

**The Economic Impacts of I-73 Construction:
A Focus on Job Creation**

January 2009

Dr. Donald L. Schunk
Research Economist
BB&T Center for Economic and Community Development
Coastal Carolina University

dschunk@coastal.edu

The Economic Impacts of I-73 Construction: A Focus on Job Creation

January 2009

Dr. Donald L. Schunk, Research Economist
BB&T Center for Economic and Community Development, Coastal Carolina University

Interstate 73 in South Carolina has the potential to ultimately play a critical role in economic development for the Myrtle Beach area, the Pee Dee Region, and for the entire state. Upon completion, I-73 will play a key role in attracting additional tourists to the Grand Strand and attracting additional industry throughout the I-73 corridor. The investment in I-73 will be returned in the form of lower business costs, greater productivity, reduced congestion and shortened travel times. These direct benefits of I-73 will work to benefit existing businesses throughout the region, make the region more attractive to new industry, enable the region to attract new visitors to the area, and increase the size of the region's labor and product markets.

Once in place, I-73 will benefit the region and state by supporting additional jobs and household income. The completed I-73 will not solve all of the region's economic challenges by itself; rather, I-73 will be one important piece of the economic development puzzle.

However, in the near term, the actual construction of I-73 will certainly provide a much needed boost to the regional and state economies. Specifically, I-73 construction will generate a substantial number of jobs at a time when the region and state are experiencing sharp job losses and rapidly rising unemployment.

The primary purpose of this report is to identify the immediate stimulative effects of I-73 construction. Yet, it is important to recognize throughout this study that the short-term stimulus effects are only the first wave of benefits that can accrue to the region. The return to investment in I-73 will continue to grow as the completed I-73 plays an important role in enhancing economic development and tourism in South Carolina.

In terms of providing an immediate economic stimulus, the construction of I-73 in South Carolina can be expected to generate the following economic benefits for the Myrtle Beach area, the Pee Dee Region, and for South Carolina:

- The direct support of a total of 23,400 positions in the construction sector. These positions are spread across the entire length of the construction phase. *If we assume a five-year construction schedule, then at any single point in time, I-73 construction will be supporting 4,680 new construction sector jobs.*
- The direct construction spending *will generate \$170.7 million in new household income annually for workers in the construction sector.*
- Beyond the 4,680 new construction jobs, *an additional 3,040 jobs will be generated throughout the regional economy due to economic ripple effects.*
- *Taken together, a total of 7,720 jobs will be created and will last throughout the I-73 construction phase.*
- For context, during November 2008, the South Carolina I-73 corridor counties of Dillon, Marion, Marlboro and Horry had a combined unemployment rate of 10.6 percent, with 17,915 residents currently unemployed and many additional residents either underemployed or out of the labor force. *The construction of I-73 would boost employment for the region, lower the area's unemployment rate, reduce the strain on the state's unemployment insurance fund, and generate additional tax revenues for state and local governments.*

Understanding Economic Impacts

The construction phase of the South Carolina portion of Interstate 73 will entail substantial economic benefits for the regional and state economy. During the construction phase, in addition to the increased activity within the construction sector itself, additional economic benefits will ripple throughout the regional economy due to economic linkages and multiplier effects. In this case, firms in the construction sector will purchase goods and services as inputs from other local businesses. Additionally, workers in the construction sector will see a boost to incomes that can then be spent at area businesses, setting off additional ripple effects.

In standard economic impact analyses, three types of economic impacts can be identified: *direct*, *indirect* and *induced* effects. The direct effect of an activity represents the initial change in economic activity. In this case, the direct effects are the initial changes in the final demand for the output of the construction sector.

The indirect effects refer to all of the additional economic impacts that arise from inter-industry linkages between local firms. For example, as the construction sector purchases inputs from other local businesses – and these suppliers in turn purchase inputs from additional businesses – the input-output relationships between different firms and

industries generates indirect effects on businesses in virtually every sector of the local economy.

The induced effects represent all of the additional economic benefits that are driven by the local spending of household income. The increased activity in the construction sector will boost incomes for construction workers. Some of this income will be spent locally on, for example, retail trade, health care, entertainment, housing, and so on. As firms in these industries see a boost to their sales, the employees of these firms will also see additional income that can be spent locally.

The successive rounds of indirect and induced impacts do not go on forever. For example, a portion of an increase in household income will be saved, used to pay taxes, or spent outside the local economy. Money that leaks out of the local area in this way cannot be used to support additional local activity. Therefore, the indirect and induced impacts become smaller and smaller over time until eventually the additional activity in each round goes to zero. Because of these leakages, it is useful to consider the notion of an economic multiplier.

An economic multiplier can be used to determine what the total impact (direct plus indirect plus induced) will be given a certain value for the direct impact. For example, if \$100 of direct spending within a particular sector ultimately results in a total spending impact of \$150, it can be said that the output multiplier is 1.5 – the \$100 in direct spending times the multiplier of 1.5 equals \$150 in total spending or total output. The value of this multiplier varies from sector to sector, and is determined largely by the size of the local supplier network.

The above discussion implies that economic impact analysis essentially involves: 1) determining the appropriate levels of direct business activity, and 2) determining and applying the correct values for economic multipliers to estimate the total impact on output, employment, and labor income.

The direct effects of the construction phase of I-73 include total expenditures of \$2.4 billion. To estimate the employment and income associated with this direct construction spending, as well as the indirect and induced effects, a detailed structural model of the South Carolina and regional economies was utilized. This model is known as an input-output model. An input-output model contains specific information on economic linkages between different industries. Therefore, the input-output model for the four-county region that includes Dillon, Horry, Marion and Marlboro Counties is equipped to quantify, for example, the pattern of local input purchases by the local construction sector. This model can be used to estimate the full range of indirect and induced impacts described previously. This report utilizes the input-output modeling software *IMPLAN*.

This model can be used in conjunction with the direct construction spending data to estimate the economic impacts in terms of three distinct measures: economic output,

employment and labor income. Economic output can be thought of as an aggregate measure of total spending resulting from the initial direct expenditure. It includes all spending by consumers and businesses on both goods and services. It is therefore a broad, all-inclusive measure of the impact on total economic activity. Employment measures the impact on jobs in terms of the total number of positions. Labor income represents total employee compensation, including wages, salaries and benefits.

Current Labor Market Conditions Along the I-73 Corridor

The I-73 corridor in South Carolina consists of four counties: Dillon, Marion, Marlboro and Horry. Despite their geographical proximity to each other, these counties differ greatly in terms of economic structure and overall economic conditions. Horry County is home to Myrtle Beach, and sees its economy largely dominated by tourism related industry and various service sector activities. Meanwhile, the more rural counties of Dillon, Marlboro, and Marion continue to be largely dominated by manufacturing even after years of job losses. These differing economic structures are accompanied by sharp differences in terms of average wages, per capita income, tax bases, and more.

However, for the purpose of this report and its focus on short-term job creation, these four counties are similar in that they are each sharply experiencing the effects of the current recession. The current cyclical downturn has caused the four-county region's unemployment rate to rise rapidly since the middle of 2008, as shown in Figure 1. However, it is also important to note that the region's unemployment rate is consistently higher than the national average, even during times of economic expansion. In this sense, this region suffers not only from rising unemployment due to the current recession, but also from larger and longer lasting problems with structural unemployment.

Figure 1. Unemployment Rates, Jan. 1990 - Nov. 2008

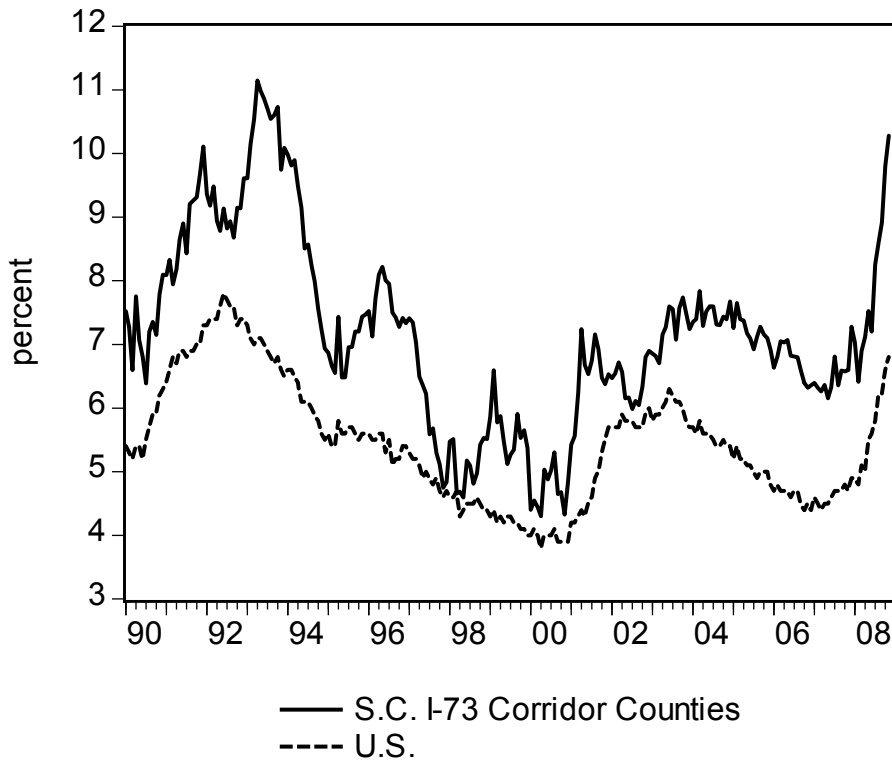


Table 1 provides a snapshot of recent labor market conditions in the four S.C. I-73 counties. Included in this table are the unemployment rates for the four counties, South Carolina, and the United States as of November 2008. At the time, unemployment rates across the region ranged from 9.5 percent in Horry County to a high of 17.1 percent in Marion County. In total, there were 17,915 unemployed residents in the four counties. This represented a 58 percent increase in the number unemployed over the last twelve months.

Table 1. Labor Market Indicators: S.C. I-73 Corridor						
	Dillon	Horry	Marion	Marlboro	S.C.	U.S.
Unemployment Rate, Nov. 2008	12.0%	9.5%	17.1%	14.2%	8.4%	7.2%
Labor Force Participation Rate, 2007	57.3%	64.9%	49.0%	52.4%	63.4%	66.0%

However, even these unemployment statistics do not reveal the full depth of the labor market problems across the region. Table 1 also provides 2007 labor force participation rates for these areas. These figures represent the fraction of the population aged 16 years and older that is either working or actively looking for work. Horry County maintains a

relatively high labor force participation rate. However, the remaining I-73 corridor counties have considerably lower rates of labor force attachment. In Marion County, for example, only 49 percent of the population aged 16 and older is working or actively looking for work. And of course, of those that are in the labor force, more than 17 percent are currently unemployed.

These labor market indicators for the South Carolina I-73 corridor counties speak dramatically to the need for job creation throughout the region, both in the short-term to counteract the cyclical rise in joblessness, but also for the longer-term to reverse years of persistently high rates of structural unemployment.

Estimated Impacts of I-73 Construction

For the purpose of this study, the total estimated cost of construction for South Carolina's section of the proposed I-73 is \$2.4 billion. Of course, with a project of this magnitude, this construction cost will be spread over a period of several years. In order to provide context for the economic impacts of this construction, it is useful to consider the average annual impacts over the course of the construction phase. For this purpose, we will assume that I-73 will take a total of five years to construct, and that the total cost will be spread evenly over those five years.

In this case, spending on I-73 construction is assumed to total \$480 million annually over five years. This expenditure represents a direct boost to the output of the regional construction industry and will support jobs and income for workers in the construction sector. As shown in Table 2, the annual construction expenditure can be expected to support a total of 4,680 jobs each year during the five-year construction phase. The labor income associated with these jobs is estimated to be \$170.7 million annually.

Table 2. Annual Direct Impacts of I-73 Construction

Economic Output	\$480 million
Employment	4,683 jobs
Income	\$170.7 million

The \$480 million annually in direct spending will lead to additional ripple effects throughout the regional and state economies. Again, these ripple effects occur as the construction sector purchases inputs from other local industries (indirect effects) and as the construction workers themselves spend their newly generated income at local businesses (induced effects). To estimate the additional jobs created via these ripple effects, we first need to estimate the magnitude in dollars of the indirect and induced

expenditure flows. Given estimates of the indirect and induced spending, we can estimate the number of jobs that this spending would support.

Table 3 provides estimates of the direct, indirect and induced spending associated with I-73 construction. These represent the estimated impacts on regional economic output. The \$480 million annually in direct construction activity will generate an additional \$195.9 million in indirect activity and \$143.0 million in induced activity. It is important to recognize that these ripple effects spread far beyond the construction sector. For example, the effects include the increased activity for manufacturing, retail trade, financial services, a wide variety of service sector businesses, and others as construction sector firms and workers spend their increased income on input purchases and household expenditures.

Table 3. Annual I-73 Construction Impacts on Economic Output	
Direct	\$480.0 million
Indirect	\$195.9 million
Induced	\$143.0 million
Total	\$818.9 million

In the context of a deepening recession in early 2009 with widespread job losses and rising unemployment, the employment impacts of I-73 construction are critical. These estimated employment effects are summarized in Table 4. Specifically, I-73 construction is expected to directly generate 4,683 jobs that will last throughout the construction phase of the project. The indirect economic activity is expected to generate another 1,569 jobs, while the induced employment effect is estimated at 1,466. In total, the construction of I-73 can be expected to generate 7,718 jobs that will be spread across the region and will also be spread across all sectors of the local economy.

Table 4. I-73 Construction Impacts on Employment	
Direct	4,683 jobs
Indirect	1,569 jobs
Induced	1,466 jobs
Total	7,718 jobs

The jobs supported by the construction of I-73 will also generate a substantial amount of household income for the region. On an annual basis, the direct construction effects will generate \$170.7 million in new household income. Another \$62.7 million in income is

expected via indirect effects and \$44.4 million due to the induced effects. In total, the annual boost to regional household income is projected to be \$277.8 million. These income effects are summarized in Table 5.

Table 5. Annual I-73 Construction Impacts on Household Income

Direct	\$170.7 million
Indirect	\$62.7 million
Induced	\$44.4 million
Total	\$277.8 million

Over the entire construction phase, the \$2.4 billion I-73 project is expected to have a total economic impact of \$4.1 billion on the regional economy. A total of 38,590 positions will be supported with total household income of \$1.4 billion.¹

I-73 Construction Job Creation Impacts in Context

The construction of I-73 in South Carolina is expected to create 7,718 jobs directly in the construction sectors and also indirectly throughout all sectors of the regional economy. While it is impossible to accurately predict where these workers would come from, it is likely that the majority of these positions could be filled with local workers. As of November 2008, there were nearly 18,000 unemployed individuals in the four-county area. In addition to these, there are a substantial number of underemployed workers as well as qualified workers currently not in the labor force.

The creation of 7,718 new jobs would amount to a 4.6 percent increase in total regional employment.² Given the current economic downturn and the large number of available workers already in the region, there is the potential for a significant portion of these positions to be filled by local residents. If all of the new jobs were filled from the ranks of those currently unemployed, this would mark a 43 percent decrease in the number of unemployed individuals in the four-county region. If this were the case, the region's unemployment rate would fall from 10.6 percent to 6.1 percent based on the November 2008 labor force estimates.

¹ Here, the concept of a position can be thought of as a year's worth of employment. If the entire I-73 was constructed in one single year, the total employment impact would be 38,590 jobs. However, because it will be constructed over a period of five years, several of these 38,590 year-long 'positions' could be held by the same individual. In this sense, the 38,590 positions over the course of five years amount to 7,718 unique jobs that will last throughout the entire construction phase.

² This is based on the November 2008 regional employment estimate of 168,301 from the U.S. Bureau of Labor Statistics.

The jobs that could potentially be created by the construction of I-73 would provide a strong boost to the local and state economies and would help offset the effects of the national recession, a recession that is taking a particularly sharp toll on the consumer-driven areas near Myrtle Beach as well as the manufacturing-intensive regions along the rural portions of the South Carolina I-73 corridor.

The Long-Term Benefits of Interstate 73

The construction of I-73 will generate a significant number of new jobs for the region. These jobs tied to the construction phase are especially valuable against the backdrop of the current recession. It is this near-term stimulus that underscores the urgency to begin I-73 construction. However, infrastructure spending should not be undertaken for the sole purpose of generating jobs in the short-term. Indeed, the most important benefits of infrastructure investments are the long-term payoffs that accrue once the project is complete.

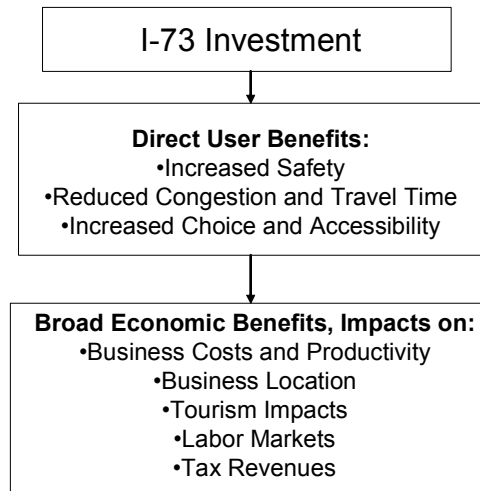
In the case of I-73 in South Carolina, the 7,718 jobs that stand to be created during the construction phase will serve as a bridge for the region's economy until the finished project itself begins to generate the long-lasting benefits that are the basis for its construction. That is, I-73 has the potential to generate significant and long-lasting benefits for the Grand Strand, the Pee Dee region, and South Carolina. It is this longer-term payoff of I-73 that has the potential to transform the region's economy.

While the primary focus of this research has been on the short-term stimulative effects of I-73 construction, the remainder of this report will provide a general overview of the potential long-term benefits of I-73 in South Carolina.³

In general, I-73 will provide important benefits directly to its end-users, including both households and businesses. For example, the completed I-73 will provide increased safety, reduced congestion, travel times, and costs, as well as greater transportation accessibility. These direct benefits for the users of I-73 will in turn support a variety of identifiable broad economic benefits. These broad, longer-term economic benefits include positive impacts on business costs and productivity, business location, tourism, labor markets, and state and local tax revenues. Figure 2 illustrates the general relationship between investment in I-73, the direct end-user benefits, and these broader economic benefits.

³ Quantifying these long-term benefits is beyond the scope of the current study. Future research into the specific long-term impacts of I-73 is expected to produce estimates of potential job and income creation, as well as the possible impacts on other factors such as business formation, consumer spending, and tax revenues.

Figure 2. Long-Term Impacts of I-73



The reduced congestion and travel time accompanying I-73 will work to lower the costs of business in the region and boost business productivity. This will have the effect of benefiting existing business in the region as well as making the region more attractive to new industry. Long-term business growth in a region is affected by many factors, including the size of the region's product and labor markets, the relative cost of doing business in the region, and the region's proximity or access to raw materials and other inputs. Investing in I-73 can have a positive impact on all of these factors. In addition, the presence of Interstate 73 may expand opportunities for multi-modal connections, including road/rail/sea/air connections for either passenger travel or freight shipments that can further complement economic development.

Though difficult to quantify, it is generally agreed that providing adequate transportation infrastructure is among the most critical aspects of an economic development strategy. Given the persistent problems across the region in terms of long-term structural unemployment, this potential boost to regional economic development would be critical to reversing decades of sub-par economic performance.

I-73 will be an asset to industrial location throughout the region. In the more rural areas along the I-73 corridor, these economic development effects will be critical in that they will bring jobs to areas that suffer from persistently high unemployment as well as very low rates of labor force participation. Meanwhile, closer to Myrtle Beach, these economic development effects will have the primary benefit of diversifying the Grand Strand's economy. That is, while the immediate Myrtle Beach area does not experience the same structural unemployment and labor force problems as the rural areas along the I-73 corridor, the Myrtle Beach area would benefit from a more diverse economy. Greater

economic diversity around Myrtle Beach would help insulate the economy from future economic downturns, and would also have the potential to contribute to higher average wages and increased per capita income.

The reduction in congestion and travel times will also have a positive impact on tourism in the Myrtle Beach area. Reduced travel times will help Myrtle Beach draw more visitors from its existing origination markets, and will also help the area reach further into additional and previously untapped markets for new visitors. I-73 will help meet the needs of both current and future tourism levels along the Grand Strand. Tourism is the largest industry in South Carolina, and the Myrtle Beach area is the heart of the state's tourism sector. The industry is a critical piece of the state's economy in terms of generating jobs and income as well as state and local tax revenues.

In general, transportation investments allow individuals to benefit from increased employment options as their range of feasible commuting is expanded. Meanwhile, the supply of labor to area employers increases as more potential employees fall within their commuting range. As a result, I-73 will help expand the size of the regional labor market in northeastern South Carolina. There already exists a pattern of commuting between the Grand Strand and Pee Dee regions. I-73 will help make this commuting more efficient benefiting both workers and businesses.

Finally, the full range of economic development, tourism, and labor market enhancements arising from the completed I-73 will work to boost state and local tax collections. I-73 will provide a boost to state and local tax bases via gains in employment, income, spending, as well as positive impacts on property values along the interstate corridor.

Summary

The construction of I-73 in South Carolina will provide a substantial boost to the economies of the Grand Strand and Pee Dee regions, and for all of South Carolina. There are important immediate benefits associated with the construction of I-73. Specifically, during the construction phase, it is expected that a total of 7,718 jobs will be created across the four-county I-73 South Carolina corridor. These jobs will boost the region's economy at a time of rapidly rising unemployment and job losses.

While this immediate stimulative impact has been the focus of this report, it is important to recognize that in a sense, these short-term effects are but a critical byproduct of the project. Indeed, it is the potential longer-term effects on economic development and tourism that underscore the importance of I-73 for South Carolina.