9 | 16.2 | 19.4 |
| CEPS | 3.2 | 12.7 | 15.1 | 19.7 | 23.3 |
| BVPS | 36.0 | 50.4 | 62.3 | 78.5 | 97.9 |
| DPS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 82.8 | 30.0 | 24.0 | 17.7 | 14.8 |
| P/CEPS | 89.4 | 22.1 | 18.6 | 14.4 | 12.1 |
| P/BV | 8.0 | 5.7 | 4.6 | 3.7 | 2.9 |
| EV / Sales | 2.1 | 1.9 | 1.5 | 1.2 | 1.0 |
| EV / EBITDA | 47.3 | 17.6 | 13.7 | 10.2 | 8.6 |
| Dividend Yield (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 0.8 | 0.3 | 0.1 | 0.1 | 0.0 |
| Net Debt/EBIDTA | 4.1 | 0.8 | 0.3 | 0.2 | (0.1) |
| Working Cap Cycle (days) | 69.2 | 75.0 | 91.5 | 92.0 | 91.5 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | (30.8) | 10.4 | 20.0 | 26.9 | 15.0 |
| EBITDA | 0.0 | 175.3 | 25.2 | 32.5 | 15.9 |
| EBIT | 0.0 | 216.9 | 30.5 | 36.8 | 16.4 |
| PAT | 0.0 | 194.9 | 24.6 | 35.7 | 19.9 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 2,389 | 2,665 | 3,137 | 2,640 | 2,802 |
| EBITDA | 278 | 246 | 279 | 318 | 344 |
| **EBITDA Margin (%)** | **11.6** | **9.2** | **8.9** | **12.1** | **12.3** |
| PAT | 163 | 136 | 174 | 188 | 191 |
| **EPS (Rs)** | **2.4** | **2.0** | **2.6** | **2.8** | **2.8** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 72.6 | 68.9 | 66.9 | 66.9 | 66.9 |
| FIIs | 12.6 | 13.6 | 15.1 | 15.1 | 12.5 |
| DIIs | 2.4 | 3.3 | 5.1 | 5.9 | 8.2 |
| Public and Others | 12.5 | 14.2 | 13.0 | 12.1 | 12.4 |

**Initiating Coverage**

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# KNR Constructions

## Healthy order book to drive earnings growth

| CMP | Target Price |
|---|---|
| Rs565 | Rs720 (▲) |
| **Rating** | **Upside** |
| BUY (▲) | 27.4 % |

- The company has garnered order inflow for 1HFY16 came at Rs27.35 bn taking its order book at Rs36.65 bn which implies 4x years revenue visibility , targets an order inflow of Rs10 bn in the next 5-6 months. We build in order intake of Rs30 bn/20bn/Rs15bn for FY16E/17E/18E
- Given the strong order book and clearance, mobilization work being done at majority of the newer orders (garnered in 1HFY16), we expect company to clock revenue CAGR of 36% over FY16-18E. However given that in house BOT projects get fully executed in FY16E, we expect margins to steadfast at 14% in FY17E/18E
- Strong order book providing long visibility and coupled with proven execution capabilities and healthy operating margins will enable strong earnings growth going ahead. We expect an earnings CAGR of 15% between FY16E-18E. We initiate coverage with Buy recommendation and a target price of Rs720 per share

### Strong order book provides strong revenue visibility

The company has garnered order inflow for 1HFY16 came at Rs27.35 bn taking its order book at Rs36.65 bn. Order inflow includes two NHAI road projects in southern region worth Rs16.1 bn combined, 3 road projects in Tamil Nadu state worth Rs7.3 bn as part of the Tamil Nadu Road Sector Project II and a new road project worth Rs2.55 bn from MPRDC and Major Maintenance Requirement work worth Rs500 mn. We build in order intake of Rs30 bn/20bn/Rs15bn for FY16E/17E/18E. With respect to project execution of each project:

- The company has already started work on the Madurai-Ramnathpuram road project (Rs9.4 bn, NHAI road project) won in Q1FY16.
- On the Chittagong road project, the company has stated that mobilization is done, work has begun.
- The company faced difficulties in execution in Q3FY16 on two counts, the unseasonal rains which affected the three projects in Tamil Nadu, the Madurai road project and the Thiruvananthapuram road project, as well as delay in land acquisition in the Madurai project and delay in giving tree cutting permission in the Thiruvananthapuram project.
- The company lost about 1-1.5 months of execution in Q3FY16 due to the above reasons amounting to Rs500-600 mn which the company expects to recover in Q4FY16 and Q1FY17. The Madurai project has resumed work since December 10th while the Thiruvananthapuram project will also resume soon. The company expects the newly won projects to contribute Rs3-3.5 bn to top line in FY16E, largely from Q3/Q4FY16 onwards.

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 8,348 | 8,761 | 8,650 | 12,564 | 16,031 |
| EBITDA | 1,258 | 1,261 | 1,306 | 1,759 | 2,244 |
| EBITDA Margin (%) | 15.1 | 14.4 | 15.1 | 14.0 | 14.0 |
| APAT | 610 | 730 | 957 | 924 | 1,255 |
| EPS (Rs) | 21.7 | 26.0 | 34.0 | 32.9 | 44.6 |
| EPS (% chg) | 16.9 | 19.8 | 31.1 | (3.4) | 35.8 |
| ROE (%) | 12.6 | 13.5 | 15.5 | 13.1 | 15.5 |
| P/E (x) | 26.1 | 21.8 | 16.6 | 17.2 | 12.7 |
| EV/EBITDA (x) | 13.2 | 13.0 | 12.1 | 9.2 | 7.2 |
| P/BV (x) | 3.1 | 2.8 | 2.4 | 2.1 | 1.8 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | NA |
| Previous Reco | NR |

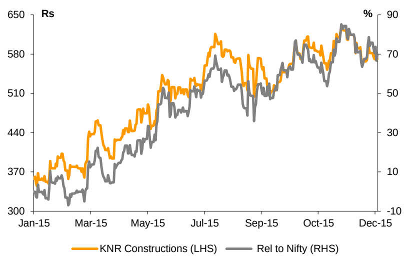
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | 34.0 | 32.9 |
| Consensus | 20.4 | 26.9 |
| Mean Consensus TP | | Rs 676 |

| Stock Details | |
|---|---|
| Bloomberg Code | KNRC IN |
| Face Value (Rs) | 10 |
| Shares outstanding (mn) | 28 |
| 52 Week H/L | 653 / 343 |
| M Cap (Rs bn/USD bn) | 16 / 0.24 |
| Daily Avg Volume (nos.) | 17,934 |
| Daily Avg Turnover (US$ mn) | 0.2 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 60.8% |
| FIIs | 1.7% |
| DIIs | 25.5% |
| Public and Others | 12.1% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | (8) | - | 1 | 58 |
| Rel. to Nifty | - | 3 | 11 | 72 |

**Relative price chart**




*Source: Bloomberg*

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The company is qualified to bid for projects amounting Rs11 bn size on a standalone basis. The company has bid for ~Rs20 bn worth of projects, it has submitted 2-3 bids in Jharkhand, some in Tamil Nadu & Uttarakhand and is bidding for 3 projects (avg. size Rs8-12 bn) in Karnataka and 6-7 projects (avg. size Rs5+ bn) in Bihar. The company is only looking at HAM model (hybrid annuity model) projects from the point of view of doing the EPC work and will participate in JV as contractor having 20-30% stake.

The company targets an order inflow of Rs10 bn in the next 5-6 months. Rs500-600 mn capex required in FY17E to execute this additional Rs10 bn orders which will take order book to ~Rs45 bn. The company has done capex of Rs300 mn in H1FY16 and will do another Rs150-200 mn worth capex in H2FY16. The company has guided for capex of Rs250 mn in FY17E (maintenance capex) and additional Rs500-600 mn of new capex.

**Exhibit 275: Order book details**

| Particulars | Value (Rs mn) |
|---|---|
| Madurai –Ramanathpuram Project | 9,412 |
| Thiruvananthapuram Bypass from Kazhakkoottam (Thiruvananthapuram) to Mukkola Junction | 6,691 |
| Upgrading Arcot Villupuram Road | 3,200 |
| Chittagong City outer Ring Road, Bangladesh | 2,628 |
| Widening and reconstruction of Mohanpur Behat Mau & Behat Mau, Maurar Chitore & Gatha Amayan, Mohana Pohri Roads, Package - L under Madhya Pradesh District | 2,556 |
| **Top 5 Road Projects** | **24,487** |
| Other Road Projects | 11,564 |
| Irrigation Projects | 596 |
| **Total** | **36,647** |

*Source: Company, Emkay Research*

## Revenue CAGR of 36% over FY16-18E, Margin to steadfast at 14% for FY17E/18E

Given the strong order book and visibility of new order pipeline and clearance, mobilization work being done at majority of the newer orders (garnered in 1HFY16), we believe execution run rate to remain strong and expects to clock revenue CAGR of 36% over FY16-18E. However given that in house BOT projects get fully executed in FY16E, we expect margins to steadfast at 14% in FY17E/18E, 100 bps lower than FY16E.

## Income Tax Refund

The company has got refund for FY09-FY12 under Section 80IA. The company has received Rs100 mn in cash from the ~Rs300 mn including interest accounted in Q2FY16 as there are still some pending cases. The remaining amount has been retained as tax liability for FY13-15. The company expects to recover additional Rs600 mn for the period FY13-FY15, this will not reflect in the P&L account as the company has accounted for MAT rate during this period and not the full tax rate like previous years but has paid full tax rate in cash flow, thus refund will flow through cash flow to balance sheet and not P&L account. Going forward MAT rate will be applicable to the company. The company expects MAT rate to apply to it for FY16E. It has taken section 80IA benefit and presently get accounted in Loans & Advances.

## BOT business

### KNR Walayar Road project

KNR Walayar Road project got 100% COD on 31st October, 2016, one month before scheduled COD. The project has an average daily toll collection of Rs1-1.1 mn/day against an expectation of Rs1.8 mn/day; the project has recently started toll collection on 100% stretch and expects average toll collection to rise to Rs1.2 mn/day. The company says that traffic has been affected by the rains and will wait till the end of the rains to see the actual toll collection. The company also says that the approach sections on both the Kerala and Tamil Nadu sides are not in good condition which is affecting traffic and causing leakages as well. The current Debt outstanding is Rs4 bn and the company has repaid debt worth Rs1 bn till date. The interest rate for the project is currently stands at 11.7% but the company has applied for refinancing and expects a reduction by 100 bps.

**Muzzafarpur Barauni Road project**

The company's Muzzafarpur Barauni Road project (51% stake) has further equity requirement of Rs210 mn (KNR's share), to be infused in the next 3-4 months. The company has already invested Rs250-300 mn in the Muzzafarpur-Barauni road project. The infusion has been in the form of sub debt (part of Loans & Advances of the parent company). The company has 51% stake in the project while the remaining is held by JV partner JKM Infra Projects Ltd. The total project cost has escalated to Rs4.6 bn. The project was bid at a premium of Rs50 mn and the expected IRR is 14%.The company expects to achieve 75% partial COD soon and full COD by March-April 2016. Consolidated debt includes Rs2.5 bn debt of Muzzafarpur Barauni project. The cost of debt stands at 12% and total debt for the project is Rs3.5 bn. The company expected to clock Rs1.2mn/day on COD but has exceeded that and now clocks Rs1.5 mn/day in actual. The company is looking to exit on completion of the project.

The company also has Rs400 mn equity pending in its securitized road projects (BOT Annuity), Patel-KNR Infrastructures Ltd. (PKIL) and Patel KNR Heavy Infrastructures Ltd. (PKHIL) which will be recovered at the end of their respective concession periods (from the last 2-3 annuity payments). PKIL concession ends in March 2027 and PKHIL concession ends in March 2028.

## Working capital

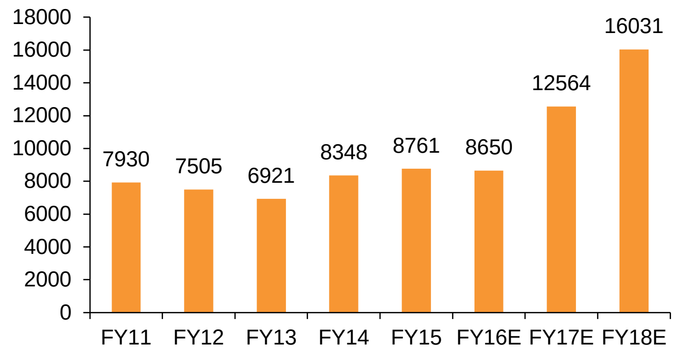
Net working capital days came in at 163 days as of September 2015 versus 150 days in March 2015 versus 121 days in September 2015.The Company saw a reduction in debtors as of Sep2015 from Mar2015 as the company recovered Rs500-600 mn from its BOT arm and Rs200-250 mn on its Andhra Pradesh project receivables. The company has given the Muzzafarpur SPV Rs200 mn as Loans & Advances. The company expects working capital to remain stable for the rest of the year but might increase next year as contribution from EPC increases.

**Exhibit 276: SoTP of Rs720 per share**

| Business | Value (Rs mn) | % stake | Value adjusted for stake (Rs mn) | Per share (Rs) | Methodology |
|---|---|---|---|---|---|
| **EPC Business** | **18828** | **100** | **18828** | **670** | **Based on FY18E Earnings - 15X for construction business** |
| **BOT Projects** | | | | | **Based on FCFE valuation of projects** |
| Walayar Vadakkancherry | 1409 | 100 | 1409 | 50 | Cost of Equity 13.0% |
| **Target price** | | | **20237** | **720** | |

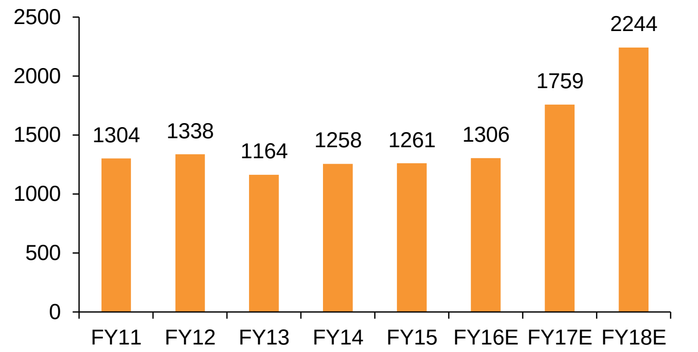
*Source: Company, Emkay Research*

**Exhibit 277: Revenue (Rs mn)**



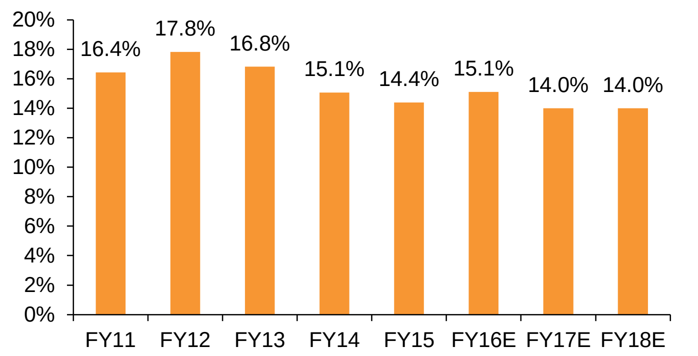

*Source: Emkay Research, Company*

**Exhibit 278: EBITDA (Rs mn)**



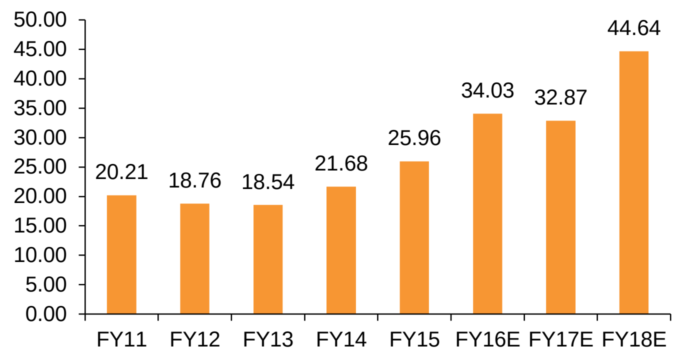

*Source: Emkay Research, Company*

**Exhibit 279: EBITDA Margin (%)**



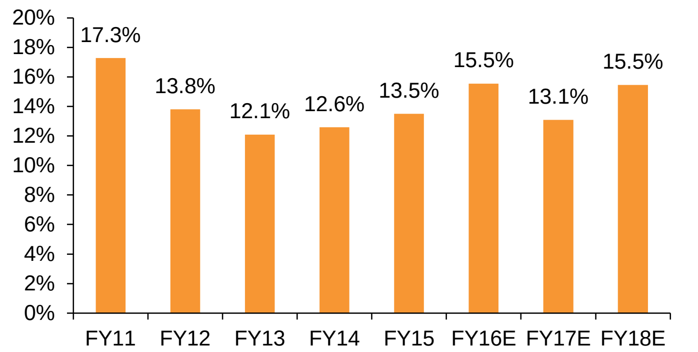

*Source: Emkay Research, Company*

**Exhibit 280: EPS (Rs per share)**



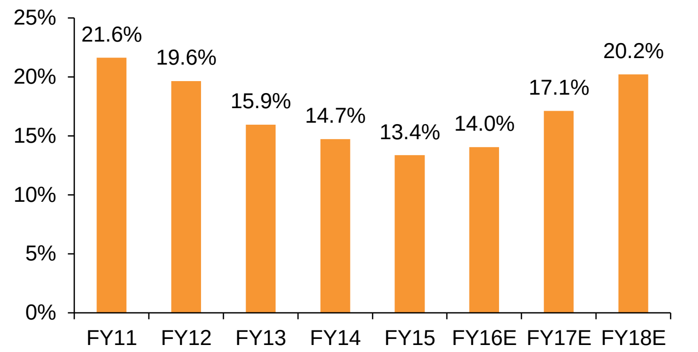

*Source: Emkay Research, Company*

**Exhibit 281: ROE (%)**




*Source: Emkay Research, Company*

**Exhibit 282: ROCE (%)**




*Source: Emkay Research, Company*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **8,348** | **8,761** | **8,650** | **12,564** | **16,031** |
| **Expenditure** | **7,090** | **7,500** | **7,344** | **10,805** | **13,786** |
| **EBITDA** | **1,258** | **1,261** | **1,306** | **1,759** | **2,244** |
| Depreciation | 572 | 541 | 514 | 569 | 615 |
| **EBIT** | **686** | **721** | **793** | **1,190** | **1,629** |
| Other Income | 160 | 125 | 165 | 120 | 126 |
| Interest expenses | 176 | 122 | 129 | 124 | 125 |
| **PBT** | **669** | **723** | **829** | **1,185** | **1,630** |
| Tax | 59 | (7) | (128) | 261 | 375 |
| Extraordinary Items | (10) | 0 | (258) | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **600** | **730** | **699** | **924** | **1,255** |
| **Adjusted PAT** | **610** | **730** | **957** | **924** | **1,255** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 281 | 281 | 281 | 281 | 281 |
| Reserves & surplus | 4,852 | 5,411 | 6,335 | 7,226 | 8,449 |
| **Net worth** | **5,133** | **5,692** | **6,616** | **7,508** | **8,730** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **1,234** | **963** | **832** | **832** | **782** |
| Net deferred tax liability | (118) | (239) | (239) | (239) | (239) |
| **Total Liabilities** | **6,249** | **6,416** | **7,209** | **8,101** | **9,273** |
| **Net block** | **2,637** | **2,243** | **2,179** | **2,260** | **2,145** |
| **Investment** | **400** | **315** | **254** | **254** | **254** |
| **Current Assets** | **6,387** | **7,211** | **8,017** | **10,341** | **12,948** |
| Cash & bank balance | 112 | 157 | 662 | 208 | 370 |
| Other Current Assets | 1,686 | 1,638 | 1,617 | 2,349 | 2,865 |
| **Current liabilities & Provision** | **3,179** | **3,379** | **3,268** | **4,781** | **6,100** |
| **Net current assets** | **3,208** | **3,832** | **4,750** | **5,561** | **6,848** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **6,249** | **6,416** | **7,209** | **8,101** | **9,273** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **669** | **723** | **829** | **1,185** | **1,630** |
| Other Non-Cash items | (9) | 55 | (165) | (120) | (126) |
| Chg in working cap | 165 | (516) | (413) | (1,265) | (1,125) |
| **Operating Cashflow** | **1,332** | **671** | **1,021** | **234** | **744** |
| Capital expenditure | (252) | (272) | (450) | (650) | (500) |
| **Free Cash Flow** | **1,080** | **400** | **571** | **(416)** | **244** |
| Investments | 0 | 85 | 61 | 0 | 0 |
| Other Investing Cash Flow | (36) | (38) | 0 | 0 | 0 |
| **Investing Cashflow** | **(799)** | **(250)** | **(224)** | **(530)** | **(374)** |
| Equity Capital Raised | 0 | 0 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 197 | 56 | (131) | 0 | (50) |
| Dividend paid (incl tax) | (33) | (33) | (33) | (33) | (33) |
| Other Financing Cash Flow | (517) | (302) | 0 | 0 | 0 |
| **Financing Cashflow** | **(524)** | **(409)** | **(293)** | **(157)** | **(208)** |
| **Net chg in cash** | **9** | **13** | **505** | **(454)** | **162** |
| Opening cash position | 32 | 41 | 53 | 558 | 104 |
| **Closing cash position** | **41** | **53** | **558** | **104** | **266** |

### Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 15.1 | 14.4 | 15.1 | 14.0 | 14.0 |
| EBIT Margin | 8.2 | 8.2 | 9.2 | 9.5 | 10.2 |
| Effective Tax Rate | 8.8 | (1.0) | (15.5) | 22.0 | 23.0 |
| Net Margin | 7.3 | 8.3 | 11.1 | 7.4 | 7.8 |
| ROCE | 14.7 | 13.4 | 14.0 | 17.1 | 20.2 |
| ROE | 12.6 | 13.5 | 15.5 | 13.1 | 15.5 |
| RoIC | 13.2 | 12.4 | 13.0 | 17.1 | 20.1 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 21.7 | 26.0 | 34.0 | 32.9 | 44.6 |
| CEPS | 42.0 | 45.2 | 52.3 | 53.1 | 66.5 |
| BVPS | 182.5 | 202.4 | 235.3 | 267.0 | 310.5 |
| DPS | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 26.1 | 21.8 | 16.6 | 17.2 | 12.7 |
| P/CEPS | 13.7 | 12.7 | 11.0 | 10.8 | 8.7 |
| P/BV | 3.1 | 2.8 | 2.4 | 2.1 | 1.8 |
| EV / Sales | 2.0 | 1.9 | 1.8 | 1.3 | 1.0 |
| EV / EBITDA | 13.2 | 13.0 | 12.1 | 9.2 | 7.2 |
| Dividend Yield (%) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Net Debt/EBIDTA | 0.6 | 0.4 | (0.1) | 0.2 | 0.1 |
| Working Cap Cycle (days) | 135.4 | 153.1 | 172.5 | 155.5 | 147.5 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 20.6 | 5.0 | (1.3) | 45.2 | 27.6 |
| EBITDA | 8.0 | 0.3 | 3.5 | 34.7 | 27.6 |
| EBIT | 12.8 | 5.2 | 9.9 | 50.1 | 37.0 |
| PAT | 15.4 | 21.7 | (4.3) | 32.3 | 35.8 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 1,704 | 2,136 | 2,557 | 1,712 | 2,169 |
| EBITDA | 304 | 300 | 347 | 246 | 391 |
| **EBITDA Margin (%)** | **17.8** | **14.1** | **13.6** | **14.4** | **18.0** |
| PAT | 139 | 149 | 244 | 150 | 554 |
| **EPS (Rs)** | **5.0** | **5.3** | **8.7** | **5.3** | **19.7** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 67.3 | 65.5 | 65.5 | 60.9 | 60.8 |
| FIIs | 1.1 | 0.8 | 0.9 | 1.4 | 1.7 |
| DIIs | 17.2 | 20.2 | 20.8 | 25.1 | 25.5 |
| Public and Others | 14.5 | 13.5 | 12.9 | 12.7 | 12.1 |

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# Simplex Infrastructure

# Working capital remains a constraint

| | |
|---|---|
| **CMP** | **Target Price** |
| **Rs312** | **Rs380 (▼)** |
| **Rating** | **Upside** |
| **ACCUMULATE (▪)** | **21.7 %** |

- Given the strong order backlog along with stable order inflows (3% CAGR over FY15-18E) we build in revenue CAGR of 10% over FY15-18E as working capital issue persists (we build partial improvement in working capital)
- As margins remains steadfast over the past 4 quarters at 10.5% and new order intake has come in at decent margins (The management has stated that new orders has come at operating margin of 11%) we expect EBITDA CAGR of 11% over FY15-18E
- We have seen improvement in recovery of receivables which helped improve the execution however consistent improvement in working capital and debt reduction will be needed to sustain the earnings. Maintain Accumulate

## Order book provides 2.5 years revenue visibility

The current order book as of Q2FY16 stands at Rs148.8 bn provides 2.54x revenue visibility whereas order inflow for 1HFY16 stands at Rs19.4 bn. The company stands L1 in orders worth Rs34.3 bn as of Q2FY16 (consist of 4 orders, namely, a Rs16 bn order for NTPC, Rs12 bn for NHPC and Rs4.3 bn for sewerage works) and the management maintains its order intake guidance of Rs75-80 bn for FY16E.

The company is focusing on bidding projects in Oman, Qatar and sees strong pipeline of orders worth Rs200 bn and as the international order book accounts for 6%, revenue is expected to show traction in the ensuing quarters. Currently 8-10% of order book is slow moving largely tilted towards Building & Housing segment (accounts for 41% of the order book).

## Working capital remains a constraint, ex cash stands at 62.6% of revenue

In 1HFY16 the company reported 12% revenue growth aided by recovery of pending receivables and as well increasing the debt levels. Till date the company recovered receivables, stuck from last 6 months, amounting to Rs3.4 bn and targets to recover another Rs8 bn in FY17E. Receivables outstanding more than 6 months stands at Rs10.65 bn as of Sep 2015 versus Rs9.92 bn from March 2015. The debt stands at Rs33.51 bn as of Sep 2015 versus Rs32.25 bn as of March 2015 which increased due to increase in the execution run rate. We believe improvement in the working capital remains key to aid the execution run rate (recovery of Rs1 bn worth receivables can help company execute incremental revenue worth Rs3 bn).

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 54,993 | 55,412 | 60,898 | 68,214 | 73,059 |
| EBITDA | 5,705 | 5,881 | 6,729 | 7,503 | 8,037 |
| EBITDA Margin (%) | 10.4 | 10.6 | 11.1 | 11.0 | 11.0 |
| APAT | 606 | 624 | 741 | 1,270 | 1,604 |
| EPS (Rs) | 12.2 | 12.6 | 14.9 | 25.6 | 32.3 |
| EPS (% chg) | 1.6 | 2.7 | 18.7 | 71.3 | 26.3 |
| ROE (%) | 4.5 | 4.4 | 5.0 | 8.1 | 9.4 |
| P/E (x) | 25.5 | 24.8 | 20.9 | 12.2 | 9.7 |
| EV/EBITDA (x) | 7.7 | 8.1 | 6.9 | 6.2 | 5.8 |
| P/BV (x) | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA/**(4)** |
| Target Price change (%) | (4) |
| Previous Reco | ACCUMULATE |

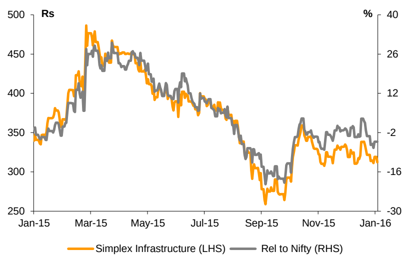
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | **FY16E** | **FY17E** |
| Emkay | 14.9 | 25.6 |
| Consensus | 12.3 | 17.1 |
| Mean Consensus TP | | Rs 404 |

| Stock Details | |
|---|---|
| Bloomberg Code | SINF IN |
| Face Value (Rs) | 2 |
| Shares outstanding (mn) | 49 |
| 52 Week H/L | 508 / 253 |
| M Cap (Rs bn/USD bn) | 15 / 0.23 |
| Daily Avg Volume (nos.) | 17,722 |
| Daily Avg Turnover (US$ mn) | 0.1 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 56.0% |
| FIIs | 6.1% |
| DIIs | 23.8% |
| Public and Others | 14.2% |

| Price Performance | | | | |
|---|---|---|---|---|
| **(%)** | **1M** | **3M** | **6M** | **12M** |
| **Absolute** | (2) | 7 | (21) | (14) |
| **Rel. to Nifty** | - | 9 | (14) | (7) |

**Relative price chart**




*Source: Bloomberg*

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**Exhibit 283: We have reduced our earning for FY17E by 4% on higher interest outgo**

| | FY17E | | |
|---|---|---|---|
| **Particulars** | **Earlier** | **Revised** | **Change %** |
| Sales | 68,214 | 68,214 | 0.00% |
| EBITDA | 7,503 | 7,503 | 0.01% |
| *EBITDA (%)* | *11.00%* | *11.00%* | *+20 bps* |
| Net Profit | 1,324 | 1,270 | -4.09% |
| EPS | 26.8 | 25.7 | -4.09% |

*Source: Company, Emkay Research*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **54,993** | **55,412** | **60,898** | **68,214** | **73,059** |
| **Expenditure** | **49,288** | **49,531** | **54,169** | **60,710** | **65,023** |
| **EBITDA** | **5,705** | **5,881** | **6,729** | **7,503** | **8,037** |
| Depreciation | 2,039 | 2,033 | 2,162 | 2,259 | 2,379 |
| **EBIT** | **3,667** | **3,848** | **4,567** | **5,245** | **5,657** |
| Other Income | 531 | 934 | 784 | 784 | 784 |
| Interest expenses | 3,342 | 3,843 | 4,229 | 4,119 | 4,030 |
| **PBT** | **856** | **939** | **1,123** | **1,910** | **2,411** |
| Tax | 250 | 315 | 382 | 640 | 808 |
| Extraordinary Items | 0 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **606** | **624** | **741** | **1,270** | **1,604** |
| **Adjusted PAT** | **606** | **624** | **741** | **1,270** | **1,604** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 99 | 99 | 99 | 99 | 99 |
| Reserves & surplus | 13,879 | 14,323 | 15,006 | 16,218 | 17,763 |
| **Net worth** | **13,978** | **14,422** | **15,105** | **16,317** | **17,863** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **29,297** | **32,253** | **31,500** | **32,000** | **31,500** |
| Net deferred tax liability | 2,073 | 1,919 | 1,919 | 1,919 | 1,919 |
| **Total Liabilities** | **45,348** | **48,594** | **48,524** | **50,236** | **51,282** |
| **Net block** | **11,638** | **11,160** | **10,798** | **9,739** | **8,560** |
| **Investment** | **1,341** | **1,476** | **1,506** | **1,536** | **1,566** |
| **Current Assets** | **59,357** | **65,709** | **68,395** | **74,633** | **79,364** |
| Cash & bank balance | 807 | 227 | 323 | 625 | 300 |
| Other Current Assets | 21,391 | 25,645 | 26,695 | 28,033 | 30,425 |
| **Current liabilities & Provision** | **27,519** | **29,799** | **32,223** | **35,720** | **38,257** |
| **Net current assets** | **31,838** | **35,910** | **36,172** | **38,913** | **41,107** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **45,348** | **48,595** | **48,525** | **50,237** | **51,282** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **325** | **5** | **339** | **1,125** | **1,627** |
| Other Non-Cash items | 200 | 488 | 0 | 0 | 0 |
| Chg in working cap | (4,212) | (6,151) | (167) | (2,438) | (2,520) |
| **Operating Cashflow** | **1,443** | **(248)** | **6,180** | **4,426** | **4,709** |
| Capital expenditure | (1,010) | (730) | (1,800) | (1,200) | (1,200) |
| **Free Cash Flow** | **433** | **(978)** | **4,380** | **3,226** | **3,509** |
| Investments | 176 | 152 | (30) | (30) | (31) |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **707** | **1,086** | **755** | **754** | **753** |
| Equity Capital Raised | (39) | 0 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 2,333 | 3,126 | (753) | 500 | (500) |
| Dividend paid (incl tax) | (58) | (29) | (58) | (58) | (58) |
| Other Financing Cash Flow | 0 | (45) | 0 | 0 | 0 |
| **Financing Cashflow** | **(1,054)** | **(695)** | **(5,040)** | **(3,677)** | **(4,588)** |
| **Net chg in cash** | **86** | **(586)** | **95** | **303** | **(325)** |
| Opening cash position | 720 | 806 | 220 | 315 | 618 |
| **Closing cash position** | **806** | **220** | **315** | **618** | **293** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 10.4 | 10.6 | 11.1 | 11.0 | 11.0 |
| EBIT Margin | 6.7 | 6.9 | 7.5 | 7.7 | 7.7 |
| Effective Tax Rate | 29.2 | 33.5 | 34.0 | 33.5 | 33.5 |
| Net Margin | 1.1 | 1.1 | 1.2 | 1.9 | 2.2 |
| ROCE | 9.6 | 10.2 | 11.0 | 12.2 | 12.7 |
| ROE | 4.5 | 4.4 | 5.0 | 8.1 | 9.4 |
| RoIC | 13.2 | 12.6 | 14.2 | 16.5 | 17.8 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 12.2 | 12.6 | 14.9 | 25.6 | 32.3 |
| CEPS | 53.4 | 53.5 | 58.5 | 71.1 | 80.2 |
| BVPS | 282.4 | 290.5 | 304.2 | 328.6 | 359.8 |
| DPS | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 25.5 | 24.8 | 20.9 | 12.2 | 9.7 |
| P/CEPS | 6.3 | 6.3 | 5.8 | 4.8 | 4.2 |
| P/BV | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 |
| EV / Sales | 0.8 | 0.9 | 0.8 | 0.7 | 0.6 |
| EV / EBITDA | 7.7 | 8.1 | 6.9 | 6.2 | 5.8 |
| Dividend Yield (%) | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 2.0 | 2.2 | 2.1 | 1.9 | 1.7 |
| Net Debt/EBIDTA | 5.0 | 5.4 | 4.6 | 4.2 | 3.9 |
| Working Cap Cycle (days) | 206.0 | 235.0 | 214.9 | 204.9 | 203.9 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | (5.3) | 0.8 | 9.9 | 12.0 | 7.1 |
| EBITDA | 8.7 | 3.1 | 14.4 | 11.5 | 7.1 |
| EBIT | 13.0 | 5.0 | 18.7 | 14.8 | 7.9 |
| PAT | 1.3 | 3.1 | 18.7 | 71.3 | 26.3 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 12,483 | 14,195 | 15,330 | 15,055 | 13,922 |
| EBITDA | 1,445 | 1,503 | 1,479 | 1,633 | 1,599 |
| **EBITDA Margin (%)** | **11.6** | **10.6** | **9.6** | **10.8** | **11.5** |
| PAT | 127 | 148 | 222 | 179 | 136 |
| **EPS (Rs)** | **2.6** | **3.0** | **4.5** | **3.6** | **2.7** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 56.4 | 56.4 | 56.4 | 56.0 | 56.0 |
| FIIs | 12.2 | 9.4 | 5.6 | 5.8 | 6.1 |
| DIIs | 18.4 | 21.2 | 24.4 | 24.3 | 23.8 |
| Public and Others | 13.0 | 13.0 | 13.5 | 14.0 | 14.2 |

**Management Meet Update**

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# PNC Infratech

## Healthy order book, execution is key

| CMP | Target Price |
|---|---|
| Rs540 | NA |
| **Rating** | **Upside** |
| NOT RATED | NA |

- The current Order book stands at Rs35.8 bn and order intake in YTDFY16 stands at Rs9.44 bn including 2 road projects the company won in Bihar (Koilwar-Bhojpur, Bhojpur-Buxar) and the company currently stands L1 in orders worth Rs8.25. The management guides for Order inflow of Rs20-30 bn every year over 2-3 years
- Given the strong order book and bid pipeline visibility, management expects revenue CAGR of 20% over the next years with EBITDA Margins to remain at 13-14%. The company expects toll revenue across projects to be up 25% for FY16 at Rs4 bn including annuity projects
- Strong order book provides good execution visibility in the construction business, no further equity requirement in the BOT business, and improving toll collections will be the growth drivers for earnings

### Strong order book with 2.5 years plus revenue visibility

The current Order book stands at Rs35.8 bn as of 30th September, 2015 and order intake in YTDFY16 stands at Rs9.44 bn including 2 road projects the company won in Bihar (Koilwar-Bhojpur, Bhojpur-Buxar). Apart from order inflow the company currently stands L1 in orders worth Rs8.25 bn namely:

- Re-surfacing/strengthening of airport runway at Air Force Station, Chakeri, Kanpur – contract value Rs1.67 bn. Expects Letter of Intent (LOI) over the next one month for project of re-surfacing/ strengthening of runway at Air Force Station, Kanpur.
- NHAI project for improvement/ augmentation of 146.4 km long Aligarh-Moradabad section of NH-93 to 2-lanes with paved shoulders – contract value Rs6.44 bn

The company has currently bid for projects worth 17 projects worth Rs120 bn (largely from NHAI and MoRTH) across states like Madhya Pradesh, Rajasthan, Bihar and Haryana and company expects to close the order book at Rs45 bn in FY16E. The management guides for Order inflow of of Rs20-30 bn every year over 2-3 years

The company is also bidding for projects in DFC (Dedicated freight corridor, both bids on eastern corridor) Dadri-Khurja (46 km, double lane) and Sahnewal - Pilkhani Section (175 km, single lane), both projects to cost Rs33 bn together. The company will require two track laying machines for the projects; each machine will cost Rs400 mn and is looking to purchase one machine and will lease the other machine required. The company is individually qualified to bid for these projects. The company has previously worked on a sleeper and track laying project with Bharat Forge worth Rs1.5 bn.

The company is prequalified to bid for EPC projects of size up to Rs50 bn and BOT projects of size up to Rs35 bn.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| Net Sales | 11,391 | 12,733 | 13,056 | 13,600 | 18,609 |
| EBITDA | 1,288 | 1,535 | 1,563 | 1,754 | 2,799 |
| EBITDA Margin (%) | 11.3 | 12.1 | 12.0 | 12.9 | 15.0 |
| APAT | 711 | 784 | 746 | 552 | 913 |
| EPS (Rs) | 17.9 | 19.7 | 18.7 | 13.9 | 22.9 |
| EPS (% chg) | 37.4 | 10.2 | (4.8) | (26.1) | 65.4 |
| ROE (%) | 23.4 | 17.3 | 13.9 | 8.5 | 11.5 |
| P/E (x) | 30.2 | 27.4 | 28.8 | 38.9 | 23.5 |
| EV/EBITDA (x) | 17.2 | 16.1 | 17.0 | 17.2 | 13.4 |
| P/BV (x) | 5.2 | 4.4 | 3.7 | 3.0 | 2.5 |

*Source: Company, Emkay Research*

**Change in Estimates**

| | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA |
| Target Price change (%) | NA |
| Previous Reco | NR |

**Emkay vs Consensus**

| EPS Estimates | FY16E | FY17E |
|---|---|---|
| Emkay | 10.9 | 22.7 |
| Consensus | 15.7 | 21.1 |
| Mean Consensus TP | | Rs 631 |

**Stock Details**

| | |
|---|---|
| Bloomberg Code | PNCL IN |
| Face Value (Rs) | 10 |
| Shares outstanding (mn) | 51 |
| 52 Week H/L | 554 / 346 |
| M Cap (Rs bn/USD bn) | 28 / 0.42 |
| Daily Avg Volume (nos.) | 37,198 |
| Daily Avg Turnover (US$ mn) | 0.3 |

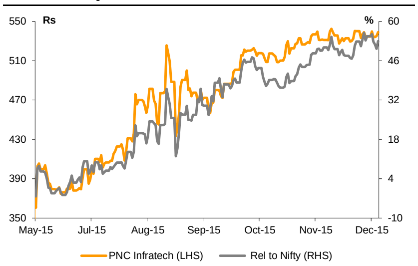
**Shareholding Pattern [Quarter]**

| | |
|---|---|
| Promoters | 56.1% |
| FIIs | 6.4% |
| DIIs | 13.8% |
| Public and Others | 23.7% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| **Absolute** | 2 | 11 | 35 | - |
| **Rel. to Nifty** | - | 10 | 45 | - |

**Relative price chart**




*Source: Bloomberg*

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**Exhibit 284: Order book details**

| Projects | Value (Rs mn) |
|---|---|
| Agra-Firozabad | 14080 |
| Bhojpur-Buxar | 4770 |
| Koilwar-Bhojpur | 4540 |
| Sonauli-Gorakhpur | 4080 |
| Barabanki-Jarwal | 2180 |
| **Top 5 projects** | **29650** |
| Other Projects | 6130 |
| **Total Order Book** | **35780** |

*Source: Company, Emkay Research*

### Revenue ramp up from Agra Lucknow project in FY16E/17E, newly won orders to start contributing in FY17E

The company expects to finish 90% of the work on the Agra-Lucknow project by FY17E (start date Jan2015, 36 month construction time), it expects early completion bonus of Rs1 bn. The company has received 15% advance on this project of which it has passed forward Rs750-800 mn to suppliers as advance. Execution on recently won projects in Bihar, Bhojpur-Buxar and Koilwar-Bhojpur is to start over the next two months and the company's share of the projects stands at Rs9.3 bn. The company is yet to take the 10% mobilization advance on the Bihar projects.

Given the strong order book and bid pipeline visibility, management expects revenue CAGR of 20% over the next years with EBITDA Margins to remain at 13-14%.

### BOT business: Traffic growth steady

The company has invested Rs4.90 bn in its BOT portfolio and there is no further equity requirement left to be infused.

- Gwalior Bhind traffic collection stands at Rs1.16 mn/day +24.6% YoY (expected toll collection of Rs1.4 mn/day, take 2 months to stabilize),
- Kanpur – Ayodhya traffic collection stands at Rs5.91 mn/day +11.38% YoY.
- Bareilly Almora traffic stand at Rs1.2-1.3 mn/day (expected toll collection of Rs1.7-1.8 mn/day, take 2-3 months to stabilize).
- Currently Ghaziabad Aligarh project is collecting Rs3.5-3.8 mn/day for 103 km versus the expected Rs8 mn plus per day collection when the project was bid. After the full COD (extra length), the company expects the toll collection to increase by Rs1.7 mn /day. Currently the company is not able to collect revenue from the overloading of vehicles which will add another Rs0.7 mn/day to traffic collection. The company expects it to take 3 more months for full COD.
- The Raibareilly – Jaunpur road project is expected to be completed by Dec 4th 2015 compared to the scheduled completion of June 2016, the company will avail early completion bonus of 1 semi-annuity payment (Rs640 mn).

Toll hikes in the BOT projects are due in Mar 2016 (3% + 40% of WPI). The company expects toll revenue across projects to be up 25% for FY16 at Rs4 bn including annuity projects. The company also expects to refinance the loan on the project after full COD and obtain a reduction of 200 bps from the current rate of 12.3%. The company refinanced loan on Kanpur Kabrai at 10.2%.

The company has concluded the sale of its 8.5% stake in Jaora – Nayagaon road project, to Viva Highways Limited (Subsidiary of Ashoka Buildcon Ltd.) for an aggregate consideration of Rs341.93 mn. The valuation was predetermined in 2008-09 at 1.4x invested equity of Rs243 mn and the remaining 16% stake held by SREI Infra and Subhash Projects (SPML Infra) also got valued at 1.3x invested equity. The total equity invested in Jaora Nayagoan stands at Rs2.87 bn.

**Exhibit 285: BOT Portfolio**

| Particulars | Raibareilly Jaunpur | Bareilly Almora | Kanpur Kabrai | Gwalior Bhind | Ghaziabad Aligarh | Jaora Nayagaon |
|---|---|---|---|---|---|---|
| Project Cost (INR mn) | 8374 | 6045.5 | 4590 | 3403 | 20190 | 9065.9 |
| Project Length (km) | 165.5 | 54 | 123 | 108 | 125 | 128 |
| Equity (INR mn) | 1396 | 746 | 675 | 780 | 1940 | 2870 |
| Debt (INR mn) | 6978 | 4600 | 2685 | 2353 | 15140 | 6270 |
| Grant/Subsidy (INR mn) | 0 | 699.5 | 1230 | 270 | 3110 | |
| Construction Period | 2 years | 2.5 years | 2 years | 1.75 years | 4 years | 3.5 years |
| Concession Period | 15 years | 22.5 years | 22 years | 14 years | 21.5 years | 25 years |
| MBL's Stake (%) | 99.99% | 100.00% | 100.00% | 100.00% | 35.00% | 8.51% |
| **State** | **Uttar Pradesh** | **Uttar Pradesh** | **Uttar Pradesh** | **Madhya Pradesh** | **Uttar Pradesh** | **Madhya Pradesh** |
| NH/SH No. | NH-231 | SH-37 | NH-86 | NH-92 | NH-91 | SH-31 |
| Scheduled completion | Jun'16 | Sep'15 | Mar'15 | Mar'13 | Apr'15 | Feb'12 |
| Concession Ends | Jun'31 | Sep'35 | Jan'25 | Jun'25 | Sep'32 | Aug'33 |
| Type (Toll/Annuity) | Annuity | Toll | Toll | Toll | Toll | Toll |
| Issuing Authority | NHAI | UPSHA | NHAI | MPRDC | NHAI | MPRDC |

*Source: Company, Emkay Research*

**Exhibit 286: Gross toll revenue (Rs mn)**

| Road Project | Q1FY16 | Q2FY16 |
|---|---|---|
| Kanpur Ayodhya (OMT) | 550 | 540 |
| Kanpur Kabrai | 70 | 120 |
| Narela (Industrial Estate) | 90 | 110 |
| Gwalior Bhind | 110 | 110 |
| **Total** | **820** | **880** |

*Source: Company, Emkay Research*

## Working capital surges on captive BOT execution

Working capital increased to Rs6.2 bn as of 30th September, 2015 against Rs3.8 bn as of 31st March, 2015 as Trade receivables rose to Rs5.5 bn as of 30th September, 2015 against Rs3.7 bn as of 31st March, 2015 and Loans & Advances rose to Rs4.3 bn as of 30th September, 2015 against Rs3.2 bn as of 31st March, 2015.

The debtor days has increased to 111 days due to the billing Agra Lucknow expressway due to which working capital has increased to 154 days. The company states that working capital will get normalized to 120 days. The increase in loans and advances in H1FY16 is due to increase in advances to subcontractors.

**Exhibit 287: Standalone net working capital (days)**

| Net Working capital (DSO) | FY11 | FY12 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| **Current assets (a)** | **129** | **204** | **191** | **214** | **214** |
| Inventory | 47 | 43 | 29 | 33 | 52 |
| Sundry debtors | 61 | 119 | 111 | 109 | 86 |
| Other current assets | 4 | 3 | 1 | 2 | 2 |
| Loans and advances | 17 | 39 | 49 | 70 | 74 |
| **Current liability and provisions (b)** | **25** | **77** | **83** | **127** | **118** |
| **Net working capital days (a-b)** | **105** | **127** | **108** | **87** | **96** |

*Source: Company, Emkay Research*

### Leverage position

The consolidated debt stands at Rs17.66 bn as of 30th September, 2015 versus Rs16.35 bn as of 31st March, 2015. The consolidated cash stands at Rs1.12 bn as of date. The average cost of borrowing cost stands at 10.75%.

The standalone debt stands at Rs2.11 bn (does not include current maturities) as of 30th September, 2015 versus Rs3.5 bn as of 31st March, 2015. The standalone cash stands at Rs742 mn as of date. The company has incurred a capex of Rs540 mn in H1FY16. The company expects to close the gross block at Rs4.5 bn (Rs3.8 bn as of FY15) as of FY16E (enabling it to execute jobs upto Rs30 bn), after that Rs250-300 mn maintenance capex every year.

The short term loan credit rating of the company is A1+ while the long term loan credit rating is up one notch at A+. The working capital loan borrowing cost is currently less than 10%, down from 10.5% earlier. The company pays bank guarantee charges on a quarterly instalment basis and not a lump sum single payment even for multiyear bank guarantees.

**Exhibit 288: Utilization of IPO proceeds**

| Utilization of IPO proceeds (Rs mn) | IPO Proceeds | Utilization till June 2015 | Utilization till Sep 2015 | Amount pending as of Sep 2015 |
|---|---|---|---|---|
| Funding working capital requirements | 1500 | 1500 | 1500 | 0 |
| Investment in road subsidiaries | 650 | 650 | 650 | 0 |
| Investment in capital equipment | 850.6 | 164.2 | 512.7 | 337.9 |
| Repayment/Prepayment of debt | 351.4 | 296.8 | 301.9 | 49.5 |
| General corporate purpose | 811 | 750 | 750 | 61 |
| Issue related expenses | 184 | 99.8 | 174.3 | 9.7 |
| **Total** | **4347** | **3460.8** | **3888.9** | **458.1** |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| **Net Sales** | **11,391** | **12,733** | **13,056** | **13,600** | **18,609** |
| **Expenditure** | **10,103** | **11,198** | **11,494** | **11,845** | **15,810** |
| **EBITDA** | **1,288** | **1,535** | **1,563** | **1,754** | **2,799** |
| Depreciation | 190 | 189 | 233 | 402 | 603 |
| **EBIT** | **1,098** | **1,346** | **1,329** | **1,353** | **2,195** |
| Other Income | 38 | 64 | 41 | 108 | 121 |
| Interest expenses | 87 | 240 | 253 | 609 | 925 |
| **PBT** | **1,050** | **1,170** | **1,118** | **852** | **1,392** |
| Tax | 339 | 387 | 371 | 346 | 479 |
| Extraordinary Items | 0 | 0 | 0 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **711** | **784** | **746** | **552** | **913** |
| **Adjusted PAT** | **711** | **784** | **746** | **552** | **913** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| Equity share capital | 398 | 398 | 398 | 398 | 398 |
| Reserves & surplus | 3,744 | 4,528 | 5,428 | 6,699 | 8,313 |
| **Net worth** | **4,142** | **4,926** | **5,826** | **7,097** | **8,711** |
| **Minority Interest** | **0** | **0** | **1** | **1** | **1** |
| **Loan Funds** | **1,036** | **3,724** | **5,881** | **9,859** | **16,349** |
| Net deferred tax liability | 21 | 20 | 2 | 31 | 10 |
| **Total Liabilities** | **5,199** | **8,671** | **11,709** | **16,988** | **25,070** |
| **Net block** | **1,013** | **1,109** | **4,439** | **6,489** | **6,833** |
| **Investment** | **512** | **512** | **923** | **1,051** | **938** |
| **Current Assets** | **4,243** | **6,866** | **5,890** | **6,740** | **8,381** |
| Cash & bank balance | 409 | 451 | 735 | 1,156 | 411 |
| Other Current Assets | 118 | 112 | 59 | 68 | 106 |
| **Current liabilities & Provision** | **740** | **1,743** | **2,502** | **3,218** | **5,904** |
| **Net current assets** | **3,503** | **5,123** | **3,388** | **3,522** | **2,477** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **5,199** | **8,671** | **11,709** | **16,988** | **25,070** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **1,050** | **1,170** | **1,118** | **836** | **1,392** |
| Other Non-Cash items | 25 | 4 | 22 | 8 | 10 |
| Chg in working cap | (1,931) | (1,586) | 1,963 | (67) | 107 |
| **Operating Cashflow** | **(933)** | **(426)** | **3,178** | **1,388** | **2,468** |
| Capital expenditure | (411) | (2,037) | (4,606) | (5,419) | (9,862) |
| **Free Cash Flow** | **(1,344)** | **(2,463)** | **(1,428)** | **(4,032)** | **(7,394)** |
| Investments | (283) | 0 | (411) | (128) | 114 |
| Other Investing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Investing Cashflow** | **(683)** | **(1,981)** | **(4,995)** | **(5,481)** | **(9,749)** |
| Equity Capital Raised | 1,500 | 1 | 233 | 742 | 810 |
| Loans Taken / (Repaid) | 93 | 2,688 | 2,157 | 4,415 | 6,674 |
| Dividend paid (incl tax) | 0 | 0 | (35) | (35) | (93) |
| Other Financing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Financing Cashflow** | **1,506** | **2,449** | **2,102** | **4,513** | **6,536** |
| **Net chg in cash** | **(110)** | **41** | **285** | **420** | **(745)** |
| Opening cash position | 519 | 409 | 451 | 735 | 1,156 |
| **Closing cash position** | **409** | **451** | **735** | **1,156** | **411** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| EBITDA Margin | 11.3 | 12.1 | 12.0 | 12.9 | 15.0 |
| EBIT Margin | 9.6 | 10.6 | 10.2 | 9.9 | 11.8 |
| Effective Tax Rate | 32.3 | 33.0 | 33.2 | 40.6 | 34.4 |
| Net Margin | 6.2 | 6.2 | 5.7 | 3.7 | 4.9 |
| ROCE | 28.1 | 20.3 | 13.5 | 10.2 | 11.0 |
| ROE | 23.4 | 17.3 | 13.9 | 8.5 | 11.5 |
| RoIC | 35.5 | 27.2 | 20.7 | 17.0 | 24.7 |

| Per Share Data (Rs) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| EPS | 17.9 | 19.7 | 18.7 | 13.9 | 22.9 |
| CEPS | 22.6 | 24.4 | 24.6 | 24.0 | 38.1 |
| BVPS | 104.0 | 123.7 | 146.3 | 178.3 | 218.8 |
| DPS | 0.0 | 0.8 | 0.8 | 0.8 | 1.9 |

| Valuations (x) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| PER | 30.2 | 27.4 | 28.8 | 38.9 | 23.5 |
| P/CEPS | 23.9 | 22.1 | 21.9 | 22.5 | 14.2 |
| P/BV | 5.2 | 4.4 | 3.7 | 3.0 | 2.5 |
| EV / Sales | 1.9 | 1.9 | 2.0 | 2.2 | 2.0 |
| EV / EBITDA | 17.2 | 16.1 | 17.0 | 17.2 | 13.4 |
| Dividend Yield (%) | 0.0 | 0.1 | 0.1 | 0.1 | 0.4 |

| Gearing Ratio (x) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| Net Debt/ Equity | 0.2 | 0.7 | 0.9 | 1.2 | 1.8 |
| Net Debt/EBIDTA | 0.5 | 2.1 | 3.3 | 5.0 | 5.7 |
| Working Cap Cycle (days) | 99.1 | 133.9 | 74.1 | 63.5 | 40.5 |

| Growth (%) | FY15 | FY16 | FY13 | FY14 | FY15 |
|---|---|---|---|---|---|
| Revenue | 51.6 | 11.8 | 2.5 | 4.2 | 36.8 |
| EBITDA | 39.6 | 19.2 | 1.8 | 12.3 | 59.5 |
| EBIT | 43.9 | 22.5 | (1.3) | 1.8 | 62.3 |
| PAT | 60.3 | 10.2 | (4.8) | (26.1) | 65.4 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 4,021 | NA | 5,411 | 5,135 | 5,567 |
| EBITDA | 702 | NA | 771 | 846 | 922 |
| **EBITDA Margin (%)** | **17.5** | **NA** | **14.3** | **16.5** | **16.6** |
| PAT | 218 | NA | 280 | 236 | 178 |
| **EPS (Rs)** | **4.2** | **NA** | **5.5** | **4.6** | **3.5** |

**Management Meet Update**

Your success is our success

# ITD Cementation

# Margins to improve from CY16

| CMP | Target Price |
|---|---|
| Rs112 | NA |
| **Rating** | **Upside** |
| NOT RATED | NA |

## Meeting highlights

- Expects significant increase in the order inflow, currently stands L1 in orders worth Rs33 bn where ITD Cementation's share will be Rs24 bn. In CY16E the management has targeted order inflow of Rs30 bn - Rs35 bn plus
- The company has won one package in Mumbai Metro Phase III project worth Rs31.3 bn in consortium (share stands at 40%, his share stands at 12.5 bn). The company is looking to obtain the TBMs (Tunnel boring machine) on an operational lease and not on the books of the company itself
- Given that 10% of the order books are low margin which will get executed by Q2CY16 and with newer order wins are margin accretive, management expects that EBITDA margins to rebound to 7%/9% in CY15E/16E.Guides for revenue worth Rs27 bn/Rs35 bn/Rs40 bn in CY15E/16E/17E

## Expect order intake momentum to continue

The company has achieved order inflow of Rs26 bn as of YTDCY15 (including Water projects in Kolkata and Baroda worth Rs2.5 bn total, Piling worth Rs500 mn, Marine Jobs from Adani worth Rs1.33 bn and order from PSA (Port of Singapore) at JNPT worth Rs21.6 bn).

The company is currently L1 in orders worth Rs38 bn where ITD Cementation's share will be Rs14.4 bn.

- Rs18 bn order comprises of Establishment of Captive Coal Jetty with unloading facilities and Pipe Conveyor for 2 x 660 MW Udangudi Supercritical Thermal Power Project at Udangudi, Thoothukudi Distt., Tamilnadu.
- Rs2.43 bn order of development of West Quay - North berth in the inner harbor of Vishakhapatnam Port.
- Mumbai Metro order worth Rs12.5 bn.

The company also expects orders worth-

- Rs2.82 bn as an additional scope from port of Singapore at JNPT port.
- Piling order of Rs10 bn in Nigeria.

### Financial Snapshot (Consolidated)

| (Rs mn) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| Net Sales | 14,469 | 16,976 | 16,509 | 15,841 | 17,189 |
| EBITDA | 1,404 | 1,668 | 1,912 | 1,625 | 911 |
| EBITDA Margin (%) | 9.7 | 9.8 | 11.6 | 10.3 | 5.3 |
| APAT | 94 | 226 | 220 | 93 | (761) |
| EPS (Rs) | 8.1 | 19.6 | 19.1 | 8.1 | (49.0) |
| EPS (% chg) | 0.0 | 140.7 | (2.7) | (57.7) | (707.5) |
| ROE (%) | 5.2 | 6.1 | 5.6 | 2.3 | (15.6) |
| P/E (x) | 13.7 | 5.7 | 5.9 | 13.9 | (2.3) |
| EV/EBITDA (x) | 4.5 | 4.4 | 4.6 | 5.3 | 10.0 |
| P/BV (x) | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg CY15E/CY16E (%) | NA |
| Target Price change (%) | NA |
| Previous Reco | NR |

**Emkay vs Consensus**

| EPS Estimates | | |
|---|---|---|
| | CY15E | CY16E |
| Emkay | 2.7 | 6.4 |
| Consensus | 1.9 | 8.8 |
| Mean Consensus TP | | Rs 134 |

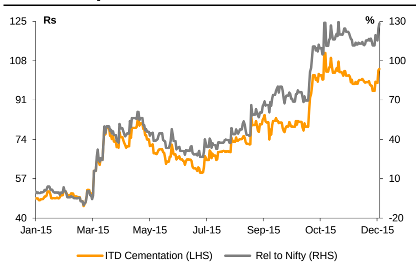
| Stock Details | |
|---|---|
| Bloomberg Code | ITCE IN |
| Face Value (Rs) | 1 |
| Shares outstanding (mn) | 155 |
| 52 Week H/L | 116 / 44 |
| M Cap (Rs bn/USD bn) | 17 / 0.26 |
| Daily Avg Volume (nos.) | 292,799 |
| Daily Avg Turnover (US$ mn) | 0.5 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 51.6% |
| FIIs | 3.5% |
| DIIs | 24.3% |
| Public and Others | 20.6% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| **Absolute** | 12 | 44 | 72 | 130 |
| **Rel. to Nifty** | 4 | 42 | 82 | 142 |

**Relative price chart**




*Source: Bloomberg*

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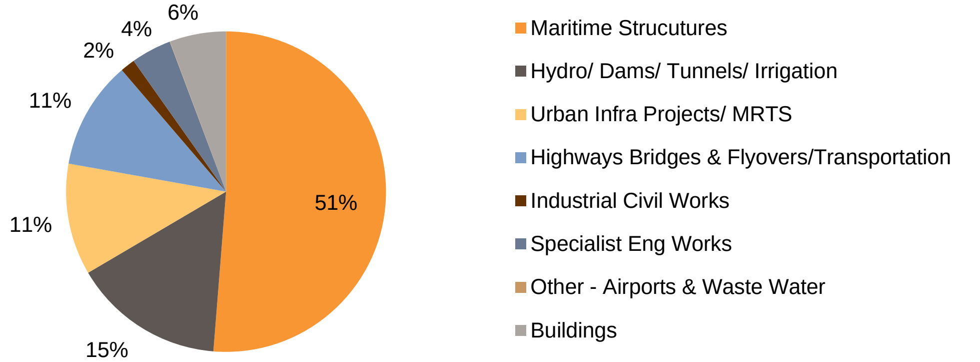
**Major recently awarded projects included in order book are:**

- Dredging and reclamation works for development of 4th container terminal in Jawaharlal Nehru Port (JNP)-phase-1 worth 21,681 mn from Bharat Mumbai Container Terminals Pvt. Ltd.
- Engineering, Procurement & Construction (EPC) contract for Container Terminal 5 at Mundra from Adani Port & Special Economic Zone Ltd. Worth 1327 mn.
- Providing and Laying 1400mm dia. / 1800mm dia. RCC NP4 class Drainage Gravity line by Micro-Tunnelling Method from Vadodara Mahanagar Seva Sadan worth 1,211 mn.
- Piling Works of 15000 Nos. Piles by Rotary Rigs For 5-10 MTPA Expansion Project at M/s. JSW Steel Plant at Dolvi, Pen worth 516 mn.
- Designing, Providing, Constructing, Erecting, Testing & Commissioning of Intake Channel, Jackwell & Pump House for Bhama Askhed Water Supply Scheme, Pune worth 447 mn.
- Construction of Bose Institute at Salt Lake, Kolkata worth 1,334 mn from Rites Ltd.
- Construction of Elevated road at Noida worth 4,155 mn from Noida.
- Construction of IIT Ropar worth 2,732 mn from CPWD Ropar.
- Rehabilitation and Refurbishment of Water Works at Palta and Garden Reach worth 806 mn from KEIIP.
- Design and Construction of reclamation and container yard at JNPT worth 4,067 mn from Nhava Sheva (I) Gateway Terminal. Construction of LNG storage tanks at Mundra worth 1,113 mn from IHI Corporation.

**Exhibit 289: Segmental Order Book breakup as of June 30, 2015**



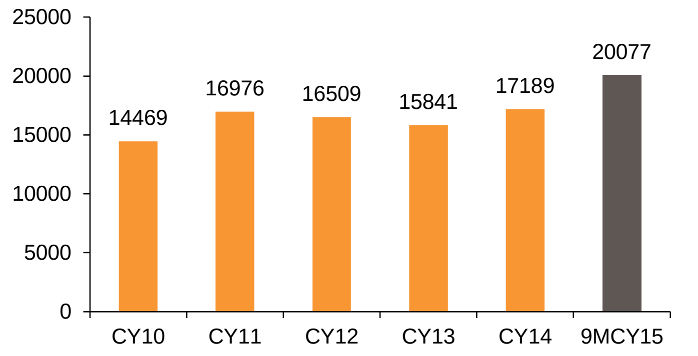

*Source: Company, Emkay Research*

**Exhibit 290: Major Tender Prospects**

| Segments | Value (Rs mn) | Projects | Project Value (Rs mn) |
|---|---|---|---|
| **Marine** | 32002 | Establishment of Captive Coal Jetty with unloading facilities and Pipe Conveyor for 2 x 660 MW Udangudi Supercritical Thermal Power Project at Udangudi, Thoothukudi Distt., Tamilnadu | 25000 |
| | | Engineering, Procurement & Construction (EPC) Contract for Bulk Berth 3A & 4 & Approach at Dhamra, Orissa for Dharma Port Co. Ltd. | 2000 |
| | | Contract for Marine facilities of M/s Indian Oil Corporation Ltd. at Ennore Port in the State of Tamil Nadu | 2700 |
| | | Development of West Quay - North (WQ-7 & WQ-8) berth in the inner harbor of Vishakhapatnam Port (for left over works) | 2302 |
| **Urban Infrastructure/MRTS** | 43891 | Detailed Design and Construction of Underground Stations and Associated Tunnels: MM3-CBS-UGC-04 (Submitted as CEC-ITD-TPL J.V. (40:40:20) from Mumbai Metro Rail Corp. Ltd | 40000 |
| | | Navi Mumbai Metro Trackworks (Installation only) for CIDCO | 500 |
| | | Civil work for bridges, Tunneling work, Excavation, Backfilling, & all civil works of Railway Line Packages from RattanIndia Nasik Power Limited | 2500 |
| | | Construction of CC Block pavement , PQC pavement , Construction of Drain and development of approach road from State Highway to MMLH complex at Ahmedgarh Near Ludhiana, Punjab from Container Corporation of India Ltd. | 891 |
| **Hydro/Dams/Tunnel/Irrigation** | 300 | Rehabilitation of 150 MW Bhira Rehabilitation of Old Tunnel Project from Tata Power | 300 |
| **Buildings** | 8327 | Development of Phase 1 Campus including Buildings for IIM Raipur at Naya Raipur | 2965 |
| | | Construction of Married Accomodation, Medical Centre, Shopping Complex, Sports Complex, Club Building, ESS, Residential Type A, B & C of NIT Meghalaya at Cherrapunji (Meghalaya) | 975 |
| | | Construction Of New Civil Works At Visvesvaraya National Institute Of Technology At Nagpur, Maharashtra | 1787 |
| | | Construction of Metro Train Depot cum Workshop at Gyaspur on North South Corridor of Ahmedabad Metro Rail Project Phase | 1300 |
| | | Construction of Hospital Building and ancillaries at Bengdubi in Darjeeling district of West Bengal | 1300 |
| **Specialist Projects** | 18657 | Various | - |

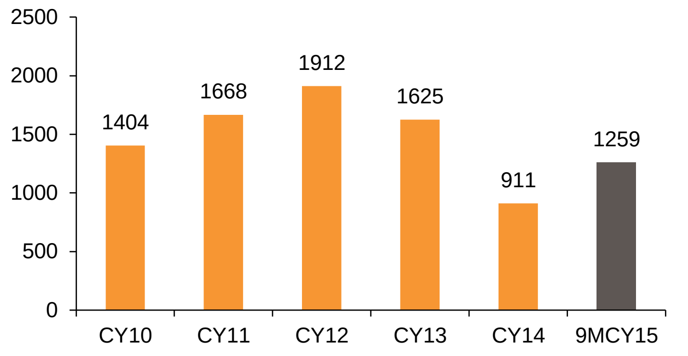
*Source: Company, Emkay Research*

**Exhibit 291: Revenue CAGR of 4.4% over CY10-14**



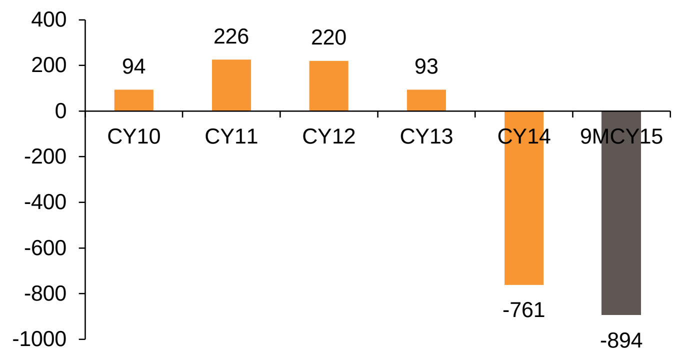

*Source: Company, Emkay Research*

**Exhibit 292: EBITDA CAGR of -10.2% over CY10-14**



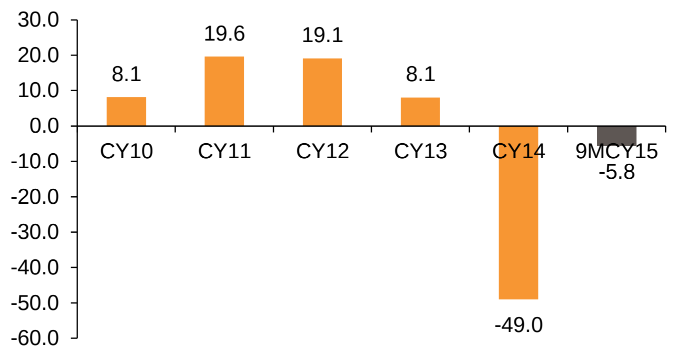

*Source: Company, Emkay Research*

**Exhibit 293: Reported PAT**



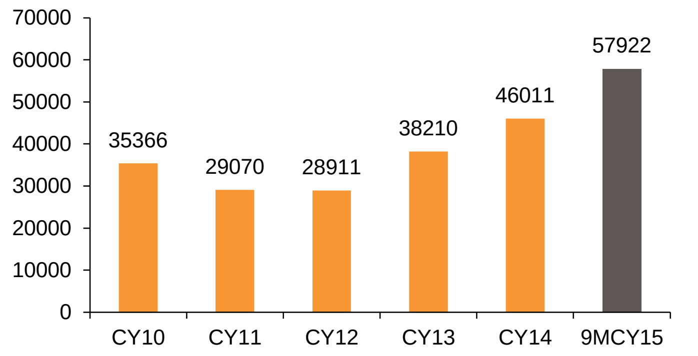

*Source: Company, Emkay Research*

**Exhibit 294: EPS**



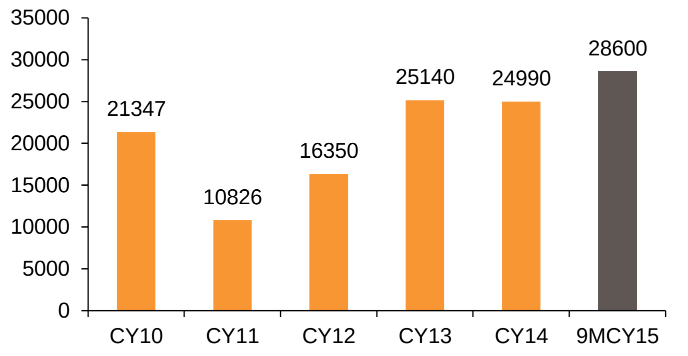

*Source: Company, Emkay Research*

**Exhibit 295: Order Book CAGR of 6.8% over CY10-14**



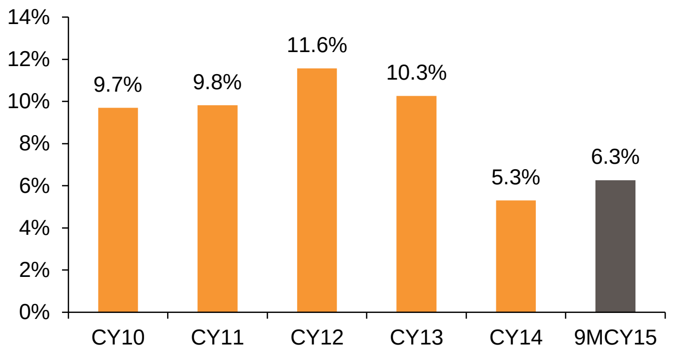

*Source: Company, Emkay Research*

**Exhibit 296: Order Inflow CAGR of 4% over CY10-14**



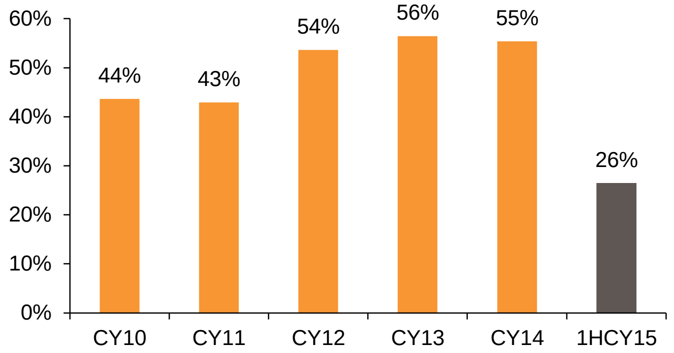

*Source: Company, Emkay Research*

**Exhibit 297: EBITDA Margins averaged 9.3% over last 5 years**



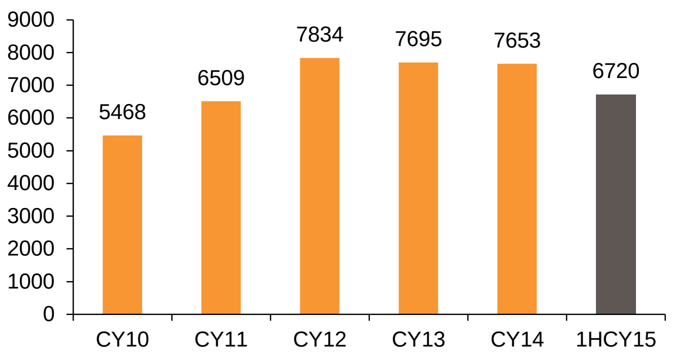

*Source: Company, Emkay Research*

**Exhibit 298: Non Cash NWC as a % of sales**



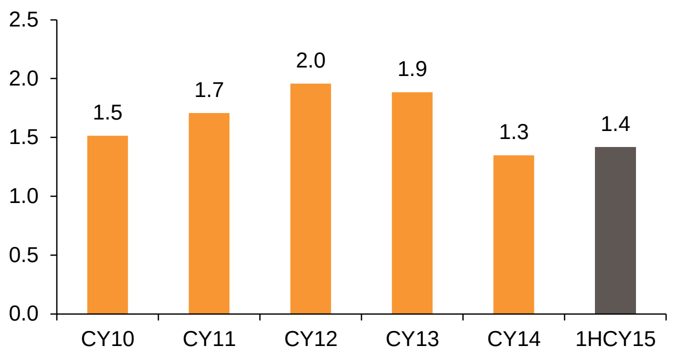

*Source: Company, Emkay Research*

**Exhibit 299: Debt levels kept rising on working capital requirements**



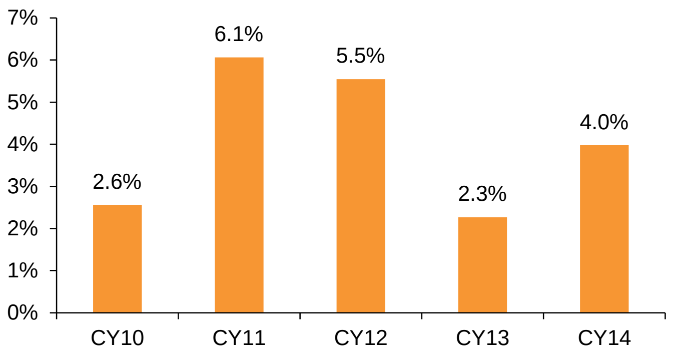

*Source: Company, Emkay Research*

**Exhibit 300: Debt equity brought under control**



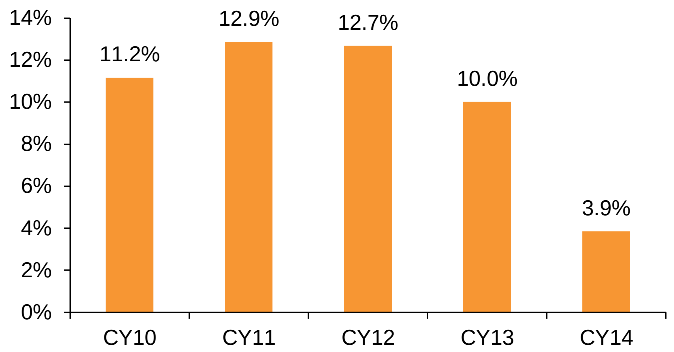

*Source: Company, Emkay Research*

**Exhibit 301: ROEs averaged 4.1% over last 5 years**




*Source: Company, Emkay Research*

**Exhibit 302: ROCEs averaged 10.1% over last 5 years**




*Source: Company, Emkay Research*

### 10% of the order book are slow moving, newly won orders are margin accretive

Given that 10% of the order book remains slow-moving/low margin and further write offs are expected in some orders which will get executed by Q2CY16 and with newer order wins remains accretive, management expects that EBITDA margins to rebound to 7%/9% in CY15E/16E.The management also stated that it is confident of achieving 10% plus margins in CY17E.

Given the accretion in the order book and visibility of new order intake remains strong, management expects to clock revenue of Rs27 bn/Rs35 bn/Rs40 bn in CY15E/16E/17E. The JNPT port PSA project contributed Rs2.12 bn to the revenue in Q2CY15 and is expected to continue to contribute 30-40% to the revenue over the next 2 quarters in CY15E.

### Focus on balance sheet improvement to continue

The company's execution run rate slowed down from CY12 onwards due to disputed/ pending claims in one of the road projects awarded by the NHAI and irrigation projects in Andhra Pradesh amounting Rs3.5 bn which led to increase in the working capital.

In Q1CY15 the company has received lump sum payment from NHAI of Rs1.83 bn and has taken write off worth Rs1.23 bn. With regards to pending claims amounting to Rs1 bn tied up with the Andhra Pradesh government for 2 irrigation projects, the company has filed a case in court and is also pursuing out of court negotiations with the authorities to settle the claims. The initial indications are positive and if both parties settle on a number agreeable to both then the matter could conclude by year end.

The company sees debt staying stable at the current levels for the rest of the year, while it does not expect debt to grow further; it also does not envisage any repayment this year as operating cash flows are not yet strong enough to support debt repayment. Consolidated debt was at Rs6.72 bn as of June2015 versus Rs7.65 bn at end of March 2015. Standalone debt stands at Rs5.70 bn as of Jun2015 versus Rs6.71 bn at end of March2015. The interest cost for the company as of now stands at 12.1% down from 13.2% in CY14. The company expects average borrowing costs to come down further in CY16E.

With respect to capex , the company expects to incur capex worth Rs200 mn plus in CY15E and Rs250 mn in CY16E however including Mumbai metro project (one package) will not increase capex significantly (can increase capex by Rs120-150 mn) as TBMs will be taken on operational lease.

**Exhibit 303: Net Working Capital Days**

| Net Working Capital (DSO) | CY11 | CY12 | CY13 | CY14 | 1HCY15 |
|---|---|---|---|---|---|
| Inventories | 181 | 211 | 220 | 240 | 153 |
| Trade Receivables | 81 | 80 | 93 | 94 | 76 |
| Loans and Advances | 43 | 39 | 50 | 51 | 59 |
| **Total Current Assets** | **305** | **330** | **363** | **385** | **288** |
| Current Liabilities | 145 | 131 | 154 | 179 | 189 |
| Provisions | 3 | 3 | 4 | 4 | 3 |
| **Net Working Capital Days** | **157** | **196** | **206** | **202** | **96** |

*Source: Company, Emkay Research*

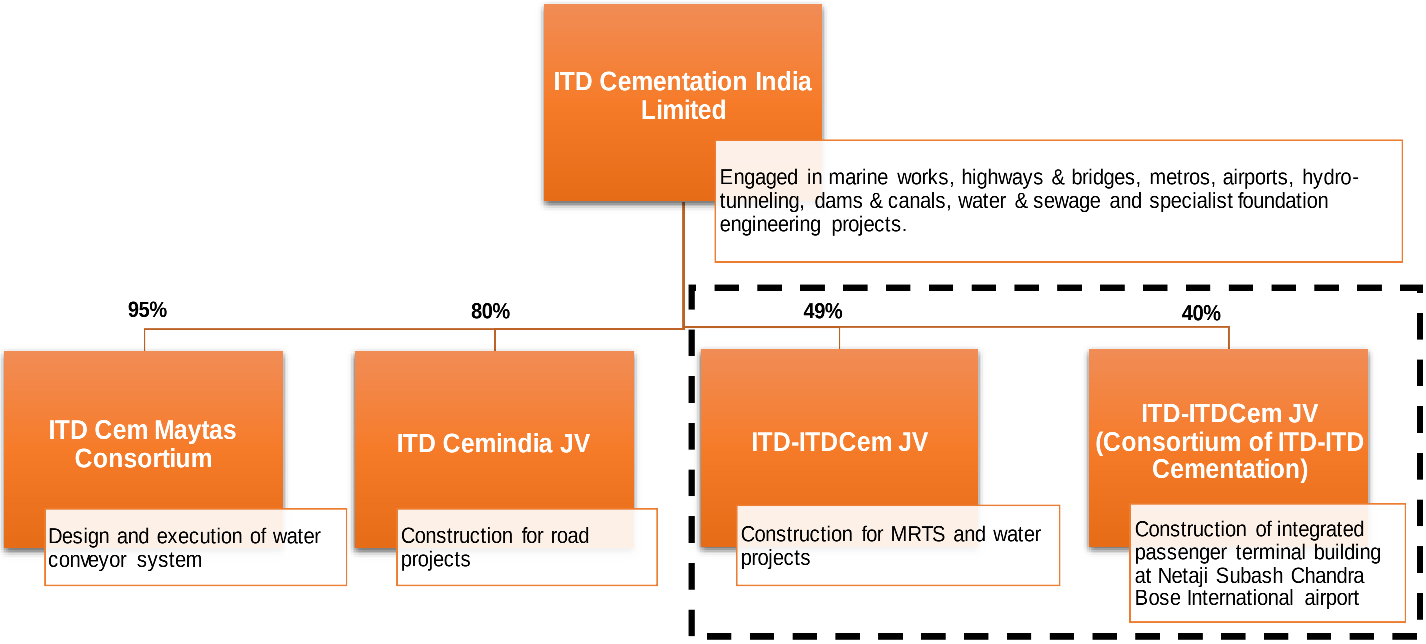
## Parentage help in prequalification

ITD Cem is a subsidiary of Thailand-based Italian Thai Development Public Company Ltd, which holds 52% stake in ITD Cem. Italian-Thai Development Company Limited is the largest construction company in Thailand (~41% market share) and one of the largest in South East Asia. The parent company also provides its knowhow, technologies and skilled personnel to ITD. ITD-Parent is one of the leading infrastructure company based in Thailand. Some of the marquee projects executed by ITD-Parent include:

- Bangkok's first underground mass transit system comprising of 10.5 km of twin tunnels, 9 underground stations.
- Bangkok Mass Transit System - The train systems for this 23 kms project was provided by Siemens and the whole project was managed by the Siemens ITD Consortium.
- Suvarnabhumi International Airport – capacity of 45 mn passengers
- Several Dams and tunnels - completed 7 major dams and more than 30 km of large diameter tunnels in Thailand.

ITD-parent also helps the ITD cementation for pre-qualification requirement in specifically Marine segment and several other verticals of infrastructure segments. Since 2005, ITD has entered into 3 separate JV's with its parent to build for projects in Roads, MRTS, Water and Airport sectors.

**Exhibit 304: Corporate Structure**




*Source: Company, Emkay Research*

**Exhibit 305: Joint Ventures**

| | ITD-ITD Cem JV | ITD-ITD Cem JV (Consortium of ITD-ITD Cementation) | ITD Cem Maytas Consortium | ITD Cem india JV |
|---|---|---|---|---|
| Shareholders | ITD Cem – 49%<br>ITD (Thailand) – 51% | ITD Cem – 40%<br>ITD (Thailand) – 60% | ITD Cem – 95%<br>Maytas – 5% | ITD Cem – 80%<br>ITD (Thailand) – 20% |
| Key projects | Supply and installation of track work for Bangalore Metro (to be commissioned in 37 months) | Construction of integrated passenger terminal building at Netaji Subas Chandra Bose (International) airport in Kolkata | Design and execution of water conveyor system for government of Andhra Pradesh | MP2 road: 35 kms stretch connecting Jhansi and Shivpuri |
| | Construction of 3 under ground stations and tunnels for Kolkata Metro | | | RJ-4: construction of bypass on NH-76 at Kota |
| | Design and construction of elevated viaduct including entry exit line, ramp to depot, and elevated stations for DMRCL (CC26) worth 5,460 mn | | | |
| | Recently secured contract of Design and Construction of Tunnels by Shield TBM under Delhi MRTS Project for DMRCL (CC32) worth 7,520 mn | | | |
| | Procurement of Ground Water Treatment Plants | | | |
| | Design, Construction, Supply, Installation, Commissioning including Mechanical & Electrical Equipment and Operation in Agartala worth 399 mn | | | |
| | Laying of Water Trunk Main from Garden Reach Water Works to Taratala Valve Station and Laying of Sewer Line along Diamond Harbour Road by Microtunelling Method for KEIIP worth 1,459 mn | | | |
| Contract value | Rs25786 mn | Rs19261 mn | Rs6632 mn | Rs4435 mn |
| Work in hand as on June 30, 2015 | Rs7002 mn | Rs51 mn | Rs5748 mn | Rs831 mn |

*Source: Company, Emkay Research*

**Exhibit 306: Brief History**

| Year | |
|---|---|
| **1931 – 1978** | The Cementation Company Limited, U.K, a member of Trafalgar House Group, operated a branch in India |
| | In 1978, the branch office was converted into India subsidiary (named as Cemindia Company Limited) of The Cementation Company Limited, U.K, |
| **1994** | Cemindia Company Limited renamed as Trafalgar House Construction India Limited to reflect relationship with its then parent |
| **1996-98** | Kvaerner ASA acquired Trafalgar House Plc in 1996 |
| | Cemindia Company Limited changed its name to Kvaerner Cementation India Limited |
| **2000-01** | Skanska AB acquired Kvaerner Construction Group Limited |
| | Kvaerner Cementation India Limited changed its name to Skanska Cementation India Limited |
| **2004-05** | ITD, acquired Skanska AB interest in Skanska Cementation India Limited |
| | Skanska Cementation India Limited changed its name to ITD Cementation India Limited |
| **2006-11** | Raised Rs. 564 mn through rights issue in October 2006 (fully subscribed by parent) |
| | Raised Rs. 2,447 mn through rights issue in December 2007 (partially subscribed by parent due to regulatory compulsions) |
| | Entry into MRTS and airport segments with support from parent |
| **2012** | Construction of Impounded Wet Basin at Mazagon Dock, Mumbai and Dry Dock in GRSE, Kolkata |
| | Construction of double tier elevated structure for Jaipur Metro |
| **2013** | Construction of modernized integrated passenger terminal at Kolkata Airport |
| | Entry in Industrial Segment |

*Source: Company, Emkay Research*

**Exhibit 307: Segment Competitor Presence**

| Segment | Main Competitors |
|---|---|
| Marine structures | Afcons, Simplex, Mann Engineering, Navyuga, Samsung, Hyundai, Vijay Nirman |
| Specialist works- Piling & Foundation | Simplex Infra, Simlex Projects, Valecha, L&T |
| Industrial | Simplex, JMC, L&T, IVRCL, McNally Bharat, Ramky |
| Hydro, Dams &Tunnels | Patel Engineering, HCC, Gammon, JP, Soma, NCC, L&T, Unity |
| Airports | Consolidated Construction, L&T, BL Kashyap, NCC, Punj Lloyd, Ramky |
| MRT | L&T, Simplex, Gammon, CEC-CICI, IJM, Welspun, IL&FS |
| Highways & Bridges | GMR, Ramky, L&T, IL&FS, IRB, Gammon, HCC, |
| Water & Sewage | IVRCL, Pratibha, NCC, L&T, Thermax, Jindal, KSB |

*Source: Company, Emkay Research*

**Exhibit 308: Equipment List**

| Equipment (Excluding JV Assets) | Number of units |
|---|---:|
| Hydraulic and rotatory rigs | 38 |
| Cranes | 34 |
| Excavators | 39 |
| Crushers | 3 |
| Batching plants | 34 |
| Sensor Pavers | 8 |
| Hot Mix Plants | 4 |
| Hydraulic RCD Rig | 1 |
| TBM | 2 |
| Cantilever Gantry | 6 |
| Launching Segment Girder | 3 |
| **Total** | **172** |

*Source: Company, Emkay Research*

## Key Financials (Consolidated)

### Income Statement

| Y/E Dec (Rs mn) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| **Net Sales** | **14,469** | **16,976** | **16,509** | **15,841** | **17,189** |
| **Expenditure** | **13,065** | **15,308** | **14,597** | **14,216** | **16,279** |
| **EBITDA** | **1,404** | **1,668** | **1,912** | **1,625** | **911** |
| Depreciation | 418 | 420 | 506 | 442 | 427 |
| **EBIT** | **985** | **1,247** | **1,405** | **1,183** | **484** |
| Other Income | 140 | 94 | 100 | 340 | 185 |
| Interest expenses | 918 | 1,060 | 1,195 | 1,283 | 1,355 |
| **PBT** | **207** | **282** | **311** | **239** | **(686)** |
| Tax | 114 | 56 | 91 | 146 | 75 |
| Extraordinary Items | (2) | (1) | (3) | (1) | 955 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **92** | **225** | **217** | **92** | **194** |
| **Adjusted PAT** | **94** | **226** | **220** | **93** | **(761)** |

### Balance Sheet

| Y/E Dec (Rs mn) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| Equity share capital | 115 | 115 | 115 | 115 | 155 |
| Reserves & surplus | 3,498 | 3,697 | 3,890 | 3,969 | 5,523 |
| **Net worth** | **3,613** | **3,812** | **4,005** | **4,084** | **5,678** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **5,468** | **6,509** | **7,834** | **7,695** | **7,653** |
| Net deferred tax liability | (50) | (126) | (177) | (212) | (149) |
| **Total Liabilities** | **9,031** | **10,194** | **11,662** | **11,567** | **13,183** |
| **Net block** | **1,909** | **2,287** | **2,297** | **2,236** | **3,353** |
| **Investment** | **0** | **0** | **0** | **0** | **0** |
| **Current Assets** | **12,099** | **14,562** | **15,292** | **16,089** | **18,413** |
| Cash & bank balance | 491 | 379 | 368 | 319 | 272 |
| Other Current Assets | 0 | 0 | 0 | 0 | 0 |
| **Current liabilities & Provision** | **5,289** | **6,892** | **6,066** | **6,825** | **8,615** |
| **Net current assets** | **6,810** | **7,670** | **9,225** | **9,264** | **9,797** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **9,031** | **10,194** | **11,661** | **11,567** | **13,183** |

### Cash Flow

| Y/E Dec (Rs mn) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **207** | **282** | **311** | **239** | **269** |
| Other Non-Cash items | 140 | 89 | 59 | (103) | (912) |
| Chg in working cap | (612) | (1,102) | (1,732) | 238 | (750) |
| **Operating Cashflow** | **1,222** | **571** | **151** | **1,869** | **436** |
| Capital expenditure | (725) | (724) | (413) | (563) | (457) |
| **Free Cash Flow** | **498** | **(153)** | **(262)** | **1,306** | **(21)** |
| Investments | 0 | 0 | 0 | 0 | 0 |
| Other Investing Cash Flow | 0 | (17) | (24) | (39) | 57 |
| **Investing Cashflow** | **(672)** | **(685)** | **(370)** | **(488)** | **(384)** |
| Equity Capital Raised | 0 | 0 | 0 | 0 | 1,400 |
| Loans Taken / (Repaid) | 463 | 1,040 | 1,329 | (139) | (42) |
| Dividend paid (incl tax) | (12) | (17) | (23) | (23) | (13) |
| Other Financing Cash Flow | (2) | (3) | (4) | (4) | 0 |
| **Financing Cashflow** | **(466)** | **(15)** | **185** | **(1,468)** | **(43)** |
| **Net chg in cash** | **85** | **(129)** | **(34)** | **(88)** | **10** |
| Opening cash position | 406 | 490 | 361 | 327 | 239 |
| **Closing cash position** | **490** | **361** | **327** | **239** | **249** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| EBITDA Margin | 9.7 | 9.8 | 11.6 | 10.3 | 5.3 |
| EBIT Margin | 6.8 | 7.3 | 8.5 | 7.5 | 2.8 |
| Effective Tax Rate | 54.8 | 19.8 | 29.3 | 61.1 | (10.9) |
| Net Margin | 0.6 | 1.3 | 1.3 | 0.6 | (4.4) |
| ROCE | 24.9 | 14.0 | 13.8 | 13.1 | 5.4 |
| ROE | 5.2 | 6.1 | 5.6 | 2.3 | (15.6) |
| RoIC | 23.9 | 14.0 | 13.6 | 10.6 | 4.0 |

| Per Share Data (Rs) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| EPS | 8.1 | 19.6 | 19.1 | 8.1 | (49.0) |
| CEPS | 44.5 | 56.1 | 63.0 | 46.5 | (21.5) |
| BVPS | 313.6 | 330.9 | 347.6 | 354.5 | 365.9 |
| DPS | 1.0 | 1.5 | 2.0 | 2.0 | 1.5 |

| Valuations (x) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| PER | 13.7 | 5.7 | 5.9 | 13.9 | (2.3) |
| P/CEPS | 2.5 | 2.0 | 1.8 | 2.4 | (5.2) |
| P/BV | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 |
| EV / Sales | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 |
| EV / EBITDA | 4.5 | 4.4 | 4.6 | 5.3 | 10.0 |
| Dividend Yield (%) | 0.9 | 1.3 | 1.8 | 1.8 | 1.3 |

| Gearing Ratio (x) | FY15 | FY16 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| Net Debt/ Equity | 1.4 | 1.6 | 1.9 | 1.8 | 1.3 |
| Net Debt/EBIDTA | 3.5 | 3.7 | 3.9 | 4.5 | 8.1 |
| Working Cap Cycle (days) | 159.4 | 156.8 | 195.8 | 206.1 | 202.3 |

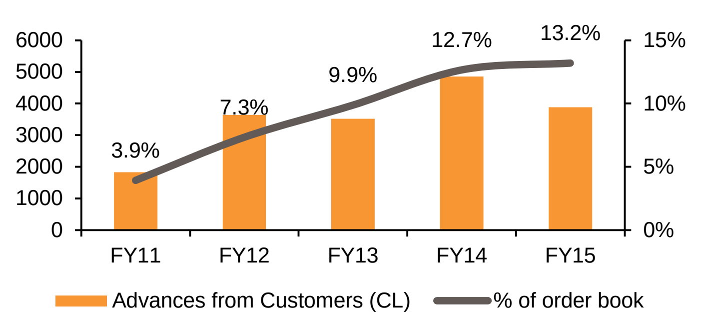
| Growth (%) | CY10 | CY11 | CY12 | CY13 | CY14 |
|---|---|---|---|---|---|
| Revenue | (1.4) | 17.3 | (2.8) | (4.0) | 8.5 |
| EBITDA | 1.8 | 18.8 | 14.6 | (15.0) | (43.9) |
| EBIT | 10.0 | 26.6 | 12.7 | (15.9) | (59.1) |
| PAT | 71.4 | 145.5 | (3.7) | (57.7) | 111.5 |

| Quarterly (Rs mn) | Q3CY14 | Q4CY14 | Q1CY15 | Q2CY15 | Q3CY15 |
|---|---|---|---|---|---|
| Revenue | 4,078 | 5,141 | 5,877 | 7,323 | 6,876 |
| EBITDA | 152 | 207 | 321 | 509 | 429 |
| **EBITDA Margin (%)** | **3.7** | **4.0** | **5.5** | **6.9** | **6.2** |
| PAT | (220) | 540 | (967) | 32 | 42 |
| **EPS (Rs)** | **(1.4)** | **3.5** | **(6.2)** | **0.2** | **0.3** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 51.6 | 51.6 | 51.6 | 51.6 | 51.6 |
| FIIs | 2.7 | 3.4 | 3.4 | 3.5 | 3.5 |
| DIIs | 20.8 | 23.0 | 24.0 | 23.9 | 24.3 |
| Public and Others | 24.8 | 21.9 | 20.9 | 20.9 | 20.6 |

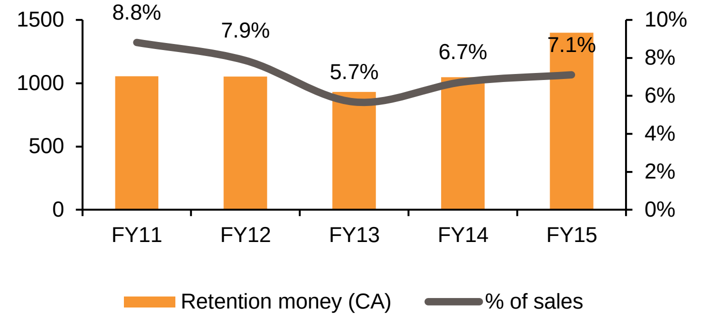
# Trend in Customer Advances and Retention Money

**Exhibit 309: Ashoka Buildcon (SA) – Customer Advances (Rs mn)**



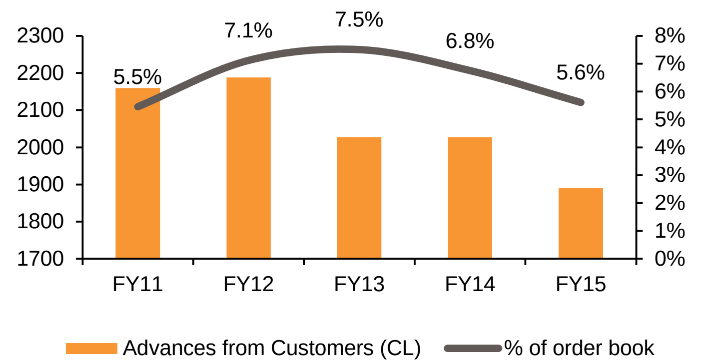

*Source: ProjectsToday, Company*

**Exhibit 310: Ashoka Buildcon (SA) – Retention Money (Rs mn)**



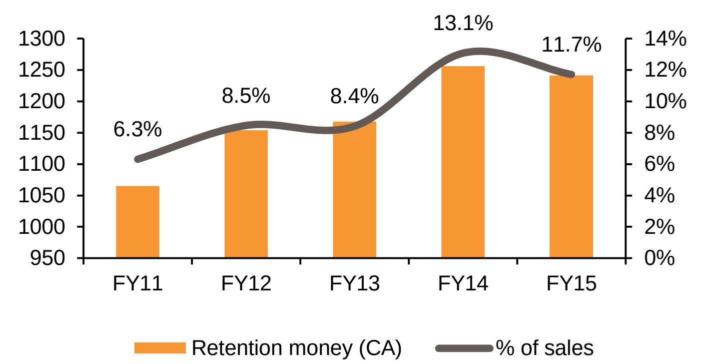

*Source: ProjectsToday, Company*

**Exhibit 311: Ahluwalia Contracts (SA) – Customer Advances (Rs mn)**



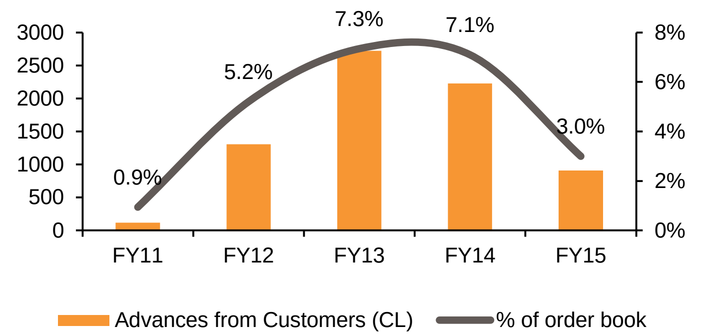

*Source: ProjectsToday, Emkay Research*

**Exhibit 312: Ahluwalia Contracts (SA) – Retention Money (Rs mn)**



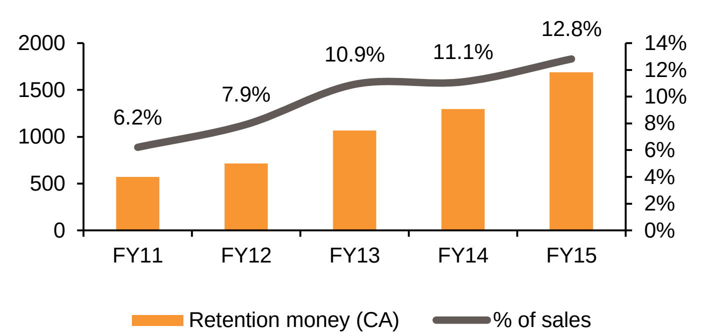

*Source: ProjectsToday, Emkay Research*

**Exhibit 313: J. Kumar Infra (SA) – Customer Advances (Rs mn)**



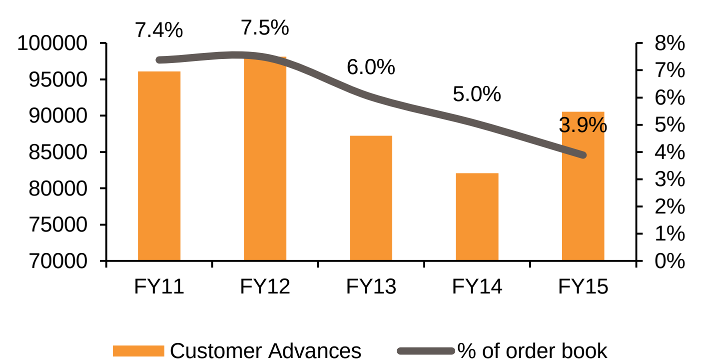

*Source: ProjectsToday, Emkay Research*

**Exhibit 314: J. Kumar Infra (SA) – Retention Money (Rs mn)**



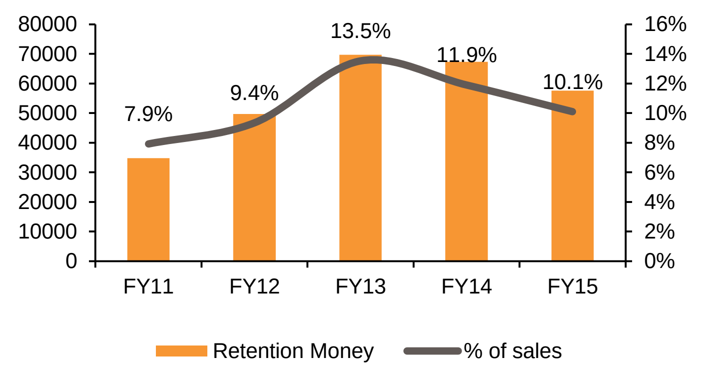

*Source: ProjectsToday, Emkay Research*

**Exhibit 315: Larsen & Toubro (SA) – Customer Advances (Rs mn)**



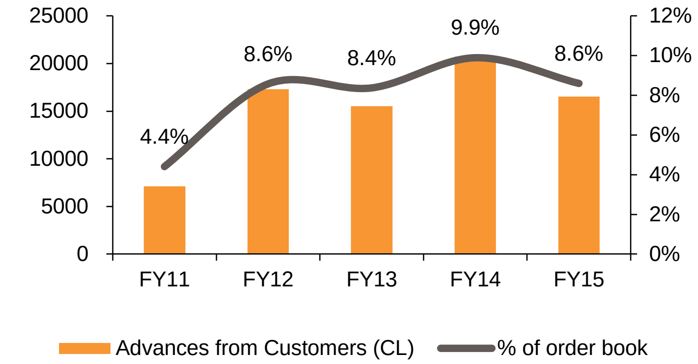

*Source: ProjectsToday, Company*

**Exhibit 316: Larsen & Toubro (SA) – Retention Money (Rs mn)**



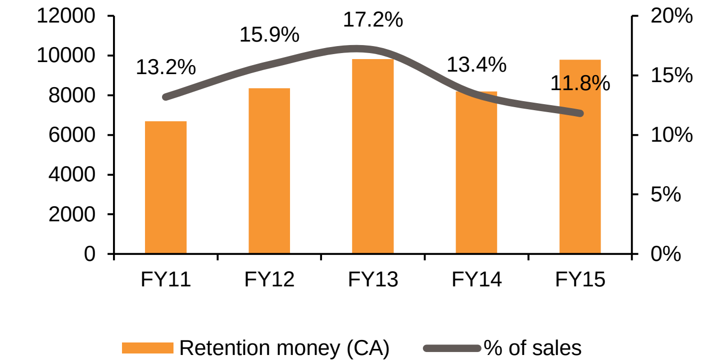

*Source: ProjectsToday, Company*

**Exhibit 317: NCC (SA) – Customer Advances (Rs mn)**



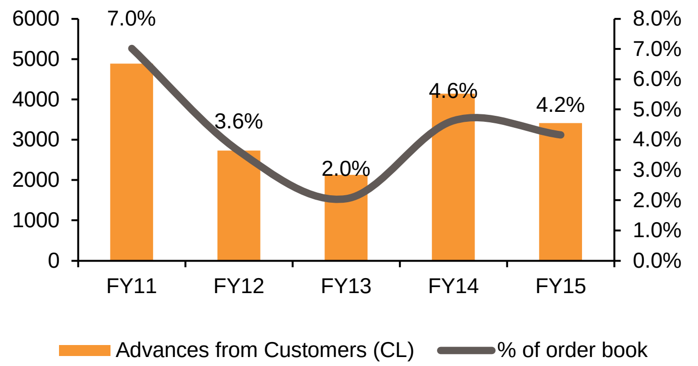

*Source: ProjectsToday, Emkay Research*

**Exhibit 318: NCC (SA) – Retention Money (Rs mn)**



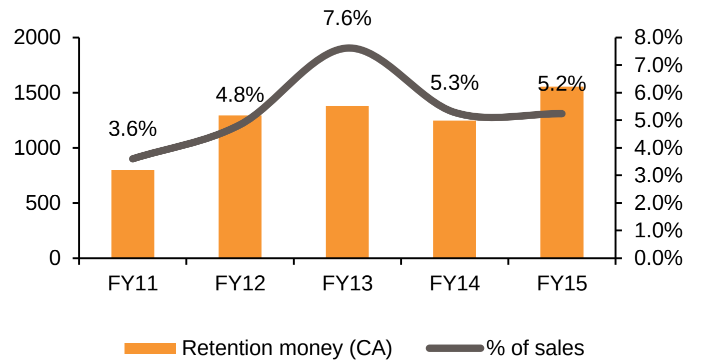

*Source: ProjectsToday, Emkay Research*

**Exhibit 319: Sadbhav Engg (SA) – Customer Advances (Rs mn)**



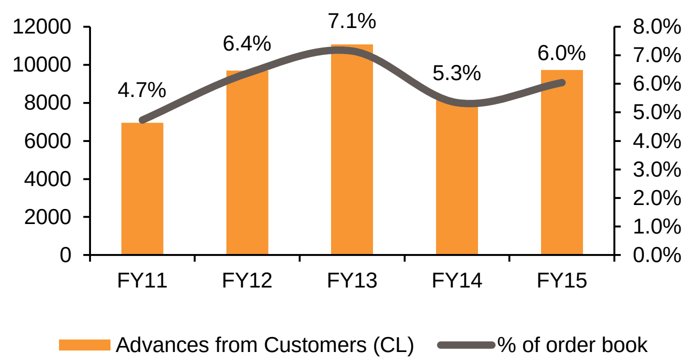

*Source: ProjectsToday, Emkay Research*

**Exhibit 320: Sadbhav Engg (SA) – Retention Money (Rs mn)**



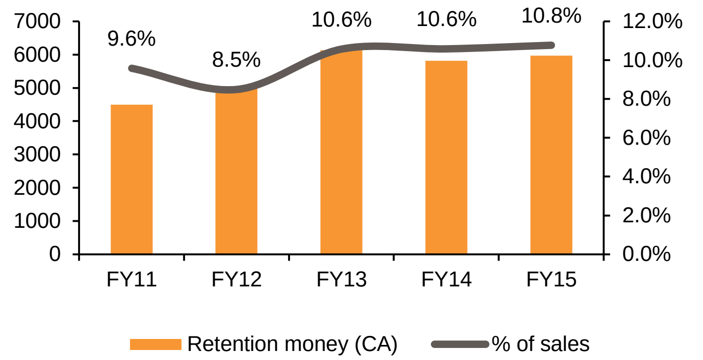

*Source: ProjectsToday, Emkay Research*

**Exhibit 321: Simplex Infra (SA) – Customer Advances (Rs mn)**




*Source: ProjectsToday, Emkay Research*

**Exhibit 322: Simplex Infra (SA) – Retention Money (Rs mn)**




*Source: ProjectsToday, Emkay Research*

**Company Update**

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Your success is our success

# Adani Ports

## Transient pain, structurally intact

| CMP | Target Price |
|---|---|
| Rs258 | Rs306 (▲) |
| **Rating** | **Upside** |
| ACCUMULATE (▪) | 18.6 % |

- Given the increase in the India's coal production volume, growth from the bulk segment will be challenging going forward. Bulk volumes accounts for 53% of the total cargo of which around 75% will be coal
- The transient pain of bulk volumes to be replaced by increasing share of liquid and container cargo in the overall mix and inorganic , however, we believe this will take time, given the weakness in overall trade
- Earnings CAGR of 14% over FY16-18E, we roll forward valuations to FY18E we have increased our FY17E earnings by 3% on refinancing benefit. Maintain accumulate with a revised target price Rs306/share. We structurally remain positive on the company. The stock trades at FY17E/FY18E EV EBITDA of 13.2x/12.1x

### Focus to ramp up container & Liquid business,

Given the increase in the India's coal production volume, growth from the bulk segment will be challenging going forward. From FY12-15 major growth in the bulk segment was driven by coal which forms the major part for Adani port volumes. Bulk volumes accounts for 53% of the total cargo of which around 75% will be coal. In order to reduce or offset the exposure in the bulk business largely coal we believe that the focus will remain:

- To enhance the container business given that CT-1, CT –II and CT-III operates at 72%/77%/62%. The company will commission CT-IV (in JV with CMA CGM) by FY17. We build in container volume CAGR of 11.3% over FY16-18E also aided by commissioning of CT-IV volumes.
- Inorganic acquisition like Kattupalli port, we believe acquisition is justified given the potential of the asset due to congestion at Chennai port, will also immune Ennore container terminal from competition given that Ennore was bid at highest revenue share (37%) and acquisition by rival would have created pricing pressure.

We believe that the transient pain of replacing coal with other commodities like liquid volume and increasing share in the container segment, where visibility of business growth over the medium-term is low, will take time, given the weakness in overall trade.

### Capex largely to be driven by Dhamra and Vizhinjam Port

The company has a capex plan of Rs50 bn over the next 3 years of which Rs12 bn is already spent and Rs25 bn to be spent on Dhamra Port. The total capex at Vizhinjam will be Rs41 bn over the next four years and capex will start from Jan 2016. The Rs12 bn capex included (1) expansion capex at Dhamra, (2) increasing liquid storage facility at Hazira and (3) mechanization-related capex at Dahej.

**Financial Snapshot (Consolidated)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 48,240 | 61,520 | 72,315 | 84,044 | 93,176 |
| EBITDA | 29,204 | 39,023 | 48,183 | 56,603 | 61,556 |
| EBITDA Margin (%) | 60.5 | 63.4 | 66.6 | 67.3 | 66.1 |
| APAT | 18,677 | 21,764 | 26,262 | 30,924 | 33,839 |
| EPS (Rs) | 8.4 | 10.5 | 12.7 | 14.9 | 16.3 |
| EPS (% chg) | 6.6 | 25.1 | 20.7 | 17.7 | 9.4 |
| ROE (%) | 24.6 | 22.3 | 22.2 | 21.9 | 20.1 |
| P/E (x) | 30.7 | 24.5 | 20.3 | 17.3 | 15.8 |
| EV/EBITDA (x) | 22.8 | 18.2 | 15.5 | 13.2 | 12.1 |
| P/BV (x) | 6.1 | 5.0 | 4.2 | 3.5 | 2.9 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA/3 |
| Target Price change (%) | 3.7 |
| Previous Reco | ACCUMULATE |

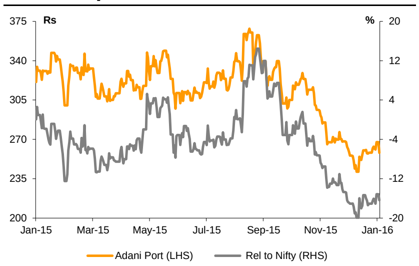
| Emkay vs Consensus | | |
|---|---|---|
| | EPS Estimates | |
| | FY16E | FY17E |
| Emkay | 12.7 | 14.9 |
| Consensus | 10.7 | 12.5 |
| Mean Consensus TP | | Rs 335 |

| Stock Details | |
|---|---|
| Bloomberg Code | ADSEZ IN |
| Face Value (Rs) | 2 |
| Shares outstanding (mn) | 2,071 |
| 52 Week H/L | 375 / 239 |
| M Cap (Rs bn/USD bn) | 534 / 8.02 |
| Daily Avg Volume (nos.) | 2,092,757 |
| Daily Avg Turnover (US$ mn) | 8.2 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 56.3% |
| FIIs | 33.2% |
| DIIs | 5.1% |
| Public and Others | 5.5% |

| Price Performance | | | | |
|---|---|---|---|---|
| (%) | 1M | 3M | 6M | 12M |
| Absolute | 1 | (15) | (20) | (19) |
| Rel. to Nifty | (2) | (13) | (12) | (12) |

**Relative price chart**




*Source: Bloomberg*

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### Why Kattupalli and Ennore Port

Adani Port plans to increase its presence on the east coast and developing container terminal at Ennore port of 1.4mnteu (First phase 0.8 mnteu) and also in the process of acquiring Kattupalli port (Current capacity at 1.2 mnteu).

### Container Market on the east coast

Container Market on the eastern coast is dominated by Tamil Nadu which accounts for 70% of the container trade, whereas West Bengal and Andhra Pradesh accounts for 20% and 10% (Container trade originating from Odisha largely getting handled at Kolkata/Haldia).

Given that west coast handled about 70% of the India's container trade and North Indian hinterland which contributes to about 70% of the containers trade in India move volumes from the western coast ports like Mundra, Pipavav and JNPT because of

- Proximity and connectivity to gateway ports of Mundra, Pipavav, Nhava Sheva, whereas rail connectivity from North India to eastern ports has to overcome a detour.
- Kolkata, nearest port to Northern India is suffering from heavy siltation in the Hooghly river that impedes ship movement, not being a viable gateway port for Northern India.
- Trade imbalance has also been issue for east coast ports given Indian imports from China are there but India does not export substantially to the Far-East and China, so shipping lines prefer to import containers in the west coast for better laden turn-back possibility.
- Higher transit time on east coast due to less calling of Mother Vessel on east coast and east coast handles more of transhipment volume. In FY15 the ratio of main line calls versus transhipment of such cargo on West Coast was 95:05 while on the East Coast this ratio of main line calls versus transhipment is 34:66.

The current capacity on the eastern coast stands at 7.3 mnteu and with commissioning of additional 0.8 mnteu (Ennore) will take total capacity to 8.1mnteu. Though we have seen pick in the container volume growth on the east coast (9.4%/xx in FY15 and YTD FY16E) however utilisation still remains low at 50%. As per our channel check currently 0.5-0.6 mnteu of volumes generated from east coast hinterland gets exported from the western coast ports. For example Pharma exports from Hyderabad and Bengaluru gets exported from Nhava Sheva.

### Kattupalli Port

Kattupalli International Container Terminal (KICT) is located north of Ennore Port near Kattupalli village in Thiruvallur district near Chennai. L&T Shipbuilding Limited (LTSB) is the developer of an integrated shipyard cum port with an initial annual capacity of 1.2 million TEUs at Kattupalli (2 container berths). Both the shipyard and the port have SEZ status

Currently Calls are made by shipping lines such as Maersk, Nippon Yusen Kaisha Lines (NYKL), Hyundai Merchant Marine (HMM), Shreyas Shipping, and SCI.

L&T is contractually mandated to pay the Tamil Nadu government either the revenue share or a royalty per standard container handled at the terminal, whichever is higher, agreed in the 30-year contract.

The annual share of the revenue that L&T has agreed to pay has been set at 3% during the first 15 years of the contract. The revenue share percentage will rise to 4.5% for the balance 15-year tenure of the contract.

The royalty per container will be based on the rates approved by the state. Such rates will rise 20% every three years. The pact has not specified any minimum volumes.

### Traffic diverts from Chennai port to Kattupalli

Given that Chennai Port is in the middle of the city the persistent congestion at Terminal –I (Operated by DP world) & Terminal –II (PSA International) and frequent strikes have forced shipping liners Mearsk to move to nearby ports like Kattupalli port.

The perennial congestion problems at Chennai Port have already seriously impacted the costing of export products as exporters are forced either to pay huge detention charges to logistics providers or divert their cargo to other ports, incurring additional expense, besides the huge cost of delay.

The current capacity of Chennai port stands at 3.5 mnteu however the effective handling capacity taking into container yard effective handling capacity stands at 2.9 mnteu.

### Hinterland cargo of 1 mn TEUs (ex-empties) from Tamil Nadu and Karnataka

In order to sustain the diversion of traffic from Chennai port to Kattupalli and attract new traffic especially by way of convincing the mother vessels to do direct calling will be driven availability of feeder cargo with the regions like Tamil Nadu, Karnataka and Andhra Pradesh.

### As per our channel check

Around 1 mn TEUs is the loaded cargo which gets exported from Tamil Nadu and Karnataka. It is important to note that lot of container cargo (both export and import) like pharmaceuticals, coffee, auto parts, yarn, leather, tyres and tubes are getting handled at JNPT despite Krishnapatnam Port and Chennai ports remains closest. ConCor ICD Sanathnagar at Hyderabad handles 70,000 TEUs which gets exported from JNPT.

This happens largely on account of two reasons because of other vessel calling at JNPT which the exporters and importers prefer it and moreover, most of our export cargo destinations are Africa, US, Europe and Middle East. Hence, the western coast is preferred but due to congestion exporters faces delay of 24-36 hours.

The ports like Kattupalli, Ennore likely to attract cargo from the Karnataka region specifically Telengana. However we believe that it would be difficult for Krishnapatnam port to attract cargo from Karnataka despite 100 km plus closer to Telangana as compared to Chennai, Kattupalli, Ennore port given that Andhra Pradesh itself do not have large feeder cargo (Feeder cargo around 0.2 mnteu comprises of rice, cotton, granite etc) and it will sense for the shipping liners to call at Kattupalli/Ennore port where large feeder cargo comes from Chennai/Tamil Nadu region.

**Exhibit 323: Distance of Telangana (Hyderabad) to nearby ports**

| Port | Distance (kms) |
|---|---:|
| JNPT | 697 |
| Krishnapatnam | 478 |
| Ennore | 619 |
| Kattupalli | 624 |
| Chennai | 629 |

*Source: Company, Emkay Research*

**Exhibit 324: Major container cargo centres in South India**

| Cargo centres | State | Main commodities |
|---|---|---|
| Tuticorin | Tamil Nadu | Chemicals, foodstuff, marine products |
| Karur | Tamil Nadu | Textile and made ups |
| Madurai | Tamil Nadu | Fabric, yarn and made-ups |
| Salem | Tamil Nadu | Steel |
| Bangalore | Karnataka | Coffee, rock, pharmaceuticals, RMG, auto parts, electronics; Auto parts, chemicals, fabric and yarn, leather, tyres and tubes, metal |
| Chennai | Tamil Nadu | Scrap |
| Puducherry | Puducherry | Chemicals, leather products, electronics |
| Coimbatore | Tamil Nadu | Castings and forgings, engineering goods, tea |
| Tirupur | Tamil Nadu | RMG |
| Mangalore | Karnataka | Auto parts, marine products, wax candles |
| Cochin | Kerala | Chemicals, coir, rice, spices, tea, coffee, marine products |
| Chikmagalur/ Hassan | Karnataka | Coffee |

*Source: The Madras Chamber (MCCI), Emkay Research*

**Exhibit 325: View of congestion inside the DP World Terminal**

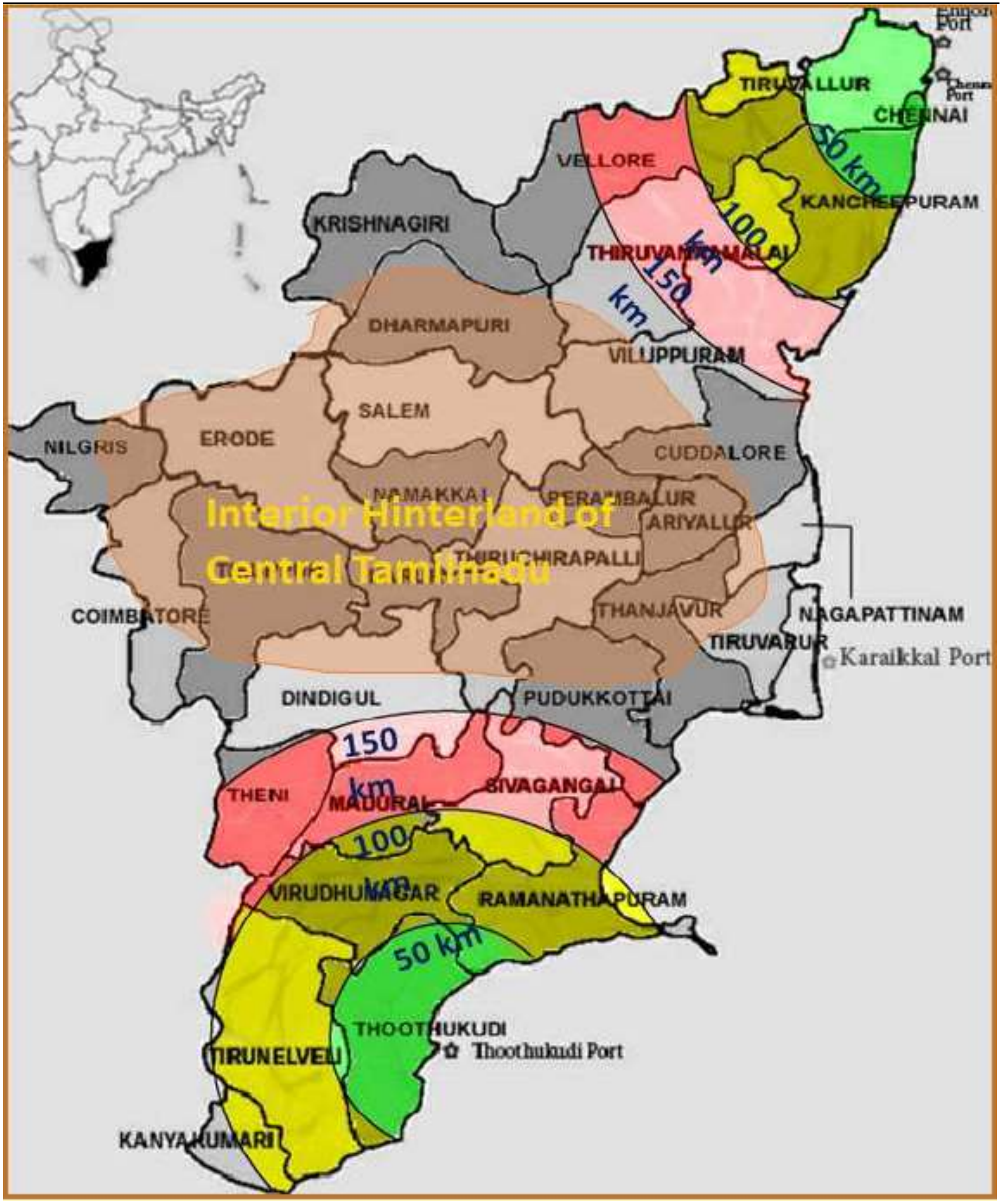
*Source: Company, Emkay Research*

**Exhibit 326: Major industries in Tamil Nadu as per District-wise**

| Cargo centre | Industry |
|---|---|
| Puducherry | Chemical ,food products, metal ,leather, printing ,auto components |
| Nagapattinam | Power Plant, Agro Industries |
| Thiruvallur | Textile, Engineering ,Food Industry |
| Pudukottai | Cashew, Agro Products |
| Karur | Paper, Textile |
| Namakkal | Truck body building |
| Perambalur | Cement |
| Ariyalur | Cement, Sugar |
| Thanjavur | Agro Industries, sugar, Palm Oil |
| Trichy | Steel, engineering, Textile, Cement |
| Cuddalore | Power Plants |
| Viluppuram | Sugar, Rice |
| Salem | Steel, Mineral Industries, Dairy |
| Erode | Sugar, Leather, Textile |
| Tirupur | Textile |

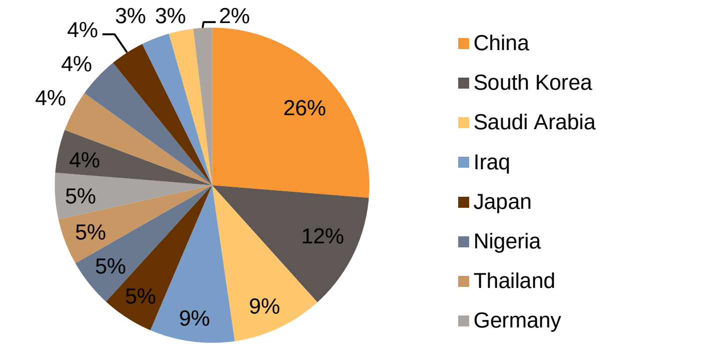
*Source: MCCI, Emkay Research*

**Exhibit 327: Tamil Nadu Industrial Clusters**



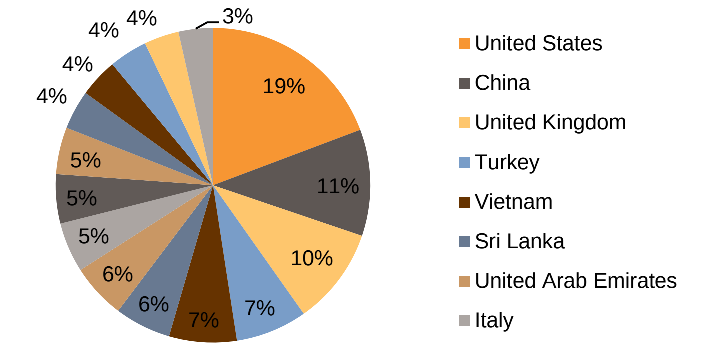

*Source: MCCI, Emkay Research*

**Exhibit 328: Top countries for imports at Chennai port**



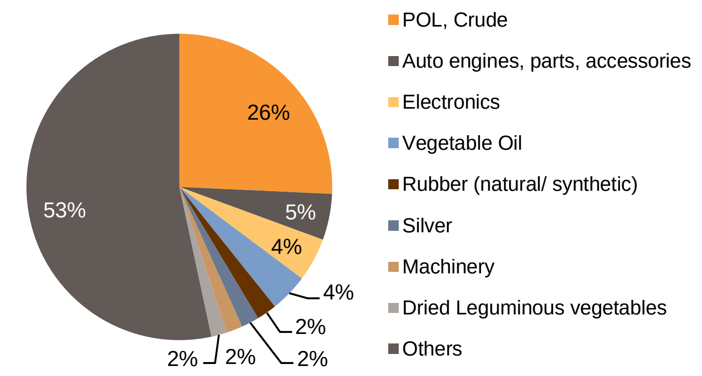

*Source: Zauba, Emkay Research*

**Exhibit 329: Top countries for exports at Chennai port**



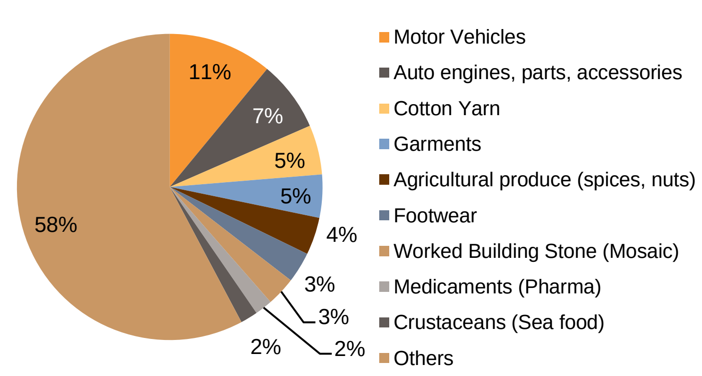

*Source: Zauba, Emkay Research*

**Exhibit 330: Breakup of imports at Chennai port – US$72.9 bn**



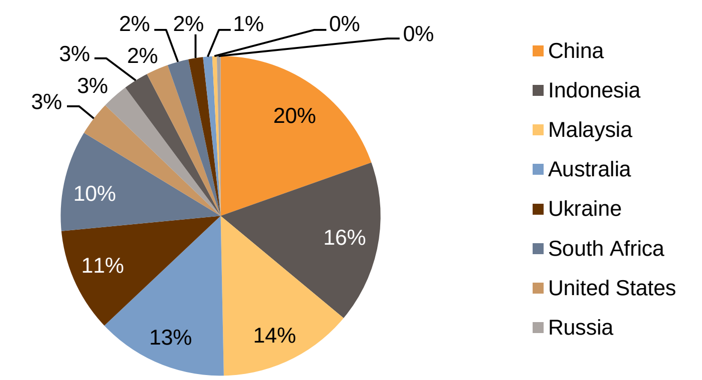

*Source: Zauba, Emkay Research*

**Exhibit 331: Breakup of exports at Chennai port – US$27.5 bn**



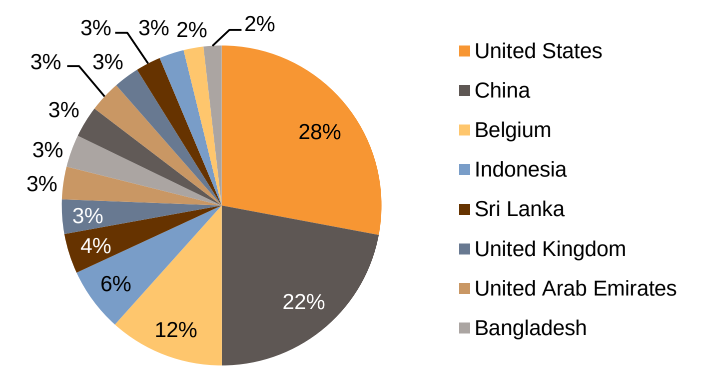

*Source: Zauba, Emkay Research*

**Exhibit 332: Top countries for imports at Krishnapatnam port**



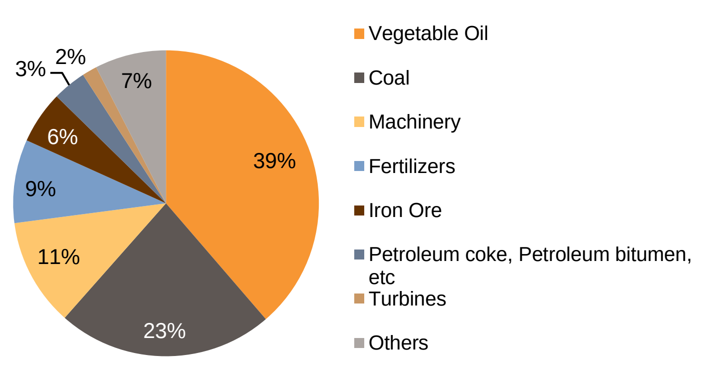

*Source: Zauba, Emkay Research*

**Exhibit 333: Top countries for exports at Krishnapatnam port**



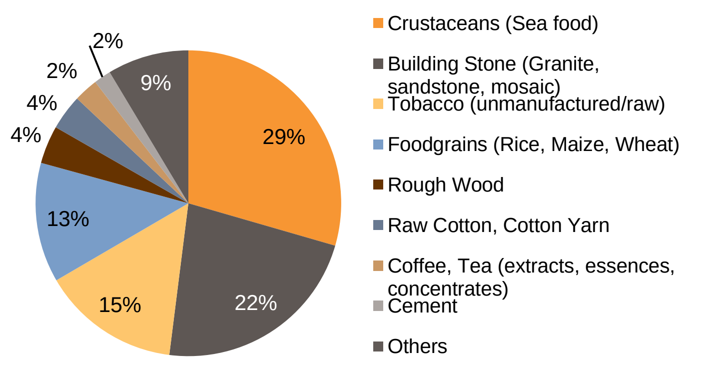

*Source: Zauba, Emkay Research*

**Exhibit 334: Breakup of imports at Krishnapatnam port – US$954 mn**




*Source: Zauba, Emkay Research*

**Exhibit 335: Breakup of exports at Krishnapatnam port – US$1.8 bn**




*Source: Zauba, Emkay Research*

**Exhibit 336: SoTP of Rs306 per share**

| Valuation | % Held | Methodology | COE / Multiple | Rs mn | $ mn | Value per share |
|---|---|---|---|---|---|---|
| Mundra Port | 100% | | 11.5% | 323,319 | 5,389 | 156 |
| Mundra SEZ | 100% | FCFE | 14.0% | 80,020 | 1,334 | 39 |
| Railways infrastructure | 100% | BV | 1.5x | 4,876 | 81 | 2 |
| AICT - Container terminal - III | 50% | FCFE | 11.5% | 20,316 | 339 | 9.8 |
| CT-IV (CMA CGM) | 50% | FCFE | 11.5% | 18,620 | 310 | 9.0 |
| **Consolidated entity (Port & SEZ) - (A)** | **100%** | | | **447,152** | **7,453** | **216** |
| **Investments in Domestic subsidiaries** | | | | | | |
| Hazira Port | 100% | FCFE | 12.5% | 94,971 | 1,583 | 45.9 |
| Dahej Port | 74% | FCFE | 13.0% | 19,769 | 329 | 9.5 |
| Vizag Port | 100% | FCFE | 12.5% | -377 | -6 | -0.2 |
| Goa Port | 100% | FCFE | 12.5% | -458 | -8 | -0.2 |
| Ennore Port | 100% | FCFE | 12.5% | 8,668 | 144 | 4.2 |
| Kandla Port | 100% | FCFE | 13.0% | 1,285 | 21 | 0.6 |
| Dhamra Port | 100% | FCFE | 12.5% | 62,121 | 1,035 | 30 |
| **Total investment domestic - (C)** | | | | **185,979** | **3,100** | **90** |
| **Total - (A+B+C)** | | | | **633,130** | **9,574** | **306** |

*Source: Company, Emkay Research*

# Key Financials (Consolidated)

## Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **48,240** | **61,520** | **72,315** | **84,044** | **93,176** |
| **Expenditure** | **19,036** | **22,497** | **24,132** | **27,441** | **31,620** |
| **EBITDA** | **29,204** | **39,023** | **48,183** | **56,603** | **61,556** |
| Depreciation | 6,495 | 9,117 | 10,908 | 11,781 | 12,316 |
| **EBIT** | **22,709** | **29,906** | **37,275** | **44,822** | **49,241** |
| Other Income | 6,836 | 6,856 | 6,200 | 8,098 | 8,964 |
| Interest expenses | 7,659 | 12,442 | 14,087 | 16,900 | 18,494 |
| **PBT** | **21,886** | **24,321** | **29,388** | **36,020** | **39,710** |
| Tax | 2,367 | 1,767 | 3,109 | 4,852 | 5,563 |
| Extraordinary Items | (1,280) | 2,071 | 156 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **17,396** | **23,143** | **26,106** | **30,924** | **33,839** |
| **Adjusted PAT** | **18,677** | **21,764** | **26,262** | **30,924** | **33,839** |

## Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 4,168 | 4,168 | 4,168 | 4,168 | 4,168 |
| Reserves & surplus | 83,513 | 103,511 | 124,358 | 149,954 | 178,268 |
| **Net worth** | **87,681** | **107,679** | **128,527** | **154,122** | **182,436** |
| **Minority Interest** | **1,437** | **1,590** | **1,762** | **2,007** | **2,316** |
| **Loan Funds** | **135,936** | **183,499** | **235,372** | **242,236** | **248,797** |
| Net deferred tax liability | 6,745 | 8,590 | 8,874 | 9,504 | 10,158 |
| **Total Liabilities** | **231,798** | **301,358** | **374,535** | **407,870** | **443,708** |
| **Net block** | **131,630** | **205,269** | **224,566** | **235,315** | **238,100** |
| **Investment** | **634** | **2,602** | **3,123** | **4,684** | **4,684** |
| **Current Assets** | **94,258** | **100,195** | **162,173** | **187,151** | **222,220** |
| Cash & bank balance | 5,139 | 6,338 | 24,660 | 27,879 | 38,886 |
| Other Current Assets | 63,327 | 62,339 | 107,218 | 123,350 | 146,798 |
| **Current liabilities & Provision** | **14,974** | **19,464** | **20,922** | **24,905** | **26,953** |
| **Net current assets** | **79,285** | **80,731** | **141,251** | **162,245** | **195,267** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **231,797** | **301,358** | **374,535** | **407,869** | **443,708** |

## Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **19,777** | **25,012** | **29,561** | **36,265** | **40,019** |
| Other Non-Cash items | (3,606) | (6,269) | 0 | 0 | 0 |
| Chg in working cap | (12,740) | (4,010) | (42,197) | (17,776) | (22,014) |
| **Operating Cashflow** | **11,319** | **30,650** | **9,534** | **42,948** | **43,906** |
| Capital expenditure | (11,022) | (17,839) | (23,045) | (22,559) | (15,133) |
| **Free Cash Flow** | **297** | **12,811** | **(13,511)** | **20,389** | **28,773** |
| Investments | 12,600 | (22,426) | (520) | (1,561) | 1 |
| Other Investing Cash Flow | (26,678) | 15,334 | 0 | 0 | 0 |
| **Investing Cashflow** | **(25,100)** | **(24,931)** | **(23,566)** | **(24,120)** | **(15,132)** |
| Equity Capital Raised | 0 | 0 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | 6,544 | 12,779 | 51,844 | 6,864 | 6,561 |
| Dividend paid (incl tax) | (2,422) | (2,422) | (5,431) | (5,573) | (5,833) |
| Other Financing Cash Flow | 13,601 | (2,102) | 28 | 0 | 0 |
| **Financing Cashflow** | **11,363** | **(4,520)** | **32,354** | **(15,609)** | **(17,766)** |
| **Net chg in cash** | **(2,419)** | **1,199** | **18,323** | **3,219** | **11,008** |
| Opening cash position | 7,558 | 5,139 | 6,338 | 24,661 | 27,879 |
| **Closing cash position** | **5,139** | **6,338** | **24,661** | **27,879** | **38,887** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 60.5 | 63.4 | 66.6 | 67.3 | 66.1 |
| EBIT Margin | 47.1 | 48.6 | 51.5 | 53.3 | 52.8 |
| Effective Tax Rate | 10.8 | 7.3 | 10.6 | 13.5 | 14.0 |
| Net Margin | 38.7 | 35.4 | 36.3 | 36.8 | 36.3 |
| ROCE | 13.9 | 13.8 | 12.9 | 13.5 | 13.7 |
| ROE | 24.6 | 22.3 | 22.2 | 21.9 | 20.1 |
| RoIC | 12.7 | 12.3 | 12.0 | 12.6 | 12.9 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 8.4 | 10.5 | 12.7 | 14.9 | 16.3 |
| CEPS | 12.2 | 14.9 | 17.9 | 20.6 | 22.3 |
| BVPS | 42.3 | 52.0 | 62.1 | 74.4 | 88.1 |
| DPS | 1.2 | 1.3 | 2.6 | 0.0 | 0.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 30.7 | 24.5 | 20.3 | 17.3 | 15.8 |
| P/CEPS | 22.0 | 17.9 | 14.9 | 13.0 | 12.0 |
| P/BV | 6.1 | 5.0 | 4.2 | 3.5 | 2.9 |
| EV / Sales | 13.8 | 11.6 | 10.3 | 8.9 | 8.0 |
| EV / EBITDA | 22.8 | 18.2 | 15.5 | 13.2 | 12.1 |
| Dividend Yield (%) | 0.5 | 0.5 | 1.0 | 0.0 | 0.0 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | 1.5 | 1.6 | 1.6 | 1.4 | 1.2 |
| Net Debt/EBIDTA | 4.5 | 4.5 | 4.4 | 3.8 | 3.4 |
| Working Cap Cycle (days) | 561.0 | 441.4 | 588.5 | 583.6 | 612.6 |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 34.9 | 27.5 | 17.5 | 16.2 | 10.9 |
| EBITDA | 22.9 | 33.6 | 23.5 | 17.5 | 8.8 |
| EBIT | 16.2 | 31.7 | 24.6 | 20.2 | 9.9 |
| PAT | 7.2 | 33.0 | 12.8 | 18.5 | 9.4 |

| Quarterly (Rs mn) | Q2FY15 | Q3FY15 | Q4FY15 | Q1FY16 | Q2FY16 |
|---|---|---|---|---|---|
| Revenue | 14,448 | 15,337 | 16,683 | 17,233 | 18,199 |
| EBITDA | 8,401 | 9,229 | 10,830 | 11,199 | 11,827 |
| **EBITDA Margin (%)** | **58.1** | **60.2** | **64.9** | **65.0** | **65.0** |
| PAT | 5,736 | 5,121 | 6,607 | 6,408 | 6,675 |
| **EPS (Rs)** | **2.8** | **2.5** | **3.2** | **3.1** | **3.2** |

| Shareholding Pattern (%) | Dec-14 | Mar-15 | Jun-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 75.0 | 75.0 | 56.3 | 56.3 | 56.3 |
| FIIs | 18.5 | 18.6 | 32.2 | 32.0 | 33.2 |
| DIIs | 2.6 | 2.6 | 5.0 | 4.7 | 5.1 |
| Public and Others | 3.9 | 3.7 | 6.5 | 7.0 | 5.5 |

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Your success is our success

# Gujarat Pipavav

# Rough sailing

| CMP | Target Price |
|---|---|
| Rs157 | Rs185 (▲) |
| **Rating** | **Upside** |
| HOLD (▪) | 17.6 % |

- In the last four years we have seen 3 shipping services majority of shift by Parent Mearsk, We do not rule out the possibility that volumes can be recouped once again, however, it does pose a risk to the linear growth assumptions for the port, given that weak generation of feeder cargo remains a major concern. We build in 14% CAGR in the container segment over FY16-18E
- Given the ramp up in the liquid business and recoup of container volumes we build in margin expansion of 400 bps from FY16-18E
- We build in earnings CAGR of 21% over FY16-18E. We upgrade our rating to hold from reduce with a revised target price of Rs185/share. We have increased the container volume growth beyond FY17E in the concession period based on overall trade, new line addition and as well as increase in cash per share which led to increase to our target price

## Past gets repeated, linear growth risk persist

In the last four years we have seen 3 shipping services majority of which driven by Parent shipping line Mearsk (Mearsk ME-1, NMG, and FM-3) changed the port of call. In CY12, Maersk ME-1 moved to Mundra and company lost 50,000 teu which was recouped by volume ramp-up by other new lines such as OOCL, Hanjin, NMG (by way of arm twisting) , and NYK. We do not rule out the possibility that volumes can be recouped once again, however, it does pose a risk to the linear growth assumptions for the port given that weak generation of feeder cargo remains a major concern for the shipping liners. According to the Management the total volume affected due to movement of FM3 line (Far East service) from Pipavav port to Mundra Port (loss of 70000-80000 TEUs annually) and a Middle East service (NMG) discontinuing (loss of 20000-30000 TEUs annually).Currently merask accounts for 25% of the container volume versus 30% plus earlier.

## Decision taken by Maersk, CMA CGM to follow

There is an argument this decision is largely taken by CMA CGM because CMA CGM is setting up the 4th container terminal of 1.3 Mnteu capacity at Mundra through its dedicated subsidiary CMA Terminals (have decided to form a 50:50 JV with Adani in Mundra). We do not rule out the fact that CMA wants to move out from GPPV to ramp up its own upcoming capacity but we believe that this decision is largely taken by Maersk rather than CMA CGM as Maersk runs 5 vessels in this service and CMA CGM will be asked to follow and Maersk accounts for 50% the volumes in the sharing FM-3 service.

**Financial Snapshot (Standalone)**

| (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Sales | 6,791 | 8,670 | 7,223 | 8,721 | 10,232 |
| EBITDA | 3,869 | 5,012 | 4,077 | 5,114 | 6,199 |
| EBITDA Margin (%) | 57.0 | 57.8 | 56.4 | 58.6 | 60.6 |
| APAT | 3,306 | 4,321 | 2,076 | 3,037 | 3,925 |
| EPS (Rs) | 6.8 | 7.2 | 4.3 | 6.3 | 8.1 |
| EPS (% chg) | 88.5 | 4.5 | (39.9) | 46.3 | 29.2 |
| ROE (%) | 21.1 | 19.7 | 11.2 | 14.9 | 16.9 |
| P/E (x) | 23.0 | 22.0 | 36.6 | 25.0 | 19.4 |
| EV/EBITDA (x) | 19.1 | 14.7 | 18.1 | 13.6 | 10.5 |
| P/BV (x) | 4.4 | 5.3 | 3.9 | 3.6 | 3.1 |

*Source: Company, Emkay Research*

| Change in Estimates | |
|---|---|
| EPS Chg FY16E/FY17E (%) | NA/1.2 |
| Target Price change (%) | 19.2 |
| Previous Reco | HOLD |

**Emkay vs Consensus**

| EPS Estimates | | |
|---|---|---|
| | FY16E | FY17E |
| Emkay | 4.3 | 6.3 |
| Consensus | 8.3 | 5.6 |
| Mean Consensus TP | | Rs 178 |

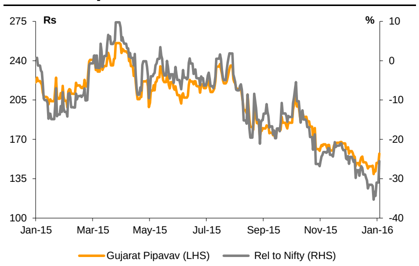
| Stock Details | |
|---|---|
| Bloomberg Code | GPPV IN |
| Face Value (Rs) | 10 |
| Shares outstanding (mn) | 483 |
| 52 Week H/L | 262 / 136 |
| M Cap (Rs bn/USD bn) | 76 / 1.14 |
| Daily Avg Volume (nos.) | 805,672 |
| Daily Avg Turnover (US$ mn) | 1.7 |

| Shareholding Pattern Sep '15 | |
|---|---|
| Promoters | 43.0% |
| FIIs | 38.7% |
| DIIs | 11.0% |
| Public and Others | 7.4% |

**Price Performance**

| (%) | 1M | 3M | 6M | 12M |
|---|---|---|---|---|
| **Absolute** | (1) | (15) | (27) | (30) |
| **Rel. to Nifty** | 8 | (13) | (20) | (23) |

**Relative price chart**




*Source: Bloomberg*

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### Limited visibility for Bulk volumes in Future

The growth visibility has remain limited for generation of bulk volumes at Pipavav port due to differential in rail tariff, Pipavav was facing competitive disadvantage vis-à-vis Mundra which was impacting margins, and Delay in 2200MW of coal-based power plants (owned by torrent power and Videocon ) which constraints the bulk volume to 4.4.2 mt . We have not factored any expansion in bulk segment earlier as well.

### Liquid Business

The company is ramping up the liquid volumes at the port. GPPL is amongst the few private ports to have a railway siding for loading of cargo next to the tankages. We build in 2 MT of capacity throughout the concession agreement and volume of 0.6MT/1MT/1.25 MT inFY16E/ FY17E/18E.

### Change in Tax accounting policy

The company has changed its tax accounting policy from Q2FY16 onwards. The company has depleted its accumulated losses and begun providing for tax at the corporate tax rate and has provided for tax for the entire income of H1FY16 in Q2FY16 at the corporate tax rate. The company will henceforth provide for tax in the P&L account at the full tax rate. The company is however enjoying a tax holiday till FY17 and will not be paying any cash tax. Consequently the tax provided for in the P&L account will be accumulated as Deferred Tax Liability (DTL). The company will continue to accrue DTL even after the end of the tax holiday until the cash tax paid remains lower than the P&L tax provision. This DTL will be drawn down in later years as the cash tax paid becomes higher than tax provision made in P&L account over a period of time. The company expects the DTL to start unwinding from FY19 onwards over a span of the next 10 years.

The company currently pays cash tax at the MAT rate (calculated on book profits) during the tax holiday period and claims equivalent MAT credit against it. The company will utilize this accumulated MAT credit (to the extent of tax payable on book profits) against actual cash tax payable in the future years post the tax holiday. MAT credit has to be utilized within 10 years of its creation. The company expects to fully utilize the MAT credit in 3-4 years, once the tax holiday ends.

### RO-RO Business: More of a Brand building exercise

Gujarat Pipavav Port Ltd has entered into an arrangement with NYK Auto Logistics (India) Pvt. Ltd. (“NYK”) wherein NYK has been sub-leased land for developing a dedicated common user integrated RO-RO yard at Pipavav Port. The RO-RO yard with annual designed capacity for handling 250,000 vehicles.

This business requires creation of the yard as well ro-ro facility (Gujarat Pipavav is at advantage as they have pretester area at the terminal).

Gujarat Pipavav Port will earn the lease income (it would make sense for the terminal operator to outsource the land and earn lease income) as well as the marine income and wharfage charges on the FOB value of the car.

We believe as the revenue potential would be less in this business (more of a branding exercise) it would make sense for the terminal operator to outsource the land and earn lease income

### Management commentary on RO-RO Business

- Currently Ford has exported the Figo Aspire to Mexico from Pipavav and there are enquiries for coastal shipping in RORO (Chennai to North) as the roads are congested.
- The port has capacity of storing 1500-1700 cars in static storage inside the port itself and Berth no.4 has been assigned for RORO operations.
- NYK itself is doing the stevedoring, washing, inspection and storage, the port has leased out the facility to them and charges only for marine services (wharfage) and rentals.
- Berth 3 and 4 has free windows, which the port is looking to plug them with RORO operations. RORO not only makes money but also helps with branding of the port.
- NYK will soon be starting rail movement of cars. Rakes that carry containers can carry 4 cars each.
- RORO wharfage is on the FOB value of the cars (0.25% of FOB).
- NYK is also looking to import Maseratis which would be high FOB value and others are also lookiing at importing high end cars.

# Dividend paid in companies where it holds minority stake

**Exhibit 337: AP Moller-Mearsk group has 5 listed companies out of 1100 companies**

| Name of Company | Listed (Y/N) | Country | Stake of AP Moller – Maersk Group (Direct/Indirect) | CY2013 Dividend | CY2013 Earnings | CY2013 Payout Ratio | Dividend Policy | Comments |
|---|---|---|---|---|---|---|---|---|
| AP Moller - Maersk A/S (in mn DKK) | Y | | NA | 6154 | 21223 | 29% | The Group intends to continue the historical trend of increasing dividends nominally per share supported by underlying earnings strength. | |
| Brostrom AB (in mn SEK) | N | Sweden | 100% | | | | | Delisted upon acquisition. |
| Danske Bank A/S (in mn DKK) | Y | Copenhagen, Denmark | 20% | 2017 | 7115 | 28% | Upon the release of the interim report for the first nine months of 2012, Danske Bank Group announced a new strategy, "New Standards". As part of the strategy, the Group also set a new dividend payout level. We aim to pay dividends of about 40% of net profit as soon as it is prudent. Until we meet all of our capital and rating targets, the payout ratio may be lower. | |
| DFDS A/S (in mn DKK) | Y | Denmark | 31% | 199 | 327 | 61% | DFDS' distribution policy is to pay an annual dividend of DKK 14 per share. In addition, excess capital, as defined by the target capital structure, will be distributed to shareholders as an extra dividend and/or buyback of shares. The capital structure is defined by the ratio of net interest-bearing debt (NIBD) to operating profit before depreciations (EBITDA). The target capital structure is a NIBD/EBITDA multiple of minimum 2.0 and maximum 3.0. Excess capital will thus be distributed to shareholders if the multiple is below 2.0, and distribution will be reduced if the multiple exceeds 3.0. The targets can be suspended in connection with large investments, including acquisitions, and other strategic events. | Entire stake divested with proceeds of USD 291 mn in CY2013. |
| Gujarat Pipavav Port Ltd. (in mn INR) | Y | India | 43% | 0 | 1590 | 0% | - | |
| Salalah Port Services Company S.A.O.G. (in mn RO) | Y | Oman | 30% | 4.5 | 5.7 | 79% | Note: In CY2013 Net Profit had fallen by 20% YoY, while Dividend Payout rose by 66.6% YoY which results in the sharp rise in the dividend payout ratio, CY2012 dividend payout ratio was at 25%. | |

*Source: Company, Emkay Research*

### Case Study of a past acquisition & delisting of AP Moller – Maersk Group (Parent Co. of APM Terminals)

In September, 2008, a conditional public offer for the purchase of all Class A (shares with full voting rights) and Class B (shares with no voting rights) shares in Broström AB (public), a Swedish shipping company in the intermediate segment specializing in shipping oil & chemical products, was launched by A.P. Møller - Mærsk A/S through its wholly-owned Swedish subsidiary Maersk Product Tankers AB at Swedish Krona (SEK) 57 cash per share in an all cash deal.

The Offer price for each share represented a premium of 23.6% relative to the volume-weighted average closing price of the Broström B-share on the OMX Nordic Exchange Stockholm for the three month period prior to August, 2008 and a premium of 10.1% relative to the Broström closing price on the OMX Nordic Exchange Stockholm of SEK 51.75 on the last trading day before the announcement of the Offer. The A-shares are not listed.

Prior to the date of this announcement, A.P. Møller - Mærsk A/S has also acquired in total 23.13 mn shares in the market, representing 36.4% of the shares and 22.7% of the votes in Broström AB. A total of 37.99 mn shares in Broström, representing 59.8% of the capital and 74.9% of the votes in Broström, were tendered in the Offer.

Together with the shares tendered in the Offer A.P. Møller – Mærsk A/S now held an aggregate of 61.11 mn shares in Broström, representing 96.2% of the capital and 97.6% of the votes in Broström, excluding treasury shares. In addition, A.P. Møller - Mærsk A/S acquired additional shares in Broström AB in the market with the intention to initiate compulsory acquisition proceedings in relation to the outstanding Broström AB shares in the near term. Having done so, A.P. Møller - Mærsk A/S acted to have the Broström AB share de-listed from OMX Nordic Exchange Stockholm.

**Exhibit 338: SoTP of Rs170 per share**

| Particulars | Valuation (Rs bn) | Stake (%) | Value of GPPL stake (Rs bn) | Per share (Rs) | Method of valuation |
|---|---|---|---|---|---|
| Pipavav port | 76,916 | 100.0 | 76,916 | 159 | 12-month forward FCFE valuation |
| Pipavav Rail Corporation Ltd (PRCL) | 16,464 | 38.8 | 6,388 | 13 | 14x FY18E earnings |
| Cash on books | | | 6,271 | 13 | |
| **Total value for GPPL** | **93,380** | | **89,576** | **185** | |

*Source: Company, Emkay Research*

## Key Financials (Standalone)

### Income Statement

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **Net Sales** | **6,791** | **8,670** | **7,223** | **8,721** | **10,232** |
| **Expenditure** | **2,922** | **3,659** | **3,146** | **3,607** | **4,032** |
| **EBITDA** | **3,869** | **5,012** | **4,077** | **5,114** | **6,199** |
| Depreciation | 671 | 833 | 935 | 1,047 | 1,072 |
| **EBIT** | **3,198** | **4,179** | **3,142** | **4,067** | **5,128** |
| Other Income | 368 | 401 | 250 | 467 | 731 |
| Interest expenses | 259 | 259 | 0 | 0 | 0 |
| **PBT** | **3,306** | **4,321** | **3,392** | **4,533** | **5,858** |
| Tax | 0 | 0 | 1,316 | 1,496 | 1,933 |
| Extraordinary Items | (102) | (448) | 604 | 0 | 0 |
| Minority Int./Income from Assoc. | 0 | 0 | 0 | 0 | 0 |
| **Reported Net Income** | **3,204** | **3,873** | **2,680** | **3,037** | **3,925** |
| **Adjusted PAT** | **3,306** | **4,321** | **2,076** | **3,037** | **3,925** |

### Balance Sheet

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Equity share capital | 4,834 | 4,834 | 4,834 | 4,834 | 4,834 |
| Reserves & surplus | 12,405 | 13,073 | 14,459 | 16,575 | 20,085 |
| **Net worth** | **17,239** | **17,908** | **19,293** | **21,409** | **24,920** |
| **Minority Interest** | **0** | **0** | **0** | **0** | **0** |
| **Loan Funds** | **0** | **0** | **0** | **0** | **0** |
| Net deferred tax liability | 0 | 0 | 1,316 | 2,812 | 2,671 |
| **Total Liabilities** | **17,240** | **17,908** | **20,610** | **24,221** | **27,591** |
| **Net block** | **13,522** | **13,393** | **16,952** | **16,689** | **15,982** |
| **Investment** | **830** | **830** | **830** | **830** | **830** |
| **Current Assets** | **3,980** | **5,029** | **4,573** | **9,138** | **13,670** |
| Cash & bank balance | 2,233 | 2,439 | 2,456 | 6,271 | 11,096 |
| Other Current Assets | 50 | 99 | 99 | 358 | 420 |
| **Current liabilities & Provision** | **1,761** | **1,997** | **2,375** | **2,628** | **3,083** |
| **Net current assets** | **2,219** | **3,032** | **2,198** | **6,510** | **10,587** |
| Misc. exp | 0 | 0 | 0 | 0 | 0 |
| **Total Assets** | **17,240** | **17,908** | **20,610** | **24,222** | **27,591** |

### Cash Flow

| Y/E Mar (Rs mn) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| **PBT (Ex-Other income) (NI+Dep)** | **2,938** | **3,920** | **3,142** | **4,066** | **5,128** |
| Other Non-Cash items | 260 | (17) | (12) | (15) | (415) |
| Chg in working cap | (624) | 190 | 850 | (496) | (13) |
| **Operating Cashflow** | **2,844** | **4,380** | **4,237** | **3,696** | **4,459** |
| Capital expenditure | 77 | (1,031) | (4,471) | (347) | (365) |
| **Free Cash Flow** | **2,921** | **3,349** | **(234)** | **3,349** | **4,094** |
| Investments | 0 | 0 | 0 | 0 | 0 |
| Other Investing Cash Flow | 0 | (1,387) | 0 | 0 | 0 |
| **Investing Cashflow** | **445** | **(2,018)** | **(4,221)** | **120** | **366** |
| Equity Capital Raised | 0 | 0 | 0 | 0 | 0 |
| Loans Taken / (Repaid) | (2,819) | (3,039) | 0 | 0 | 0 |
| Dividend paid (incl tax) | 0 | 0 | 0 | 0 | 0 |
| Other Financing Cash Flow | 0 | 0 | 0 | 0 | 0 |
| **Financing Cashflow** | **(3,078)** | **(3,316)** | **0** | **0** | **0** |
| **Net chg in cash** | **210** | **(953)** | **17** | **3,816** | **4,825** |
| Opening cash position | 2,023 | 1,108 | 2,440 | 2,456 | 6,272 |
| **Closing cash position** | **2,233** | **2,440** | **2,456** | **6,272** | **11,097** |

## Key Ratios

| Profitability (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EBITDA Margin | 57.0 | 57.8 | 56.4 | 58.6 | 60.6 |
| EBIT Margin | 47.1 | 48.2 | 43.5 | 46.6 | 50.1 |
| Effective Tax Rate | 0.0 | 0.0 | 38.8 | 33.0 | 33.0 |
| Net Margin | 48.7 | 49.8 | 28.7 | 34.8 | 38.4 |
| ROCE | 20.9 | 20.8 | 17.6 | 20.2 | 22.6 |
| ROE | 21.1 | 19.7 | 11.2 | 14.9 | 16.9 |
| RoIC | 24.2 | 24.3 | 20.5 | 24.2 | 31.7 |

| Per Share Data (Rs) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| EPS | 6.8 | 7.2 | 4.3 | 6.3 | 8.1 |
| CEPS | 8.2 | 8.5 | 6.2 | 8.4 | 10.3 |
| BVPS | 35.7 | 29.6 | 39.9 | 44.3 | 51.5 |
| DPS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Valuations (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| PER | 23.0 | 22.0 | 36.6 | 25.0 | 19.4 |
| P/CEPS | 18.6 | 17.9 | 24.6 | 18.1 | 14.8 |
| P/BV | 4.4 | 5.3 | 3.9 | 3.6 | 3.1 |
| EV / Sales | 10.9 | 8.5 | 10.2 | 8.0 | 6.4 |
| EV / EBITDA | 19.1 | 14.7 | 18.1 | 13.6 | 10.5 |
| Dividend Yield (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Gearing Ratio (x) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Net Debt/ Equity | (0.1) | (0.1) | (0.1) | (0.3) | (0.4) |
| Net Debt/EBIDTA | (0.6) | (0.5) | (0.6) | (1.2) | (1.8) |
| Working Cap Cycle (days) | (0.8) | 31.2 | (13.0) | 10.0 | (18.2) |

| Growth (%) | FY15 | FY16 | FY16E | FY17E | FY18E |
|---|---|---|---|---|---|
| Revenue | 31.1 | 2.1 | 4.1 | 20.7 | 17.3 |
| EBITDA | 50.6 | 3.6 | 1.7 | 25.4 | 21.2 |
| EBIT | 63.1 | 4.5 | (6.0) | 29.4 | 26.1 |
| PAT | 67.1 | (3.3) | (13.5) | 13.3 | 29.2 |

| Quarterly (Rs mn) | Q3CY14 | Q4CY14 | Q1CY15 | Q2CY15 | Q3CY15 |
|---|---|---|---|---|---|
| Revenue | 1,701 | 1,845 | 1,880 | 1,846 | 1,491 |
| EBITDA | 959 | 1,005 | 1,126 | 986 | 764 |
| **EBITDA Margin (%)** | **56.4** | **54.5** | **59.9** | **53.4** | **51.3** |
| PAT | 895 | 893 | 671 | 805 | 532 |
| **EPS (Rs)** | **1.9** | **1.8** | **1.4** | **1.7** | **1.1** |

| Shareholding Pattern (%) | Sep-14 | Dec-14 | Mar-15 | Jun-15 | Sep-15 |
|---|---|---|---|---|---|
| Promoters | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| FIIs | 34.3 | 35.0 | 37.1 | 38.4 | 38.7 |
| DIIs | 13.8 | 13.5 | 12.2 | 11.4 | 11.0 |
| Public and Others | 8.9 | 8.5 | 7.8 | 7.2 | 7.3 |

## Emkay Rating Distribution

| | |
|---|---|
| BUY | Expected total return (%) (Stock price appreciation and dividend yield) of over 25% within the next 12-18 months. |
| ACCUMULATE | Expected total return (%) (Stock price appreciation and dividend yield) of over 10% within the next 12-18 months. |
| HOLD | Expected total return (%) (Stock price appreciation and dividend yield) of upto 10% within the next 12-18 months. |
| REDUCE | Expected total return (%) (Stock price depreciation) of upto (-) 10% within the next 12-18 months. |
| SELL | The stock is believed to underperform the broad market indices or its related universe within the next 12-18 months. |

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