

Light Rail vs. Rapid Transit

By John M. F. Berner

Light Rail is an aesthetically pleasing form of transport that allows you to travel about town smoothly, comfortably, and quietly. It doesn't spew out noxious fumes over pedestrians and is able to reach right into city center areas without need for parking. It runs so frequently that you don't need a timetable, generally making city life more civilized and economical when everything else is making it less civilized and economical.

BRT is a fully integrated, bus-based "rapid" transit system, typically utilizing highly flexible service and advanced technologies to improve customer convenience and reduce delays. The BRT system is based on light-rail transit principles, but instead of the required capital investment in trains and track. It utilizes buses in service that is integrated with key components of the existing automobile transportation infrastructure, such as roads and rights-of-way, intersections, and traffic signals.

Transit fares only cover 30 to 50% of transit costs; the rest come from Federal Taxes. Billions of dollars are requested from the government every year to expand, service, repair, and upgrade buses, roadways, railcars, and tracks just in one major metropolitan city.

Several congressional representatives, some of whom played front-line roles in boosting highway expansion, oppose major transit projects. The Federal Transit Administration (FTA) has begun to support the Bus Rapid Transit (BRT) concept as an alternative to building light rail systems, and promotes this policy with the slogan "*Think*

Rail, Use Buses". The notion that buses can provide equivalent attributes to rail, but at lower cost, is deceptive.

Pittsburgh's first BRT was opened in 1977 with an estimated patronage of 32 000 each weekday. The service now averages 14 500. The current West BRT in Pittsburgh was estimated to attract 50 000 weekday passengers but so far has attracted about 6 000. A transit system with low passenger appeal contributes little towards solving mobility and traffic congestion problems. Busways are averaging about 15,000 per weekday as against to 29,000 on LRT. The Blue line in Los Angeles carries well over 63,000 and is the reason why "transit officials" say that passengers prefer rail.

GAO reported the hourly cost on selected bus systems as \$84.72, as against to \$161.48 on LRT in the same cities. The capacity figures used were 50 on buses and 110 on LRT. A simple calculation puts a bus passenger cost at \$1.69 per hour as against \$1.47 for an LRT passenger.

If a BRT reaches a 56 mph speed, it must be without any stops for passengers. Full route speed for LRT is 23 mph. The 35 mph bus speed only applies to an isolated freeway section. The entire Green line LRT in Los Angeles averages 35 mph, which includes stops and a daily load of 33,000 passengers. Light rail vehicles have good acceleration and are better on grades due to electric power. Bus drivers sometimes have to turn off the air conditioning to climb grades at reasonable speeds, which is not a problem with electric LRV's.

It has been observed that passengers don't respond well to bus flexibility. GAO assumes that the BRT title adds incentive to bus use. It has also been observed that passengers prefer a park + ride served by LRT over a BRT that must remain on streets.

Light rail vehicles provide cleaner air to breath and also have a smaller percentage of injuries.

REFERENCES

1. "LIGHT RAIL NOW" has produced a report - GAO's "BRT" REPORT ERRORS, ANOMALIES, MISINFORMATION - with a sub-heading "LIGHT RAIL PROGRESS - DECEMBER 2002" (www.lightrailnow.org/myths/m_brt002.htm). The GAO report (www.gao.gov/new.items/d01984.pdf) was dated September 2001.
2. LIGHT RAIL PROGRESS - page 2. (see above for details)
3. Presented to a meeting of the RESEARCH BOARD COMMITTEE A1E12, Light Rail, in January 2002 by Edson L Tennyson PE, Transportation Consultant and former Deputy Secretary of Transportation for the State of Pennsylvania.
4. LIGHT RAIL PROGRESS - page 4. (see reference 1 for details)
5. LIGHT RAIL PROGRESS - page 5. (see reference 1 for details)
6. Michael H Cottman - Washington Post Staff Writer - Washington Post page B02 - Friday 7th March 2003.
7. <http://www.lrta.org/dd002.html>