Executive Summary Report

Development of Opportunity Zones Utilizing Transportation Assets

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Project Background

The challenge that spurred this project is that transportation is traditionally an afterthought when it comes to company site selection. This yields three chief problems:
1. Ohio's expansive transportation network (ex. roads, rails, ports, and airports) and associated facilities (ex. intermodal facilities) are marketable assets when compared to other states and are not being leveraged properly
2. Companies contacting ODOT with transportation infrastructure enhancement requests, after they settled at a site that, sometimes, are not feasible
3. The possibility for the local existing transportation infrastructure supporting a company's logistical network to degrade more rapidly than projected if it was not designed to handle the extra loading associated with receiving and shipping goods

With the creation of the Jobs and Commerce Office came the need for a framework to make recommendations to assist in the site selection process, with assistance from agencies, such as Jobs Ohio, for incoming/expanding companies. The goal of this research project was to fulfill this need with the creation and development of the Opportunity Zone Identification Program or "OZ Program" for short.

Study Objectives

The objective of the project was to create a software tool, the OZ Program, to assist ODOT in making site selection recommendations based on a company's transportation needs, taking into account ODOT's existing infrastructure.

Description of Work

This project centers on creating a program using existing data (both spatial and non-spatial) that was available to ODOT. Once relevant available data sets were determined and acquired, the program was designed. The OZ Program is a bi-language software tool, combining Python and Microsoft Excel VBA, which rely on existing or generated spatial data sets and ESRI ArcGIS geoprocessing functions to find the optimal company location through the examination of supporting transportation properties along projected travel routes among a set of candidate sites.

Research Findings & Conclusions

In conclusion, a strong supporting argument for the OZ Program is made through the words of the ODOT report entitled "Impacts of Permitted Trucking on Ohio's Transportation System and Economy":

> Pavement thickness design is based on the projected loading the pavement is expected to carry over a certain time period. New pavements are designed to carry 20 years of traffic loading. Twenty year traffic loading is the cumulative effect of all trucks *expected* to traverse the pavement in a 20 year period.

This speaks directly to the level and type of analysis available with the OZ Program. In summary, if a company is located such that the surrounding infrastructure is insufficient to handle the new loads associated with the company doing business (both from suppliers coming in and shipments departing), then the infrastructure will deteriorate in quality more rapidly than projected. This will accelerate the need and possibly the frequency for planned repairs and maintenance of these roads, directly resulting in higher monetary costs. Therefore, it is recommended that the OZ Program be utilized as a filter during the planning phase in the site selection process for companies that are relying on freight for receiving and shipping goods.

Implementation Recommendations

The OZ Program can be installed on any computer that has the necessary supporting software: ESRI ArcMap10 with ArcInfo license and Network Analyst extension and Microsoft Excel (v2003 or newer). This program, depending on the level of similar work a site selection group is already doing and how results are used, offers a wide range of benefits. For groups already performing the functions of the program manually, this is a time saver. For groups not considering their transportation infrastructure when making site recommendations, this program offers the possibility of reduced expenses associated with the location of the company.