

## **Appalachian Transportation Institute (ATI) Research Project Description**

**Project Number:** ATI TRP 99-15

**Project Title:** Impacts of the Appalachian Corridors on Small Businesses

### **Primary Investigator Contact Information:**

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**Project Objective:** This project will develop the statistical methodology that should be capable of estimating the relationship between micro-business development and access to highway transportation in Appalachia.

**Abstract:** This investigation is aimed at statistically estimating the relationship between micro-business formulation (and sustainability) and the availability of highway transportation. The study process involves correlating the emergence and financial viability of very small business with proximity to Appalachian corridor highways (and other available infrastructure.)

This project will generate a longitudinal database on individual firms along the Appalachian Corridors in West Virginia and control locations elsewhere in the State. This study combines commercial databases which detail firm data on employment, detailed industry classification, location and revenues with GIS-T generated locational data to key highways. This provides the location core of a model which incorporates traditional regional characteristics of centrifugal and centripetal impacts on location. In addition, market potential analysis at the zip code level along with measure of market structure provide the basis for expanded analysis of geographic influences on firm location, size and revenues. The basis for policy application of this project will be such questions as:

How does proximity to highways affect firms of different size?

How does proximity to highways affect firms of different industries?

How does proximity to highways affect the market structure of regional industries?

How does proximity to Appalachian Corridor highways affect these factors

differently than other road systems?

How does the presence of an exit from a four-lane highway affect commerce?

How does clustering of economic activity potentially arise from highway infrastructure?

Additionally, this research will extend the highway analysis into three other areas:

1) The impact of other key infrastructure such as water treatment, electricity and potable water sources on commerce and the joint impact of these infrastructure items with highways.

2) The impact of social overhead capital on business locational characteristics. This will involve estimating the impact of hospitals, police stations and density, and other public services jointly with public infrastructure.

3) The impact of non-profit organizations on business location decisions. These include, but are not limited to health clinics, economic development and social service organizations.

**Task Descriptions:** Define Study Region, Identify Firms, Estimate Access Distances, Catalogue Other Infrastructure, Estimate Statistical Model

**Milestones, Dates, Schedule:** Start Date: Jan 1, 2001 End Date Dec, 31, 2001

**Budget:** Total: \$55,000.00

**Student Involvement:** The project will provide employment support for at least 1 undergraduate and 1 graduate student. The student workers will support the Principal Investigator as project assistants. This project is not anticipated to lead to a student thesis directly.

**Relationship to Other Research Projects:** None at this time.

**Technology Transfer Activities:** Final and progress reports will be available on the ATI Website. Reports will be submitted to applicable organizations. Opportunity for Principal Investigators to present findings through the Transportation Seminar Series to invited guests from WVDOT, USDOT, other ATI Principal Investigators and students as well as any other interested parties will be provided.

**Potential Benefits of this Project:** Justify Expenditures on Highway Access

**TRB Keywords:** Business development, Highway infrastructure