

Our transportation network is one of the key forces shaping land use patterns and affecting the landscape in Hunterdon County. This is especially true of our road system, which is the principal transportation infrastructure in the County. Our roads are here and they are here to stay. As growth continues to spread out, so to will the volume of traffic and distances traveled, particularly if we continue to use the car as the predominant mode of travel and if we continue to drive alone. The critical issue is how we balance the need for a safe and efficient roadway system against growing concerns about traffic congestion, volume and safety, environmental impacts and loss of community character.

County Profile—Transportation

The Regional Context

Although Hunterdon County is located between the New York and Philadelphia metropolitan areas, it remained relatively unchanged during the first half of the 20th century, even as these cities expanded outward. Most residents were involved in agriculture or its support services. Those that did commute to jobs in New York, Newark and Philadelphia generally did so by train. The roadway network of the County remained much as it had been for most of the preceding century. Old York Road was the primary route from Philadelphia to New York dating to Colonial times. Route 22 was built in 1806 as the New Jersey Turnpike connecting New Brunswick and Easton. The first State roadway was built in the County in the 1920's when what is now know as Route 31 was constructed to link Trenton with the northwestern part of the State. The remainder of the highway network was comprised of mostly local roads linking the small towns throughout the County and providing access from farms to nearby villages and hamlets.

All of this changed in the late 1960's with the opening of I-78 in the northern part of the County. The Interstate Highway System was a post World War II initiative intended to facilitate the movement of homeland defense forces throughout the country. The unintended consequence of this nationwide highway construction program was to open up land on the fringes of metropolitan areas to development that had previously been too remote.

During the 1970's Hunterdon County became an attractive bedroom community for employees relocating to the numerous office parks which were springing up along the I-78 and I-287 corridors to the east. Land was relatively cheap and the recently completed Interstate highway was functioning at virtually free-flow conditions at all times. The unspoiled rural ambience of the County was an additional incentive for those seeking to relocate from the post-World War II suburbs which were beginning to age.

When I-78 first opened in Hunterdon County, complete access to all destinations east was not possible as a result of a missing link in the Watchung Reservation in Union County. With the completion of the last section of I-78 in 1987, employment centers located in the I-78 corridor in Hunterdon were now less than an hour from Newark International Airport and the Turnpike. Despite an economic slowdown in the early 1990s, both residential and employment growth continued unabated in the County.

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Our Roadway Network

The balance of our roadway network in the County consists of a hierarchy of State, County and municipal roads. State highways are designed to carry traffic between regions of the State. There are approximately 103 miles of State highways in the County. The primary function of the County road network is to provide an adequate and safe level of regional accessibility between municipalities and adjoining counties. The County road network serves to collect traffic from local roads and links these trips to other County roads and State highways. Approximately 240 miles, or 16% of the public road mileage in the County, is under County jurisdiction. Municipal roads primarily serve residential and rural areas of the County. Currently there are nearly 1,100 miles of local roads under municipal jurisdiction. This mileage can be expected to increase with new residential development. While these new residential streets are initially built by the developer, they ultimately become a municipal maintenance responsibility.

The roadway network that exists today will likely have to handle future traffic without significant expansion. As I-78 approaches capacity, it is highly unlikely that additional lanes will be added. Improvements at interchanges to accommodate traffic generated by new development will be built through public-private partnerships. A County study has addressed the need to complete the critical interchange of I-78 and Route 31 in Clinton Township. Plans are advancing to build a congestion mitigation project in the Flemington area to separate local and through traffic on the heavily congested section of Route 31 north of the Flemington Circle. The Circle itself is scheduled to be replaced as a part of this project.

The County has a routine maintenance plan for roads under its jurisdiction. On a regular cycle the County resurfaces its roads. Included in this maintenance work are drainage improvements where required and changes to road geometry when safety is a concern. No new County roads are planned, although added capacity may be a reality in select locations in the future. The County also has responsibility for all bridges and drainage structures in the County whether they are located on County or local roads. Many of these structures were built before the days of the automobile. Balancing the need to maintain them in useful condition while respecting their historic character is a major challenge.

The Automobile



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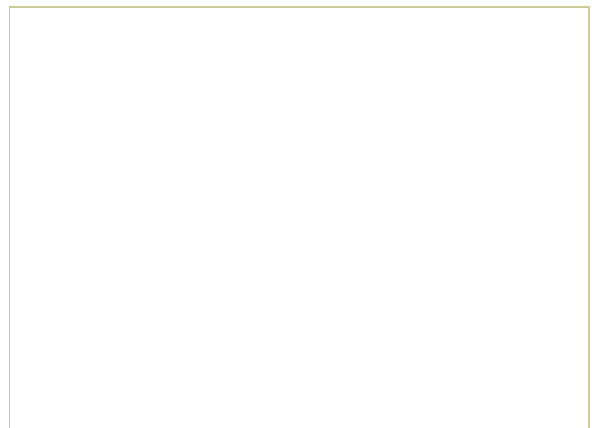


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Whether we like it or not, the automobile is by far the most prevalent form of transportation utilized in Hunterdon County. It is estimated that of the average ten trips generated by the typical household, only four are for work purposes. We use our cars to get to work, to shop, to run errands and to transport our children to their many activities. New single-family homes being built in the County today usually have a three-car garage, an indicator of how reliant our lives have become on the automobile. Hunterdon County has more cars per household than New Jersey overall (Table 1). These statistics support the belief that the State as a whole, and Hunterdon County even more so, is reliant on the automobile.

This dependence on the car is directly related to the land use patterns that characterize most of the County. We live on large lots beyond walking distance of jobs, community facilities and retail services. Residential neighborhoods are often cul-de-sacs without any direct connection between them necessitating a car trip to get from one to another. Current zoning strictly segregates residential and nonresidential permitted uses so that it is almost always necessary to rely on the car to get from one to the other. The exception to this is our towns and villages. These communities evolved prior to the days of the automobile so mixed uses close together were a necessity.

Number of Vehicles	New Jersey	Hunterdon County
No vehicles	4.9%	2.0%
1	28.7	18.2%
2	46.5	51.4%
3	14.6	20.5%
4	4.1	5.6%
5	1.3	2.4%
Vehicles per Household	1.9	2.2

Table 1. Vehicles per Owner-Occupied Housing Unit, 2000.
Primary data source: U.S. Census.

The greatest congestion on our roads is found during the morning and afternoon commuting times. Traditional traffic engineering evaluates volumes of traffic during the morning and evening “peak hours”, usually 7:00 to 8:00 AM and 5:00 to 6:00 PM. In Hunterdon County “peak periods” are used to evaluate congestion during commuting times. More than 60% of County residents leave for work between 6:30 and 8:30 AM, not much different than the rest of the State.

While the ever increasing County population is a major component of the peak period traffic on our roadways, commuters passing through the County from Pennsylvania and other regions of the State are a significant contributing factor. The number of

Pennsylvania license plates seen on Routes 202, 12 and I-78 in the morning attests to this. Traffic volumes on roads leading to I-78 interchanges, such as Routes 31 and 517, have some of the highest rates of traffic growth of any roads in the County and much of this traffic is coming from Warren and Morris Counties. As congestion increases on the major commuter routes, the impact is experienced on County and local roads where alternate routes are sought. These roads, which are intended to deliver local traffic to the major commuter routes, are currently experiencing greater volumes of traffic during commuting hours as a result of new residential development within the County. The additional non-County commuter traffic seeking alternatives to the already congested major highways is accelerating the rate of congestion on these roads.

Trucks

Truck traffic has become a concern to County residents over the past decade. I-78 is a major route to the Ports of Newark and Elizabeth. With the growth of containerized shipping at the ports, the Interstate highway has been impacted by an increased volume of truck traffic with either an origin or destination at the shipping terminals. A recently developed multimodal transportation center on the Lehigh Valley facilitates removal of cargo containers from trains and their transport by trucks for the final leg of their trip to the port. This will increase truck traffic on I-78 even more. The highway is also a convenient route to the New York metropolitan area from points west.

Of more concern to County residents is the increase in the number of trucks on State, County and local roads. Much of this growth in truck traffic is attributable to development in the County. An expanding population has generated a

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demand for new retail services that rely on trucks. Residential development is accountable for much of the truck traffic we experience daily. It is estimated that each new home generates over 200 truck trips during the course of construction.

Of greater concern, however, is truck traffic that has neither an origin nor a destination in the County but is traveling through the County in order to avoid Turnpike tolls or greater congestion on more direct routes. With the completion of I-287 in northern New Jersey in the mid-1990's, there was a dramatic increase in truck traffic on Route 31 in the County as truckers found an alternative route around the metropolitan area.

Transit

Even with the job growth the County has experienced over the last two decades, a majority of the County residents commute to jobs outside Hunterdon (58.9%). More than 82% of Hunterdon residents travel to work alone with an average commute time of 33.5 minutes. There are several reasons for the extremely low percentage of County residents who use public transit for commuting purposes (1.7%). The only intra-County public transportation is primarily designed to serve the handicapped and disadvantaged populations. The inter-County service available from Hunterdon is almost exclusively to Newark and New York City. This service does not meet the needs of County residents who travel to jobs along the Interstate corridors to the east.

Bus service within the County is provided by a County-run system known as The Link. Since its inception in 1984, the nature of its service has evolved. Originally, The Link was a para-transit provider taking the elderly and physically challenged to medical appointments, jobs and grocery shopping. In recent years its mission has been expanded to service to the general public. Marketing strategies are specifically focused on teenagers who do not yet drive or have no access to a car.

Station	2001 Average Daily Boardings
High Bridge	53
Annandale	57
Lebanon	19
Whitehouse	83
Raritan (Somerset Co.)	639
Somerville (Somerset Co.)	723

Table 2. Raritan Valley Line Ridership.
Primary data source: NJ Transit.

Bus service is provided by Trans-Bridge Lines from both the I-78 corridor and the Lambertville, Frenchtown and Flemington areas to Newark Airport and New York City with frequent service during commuting hours and somewhat limited service during the rest of the day. NJ Transit operates a single bus each day from Lambertville to the Trenton area.

Passenger rail service in Hunterdon County is provided by NJ Transit's Raritan Valley Line. The western terminus of the Raritan Valley Line is at High Bridge. Other stops in the County are at Annandale, Lebanon and Whitehouse Station. Service terminates at Newark's Penn Station where riders can switch to trains destined for New York or Newark Airport. Ridership on the Raritan Valley Line is low in Hunterdon County (Table 2). This is attributable to the fact that there are only four eastbound trains in the morning and one in the afternoon. Ridership increases significantly where more frequent service is provided from Somerset County and stations east.

Park-and-ride lots serve both passengers using bus and rail as well as those who carpool. In addition to modest lots at the four rail stations along the Raritan Valley Line, commuter lots are found in Frenchtown, Flemington, Clinton Township and Union Township. In Clinton Township, the demand for parking spaces at the two park-and-ride lots exceeds the number available. The County is working with the Township, the New Jersey Department of Transportation and New Jersey Transit to identify alternate locations for an expanded park-and-ride facility. Ideally, a new facility would serve both bus and train service at one location. This concept of a transit center would be an incentive for expanded service on the Raritan Valley Line in the County. As congestion increases on all of the major roadways in the County, park-and-ride lots will become an attractive alternative for commuters no longer willing to

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drive alone.

Hunterdon Area Rural Transit (HART) is the transportation management association (TMA) serving Hunterdon County. TMA's are public-private partnerships formed to promote ridesharing and to address traffic/transportation issues. HART's mission is to provide programs and services that promote and support alternatives to single occupancy vehicle commuting and encourages the integration of travel demand management into planning efforts. Travel demand management programs are strategies municipalities can utilize for managing traffic congestion through the use of carpooling, vanpooling, public transportation, telecommuting and flextime.

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Bicycles

Hunterdon County has become a popular area for biking enthusiasts. Opportunities exist for all types of bicyclists. State and County roads present challenges for the avid rider. Meandering local roads offer an unsurpassed visual experience for the recreational cyclist. The D&R Canal State Park offers a popular riding trail that is suitable for families with small children.

In 1997 the Hunterdon County Planning Board prepared the *County Road Bicycle Facility Assessment* that identified roads and activity centers that could be linked together in a network of bicycle routes. It established criteria by which road segments should be analyzed in order to seek funding for bikeway construction. In 2001 the County Planning Board adopted the *Hunterdon County Bicycle and Pedestrian Element* of the County Transportation Plan to be used as the basis for seeking funding to implement a bikeway plan in the County.

Bikeways along the County's roadways provide a safer environment in which to bike. With the increased popularity of bicycling in the past decade, conflicts often occur between bicycles and cars on all types of roads in the County. Drivers become frustrated with cyclists on narrow country roads who have no alternative to riding in the cartway since shoulders do not exist. Parents are reluctant to allow children to ride to friends, school and sports activities fearing for their safety. Properly designed bikeways ensure a safe environment in which to bike and have the potential for reducing the number of car trips when parents are comfortable allowing children to ride rather than driving them.

Airports

There are three general aviation airports located in Hunterdon County—Alexandria, Sky Manor and Solberg-Hunterdon. General aviation airports are those facilities that do not serve regularly scheduled commercial or military aircraft. Airports are classified in

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terms of the services they provide. At the top of the service hierarchy are scheduled service airports. Newark-Liberty International, Trenton-Mercer and Lehigh Valley International are the closest such airports to Hunterdon County. Advance service airports handle corporate aircraft. Currently there are no advance service airports in Hunterdon, Somerset, Middlesex or Mercer Counties. The three Hunterdon County airports are currently classified as general service airports.

Alexandria Field, located in Alexandria Township, is used primarily for recreational purposes. The owners also operate a flight school. Sky Manor Airport, also located in Alexandria Township, is somewhat unique in that it resembles an air park where homeowners surrounding the airport own their own planes and can taxi right from their homes onto the airport property. Solberg-Hunterdon, located in Readington Township, is designated as a “reliever airport.” A reliever airport allows smaller aircraft to operate within hub airport space like Newark, Kennedy and Philadelphia without having to compete for landing times on their runways.

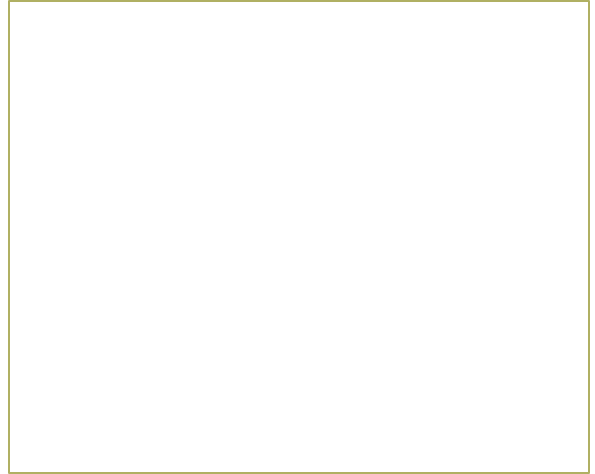


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These airports have been in existence for decades in Hunterdon County and help to define the character of our area. However, proposed expansions have not necessarily met with unanimous support. A recent proposal to expand service at Solberg Airport was vehemently resisted by many, not only in Readington Township, but even in surrounding communities outside of Hunterdon County. Proposed improvements would accommodate a higher volumes of air traffic and larger planes. Opponents feared the impact on “quality of life” that would result. NJDOT has expressed interest in acquiring the privately-owned Solberg Airport but there has been no further action to date.

County Road and Bridge Improvements


With over 240 miles of County roads and several hundred bridges and culverts along County and municipal roads under its jurisdiction, Hunterdon County spends a significant portion of both its operating and capital budgets on maintaining this transportation infrastructure. Limited funding is available from state and federal sources to supplement County funds.

Annual traffic counts taken on County roads document the steady increase in volume on most County roads (Map 1). This annual rate of increase ranges between 2% and 5%. On County Route 517 north of Oldwick, the average daily volume of traffic is nearly 14,000 cars. This increase is attributable to both development within the County as well as regional traffic passing thorough the County. As congestion increases on the State highway system, commuters traveling through the County seek alternate routes. County roads are often an attractive alternative. These alternate commuting routes may be longer in terms of mileage traveled, but the time savings make them attractive none the less.

The County has a responsibility to maintain a “safe and efficient” County road system. Most County residents have a strong desire to see the County retain as much of its rural ambiance as possible. The challenge of balancing these often conflicting goals is one of the greatest that County officials are confronted with. Improvements to County roads are based on current traffic volumes and not on future projections. With the cumulative annual increase of traffic on most roads, what may seem like major capacity improvements are actually only designed to address current conditions. Typical roadway projects involve resurfacing, correcting deficient drainage, paving shoulders when necessary and improving visibility.

The American Association of State Highway Transportation Officials (AASHTO) publishes national guidelines and

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standards for highway and bridge design. Since the County can potentially be liable for unsafe conditions on its roads and bridges, improvements are designed consistent with AASHTO. When federal funds are used on a road or bridge project, federal design guidelines and standards must be used, but unfortunately, they are usually not flexible enough to permit the design to respond to local concerns. Where flexibility in design exists, sensitivity to local concerns and desires is critical. Trees are one issue of great concern to County residents. As new developments take access from County roads, adequate visibility along the roadway is important for the safety of those travelling the road as well as those entering the road. In order to attain adequate sight distance, trees and shrubbery may be required to be trimmed or removed. This visual impact on the roadways is often resisted as having a negative impact on our rural character. Concerns are often voiced over intersection

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improvements and to the straightening of bad curves along County roads. These changes are triggered by the steady increase in traffic on our County roads resulting from development throughout the County.

As with roads, changes to bridges necessitated by the growth of traffic in the County are often a contentious issue. Hunterdon County has jurisdiction over most bridges and culverts in the County whether they are located on a County or municipal road. Many of these structures were built in the 19th Century before the days of automobiles. A majority of the older bridges also suffer from weather conditions – winds, salt and rain – causing a slow deterioration of bridge components. In a study completed in 1998, over 100 stone arch bridges and culverts were identified in the County, making this the largest concentration of stone arch bridges in North America. A similar study of metal truss bridges awaits funding.

The *Hunterdon County Bridge Management Plan*, currently in preparation, will be a comprehensive inventory of County-owned bridges and policies used for making decisions regarding the maintenance, repair, preservation and reconstruction of County bridges. The comprehensive data in the Plan will give the County the ability to effectively balance its obligation to provide a safe and efficient bridge and roadway system with the public's interest to preserve and protect the scenic and historic characteristics of bridges.

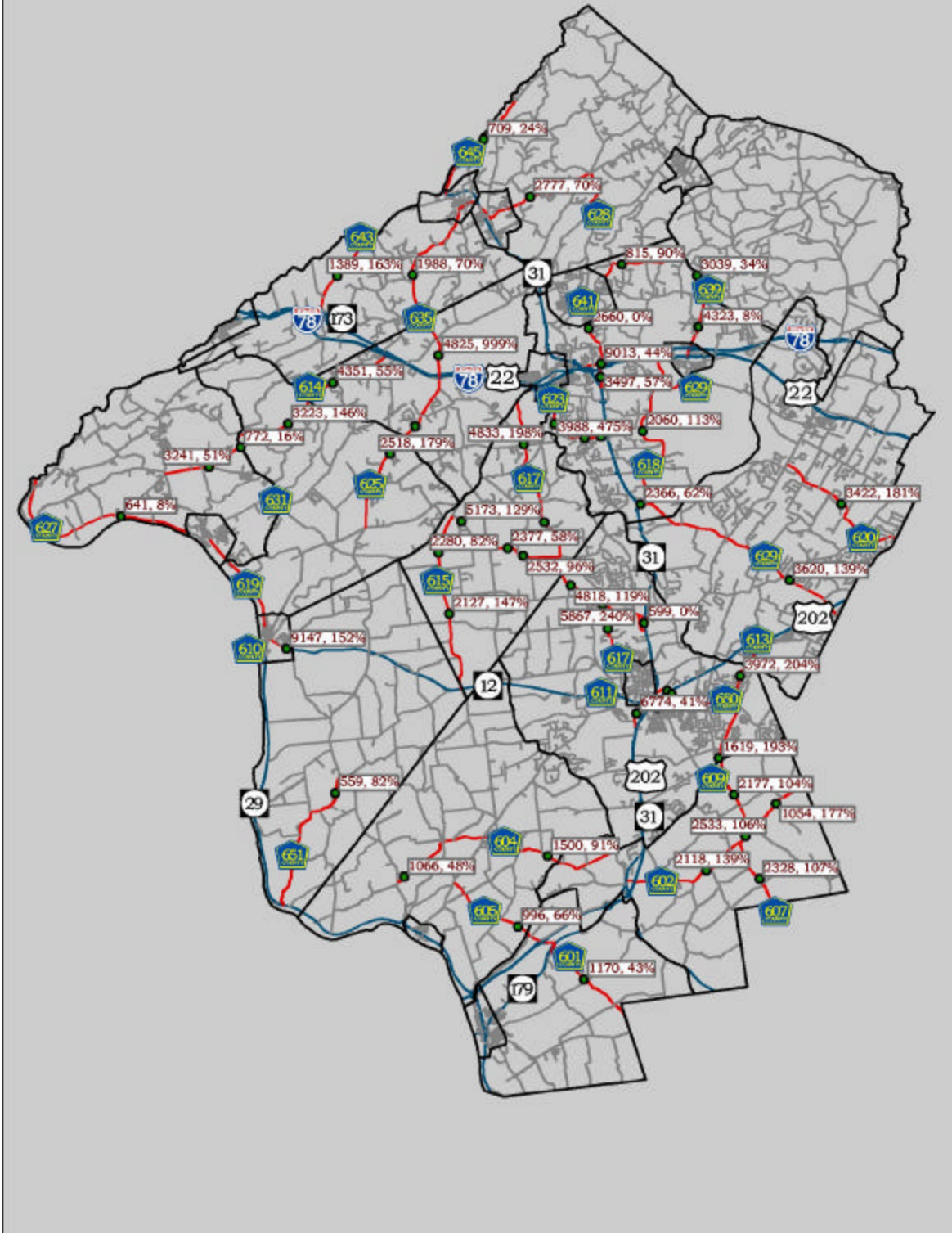
Hunterdon County bridges are managed using a three-tier approach. Based upon the historical significance of the bridge and the functional classification of the road, every County bridge is assigned one of the following bridge management approaches: preservation, rehabilitation or reconstruction. The preservation approach places a premium on retaining all historic fabric through conservation, maintenance and repair. Rehabilitation emphasizes the retention and repair of the unique features of the bridge, but more latitude is provided for possible widening and strengthening. Reconstruction indicates that bridges in this category have no historic or unique characteristics and may be repaired or reconstructed as deemed necessary for traffic safety.

Funding for Road and Bridge Improvements

Funding for the maintenance of County roads and bridges is primarily through the County's Capital Improvement Program (CIP). Each year the CIP is prepared by the County Engineering Department, in consultation with the County Finance Department and the County Planning Board, and is adopted by the Freeholders. Needed roadway improvements are prioritized based upon existing traffic volumes, road conditions and accident history. Bridges are prioritized based upon their sufficiency rating and/or level of service criteria. The sufficiency rating classifies bridges according to their safety, serviceability and essentiality for public use. Level of service criteria considers load capacity, clear deck width, vertical overclearance and vertical underclearance. Federal and state funds are available to supplement County funding for a limited number of projects.

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2001 Traffic Counts and Percent Increases from 1980 for 600 Level Roads



Map 2. Change in Traffic Volumes on 600 Level (intra-county) County Roads: 1980—2001.

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to safely access the County road without negatively impacting the existing traffic conditions on that road. Off-tract assessments are also made to mitigate the impact of larger developments on the County road and bridge system.

For major improvements affecting State, County and municipal roads, innovative funding approaches are often utilized. Over 2 million square feet of new office space has been built in the vicinity of the Oldwick Interchange of I-78 over the last 15 years. An additional 2 million square feet has been approved. In order to fund the necessary roadway improvement to accommodate the traffic generated by this new development, a public-private partnership has been formed between the public sector and the development community. In other areas of the County where significant funding will be required to address critical areas of congestion, the County Planning Board has been able to secure funding through the North Jersey Transportation Planning Authority to take the lead in the initial planning for these projects. This preliminary planning work helps to advance these projects on an accelerated basis.

The Challenge

The County has a responsibility to maintain a safe and efficient system of roads and bridges. Traffic generated from within the County as well as that passing through has put a strain on this system. Annual traffic counts document this growth. The County has a programmed cycle for routine maintenance of its roads. Improvements are designed to accommodate existing volumes. Some of the traffic on County roads is attributable to cars and trucks seeking alternatives to congestion on the State highway system. If County roads are not maintained to accommodate existing volumes of traffic, drivers will seek alternative routes on local roads.

It is on the roadways of the County that people are aware on a daily basis of how much the County has changed over the last 30 years. Certainly there are other reminders of the County's rapid growth, such as the high cost of housing, taxes and farmland producing homes rather than corn or grain, but it is traffic on our roads that people experience on a daily basis. In many ways traffic has become the focal point for venting one's frustration with these changes. Addressing improvements to our transportation infrastructure is one of the major challenges facing public officials.

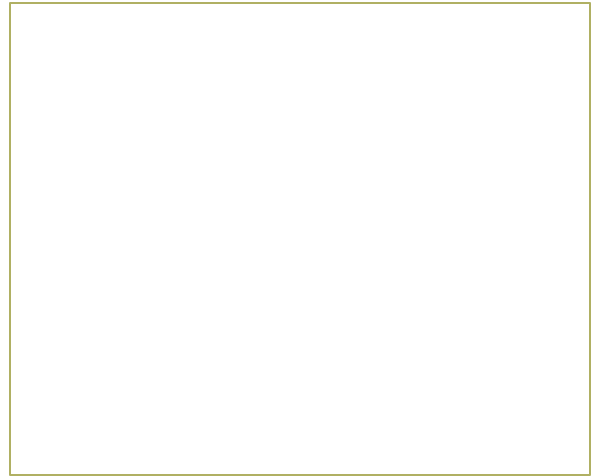


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