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User-centered Design
Assignment #1
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Subway Map Analysis

Purpose: The MTA Map's primary function is to assist subway riders in finding a route to their destination in New York City, using a portable accordion-folded paper format. It is similar to a variety of alternate formats of the MTA Map found on subway platforms, in stations and in the subway cars themselves, but carries more information and is printed on two sides. Secondary purposes include assisting with route-finding on MTA railroads, providing general information, information on routes for people with disabilities and information on connections with other modes of transit.

Users: The MTA Map is used by a variety of different people in a variety of different contexts. Commuters use the map to plan basic and alternate routes of getting to work. Tourists use it in planning for journeys through the city to various attractions, and in recovering from errors in navigation. Delivery people and other business people use the map to navigate between appointments. Residents of the city tend to use the transit system in place of driving, which means that the map becomes a general guide for personal transportation for everyday shopping, entertainment, dining, errands and so forth. Users come from every walk of life and include people in wheelchairs, first-time riders, airport travelers, subway construction-avoiders, expert subway "rail fans," older people with poor vision, and speakers of all the world's languages. Contexts include transit via subway, but also trips that include many modes of transportation including buses, ferries, bicycle, commercial rail and air.

Aspects: Like any paper map, the MTA Map is primarily an object that communicates sophisticated information. It is used as a cognitive tool in navigation and route-finding. It is a service to riders provided free of charge to anyone who requests one at a subway token booth. The map is, of course part of a larger system of transportation, but it also is a member of an MTA navigation and wayfinding system that includes specialty versions of this map, online tools, permanent signage, temporary signage, voice announcements and personal help from everyone from MTA employees to fellow riders.

Features: The primary feature of the MTA Map is, of course the map of the NYC Subway system showing all routes and stations throughout the city. Probably second in importance is the Subway Service Guide which shows a Time by Route grid that explains availability of subway service on each line throughout the day and weekends. Another prominent feature is the Key or legend, which decodes the symbolic language used on the map. Transfers to other transit systems and travel modes are indicated for certain hub stations. Other lesser features include the service warning area at the bottom, city layout with parks, rivers, boroughs, neighborhoods, streets and some attractions and the handicap accessible station guide. The MTA Map is thick with information. Printed language explains how to use the subway system in nine languages and includes information on fares, basic info and

emergency procedures. There is also contact information for various transit agencies, and an advertisement for the NYC Transit Museum in downtown Brooklyn. The reverse side of the map features a full layout of MTA railroads. It also shows a small map and guide to the bridges and tunnels operated by the MTA.

Factors:

Physical: The map is big enough to hold and read for one person, yet small enough when folded to fit into a pocket or purse. General manual dexterity and adequate vision are assumed. The map can be used by the deaf, and by persons in wheelchairs. Color and contrast are used in the map to distinguish important features from subordinate information.

Cognitive: Map reading skills are assumed, as are reading skills in general. The subway system is clearly emphasized by color, contrast and size. The city layout has been purposefully scaled to better depict the subway system and to separate various map features into virtual “objects” for easier reading. Color is used as an organizational tool, to distinguish between the subway lines. Contrast, color and fonts indicate various categories of information, for example to distinguish between borough and neighborhood names. Standards are employed such as having North corresponding to up on the map, blue to indicate water and so forth. Secondary features are relegated to the back of the map. Symbols for train lines are standardized to match other parts of the map, and other signage in the subway system.

Social: Two or three people can easily share the map, something what would be far more difficult with a wallet-sized version. There are phone numbers and web sites listed to encourage communication with the agencies involved. Use of the map itself carries a social message—that the user may be a tourist and may be lost. This message can be helpful around the right people, and dangerous around the wrong ones.

Cultural: Map knowledge is assumed, however this is by no means a universal skill. Many languages are included in the system information, but only English is pervasive in the map itself.

Emotional: For many people, the MTA Map is an iconic part of New York culture and therefore engenders a positive emotional response. This is an object that arguably is trying very hard to be helpful. While certainly not perfect, it has been redesigned and refined for over a century, is thick with useful information and is given away for free. The map is a tool for efficiency and safety, and regarded as beautiful enough to serve as the graphic on t-shirts, mugs and even restaurant logos.

Improvements: There are many ways in which the MTA Map could be made more user-centered. The current version is unnecessarily focused on the Metropolitan Transit Agency itself, as evidenced by the totally gratuitous allocation of space to toll bridges that have nothing to do with the task at hand of subway navigation. The map instead should consider the trip, rather than the system. Bus transfers along the major midtown cross-streets are omitted from the map, yet a frequent part of any Manhattan subway trip. More indication of major tourist attractions would be a great help to trip planning for visitors. Street number guides could assist more seasoned travelers with errand management. Future welcome technological innovations might include a “HopStop” type of system available in a free and portable format, to continue the evolution of the venerable MTA Subway Map.