

APPENDIX J

**ECONOMIC IMPACTS OF HIGHWAY
BYPASS DEVELOPMENT ON COMMUNITIES**

PROJECT NO. NSD16949

FINAL REPORT TO

**DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
PROVINCE OF NOVA SCOTIA**

ON

**ECONOMIC IMPACTS OF HIGHWAY BYPASS
DEVELOPMENT ON COMMUNITIES**

Prepared by

**Margaret Chase, MA
Kent Gustavson, PhD**

**JACQUES WHITFORD ENVIRONMENT LIMITED
3 SPECTACLE LAKE DRIVE
DARTMOUTH, NS B3B 1W8
TEL: 902-468-7777
FAX: 902-468-9009**

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TABLE OF CONTENTS

	Page No.
1.0 INTRODUCTION	1
2.0 SCOPE AND METHODOLOGY OF STUDY	2
3.0 DOCUMENTED IMPACTS ON BYPASSED COMMUNITIES.....	4
3.1 Results of the Literature Review.....	4
3.2 Evidence from the Maritimes.....	8
4.0 SUMMARY AND CONCLUSIONS	11
5.0 REFERENCES	13
5.1 Literature Cited	13
5.2 Personal Communications	14

1.0 INTRODUCTION

Stakeholders within the Town of Antigonish, Nova Scotia, have expressed concern over the potential economic impacts associated with the proposed improvements to Highway 104 near Antigonish (the Project). In general, there is a perception by some that the proposed new highway realignment, bypassing the town, will threaten the economic health of the community.

The construction of a highway bypass can be expected to create a certain level of stress and controversy within the affected community. This is most often associated with concerns that local businesses, which are dependent on “drive-through” traffic, will be adversely affected. There is a body of literature devoted to the subject, which can further inform many of the issues and increase the level of confidence in the predicted economic impacts as discussed in the environmental assessment (EA) report prepared for the Project by Jacques Whitford for the Nova Scotia Department of Transportation and Public Works. There is also some information available on the past experience with similar projects in the Maritimes.

2.0 SCOPE AND METHODOLOGY OF STUDY

A study on the economic impacts of highway bypass development was conducted in order to bring a higher level of confidence regarding the predicted impacts on the Town of Antigonish of the proposed Highway 104 improvements. This desktop study was in addition to the scope of work required for the EA, as determined by the federal and provincial regulators, and provides supplemental information to support the conclusions of the EA.

The study relied on the evidence provided in the published literature, and on information offered by key informants. Review of the information available focused on identifying the associated changes in economic development from similar projects and changes in the levels and types of economic activity. Research primarily relied on published literature that reviewed the evidence from a number of case studies. The key informants included individuals within provincial transportation departments, economic development agencies, and municipal governments in the Maritimes. The study did not canvass all Maritime jurisdictions, but focussed efforts on those regions and communities that may have relatively recently been affected by a highway bypass development. Specifically, the organisations contacted for information included:

- Colchester Regional Development Agency;
- Cumberland Regional Development Agency;
- Halifax Regional Development Authority;
- Kings Community Economic Development Agency;
- Municipality of the County of Cumberland;
- Nova Scotia Association of Regional Development Authorities;
- Nova Scotia Department of Economic Development;
- Wentworth Community Development Council;
- Town of Amherst;
- New Brunswick Department of Transportation, Planning Division;
- New Brunswick Department of Transportation, Edmundston District 6;
- New Brunswick Department of Transportation, Fredericton District 5;
- New Brunswick Department of Transportation, Moncton District 3;
- New Brunswick Department of Transportation, Saint John District 4; and
- Prince Edward Island Transportation and Public Works.

The interviews with the key informants followed a semi-structured interview guide. This guide was used to ensure that a consistent set of questions was covered during discussions, yet allow for a flexible exploration of ideas and information. Effects of highway bypasses may be positive or negative, as well as short-term or long-term. The questions were designed in a way to differentiate the short-term effects from the long-term effects, as well as to differentiate bypass impacts from other impacts on overall economic conditions, which may account for certain changes. The interviews were an important aspect

of this research in order to verify and supplement the information gathered during the secondary information review.

The review of published information examined evidence from case studies in Canada and the United States. In reviewing the available evidence, it was important that applicability to the Hwy 104 Antigonish Project be considered. In general, the studies reviewed focused on communities of similar size to the Town of Antigonish (population approximately 4,750), with populations ranging from between 2,500 to 7,500.

It was beyond the scope of this study to collect new data or to conduct detailed quantitative analyses of the potential economic impacts associated with the upgrading of Highway 104 near the Town of Antigonish. Similarly, it should be noted that there is a breadth of economic geography literature that examines business location decisions and spatial market areas with respect to transportation infrastructure and the characteristics of the goods or services being sold. This literature is not reviewed here.

3.0 DOCUMENTED IMPACTS ON BYPASSED COMMUNITIES

3.1 Results of the Literature Review

Comer and Finchum (2001) examined economic impacts on 14 bypassed Oklahoma towns, ranging in population from 732 to 13,187. Based on an analysis of sales tax data, the impacts varied according to the nature of the business in question. In the study, three different types of businesses were identified that showed distinct levels of impact: traffic dependant businesses (such as restaurants and gas stations); traffic related businesses (such as downtown shops and professional services); and non-traffic related businesses (such as factories and mines). The conclusions of the study indicate that the size and overall economic strength of the town is a principal factor in whether or not a town suffers economically as a result of a bypass. The smaller the town, typically one with a population under 2,500, the more negative the economic impacts. In the case of medium (populations of between 2,500 and 7,500 people) and large (populations over 7,500 people) towns, it was found that where there were negative economic impacts associated with a bypass, the impacts were not as severe.

In a subsequent study, Comer and Finchum (2003) identified the impacts of highway bypasses in more rural areas using data from Oklahoma towns ranging in population from 2,500 to 25,000. The study provided insight into the long-term effects of a bypass, as most towns examined had bypasses constructed previous to 1990. Incorporating economic (income growth rate) and demographic (race, home ownership and age) variables, the study concluded that income growth rates are statistically lower in bypassed towns compared to non-bypassed towns.

Gillis and Casavant (1994) investigated the effects of bypass routes on towns in eastern Washington State and identified strategies to maximise the positive economic effects of bypass routes. The towns were agriculture-based and ranged in population from 1,475 to 11,500. The common effects of bypasses were identified, and the information was used to find viable tactics to lessen the negative effects and increase the positive outcomes of highway bypasses on small towns. Gillis and Casavant (1994) found the more dependant a town is on drive-through traffic, the more likely it is to feel negative impacts from a newly constructed bypass. However, if the town has historically been a trade centre for the region, the negative impacts are lessened. This is because downtown business districts with a well-developed local customer base are less adversely impacted by a bypass than towns without such a client base. Case studies suggest that the construction of a bypass will initially increase downtown business vacancies, but this will be followed by new uses of buildings as the community adjusts to the new client base and traffic patterns. In addition, Gillis and Casavant (1994) stressed the importance of a newly bypassed town capitalizing on traveller traffic by increasing the amount of signage along the newly constructed route.

Clapp *et al.* (2003) used 20 years of data in a study on the effects on retail sales in bypassed Iowa towns. In the study, three towns that were to be bypassed were compared with six towns that were bypassed in the 1980s and that were of comparable structure, size and distance from metropolitan centres. All the towns examined had a rural, farm-based economy. Based on the experience of the communities that were bypassed, the presence of an active economic development agency in the community and the ability of the town to attract new businesses to the area were identified as factors that helped the bypassed towns adjust to the changes and remain economically vibrant.

Thompson *et al.* (2001) examined communities in Kentucky and matched 21 bypass routes in eight counties that were bypassed with eight counties of similar demographic and economic structure that had not been bypassed. The study analysed economic data from the five years previous to the bypass and the five years after completion of the bypass to make comparisons between the matched counties. Factors that were compared included: 1) total employment growth rates; 2) retail sales growth rates; and 3) retail employment growth rates. The study found that on average, the total employment growth rates of bypassed counties five years after the bypass were 0.27% less than the counties that were not bypassed, although this was not statistically significant. It was found that retail sales growth was higher in counties before the construction of the bypass; retail services grew more slowly after the bypass. There were no statistically significant changes in retail employment growth rates. However, the study did find that the opening of a bypass did have a negative impact on retail sales.

A bypass does influence the business mix of the downtown area – the proportion of retail business in a bypassed town is smaller than that of a non-bypassed downtown area. Thompson *et al.* (2001) also found that most post-bypass businesses were new to the community, and were not relocated pre-existing businesses. Thirteen percent of government officials, media representatives and businesspeople interviewed as part of the research felt that the bypass hurt the retail and service business of the community as a whole. When asked specifically about the downtown retail and services, 52% believed that downtown business was not significantly impacted as a result of the bypass, and 37% believed that the bypass hurt downtown retail and service sales.

The overall conclusions of the review by Thompson *et al.* (2001) study are as follows:

- The construction of a bypass has either no effect or a modest negative effect on the community;
- The opening of a bypass route reduces aggregate retail sales, but does not have a significant effect on retail employment, total employment or population levels;
- The bypass is more likely to encourage total employment growth if the bypass has partial access control, and is located close to the downtown sector;
- The presence of a bypass influences the business mix in the downtown area; and
- Many of the government officials, media representatives and business people agreed that the bypass promoted growth and improved quality of life.

Sivaramakrishnan and Kockelman (2002) analysed the impact of bypasses on 23 small and medium sized communities in Texas with a population of 2,500 to 50,000. Nineteen “control” towns were used as a comparison measure, and nine years of data were collected for each of the 42 towns in the study. Per capita sales from four industry sectors were used: retail sales sector; gasoline service station sales; sales at eating and drinking establishments; and service receipts. The results suggest that a bypass will negatively affect all four sectors examined, with the gasoline service centres feeling the largest negative effect; however, these effects depend on the magnitude of traffic being diverted from the downtown area.

Wells and Farnworth (2001) provide a comprehensive overview of highway bypass studies from over 100 towns and communities across the United States. Their findings indicate that businesses related to travel, such as restaurants and gas stations, were the most likely to be adversely affected, but to a much lesser degree than expected, since the travel related (drive-through) business actually made up a much smaller portion of business than was perceived by residents. In general, an initial decrease in business was experienced immediately after the opening of the bypass, followed by a recovery in sales once merchants adjusted to the change.

Burress (1996a, 1996b), Leong and Weisbrod (1999), Comer and Finchum (2001), Baker and Bellotti (2002), Clapp *et al.* (2003), and Wells and Farnworth (2001) all reported that the effects of a highway bypass are not as devastating as first feared by communities and that, in most cases, there is little to no significant long-term economic effects. The studies do generally report a decrease in travel-related business associated with motels, restaurants, gas stations and convenience stores. However, both Wells and Farnworth (2001) and Baker and Bellotti (2002) report that the business community tended to overstate the importance of travel-related business and, in fact, such business made up a much smaller portion of the economy than was initially perceived.

The studies reviewed agree that the strength of the town’s economy before the highway bypass is of vital importance to the impacts the town will experience. The stronger the economic base of the community, the better it will fare after a bypass is constructed. Gillis and Casavant (1994) and Handy *et al.* (2001) both report that communities or towns that are, and historically have been, a regional trading centre notice less negative impacts than those that are not (*c.f.* Antigonish).

The size of the town and its business vacancy rate also act as predictors of the economic impacts a bypass may bring. The results of Wells and Farnworth (2001), Leong and Weisbrod (1999), Srinivasan and Kockelman (2002) and Comer and Finchum (2001, 2003) all indicate that smaller towns, typically with populations of less than 2,000, suffer more short and long-term negative economic impacts as a result of a bypass. The vacancy rate can also serve as an indicator in a similar manner – the higher the vacancy rate, the stronger the negative effects of a bypass on a town.

There are many other factors that contribute to a town's economic health in addition to highway routing. Wells and Farnworth (2001), Leong and Weisbrod (1999), and Clapp *et al.* (2003) all stress that factors such as the condition of the national and/or regional economy, the number of chain retail stores in the town, and the size of the local population may have more of an impact on the economy of a town when factored together, or even individually, than the introduction of a highway bypass. It has been suggested that residents of a town may confuse the impact that construction of a highway bypass has with impacts arising from other changes to the economy.

Handy *et al.* (2001) similarly concluded that these regional structural factors have a notable effect on the magnitude and nature of impacts of bypasses on communities. The overall decline of rural populations and growth of metropolitan areas, increases in the scale of stores and shopping centres in the retail industry (what has been called the "Wal-Mart effect"), and consolidation of distribution channels for gasoline were all cited as trends that explain some of the impacts commonly attributed to the construction of bypass routes (Handy *et al.* 2001).

Although the evidence implies that, overall, a highway bypass will not have significant negative long-term economic impacts on the community, several studies, including Handy *et al.* (2001), Wells and Farnworth (2001), Leong and Weisbrod (1999), Clapp *et al.* (2003) and Gillis and Casavant (1994) stress the importance of active leadership and planning. A strong and proactive political and business town council, in addition to increased signage on the new route indicating the variety of shops and services in the bypassed town, has proven to lower the short-term economic impacts the bypassed community may experience. Actions of local government that facilitate economic adjustments, such as the provision of utilities and other city services to new business locations at interchanges, helps improve longer-term economic performance (Handy *et al.* 2001).

Many studies, such as ones carried out by Squires (1997) Wells and Farnworth (2001), Leong and Weisbrod (1999), Srinivasan and Kockelman (2002), Gillis and Casavant (1994), and Baker and Bellotti (2002) discuss the positive impacts of highway bypasses. Construction has resulted in less congested and safer roads for local drivers and pedestrians. In addition, the main downtown roads are quieter from reduced truck traffic and require less maintenance and roadwork. The benefits of a highway bypass are rarely noted by those opposed to its construction, but should be considered by planners and residents alike.

Different communities experience different adjustment processes – some businesses may change ownership or relocate due to the altered traffic patterns, some may experience a downturn in sales followed by a recovery once adjustment has taken place, some may be able to remain viable with a sustained, longer-term decline in business (Gillis and Casavant 1994; Leong and Weisbrod 1999; Wells and Farnworth 2001; Clapp *et al.* 2003). Handy *et al.* (2001) found that for a number of case studies reviewed were able to use the opportunity to develop destination-based tourist attractions within the downtown business core. Rather than consisting of convenience-based services such as gasoline stations

and fast-food restaurants, downtowns became centres of more specialised activity that have often capitalised on the historic character of the town to become a desired destination for tourists.

Regardless of how the adjustments take place, the findings were consistent that communities with a strong economic base adapt to these changes, and that in the long-term, any effects caused from the bypass are primarily small and relatively insignificant to the overall well-being of the community.

3.2 Evidence from the Maritimes

The research for this report was only able to locate one published report (Drolet 1990) that addresses the actual impacts that have occurred in Maritime communities subsequent to being bypassed as a result of a highway improvement project. Various environmental impact assessments predict the economic conditions a community may expect to experience, but monitoring and follow-up has not occurred. As a means of gathering more information, and creating a more complete picture specific to the Maritimes, contact was made with a number of economic development agencies in various counties in the region (see Section 2.0). The lack of information obtained from these agencies clearly demonstrated that this issue has not been formally examined. Provincial government departments, economic development agencies, and municipal governments in the Maritimes have not tracked or evaluated the impacts of bypass developments on communities.

Lacking available published reports, it was decided to focus on a single community that had been bypassed as a means to draw parallels. Wentworth, Nova Scotia, was chosen as the focus community due to the fact that it recently experienced the effects of a highway bypass (with the construction of the Cobequid Pass) and it houses a large “destination business” draw in the ski-hill. This destination attracts people to the community regardless of the particular make-up or characteristics of the community, similar to the way the university and other services can be expected to draw people, students, and business to the Town of Antigonish. Interviews with key informants from Wentworth were conducted as a way to document the effects of the highway bypass on that community.

Wentworth is a small community that does not have a large downtown core. Local employment is dominated by seasonal employment at Ski Wentworth during the winter months. Few people who live in the community are actually employed by local businesses. Of those who are, most are employed by the service industry in jobs that include ski-hill employees, gas station attendants, convenience store clerks, motel and hostel employees, and, in the summer, campground staff and park employees. Ski Wentworth is noted for being the largest economic contributor to the community. The majority of Wentworth residents reportedly commute to work in other areas.

From interviews (C. Hyslop, Pers. Comm., 2004; D. Powell, Pers. Comm., 2004), it was noted that since the town has been bypassed, there has been a decrease in the amount of money coming into the community. However, other businesses have developed to take the place of previous “drive-through”

businesses, thus lessening the negative economic impacts. Ski Wentworth is the flagship business of the community, averaging 66,176 visits per year to the facility over the past seven years. In addition, Ski Wentworth has expanded and, therefore, currently employs more people than it has in the past. In addition to the destination draw of the ski hill, there is a hostel in the community that accommodates an average of 2,000 visitors to the region per year.

As a result of the decrease in the drive-through traffic from the bypass, two of three local gas stations (including one restaurant) closed. However, it must be noted that there is still a certain amount of drive through business as people use the Wentworth route to travel to their cottages throughout the year, as well as visitors who are exploring areas of the province outside of the main highway system. It was noted in interviews that the amount of drive-through business was very low in the first few years following the opening of the Cobequid Pass; however, since that time, the amount of traffic in Wentworth has steadily increased. The shopping patterns of residents is not believed to have changed since the bypass. The majority of shopping by the members of the community is done outside of the community in towns such as Truro, Tatamagouche, Pugwash, Amherst, or Springhill.

Interviewees believe the quality of life in Wentworth has improved since the construction of the bypass (C. Hyslop, Pers. Comm., 2004; D. Powell, Pers. Comm., 2004). Positive impacts cited include an increase in public safety and a reduction in traffic volumes and noise. There has been an increase in pedestrian and bicycle traffic, and wait times for drivers at intersections have been drastically reduced. A recognised negative impact noted is a deterioration of local road conditions because the roads are not maintained as well as they were when the highway was a main thoroughfare.

There were fears that the bypass would be devastating to the community and, although businesses were expecting a downturn, the initial shock of the changes over the first year worried some residents (C. Hyslop, Pers. Comm., 2004; D. Powell, Pers. Comm., 2004). However, since that time, the community has refocused its attention from drive-through traffic business to more destination-oriented business, and the economic impacts have been less severe than originally feared.

The Wentworth Community Development Council (WCDC), which was established in 1991 and includes representatives from the business community, ski hill, church and interested residents of Wentworth, took a proactive approach to managing the impacts of the bypass. They increased signage on the highway, directing visitors to their town. They have also been involved in the development of a tourist information centre, soon to be constructed at Exit 7. In addition, Wentworth has been advertised in the Nova Scotia Tourism Guide as a central and desirable place to stay while taking day trips to see many different areas of the province.

The only identified documented study of the economic impacts of bypass development on Nova Scotian communities was completed by Drolet (1990). The study examined the evidence with respect to the communities of Tatamagouche, Parrsboro, Truro, and Stewiacke. The objective was to document the

advantages and disadvantages of the highway developments by looking at the effects on established trading and shopping patterns, mainstreet commercial activities, and the resident labour force. To collect the necessary information, the study primarily relied on interviews with mainstreet business people or business representatives of the areas.

Overall, Drolet (1990) concluded that the bypasses overall had negative economic impacts, the severity of which appeared to be in proportion to the community's ability to compete with other trading centres and maintain economic output, as well as the community's capacity to provide a variety of job opportunities. For communities still located near the highway bypass (*i.e.*, Stewiacke and Truro), some benefits were seen to the extent that they were able to "tie-into" the newly developed adjacent highway. Mainstreet businesses, in particular, were noted as having lost the sales that originated with the unscheduled stopovers from highway travellers. A number of mainstreet businesses either closed, were able to continue to operate with a smaller volume of business, or relocated their operations closer to the main highway (*e.g.*, a gas station moving to a highway interchange location).

However, Drolet (1990) did note that declines in business could be ameliorated. In the study, Truro most successfully adjusted to the changes. The community undertook improvements to the mainstreet and side streets and erected a tourist information centre to inform visitors to the town of the retail opportunities and services provided in the downtown district. Given the larger population served within the Truro area and the higher destination-dependent characteristic of the local economy, many businesses continued to prosper despite the loss of some sales from some stopover travellers.

4.0 SUMMARY AND CONCLUSIONS

In general, the studies reviewed focused on communities of similar size to the Town of Antigonish, with populations ranging from between 2,500 to 7,500. Various techniques were employed drawing from a broad range of data from a number of communities. The general results were largely consistent among studies. The key findings indicate that the development of a highway bypass results in short-term impacts primarily to drive through traffic-dependent businesses, but little or no significant long-term economic impacts overall. In addition, the magnitude of negative impacts is lessened with a pre-existing strong economic base within the community, or history of being a trade centre for the region, and implementation of appropriate planning and an economic development strategy.

The similarities of the towns in the reviewed studies to Antigonish lie mainly in the size (small to medium) and the more rural-based economies. Apart from the study by Comer and Finchum (2001) that noted the presence of a university in a town as providing a strong economic base, there were no other case studies that addressed this influencing factor. The main differences between the towns presented in this literature review and the Town of Antigonish are associated with geography – most towns examined are located in the Southern and Midwest United States. As a result, the federal and state programs available to these communities and government approaches to highway development may differ, which may have influenced the magnitude of the economic impacts on the communities examined. However, the consistency of the conclusions between the various studies does indicate that the results can be meaningfully applied elsewhere.

The opening of a highway bypass will have short-term economic effects on the town that is newly bypassed. These effects range in magnitude depending on many factors such as the size of the town, the structure of the economy and the characteristics of its economic “flagships”, as well as the response from municipal government and economic development agencies. Certainly, the dependency of the Town of Antigonish on non-traffic related employment, including education and health sector employment, will lessen the potential short-term negative economic impacts. The relocation of Highway 104 will, undoubtedly, financially harm some local drive-through dependent businesses, while other businesses will benefit. Extrapolation of more specific conclusions from the literature, however, is not possible.

The predicted economic impacts are more fully described in Section 6.1 of the EA report. The short-term economic costs to local businesses of the project are offset by longer-term economic development opportunities and improvements in public health and safety. The current highway alignment and condition restricts expansion of businesses along the highway and poses risks to public health and safety. For the Project, it will be key to further identify economically and technically feasible mitigative measures to reduce adverse effects and enhance project benefits for stakeholders. This is best done during the design stage of the Project, and as part of ongoing project management during construction.

As noted in the EA report, possible mitigation measures include the development of strategies for appropriate signage, lighting, interchange landscaping, and the provision of tourist information services.

In addition, it is clear from the literature that a community's ability to adjust to a change in highway alignment and take economic advantage of the improvements in the transportation infrastructure is dependent, in part, on the effective implementation of a regional economic development strategy or strategic land use plan. It should be noted that patterns of economic development are affected by a complex mix of factors that influence where businesses are located and the nature of the customer base. The location and characteristics of transportation corridors is only one of the many determinants involved.

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