

I. RESEARCH PROJECT TITLE

A Study of the Impact of Roundabouts on Traffic Flows and Business

II. GENERAL PROBLEM STATEMENT

Roundabouts are relatively new. In various areas of the USA the general public and local officials and politicians tend to be polarized, i.e., some think they are great; others think they are no good. Two of the more controversial issues is their impact on traffic flows and, closely related, their impact on business in the area. For example, there has been news in Topeka indicating impact or perceived impacts on business. Some persons argue that drivers avoid routes with roundabouts and adversely impact adjacent routes; others argue that they attract added traffic. The same diversity of opinion exists regarding their impact on business. The truth is that nobody knows because there never has been a study of this aspect of roundabout growth, either nationally or locally.

III. BACKGROUND

Do roundabouts cause drivers to avoid some routes and negatively affect business along those routes, as some people and business owners believe; or do they attract vehicles because they reduce crashes, delay, and stopping? The modern roundabout has proven to be a safe and efficient intersection traffic control system reducing all crashes 40%, and injury crashes 80%, and reducing delay and stopping 50% to 80% along with concomitant decreases in vehicular pollutants. When roundabouts were new, there was a strong belief that they would cause drivers to avoid them and vehicles to use and congest alternate routes and hurt business along the roundabout route. For example, businesses near an Interstate ramp in Junction City fought a roundabout because they believed, without any basis, that drivers would avoid exiting to their business because of the proposed roundabout. More recently, there is a counter belief that roundabouts attract traffic (and business) from other routes, causing these roundabout routes to be congested. This could be negative or positive for businesses depending whether they are on the roundabout route of an alternate route.

IV. WORK PLAN AND SCHEDULE*Research Objective*

The object of the research is to study before and after traffic flows in the areas of roundabout implementation to determine the effect on traffic flows and the impact of changes in flows on businesses along the routes. There are enough roundabouts in Topeka, Lawrence and the metropolitan Kansas City area to provide data to analyze and draw reliable conclusions.

Tasks

1. Review of literature and all sources where there may be national data or reliable case studies to serve as a base for Kansas studies.
2. Interview/survey national and local sources uncovered in task 1 to determine availability, reliability and usability of data and case studies.
3. Collect data.
 - Since traffic count data that is applicable to the analysis of roundabouts may not available, if necessary, a check will also be made with the appropriate unit of government to determine if past, current and forecasted traffic are available at these locations.
 - If necessary, contacts will also be made with the cities to determine the number of building permits issued at these and other similar locations with the city.
 - In addition, a check will be made with the Department of Revenue to determine if sales tax.
 - Since traffic count data that is applicable to the analysis of roundabouts are not available, a check will be made with the appropriate unit of government to determine if past, current and forecasted traffic are available at these locations.
 - If necessary, contacts will be made with the cities to determine the number of building permits issued at these and other similar locations with the city.
 - A check with be made with the Department of Revenue to determine if sales tax information is available for businesses in the area. It is expected that KDOT will take the lead in requesting any data from DOR. The study will NOT disclose any information about individual businesses nor groups of businesses within a community. It will only be used in information useful to the project is available for businesses in the area. It is expected that KDOT will take the lead in requesting any data from DOR. (The study will NOT disclose any information about individual businesses nor groups of businesses within a community.)
4. Analyze data.
5. Write a final report that discusses and makes conclusion regarding the real impact of roundabouts on traffic flows and area businesses.

V. ESTIMATES OF FUNDING AND RESEARCH PERIOD

Period: 18 months

Funding: \$45,000

VI. URGENCY AND POTENTIAL PAYOFF

Safety – lives saved- is the number one payoff. Roundabouts have been proven to save lives. KDOT and local cities (Topeka, Lawrence and Kansas City area cities particularly) promote roundabouts for this reason as well as their proven ability to move traffic more efficiently and with reduced pollution. This study will provide additional conclusions to either remove the “myth” that they hurt business or, as a minimum, provide reliable conclusions to plan roundabout growth to the advantage of improved safety, more efficient traffic flow while being neutral or advantageous to businesses. This study is needed to fill a big gap in knowledge and is very timely.

VII. IMPLEMENTATION STRATEGY

This study will be widely distributed through reports, presentations, newsletters, etc. This study is so unique, i.e., there is no reliable information available locally or nationally. These results will basically implement themselves because the results, never before available, will be of great interest to a great many people. Dissemination of the report would aid KDOT personnel in planning and design of future roundabouts and provide factual information for public hearings.

VIII. PROJECT PERSONNEL

Dr. Gene Russell and Dean Landman will be co-investigators on this project. Dean Landman had over 35 years as one of KDOT’s top planners conducting the types of traffic flow studies and traffic impact studies that this project requires. Dr. Gene Russell is an expert on local and national roundabout issues and has access to local and national data on roundabout issues. This is an ideal team to conduct this timely study.

IX. SUBMISSION INFORMATION

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