BRONX ARTERIAL NEEDS
MAJOR INVESTMENT STUDY
DRAWING TO A CLOSE

PARTICIPATORY EFFORT PROVIDES
MULTI-MODAL IMPROVEMENTS

Three "Packages" of Improvements Developed
to Ease Transportation Problems

Near- and long-term transportation improvements would
provide benefits to travelers in the
Bronx - ranging from those trying to
get to the George Washington
Bridge to those trying to get across
the borough by bus. These are just
a few of the results from a study
known as the Bronx Arterial Needs
Major Investment Study (BAN
MIS), a federally funded effort
sponsored by the New York State Department of Transportation
(NYSDOT). This study, which has been conducted since the late
1990s, is nearing completion following complex computer
modeling analyses and a long period of hands-on public
participation.

Bronx-based community stakeholders and residents, citywide
groups, elected officials and other transportation agencies have
all played a key role in this study from its beginning. They helped
to identify transportation needs, problems and concerns for an
area of the Bronx that includes the Cross Bronx Expressway
(I-95) and Major Deegan Expressway (I-87) corridors. They
helped develop goals and objectives for the study. They helped
create and sort through over 260 suggestions for improvements.
They helped formulate three "packages" of improvements, which
combine many highway, street and transit improvements for the
benefit of auto users, commercial vehicles, public transportation
riders, pedestrians and bicyclists. These packages have been
analyzed at three levels to assess the transportation benefits
that they would provide: regional (i.e., the greater metropolitan
area), sub-regional (i.e., the Bronx and northern Manhattan)
and locally (i.e., on specific roads).

The Bronx Arterial Needs MIS does not provide a set of
preferred alternatives. The study shows how a combination of
various projects can improve the quality of life for those who live,
work and travel in the Bronx. Individual projects or various
groupings of projects can be moved ahead by responsible
transportation agencies, some in the near-term and others in the
long-term. All require more detailed and extensive study, as well
as public participation, prior to implementation.
Several steps were involved in the development and analysis of alternatives and packages. Here is the process:

1. Define Needs and Establish Goals
2. Compile List of Suggestions
3. Qualitative Screening Analysis
4. Comparative Screening Analysis
5. Development of Alternatives and Alternative Packages
6. Evaluation of Alternative Packages
7. Preparation of Study Report

Three-Level Modeling Process:

- Regional Analysis – Includes 28 counties in New York, New Jersey, and Connecticut
- Sub-Regional Analysis – Includes the Bronx and Northern Manhattan (above Central Park)
- Micro Simulation – Includes major highway facilities and connecting roads in the sub-regional area

We Are Here

Input from Steering Committee, Working Groups and the Public

To get a full explanation of what's included in the packages, please refer to the insert.
For a copy of study documents, please visit the Web site at www.dot.state.ny.us/reg/r11/bxmis
Description of Alternative Packages

Based on public input and preliminary analysis, three multi-modal alternative packages were derived. Each of the three packages is a stand-alone and multi-modal set of improvement alternatives that addresses the project issues and goals.

All three packages include improvements for highways, transit services, goods movement, and pedestrian and bicycle facilities in the Bronx (to view the packages, please refer to the insert).

Overview of Alternative Packages

Each package has many important improvement concepts. On pages 4-7, we highlight three concepts -- one that offers better east-west connections in the Bronx, and two that provide congestion relief to the Highbridge Interchange where the Major Deegan and Cross Bronx Expressways meet.

Package 1
- Transit Operational Improvements
- Basic Highway Improvements

Package 2
- Package 1 Improvements
- Multi-modal Cross Bronx Connector Road System (see pages 4-5)
- Trans-Manhattan Expressway Tunnels under W. 178th and W. 179th Streets (see pages 6-7)

Package 3
- Package 1 Improvements
- Multi-modal Cross Bronx Connector Road System (see pages 4-5)
- New Bridge Over Harlem River (see page 7)
- Northbound Major Deegan Expressway Improvement at E. 135th Street

Development and Analysis of Potential Alternatives and Packages

260 Initial Improvement Suggestions

45 Options

3 Alternative Packages

1. 28 Improvement Concepts
2. 43 Improvement Concepts
3. 45 Improvement Concepts
CONCEPT FOR A MULTI-MODAL CROSS BRONX CONNECTOR ROAD SYSTEM
MAJOR COMPONENT IN ALTERNATIVE PACKAGES 2 AND 3

HIGHLIGHTS
One of the important components in Alternative Packages 2 and 3 is the multi-modal Cross Bronx Connector Road System. This system, shown above, would run parallel to the Cross Bronx Expressway (CBE) and provide these opportunities to the Bronx and its residents:

- Improved east-west mobility for local traffic
- New and improved east-west transit service and connections
- New green space over sections of the Cross Bronx Expressway
- New and improved connectivity for bicyclists and pedestrians

OVERVIEW
Due to a scarcity of efficient east-west routes in the Bronx, the Cross Bronx Expressway is often the preferred, albeit undesirable, travel option. The Connector Road System would provide new opportunities that currently do not exist by providing an efficient and safe means for Bronx residents to travel locally alongside the Cross Bronx Expressway. The concept of a connector road system would involve both the utilization of existing streets and the construction of new streets. This improvement option would help to establish a hierarchy of roads that could serve traffic in the Bronx in accordance with the type of trip. Shorter trips could be made via the connector roads and longer, through trips via the Cross Bronx Expressway.

The Connector Road System also could help to reconnect neighborhoods north and south of the Cross Bronx Expressway and could benefit a wide range of transportation modes. New parkland could be created in the corridor in sections decked over the Cross Bronx Expressway. New transit service, in the form of bus rapid transit (BRT), could be provided. The bus rapid transit could connect with bus routes and subway lines in the corridor. Improved connectivity for bicyclists and pedestrians also could be provided. The opportunities thus created for the neighborhoods, transit users, motorists, pedestrians and bicyclist could significantly benefit the quality of life for the Bronx and its residents. These features are shown on the conceptual plan and perspectives.

HIGHLIGHTS

HIGH QUALITY BUS RAPID TRANSIT SERVICE ON THE CONNECTOR ROADS

POTENTIAL ADVANTAGES AND ISSUES OF THE CONNECTOR ROAD SYSTEM

ADVANTAGES
- Improves east-west mobility for local traffic
- Provides opportunities for new and improved transit services
- Provides opportunities to deck over portions of the CBE, create green spaces and improve neighborhood connectivity
- Improves connectivity with regional bikeway network
- Improves pedestrian safety and accessibility
- Could construct connector roads in multiple stages

ISSUES
- Requires major capital investment
- Requires coordination with other responsible implementing agencies
- Could involve environmental studies
- Could temporarily affect travel adversely during construction
- May be used as an alternate route for the CBE if an accident/incident occurs on the mainline

CONCEPTUAL PERSPECTIVES OF THE CONNECTOR ROADS
In Package 2, there are two scenarios involving the rehabilitation of the tunnels under W. 178th and W. 179th Streets parallel to the Trans-Manhattan Expressway. Both scenarios include EB 3 as the eastbound tunnel option. EB3 connects traffic via a tunnel under W. 178th Street from the Henry Hudson Parkway and the George Washington Bridge (lower level) to Amsterdam Avenue and Washington Bridge.

The two scenarios vary based on westbound concepts:

- **WB 1/2**: Connects traffic via a tunnel under W. 179th Street from Amsterdam Avenue and the Washington Bridge to the Henry Hudson Parkway, Riverside Drive and W. 181st Street.
- **WB 3**: Connects traffic via a tunnel under W. 179th Street from the Major Deegan Expressway via the Alexander Hamilton Bridge to the George Washington Bridge (upper level).
Some Advantages to Consider:
- EB 3 diverts some eastbound traffic from the Trans-Manhattan Expressway to 178th Street Tunnel
- WB 1/2 and WB 3 divert some westbound traffic from the Trans-Manhattan Expressway to 179th Street Tunnel
- WB 1/2 reduces westbound weaving movements on the Alexander Hamilton Bridge
- WB 3 eliminates westbound weaving movements on the Alexander Hamilton Bridge and reduces congestion on the Major Deegan Expressway

Some Issues to Consider:
- All Options require reconstruction of eastbound and westbound tunnel portals at both ends and coordination with other responsible transportation agencies
- EB 3 requires relocation of Harlem River Drive ramp with Trans-Manhattan Expressway
- EB 3 eliminates local eastbound access from Henry Hudson Parkway to W. 178th Street and requires reconstruction of Henry Hudson Parkway ramp to eastbound tunnel to provide local access to W. 178th Street
- WB 1/2 increases traffic on Washington Bridge
- WB 3 requires extensive investigation of western terminus operations due to a large number of converging traffic movements
- WB 3 requires trucks be allowed to use lower level of the George Washington Bridge

New Harlem River Bridge

This component of Alternative Package 3 involves the construction of a new westbound bridge across the Harlem River. New ramps would be extended from both the existing northbound and southbound exit ramps from the Major Deegan Expressway and would connect with the Harlem River Drive northbound ramp to the Trans-Manhattan Expressway.

Some Advantages to Consider:
- Improves traffic operations on the Alexander Hamilton Bridge
- Reduces weaving movements on the Alexander Hamilton Bridge
- Simplifies movements by segregating traffic on Trans-Manhattan Expressway
- Takes traffic, particularly trucks, away from the Highbridge Interchange

Some Issues to Consider:
- Involves construction of a new westbound bridge over Harlem River
- Involves reconstruction of Harlem River Drive/Trans-Manhattan Expressway connection
- Requires assessment of potential environmental impacts on the Harlem River
Transit
- Transit improvements in Package 1 result in a small increase in Northern Manhattan/Bronx bus ridership
- Transit improvements in Packages 2 and 3 result in significant increases in Northern Manhattan/Bronx bus ridership primarily due to a new Bus Rapid Transit/Cross Bronx Connector Road System
- Bus ridership projections in Package 3 are similar whether a new Bus Rapid Transit/Cross Bronx Connector Road System is restricted to buses only or is shared by buses and other vehicles

Roadway
- All packages are projected to improve future operating conditions
- Operations with Packages 2 and 3 are projected to improve compared to Package 1. However, extensive analysis is required for:
  - Restoration of the Trans-Manhattan Expressway Tunnels included in Package 2
  - Construction of a new Harlem River Bridge in Package 3
- The optimal package may involve a combination of elements from Package 2 and Package 3

Who's Who in the Study
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For Further Information:
Please take a moment to visit our Web site at www.dot.state.ny.us/reg/r11/bxmis
BAN MIS ALTERNATIVE PACKAGES

- Improve Connections to Metro-North Stations
- Provide New East-West Local and Limited Routes
- Provide Common Fare Policy Between NYCT and Bee-Line
- Extend Bee-Line Routes Into The Bronx
- Improve Bus Connections to the GWB Bus Station

Elements in Package 1:
- Elements in Packages 2 and 3 (except where noted)

Elements in Package 1 are included in Packages 2 and 3 (except where noted)
### DESCRIPTION OF BAN MIS ALTERNATIVE PACKAGES

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