



FEBRUARY 28, 2002

Los Angeles County
Metropolitan
Transportation
Authority

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TO: BOARD OF DIRECTORS

THROUGH: ROGER SNOBLE
CHIEF EXECUTIVE OFFICER

FROM: RICHARD BRUMBAUGH
CHIEF FINANCIAL OFFICER

SUBJECT: NETWORK CABLE

ISSUE

Director Knabe, Construction Committee, asked for information regarding the type of cabling used for construction of MTA's network in reference to the Division Network Construction Project.

BACKGROUND OR DISCUSSION

Two types of cable, fiber optic cable and Category 5 copper wire, are used to construct the MTA's networks. Fiber optic cable is used for distances that exceed 300 feet, such as the network backbone within a building or to connect two buildings together. The Category 5 copper wire is used to connect the workstation to the fiber optic backbone, within the 300 feet limit.

To connect between buildings, a twelve strand, multimode, fiber optic cable is installed in a four inch conduit underground. For the building network backbone, the twelve strand, multimode, fiber optic cable is installed in conduit that can be attached to the walls or ceiling to suit the location. Of the twelve strands, two will be activated and the remaining ten strands are spares for future use. Each activated fiber strand will transmit at one gigabit (one billion bits) per second.

Category 5 copper wire is the most current wiring standard for Ethernet networks. Presently, it can support transmission speeds from 10 megabits (ten million bits) to 100 megabits per second. When completed, MTA's network will transmit at 100 megabits per second, the highest speed currently available in standard use. While fiber optic cable can be used to attach the workstation to the network backbone, it is more costly to install and does not offer any benefits over the lower cost Category 5 wire for the types of applications used at MTA.