Sky Bus metro moves people and cargo too!
At 100 kmph along existing roads &
aesthetically, without demanding road space!
Better performance than underground metro
at one-fourth cost & up and ready in two years
Futuristic automated driver –less operations!

“Technically sound..”
Dr. APJ Abdul Kalam

By

Konkan Railway Corporation Ltd.,
Er. B. Rajaram  M.Tech., IRSE, FIE., FNAE
Inventor &Former Managing Director
What a city needs

- To decongest and eliminate pollution on roads:
  - People: Rapid mass transit systems
  - Goods: deliver trucks/containers
  - Services: City house keeping-automation
- **Integrated system-with financial viability.**

**RUBBER TYRED** systems like mono-rails do not compare with **Steel-wheel on steel rail technology**
Skybus is the solution to the safety concerns of railway

**Conventional Railways**

Problem-bogie and coaches detach, and go hay-wire

**Evolution into Skybus**

Solution-Positive hold between tracks and railway bogie

Dr Abdul Kalam and a number of eminent scientists including Commissioner of Railway Safety Confirm Skybus is a safer railway technology

USA granted patents to Mr. B. Rajaram
No derailments No capsizing nor crushing of passengers in Skybus

Derailment arrestors at top

Case of collision-Skybus is not Crushed.

Unique safety features not available in other metro rails.
High wind loads – risk of toppling

Skybus is safer - swing arrestor
And positive hold with track protect passengers

Conventional Railway
Has no such feature -
Just topples
Skybus conserves urban space

20m length for 2 Sky-coaches
Carry 300 to 400 pax
No complicated station yards

Elegant small stations at 6m Height above road-access from Footpaths.

Air-conditioned service every ONE minute
Skybus carries cargo & adds valuable urban space…

- Standard containers delivered
- For every km route 9000 sq.m Space added on top all along.

Conventional metro rails cannot do this.
World’s First test track at Goa proves our India’s Skybus is superior to other metro rails

(A freak accident in an experimental trial demonstrated conclusively the stated safety features unique to the Skybus)

Independent RDSO (Ministry of Railways) team and Bhaba Atomic Research Centre measured the values

<table>
<thead>
<tr>
<th>Speed (Kmph)</th>
<th>Braking Distance (meters)</th>
<th>Vertical</th>
<th>Transverse</th>
<th>Longitudinal</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>136</td>
<td>Max accn g 0.036</td>
<td>RI 1.703</td>
<td>Max accn g 0.026</td>
</tr>
<tr>
<td>70</td>
<td>174</td>
<td>Max accn g 0.122</td>
<td>RI 2.692</td>
<td>Max accn g 0.04</td>
</tr>
<tr>
<td>Permissible limits</td>
<td>Max Acceleration 0.3g</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Ride Index (RI): 3.25 normal, can go up to 4.0 for EMU and DEMU

Since Ministry of Railways classified Skybus as NOT Railway, State has to notify authority under the Tramway Act 18XX,(existing), For issue of safety certificate, by a Government Safety Commissioner.
How do we compare different options?

Monorail can never be an option because it is rubber tyre-based, lacking the advantages of high speeds and mass loading, which is possible in steel-wheel/steel rail based system only.

<table>
<thead>
<tr>
<th>System Attribute</th>
<th>Skybus Metro Virtually min.land</th>
<th>Elevated Metro Rail Land/buildings hurt</th>
<th>Under-ground Metro Buildings-foundns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital cost per 10 km in Rs crores</td>
<td>550</td>
<td>1200</td>
<td>2500</td>
</tr>
<tr>
<td>Passenger Capacity pphpd</td>
<td>20,000-40,000 Can go to 80,000</td>
<td>20,000-40,000</td>
<td>20,000-40,000</td>
</tr>
<tr>
<td>Cargo</td>
<td>60 TEU per hour per direction</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>Fares-to meet financial viability</td>
<td>50 ps per km –at Rs 250 per month for 500km.</td>
<td>NOT possible to meet viability</td>
<td>White elephant- cannot be managed.</td>
</tr>
<tr>
<td>Additional revenue from Skytop- bet.stns. 90,000 sqm</td>
<td>Yes –between stations</td>
<td>NIL-between stations</td>
<td>NIL</td>
</tr>
</tbody>
</table>
### Hyderabad Skybus Metro

#### Details of Routes:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Route No.</th>
<th>From</th>
<th>to</th>
<th>Length of Route (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Route No. 1</td>
<td>JNTU College</td>
<td>M.G.Bus Stand</td>
<td>16.2</td>
</tr>
<tr>
<td>2</td>
<td>Route No. 2</td>
<td>M.G.Bus Stand</td>
<td>Vanasthalapura</td>
<td>9.6</td>
</tr>
<tr>
<td>3</td>
<td>Route No. 3</td>
<td>Panjagutta</td>
<td>Hitech Citi</td>
<td>7.2</td>
</tr>
<tr>
<td>4</td>
<td>Route No. 4</td>
<td>Vivekananda Nagar Jn.</td>
<td>Secunderabad</td>
<td>10.5</td>
</tr>
<tr>
<td>5</td>
<td>Route No. 5</td>
<td>Paradise</td>
<td>M.G.Bus Stand</td>
<td>8.7</td>
</tr>
<tr>
<td>6</td>
<td>Route No. 6</td>
<td>Secunderabad</td>
<td>M.G.Bus Stand</td>
<td>7.2</td>
</tr>
<tr>
<td>7</td>
<td>Route No. 7</td>
<td>Ameerpet</td>
<td>Paradise</td>
<td>4.8</td>
</tr>
<tr>
<td>8</td>
<td>Route No. 8</td>
<td>Balanagar</td>
<td>Jidimetla</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total km</td>
<td>70.2</td>
</tr>
</tbody>
</table>

Hyderabad can have Skybus without Government funding:
1. Notify the the Tramway Act
2. Concession agreement with BOT- operator M/S Doxport Technologies-Malaysia

First pilot project of 15 km can be ready, in 24 months.