

1. Report No. 55657-02-14	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle New York in the New World Economy		5. Report Date January 31, 2003	
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9. Performing Organization Name and Address Region 2, University Transportation Research Center, City College of New York, Y-Building, Room 220, New York, NY 10031 Michael Gallis, Michael Gallis & Associates		10. Work Unit No. 11. Contract or Grant No.	
12. Sponsoring Agency Name and Address New York State Department of Transportation U.S. Department of Transportation 1220 Washington Ave Washington, D.C. Albany, NY		13. Type of Report and Period Covered 14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract <p>The New York State Thruway, Route I-87, from New York to Albany and the Northway from Albany to the New York Canadian Border defines a major transportation corridor promoting commerce, tourism, commuting and a range of other activities. The corridor lies in the Eastern part of New York State; it links New York City to Canada and serves as crossroad points to New England, the Midwest and the South.</p> <p>This report defines this prominent corridor in some detail, highlighting the roles of urbanization and economic activity, the impacts of landform, and the role of transportation. By examining how the corridor responds to activities in three distinct regions, New York City, I84 to the Capital District and the Capital District to the Canadian Border, the report will discuss transportation issues and opportunities. The report is organized to examine the corridor in terms of its connections, globally as well as locally. It then describes the environment the corridor traverses. It then examines economic opportunities and issues, relating these to the three segments of the corridor.</p> <p>The report discusses issues raised in discussions with a body of professionals regarding moving goods and people in and through the corridor. The report concludes with a discussion of opportunities that can enhance both the population and economic activity within this corridor.</p> <p>The project was a pivotal project for New York State DOT. The Office of the Commissioner and Executive Staff used this project and related work by UTRC to focus the DOT on the Global Impacts of their work. Shifting some focus from mainly regional concerns within the State to integrating multi modal issues, NYSDOT wanted to address how both State support of transportation investments and the work of DOT can assist the State in developing capabilities for growth in the new Global Economy. The initial work addressed major transportation corridors in New York State, noting the importance of connectivity within State regions, between States, in the NAFTA Corridor and throughout the Globe. The UTRC Team was asked to use some of these themes in addressing significant organizational change, and has presented these to a number of DOT groups addressing organizational change.</p>			
17. Key Words Transportation, Planning, Strategic Planning, Freight Movement		18. Distribution Statement No restriction	
19. Security Classif (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No of Pages 25	22. Price N.A.



NEW YORK IN THE NEW WORLD ECONOMY

Final Report



A Report for the New York State Department of Transportation

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Sponsored by:

**New York State Department of Transportation
Resource and Risk Management Bureau**

January 31, 2003

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Acknowledgements

This work was sponsored by the New York State Department of Transportation. We are grateful to Mr. Thomas Clash of the New York State Department of Transportation who is our project manager and provided valuable assistance, connections and feedback. Finally, we appreciate the efforts of our distinguished summer research assistants, Sau Mei Lau and Munia Jamil for their work in preparing data analysis, graphs and general assistance on many tasks.

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I-87 Corridor: Final Report

A Report for the New York State Department of Transportation

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Introduction: I87, the New York State Thruway from New York to Albany and the Northway from Albany to the New York Canadian Border defines a major transportation corridor promoting commerce, tourism, commuting and a range of other activities. The corridor lies in the Eastern part of New York State; it links New York City to Canada and serves as crossroad points to New England, the Midwest and the South. This report will define this prominent corridor in some detail, highlighting the roles of urbanization and economic activity, the impacts of landform, and the role of transportation. By examining how the corridor responds to activities in three distinct regions, New York City, I84 to the Capital District and the Capital District to the Canadian Border, the report will discuss transportation issues and opportunities. The report is organized to examine the corridor in terms of its connections, globally as well as locally. It then describes the environment the corridor traverses. It then examines economic opportunities and issues, relating these to the three segments of the corridor. The report discusses issues raised in discussions with a body of professionals regarding moving goods and people in and through the corridor. The report concludes with a discussion of opportunities that can enhance both the population and economic activity within this corridor.

Location: I87 is one of the major Interstate Highways within New York State. It is operated by the New York State Thruway Authority between New York City and Albany, including the Tappan Zee Bridge; from Albany to the Canadian Border, it is operated by New York State DOT and is known as the Northway. The corridor also serves as a weak rail corridor. Passengers are carried by AMTRAK from New York to Albany on a frequent schedule; from Albany north on a less frequent schedule. Metro North Commuter rail travels from New York City to Poughkeepsie. Some rail freight from the South travels to Selkirk and returns to New York City; the basic movement of freight in the corridor is by truck.

The role of the corridor in New York must be seen in terms of how the I87 corridor fits into three networks: regional, national and global. I 87 can be defined by endpoints- New York City, and the Canadian Border. It is also defined in terms of key intersections or nodes: I95, I84, I90, I287 and the Tappan Zee Bridge, the rail Bridge at Selkirk. Each of these nodes has a role in the regional economy:

- I95 is the major national North South Route. It meets I87 in New York City, providing a link to New England through Connecticut.
- I84 is an East West Route with links to I81 and I80 in Pennsylvania. It is a national connection to the Midwest through Pennsylvania. The node, however, is the focus of intense new development in Orange and Rockland Counties and serves as an access point to the regional airport.

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- I90, in New York, the Thruway, is the major route from Boston, through Buffalo to the upper Midwest and to Toronto. This node, in Albany, is marked by congestion, increasing development and growing travel demand.
- I287, the continuation of I87 over the Tappan Zee Bridge serves ever growing demand for work travel predominately between Rockland and Westchester Counties. This growth in commuting has put severe strain on the capacity of the Tappan Zee Bridge.
- The rail bridge at Selkirk has become the major way to bring freight from West of the Hudson into New York City. New Jersey's sustained and growing role as the rail hub, serving both International Cargo at the Port Of New York/New Jersey (Newark), and goods movement from the West and the South, has precluded the development of meaningful or substantial rail freight service into New York City.

But I87 is linked globally at a number of nodes. Global linkages are critical; the United States is becoming a service-based economy. Manufacturing continues to play a declining role in our national (and State) output. The US imports far more goods than it exports to meet national and local demands. These goods range from clothing and cars to beer. The Port of New York is among the top 50 container ports in the world – the biggest, by far, on the East Coast. Goods shipped from Europe and Asia is distributed from the Port all throughout the Northeast – but most remain in the New York City region. The I87 corridor moves goods from the Port to both New England and Montreal. Many of the trucks on the I87 corridor, from the Port are through to Canada – with no value added in New York State. Other global nodes include:

- I95, bringing limited – but soon to increase - cargo from Boston. China, the world's largest manufacturing State, will also use Boston as a major Port.
- I84 serves to bring truck and intermodal goods from the West.
- I90 serves to move goods from the upper Midwest and Canada (Toronto) to I87, I81 and I95.
- Rail freight north of Albany is moved by CP Rail; freight must go through transfer yards in Albany, often losing a day in transit. Rail is used for moving bulk commodities; trucks serve high value, or time valued commodities.

Connections: Transportation investments support social and economic interchanges: designed well, they can sustain or promote economic growth; designed poorly, they can diminish economic growth. The current driving forces of the New York State economy are its urban centers; Certainly New York City. But this is a global capital, unique in operations and needs – with impact, not only on the Northeast, but on the World. It is home to three major airports, the biggest public transportation system in the US and 10% of the nation's freeway mileage. But New York has other major urban centers, all well connected by highway;

connected, but less well by passenger and freight rail. Transportation investments are designed to reduce the costs of moving people and goods between urban and other activity centers. They can provide direct links (Albany – Glens Falls) or serve as transfer points (Boston, Albany, Montreal). To sustain or improve economic activity, transportation must be an integral part of a number of driving forces:

- First there must be a center or centers of activity – an urban area, or region within which there is a labor force, and the tools to educate the labor force. These centers of activity can be thought of as prime driving forces – end points generating demand. The I87 corridor has distinct end points – NYC, Albany, the Canadian Border, all generating activities. I81 through Syracuse does not (no driving force north of Syracuse).
- Support facilities for the labor force – shops, schools, entertainment, and banks. These also generate jobs and locational demands. These demands are in local movements and deliveries – which must be added to the total traffic on local facilities. In a later section it will be noted that intra regional moves (jobs, housing) can create added demand on local roads. In the Albany area job growth to the North puts added pressure on I87 and I90 in the region, adding local needs to regional and international travel.
- Housing. Housing is supplied by developers working with the constraints of local governments, meeting anticipated demands. These developments are often not coordinated with infrastructure in place (or proposed) resulting in new travel patterns that may lead to congestion on older facilities. This is a growing problem in the Albany area.
- The ability to supply commodities to the activities and to bring commodities from the firms to markets. For the research parks in the Hudson valley and anticipated in the Capital District, this means on time delivery of high value goods. For People in New York City, this means on time delivery of fresh food. Each are delivered by truck, which use the lowest cost corridors.

The transportation needs are a function of the levels of activity:

- New York City is linked by nine radial corridors; but most are in New Jersey. These include I95 (Turnpike), Garden State, I78, I80, I287; on Long Island, the LIE and the LIRR; I95 north to New England, The Taconic Parkway, and I87. This reflects NYC's need to serve and be served by the Northeast (and the Globe). New York City is served by AMTRAK, the LIRR, MNR, NJT and PATH. Penn Station in New York City will also be linked to both Newark and JFK airports (global connections) by dedicated rail. Thus Penn Station sits, globally, at the heart of the Northeast corridor.
- The Capital District (Albany, Schenectady, Troy, Rensselaer, Saratoga) is linked by I87, North and South and by I90 East and West. It is also served, quite importantly, by AMTRAK. The quality of a high level of connections

to the Capital District might improve the rate of economic growth, and actually relieve pressure from the lower Hudson Valley. Heavy manufacturing (GE), although well served by transportation is in decline because of global competition; but the new, high tech industries, R&D through production are seeing advantages for locating in the Albany-Saratoga corridor.

- The lower Hudson valley, an amalgam of small cities/large towns, is served by I87, I287, I684, the Taconic Parkway, and I84 – an east-west link. Success of businesses in this area has led to substantial development along the I84 corridor. The commuter shed, as far north as Poughkeepsie is served by MNR; the region, from NYC to Albany is served by AMTRAK. While the lower Hudson Valley has lost auto manufacturing (a national, not a local problem), these transportation links, and the ability to move high value goods reliably, as well as provide access for a well trained workforce have sustained IBM's regional investment, and attracted other corporate headquarters.
- While rail is a part of the corridor, and intermodal freight a strong part of rail, there is believe in the freight industry that substantial investment, commitment and a more level playing field must be in place before there is any growth of freight rail.

Transportation, working well provides low cost reliable movement. But the corridor is growing more congested at three points: New York City, up to I84, the Capital District and the border with Canada. The problems generating congestion, and its attendant costs, unreliability and decreases in productivity, will be discussed in a later section.

Succeeding sections will take a more microscopic look at I87 corridor. I87 and AMTRAK can provide fast and reliable movement of people and goods from New York City to Albany. North of Albany, lined on the West by the magnificent Adirondack State Park, the Northway has far less demand – until it gets to the border, where routinely slow customs and the post 9.11 demand for security are creating new types of congestion. The problems, in a more macroscopic approach, can be summarized as:

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- The US is importing at ever-greater scale. Imports exceed exports. This is seen at Port of NY/NJ. It is a global condition and will be prevalent over next decade.
- Asia becoming greatest exporter (PRC); Routes now to (primarily) LA and to NY/NJ, may be supplemented by additional service through Boston.
- Halifax will not be competitive with NY/NJ. Terminals at NJ are now making major capital investments, and improving intermodal connections
- Major links can be defined by strong end points on transportation networks: Boston-Albany-Toronto; NYC- Albany-Montreal; note both routes are NAFTA related
- Albany (Capital District) is an important EW, NS junction with substantial potential for growth.
- The NY State economy lacks manufacturing; potential in Hudson valley, Albany-Saratoga for a new agglomeration of hi-tech, computing related industries. The situation in Albany is similar to that in Austin, Texas two decades ago. Infrastructure should be designed with this industry and its supporting components as a major potential
- Significant congestion and higher costs of moving freight south of I84
- Growing demands on commuter rail in the Hudson Valley
- Rapid growth and economic activity in the Capital District, especially moving North. This is creating congestion and the overlapping demands of moving people and goods on the same facility
- Congestion at the Canadian border
- Lack of adequate freight rail in the entire I87 corridor, and lack of commitment to making improvements.
- Lack of Hudson River crossings

State Environment: The I-87 corridor consists of 10 counties: Albany, Saratoga, Schenectady, Rensselaer, Warren, Washington, Greene, Columbia, Essex, and Clinton. These counties form a rough rectangle that stretches lengthwise for 215 miles from the Canadian border to a bit south of the capital, Albany. It is about 50 miles wide. I-87 is the main (and only) north-south Interstate through the corridor, and is the only interstate in much of the corridor. Only the area near the capital has access to an east-west interstate, with I-90 passing through that portion of the corridor. The geography of the region varies widely, from vast, open farmland to two mountain ranges – the Adirondacks to the north and the Catskills to the south. These mountain ranges, especially the Adirondacks, and the Hudson River below Lake Champlain pose significant obstacles to transportation expansion and growth. The major urban areas in the corridor consist of the capital district, the (former) industrial cities of Troy and Schenectady, the growing Saratoga County area, and Plattsburgh in the North Country near Montreal.

This region has witnessed growth over the past several decades, both economically and population-wise, especially in the Saratoga County area. As can be seen in Table 1, population grew markedly in Saratoga County and Warren County, and was far smaller elsewhere in the corridor, especially if the growth in Greene and Columbia Counties is attributed to the influx of vacation and second homes from New York City.

Economic growth in particular parts of the corridor has also been impressive, with Saratoga County being a standout, as shown in the total employment statistics of Table 1.

Table 2 looks at employment growth by sector. All counties exhibit strong growth in the service and FIRE sectors, with the exception of Schenectady in the FIRE sector. Many of these jobs entail the use of high-skill labor. They may also make extensive use of information technologies, especially in the FIRE sector. Saratoga County leads all counties in growth in each of these sectors, by a considerable margin. Note that Warren and Washington Counties also exhibited considerable growth in the service and FIRE sectors. These jobs often pay well. A geographic display of this information is provided in an appendix.

As shown in Figure 1 (Youth Change Map), the population in the Saratoga area has also grown in the 18-24 year old range, indicating the influx of young, potentially newly educated workers.

Advantages and Disadvantages: The major advantage of the I-87 corridor, especially in the Saratoga area, consists of the quality of life that is available to its residents. Making this region especially attractive is the low cost-of-living that accompanies this quality of life. Many employers and people moved to Saratoga County to take advantage of a quality of life that is absent from the more urbanized counties of the I-87 corridor (i.e., Albany, Schenectady, and

Rensselaer). Quaint towns like Saratoga Spring attract people with the wealth of green space, low crime, quality housing, cultural and educational institutions, and lively town centers that characterize these late-19th – early 20th century resort communities. A highway system that has been historically uncrowded has also been a major drawing point. As Saratoga County's population has grown people have been forced to move further away from the economic center of the region. Warren County exhibits dramatic growth in population and employment over the same period.

This quality of life and low cost of living in Saratoga and Warren Counties has attracted and, perhaps more importantly, enable the region to maintain a highly skilled workforce. This workforce has attracted numerous quality employers to the region bringing with them high-paying jobs. High-tech employers such as Sematech and other chip manufacturers have made significant investments or announcements of investment intentions as a result of this workforce and the surrounding institutions. Yet, it is this very success and attractiveness that helps to define the disadvantages of the region.

The major disadvantages of the corridor can be placed in two groupings: geographic and transportation infrastructure capacities.

The attached map, Landform, shows the major geographic constraints on development and growth in the I-87 corridor. Development in the region is largely restricted to a narrow corridor paralleling the Hudson River. To the west, south of Albany are the Catskills; north of Albany lies the Adirondack State Park. These pronounced landforms make development, where allowed, difficult. For large areas, development is not permitted in these Parks. To the east, the Taconic Range and the Berkshires also make development difficult. Coupled with the Hudson River, this geography forces development into a narrow corridor that by-and-large lacks the capacity to support simultaneous economic, population, and transportation infrastructure growth. A quick glance at the map also reveals that this corridor widens out briefly in the Saratoga County region.

Related to these geographic disadvantages is the second grouping: transportation infrastructure capacities. Specifically, commuters, firms, and freight haulers each require access to a limited resource, the transportation system. In particular, local economic development and the logistics sector oriented towards the NAFTA corridor must compete for capacity on I-87. Local economic development entails commuters relying increasingly on the interstate as the population of the corridor expands and moves further northward. Entrance into the NAFTA corridor entails logistics firms and truck making more trips on I-87. Faced with a fixed capacity on a highway that is already strained, this could lead to severe problems for local economic development and participation in NAFTA. Increased congestion means more work time lost by commuters waiting in traffic jams due to volume related congestion and delays from increased accident rates. For the logistics firms that are essential to

successful competition in the NAFTA corridor, this means lost time and money due to the same traffic jams, as well as increased insurance rates, etc. Since efficient and timely deliveries are key components to successful competition in the JIT environment of the global economy, this could prove most troublesome. Such transportation related issues might make the corridor unattractive to firms essential to local economic development on the local and global scale.

Major Transportation Modes on I-87: The attached Maps, Interstate and Major Highways, and Freight and Passenger Rail show the defining aspects of transportation in the New York State (and adjacent) corridors. The vast majority of trips in the 87 corridor are conducted by car or truck. Very little public transit is available the corridor and little, if any, covers large distances. This reliance on private automobiles can be seen in Figure 2. Figure 3 represents percentage of trucks traveling on I-87. What might appear to be a drop-off in trucks in the Capital District is, in fact, caused by the large number of cars traveling on that portion of I-87 reducing the relative number of trucks. In order to obtain a better picture of the number of trucks on I-87, observe the percentages just north of Saratoga County and towards Clinton County.

Rail service in the corridor is quite limited. While passenger service is available on AMTRAK from NYC to Albany, there is no local rail service available for passengers. Freight in this corridor must share the same rights-of-way as passenger trains. Since AMTRAK owns the right-of-way, this translates to very little time for freight movements in the corridor via rail. As well, all rail traveling through the capital district, if it is headed east or west must stop and transfer at Selkirk Rail yard. This delay makes rail uncompetitive with trucks for time dependent delivery. Rail is only useful in the corridor for bulk commodities that are not time-dependent. Various structural issues (e.g., vertical clearances) also constrain the ability to profitably move freight via rail in the corridor.

There is little intermodal freight in the corridor as well. Trucks can almost inevitably move cargo faster than freight in the corridor. What intermodal does exist is located below the southern terminus of the corridor in the Port of New York and New Jersey. As mentioned above, issues of right-of-way availability, structural constraints, and profitability constrain the use of intermodal freight. Note that improvements have been made in terms of truck access to Albany Airport.

Power of the Ports – Global Economics: As the world becomes a more *globalized* economy, port become more important than ever before. Ports have historically served as centers of economic activity, and will do so increasingly in the future. The I-87 Corridor is a vital link in this port centered economy. The corridor provides a vital link between a major port on the NAFTA corridor – Montreal – and the world's largest consumer market – the New York City metropolitan region, as seen in the map titled New York in North America. Albany and its surrounding region are situated at an important East-West, North-

South junction of this corridor. Freight from the NAFTA corridor through Halifax and Montreal either heads south to New York City, or moves east and west towards New England and Boston or the Midwest through Albany. Given its location, the Capital District is ideally poised to serve as an exporter to the global economy, as well as a location that can serve as a port of entry for imports to the United States. Exporting and importing efficiently entails having access to infrastructure and services designed to achieve such ends. This infrastructure includes highways capable of handling the appropriate capacity of freight movement, airports to export this freight to the rest of the world and to import needed goods and services, and, of significant importance, high-speed data networks.

I-87 as a Corridor: Observing the I-87 corridor from just north of New York City to the Canadian border, we can divide it into three distinct sections:

- New York City to I-84
- I-84 through the Capital District
- Capital District to the Canadian Border

New York City to I-84

The massive metropolitan area through which it runs largely shapes this section of I-87. Freight from the ports of New York and New Jersey utilizes this corridor, as do commuters into New York City, Westchester, and northern New Jersey. The corridor in this area has linkages to I-287, I-95, the parkways and highways of New York City, as well as the nearby major east-west corridors shaped by I-80 and I-78 (via the New Jersey Turnpike, Garden State Parkway, I-95, and I-287). While vitally important, this section of I-87 is beyond the scope of this study, which focuses more closely on I-87 north of I-84.

I-84 Through the Capital District

As mentioned above, this section of I-87 serves as an important link between the NAFTA corridor and transportation both to the New York Metropolitan Region as well as markets to the east and west via I-90 and I-84. Below Albany, I-87 is part of the New York State Thruway, while above Albany to the Canadian Border the highway is known as the Northway and is operated by the NYSDOT. This section of I-87 is characterized by large-scale government services in Albany, declining industrial centers, and the rapidly expanding economies and populations of Saratoga and Warren Counties. This section of I-87 is characterized by a relatively high standard of living at an affordable price. Cultural and educational institutions abound, as do attractive communities exhibiting high “quality of living.”

This high standard of living and quality of life has enabled this section of the corridor to attract and maintain a highly skilled workforce, which has in turn

drawn numerous high-tech, FIRE, and quality service sector employers to the region. In many ways, this section of I-84 resembles the Austin, Texas of two decades ago. This growth has occurred largely in Saratoga and Warren counties, but is now beginning to surface in other areas, notably in Albany County. This growth has helped to cause large and growing congestion issues on I-87, especially north of Albany. These problems worsen as increasing numbers of commuters and trucks compete for the highway's capacity.

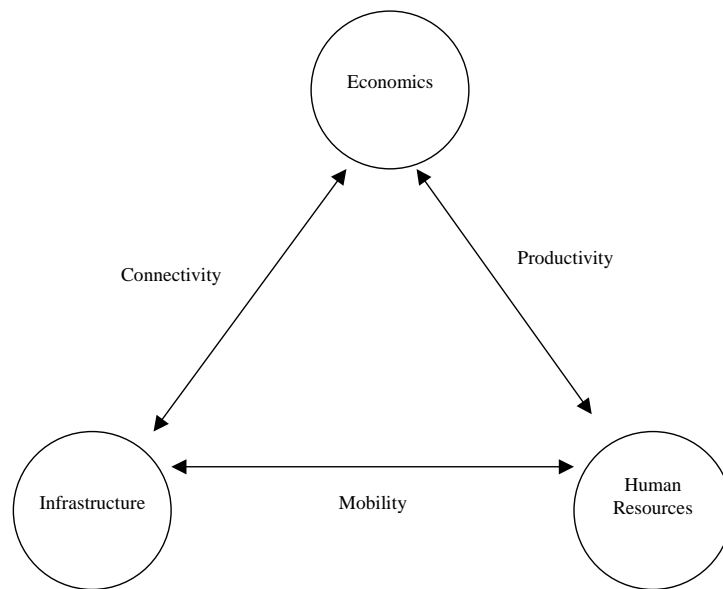
The large role of the state government in the area's economy helps this section of I-87 exhibit a less cyclical nature than that of other areas. This may also be a reason for its popularity. Proximity to the natural beauty of the Adirondacks and the fantastic outdoor activities available in the region are also attractors.

This section of I-87 is poised, under the appropriate conditions, to play a lead role in positioning New York State in the global economy.

Capital District to the Canadian Border

This section of I-87 is by-and-large characterized by the Adirondack Mountains through which it runs. Development of any sort is heavily regulated in this area. The corridor in this section serves largely to support tourism and commerce with Canada, particularly Montreal. The city of Plattsburgh is often referred to as a suburb of Montreal. The major issues of concern in this section of the corridor involve improving efficiency at the border crossing between Canada and the United States. Given the large dollar value of product entering the United States via this corridor, this issue of vital importance.

Linkages of Infrastructure Needs, Global Economics, and Regional Economics:



Three major axes: Economics, Infrastructure, and Human Resources

Economic growth in the I-87 corridor depends on two factors. The availability of highly skilled labor to help fuel local economic growth, coupled with excellent linkages to the global economy. Attracting highly skilled labor depends on many factors that influence that quality of life in the corridor. Linkages to the global economy depend heavily upon the quality of the transportation infrastructure in the corridor. The region of the I-87 corridor just north of Albany has recently exhibited considerable economic growth, particularly in the service, high tech, and FIRE sectors of the economy. Industry has also grown in particular parts of the corridor. Sustaining this growth entails attracting an appropriate, high-skilled work force. The quality of life in Saratoga and Warren Counties draws in such people. Part of this quality of life is governed by the commutes employees make on I-87, an already heavily trafficked road. This congestion will only worsen as the population moves further north in the corridor.

At the same time, this corridor must be able to export and import efficiently its goods and services to and from the rest of the world. This efficient movement is crucial to successful competition in the global economy. This corridor also serves to enable companies located here to rapidly move product to the world's richest market – the New York Metropolitan Region. The efficiency with which logistics companies can move freight depends on the quality of the transportation infrastructure. Expansion and upgrade of this infrastructure, as

well as expansion of logistics in this corridor, will encourage economic growth. However, care must be taken to balance out the competing claims of commuters and logistics firms on the same limited resource, the infrastructure that comprises the I-87 corridor. The expansion of population northward and the increased movement of goods southwards will otherwise prove particularly problematic. Highway expansion, mass transit, and high-speed data networks will each serve vital roles in this regard. Care must be taken to invest in the appropriate types and amounts of each so as not to undermine the gains made through the growth of the local economy and New York's enhanced trading position in the global economy.

Issues and Opportunities: The Table below summarizes the issues and opportunities to resolve those issues concerning infrastructure in the I87 corridor. The issues, while focused on infrastructure per se, must also concern human resources (labor force) and land use/development. The perspective of this study is global; while, of course, the issues must be addressed locally. This helps address such questions as, "What is making Scranton, Pa. Important as a hub in the Northeast network; can (or should) Albany become as critical?" (A more detailed table breaking improvements down by geographic region is included as Appendix B.)

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ISSUE	OPPORTUNITIES
Freight rail	<p>A strategic plan for multi modal transportation in the I87 corridor is needed. The plan must address the likelihood that both the Capital District and New York City will need reliable, frequent and efficient freight rail and multi modal service in the next decade. Adding value to goods entering from Canada, as well as developing new high tech related industries in the Capital District call for revisiting rail service. The railroads have an investment plan to begin to improve capacity in New York State and to New York City, but this does not address regulatory issues, issues of competing rights of way and changes of carrier, nor does it address any serious way to improve freight rail capacity in New York State. One important issue throughout all of the rail corridors is the ability to carry double stack trains. Many bridges, throughout the State must be reconfigured to allow double stacks.</p>
Passenger Rail	<p>The economic development activities in the Capital District and their potential for growth become increasingly dependent upon improved connections between the Capital District and its growing list of regional and global partners. First – AMTRAK service must be enhanced and improved. 90-minute service from Albany-Rensellaer to New York City, on a frequent basis would create the link for the exchange of intellectual capital in this growing high tech economic activity. Albany (like Scranton, Pa.) can enhance its value as a regional hub as AMTRAK service from Albany west – to Buffalo, and Toronto – becomes significantly improved, faster and more reliable. Linkages with SUNY/Buffalo and the U. of Rochester will enhance the new high tech investments in Albany, centered at SUNY/Albany and RPI. These can be made more real through high-speed train connections. Commuter rail, extended north of Poughkeepsie, and developed South of Albany would extend economic activity south of Albany. Commuter Rail might be examined as a serious mode between Albany and Saratoga – relieving a growing, and potentially inhibiting congestion problem on I87 and I90 and arterial streets in Albany.</p>

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Congestion in the Capital District

Congestion is a real and growing problem. The Capital District is, itself, growing economically, and will take a big jump as high tech investment is both realized and creates agglomerations of R&D and new start businesses. The Capital District must now accommodate traffic due to commuting over an expanding (primarily Albany and North to Saratoga) commuter shed, to daily government-related travel, to tourism, in the region and through the region, to the State University and other academic institutions and to the movement of goods into and through the area. I87 and I90 were designed and built as intercity routes; they are now asked to accommodate daily commuters. Capacity improvements must be made: these include:

- New links from Northway to the Thruway
- A potential toll road (thruway operated?) on I87 between Saratoga and Albany
- Improved distribution of new development – it is all in a North South corridor
- Commuter rail, as discussed above
- Improvements to local roads – with new patterns of development, much local circulation is nearing or at capacity.

It should be noted that a surge of economic development, as anticipated, will cause some transportation dislocations and costs; to sustain economic development it is critical that infrastructure improvements be made. In the case of the Capital District these are not only local capacity issues. They are also issues of moving goods - rail improvements, and intermodal improvements, and improving truck capacity throughout the region. Easing daily demand by commuters for space on I87 will create instant capacity for truck movements. But truck movements will increase to serve the new industries and their associated populations – and capacity must be made or found on I87.

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Improving the Northway	<p>The Northway, associated with the Adirondack State Park, is one of the great scenic highways in the US. But in addition it serves significant truck traffic from and to Canada. Nearly 25% of the daily traffic on I87 through Clinton Count is truck traffic. Plattsburgh, the major urban center at the Northern part of I87 serves Montreal. Its attractiveness for Canadian investment is limited by the unfavorable exchange rate of the Canadian \$ to the US\$. Plattsburgh does have some manufacturing – Bombardier, being the major employer. NAFTA has had an impact on some Border related development. The Border crossings at I87/Border are the 4th greatest in the US (Buffalo is 2nd). Backups at the border have become of great concern – trucks often wait several hours or longer to get clearance. The Crossing area should be redesigned to accommodate both faster throughput and concerns of security.</p>
Development & Economic Development	<p>A carefully designed policy of land use management must be developed and enforced to ensure that maximum benefit is realized from any infrastructure improvements and to avoid strain on older infrastructure.</p>

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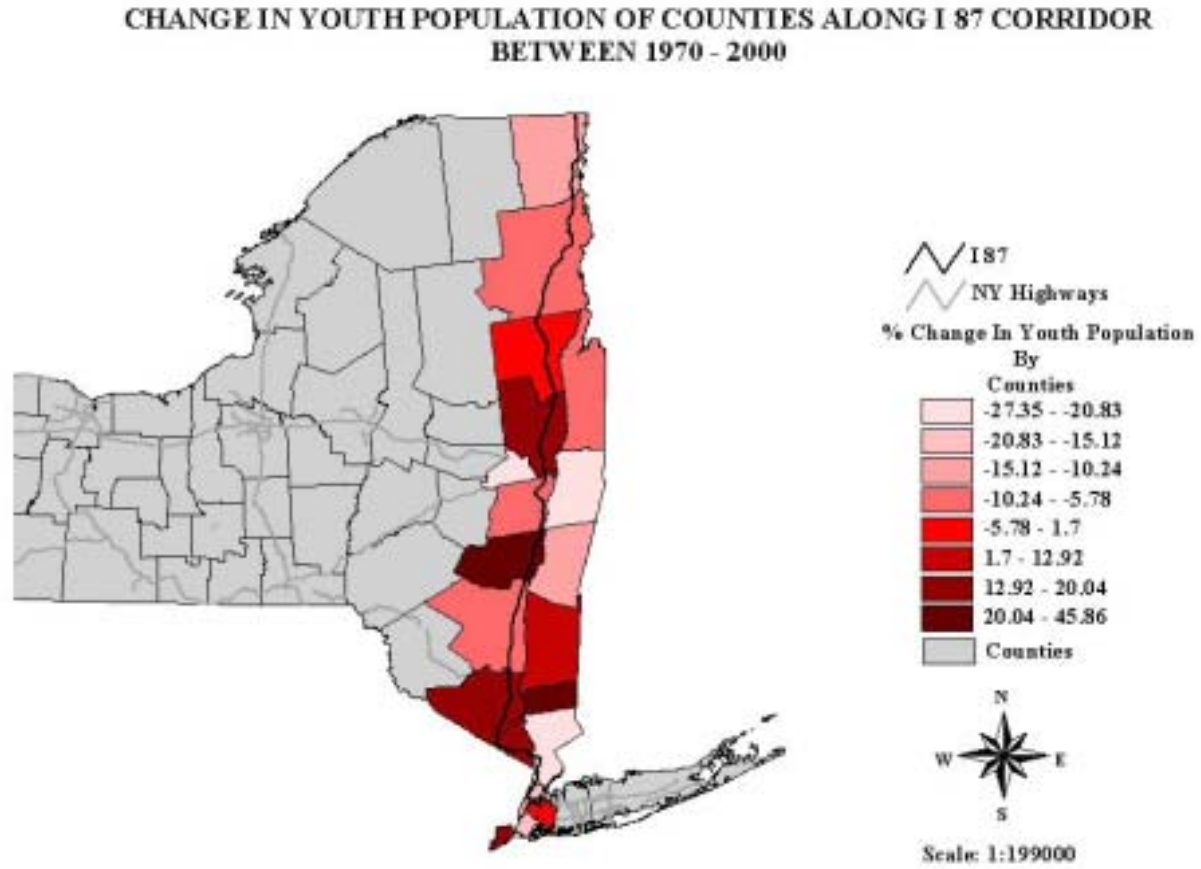
Table 1: Population and Total Employment, I-87 Corridor: 1970-2000

<i>County</i>	<i>Total Employment (000s)</i>			<i>Total Population (000s)</i>		
	1970	2000	Change	1970	2000	Change
Saratoga	32.087	91.016	183.65%	123.24	200.96	63.06%
Warren	25.105	44.072	75.55%	49.699	63.368	27.50%
Columbia	18.553	29.791	60.57%	52.045	63.055	21.15%
Greene	12.1	19.067	57.58%	33.471	48.232	44.10%
Clinton	27.2	42.526	56.35%	73.649	79.695	8.21%
Essex	13.326	20.158	51.27%	34.597	38.828	12.23%
Albany	180.913	271.658	50.16%	287.09	294.385	2.54%
Rensselaer	45.481	65.951	45.01%	152.878	152.443	-0.28%
Washington	18.131	23.424	29.19%	52.933	61.004	15.25%
Schenectady	72.23	78.051	8.06%	161.36	146.439	-9.25%

Table 2: Employment by Sector, I-87 Corridor: 1970-2000

<i>County</i>	<i>Manufacturing Empl (000s)</i>			<i>Services Empl (000s)</i>			<i>FIRE Empl (000s)</i>		
	1970	2000	Pct Chg	1970	2000	Pct Chg	1970	2000	Pct Chg
Albany	21.957	11.618	-47.09%	28.135	90.938	223.22%	11.365	23.425	106.12%
Clinton	3.324	5.52	66.06%	3.663	10.521	187.22%	1.095	1.602	46.30%
Columbia	3.667	3.163	-13.74%	3.139	9.34	197.55%	1.128	1.942	72.16%
Essex	1.713	1.443	-15.76%	3.542	6.563	85.29%	0.663	1.064	60.48%
Greene	1.871	1.151	-38.48%	2.376	5.614	136.28%	0.857	1.231	43.64%
Rensselaer	8.719	5.108	-41.42%	11.077	24.423	120.48%	2.751	4.258	54.78%
Saratoga	6.559	7.805	19.00%	5.811	29.697	411.05%	1.603	9.197	473.74%
Schenectady	24.593	9.194	-62.62%	14.631	29.35	100.60%	4.398	4.74	7.78%
Warren	5.379	4.553	-15.36%	5.396	15.822	193.22%	2.713	4.257	56.91%
Washington	6.403	4.215	-34.17%	1.753	4.914	180.32%	0.552	0.938	69.93%

Figure 1: Change in Youth Population (Ages 18-24) Along I-87 Corridor by County, 1970-2000



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Source: SUNY, Albany: Department of Geography & Planning

Figure 2: Interstate 87 Density Chart

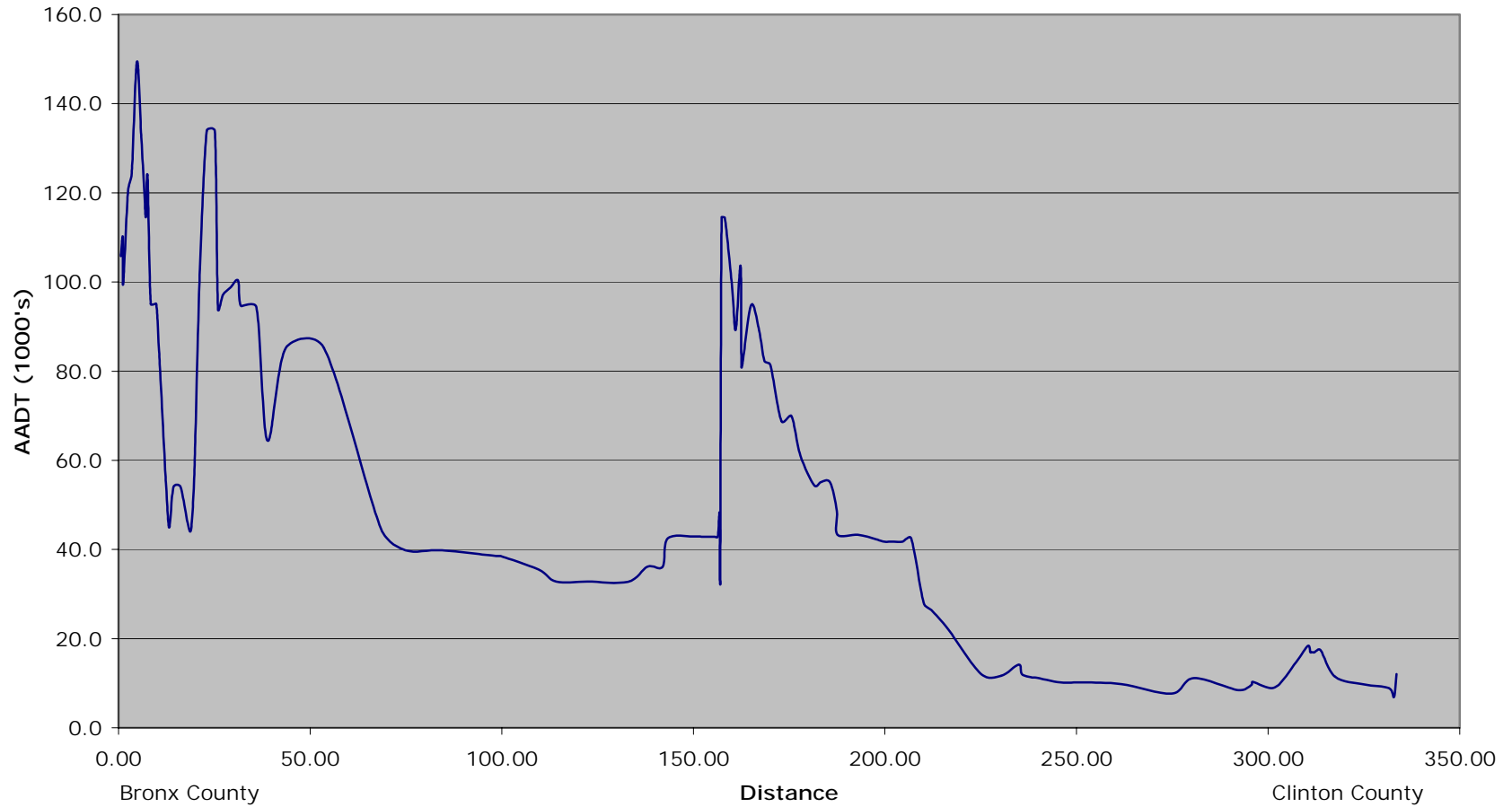
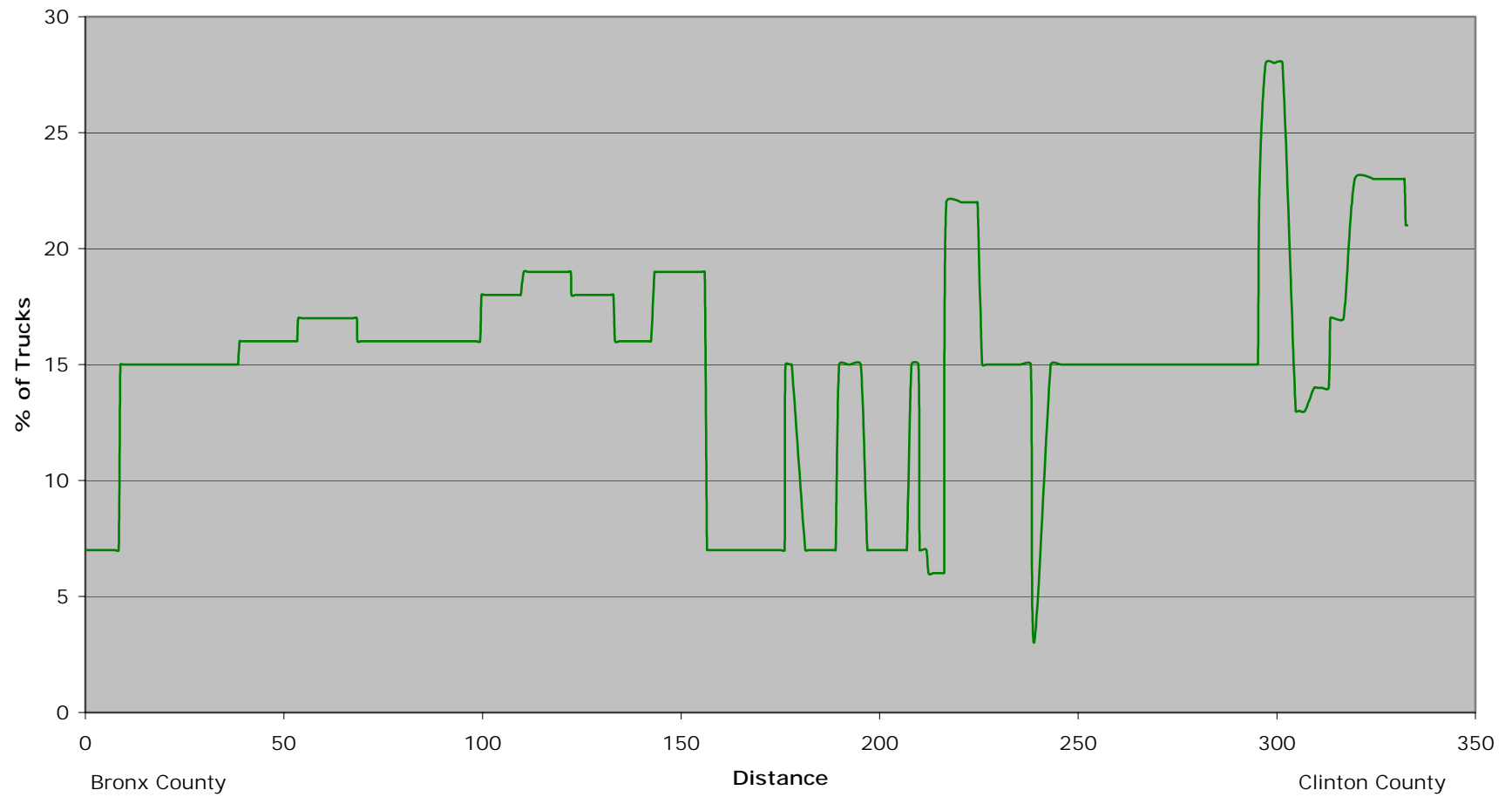
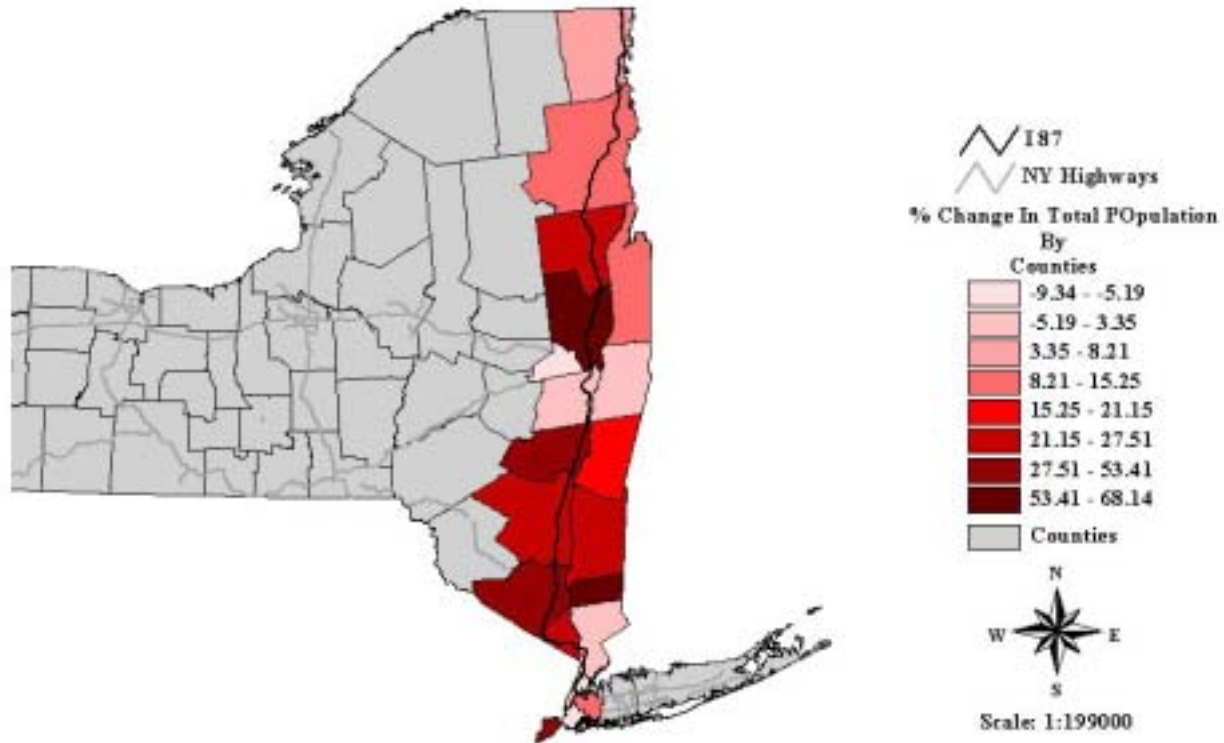


Figure 3: I-87 (% of Trucks Over Distance)



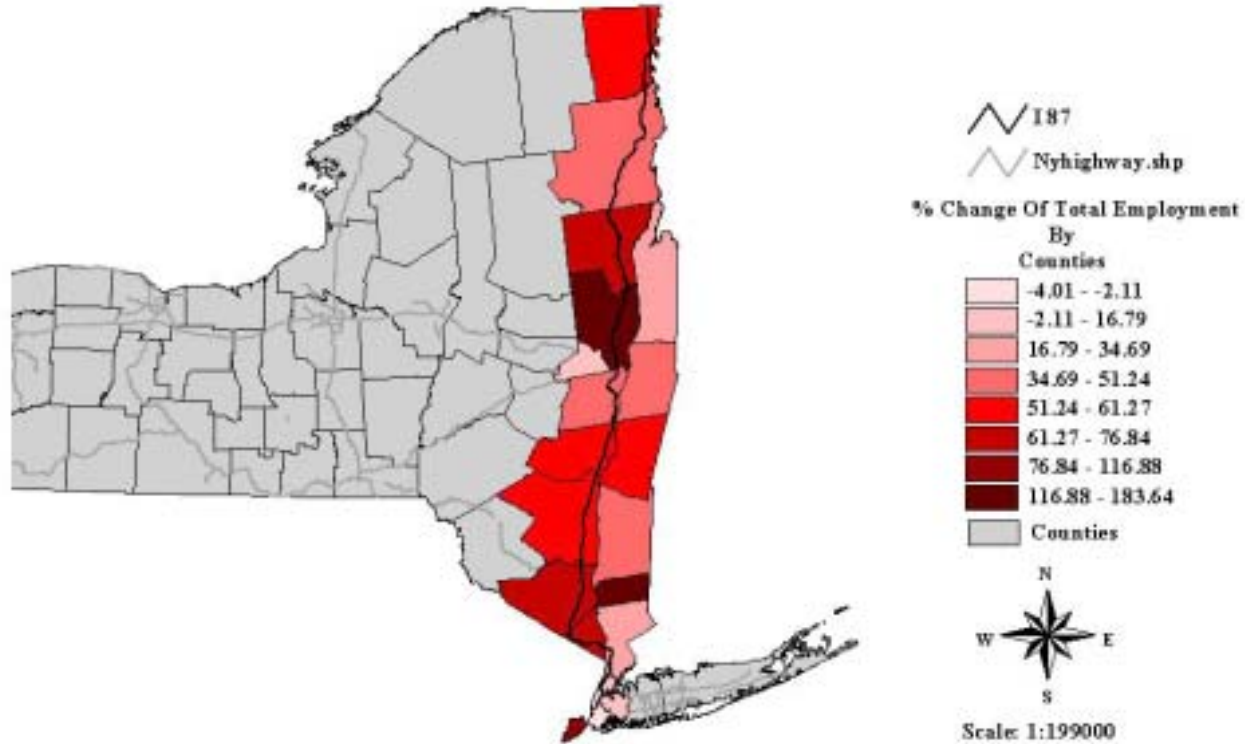
Appendix A: Various Maps of the I-87 Corridor

CHANGE IN TOTAL POPULATION OF COUNTIES ALONG I 87 CORRIDOR
BETWEEN 1970 - 2000



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Source: SUNY, Albany: Department of Geography & Planning

**TOTAL EMPLOYMENT CHANGE OF COUNTIES ALONG I-87 CORRIDOR
BETWEEN 1970 - 2000**



Draft
Source: SUNY, Albany: Department of Geography & Planning

Appendix B: Table of Infrastructure Improvements By Geographic Region

This table lists various issues and proposed infrastructure solutions to these issues by geographic region. The table becomes increasingly specific to the I-87 Corridor as it progresses downward. At the same time, this table notes that transportation infrastructure and economies must be viewed as part of a larger (and ultimately global) network. As such, and projects must be evaluated with this perspective in mind.

Geographic Area	Problem	Actual and Proposed Project(s)	Special Issues
<i>NASTO</i>	Border crossing delays	ITS, Redesign of crossings, Commercial Vehicle Information Systems and Networks (CVISN)	Security post September 11.
	Truck size and weight regulations	Harmonization of permitting processes	
	Lack of rest areas	Construction of rest areas	
	Highway capacity and Infrastructure		
	Rail, terminal, and port access		
	Rail clearances		Needed for long distance movement of double-stacked railcars
	Lack of redundancy		Particularly important post September 11
<i>New York/New Jersey (not including I-87 corridor)</i>	Congestion and capacity constraints	PIDN (See below for additional specific projects)	
	Access to NYC and markets east of Hudson River, port and terminal access	East-West Truck Facility, improvements to Belt Parkway, NJDOT Portway program	

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	Border crossing delays		
	Vertical clearances for rail	Trailer-on-Flatcar vertical clearance program in East-of-Hudson region	
<i>I-87 Corridor</i>	Congestion and capacity constraints	Thruway Tandem Trailer Truck Relocation Project, Increase capacity along I-84, improvements along Autoroute 15/I-87 corridor, improvements to rail lines above Albany, Rooftop Highway, extension of Thruway to deal with congestion on I-87 near Albany	
	Border crossing delays at Plattsburgh	ITS, automated truck inspection station	Security post September 11.
	Vertical clearances for rail	Improve vertical clearances along Hudson Lines and in Bronx to Harlem River Yard	Necessary for successful movement of double-stacked freight
	Rail, Terminal, and Port Access	Improvement of Selkirk Rail yard, improved access to airports (Albany and Stewart)	
	Conflict between passenger and freight rail	Construction of freight line between Bronx and Selkirk Yard	Needed as more and faster passenger trains put into operation