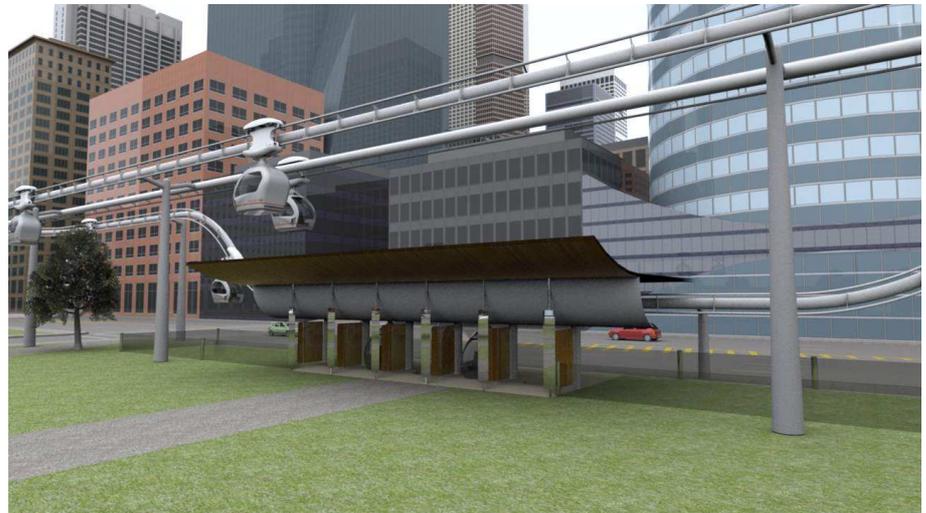


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**Offer to cities in
INDIA for
outsourcing of new
mass-transit
systems
development and
operation to
MISTER PRT
(Personal Rapid Transit).
Economic and
Performance Macro-
Analysis.**



SUMMARY:

1. **Offer to solve public transportation problems in cities** via contracting of MISTER PRT (Personal Rapid Transit) services for a new type of public city transportation and goods delivery system – **MISTER PRT**.
2. **MISTER system provides higher transport capacity than tramways (LRT) and buses** and at the same time is much less expensive in development, operation and is PROFITABLE, while much quicker to build than any road or rail system.
3. **Ride cost is similar to bus fares**, while speed, comfort, availability and SAFETY are much better than in any public or private transit.
4. **How to finance MISTER development ? – via **CONDITIONAL SERVICE CONTRACT**** with MISTER company to deliver a **minimal ridership of 3,000** rides per day per kilometre of 10 kilometre network and at a cost of **\$1 per 3 km** of average ride - also called by us a “**zero profit threshold**”. Such a **CONDITIONAL SERVICE CONTRACT** would **GUARANTEE** that the city will bear **practically NO RISK** in relation to the development and operation of such transit services. The required commitment by the city would only be to pay for the most unlikely shortfall below this minimum threshold. But this is as unlikely as the overnight decrease of private car usage by 50%.
5. Initial system would be only **10 kilometres** in length of network but it would enable to obtain funding from commercial banks or private investors and develop certification, then pilot system. Subsequent extensions of the system throughout the city would not require any further guarantees from the City, as the pilot system would prove the profitability, hence attract banks and private investors to finance additional development.
6. **Contracting by cities of transit services is already well known and frequently practised method of outsourcing** of bus or tramway services despite the need for **guaranteed SUBSIDIES**. So this **CONDITIONAL** offer for new and much better public transit services, **which guarantees profits instead, should be more than acceptable to any city.**

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From the viewpoint of cities, which are considering radical, effective improvements in public transportation, the outsourcing or Private and Public Partnership (PPP) with MISTER, seems the best way to provide the solution to the mass-transit problems, traffic congestion and exhausts pollution.

It is especially true in the times of economic crisis and cash shortage. Proposed herewith PPP would enable any city above 200,000 population, to provide a much better solution than ANY CURRENT transportation system, yet almost without risk, because the main risk would be passed onto the private system developer and operator.

Contracting of a minimum level of performance, i.e. ridership per day (with peak hour capacity requirement as well) at much lower cost than for any other type of public transit, and having also a share in profits from the system operation – should be more than attractive to any city.

City's "risk" would only be to guarantee making up for the difference, if system usage were to fall below the minimal ridership level of 3,000 p/day p/km. But this is negligible risk, because smaller or similar cities around the world experience ridership levels of 7,000+ to 20,000+ on their transit systems like tramways or subways. Therefore there is no reason to assume that any such city would not be able to experience demand of ONLY 3,000.

Providing such a guarantee by a city, would open the way to arrange private funding, while there is no real financial risk to the city, as explained above.

So, all that is required from the city to take advantage of this offer, is to sign a 20 year **CONDITIONAL contract for MISTER services of a minimum 10 kilometres network (2-way), which will then deliver the specified performance levels of mass-transit. The city would only have to select (jointly with MISTER) suitable routes, where the system covers most transit demand and to provide very small areas of city land for the posts, stops, service yard etc.**

In return, city would also get a share in the profits of the system, when the ridership exceeds the minimum ridership levels.

The **10 kilometre** system would be a complete facility including service centre, approx **60** stops and some **1000** vehicles, capable of delivering approx. **50,000** passenger-kilometres per peaktime hour. It is more than any APM (Automated people Mover), LRT (streetcar/tramway) or bus system of the same length can deliver. Such a **10 kilometre** system is suitable for delivering an **average daily demand of 50,000 rides** - some **15 million passenger rides annually**. However the excess of vehicles in MISTER system over average demand, is almost 5:1. This guarantees that peak time waiting will be minimized, while there will be no waiting during all other times. It also means that such MISTER system could cater approx. **5x** of the demand (**75 million passengers rides annually**) with no extra investment, while none of the other transit systems could do the same.

The theoretical cost of guaranteed ridership level for such a **10 kilometre** MISTER system would be approx. **\$14 mil** p/year, i.e. if there was **NO** rides at all ! But even **3,000** rides per day per kilometre (city walkway traffic level) would offset this cost. And if the actual rides were at **5,000** level (33% to 75% less than usual rides in cities, then the annual net profit would be some **\$5** million, to be shared by the city and the investor. And this is calculated at a cost of only **\$1** per average **3 kilometre** ride with average occupancy of 1.5 persons per vehicle - faster and much safer than by car. But ride cost will depend on the trip length and can start as low as \$0,30 to a max. of \$2-.

If the system was **10x** in size, i.e. some **100 kilometres**, then the net profit would increase to approx. **\$270 mil** p/year.

Because MISTER system is a comparable, yet better transit solution, than any APM, LRT or bus system, not to mention subway, therefore we hope that this offer will be given serious consideration.

It would enable the city to improve the quality of life for it's citizens and to save public money, which is currently spent on GUARANTEED DEFICIT running systems like buses or LRT.

By all technical, functional and economic accounts - MISTER seems also a better solution than any other PRT system, of which only 3 are in development around the world.

Average demand for PRT services of **50,000** trips per day on a **10 kilometre** MISTER network has been estimated by comparing the demand of some of the existing LRT and metro systems in Europe. Very likely, even a higher demand can be expected in India and other populous countries, which don't have extensive public transit systems like Europe, or in tourist frequented cities.

And it should not be underestimated that the system would attract a large number of tourists and become an attraction in itself.

It is also expected that the actual demand will be higher, because people will inevitably prefer MISTER PRT to any public transit system, and even to their own cars. This is because the comfort level will be that of a taxi, while average commute costs of **\$1** (\$0,30 to \$2) per trip will make it more than accessible to everyone. Safety and speed factors of MISTER transit will also generate more demand therefore higher profits, while system capacity and comfort do not become diminished.

The issues with ROW (Right of Way) in the case of MISTER are minimal, as well as development time when compared to LRT or rail.

Last but not least, MISTER system can also provide delivery of goods to inner city stores/ shops and removal of refuse, thus reducing need for trucks traffic in city center.

What more could anyone expect from a city mass transit system?

The table below shows basic capacity and financial parameters of MISTER.

Results Summary:			
Repayment period (years)	20	20	20
length of 2way track - kilometer (total guideway length = 2X)	10	20	100
Expected daily rides (p/ works days)	50 000	100 000	500 000
Daily rides per 1 kilometer of network p/ work days	5 000	5 000	5 000
Min. contract level of Daily rides per 1 kilometer of network to break even (w-end = 40% rides)	2 986	1 811	1 271
Max. PAX no. Per direction per hour (ppdph)	4 891	5 357	5 660
Peaktime hourly PAX-kilometer capacity in one direction (linear)	48 913	107 143	566 038
TOTAL cost over the Rapayment Period (mil)	\$283	\$516	\$2 412
including : operating costs	\$99	\$175	\$826
capital costs	\$95	\$175	\$815
financing costs	\$90	\$166	\$771
TOTAL Annual INCOME (incl. Advertising, cargo etc.)	\$20	\$59	\$390
TOTAL Annual COSTS	\$14	\$26	\$121
TOTAL Annual Nett Income in mil (EBTIDA)	\$5	\$33	\$269
Nett Annual income (before financing)	\$15	\$50	\$349
SYSTEM ROI (years)	6,5	3,5	2,3
TOTAL annual nett income per 1 kilometer of system (mil - after costs and financing)	\$0,5	\$1,6	\$2,7
Break even % of costs to income to repay financing	73%	44%	31%
Min. Daily no. Of trips to repay bank financing	36 335	44 071	154 609
Max. Daily no. Of trips	250 435	329 143	1 086 792
VSF - Vehicle Surplus Factor (ratio of total vehicles to average daily demand)	5,0	3,3	2,2