Steven Manvers

TRANSPORTATION ACCESS AND THE LOCATION OF ADVANCED TECHNOLOGY FIRMS IN PENNSYLVANIA (RPN-83-22)

FINAL REPORT VOLUME I RESEARCH FINDINGS AND RECOMMENDATIONS

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Volume I - Research Findings and Recommendations

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EXHIBIT A Organizational Framework to Implement Recommendations

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1. EXECUTIVE SUMMARY

The Pennsylvania Department of Transportation (PennDOT) commissioned researchers at the University of Pittsburgh's Center for Social and Urban Research to determine if there was a basis for PennDOT to modify its current policy and programs so that it could enhance the attraction, expansion, and retention of Advanced Technology (AT) firms in those corridors throughout the state where concentrations of AT firms exist.

On the basis of this research's findings and conclusions a set of recommendations have been made. These recommendations are based on the general finding that AT firms warrant the special attention of PennDOT since AT firms in these corridors are significantly different from comparable non-AT firms in their use of transportation facilities and have special development needs.

After a review of current PennDOT policy and interaction with PennDOT personnel the researchers are suggesting an organizational framework within which their research's recommendations could be implemented. It is anticipated that further discussion of this research's findings, conclusions, and recommendations will lead to modifications in PennDOT policy and programs with regard to the attraction, expansion, and retention of AT firms in those corridors where they are concentrated.

This executive summary highlights the research plan and the research's key findings, conclusions, and recommendations. All of these highlights are elaborated in the two volume research report.

1.1 Research Plan

In order to answer PennDOT's policy question a research plan was designed to conduct an in-depth telephone survey of AT and comparable non-AT firms in five corridors throughout the state where AT firms were concentrated. Chapters 2 (Review of the Literature) and 3 (Research Methods) together with sections of Volume II (Technical Appendices), elaborate on the operationalization of this research plan. This plan had two phases.

The initial phase's research objectives were to define and to inventory AT Firms. After reviewing the literature on the AT industry and empirical studies of AT firms, an operational definition was created. This definition considered not only the primary product or service that an AT firm produced but also the age of the technology used to produce it and the firm's association with development organizations. On the basis of this operational definition <u>The Directory of Advanced Technology Firms in Pennsylvania</u> was created. This directory's first edition (September, 1985) contained over 3800 firm names, addresses, and other identifiers.¹

"alta attributes," particularly planned industrial parks and "access to transportation facilities," notably sirports, and linkages to universities...

¹A second edition of this directory is being produced and will be available in July, 1986.

The markets for AT firm's primary products and services are less local and more national/international than non-AT firms' markets. This difference in market orientation has important implications for the selection of transportation modes to ship AT firms' primary product or service and to do business related travel.

The motor vehicle (trucks, company-owned vehicles, U.S. mail and express mail) was found to be the dominant transportation mode used by AT and non-AT firms. This finding is true for the shipment of the firms' primary product or service, receipt of inputs and supplies, employee business travel, and employee commutation.

While motor vehicles are the dominant transportation mode for both AT and non-AT firms, AT firms report that they use a more diverse variety of transportation modes than comparable non-AT firms for their business operations. For example, the U.S. mail and express mail services are significant to AT firms in both the shipment and receipt of products/services and inputs/supplies. Express mail service, especially in the State College corridor, may warrant further study.

Traffic problems in the vicinity of the firm's location are cited more often by AT than non-AT firms. Both AT and non-AT firms cite highway problems most frequently and specify the unique problems in their vicinity.

Air transportation is used more frequently by AT than by non-AT firms in both the shipment of products and services and in business travel. While air travel is not a dominant transportation mode for AT firms, it does warrant attention, especially in the Allegheny Valley corridor.

AT firms represent "targets of opportunity" for economic development programs since most of these firms report recent growth, anticipate growth and expansion in Pennsylvania, and act as income producers for local supply firms. Of particular importance would be locally based programs that are designed to assist small (less than 50 employees) and relatively new (less than 20 years old) AT firms.

The key conclusion from these findings is that AT firms warrant the special attention of multi-modal transportation planning, programming and operations since these firms use a more diverse variety of transportation modes in the five corridors in which they are concentrated. This conclusion suggests a statewide and corridor approach to transportation systems concerns. These findings also suggest that transportation is viewed as a necessary but not sufficient condition for locating and conducting successful business operations at a particular site in a corridor.

3

Exhibit A

ORGANIZATIONAL FRAMEWORK TO IMPLEMENT RECOMMENDATIONS

Transportation Access and the Location of Advanced Technology Firms in Pennsylvania

1. Coordinates the development of 1. Reviews project rating 12-year program methods to determine AT PennDOT 2. Provides guidance/support priority projects are to Districts concerning being considered Central District partnerships Offices Office 2. Takes lead in developing 3. Assures local governments public-private partner-٠ Program state adhere to uniform traffic level traffic ships management standards. management Provides technical assistance 3. Works with local governprojects and funding to do so ments and private developers (e.g., ECONS) to expand infrastructure 4. Conducts research/development • Develop direct to secure state-of-the-art mechanisms for methods improving local 5. Supports/initiates interaction traffic management among state agencies, re: economic development programs · Identify emerging concen-(Commerce, DCA) trations of AT firms Monitor traffic congestion in AT concentrations Solve transportation problems 1. Uses partnerships to 1. Provides surveillance and help finance projects traffic data collection Local Metropolitan 2. Responds to needs of Governments 2. Evaluates projects and Planning AT firms through Organizations establishes priorities traffic management 3. Recognize importance of • Develop/enhance 3. Up-grades level of private concerns in serving transportation traffic management AT development needs partnerships 4. Improves level of • Plan for AT economic traffic signal development with support monitoring and of state agency economic maintenance development programs (PennDOT, Commerce, DCA)

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