Methodology for Estimating Economic Impacts Of The New NY Bridge project

Empire State Development and NYS Department of Labor

This paper summarizes how NYS Department of Labor (NYSDOL) and Empire State Development (ESD) and analyzed economic impacts and occupational needs of the New NY Bridge project.

Summary of Key Points

[all figures pertain to five-year construction period]

- Jobs: 38,644 direct, indirect, and induced "job-years"
- Gross Domestic Product of the New NY Bridge project (total value of final goods and services): $3.2 billion
- Output (total value of all goods produced): $5.6 billion
- Total personal income (direct, indirect and induced construction-related jobs): $3.7 billion
- Real disposable personal income: $2.0 billion

Occupational Impact of the New NY Bridge project

Table 1 (below) presents estimates of the occupational labor demand of the New NY Bridge project over the five-year construction period, based on $3.9B spending. These estimates are derived from the EMSI model. As shown, apart from construction and extraction occupations, the occupations that experience the greatest employment would be: office and administrative support (2,554); sales and related occupations (2,068); management (1,976); and transportation and material moving (1,583).

Table 1 – Occupational Demand over the five-year period of construction of the New NY Bridge project, based on $3.9B billion in spending

Occupation	Change in Jobs
Management Occupations	1,976
Business and Financial Operations Occupations	938
Computer and Mathematical Occupations	167
Architecture and Engineering Occupations	525
Life, Physical, and Social Science Occupations	97
Community and Social Service Occupations	151
Legal Occupations	134
Education, Training, and Library Occupations	454
Arts, Design, Entertainment, Sports, and Media Occupations	382

Occupation	Change in Jobs	
Healthcare Practitioners and Technical Occupations	656	
Healthcare Support Occupations	380	
Protective Service Occupations	308	
Food Preparation and Serving Related Occupations	778	
Building and Grounds Cleaning and Maintenance Occupations	532	
Personal Care and Service Occupations	604	
Sales and Related Occupations	2,068	
Office and Administrative Support Occupations	2,554	
Farming, Fishing, and Forestry Occupations	16	
Construction and Extraction Occupations	13,470	
Installation, Maintenance, and Repair Occupations	843	
Production Occupations	428	
Transportation and Material Moving Occupations	1,583	

Economic Impact Modeling

Overall economic impacts will be analyzed using the REMI model developed by Regional Economic Models, Inc. The REMI model is a dynamic forecasting tool that estimates the economic impact on an economy attributable to changes in public investments, policies, programs, and business or industry development. The REMI model is widely used by economic development agencies to respond to "what if" questions related to different scenarios of potential actions and to summarize in detail the relative impacts of each scenario.

What distinguishes the REMI model from other evaluation tools is that the estimated impacts reflect the dynamic changes an action (e.g., increase in public spending) sets in motion, using a number of policy variables in the model, as the action works its way through the economy. Estimated results reflect the feedback adjustments made by businesses and individuals as purchases are made over time. In the case of public infrastructure investment, an increase in construction spending would directly affect the demand for construction good and services. The model estimates the impact of this spending as it triggers responses from all other sectors of the economy and provides summaries of these economic impacts.

The responses of the economy are measured in terms of changes in economic output, the demand for labor and capital, wages, prices of goods and services, investment, population and labor supply, market shares, and exports from the state or region. Increases in tax revenues are also estimated. REMI estimates the employment impact at a North American Industry Classification System (NAICS) level, and also estimates employment for numerous occupational

categories. However, these reflect the more general impact on all of the industry sectors used in the model and are not specifically construction-related occupations.

Economic Impact of the New NY Bridge project

The following presents preliminary estimates of statewide economic impacts of the New NY Bridge project using the REMI Model, developed by Regional Economic Models, Inc. The estimated impacts are over the five-year construction period based on $3.9B in total project spending.

- Jobs: 38,644 direct, indirect, and induced "job-years" over the five-year period of construction. The jobs are reported in "job-years" which is a standard measure of the employment impact of a project used by industry and government agencies including Federal Highway Administration, U.S. Department of Transportation, American Association of State Highway and Transportation Officials and Associated General Contractors. A job-year is defined as one job held for one year. As an example, one pile driver working for the duration of the entire five-year project will have worked five job-years. Similarly, if every job reflected in the 38,644 job-years estimate was for the five-year duration of construction project, then this job-years estimate would be equivalent to 7,728 unique full-time jobs (38,644 divided by five years).

  Additional analysis is required to determine the specific occupations, timing and term of each unique job reflected in the 38,644 job-years estimate.

- Gross Domestic Product of the New NY Bridge project (total value of final goods and services): $3.2B over the five-year construction period.

- Output (total value of all goods produced): $5.6B over the five-year construction period.

- Total personal income (direct, indirect and induced construction-related jobs): $3.7B over the five-year construction period.

- Real disposable personal income: $2.0B over the five-year construction period.

Occupational Labor Demand Modeling

Occupational labor demand of the New NY Bridge project will be identified by ESD and NYSDOL using occupational data and the Economic Modeling Specialists Intl. (EMSI) model.

Information on occupational labor demand directly related to the New NY Bridge project will enable local economic development groups and workforce development organizations to create a work-ready workforce by: aligning the existing labor supply with the project's labor demand to identify and address potential labor shortages; predicting timing and magnitude of hiring in order to effectively post job openings and schedule career fairs; and creating transparency about the types of jobs the project will create.

In addition, a large construction project like the New NY Bridge will spur secondary labor demand in retail trade, leisure and hospitality, and population-dependent industries such as health care. Therefore, information on secondary demand will help prepare for this secondary business growth.