

**Guidelines for States to adopt Skybus for public and goods transport in congested cities, without Govt funds or loans.**

The Skybus Metro technology is an improved railway providing unique hitherto unavailable positive linkage between the rail tracks and the running coaches, so that they never get separated from each other. This solves the age old problem of railway technology, like derailments and capsizing of coaches crushing people to death.

The inventor happens to be Indian, Er. B. Rajaram IRSE FIE FNAE and former MD of Konkan Railway Corporation who has been granted patents in the USA as well as the patents are in advanced stage of processing all over the world. The proceeds of royalties are assigned by the inventor to the country, through the Konkan Railway Corporation Ltd, a Government company

Renowned scientists like Bharat Ratna Abdul Kalam , Padmabhushan Dr. Anil Kakodkar, Padmabhushan Dr P Ramarao (Former VC/Univ of Hyderabad) as well as a working Commissioner of Railway Safety examined the safety features and found the technology sound and safer than existing railway technology.

The test results obtained at the Test track at Goa, prove that the dynamic behaviour is 10 times better than the best of metro rails in the world.

Certification for safety can be done under the existing Tramway Act 18xx, once the State Govt notifies the Skybus under the Act and appoints a Safety Commissioner.

Since the technology breakthrough by our country has made the high speed mass urban transport safer and also financially viable proposition if one adopts the Skybus, it is in public interest that the following guideles are issued for States to follow so that they can implement urban transport project using Skybus technology, requiring NIL funding from the State, with almost no land acquisition and not disturbing any existing habitats.On BOOT basis the projects can be executed, State giving the right of way 6m above road level and right to place in the road divider, columns of width not exceeding 1.2m. at a spacing of 20m along the road, without disturbing existing utilities.

1. The State Govt shall notify that Skybus shall be governed under the Tramway Act 18xx, and special rules made under the Act by the State for safe operation for public use.
2. Based on the dynamic test results and structural compliance with codes of practice, a third party consultant shall give certified information to satisfy laid down norms, along with joint certification by the Heads of concerned technical branches: this forms the basis for the Safety Commissioner appointed by the State under the Tramway Act to issue Safety certificate which is the same procedure followed in case of railway.
3. Since Skybus is fundamentally a railway only, except it is made now derailment proof and collision proof, the same established rules for opening railways are used to prepare the documentation for the Safety Commissioner's inspection.
4. The codes of practice for construction of the concrete/stell structures of the Skybus shall be to Indian standards where available or to existing international standards as applicable.
5. For safety of running, the Indian Rly rules as well as UIC norms will form the basis for certification.
6. For signal and train control, if it is manually operated system, the existing Indian Railway Signal engineering Manual and principles used to locate signals, after taking into account the braking distances and the speed profiles needed. It is noted that additional safety layer of ACDs and speed profile control based on distance required to brake, basis will be also be functional- to step in in case driver fails to observe the signals. The revenue risk of Headways and through put are entirely taken by the BOOT operator. However, it is noted that calculations indicate even with manual operations, one minute headway is possible, and incase it is more, then instead of one unit two units have to run, in case 2 minute headway is adopted to ensure throughputs. So public interest is served.
7. If totally automated. then the appropriate CENELEC standards shall be complied with.
8. With capacities to match the heavy duty metro rail system, States have a choice to improve their urban transport without financial burden.

9. The BOOT operator shall take all the responsibility both financial and technical to build own ,operate and transfer the asset at no cost to the State at the end of concession period.The Govt appointee viz., Skybus Safety Commissioner under the Tramway Act will assure the Public Safety aspects , as laid down in the rules for opening the Skybus system for public use.( the formats prepared for test tracks and used in Goa, to be supplied by Konkan Railway- for guidance.)
10. To cover revenue risk for the operator, the operator may be allowed to exploit the commercial space created at the station and all along the route over the Skytop, over the concession period and in case he puts up a few towers at stations, these towers will be for a longer period of 50 years. It is to be noted that no special land of Govt is required for this purpose, but only marginal short length (50m) and nominally widened foot paths to provide for Staircase access from road has to be given to the BOOT operator.

**Without the aid of central funding or loans , if States want to take up the Skybus projects to solve their urban transport problem, the above guidelines may be followed.**