

Tennessee-Tombigbee Corridor Area: Growth Forecasting and Management

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The concept of a Tennessee-Tombigbee Waterway predates even the agency which is building it, but the fundamental reason for the project has remained the same for over 200 years: to provide a trade route between the mid-continent of North America and the Gulf Coast. Much was written about the benefits of such a route, and many surveys were made, but it was not until after a re-evaluation in 1967 that pre-construction planning and engineering was accomplished, between 1967 and 1970, and construction of this transportation artery officially began in 1972. It soon became apparent that engineering, designing and constructing the waterway itself could be supplemented by planning activities which would allow the areas most affected by the project to take advantage of the potential for economic development. Responding to this need, Congress directed the Corps of Engineers to undertake a study to address these issues.

The Tennessee-Tombigbee Corridor Study, as this regional planning effort is now called, is authorized by three Congressional resolutions which specifically mention 35 counties. The last of these resolutions, in April of 1978, gave the Chief of Engineers the authority to include other appropriate counties, and thirteen have since been added. Thus, the study area now encompasses 48 counties in Alabama, Kentucky, Mississippi and Tennessee and covers 29,300 square miles stretching from the Ohio River to the Gulf of Mexico.

The Corridor Study is designed to help local communities, counties and planning agencies to discern the opportunities for economic and human resource development, to identify the necessary resources to take advantage of these opportunities, to anticipate the impacts of potential development strategies, and to formulate ways to mitigate or avoid adverse impacts while reinforcing the probability of desirable effects. All of these planning tasks are directly related to potential economic development, and planning for this potential is the major focus of the Corridor Study.

While investigations of the possibilities for economic development are a primary focus, they constitute but one of four major objectives which reflect both the intent of the Congressional resolutions and the desires of area citizens and planners. These objectives are water resources development, environmental quality, economic development and human resources development. The first two are traditional Corps of Engineers concerns, but the latter two are not. Consequently, a major portion of the study effort will concentrate on non-traditional objectives.

In formulating the overall plan of study for the Corridor Study, the Corps has consulted with residents of the counties and with local, state and Federal agencies to develop a strategy which will best address the issues of potential development. The aggregate of this input has resulted in a methodology which will array a set of options for the best uses of the area's resources. To guide these

efforts, a three-tiered study management structure has been set up which places local, state and Federal management and planning expertise alongside the Corps and thus insures that all investigations respond as directly as possible to the needs and desires of the study area.

Economic analyses will concentrate on individual counties or on small groups of counties and will not attempt to examine the entire study area as a system. By doing this the studies recognize that there are distinctive socio-economic systems in different parts of the corridor, and that these different systems react in dissimilar ways to growth stimuli. The studies will consider the competitive nature of economic development and recognize that its location in a given area will ultimately be determined by local initiative which successfully meshes with the needs of the potential growth agents.

The basic economic studies consist of two phases, with several tasks within each phase. The potential for many iterations is built into these phases, and there are also provisions for the interaction of these economic studies with the environmental, human resources and water resources objectives.

Phase One is known as the Pilot Studies. The objective of this phase is to utilize existing county level impact assessment models and locational advantage methodologies to analyze the data needs for the investigations of the entire study area. The purposes of this initial-stage analysis will be:

1. To assess input data needs in terms of both type and scope;
2. To identify the requirements for additional impact categories or redefinition of existing categories;
3. To determine the needs for additional software development; and
4. To determine the allowable or appropriate degrees of disaggregation of direct and indirect impacts.

The study area for this phase consists of five counties selected from the 48 in the overall study area. These counties and the general socio-economic types they represent are:

1. Mobile, Alabama, a large urban county of national economic significance;
2. McCracken, Kentucky, a small to medium urban county of regional significance;
3. Itawamba, Mississippi, a self-sustaining rural county with no large population center;
4. Wayne, Tennessee, an economically deprived county; and
5. Greene, Alabama, a predominantly minority county.

The first four counties were selected from a group of 16 which were nominated by the four states. Greene County and its category were added as a result of a proposal submitted by members of the study's Economic Development Subcommittee.

The Pilot Studies consist of four discrete but interrelated tasks. The first of these is the implementation of existing county-level impact assessment models in each of the counties. Two known

models will be used, and others will be reviewed and considered. The first of the known models was developed by the Corps' Construction Engineering Research Laboratory and is called the Economic Impact Forecasting System, or EIFS. This methodology was developed for use in analyzing the impacts on local areas of the expansion, reduction or closure of military facilities. The system is both a data source and an analytical tool, and it provides the user with dollar estimates of the impacts of certain activities on the economies of single counties or groups of counties. Although the system was formulated to utilize data which is specific to military activities, users are able to adapt it for other purposes. A project is currently underway at the laboratory to facilitate the model's use for non-military planning studies. The other known model is the Social and Economic Assessment Model, or SEAM, developed by Argonne National Laboratory. The SEAM methodology evolved as a mechanism for the assessment of community impacts resulting from energy development.

Both models use as input an estimate of employment and related changes due to the addition, deletion or reduction of activities, and both generate as output estimates of economic and social impacts. The EIFS estimates generally concentrate on broad categories such as changes in total business volume, personal income or housing expenditures, while SEAM calculates such estimates as costs of providing public services to an expanding population, projections of workforce, and housing needs information. For purposes of the Pilot Studies, input data will come from existing local plans or from consultations with local officials.

The second task of Phase One will be the development of a tentative list of industry types for each county and a ranking of the advantages of the counties in terms of the needs of each identified type. Data and methodologies have been developed by the Economic Development Administration and others for this kind of analysis. The output of this task will be a sample ranking, in each county, of industry requirements and preferences in relation to an area's characteristics.

Task Three will be a demonstration of the model results for county and state planners. These test runs will allow an evaluation of the effectiveness of the models in fulfilling the informational needs of local and state officials and will also provide the opportunity to recommend changes or modifications in the methodologies prior to the outset of the overall economic studies.

The final task of the Pilot Studies will be a report which documents the results of the studies and makes recommendations for the models or combination of methodologies to be used in Phase Two. Once the tools of analysis are selected, the studies for all 48 counties will begin. The Overall Studies, Phase Two, consists of seven tasks, and will be supplemented by a separate work item which will develop a set of population projections for the study area based on 1980 Census data.

The first task will develop data on the potential for industrial location and expansion in the Corridor area counties. The focus of this effort will be an assessment of overall development trends in the southeast and recent developments in waterway counties roughly similar to those in the Corridor. Waterways such as the Arkansas River, the lower Mississippi, the Ohio River and the Black Warrior River will be reviewed. Studies of these counties will include locations and expansion of industry since 1970 and trends in population and employment. Part of this task will also review studies of industry types which are moving and expanding. The task output will be a list of industries which seem to have potential for location (or expansion) in the study area. The list will include both manufacturing and non-manufacturing industries.

Task Two will develop and implement a flexible locational advantage methodology for the study area. Every industrial firm

has a list of requirements and preferences, and this effort will utilize the methodology identified in the Pilot Studies to rank potential industry types for each county and for certain groups of counties. The data base for the county characteristics will be developed from secondary sources where possible. When needed, primary data gathering will be undertaken.

Task Three will be the final calibration and implementation of the impact assessment model or models. Using the recommended methodology from Phase One, the impacts of the ranked industrial types on the counties and groups of counties will be estimated. Local, regional and state planners will be consulted to determine development types which are believed attainable by 1990, and impact assessment for those types will be developed. The minimum information resulting from this task will be assessments of labor needs and availability, generalized energy requirements, transportation needs, fiscal impacts, water supply and waste treatment needs, and additional public service needs.

The fourth task will develop growth scenarios. These scenarios will provide a set of alternative futures which diverge from those based on analytical techniques. At least three scenarios will be formulated for each county along with impact assessments for each strategy. One of these futures will be sensitive to locally expressed priorities such as increased income, protection of local jobs, financing of additional expansion, or other issues. Elements from the ongoing planning efforts for environmental quality, water resources and human resources will be a particularly important input during this task, as will input from local residents and officials. The time frame for these scenarios will extend to the year 2000.

Task Five of the Overall Studies will be an additional assessment of the impacts of the growth scenarios to determine potential effects on wetlands, rare and endangered species habitat and other areas of concern. A preliminary assessment will be made in order to determine if any of the accepted scenarios will require Section 10 or Section 404 permits from the Corps or similar permits from the states. These impacts assessments will be in addition to those formulated for the economic and social aspects of development.

The sixth task will consist of the preparation of the findings resulting from the studies for each county. Meetings will be held at the regional planning agencies throughout the study area to explain the details of the analysis to the residents and officials of each county. Reports will be prepared for each county, each regional planning group, and other county groups under study.

Task Seven, the final work item of the overall studies, is in many ways the most important. User manuals will be developed which operationalize the impact assessment and locational advantage capabilities at the county and regional planning group level. The ultimate goal of the economic studies is to provide a tool which can be used by the local planners long after the Corridor Study has been completed. A data system which is readily accessible and which minimizes costs for both access and outputs will be developed and domiciled at a place, or at several places like area universities, so that the benefits of this effort will continue to accrue.

After all of the major analytical studies have been completed, implementation studies will be developed which identify Federal, state, local and private program resources that are available for development planning. The result will be a compendium of agencies and organizations which can provide both financial aid and/or planning expertise in all phases of planning.

The economic and growth analysis process just described goes through several study elements and progressively develops a description of potential, then an evaluation of the region's ability to attract this potential, then a two-stage impact assessment and locational advantage process to match the potential and the area, and finally, a set of data management and implementation measures. However, these statements of potential futures that

the study will generate are only the logical outcomes of a practical set of decisions. For any one of the identified development types which might locate in the Corridor as a result of the area's attributes, there are probably hundreds of equally well-endowed sites, many along other waterways. It is equally likely that all of these hundreds of sites have some shortcomings. Therefore, the Corridor area will face vigorous competition, and

the final site selection of a particular industry will very probably be based on the will and ability of the selected area to solve the problems associated with the location of that activity. The Corridor Study's economic investigations will be addressed to fine-tuning the problem-solving skills needed and the information flow required to successfully compete for compatible economic development.