

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.

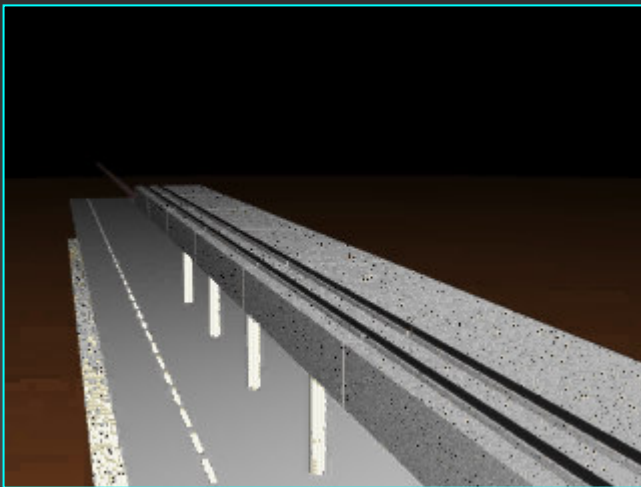
RUBBER_TYRED systems like mono-rails do not compare with Steel-wheel on steel rail technology

Skybus is the solution to the safety concerns of railway

Sky Bus

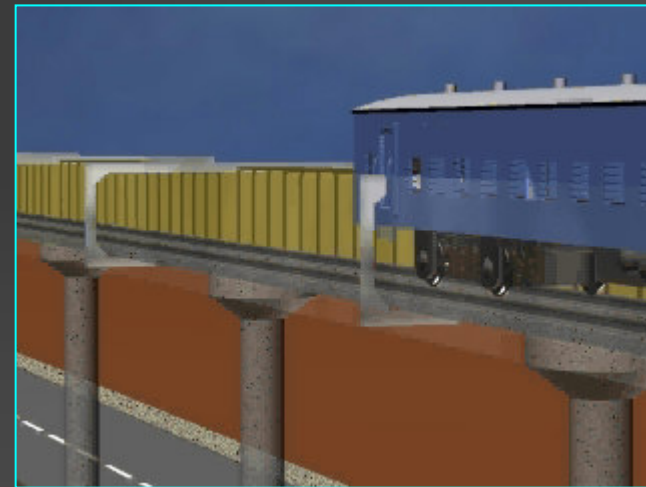
Dr Abdul Kalam and a number
Of eminent scientists including
Commissioner of Railway Safety
Confirm Skybus is a
safer railway technology

Conventional Railways



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

Evolution into Skybus



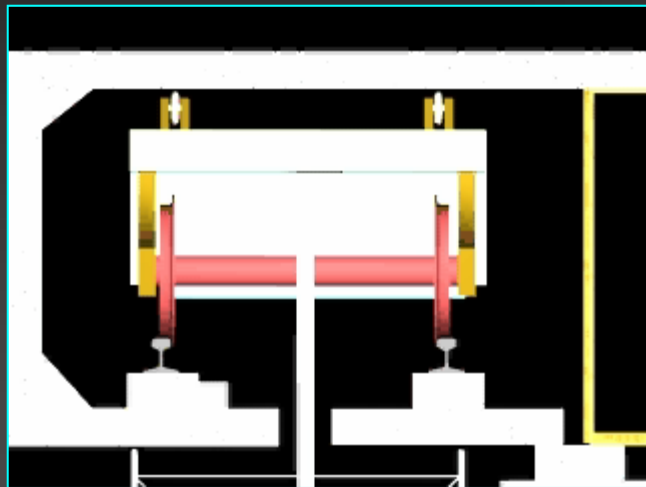
Solution-Positive hold
between tracks and railway
bogie

USA granted patents to Mr.B. Rajaram

No derailments No capsizing nor crushing of passengers in Skybus

Sky Bus

Derailment arrestors at top



Std. Rly bogie

Rly. track

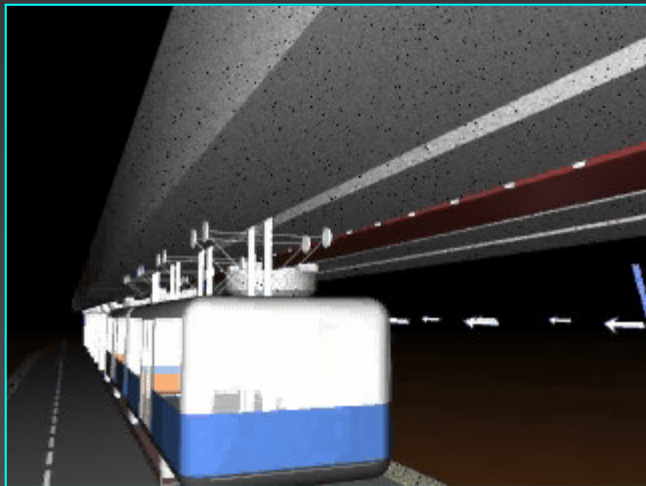
Case of collision-Skybus is not Crushed.



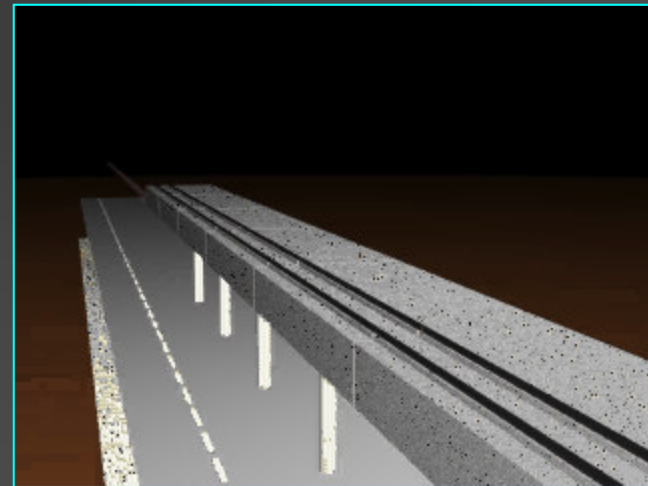
Unique safety features not available in other metro rails.

High wind loads –risk of toppling

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

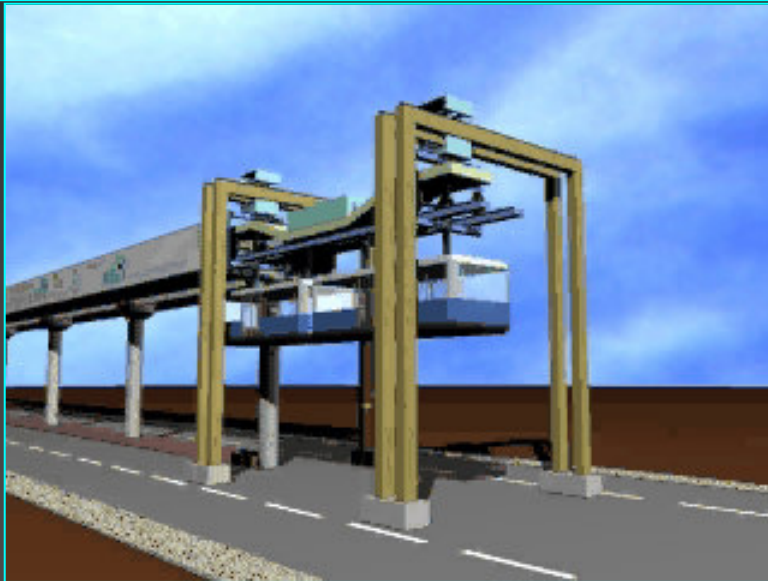


Conventional Railway
Has no such feature-
Just topples



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.

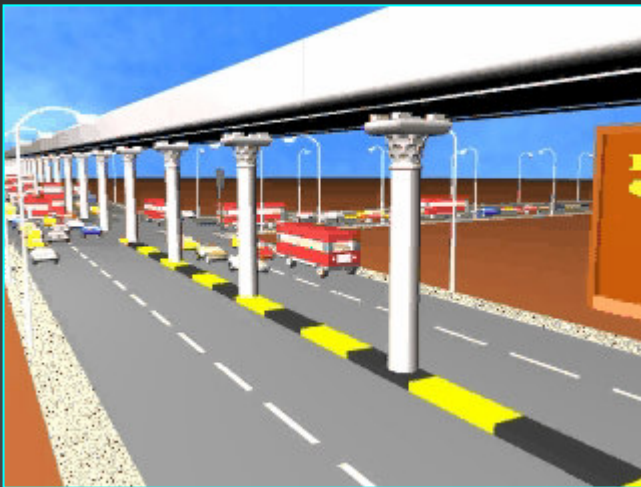


Air-conditioned service every ONE minute

Skybus carries cargo & adds valuable urban space...

Sky Bus

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

Sky Bus



(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

Speed	Braking Distance meters	Vertical		Transverse		Longitudinal	
Kmph		Max accn g	RI	Max accn g	RI	Max accn g	RI
60	136	0.036	1.703	0.026	1.788	0.052	2.136
70	174	<u>0.122</u>	2.692	<u>0.04</u>	2.003	<u>0.077</u>	2.395
		<u>Excellent</u>	<u>Excellent</u>	<u>Excellent</u>	<u>Excellent</u>	<u>Excellent</u>	<u>Excellent</u>
Permissible limits		<u>Max.Acceleration 0.3g</u> going upto 0.35 g if no resonance is observed.					
		Ride Index (RI): 3.25 normal , can go upto 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?

Sky Bus

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.

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



Hyderabad Skybus Metro



Details of Routes:

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

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.