

capability to plan, schedule, coordinate, and monitor all steps involved in the completion of a complicated construction project. Basically, PERT and CPM are systems for charting the work flow of an entire construction project in detail."

The greatly expanded expenditures for construction by State and local authorities have more than offset the increased productivity resulting in a steady rise in employment in this sector of the construction industry.

Since increased efficiency in the production of any material is frequently accompanied by a greater use of that material, the net effect is to offset the disemployment effect of the increased efficiency. For example, the technological changes in the preparation and use of concrete has actually created an increased demand for concrete workers.

It is important to note that the decreased use of certain materials does not always mean a reduction in the number of workers traditionally employed with that material. For example, carpenters frequently install materials which have replaced wood in the modern structures.

IV. OUTLOOK FOR LABOR REQUIREMENTS FOR STATE AND LOCAL PUBLIC WORKS, 1966-75

Projections of construction volume for 1975 have been prepared by the Department of Commerce based on two different unemployment rate assumptions. Projection A assumes a 3-percent and projection B a 4-percent unemployment rate for the total labor force. Both of these projections are also dependent on specific assumptions of GNP, personal income, government expenditure, and other factors discussed elsewhere in this analysis.

Projection A assumes a 133-percent increase in current dollar value of such construction reaching \$41.7 billion in 1975. Projection B anticipates \$36.6 billion of State and local construction, more than double the current rates. The constant dollar estimates for the two projections are \$26.3 billion and \$25.0 billion.

Allowing for increased productivity, it is estimated that 2,802,000 full-time workers will be needed in 1975 for this work under projection A, and 2,744,000 under projection B.⁹ Thirty-eight percent of these (1,070,000 and 1,048,000, respectively), would be needed in the construction industry and the balance in sectors supplying the necessary materials and service.

For on-site construction workers, the estimated man-year requirements for State and local construction are shown in table 13.

⁹ The ratio of constant dollar value for A over B is higher than that ratio for employment since the increased growth of A would presumably increase productivity.