

## KEY FINDINGS

### Proposed Light Rail Pedestrian Mall for 42nd Street Construction Phasing Study — Recommendations

*To facilitate access to the stores, sidewalks will remain untouched throughout construction*

*Construction on each block segment can be accomplished in six months*

*Self-propelled light rail vehicles, using fuel cell or other technology would expedite construction, provide a cleaner power source, and avoid overhead wires*

- **Study analysts and methodology** Halcrow, Inc., a large UK-based engineering firm with worldwide experience in the design and construction of light rail systems, developed a construction phasing plan for the vision42 proposal for approximately 2.5 miles of light rail system to be introduced on Manhattan's 42nd Street within a landscaped, pedestrian street. Halcrow previously performed the cost estimate for this proposal.

The following assumptions were made for the construction phasing plan for each of the two options considered - an innovative utility relocation plan that minimizes disruption and a more traditional approach:

- The street will be made car-free at the outset of construction.
- Transit lanes for bus service will be maintained until light rail service begins.
- Delivery methods will be in place for hand carting of goods from the avenues
- In areas of straight track (most of the line), the rails will be supported on beam strips, rather than a continuous slab; this will allow manhole access for utility repairs.
- The street level will be ramped up to sidewalk level to form a contiguous surface for pedestrian safety.
- Transparent construction fencing, seating, exhibit panels and plantings will be used to engage the public's interest during all phases of construction.

Recommendations:

- **To expedite the project, overall construction methods and timing are broken into three segments, each concurrently under construction.** Detailed staging diagrams done for this study focus on Segment II, which spans the busiest segment, from Eighth to Third Avenues.
- **Under minimum utility replacement, the total project will take two years, each segment is constructed in 5 stages, and each block is under construction for approximately six months.** Utility work is limited to the central area of the street; only those lines interfering with the installation of beam strips and rails are relocated. New utilities are relocated to the area parallel to, but outside of, the rail and platform area, and put into service prior to removal of the old utility lines. Full utility replacement would be constructed in 6 stages and the total project would take three years.
- **Schematic diagrams show in detail the phasing of construction components:** The more complex construction at intersections is performed in nighttime hours. So is testing of the light rail system prior to its commissioning.
- **Techniques are recommended to speed up the construction process,** given the highly sensitive nature of the project and location. As part of the scope of work, other light rail projects recently introduced and developed in other parts of the country and world were considered in order to identify methods used for other efficiently-constructed projects, where these were relevant to Manhattan.