TABLE OF CONTENTS

HUDSON CYBER COUNTY

1.0 INTRODUCTION

BACKGROUND

The County of Hudson received one of the State of New Jersey's Cyber District grants in 2001. Through a competitive process, the County selected a team headed by Wallace, Roberts and Todd, LLC of Philadelphia (WRT Team). Other members of the WRT Team include Siembab Planning Associates of Los Angeles, Anthony Townsend of the Taub Research Center, New York University, and RKG Economics of New Hampshire. Geotel of Miami Beach, Florida was subsequently added to the Team to provide detailed information on the digital network infrastructure.

As initially formulated, a Cyber District was thought to be a district or industrial tract for which digital networks could be applied in some fashion to enhance its contribution to local economic development. Reflecting the state-of-the art in the evolution of the concept, and the more regional role of a county government compared to municipal corporations, the WRT Team developed an approach for treating the entire County as a Cyber District. The following defintion — A cyber-district is a spatial area in which digital networks play a strategic role in its physical and economic development — guided the project. As a result, the Vision, Initiatives and Action Plan in this report describe a Cyber Strategy for economic development in the County of Hudson and its constituent cities.

This final report incorporates information from the earlier products of the study, the Briefing Book on Cyber Strategy, and the Hudson County Cyber Profile. The new material is included in Sections on: Vision where vision is expressed from three perspectives – metaphor, image and goal; Cyber Strategy expressed as three initiatives and their component projects; and an Action Plan extending to July, 2006.

CYBER STRATEGY: EVOLUTION OF THE CONCEPT

The idea of Cyber Strategy, like most elements of the technological world, has evolved at a rapid pace. Understanding the current formulation is the first step in adopting Cyber Strategy. Four approaches to Cyber Strategy have evolved over the past 20 years.

1. Cyber Vapor

Vaporware is a term invented to describe the actions of hardware and software manufacturers who attract publicity, and perhaps freeze the market, by announcing a new product months or even years ahead of its actual market introduction. Economic regions can deploy a similar tactic without actually doing anything. For example, in the early 1980s a second tier city in the southwest got prominent mention in national publications by announcing plans for a teleport development that was never built. Of course, aggressive marketing of substantive strategies of course is preferred to promoting vapor. Unfortunately, Cyber Strategy can become Cyber Vapor despite the best of intentions.

2. Cyber Industry Clusters

The earliest attempts at formulating Cyber Strategy adopted some variant of the familiar "industrial attraction model" for economic development. One version of this is to attract specific cyber industries to locate in the jurisdiction — for example, telecommunications hardware manufacturing companies or digital media software firms. This is sometimes referred to as chip chasing, analogous to smokestack chasing of a previous era.

In practice, technology clusters are complex economic phenomena that are difficult to rationally plan. They seem to "happen" in the right conditions that defy replication at other places and times. Ultimately technology firms are not the answer as witnessed by the decline of the telecommunications industry, hard times in biotechnology and the current struggles of Silicon Valley, the most prominent cyber industry cluster in the world.

3. Cyber Infrastructure and Markets

The most common version of Cyber Strategy to evolve to date is also based on the industrial attraction model. In this case, technology is used to enhance the attractiveness of a place to industries that are information dependent, such as the securities industry. Earlier examples of the infrastructure/market approach include cities in the 1950s that developed municipal electricity generation capacity in order to sell below-market-rate power as a strategy to attract the aluminum and other electricity extensive industries. The new Millennium version of this phenomenon is centered on the local availability of bandwidth. The argument is often expressed as the need to avoid a negative. In the words of Chicago's Mayor Daley drawing on an analogy between bandwidth and railroads, "If the transcontinental tracks came through your town, prosperity followed. If it didn't, you were out of luck." The information superhighway is seen as the fundamental enabler of economic prosperity and no city can afford to be bypassed.

While bandwidth availability and pricing get a lot of attention, and no city wants to be left "off the tracks," this strategy is not causally linked to economic development, and economic benefits have not yet been well documented for such initiatives. It is a classic case of the "build it and they will come" premise, which seems to work with highways but not digital networks.

At best, a robust infrastructure is a necessary but not sufficient condition in and of itself for Cyber driven economic development. For example, the current difficulty in the telecommunications industry is related to over investment in bandwidth supply. The marketplace problem is insufficient demand.

4. Access and Applications

Our current approach to Cyber Strategy is an aggressive and strategic use of digital networks as an enterprise transforming activity. This approach is forward looking and not related to the entrenched industrial attraction model. Network use is directly and causally linked to many desirable economic outcomes. Consider the following observations:

"You can be wired to the hilt, but without determination and a clear plan for its use, it is of little consequence….Integrated business applications and supportive government that understands, encourages, and applies technology to manage their cities are key elements to making a city [successful]….[Network utilization] must be pervasive throughout the community and systemic. It must be evident in everyday business, residential, healthcare, educational, cultural, and recreational pursuits of a city."
John G. Jung, Presentation at Teleport '98 London: *Cities and the Wireless Economy*

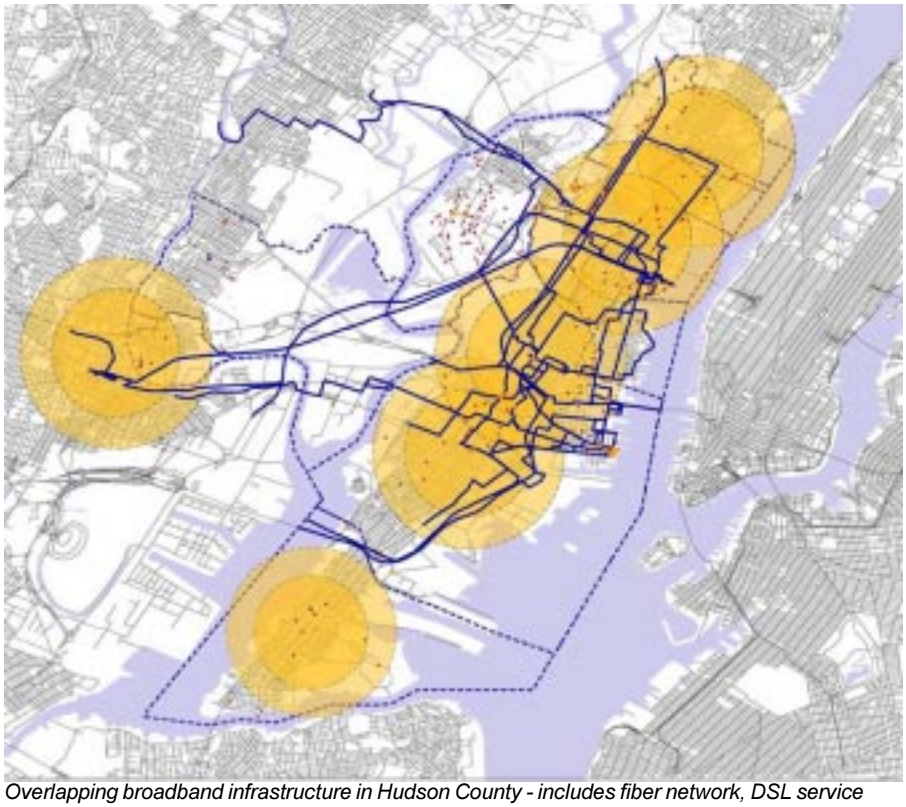
"If e-business is understood as the commercialization of the Internet by dot.com firms, this would be an interesting, innovative, and sometimes profitable business, but rather limited in its overall impact. If ….. the new economy is based on unprecedented potential for productivity as a result of the uses of the Internet by all kinds of business in all kinds of operations, then we are entering a new business world."
Manuel Castells, *The Network Galaxy*, 2001, Page 5

"For the most part, today's movement [to bring new technologies to low income communities] remains focused on closing the gap in access to technology as an end in itself. But isn't the real promise more profound and far more important? Isn't the real challenge about what people and institutions do with the technology once they have access to it? Isn't the ultimate possibility to apply the technology's potential to address the underlying challenges that are the true source of fundamental divides in America?"
Mario Morino, from Keynote address at the Department of Commerce's "Networks for People Conference," 2000

The recommendations for this Hudson County Cyber Strategy are based on the opportunity and need to dramatically improve the level of network utilization by institutions, businesses and individuals throughout the county.

2.0 HUDSON COUNTY PROFILE

The Hudson County network infrastructure was found by Geotel to be one of the best of any metropolitan area in the world. In fact, one of the competitive advantages of Hudson County is its access to an extraordinary broadband network infrastructure. It is fair to say that without a Cyber Strategy, Hudson County is squandering a significant asset.



Overlapping broadband infrastructure in Hudson County - includes fiber network, DSL service areas and cell towers

At the same time, Hudson County is facing a number of significant challenges:

- Improving the skills of a predominantly multi-ethnic, multi-lingual, immigrant, education-deficient residential workforce.
- Reducing street and parking congestion which has become so bad that the 1999 Strategic Plan concluded that the County's global competitiveness was being damaged.
- Overcoming a highway and transit system oriented to east-west flows, and an obsolete narrow, disjointed north-south street system.
- Facilitating the modernization or conversion of obsolete industrial plant located throughout the County, including properties located in the emergent "Gold Coast."
- Reducing the cost of developing property and doing business in the County, from brownfield remediation to reducing local taxes.
- Integrating currently fragmented service delivery systems in order to fill gaps and avoid duplications.
- Overcoming negative perceptions about quality of life in the County.

The urgency to make immediate progress on these condition has been heightened by a short-term future which is increasingly being forecast as unstable. The factors causing the potential instability include regional losses in the transition to economic globalization, turbulence in the Middle East potentially affecting oil

supply and price, an aging population which will increase the stress on mobility and health care systems, and severe environmental disruptions traced to fossil fuel consumption. As Hudson County experienced first hand, the unthinkable can happen suddenly at any time.

Given the current situation and the possibility of a darker future, it is prudent for the County to seek new approaches that can be planned and implemented in a relatively short period at a relatively affordable cost. Cyber Strategy meets those criteria, especially considering the adequacy of the cyber infrastructure.

Successfully implementing Cyber Strategy involves building on existing assets in the county. The WRT Team found a substantial array of programs and conditions which can form the platform for formulating and implementing a Cyber Strategy. These include (but are not limited to the following):

- Hudson County Community College system of community technology centers.
- Workforce Investment Board's "One-Stop" Initiative.
- Hudson County Schools of Technology which has in-place an interactive video system.
- PATH's planned introduction of a cross-platform Smart Card.
- A transit information kiosk operated by Transcom, located at Journal Square.
- The Intelligent Transportation Systems architecture in planning for NJDOT's "Portway" corridor development.
- Hudson County Economic Development Corporation's online data base of available properties.
- Hudson-Bergen Light Rail system which affords opportunities for using public telecommunications to reinforce the value of public transit.

The New Jersey Master Plan calls for smart growth principles to be used in the revitalization of the State's urbanized areas. The smart growth model is based on high density use of land, mixed-activities, with a transit and pedestrian orientation. However, Hudson County is already a dense, transit oriented metroplex. It primarily lacks the robust local mix of activities to satisfy the land use-transportation nexus that creates the short distance trips associated with successful smart growth. One of the characteristics of Cyber Strategy is its ability to quickly and affordably introduce a mix of activities through a virtual presence. In this way, Hudson County could become eligible for evolving State programs aimed at implementing the smart growth elements of its Master Plan.

Other conditions must be overcome — such as fragmentation among the institutions and agencies participating in the *workforce development system*, relatively low rate of e-government transition among the County and municipal corporations, a relatively undeveloped local system for delivering technical assistance to small businesses, and a cultural resistance to telework seemingly related to historical conflicts between institutional managers and a heavily unionized labor force.

The Cyber Strategy recommended for Hudson County builds on the strengths while minimizing the liabilities. It is based upon a vision for a globally competitive and regionally successful Cyber County.

3.0 VISION: HUDSON CYBER COUNTY

A vision of the future must be ideal enough to capture the imagination of political and economic leaders, bold enough to support a marketing campaign, and practical enough to implement.

At the same time, a vision of the future must build on the current strengths of the region while the region is building new strengths. It must address current threats and effectively anticipate the threats of the future.

The Vision is discussed below in three ways. The first is a set of metaphors that could be incorporated into a marketing campaign. The second and third are narratives that suggest, respectively, the image and the goals of Cyber Strategy.

VISION AS METAPHOR

The following are terms that consistent with a Cyber Strategy:

Innovative, adaptable, modern, flexible, smart, fast, multi-use, integrated, self-served, self-sustaining, affordable, and livable.

VISION AS IMAGE

One way to create a vision of Hudson Cyber County is to fashion the image that could be projected via a marketing campaign to various types of consumers. Here are examples of the various images consistent with implementation of county-wide cyber strategy:

For residents and potential residents of the Inner Core, Meadowlands and West Hudson (designated planning districts as per the Hudson County Master Plan) – An affordable and desirable lifestyle, with a range of housing options and opportunities to live in human scale communities. There is affordable access to local work sites and good schools. The new housing will be developed on infill sites as part of the initiative to create *network neighborhoods*, and as integral parts of large scale developments.

For local businesses and aspiring entrepreneurs – A good place to start new businesses because of the technical support, good training programs for future employees, and convenient and affordable access to technologies essential to business success.

For technology companies – Hudson County governments and businesses are early adopters of new technologies and Hudson County is a good place to establish beta tests of new products. Over time, Hudson County becomes the business location of choice for some technology companies as they seek to be close to sophisticated consumers as well as to New York City.

For employers – The resident labor force, including recent immigrants, receives education and skills training through a well coordinated system of institutions using state-of-the-art delivery systems. The practice of delivering the educational products to the consumer at convenient times and neighborhood places has

resulted in a dramatic increase in training-hours consumed and average skill-levels achieved. There is near universal technology literacy due to the deployment of e-government practices that utilize a variety of technology-based channels, including kiosks in all public spaces.

For visitors – Business travelers and tourists have convenient time and place access to clear instructions on using public transit to navigate throughout the County, and comprehensive information about recreation and entertainment options. Access points include hotels, public buildings, and recreation facilities. Street and place signage have become interactive consistent with the new image of the County.

VISION AS GOAL

In the fall of 2002 Hudson County adopts a Cyber Strategy with an Action Plan that includes initiatives for pilot policies, demonstration projects, and additional studies. As a result of the Cyber Strategy, Hudson County develops itself into a network of functionally integrated neighborhoods where homes, jobs, shopping, services, open space, and entertainment are within close proximity to each other.

As a result, the cities in Hudson County become highly desired residential locations for a mix of labor types including white and blue collar, entrepreneurs, technical analysts, and executives.

The economy becomes increasingly based on agile firms which have the ability to morph and shift with the market. These firms are driven by opportunity, are able to quickly downsize or staff-up, and can reinvent themselves on the fly. There is a just-in-time supply of office space that is consistent with that agility.

All firms from start-ups to large established corporations are supported by appropriate service delivery systems – small business assistance on one hand, work force preparation and placement on the other. The services are delivered at times and places and in languages convenient to the consumer.

Streets and highways are used closer to their highest and best use – moving freight and essential labor. Congestion is reduced and system throughput increased.

Government service delivery is demand-responsive and fast. The government permit process has been streamlined and decisions are reached quickly. Operating costs per transaction are lowered as e-governments become more like a network server providing resources to clients who produce some or part of the services they need when they need them, 24x7.

Retailers achieve a global reach and serve the local market by employing a bricks and clicks e-commerce strategy. Service organizations, distributors, and manufacturers employ e-business techniques for supply chain management.

The built environment is re-shaped around multi-function neighborhoods, which are aggregated into higher level activitys. A high percentage of household trips for work, shopping, education, medical care and entertainmentare satisfied within the neighborhood.

4.0 HUDSON COUNTY CYBER STRATEGY

The essence of the strategy is to modernize *place* and *enterprise* through full-scale deployment of cyber technologies and their applications.

The essence of the strategic initiatives is to move as much regionally generated commerce as possible onto networks, and create universal access to that commerce through centers strategically located and designed to contribute to regional mobility, economic growth, and urban revitalization.

Three initiatives are required:

The **Network Neighborhood Initiative** will address the modernization of place. The Initiative will retrofit existing commercial, civic, and industrial centers so that the enhanced mix of uses in each will provide the goods, services, and economic opportunities needed by those in the adjacent market area.

The retrofit of centers will range from a low level addition such as an Internet kiosk/ATM, a mid-level enhancement such as institutionally shared office space or a video-equipped meeting room, to the high level with a new shared, multi-use communications facility we refer to as a Network Station. In the longer run, bricks and mortar construction will be used to functionally enhance some centers, for example new housing in the parking lot of a declining retail mall.

Three initiatives comprise the Cyber Strategy for Hudson County

These network devices will create access to electronic transactions and virtual services at strategically located centers, the content for which will be generated through the second initiative, the Network Enterprise Initiative. The former needs the latter in order to offer a full range of content, and the latter needs the former to ensure a significant market/audience for their content. The Network Enterprise Initiative also depends on the Network Neighborhood Initiative for making the tools of e-commerce universally available to all businesses, no matter how small or poorly endowed.

The **Network Enterprise Initiative** will address the modernization of public institutions and private firms. The Initiative will provide the leadership and technical assistance for using the tools of e-commerce and e-business to create more agile, distributed work teams and businesses, no matter the industry.

The **Cyber Strategy Coordination Initiative** will guide the other initiatives and the various projects as they are planned and implemented.

INITIATIVES

#1 Cyber Strategy Coordination Initiative

This initiative will establish the institutional arrangements necessary to shepherd the other two initiatives through planning to implementation and evaluation.

The Office of Strategic Revitalization will, at least initially, act as the lead agency. However, the duties can be performed in-house or contracted out to a consortium of County agencies such as the higher education institutions, or to a single institution such as Hudson County Economic Development Corporation. A mix is also possible. For example, the duties can be contracted to one or more consultants who would be guided by a coordinating committee appointed politically or by the Office of Strategic Revitalization.

At least five tasks will eventually become part of this Initiative. It is unlikely that more than the first two can be addressed in the first three years covered by the Action Plan.

- Coordinate with the 12 municipal corporations, the New Jersey Meadowlands Commission (NJMC), State of New Jersey agencies and New York City agencies when appropriate.

The County's Cyber Strategy includes recommendations that will affect other political jurisdictions, most significantly the 12 municipal corporations and the NJMC. These recommendations are offered in the spirit of leadership, as nothing will compel the cities to follow those recommendations. The Coordinating Committee will need to educate the various parties and coordinate local voluntary actions with implementation of the County's initiatives. Since State e-government initiatives will be sought for inclusion in the shared-use facilities and in multi-government work and service centers, some coordination with participating State agencies will be required. Similarly, some of the County's programs could conceivably involve actions by New York City, also requiring coordination.

- Provide education on Cyber Strategy on a continuing basis to a broad range of communities.

A variety of programs to educate developers, elected officials, private CEOs, non-profit boards of directors, and the general public about the Cyber Strategy will be needed. Whatever committee is established to lead this initiative will need to identify the resources available to reach each target audience. The four post-secondary institutions in the County will most likely be at the center of this task.

Hudson County could eventually deploy a facility analogous to the Potsdammerplatz Info Box that was used by the City of Berlin to educate the public about what was the largest construction project in Europe at the time. The box became a significant tourist attraction in its own right. For example, the Hudson Cyber Info Box could become a tourist destination in Journal Square. Realistically, such a facility could not be developed during the first period of the Action Plan.

- Monitor conditions in digital network markets, identify technology opportunities, and recruit technology partners

The market place is continually producing new versions of existing technologies (e.g., the next Palm Pilot) and reasonably new technologies with significantly different capabilities (e.g., 3G wireless, tablet computers). The Coordinating Committee needs to monitor the introduction of these technologies into regional markets, assess applications that would benefit the greater community, and arrange joint venture agreements to bring those technologies and services to the County for specific purposes at affordable prices.

It may be possible to establish Hudson County and it's cities as "beta test sites" for a range of new technologies. This could include biometrics for office and plant security, blue tooth personal area networks for office machines, machine vision for industrial robots, process controls for ultra precision manufacturing, or 3G wireless for insurance and real estate offices. Value-added retailing opportunities could also be developed for entrepreneurs in Hudson County.

In addition, the Network Neighborhood Initiative (#2 below) will require a number of technology companies to participate as resource partners in order to build the public shared use facilities. The commitment of the County to a Cyber Strategy and the formation of the Coordinating Committee will make this task feasible.

- Monitor community needs

The Coordinating Committee will need to monitor the progress of the other initiatives and programs as they are implemented. This can take the form of a formative evaluation as the observations are used to redefine the program in-process. For example, as residents and businesses gain experience with new technologies in everyday life and as the cyber culture begins to take hold, new needs will emerge while some programs will go under-utilized. A maturing class of agile businesses may require different technical and technological support than the new class of entrepreneurs. Indian-owned businesses may require a different approach from middle eastern-owned businesses. Industrial development may present new challenges.

- Amend the Master Plan and other relevant policies to include Cyber Strategy

Since Cyber Strategy involves a new direction with unique initiatives, existing planning and policy documents will need to be updated to incorporate the new strategy. In some cases, only those initiatives contained in current policy documents, such as the Master Plan, are eligible for federal or state funding. This task will need to wait until formal adoption of a Cyber Strategy projected to occur no earlier than 2006.

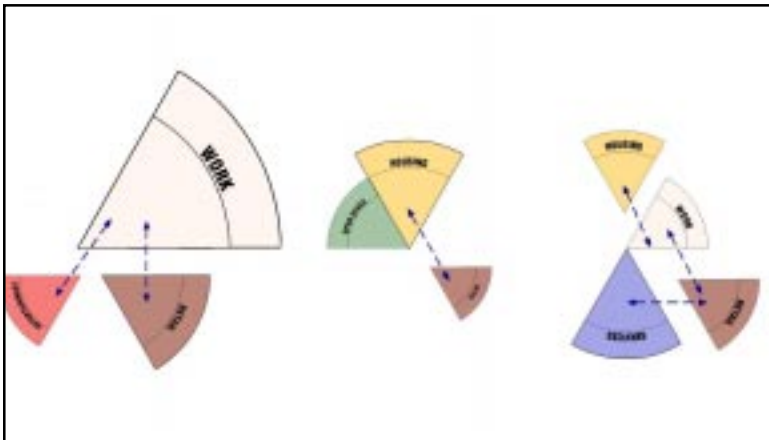
The Master Plan should, in the future, include policy recommendations relating to Cyber Strategy from e-government initiatives to transportation. Creating a Cyber culture at the government level and Integrating ITS into transportation improvements will be critical. Overall, each element of the Master Plan, most notably the land use plan, circulation plan, economic plan, housing plan, community facilities plan, utility services plan and the social services plan, should include the Cyber recommendations described in this report. In the action strategies for each of these Master Plan elements, for instance, digital technologies should play an important role to help distinguish the County and instill a culture that recognizes the value and cost savings of implementing a Cyber Strategy as a part of a larger planning effort.

#2 Network Neighborhood Initiative

This initiative will establish the spatial policies that will guide the various development projects. The objectives include using cyber technology (1) to increase the ability of existing activity centers to attract a high percentage of the immediately adjacent residents and businesses, thereby reducing demand for trips of over a mile or two; and (2) to reinforce a local sense of pride-of-place in neighborhoods throughout the County. Projects include:

Project 1 Network Neighborhood Centers Plan (Centers Plan)

The Centers Plan will describe the options for developing network neighborhoods (achieving functional integration) such that residents can access services and amenities throughout the county within one mile of their homes. The Plan will guide design and deployment of shared network access facilities (Network Stations), kiosks and other technologies for creating mixed-function buildings, and identify the other bricks and mortar needs of each center, especially housing.

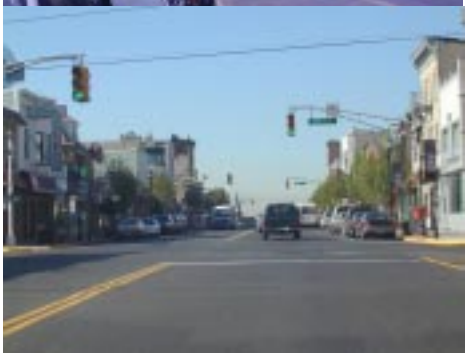


Areas within Hudson County often reflect a distributed pattern of services with tenuous physical connections between them. Travel is necessary for most needs.

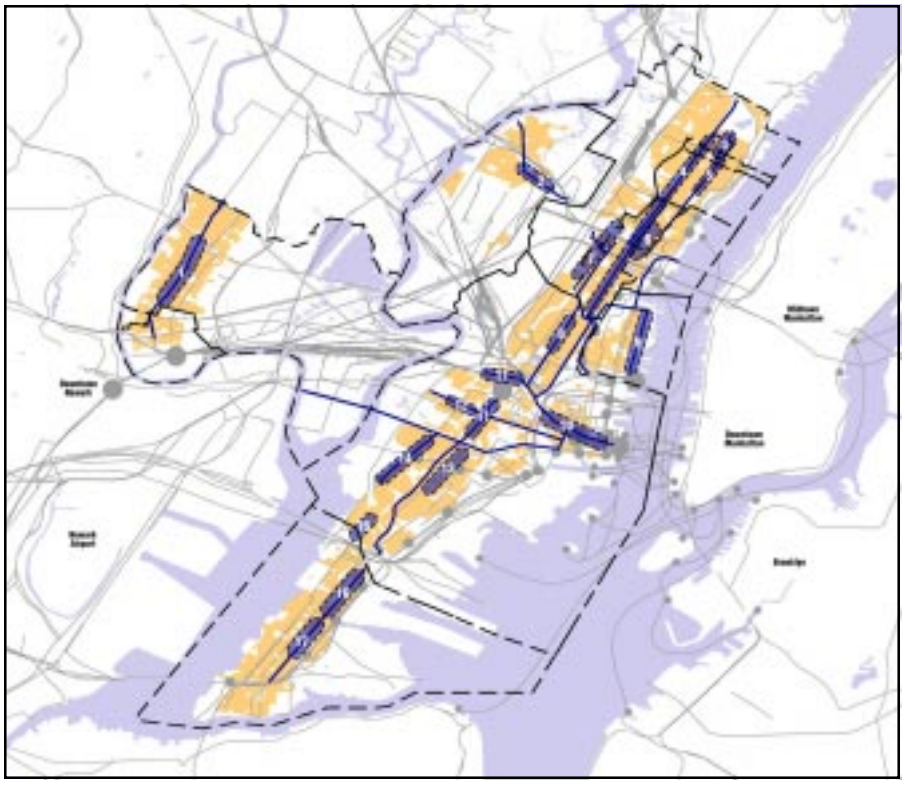
Virtual presence proposed as part of the Network Neighborhood Initiative can provide additional services at minimal cost.

The Centers Plan will combine information on political and geographic boundaries, public transit, streets and highways, existing retail malls, existing commercial strips, government buildings, libraries, community centers, civic centers, schools, industrial districts, office districts, brownfields, and ethnic districts in order to define an overlay of neighborhood and town centers and their residential service areas.

Through a process of functional mapping combined with residential surveys, the functions needed in each residential service area will be determined for each center. These needs will be expressed in terms of the virtual (e.g., distance education, telemedicine, e-government) and the physical (e.g., bakery, grocery market, civic space).

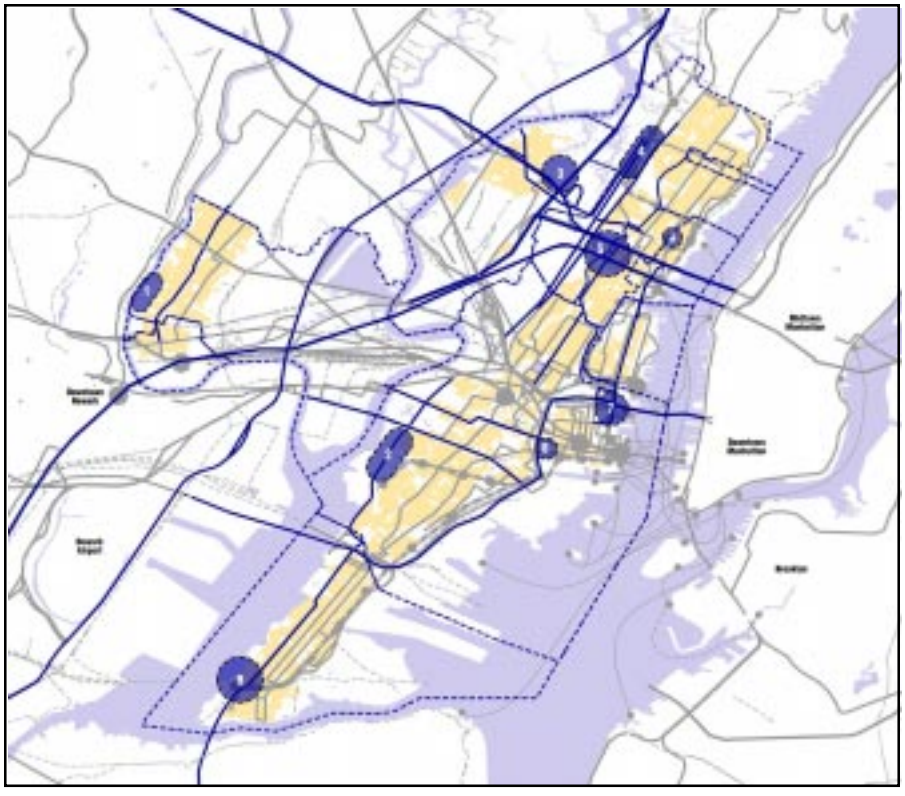


representative neighborhood centers



Functional mapping for Hudson County includes an evaluation of existing neighborhood and auto-oriented centers.

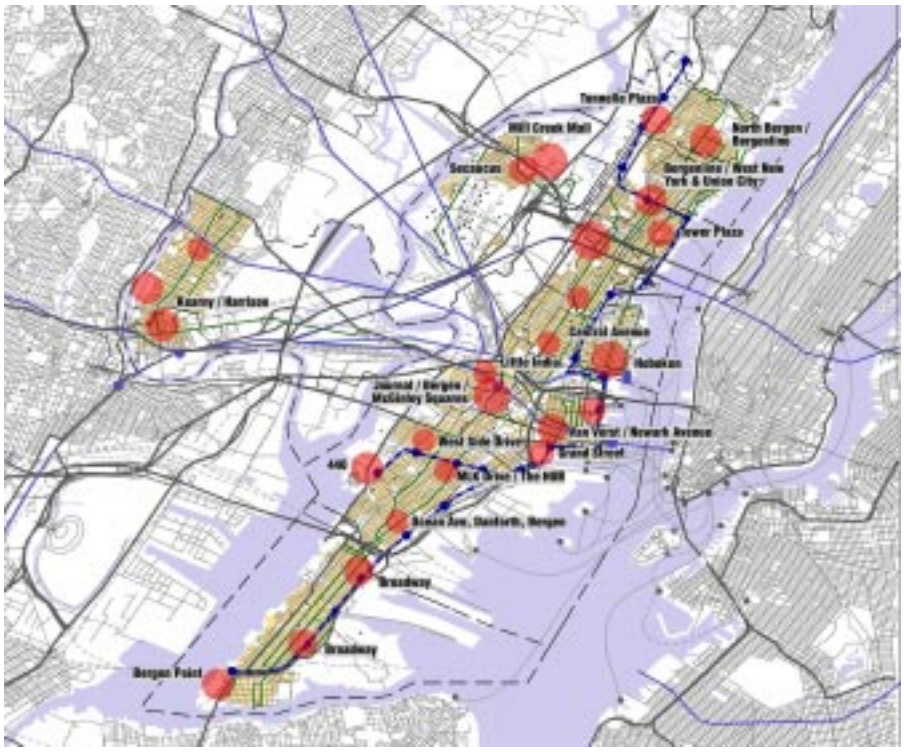
representative auto-oriented commercial centers



The needed virtual functions can be added to the designated centers in the short run, and the needs for bricks and mortar additions can be communicated to developers for adding new building in the long run. New construction will most often consist of housing.

The Centers Plan is the key to advancing the Initiative, as it will establish the spatial framework for future transportation patterns. One option is to develop a Centers Plan for a single city within the county in order to demonstrate the concepts on a small scale. No matter the order in which they are developed, the Centers Plan and the projects described below should be consistent with each other.

As an example, we have illustrated 28 centers across Hudson County that spatially cover all of the residential neighborhoods. These can vary in size and program depending upon the functional mapping as part of the Centers Plan. The graphic represents one example of future centers, the Centers Plan should specifically identify the centers through a more in depth analysis of existing commercial areas and neighborhood centers.



Existing neighborhood and auto-oriented commercial centers with the public transportation network.

Potential centers retrofitted with network stations to provide additional services over networks. As a representation of one future scenario, 28 centers are illustrated comprising larger and smaller network stations. 1 mile and 1/2 mile distances are indicated from each center.

Project 2. Centers Pilot Project

Consistent with the analysis underlying the Centers Plan, three centers should be identified for which an appropriately programmed shared-use network access facility could provide the functions virtually which would effectively complement the functions based-in existing bricks and mortar. The network access facilities should be developed as part of a three-center pilot project.

The pilot centers could be at transit stops or multi-modal stations, a declining retail mall not related to public transit, or a traditional mixed-use downtown, or some combination of these or other types. Through a preliminary physical analysis of the county, we have identified 9 candidate sites that could be considered as opportunities for pilot projects. These are candidates due to a number of factors including:

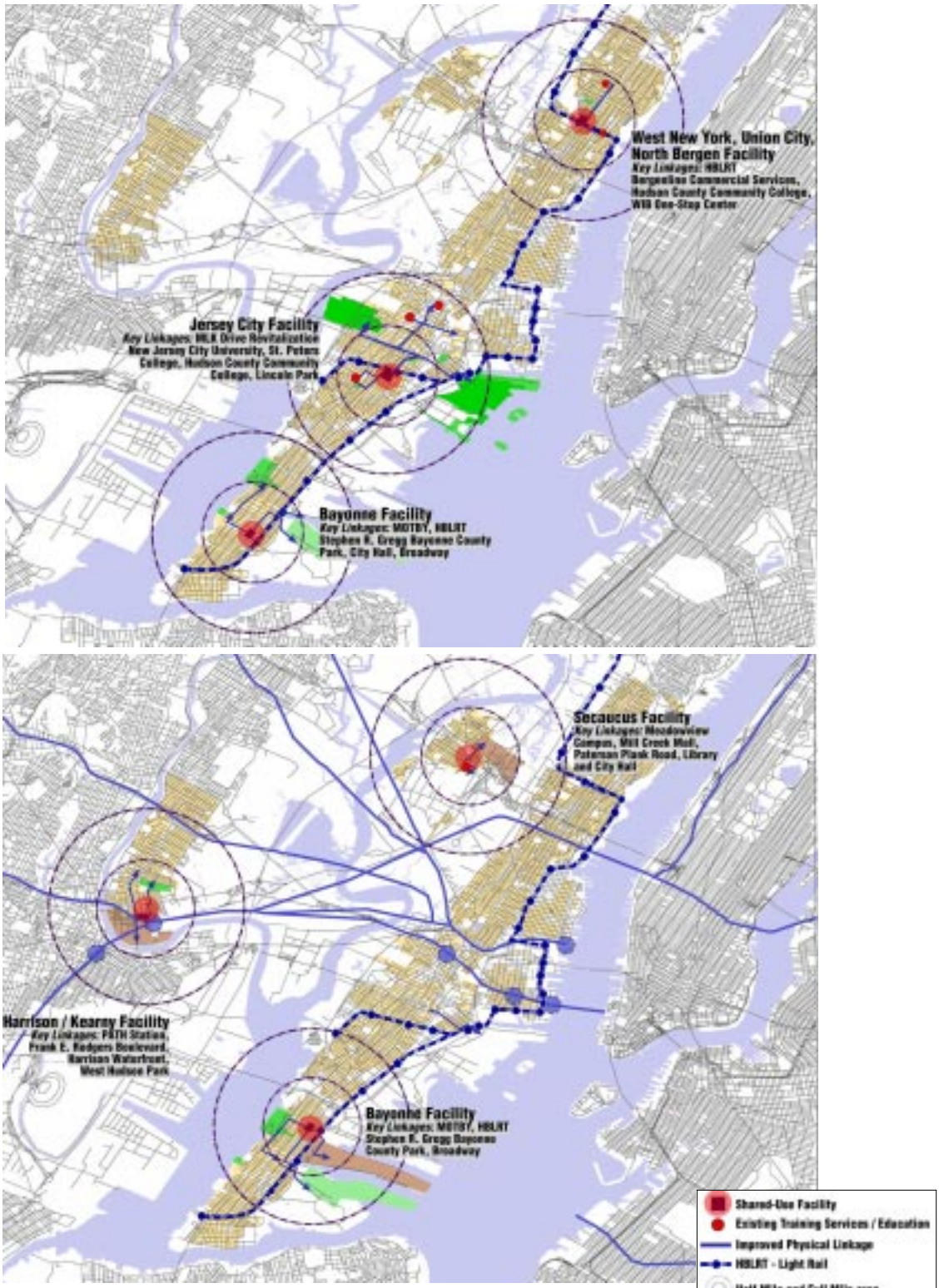
- proximity to existing investment,
- location at an infrastructure nexus such as the intersection of the light rail and bus services,
- strategic location within an existing commercial node of activity,
- potentially available space for large or small network stations,
- proximity to other service institutions such as schools and colleges.

We have grouped the candidate sites in three ways to explore different opportunities for a first set of pilot projects. For instance, one option illustrates three centers located along the HBLRT line to capitalize upon the massive investment into that system. The other two illustrate more varied approaches with pilot centers represented at HBLRT stations, PATH stations and along auto-oriented corridors served by buses. Combined, all of these reflect the fact that every municipality in the county has an excellent opportunity to participate in this effort.

It should be noted that these are just examples and that three sites should be chosen as part of the implementation of the Cyber Strategy that best reinforce existing assets, provide the widest amount of physical coverage across the county and, provide available property for network stations. The pilot projects need to have a large impact to fully rally political and financial support for more projects in the future. The candidate sites we have noted include:

Pilot Projects – Scenario One

- Bayonne Network Station – Broadway near the future 22nd Street HBLRT station and Special Improvement District between 17th and 32nd Streets. Key physical and programmatic linkages should be reinforced to nearby resources including HBLRT, MOTBY, the Broadway commercial corridor, City Hall, Library and the Stephen R. Gregg Bayonne County Park.
- Jersey City Network Station – MLK Drive - the HUB redevelopment area. Key physical and programmatic linkages should be reinforced to nearby resources including HBLRT, New Jersey City University, St. Peters College, Hudson County Community College and Lincoln Park.
- West New York, Union City and North Bergen Network Station – HBLRT station stop proposed on Bergenline Avenue. Key physical and programmatic linkages should be reinforced to nearby resources including Bergenline commercial uses, Hudson County Community College and the Workforce Investment Board One-Stop-Center.



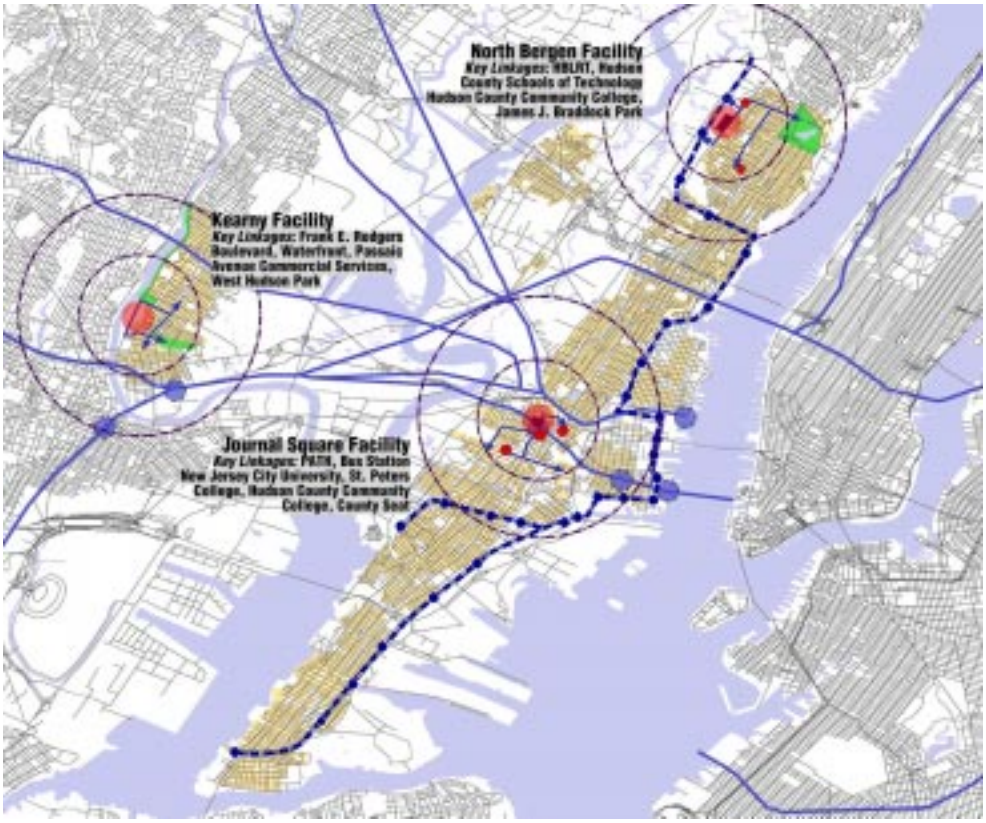
Potential Centers Pilot Projects - maps illustrate potential location, half and full mile distances, and key nearby assets to build upon.

Pilot Projects – Scenario Two

- Bayonne Network Station – Broadway near the 45th Street HBLRT station. Key physical and programmatic linkages should be reinforced to nearby resources including HBLRT, MOTBY, the Broadway commercial corridor, the Stephen R. Gregg Bayonne County Park and local schools.
- Harrison / Kearny Network Station – Adjacent to the Path Station near Frank E. Rodgers Boulevard. Key physical and programmatic linkages should be reinforced to PATH, Kearny Avenue, Harrison Waterfront and Redevelopment Area and West Hudson Park.
- Secaucus Network Station – On Paterson Plank Road south of Route 3. Key physical and programmatic linkages should be reinforced to Meadowview Hospital, Mill Creek Mall, library and commercial services on Paterson Plank Road.

Pilot Projects – Scenario Three

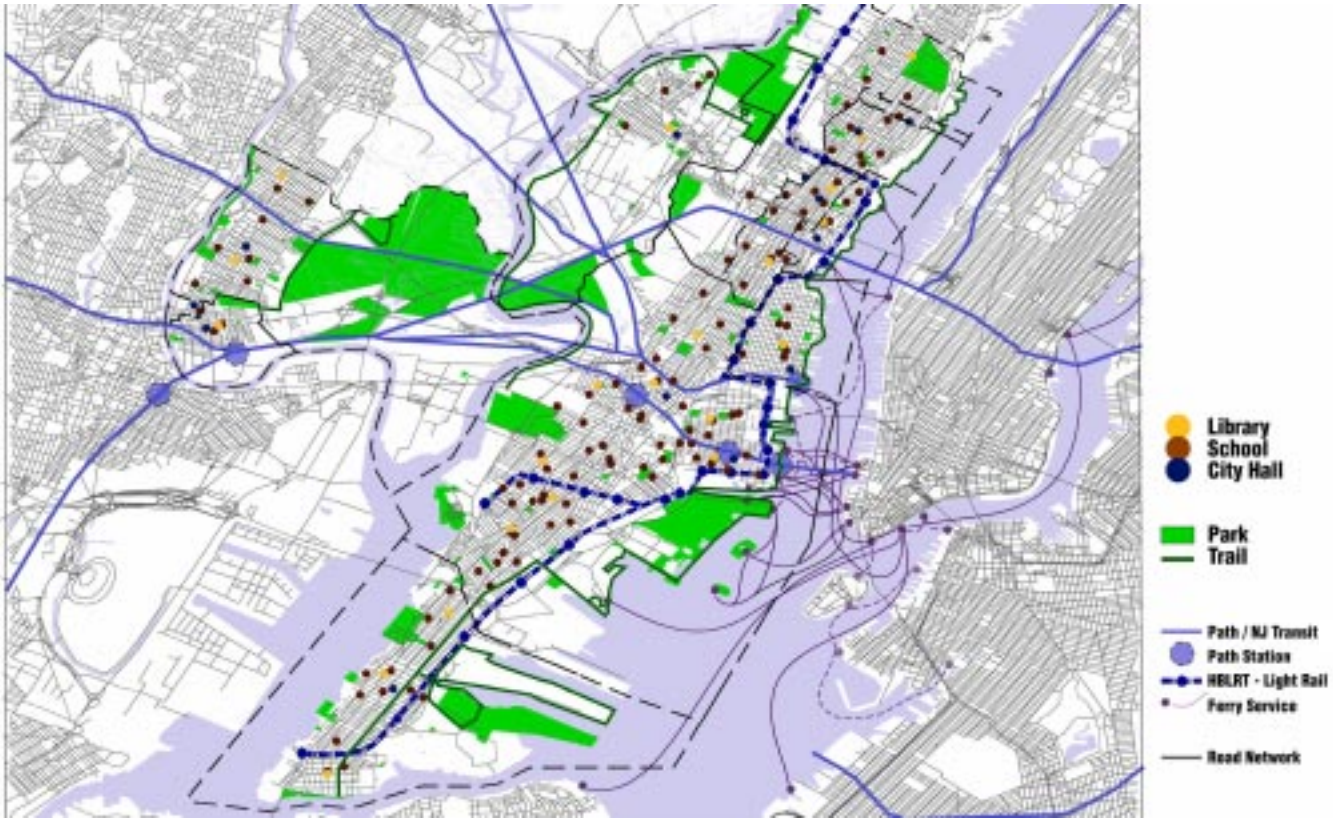
- Journal Square Network Station – In Journal Square adjacent to the public concourse on the top level. Key physical and programmatic linkages should be reinforced to PATH, Bus Terminal, St. Peters College, Hudson County Community College and the County Court House complex and Welfare Buildings.
- Kearny Network Station – On Passaic Avenue south of Bergen Avenue. Key physical and programmatic linkages should be reinforced to the Kearny waterfront, West Hudson Park, Kearny Avenue and the Passaic Avenue Redevelopment Area.
- North Bergen Network Station – On Tonnelle near Tonnelle Plaza. Key physical and programmatic linkages should be reinforced to HBLRT, Hudson County Schools of Technology, Hudson County Community College, Tonnelle Plaza and James J. Braddock Park.



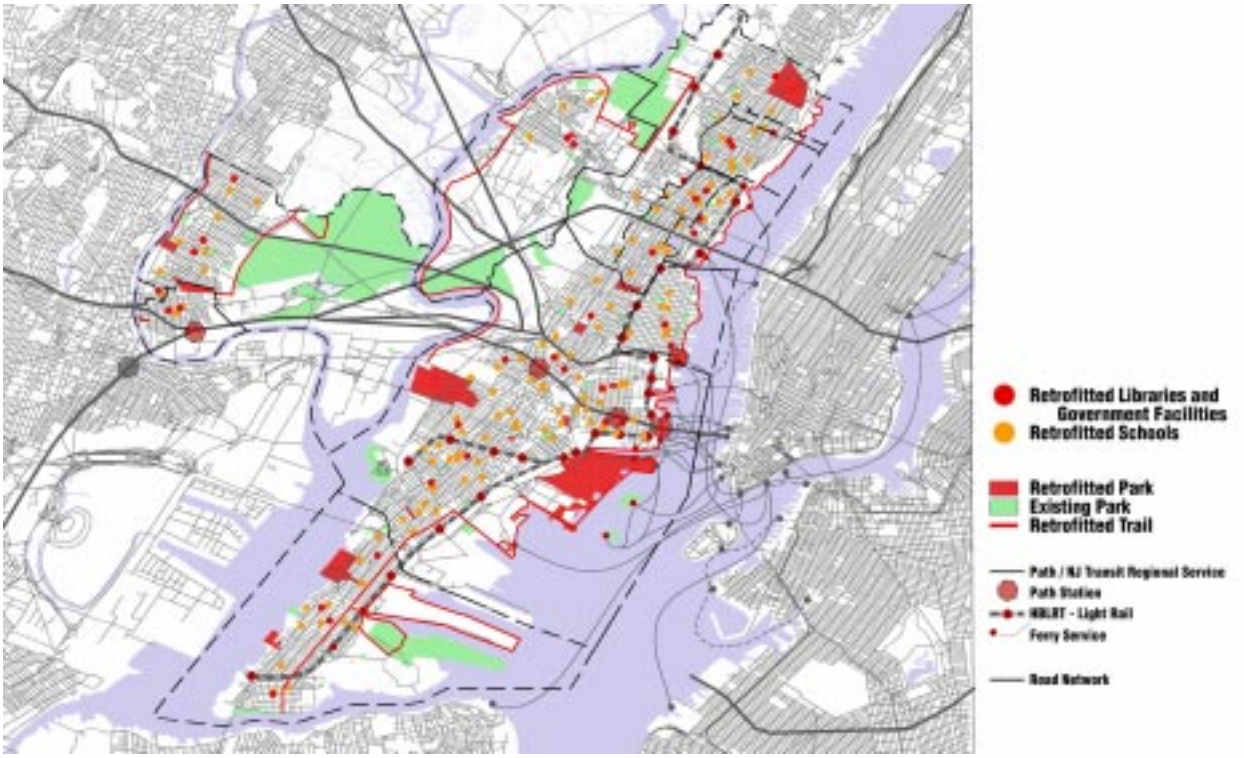
Project 3. Mixed Use Public Facilities

There are dozens of single function public facilities in the County that can be retrofitted to add one or more virtual functions. For example, common technologies such as kiosks, the Internet, audio conferencing and interactive video conferencing over ISDN can help city halls, county buildings, state facilities and federal buildings become multi-government employment and service centers. Public schools can become multi-grade community resource centers. Mini-malls can include a business conferencing center and distance education classroom next to the laundromat and convenience store.

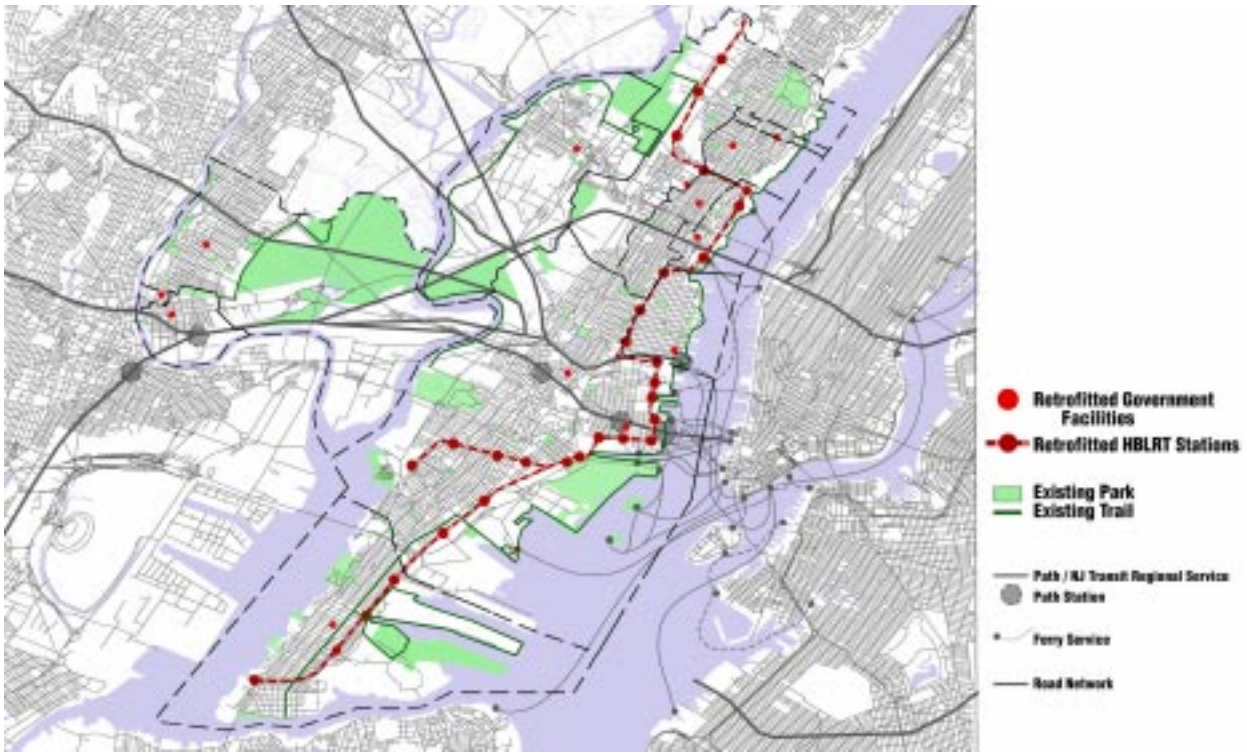
Several of these opportunities consistent with the Centers Plan and supported by the public institutions should be included in the Centers Pilot Project.. Beyond that, the County should identify opportunities to add functions to each of its office buildings.



Existing public facilities including schools, libraries, public transportation stations, parks and city halls.



Potential future - retrofitted public spaces with varying levels of network presence throughout the County.



Short term objective - pilot project for retrofitting HBLRT stations and city halls with technology applications.

Project 4. Mixed Use Public Facilities Pilot Project

The rail platforms and stations are among the most significant public facilities in the County. Ultimately, some virtual functionality should be developed at each light rail and active PATH station. A pilot project should be developed in the short run to focus on at least three of the stations. The options range from some type of kiosk for the platform stop to a size-limited facility on or adjacent to the platform. Reinforcing public transit as a form of mobility is one of the most effective uses of network access facilities.

Project 5. Centers Plan Revision and Developer Recruitment

Once the Centers Plan, the Centers Pilot Project, and the Mixed Use Public Facilities Pilot Project have been completed, the Centers Plan should be re-evaluated. Based on the revised Plan, the County should publish a national solicitation for firms interested in the bricks and mortar development opportunities in the new Hudson County. At the same time, the County should mount a marketing campaign to attract residents and small businesses who want to participate in the Hudson Renaissance.

The result should be investment and development that will provide the housing and other additions to the built environment that will complete the network neighborhoods designated in the Centers Plan. In other words, suburban malls, commercial strips, office parks, and other single function districts will receive the physical development needed to become more functionally integrated.

Project 6. Neighborhood Transportation Zones, Vehicles and Services Pilot Projects

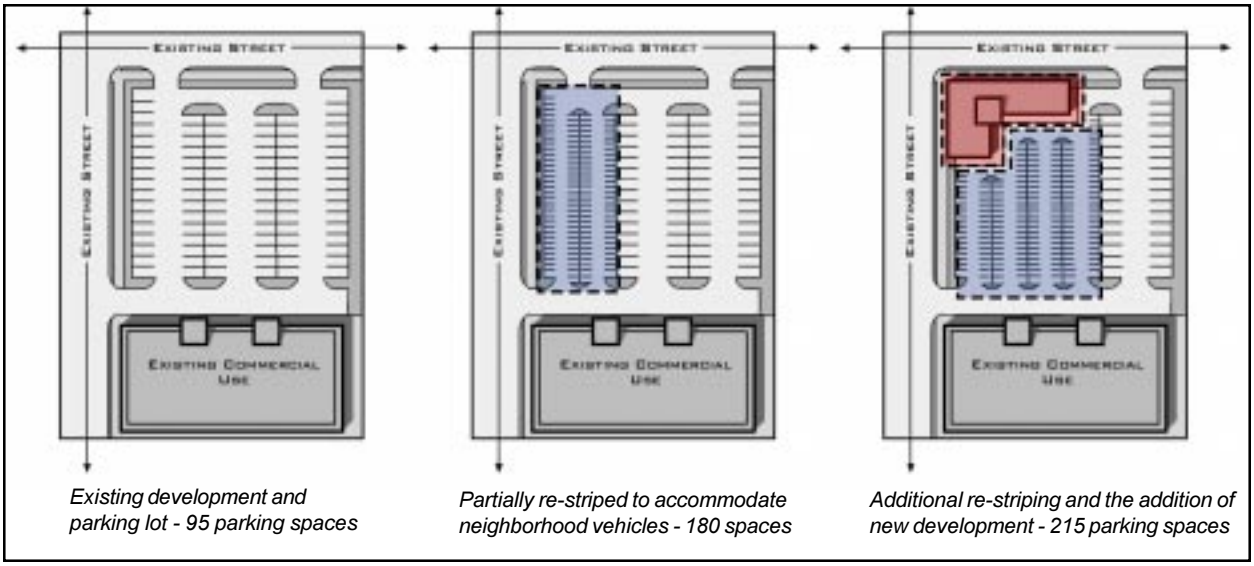
Municipalities participating in the Cyber Strategy can begin to designate pilot Neighborhood Transportation Zones in the service areas for each center. This will create a market for a small, relatively low performance class of private vehicles (neighborhood vehicles, e.g., Segway Scooter, Daimler Chrysler GEM, Vespa) suited to trips of a couple of miles.

For example, Daimler-Chrysler recently announced it had agreed to provide neighborhood electric vehicles to Playa Vista, a technologically sophisticated master planned development in Los Angeles County. Hudson County would be an excellent site for a similar pilot since the work trip for 140,000 residents who live and work in the County is no longer than 10 miles to begin with. Locally, Vespas (the european scooter) are becoming increasingly popular as documented in a recent New York Times article. New stores in New York City are selling Vespas rapidly with their appeal much in demand.

Since the largest of these vehicles are approximately ¼ the size of the high performance vehicles that currently jam the roads and parking lots of Hudson County, driving and parking congestion can be reduced without resources being spent to increase capacity.

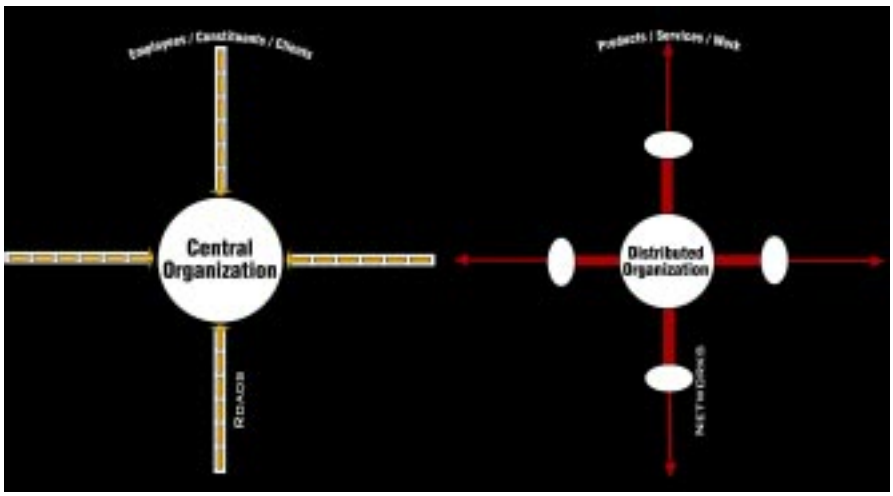
The NTZs can also become the basis for new forms of public transit such as flexible route short hop buses, or private radio dispatched on-demand jitneys. The designated centers should also convert many driving trips to walking trips.

Long term strategy of adding value to existing parking lots.



#3 Electronic Enterprise Initiative

This initiative will produce the various enterprise projects that complement the Network Neighborhood Initiative. The objectives include facilitating the transition of production and service delivery activities of each enterprise from bricks and mortar to digital networks, and to create demand for mixed function facilities.



Projects include the following:

Project 7. e-Government

Most of the progress in making a transition to e-government has occurred at the state and especially the federal level. Local governments have been lagging.

The primary problem has been the lack of a strategic model to guide the transition. Most of the progress to date has occurred idiosyncratically. The one new alternative to traditional bureaucracy that emerged in the early 1990s is privatization. But that movement is unrelated to digital technology. It is likely over time that a model inspired by digital technology will take hold and the leading candidate to do so could be called the client-server model.

In a client-server inspired government, the corporation migrates away from direct service provision in many areas and instead provides the resources for citizens, neighborhoods, and community-based organizations to produce the services that each needs. A private sector analogy is in electronic banking, where the customer uses digital technologies to enter data and move funds without a human intermediary. This idea in local government would mean that individuals would go online to choose and reserve a recreation facility such as a softball diamond, rather than call a bureaucrat to do it for them. This idea can be extended into many of the services currently offered by county and municipal governments.

Similarly, transactions with suppliers will also migrate to digital networks. That practice is inherently more efficient than current practice and will eventually lead to other benefits such as demand consolidation among local governments and group buying.

The client-server model is consistent with the larger economic context, discussed throughout this publication, of the need to minimize the time and energy for ground transportation associated with centralized bureaucracy. If constituents increasingly use a digital network to acquire needed services and networks are used by government for business-to-business transactions, then it will become apparent that government employees can conduct their business at least part of the time over a digital network, rather than in a central bureaucratic office.

Current state-of-the-art in local e-government is very uneven within any one government, due in part to the lack of application of a unifying model. As a result, practice has developed not so much of an e-government but leading e-departments in some government agencies. Leading agencies can be the library offering online access to its resources, the planning department making GIS data available online, city clerk accepting online payments for municipal fees, and so forth.

A cautious first step in this project would be improving the look and feel of the County Web site, and the amount and timeliness of the information it offers. Similar improvements should be made to Web sites in each of the cities.

The Office of Strategic Revitalization (OSR) should create a committee of County and city representatives to establish guidelines and identify funding for development of Websites for all local governments and government agencies. Eventually these Website should render services directly over the Internet, such as licensing, permitting, payment of fees and fines, etc.

The OSR could also conduct a formal evaluation of the network technology needs of the County of Hudson and the 11 cities and of the institutional arrangements for managing the networks. For example, the University of Texas has developed a Government Performance Project in which it evaluates the county government's use of information technology according to seven criteria – architecture, management support, planning, citizen involvement and engagement, cost-benefit analysis, procurement, and training. In April 2001, 40 of the largest counties (by revenue) in the nation were surveyed. The County of Hudson could request that the Government Performance Project administer the survey in order to get an accurate assessment of where the County ranks in relation to the current state-of-the-art in network development.

Other options include evaluating a call center shared between the county and the 12 municipal corporations in order to capture economies of scale, and to reduce the complexity of government encountered by citizens

and businesses. Similarly, one face to government can be advanced through a Hudson County portal that acts as an umbrella Web site for all government agencies in the county. Such arrangements can also be used to facilitate joint purchasing activities and other aspects of e-business.

Another option is a telework facilities exchange wherein work stations are designated in certain county and city buildings for use one day a week by employees of any local government who live nearby. In this way, a dedicated county facility can also serve as a multi-government work center. The prototype developed in California was well received by both employees and managers. The practice could grow into multi-government service centers.

There are also a variety of sources of information on e-government available. These include the Civic Resource Group (www.CivicResource.com) , Government Technology (www.govtech.net), and Digital Government Research Center (www.DigitalGovernment.org) as well as the traditional organizations such as Public Technology Inc. and the ICMA. A leading example of e-government in practice can be found at www.lewisham.gov.uk. A number of firms provide technical assistance for planning and implementing e-government, such as PricewaterhouseCoopers.

Project 8 Countywide Microbusiness Incubator

This project will use the new infrastructure of the Network Station (see Project 2) to capitalize, through shared access to business technologies and technical assistance, start-up and micro-businesses throughout the county. The project involves channeling existing small business development resources of the State and existing county-based agencies through the pilot Network Stations. The Network Stations will market those resources while providing assisted access to e-commerce.

This project will likely create an electronic marketplace for free lance workers and small business, and potentially market them locally via a "neighborhood business forum" over public access cable television.

The objective is to not only increase the formation and retention of successful small business, but to help those entities become agile businesses, capable of adapting to changing economic conditions.

Project 9 Regional Telework

This project will encourage and support the transition among large employers from a centralized work force to a distributed work force. There are limits to success since so much of Hudson County industry involves materials fashioning or handling requiring a centralized work force. This increases the urgency of engaging the information businesses and the administrative component of material handling businesses to participate.

Furthermore, this project must be based on a set of incentives rather than coercive policies. Political leadership is the key to success. More than any specific action, the County needs to lead by example – through aggressive pursuit of the e-Government Project.

The plan for this project may include hosting the annual conference of the International Telework Advisory Council, inviting academic experts in the field to make presentations at local meetings of professional organizations, maintaining a list of local consultants who can advise on pilot programs for hotelling or other alternative office practices, and working with New York City representatives to encourage telework.

Project 10 Micro Business Web Assistance

The County or any of the colleges can provide discounted Web hosting services to very small businesses who meet certain qualifications. Web hosting now costs from $50 to $150 per month. The same institutions can also help these businesses develop a Web presence. The following is an example in the context of the retail community.

"Bricks and clicks" refers to retail stores that operate out of both a physical place and a Web site. Combining the Web sales channel with a retail storefront has become the preferred business model since the collapse of the dotcoms, such as Webvan and others. Notable successes have occurred with this model among even micro retailers. For example, the "Cyber Pies" lady from Compton, California who used the Web to significantly expand sales of her sweet potato pies.

It has typically been just the larger stores and chains who have the resources to develop effective Web pages. This project will help the ethnic, family-owned and sole proprietor businesses develop a Web presence.

One mechanism for this is to develop the arrangements for linking students in web design training programs in formal institutions or community technology centers to Hudson County retailers interested in building or improving their Web business. The trainees can gain practical experience and the retailers can benefit from low cost assistance. The effect will be that more businesses in the county will achieve a Web presence.

Project 11 Electronic Meetings

Audio and video conferencing over the public switched network or as web-meetings have become very inexpensive and easy. Given the parking and congestion problems of the county, a project to encourage electronic meetings instead of physical travel between points in the county, or between the county and New York City, Trenton, or other external locations should have obvious benefits and be relatively easy to implement.

Discounts for access to an audio bridge can be negotiated with vendors. High profile web-meetings can be publicly demonstrated. Network Stations will provided shared-use public meeting spaces equipped with video and audio conferencing systems.

EXAMPLES

The following scenarios are intended to help communicate how the Initiatives could affect the local mix of activities, reinforce and more effectively use public transit, revitalize depressed areas, and advance economic development. The places and institutions mentioned are illustrative and do not imply agreements by any organization to participate in any manner.

Journal Square

Ten thousand square feet of space in one of the buildings in or near Journal Square can be developed into an electronic meeting center. Up to 20 meetings can be held simultaneously in rooms as small as 500 square feet. One of the features of the center is an agreement with a variety of state agencies located in Trenton to video conference meetings for people who would otherwise have to travel to the State Capitol. For example, staff of the HCEDC can discuss current progress in the small business loan program with officials of the State EDC. And those EDC officials can also make presentations from Trenton to candidate loan applicants meeting at Journal Square, with the nearside staffed by the HCEDC. Hudson County Community College can also use the facility to originate distance education classes which are delivered in-person to students in Journal Square and to others gathered in Network Stations in Bayonne, Secaucus and Kearny. Audio conferences between Hudson County businesses and suppliers located elsewhere in the region are routinely held in Journal Square as each meeting room has a high quality speaker phone and low cost access to a multi-port audio bridge.

The plaza area of Journal Square has been equipped with over two dozen kiosks of various types. They include ATMs equipped with biometric recognition for use by those who lack a bank account; talking ATMs for the blind; Internet kiosks to enable online purchasing of theatre and sports tickets, checking e-mail, or making the next move in an online game; and kiosks for printing digital photos from flash memory.

The center of the plaza contains an art exhibit from one of the local colleges and it changes on a frequent basis. New landscaping has been added. Cafes have opened in and around the plaza. A wide-fidelity hot zone extends 100 yards in each direction, allowing people with lap tops to sit, eat, or drink in this environment while also accessing the Internet to download email or conduct any of the other possible transactions.

Journal Square

A Cyber Info Box is located in a nearby building. It is offers interactive exhibits of the Centers Plan, e-Government demonstrations, and Web conferencing. New technologies are showcased, and every child who elects to be digitally photographed on entering is given a printed paper with a bar code that when scanned reveals the child's picture. The Cyber Info Box has become a significant tourist attraction.

As a result, Journal Square has become more of a vital public space where people linger and mix. Commercial prospects have greatly improved and should be built upon.

Network Station in a Network Neighborhood

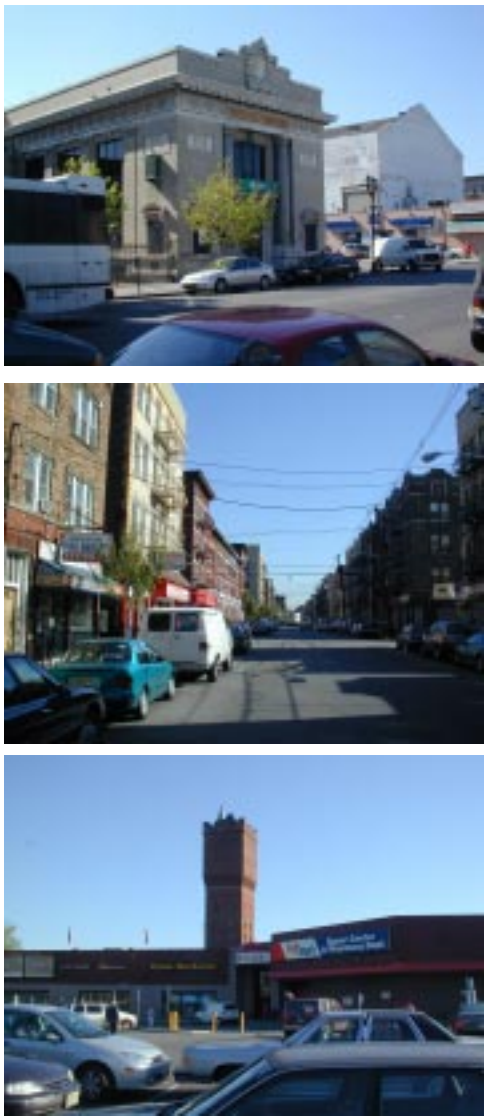
A Network Station is new type of public facility that is analogous to a train station – it is a place where people go to get access to other places. The difference is that a train provides physical access while a Network Station provides virtual access to other places.

A Network Station is a shared, mixed-use public facility that is based-on high-end but off-the-shelf cyber technologies. The functions it can offer include a mix of education, workforce training, medical diagnosis and treatment, entertainment, small business assistance, business meetings, training and equipment for distributed work, banking services, and retailing. The functionality of a Network Station should reflect the needs and interests of the local community it serves.

A Network Station is shared by two groups of users. The first are the users that don't physically visit the facility but who provide content to it from elsewhere. The second group of users are those who physically visit the facility in order to use the technology to either:

- gain access to the content provided by others (e.g., seniors seeking benefits counseling from Social Security Administration) or
- produce content for distribution elsewhere (e.g., small businesses who use the Network Station's digital cameras and Photoshop software to include .pdf image files in a report being e-mailed elsewhere with fast transmission provided by the Network Station's broadband Internet connection)

Each facility can vary in size from a couple of thousand square feet or more as needed. While each facility will contain electronically equipped meeting space, computers, work stations for shared-use, and kiosks/ ATMs, the balance will vary according to community need. High speed Internet connections and "wide-fidelity hot zones" will provide network service to those inside and adjacent to the facility. Expert staff will provide assisted access to e-commerce for users from novice to



Existing neighborhood centers in Hudson

experienced. In some cases, specialized equipment such as music or video production studios may be part of the mix.

The Hudson County Centers Plan hypothetically calls for the addition of as many as 30 Network Stations to existing activity centers. Some of these centers may be thriving commercial strips, where the Network Station will add complementary activities. Some may be added to declining retail malls accompanied by new housing on the edge of the parking lot as a revitalization strategy. Other options are possible. A variety of programs and opportunities will be offered to respond to community need.

Work stations (offices) will be available to those telecommuting for the day to jobs elsewhere in the County or in NYC; or to small business owners or non-profit corporations who need the professional environment, the solitude, or some particular piece of software or hardware to complete a task.

Computers will be available for teaching computer literacy, for personal use to send e-mail or access the Internet, to seniors for online purchasing at holidays when traffic and / or weather make it too difficult to shop; and to those with home offices who want to preview a particular technology before buying it.

Meeting rooms will be used by residents to gain access to work skills training, general education classes, some limited medical diagnosis and health care service delivery, and cultural programs via interactive video originating in places such as the Museum of Radio and Television, the Museum of Tolerance, or the National Oceanographic Institute. These same facilities can be used for meetings between people in their neighborhood and businesses, government agencies or non-profit service providers located elsewhere in the county or the region. Kiosks including ATMs provide convenient and easy access to a wide range of services without the client needing to sit down at a computer.

As a result, Network Stations provide a focal point for each neighborhood and center in which they are developed. They can help to attract new development where it is needed.

Rail Station

A rail platform in a commercial area such as Exchange Place can host an Internet Access Kiosk so that employees on their way home can purchase theatre tickets online, send an email to a friend, or check the closing value of a stock. Those carrying laptops can sit and access the Internet via the "wide-fidelity hot zone" that extends 100 yards around the platform and play online games until the train arrives.

In a residential area, a mini-mall adjacent to the platform contains a multi-purpose video conference room. During the day it is used for medical consultations between the neighborhood and various county hospitals. A variety of distanced education courses are offered each night.

ATMs like the Transcom machine in Journal Square are one simple addition that can enhance an existing rail station.

ACTION PLAN

JANUARY, 2003 THROUGH JUNE, 2006

Phase 1: January – June, 2003

The following tasks can be led by the County at a minimal cost with existing staff without structural change.

1. Revise County Web Page

The County's Web page will require several revisions over a period of time in order to become comprehensive and transactional. The immediate efforts, currently underway, should incrementally add and maintain a broader range of information. More elaborate revisions will be generated be the e-Government Project which will involve planning and adopting a variety of organizational changes and new practices.

2. Convene City Web Masters

The County Web master should initiate a meeting of the Web masters of the 12 cities in order to discuss a shared vision, standards, linkages, and joint projects. This group should also set up a mechanism for monitoring "best practices" in the government online community. The County will also be able to use this group to disseminate information to the cities as its own e-Government Project advances.

To the extent that this effort is successful, the County Web master should consider convening the Web masters of organizations involved in other key economic development systems such as the "Workforce Training" system. The County Web site should link to these systems, and the member organizations should link to each other and to the County. Progress made to date by the "Comprehensive One-Stop Career Centers" initiative being led by the Workforce Investment Board should be incorporated in this effort.

3. Encourage Audio Conferencing

County staff members conduct hundreds of meetings every week with private parties, other government agencies and other County staff members. Many of these meetings require travel beyond walking distance by one or more of the meeting participants. To the maximum extent possible, the County should encourage audio conferencing for these meetings, even when the distances are short (between the County Building and a city hall for example). Meeting rooms in the County building should be equipped with a table-top speaker phone and a telephone jack. The County should subscribe to an "audio bridge" service so that four or more locations can be conferenced at the same time.

Members of the Steering Committee should also encourage their respective institutions to adopt audio conferencing practices and make them routine, if they are not already.

4. Begin Image Campaign

The County should issue press releases, seek news stories and conduct events to publicize "cyber achievements" by the County or any of its constituents. These are practices normally reserved for announcements regarding high technology such as for a technology business incubator. However, the County is now trying to create an image around public technology in support of improving the quality of life. For example, the recent grant awarded by the State to Hudson County Community College to expand its network of community technology centers could be celebrated for mixing uses within existing buildings, for the institutional cooperation that was involved in developing the grant application, and for generally being consistent with the County's Cyber Strategy.

5. Develop Cyber Strategy Coordinating Committee

Coordinating the Cyber Initiatives requires committed participation by key institutions over at least the next three to four year period. The active participants in the current Steering Committee should be considered as the core of the future Coordinating Committee. However, important interests were invited but failed to participate. One of the first actions of the Coordinating Committee and its members should be to reach-out to municipal leaders and others important to the success of the mission.

Assuming quarterly meetings, the Coordinating Committee could meet in December, and then twice in the first six months of 2003. Those meetings should:

- formalize the three-year work plan presented below,
- assess resources and possible sources of additional resources,
- discuss recruiting the absent members,
- share cyber initiatives in the planning stages within each institution,
- monitor progress with the first four tasks, and
- identify possible approaches to attract private sector support for the cyber Initiatives, especially from technology companies.

Phase 2: July, 2003 – June, 2005

The top priority for the Phase 2 work plan is the Centers Pilot Project (Project 2)

Centers Pilot Project

This pilot project involves developing a Network Station and retrofitting other single function public buildings in each of three neighborhood districts in the county in order to:

- provide an advanced technological infrastructure as a portal to e-commerce,
- introduce an activity center that could stimulate revitalization of the neighborhood,
- deliver work force training, small business assistance services and other educational products to a convenient neighborhood location,
- dramatically increase the mix of activities available in the neighborhood, and
- showcase a variety of new digital technologies.

The project should build on current cyber initiatives in the county such as the community technology centers of Hudson County Community College and the Comprehensive One-Stop Career Centers of the Workforce Investment Board.

The Network Stations could be implemented approximately 6 months after the planning process has been initiated. The facilities can be deployed in existing buildings so no new building construction will be required.

This project should be considered the top priority for implementation because it involves making progress on parts of seven other projects:

- Centers Plan (Project 1) – The analysis required to select the neighborhood districts will essentially begin the county-wide Centers Plan.

- Mixed Use Public Facilities Pilot Project (Project 4) – Rail stations are the top priority public facility to retrofit with digital technology. It is likely that each of the neighborhood districts selected will contain a rail station.

- Neighborhood Transportation Zones (Project 6) – It is possible that the Pilot facilities will lead to at least the planning for NTZs and possibly limited introduction of some innovative vehicles.

- e-Government (Project 7) – The Pilot facilities require content to effectively demonstrate benefits. Each facility will begin with distance education and training, e-commerce, and e-government programs currently available, and develop more programs over time. Aspects of e-Government network content will be developed as part of that process.

- Countywide Microbusiness Incubator (Project 8) – Each facility will capitalize the micro and small businesses in the neighborhood. The experience of marketing small business loans and technical assistance programs through the Network Stations will provide valuable information for expanding the program county-wide.

- Regional Telework (Project 9) — Each network Station will include shared work stations in some configuration. The marketing/outreach aspect of the Pilot Project will include recruiting teleworkers from employers in the region. This experience will lead to design of a formal regional telework program in Phase 3.

- Electronic Meetings (Project 11) – Video conferencing over switched ISDN and as Web conferencing will add to the audio conferencing practices begun by the County in Phase 1.

The approximate cost of planning the Centers Pilot Project will be $150,000 including neighborhood and specific site selection. Depending on the required tenant improvements and the building rent, each Network Station could cost approximately $2 million to develop and operate for a two year period. A business plan for self-sufficient operation should be possible by the end of the second year of operation. Therefore, the total cost of the Centers Pilot Project may be approximately $6.15 million. Technology companies may provide equipment and/or direct funding. Were planning to begin July 1, 2003, the facilities could open between January and June, 2004.

There are also four planning projects that should be completed in Phase 2

Mixed Use Public Facilities — Rail Stations (Project 3)

This project will develop a plan for adding digital technology to each of the rail stations in the county. In some cases, the plan will call for fairly modest additions, such as a kiosk/ATM device, and others will involve a Network Station and bricks and mortar development. Existing plans for transit oriented development should be reviewed in terms of the digital technologies and services that could enhance the functionality at the station.

This project can be completed in a year and should cost approximately $150,000. It should begin by January, 2004

The Centers Plan (Project 1)

This planning project will establish the spatial framework for deployment of the Cyber Strategy. As described earlier in the text, the Centers Plan will describe the options for developing network neighborhoods (achieving functional integration) within one-mile of residential neighborhoods throughout the County. The Plan will guide design and deployment of shared network access facilities (Network Stations), kiosks and other technologies for creating mixed-function buildings, and identify the other bricks and mortar needs of each center, especially housing.

The work plan involves analysis of the built environment in order to identify existing single and multiple use activity centers, functional mapping of each of the major centers, surveys of consumer transportation behavior and needs. One of the potential outputs from the plan will be possible new areas for housing development.

The Centers Plan should take 1.5 years to complete. If it can build on the planning for the Centers Pilot Project, its cost should be approximately $400,000. It should begin sometime in 2004.

E-Government Project (Project 7)

This project should begin with a plan for transition from a bureaucratic government to a new structure based on a client-server model. In the client-server model, government provides resources to its constituents like a server on a local area network provides resources to its user-clients. Government becomes more of an enabler and less of a direct provider. Decision processes such as permit approval speed-up. A great deal of content and many transactions are carried over digital networks.

This will be a major endeavor and take many years to accomplish. The first plan for the initial steps toward e-Government practices will involve improving customer service channels, including the Internet, call center, and walk-in options. Like the other projects in the Action Plan, this one will require specialized expertise to develop the plan and guide its implementation.

It is estimated that at least $1 million per year should be allocated to this project for each of the next three fiscal years.

Depending on the priorities actually adopted by the County, the Coordinating Committee should prepare to conduct an educational campaign in support of what is being planned. This might involve programs in e-Government for the county's elected municipal officials in partnership with the New Jersey State League of Municipalities, or inviting the International Telework Advisory Council to hold its annual conference in the county. The colleges and universities might consider developing adult education classes in various aspects of "cyber society." A "Cyber Info Box" for Journal Square, as described earlier, might prove to be a good investment.

Micro Business Web Assistance (Project 10)

The County Web master, and appropriate faculty at the colleges should meet to discuss arrangements by which micro businesses could get affordable technical assistance and hosting services essential for developing a Web presence. Costs will need to be identified by the participating institutions, but this is likely to be one of the least expensive of the recommended projects. Assuming financial feasibility, limited implementation could begin as early as 2004. The goal should be to get all interested Hudson County businesses online by July, 2005.

The costs through Phase 2 are approximately $10 million – about the minimum cost of creating a one mile high occupancy vehicle lane on an Interstate Highway.

Phase 3: July, 2005 – June, 2006

While the actual Phase 3 work program will depend on the accomplishments of Phases 1 and 2, the following outline provides an idea of what could be happening after almost three years of work.

- The Centers Plan (Project 1) should be complete and being used as a guide for developing new housing and introducing alternative vehicles at some places in the county.
- The Centers Pilot Project (Project 2) should be complete and, based on lessons learned, planning for an expansion of the project should begin.
- Mixed-Use Public Facilities Pilot Project (Project 3) should be completed for at least some rail stations and public buildings included in the Centers Pilot Project.
- Mixed Use Public Facilities should have become almost common with many County facilities now video conferencing between themselves and the Network Stations, and with some form of digital technology located at every train station.
- Neighborhood Transportation Zones (Project 6) will have been introduced in the Centers Pilot Project. County engineers should be working with city transportation staff to analyze the Centers Plan for street striping, signage, electric charging stations location and other programs required to accommodate alternative vehicles on city streets.

- E-Government (Project 7) should have begun some form of implementation with more progress scheduled to occur in Phase 3.

- County-wide Microbusiness Incubator (Project 8) should be planned and implemented following the expansion of the Network Stations proposed above.

- Regional Telework (Project 9) should begin formal expansion in Phase 3. Elected officials and a few leading corporate executives need to lead a voluntary but wide-scale regional telework pilot project. Network Stations already deployed can provide alternatives to work at home for some employees. This would be the time to consider a Hudson County Telework Facilities Exchange for government employees.

- Micro Business Web Assistance (Project 10) could be complete by the beginning of Phase 3.

- Electronic Meetings (Project 11), aided by the Network Stations and mixed-use public facilities, should be embedded in the business culture by this time.

- A revision of the Centers Plan and Developer Recruitment (Project 5) should be planned as part of phase three but implemenation should occur following the success of the projects listed above.