PPP – A Private Sector Perspective

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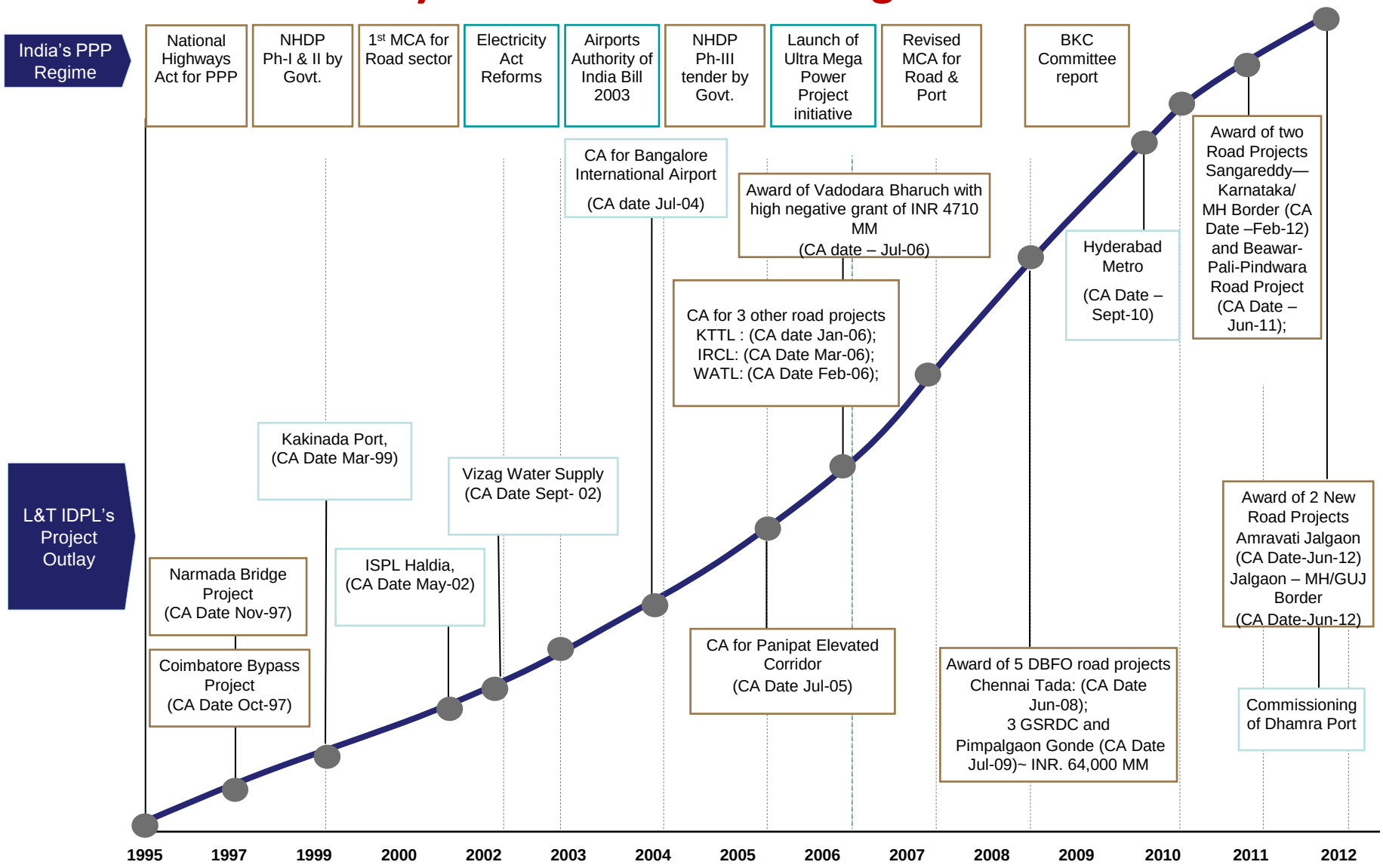
Presentation Design

- Introduction to L&T IDPL
- Hyderabad Metro :
  - Project structure and details
  - PPP – A refresher on theoretical percepts
  - Issues in Project Preparation, Planning and Implementation
- Project Preparation and planning - The way forward
- Suggestions on Key Concession Agreement Clauses
- Critical Success Factors – A Summary

Overview of L&T IDPL

- Incorporated 2001, L&T Infrastructure Development Projects Limited (L&T IDPL) is a subsidiary of the Engineering conglomerate Larsen & Toubro Limited (L&T)
- A pioneer in Public Private Partnership (PPP) projects
- Assets INR 450 comprising 19 Road projects, 3 Ports and the Hyderabad Metro Rail project.
- Largest Road Developer in India by Lane Kms – 9,041 Lane Kms
- Exploring growth areas of Power Transmission lines, Water and Waster Water and Railways
- Largest Single Phase PPP Project in Metro - Hyderabad Metro

Our Evolution closely tracks India's PPP Program



HYDERABAD METRO RAIL ROUTE MAP

Total Route Length: 71.16 Km
No. of Stations : 66 Nos
No. of Depots : 3 Nos

Line 1: Miyapur - LB Nagar -28.87km

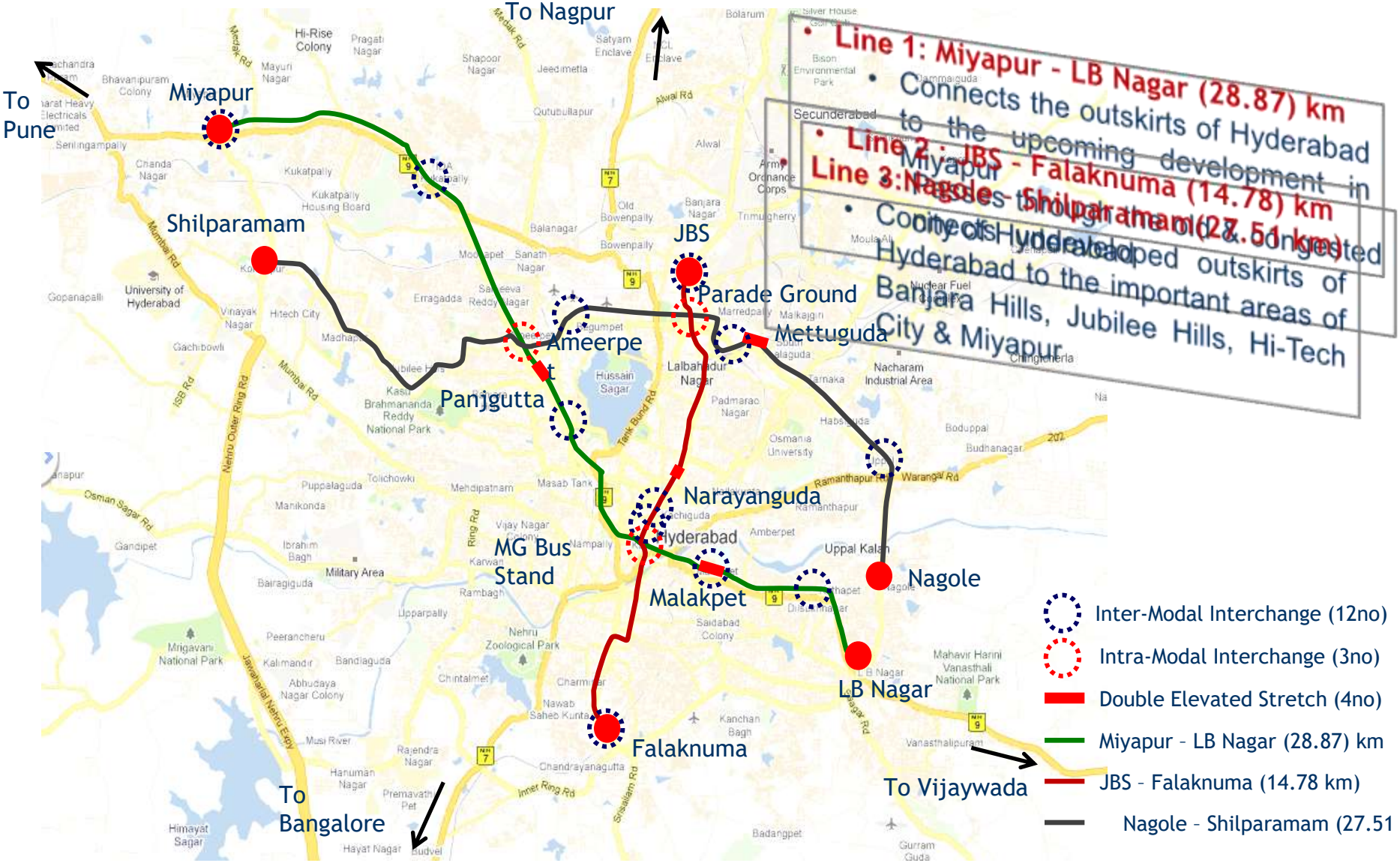
Line 2 :JBS - Falaknuma -14.78 km

Line 3 :Nagole - Shilparamam -27.51 km

Property Development Scope

- Depot Land: 212 acres
- Parking and Circulation area: 57 acres in 25 land parcels around the stations
- Within Station: 20% of floor area of each station building
- Overall area for development: Approx. 18.5 Mio Sft

Hyderabad Metro - Route Details



Hyderabad Metro - Scope

Metro Systems

Viaduct
Elevated/ Underground/ Surface

- Stations
- **Real estate**
- **-E&M stations included**

Ballastless Track
Traction
Substation – Traction/Aux
Power Supply

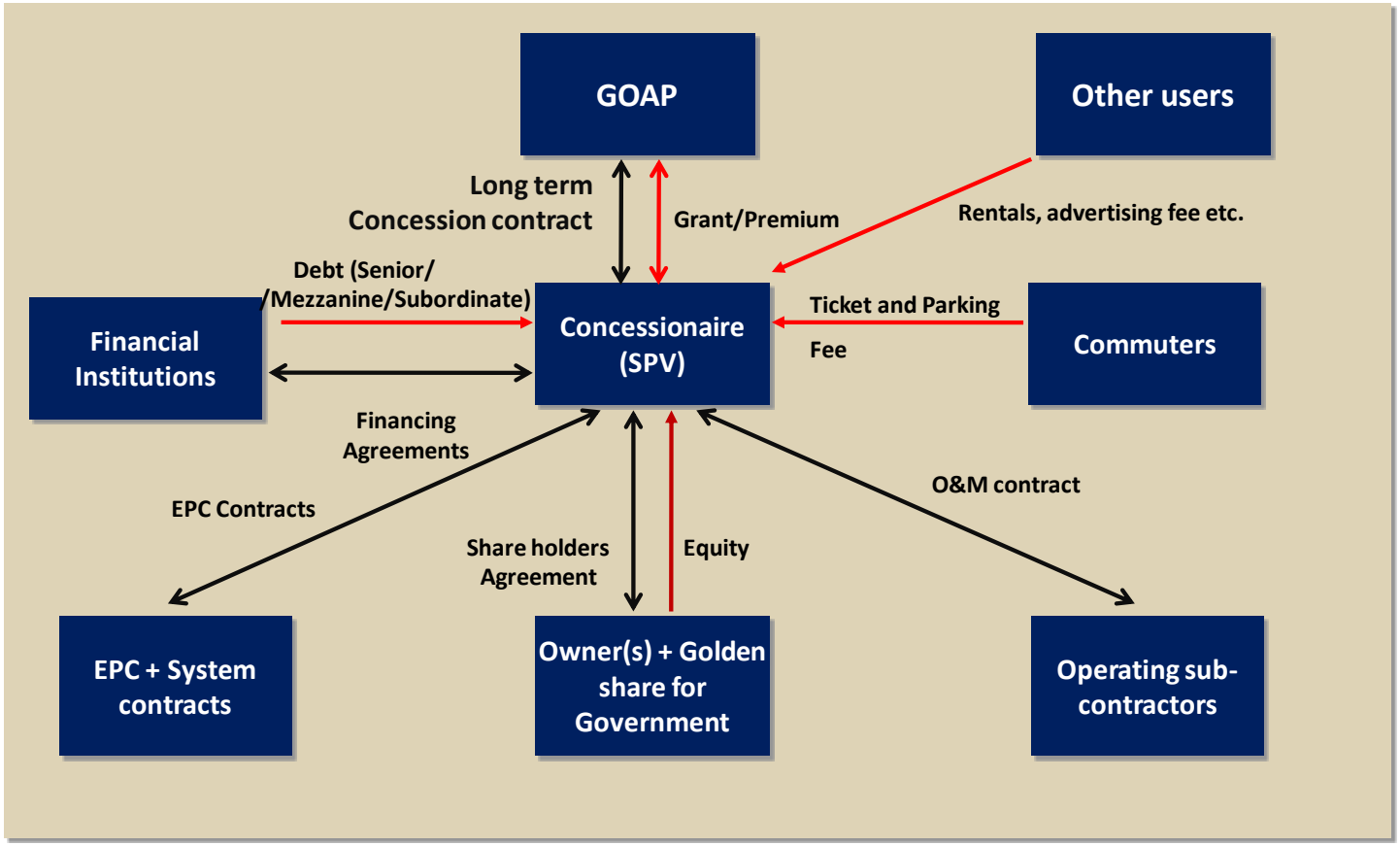
Signaling, Train Control & Telecom

Rolling stock

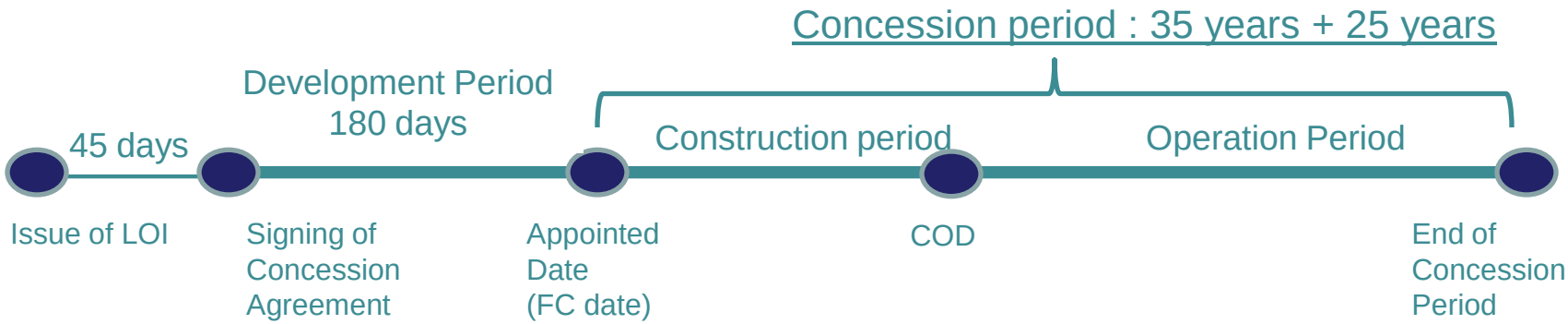
AFC

Depot

PPP frame work for Hyderabad Metro



Hyderabad Metro - Project time lines



Concession	**Design Build Finance Operate Transfer Model** **Concession Period - 35 Years + extendable by 25 years** **Construction Period - 5 Years**
Divestment options	**Bidder / Associate to hold at least 51% of equity during Construction + 2 years, 33% up to COD + 3 years, 26% thereafter or such lower such lower % as permitted by Government. Divestments are allowed after getting approval from Government**

PPP – A refresher on theoretical percepts

- Rationale for PPP in Infrastructure
  - Tap Private sector efficiency (should be the basic reason)
  - Resource gaps of government (often the driver in developing nations)
    - Hard budget constraints (Fiscal and revenue deficits)
    - Limited organizational capacities (To plan and execute - often at city Government level)

- Definition of Risks : "Risk" is the chance of an event occurring that would cause the Project circumstances to differ from those assumed while forecasting the cost and benefits of the Project

- Principles of Risk Management in PPP Project:
  - Risks can never be eliminated
  - Risks are to be allocated so that it is borne in an agreed upon fashion
  - Risks are generally allocated through legal institutions and instruments – partly through statutes and other legal regulations and partly through the negotiation of the legal agreements that comprise the Project

PPP – A refresher on theoretical percepts

- **Principles of Risk Management in PPP Project (Continued):**
  - **Risk allocation has to be Project specific as no two projects generally have the same Risk profile**
  - **Risk is to be allocated to the party better suited to handle the same**
  - **Normally the Public sector is expected to bear the Risks that are within the control of the government such as Change in law, Land Acquisition, obtaining statutory permits and clearances, Change of Government, Force Majeure in the nature of Nationalization**
  - **The Private sector is normally expected to absorb the Design, Construction , O&M , Revenue/Demand risks**
  - **Lenders normally take the credit risk**
  - **Underlying all the above is the need for a robust and enabling legal frame work with out which the entire arrangement can be at jeopardy**

Optimal risk allocation ➔ reduced cost of risk ➔ better Value for Money

Hyderabad Metro - Issues in Project Planning and Implementation

- Status of Project Preparation and Planning and issues thereof:
  - DPR lacked depth in technical detailing and project planning necessary for a PPP initiative:
    - Inadequate Geo-technical particulars
    - Utility mapping not done exhaustively
    - Alignment not finalized
    - Non Approval of other authorities at least on concepts (e.g. Span arrangement and alignment across Indian Railway ROW)
    - Non Finalization of feeding grid substations and location of Main Sub stations
  - Issues due to inadequate readiness on Land acquisition and ROW availability:
    - Significant delay in Delays in ROW availability:
      - Appointed date shifted by 490 days (3rd March 2011 to 5th July 2012)
    - Frequent changes in vertical and horizontal alignment to suit local needs
    - Road widening not yet taken up – Inadequate work fronts

Hyderabad Metro - Issues in Project Planning and Implementation

- Issues due to inadequate readiness on Land acquisition and ROW availability (continued):
  - Changes in location of transit oriented development – with consequential impact on revenues

- Lack of Clarity in Legal frame work and safety clearances/authorities:
  - Bid under a state statute viz. AP Municipal Tramway (Construction, Operation and Maintenance) Act 2010
  - Migration to the Central (Federal Statute) viz. Metro Railway (Construction of Works) Act 1978 and Metro Railway (Operations and Maintenance) Act 2002 likely
  - Safety clearances under which act and relevant safety authorities:
    - Who will issue the Safety certificate? – Metro Railway or Tramway
    - Electrical Inspector for the Project
    - Fire safety clearance from local fire department needed – Lack of clarity on the code for safety applicable

Bed rock of Risk Mitigation under cloud

Project Preparation and planning - The way forward

- Key Suggestions on Project Preparation and planning
  - Alignment Fixation
  - ROW, Land Acquisition & Permits
  - Technical requirement for Tunneling, Viaduct structures
  - Utility Diversion
  - Construction Planning
  - Agreement with Railways for ROW, Drawings approvals etc.

Project preparation and planning – The way forward

- DPR preparation needs time, effort and money
- Authorities need to check the issues in site in detail and take other authorities into confidence
- Utilities need to be mapped by:
  - Collecting completion plans and interacting with utility department at the level of local foreman and fitters
  - Map with advanced tools like Electromagnetic signatures and Ground Penetrating Radar
  - Trial pits in case of doubts
- Vertical and Horizontal profile needs to be frozen
- Authorities also need to fix:
  - Ultimate length of the station platforms
  - The exact location of the stations (i.e. centerline)
  - Overall foot print of the structures especially in the elevated portions
  - The foot print of access to underground stations
- For understanding Construction Risk & challenges:
  - Detailed geo-technical survey including water table level for elevated/underground stretches
  - Building survey along the alignment and information on any underground structures for tunneling is to be carried out

Project preparation and planning – The way forward

- Location of the Main Substations and the feeding Grid substations needs to be decided in principle
- While less complex projects like Roads can take the indiscipline shown in Hyderabad Metro but not the projects like metro where system interfaces are complex and lead to :
  - Unnecessary cascading effects like alteration of design and drawings of Structures, Permanent way, OHE and ATP/ATO programing of S&TC
  - Even exciting possibilities like SOD infringements – if say curves become sharper
  - Unknown surprises like special spans
  - Can cause Disputes with EPC/System contractors
- On finalization of alignment authorities need to start the process of acquisition of the Right of Way as well as rehabilitation
- 100 % ROW including land for substations, casting yard should be available on or before Appointed date of the Concession . ROW should include:
  - Space for construction of the corridor/Tracks and stations
  - Land for Traction Sub Station (TSS)
  - Corridor from the TSS to the feeding point.

Project preparation and planning – The way forward

- **Overall Construction plan:**
  - **In Hyderabad Metro the number of fronts available to deploy machinery and man power is grossly inadequate compared to the volume of the work. We are working currently in the peripheral areas with 4 lane roads on either side. We need to penetrate quickly into narrower roads in the heart of the city without this ….**
  - **Delays in Mumbai area are already well documented – Mumbai line 1 & 2, Mumbai Mono Rail have suffered on account of this.**
  - **Suggest broad construction plan be prepared as a part of Project Planning, indicating therein how fronts for both tunneling operation and the viaduct construction are proposed to be opened along with traffic diversion plan needed and include the same as a part of the RFP**
- **Difficult utilities like EHV lines, trunk sewers and water mains can be shifted before work commences**

Project preparation and planning – The way forward

- Agreement with the concerned Railways at Headquarters as well the Divisional level needs to be a part of the bidding documents:
  - Extent of Right Off Way
  - Working time/Blocks available wherever conflicts with the existing Railway operations exists
  - Supervision arrangements for ensuring safety
  - Undertakings for timely CRS sanctions
  - Clearance of drawings

- All fee associated with supervision and maintenance, license fee and way and leave charges from the State, Local and Railways departments need to be waived or clearly stipulated in the concession

Project preparation and planning – The way forward

- Survey for alignment fixation - It is preferable to carry out an extremely precise DGPS topographic triangulation control, followed by fixing of secondary DGPS pillars. The traverse survey being carried out with total station between these secondary and /or primary DGPS pillars for preparing the alignment . The control points can be handed over to the bidders
- Special permits needed:
  - CRZ and Environmental clearances
  - Clearances for structures covered by Ancient monuments and archaeological sites and remains (amendment and validation) act 2010 and any heritage buildings need to be obtained

Suggestions on Concession Agreement issues

- Key Concession Agreement Clauses:
  - Total Project Cost
  - Traffic Risk
  - Length of Concession Period
  - FC to be achieved after CP of Client are met
  - Compensations
  - Key performance indicators
  - Golden Share
  - Exit Clause

Total Project Cost

- Generally Authorities arrive at Project Cost based on cash contracts that are often are outdated.
- Detailed break up of elements are not given
- Other soft costs need to be added to arrive at the TPC. They are:
  - Safety , Health & Environment
  - Pre bid tender expenses
  - Interest during Construction
  - Legal fee
  - Syndication fee
  - Contingencies
  - Insurance costs
  - Independent Engineers fee
  - Project Management charges etc.
- TPC is a crucial element in termination payments. Significant divergence between the TPC of the Authorities and the Concessionaire causes lack of trust in the process leading to Financial Closure
- TPC needs to be discussed exhaustively with prospective bidders so as to make the bid more bankable.

Traffic Study and Traffic risk

- We have years of traffic data on our roads but we are yet clueless what the traffic will be tomorrow in any stretch and how can we take a call for 30 years plus in a metro/Railway environment where:
  - Mode choice for passengers is highly individual
  - Competing modes exists and new ones can come in any time in a Metropolitan area
  - Very tight definition of competing modes are laid down in concession
  - In the case of freight traffic realization is dependent on:
    - Lumpy investments coming to reality (such as Thermal Plants, Mines, Iron and Steel factories etc.)
    - Ability of new clients to connect to the rail head by sidings
    - Customer orientation of common infrastructure like good sheds
    - Outlook of the dominant entity to traffic diversion on the private line (e.g. KRCL)
- DMRC, DAMEPL are prime examples where traffic are way below estimates
- A good four stage model study with proper modal choice model should be carried out by the Authority
- Existing clause on Extension of Concession for shortfall in traffic after “X” years is not useful . Concessions can be availability based with the traffic risk transfer to the concessionaire in an acceptable band

Concession Period and commercial development

- To keep the fares at a reasonable level and at the same time ensure a reasonable return on capital, we suggest that a sufficiently long concession period – at least 60 years.

- Possibility of restructuring becomes better in longer concessions

- Commercial development clauses should permit longer leases that are in tune with the local needs so that residential format of development will become feasible:
  - This will improve the marketability of the real estate component
  - Can come with a proviso that the Authority becoming the lessor after the concession period is over with due protection against any front loading of lease revenues to the Concessionaire
  - Concerns of the lenders financing the home purchase need to be incopoarted based on local regulations

FC to be achieved after CP of Client are met

- CP to satisfied by the authority before FC by concessionaire:
  - 100% land as envisaged for the entire Project along with the land for the Depot, Stations and any other infrastructure envisaged.
  - State Support Agreement duly executed.
  - All the clearances from various authorities are obtained.

- Concessionaire should be expected to initiate financial closure only after all the CPs of the Authority are satisfied in totality and thereafter 270 days to be provided for achieving financial closure.

Compensation Clauses

- Present Compensation clauses for Termination (for Concessionaire Default & Authority Default) & Force Majeure events are not adequate to the Developer and also does not give comfort to the Lenders.
- These clauses need to be relooked at to make it more bankable and evoke interest from Developers.
- Such of those items necessitated due to deficiency in planning or due to difficulty in forecasting needs to be compensated:
  - Example – Condition monitoring and repair of over ground structures needed due to tunneling
- Existing compensation for defaults of the Authority especially with reference to delay in ROW handing over are hardly sufficient in view of the following:
  - Concessionaires in large projects have to keep mobilizing as the LA process typically release huge quantum of fronts once the legal process in over
  - Compensation on three counts are needed due to ROW:
    - Escalation of project costs on account of inflation (perhaps based on WPI)
    - Interest during Construction Cost adjustment for change in interest rates both upward and downward till the Commercial Operation Date (linked to Prime Lending Rates).
    - FOREX risk: Any extreme changes in the value foreign currencies

Fixing Key Performance Indicators

- Unilateral fixing of the performance standards is improper.
- Some of the Performance standards can be un-attainable. For instance 2 min of waiting time at the ticket counter/vending machines at peak time as prescribed in the concession
- Service levels possible depend on several variables and it may not be possible to achieve even if the concessionaire is willing to take up additional capital expenditure.
- The KPIs hence have to be fixed realistically post the completion of system design and discussions between the Concessionaire, Independent Engineer and the Client – there could be mental block on this suggestion

Golden Share

- Un-necessary government intervention
- Conflict of interest with the Govt. nominee taking part in all internal business matters of the Board
- This practice is not being followed in other sectors & may be against the principle of Companies Act
- Alternatively, the Govt. can take 26 % equity stake & enjoy the veto powers as bestowed by Companies Act.

Exit Clause

- **Exit clause should be provide complete divestment of Equity after two years of COD for the initial investors – Why?**
  - **This releases capital in the market for further infrastructure formation - where initial concessionaires go in search of fresh pastures, while long term players like insurance and pension investors (with a different outlook to risk in the market) would be enamored of the steady rate of return in established infrastructure concessions**

Critical Success Factors – A Summary

- Detailed project preparation including finalizing alignment and mapping utilities
- 100% ROW & Land Acquisition to be completed(including depot area) prior to commencement of bid.
- Obtaining special permits as applicable (e.g. CRZ) before bidding
- Broad Construction Plan as part of bid documents and Agreement with Railways for RoW & Drawings Approval
- Technical requirement for Tunneling & Viaduct Structures should be taken care of
- Realistic Total Project Cost
- FC to be achieved after CP of Client are met
- An Urban Transit Authority for regulation and intermodal integration
- Annuity based PPP structure / Traffic risk within accepted band

End of Document