

**MEMORANDUM OF COOPERATION
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
OF THE U.S. DEPARTMENT OF TRANSPORTATION
AND
THE NANYANG TECHNOLOGICAL UNIVERSITY**

I. PURPOSE

This Memorandum of Cooperation (MOC) is entered into to establish cooperation between the Federal Transit Administration (FTA) of the U.S. Department of Transportation and Nanyang Technological University, Singapore (NTU), hereinafter referred to as the Parties.

II. COOPERATIVE FRAMEWORK

Desiring to coordinate, as much as possible, developments by the Parties in the field of mass transit;

Acknowledging a mutual interest in the exchange of information concerning urban mass transportation planning, development and operations; and

Recognizing an advantage in undertaking certain new programs jointly or in coordinating work on programs already in progress;

The Parties intend to cooperate as hereinafter set forth.

A. The Parties, either directly or through their designated representatives, intend to maintain regular contact to:

- exchange information and review, discuss and compare FTA and NTU initiatives leading to innovations in mass transportation services and urban development;
- arrange, where feasible, the mutual exchange of experts for studies, conferences, seminars, training, and visits to transit facilities;
- coordinate the dissemination of urban transportation operations and research data and innovations undertaken by other organizations;
- as appropriate, combine their work and resources or coordinate investigations into urban transportation issues; and
- consult on the management of joint activities

- B. Cooperative activities are intended to be held preferably by different task groups composed of administration officials, transit operators, industrial partners, research institutes, or other interested parties. Each task group would have a precise assignment defined by the Parties.
- C. The designated administrative coordinators for this Memorandum of Intent are:
- For FTA: The Administrator of the Federal Transit Administration
For NTU: The Deputy President of the Nanyang Technological University
- D. Meetings between the Parties may be arranged as deemed necessary.

III. AREAS OF COOPERATION

The Parties intend to promote cooperative activities in the following, but not limited to, areas of mutual interest:

- *Urban planning*
 - Land-use planning
 - Transportation planning
 - Modeling systems
- *Safety and Security*
 - Computer system security
 - Passenger security
 - Rail/Bus System Safety Management
 - Rail/Bus Operation Safety & Emergency Management
 - Life Safety Design
 - Evacuation Strategy
 - Tunnel Design
 - Rail/Bus Incident Investigation
 - Transit System Security
- *Environment*
 - Environmental Impact Studies;
 - Travel demand management
 - Clean air and global climate change
 - Energy conservation
 - Tunnel Ventilation
- *Innovative Technology*
 - Automated mass transit systems;
 - Automatic fare collection systems
 - Telecommunication, signaling, and control systems
 - Clean fuels
 - Advance vehicle propulsion systems
 - Integrated management information systems
 - Standards and regulations
 - Building Automation System for transit system
 - Fire safety Design for rolling stock

- *Economics*
 - Economic and financial analysis of new major capital investments
 - Patronage studies and forecasts (ridership studies and forecast)
 - Ways and means of improving operating revenues in mass transit
 - Role of private sector in operating and financing mass transit investments
 - Marketing
 - Mass transit operations
 - Track and rolling stock maintenance procedures
 - Public finance
 - Role of regulators
 - Fund Allocation Program

IV. GENERAL

This Memorandum of Cooperation shall not be legally binding on the Parties under international law but both Parties shall cooperate and endeavor to implement and give effect to the terms and conditions set out herein.

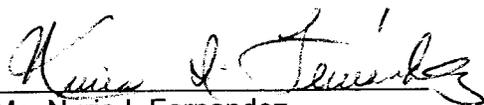
V. FUNDING AND PROPERTY RIGHTS

- A. The participation of each Participant is subject to the availability of appropriated funds. No transfer of funds between the Participants is envisaged in connection with this MOC.
- B. The Participants recognize that subsequent implementing activities should include provisions governing the treatment of intellectual property, if any, created or furnished in connection with such activities.

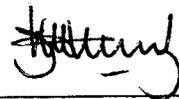
VI. DURATION AND TERMINATION

A Participant desiring to terminate cooperative activities under this MOC shall give sixty (60) days prior written notice to the other Participant. The Participants may amend this MOC at any time.

Done in Singapore this day of July 2000, in the English language.



Ms Nuria I. Fernandez
Administrator
Federal Transit Administration



Professor Cheong Hee Kiat
Deputy President
Nanyang Technological University