



A Before-and-After Evaluation of Bypass Roads in New Jersey

Final Report

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Executive Summary

As the United States evolved into an automotive society over the course of the 20th century, downtown streets became increasingly clogged with congestion as they were forced to accommodate both through traffic and local trips. A solution emerged in the form of bypass roads that were intended to divert through traffic and trucks around downtown areas and restore good access to local businesses. Just how well bypass roads have succeeded in achieving those purposes has been the subject of a host of studies in other states. But those studies have focused primarily on rural bypasses where the impacts are relatively easy to isolate. The purpose of this study, conducted by the Alan M. Voorhees Transportation Center for the New Jersey Department of Transportation, is to evaluate the before and after impacts of bypass roads in the suburban environment of New Jersey where the impacts are embedded in a broader regional context and have ramifications for regional traffic flows, land use, and economic and social development, as well as interjurisdictional relations.

Those for and against building bypass roads essentially agree on the impacts; where they differ is on the consequences. Proponents contend that diverting through traffic, especially trucks, out of downtown areas improves traffic circulation and safety, reduces air and noise pollution, promotes business activity, increases land values, and improves overall quality of life. Critics, however, counter that the diversion of traffic causes downtown businesses to close or relocate to the bypass road, spurs sprawl residential and commercial development along and beyond the bypass road, and is detrimental to the overall quality of life.

This report reviews previous studies on the impacts of bypass roads in the United States and Canada, presents case studies of the Hightstown, Mt. Holly and Pemberton bypasses, explores the control case of Medford Township where a bypass road was not built, and concludes with a series of four policy considerations to take into account for the construction of future bypass roads.

The rural bypass studies generally concluded that bypass roads have a positive impact on communities and, on balance, were viewed as beneficial. Those studies found that the bypass roads generally achieved their goal of diverting truck traffic out of downtown areas, but did not necessarily reduce overall downtown traffic volume. In fact, downtown traffic was found to have increased in many cases. For the most part, the various studies conclude that the building of a bypass road has little economic impact on the bypassed community. Development activity along the bypass road tended to be new rather than relocated from the downtown and was commonly concentrated at the bypass interchanges. The impact of bypass roads on downtown areas depended often on the pre-existing strength of the downtown's business identity and the ability of the bypassed community to adapt by directing the focus of economic activity to the downtown.

The New Jersey case studies of the Route 133 (Hightstown) Bypass, the Route 541 (Mount Holly) Bypass and the Route 530 (Pemberton) Bypass were assessed on the basis of their traffic, land use, economic, social and interjurisdictional impacts utilizing both quantitative and qualitative data. The quantitative analysis examined longitudinal data at the municipal and county level for the period 1970 to 2000, as well as traffic count data. In addition, land cover maps from 1974, 1985 and 1995 and aerial photographs taken in 2002 were used to assess land use changes. The qualitative analysis consisted of surveys and interviews with different stakeholders, including residents/non-residents, business owners/employees, and government officials.

TRAFFIC AND CIRCULATION

- All three bypass roads succeeded in diverting through traffic out of the downtown area, but only for one direction of travel (east-west or north-south). In Hightstown, substantial volumes of traffic continue to traverse the downtown area and unlike Mt. Holly and Pemberton, there has been no perceived reduction in truck traffic. In Hightstown and Pemberton, the downtown streets were considered safer since the bypass roads opened.
- The report concluded that it was “unlikely” that the reductions in through traffic had generated increased local traffic patronizing downtown businesses.
- In all three cases, the bypass roads served their regional function by improving accessibility to regional destinations and major highways.

LAND USE AND ECONOMIC DEVELOPMENT

- Growth along all three bypass routes has been limited due to access restrictions and/or development constraints, thereby preserving their capacity to accommodate traffic. Business growth that has been stimulated has occurred at interchanges with major roads. In terms of regional development, the Mt. Holly Bypass appears to have contributed to residential and commercial development in Lumberton and Medford.
- In the downtown areas, some new business activity was reported in Hightstown, but Mount Holly and Pemberton, which were in decline before the bypasses opened, have remained depressed. Significant residential growth took place surrounding Hightstown and Mount Holly after the bypasses opened, but no evidence was found that this growth

SOCIAL AND COMMUNITY

- The three bypasses do not appear to have influenced socio-economic conditions in the bypassed towns. Like many other older towns in New Jersey, Mount Holly and Pemberton Borough were in a state of decline before the respective bypasses were built and conditions did not improve. It was too soon to evaluate the impact on Hightstown as its bypass opened only in 1999.
- Local perceptions of the bypass roads differed in each municipality – views were positive in Pemberton, mixed in Hightstown and negative in Mount Holly.

INTERJURISDICTIONAL INTERACTION

- In each one of the cases, the bypass road passed through at least one neighboring municipality. There were no reports of conflicts between municipalities with either the Mount Holly or Pemberton bypass projects. However, there were significant disagreements between Hightstown and East Windsor regarding the Hightstown Bypass, both during construction and continuing today.

These same impacts were assessed in the case of Medford, which also experiences heavy through traffic through its downtown, but does not have a bypass road. Although local residents surveyed felt traffic had increased substantially in recent years, most were not in favor of a bypass project. Medford's downtown "village" section, meanwhile, has prospered economically in recent years. Yet, socio-economic conditions are lower in the downtown area than other parts of Medford. These findings suggest that other socio-economic forces may be more important than traffic congestion or the existence of a bypass road in shaping local demographic conditions.

The report concludes that bypass roads can successfully divert through traffic and trucks off of congested local streets, unless the bypass follows a longer, more circuitous route. Bypass roads will not necessarily trigger sprawl development if access and development restrictions are in place. In the New Jersey suburban context, bypass roads by themselves do not appear to significantly affect demographic and socio-economic conditions in the bypassed community. Finally, the study concluded that in a "home rule" state such as New Jersey, competing municipal interests can undermine the intended benefits of a bypass. By preventing signs from being posted that would direct trucks to use the Hightstown Bypass, East Windsor has limited the effectiveness of the road in diverting trucks out of Hightstown.

The report offers four policy considerations in developing future bypass projects:

- 1) The project should be assessed not only for local traffic relief, but for its potential to improve regional access.
- 2) Access and development controls should be imposed along the bypass route and its interchanges to maximize its transportation effectiveness.
- 3) Reducing traffic congestion alone cannot bring back depressed downtown business districts, but needs to be coupled with sound economic development planning.
- 4) Conflicts between municipalities should be resolved during the project planning stages to maximize the effectiveness of bypass roads.

CONTENTS

	Introduction	1
I.	Literature Review	2
II.	Methodology	10
III.	Route 133 (Hightstown) Bypass	14
IV.	Route 541 (Mount Holly) Bypass	40
V.	Route 530 (Pemberton) Bypass	59
VI.	Medford Township	78
VII.	Bypass Outcomes, Conclusions and Policy Considerations	95
	Bibliography	102
	Appendix	

INTRODUCTION

The impacts of bypass roads have been much debated throughout North America. Those for and against building bypass roads essentially agree on the impacts, but differ as to their spatial incidence and consequences. Proponents contend that the diversion of through traffic, especially trucks from downtown areas improves circulation and safety, reduces air and noise pollution, promotes business activity, increases land values, and improves overall quality of life. Critics argue that the diversion of traffic from downtown areas results in business closures, the relocation of some business to the bypass road, induces both residential and commercial development along and beyond the bypass road, and is detrimental to the overall quality of life.

Previous studies in the United States have focused primarily on rural bypasses where the impacts are relatively easy to isolate. This before-and-after evaluation in New Jersey examines bypass roads in suburban communities where the impacts are embedded in a broader regional context and have ramifications for regional traffic flows, land use, and economic and social development, as well as interjurisdictional relations.

The purpose of this study is to better understand the traffic, land use, economic, social and interjurisdictional impacts of bypass roads from a suburban New Jersey perspective. The study used a quasi-experimental case study approach to evaluate conditions before and after the opening of bypass roads in four New Jersey communities to determine their impacts. The four case studies included three cases of a bypass road and one control case.

The study was funded by the New Jersey Department of Transportation. Needless to say, the views expressed in this report are solely those of its authors and do not represent any official position of the New Jersey Department of Transportation.

The report is divided into seven chapters. The first chapter reviews a number of studies which have examined various aspects of the impacts of bypass roads in the United States and Canada. The second chapter provides a brief description of the study methodology. Chapters 3 through 6 present four case studies including the Route 133 (Hightstown) Bypass in Mercer County, and three cases in Burlington County—Route 451 which bypasses the Township of Mount Holly, Route 530 which bypasses Pemberton Borough and the control case of Medford Township. These case studies examine the impacts of bypass roads in detail. The final chapter summarizes the study's overall findings and provides a series of policy considerations related to constructing bypass roads in the future.

I. LITERATURE REVIEW

Numerous bypass impact studies have been conducted in the United States and Canada. As presented below, these studies focus almost exclusively on rural communities in states such as Texas, Kansas, Iowa, Wisconsin, Kentucky and Minnesota where the geographic boundary between the bypassed community and the new bypass roadway is easily discerned.

The studies reported in this literature review generally concluded that bypass roads have a positive impact; however, some studies documented adverse effects on the bypassed community. The impacts of bypass roads are examined in terms of changes in traffic patterns and land use, as well as a variety of economic, social and community indicators. Positive impacts are distinguished from negative impacts, bearing in mind that, in some cases, different studies may have reached opposite conclusions and that outcomes can be viewed as either positive or negative, depending on the perspective of the interested party. For example, reductions in traffic through a downtown area could be viewed negatively by local merchants, but positively by residents.

CHANGE IN TRAFFIC PATTERNS

One measure of bypass impact is the extent to which it achieves its intended traffic objectives. For instance, reducing truck traffic through the central business district or alleviating congestion at downtown intersections are common goals for bypass projects. In their examination of the economic impacts of freeway bypass projects on four medium-sized cities in Virginia and the Midwest, researchers found that the reduction or removal of truck traffic from the downtown was a benefit for those communities that identified the removal of truck traffic as a primary goal of the bypass project [3]. Similarly, in a study of primary road bypasses in selected Iowa communities, researchers reported that the removal of trucks enhanced safety and the quality of life in the bypassed towns [9].

Researchers note, however, that the removal of trucks does not necessarily reduce the overall traffic volume through a downtown area. In fact, studies in Virginia, the Midwest, Iowa and Wisconsin reported that after the opening of the bypass, not only were traffic volumes through the downtown not reduced; in some cases, traffic actually increased [3, 9, 11]. One explanation offered in these studies is that the rerouting of trucks and through traffic to the bypass road encourages motorists who had been diverted to parallel adjacent routes to return downtown [3, 9].

These changes in local traffic patterns provide a net benefit because traffic flow, safety and noise conditions in the downtown and its neighboring streets are improved [9]. Researchers, however, caution that the actual length or perceived circuitry of the bypass route can affect its function. Where a bypass lengthens a journey, many long distance travelers may choose to continue to use the old highway route through the downtown. This is especially likely in the case of trucks [3].

Studies in Texas, Iowa and Wisconsin found that the size of the bypassed community plays a role in determining the degree of traffic reduction. Traffic reductions in larger towns were not as great as those in smaller towns [6, 9, 11].

LAND USE DEVELOPMENT AND LAND VALUES

In addition to traffic, changes in land use development and land values are also measures of bypass impact. In their synthesis of 190 publications on bypass projects in the United States and Canada, the authors of a National Cooperative Research Highway Program (NCHRP) Research Results Digest noted that in almost all the studies where land use was examined, the amount of land in commercial or industrial use increased along both the old highway corridor and the new bypass corridor [7]. For the authors of a study that examined four similarly sized city downtowns in Virginia and the Midwest, the opening of additional industrial sites along the new bypass route was considered a positive benefit [3].

The same authors, however, note that land development should not *a priori* be considered a positive benefit. Negative impacts can result when bypass projects increase sprawled, low-density commercial and residential development that requires additional infrastructure investments and/or cause environmental degradation [3]. These researchers also point out that without supporting public infrastructure, a new bypass is unlikely to stimulate new land use development. “In the absence of water and sewer services, small town bypasses alone are unlikely to facilitate sprawl development. However, in the longer term, sprawl may be facilitated if funding is provided for water and sewer” [3]. In the absence of land use controls, “greenfield” sites, with easy access to water and sewer infrastructure are the most likely to be converted to industrial, commercial, and residential uses after construction of a bypass [3]. This observation is supported by a finding from another study examining bypasses in Iowa. “Planning before and after a bypass appears to help a community benefit from a bypass, in particular with regards new land use policies” [9].

New bypass projects appear to boost land values. The NCHRP Research Results Digest found that land value increases were observed along the bypass route in all the cases reviewed, while along the old highway route in almost all the cases reviewed, land value increased and where declines occurred, they were minor [7]. An Iowa study also found that city valuations were not negatively affected by a bypass and may even rise faster as new areas of the community become desirable for development [9].

ECONOMIC DEVELOPMENT

Almost all the reviewed studies considered the economic impact of bypass roads; however, the scale of impact varied by study. This section distinguishes the economic impacts on the region or town overall, the old highway route and the bypassed downtown, and on the new bypass corridor.

Overall economic impact

For the most part, the various studies conclude that the building of a bypass road has little economic impact on the bypassed community. In their examination of four similarly sized city downtowns in Virginia and the Midwest, researchers found that the net economic impacts (either positive or negative) of the bypasses on the surrounding communities were relatively small [3]. A Wisconsin Department of Transportation study found little evidence that bypasses in that state adversely affect the overall economies of most communities [11]. A study in Iowa similarly found that bypasses played a small role in overall economic vitality [9]. And researchers in Kansas found that in the long run bypasses have not negatively affected local economies. The authors of this study noted, though, that “long-term benefits may accrue primarily due to the encouragement of new industries spurred by the area’s improved transportation system. These industries then have multiplier effects, which has had some positive effect on the local retail and service sectors” [2].

While the studies did not identify evidence of significant positive or negative changes in overall economic performance, there were mixed findings with regard to specific economic indicators. In two separate studies, one examining the economic impact of rural highway bypasses in Iowa and Minnesota and the other only in Iowa, researchers found no significant impact on overall retail sales in bypassed communities [8, 9]. But, a study that examined the local economic impact of a new bypass road in Kentucky, found that although it did not reduce retail employment, overall employment or population, the bypass did reduce aggregate retail sales [10]. In contrast, the NCHRP Research Results Digest reported that overall business activity, as measured by gross annual sales, grew more rapidly after the opening of bypass roads and that there was also an overall increase in employment [7].

The Kentucky study concluded that the size of the community had no influence on total employment growth [10]. The NCHRP Research Results Digest, however, reported that smaller communities have a greater potential to be adversely affected by a bypass than larger communities [11].

A survey of business owners in the Iowa and Minnesota study showed that the majority of respondents favored the bypass.

However, there were differences in owners’ perception of the impact of the bypass on business activities, depending on the location of the business in relation to the bypass. New businesses along the bypass were most positive about the bypass and its impact on sales, while businesses along the old route and away from the downtown CBD were least positive and reported that business activities were adversely affected [8].

Owners’ perceptions also varied by the type of business. Service industries and highway-oriented business owners were more positive than general merchandisers. The views of merchants were also affected by the period of time they had been in business (longer periods were more likely to favor a bypass), location in a county seat (merchants there

were more likely to favor a bypass), and distance from the bypass to the CBD (the greater the distance, the more likely the merchants were to oppose the bypass) [8].

Old highway route and downtown

Studies that looked specifically at the economic impact of bypass roads on businesses located along the old highway route yielded mixed results. A number of studies found that sales at gas stations, restaurants and other “traffic-serving” businesses located along the original highway were likely to be adversely affected [2, 7, 8, 9]. Researchers in Texas, who conducted an econometric analysis of the economic impact on small and medium-sized communities, found the greatest negative impact on per capita sales at gas stations. The impact on per capita sales at retail, eating and drinking establishments, and service industries depended on the magnitude of the traffic diverted to the bypass. These three sectors were likely to be negatively affected when about half the traffic was diverted to the bypass [6]. The NCHRP Research Results Digest, however, found cases where the sales activity of “traffic-serving” businesses along the old route actually exceeded growth for all businesses in the study area [7].

According to the literature, the impact of bypass roads on downtown areas is often dependent on the pre-existing strength of the downtown’s business identity and the ability of the bypassed community to adapt by directing the focus of economic activity to the downtown. Researchers in eastern Washington state found that downtown business districts in communities with a well-developed local customer base were less adversely affected by bypass projects than communities highly dependent on drive-by traffic [5]. The study of four similarly sized city downtowns in Virginia and the Midwest also found that downtown business districts with a strong identity as a destination for visitors or local shoppers were most likely to be strengthened due to traffic reductions in their center [3]. Similar conclusions were reached by the researchers in Iowa and Minnesota. They found that businesses serving the local trade area and those dependent on repeat customers were likely to benefit from an improved downtown shopping environment [8].

Researchers who examined the economic impact of traffic relief projects on small communities in Texas found that in six out of 10 case studies downtowns prospered by changing from a community retail and service center to a center that specialized in specific activities, such as tourism and legal services [4]. Similar conclusions were reached in the Virginia/Midwest study, where the authors reported a dramatic change in one downtown area. “Inner cities cannot always compete with outlying “greenfield” sites for new industrial, commercial, and residential development, but can strive to seek new roles as centers of tourism, entertainment, and institutions” [3]. In a similar tone, the eastern Washington state researchers emphasized effective use of various planning tools. They wrote that “land use plans should be flexible enough to accommodate new types of downtown uses in communities that are impacted by a state route bypass” [5].

New bypass corridor

Studies of the economic impact along new bypass corridors most often focus on differentiating the extent to which business activity is the result of new development or the relocation of existing businesses from the old highway. They also examined where

businesses locate along the new bypass corridor. For the most part, the studies found that development tended to be new rather than relocated businesses and that development commonly concentrated at the bypass interchanges. For example, in an Iowa study, the researchers found that existing businesses did not relocate to the bypass. Although some businesses in old downtown areas closed, development along bypasses tended to be new business ventures [10].

Similarly, the Texas study found that downtown businesses were not likely to relocate to the bypass roadway, primarily due to a lack of resources to finance relocation costs [4]. This study also found that many of the new businesses locating along the bypass corridor were national or regional chains, and less likely to purchase products and supplies locally [4].

In contrast, researchers in Wisconsin found little evidence that “big box” retailers were attracted to bypass roads or interchanges [11]. They further noted that new development along a bypass is not inevitable. The authors write that: “conscious planning and zoning decisions to control development near the interchanges or the fact that some bypasses are surrounded by areas that are unsuitable for development due to constraints such as wetlands” accounted for few retail businesses either relocating or developing new operations in areas adjacent to the bypass route [11].

The opposite can also be true. In the Virginia/Midwest study, the authors note that proactive planning by local authorities can attract industrial development to bypass interchanges [3]. Researchers in eastern Washington state also found that economic development opportunities for small towns can accrue from bypass routes that improve access to major trading centers [5]. These authors contend that “systematic development of highway related businesses and other retail businesses near bypass interchanges can help mitigate possible economic losses that occur from the diversion of traffic from the downtown business district” [5].

SOCIAL AND COMMUNITY DEVELOPMENT

The bypass evaluation studies conclude that communities for the most part viewed the impact of bypass roads as beneficial, although some express reservations about impacts on the old highway through the downtown. The NCHRP Research Results Digest reported that the impact of bypasses on the overall community was positive. “However, almost half considered the impact on traffic-serving businesses on the old-route to be negative” [7]. Similar findings were reported by the Kentucky study that examined the impact of new bypass routes on quality of life.

Surveys showed that business people, the media and government officials were generally satisfied with bypass outcomes. Most respondents felt that the bypass promoted growth in the community [10]. Likewise, the examination of highway relief projects in Texas concluded that most of the residents, business owners, and civic leaders recognized that “the bypasses were both necessary and ultimately beneficial for the community” [4]. This study did note that most of the interviewees considered the bypass roads to be exacerbating factors rather than a primary cause of the current state of the community [4].

INTERJURISDICTIONAL INTERACTION

Little was reported on interjurisdictional impacts in those cases where a bypass is located in more than one community. The Virginia/Midwest study noted that in cases where a bypass crosses a number of jurisdictions, competition for tax-producing retail and other commercial businesses can limit the effectiveness of regional planning controls that may be used to prevent sprawl [3]. In the Wisconsin study, the authors noted that where bypasses were located in more than one community, they created opportunities for multi-jurisdictional plans [11].

OVERALL CONCLUSIONS

In their overall conclusions, most of the studies reviewed here suggest that communities, on balance, view bypass roads as beneficial. In the Wisconsin study, the authors conclude that bypasses created better traffic flow and congestion relief, eliminated trucks and seasonal traffic, created new areas for growth, and provided better overall accessibility to and from the community [11]. Similarly, the Texas study reported that, overall, most of the residents, business owners, and civic leaders interviewed recognized that the bypasses were both necessary and ultimately beneficial for the community. On the positive side, the bypasses reduced traffic through the towns by as much as 75 percent. This reduction in traffic improved access to local businesses, increased safety within the community, and generally enhanced the quality of life for residents. On the negative side, the reduction in traffic affected businesses in the downtown, along the bypass, and highway related businesses [4]. Finally, in the Virginia/Midwest study, the authors concluded that highways bypassing the central business district of a community are seldom either devastating or the savior of the area [3].

Table 1-1 below summarizes the positive and negative impacts of bypass roads as documented in the literature.

Table 1-1. Bypass Outcomes Scorecard

Bypass Outcomes	Positive	Negative	Comments
Traffic			
• Reduces regional traffic on old highway route	✓		
• Induces traffic volumes to return to pre-bypass levels as traffic diverted to parallel routes return to old highway route, especially in larger towns		✓	
• Reduces truck traffic on old highway route	✓		Truck traffic, especially, may continue to use old highway route if bypass route lengthens trip
• Increases local downtown-oriented traffic	✓		
• Reduces traffic on streets neighboring old route	✓		To the extent local oriented traffic diverted to other routes because of downtown congestion, it may return to downtown route once bypass opens
Land Use			
• Facilitates conversion of vacant/open land to industrial, commercial or residential uses	✓		
• Increases sprawl, low density development when new industrial, commercial or residential uses require additional infrastructure investments and/or cause environmental degradation		✓	
• Limits development on bypass where access restrictions exist	✓		
• Increases land values	✓		
Economic			
Overall economic impact			
• Increases/decreases net economic impacts on the surrounding communities, although these relatively small	✓	✓	Smaller communities more likely to be adversely affected
• Increases/decreases aggregate retail sales	✓	✓	
Old highway route in downtown			
• Reduces traffic-related business activity (e.g., gas stations, eating/drinking establishments) downtown and/or downtown business closures		✓	Smaller downtown more susceptible. Impact on downtown dependent on strength of the downtown's business identity before the opening of the bypass and the ability of the bypassed community to change the focus of economic activity to locally-oriented business activity and/or development of niche economies (e.g., tourism, specialized services or institutional)

New bypass corridor		
<ul style="list-style-type: none">Increases new business activity along bypass corridor; these may be national or regional chains	✓	Unlikely to cause the relocation of businesses along old highway; business more likely to close Local planning policy can promote economic activity on the new bypass corridor.
<i>Social and Community</i>		
<ul style="list-style-type: none">Public opinion: citizens, business people, media representatives and government officials viewed impacts as positive	✓	Can have negative impacts on traffic serving businesses on old highway corridor
<ul style="list-style-type: none">Improves pedestrian environment, downtown circulation and safety	✓	
<i>Interjurisdictional Interaction</i>		
<ul style="list-style-type: none">Communities take advantage of opportunity for multi-jurisdictional planning and cooperation	✓	
<ul style="list-style-type: none">Promotes competition between jurisdictions for tax rates		✓

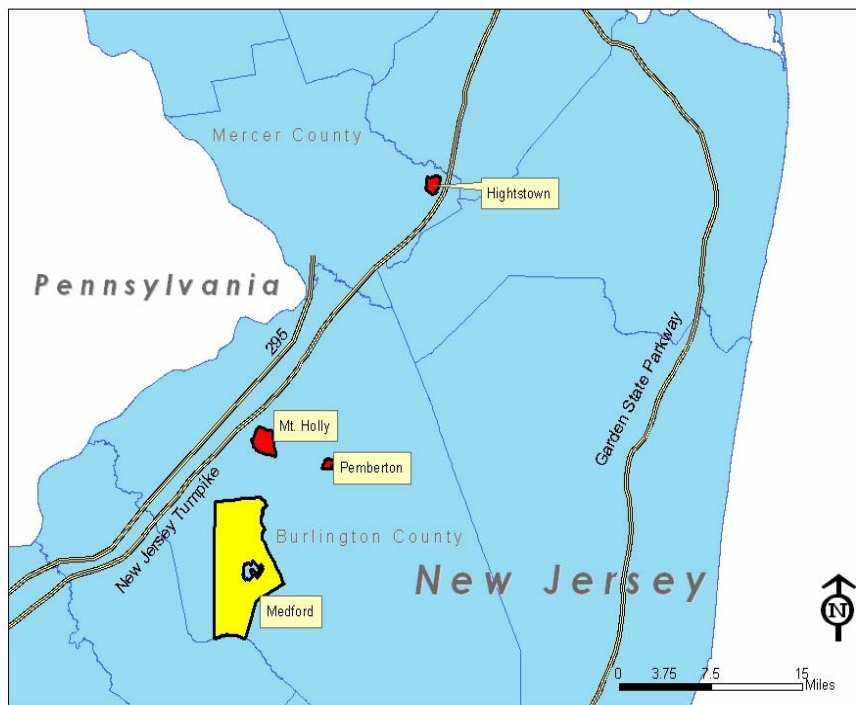
II. METHODOLOGY

Figure 2-1 shows the location of the three bypass case studies, and the control case:

- Route 133, which bypasses the Borough of Hightstown and is wholly located in East Windsor Township, Mercer County, NJ;
- Route 451, which bypasses Mount Holly and runs through the townships of Mount Holly, Hainesport and Lumberton, all located in Burlington County, NJ; and
- Route 530, which bypasses Pemberton Borough and is located in the Borough of Pemberton and Pemberton Township, also in Burlington County, NJ.

The control case was the Township of Medford, located in Burlington County, NJ.

Figure 2-1. Study Areas



In the first three cases, the bypass roads are not wholly within the jurisdiction being bypassed. The Hightstown Bypass is entirely within the Township of East Windsor, while the Burlington County bypasses both run through the bypassed community as well as neighboring towns. The Route 133 (Hightstown) Bypass is a state road that was planned and built by the NJ Department of Transportation (NJDOT). The Route 541 and Route 530 bypasses are county roads, planned and built by Burlington County.

Both quantitative and qualitative data were assembled to evaluate the potential impacts of the bypass roads. The quantitative analysis examined longitudinal data at the municipal and county level for the period 1970 to 2000, as well as traffic count data. In addition, land cover maps from 1974, 1985 and 1995 and aerial photographs taken in 2002 were used to assess land use changes. The qualitative analysis consisted of surveys and interviews with different stakeholders, including residents/non-residents, business owners/employees, and government officials.

QUANTITATIVE ANALYSIS

The quantitative analysis involved working with three different data sets. First, land use data were used to measure changes in the urbanized areas in the bypassed towns and parts of the adjacent communities. Second, demographic and socio-economic data were compiled from the U.S. Census and from a commercial software package marketed by a GeoLytics, Inc.¹ In addition, building permit data were obtained from the NJ Department of Labor and Workforce Development. Various demographic and socio-economic indicators were chosen to measure changes in the demographic and socioeconomic composition of each case study area. County data were used to rank each case study municipality on several demographic and socio-economic indicators in relation to other communities in the county. Third, before and after traffic count data for the Route 133 case study were obtained from the NJDOT.

Urbanized Area Analysis

The overall extent of urbanization in a locality is a common indicator of development patterns. Land use changes in the case study areas from the early 1970s to the mid-1990s were measured using satellite imagery and aerial photography.² For each of the case studies, three maps demonstrating the relative level of urbanization in 1972, 1984, 1995 were produced. To measure growth that occurred after 1995 in urbanized areas, aerial photographs that were taken in 2002 were visually interpreted.

Demographic and Socio-economic Analysis

Longitudinal data at the municipal level were used to determine what effect, if any, bypasses had on local demographic trends and socio-economic indicators. Fourteen variables were used. These included: total population, total households, white population, minority population, child population, senior population, university and professional education, average household income, population in civilian labor force, unemployment rate, poverty rate, owner-occupied housing units, vacant housing units and residential building permits. These data are often used as indicators of municipal well-being. Data were obtained for 1970, 1980, 1990 and 2000 at the census tract level

¹ <http://www.censuscd.com/Default.asp>

² The satellite imagery was made available by the Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA) at Cook College, Rutgers University, and was produced in cooperation with the New Jersey Department of Environmental Protection (NJDEP) and the National Oceanic & Atmospheric Administration (NOAA). The aerial photographs were obtained from USGS Digital Orthophoto Quadrangles and were captured from February to April 2002 at a scale of 1"=200'.

using the Geolytics software package and from the NJ Department of Labor and Workforce Development.³

Census data from 2000 were used to rank each case study municipality in relation to other communities in the county. Eighteen variables were used. These included: total population, minority population, population under 18 years of age, population over 65 years of age, median age, average household size, university and professional education, population in labor force, unemployment rate, service employees, median household income, per capita income, poverty rate, median home value, total housing units, owner-occupied housing units, density, and mean travel time to work.

QUALITATIVE ANALYSIS

A qualitative analysis was undertaken in order to better understand the views and perceptions of residents/visitors, business owners/employees and government officials of the bypasses. The analysis included reviews of pertinent economic records and planning documents, and interviews with key stakeholders involved in each municipality's bypass planning process. In addition, residents/non-residents and business owners/employees were interviewed to gauge their opinions on the impact of the various bypasses on their communities and downtown areas. By examining bypass impacts from a broader contextual perspective, a more nuanced understanding was obtained of the political and economic environments within which these four municipalities have developed.

Interviews with Public Officials

A total of nine in-depth interviews were completed during the study period. Each of these "key informant" interviews was conducted in person and lasted about one hour. In some instances, follow-up telephone conversations were held to clarify questions that arose after reviewing the interview material. Identical interview scripts were used in each case study (see Appendix). Interviewees were chosen based on their involvement in the bypass route planning, construction and implementation, or for their knowledge of the historical context of each case study. The following is a list of those interviewed and the associated case study:

Hightstown Borough

- Donna Lewis, Planning Director, Mercer County
- Leo Laaksonen, former Planning Director, Mercer County
- Janice Mironov, Mayor, East Windsor Township
- Robert Patten, Mayor, Hightstown Borough
- Carmela Roberts, Municipal Engineer, Hightstown Borough

³ Census tract geography is based on population distribution and the boundaries of particular tracts can change from one Census to the next Census. The Geolytics software package normalizes tract geography to match the most current Census 2000 tracts. In order to gain a sense of municipal-level development before and after the opening of the particular bypass, all tracts within each municipality were selected and the data were cumulated to obtain one number for the municipality.

Medford Township

- Alan Feit, Township Manager, Medford Township
- Mark Remsa, Director, Department of Economic Development and Regional Planning, Burlington County

Mount Holly Township

- Arch Liston, Township Manager, Mount Holly Township
- Mark Remsa, Director, Department of Economic Development and Regional Planning, Burlington County

Pemberton Borough

- F. Lyman Simpkins, Mayor, Pemberton Borough

Resident/Visitor and Business Owner/Employee Surveys

Intercept surveys were carried out from February to April 2004. The surveys were targeted both at residents and visitors, and at business owners and employees. Two separate survey instruments were used; one for the residents and visitors and the second for the business owners and employees (see Appendix). Identical questions were asked in the three bypass case study surveys; slightly different questions were used in the control case study survey. With each, questions attempted to measure the attitudes and feelings of the inhabitants and users of the communities involved in the study.

Residents and visitors of the three bypass case studies were asked questions such as whether they were in favor of the bypass, how they felt the main street had been affected, whether they have noticed more pedestrian traffic on the main street, how they felt the bypass has affected the community as a whole, and whether they were aware of new businesses that have opened on the main street since the opening of the bypass. Business owners and employees were asked questions such as whether they were in favor of the bypass, how they felt the main street had been affected by the opening of the bypass, how they felt their business had been affected, whether they have noticed more or fewer customers coming into their store, whether their customers were generally local residents or visitors, and whether there was more or less traffic on the main street since the bypass was opened.

A total of 138 survey responses were collected over numerous days of survey administration in each municipality. Sixty-six (66) residents or visitors completed surveys. Seventy-two (72) responses came from business owners and employees. Table 2-1 provides the breakdown of surveys performed in each case study area. Although the response distribution for each case is enumerated, the results must be treated with caution and not given the same emphasis of statistical rigor that is used in a quantitative analysis.

Table 2-1. Survey Response Distribution

	Hightstown	Mt. Holly	Pemberton	Medford	Total
Resident/Visitor	15	25	13	13	66
Owner/Employee	20	17	14	21	72
Total	35	42	27	34	138

III. Route 133 (Hightstown) Bypass

OVERVIEW

The Borough of Hightstown, incorporated in 1853, occupies 1.2 square miles in central New Jersey. Surrounded by the Township of East Windsor (see figure 3-1), Hightstown is bound on either side by two major north/south roadways—to the west by State Highway 130 and to the east by the New Jersey Turnpike (I-95). A number of county and state roads bisect the town from east to west—county routes 571 and 539, and state Route 33.

The Route 133 (Hightstown) Bypass is a 3.8-mile, four-lane state highway, which opened to traffic on November 30, 1999 (see figure 3-1). The full length of the bypass is located within East Windsor Township. It begins to the east of Hightstown at its junction with Route 33, just east of the NJ Turnpike Exit 8, then crosses over the NJ Turnpike, continues west around Hightstown to the north crossing over Route 130 and terminates at County Route 571 to the west of the Borough. Access to the bypass, other than at the eastern and western termini, is limited to two points—a three-quarter cloverleaf interchange at Route 130 and a partial diamond interchange at One Mile Road. There is no interchange with the NJ Turnpike, which is located about a mile to the west of the eastern terminus of the bypass. The bypass terminates on each end at signal-controlled intersections with jughandles.

Figure 3-1. The Route 133 (Hightstown) Bypass, looking westbound at Route 130 interchange

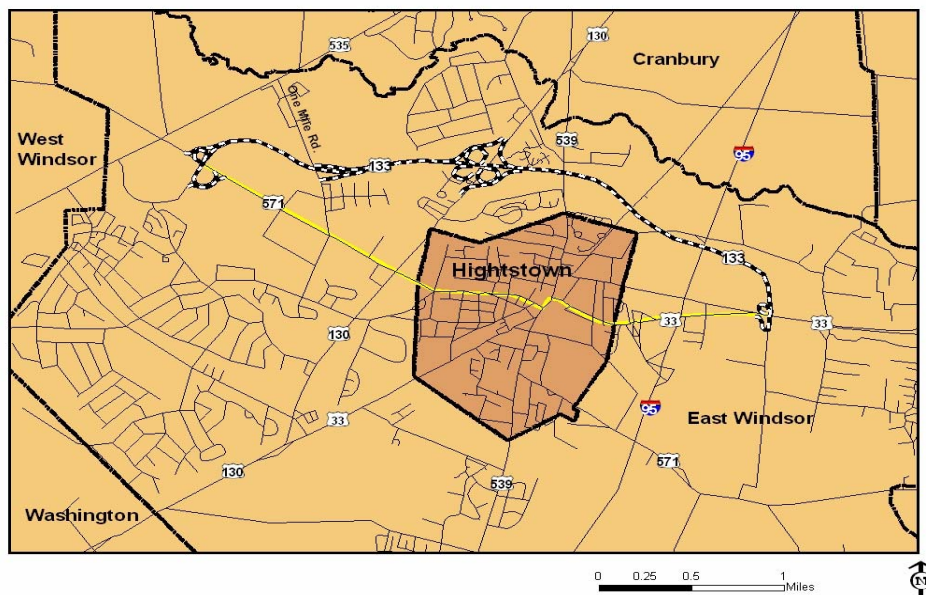


HISTORICAL BACKGROUND

The Hightstown Bypass has a long history. Discussion of a bypass dates back to 1929, when local officials sought a solution to redirect through traffic from downtown Hightstown.⁴ In 1938, legislation was proposed for an expressway that would run from just west of Princeton through Hightstown and continue east to the Atlantic Ocean along the Route 33 corridor. In 1959, the New Jersey Department of Transportation (NJDOT) identified the need for a freeway connecting Route 33, east of Hightstown, to Route 206, north of Princeton. This proposal, which was designated the Route 92 Freeway, included a four-lane, 14-mile highway that would connect Routes 206, 27, 1, 130 and 33 with the NJ Turnpike. A Draft Environmental Impact Statement (DEIS) for Route 92 was completed in 1986. The DEIS stated that the purpose and need for Route 92 included relief of traffic congestion in Princeton and Hightstown, improvement of east-west traffic flow and the removal of truck traffic from local roads.

In 1987, the NJDOT bifurcated the Route 92 project, dropping the section between Princeton and Route 1, advancing a northerly alignment for the segment east of Route 1 and proposing the construction of the Hightstown Bypass as a separate project with independent utility. In 1994, planning for the Hightstown Bypass began and all information was updated to reflect then current conditions. During the 1990s, public opposition to the project grew, particularly from East Windsor neighborhoods adjacent to the proposed right-of-way. As a result, changes were made to the original plan, including the addition of sound barriers, a reduction in the size of the road's median and shifts in the alignment away from some residential areas. The new plans were designated the Route 133 Bypass. (Figure 3-2)

Figure 3-2. Route 133 (Hightstown) Bypass



⁴ The source for the historical background is <http://www.nycroads.com/roads/NJ-133/>.

In October 1999, just prior to the opening of the Hightstown Bypass, the *Princeton Packet* published a series of articles that highlighted various issues associated with its opening. One article, which focused on the future of Hightstown's downtown, reported that downtown business owners anticipated that the bypass would have a positive impact on their businesses. The business owners expected that by rerouting regional traffic, especially trucks, the downtown would be used only by those local residents and visitors who wanted to shop or visit downtown. "They don't see it taking away existing business — only adding to what's already there. ... So, despite the loss of hundreds of vehicles driving by, businesses are anxious for a friendlier environment to make potential customers more relaxed — and that's going to be good for business."⁵

Another article reported that the bypass was expected to bring benefits to the township of East Windsor. It was hoped that the bypass would provide a major boost to the commercial area the township was developing on its west side. An area manager for business development for GPU Energy was quoted as saying, "I think it (the bypass) will be a great benefit to businesses looking to relocate to this area. I think it is adding to the reputation of this area."⁶ A third article reported that the strong feelings held by East Windsor community groups, who four years earlier had objected to the building of the bypass, had subsided. The past co-chairwoman of one opposition group, the Alliance of Bypass Communities, was quoted as saying that, "It's not really a hot topic anymore. At this point, I think, with the concessions we got, it's not going to have the negative effect on our particular neighborhood that we thought it would."⁷

Notwithstanding the benefits that both Hightstown and East Windsor expected from the opening of the bypass, one article raised the differences that also existed between the two communities about the goals of the project. While Hightstown hoped that it would reduce truck traffic through the downtown, the Mayor of East Windsor, Janice Mironov, was quoted as saying that "we don't want the bypass to become an attraction to trucks that don't belong on Route 130."⁸

DEMOGRAPHIC AND SOCIO-ECONOMIC TREND ANALYSIS

Between 1970 and 2000, the demographic and socio-economic composition of Hightstown changed significantly (see table 3-1). However, insufficient time has elapsed since the 1999 opening of the bypass to conclude whether these changes can be attributed to the new road. A 1970 to 2000 trend analysis captures the changing circumstances of Hightstown Borough and provides a context for evaluating the impacts of the bypass.

Hightstown's total population has remained more or less stable for 30 years. At the same time its demographic makeup has changed noticeably. The town has become more racially and ethnically diverse. The age composition of the town has also changed. The shares of senior and child populations have both declined considerably (by about 6 percent and 8 percent respectively), increasing the share of working age residents. In

⁵ Rob Heyman, "Downtown's future hinges on end to loud truck traffic," *Princeton Packet* (October 15, 1999).

⁶ Charles Toutant, "Bypass opens route for new businesses" *Princeton Packet* (October 15, 1999).

⁷ Charles Toutant, "Opinion divided on impact of project" *Princeton Packet* (October 15, 1999).

⁸ Charles Toutant, "Hightstown Bypass nears completion" *Princeton Packet* (October 15, 1999).

addition, the share of the town's population with a university education has more than doubled.

Table 3-1. Socio-economic and Demographic Trends for Hightstown: 1970 to 2000

	1970	1980	1990	2000	Absolute Change 1970-200	% Change 1970-2000
Population	5,141	4,462	5,126	5,216	75	1.5%
Households	1,878	1,648	2,018	2,001	123	6.5%
White Population ^a	91.0%	87.7%	83.5%	76.5%	-14.5%	-15.9%
Minority Population ^a	9.0%	12.3%	16.5%	23.5%	14.5%	161.1%
Child Population (Under 18) ^a	30.6%	25.7%	21.2%	22.5%	-8.1%	-26.5%
Senior Population (over 65) ^a	17.1%	13.0%	14.4%	10.8%	-6.3%	-36.8%
Bachelor/Graduate/Professional Degree ^b	19.0%	19.2%	30.3%	39.5%	20.5%	107.9%
Average Household Income ^c	\$48,991	\$59,060	\$68,692	\$77,422	\$28,431	58.0%
Population in Civilian Labor Force ^d	55.0%	67.2%	76.1%	74.4%	19.4%	35.3%
Unemployed ^e	3.8%	4.3%	5.5%	3.0%	-0.8%	-21.1%
Poverty Rate ^f	8.5%	5.9%	3.2%	7.3%	-1.2%	-14.1%
Owner Occupied Housing Units ^g	44.7%	54.7%	53.6%	57.7%	13.0%	29.1%
Vacant Housing Units ^g	1.6%	4.3%	6.2 %	3.8%	2.2%	137.5%
Residential Building Permits ^h	n/a	n/a	275	36		

Source: U.S. Census and Geolytics

Notes:

- a. Proportion of total population
- b. Proportion of population 25 years and over
- c. In constant \$2000
- d. Percent of population 16 and over in civilian labor force
- e. Percent of civilian labor force
- f. Percent of individuals below the poverty level
- g. Proportion of total housing units
- h. Total number of permits issued in preceding decade

The socio-economic character of Hightstown has varied during the 30-year period. Some indicators have improved, while others have fluctuated. Average household income grew by 58 percent in constant dollars between 1970 and 2000. Participation in the civilian labor force grew by almost 20 percent between 1970 and 2000; however, it declined from 76.1 percent in 1990 to 74.4 percent in 2000. Unemployment rose steadily from 3.8 percent in 1970 to 5.5 percent in 1990, but declined in 2000 to 3.0 percent. The poverty rate, which declined steadily from 8.5 percent in 1970 to 3.2 percent in 1990, rose abruptly in 2000 to 7.3 percent.

The share of owner-occupied housing units has grown steadily since 1970, increasing from 44.7 percent in 1970 to 57.7 percent in 2000. The share of vacant housing units, which increased from 1.6 percent in 1970 to 6.2 percent in 1990, declined to 3.8 percent in 2000. In the 24-year period between 1980 and 2003, a total of 335 residential building permits were issued in Hightstown Borough, of which three quarters (250) were issued in the single year of 1985. A total of 275 permits were issued between 1981 and 1990, and only 36 between 1991 and 2000. 1985 was the only year in which more than 20 permits were issued.

Table 3-2. Comparison of Hightstown Borough and Mercer County for 2000

	Mercer County	Hightstown	Difference	Ranking ^a
Total Population	350,761	5,216	N/A	11
Total Minority Population (%)	31.5	23.5	-8.0	5
Total Population Under 18 Years (%)	24.0	22.5	-1.5	10
Total Population Over 65 Years (%)	12.6	10.8	-1.8	8
Median Age (Years)	36	35.5	-0.5	11
Average Household Size	2.62	2.60	-0.02	6
Bachelor/Graduate/Professional Degree (%)	34.0	39.5	5.5	10
Population in Labor Force (over 16)	65.4	74.7	9.3	3
Unemployed (%) ^b	7.5	3.0	-4.5	8
Service Employees (%)	14.3	13.6	-0.7	4
Median Household Income in 1999 (\$)	56,613	64,299	7,686	9
Per Capita Income in 1999 (\$)	27,914	28,605	691	9
Persons Below Poverty Level in 1999 (%)	8.6	7.3	-1.3	3
Median Home Value (\$) ^c	147,300	141,300	-6,100	10
Total Housing Units	133,280	2,081	N/A	11
Owner Occupied Housing Units (%) ^d	67.0	60.0	-7.0	11
Density (Housing Units/Square Mile)	589.9	1,696.4	1,106.5	3

Source: U.S. Census

Notes:

a. This column ranks Hightstown by largest to smallest against the 12 other municipalities in Mercer County.

b. Percent of Civilian Labor Force

c. Owner Occupied

d. Percent of total occupied housing units

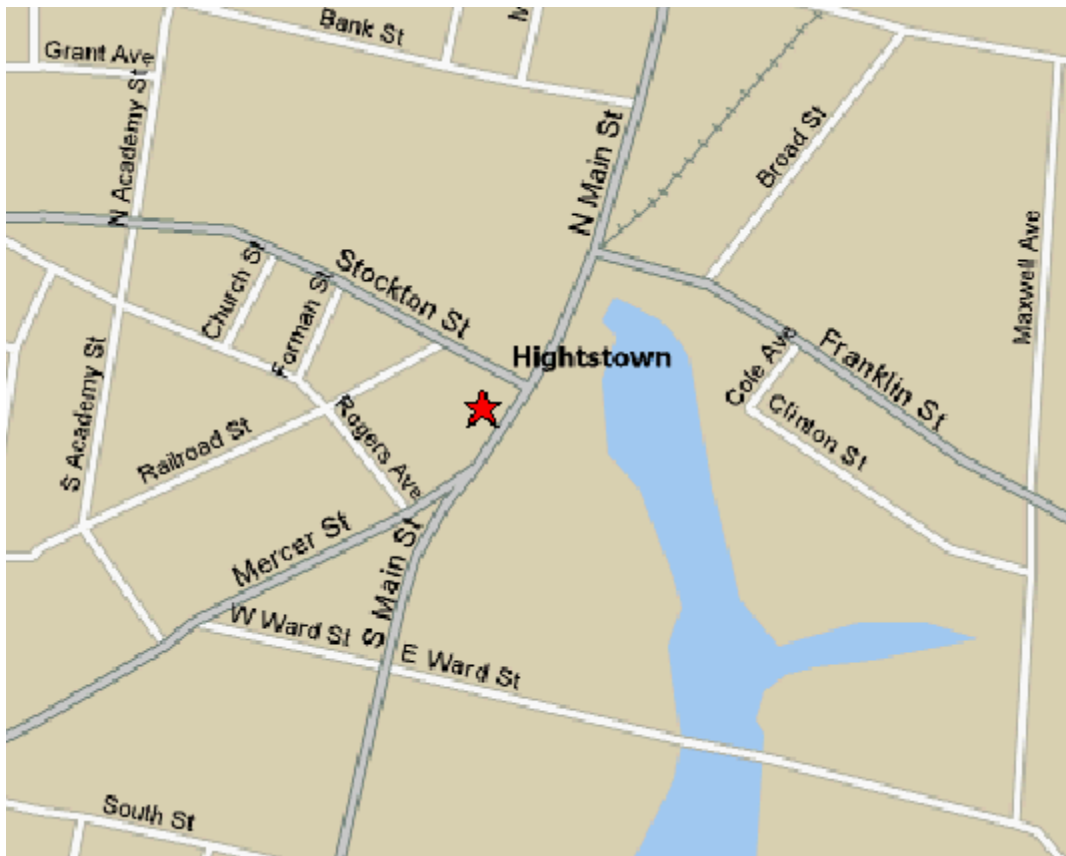
A comparison of Hightstown's key demographic and socio-economic characteristics with those of other municipalities in Mercer County reveals that Hightstown is relatively more diverse, younger and less affluent than the 12 other communities (see table 3-2). Only two of the 13 towns in Mercer County have smaller populations. Although Hightstown's share of minority population is smaller than the county average, which is heavily biased by the large minority population in Trenton, it has the county's fifth largest share. With relatively more of its population in the working age group (between 18 and 64), Hightstown's median age is the third youngest in the county and its share of population in the labor force is the third highest. Notwithstanding its growing university-educated population, nine towns in Mercer County have larger shares than Hightstown.

Hightstown's economic indicators are among the weakest of the 13 communities in Mercer County. In 1999, eight of the other 12 towns in Mercer County had higher median household and per capita incomes and only two towns had a larger share of individuals living below the poverty level. Nine towns had higher median home values and 10 towns had a larger share of owner-occupied housing units.

TRAFFIC COUNTS

Before and after traffic counts performed in 1994 and 2002 in downtown Hightstown (see figure 3-3) at the junction of Stockton Street (Route 571) and Main Street (Routes 33/539) show reductions in east-west traffic (see table 3-3), but a mixed picture with north-south traffic. Westbound traffic entering Stockton Street declined almost 45 percent, while eastbound traffic leaving Stockton Street declined 61 percent.

Figure 3-3. Traffic Counts were Taken at the Junction of Stockton and Main Streets



Traffic entering and leaving the junction from the north on North Main Street, which would include considerable east-west traffic coming and going to Route 33 and the NJ Turnpike to the east, also decreased considerably. North Main Street traffic entering the junction declined by almost 24 percent, while traffic leaving the junction declined by almost 16 percent. On the other hand, traffic entering the junction from the south on South Main Street increased by a little over 18 percent. This could be either traffic coming from Route 130 to the south and heading for the NJ Turnpike or local traffic from Route 539.

Table 3-3 Before and After Traffic Counts at the Junction of Stockton and Main Streets (AADT)

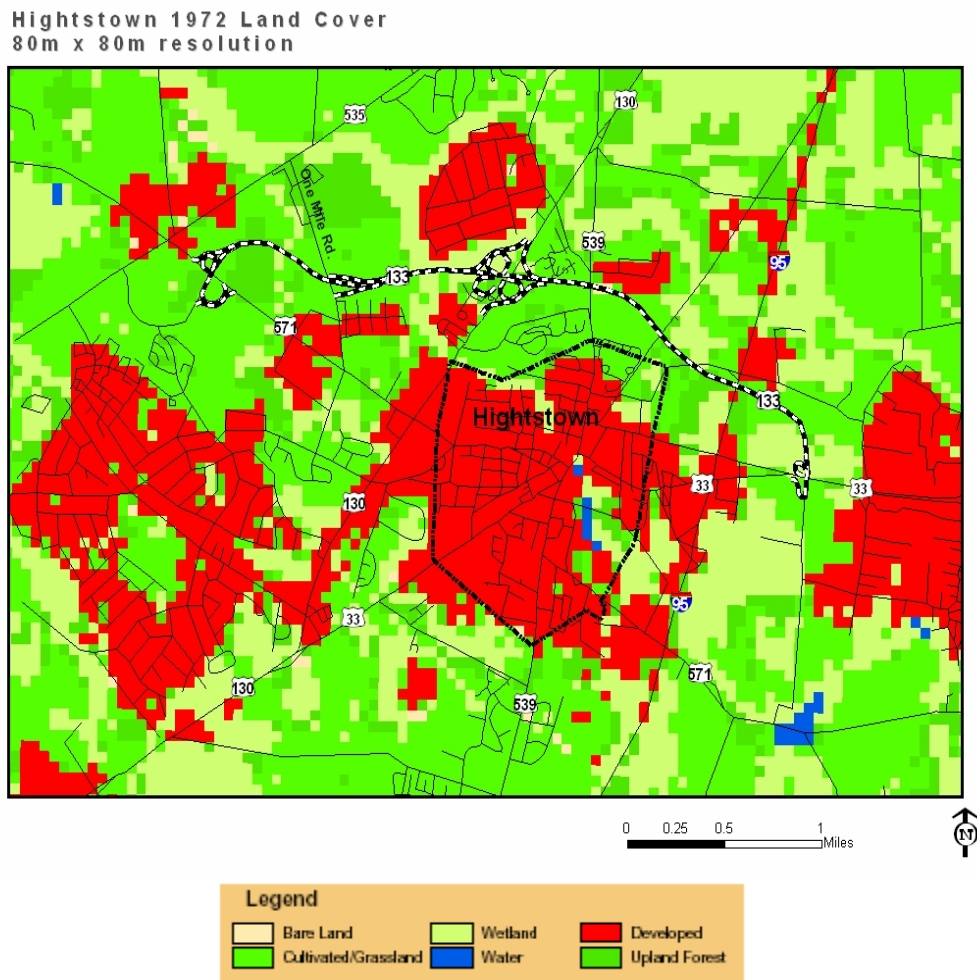
	1994	2002	% Change
Southbound N. Main Street	11,550	8,830	-23.5%
Northbound N. Main Street	11,600	9,750	-15.9%
Eastbound Stockton Street	5,550	2,150	-61.3%
Westbound Stockton Street	5,590	3,090	-44.7%
Southbound S. Main Street	N/A	7,310	N/A
Northbound S. Main Street	7,750	9,170	18.3%

Source: NJDOT/The Louis Berger Group

LAND USE CHANGE

In 1972, Hightstown was estimated to be 85-90 percent developed. This reflects the Borough's history as a railroad town and its proximity to two major north-south highways, Route 130 and the New Jersey Turnpike, as well as other regional roadways (see figure 3-4). As illustrated in figure 3-4, within Hightstown there was very little developable land. In the area around Hightstown, there was some development to the north on the western side of Route 130, close to the future Hightstown Bypass interchange (shown by the black dashed line running north of Hightstown). There was also a single residential development north of the future bypass alignment, adjacent to Route 539. To the west of Hightstown, development existed adjacent to the municipal border on both sides of Route 130, as well as a single development along Route 571, just west of One Mile Road. Further west, just beyond the future western terminus of the bypass, some development existed along Route 535. Development was also present along the Route 130 corridor as far south as the intersection of Routes 130 and 33. The only extensive residential development outside of Hightstown was located to the southwest, in East Windsor Township. There was also development to the east of Hightstown, in particular, along the NJ Turnpike corridor. No development existed at the future eastern bypass terminus.

Figure 3-4. Hightstown 1972 Land Cover



By 1984, very little additional urbanization, as indicated in red, had taken place in Hightstown (see figure 3-5). The only development during this 12-year period was to the north, adjacent to Route 539, where primarily residential uses were built along the border with East Windsor. In the area surrounding Hightstown, however, considerable development occurred. To the north of the future bypass alignment, adjacent to the future Route 130 interchange, new development occurred between Route 130 and Route 539. To the west, the Route 130 corridor broadened, as did areas of residential development to the southwest in East Windsor. Considerable growth took place along Route 571 to the west of Hightstown, including development opposite the future western terminus of the bypass. To the east of Hightstown, development extended along Route 33 towards the eastern terminus of the future bypass. Additional development also occurred along the NJ Turnpike corridor, both to the north and south of Hightstown. To the south of Hightstown, development extended beyond over the Borough's boundary along Route 539.

Figure 3-5. Hightstown 1984 Land Cover

Hightstown 1984 Land Cover
30m x 30m resolution

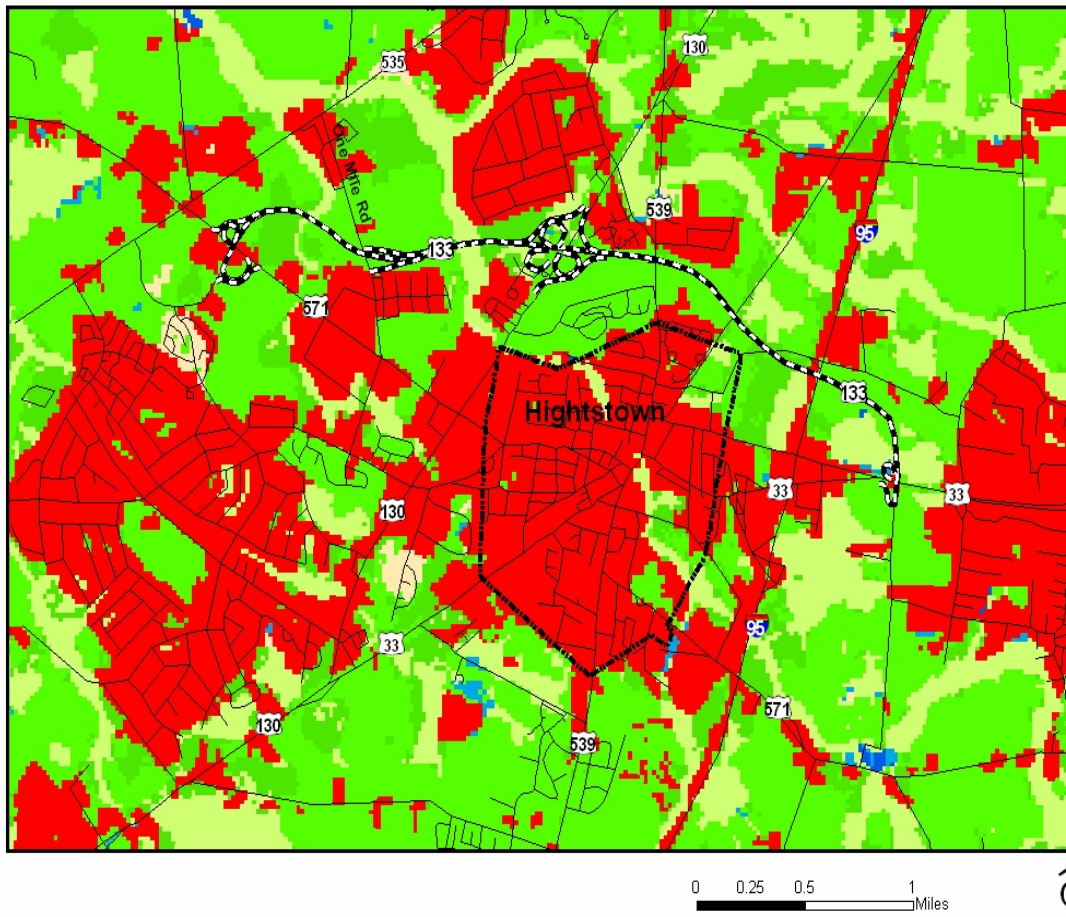
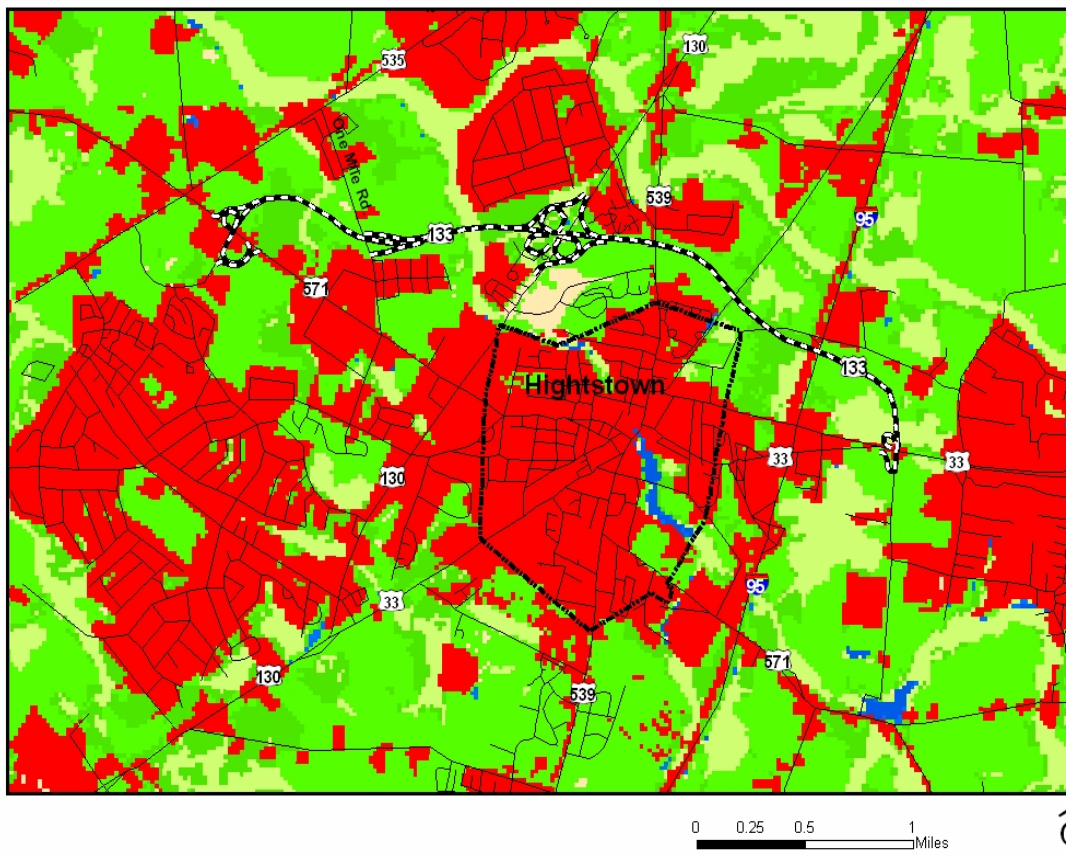


Figure 3-6 shows that no additional urbanization, as indicated in red, occurred within Hightstown between 1984 and 1995, despite the 250 building permits issued in 1985. These permits relate to the area on Route 539 adjacent to Hightstown's northern border

with East Windsor which were already shown as urbanized on the 1984 land cover map. In East Windsor, no new development took place to the north of the future bypass alignment. To the west of Hightstown, infill development continued to occur along Route 571, particularly to the east of the future western terminus of the bypass. Development also occurred along Route 535, both to the north and south of Route 571. Infill also occurred to the southwest, in the triangle between Routes 130 and 33. To the east, south of the future eastern terminus of the bypass, new industrial development occurred. There was also some development along the NJ Turnpike corridor. To the south, development continued to extend along Route 539.

Figure 3-6. Hightstown 1995 Land Cover

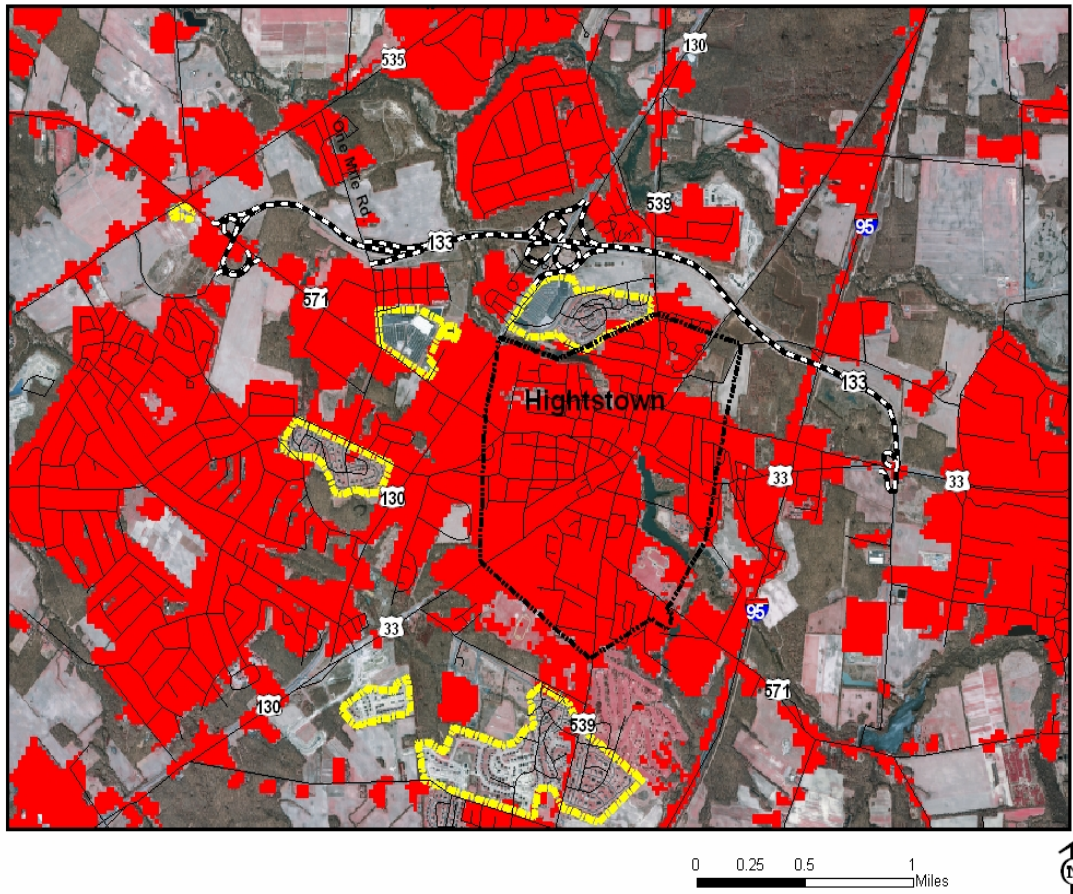
Hightstown 1995 Land Cover
30m x 30m resolution



Although more recent Land Use/Land Cover data were not available, 2002 Orthophotos were overlaid with 1995 Land Cover data to examine where development has occurred since 1995 and after the opening of the bypass (see figure 3-7). No new development occurred in Hightstown. The only substantial development along the bypass (indicated by yellow line) occurred to the northeast of Hightstown, adjacent to its interchange at Route 130, where a commercial shopping complex was completed in about 1996. There was no new development at either of the bypass termini. Infill development occurred to the west of Hightstown along Route 571 as well as to the south of Route 571. Land development continued along Route 539 to the south of Hightstown.

Figure 3-7. Hightstown 1995 Land Cover and 2002 Aerial

Hightstown 1995 Land Cover
and 2002 aerial



SURVEY ANALYSIS

Residents/Visitors

A survey of 13 Hightstown residents and two visitors in the downtown area revealed that five of the eight residents who were living in Hightstown before the bypass was opened (long time residents), were aware of the original proposal to build a bypass (see table 3-4). All five long time residents were in favor of the project and four of the five felt that the impact on the main street would be positive. However, since the completion of the bypass, views on the impact on the main street were mixed. Only three of the eight long time residents felt the impact on the main street has been positive; and only four of the eight felt that the effect on the community as a whole has been positive.

Table 3-4. Hightstown Resident/Visitor Survey Responses

Question	Yes/Positive/ More		No/Negative /Fewer		Don't Know/ No Change		No Response		Total
	Res. ^a	Vis. ^a	Res.	Vis.	Res.	Vis.	Res.	Vis.	
• Were you aware of the original proposal to construct the bypass	5	0	3	0	0	0	0	0	8
• Were you in favor of the bypass proposal	5	0	0	0	0	0	0	0	5
• How did you feel the bypass would impact the main street area	4	0	1	0	0	0	0	0	5
• Now that the bypass has been built, how do you feel the main street business has been affected	3	0	2	0	3	0	0	0	8
• Do you frequent the main street businesses more or less than you did before the bypass was constructed	0	0	2	0	6	0	0	0	8
• Were the businesses you frequent on the main street around before the bypass was completed	6	0	2	0	0	0	0	0	8
• Have you noticed that more pedestrians are present on main street since the bypass was completed	4	0	1	0	3	0	0	0	8
• Is there seemingly more or less traffic on the main street since the bypass was completed	3	0	1	0	4	0	0	0	8
• Do you now use any businesses near the bypass area that you used to use on the main street	0	0	11	0	1	0	1	0	13
• More generally, how do you feel the bypass has affected the community	4	0	1	0	3	1	0	1	10
• Are you aware of any new businesses that have opened on the main street in the last few years	11	1	1	1	1	0	0	0	15
• Do you think that more restaurants/coffee shops would make the main street more attractive	9	2	4	0	N/A		0	0	15
• Do you think that more specialty shops would make the main street more attractive	9	1	4	1	N/A		0	0	15
• Do you think that improvements to the streetscape would make the main street more attractive	9	1	4	1	N/A		0	0	15
• Do you feel that more pedestrian traffic would bring in more customers to main street businesses	8	2	1	0	4	0	0	0	15
• What types of vehicles are most prominent on the main street ^b	8	1	4	1	0	0	1	0	15
• Do you now use any businesses on or near the bypass area	7	1	6	1	0	0	0	0	15
• How often do you drive the bypass yourself ^c	2	0	6	1	5	1	0	0	15

Notes:

a. Res = Residents; Vis =Visitors. Visitors were not asked the full set of questions.

b. Semi-trucks; Cars; Bikes/Peds

c. More than once a week; Once a week/Once a month; Never

For the most part, residents' usage of main street businesses has not changed since the bypass opened. They are frequenting the same businesses as before the opening of the bypass. Six of the eight long time residents have not changed how often they visited main street businesses, and six of the eight said that the businesses they frequent were already located on the main street before the bypass was completed. Half the long time residents noticed more pedestrian activity on the main street since the bypass opened, but only one of eight thought that traffic volumes had decreased since the bypass was completed. Eleven of the 13 residents responded that they do not use any businesses near the bypass area that they used to use on the main street.

Almost all the residents and visitors (12 of 15 respondents) were aware of new businesses that have opened on the main street since the Route 133 Bypass was completed. The vast majority thought that the main street could be made more attractive if more restaurants, coffee shops, specialty shops and improvements to the streetscape were added. Ten of the 15 respondents thought that more pedestrian traffic would bring in more business to main street shops. Nine of 15 respondents reported that trucks were the most prominent vehicles on the main street, while only five thought cars were the most prominent. About half the respondents used businesses near the bypass.

Notably, very few of the respondents said they used the bypass on a regular basis themselves.

Business Owners/Employees

A survey of Hightstown business owners (13 respondents) and employees (7 respondents) yielded mixed reviews about the impacts of the bypass (see table 3-5). Of the seven owners and employees who worked in Hightstown before the bypass opened (long time workers), five had been aware of the project. Of these five respondents, two had favored and two opposed the bypass proposal. Only two of the five believed the bypass would have a positive impact on their business.

Only two of the seven long time workers felt that the Route 133 Bypass had had a positive impact on main street businesses overall, and only one of the seven felt their business had been positively affected. Only three of the seven felt that pedestrian traffic had increased and that more customers frequented their store. Respondents have not noticed any change in the composition of local residents and visitors who visited their stores.

Only two of the seven owners and employees who worked in Hightstown before the opening of the bypass, noticed any decrease in traffic on the main street. The majority (5 respondents) thought trucks were the predominant vehicles on the main street and only two thought that truck traffic had decreased since the bypass opened.

Table 3-5. Hightstown Business Owner/Employee Survey Responses

Question	Yes/Positive/ More		No/Negative /Fewer		Don't Know/ No Change		No Response		Total
	Own. ^a	Emp. ^a	Own.	Emp.	Own.	Emp.	Own.	Emp.	
• Were you aware of the original proposal to construct the bypass	3	2	1	1	0	0	0	0	7
• Were you in favor of the bypass proposal	2	0	1	1	0	0	0	1	5
• How did you feel the bypass would impact the main street area	1	1	1	0	1	1	0	0	5
• How did you feel the bypass would impact your business in particular	1	0	1	0	1	1	0	1	5
• Now that the bypass has been built, how do you feel main street businesses have been affected	1	1	1	2	2	0	0	0	7
• How has pedestrian traffic been affected in main street	2	1	0	1	2	1	0	0	7
• Have you noticed more/fewer customers coming into your store	3	0	0	0	1	2	0	1	7
• More generally, how do you feel the bypass has affected your business	1	0	2	1	1	2	0	0	7
• Before the bypass was constructed were your customers generally local residents or through travel ^b	1	2	1	1	1	0	1	0	7
• Since the bypass was constructed were your customers generally local residents or through travel ^c	2	1	0	2	2	0	0	0	7
• Is there seemingly more or less traffic on the main street since the bypass was completed	1	2	1	1	2	0	0	0	7
• What types of vehicles are most prominent on the main street ^b	2	3	2	0	0	0	0	0	7
• How has the large truck traffic been affected on the main street since the bypass was completed	0	1	1	1	3	1	0	0	7
• Are you satisfied with the business environment on the main street	5	3	1	1	1	0	2	0	13
• Do you feel that more vehicular traffic would bring in more customers to your business	6	2	2	2	1	0	0	0	13
• Do you feel that more pedestrian traffic would bring in more customers to your business	8	4	1	0	0	0	0	0	13
• If there was no bypass, do you feel like your location on the main street would be more attractive	4	2	3	2	2	0	0	0	13
• Have you ever considered relocating to another area to open your business	4	0	4	0	1	0	0	0	9
• If commercial business was allowed on the bypass, would you consider relocating there	0	0	4	0	5	0	0	0	9
• How often do you use the bypass yourself ^c	3	0	1	1	5	3	0	0	13

Notes:

- a. Own = Owners; Emp = Employees. Employees were not asked the full set of questions. Employees were not asked the full set of questions. In addition, owners and employees who came to work in Hightstown after the opening of the bypass were not asked the same set of questions as those who worked in Hightstown before the opening of the bypass.
- b. More Residents; More Tourists; Even Mix
- c. Semi-trucks; Cars; Bikes/Peds.
- d. More than once a week; Once a week/Once a month; Never

Of the 13 business owners and employees who have come to work in Hightstown since the opening of the bypass (recent workers), eight said that they were satisfied with the business environment on the main street. Eight recent workers also said that more vehicular traffic would increase the number of shoppers visiting their store and almost all (12 respondents) thought that more pedestrian traffic would bring in more customers. About half thought that their main street location would be more attractive if the bypass had not been built. Four recent workers have considered relocating their business, although none would consider relocating to the bypass.

Again, very few of these respondents said they used the bypass on a regular basis themselves.

Government Officials

Five government officials were interviewed to obtain their views on the Hightstown Bypass—Leo Laaksonen, Mercer County Planning Director between 1968 and 1997; Donna Lewis, the current county Planning Director; Hightstown Mayor Robert Patten; Hightstown Municipal Engineer Carmela Roberts; and East Windsor Mayor Janice Mironov. The interviews highlighted different perspectives on the goals and outcomes of the Route 133 Bypass.

Leo Laaksonen

Leo Laaksonen participated in the extensive planning process for both Route 92 and the Route 133 (Hightstown) Bypass while serving as county planning director between 1968 and 1997. Although he had retired by the time the Route 133 Bypass opened in 1999, he was a staunch proponent of the original plan which would have extended the road all the way to Route 1. His view was that the bypass was needed to eliminate congestion and bottlenecks in Hightstown, thereby promoting the revitalization of downtown Hightstown. He believed that improvement in traffic flow would also lead to air quality improvements.

Mr. Laaksonen said he was not aware of the current situation in Hightstown and the functioning of the bypass. He was, however, quite adamant that the route designation for the bypass was misleading in that it should have been designated Route 33. Mr. Laaksonen believed that to the extent that the bypass was less effective than intended, this could be attributed to not designating it Route 33. A Route 33 designation would have led drivers coming north up Route 130 or from the east along Route 33 to the bypass, rather than continuing through downtown Hightstown, which remains the current alignment of Route 33. Mr. Laaksonen also believed that a Route 33 designation would have resolved any truck traffic problem in downtown Hightstown.

Figure 3-8. Signage on Route 130



Robert Patten

Robert Patten, the Mayor of Hightstown since 2003, believes that the Route 133 (Hightstown) Bypass has had a positive impact on Hightstown. His assessment is that rush hour traffic has been reduced and that less traffic was backing-up at stoplights in downtown. In his opinion, the bypass has succeeded to divert both east-bound and west-bound through traffic, cutting the travel time by as much as 11 to 13 minutes. In his opinion, the reduction in traffic has reduced congestion, air pollution, and noise in the downtown area. He also noted that residents on Stockton Street feel safer and it is easier for children to cross the road.

Mr. Patten noted that some traffic is important for the survival of the downtown businesses and expressed an understanding that the downtown must become a destination for people rather than a corridor primarily for through traffic. He believes that the bypass has been somewhat successful in this respect. The completion of streetscape improvements has allowed pedestrians to move safely around the downtown. One indication of the changes for the better the mayor identified was the opening of an outdoor patio by a downtown restaurant.

The mayor noted that not all traffic problems have been resolved. He said that a considerable number of large trucks still travel through downtown Hightstown each day, particularly those using Route 33. In addition, he noted that a housing development south of Hightstown in East Windsor has increased vehicular traffic through the downtown.

Mr. Patten reported that he is attempting to develop a more cooperative working relationship with East Windsor regarding through truck traffic. He appreciated East

Windsor Mayor Mironov's concern that redirecting northbound trucks traveling up Route 130 to the bypass could place more truck traffic on Route 130. However, he is trying to work with East Windsor to overcome this problem. He will not try to force trucks to use Route 130, unlike previous Hightstown mayors who tried to put up signage at the intersection of Routes 33 and 130 to redirect trucks to Route 130. These attempts failed. Mr. Patten's preference is to restrict the volume of trucks coming off the NJ Turnpike. One way would be to force trucks to use the NJ Turnpike exit that is closest to their destination.

Carmela Roberts

Carmela Roberts, the Municipal Engineer of Hightstown Borough since 1991, explained that the goal of the Route 133 Bypass was to decrease the enormous amount of traffic that passed through the downtown area. Route 33 which runs through downtown Hightstown had become the "route" for east-west traffic and it was necessary to divert through traffic to make the downtown a viable place to "go to" rather than "pass through." It was envisaged that with a reduction in traffic, the downtown would be more amenable to pedestrian traffic, which, in turn, would spur business activity.

It is Ms. Roberts' impression that since the opening of the bypass, traffic has declined, especially west-bound towards Route 1 and Princeton. She noted that the decrease in traffic has been most evident on Stockton Street. Along Main Street (Route 33/539) there was an initial decrease, but the development of new residential communities to the north and south on Route 539 in East Windsor has resulted in an increase in north-south traffic through the downtown. Ms. Roberts also pointed out that downtown traffic flows are still high because there is no signage on either the NJ Turnpike or Route 130 directing drivers to the bypass. When exiting the NJ Turnpike at Exit 8, signs direct drivers either west through Hightstown to Route 33 West, Hightstown and East Windsor or east to Princeton via the bypass. On Route 130, signs to the NJ Turnpike direct drivers to use Route 33 which passes through downtown Hightstown.

Figure 3-9. Signage at NJ Turnpike's Exit 8



Ms. Roberts stated that since the opening of the bypass, and before the closure of the Minute Maid plant on Route 33 in Hightstown, there has been heavy truck traffic through the Borough's downtown. Minute Maid counted 700 trucks entering or leaving its plant in a 24-hour period and most of these passed through the Borough's downtown. Ms. Roberts still thinks that truck traffic volumes are high. She believes that trucks make only minor use of the bypass, which has diverted mainly car traffic. Ms. Roberts opined that poor signage has resulted in too few trucks diverting to the bypass.

Ms. Roberts explained that one of the goals of the Borough's Master Plan is to revitalize the downtown. She has been active in the traffic calming and streetscape improvements that have been and will be made to the downtown. Widening the sidewalks, creating bump outs, inserting islands, reducing lane widths and maintaining on-street parking were intended to slow traffic and create a more walkable downtown. Ms. Roberts has noticed that some new businesses opened in the downtown since the opening of the bypass, but some have already closed. Despite these closings, her impression is that the downtown is somewhat more vibrant than it used to be. She noted that there are no longer any vacant stores in the downtown.

Ms. Roberts remarked that with the improvement of the Victorian homes on Stockton Street, Hightstown is more beautiful than it was five years ago. Although she is not sure whether this can be attributed to the bypass, she noted that walking through town is now nicer and safer than it was before the bypass opened.

Janice Mironov

Janice Mironov, the Mayor of East Windsor since 1996, made it clear that East Windsor always supported the bypass and that she did too, despite her working with groups who opposed the project at the time of her election. She argued that it was because of her efforts that a suitable compromise was reached between the East Windsor opponents and the NJDOT.

Mayor Mironov believes that most East Windsor residents would agree that "there are more positives than negatives" from the bypass. For Ms. Mironov, the bypass has had a positive impact on business development along Route 571 in the vicinity of the western terminus of the bypass. East Windsor is actively encouraging office and corporate development along Route 571. The bypass has enabled a direct connection to the NJ Turnpike from East Windsor's commercial and office development along Route 571. A new 40,000 square foot medical complex opened in November 2004 and its location on Old Trenton Road (Route 535) was chosen specifically because of its accessibility to the NJ Turnpike via the Route 133 Bypass. East Windsor is also actively promoting industrial and warehouse development at the eastern end of the bypass.

Ms. Mironov contended that the Route 133 Bypass functions as an east-west route, not a north-south route and, as such, was never intended to handle north-south traffic. Thus, she strongly objects to attempts to use the bypass to reroute north-south traffic around Hightstown along Route 130. She described Route 130 as East Windsor's main street and does not want through traffic to increase. In the past, Ms. Mironov opposed attempts by various Hightstown mayors to put up signs directing traffic to the bypass. She is glad that the signage question is no longer an issue.

Donna Lewis

Donna Lewis, the Planning Director of Mercer County since 1997, believes that the bypass has helped alleviate traffic jams and that it should have a positive impact on downtown Hightstown. It has an important function as a regional connector. However, Ms. Lewis believes the bypass has been underutilized because of inadequate signage and poorly designed interchanges. She noted that given its design, the bypass does not substantially reduce travel time for those who use it.

DISCUSSION: BYPASS OUTCOMES

A review of various planning documents and interviews with county and local officials indicates that the Route 133 (Hightstown) Bypass was expected to divert a substantial amount of traffic away from downtown Hightstown. In fact, the purpose and need for building the bypass—relieving traffic congestion in the Hightstown Central Business District (CBD); reducing truck traffic on local roadways; improving east-west traffic flow; improving traffic safety in and around the Hightstown CBD; and improving the overall regional transportation network—were primarily traffic related. In addition, other positive outcomes were expected to derive from the projected traffic reductions. This is evidenced by text written into the circulation element of Hightstown’s 1998 Master Plan which suggested that traffic reductions attributable to the bypass would have many positive quality of life impacts on the Borough.

The State’s traffic analysis of the impact of the new Hightstown By-Pass promises a dramatic reduction in traffic through town, including a substantial decline in truck traffic. After regional through traffic is diverted away from downtown Hightstown, the Borough will have an opportunity to reclaim its old town charm and revitalize its business district. The future holds the promise of better retail development, higher valued ratables, a more balanced municipal budget, improved community services and, hopefully, lower taxes. The By-Pass alone won’t do it all, but without it, certainly none of this would be possible.⁹

Although it can be argued that insufficient time has elapsed since the bypass opened to fully assess its impact, a number of preliminary observations can be made which capture the evolving circumstances related to bypass construction. Table 3-6 summarizes the impacts according to four dimensions of change developed for this study—traffic and circulation, economic development and land use, social and community, and interjurisdictional interaction.

Traffic and Circulation

Both quantitative and qualitative data indicate that the bypass has succeeded in reducing traffic in downtown Hightstown. According to data collected for NJDOT in December 2002, three years after the opening of the bypass, the new road carried between 11,000 and 21,000 vehicles per day averaged annually. A significant portion of this traffic would have otherwise had to pass through downtown Hightstown.

Furthermore, 2002 intersection traffic count data confirm the observations of Hightstown Mayor Patten and Municipal Engineer Carmela Roberts that through traffic on Stockton

⁹ Borough of Hightstown Master Plan, September 26, 1998, Page 20 of 73.

Street (Route 571), the main east-west route through downtown Hightstown, has declined substantially since the opening of the bypass. Daily eastbound traffic on Stockton Street has been reduced by more than 61 percent. Westbound traffic declined by nearly 45 percent. Traffic reductions on Main Street ranged from 16-24 percent.

Interestingly, despite these significant reductions, a majority of both Hightstown residents and business owners said they had not perceived a reduction in traffic through the downtown since the bypass was built. Only one of the eight long-time residents thought that vehicular traffic volumes in the downtown had decreased since the bypass was completed. This could be partially due to the sizeable volume of north-south traffic that continues to travel through the Borough. According to 2002 traffic counts at the intersection of Stockton and Main Streets between 16,500 and 18,600 vehicles per day (averaged annually) still travel north-south on Main Street through the downtown.

As Ms. Roberts suggested, some of this traffic can be attributed to new residential development built to the north and south of the Borough on Route 539 in East Windsor. However, as several public officials indicated in their interviews, it is also likely that the bypass is underutilized because current signage from the NJ Turnpike and on Route 130 still directs drivers through the Borough's downtown rather than onto the bypass. For example, motorists exiting the NJ Turnpike and heading west toward Hightstown and East Windsor are directed to Route 33, which travels through downtown Hightstown (see figure 3-9). North-bound drivers on Route 130 destined for the NJ Turnpike at Exit 8 are directed north on Route 33 through the downtown (see figure 3-8). Moreover, as former Mercer County Planning Director Leo Laaksonen noted, the decision to designate the bypass as Route 133, rather than Route 33, may also contribute to motorist decisions to use Route 33 through the Borough instead of the bypass to access Route 130 and the NJ Turnpike.

Figure 3-10. Truck Traffic in downtown Hightstown at the Junction of Stockton and Main Streets



The problem of truck traffic in Hightstown remains an issue of major concern, despite the significant decline in auto traffic (see figure 3-10). Although there was no quantitative truck count data available for this study, residents, business owners and local officials agreed that heavy trucks continue to travel through downtown Hightstown, despite the bypass. The majority of residents and visitors reported that trucks appeared to be the most prominent vehicles on the main street. Business owners and employees were similarly unimpressed with the impacts of the bypass on truck traffic. The majority thought trucks were the predominant vehicles on the main street, and only two of the seven owners and employees have noticed a decline in truck traffic since the opening of the bypass.

Until recently, a portion of the truck traffic was attributed to trucks entering and exiting the Minute Maid bottling plant, located on Mercer Street (Route 33) to the south of the downtown. At the time the community survey was conducted, it was estimated that approximately 700 trucks per day accessed the plant. Since the survey work was completed, the plant has closed down. This will undoubtedly reduce the volume of trucks using Route 33 through the downtown; however, some observers believe that truck traffic through the downtown will remain a problem even with the plant closed, especially with the recent opening of the Home Depot store on Route 33 and the Wal-Mart store on Route 130, just south of the junction with Route 33.

There are several contributing factors that may help explain why truck traffic through the downtown continues to be a problem. Hightstown is bounded on each side by major north-south roadways—the NJ Turnpike to the east and Route 130 to the west. Consequently, as traffic flows between the two roadways, it is often easier to travel through Hightstown's downtown than to use the bypass. This is especially true for trucks traveling northbound on Route 130 to NJ Turnpike Exit 8 and from the NJ Turnpike to Route 130 southbound. The trip via the bypass is longer and more circuitous. Drivers using the bypass between Route 130 and the NJ Turnpike must pass through five traffic lights rather than three if traveling via Route 33 through downtown Hightstown. Furthermore, accessing the bypass from the NJ Turnpike is not intuitive. Motorists wishing to travel north, south, or west using the bypass are required to travel east approximately one mile to connect to the bypass via a complicated jug-handle entrance. In addition, as noted above, signs at NJ Turnpike Exit 8 and on Route 130 northbound direct traffic through Hightstown.

Land Use and Economic Development

The economic impact of the bypass on Hightstown's downtown has been mixed. A review of land use/land cover data and aerial photographs from before and after the bypass opening appears to indicate that very little, if any new development has occurred in the Borough since the bypass was constructed. However, interviews with Hightstown business owners, workers, residents and public officials indicate that the business climate in Hightstown has shown some improvement. The Borough has undertaken a significant streetscape improvement project in the downtown to enhance pedestrian and vehicular safety and improve its overall appearance. Some new businesses have opened, including an extension of a sidewalk café. In addition, there has been some private investment to improve commercial facades and residential properties in the downtown, especially along Stockton Street. No land/building value data was analyzed for this study; however, it is

reasonable to assume that these investments have increased the value of commercial and residential real estate in Hightstown.

The Route 133 (Hightstown) Bypass was built entirely within the jurisdiction of East Windsor as a limited access roadway. Consequently, no new development has occurred adjacent to the roadway since it was constructed, although there is evidence that improved access to the regional highway network has contributed to commercial development on nearby parcels. In fact, East Windsor is actively promoting commercial and corporate development at the western terminus of the bypass and industrial and warehouse development at the eastern terminus of the bypass. A brochure put out by the Township, entitled “We’re Open for Business,” includes a map showing how the Route 133 Bypass provides easy and direct access to East Windsor’s Route 571 Development Corridor and its Exit 8/Route 33 Corridor. In addition, the East Windsor Master Plan includes an extensive area for office development east of the Route 130 interchange, on the south side of the bypass.

Figure 3-11. Corporate Medical Complex near the Western Terminus of the Bypass in East Windsor



Since the opening of the bypass, a 40,000 square foot medical complex has opened at the junction of Old Trenton Road (Route 535) and Route 571 (see figure 3-11) located just west of the bypass’ western terminus. A 270,000 square foot “Sci-Park” office-laboratory complex has been approved for construction nearby on Old Trenton Road. In addition, in the late 1990’s the developer of the Windsor Corporate Park, also located on Old Trenton Road to the north of its intersection with Route 571, converted an old manufacturing facility into Class A office space. According to East Windsor Business Ombudsman, Mr. Tom Ogren, this conversion was undertaken in anticipation of bypass construction. Finally, along Milford Road, which extends south from the eastern terminus of the bypass, the Conair Corporation has located a large national distribution facility, which serves the area east of the Mississippi River. Conair added 175,000 square feet to its original 400,000 square feet.

In addition to office development, East Windsor has also experienced growth in commercial development along Routes 130, 571 and 33. Several national “big box” retailers, including Target and Home Depot, have located in East Windsor since the opening of the bypass and a Wal-Mart will open soon on Route 130, just south of the routes 130/33 junction. Based on the data collected for this study, it is unclear whether this retail growth occurred in response to the bypass or to other economic forces such as the significant housing growth that occurred in East Windsor and nearby communities. It is likely that residential growth was the largest contributing factor; however, improved highway access and bypass-related congestion relief probably also played a role. In any case, most observers agreed that the character of the retail development that has occurred in East Windsor is not of the scale and character likely to occur in downtown Hightstown.

Very little housing development has occurred in Hightstown since the bypass was constructed. The same can not be said for East Windsor Township. The land use/land cover analysis conducted for this study revealed that significant residential development occurred in East Windsor over the past decade, both before and after the opening of the bypass. Again, based on the data, it is difficult to discern if the residential development occurred in anticipation of and/or because of the bypass or due to other economic forces. However, improved highway access and bypass-related congestion relief in the area was most likely a contributing factor. Based on the responses of those surveyed in Hightstown it does not appear that East Windsor’s population growth significantly improved economic and business conditions in downtown Hightstown.

Social and Community

It may be too soon to discern demographic and socio-economic responses in Hightstown due to the building of the bypass. The Borough’s demographic composition has changed noticeably since 1970 and some socio-economic indicators have shown improvement, while others have fluctuated. It is unlikely, however, that these changes were a consequence of the building of the bypass. More likely, they are a result of economic forces, which have shifted commercial activities from the downtown to suburban strip malls and large shopping centers located on major roadways. Despite the improvement in Hightstown’s demographic and socio-economic composition, in 2000 it was one of the weaker communities in Mercer County.

Impressions of the bypass’ social and community impact on Hightstown are mixed. Surveys of residents and visitors showed limited enthusiasm for the impact of the bypass on both the downtown and the community. Only three of the eight long time residents felt that impact on Hightstown’s main street has been positive, and only four of the eight long time residents felt that the effect on the community as a whole has been positive.

On the positive side, the vast majority of residents and visitors were aware of new businesses that have opened on the main street since the opening of the bypass. Moreover, both Mayor Patten and Municipal Engineer Roberts suggested that downtown Hightstown is more vibrant today than before the bypass was constructed. Ms. Roberts noted that there are no longer any vacant stores in the downtown.

Business owners and employees were dubious about the changes in the downtown. Although a majority was satisfied with the business environment, only two of the seven long-time owners and employees felt that the impact of the bypass on main street businesses has been positive and only one of the seven felt that the bypass has had a

positive impact on their own business. Furthermore, despite recent efforts to improve the look of the downtown, the vast majority of respondents thought that the main street could be made more attractive by adding more restaurants, coffee shops, specialty shops and additional streetscape improvements.

Interjurisdictional Interaction

The effectiveness of the bypass in diverting traffic, and especially truck traffic, from Hightstown is a point of conflict between public officials and citizens in Hightstown and East Windsor. Although one of the stated goals of the bypass was to divert regional and truck traffic from Hightstown's downtown, this has not been accepted by East Windsor, in whose jurisdiction the bypass is located. A letter in September 2002 to the Mercer County Executive signed by two Hightstown councilmen, one the chairman of the Public Safety Committee and the second a Planning Board member, illustrates this point.

We are writing to you concerning the increase in traffic through Hightstown. Currently, there are numerous Turnpike signs that direct traffic into Hightstown to get to Exit 8. ... We have tried on several occasions to convince the Turnpike Authority to change the signs to point towards the bypass, but Mayor Mironov will not allow it. ... She has now approved the construction of a Home Depot at the South end of route 33 just beyond our town's limits. We would like to be sure that trucks will be directed to use Route 130 and Route 133 when entering and exiting the Home Depot complex. We are requesting that you intervene to direct the Turnpike Authority to change their directional signs to direct traffic to the Hightstown bypass, instead of sending unnecessary truck traffic through the neighborhood streets of Hightstown Borough.

East Windsor has promoted access to the bypass as a way to encourage corporate, commercial and industrial development at both its termini. However, the Township's Mayor has been steadfast in her opposition to directing north-south traffic heading to or from the NJ Turnpike to the bypass. As evidenced above, efforts by various Hightstown elected and appointed officials to place signage on Route 130 directing northbound truck traffic heading for the NJ Turnpike to the Route 133 Bypass have been unsuccessful. To date, no changes to signage have been made. Consequently, the bypass remains underutilized by regional travelers, especially trucks.

Table 3-6. Route 133 (Hightstown) Bypass Outcomes

Outcome	Score	Comments
Traffic and Circulation		
<ul style="list-style-type: none"> • Did the bypass reduce regional/pass through traffic on the “main” street in the downtown? 	YES	<p>East-west traffic along Stockton Street declined 44-61 percent.</p> <p>Traffic reductions on N. Main Street were less significant (16-24 percent). Traffic increased 18 percent NB on S. Main street. This probably is the result of residential development to the north and south on Route 539 which have increased traffic volumes through the downtown.</p> <p>A majority of both residents/visitors and business owners/employees have not observed a reduction in traffic through the downtown.</p> <p>Poor signage has resulted in bypass not being used as effectively as it could be.</p>
<ul style="list-style-type: none"> • Did the bypass reduce truck traffic in the downtown? 	NO	<p>No truck count data were available.</p> <p>A majority of both residents/visitors and business owners/employees have observed heavy truck traffic in the downtown since the opening of the bypass.</p>
<ul style="list-style-type: none"> • Did reduction in regional/pass through traffic result in more local downtown-oriented traffic? 	NO	No observers reported an increase in locally oriented traffic in the downtown.
<ul style="list-style-type: none"> • Was pedestrian safety improved? 	YES	Hightstown’s Mayor believes that safety has improved on Stockton Street.
<ul style="list-style-type: none"> • Did the bypass improve the accessibility of regional destinations and/or transportation facilities? 	YES	The bypass improved east-west access to the NJ Turnpike and Route 130.
Land Use and Economic Development		
<ul style="list-style-type: none"> • Was development along the bypass route constrained by access and/or development restrictions? 	YES	Access to the bypass was limited to two interchanges and termini.
<ul style="list-style-type: none"> • Did business growth, revitalization, or redevelopment occur in the downtown after the bypass was opened? 	YES	Most observers noted new businesses opening in the downtown after the bypass was opened.
<ul style="list-style-type: none"> • Did the bypass stimulate business growth outside of the downtown on land adjacent to the bypass or at its termini? 	YES	<p>Development and business growth occurred in East Windsor Township in areas adjacent to or near the bypass interchanges and termini. Most of this development, which was a combination of office, R&D and retail, was of a scale incompatible with downtown Hightstown locations and, thus, was not perceived to compete directly with downtown businesses.</p> <p>This development is actively promoted by East Windsor Township.</p>
<ul style="list-style-type: none"> • Did the bypass provide transportation infrastructure in sparsely developed areas and/or an areas without other supporting infrastructure (e.g., water/sewer service)? 	NO	The bypass was constructed in an area of East Windsor Township already served by public sewer and water infrastructure. There was no significant environmental resources noted in the area where the bypass was constructed.
<ul style="list-style-type: none"> • Did residential growth occur in areas adjacent to or near the downtown that are believed to support downtown businesses? 	NO	Significant residential growth occurred in East Windsor Township; 1,444 building permits were issued between 1991 and 2003. However, this growth has not supported downtown businesses in Hightstown.

Social and Community

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| • Did the bypass affect the demographic and socio-economic character of the town? | N/A | The bypass opened in 1999. Too little time had passed by the 2000 Census to evaluate this question. |
| • Did pedestrian activity in the downtown increase after the bypass was opened? | SOME | Some observers reported an increase in pedestrian activity in the downtown. The Borough of Hightstown has improved the pedestrian streetscape |
| • Do citizens, business people and government officials perceive the impacts of the bypass to be positive? | SOME | Opinions regarding the bypass impacts are mixed. Some residents/visitors and business owners/employees reported positive bypass impacts and some reported negative impacts. Both Mayor Patten and Municipal Engineer Roberts, however, thought that the impacts of the bypass were positive. |

Interjurisdictional Interaction

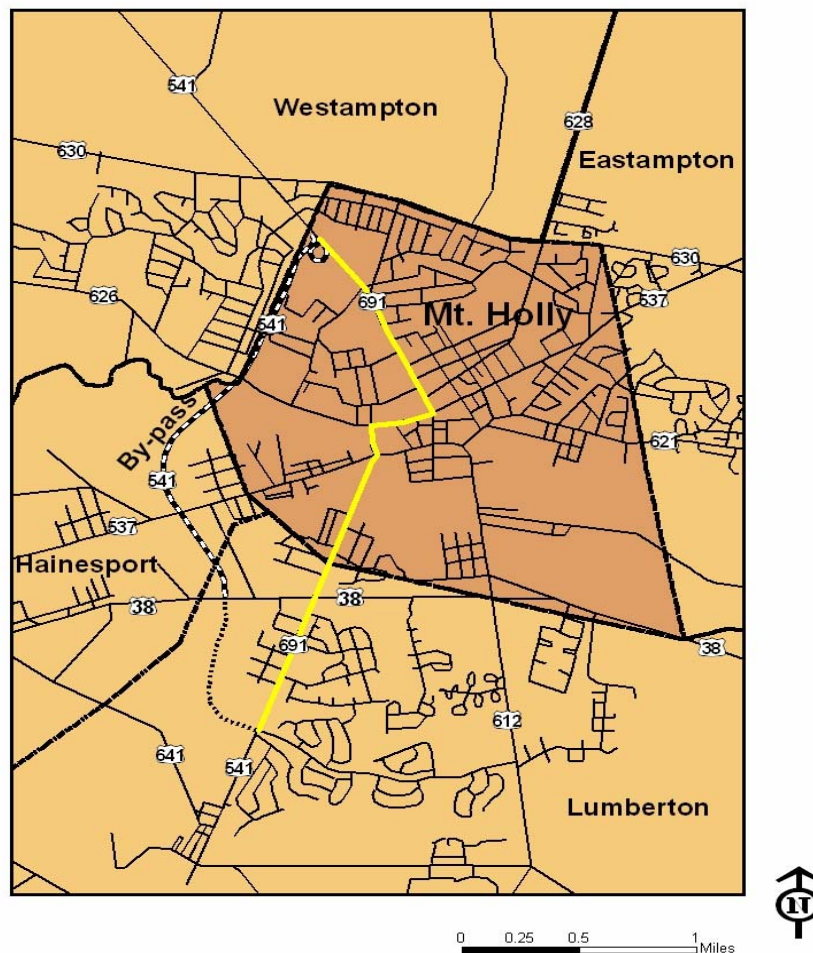
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| • Did community leaders take advantage of opportunities for interjurisdictional cooperation created by bypass construction? | NO | Relations between East Windsor and Hightstown have been strained at times, largely because of competing traffic concerns. Little if any effort has been made by public officials to address differences and take advantage of opportunities for inter-jurisdictional cooperation. In particular, they have been in disagreement about diverting truck traffic to the bypass and having signs direct traffic to the bypass. |
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IV. ROUTE 541 (MOUNT HOLLY) BYPASS

OVERVIEW

The township of Mount Holly was incorporated in the early 18th century and serves as the county seat for Burlington County (see figure 2-1). This formerly industrial/commercial community has been in decline for close to 40 years. It is surrounded by affluent suburban communities—Westampton to the north, Hainesport to the west, Lumberton to the south, and Eastampton to the east (see figure 4.1). These communities have grown considerably during the same time period.

Figure 4-1. Route 541 (Mount Holly) Bypass



The Route 541 (Mount Holly) Bypass was constructed as a county roadway in two phases. The first section, which opened to traffic in 1971, is a 2.8-mile, four-lane road that bypasses Mount Holly to the west (see figures 4-1 & 4-2). Its northern terminus, at the intersection of with Route 691, is close to Interchange 5 on the New Jersey Turnpike and to I-295, which are located to the northwest. The initial section proceeded south along the border of Mount Holly and Westampton, crossed over into Hainesport, and then

terminated at Route 38 in Lumberton. Arch Liston, the Township Manager of Mount Holly and Mark Remsa, the county director of Economic Development and Regional Planning, agree that the purpose of the Mount Holly Bypass, was to alleviate congestion in downtown Mount Holly by diverting traffic, especially trucks, from High Street (Route 691) to the bypass. In addition, the bypass was intended to improve connectivity within the county by linking to other east-west roads, such as Routes 626, 537 and Road 38.

The southern extension of the bypass was completed in 2000. It extends south from the former terminus at Route 38 to Route 691. It is located entirely within the Lumberton Township.

Figure 4-2. The Route 541 (Mount Holly) Bypass: Intersection at Route 537 along the Initial Section



The original section of the Mount Holly Bypass is a limited access highway with entry and exit restricted to the termini at Routes 541 and 38 and to the interchanges at Routes 626 (Rancocas Road) and 537 (Washington Road). Since it was constructed, the only property with direct access to the bypass has been a public storage facility, close to the interchange at Route 537. Recently, however, Mount Holly has received preliminary approval from the NJDOT to put in a traffic light between the north end of the bypass and Rancocas Road (Route 626) to provide access into a 50-acre site the township wants to develop.

The more recent southern extension of the Route 541 Bypass was constructed by a private developer, who has provided access to properties on both sides of the extension as

part of his agreement to build the extension. Various commercial and industrial uses with direct access to this southern extension have been built since the bypass opened (see figure 4-3).

Figure 4-3. The Route 541 (Mount Holly) Bypass Extension



DEMOGRAPHIC AND SOCIO-ECONOMIC TREND ANALYSIS

The demographic and socio-economic composition of Mount Holly has undergone significant changes in the 30 years since the original section of the Route 541 Bypass was built, most notably during the decade of the 1990s (see table 4-1). Mount Holly's population declined 15 percent between 1970 and 1980, but stabilized thereafter. Between 1970 and 2000, the town's racial composition changed dramatically, becoming increasingly diverse. The white population decreased 17 percent, while the non-white population increased 83 percent. The township's population also aged—the share of persons 65 and older increased 34.8 percent, while the share of children under 18 declined 29.1 percent. The share of Mount Holly's population with a university education more than doubled between 1970 and 2000.

The township's average household income rose about 13 percent in constant dollars between 1970 and 2000, but remains relatively low. But between 1990 and 2000, average household income actually declined, from \$55,072 to \$54,956. The share of population 16 and over in the civilian labor force increased by 6.5 percent between 1970 and 2000, but during the 1990s it also declined from 63.5 percent in 1990 to 62.7 percent in 2000. The unemployment rate, which was almost 11 percent in 1980 has declined

steadily since then, but remains high at 6.4 percent. The poverty rate, although it has declined absolutely, remains high, with 9.9 percent of the township's residents living below the poverty level in 1999.

Table 4-1. Socio-economic and Demographic Trends for Mount Holly Township: 1970 to 2000

	1970	1980	1990	2000	Absolute Change 1970- 2000	% Change 1970-2000
Population	12,713	10,818	10,639	10,728	-1,985	-15.6
Households	3,785	3,626	3,657	3,903	118	3.1
White Population ^a	82.9%	81.2%	76.5%	68.7%	-14.2%	-17.1
Minority Population ^a	17.1%	18.8%	23.5%	31.3%	14.2%	83.0
Child Population (Under 18) ^a	37.1%	29.5%	27.5%	26.3%	-10.8%	-29.1
Senior Population (over 65) ^a	9.2%	11.0%	12.4%	12.4%	3.2%	34.8
Bachelor/Graduate/ Professional Degree ^b	8.4%	14.8%	17.3%	18.6%	10.3%	124.1
Average Household Income ^c	\$48,458	\$49,976	\$55,072	\$54,956	\$6,498	13.4%
Population in Civilian Labor Force ^d	58.9%	61.8%	63.5%	62.7%	3.8%	6.5%
Unemployed ^e	6.3%	10.9%	7.1%	6.4%	0.1%	1.6
Poverty Rate ^f	11.3%	15.6%	13.8%	9.9%	-1.4%	-12.4
Owner Occupied Housing Units ^g	59.2%	66.0%	65.8%	58.0%	-1.2%	-2.0
Vacant Housing Units ^g	4.4%	5.2%	4.3%	8.1%	3.7%	84.1
Residential Building Permits ^h	n/a	n/a	379	112		

Source: U.S. Census and Geolytics

Notes:

i. Proportion of total population

j. Proportion of population 25 years and over

k. In constant \$2000

l. Percent of population 16 and over in civilian labor force

m. Percent of civilian labor force

n. Percent of individuals below the poverty level

o. Proportion of total housing units

p. Total number of permits issued in preceding decade

The share of owner-occupied housing units, which increased between 1970 and 1980, remained steady between 1980 and 1990, but then declined considerably between 1990 and 2000, dropping below the 1970 level to 58 percent. The share of vacant housing units, which varied slightly between 1970 and 1990, rose considerably during the 1990s, reaching 8.1 percent by 2000. In the 24-year period between 1980 and 2003, a total of 497 residential building permits were issued in Mount Holly. Again, during the 1990s, residential building activity declined when just 112 building permits were issued, compared to 379 during the 1980s. Most of those permits (296) were issued in 1988.

As shown in table 4-2, Mount Holly's population is more diverse than three-quarters of the other towns in Burlington County, ranking 10th out of 39 municipalities.. The median age of Mount Holly's residents is younger than four-fifths of the other towns, ranking 32nd among the 39 municipalities. Despite the increase in the share of university-educated residents, 26 of the other 39 towns in Burlington have higher shares.

Table 4-2. Comparison of Mount Holly Township and Burlington County for 2000

	Burlington County	Mount Holly Township	Difference	Ranking ^a
Total Population	423,394	10,728	N/A	12
Total Minority Population (%)	21.6	31.3	9.7	10
Total Population Under 18 Years (%)	25.2	26.3	1.1	19
Total Population Over 65 Years (%)	12.6	12.4	0.2	18
Median Age (Years)	37.1	35.0	-2.1	32
Average Household Size	2.65	2.64	-0.01	25
Bachelor/Graduate/Professional Degree (%)	28.4	18.6	-9.8	27
Population in Labor Force (over 16)	66.8	65.8	-1.0	31
Unemployed (%) ^b	3.9	6.4	2.5	4
Service Employees (%)	12.7	17.4	4.7	9
Median Household Income in 1999 (\$)	58,608	43,284	-15,324	36
Per Capita Income in 1999 (\$)	26,339	19,672	-6,667	31
Persons Below Poverty Level in 1999 (%)	4.7	9.9	5.2	4
Median Home Value (\$) ^c	137,400	98,200	-39,200	36
Total Housing Units	161,311	4,248	N/A	13
Owner Occupied Housing Units (%) ^d	77.4	63.2	-14.2	34
Density (Housing Units/Square Mile)	200.5	1,485.2	1,284.7	7

Source: U.S. Census

Note:

a. This column ranks Mount Holly by largest to smallest against the 39 other towns in Burlington County.

b. Percent of civilian labor force

c. Owner-occupied

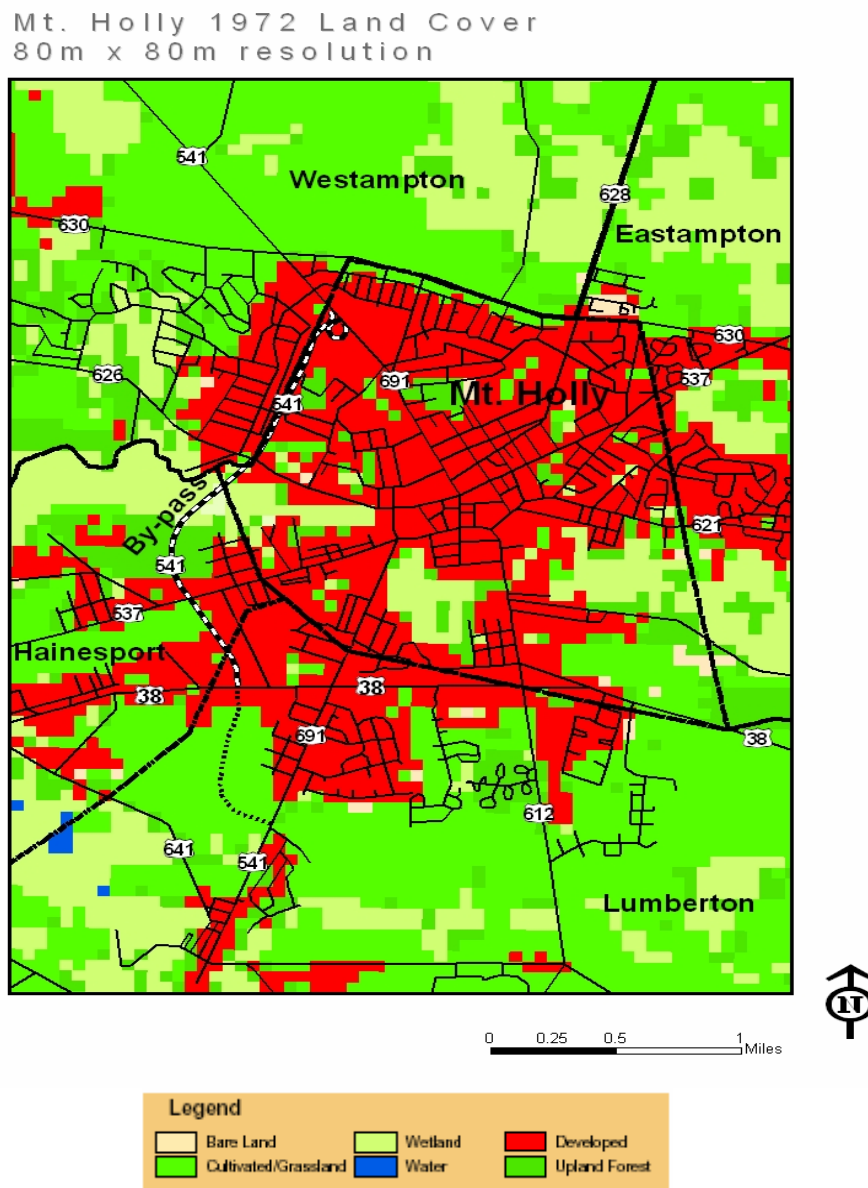
d. Percent of total occupied housing units

The township's socio-economic indicators are among the weakest in the county. About three-quarters of the 39 other towns have larger shares of their 16-and-older population in the labor force and only three towns have higher unemployment rates. Mount Holly's median household income is among the lowest in the county. Only three towns have a lower median household income and only eight towns have a lower median per capita income. Likewise, in 1999, only three towns had a larger share of residents living below the poverty level. Only three towns have lower median home values and only five towns have a smaller share of owner-occupied housing.

LAND USE CHANGE

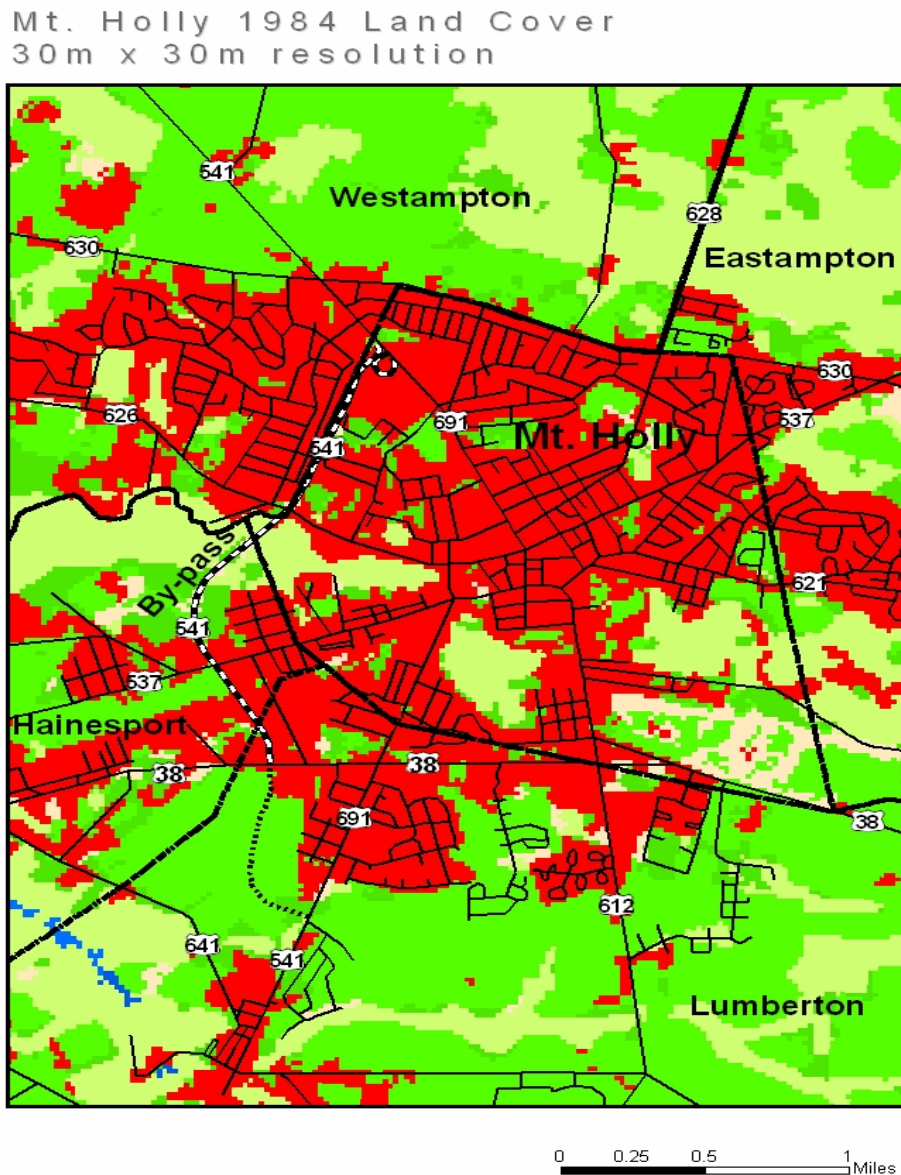
Figure 4-4 depicts a 1972 land cover map of Mount Holly, which shows the initial section of the Route 541 Bypass extending as far as the intersection with Route 38. In 1972, Mount Holly was almost fully developed with little land available for new development. In the towns around Mount Holly, development had begun to extend outwards from the common town borders along the main county roads. In Westampton, development in the area adjacent to the bypass between Route 630 and the Hainesport border can be seen. In Hainesport, there was development along Routes 537 and 38 and in the area between the bypass to the west, the Mount Holly border to the east and Lumberton's border to the south. To the south, development in Lumberton existed between the Mount Holly border and Route 38 and then stretched further south along both sides of Route 691 and to the east of Route 612. There was also minor development further south along Route 541. On the east side of Mount Holly, in Eastampton, there was development in the triangle between Routes 630 and 537, as well as to the north of Route 521.

Figure 4-4. Mount Holly 1972 Land Cover



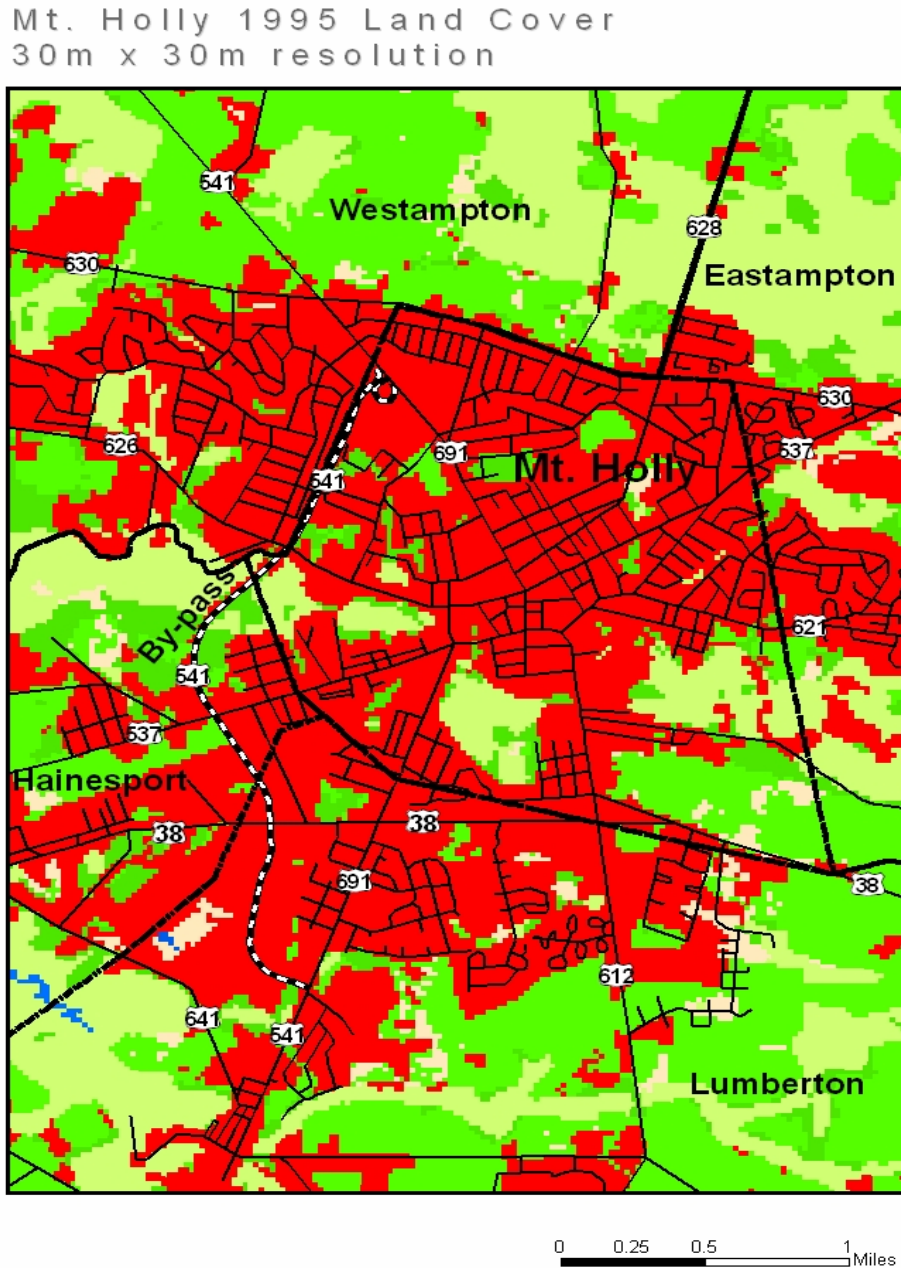
Within Mount Holly, no new development occurred between 1972 and 1984. In the towns around Mount Holly there was extensive land development (indicated in red), although very little could be directly attributed to the bypass (see figure 4-5). In Westampton, a substantial area between Routes 630 and 626 was converted from vacant land. Some development occurred in Hainesport along Routes 537 and 38 and there was also some development in Lumberton, close to the terminus of the future bypass extension (shown in the dashed black line). Development occurred north of the junction of the future bypass extension with Route 691 as well as to the south of the junction along Route 541. In addition, there was some development further east, adjacent to Route 612. In Eastampton, no new development occurred within the area adjacent to Mount Holly.

Figure 4-5. Mount Holly 1984 Land Cover



During the 1984 to 1995 period, before the bypass was extended to Route 641 in Lumberton, extensive development (indicated in red) occurred to the south of Mt. Holly, particularly in the Lumberton area (see figure 4-6). The expansion of Lumberton was especially impressive. It's population grew 28 percent during the 1980s, from 5,236 in 1980 to 6,705 by 1990, and then another 56 percent during the 1990s, reaching 10,461 by 2000. In the years 1991 to 1993, Lumberton issued an average of 67 residential building permits a year. In 1994, this number jumped to 122 residential permits and then to 168 in 1995.

Figure 4-6. Mount Holly 1995 Land Cover



During this period, little development occurred elsewhere in the area shown in figure 4-6. Although Mount Holly issued 296 building permits in 1988 and another 58 permits in

1993, the land cover map does not show new development occurring in the township. Since Mount Holly was almost fully urbanized, this development must have occurred on “brownfield” sites. In Westampton, there was also no new development. In Hainesport, some filling in occurred along Route 537 and, particularly, to the south of Route 38. To the east in Eastampton, there was some new development to the south of Route 537.

Figure 4-7. Mount Holly 1995 Land Cover and 2002 Aerial

Mt. Holly 1995 Land Cover
and 2002 aerial



Since 1995, with the exception of a few tracts of land along the Lumberton extension of the Route 541 Bypass, there has been little to no development in Mount Holly or its environs (see figure 4-7). As can be seen in figure 4-7, continued housing development

in Lumberton has effectively extended the bypass eastward from its terminus at Route 641 to Route 612. However, it should be noted that this portion of the roadway is under municipal jurisdiction and is of a different character. Although not visible in the mapping, it is important to note that residential development in Lumberton continued at a rapid pace between 1996 and 2001. During this period, there was a sharp increase in the number of residential building permits issued with 172 residential permits issued on average each year.

SURVEY ANALYSIS

Residents/Visitors

Twenty-five Mount Holly residents (17) and visitors (8) were surveyed in the downtown area (see table 4-3). Although a majority of both the resident and visitor respondents used businesses in downtown Mount Holly rather than in the bypass area, they have mixed impressions of what impact the bypass has had on the community. A sizeable majority felt that Mount Holly's downtown would benefit from increased pedestrian traffic and improvements in the services offered.

Only four (long-time residents) of the 17 residents lived in Mount Holly before the opening of the original section of the bypass in 1971 and only one was aware at the time of the original proposal to build a bypass. Three of the four long-time Mount Holly residents felt that the bypass has had a negative impact on the main street and two thought that the bypass has had a negative impact on the Mount Holly community. Two of the four frequent the main street more often than before the bypass was built and the other two visit the main street less. Three of the four long-time residents said that the businesses they frequent were located on main street before the bypass was opened. Two of the four have noticed fewer pedestrians on the main street than before the bypass was built. The four long-time residents were similarly divided in their opinions of whether there was more or less traffic on main street since the bypass opened. Fifteen of the 17 Mount Holly residents said that they did not use any businesses near the bypass that used to be located on the main street.

An overwhelming majority of residents and visitors (17 respondents) were aware of new businesses that have opened on main street in the last few years. A good majority thought that the main street would benefit from the addition of restaurants and coffee shops, more specialty shops and improvements to the streetscape. Almost all the residents and visitors (23 respondents) thought more pedestrian traffic would bring in more customers to main street businesses. A similar number of respondents (22) noted that cars were the most prominent vehicles using the main street. For the most part, neither residents nor visitors reported using businesses on or near the bypass. A little over half the respondents (13) used the bypass infrequently (either once a week/once a month).

Table 4-3. Mount Holly Resident/Visitor Survey Responses

Question	Yes/Positive /More		No/Negative/ Fewer		Don't Know/ No Change		No Response		Total
	Res. ^a	Vis. ^a	Res.	Vis.	Res.	Vis.	Res.	Vis.	
• Were you aware of the original proposal to construct the bypass	1	0	2	0	1	0	0	0	4
• Were you in favor of the bypass proposal	1	0	0	0	0	0	0	0	1
• How did you feel the bypass would impact the main street area	0	0	0	0	1	0	0	0	1
• Now that the bypass has been built, how do you feel the main street business has been affected	0	0	3	0	1	0	0	0	4
• Do you frequent the main street businesses more or less than you did before the bypass was constructed	2	0	2	0	0	0	0	0	4
• Were the businesses you frequent on the main street around before the bypass was completed	3	0	1	0	0	0	0	0	4
• Have you noticed that more pedestrians are present on main street since the bypass was completed	1	0	2	0	1	0	0	0	4
• Is there seemingly more or less traffic on the main street since the bypass was completed	2	0	2	0	0	0	0	0	4
• More generally, how do you feel the bypass has affected the community	1	0	1	0	2	0	0	0	4
• Do you now use any businesses near the bypass area that you used to use on the main street	1	0	15	0	0	0	1	0	17
• Are you aware of any new businesses that have opened on the main street in the last few years	13	4	2	3	1	1	1	0	25
• Do you think that more restaurants/coffee shops would make the main street more attractive	9	6	8	2	0	0	0	0	25
• Do you think that more specialty shops would make the main street more attractive	10	5	7	3	0	0	0	0	25

• Do you think that improvements to the streetscape would make the main street more attractive	8	6	8	2	0	0	1	0	25
• Do you feel that more pedestrian traffic would bring in more customers to main street businesses	16	7	1	0	0	1	0	0	25
• What types of vehicles are most prominent on the main street ^b	2	0	15	7	0	0	0	1	25
• Do you now use any businesses on or near the bypass area	5	1	11	7	0	0	1	0	25
• How often do you drive the bypass yourself ^c	4	3	10	3	2	2	1	0	25

Notes:

a. Res = Resident; Vis = Visitor. Visitors were not asked the full set of questions.

b. Semi-trucks; Cars; Bikes/Peds

c. More than once a week; Once a week/Once a month; Never

Business Owners/Employees

Seventeen Mount Holly business owners (12) and employees (5) were surveyed, each of whom either started their businesses or began working in Mount Holly after the bypass opened. The majority viewed the impacts of the bypass unfavorably. An overwhelming majority felt that their business on main street would be more attractive if the bypass had not been built (13 respondents) and that their business would benefit from an increase in pedestrian traffic (16 respondents). A small majority (10 respondents) were not satisfied with the business environment on Mount Holly's main street and seven said they have considered relocating their businesses. However, it is interesting to note that a majority responded that they did not think that more vehicular traffic would bring in more customers to their business (10 respondents) and that they would not relocate to the bypass (8 respondents).

Table 4-4. Mount Holly Business Owner/Employee Survey Responses

Question	Yes/Positive /More		No/Negative/ Fewer		Don't Know/ No Change		No Response		Total
	Own ^a	Emp ^a	Own	Emp	Own	Emp	Own	Emp	
• Are you satisfied with the business environment on the main street	5	1	7	3	0	1	0	0	17
• Do you feel that more vehicular traffic would bring in more customers to your business	4	1	6	4	1	0	1	0	17
• Do you feel that more pedestrian traffic would bring in more customers to your business	12	4	0	1	0	0	0	0	17
• If there was no bypass, do you feel like your location on the main street would be more attractive	9	4	1	1	1	0	1	0	17
• Have you ever considered relocating to another area to open your business	7	0	4	0	0	0	1	0	12
• If commercial business was allowed on the bypass, would you consider relocating there	3	0	8	0	0	0	1	0	12
• How often do you use the bypass yourself ^b	3	1	7	3	1	1	1	0	17

Notes:

e. Own = Owner; Emp = Employees. Employees were not asked the full set of questions.

f. More than once a week; Once a week/Once a month; Never.

Government Official Perspectives

Two government officials were interviewed to obtain their views on the Route 541 Bypass—Arch Liston, Township Manager for Mount Holly, and Mark Remsa, Director of Burlington County's Department of Economic Development and Regional Planning.

Arch Liston

Mr. Liston, who became the Township Manager of Mount Holly in 1975, about four years after the opening of the Route 541 Bypass, believes that the road has not had an adverse impact on Mount Holly. He explained that the impetus for building the bypass was to reduce congestion in downtown Mount Holly along High Street. In addition, all truck traffic was diverted to the bypass, which is a designated truck route. Despite the success of the bypass in diverting some of the north-south traffic, traffic volumes through the downtown have increased over the years. Mr. Liston said he would recommend extending the bypass east to Route 206 in order to further divert north-south traffic coming from the southeast.

Mr. Liston pointed out that the bypass improved access to the NJ Turnpike and I-295 from communities, such as Lumberton and Medford, which lie to the south of Mount Holly on Route 541. He suggested that the combination of wastewater treatment capacity and improved access spurred housing and commercial development to the south and that this development has had a positive impact on the county. Because the high school is regional, families with school-age children could move out of Mount Holly to the surrounding communities, without having their children transfer high schools.

Mr. Liston does not believe that the bypass contributed to the decline of Mount Holly's downtown, which he attributed to various economic and social factors affecting urban communities in the 1960s and 1970s. He opined that the development of suburban shopping malls and strip malls on the periphery of Mount Holly was the chief cause for the decline of retail businesses in downtown Mount Holly. He observed that by 1975, Mount Holly had lost most of its downtown retail stores to the shopping malls in the surrounding areas, none of which were located on the bypass.

Mr. Liston believes that the opening of large big box stores on the Lumberton extension south of the Route 38 intersection compete with other stores along Route 38, not with the stores in downtown Mount Holly. He further observed that all that remains in downtown Mount Holly today are service functions, such as law firms, a number of family businesses and various county offices. Large retail stores have never attempted to return to downtown Mount Holly and despite its designation as an Urban Enterprise Zone, the township's efforts to draw people back to the downtown area have not been successful. Mr. Liston said that downtown businesses serve primarily Mount Holly residents; downtown Mount Holly attracts few out-of-town shoppers.

Mr. Liston explained that the failure of the downtown revitalization process has made it necessary to find alternative ways to increase Mount Holly's tax base. He stated that the Township, together with the Urban Enterprise Zone administrators, are negotiating the development of a 50-acre lot along the eastern side of the bypass between its northern terminus and Rancocas Road (Route 626). This would require lifting current access restrictions to sites fronting the bypass. Preliminary approval has been given by the NJDOT to install a traffic light serving the development site in order to allow left hand turns into the site from the southbound lanes of the bypass. Mr. Liston explained that an initial proposal to develop a micro-brewery fell through, putting the project on hold until a new developer can be found. Mr. Liston said that the development of the site could be either commercial or residential.

Mark Remsa

Mr. Remsa, who has worked for Burlington County for 10 years, the last three as director of Economic Development and Regional Planning, explained that the purpose of the Route 541 Bypass was to divert the regional traffic going to and from the NJ Turnpike from downtown Mount Holly. He explained that although the bypass serves to divert north-south traffic, east-west traffic along Route 537 must still pass through downtown. Nevertheless, in his opinion, the bypass has succeeded in reducing downtown congestion.

Mr. Remsa contends that the bypass has had a positive impact on the region. He believes that improving access to the New Jersey Turnpike and I-295 encouraged regional growth

and economic vitality. He further believes that the opening of the bypass induced residential and commercial development to the south of Mount Holly. Mr. Remsa attributed the rapid development of Lumberton and Medford to their improved access to the New Jersey Turnpike and I- 295.

Mr. Remsa's view is that the opening of the bypass was coincidental with the decline of Mount Holly. He suggested that downtown Mount Holly was affected more by the opening of the Mount Holly Fair Grounds and the Burlington Center shopping mall which were built in the 1970s. Mount Holly was a vibrant commercial center in the 1960s and early 1970s, but its economic base had begun to decline well before the building of the bypass. Manufacturing left Mount Holly in the 1960s as did use of the railroads. Mr. Remsa maintains that Mount Holly's on-going problems with downtown revitalization stem from its failed efforts to become a "destination" for out-of-town visitors and shoppers. It remains a "drive-by" downtown that suffers because it has failed to capture "trip chaining" type trips.

DISCUSSION: BYPASS OUTCOMES

Interviews with county and local officials and surveys of residents/visitors and business owners/employees show that the Route 541 Bypass has had both positive and negative impacts on Mount Holly. Table 4-5 summarizes the impacts according to four dimensions of change developed for this study—traffic and circulation, economic development and land use, social and community, and interjurisdictional interaction.

Traffic and Circulation

Although no empirical before and after traffic count data exists, the public officials interviewed for this study agreed that the bypass has succeeded in diverting regional traffic from the downtown area. Moreover, the bypass is a designated truck route and truck traffic is now prohibited from using High Street in downtown Mount Holly. Residents, business owners and local officials noted, however, that traffic levels in the downtown area were still high. This may be due in part to previously diverted traffic returning to the old route (High Street), as the literature suggests. It is also likely to be the result of regional growth in housing and commercial development. In addition, some of the high traffic volumes probably reflect the fact that the bypass diverts primarily north-south, not east-west traffic.

The success in diverting north-south traffic is no doubt a result of the easy access it provides to the NJ Turnpike and I-295, particularly for communities to the south of Mount Holly, such as Lumberton and Medford which have a relatively direct route.

Land Use and Economic Development

Since the bypass opened, its access restrictions have been successful in limiting development along the original section of the road. Development has occurred only at interchanges (see figure 4-8), the northern terminus at Route 691 (see figure 4-9) and at the southern terminus at Route 38. This development includes national and regional chain stores and "big box" type development. Recently, access restrictions have been removed to accommodate the development of a 50-acre parcel of land in Mount Holly on the eastern side of the bypass.

Figure 4-8: Intersection of Route 541 (Mount Holly) Bypass and Route 537



In the 30 years since the bypass opened, overall economic activity has no doubt grown considerably, as indicated by the intensive commercial activity along routes 541 and 38. This economic activity is indicative of broader economic trends, which have generally hurt downtowns as many retail functions have migrated to suburban malls. Despite revitalization efforts, downtown Mount Holly remains depressed and the township has had little success fostering new economic activity. Attempts to remake the historic section of downtown, known as Mill Race Village, have yet to yield a resurgence in downtown economic activity. As the surveys showed, a majority of Mount Holly residents and visitors thought that the downtown would benefit from additional restaurants and specialty stores, improvements to the streetscape and an infusion of pedestrian traffic. A majority of business owners and employees were not satisfied with the business environment and they too felt that the downtown lacked sufficient pedestrian traffic. A majority of business owners and employees also believed that the bypass has had a negative impact on their businesses.

Figure 4-9. Junction of Northern Terminus of Route 541 (Mount Holly) Bypass and Route 691



Although development along the bypass has been limited, it is reasonable to assume, as both Mr. Liston and Mr. Remsa observed, that the opening of the road facilitated the rapid suburban development south of Mount Holly on Route 541, in Lumberton and Medford and, in so doing, may have contributed to Mount Holly's decline. This type of "sprawl" development is often viewed negatively by NJ residents and public officials.

Other than the 296 building permits issued in 1988, very little housing development has occurred in Mount Holly since 1980. On the other hand, there has been extensive residential development in the surrounding communities. Eastampton and Westampton almost tripled in population between 1970 and 2000, while Lumberton's increased by two and half times. Hainesport's population grew by about 30 percent during the same period. Other than the case of Lumberton, it is unlikely that the population growth can be attributed to the bypass. However, the population growth in these towns did little to foster economic and business growth in downtown Mount Holly. It is more likely that this population growth stimulated the growth in commercial activity along Route 541, at the northern junction of the bypass, and along Route 38.

Social and Community

It is over thirty years since the Mount Holly Bypass was opened. During this period, Mount Holly's socio-economic character has shown little improvement. Forces other than the bypass seem to have had more influence. Mount Holly's economic base, as in many older urban centers in New Jersey, went into decline in the 1960s before the bypass was built. Today, unlike many of the more affluent surrounding communities, Mount Holly socio-economic indicators are among the weakest in the county.

Very few of the residents surveyed lived in Mount Holly before the building of the bypass in 1971. For the most part, these long-time residents viewed the impact of the bypass unfavorably. Three of the four long time residents felt that the bypass has had a negative impact on the main street and two thought that the bypass has had a negative impact on the Mount Holly community. And two of the four have noticed fewer pedestrians on the main street than before the bypass was built. A little more than half of the 25 respondents were aware of new businesses that have opened on main street in the last few years. However, a majority thought that the main street would benefit from the addition of restaurants and coffee shops, more specialty shops and improvements to the streetscape.

For the most part, business owners and employees viewed the impacts of the bypass unfavorably. A majority were not satisfied with the business environment on the main street and an overwhelming majority felt that their business on main street would be more attractive if the bypass had not been built.

Interjurisdictional Interaction

Although the Route 541 Bypass traverses three communities, there have been no conflicts between public officials on its functioning. Mr. Liston attested that there were no differences of opinion between the three communities.

Table 4-5. Route 541 (Mount Holly) Bypass Outcomes

Outcome	Score	Comments
Traffic and Circulation		
• Did the bypass reduce regional/pass through traffic on the “main” street in the downtown?	YES	Government officials noted that the bypass succeeded to divert traffic from the downtown. Residents, however, are divided on whether the bypass has diverted traffic from the downtown.
• Did the bypass reduce truck traffic in the downtown?	YES	Truck traffic is not permitted through the downtown. Observers did not report large volumes of truck traffic in the downtown.
• Did reduction in regional/pass through traffic result in more local downtown-oriented traffic?	N/A	
• Was pedestrian safety improved?	YES	Restrictions on truck traffic on High Street have probably improved pedestrian safety downtown.
• Did the bypass improve the accessibility of regional destinations and/or transportation facilities?	YES	The bypass improved north-south access to the NJ Turnpike and I-295.
Land Use and Economic Development		
• Was development along the bypass route constrained by access and/or development restrictions?	SOME	Access to the original section of bypass (with one exception) limited to the interchanges and termini. However, Mount Holly Township is planning commercial development on the bypass which will have access from the bypass.
• Did business growth, revitalization, or redevelopment occur in the downtown after the bypass was opened?	NO	Mount Holly has not succeeded to remake itself and adapt the downtown to the new circumstances. The downtown is a ‘destination’ but a ‘drive-by’ place.
• Did the bypass stimulate business growth outside of the downtown on land adjacent to the bypass or at its termini?	YES	Bypass improved access to Routes 541 and 38 and probably contributed to the commercial activity that has increased over time. At the ends of the bypass road and at interchanges development has occurred. This development often big box regional and national chains which do not compete with the types of economic activities that historically existed in the downtown.
• Did the bypass provide transportation	YES	As both Mr. Liston and Mr. Remsa

infrastructure in sparsely developed areas and/or an areas without other supporting infrastructure (e.g., water/sewer service)?		observed, it was probable that the bypass induced residential and commercial development to the south of Mount Holly in Lumberton and Medford where waste water treatment capacity existed.
<ul style="list-style-type: none"> • Did residential growth occur in areas adjacent to or near the downtown that are believed to support downtown businesses? 	NO	Despite the large scale residential development in the towns surrounding Mount Holly (Westampton, Eastampton, Lumberton and Hainesport), this growth has not supported downtown growth in Mount Holly.
Social and Community		
<ul style="list-style-type: none"> • Did the bypass affect the demographic and socio-economic character of the town? 	NO	Mount Holly's demographic and socio-economic character determined by factors other than the bypass. Its decline a result of forces that affected other New Jersey towns. Mount Holly remains one of the weakest towns in the county.
<ul style="list-style-type: none"> • Did pedestrian activity in the downtown increase after the bypass was opened? 	NO	Residents did not report an increase in pedestrian activity after the bypass opened.
<ul style="list-style-type: none"> • Do citizens, business people and government officials perceive the impacts of the bypass to be positive? 	NO	Long time residents, for the most part, viewed the impact of the bypass unfavorably. A majority reported that main street businesses were negatively affected. Business owners generally viewed the impacts of the bypass to be negative.
Interjurisdictional Interaction		
<ul style="list-style-type: none"> • Did community leaders take advantage of opportunities for interjurisdictional cooperation created by bypass construction? 	YES	Mr. Liston reported no conflicts concerning the bypass between the three towns in whose jurisdiction the bypass passes.

V. ROUTE 530 (PEMBERTON) BYPASS

OVERVIEW

The Borough of Pemberton, which was incorporated in 1826, is surrounded by Pemberton Township (see figure 5-1). The Route 530 (Pemberton) Bypass is a 2.1-mile two-lane roadway which opened for use at the end of 1991. It was originally proposed in the 1970s to divert traffic passing through the residential neighborhood along Elizabeth and Hanover streets in the center of the borough. The bypass was built to the south of the borough, almost entirely within Pemberton Township. It carries east-west traffic in and out of Pemberton Township, as well as traffic to and from Maguire Air Force Base and Fort Dix Military Reservation, which are located adjacent to Pemberton Township, and to Burlington County College, located to the east, at the junction of Routes 503 and 687. There has been no development along the bypass since its opening, in part because of wetlands restrictions (see figure 5-2). Commercial development, which existed at the west end of the bypass prior to its opening, has been upgraded and expanded since the road opened. (see figure 5-3).

Figure 5-1. Route 530 (Pemberton) Bypass

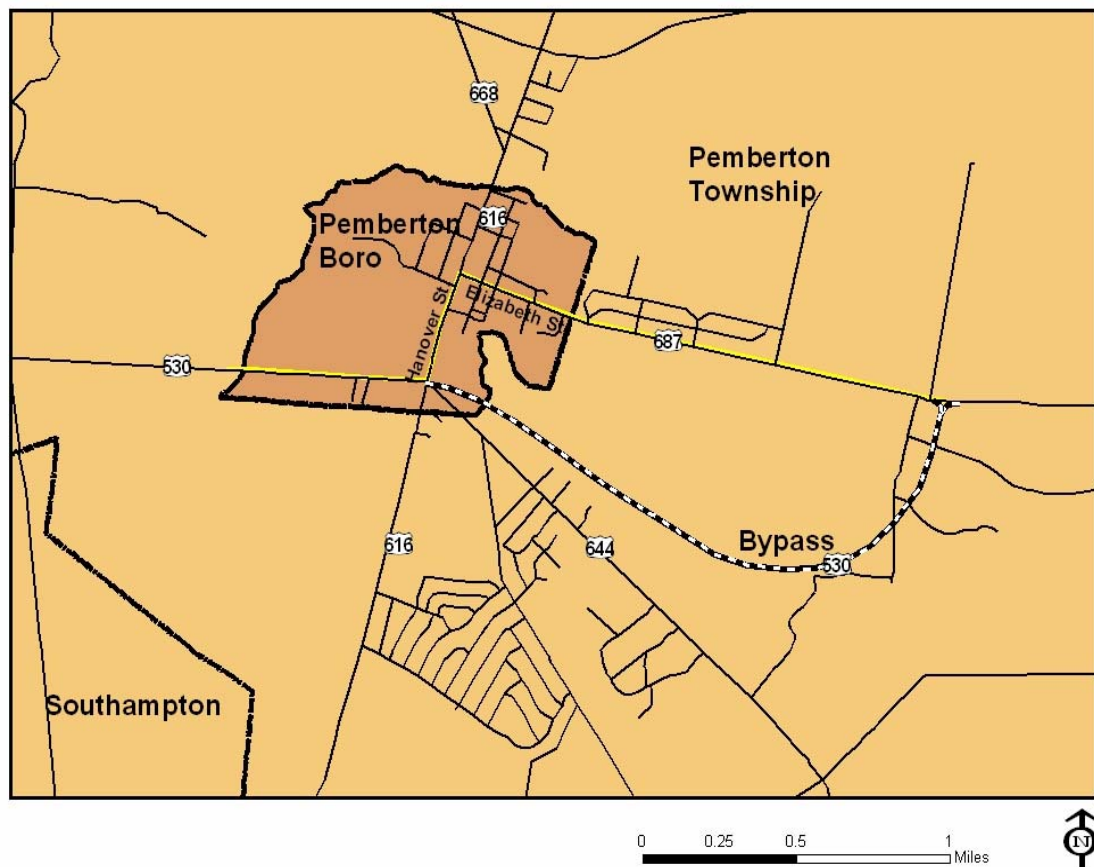


Figure 5-2. The Route 530 (Pemberton) Bypass – showing no new development



Figure 5-3. Western Terminus of the Route 530 (Pemberton) Bypass



DEMOGRAPHIC AND SOCIO-ECONOMIC TREND ANALYSIS

The demographic and socio-economic composition of Pemberton Borough has undergone some changes since 1970 (see table 5-1). A 1970 to 2000 trend analysis captures the changing circumstances of Pemberton Borough and provides context for evaluating the impacts of the bypass.

Pemberton's population, which totaled only 1,271 in 1970, declined slightly in the 30 years between 1970 and 2000. However, the demographic composition of the borough has undergone some change. Its population has become increasingly diverse. The white population declined by almost 21 percent, while the minority population increased from 1.3 percent of the population in 1970 to 21.6 percent in 2000. The proportion of working age residents has increased over time. The share of children under 18 years of age declined by almost 18 percent and the senior population declined by 3.3 percent. Mirroring patterns in Hightstown and Mount Holly, the share of the population with university or professional education has almost doubled.

Table 5-1. Socio-economic and Demographic Trends for Pemberton Borough: 1970 to 2000

	1970	1980	1990	2000	Absolute Change 1970- 2000	% Change 1970-2000
Population	1,271	1,198	1,367	1,210	-61	-4.8%
Households	480	448	489	470	-10	-2.1%
White Population ^a	98.7%	87.6%	82.2%	78.4%	-20.3%	-20.6%
Minority Population ^a	1.3%	12.4%	17.8%	21.6%	20.3%	1,561.5%
Child Population (Under 18) ^a	32.5%	28.5%	28.6%	26.8%	-5.7%	-17.5%
Senior Population (over 65) ^a	9.2%	9.9%	8.5%	8.9%	-0.3%	-3.3%
Bachelor/Graduate/Profes sional Degree ^b	7.8%	14.2%	12.6%	15.5%	7.7%	98.7%
Average Household Income ^c	\$41,765	\$42,285	\$60,203	\$51,015	\$9,250	22.1%
Population in Civilian Labor Force ^d	54.5%	64.9%	73.9%	69.5%	15.0%	27.5%
Unemployed ^e	5.7%	10.0%	4.6%	4.3%	-1.4%	-24.6%
Poverty Rate ^f	8.5%	15.8%	6.6%	7.8%	-0.7%	-8.2%
Owner Occupied Housing Units ^g	43.9%	45.5%	50.2%	45.2%	1.3%	3.0%
Vacant Housing Units ^g	10.3%	10.2%	5.2%	8.4%	-1.9%	-18.4%
Residential Building Permits ^h	n/a	n/a	6	17		

Source: U.S. Census and Geolytics

Notes:

q. Proportion of total population

r. Proportion of population 25 years and over

s. In constant \$2000

t. Percent of population 16 and over in civilian labor force

u. Percent of civilian labor force

v. Percent of individuals below the poverty level

- w. Proportion of total housing units
- x. Total number of permits issued in preceding decade

The socio-economic condition of Pemberton Borough, which has probably been affected by changes at the Maguire Air Force Base and Fort Dix Military Reservation, has fluctuated to some extent over the 30-year period between 1970 and 2000. Average household income, which has grown by 22 percent in constant dollars since 1970, remains low. Moreover, real income declined from \$60,203 in 1990 to \$51,015 in 2000. The population in the civilian labor force increased almost 28 percent between 1970 and 2000, but during the 1990s it declined from 73.9 percent in 1990 to 69.5 percent by 2000. The unemployment rate has improved somewhat; after rising from 5.7 percent in 1970 to 10 percent in 1980, it fell to 4.3 percent in 2000. The poverty rate has fluctuated at consistently high levels, rising from 8.5 percent in 1970 to 15.8 percent in 1980, then dropping to 6.6 percent in 1990 and rising again to 7.8 percent in 2000. The poverty rate statewide was 8.5 percent in 2000.

The proportion of owner-occupied housing units has remained low, although it increased slightly from 1970 (43.9 percent) to 1990 (50.2 percent), and then dropped to 45.2 percent in 2000. Vacant housing units declined from 10.3 percent in 1970 to 5.2 percent in 1990, then rose in 2000 to 8.4 percent. In the 24-year period between 1980 and 2003, a total of 71 residential building permits were issued in Pemberton Borough. Sixty-two of these permits were issued between 1998 and 2003, the only years of significant residential building activity. In 2003 alone, 34 residential building permits were issued.

Pemberton Borough's demographic and socio-economic profile is one of the weakest when compared to the other 39 towns in Burlington County (see table 5-2). Pemberton's minority population is the same as the county average, although only 13 towns have a larger minority population share. The median age is among the lowest in the county, with only four towns having a lower median age. Despite the increase in the number of university-educated and professional residents living in Pemberton Borough, 30 Burlington County towns have a larger proportion.

Table 5-2. Comparison of Pemberton Borough and Burlington County for 2000

	Burlington County	Pemberton Borough	Difference	Ranking ^a
Total Population	423,394	1,210	N/A	36
Total Minority Population (%)	21.6	21.6	0	14
Total Population Under 18 Years (%)	25.2	26.8	1.6	17
Total Population Over 65 Years (%)	12.6	8.9	-3.7	32
Median Age (Years)	37.1	33.9	-3.2	36
Average Household Size	2.65	2.56	-0.09	29
Bachelor/Graduate/Professional Degree (%)	28.4	15.5	-12.9	31
Population in Labor Force (over 16)	66.8	71.2	4.4	14
Unemployed (%) ^b	3.9	4.3	-0.4	14
Service Employees (%)	12.7	22.1	-9.4	4

Median Household Income in 1999 (\$)	58,608	44,063	-14,545	34
Per Capita Income in 1999 (\$)	26,339	18,909	-7,430	33
Persons Below Poverty Level in 1999 (%)	4.7	7.8	3.1	10
Median Home Value (\$) ^c	137,400	113,300	-24,100	25
Total Housing Units	161,311	513	N/A	36
Owner Occupied Housing Units (%) ^d	77.4	49.4	-28.0	38
Density (Housing Units/Square Mile)	200.5	862.6	662.1	13

Source: U.S. Census

Notes:

a. This column ranks Pemberton by largest to smallest against the 39 other towns in Burlington County.

b. Percent of Civilian Labor Force.

c. Owner Occupied.

d. Percent of total occupied housing units.

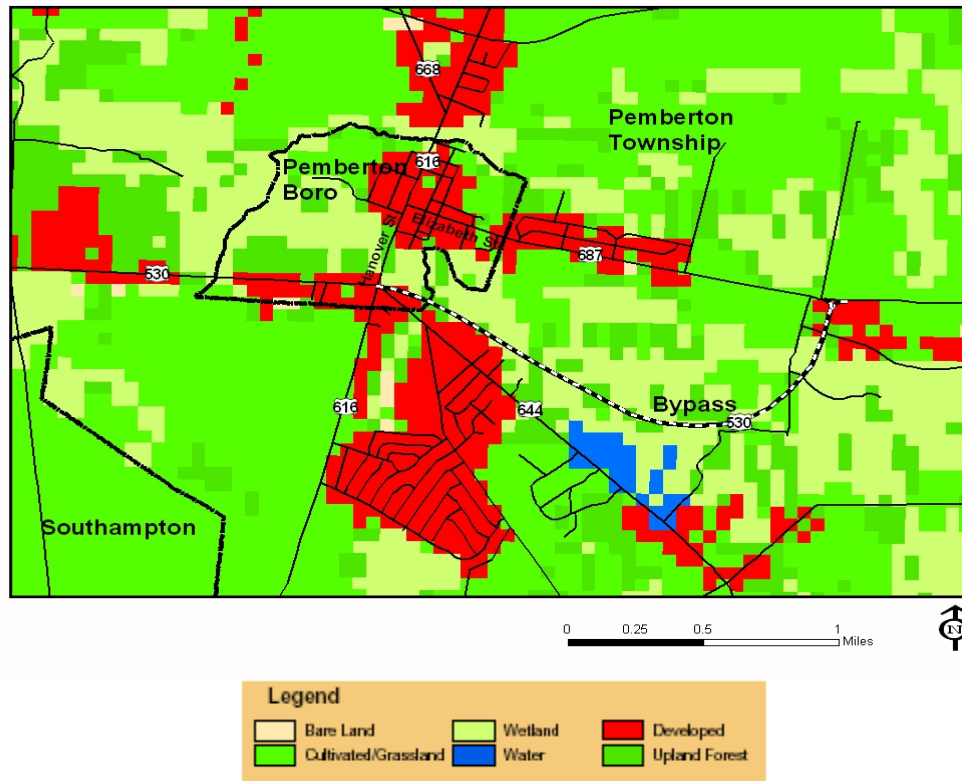
Although more than 71 percent of Pemberton's working age population is in the labor force, its unemployment rate is 4.3 percent, higher than 26 towns in the county. In 1999, only six towns had a lower median household income and only seven towns had a lower per capita income. Likewise, in 1999, only nine towns had a larger share of residents living below the poverty level. Pemberton ranks slightly below half the other towns in Burlington County in median home value (\$113,300), with 24 towns having higher median home values. Pemberton Borough has the third lowest proportion of owner-occupied housing units in the county.

LAND USE CHANGE

An analysis of historic land use patterns in Pemberton Borough shows that the town was about 30 percent developed in 1972 (see figure 5-4). Residential and commercial development existed in the northeast quadrant of the town, adjacent to Elizabeth and Hanover streets. There was also some commercial and light industrial development along Route 530, to the west of the future bypass road (shown in the black and white dashed line). In Pemberton Township, there was development to the north of the Borough along Routes 616 and 668. To the east, there was residential development along Route 687 and Burlington County College was already situated near the future eastern terminus of the bypass. South of the future bypass, residential development existed between Routes 616 and 644, as well as some development further south on Route 644. To the west along Route 530 there was some light industrial and commercial development.

Figure 5-4. Pemberton 1972 Land Cover

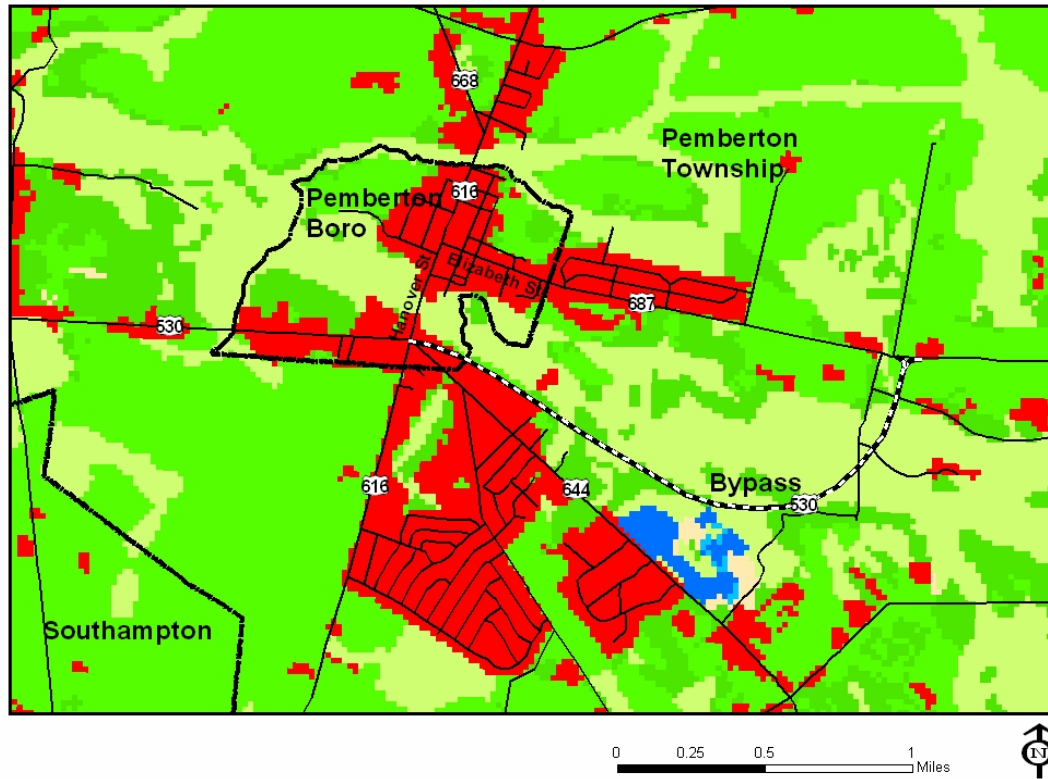
Pemberton 1972 Land Cover
80m x 80m resolution



Between 1972 and 1984, a small amount of development (indicated in red) took place in Pemberton Borough (see figure 5-5). In the northeast quadrant there was a broadening of developed land on the periphery to the north and south along Hanover Street, to the east along Elizabeth Street and to the west. Expansion also occurred along Route 530, particularly at its junction with Hanover Street. Similarly, in Pemberton Township little new development occurred. There was some residential development to the south of the future bypass along Route 644. To the east of Pemberton Borough, there was some filling in of residential development along Route 687.

Figure 5-5. Pemberton 1984 Land Cover

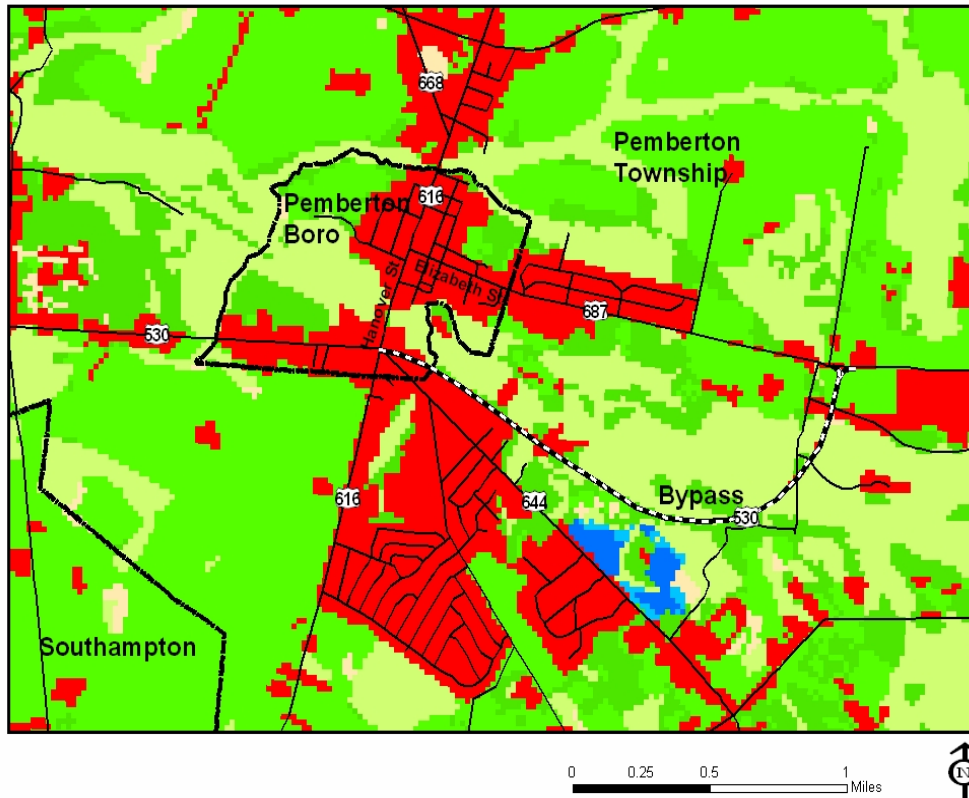
Pemberton 1984 Land Cover
30m x 30m resolution



By 1995, three years after the bypass opened, little additional development had occurred in the Borough (see figure 5-6). There was minor expansion to the east of the northeast quadrant as well as some infill along Hanover Street to the south. In Pemberton Township, to the east, some residential development occurred south of Route 687 as well as some expansion of the Burlington County College. To the south, development continued to occur along Route 644.

Figure 5-6. Pemberton 1995 Land Cover

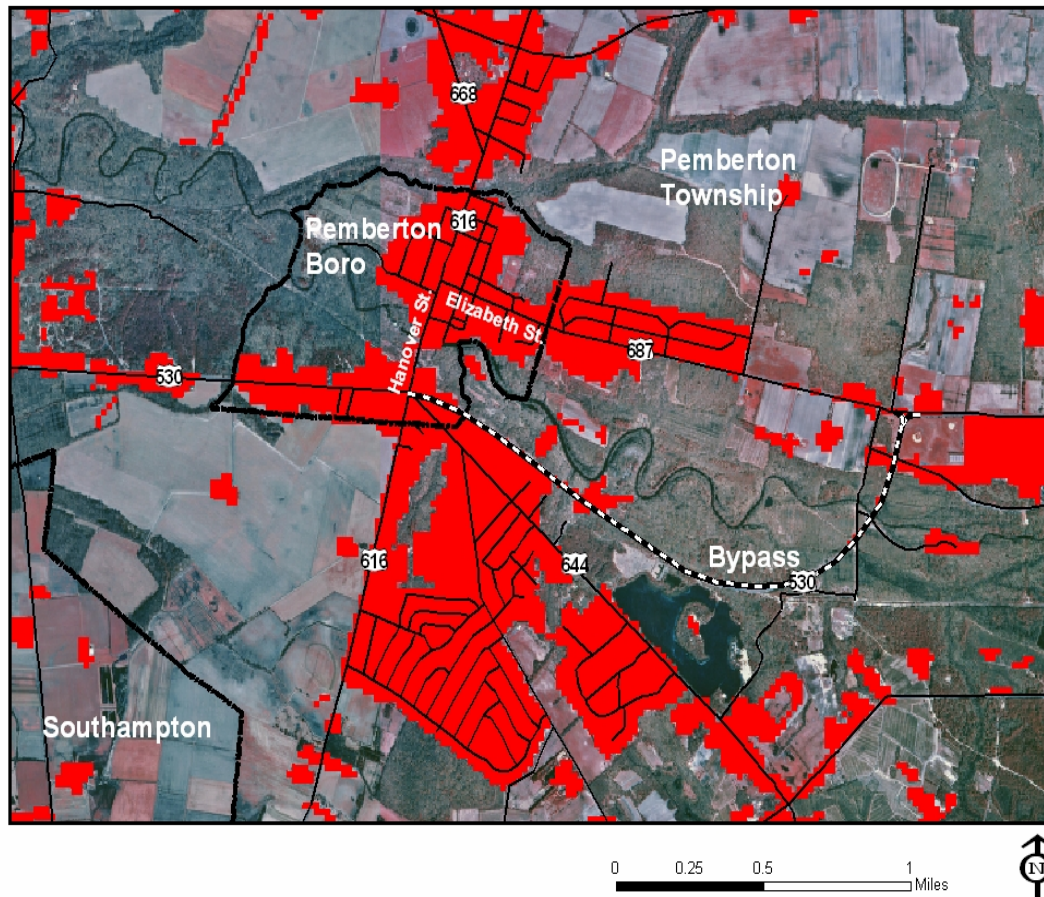
Pemberton 1995 Land Cover
30m x 30m resolution



Based on a review of 2002 aerial photography, it appears that no new development (indicated in red) occurred in either Pemberton Borough or Pemberton Township (see figure 5-7). However, it must be noted that 28 building permits were issued during this period.

Figure 5-7. Pemberton 1995 Land Cover and 2002 Aerial

Pemberton 1995 Land Cover
and 2002 aerials



Survey Analysis

Residents/Visitors

Responses to a survey of 10 Pemberton Borough residents and three visitors questioned in the downtown area revealed that most felt little had changed either for better or for worse since the opening of the Route 530 (Pemberton) Bypass in 1992 (see table 5-3). A small majority of respondents thought that the bypass provided some community benefit. None of the residents reported visiting businesses in the bypass area that had relocated from the downtown. Nevertheless, the overwhelming majority of respondents expressed concern about the vibrancy of Hanover Street, which is the main commercial street in Pemberton Borough. Of the respondents who lived in the Borough before the opening of the bypass, almost all had noticed no change in the amount of traffic on the main street.

Table 5-3. Pemberton Resident/Non Resident Survey Responses

Question	Yes/Positive/More		No/Negative/Fewer		Don't Know/ No Change		No Response		Total
	Res. a	Vis. ^a	Res	Vis.	Res.	Vis.	Res.	Vis.	
• Were you aware of the original proposal to construct the bypass	3	0	2	0	0	0	0	0	5
• Were you in favor of the bypass proposal	1	0	1	0	1	0	0	0	3
• How did you feel the bypass would impact the main street area	2	0	0	0	1	0	0	0	3
• Now that the bypass has been built, how do you feel the main street business has been affected	1	0	1	0	3	0	0	0	5
• Do you frequent the main street businesses more or less than you did before the bypass was constructed	2	0	0	0	3	0	0	0	5
• Were the businesses you frequent on the main street around before the bypass was completed	5	0	0	0	0	0	0	0	5
• Have you noticed that more pedestrians are present on main street since the bypass was completed	1	0	1	0	3	0	0	0	5
• Is there seemingly more or less traffic on the main street since the bypass was completed	1	0	0	0	4	0	0	0	5
• More generally, how do you feel the bypass has affected the community	3	0	1	0	1	0	0	0	5
• Do you now use any businesses near the bypass area that you used to use on the main street	0	0	10	0	0	0	0	0	10
• Are you aware of any new businesses that have opened on the main street in the last few years	3	1	6	1	0	1	1	0	13
• Do you think that more restaurants/coffee shops would make the main street more attractive	7	3	2	0	N/A		1	0	13
• Do you think that more specialty shops would make the main street more attractive	7	2	2	1	N/A		1	0	13

• Do you think that improvements to the streetscape would make the main street more attractive	5	3	3	0	N/A	2	0	13
• Do you feel that more pedestrian traffic would bring in more customers to main street businesses	9	2	0	0	0	1	1	13
• What types of vehicles are most prominent on the main street ^b	1	0	9	3	0	0	0	13
• Do you use any businesses on or near the bypass area	4	2	6	1	0	0	0	13
• How often do you drive the bypass yourself ^c	2	1	5	2	3	0	0	13

Notes:

a. Res. = Residents; Vis. = Visitors. Visitors were not asked the full set of questions.

b. The columns are: Semi-trucks; Cars; Bikes/Peds

c. The columns are: More than once a week; Once a week/Once a month; Never

Only five (long time residents) of the 10 Pemberton resident respondents were living in the borough prior to the opening of the bypass in 1992 and only three were aware of the original bypass proposal prior to its construction. One was in favor of the proposal and two felt that the impact of the bypass would be positive. Three of the five long time residents felt that downtown businesses have experienced no change since the opening of the bypass, and three of the five said that there has been no change in the frequency of their visits to Hanover Street businesses. Two said they frequent these businesses more often. Three of the five also felt that the bypass has had a positive affect on the community. All five long time residents concurred that the businesses they frequented existed on main street before the bypass was built. Three noticed no change in the number of pedestrians present on main street and four of the five noticed no change in the amount of traffic on main street. All 10 Pemberton residents responded that they did not frequent businesses near the bypass that used to be located in downtown Pemberton.

About half of the 13 residents and visitors were not aware of any new businesses that had opened in the downtown. The overwhelming majority felt that the businesses on Hanover Street would benefit from more pedestrian traffic and that the addition of restaurants, coffee shops, specialty stores and improvements to the streetscape would make the main street more attractive. All but one of the respondents said that cars were the most prominent vehicles on the main street. Slightly more than half of the survey respondents reported using the bypass between once a month and once a week, and a little over half said that they frequented businesses near the bypass.

Business Owners/Employees

Six Pemberton Borough business owners and eight employees were interviewed. The survey revealed that while some of their initial optimism in support of the bypass has not been realized, most felt that the project has had a positive impact on their businesses (see table 5-4). The majority were not satisfied with the downtown business environment which they believed would benefit from both additional pedestrian and vehicular traffic.

Only five of the 14 Pemberton business owners and employees (long time workers) were working in Pemberton prior to the opening of the bypass in 1992. Three of the four long time workers, who were aware of the original proposal to build a bypass, were in favor of it. The four were evenly split on whether they believed that the impact of the bypass on Hanover Street, in general, and their business, in particular, would be positive or negative. Since the opening of the bypass, only one long time worker considered the impact of the bypass to be positive.

None of the five long time respondents felt that pedestrian traffic in the downtown had increased and only one noticed an increase in the number of customers coming into their store. Two thought that there were fewer pedestrians in the downtown since the bypass opened. Surprisingly, four of the five long time workers felt that the bypass has had a positive effect on their business, reporting that since the road opened, their businesses were frequented more often by local residents. Four of the five long time workers have noticed both less vehicular traffic and fewer trucks on Hanover Street since the opening of the bypass. All five agreed that cars are the dominant vehicles.

Table 5-4. Pemberton Business Owner/Employee Survey Responses

Question	Yes/Positive /More		No/Negative/ Fewer		Don't Know/ No Change		No Response		Total
	Own a	Emp a	Own .	Emp .	Own .	Emp .	Own .	Emp .	
• Were you aware of the original proposal to construct the bypass	1	3	1	0	0	0	0	0	5
• Were you in favor of the bypass proposal	1	2	0	1	0	0	0	0	4
• How did you feel the bypass would impact the main street area	0	2	1	1	0	0	0	0	4
• How did you feel the bypass would impact your business in particular	0	2	1	1	0	0	0	0	4
• Now that the bypass has been built, how do you feel main street businesses have been affected	1	0	1	1	0	2	0	0	5
• How has pedestrian traffic been affected in main street	0	0	2	0	0	3	0	0	5
• Have you noticed more/fewer customers coming into your store	0	1	0	1	2	1	0	0	5
• More generally, how do you feel the bypass has affected your business	2	2	0	1	0	0	0	0	5

• Before the bypass was constructed were your customers generally local residents or people traveling through ^b	0	2	1	0	1	1	0	0	5
• Since the bypass was constructed were your customers generally local residents or people traveling through ^a	0	3	0	0	1	0	1	0	5
• Is there seemingly more or less traffic on the main street since the bypass was completed	0	0	2	2	0	1	0	0	5
• What types of vehicles are most prominent on the main street ^c	0	0	2	3	0	0	0	0	5
• How has the large truck traffic been affected on the main street since the bypass was completed	0	1	2	2	0	0	0	0	5
• Are you satisfied with the business environment on the main street	1	4	5	3	0	0	0	1	14
• Do you feel that more vehicular traffic would bring in more customers to your business	5	3	1	3	0	1	0	1	14
• Do you feel that more pedestrian traffic would bring in more customers to your business	5	6	0	1	1	0	0	1	14
• If there was no bypass, do you feel like your location on the main street would be more attractive	4	2	0	3	2	2	0	1	14
• Have you ever considered relocating to another area to open your business	2	0	4	0	0	0	0	0	6
• If commercial business was allowed on the bypass, would you consider relocating there	0	0	5	0	1	0	0	0	6
• How often do you use the bypass yourself ^d	0	1	4	2	2	3	0	2	14

Notes:

g. Own = Owners; Emp. = Employees. Employees were not asked the full set of questions.

h. More Residents; More Tourists; Even Mix

- i. Semi-trucks; Cars; Bikes/Peds.
- j. More than once a week; Once a week/Once a month; Never

Eight of the 14 business owners and employees were not satisfied with the business environment on Hanover Street and eight also felt that their businesses would benefit from more vehicular traffic. The overwhelming majority (11 respondents) agreed that more pedestrian traffic would bring in more customers to their business. Six of the 14 respondents thought that their location would be more attractive if the bypass had not been built, while only three thought it would be less attractive. At the same time, four of the six business owners said that they have not considered relocating their business elsewhere and five of the six would not consider relocating to the bypass.

Almost all the respondents reported traveling on the bypass rarely (either once a week/once a month or never).

Government Officials

Two government officials were interviewed to obtain their views on the Route 530 (Pemberton) Bypass—F. Lyman Simpkins, Mayor of Pemberton Borough, and Mark Remsa, Director of Burlington County’s Department of Economic Development and Regional Planning. The interviews highlighted their perspectives on the goals and outcomes of the bypass project.

F. Lyman Simpkins

Mr. Simpkins, who has been mayor of Pemberton Borough for 25 years, explained the reason for building the Pemberton Bypass, which he said was supported by local residents and the Burlington County College administration. At the time he took office, Simpkins said, the Borough administration was concerned with heavy traffic volumes on Elizabeth and Hanover streets, the two major roadways in the center of town (see figures 5-8 and 5-9). Prior to construction of the bypass, Pemberton Township residents traveled west during the work week on Elizabeth Street in the morning; commuters to Fort Dix and Maguire Air Force Base and students traveling to Burlington County College, traveled east on Elizabeth Street. In the evening, the traffic flows were reversed.

Mr. Simpkins explained that the goal of the bypass was to divert some of this through traffic away from the center of the Borough. At the time, it was estimated that 40 percent of the traffic along Elizabeth Street and 30 percent of the traffic along Hanover Street would be diverted.

Mr. Simpkins believes that the impact of the bypass on traffic flows has been positive, estimating that about 20 percent (half of the original estimate) of the traffic on Elizabeth Street and 30 percent (the original estimate) of the traffic on Hanover Street have been diverted to the bypass. He said that the reduction of traffic on Elizabeth Street has made it safer for residents living on the street, especially when using their driveways. Mr. Simpkins also observed that accidents have been reduced in the center of the Borough, but noted that there has been a number of accidents at the west end of the bypass.

Figure 5-8. Hanover Street in Pemberton Borough - Looking North



The mayor pointed out one drawback of the bypass was that it diverts only east-west traffic; it does not divert northbound traffic coming out of Pemberton Township. Township residents who travel north in the morning still use Elizabeth Street before heading north on Routes 616 and 668 (see figure 5-1). Mr. Simpkins believes that extending the bypass north at its eastern end would divert much of this north bound traffic from Elizabeth and Hanover streets. He also pointed out that there are heavy traffic volumes on Route 530 to the west before it reaches the bypass. In addition to the eastbound traffic going to Pemberton Township, the military bases and the County College, he noted that there is south bound traffic on Route 644 heading for the shore during the summer months. Mr. Simpkins explained that there are plans to widen the western section of Route 530 into a five-lane roadway.

Mr. Simpkins explained that development along the bypass is not possible because of adjacent wetlands. In addition, access to the bypass from properties fronting the road has been restricted. As such, the only available land is located at the western terminus of the bypass and it has yet to be developed.

Mr. Simpkins was not concerned that the bypass would be detrimental to business activity in the downtown. He observed that the business district, located on Hanover Street, had declined well before the planning of the bypass and there was little business activity in the town center that could be negatively affected by the project. The only commercial activity is a drugstore, a restaurant, a hairdresser, a religious bookstore, and a dentist's office. These activities have been in the business district since before the

opening of the bypass. No new businesses have opened in the town center since the bypass opened in 1991.

Figure 5-9. Elizabeth Street in Pemberton Borough - Looking West



Mr. Simpkins pointed out that since the opening of the bypass, business activity at the western terminus, where a number of gas stations and national chains such as Burger King and Dunkin Donuts are located (see figure 5-3), has increased. Most of the Borough's commercial and industrial activity is located on Route 530 to the west of the bypass terminus and these activities, for the most part, predate the building of the road. He remarked that he had expected the bypass to stimulate business activity on this section of Route 530, but it has not.

Mark Remsa

Mr. Remsa, a 10-year Burlington County employee who has served the last three years as director of Economic Development and Regional Planning, explained that Pemberton Borough has been in decline ever since railroad service ceased. He opined that the Borough has not succeeded in remaking itself as a "destination" place. It has not been able to attract businesses that might cater to the many travelers destined for the nearby military bases and the county college, or summer traffic destined for the shore.

DISCUSSION: BYPASS OUTCOMES

Interviews with county and local officials and surveys of residents/visitors and business owners/employees show that the Pemberton Bypass has had both positive and negative impacts on the Borough. Table 5-5 summarizes the impacts according to four dimensions

of change developed for this study—traffic and circulation, economic development and land use, and social and community.

Traffic and Circulation

Mr. Simpkins, the Mayor of Pemberton Borough, as well as the business owners/employees, reported that the bypass has successfully diverted east-west traffic off of Elizabeth and Hanover streets through the downtown area. Mayor Simpkins stressed that the bypass is especially effective in serving regional traffic to and from Burlington County College, Maguire Air Force Base and Fort Dix at the eastern end of the bypass. Most of the long-time residents/visitors, however, observed no change in through traffic. As Mayor Simpkins noted, the bypass has not diverted north-south through traffic, especially traffic originating in Pemberton Township and heading north on Route 516. This remains a problem because this traffic still passes on Elizabeth Street.

Locally oriented traffic seems to be minimal, given the small size of the downtown and paucity of commercial functions. Truck traffic does not appear to be a problem. Despite the through traffic that still uses Elizabeth Street, Mayor Simpkins has observed an overall improvement in safety on the street because of the reduction in east-west traffic since the bypass opened.

Land Use and Economic Development

Little land development has occurred along the bypass corridor. Prohibitions on access to properties fronting the bypass where alternative access is available has constrained development along the road. Mr. Simpkins had hoped that some of the vacant land at the western end of the bypass would have been developed, but this has not yet occurred. Some of this development (i.e., gas stations, fast food restaurants), however, has been upgraded and expanded since the opening of the bypass, in particular, by regional and national service chains.

Pemberton Borough's downtown declined well before the building of the bypass and few economic functions remain. As Mr. Remsa has observed, the downtown is not a "destination" place. A majority of business owners/employees were not satisfied with the business environment and believed that their businesses would benefit from an increase in pedestrian traffic. However, a large number attributed their predicament to the existence of the bypass. A majority of residents/visitors were not aware of any new businesses that have opened on the main street. The overwhelming majority believed that the downtown could be made more attractive with the addition of restaurants, coffee shops, specialty stores and improvements to the streetscape as well as an increase in pedestrian traffic. Pemberton Township, like Pemberton Borough, is a relatively poor town and the bypass also has not fostered economic activity there.

Very little housing development has occurred in Pemberton Borough since the bypass was constructed. On the other hand, the 62 building permits issued between 1998 and 2003 may be a recent sign of resurgence in Pemberton. Much of the land adjacent to the bypass in Pemberton Township is wetlands and this has limited residential and commercial development. Although Pemberton Township is relatively a much larger town with a population of 30,000 in 2000, its residents do not support Pemberton Borough's downtown.

Social and Community

By 2000, eight years after the Route 530 Bypass was completed, the demographic and socio-economic indicators for Pemberton Borough showed no improvement when compared with those of 1990. In fact, in many areas, such as average household income, poverty rate, and vacant housing units, Pemberton's socio-economic character had deteriorated. The bypass does not seem to have fostered an improvement in the socio-economic attributes of Pemberton Borough.

Although only a few residents who responded to the survey were living in Pemberton before the bypass opened, most of them reported either no change or a decline in pedestrian activity downtown. Despite their negative views on the condition of the downtown, a majority of the long time residents responded that the bypass has had an overall positive impact on the community.

Interjurisdictional Interaction

The Route 530 (Pemberton) Bypass is located almost entirely within Pemberton Township. Mayor Simpkins reported that Pemberton Township supported the bypass project and was fully involved in its planning. The Township appreciated that the bypass would improve east-west access for its residents and, in particular, for people traveling to and from Burlington County College.

Table 5-5. Route 530 (Pemberton) Bypass Outcomes

Outcome	Score	Comments
Traffic and Circulation		
• Did the bypass reduce regional/pass through traffic on the “main” street in the downtown?	YES	Mayor Simpkins reported that there has been a reduction in east-west traffic along Elizabeth and Hanover streets. However, Mayor Simpkins observed that the bypass does not divert the north-south regional traffic. Business owners/employees observed a reduction in both vehicular and truck traffic downtown. But residents noticed no change in vehicular traffic downtown.
• Did the bypass reduce truck traffic in the downtown?	YES	Truck traffic is not a problem.
• Did reduction in regional/pass through traffic result in more local downtown-oriented traffic?	NO	No observers reported an increase in locally oriented traffic in the downtown. Automobile traffic, for the most part, is pass through traffic. The downtown does not function as a destination.
• Was pedestrian safety improved?	YES	Mayor Simpkins reported improved safety on Elizabeth Street.
• Did the bypass improve the accessibility of regional destinations and/or transportation facilities?	YES	The bypass improved accessibility to Burlington County College, Maguire Air Force Base and Fort Dix Military Reservation at the eastern terminus of the bypass.
Land Use and Economic Development		
• Was development along the bypass route constrained by access and/or development restrictions?	YES	Access to the bypass limited to the termini.
• Did business growth, revitalization, or redevelopment occur in the downtown after the bypass was opened?	NO	The downtown was in decline well before the building of the bypass. It has not experienced growth, revitalization or redevelopment.
• Did the bypass stimulate business growth outside of the downtown on land adjacent to the bypass or at its termini?	SOME	There was some increase in economic activity at the western terminus of the bypass where regional and national service chains (fast-food and gas stations) have located. However, extent of development at the western junction of the bypass has not occurred Mayor Simpkins has expected.
• Did the bypass provide transportation	NO	The bypass was constructed in an area

infrastructure in sparsely developed areas and/or an areas without other supporting infrastructure (e.g., water/sewer service)?		primarily covered by wetlands where development was not permitted.
• Did residential growth occur in areas adjacent to or near the downtown that is believed to support downtown businesses?	NO	Although Pemberton Township's population numbered almost 30,000 in 2000 and 679 residential permits were issued between 1991 and 2003, its population does not support Pemberton Borough's downtown.
Social and Community		
• Did the bypass affect the demographic and socio-economic character of the town?	NO	While the demographic character of Pemberton Borough has undergone some change since 1970, the socio-economic condition has changed little and the Borough is one of the weakest towns in Burlington County.
• Did pedestrian activity in the downtown increase after the bypass was opened?	NO	Most observers reported either no change or a decline in pedestrian activity downtown.
• Do citizens, business people and government officials perceive the impacts of the bypass to be positive?	YES	The majority of residents/visitors and business owners/employees felt that the bypass has had a positive impact on the community, as did Mayor Simpkins.
Interjurisdictional Interaction		
• Did community leaders take advantage of opportunities for interjurisdictional cooperation created by bypass construction?	YES	Mayor Simpkins reported that Pemberton Township was fully involved in planning of bypass which they saw as in their interest as well.

VI. MEDFORD TOWNSHIP

OVERVIEW

The Township of Medford is situated on the fringe of the Pinelands Natural Reserve about eight miles southwest of Mount Holly. Route 541 serves as the central spine of the township and passes from north to south through two town centers. The first, known as the “village” borders the junction of Route 541 and Route 70. The second, located at the junction of Routes 541 and 532, is just north of Medford Lakes Borough(see figure 6-1). Medford is also bisected by Route 70, which crosses from west to east towards the northern end of the township. Medford is about 30 minutes by car from Philadelphia and about 45 minutes from the Jersey shore.

At the turn of the 20th Century, Medford was a vibrant manufacturing town with a booming glass factory and a number of saw and grist mills. Products made in the township were shipped to Philadelphia and New York via a robust rail network that connected Medford to the large urban centers. By the late 1920s, passenger rail service to the town was terminated, the glass factory and saw mills were closed, and the tracks of the Camden and Atlantic Railroad were torn up and replaced by Route 70.

Over the ensuing several decades, Medford was in decline. However, in the thirty years since 1970, Medford has prospered. Population has increased rapidly and Medford is now one of the more affluent communities in Burlington County. Medford’s “village” center has successfully remade itself into a flourishing commercial area with many specialty stores located along Route 541, which functions as the main street through the village (see figure 6-2). Old homes have been converted into specialty stores, restaurants, and bed and breakfasts. The Township has also limited “big box” commercial development on Route 70. Because no bypass was built around the “village” center, Medford provides an interesting control case to the three bypass projects that were built and that are a part of this report.

Figure 6-1. Medford Township

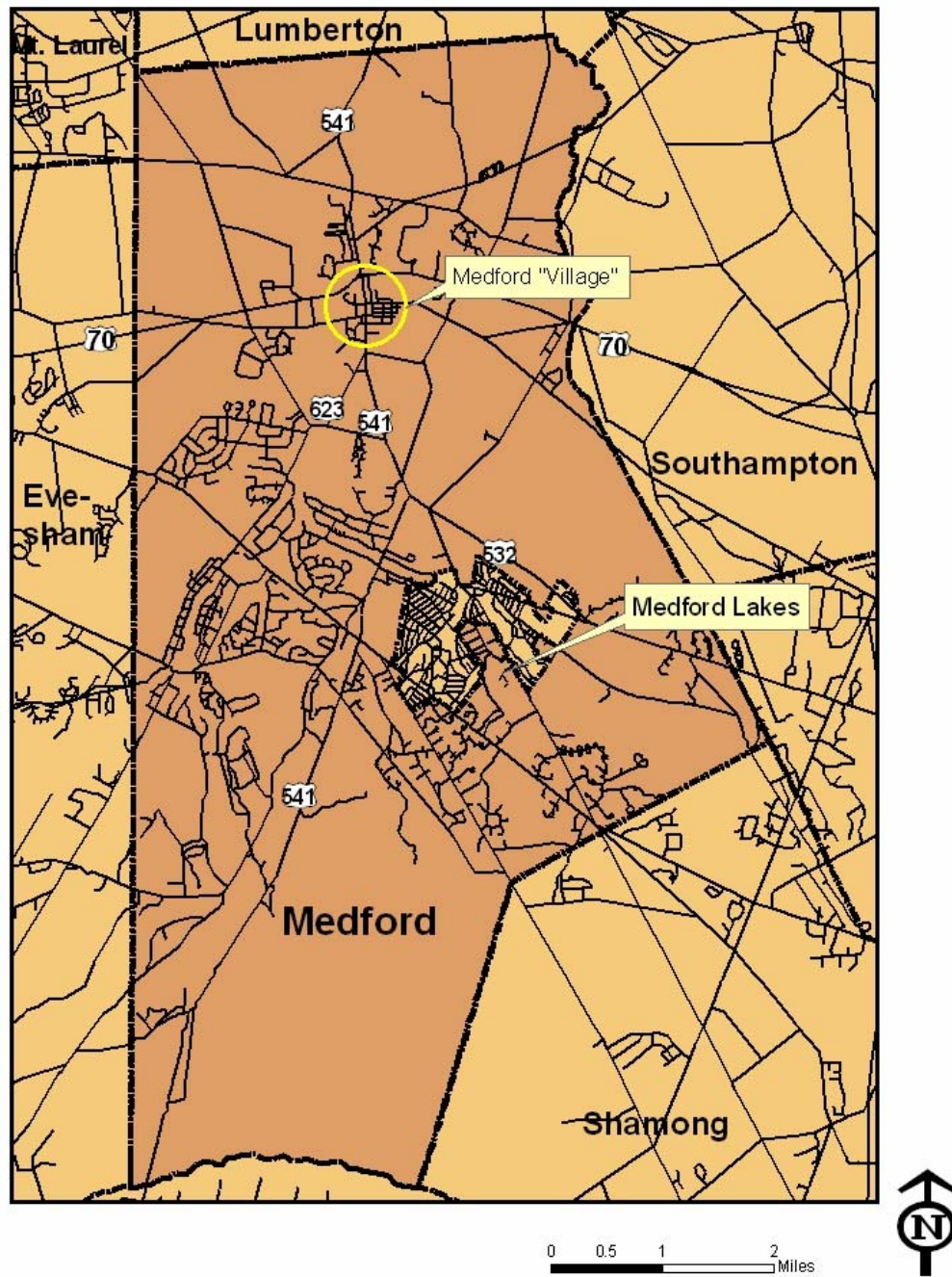


Figure 6-2. Main Street Medford – ‘The Village’



DEMOGRAPHIC AND SOCIO-ECONOMIC TREND ANALYSIS

The demographic and socio-economic composition of Medford Township has undergone extensive change since 1970 (*see table 6-1*). Medford's population, which was 8,292 in 1970, grew 168 percent (or 13,961 persons) in 30 years to reach 22,253 in 2000. The number of households grew from 2,388 in 1970 to 7,946 in 2000, almost a 214 percent increase. The population, which was almost exclusively white in 1970, has changed little; minorities were only 3.3 percent of the population in 2000. The share of working age residents (19 to 64) has increased over time. Although the share of the senior population has also grown (from 7 percent to almost 11 percent), the share of the child population has decreased, declining from 38 percent in 1970 to almost 27 percent in 2000. The population has become increasingly educated, with the share of those with a university or professional degree growing from almost 16 percent in 1970 to almost 50 percent in 2000.

Average household income grew by 73 percent in constant dollars to reach almost \$111,000 in 2000. With the growth in the 19 to 64 age bracket, the population in the civilian labor force has increased, growing from 62.1 percent in 1970 to 68.4 percent in 2000. Unemployment remains low and has fallen since 1970. Although it grew from 3 percent in 1970 to 4.4 percent in 1990, it declined to 2.2 percent in 2000, well below the statewide average. The poverty rate also remains low. It peaked in 1980 at 3 percent and then declined to 1.9 percent in 2000.

Table 6-1. Socio-economic and Demographic Trends for Medford Township: 1970 to 2000

	1970	1980	1990	2000	Absolute Change 1970-2000	% Change 1970-2000
Population	8,292	17,622	20,526	22,253	13,961	168.4%
Households	2,388	5,555	6,848	7,946	5,558	232.8%
White Population ^a	99.0%	99.0%	98.1%	96.7%	-2.3%	-2.3%
Minority Population ^a	1.0%	1.0%	1.9%	3.3%	2.3%	230.0%
Child Population (Under 18) ^a	38.0%	34.0%	26.4%	26.8%	-11.2%	-29.5%
Senior Population (over 65) ^a	7.0%	7.0%	9.9%	10.7%	3.7%	52.9%
Bachelor/Graduate/Professional Degree ^b	15.9%	33.1%	41.0%	49.9%	34.0%	213.8%
Average Household Income ^c	\$64,077	\$73,816	\$101,793	\$110,855	\$46,778	73.0%
Population in Civilian Labor Force ^d	62.1%	63.7%	68.7%	68.4%	6.3%	10.1%
Unemployed ^e	3.0%	4.0%	4.4%	2.2%	-0.8%	-26.7%
Poverty Rate ^f	2.0%	3.0%	2.3%	1.9%	-0.1	-5.0%
Owner Occupied Housing Units ^g	82.5%	75.2%	78.2%	83.3%	0.8%	0.1%
Vacant Housing Units ^g	3.7%	4.8%	3.8%	2.5%	-1.2%	-32.4%
Residential Building Permits ^h	n/a	n/a	1,385	1,109		

Source: U.S. Census and Geolytics

Notes:

y. Proportion of total population

z. Proportion of population 25 years and over

aa. In constant \$2000

bb. Percent of population 16 and over in civilian labor force

cc. Percent of civilian labor force

dd. Percent of individuals below the poverty level

ee. Proportion of total housing units

ff. Total number of permits issued in preceding decade

The share of owner-occupied housing, which peaked at 83.3 percent in 2000, is high, although it declined slightly in 1980 and 1990 when it reached 75.2 percent and 78.2 percent, respectively. The share of vacant housing units remains low; only 2.5 percent in 2000 after peaking at 4.8 percent in 1980. Intense residential building activity has occurred since 1980. In the 24-year period between 1980 and 2003, a total of 2,895 residential building permits were issued, an average of almost 126 a year. Most of this growth occurred outside the "village" area.

A comparison of Medford's key demographic and socio-economic attributes with those of the other 39 towns in Burlington County in 2000 depicts the town's relative affluence (see table 6-2). Medford's minority population share is among the lowest in Burlington County. Although Medford's share of population under 18 is slightly higher than the county average and its share of the population over 65 years is slightly lower than the

county average, only seven towns have a higher median age. Average household size is larger than the county average, with only 12 towns having larger household sizes. Medford's population is among the most highly educated in the county. Only two towns have a larger share of the population with a university or professional degree.

Table 6-2. Comparison of Medford Township and Burlington County for 2000

	Burlington County	Medford Township	Difference	Ranking ^a
Total Population	423,394	22,253	N/A	5
Total Minority Population (%)	21.6	3.3	-18.3	35
Total Population Under 18 Years (%)	25.2	26.8	1.6	16
Total Population Over 65 Years (%)	12.6	10.7	-1.9	27
Median Age (Years)	37.1	40.0	2.9	8
Average Household Size	2.65	2.77	0.12	13
Bachelor/Graduate/Professional Degree (%)	28.4	49.9	21.5	3
Population in Labor Force (over 16)	66.8	68.8	2.0	22
Unemployed (%) ^b	3.9	2.2	-1.7	38
Service Employees (%)	12.7	8.9	-3.8	38
Median Household Income in 1999 (\$)	58,608	83,059	24,451	2
Per Capita Income in 1999 (\$)	26,339	38,641	12,302	2
Persons Below Poverty Level in 1999 (%)	4.7	1.9	-2.8	39
Median Home Value (\$) ^c	137,400	213,600	76,200	2
Total Housing Units	161,311	8,147	N/A	6
Owner-Occupied Housing Units (%) ^d	77.4	85.5	8.1	13
Density (Housing Units/Square Mile)	200.5	207.2	6.7	27

Source: U.S. Census

Notes:

a. This column ranks Medford by largest to smallest against the 39 other towns in Burlington County.

b. Percent of civilian labor force

c. Owner-occupied

d. Percent of total occupied housing units

In 2000, Medford's affluence is illustrated by a variety of socio-economic variables. It has a 2.2 percent unemployment rate, the second lowest in the county. Similarly, only one town had a larger household median income or a larger per capita income and only one town had a lower poverty rate in 1999. Medford is among the larger towns in Burlington County. However, it is among the least dense towns. In 2000, only five towns had more housing units. Medford's share of owner-occupied housing units is larger than the county average.

Table 6-3 compares Medford Township's key demographic and socio-economic characteristics with those of the Census Block Group (CBG) that includes Medford's "village" center (see figure 6-1). Various indicators depict an area that is very different from the overall township. The minority share of the population in the "village" center CBG is more than twice that of the township. The share of the elderly population is slightly higher; however, the median age is lower. Household size in the "village" center CBG is slightly smaller. The share of the population with a university or professional degree is considerably smaller.

The "village" center CBG is considerably less affluent than the overall township and its unemployment rate is more than twice that of the township. Median household income is 30 percent lower than that of the township, per capita income is 35 percent lower, and the share of residents living below the poverty level is four times higher. Median home value is 24 percent lower than that of the township overall and the share of owner-occupied housing units is 22 percent lower.

Table 6-3. Comparison of Medford Township and 'The Village' Census Block Group for 2000

	Medford Township	"Village" Block Group	Difference
Total Population	22,253	1,761	N/A
Total Minority Population (%)	3.3	8.8	5.5
Total Population Under 18 Years (%)	26.8	26.2	-0.6
Total Population Over 65 Years (%)	10.7	14.5	3.8
Median Age (Years)	40.0	36.5	-3.5
Average Household Size	2.77	2.58	-0.19
Bachelor/Graduate/Professional Degree (%)	49.9	35.5	-14.4
Population in Labor Force (over 16)	68.8	68.1	-0.7
Unemployed (%) ^a	2.2	5.6	3.4
Service Employees (%)	8.9	15.5	6.6
Median Household Income in 1999 (\$)	83,059	58,083	-24,976
Per Capita Income in 1999 (\$)	38,641	24,921	-13,720
Persons Below Poverty Level in 1999 (%)	1.9	8.2	6.3
Median Home Value (\$) ^b	213,600	162,300	-51,300
Total Housing Units	8,147	680	N/A
Owner-Occupied Housing Units (%) ^c	85.5	63.4	-22.1

Source: U.S. Census

Notes:

a. Percent of civilian labor force

b. Owner-occupied

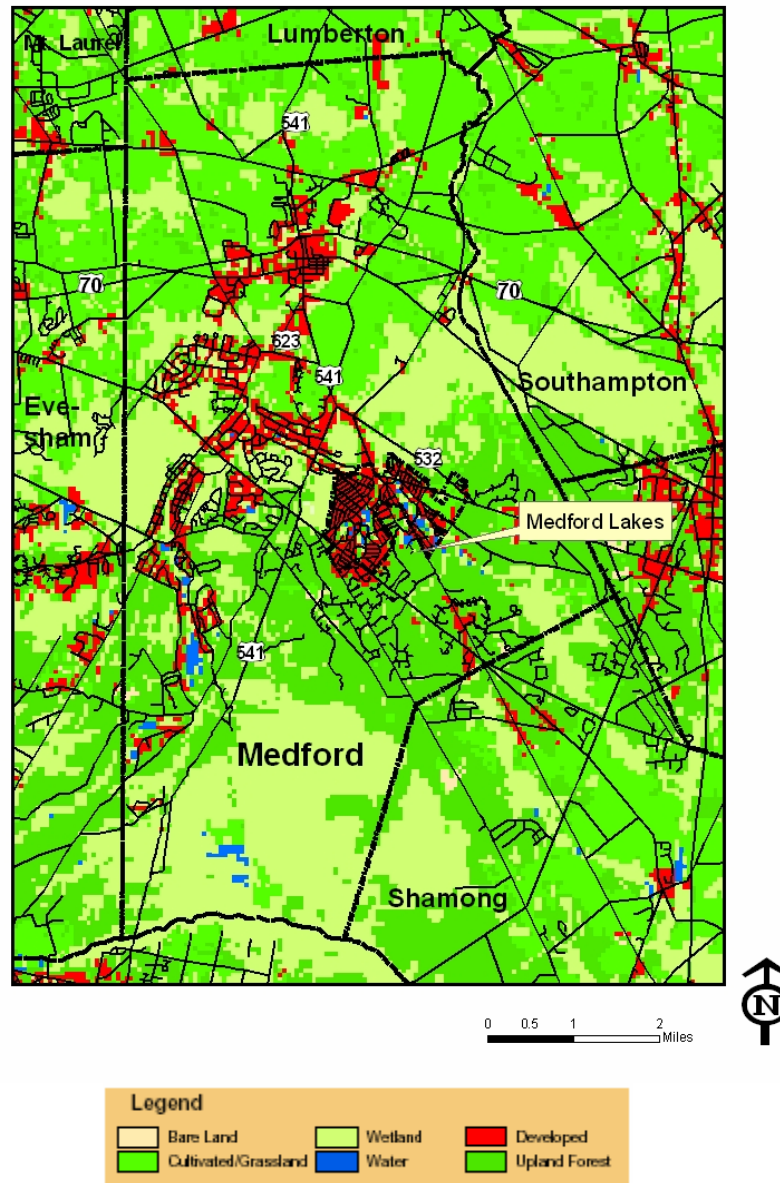
c. Percent of total occupied housing units

LAND USE CHANGE

A 1972 land cover map of Medford shows that the town was sparsely developed at the time (see figure 6-3). There was some development along the Route 541 north-south corridor, particularly in the downtown area just south of the junction of Routes 541 and 70. Residential development also existed to the west of Route 541, along Route 623 and to the south of Route 623. The borough of Medford Lakes, which is fully surrounded by Medford Township, was extensively developed in 1972. Other than some development along Route 541 to the south of Medford Lakes, there was no development in the southeast quadrant of Medford Township. There was only minor development along Route 70 and only sparse development to the north of Route 70.

Figure 6-3. Medford 1972 Land Cover

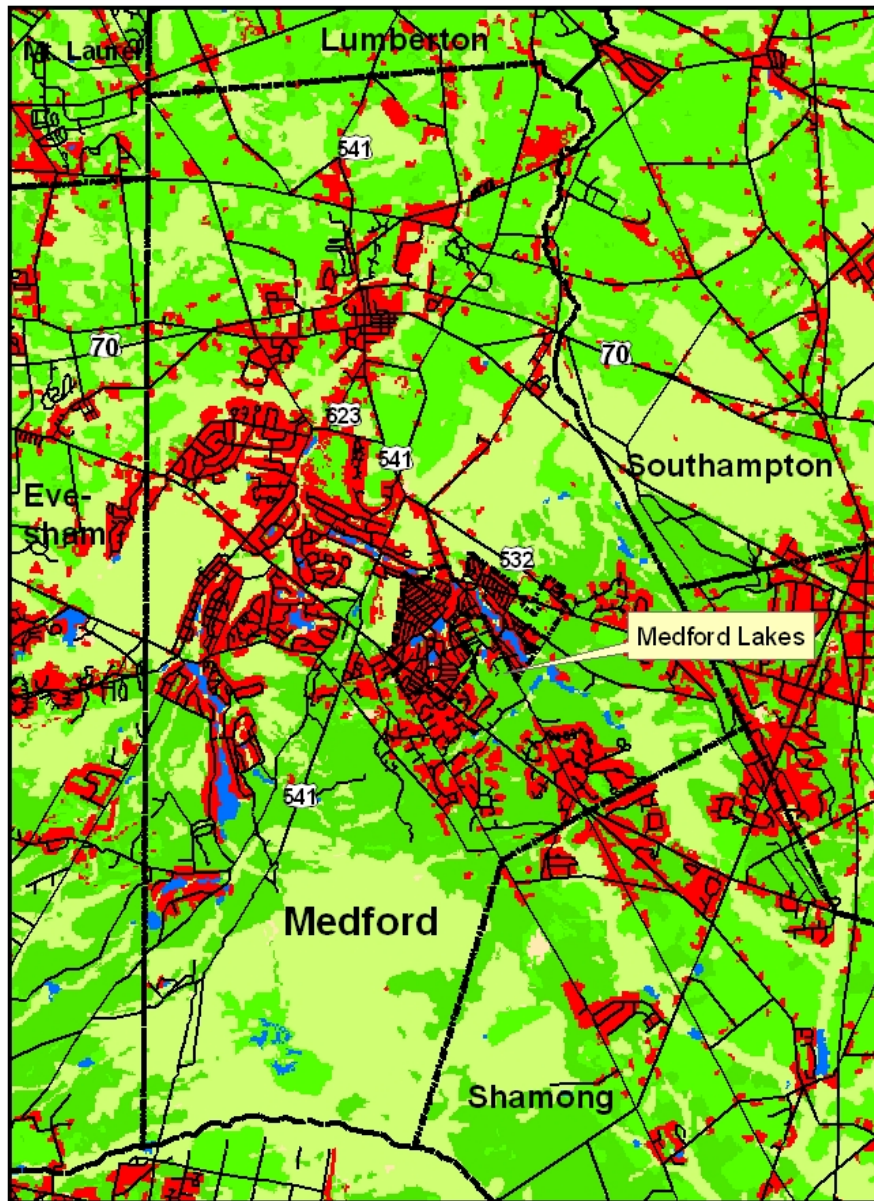
Medford 1972 Land Cover
80m x 80m resolution



Between 1972 and 1984, substantial residential development occurred in Medford. During this period, the township's population more than doubled. New development (indicated in red) is most noticeable to the south of Route 623, west of Route 541 and to the south of Medford Lakes along the Route 541 corridor (see figure 6-4). There was some new commercial development along Route 70, particularly adjacent to the Route 541 junction. Finally, in the area north of Route 70, there was an increase in dispersed development.

Figure 6-4. Medford 1984 Land Cover

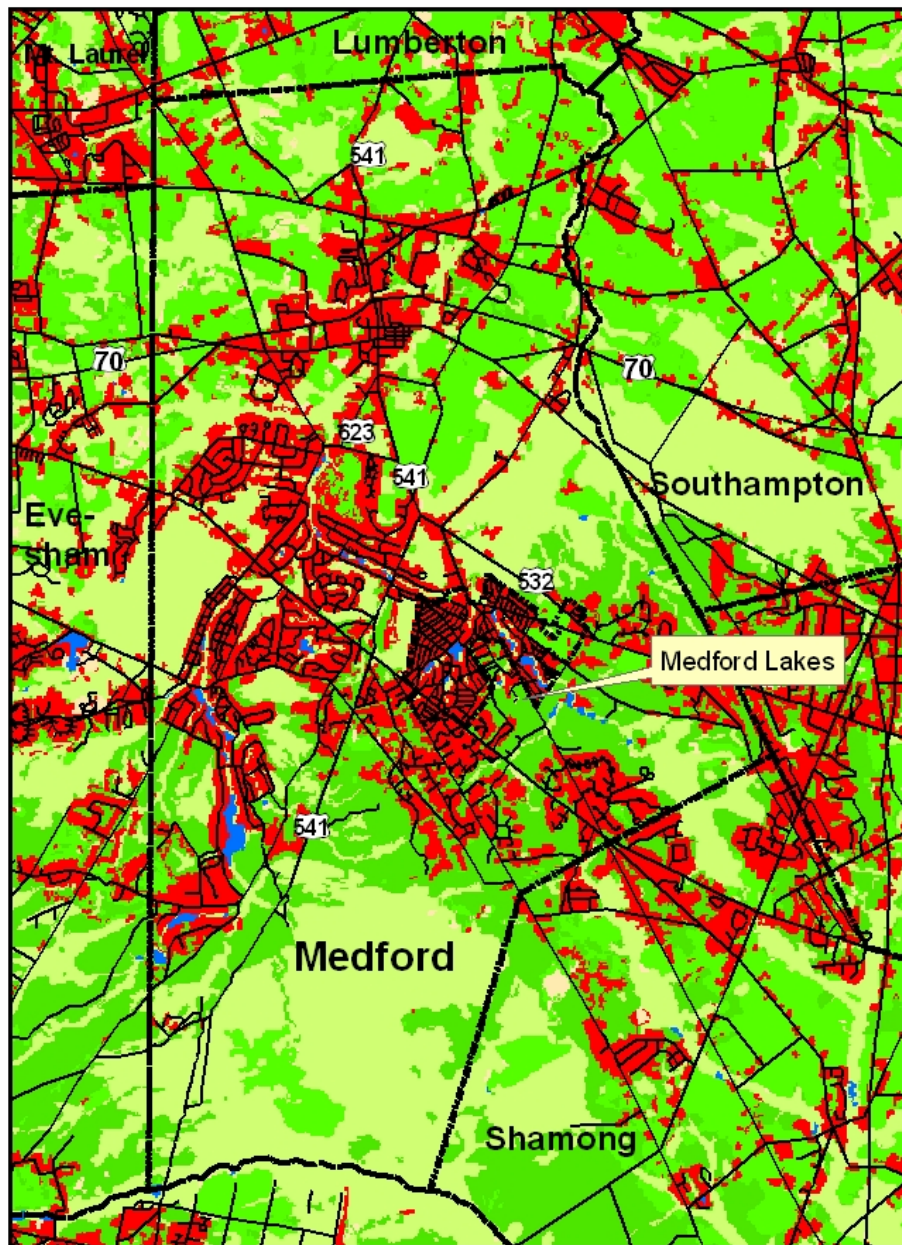
Medford 1984 Land Cover
30m x 30m resolution



By 1995, Medford's population growth had slowed, but residential development continued to occur in the central area of the Township, to the west of Route 541 and along the Route 623 corridor, as well as west and southwest of Medford Lakes (see figure 6-5). Development around the intersection of Routes 70 and 541 intensified, particularly to the south. Only minor development occurred to the north of Route 70.

Figure 6-5. Medford 1995 Land Cover

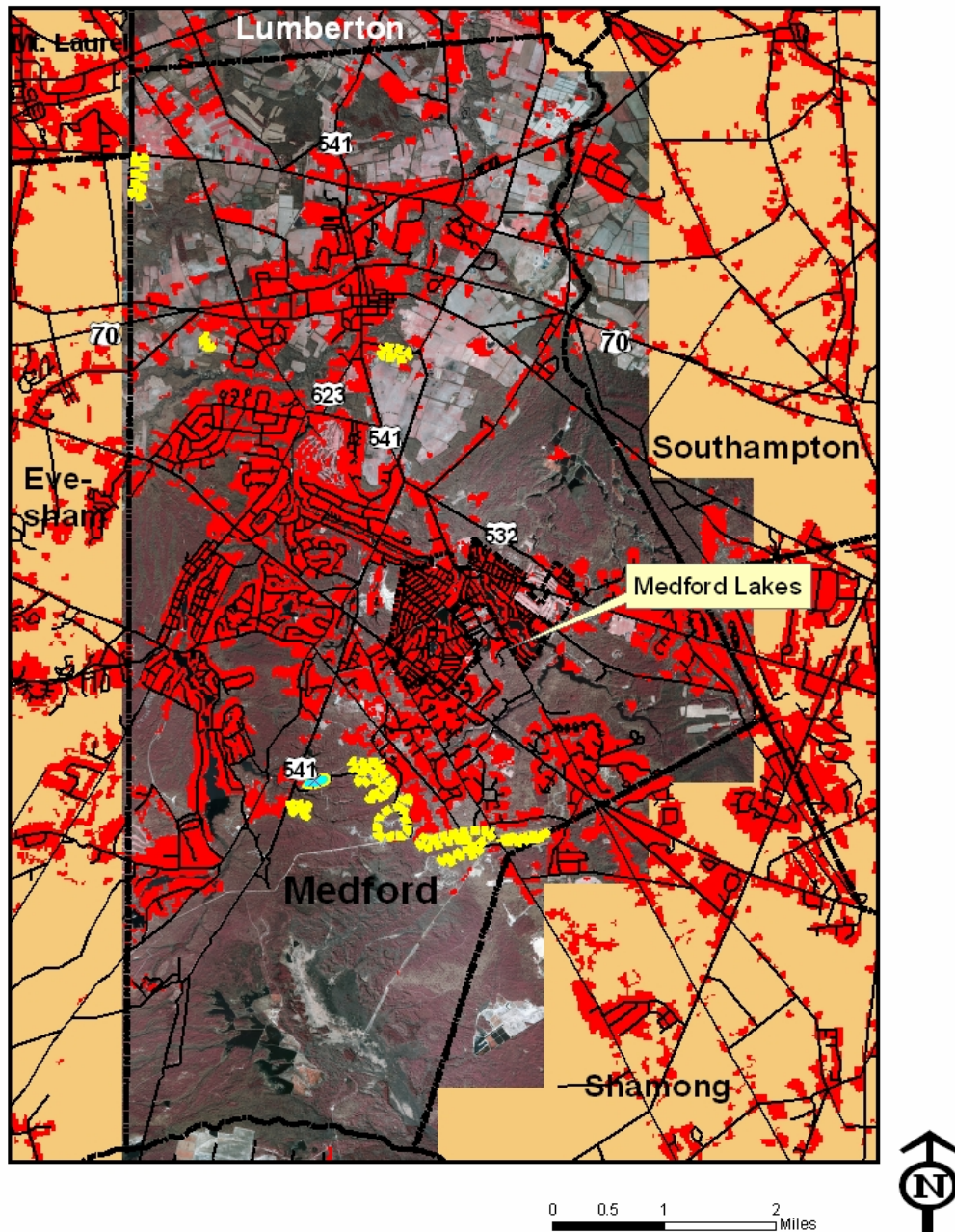
Medford 1995 Land Cover
30m x 30m resolution



An overlay of 2002 aerial photographs on the 1995 land cover data shows some new development occurring in Medford between 1995 and 2002, particularly southwest of Medford Lakes (see yellow markings on figure 6-6). In addition to the highlighted areas, it is likely that infill development continued to occur in the existing built up areas.

Figure 6-6. Medford 1995 Land Cover and 2002 Aerial

Medford 1995 Land Cover
and 2002 aerials



SURVEY ANALYSIS

Residents/Visitors

A survey of eight Medford residents and five visitors was conducted. Eight of those surveyed were visiting downtown for business reasons and five were shopping. The respondents revealed ambivalence to the idea of building a bypass road around Medford's "village" center (see table 6-4). Moreover, the respondents were evenly divided in their views on the potential impacts a bypass might have on the main street and on the community of Medford as a whole.

Although a majority of the respondents (9 respondents) felt that there was too much traffic on the main street and an overwhelming majority (11 respondents) believed that traffic had increased over the last five to 10 years, a slightly smaller majority (7 respondents) said they would not favor building a bypass. A majority also felt that a bypass would divert both traffic (7 respondents) and pedestrians (9 respondents) from the main street. While six respondents thought a bypass would have a positive impact on the main street and the community of Medford as a whole, the same number (six respondents) thought the impacts would be negative (see figure 3-7).

Figure 6-7. Main Street Medford – ‘The Village’



Table 6-4. Medford Resident/Visitor Survey Responses

Question	Yes/Positive/ More		No/Negative /Fewer		Don't Know/ No Change		No Response		Total
	Res ^a	Vis ^a	Res	Vis	Res	Vis	Res	Vis	
• Why are you here in Medford ^b	2	3	6	2	0	0	0	0	13
• How do you feel about the amount of traffic on the main street ^c	6	3	0	0	2	2	0	0	13
• Does it seem as if the traffic on the main street has increased over the last 5 – 10 years	8	3	0	0	0	2	0	0	13
• If there were plans to construct a north-south running bypass around the center of Medford, would you be in favor of it	3	1	4	3	1	1	0	0	13
• Do you feel that less vehicular traffic would occur if there was a bypass around the main street	4	3	0	0	1	0	3	2	13
• Do you feel that less pedestrian traffic would occur if there was a bypass around the main street	4	5	4	0	0	0	0	0	13
• How do you feel a bypass route would impact the main street area	4	2	3	3	1	0	0	0	13
• How do you feel the construction of a bypass would affect the community of Medford as a whole	4	2	4	2	0	1	0	0	13
• How often do you frequent these businesses on the main street ^d	3	3	2	0	3	2	0	0	13
• Are you aware of any new businesses that have opened on the main street in the last few years	7	5	1	0	0	0	0	0	13
• Do you think that more restaurants and coffee shops would make the main street more attractive	5	4	3	1	N/A		0	0	13
• Do you think that more specialty stores would make the main street more attractive	3	1	5	4	N/A		0	0	13
• Do you think that improvements to the streetscape would make the main street more attractive	5	1	3	4	N/A		0	0	13
• Will you ever possibly come back to shop on the main street ^e	8	4	0	1	0	0	0	0	13

Notes:

a. Res = Residents; Vis = Visitors.

b. Definitely; Probably/Maybe; Never

c. Too Much; Too Little; Just Right

d. More than Once a Week; Once a Week; Once a Month/Less than Once a Week

e. Shopping; Business; Passing Through

Differences also existed in terms of the frequency with which respondents visited businesses on the main street. Six respondents visited main street businesses at least once a week, whereas five said they visited one to three times per month. Nevertheless, an overwhelming majority (12 respondents) said that they would definitely come back to shop on main street. All but one of the respondents were aware of new businesses that have opened on the main street in the last few years. A solid majority of the respondents (9 respondents) thought that more restaurants and coffee shops would make the main street more attractive, but the same number (9 respondents) thought that there was no need for more specialty stores. A slightly smaller number (7 respondents) agreed that streetscape improvements were not needed to make the main street more attractive.

Business Owners/Employees

Responses to a survey of 14 business owners and seven employees working on Medford's main street revealed views somewhat different from those of the residents and visitors (see table 6-5). A small majority of business owners and employees favored the idea of building a bypass, which they thought would have a positive impact on the main street. At the same time, they were divided on the affect the bypass might have on their own business as well as the community of Medford as a whole.

A majority of business owners and employees (12 respondents) were satisfied with the current business environment on main street. A slightly larger majority (14 respondents) felt that there was too much traffic on main street, which most of the respondents (16) noted was predominantly car traffic (see figure 6-8). An overwhelming majority (18 respondents) also noted that traffic had increased over the last five to 10 years.

Figure 6-8. Main Street Medford – the ‘Village’



Table 6-5. Medford Business Owner/Employee Survey Responses

Question	Yes/Positive/ More		No/Negative/ Fewer		Don't Know/ No Change		No Response		Total
	Own ^a	Emp ^a	Own	Emp	Own	Emp	Own	Emp	
• Are you satisfied with the business environment on main street	8	4	5	3	1	0	0	0	21
• How do you feel about the amount of traffic on the main street ^b	10	4	0	0	4	3	0	0	21
• Does it seem as if the traffic on the main street has increased over the last 5 – 10 years	12	6	0	0	2	1	0	0	21
• What types of vehicles are most prominent on the main street ^c	4	0	10	6	0	1	0	0	21
• If there were plans to construct a north-south running bypass around the center of Medford, would you be in favor of it	7	4	6	2	1	1	0	0	21
• Do you feel that less vehicular traffic would occur if there was a bypass around the main street	8	3	0	0	1	1	5	3	21
• Do you feel that less pedestrian traffic would occur if there was a bypass around the main street	6	2	8	5	0	0	0	0	21
• How do you feel a bypass route would impact the main street area	8	4	6	2	0	1	0	0	21
• How do you feel a bypass would impact your business in particular	5	4	6	2	3	1	0	0	21
• How do you feel the construction of a bypass would affect the community of Medford as a whole	4	3	5	3	5	1	0	0	21
• Have you ever considered relocating to another area to open your business	6	0	9	0	0	0	0	0	15

• Are you aware on any new businesses that have opened on the main street in the last few years	12	7	2	0	0	0	0	0	21
• Do you think that more restaurants and coffee shops would make the main street more attractive	13	7	1	0	N/A		0	0	21
• Do you think that more specialty stores would make the main street more attractive	9	5	5	2	N/A		0	0	21
• Do you think that improvements to the streetscape would make the main street more attractive	9	7	5	0	N/A		0	0	21

Notes:

k. Own = Owners; Emp = Employees. Employees were not asked the full set of questions.

l. Too Much; Too Little; Just Right

m. Large Trucks; Cars; Bikes/Peds.

Slightly more than half the respondents (11) viewed the idea of building a bypass around the center of Medford favorably. Eight opposed the idea. A similar majority (11 respondents) felt that a bypass would reduce vehicular traffic on the main street. A majority (13 respondents) did not think a bypass would reduce pedestrian traffic.

Twelve respondents felt that a bypass route would have a positive impact on the main street area, but only nine thought it would impact their business positively; fewer still (seven) thought it would have a positive impact on the community of Medford as a whole. Eight business owners and employees thought that a bypass would have a negative impact on the main street, on their business and on the community. Six thought there would be no change to the community as a whole. It is interesting to note that although a majority (8 respondents) of business owners are satisfied with the business environment in Medford, almost half (6 respondents) have considered relocating.

Almost all the respondents (19) were aware of new businesses that had opened on the main street in the last few years. A majority of business owners and employees agreed that adding restaurants, coffee shops, specialty stores and streetscape improvements would make the main street more attractive.

Government Officials

Two government officials were interviewed to obtain their views on Medford and the potential impact of a bypass—Alan Feit, Township Manager for Medford, and Mark Remsa, Director of Burlington County’s Department of Economic Development and Regional Planning.

Alan Feit

Mr. Feit, who has been Township Manager since 1996, provided background details on Medford. He explained that Medford is an affluent community with good schools. This makes it attractive to high income families. Its tax base is primarily (89 percent)

residential. The population expanded rapidly in the 1970s. Future residential development, however, will be limited because 75 percent of the Township lies within the Pinelands area (all to the south of Route 70). In addition, the Township has placed a moratorium on the expansion of the wastewater treatment system which is currently functioning close to capacity. He stated that at full build-out the Township plans for a population of about 32,000 people, about 8,000 more than the current population. Most additional residential development is planned for the area north of Route 70, where the largest area of vacant land exists.

Mr. Feit referred to a survey (available on the Township's website) which was conducted in 2002 to ascertain residents' views on the services provided by the Township. The results showed that 95 percent of its residents were either very satisfied or satisfied with Medford as a place to live and 92 percent either strongly agreed or agreed that they were satisfied with the services provided by the Township. In addition, 92 percent of the residents felt either very safe or safe in the township.

Mr. Feit had no knowledge of any plans to build a bypass around the "village" area and added that there is no land available for right of way.

Mr. Feit said that business occupancy in the "village" was high. He explained that the stores along the main street were once residential properties that have been converted into retail shops and other businesses including, antique stores, health stores, a clock shop, restaurants, and a bed and breakfast. Mr. Feit explained that a recent survey of businesses in the "village" showed that about 53 percent of shoppers were local residents. The remainder came from surrounding communities. In addition, there were some visitors from further away who, for the most part, came to shop at the antique stores. Businesses in the "village" area are primarily open during the day and on Saturdays.

Mr. Feit pointed out that a significant volume of traffic passes through the "village" on a daily basis and is the major complaint of residents and business owners. He suggested that on-street parking and congestion slows traffic as it passes through the "village." Mr. Feit also pointed out that store owners have complained about a lack of parking for their customers, although he believes this is a misconception because a Township study showed that there was adequate parking. The Township is trying to resolve this issue by improving signage in the "village" area.

Mr. Feit explained that Medford residents are opposed to large-scale commercial development (see figure 3-9). The Township recently amended its land use ordinance to limit "big box" development along Route 70 to 35,000 square feet per store and considerably reduced floor area ratio. Mr. Feit said that a proposal to erect a Home Depot on Route 70 received some support from the business community and land owners on Route 70, but that the majority of Medford residents are opposed to large scale commercial development.

Mark Remsa

Mr. Remsa, who has been director of Burlington County's Department of Economic Development and Regional Planning for three years (he has worked for Burlington County in various capacities for ten years), opined that Medford's success was related to its socio-economic composition. He stated that Medford, with its expensive housing stock, high household income and good school system, is among the most attractive towns in the county and a good place for upper middle class people to move to. He

described Medford, together with Moorestown, Marlton and Mount Laurel, as the 4Ms, Burlington County's wealth belt.

Mr. Remsa believes that a bypass would be detrimental to the town and doubts that it would be a viable economic proposition. He noted that Medford had been successful in resisting the establishment of "big box" type stores which, in any case, were also limited by restrictions on the expansion of the waste water treatment system. On the other hand, he said that Medford had been successful in making its "village" center a "shopping destination" for local residents and visiting shoppers.

Figure 6-9. Sign Along Route 70 in Medford Opposing Development



DISCUSSION

Medford Township as a control case for this study provides an interesting contrast to the three case studies where bypasses were built. Key factors that distinguish Medford can be grouped under the divisions used in the case study analysis—traffic flow, land use patterns, and economic development.

Although considerable commuter traffic, which originates in the communities to the south of Medford, uses Route 541, this traffic is less regional in scale than that which passes through either Hightstown or Mount Holly. First, Medford is located in the Pinelands Reserve at the end of a line of residential communities, rather than between major highways, such as Hightstown, which lies between the NJ Turnpike and Route 130, or Mount Holly, which is situated close to the NJ Turnpike and I-295 on its northern end and Route 38 on its southern end. Route 541 does not provide access to a major

roadway network to the south of Medford, nor is it a conduit for through traffic destined for the New Jersey shore, which uses Route 70. Second, the communities to the south of Medford, which include Medford Lakes, Tabernacle, Shamong, and southern Evesham are small bedroom communities that generate primarily auto traffic. Residents of these communities use Route 541 to access Route 70 to the north. And third, truck traffic appears not to be an issue on Route 541 through the "village."

Although residential development was rapid in Medford in the 30- year period since 1970, its future growth is limited. As Mr. Feit, the Township Manager for Medford, has observed, Medford is a "no development" town. Development is constrained by the Pinelands, the township's decision not to expand wastewater treatment capacity, and local opposition to "big box" commercial development.

Medford's "village" center, unlike the downtowns of Mount Holly and Pemberton, has successfully remade itself into a niche-market shopping area for both local residents and visitors. As Mr. Remsa, the county director of Economic Development and Regional Planning has observed, the "village" is a shopping destination. Despite the reservations of the business owners and employees, it is possible that the "village" area benefits from passing traffic, particularly because this traffic is forced to slow down because of congestion and parking on both sides of the street.

At the same time, it is important to note the weaker demographic and socio-economic conditions in the "village" center CBG, which are similar to those of Hightstown, Mount Holly and Pemberton. On the other hand, the demographic and socio-economic characteristics of the Township as a whole are much stronger. Medford has developed into an affluent community despite the relative weakness of the "village" center.

VII. BYPASS OUTCOMES, CONCLUSIONS AND POLICY CONSIDERATIONS

The purpose of this study is to understand better the traffic, land use, economic, social and interjurisdictional impacts of bypass roads in New Jersey. In this final chapter, the impacts of the three case studies—the Route 133 (Hightstown) Bypass, the Route 541 (Mount Holly) Bypass and the Route 530 (Pemberton) Bypass—together with the control case of Medford, are assessed with respect to their potential implications for future bypass projects in New Jersey.

BYPASS OUTCOMES

Bypass roads in the suburban context of New Jersey have produced mixed results. Table 7-1 summarizes the findings of the study by comparing the three bypass case studies in terms of four dimensions of change—traffic and circulation, land use and economic development, social and community, and interjurisdictional interaction.

Traffic and Circulation

- The three bypasses examined met the stated goal of diverting regional traffic from downtown areas. It is important to note, however, that the three bypasses serve only one direction of travel (i.e., east-west or north-south), not both. As such, traffic relief is limited to the direction of travel served. In the case of Hightstown, considerable traffic, and especially truck traffic, still passes through the downtown area. This is partially due to the competing interests of the surrounding township of East Windsor.
- Two of the bypass roads, Mount Holly and Pemberton, reduced downtown truck traffic. In these cases, the bypass offered a shorter, more direct route around the downtown. In the case of Mount Holly, the bypass serves as a truck route and trucks are not permitted through the downtown. In the case of Pemberton, truck traffic was not perceived to be a significant problem. In the case of the Route 133 (Hightstown) Bypass, residents, business owners and government officials have not observed a reduction in truck traffic through the downtown. This is due in part to the competing interests of Hightstown and East Windsor Township. East Windsor Township officials have been steadfast in their opposition to posting signs that would direct trucks traveling between Route 130 and the NJ Turnpike to use the bypass. In addition, access to the bypass from the NJ Turnpike is circuitous and the bypass road is longer and less direct than the original route through downtown Hightstown.
- In all three cases, it is unlikely that the reduction in through traffic resulted in more local downtown-oriented shopping traffic. The downtowns of both Mount Holly and Pemberton are weak and serve few "destination" functions. Hightstown's downtown is beginning to show some increased vibrancy, but no observers reported an increase in local traffic.
- In two cases (Hightstown and Pemberton), observers reported improved safety on main streets after the bypass openings.

- In all three cases, the bypasses improved accessibility to regional destinations and major highways. The Route 133 (Hightstown) Bypass improved east-west access to the NJ Turnpike and Route 130. The Route 451 (Mount Holly) Bypass improved north-south access to the NJ Turnpike and I-295. The Route 530 (Pemberton) Bypass improved access to Burlington County College, Maguire Air Force Base and Fort Dix at the eastern end of the bypass.

Land Use and Economic Development

- In all three cases, access restrictions and/or development constraints have limited growth along the bypass routes, thereby preserving the capacity of the roads to accommodate traffic flow. Access to the Route 133 (Hightstown) Bypass is limited to two interchanges and the termini. Access to the original segment of the Route 451 (Mount Holly) bypass has been limited to the interchanges/intersections and termini, but Mount Holly anticipates lifting access restrictions to facilitate development along the bypass. Development along the Route 530 (Pemberton) Bypass is severely constrained by surrounding wetlands.
- In two cases (Mount Holly and Pemberton), the bypass routes do not appear to have stimulated business growth, revitalization or redevelopment. Little new business activity and development were noted in either Mount Holly or Pemberton after their bypass roads opened. Both towns were in decline before the bypasses were built and have remained depressed since the bypasses were opened. In Hightstown, however, observers reported new business openings and increased vibrancy in the downtown area after the Route 133 Bypass opened.
- In all three cases, new business growth was stimulated along the bypasses at the interchanges and termini with major intercepting roads. Development and business growth have occurred in East Windsor at both ends of the Route 133 Bypass with active promotion by the Township. The Route 541 (Mount Holly) Bypass improved access to routes 541 and 38, contributing to extensive commercial development at the bypass intersections. In both cases, the development has been primarily regional and national chains, including big box retailers, which are of a type and scale not typically seen in small downtown settings such as Hightstown or Mount Holly. In addition, commercial activity has occurred at the junctions along the Route 541 Bypass. More limited economic activity has occurred in the case of Pemberton, concentrating at the western terminus of the Route 530 bypass.
- Only in the case of the Route 541 (Mount Holly) Bypass was the road built in a sparsely developed area. It appears that the Route 541 Bypass may have induced residential and commercial development to the south of Mount Holly in Lumberton and Medford by improving overall transportation access in the area. The Route 133 Bypass was constructed in an area of East Windsor that was already served by public sewer and water infrastructure and experiencing development activity. The Route 530 (Pemberton) Bypass traverses an area where development is severely constrained

by wetlands. In addition, the Route 530 Bypass serves only Pemberton Township where the population declined between 1990 and 2000.

- In two cases (Hightstown and Mount Holly) significant residential growth occurred in areas adjacent to or near the downtowns after the bypasses opened. Based on observer reports, there is no evidence to indicate that this growth has contributed significantly to downtown business activity. In the case of Pemberton, population declined in Pemberton Township since the bypass was constructed.

Social and Community

- It does not appear that the three bypasses influenced socio-economic conditions in the bypassed towns. In terms of many socio-economic indicators, both Mount Holly and Pemberton Borough are among the weaker towns in Burlington County. Like many other older towns in New Jersey that declined as residential and commercial activities moved to the suburbs, both municipalities were in a state of decline before the respective bypasses were built. Conditions did not improve after the bypass roads opened. In the case of Hightstown, the bypass is more recent, having opened in 1999; as such, it may be too soon to evaluate demographic and socio-economic changes.
- The bypass roads did not significantly affect pedestrian activity in the three bypassed downtowns. Observers in only one case, Hightstown, reported an increase in pedestrian activity.
- Observer perceptions of overall bypass impact were positive only in Pemberton, where a majority of citizens, business people and public officials expressed this view. In Hightstown, local officials perceived the impacts of the bypass to be positive overall, but the opinions of citizens and business people were more mixed. In Mount Holly, views of the bypass' overall impact were mostly unfavorable. For the most part, long-time residents believed that the main street businesses had been negatively affected as well as the overall community. Business owners did not see any positive impacts from the Mount Holly bypass.

Interjurisdictional Interaction

- A distinct feature of this study was that all three bypass roads passed through the jurisdiction of at least one neighboring municipality. In the cases of Mount Holly and Pemberton, the bypasses are county roads, planned and built by Burlington County. In both cases, there were no reports of conflict between the respective communities and the bypasses function as intended. In the case of the Route 133 (Hightstown) Bypass, the highway is a state road, planned and built by the NJ DOT. The bypass is located entirely within East Windsor which surrounds Hightstown. There were significant disagreements between Hightstown and East Windsor before the bypass was constructed and conflicts over the road's purpose and use continue today. As previously noted, much of the disagreement focuses on the diversion of trucks out of Hightstown and onto the bypass in East Windsor.

Table 7-1. Bypass Outcomes

Outcome	Hightstown	Mount Holly	Pemberton
Traffic and Circulation			
• Did the bypass reduce regional/pass through traffic on the “main” street in the downtown?	YES	YES	YES
• Did the bypass reduce truck traffic in the downtown?	NO	YES	YES
• Did reduction in regional/pass through traffic result in more local downtown-oriented traffic?	NO	N/A	NO
• Was pedestrian safety improved?	YES	YES	YES
• Did the bypass improve the accessibility of regional destinations and/or transportation facilities?	YES	YES	YES
Land Use and Economic Development			
• Was development along the bypass route constrained by access and/or development restrictions?	YES	SOME	YES
• Did business growth, revitalization, or redevelopment occur in the downtown after the bypass was opened?	YES	NO	NO
• Did the bypass stimulate business growth outside of the downtown on land adjacent to the bypass or at its termini?	YES	YES	SOME
• Did the bypass provide transportation infrastructure in sparsely developed areas and/or an areas without other supporting infrastructure (e.g., water/sewer service)?	NO	YES	NO
• Did residential growth occur in areas adjacent to or near the downtown that are believed to support downtown businesses?	NO	NO	NO
Social and Community			
• Did the bypass affect the demographic and socio-economic character of the town?	N/A	NO	NO

• Did pedestrian activity in the downtown increase after the bypass was opened?	SOME	NO	NO
• Do citizens, business people and government officials perceive the impacts of the bypass to be positive?	SOME	NO	YES
Interjurisdictional Interaction			
• Did community leaders take advantage of opportunities for interjurisdictional cooperation created by bypass construction?	NO	YES	YES

N/A – Not applicable or no information was available

MEDFORD TOWNSHIP: THE CONTROL CASE

As explored in detail in Chapter 6, Medford Township was used as a control case for this study. Medford's downtown area, known locally as the "village," borders the junction of Route 541, which passes through the downtown, and Route 70, which lies just to the north. It provides an interesting comparison to the three case studies where bypasses were built because the "village" section of Medford shares many characteristics with the bypassed towns. For example, considerable commuter traffic from surrounding towns uses Route 541 through downtown Medford to access Route 70 and other points to the north; and the downtown area includes residential and business uses similar in scale to those found in Pemberton, Mount Holly and Hightstown.

At the same time, it should be noted that the transportation network surrounding the Medford "village" is somewhat different from the case study towns. First, unlike Hightstown or Mount Holly which straddle major highways, Medford is located in the Pinelands Reserve at the end of a line of residential communities. Second, Route 541 does not provide access to regional destinations; and third, truck traffic appears not to be an issue on Route 541 through Medford "village."

Traffic and circulation

As previously noted, considerable traffic passes through Medford "village." A majority of Medford observers (9 out of 13 respondents) felt that there was too much traffic on the main street and an overwhelming majority (11 respondents) believed that traffic had increased over the last five to ten years. While slim majorities felt that a bypass would divert traffic (7 respondents) and pedestrians (9 respondents) from the main street, they were not in favor of building a bypass.

Land use and economic development

Unlike the downtowns of Mount Holly and Pemberton, downtown businesses in Medford have prospered in recent years. Medford "village" has successfully remade itself into a niche-market shopping attraction for both local residents and visitors from other communities. As Mr. Remsa, the county director of Economic Development and Regional Planning, observed, the "village" is a shopping destination. Despite the reservations of the business owners and employees over downtown traffic, it is possible that the "village" benefits from through traffic, particularly because this traffic is forced to slow down due to congestion and parking on both sides of the street.

The lack of a bypass road to relieve congestion along Route 541 did not prevent Medford Township and surrounding communities from experiencing significant residential development in the 30-year period since 1970. Future growth in Medford has been slowed by Pinelands development restrictions and the township's decision not to expand wastewater treatment capacity. Furthermore, local opposition to "big box" commercial development has helped to limit strip type development along Route 70.

Social and Community

Although downtown businesses have prospered in recent years, it is significant to note that socio-economic conditions in the "village" are weaker than that of Medford as a whole. An analysis of detailed census data for the census block group (CBG) that includes the "village" reveals conditions only somewhat better than those in Hightstown, Mount Holly and Pemberton. For example, as shown in Table 6-3, residents living in the

“village” CGB are less educated, more likely to be minority, have a lower household income, are more likely to be unemployed, more likely to be living in poverty, and more likely to be renters than their counterparts in the rest of the township. Further, median home values in the “village” CGB are significantly less than in the township overall. These findings suggest that other socio-economic forces may be more important than local congestion and the presence or absence of a bypass road in shaping local demographic conditions.

When asked if they thought a bypass road would benefit Medford, local observers were evenly split (6-6) on whether they believed a bypass would have positive or negative impacts on the community as a whole.

CONCLUSIONS

The findings of this study support many of the conclusions drawn from previous studies, including:

- Bypass roads can improve local traffic and circulation conditions by diverting through-traffic and trucks from downtown streets. This was true to varying degrees in all three cases examined in this study.
- Through-traffic and trucks may not divert to the bypass if the route is longer and/or more circuitous. This was evidenced by the Route 133 (Hightstown) Bypass case study, where trucks continue to travel through downtown Hightstown because, despite congestion, the route is shorter and more direct.
- Land development and economic activity along new bypass roads can be effectively controlled by access and/or development restrictions. This was evident for all three bypass roads examined.

As noted in Chapter 1, most prior studies examining bypass impacts have focused on rural settings. This study examined bypasses in a developing suburban context. Consequently, it was more difficult to identify and attribute impacts directly to bypass construction. For example, studies of rural bypasses have concluded that, absent development controls, bypass roads may foster new development along their route; it appears from this study that bypass roads in a developing suburban context may also foster new housing and commercial development by improving access to regional transportation facilities, destinations and employment/labor markets. This relationship, however, is difficult to disentangle from other economic forces and local development policies which also play an important role.

The Route 133 (Hightstown) Bypass illustrates this point. Significant residential and commercial growth in surrounding communities already had been underway for decades before the bypass opened, due to a variety of location factors, available water and sewer infrastructure, and strong economic development policies. These growth patterns have continued in the five years since the bypass opened. The degree to which the bypass influenced these pre-existing trends is difficult to discern.

In addition, bypasses in a suburban context do not appear to significantly affect demographic and socio-economic conditions in the bypassed community. Other factors appear to exert more influence. This is best illustrated by the control case of Medford where demographic and socio-economic conditions in the “village” CGB are

demonstrably weaker than those of the township as a whole and more similar to those of the bypass cases (see table 6-3).

Finally, but very significantly, this study indicates that in a “home rule” state such as New Jersey, competing municipal interests may undermine the functioning of the bypass for its stated purpose. Again, the Route 133 (Hightstown) Bypass case is illustrative. Throughout the planning process for the Route 133 Bypass, officials from East Windsor fought to ensure that traffic relief for Hightstown did not adversely affect East Windsor. Of particular concern was truck traffic. As a result of its advocacy, East Windsor has successfully prevented signs from being posted that would direct trucks to use the bypass, limiting the effectiveness of the highway project in diverting trucks out of Hightstown.

POLICY CONSIDERATIONS FOR FUTURE BYPASS PLANNING

The findings of this study highlight a number of important policy considerations that should be addressed when planning future bypass routes in a developing suburban context. First, although local traffic relief is an important community goal, the regional implications should also be considered. This is especially true if the bypass will improve accessibility to regional transportation facilities, destinations and employment/labor markets.

Second, to ensure maximum benefit from new transportation infrastructure, access and/or development controls should be used to limit growth along the bypass route and at interchanges. This will maximize the capacity of the bypass road to accommodate current and future travel demand.

Third, it must be understood that improving local traffic and circulation conditions in a downtown alone may not foster new business activity or bring about community revitalization. Bypass construction should be coupled with sound economic development planning and other community development strategies targeted to improve overall socio-economic conditions.

Finally, potential interjurisdictional impacts should be considered and addressed as part of the bypass planning process. This is particularly important when a bypass road designed to provide traffic relief for one community is constructed in whole or in part in another community. Investment of public resources in a bypass should be used as an opportunity to promote multi-jurisdictional cooperation.

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APPENDIX

1. Are you a resident of _____?

YES

NO

DON'T KNOW

....If YES, go to QUESTION 2; if NO, go to QUESTION 27

2. Since what year have you been in _____?

...if before bypass completion in _____, go to QUESTION 3; if after bypass completion in _____, go to QUESTION 16

3. Were you aware of the original proposal to construct the bypass?

YES

NO

DON'T KNOW

...if YES go to QUESTION 4; if NO skip to QUESTION 8

4. Were you aware of any public meetings or consulted by any public officials about the project?

YES

NO

DON'T KNOW

5. What was your level of involvement in the planning of the bypass project?

HIGH

MODERATE

LOW

NONE

6. Were you in favor of the bypass proposal?

YES

NO

DON'T KNOW

7. How did you feel the bypass would impact the main street area?

POSITIVELY

NEGATIVELY

NO CHANGE

8. Now that the bypass has been built in _____, how do you feel the main street business has been affected (i.e. new businesses opened/closed, improved storefronts, generally better/worse business)?

POSITIVELY

NEGATIVELY

NO CHANGE

9. Specifically, have you noticed that more pedestrians are present on the main street since the bypass was completed in _____?

MORE PEDS

FEWER PEDS

NO CHANGE

10. Were you just passing through the area or were you coming somewhere specific?

PASSING THROUGH

SPECIFIC DESTINATION _____

11. Do you now frequent the main street businesses more or less than you did before the bypass was constructed?

MORE

LESS

NO CHANGE

12. Which businesses on the main street do you use?

13. Were these businesses around before the bypass was completed in _____?

YES

NO

DON'T KNOW

14. More generally, how do you feel the bypass has affected the community (i.e. better community relations; better business; more outsiders, etc.)?

POSITIVELY

NEGATIVELY

NO CHANGE

15. Is there seemingly more or less traffic on the main street since the bypass was completed in _____?

MORE TRAFFIC

LESS TRAFFIC

NO CHANGE

SKIP TO QUESTION 17

16. Which businesses on the main street do you use?

17. What types of vehicles are most prominent on the main street?

SEMI-TRUCKS

CARS

BIKES/PEDS

18. Do you think the following additions would make the main street more attractive?

MORE RESTAURANTS / COFFEE SHOPS	YES / NO
MORE SPECIALTY STORES (crafts, antiques, etc.)	YES / NO
IMPROVEMENTS TO STREETScape	YES / NO
OTHER _____	

19. Do you feel that more pedestrian traffic would bring in more customers to the main street businesses?

YES	NO	DON'T KNOW
-----	----	------------

20. Similarly, are you aware of any new businesses that have opened on the main street in the last few years?

YES	NO	DON'T KNOW
-----	----	------------

21. If so, which ones?

22. How often do you drive the bypass yourself?

EVERY DAY
MORE THAN ONCE A WEEK
ABOUT ONCE A WEEK
ABOUT ONCE A MONTH
NEVER

23. Do you use any businesses on or near the bypass area?

YES	NO	DON'T KNOW
-----	----	------------

24. If so, which (if any) of these do you use?

25. Do you now use any businesses near the bypass area (or at the ends of the bypass) that you used to use on the main street?

YES _____	NO	DON'T KNOW
-----------	----	------------

26. Where are you from?

BORDERING TOWN

SAME COUNTY

OUTSIDE COUNTY

27. What types of vehicles are most prominent on the main street?

SEMI-TRUCKS

CARS

BIKES/PEDS

28. Do you think the following additions would make the main street more attractive?

MORE RESTAURANTS / COFFEE SHOPS

YES / NO

MORE SPECIALTY STORES (crafts, antiques, etc.)

YES / NO

IMPROVEMENTS TO STREETScape

YES / NO

OTHER _____

29. Do you feel that more pedestrian traffic would bring in more customers to the main street businesses?

YES

NO

DON'T KNOW

30. Similarly, are you aware of any new businesses that have opened on the main street in the last few years?

YES

NO

DON'T KNOW

31. If so, which ones?

32. How often do you drive the bypass yourself?

EVERY DAY

MORE THAN ONCE A WEEK

ABOUT ONCE A WEEK

ABOUT ONCE A MONTH

NEVER

33. Do you use any businesses on or near the bypass area?

YES

NO

DON'T KNOW

34. If so, which (if any) of these do you use?

35. Will you ever possibly come back to shop on the main street?

DEFINITELY

PROBABLY

MAYBE

NEVER

Business Owner / Proprietor Survey

1. What is your position in this business?

OWNER

EMPLOYEE

OTHER

2. Are you from _____?

YES

NO

DON'T KNOW

3. How long have you been in _____?

_____ YEARS

4. How long have you owned/worked in _____?

_____ YEARS

5. How old is the business itself?

_____ YEARS

....If BEFORE bypass completion, go to QUESTION 6; if AFTER bypass completion, skip to QUESTION 21:

6. Were you aware of the original proposal to construct the bypass?

YES

NO

DON'T KNOW

....If YES go to QUESTION 7; if NO skip to QUESTION 12

7. Were you aware of any public meetings or consulted by any public officials about the project?

YES

NO

DON'T KNOW

8. What was your level of involvement in the planning of the bypass project?

HIGH

MODERATE

LOW

NONE

9. Were you in favor of the bypass proposal?

YES

NO

DON'T KNOW

10. How did you feel the bypass would impact the main street area?

POSITIVELY NEGATIVELY NO CHANGE

11. How did you feel the bypass would impact your business in particular?

POSITIVELY NEGATIVELY NO CHANGE

12. Now that the bypass has been built in _____, how do you feel main street business has been affected (i.e. new businesses opened/closed, improved storefronts, generally better/worse business)?

POSITIVELY NEGATIVELY NO CHANGE

13. Specifically, how has pedestrian traffic been affected on the main street?

MORE PEDS FEWER PEDS NO CHANGE

14. Have you noticed more/fewer customers coming into your store?

MORE FEWER NO CHANGE

15. More generally, how do you feel the bypass has affected your business (i.e. physical building improvements, more/fewer revenues, etc.)?

POSITIVELY NEGATIVELY NO CHANGE

16. Before the bypass was constructed in _____, were your customers generally local residents or people traveling through?

MORE RESIDENTS MORE TOURISTS EVEN MIX

17. Since the bypass was constructed in _____, are your customers generally local residents or people traveling through?

MORE RESIDENTS MORE TOURISTS EVEN MIX

18. Is there seemingly more or less traffic on the main street since the bypass was completed in _____?

MORE TRAFFIC LESS TRAFFIC NO CHANGE

19. What types of vehicles are most prominent on the main street?

SEMI-TRUCKS CARS BIKES/PEDS

20. How has the large-truck traffic been affected on the main street since the bypass was completed in _____?

MORE TRUCKS

FEWER TRUCKS

NO CHANGE

...If NOT around before bypass construction:

21. Did you come to _____ to open your business?

YES

NO

DON'T KNOW

22. Are you satisfied with the business environment on the main street?

YES

NO

DON'T KNOW

23. Do you feel that more vehicular traffic would bring in more customers to your business?

YES

NO

DON'T KNOW

24. Do you feel that more pedestrian traffic would bring in more customers to your business?

YES

NO

DON'T KNOW

25. If there were no bypass, do you feel like your location on the main street would be more attractive?

YES

NO

DON'T KNOW

26. Have you ever considered relocating to another area to open your business?

YES

NO

DON'T KNOW

27. If commercial business were allowed on the bypass, would you consider relocating there?

YES

NO

DON'T KNOW

28. How often do you use the bypass yourself?

EVERY DAY

MORE THAN ONCE A WEEK

ABOUT ONCE A WEEK

ABOUT ONCE A MONTH

NEVER

Resident / Visitor Survey (Medford)

1. Are you a resident of Medford?

YES

NO (go to QUESTION 3)

DON'T KNOW

2. Since what year have you been in Medford?

3. Were you just passing through the area or were you coming somewhere specific?

PASSING THROUGH

SPECIFIC DESTINATION _____

4. Which businesses on the main street do you generally use?

5. How do you feel about the amount of traffic on the main street?

TOO MUCH

TOO LITTLE

JUST RIGHT

6. Hypothetically, if there were plans to construct a North-South running bypass around the center of Medford, would you be in favor of it?

YES

NO

DON'T KNOW

7. Do you feel that less vehicular traffic would occur if there were a bypass around the main street?

YES

NO

DON'T KNOW

8. Do you feel that less pedestrian traffic would occur if there were a bypass around the main street?

YES

NO

DON'T KNOW

9. Generally, how do you feel a bypass route would impact the main street area?

POSITIVELY

NEGATIVELY

NO CHANGE

10. How do you feel the construction of a bypass would affect the community of Medford as a whole (i.e. better community relations; better business; more outsiders, etc.)?

POSITIVELY

NEGATIVELY

DON'T KNOW

11. How often do you frequent these businesses on the main street?

SEVERAL TIMES A MONTH

ONCE A MONTH

MORE THAN ONCE A WEEK

ONCE A WEEK

NEVER

12. Does it seem as if the traffic on the main street has increased over the last 5 to 10 years?

MORE TRAFFIC

LESS TRAFFIC

NO CHANGE

13. Do you think the following additions would make the main street more attractive?

MORE RESTAURANTS / COFFEE SHOPS

YES / NO

MORE SPECIALTY STORES (crafts, antiques, etc.)

YES / NO

IMPROVEMENTS TO STREETScape

YES / NO

OTHER _____

14. Are you aware of any new businesses that have opened on the main street in the last few years?

YES

NO

DON'T KNOW

15. If so, which businesses?

16. Why are you here in Medford?

SHOPPING

BUSINESS PASSING THROUGH

OTHER

17. Will you ever possibly come back to shop on the main street?

DEFINITELY

PROBABLY

MAYBE

NEVER

Business Owner / Proprietor Survey (Medford)

1. What is your position in this business?

OWNER

EMPLOYEE

OTHER

2. Are you from Medford?

YES

NO

DON'T KNOW

3. How long have you been in Medford?

_____ YEARS

4. How long have you owned/worked in Medford?

_____ YEARS

5. How old is the business itself?

_____ YEARS

6. Did you come to _____ to open your business?

YES

NO

DON'T KNOW

7. Are you satisfied with the business environment on the main street?

YES

NO

DON'T KNOW

8. Are you aware of any new businesses that have opened on the main street in the last few years?

YES

NO

DON'T KNOW

9. Have you ever considered relocating to another area to open your business?

YES

NO

DON'T KNOW

10. How do you feel about the amount of traffic on the main street?

TOO MUCH

TOO LITTLE

JUST RIGHT

11. Does it seem as if the traffic on the main street has increased over the last 5 to 10 years?

MORE TRAFFIC

LESS TRAFFIC

NO CHANGE

12. Hypothetically, if there were plans to construct a North-South running bypass around the center of Medford, would you be in favor of it?

YES

NO

DON'T KNOW

13. Do you feel that less vehicular traffic would occur if there were a bypass around the main street?

YES

NO

DON'T KNOW

14. Do you feel that less pedestrian traffic would occur if there were a bypass around the main street?

YES

NO

DON'T KNOW

15. Generally, how do you feel a bypass route would impact the main street area?

POSITIVELY

NEGATIVELY

NO CHANGE

16. How do you feel the bypass would impact your business in particular?

POSITIVELY

NEGATIVELY

NO CHANGE

17. How do you feel the construction of a bypass would affect the community of Medford as a whole (i.e. better community relations; better business; more outsiders, etc.)?

POSITIVELY

NEGATIVELY

DON'T KNOW

18. Do you think the following additions would make the main street more attractive?

MORE RESTAURANTS / COFFEE SHOPS

YES / NO

MORE SPECIALTY STORES (crafts, antiques, etc.)

YES / NO

IMPROVEMENTS TO STREETScape

YES / NO

OTHER _____

19. What types of vehicles are most prominent on the main street?

LARGE TRUCKS

CARS

BIKES/PEDS

INTERVIEW: Public Officials Survey

Introduction....Please tell us a bit about the bypass. When was the bypass built? What were the goals of the project? Is there any documentation of the project?

What was your initial impression of the bypass proposal?

Were you concerned with any possible negative impacts when the bypass project was announced? What actions (if any) were planned to minimize the potential negative impacts?

What were the possible positive impacts you anticipated when the bypass project was announced? What actions (if any) were planned to maximize the potential positive impacts?

In your opinion, in what ways did the downtown / main street area benefit from the bypass? Specifically, which businesses (or types of businesses) benefited?

Conversely, in what ways was the downtown / main street area adversely affected by the bypass (i.e. less pedestrian traffic, business shutting down, etc.)? Specifically, which businesses (or types of businesses) were adversely affected?

What other issues were present that may have affected the downtown? What has been the impact on land uses (increased? decreased?) Has the existence of the bypass generated additional traffic flows to the area and the connecting roads? Also, what has the effect been on truck traffic flows? On safety (# of accidents)?

What new businesses were created in the areas near the bypass (on map)? Have businesses closed or relocated? Who owns these new businesses?

Given the benefit of hindsight, did any of your concerns come to pass? If so, do you feel it was the result of the bypass project or other factors?

What was your level of involvement in the bypass project?

What was the level of citizen involvement in the bypass project?