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Elevated PRT System An Alternative To Light Rail

■ **by Paul Kashmann**

Denver's slow motion roadways continue on a fast track towards total gridlock.

Supporters of mass transit decry Governor Owens' plan for adding more highway lanes to Interstate 25, and threaten to defeat a November highway bond initiative unless a clear state commitment to light rail is part of the package.

Governor Owens declares that light rail must be a part of the remedy to unclog the blocked artery that is I-25. But, if RTD can't get voter approval for bonds to build the southeast corridor line, he'll proceed with highway widening anyway, until the rail package can be wrapped in a manner of which voters approve.

Tom Anthony sees things from an entirely different point of view. He has a higher vision of our city's transit future. About 17 feet higher.

Anthony believes both sides are headed down the wrong track. The Denver developer thinks roadway widening is short-sighted (local vehicles currently carry a whopping 1.09 people per auto) and will promote additional auto traffic. He also thinks light-rail is an equally inefficient use of limited civic resources, and Interstate right-of-way.

> *The system favored by PRT Associates was approved by Colorado voters in 1973.*

Anthony is no opponent of mass transportation, he just thinks there is a better way to move people from Point A to Point B, than the electric (light-rail) trolley most anti-auto fans are advocating.

The better way that he and his partners at PRT Associates have in mind, involves a system of elevated track (17' off the pavement), traversed by small, 4-6 passenger vehicles that take riders — on demand — to their specific destination for less than the cost of a good morning cup of coffee.

The track would be supported on pillars occupying a 3 foot x 9 foot plot of ground every 60 feet. Riding above the track on a cushion of air, and propelled by mag-

■ *See:* **PRT** *on Page 22*

■ *Artist's conception of PRT elevated rail system passing Union Station in Lower Downtown.*

PRT

■ *Continued from page 1*

netic energy, the PRT (read Personal Rapid Transit) vehicles - with the swipe of a credit card - would take riders quickly and quietly to their destination free from the danger, and speed-limiting conflicts of street level grade crossings, and competing vehicle traffic.

Before you think that these are the ramblings of a science fiction nut gone awry, be aware that the system Anthony favors was approved by Colorado voters in 1973. In the only Denver mass transit ballot to be passed by the local electorate, a $500 million bond package was earmarked for an elevated PRT system that would, among other things, have wound through the downtown business district dropping off workers and shoppers at the door of their destination.

Unfortunately, State House opponents of the proposal inserted a clause in the enabling legislation requiring Federal Matching Funds, before the bonds could be sold. When no such support was forthcoming from the Feds, the project died a quick and innocuous death.

"It (the PRT system) is really a no-brainer," said Anthony. "Each directional line handles the equivalent of 3-4 lanes of highway traffic. And, since the track is 17 feet in the air, you can make use of the land underneath for grade level traffic, retail space, or all kinds of other uses."

Thus far, the crew at PRT Associates has been unable to convince the powers that be to revisit their system with a completely open mind.

The technology — which the PRT staff said would deliver passengers from DIA to Vail in "about an hour, at speeds in excess of 100 miles per hour" (at a cost of approximately $20 per vehicle load) — was deemed "untested" by the Intermountain Fixed Guideway Authority that considered transportation options between DIA and the tourist meccas of the high country.

While parts of PRT Associates' system are in use in a number of applications around the country — ranging from the Superman amusement ride at Six Flags Over California, to the Las Colinas office park in the Dallas/Ft.Worth area — there are no large-scale public systems currently in operation.

Anthony wants the city to consider PRT technology for a transit spur being planned for the Platte Valley, linking Coors Field, Mile High Stadium, the Pepsi Center, the Aquarium, Elitch's, etc. Currently, a public-private partnership is developing plans to put in a light-rail spur to serve that booming entertainment area.

Defending the technology as safer than light rail, more flexible and user friendly for riders, "immediately doable," and comparing estimated costs of $22 million per mile for a rail line, to $10 million per mile for his system, Anthony clearly is committed to the product he is trying to sell.

PRT Associates General Manager, Fred Hopkins, shares Anthony's vision, but admits it will take a "paradigm shift of thinking" to gain public acceptance of the technology.

Miller Hudson, executive director for the Intermountain Authority, shares Hopkins' view of the need for both new transit options, as well as a change in public thinking.

Hudson has been quoted as saying that "high speed trains through the I-70 corridor...make sense if we think about the numbers (of vehicles) we'll face in 25 or 50 years."

Others in the local transportation community are intrigued by the PRT technology, but hesitate to give it unqualified support.

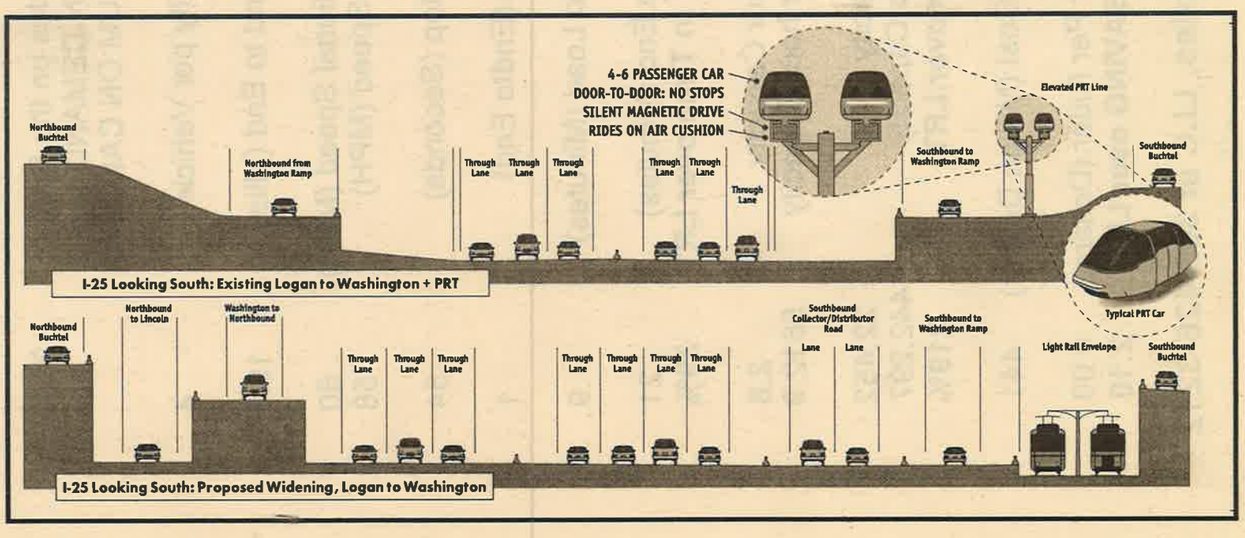
Robin Mayhew is director of Transportation Solutions, the organization that will kick off a shuttle bus service along Colorado Boulevard this month. Mayhew agrees that PRT is "an intriguing technology because it's on-demand," rather than chained to a bus-stop time table.

RTD's General Manager, Cal Marsella, in a May 1997 letter to PRT's Hopkins, stated, "The PRT system, as described, is clearly the type of system needed in certain areas of the region. If PRT were demonstrated to be a proven and tested technology, I would encourage its active pursuit and evaluation."

But, Anthony is not intimidated by others' hesitation to make the quantum leap from light rail to PRT.

"As has been learned throughout the country, heavy, at-grade schedule-dominated, inflexible, costly Light Rail has done next to nothing to reduce car usage," stated Anthony. "Only a technological breakthrough...as the voters approved in 1973, will significantly benefit our economy, and our entire quality of life."

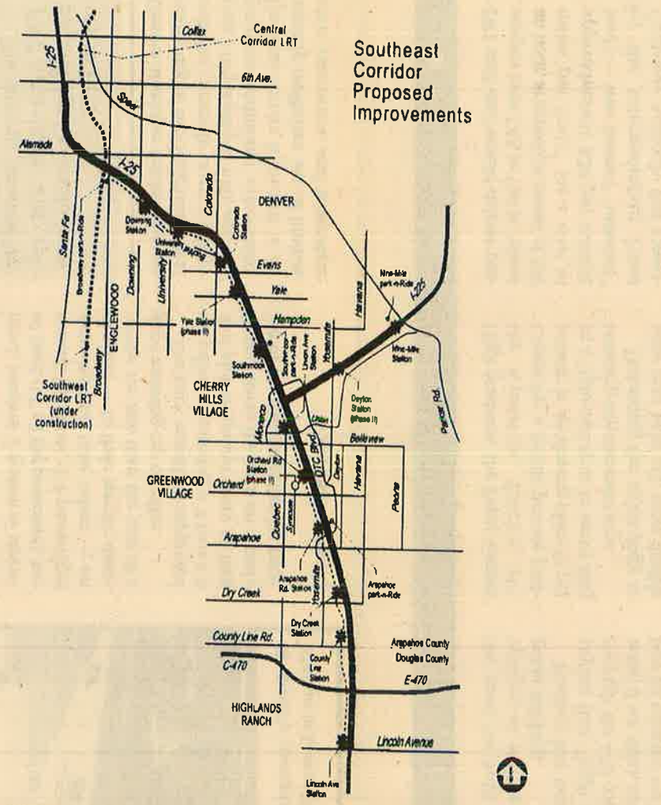
For more information about the PRT system, call *303-426-3212.*



LRT THROUGHPUT CAPACITY CALCULATIONS

Number of Trains on the System (8 trains of 3 Cars each way with 7.5 minutes between trains)	16
Maximum Capacity per Train	375
Miles Traveled End to End (Miles)	19.7
Maximum Operational Speed (MPH)	55
Average Vehicle Speed (MPH)	47
Load Time Per Stop (Seconds)	54
Number of Stops (End to End)	11
Total Stop Time to Load (Minutes)	9.9
Total Time End to End (Minutes)	35
Total Trips per hour Capacity	1.7
Total Vehicles per hour Capacity	27.4
People/Hour Capacty	10,271
People/Hours/Mile Capacity	202,346
Projected Capital Cost (Million Dollars)	447
Projected Subsidy Per Rider (Dollars)	2.10

SOUTH EAST CORRIDOR PROPOSED ROUTE



Note:
1. Locations for stations are schematic. These will be finalized during the design process.
2. Phase II stations are planned for later implementation
3. All stations will have parking except for Downing and Union

Highway Elements:
1. Add outside shoulders: Broadway to Evans (on I-25), and Parker to I-25 (on I-225). Add inside shoulders where feasible: University to Colorado.
2. Interchange improvements at University, Colorado, Evans, I-225/I-25, Belleview, Dry Creek, and County Line Road.
3. Add auxiliary lanes on I-25: Arapahoe to Orchard northbound, ramps from C-470 to County Line Road.
4. Upgrade storm drain outfall.
5. Repave with concrete: Broadway to Evans.

PRT THROUGHPUT CAPACITY CALCULATIONS

Number of Vehicles on the System (1 vehicle with ON DEMAND usage 3 minute MAXIMUM ON CALL wait)	2000
Maximum Capacity per Vehicle	4
Miles Traveled End to End (Miles)	19.7
Maximum Operational Speed (MPH)	60
Average Vehicle Speed (MPH)	58
Load Time Per Stop (Seconds)	54
Number of Stops (Endto End)	1
Total Stop Time to Load (Minutes)	.9
Total Time End to End (Minutes)	21
Percent SAVING in Time over LRT	**39%**
Total Trips per hour Capacity	2.8
Total Vehicles per hour Capacity	5612.9
People/Hour Capacity	22,452
People/Hours/Mile Capacity	442,297
Percent Capacity over LRT	**219%**
Projected Capital Cost (Million Dollars)	441
Projected Subsidy Per Rider (Dollars)	0.00
Taxpayer Dollar SAVING over LRT	**2.10**

For Additional Information about Pulsecar Systems, visit our WEB site at pulsecar.com or call us, PRT Industries, LLC at 303-426-3212