सड़क परिवहन
एवं राजमार्ग मंत्रालय
MINISTRY OF
ROAD TRANSPORT
AND HIGHWAYS

सत्यमेव जयते

भा रा रा प्रा
NHAI

DESIGN OF INTER-MODAL STATION AT TIRUPATI

IDEAS
DESIGN COMPETITION

Conducted by:
Council of Architecture
Ministry of Education, Governmant of India

- Preamble
- Competition

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Table of Contents

DESIGN COMPETITION FOR DEVELOPMENT OF INTER-MODAL STATION (IMS) AT TIRUPATI

I. PREAMBLE

The Ministry of Road Transport & Highways (MoRTH) oversees 146,204 kilometers of National Highways that span across the entire country. In addition to maintaining and expanding these highways, the Ministry is responsible for developing complementary infrastructure, including Wayside Amenities, Solar Power initiatives, Multimodal Logistics Parks, Ropeways, and Inter Modal Stations (IMS).

National Highways Logistics Management Ltd. (NHLML), a wholly owned SPV of the National Highways Authority of India (NHAI), has been tasked with developing Inter Modal Stations (IMS). These stations are designed to integrate multiple modes of infrastructure at a single location, with the Bus Terminal serving as the central component of the IMS.

The second IMS project by NHLML is planned at Tirupati, 22.1 km from Tirumala Temple, the gateway for Venkateswara Temple pilgrims. It will be developed at the existing APSRTC Bus Terminal near the Railway Station, replacing the bus stand and integrating Transport hub with commercial and public amenities.

To ensure an efficient design, the Council of Architecture has been tasked with organizing a design competition to attract innovative and sustainable solutions. The IMS aims to streamline urban mobility, addressing the rising demand for an integrated, passenger-centric transport system in one of South India's busiest pilgrimage hubs.

Tirupati, being the spiritual capital of Andhra Pradesh, witnesses high footfall from across the country, requiring seamless connectivity between various modes of transportation including rail, road, air and potentially metro in the future. The proposed Intermodal Station is envisioned as a state-of-the-art transit facility that brings together APSRTC bus services, Indian Railways, and other public and private transport systems under one unified infrastructure. This integration will not only enhance commuter convenience and reduce transfer times but also optimize land use, improve traffic circulation, and reduce congestion in and around the station precinct.

By leveraging the strategic location of the APSRTC site, the project will serve as a pivotal node in the regional transportation network, supporting multi-modal connectivity, fostering sustainable urban development, and boosting the local economy. The Intermodal Station

is designed to align with modern standards of accessibility, safety, and passenger comfort, reinforcing Tirupati's position as a model city for integrated transport solutions.

Need for IMS Tirupati:

- **Improved mobility and accessibility** – With the growing demand for enhanced mobility and accessibility, along with the expansion of the urban economy and the increasing footfall of pilgrims visiting the Sri Venkateswara Swamy Vaari Temple in Tirumala, Tirupati requires a well-planned, state-of-the-art Inter-Modal Station combined with efficient land use. This will enhance mobility, improve accessibility, and create a seamless urban environment that fosters economic growth, reduces congestion, and enhances the overall quality of life.

- **Addressing Inadequate Public Facilities, Transport, and Hospitality Infrastructure** – This approach will tackle the existing deficiencies in public facilities, transport infrastructure, and hospitality services in the temple surroundings. These inadequacies are currently struggling to accommodate the growing number of devotees, leading to overcrowding and logistical challenges. By improving these aspects, the overall experience for visitors will be enhanced, ensuring smoother operations and better services.

- **Enhanced Connectivity and Efficiency** – Ensuring smooth and seamless integration of multiple transport modes will facilitate convenient passenger movement, reduce transit time, and help mitigate traffic congestion. This will also address unorganized passenger movement, which is caused by overcrowding due to high pilgrimage footfall and limited transport infrastructure.

- **Urban Decongestion and Sustainable Development** – Enhancing accessibility through optimized land use will help alleviate congestion in the city center, while promoting environmentally sustainable transport solutions to reduce rising pollution levels caused by vehicular emissions and unmanaged traffic flow.

II. DESIGN CONTEXT

The Inter-Modal Station (IMS) Master Plan envisions a world-class transport hub centred around the Central Bus Station (C.B.S.), located just 800m from Tirupati Central Railway Station. Addressing severe

congestion caused by high footfall due to tourist and pilgrim inflow, the IMS will streamline passenger and vehicular movement, integrating inter-city, regional, and local transport for improved mobility and accessibility.

Inspired by Andhra Pradesh's rich heritage, the design will incorporate local arts, crafts, and architectural elements, creating a culturally resonant identity. Additionally, the cost-effective plan will harmonize with Tirupati's physiography, considering its coastal, mountainous, and plateau landscapes for a sustainable and efficient transport solution.

III. DESIGN OBJECTIVES

The IMS aims to achieve the following objectives:

1. **Enhanced Convenience and Reduced Transfer Time** – Facilitate smooth and quick interchange between different modes of transport, making it easier for pilgrims and other passengers to navigate.

2. **Reduced Transportation Costs** – Save time and effort while accommodating more travellers, making the entire transportation process more efficient and cost-effective.

3. **Increased Utilization of Common Facilities** – Improve the use of shared spaces like waiting rooms, escalators, concourses, and ensure that infrastructure is more accessible, particularly for differently-abled individuals and senior citizens.

4. **Boosted Economic Productivity and Efficiency** – Streamline the transit process, leading to higher productivity, improved efficiency, and smoother operations.

5. **Higher Returns from Increased Footfall and Commercial Development** – The development of the IMS will generate more passenger traffic and enhance commercial opportunities, resulting in higher economic returns.

6. **Reduction in Energy Consumption and Environmental Pollution** – Implement eco-friendly technologies and practices to reduce the environmental footprint, improving sustainability.

The development of the IMS at Tirupati will not only improve the transportation experience for pilgrims and travellers, but also stimulate commercial development and economic activity. This will elevate the socio-economic profile of Tirupati and its surrounding areas, providing modern, state-of-the-art facilities for all users.

The competition conditions and rules for participation in the Design Competition are provided at **Annexure I.**

The projects details/ requirements are provided in **Annexure II.**

Annexure I

COMPETITION GUIDELINES & REGULATIONS

1.1. Organizer of the Competition

1.1.1. The **Design Competition** for the development of the **Inter Modal Station (IMS) at Tirupati** is organized by **National Highways Logistics Management Limited (NHLML)** and is being conducted through the **Council of Architecture (CoA),** Ministry of Education, Government of India.

1.1.2. This collaboration aims to encourage innovative, sustainable, and culturally significant design solutions from budding architects and architectural organizations across the country. By leveraging creative talent, the competition seeks to develop a state-of-the-art, efficient, and accessible IMS that enhances mobility, supports economic growth, and preserves the rich architectural heritage of Andhra Pradesh.

1.2. Purpose and Type of Competition & Eligibility to Compete

1.2.1. This is an **Ideas Design Competition**, where NHLML reserves the right to utilize the design concepts of Prize Winners for the Inter Modal Station (IMS) at Tirupati, should they find them appropriate.

1.2.2. Submission Requirements

Participants are required to present their design ideas, conceptual views, and drawings to effectively convey their vision. The following elements may be included:

a) **Site Organization & Planning –** A conceptual layout illustrating how different transport modes, passenger movement, and facilities are organized within the site.

b) **Site Plan –** A broad representation of the IMS in relation to the surrounding urban landscape.

c) **Elevations & Sections –** Illustrations of the structural design, giving insight into the scale, height, and architectural

features.

d) **3D Visualizations –** Rendered perspectives to provide a clear understanding of the design intent and aesthetics.

1.2.3. Level of Detail:

a) The competition encourages flexibility in the level of detailing—submissions can range from broad conceptual ideas to more detailed architectural representations that effectively convey their vision. The primary goal is to showcase innovative and functional design solutions that align with the vision for IMS at Tirupati.

b) The competition is open to all Architects registered with the Council of Architecture (CoA) and all Architectural Institutions approved by the Council of Architecture. This ensures broad participation from both experienced professionals and emerging talents in the field of architecture.

c) Participants are encouraged to bring forward innovative, sustainable, and culturally integrated design ideas for the Inter Modal Station (IMS) at Tirupati, contributing to the development of a world-class public transport facility.

1.2.4. Participation Criteria:

For the purpose of this competition, the following participation criteria apply:

a) **Eligible Participants:**

(i) Individual Architects registered with the Council of Architecture (CoA)

(ii) Registered Architects and Architectural Firms (having all registered architect partners).

b) **For Architectural Institutions:**

(i) Participation must be endorsed by the Head of the Institution

(ii) A single institution can participate in multiple teams

c) **Ineligibility:** Following professionals are not eligible to participate in the competition

(i) Employees of NHAI, NHLML;

(ii) Jury Members; and

(iii) Council of Architecture (CoA) Office Bearers and Officials.

These criteria ensure broad participation while maintaining a transparent and competitive process for the Ideas Design Competition.

1.3. Steps to Participate in the Competition

1.3.1. No participation fee is required to be paid by the participants.

1.3.2. The competition will commence with a formal announcement on the Council of Architecture (CoA) website and by NHLML on its official website and social media platforms.

1.3.3. Registration Process:

a) All intending eligible participants must register on the CoA website.

b) Upon registration, participants will be assigned a Unique Identity Code to ensure anonymity

1.3.4.Disqualification Criteria:

a) Any disclosure of identity or attempt to influence the jury will lead to immediate disqualification.

b) Such actions will also be considered professional misconduct.

c) The decision of CoA shall be final and binding on all participants.

This structured approach ensures a fair, transparent, and anonymous evaluation process for the **Ideas Design Competition**.

1.4. General Details & Schedule of the Competition

1.4.1. The competition schedule shall be as follows:

- Registration for the Competition will start from : 15th April, 2025.
- Last day for the entries is , 31st May, 2025, 5.00 p.m.

- Presentation of the shortlisted designs before the Jury - The date, time and venue will be communicated and declared by COA, separately.

1.4.2. Announcement of results and Awards

- The date of result announcement will be communicated separately by COA.

- All official communications regarding the competition will be conducted exclusively via email at imstirupati.coa@gmail.com.

- Each team is permitted to submit only one entry..

1.4.3. NHLML reserves the right to alter the above schedule and this Competition document or extend the Competition deadline before the last date of submission, which shall be deemed, confirmed and shall be binding upon all the participants.

1.4.4. Competition Coordinator: Registrar, Council of Architecture, New Delhi.

1.5. Composition of the Jury

1.5.1. The jury shall be composed of distinguished Architect members of repute and credibility in majority and three members nominated by NHLML.

1.6. Competition Assessment and Deliberations

1.6.1. The Jury Members will themselves determine the procedure to be followed for the assessment of the received entries. The discretion of the jury will be final. On conclusion of the assessment, the Jury will submit a report to NHLML indicating the procedures and criteria used for assessments.

1.6.2. Participants do not have the right to request for access to the Jury's comments or records on the adjudication.

1.6.3. Upon completion of the procedure of evaluation, NHLML shall decide on the best three entries out of best five shortlisted by CoA and CoA on the pre-communicated Award date, time and place, will announce the final results of the Design Competition and distribute the prizes to the winners as declared by the Jury.

1.7. Prize and Remuneration:

1.7.1. The Competition Winning Entry shall be awarded a prize money of 12 Lakhs INR (First Prize – Twelve Lacs only), subject to deduction of applicable taxes. The second and third runner up position shall be awarded a prize money of Rs. 10 Lakhs (Rs. Ten Lacs Only) and Rs. 8 Lakhs (Rs. Eight Lacs Only) respectively.

1.7.2. NHLML or CoA shall not be liable to compensate for any other expenses incurred by the participants on account of participation in this Competition.

1.8. Implementation of the Winning Design Entry Idea

1.8.1. It is the intention of NHLML to adopt the design ideas and concepts on the Tirupati Inter Modal Station or its components thereof, of the Winning Entry with or without modifications for its implementation. It is not binding on NHLML to hire the winning Architect for the project.

1.9. Reservation

1.9.1. NHLML reserves the right to use the design ideas and concepts submitted by the winning entries, with or without modifications, for the Inter Modal Station (IMS) or its components.

1.9.2. This usage may occur in phases as deemed fit by NHLML

1.10. Submission and Competition Process

1.10.1. Design Submission Requirements – Participants must submit their design concepts as per the following guidelines:

a) **Concept Note (Max 1000 words), including:**

i) Understanding of the project, incorporating relevant benchmarking studies

ii) Concept designs represented through 3D views or sketches

iii) Technical specifications of IMS components along with a Block Cost Estimate

iv) A walkthrough video (optional)

b) **Drawing Submissions:**

i) Maximum 5 A2-sized (42 x 59.4 cm) drawings in Landscape format

ii) Drawings may include plans, elevations, sections, and other details necessary to convey the design concept. All drawings shall be prepared using the Metric system, with standard metric scales (mentioned in both numerical and graphical format) clearly indicated on each sheet.

iii) Softcopy submission in PDF, PPT, or PDG format

iv) Any other format will be rejected

c) Proposals for utility shifting — especially for potentially sensitive infrastructure like petrol pump — should be clearly outlined by the competitors in the development recommendations. These must include appropriate guidelines, risk assessments, required statutory approvals, and corresponding mitigation measures.

1.10.2. Competition Process – The competition begins with a formal announcement by NHLML/CoA on their website and social media platforms.

a) **Registration Process:**

i) Participants must register on the NHLML/CoA website (www.coa.gov.in).

ii) Upon registration, each participant/team will be assigned a Unique Identity Code to ensure anonymity.

iii) Any queries regarding the competition may be sent via the designated email.

b) **Presentation Criteria:**

i) Entries should be presented at a level of detail that effectively communicates the design concept.

ii) The Jury will assess the project's contextual, architectural, and organizational qualities.

iii) The design should prioritize economic feasibility and sustainability.

These guidelines ensure a fair and competitive evaluation process while encouraging innovative, functional, and sustainable designs for the Inter Modal Station (IMS) at Tirupati.

1.10.3. Submission Criteria

In order to ensure uniformity and maintain the integrity of the competition, focusing on the design concept and not on the identity of the participants, the following criteria must be adhered to for all submissions:

a) **Language:**

i) All entries must be submitted in English only.

b) **Anonymity:**

i) The anonymity of the entrants must be ensured.

ii) The architect's or participant's name should not appear in any of the submission documents.

iii) Any document containing the name of the participant will be summarily rejected.

c) **Reference Code:**

i) Each document should include the reference code received during registration.

ii) The reference code must be placed at the bottom right corner of each document.

d) **File Format and File Size Limit:**

i) Submissions must be made in PDF format, including the Concept Note and all other documents.

ii) The total file size of the submission must not exceed 30 MB.

1.10.4. The medium of expression should be mostly drawings, illustrations and 3D views with only explanatory notes, as required. Soft copy (in PDF,PPT or PDG format).

1.10.5. Entries submitted by the participants for the purpose of this Competition will not be returned by NHLML.

1.10.6. CoA shall reserve all rights to use all entries to publish in any format and any platform and exhibit in part or thereof at any time and place of its convenience.

1.11. Application of Regulations

1.11.1. Acceptance of Regulations

By submitting entries, participants confirm that they have read, understood, and fully accept the rules, regulations, and guidelines outlined in the competition document.

1.11.2. Non-Compliance

Any non-compliance with the competition regulations will be noted by the Committee for the Jury's consideration. The Jury's decision on such matters will be final and binding on all participants.

1.12. Intellectual Property Rights and Confidentiality

1.12.1. **Intellectual Property Rights –** The Intellectual Property Rights (IPR) of the ideas, concepts, and the submitted designs will vest with the author. However, NHLML reserves the right to use the ideas, concepts, and designs submitted by participants, with or without modifications, in phases as deemed fit, for the development of the Inter Modal Station (IMS) and its components, either in part or in full.

1.12.2. **Confidentiality –** Participants must treat all information provided by NHLML for the purpose of the design competition as confidential. Disclosure of such information to any third party is prohibited without prior written permission from NHLML.

1.12.3. **Ongoing Obligations –** These confidentiality obligations will remain in effect during the competition and continue even after the competition's completion.

1.12.4. **NHLML Rights –** NHLML reserves the right to cancel, extend, or reject the Design Competition at any time, without any reason, at their discretion.

These clauses protect the confidentiality of the design process and ensure that NHLML has the legal right to use submitted concepts while respecting the intellectual property of participants.

1.13. Disclaimers

1.13.1. **Liability –** NHLML/CoA is not responsible for any erroneous, damaged, destroyed, lost, late, incomplete, illegible, or misdirected entries, or any damage or loss related to the competition, submission, or participation, regardless of cause or fault by the organizer, committee, jury panel, or

anyone responsible.

1.13.2. **Cancellation or Modification –** NHLML/CoA can cancel, modify, or suspend the competition at its discretion. Participants are not entitled to compensation due to such changes.

1.13.3. **No Liability –** NHLML/CoA and its employees, advisors, or consultants make no representation or warranty, and will not be liable for any loss, damages, costs, or expenses incurred by participants in relation to this competition document.

Annexure II

PROJECT REQUIREMENTS

The project site is situated at the base of the Venkateswara Swamy Temple, which stands atop the Tirumala Hills at an altitude of 853 meters (2,799 feet) above MSL. The temple is located on Venkatadri, the seventh peak of the Seshachalam Hills, which is part of the Eastern Ghats mountain range.

Tirupati City is located at a distance of 150 km and 250 km from Chennai and Bangalore respectively, while 109 km and 380 km away from Vellore and Guntur. The city is well connected with National and State highways. NH 71, NH 140, NH 716 and NH 565 passes through the city connecting respectively Madanapalle, Puthalapattu, Chennai and to NH 65.

The Inter-Modal Station (IMS) will be developed on a 13.27-acre site at the existing APSRTC bus station, catering to both local and long-distance buses. It will serve as a key transit hub, accommodating all transport entering Tirupati via State Highway 71 (SH 71), Tirupati Main Road (connecting to NH 716 towards Chennai), and Jayasam Road (linked to NH 71 and other arterial roads). The IMS will be designed with sufficient capacity to manage diverse vehicle types, ensuring seamless entry, exit, and integration of multiple transport modes for an efficient and well-connected mobility network.

The approved Inter-Modal Station (IMS) will be developed as a state-of-the-art terminal, integrating multiple transportation modes into a single hub. It will facilitate seamless movement of passengers between rail, road, air (helipad), buses, auto-rickshaws, taxis, and private vehicles, ensuring efficient and convenient transit connectivity.

EXISTING SITE CONDITIONS

The **APSRTC Central Bus Station** in Tirupati is a pivotal transportation hub, facilitating connectivity across Andhra Pradesh and neighbouring states like Tamil Nadu, Karnataka, and Telangana. Spanning approximately **13.27 acres**, it ranks as the third-largest bus station in Andhra Pradesh.

Key Existing Infrastructural Features:

- The complex comprises four distinct bus stations, RM's office, shopping complex and APSRTC bus depot. Total vehicular entry and exit points to the terminal are 6. Daily passenger flow is approximately 1.67 lakhs
    - **Srihari Bus Station:** Handles eastern-bound inter-state bus services.
    - **Srinivasa Bus Station:** Caters to west-bound inter-state destinations
    - **Edukondalu Bus Station:** Specifically utilized for bus services to Tirumala.
    - **Pallevelugu Bus Station:** Serves numerous rural routes, facilitating travel between villages and towns across the state.
- **Existing Platforms:** Collectively, these stations house a total of **66 platforms**, accommodating a high volume of bus traffic efficiently. The bays, angled at 45°, have a width ranging from 3.7 to 3.8 meters. Out of 66 platforms, 63 are designated for boarding and alighting, while 3 serve as idle parking bays.
- **Existing Parking:** A dedicated bus maintenance facility is available within the terminal premises. Parking facilities include 30 slots for staff, 210 slots for passengers, and a common parking area accommodating 1,068 ECS.
- **Existing Passenger Amenities:**

Facilities	Details
Seating	Available
Drinking Water	Available and accessible
Restrooms	Separate for men and women
Enquiry Counters	Available
Public Address System	Available for announcements

Cycle/Scooter Stand	Yes
Refreshment Stalls	Available for tea, cold drinks, books
Advance Reservation Counters	Available
Weighing Machines	Yes
Telephone Booths	Public telephones
CCTV Surveillance	Yes
Porter Trolley & Wheelchair	Available for assistance

Connectivity: Strategically located near the Tirupati Railway Station, the bus station has potential for seamless intermodal connectivity, enabling smooth passenger transitions between rail and road transport.

Existing Bus Operation & Terminal Data – CBS Tirupati

Category	Details
Average Daily Bus Operations	3,673 buses
Peak Hour (Inter-State Buses)	11:00 – 12:00
Peak Hour (Rural Buses)	06:00 – 07:00
Peak Hour (Tirupati Buses)	06:00 – 07:00
Average Headway (Inter-State)	33 minutes
Average Headway (Rural)	41 minutes
Average Headway (Tirupati)	7 minutes
Total Bus Bays	66 (including 3 for idle parking)
Daily Passenger Volume	1,68,000 passengers
Total Staff & Crew (State Corps.)	256
Total Service Staff	110
Max Bus Trips (Brahmotsavam)	172 downward trips (Tirumala to CBS) during 16:00–17:00 on Day 5
Alipiri Tollgate Vehicle Count	23,18,912 vehicles (January to October 2022)

ROAD CHARACTERISTICS:

Details of major road network around the site.

Parameter	Category	Percentage
Right of Way (RoW)	≤ 11 m	26%
	11 – 20 m	46%
	21 – 30 m	23%
Carriageway Type	Divided CW	58%
	Undivided CW	22%
Footpath Availability	No footpath on either side	74%
Abutting Land Use	Residential & Commercial	86%
On-Street Parking Presence	Roads with on-street parking	67%

FOOTFALL STATISTICS:

Day Type	Number of Pilgrims
Normal Day (Current)	70,000 – 80,000
Peak Day (Current)	1,00,000
Peak Day (Projected for 2050)	1,50,000

SITE-SPECIFIC CONSIDERATIONS

The design considerations should effectively address existing infrastructure challenges, passenger flow, and multimodal connectivity, ensuring seamless integration. Compliance with the regulations of APSRTC, South Central Railway, and Tirupati Municipal Corporation shall be strictly adhered to, ensuring alignment with statutory guidelines and operational requirements. These considerations should include, but are not limited to, the following aspects.

1. Analysis of Existing Infrastructure

- **Current Facilities:** APSRTC bus stand serves local and long-distance buses, while Tirupati Railway Station connects major cities.
- **Land Utilization:** Optimize the existing bus stand space while integrating railway and future metro links.
- **Traffic Congestion:** Heavy pedestrian and vehicle movement due to temple visitors and local commuters.
- **Environmental Concerns:** The APSRTC site in Tirupati faces air

pollution from diesel buses, waterlogging caused by seasonal monsoon, waste mismanagement, noise pollution, urban heat effects, and loss of green cover impacting biodiversity.

2. Multimodal Integration

Seamless connectivity between rail, road, air (helipad), buses, taxis, auto-rickshaws, and private vehicles for efficient passenger movement.

- **Spacious Parking Zones –** Dedicated parking for buses, taxis, auto-rickshaws, private vehicles, and two-wheelers. Provision for public bike sharing (PBS) stations should also be there.
- **Multi-Level Car Parking (MLCP) Facility –** Efficient vehicle parking system with direct connection to the arrival and departure terminals through vertical circulation.
- **Passenger Amenities –** Modern waiting lounges, ticketing counters, restrooms, food courts, and retail spaces. Passenger Terminal Building with Facilitation Centre
- **Traffic Management System –** Smart entry/exit points ensuring smooth vehicular movement.
- **Rail & Bus Connectivity:** Ensure direct access between buses and railway platforms with FOB/skywalks or underground subways (if site situation permits) for seamless travel. Well-structured bays for APSRTC, intercity, and local buses, ensuring smooth operations.
- **Helipad Facility –** Dedicated area for air connectivity, including emergency and VIP transit options.
- **Ropeway integration for future –** Future provisions for ropeway integration should be incorporated into the design.
- **Public Transport Terminals –** Designated bays for APSRTC buses, intercity coaches, and local transport.
- **Metro/Rapid Transit Provisions:** Plan for future metro connectivity to Tirumala foothills and airport.
- **Last-Mile Connectivity:** Dedicated zones for autorickshaws, taxis, Intermediate Public Transport (IPT), Yatra Reservation Counter (YRC) and app-based cabs. Dedicated pick-up and drop-off bays for each mode of transport are essential.
- **Cycle & Pedestrian Paths:** Separate lanes for safe movement,

avoiding conflicts with bus traffic. Safe walkways, skywalks, and escalators for hassle-free movement.

3. Passenger Facilities & Experience

- **Seamless Transit:** Integration of bus and rail ticketing with a single smart card.
- **Waiting Lounges:** Comfortable air-conditioned seating, food courts, and resting zones.
- **Luggage Handling:** Automated baggage transfer for train-bus passengers.
- **Wayfinding & Digital Signage:** Real-time bus/train updates via LED boards and mobile apps.

4. World-Class Passenger Amenities (but not limited to)

- Passenger Lounge – Comfortable waiting spaces as per required occupancy load.
- Arrival departure terminals – separating departing and alighting passenger flow and one-way security check provisions.
- Toilet/Washroom Facilities – should be universally accessible.
- Drinking Water Stations – Ensuring passenger convenience.
- Medical Facility/Pharmacy/Baby Care – For emergency and health needs.
- ATM Facility – Easy banking access for travellers.
- Souvenirs & Publications – Religious and cultural mementos.
- Cloak Room Facility – Secure storage for passenger belongings

Commercial facilities

- **Hospitality Services –** State of the art Hotels, guest lounges, and resting areas for travellers and pilgrims.
- **Retail & Commercial Spaces –** Shopping zones, food courts, convenience stores, souvenir stores.

5. Sustainability & Green Initiatives

Sustainable approach should include electric buses, EV charging stations, improved drainage, rainwater harvesting, waste recycling, sound barriers, and tree plantations to enhance sustainability and urban resilience.

- **Solar Power Utilization:** Solar panels on rooftops for energy efficiency.
- **Rainwater Harvesting:** Collect and reuse rainwater for station maintenance.
- **Green Cover:** Create shaded waiting areas with vertical gardens and tree plantations.
- **Waste Management:** Segregation bins and composting units.

6. Traffic & Operational Planning

- **Dedicated Lanes:** Separate bus bays, taxi zones, and pedestrian corridors to reduce congestion.
- **Parking Infrastructure:** Multi-level parking for private vehicles with real-time slot availability.
- **Peak-Hour Crowd Management:** Smart AI-based crowd monitoring and route diversions during high traffic.

7. Smart Infrastructure & Technology

- **Automated Ticketing & Entry:** QR code-based entry for buses and trains.
- **Information & Signage Systems –** Digital displays and multilingual signage for better traveller assistance.
- **Real-Time Passenger Information System:** Mobile app integration for bus/train schedules.
- **Security & Surveillance:** 24/7 CCTV monitoring, emergency call buttons, police outposts, and emergency response systems for passenger safety and AI-based crowd detection infrastructure.

PROJECT BRIEF

S.No.	Particulars	Design Criteria (Min.)	Area (Sqm)
A.	**Site Details**		
	Total Plot Area		**53340**
	Maximum Ground Coverage	**Minimum coverage should be 50% of the podium block subject to a minimum of 3M in any side**	

S.No.	Particulars	Design Criteria (Min.)	Area (Sqm)
	Maximum FAR	**as per latest edition of Andhra Pradesh building byelaws**	
B.	**IMS Components**		
1	**Bus Terminal**		**12000 - 15000**
	Bus Bays	**145**	
	Interstate Buses	3,467	
	Rural Buses	734	
	Buses for Tirumala	453	
	Current darshan capacity:	1 lakh	
	Target darshan capacity:	1.5 lakhs	
2	**Parking for Cars/ Taxis/ 2-wheelers (2500 - 3000 ECS)**		**30000 - 50000**
3	**Hotels**		**20000 - 30000**
	No of Hotel Rooms	**600**	
	5-Star/ 4-Star	60	
	3-Star	250	
	2-Star	300	
4	**Commercial/ Retail Areas**		**15000 – 20000**
5	**Office Areas**		**2000 – 3000**
6	**Inter-Modal Connectivity**		
	IPT Stand (100 Bays)		
	Pick-up/ Drop-Off Bays (50 Bays)		
	Provision for Roof Top Helipad Connectivity		
	Provision for Ropeway connectivity to Tirumala		
	Proposal for Integration with the existing Railway Station		

Note:

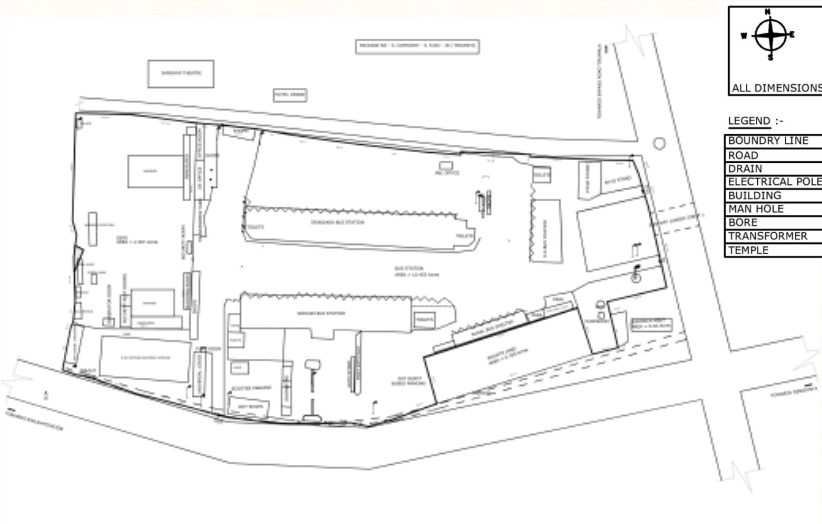
i) *The architect to confirm and design in accordance with the Local Bye Laws and norms of a public infrastructure facility.*

ii) *The focus should be to keep the design cost effective, efficient and create an iconic presence.*

GOOGLE MAP

PROPOSED SITE

TOPOGRAPHICAL SURVEY PLAN



ALL DIMENSIONS ARE IN FEETS

LEGEND :-

BOUNDRY LINE	
ROAD	
DRAIN	
ELECTRICAL POLE	
BUILDING	
MAN HOLE	
BORE	
TRANSFORMER	
TEMPLE	