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Description of transportation data to be collected for NYMTC's Products, Reports, and Performance Measures.

Collection of transportation data and their standardization and unification is a critical component of NYMTC's activities**.** In the New York metropolitan area there are many transportation agencies/organizations which operate transportation facilities, and are responsible for operation and collecting data both, statistical and financial information. The information acquired from these agencies is often not coordinated and occasional not-comparable, because of various software and diverse formats used. The purpose of the following is to serve as Data Definitions and Guide for agencies and organizations in their collection of transportation data and statistic. *NYMTC will be compiling this information from the members and agencies to develop an extensive inventory of existing data items and sources. At the same time NYMTC will be making an assessment of data needs to support NYMTC's many projects and products like the Regional Transportation Plan, Air Quality Conformity, Transportation Models, Hub-Bound, and other Data Reports (see Attached Data Needs matrix). Missing and/or incomplete data will be identified and a process for collecting the additional information will be developed. NYMTC' goal is to automate as much as possible this data collection function using electronic formats and to develop a Regional Data Repository or Data Warehouse for the Members to share information and allow public Web access to non-sensitive information.*

SOCIOECONMIC DATA

A. Demographics

1. Population – Decennial censuses and inter-cennsial estimates prepared by the Census Bureau. Agencies should submit their own estimates. County level long range forecasts developed by a consultant should be reviewed by Forecasting Working Group to reach a consensus. Following Forecasting Working Group (FWG) comments, revised forecasts are presented to PFAC, which in turn adopts or incorporates them into Regional Transportation Plan.

2. Household – Decennial censuses from the Census Bureau. Agencies should submit their own estimates with methodologies. See #1 re: forecasts.

3. School Enrollment - NY www.nycenet.edu/stats/register/sform.asp, NJ Department of Education

4. Vehicle Registrations – Vehicle data collected from NYSDMV by the county includes: registered passenger cars, commercial registrations and motorcycles. Rental cars and taxis are included in passenger vehicles.

5. Driver Licenses – Data is compiled by county and gender from NYSDMV.

B. Socioeconomic

1. Employment –County level data on non wage and salary (payroll) by industry categories based on NAICS are obtained from the three State Departments of Labor, and on self-employed (proprietors) comes from U.S. Bureau of Economic Analysis (BEA). See # A 1 re: forecasts.

2. Labor Force – County level data on civilian labor force, unemployed labor force, and unemployment rates obtained from the three State Departments of Labor. See # A 1 re: forecasts.
3. BLS for each county and Unemployed Labor Force, Unemployment Rates annual data
4. Consumer Price Index – BLS annual data and percent changes. (//data.bls.gov/servlet/SurveyOutputServlet?jrunsessionid=1063635452091347445)

C. Regional Development

1. Land Use / Floor Space –
2. Permit Data – Agency should report residential projects with 50 or more Residential units and Commercial projects (retail and/or office buildings) with 50,000 sq. ft or more. Data should include the Name of the Development, Address and Town, number Res. Units or SqFt of Commercial-office space, and proposed year of construction.
3. Major Projects – Agencies should sent NYMTC copies of Environmental Assessments or Impact Studies (EIS) for major project that will have a significant effect on the transportation system.

HIGHWAY DATA

A. Traffic Counts

1. Volume Counts - Traffic count information is one of the most important indicators of our highway's system performance. Coverage counts by Agencies should contain a minimum of 48 to 72 hours and be performed on a 3 to 5 year cycle on all State and County Highways and HPMS segments. These counts should be performed in accordance with the New York State Standards for traffic data collection outlined in EI 01-001.
2. Classification Data - Agencies should conduct classification counts on 10 to 15 percent of their highway systems. FHWA 13 classes should be used. Vehicle Classification counts should be conducted for a minimum 48 hours period with at least 2 complete counts for each interval by direction and by lane during the work week. Free flow conditions are required for effective machine classification. Where conditions are not free flow or speeds are lower than 25 mph, manual vehicle classification counts should be obtained instead.
3. Vehicle Occupancy – Data is use to evaluate TDM strategies, HOV lanes, Hub-Bound travel, and Air Quality. Data categories should be collected as SOV, 2, 3+, Buses, and motorcycles at a minimum. Agencies collecting this data should Geo-Coded the location and submitted copies of the data to NYMTC.
4. Tolls – Revenue and vehicle usage is reported from operators of toll facilities around the Metropolitan Area. Data is obtained monthly by vehicle axle classification. Data from operating agencies should be submitted in electronic spread sheet format.

B. Congestion Monitoring

1. Spot Speed Data - A spot speed study is a study of the speed of traffic at one point or spot on the roadway. Agencies should monitor about 10 to 15 percent of their highway systems for speed data. This data can be collected concurrently with classification data with the proper ATR equipment.
2. Delay – Measured in Vehicle or Passenger hours, delay is the excess time required to make a trip in comparison to the time the trip would have taken under free flow conditions. Delays can be recurring attributed to congestions and bottleneck or nonrecurring resulting from incidents, crashes or weather related.
3. Freight Delays – Measured in tons or cargo value, is the excess time above the projected time required to make deliveries of goods or products. For highways this data can be estimated from percentage of commercial vehicles in the traffic stream.
4. Corridor Travel Times - Travel time studies by time of day for corridors is important for determining congestion levels and estimating system travel time reliability. Agencies should collect this data by highway segments and report data as average speed for the segment and by time of day.

C. Accident Data

1. Number - Data collected from NYSDMV by county includes: number of vehicle crashes, crashes resulting in fatality, injury and property damage, crashes by human, vehicular and environmental factors, total number of vehicles in crashes with fatality, injury and property damage, crashes by gender and age, vehicular/pedestrian crashes at intersection and mid-block, pedestrian fatalities in vehicle/pedestrian crashes, bicyclists killed/injured in vehicle/bicycle crashes, crashes by road jurisdiction, crashes by day of week, crashes by time of day, crash data by manner of collision, centerline miles, auto registration, registration by vehicle type. Transit data collected includes: transit accidents, injuries, and fatalities.
2. Locations – Again from NYSDMV by county and by Reference Marker on State Highway system.
3. Rates – Rates are determined from the number of accidents and from traffic counts provided by each agency. Rates are calculated as Accidents per million vehicle miles of travel for highways or for intersection by million vehicles entering.

D. Infrastructure / Assets

1. Signal Systems – By agency the number and percentages of traffic signals that are in coordinated systems for Air Quality analysis.

2. Highway Miles/Lanes – Annual updates of inventories by agencies of local highway miles an functional classification. Data need for determination of Federal Fund allocations and projects eligible for Federal funds.

3. Condition data – Agencies should rate their highway's structural condition. State highways should perform annual rating while counties should rate their highways every on a 1 to 3 years cycle. This information will help in programming pavement improvement projects.

4. Useful Life – Agencies should determine service life of various pavement treatment options and justification for the use of each option.

5. Maintenance/Replacement Cost – Agencies should develop estimates of maintenance and replacement cost for their infrastructure assets. This information is essential for developing long term financial needs required for the Regional Transportation Plan (RTP).

TRANSIT

A. Subways, Buses, and Commuter Rail

1. Ridership - Passenger ridership data by month for NYC Subway, Long Island Rail Road, Long Island Bus, Metro-North Railroad (separately for Harlem Line, Hudson Line, New Haven Line, and West of Hudson lines) and Staten Island Railway are provided in the Metropolitan Transportation Authority monthly report prepared by MTA Budget Division. These data are available for us in hard copies only. Needed: electronic (spreadsheet) format of data.

2. Financial data Subway, Long Island Rail Road, Long Island Bus, Metro-North Railroad and Staten Island Railway: Revenue Passengers data for each month for Subway, Long Island Rail Road, Long Island Bus, and Metro-North Railroad (separately for Harlem Line, Hudson Line, New Haven Line, and West of Hudson lines) and Staten Island Railway, are available in Metropolitan Transportation Authority monthly report prepared by MTA Budget Division. These data are available for us in hard copies only. Needed: electronic format of data.

3. Schedules/Headways - May be requested from MTA and other operators for each mode of public transportation and for each line, in electronic (spreadsheet) format.

4. Vehicles/Capacities –

B. Ferries - There are two types: NYC DOT-operated ferry and Private ferries.

1. NYC DOT - Ferries operated by NYCDOT
   No fares. Ridership monthly data and schedule are available from NYC DOT. Required: electronic (spreadsheet) format of data.
2. Ferries – Private - There are several operating companies in the region (NYC-NJ and Long Island ferries). Ridership monthly data are available (except Long Island ferries) in electronic format from PANY&NJ. Financial data such as passenger revenue and fares for each operating company and for each line may be requested in electronic format from PANY&NJ

C. Equipment Needs

1. Condition Data – Average age of fleets
2. Useful life – Expected number of years of service from transit vehicle.
3. Maintenance/Replacement cost – Transit agencies should develop estimates of maintenance and replacement cost for their vehicles and equipment. This information is essential for developing long term financial needs required for the Regional Transportation Plan (RTP).

ADDITIONAL SUPPORTING DATA

A. Non-Motorized

1. Bicycle Data - Any studies by agencies of counts or observations of bicycle travel in the Region by locations and any demographic characteristics of bicycling i.e. East End, Parks, and Beaches etc.
2. Pedestrian Data - Any studies by agencies of counts or observations of pedestrian movement in the Region.

B. TIP

1. Project Data – Scope and Financial Data. Agencies should identify the complete scope of work with limits for each project to be displayed in the TIP, whether for federal funding or informational purposes and include enough detail such that anyone can determine the intent of the project and its location. As there are many users from implementing agencies, air quality agencies (EPA, DEC), federal oversight agencies, and the general public, there needs to be enough information to determine "what the projects accomplishes."

2. Air Quality Data – If a project is deemed needed for the BPM process (typically, but not limited to Non-Exempt projects), the data/characteristics of the project will need to be collected from the sponsoring Agency. The agency will be required to complete the Air Quality sheets necessary to update the transportation network the model to preform conformity analysis.

3. GIS Spatial Info - The spatial data (Geo-Coding) is required for all non area-wide projects for the GIS interactive TIP feature on the NYMTC web-site.

C. Inventory, Surveys

D. Transportation Demand Management (TDM) - Agencies should report their current efforts in these strategies and report any Air Quality or congestion reduction benefit. TDM are strategies that

result in more efficient use of transportation resources. Just a few of these strategies include: ridesharing/Carpooling, public education about transportation issues, various driving disincentives and ridesharing incentives, commute trip reduction programs, transit use, zoning and ordinances that promote transit use and mixed-use development, park-and-ride facilities, and other measure to reduce pollution and congestion.

E. Airports - Data pertaining to revenue passengers, aircraft flights, cargo tonnage, is collected for the following airports: Kennedy, LaGuardia, Newark, Long Island MacArthur, Stewart, and Westchester County. This data is supplied by the Port Authority of NY&NJ and local airport operaters.

F. Freight Data / Tonnage / Value
1. Trucks / Veh Miles of Travel – Volume of trucks by class, by route or location, and Truck VMT
2. Rail – Carloads, Containers, 20 ft. Equivalent Units (TEU's)
3. Waterborne – Containers, ports,
4. Air Freight – volume, value

Freight Data Indicators:

Highways	Rail Freight	Port	Air Cargo
Operating Measures: • Truck volumes (with respect to total traffic volumes) • Levels of service (LOS) for major truck routes • Average speed • Toll costs • Curbside space management (loading/unloading zones, parking enforcement, etc.) • Accident and incident rates **Physical Measures:** • Height clearances • Turning radii • Access width • Weight limitations • Truck delays at railroad/highway grade crossings • Usable shoulders • Highway design standards, acceleration/decelerati on lanes, truck climbing lanes, etc. • Signage; and • Curbside capacity (for truck operations)	**Rail Freight Traffic Levels:** • Rail carloads exchanged with East-of-Hudson origins/ destinations • Container or trailer groundings in the East-of-Hudson region **Rail Freight Levels of Service:** • (Proprietary information, may be difficult to acquire) **Rail Freight Market Share:** • Rail as a percentage of total regional freight traffic **Rail Freight Competition:** • Number of competing carriers (preserving service options through future mergers) **Rail Terminal Access:** • Number of access modes (truck, barge/ferry) • Number of alternative access truck routes • Connection time/distance to nearest limited-access highway or mainline rail head • Average cost of dray operations	**Capacity:** • Actual throughput (total and per acre) • Actual throughput as a percentage of theoretical "maximum practical capacity" by functional component of each terminal (wharf and crane operation, storage, gate) **Operations:** • Average cargo dwell time • Hours of terminal operation • Utilization of storage (highversus low-density) **Port Terminal Access:** • Number of access modes (truck, rail, barge/ferry) • Rail barge mode share • Number of alternative access truck routes • LOS on major truck access routes • Access to on-dock rail • Connection time/distance to nearest limited-access highway or mainline rail head • Average cost of dray operations	**Capacity:** • Aircraft parking • Airfield capacity • Warehouse capacity Operations: • Availability/efficiency of Federal Inspection Services (FIS) • Tug distance to aircraft parking ramp **Airport Access:** • Number of alternative access truck routes • Connection time/distance to nearest limited-access highway or CBD • Average cost of dray operations

G. Customer Perceptions – Results and summaries of surveys data that query customers about the transportation service of agencies.

H. Intelligent Transportation Systems (ITS) - collect, store, process and share information related to the movement of people and goods. Examples include systems for traffic management, public transportation management, emergency management, traveler information, advanced vehicle control and safety, commercial vehicle operations, electronic payment and railroad grade crossing safety. NYMTC's ITS Integration Strategy Project is a roadmap for transportation systems integration in the 10 county area over the next 20 years. The ITS integration strategy is being developed through a cooperative effort by the region's transportation agencies, covering all modes and all roads in the region.

I. Technology Scan & Coverage

J. Financial Data

1. Programmed – The financial data for the TIP that is to be programmed on the current TIP or TIP update needs to include phases, amounts, obligation date, and fund source. The financial data has to be fiscally constrained to include fiscal constraint by year by fund source. Occasionally, the constraint can be across the three years of the program providing fiscal constraint is coordinated through the respective TCC and NYSDOT-MO. See your TCC representative for fiscal numbers.

2. Expenditures - What happened to the previous TIP projects is a federal requirement known as the "Disposition of the previous TIP." The "Disposition", as it is known, typically shows the expenditures, slippage, deletion, or any other reason what happened to a previous TIP project.