URBAN FREIGHT
DEVELOPING A FREIGHT EFFICIENT STRATEGY IN A BUILT ENVIRONMENT
BACKGROUND
HOW WE ENDED UP AT THE LOADING DOCKS

IN THE EARLY 1990’S SEN. MOYNIHAN’S OFFICE ASKED THE CENTER TO FIND OUT WHY IT WAS SO COSTLY TO SHIP GOODS INTO NEW YORK CITY’S CENTRAL BUSINESS DISTRICT (CBD).
WHO KNEW WHERE THIS JOURNEY WOULD LEAD US?
URBAN GOODS MOVEMENT STUDY (UGMS) -- GOALS

• MAP TIME AND DISTANCE OF GOODS DELIVERY FROM THE LAST NODE ON THE SUPPLY CHAIN BEFORE THE FINAL DROP-OFF POINT IN THE CBD

• IDENTIFY BARRIERS TO THE EFFICIENT MOVEMENT OF GOODS INTO AND THROUGH THE CBD
UGMS -- STAGE I

INDUSTRY SECTOR FOCUS GROUPS

– TOPICS ADDRESSED INCLUDED

• MAJOR BARRIERS TO MOVING GOODS INTO CBD

• MAJOR BARRIERS TO DECREASING TURNAROUND TIME AND LOWERING DELIVERY COSTS

• TIME OF DAY AND AVERAGE DURATION OF DELIVERY
UGMS -- STAGE I CONT’D

• 13 INDUSTRY SECTOR FOCUS GROUPS
SHIPPERS: Apparel, Consumer Products, Cosmetics, Food, Hi-Tech, Hospital Products, Media, Pharmaceuticals, Publishing, Retail
CARRIERS: Truck Load (TL), Less than Truck Load (LTL), Small Package Carriers
UGMS -- STAGE II

INTERVIEW/SURVEYS OF SHIPPERS AND CARRIERS

– INFORMATION COLLECTED

• PRODUCT CATEGORY
• TRANSPORTATION SERVICES USED TO MOVE PRODUCT INTO CBD
• DISTRIBUTION CHANNELS
• CHARACTERISTICS OF TRUCK TRIP
• BARRIERS TO FREIGHT EFFICIENCY
UGMS-- STAGE II CONT’D

• 74 FREIGHT MOBILITY INTERVIEWS/ SURVEYS
  14 Industry Sectors Represented
UGMS
FINDINGS: STAGES I & II

• CONSISTENT ACROSS INDUSTRY SECTORS
• BARRIERS TO FREIGHT MOBILITY
  – USUAL SUSPECTS
    • CONGESTION, THEFT/VANDALISM, STREETS CLOSED TO TRUCK TRAFFIC, PARADES, TICKETS, TOWAWAYS, ETC.
  – VISIBLE PUBLIC SECTOR BARRIERS
    • INSUFFICIENT AND INACCESSIBLE TRUCK ZONES AND CURBSIDE PARKING
  – INVISIBLE PRIVATE SECTOR BARRIERS
    • INADEQUATE LOADING DOCKS/BAYS AND FREIGHT ELEVATORS IN COMMERCIAL OFFICE BLDGS. (COBS)
STAGE III--THE FIRST & LAST MILE

THE PICK UP AND DELIVERY POINT AT OFF-LOADING FACILITIES IN COBS
STAGE III--THE FIRST & LAST MILE

• SURVEY OF BUILDING CHARACTERISTICS
  – DATE BUILT, NO. FLOORS, NO. OPERATING BAYS, NO. FREIGHT ELEVATORS, DELIVERY WINDOWS

• TIME AND MOTION STUDY OF VEHICULAR DELIVERIES TO LOADING DOCKS
  – ARRIVAL AND DEPARTURE TIMES
  – DWELL TIMES (IN DOCK AND ON STREET)

• COMPILE NO. OF DAILY DOCK DELIVERIES FOR 4-6 WEEK PERIOD
  – COBS KEEP DAILY LOG OF DOCK DELIVERIES BY TRUCK
STAGE III--THE FIRST & LAST MILE

CHARACTERISTICS BY BUILDING CLASS*

• 59 CLASS A PREMIER COBS
• 21-50 RENTABLE FLOORS FOR MAJORITY
• 47 HAD OPERATING FREIGHT DOCKS
• 12 HAD FREIGHT DOORS
• 30 HAD ONE FREIGHT ELEVATOR
• 12 HAD 2, 12 HAD 3 AND 4 HAD 4 OR MORE FREIGHT ELEVATORS

*DETERMINED BY LOCATION, RENT, AMENITIES, MARKET PERCEPTION ETC.
STAGE III--THE FIRST & LAST MILE

CHARACTERISTICS BY BUILDING CLASS CONT’D

- 23 CLASS B’s
- 6-56 RENTABLE FLOORS
- 2 HAD OPERATING FREIGHT DOCKS
- 21 HAD GROUND FLOOR FREIGHT DOORS, SIDEWALK FREIGHT DOORS, ETC.
- 16 HAD ONE FREIGHT ELEVATOR
- 6 HAD TWO FREIGHT ELEVATORS
STAGE III--THE FIRST & LAST MILE

TIME & MOTION STUDY: 6 CLASS A’S

• DAILY DELIVERIES RANGED FROM 5.1 TO 171.7 WITH A MEDIAN OF 23.9
• STRONG CORRELATION BETWEEN BLDG. SIZE AND NO. OF DAILY DELIVERIES
• DELIVERIES IN MORNING ABOUT 60% (8:00am to 12:30 pm)
• DELIVERIES IN AFTERNOON ABOUT 40% (12:30pm to 5:00pm)
STAGE III--THE FIRST & LAST MILE

TIME & MOTION STUDY CONT’D.

• AVERAGE DWELL TIME (DT) IN DOCK ABOUT 31-1/2 MINUTES
  - DT AVERAGES AT INDIVIDUAL BUILDINGS 22 TO 48 MINUTES
• AVERAGE DT ON STREET ABOUT 20-1/2 MINUTES
  - DT AVERAGES AT INDIVIDUAL BUILDINGS 14 TO 36 MINUTES
• DT IN DOCK AND ON STREET LONGER IN MORNING THAN IN AFTERNOON
TO SUSTAIN AND GROW EFFICIENT URBAN FREIGHT OPERATIONS REQUIRES

• ACCESSIBLE STREETS
• AVAILABLE CURB SPACE
• SUFFICIENT NO. OF LOADING BAYS
• ADEQUATE NO. OF FREIGHT ELEVATORS
FROM THE LAST MILE TO AN URBAN FREIGHT CONCEPT

• URBAN FREIGHT (UF), ANOTHER DIMENSION OF GOODS MOVEMENT, IS SHAPED BY DIFFERENT FACTORS THAN HIGHWAY FREIGHT

• UF OPERATES IN A COMMERCIAL CENTER/CBD WITH A MATURE INFRASTRUCTURE AND A LIMITED PHYSICAL CAPACITY

• FREIGHT MOBILITY IS RESTRICTED IN A BUILT ENVIRONMENT SINCE THERE ARE FEW OPTIONS FOR CHANGE
APPLY UF CONCEPT TO DOWNTOWN FUTURE GROUP

- ARCHITECTS, DEMOGRAPHERS, ECONOMISTS, REAL ESTATE ANALYSTS, TRANSPORTATION PLANNERS

- VISIONARY DOWNTOWN 2020 PLAN TO REVITALIZE LOWER MANHATTAN
PHYSICAL LIMITATIONS SOUTH OF CANAL STREET POST 9/11

- SHORTER AND NARROWER STREETS IN OLDEST PART OF CITY CONTRIBUTE TO IMMOBILITY
- ENDEMIC GRIDLOCK AND CONGESTION INTERFERE WITH BUSINESS
- WIDESPREAD CONSTRUCTION INTERFERES WITH TRAFFIC FLOW AND PEDESTRIAN MOVEMENT
PHYSICAL LIMITATIONS CONT’D

• INACCESSIBLE CURB SPACE
  – EXCESSIVE USE OF LEGAL AND UNAUTHORIZED PLACARDS ALTHOUGH MOST OF DOWNTOWN A “NO PERMIT AREA”

• STREET CLOSINGS AND LACK OF ACCESS
  – DUE TO UPGRADING SEWER AND ELECTRICAL SYSTEMS DOWNTOWN

• INADEQUATE OFF-LOADING FACILITIES IN COMMERCIAL PROPERTIES
  – INSUFFICIENT LOADING BAYS AND FREIGHT ELEVATORS
MANAGEMENT AND POLICY RECOMMENDATIONS

• ENFORCE REGULATIONS FOR PLACARDS AND TRUCK PARKING ZONES

• REDUCE NUMBER OF PLACARDS ISSUED

• INSTALL ADDITIONAL MUNI-METERS
  – RESERVE CURB SPACE FOR COMMERCIAL PARKING DURING WORK DAY
  – THREE HOUR TIME LIMIT
  – RATES INCREASE EACH HOUR FROM $2 TO $5 TO $9 LEADING TO FASTER TURNAROUND
• OFFER INCENTIVES TO REDUCE DRIVE TO WORK
  – EXTEND TRANSIT RIDE TO FINAL DESTINATION WITH NO-FARE MINI E/W-N/S BUS LOOPS
  – PARKING GARAGES WITH SUBSIDIZED JITNEYS TO TRANSPORT WORKERS TO OFFICES

• MANAGE, MONITOR AND COORDINATE ON-STREET CONSTRUCTION SCHEDULES
  – AUTOMATIC NOTIFICATION OF STREET CLOSURES
PRIVATE/PUBLIC SECTORS
MANAGEMENT AND POLICY
RECOMMENDATIONS

• DEVELOP STANDARDS FOR SUFFICIENT
  LOADING BAYS  AND FREIGHT
  ELEVATORS IN NEW COBS

• OFFER BUILDING OWNERS TAX
  ABATEMENTS TO  MODIFY/RETOFIT
  EXISTING OFF-LOADING FACILITIES

• EXPAND OFF-PEAK DELIVERIES
  – START WITH BULK AND LTL CARRIERS
CONCLUSIONS

• FREIGHT DOES NOT WALK
• DELIVERIES AND PICK-UPS IN THE LAST MILE ARE BY TRUCK
• BRICK AND MORTAR SOLUTIONS CANNOT OVERCOME PHYSICAL LIMITATIONS THAT BREED CONGESTION IN CBDS
• INADEQUATE OFF-LOADING FACILITIES ARE A NATIONAL PROBLEM --ITS NOT JUST NEW YORK CITY