



# **TRANSPORTATION SOLUTIONS FOR UPCOMING**

***ARDH KUMBH MELA -2019***

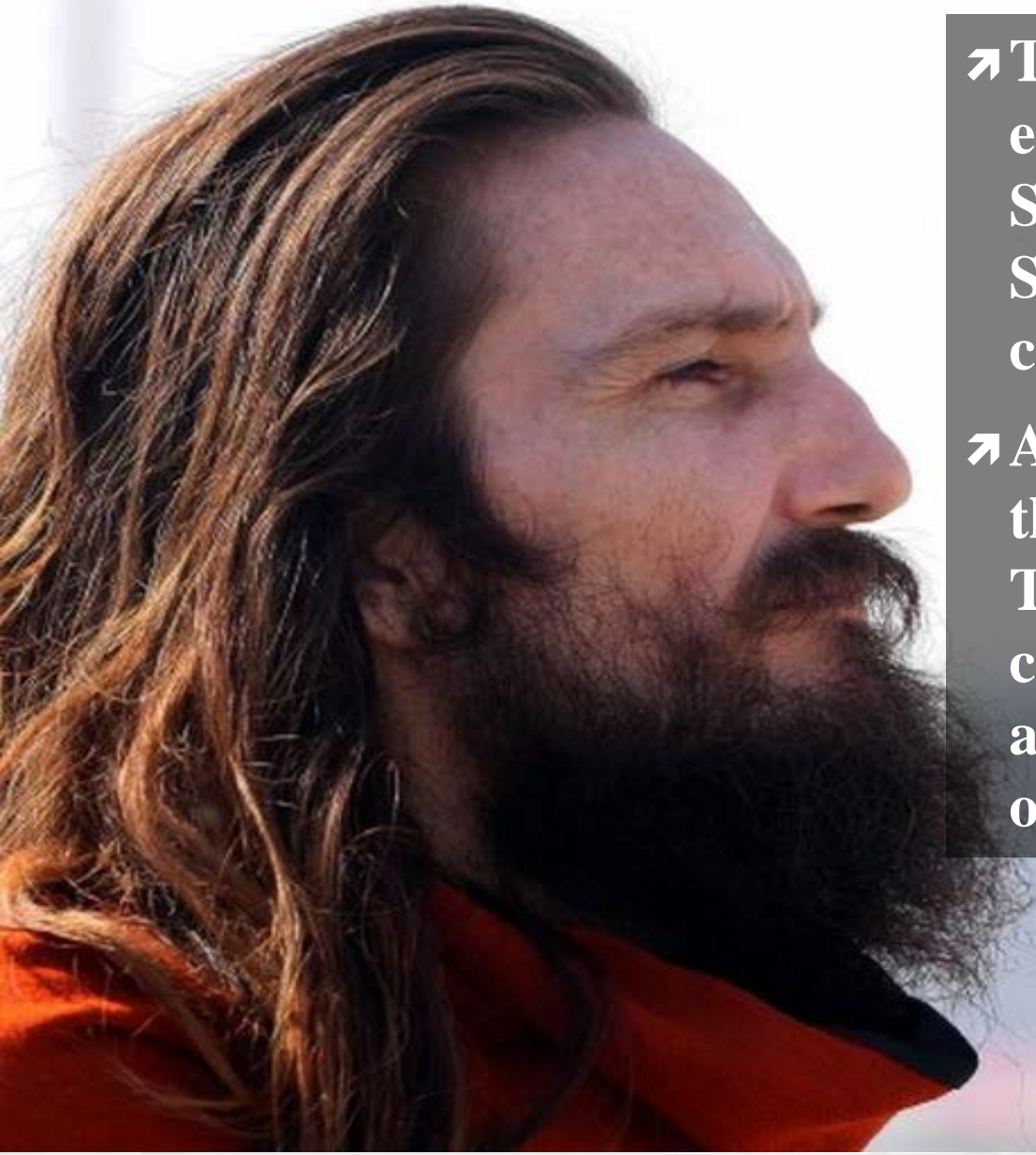
**ALLAHABAD**

**Presented by:**

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- 2. ANSHOO PANDEY**
- 3. S.K. SHUKLA**



# LEGEND OF KUMBH



- The Kumbh is celebrated every 12 years when the Sun, Moon, Jupiter and Saturn come into a definite conjunction
- Allahabad finds mention in the travel accounts of Hiuen Tsang and Al-Beruni- corroborating the cultural and historical significance of the place





# BREATHTAKING SHEAR MAGNITUDE



- Once in every 12 years, tens of millions of Hindus gather in Allahabad for what is thought to be the largest congregation of humanity in the world — the Maha Kumbh Mela.
- In 2013, the 55-day gathering drew from **30 million to 80 million** people, depending on various estimates, who camped on the river banks in makeshift shanties and tents.
- Islam's annual Hajj brings around **3 million to 5 million** pilgrims from around the world to Makkah, the faith's holiest sites.
- Up to **3 million** Shia pilgrims every year make their way on foot to a gold-domed shrine in Karbala, about 90 km south of the Iraqi capital of Baghdad.





**FROM A SERENE RIVER BANK .....**



**...TO A MILLION PLUS CITY**





# LAYOUT PLANNING



- 1,936.56 Ha planned on a grid pattern
- 14 sectors planned as self sustainable units
- Integrated market and offices in each sector





# ELECTRICITY IN KUMBH MELA



➤ Uninterrupted electricity to all non-commercial camps







# ELECTRICITY IN KUMBH MELA



➤ **Fail – Safe Design Mechanism  
with Contingency Plan**







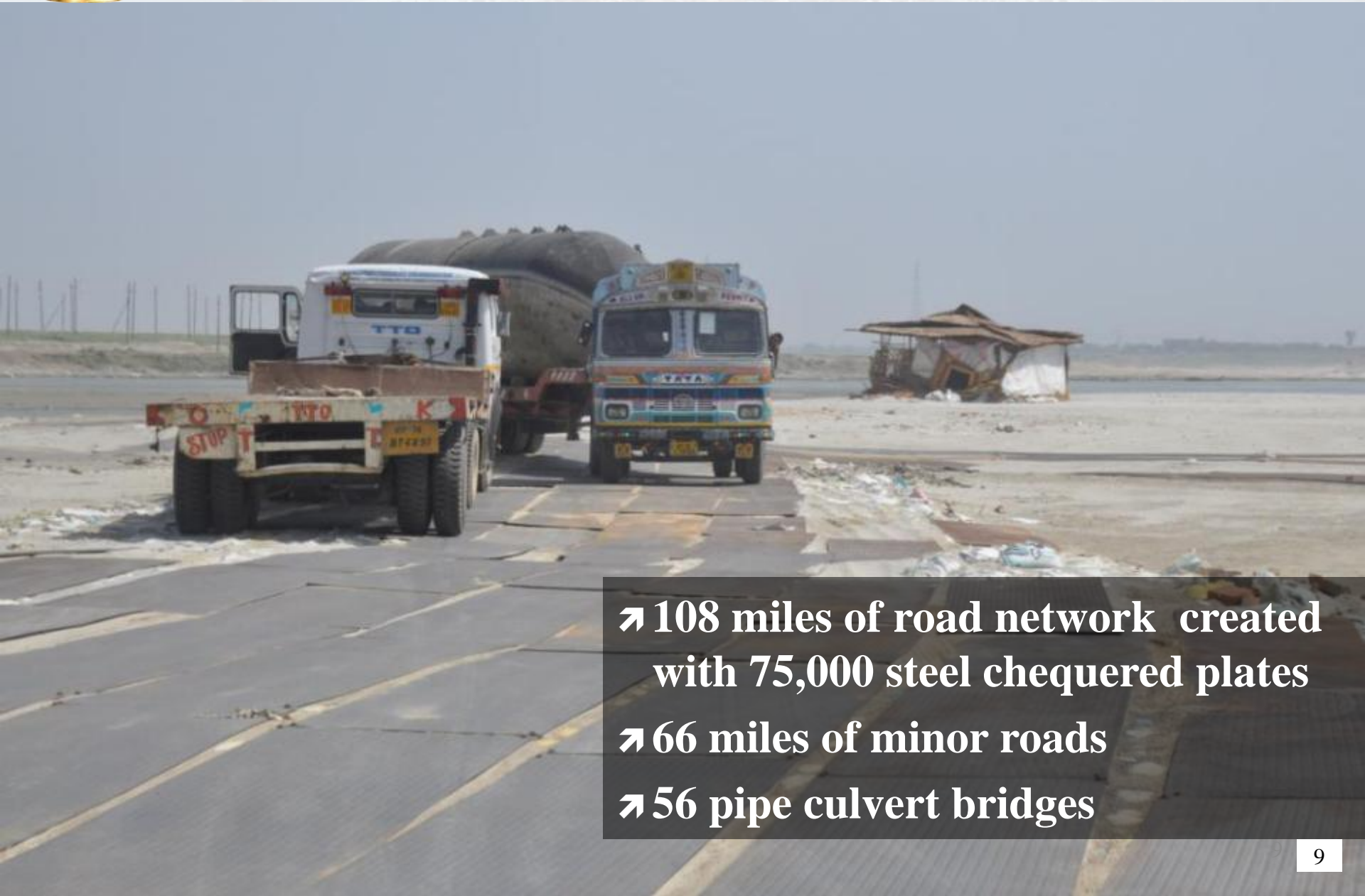
# NIGHT VIEW OF KUMBH CITY







# ROADS



- 108 miles of road network created with 75,000 steel chequered plates
- 66 miles of minor roads
- 56 pipe culvert bridges





# PONTON BRIDGES

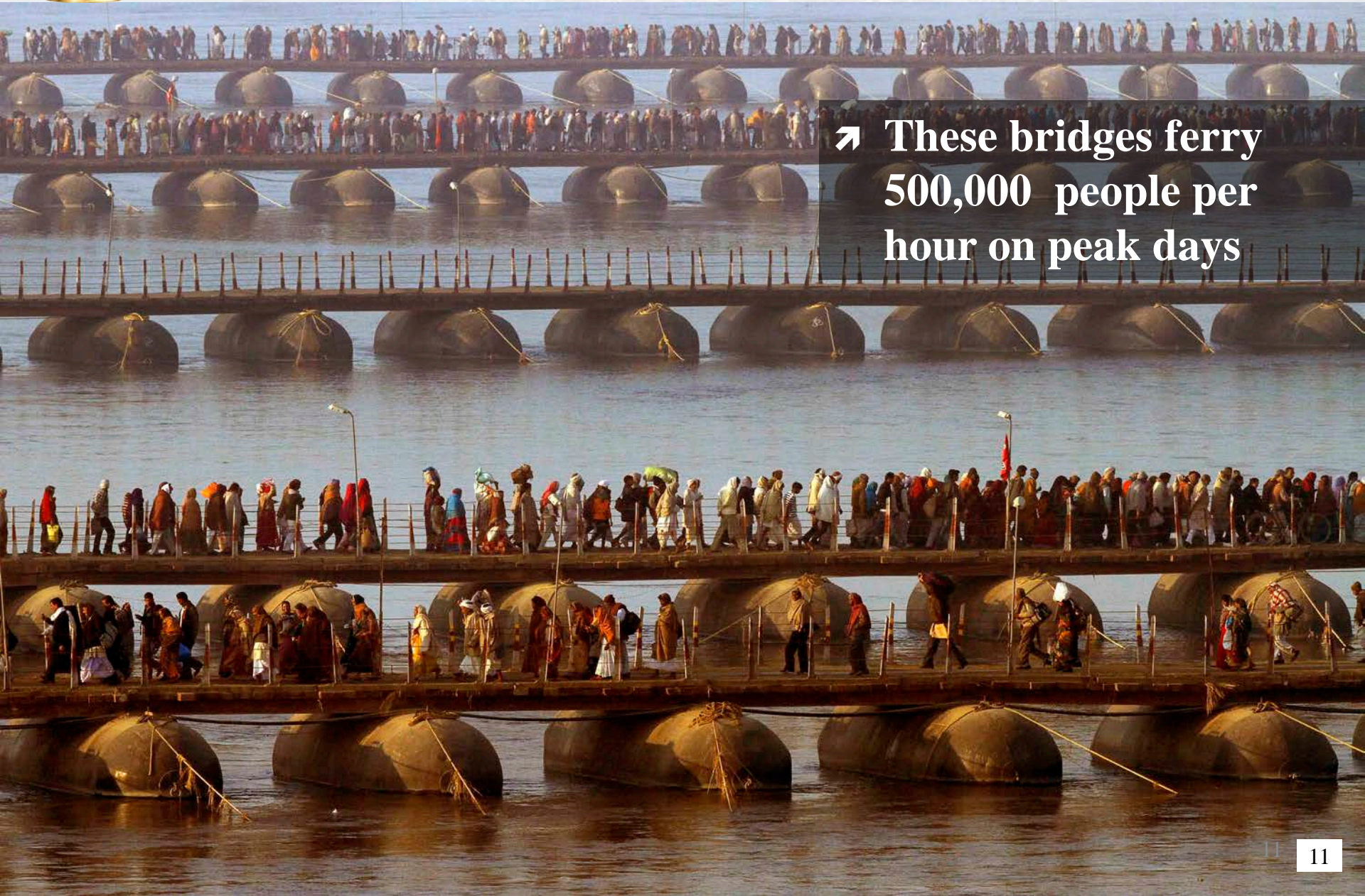


➤ 18 pontoon bridges  
using 1,537 pontoons





# PONTON BRIDGES



➤ These bridges ferry 500,000 people per hour on peak days





# BATHING GHATS



- 22 Ghats cover 3.5 miles
- 18 temporary ghats and 4 permanent ghats





# BATHING GHATS



➤ Deployment of security forces and barricading for safe bathing







# ENSURING ADEQUATE CLEAN WATER



➤ Monitored more than 600 polluting industrial units upstream of Allahabad



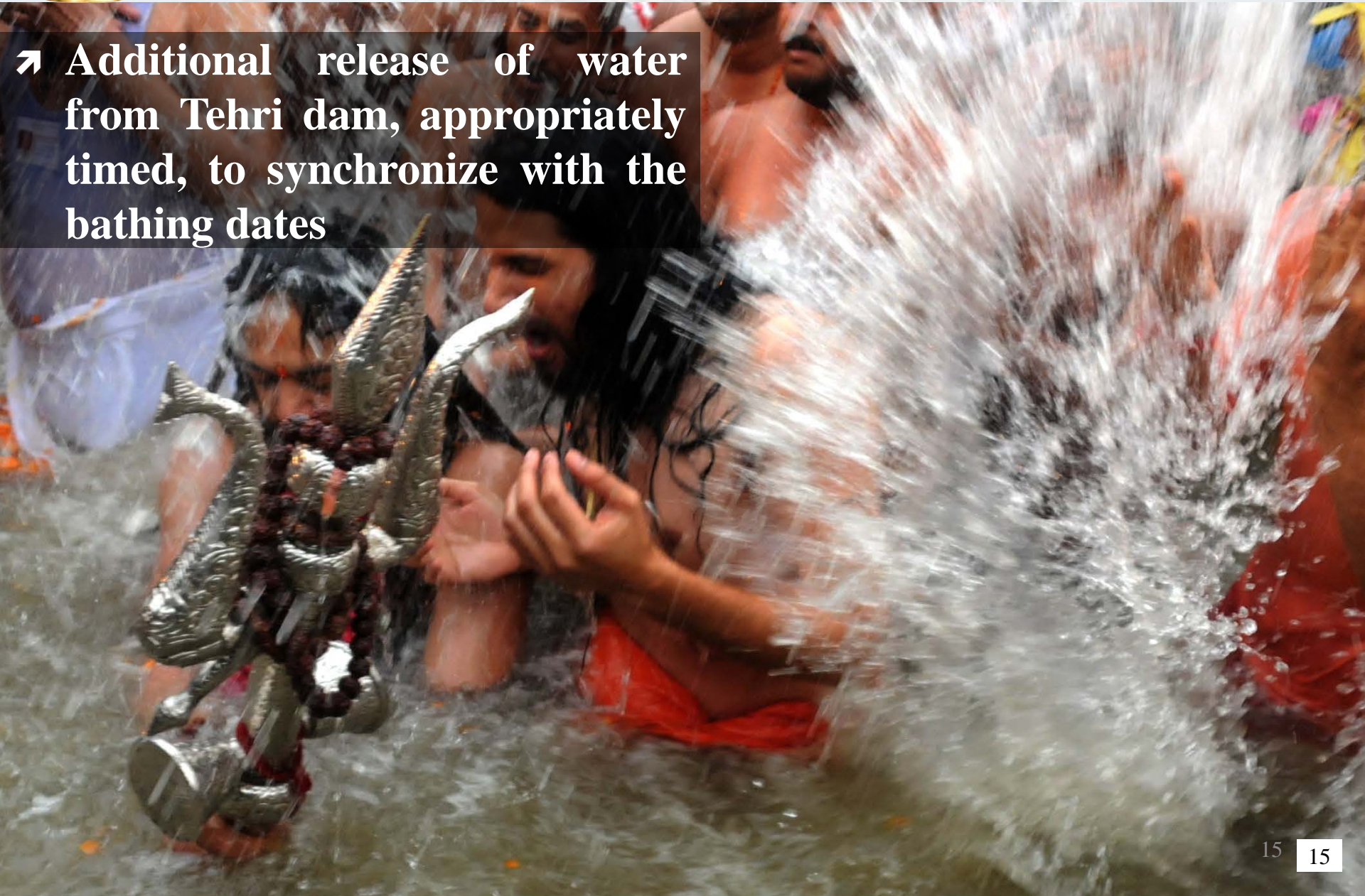




# ENSURING ADEQUATE CLEAN WATER



➤ Additional release of water from Tehri dam, appropriately timed, to synchronize with the bathing dates







# DRINKING WATER



- 92 MLD of drinking water
- 5,350 KL storage capacity







# HEALTHCARE



- A central 100-bedded multi-speciality hospital
- One hospital in each of the 14 sectors
- Preventing breeding of mosquitoes and flies







# HEALTHCARE



- 123 ambulances, 4 river ambulances
- Disaster management kits







# SANITATION



- 34,000 toilets
- Zero discharge toilets with bio-digester technology







# SANITATION



- 96 MT of garbage removed per day
- Efficient collection and transportation mechanism for solid waste
- 7,000 sanitation workers deployed round the clock





# GOVERNMENT



- 6 Central Government departments
- 28 State government departments



सत्यमेव जयते







# PILGRIMS



➤ Pilgrims from  
over 75 countries







# A SHARED VISION



- To ensure a safe, secure and comfortable stay for the visitors
- To amalgamate technology and tradition in a seamless manner preserving the sanctity of the mela







# CROWD MANAGEMENT



- Evacuation strategy
- Policing without weapons
- Ease of location - Identification- Poles with pictorial signage
- Scanning the Mela area 3 times per hour







# SECURING THE EVENT



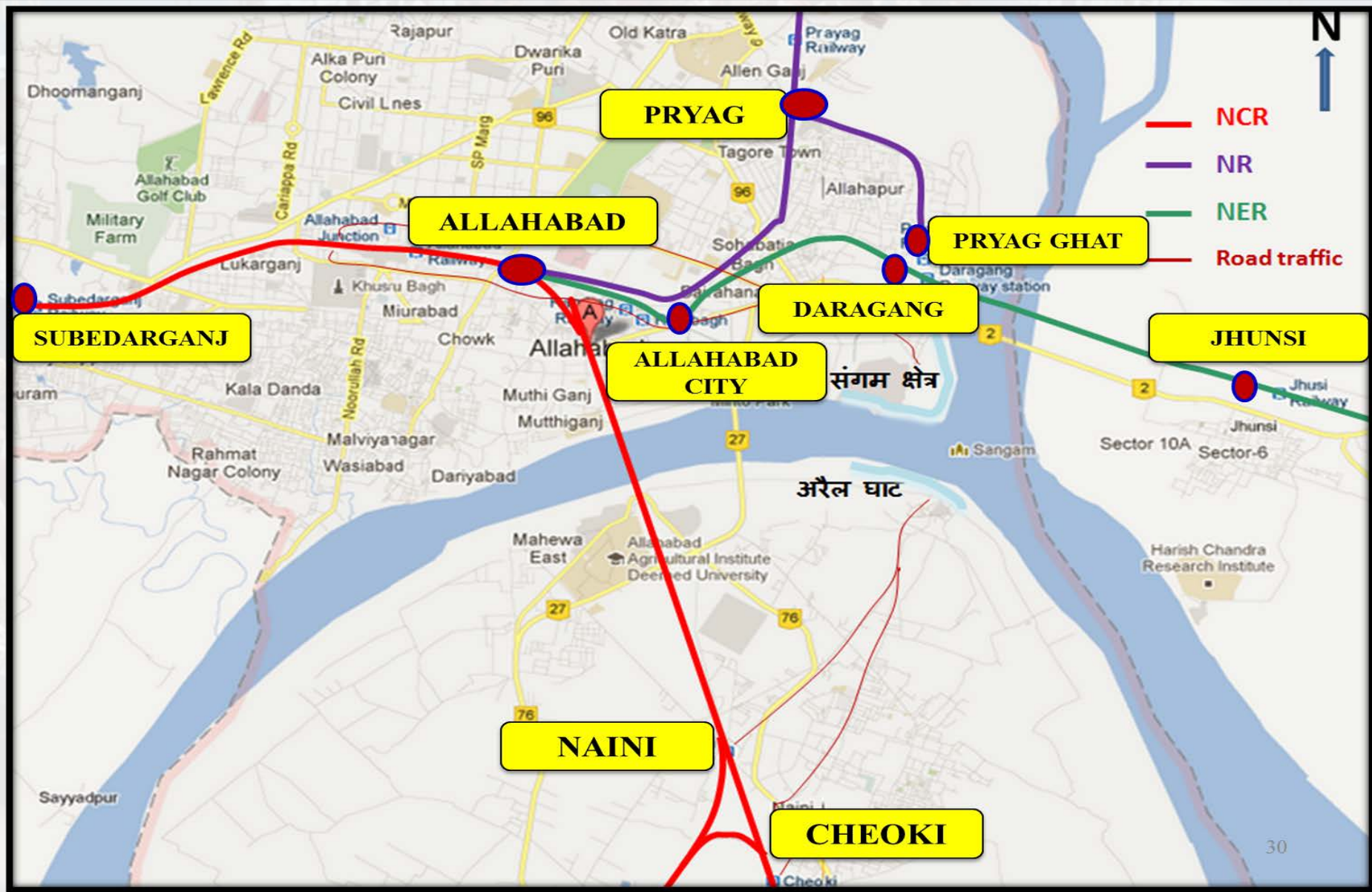
- 24x7 scanning of area
- Highly visible security checks
- Improvising security mechanisms







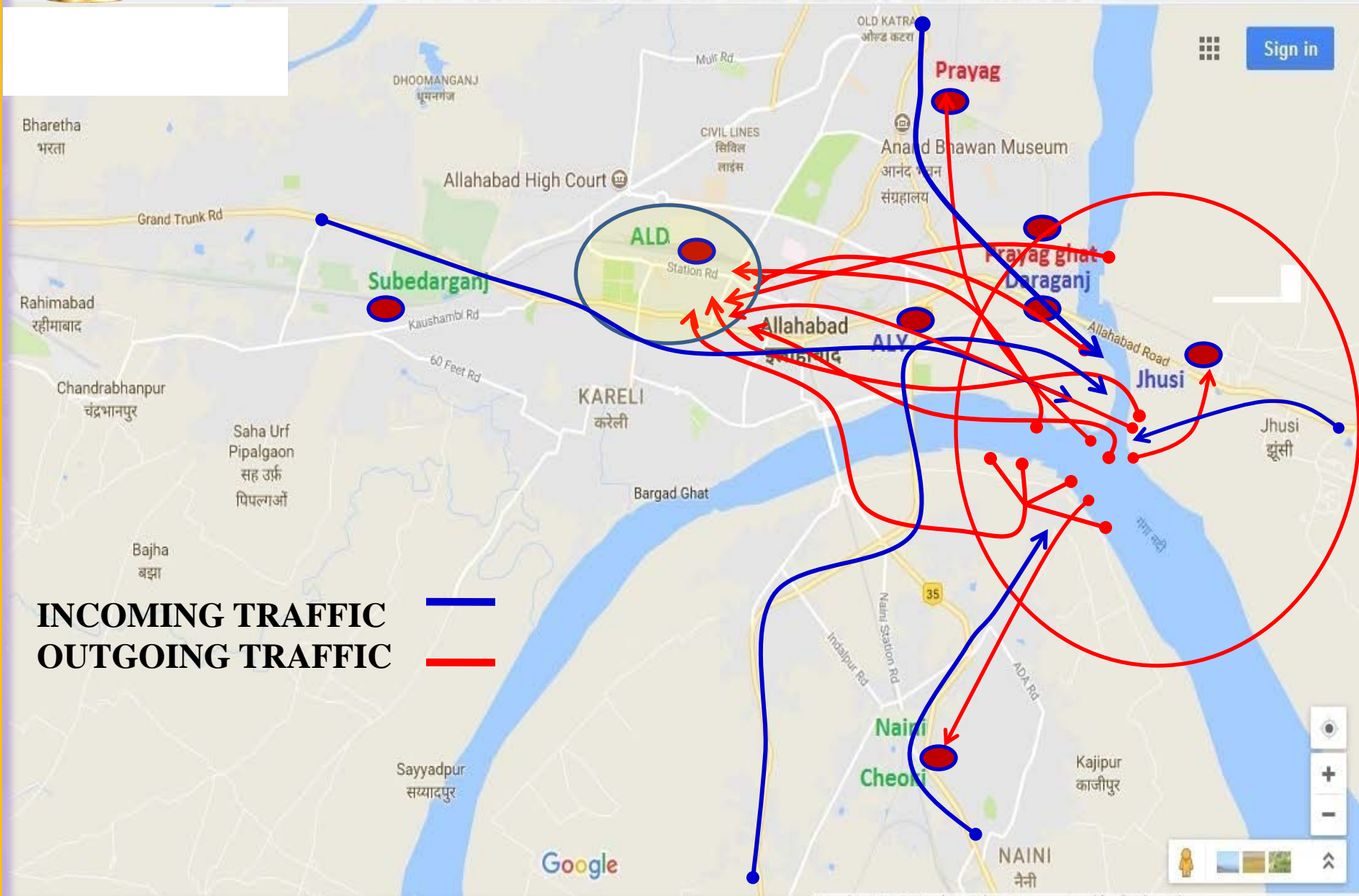
# IMPORTANT RAILWAY STATIONS FOR PILGRIMS







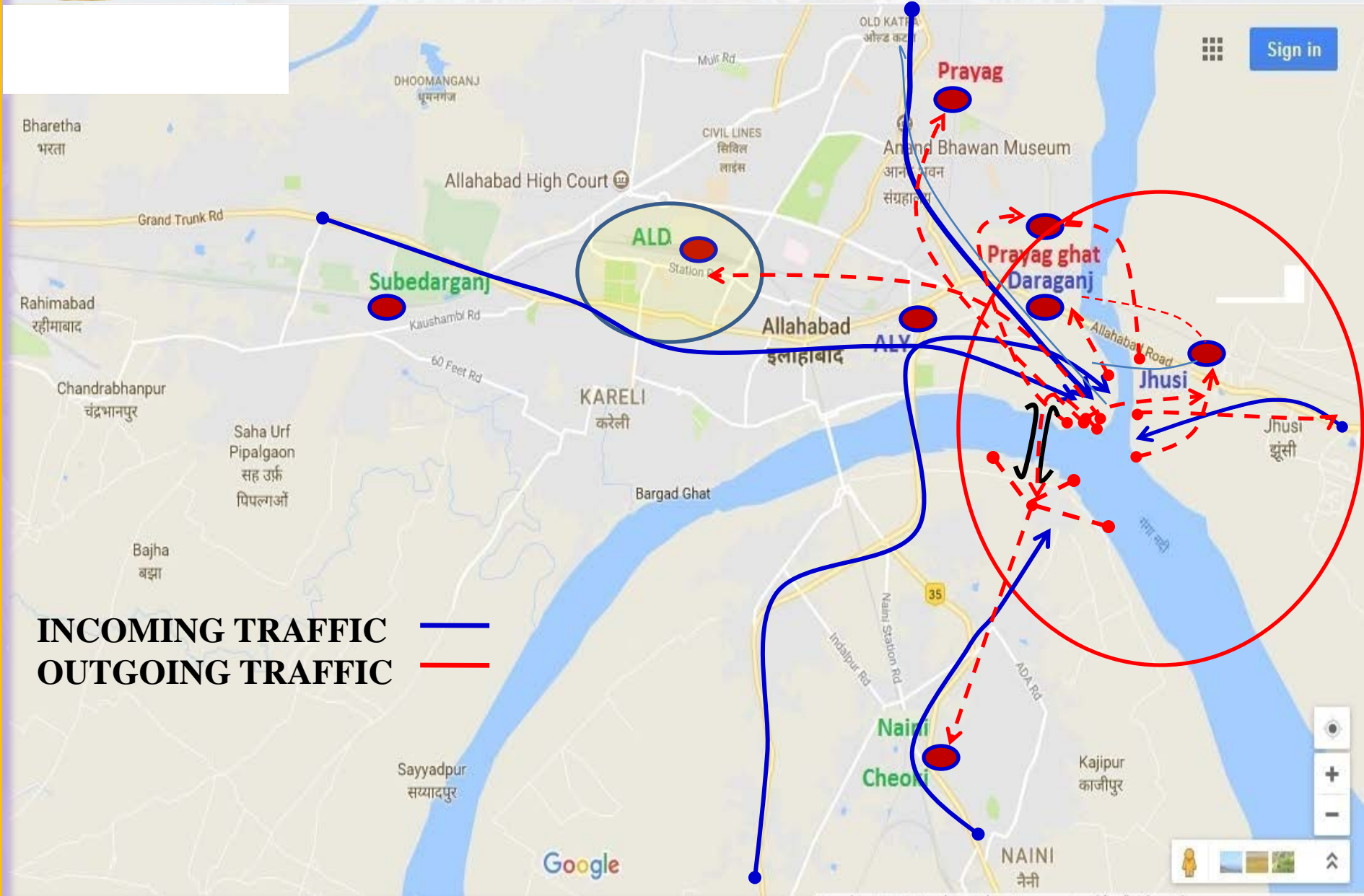
# TRAFFIC FLOW







# PROPOSED TRAFFIC FLOW







# CHALLENGES



- Crowd management
- Heavy congestion at important junctions and management of crowd.
- Multiplicity of agencies involved but lack of coordination and no unified control to evacuate Mela rush.
- Infrastructural constraints.
- No correct assessment of crowd available.





# MODE – TRAIN SERVICE



- Special Trains
- Augmentation of coaches in scheduled trains.
- Additional stoppages to scheduled trains as per demand.
- Directional movement at Allahabad junction.
- Integration of various modes of transport.





# MODE – TRAIN SERVICE



## Problem:-

- Overcrowding of FOBs at stations.

## Solution:-

- Give end platforms on both ends.
- The problem can easily be tackled by minimum use of FOB at the station.

## Action Plan:-

- New end platform on civil lines end (Platform No 11) work sanctioned.
- For Platforms where FOB usage is inevitable - FOBs have been widened and uni-directional movement of passengers/pilgrims is being planned, so that the congestion at the meeting points are avoided.





# MODE – TRAIN SERVICE



## Problem:-

- Uncertainty of traffic and destination of traffic both depending on the peak rush.

## Solution:-

- If the pilgrims are informed about the timings of the trains well in advance they can plan their journey as per the schedule.

## Berthing Mela Spl Trains. (Direction wise) :- Ex. ALD –

PF No. – 01	- Mela special for UP direct.(CNB/TDL/NDLS).
PF No. – 2/3	- Mela special for UP direct.(CNB/TDL/NDLS).
PF No. – 4/6	- Mela special for DN direct.(MGS/DHN/HWH).
PF No. – 7/8	- Mela special for ALD CITY (BSB/GKP).
PF No.- 9/10	- Mela special for LKO/FD/JNU/PRG direction.
PF No.- 11	- Mela special for LKO/FD/JNU/PRG direction.





# MODE – TRAIN SERVICE



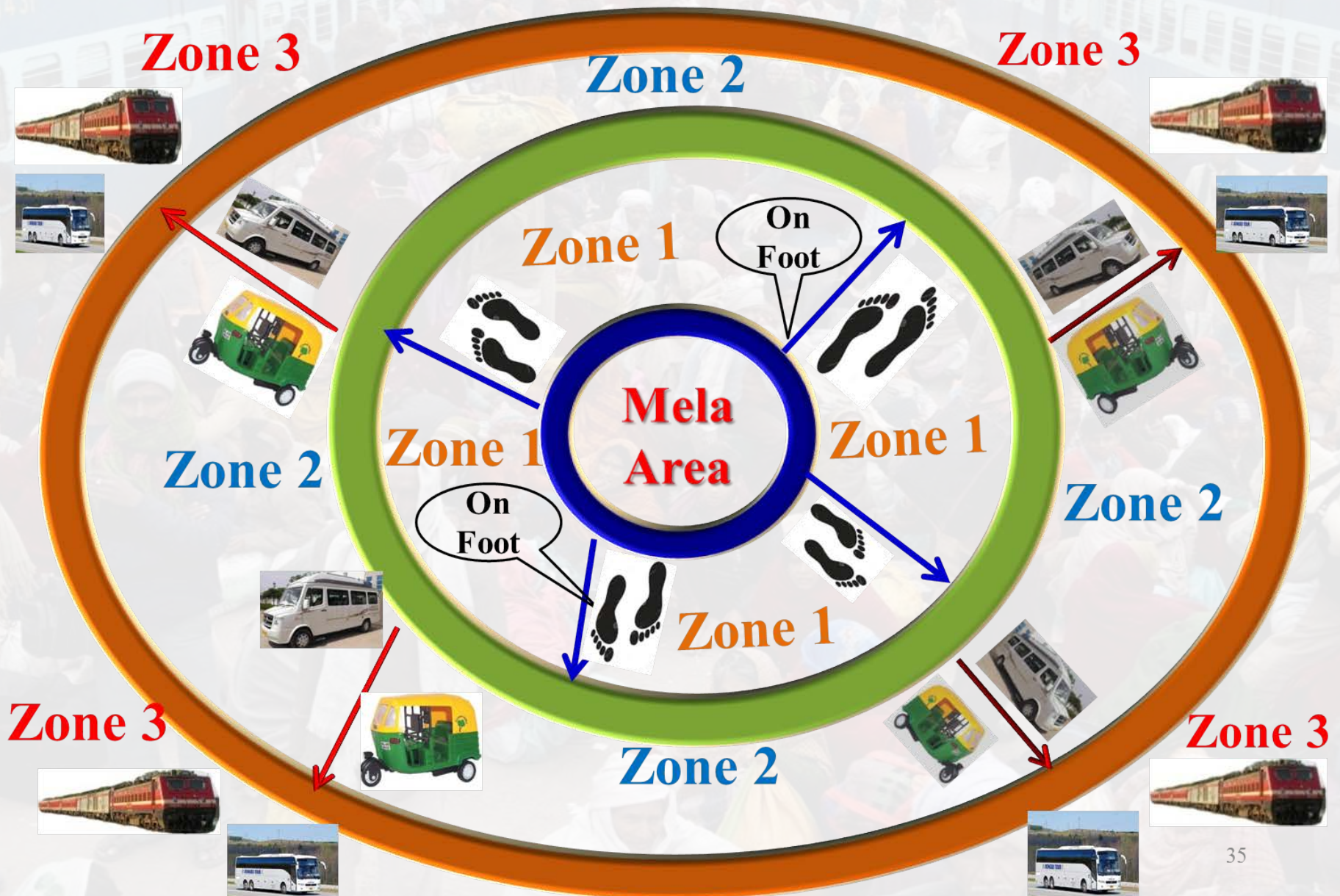
## Implementation:-

- Main FOB of Line Shah Baba has been widened.
- It has also been converted into 2 lane FOB.
- For faster evacuation of rush, sky walk is being constructed at ALD Station.
- ➔ This will help in diversion of Mela rush from one platform to another without accumulation of crowd at a specific place on the stairs.





# MODE OF TRANSPORT







# MODE – ROAD VEHICLES



## Last Mile/First Mile Connectivity:-

- Mini Buses, Taxis and Rickshaws:
  - ➔ Near bathing venue for expeditious evacuation of pilgrims.
  - ➔ Transporting them to out-skirts of the city, for further journey by Roadways Buses.
  - ➔ Micro planning to manage the huge crowd efficiently has been done in this regard.
  - ➔ Arrangement of several outer-circles in the City outskirts has been made, where pilgrims coming from different places will park their vehicles. They will reach inner circle by Mini Buses, Taxis and Rickshaws and to the bathing venue on foot.

( *Contd. on Next Slide...* )





# MODE – ROAD VEHICLES



## Last Mile/First Mile Connectivity:- ( *Contd. from last Slide...* )

- Research for mode of transports being used between Zone-1, Zone-2 & Zone-3 is as under to bring out the effective model where concerns of crowd safety management, entry and exit systems, steady flow of crowd is maintained.
- ➔ Enclosures will be constructed where pilgrims can wait for their turn to go to the bathing venue i.e. **Zone-1**.
- ➔ After taking bath they will come to **Zone-2** and wait for the Mini Buses, Taxis and Rickshaws in the enclosures from where they would be transported to **Zone-3**.

*(The distance between **Zone-3** and **Zone-2** is expected to be covered by Mini Buses, Taxis and Rickshaws over defined specific path assigned.)*





# ROAD VEHICLES – RESEARCH PLAN







# TRANSPORT – RIVER NAVIGATION



## Steamer & Ferry Boat Service:-

- It has been experienced that most of the pilgrims after taking bath during Kumbh Mela proceed for visiting holy religious places mainly situated on bank of river
- Presently these are connected through network of roadways and railways only.







# TRANSPORT – RIVER NAVIGATION



## Steamer & Ferry Boat Service:-

- If Allahabad to Varanasi stretch on the Ganga (Part of Proposed National Waterway – 1, Allahabad – Haldia) is made operational, it may help in transportation of pilgrims in large numbers leading to de-congestion of road and railways.
- Steamers and ferryboats can be pressed into service for clearing the rush to destinations which are on water routes i.e. Vindhyachal, Mirzapur, Varanasi, Rajapur (Chitrakoot) & Kausambhi.





# ISSUE OF MODAL BIAS



- One issue that appears to stand out starkly is the difference in fare between road transport and rail i.e. approximately more than three times.
- ➔ This not only adds pressure on the already saturated railway system but also leads to underutilization of the road transport mode.
- ➔ With the development of a road network, it is essential that this mode is utilized to its optimum capacity.
- ➔ During the mela period, the fares of rail and road transport should be kept same so that there is no extra incentive for people to use a particular mode of transport.





# CIVIL ADMINISTRATION - LIASIONING



## Accumulation of Mela rush en-route and in station area:-

### ➤ Solution:

- ➔ There can be no accumulation of rush en-route and in station area if efficient coordination between rail transportation, road transportation with mediation of civil administration is maintained.
- ➔ Not more than 10 thousand pilgrims should be allowed by Civil administration to move from the catchment area constructed en-route towards railway station.
- ➔ Until it is fully ensured by them from the Railway authorities that the enclosures provided at the station are empty and can accommodate pilgrims further.





# CIVIL ADMINISTRATION - LIASIONING



- ➔ Simultaneously, all efforts should be made by the Railways to **clear the rush waiting in the enclosures** as expeditiously as possible by providing them trains at regular intervals.
- ➔ **Directional flow of traffic** needs to be maintained to avoid overcrowding on FOBs.
- ➔ During the escorting of rush from catchment area to the platform where trains have been placed, it should be ensured **that no rush is arriving from the opposite direction** on FOBs.
- ➔ **Encroachment in circulating area** and approach road of both these stations need to be cleared by Civil authorities to ensure free flow of Mela rush.





# CIVIL ADMINISTRATION - LIASIONING



- **Hold up areas** in prominent colleges such as K.P. College, G.I.C & C.A.V should be arranged where pilgrims can be accommodated to avoid over rush en-route.
- **Spacious school grounds** may be converted into enclosures for accommodating Mela rush.
- **Approach road to Subedarganj** station from G.T. Road may be widened in view of Subedarganj being developed as Terminal station by removing its encroachment.
- Widening of existing RUBs, early completion and construction of ROB & Bridges in the city.
- Remodeling and capacity augmentation of all major Bus terminals area needs to be done to ensure free-flow movement of Mela rush.





# STATIONS IN ALLAHABAD CITY AREA



## ➤ North Central Railway

- ➔ Allahabad Jn.
- ➔ Subedarganj
- ➔ Naini Jn.
- ➔ Allahabad Cheoki Jn.



## ➤ Northern Railway

- ➔ Prayag Jn.
- ➔ Prayag Ghat
- ➔ Phaphamau Jn.







# STATIONS IN ALLAHABAD CITY AREA



## Allahabad City Station

### ➤ North Eastern Railway

- ➔ Allahabad City
- ➔ Daraganj
- ➔ Jhusi







# CONCEPT – SATELLITE STATION



## Problem:-

- Presently Prayag, Allahabad City and Jhunsi Stations lie within the administrative jurisdiction of Allahabad but are administered by LKO & BSB Division.
- Due to this there is problem in better planning of resources and decision making and lack of coordination between the Railways.

## Solution:-

- These stations need to be transferred under the unified administrative control of Allahabad Division, which will help in better planning of resources and better decision making.





# CONCEPT – SATELLITE STATION



## Action Plan:-

- Prayag, Allahabad City and Jhunsi Stations shall be developed as satellite terminals like other big stations as New Delhi, Mumbai and Bengaluru.
- GKP-BSB bound trains shall be run ex- ALY and LKO/FD bound trains ex-PRG.
- This will help in reducing platform occupancy of ALD station and thus creating additional room for catering special Mela trains.



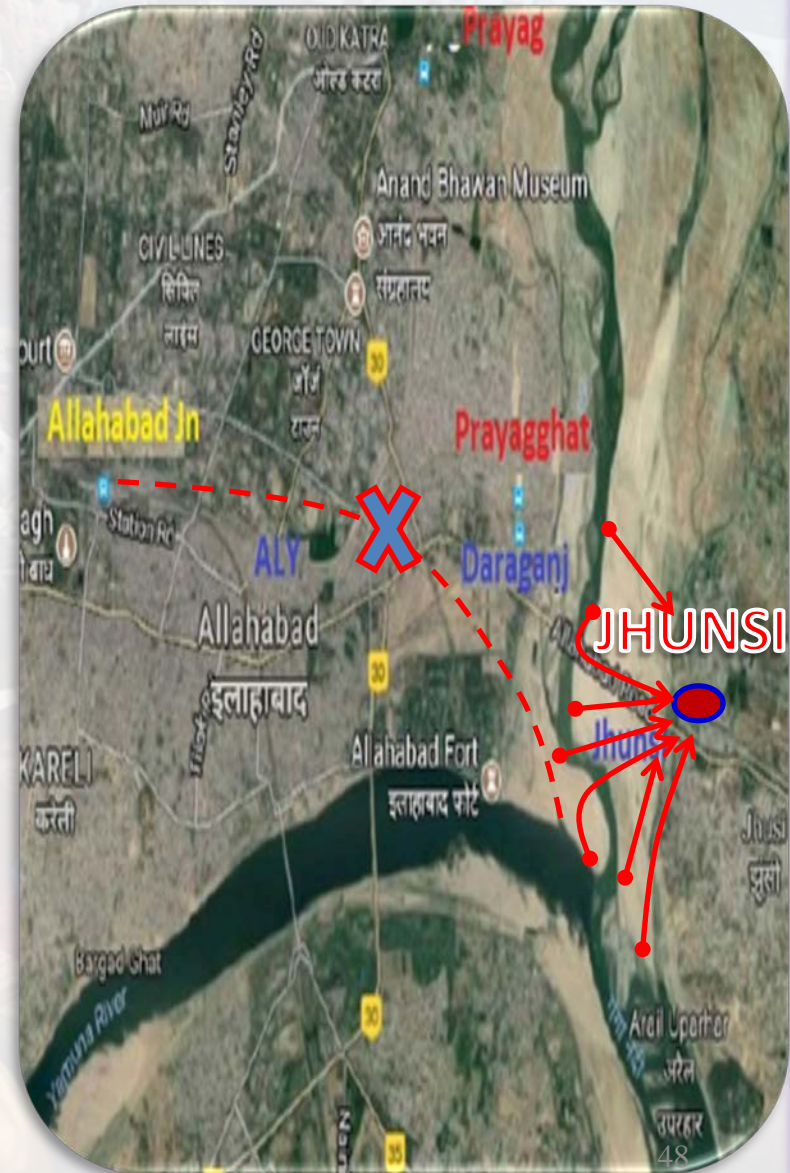


# CONCEPT – SATELLITE STATION



## Action Plan :-

- If Jhunsi is brought within the administrative control of Allahabad the large tract of land line on either side of the station can be gainfully utilized in construction of terminal station.
- Mela trains presently being dealt at Allahabad for CNB & BSB/MGS can be shifted to Jhunsi which is located near to the Mela area. This shall not only facilitate the pilgrims to reach the station conveniently but will also help in decongesting the route from Mela area to Allahabad Jn.







# CONCEPT – SATELLITE STATION



## Action Plan :-

- With the coming of Prayag & Prayag Ghat station and shifting of all originating LKO/FD bounds trains to PRG, presently being maintained at ALD, congestion of ALD North Yard pit lines will be considerably reduced making it more convenient to run additional Mela trains after maintaining it in the pit lines at ALD station.





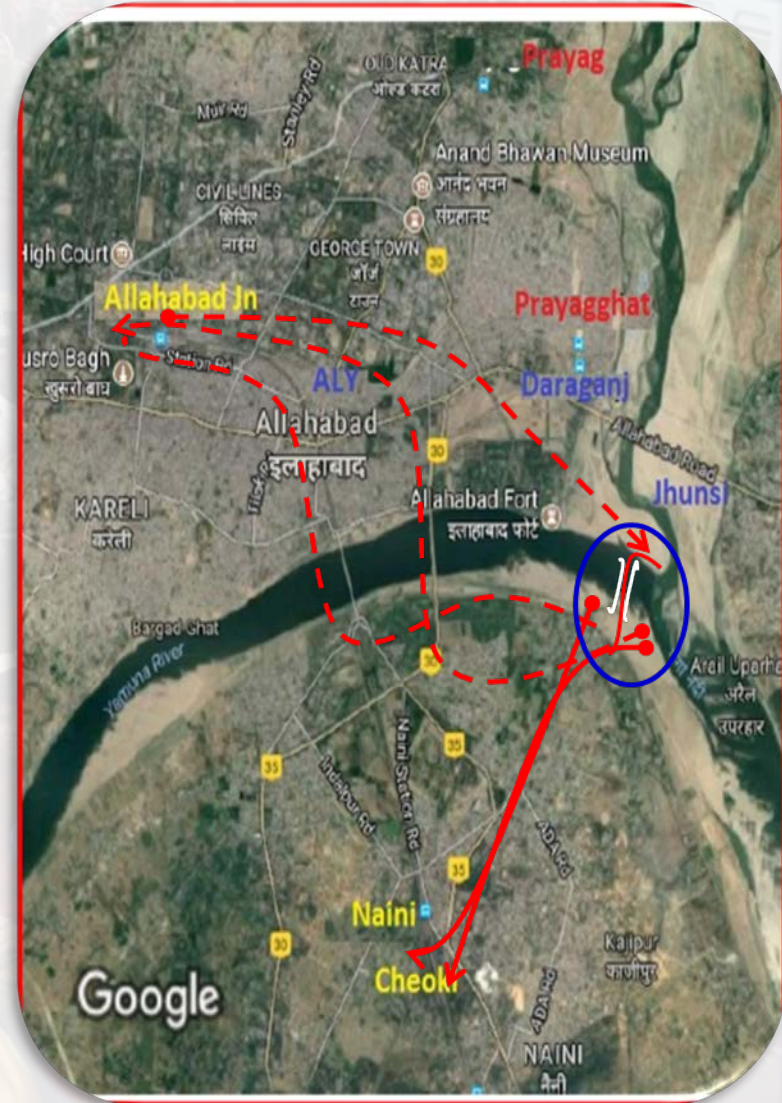


# CONCEPT – SATELLITE STATION



## Action Plan :-

- Conventionally the pilgrims of Mumbai, Jabalpur, Etarsi & Jhansi come to Allahabad during Mela and after taking bath once again return to the station to take the trains.
- If the approachability and access to the existing bathing area is developed in a new way by provision of pontoon bridge at sangam nose, the pilgrims will return back to NYN via new bridge, thus decongesting the route from Mela Area to Allahabad Jn.







# **CROWD – TRANSPORTATION TOWARDS VARIOUS DIRECTIONS**



## **Allahabad Jn.**

- Towards Kanpur, Mughalsarai, Satna & Jhansi

## **Naini Jn.**

- Towards Manikpur, Banda, Jhansi & Satna

## **Allahabad City**

- Towards Varanasi, Mau & Gorakhpur

## **Jhunsi**

- Towards Varanasi, Mau & Gorakhpur

## **Prayag**

- Towards Lucknow, Raibareilly, Faizabad, Unchahar & Jaunpur





# HANDLING MELA RUSH



## ➤ Tentative plan of No. of Special Trains

- ➔ Towards CNB = 15
- ➔ Towards MGS = 15
- ➔ Towards BSB/NER = 05
- ➔ Towards LKO/NR = 05
- ➔ Towards MKP(JBP/JHS) = 10





# INFRASTRUCTURAL WORK TO HANDLE MELA RUSH



- Construction of **additional PF No. 11** at Allahabad. The work is under progress and would be completed by October 2018.
- Construction of **Sky walk at Allahabad** to link all Platforms i.e. line No. 1 to 11 is in progress and shall be completed by October 2018.
- Broadening of **pedestrian bridge** of Line Shah Baba at Allahabad station is nearing completion.
- Work of installation of 6 **elevators at ALD Junction** to help the elderly and differently abled persons is in progress and would be completed by October 2018.





# INFRASTRUCTURAL WORK TO HANDLE MELA RUSH



- Widening of **ALD West end FOB** near Pani Ki Tanki. This is a sanctioned work. GAD is being approved. The work is expected to be completed by October 2018.
- **Doubling of track** of Allahabad-Prayag-Phaphamau. This is an already sanctioned work and needs to be expedited.
- Construction of **additional washing line** at ALD station. This work will be done by July 2018.
- Construction of **03 enclosures at city side** of ALD to accommodate six thousand Mela pilgrims. This work will be done by September 2018.

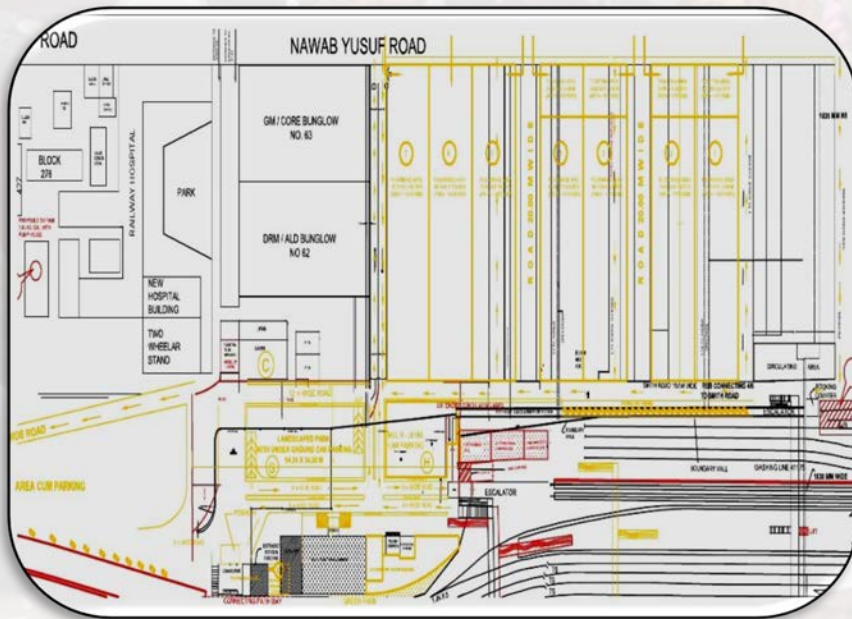




# INFRASTRUCTURAL WORK TO HANDLE MELA RUSH



- 02 enclosures in Civil lines area for accommodating four thousand Mela pilgrims and 03 enclosures in Naini area for accommodating Mela pilgrims. This work will be done by September 2018.
- Construction of **multi story complex** to accommodate pilgrims.







# REGISTRATION OF PILGRIMS



## Problem:-

- The greatest folly is that there is no realistic assessment of crowd and the direction from which the pilgrims are expected to arrive during Mela period.
- The expectation of rush is totally based on the assumption and previous record of pilgrims participated in Kumbh Mela. These approximate figures make it very difficult for the organizers to plan the Mela successfully.

## Solution:-

- Registration/ facilitation Centers in all major cities should be opened so that the pilgrims coming to Kumbh Mela may get them registered both on and off line indicating the mode of transportation, they will use for coming to Mela.





# REGISTRATION OF PILGRIMS



## Solution:-

- The pilgrims who get them enrolled shall be issued a token without which they can not gain entry in Mela Area.
- This will help in clear assessment of pilgrims and their destinations and would help in better crowd management.
- Moreover these centers would be utilized for giving information to the public well in advance about the timings of Mela Specials, location of Bus stands, availability of other mode of traffic as well as the road map leading to Mela Area.





# FOOD FOR THOUGHT



## RFID (RADIO FREQUENCY IDENTIFICATION):-

- RFID based Tickets can be issued to Mela Pilgrims with different color and series at Stations for which Allahabad is in DN and UP direction respectively.
- With properly placed RFID readers at Station Exits and Mela Exits – a reasonably accurate estimate of pilgrims returning to the station with direction of their tentative journey can be estimated well in advance.





## AND FINALLY...



“You start with a vision – an idea you feel is **IMPOSSIBLE**. But you work at it and become convinced it is **ACHIEVABLE**. Finally, with passion – you know it is **INEVITABLE**”

*-Christopher Reeves*





# THANKS

