

## Proposed Light Rail Transit Pedestrian Mall for 42nd Street Cost Estimate Study — Key Findings

— Light rail system will cost less to operate than buses, and carry three times as many riders—

— New York City could become home to the world's first fuel-cell propelled light rail line—

Halcrow, LLC, a large UK-based engineering firm with worldwide experience in the design of light rail systems, has performed the vision42 cost study in association with New York area firms Langan Engineering & Environmental Services and Sam Schwartz, PLLC. Cost estimates were based on 100 percent low-floor light rail vehicles operating within a high-quality pedestrian street, with distinctive paving, furnishings, and other urban amenities. The key findings of this study are as follows:

- ❖ **Conservatively estimated, a 2.5-mile surface light rail line running river-to-river in a landscaped 42nd Street, with 16 pairs of stops, will cost between \$360 and \$510 million in 2004 dollars**, depending upon the extent of utility relocations and the choice of propulsion system. The per mile cost of the light rail itself is approximately 10 percent of subway construction.
- ❖ The costs of utility diversions requested by the utility companies and agencies for a rail based system are known to be major and would dominate the capital costs. However, until 1946, NYC trolleys ran over the utilities without major problems. Modern, low-floor light rail vehicles are lighter than either the old trolleys or the many trucks that use the street today. Unless current restrictive policies are modified regarding relocation of utilities, this will also produce substantial temporary disruption during the construction phase.
- ❖ **Operating costs for the light rail will be slightly lower than operating costs for the displaced bus services using 42nd Street.** However, the light rail line will have three times the capacity of the replaced bus service.
- ❖ Within a pedestrian street, a light rail system on 42nd Street would limit its speeds to 15 mph, but will have much shorter and more consistent journey times than current New York City bus services, taking an average of 20 minutes to travel river-to-river, even without being given any priority at traffic lights.
- ❖ The light rail will be more accessible and convenient for short journeys than the subway, which it complements.
- ❖ Self-propelled vehicles are recommended to avoid catenary wire and stray current issues, and will suit the operating requirements of this short system.
- ❖ It is feasible to consider self-propelled streetcars using hydrogen fuel-cell technology already available in the US, and this achieves maximum environmental benefit. If this direction is taken, New York City may become home to the world's first fuel-cell propelled light rail line, which is appropriate for a city of its stature.