How New Movement Technologies Can Assist with Seamless Access for All

Shannon Sanders McDonald, AIA
Assistant Professor
Southern Illinois University
405 N. Westridge Drive, Carbondale, IL 62901, 1-001-618-303-6449,
S1027arch@aol.com
B – Best Practices and Innovations

New movement technology is currently becoming reality around the world. PRT (Personal Rapid Transit) now sometimes called ATN (Automated Transit Network) is currently available at Heathrow airport and Mazdar City, Abu Dhabi, United Arab Emirates. Systems are in various planning stages in South Korea, Sam Mineta Airport, San Jose, CA, Ithica, NY and India. Technology that allows elevators to move three-dimensionally is currently applied in the Tower of Terror ride at Disneyland, Anaheim, CA. New automobiles are appearing highlighting electric power sources, smaller sizes and even collapsible -- such as the City Mobile car designed at MIT. All of these technologies offer one new important design feature – their ability to interface three-dimensionally both inside and outside of buildings. They can also simultaneously provide seamless accessible mobility and link multiple transit systems, changing transportations’ relationship with urban design and architecture.

These new technologies provide the opportunity to create fully accessible transit friendly environments by allowing more compact and interconnected ways to design and move through space. They have the ability to arrive more quickly to their destination – even more time-efficiently than a car and more time-efficient than the standard transit loop or line systems; therefore they can encourage and hopefully increase transit use. New integrated solutions that address multiple overlapping issues such as energy sources, the environment and handicap accessibility can also be addressed. Several key issues are involved in providing more accessible transit use and the solution lies in their interfaces and overlaps, not in their isolation. The issues are: (1) mode of transportation, (2) energy source/sustainability, (3) human interface, (4) physical location, and (5) actual design.

Integrating new forms of movement is a more sustainable solution that allows for stations within easy short distances creating accessibility. Initially these systems are being implemented in two areas – local existing environments such as airports and entirely new cities. This paper will examine the linkages for the Southern Polytechnic Campus of 2050 using one or all of these new technologies to create a more fully accessible sustainable campus design.

These newly emerging movement systems will allow easier access for all ages as station design can now be integrated within buildings at multiple levels. Navigating steep topography as well as connecting multiple other forms of transit to create a seamless system will allow faster and smoother access for all. Linking spaces and places in entirely new ways, the architects’ unique spatial training will become essential in allowing these new technologies to be implemented to their full potential.
The Southern Polytechnic University students’ analysis of existing campus conditions as well as their unique solutions to connections and interconnections will be presented along with a review of the technologies and their connections to automobiles and other forms of transit.

453 words