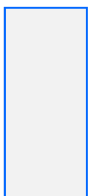




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## **IRONBOUND RESEARCH PROJECT—PHASE ONE**

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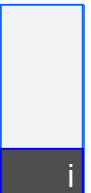
*This printing supported by the Urban Lab at the School of Architecture at NJIT. The Urban Lab is funded by a grant from the New Jersey Casino Reinvestment Development Authority.*

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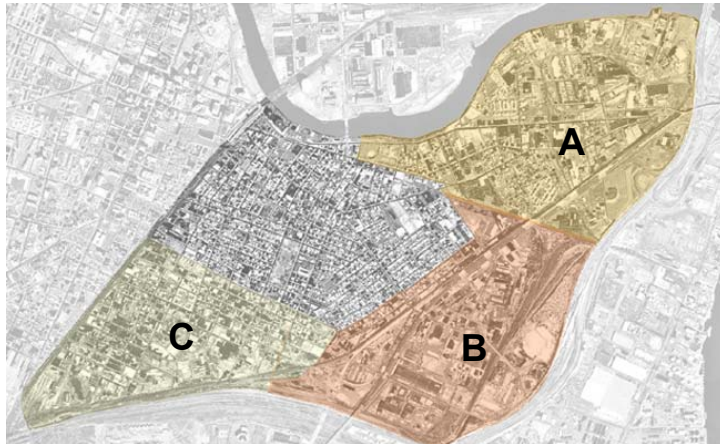
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# ACKNOWLEDGEMENTS

The Ironbound Research Project is a many phased undertaking of the Infrastructure Planning Program at NJIT. This report documents the first phase of the project carried out during the fall semester of 2001. It examines the relationship between the Ironbound and the larger region of the I-95 corridor to provide a research foundation for Phase II, an urban design study carried out during the spring semester of 2002, and Phase Three, a comprehensive traffic analysis to be carried out in the fall of 2002 and the spring of 2003.

The Project is undertaken at the request of the Ironbound Business Improvement District and funded through the Urban Enterprise Program and National Center for Transportation and Industrial Productivity. It would not have been possible without the tireless commitment of Licinio Cruz, Tony Gomes, Tom Lonergan and other members of the Business Improvement District. We thank the Ironbound Community Corporation for its responsive support, especially Joseph Della Fave and Nancy Zach and their consultants Martha Lamar and Alan Mallach.

At the regional level, thanks are due to Bob James of the New Jersey Department of Transportation, James Greller of New Jersey Transit, John Hummer and Brian Fineman of North Jersey Transportation Planning Authority, Bahman Izadmehr of the City of Newark, Dick Carthis of Maersk Sealand and Bill Ellis of the Port Authority for their seminars, for valuable guidance on technical and community issues, and for their spirited criticism.

From within the New Jersey School of Architecture at NJIT, thanks go to Dean Urs Gauchat, Infrastructure Planning Program Director Tony Santos, and Professors Karen Franck and Tony Schuman.



Source:www.gonewark.com

The first class of the studio included a site visit. It was a day of unsettled, stormy weather that made the industrial areas seem particularly forlorn. Always on the horizon, the twin towers served as reference. The next day they were gone.

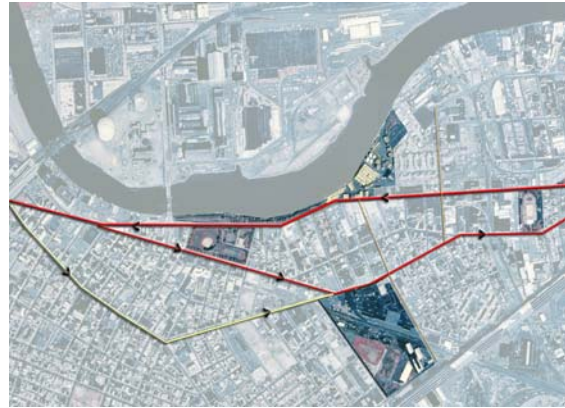
The full effect of the events of September 11th has yet to be felt, but in the Ironbound a void is visible everyday. To what the towers represented, to those who worked in them and especially to those who perished, this work is dedicated.



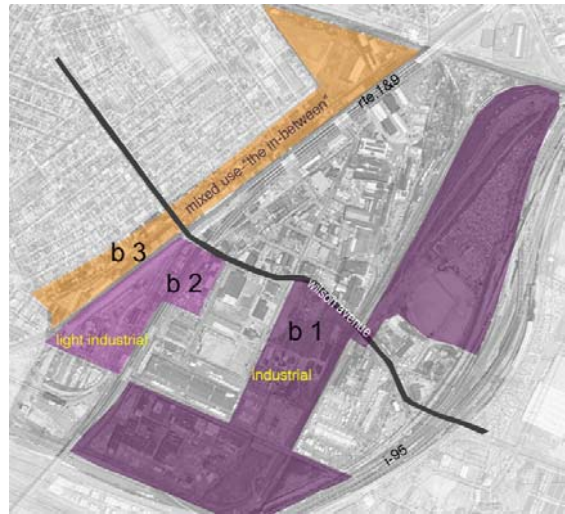
# INTRODUCTION

The New Jersey Turnpike and the Ironbound community are inextricably linked. The corridor along the Turnpike has evolved as a spontaneously if somewhat irrationally developed linear city and Newark, a major population area and industrial powerhouse, has been a primary node of this linear city. Where the Turnpike passes through Newark, it passes through the Ironbound community, a vibrant, dense, and somewhat fragile urban fabric.

Because of changes occurring both beyond and within its borders, Newark is in a highly dynamic state. The port alone will undergo a significant increase in volume in the next decade. Many are concerned that these regional changes will impact negatively not only on Newark but on the rest of New Jersey, especially the undeveloped and agricultural areas of the state. As a result, many overlapping strategies are being developed to ensure that these changes are beneficial. This report examines those strategies and researches historic and contemporary precedents worldwide that deal with similar issues. The concluding pages of the report include design strategies produced by student teams for the industrial neighborhoods on the periphery of the Ironbound. These designs seek a balance between the needs of industrial productivity and the quality of life in the Ironbound.



Zone A



Zone B



**Truck on the Highway**  
Source: National Geographic Society,  
photo by Melissa Farlow



Zone C



## **PART ONE- RESEARCH** **NEW JERSEY TURNPIKE**

The New Jersey Turnpike is a modern, multi-lane, divided and grade separated highway that forms a critical portion of Interstate 95 as it snakes from Maine to Florida. It serves as I-95's central, most congested section within the "megalopolis" that extends from Boston to Washington DC. The route of the Turnpike is adjacent to Routes 1 and 9 and rail's passenger and freight corridors which all parallel the original colonial stage routes. The entire coiled bundle passes through New Jersey roughly at the point where glacial hills transition to coastal plain. Within the last twenty years, the fiber-optic trunk lines between New York and Washington for digital communication have been added to this coil, located predominantly in the rail rights of way. The location of New Jersey's primary airport and seaport, as well as its industrial core, straddle the Turnpike. Because of its primary dependence on the automobile, the burgeoning suburban population of New Jersey is also located close to this vital corridor.

In 1947, New Jersey's newly elected Governor, Alfred E. Driscoll, announced his administration's priority of building a modern highway. *"In our industrial age it is hardly necessary to emphasize the importance of a properly planned highway system for the entire State."*<sup>1</sup> Driscoll was responding to a wellspring of pent-up desire to build a modern road. This desire began after World War I, but had been silenced by the crises of the Depression and World War II. This modern road would be an improvement over earlier roads which, compromised by intersecting traffic, had become hopelessly clogged in the postwar years. Inspired by the General Motors funded, futurist vision of Norman Bel Geddes' Futurama presented at the 1939 World's Fair, and by the practical precedents of the parkways of suburban New York City and the Pennsylvania Turnpike, the New Jersey Turnpike would catalyze the state's development. The Turnpike was built in one massive effort. In 25 months the Turnpike Authority paved 118 miles of roadway, built two bridges spanning over 6000 feet, moved 52 million cubic yards of earth, built 17 toll booth interchanges, 11 rest area facilities, and one administration center. The total cost was \$250 million. Unlike the roads built through the federally financed

Interstate Highway Program of 1956 which bisected central cities, the Turnpike passed mostly through farmland and skirted central cities with the notable exception of Elizabeth. The Turnpike was constructed along the eastern edge of Newark through an industrial zone and wetlands.<sup>2</sup>

From its onset, the Turnpike was designed for both cars and trucks. Through generously spaced lanes and shoulders and very gentle curves, the Turnpike was a safe road that could accommodate different vehicles. The northern section, which passes through the state's most densely populated area, was widened in 1966 to allow a separate cars-only highway. As a result, the section that passes through Newark is six lanes in both directions, running parallel to the Pulaski Skyway portion of Routes 1 and 9. The Turnpike rapidly became a victim of its own popularity. Today the Turnpike experiences chronic congestion daily. Given the dense development alongside it, the option to widen the road no longer exists. The only solution is to manage congestion and decrease the number of vehicles using the Turnpike.



**Map of Newark with I-95 Corridor**  
Source: GIS mapping data/ MIP Studio

# NEWARK

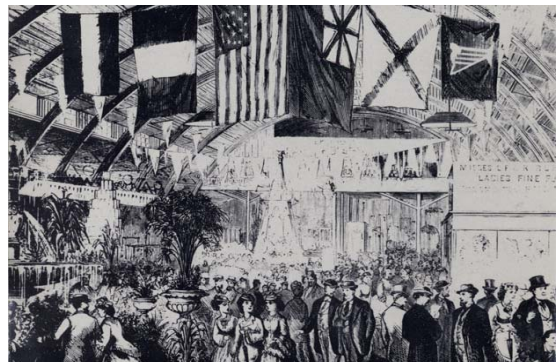
Newark, the third oldest city in the United States, has a long history of industrial development. Although its boundaries have diminished since its original charter in 1666, its impact on the region has not. Newark began as a Puritan settlement in 1666 when Robert Treat led a band of religious outcasts from Connecticut to the banks of the Passaic River. The site was chosen in large part because of easy access to the Hudson River, a major transportation route in the region. The city quickly established itself as a node of production and transportation.

The Shoemaker Map of 1806 shows old Ferry Street, today the main shopping street of the Ironbound, as the original road to ferry landings that connected to New York. It also shows the 1790 bridge built over the Passaic River and salt marshes. These transportation connections established Newark as a main stage-stop on the route between New York and Philadelphia.

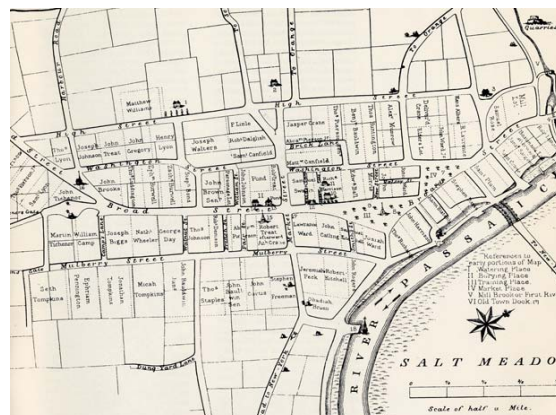
Following the War of 1812, local industry boomed as jewelry making and tanning entered large-scale factory production. The coming of the railroads in 1830, along with the completion of the Morris Canal in 1832, greatly enhanced the ability of the city to access raw materials from the west and distribute local goods to distant markets. In 1840, brewing became another leading enterprise as P. Ballantine & Sons Brewery was built on Ferry Street. Newark's Industrial Exhibition of 1872 recognized the city as a major national production center and finally gave it an identity independent from New York City.

Beginning in the late 19th century, waves of immigrants, first from Europe, then from the South and the Caribbean, flocked to the many available jobs in Newark's factories. Like many small cities of its kind in the United States, Newark's industrial production and cultural presence peaked in the 1920's. The Depression began a slow decline that eventually resulted in the racial upheavals of 1967. The unrest accelerated the flight of industry and large sectors of the middle class population out of the city. These changes left Newark with a depressed economy, a condition still affecting the city today.<sup>3</sup>

Today, two camps in Newark have differing views about the city's recent redevelopment. City boosters, centered around longtime mayor Sharpe James, describe recent changes in Newark as a renaissance. This group cites new and renovated office buildings, a performing arts center, a baseball stadium and plans for a new arena as evidence of the city's re-emergence. A drop in crime and other improvements in social indices are given as additional signs of improvement. Critics complain that neighborhoods are ignored; that while many new homes have been constructed, they are of poor quality and badly planned. They add that the lack of any central planning in the city has led to housing development in inappropriate industrial areas and the devolution of the city's once proud boulevards into strip highways. Any positive changes, they assert, such as the drop in crime, are attributable to national trends. Both groups agree that change is occurring, but disagree on what course development should take.



**Newark 1872– Great Industrial Exhibition**  
Source: Cunningham, J.T.; *Newark*, p.173



**Shoemaker Map- Newark 1806**  
Source: Cunningham, J.T.; *Newark*, p.90



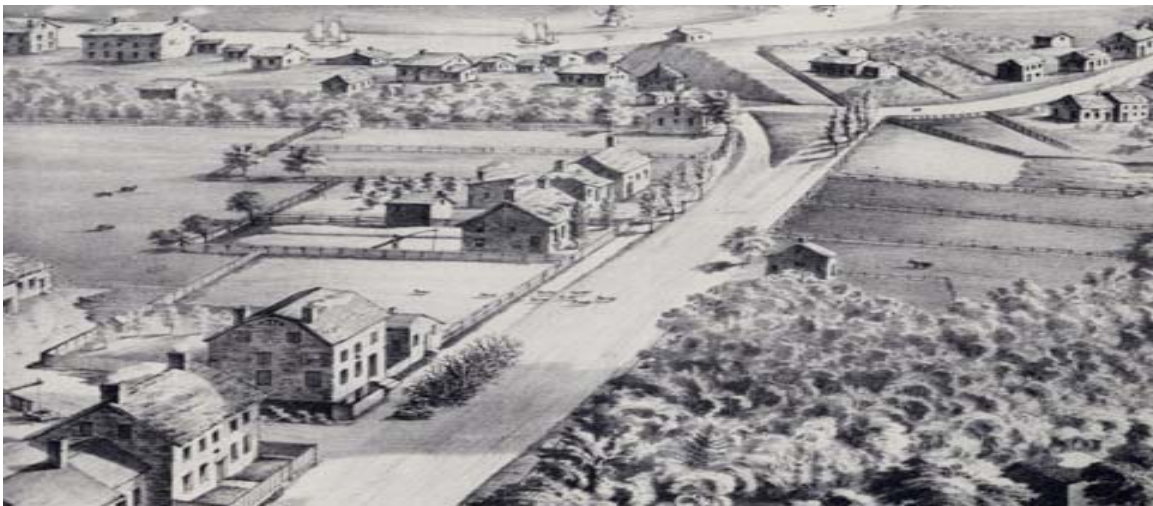
## THE IRONBOUND

The Ironbound neighborhood, named because it is surrounded on all sides by railroad tracks, is part of Newark's East Ward. The East Ward includes the city's downtown business district, airport and the port. The Ironbound, also known as 'down neck', attracted industry because of its relative isolation and access to water and rail transportation. Newark's first immigrants from eastern and southern Europe – mostly Italians, Poles, Jews, Slavs, and Lithuanians – established small tidy homes amidst the factories in which they labored. They were followed more recently by Portuguese speakers – from Portugal and Brazil – and to a lesser degree by Spanish speakers – from Spain and Latin America. Today, it is estimated that more than 40 different ethnic groups live in this one section of Newark.

Due to its isolation, the Ironbound changed very little through the years and emerged

virtually untouched from the upheavals of the 1960's. The foundation of Newark's recent revival is largely built upon the vitality of the Ironbound and its now predominant Portuguese-speaking community. The Ironbound remains a kind of urban village, where family and community ties are strong, numerous restaurants and small "mom and pop" businesses thrive, and the crime rate is one of the lowest in the city.

Despite its charm, the Ironbound has always been perceived as gritty. The daily grind of the massive transportation corridor to the east - that includes Routes 1 and 9, the Turnpike, numerous freight rail lines, the airport and port - has had its effect in noise and air pollution, industrial contamination of the water and soil, and increasing industrial truck activity. As a result, the quality of life in the Ironbound is becoming increasingly threatened.<sup>4</sup>



**The Ironbound 1825**

Source: Cunningham, J.T.; Newark, p.89



**Ferry Street**



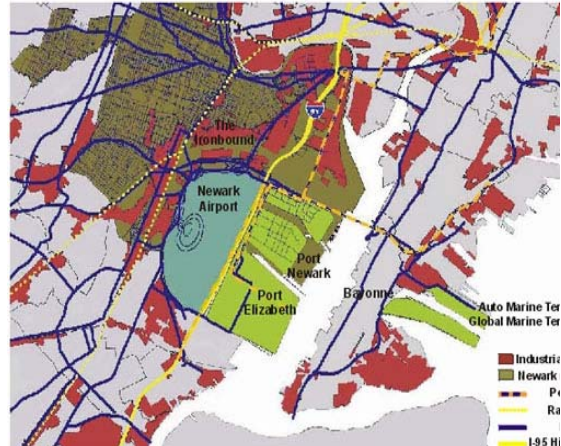
**Portuguese Festival**

Source: [www.gonewark.com](http://www.gonewark.com)

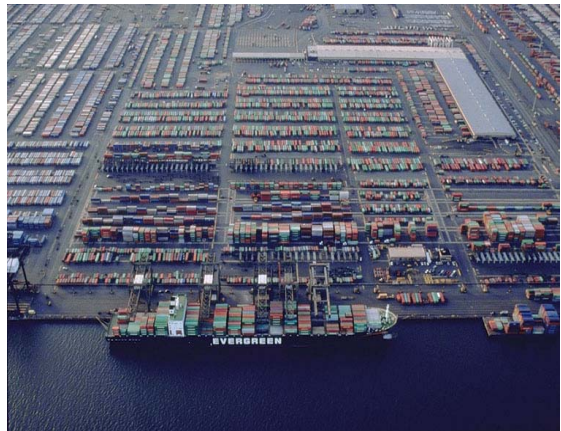
# PORT NEWARK

The Port Newark/ Elizabeth Marine Terminal is situated between the New Jersey Turnpike and Newark Bay. Roughly half the terminal lies within Newark's East Ward. The port, when combined with the six other smaller facilities within the New York metropolitan area, is the largest on the east coast and second only to Los Angeles/Long Beach nationally. The 2,100 acre facility encompasses a full range of maritime commercial activities: major container handling terminals, automobile processing and storage facilities, liquid and solid bulk terminals, breakbulk facilities, warehousing and distribution buildings, trucking firms, and an on-dock rail terminal. The New York metropolitan area is the most concentrated and affluent consumer market in the world and the port is the gateway for most imports to that market. The port also serves more distant markets in the Midwest, New England and eastern Canada via long distance trucks on the Turnpike and double-stack freight rail. Each year more than 16 million tons of ocean borne general cargo moves through the port, including nearly 2 1/2 million TEUs (twenty-foot equivalent units) of containerized cargo.

The world-wide shipping industry is increasingly relying on super ships, vessels capable of carrying up to 7,000 cargo containers each. These vessels are significantly larger than the 4,000 container capacity ships currently in use. In order to accommodate these larger vessels and to prevent the flight of Newark/Elizabeth's private carriers to the deepwater ports of Halifax and Norfolk, the Port Authority of New York and New Jersey has committed itself to maintaining the port's shipping channels at a 50 foot depth. Use of these huge vessels will lead to a three-fold increase in port traffic that will severely strain nearby communities and the transportation infrastructure. With little room to expand, the port is undergoing a major physical reorganization in order to meet projected increased volume. Several additional initiatives, described later in this report, seek to address these challenges.<sup>5</sup>



**I-95 Passing Through Airport and Port Complex**  
Source:GIS data/ MIP Studio



**Port Newark**  
Source:www.aapa-ports.org



**Containers Stacked on the Riverfront**



# NEWARK AIRPORT



**Cargo at Newark Airport**  
Source: [www.panynj.com/pr/gallery](http://www.panynj.com/pr/gallery)

Directly across the Turnpike from the port, Newark International Airport complements the port's container freight facility by serving a different sector of the freight industry: just-in-time-delivery. The airport also has no room to expand beyond its 2,027 acres. In addition to serving as a major passenger terminal, it is the fourteenth largest air cargo facility in the world and the eighth largest in the United States. Federal Express, United Parcel Service and the U.S. Postal Service maintain major facilities there. The combination of New York's three airports - Newark, La Guardia and Kennedy - handle the largest air cargo volume in the world. Newark Airport is currently undergoing a \$3.8 billion development program that includes direct access to commuter rail, passenger terminal renovation, roadway and parking expansion, and runway and taxiway improvement.<sup>6</sup>



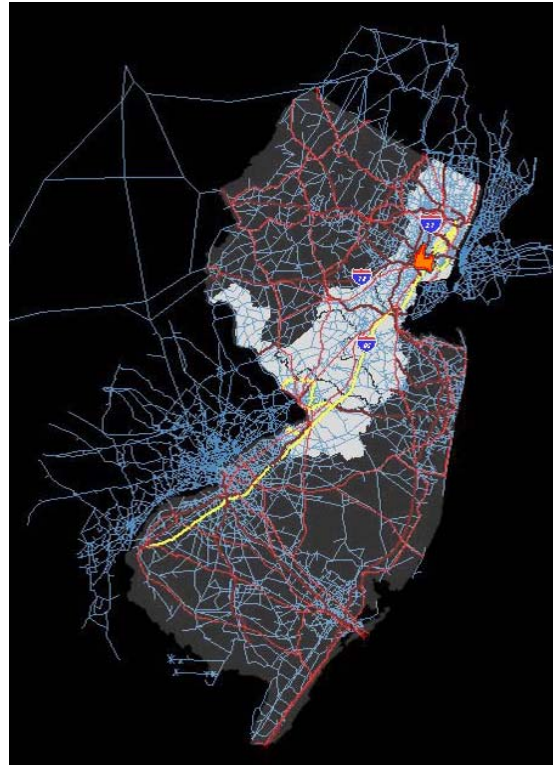
**Aerial View of Newark Airport**  
Source: [www.aerialphotosofnj.com](http://www.aerialphotosofnj.com)

# MOBILITY SYSTEMS

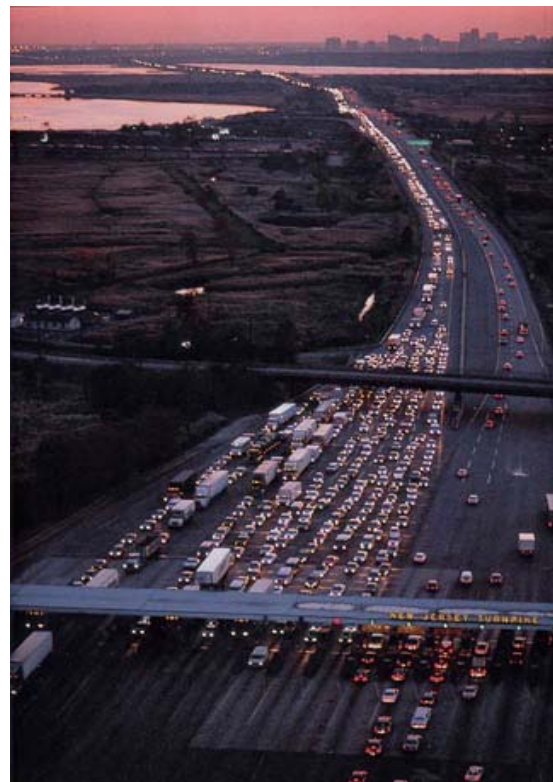
The Turnpike is the spine of a complex mobility system. Passengers and freight move along many of the same systems; change to one component has effects elsewhere. Statistically, 80% of people in the region commute to work by car, while only six percent use buses, many of which ply the Turnpike. The remainder use rail transit or other means of transportation such as walking or bicycling. Twenty-six million trucks, transporting 375 million tons of goods, congest regional highways. The Turnpike, built fifty five years ago to carry 18,000 cars per day, now carries 300,000 vehicles daily and is stressed past capacity. There is little available acreage or political will to widen alignments in this densely populated area of New Jersey.<sup>7</sup>

In contrast to vehicular infrastructure, New Jersey's rail lines are underutilized. Only 10% of people commute by train, with many lines running service only during rush hours. New Jersey Transit is chronically plagued by an inability to secure enough funding to operate its existing service, let alone expand. This is due to a multitude of reasons that include: high labor costs, mismanagement, fickle state funding and a predilection for planning costly new capital projects that are politically driven and do not respond to rider demand. Despite this bleak future, previously planned and funded improvements are coming on line. These include the addition of bi-level trains, more frequent service as a result of signal modernization, new alignments and station construction, and the completion of the Hudson-Bergen Light Rail. Newark is blessed with excellent New Jersey Transit rail connections that include Penn Station, Broad Street Station and the newly opened Newark Airport Station. NJ transit also operates the expanding Newark City Subway.

The region's freight rail system emanates from the port and is operated by Norfolk Southern and CSX. The system almost exclusively serves freight rail markets greater than 500 miles away through an infrastructure capable of accommodating double stacked containers. As the port girds for an expected 200% increase in freight



**I-95 with Other Transit Routes**  
Source:GIS Mapping Data/ MIP Studio



**I-95 Corridor**  
Source: National Geographic Society





**Major Freight Rail Facilities**  
 Source: [www.panynj.gov/pr/gallery](http://www.panynj.gov/pr/gallery)

traffic over the next ten years, it will increasingly turn to rail and other alternatives to trucks, such as barges, to absorb the increase. At the port, rail access directly to berths is being expanded. Industrial centers within 300 miles and with water access, such as Albany, Camden and Providence, are being studied as barge destinations. The current modal split for freight leaving the port is 14% rail and 86% truck (rounded numbers). The modal split goal for the next ten years is 39% truck, 38% barge and 26% rail.<sup>9</sup>



**Penn Station— Newark**



**CSX Freight Rail**  
 Source: [www.bfcase.railfan.net/cgi/pframe](http://www.bfcase.railfan.net/cgi/pframe)



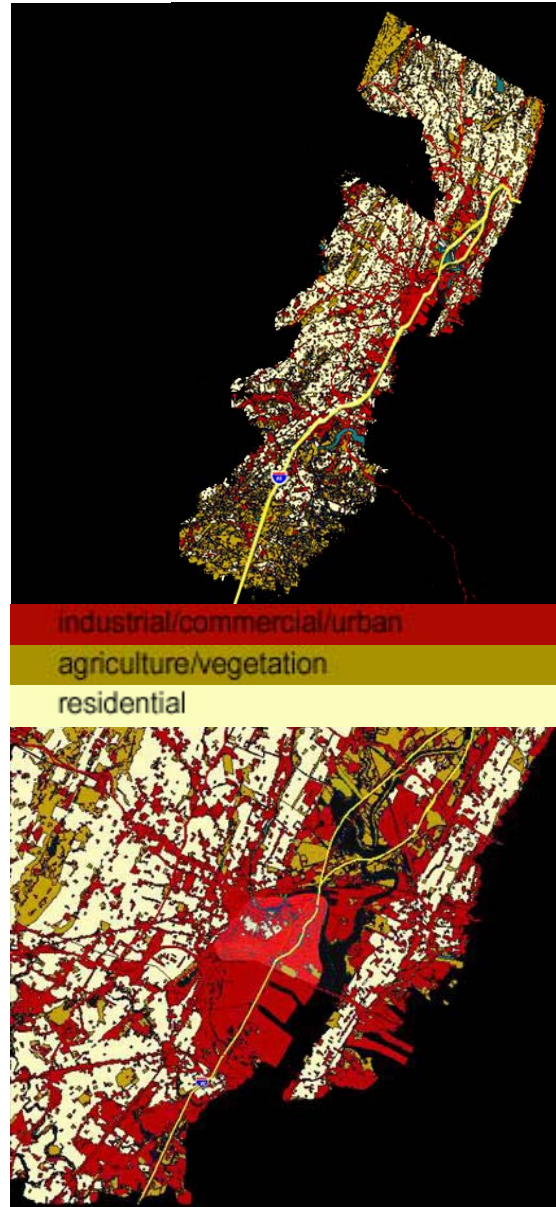
**Public Transportation in the Ironbound**



**Containers Arriving by Barge**  
 Source: [panynj.gov/pr/prframe.htm](http://panynj.gov/pr/prframe.htm)

## LAND USES

The team examined land uses in the five counties along the I-95 corridor. The greatest density occurs around the port facilities in Newark and Elizabeth and decreases as one moves south along the study corridor. Generally, land uses were found to be widely and chaotically dispersed. An example is the cluster of industrial developments surrounded by agricultural land at Turnpike exit 7A at the southern end of the corridor. This loosely planned, market driven dispersal of commercial and residential land uses is commonly known as sprawl. While in the short term sprawl may seem to provide everyone with a suburban home, low property taxes and a ten minute car commute to work, sprawl eventually undermines the general quality of life. Suburban homes devour the green space that attracted residents in the first place, municipal infrastructures such as schools and services become critically stressed, and the ten minute commute steadily lengthens as congestion increases. In order to remedy this, the New Jersey State Development and Redevelopment Plan offers guidelines for responsibly planned, or smart, growth. The goals of the plan are to “conserve its (the State’s) natural resources, revitalize its Urban Centers, protect the quality of its environment, and provide needed housing and adequate public services at a reasonable cost while promoting beneficial economic growth, development and renewal...”<sup>10</sup> The aerial view images on pages 9 and 10 vividly illustrate the consequences of sprawl. With examples of metropolitan, suburban, and rural conditions, they show what currently exists, what will occur if development proceeds unchecked, and the potential if smart growth planning guidelines are followed.<sup>11</sup>



**Land Use I-95, Port Newark & Newark Airport**  
Source: GIS Mapping Data



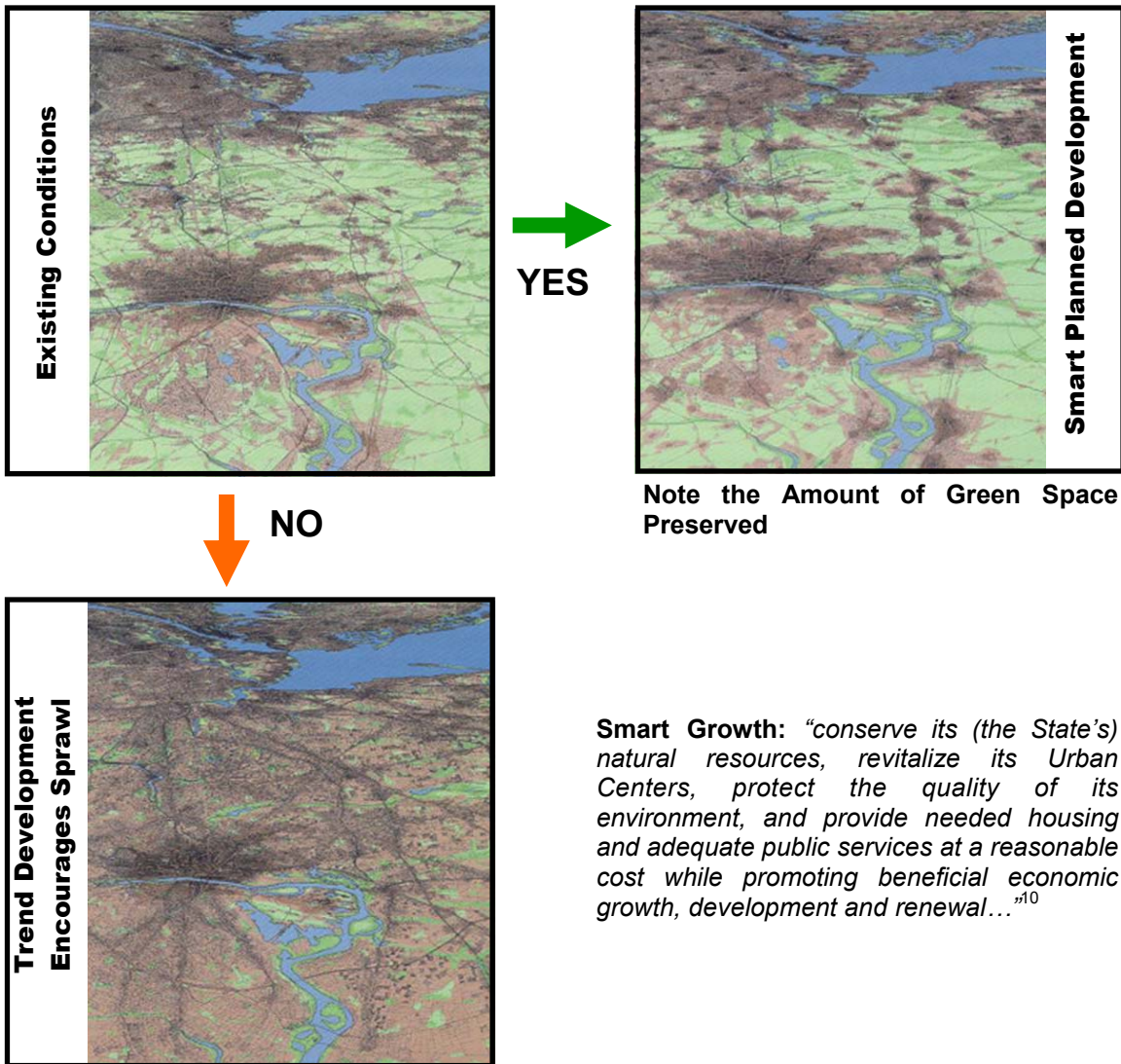
**Stacked Shipping Containers**

In the port’s immediate vicinity, the stacking of empty shipping containers on vacant properties is an egregious use of land. This results from the imbalance of trade between the United States and other countries; it is cheaper to produce a container at the point of origin than to ship it back empty. Storage of these containers, some stacked as tall as seven high, creates a visual blight that inhibits anything but the lowest use development nearby. A variety of solutions is



being considered. Simply banning containers in the port area will only displace the problem, forcing containers to be shipped elsewhere, in all probability by truck, thereby exacerbating problems of congestion and air quality. Increasing transfer of goods at the port to barge or rail will disperse the storage needs and send them to manufacturing centers that can fill them for the return trip. Using them to ship New York City's trash to remote landfills is still under negotiation, and may be so for some time. Adaptive re-use,

which is discussed later in this report, offers many possibilities and should be encouraged. Redressing the trade imbalance should also be encouraged, but is a much larger issue that the region has limited capacity in initiating. In short, there is no single, simple solution, but the issue should be continually monitored and addressed at every opportunity.





**Metropolitan Trends**

Source: New Jersey Office of State Planning/ Dodson Associates



**Suburban Trends**

Source: New Jersey Office of State Planning/ Dodson Associates



**Existing Conditions**

**Trend Development**

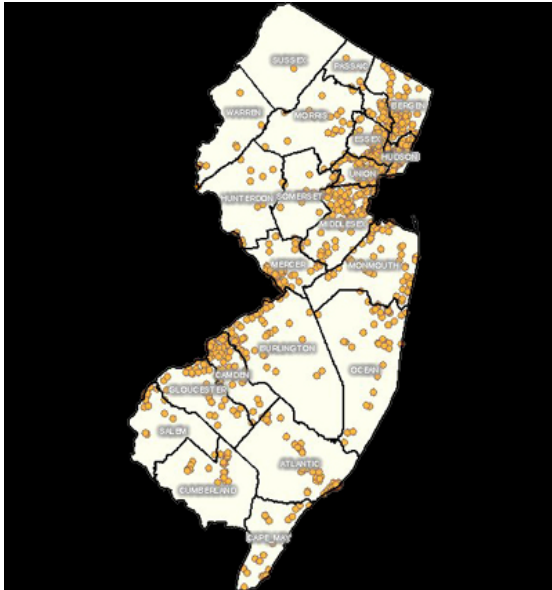
**Smart Planned Development**

**Rural & Environmentally Sensitive Trends**

Source: New Jersey Office of State Planning/ Dodson Associates

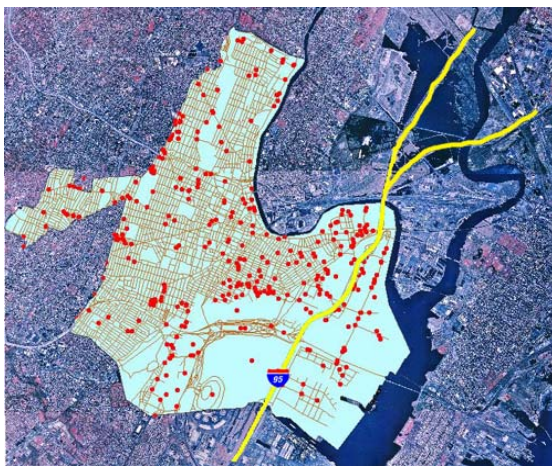


# BROWNFIELDS



**Brownfield Sites in New Jersey**  
Source: GIS mapping data

When seeking to revitalize urban centers, brownfields are often encountered. Brownfields are abandoned, idle, or under-used industrial and commercial properties where expansion or redevelopment is complicated by real or perceived environmental contamination. If a contaminated brownfield is irresponsibly developed, it can harm human health and the environment, leaving the property owner liable for any injury or damages resulting from contamination. As a result, the unknown history of brownfields inhibits development. For many landowners, it is more expedient to let properties lie fallow than to try to sell or develop them and risk discovering contamination that can have overwhelming financial implications. These idle sites hamper a municipality's ability to attract new investment and retain existing business. They contribute to neighborhood crime, diminish employment opportunity, reduce tax revenue and limit economic growth. Brownfields also contribute to sprawl, because developers look to greenfields, or non industrial sites, with no hidden liabilities. Given the industrial history of northern New Jersey, there are many brownfields in the region. Newark alone contains more than 700 acres of abandoned and under-used public and private properties suspected of being contaminated by industrial manufacturing.<sup>12</sup>



**Brownfield Sites in Newark**  
Source: GIS mapping data

## IRONBOUND'S BROWNFIELDS

**St. Francis Street**



**Raymond Boulevard**



**Delancy Street**



**St. Francis Street**



# PLANNING INITIATIVES

## TRANSPORTATION PLANS

In response to these development challenges, a series of interrelated local and regional initiatives has begun. The Newark Transportation and Development Plan prepared by Parsons Brinckerhoff in 1998 seeks to guide Newark's growth. The Plan recommends further development of the following positive elements: the recent significant rejuvenation of building stock; infrastructure upgrading; the construction of new private commercial and entertainment facilities; and strengthening of cultural resources. The Plan identifies the city's principle advantages as: a strategic position within the metropolitan area; superb access to various transportation modes; availability of development parcels; a broad mix of existing urban activities; a population ready and willing to work; and a usable, existing infrastructure system. The development goals of the Plan seek to reinforce Newark's position as a center for industry, commerce, service, culture, education, institutions and transportation. Organized in seven development nodes, the plan specifically seeks the generation of approximately 1,000 jobs; 900 dwelling units; 1,000,000 square feet of warehouse space, light industrial and office-flex space; 85,000 square feet of retail commercial space; \$850,000 in annual payroll taxes; \$3.3 million in annual property taxes; and \$20 million in annual retail expenditures. Many of the plan elements, such as warehouse development and transportation improvements related to the marine terminals and airport, impact the Ironbound.<sup>13</sup>

The International Intermodal Transportation Center is funded by the U.S. Department of Transportation through the Transportation Equity Act for the 21st Century. The Center leads research initiatives that coordinate intermodal transportation and economic planning, focusing on enhanced access to Newark's Port and Airport, nearby rail and truck warehouses and terminals, brownfield redevelopment, freight distribution, and Portway.<sup>14</sup>



**Supership Regina Maersk**

Source: [www.state.nj.us/transportation/portway/index.htm](http://www.state.nj.us/transportation/portway/index.htm)



**Air Cargo**

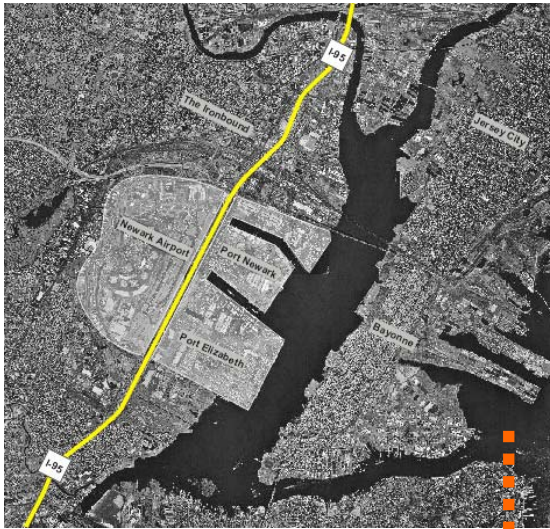
Source: [www.panynj.com/pr/gallery](http://www.panynj.com/pr/gallery)



**Freight Rail**

Source: <http://www.e-squared.org>





**Existing Roadways Through Newark Airport/ Port Newark**

Source: GIS Mapping Data/ MIP Studio



**Proposed Portway Project**

Source: GIS mapping data/ MIP studio



**Industrial Areas Near Proposed Portway**

Source: [www.state.nj.us/transportation/portway/index.htm](http://www.state.nj.us/transportation/portway/index.htm)

Portway is a “highest priority” project of the New Jersey Department of Transportation. It will be a dedicated truck-only road from Port Elizabeth to points 17 miles north in Jersey City. The Portway project is divided into four phases with the first phase already under construction. The project’s intention is to keep trucks off the already congested Turnpike and other roads in the immediate vicinity of the port. The continual pounding of these trucks, which often exceed 30 tons (10 tons over the NJDOT limit), severely degrades road surfaces. The dedicated new roadways and bridges are designed for 40 ton capacity and include increased turning radii and other truck-specific geometry. The Portway project is being planned to consolidate freight related warehousing along its length and near the port. By doing this, the length of truck trips will be minimized. Currently, trucks carry containers out of the port area, some to the newly developed warehouses at exit 7A, and others as far away as Allentown, Pennsylvania. All too often, the contents of those containers are shipped back for sale in the New York area. The environmental consequences of this excessive travel, with trucks often idle in traffic congestion, are considerable. Curtailing these emissions will be a major environmental improvement.<sup>15</sup> Ironically, this improvement is disregarded by the powerful watchdog group and champion of smart growth, pedestrian friendly causes, The Tri-state Transportation Campaign. This organization categorically opposes Portway as an encouragement to truck use and does not recognize any environmental benefit.<sup>16</sup>



**Congested Highways**

Source: [www.state.nj.us/transportation/portway/index.htm](http://www.state.nj.us/transportation/portway/index.htm)

# VALUE-ADDED WAREHOUSING

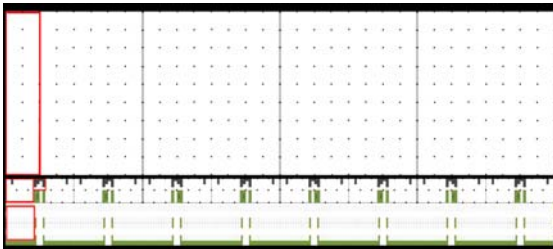
If developed as intended, Portway will link seaport and airfreight terminals with a type of industrial facility known as a value-added warehouse. Most goods coming through the port terminals require additional processing such as final assembly or subassembly, or simply labeling or repackaging. This is done primarily to take advantage of lower tariff rates because goods are classified as raw instead of finished if they are processed before going to market. Value-added facilities have evolved in the last twenty years as consumer imports have grown. A value-added facility includes a building whose footprint can range from 60,000 up to one million square feet. The building is split into separate storage and processing sections. The storage portion is normally a single story building of 40 ft. clear interior space with a shelving system that is increasingly becoming roboticized. One side of the storage volume is dedicated to loading doors. The processing portion can be multi-floor, within which activities ranging from simple packaging to custom finishing can occur. The building is surrounded by an asphalt apron to accommodate tractor trailers and employee parking. A one million square foot facility can employ as many as 700 people.<sup>17</sup>



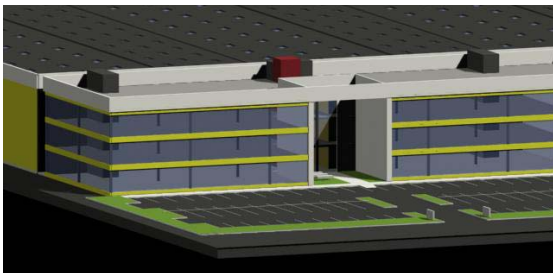
Source: [www.ebv.com/prodserv/vas/warehouse](http://www.ebv.com/prodserv/vas/warehouse)



Source: [www.evansdist.com/value.htm](http://www.evansdist.com/value.htm)



Plan -Modular System



Perspective



Perspective



## BROWNFIELD REDEVELOPMENT

There are numerous brownfield sites along Portway, or within fifteen miles of the port and with good access to a highway interchange, that could host value-added facilities. Their location in these existing industrial areas would preserve greenfields further south and west, spare the environment unnecessary emissions and provide the economic benefit of bringing goods to market quicker. However, uncertainty about liability inhibits brownfield re-use. The Brownfields Redevelopment Initiative, a component of New Jersey's Fiscal Year 2001 Budget, is an extension of the New Jersey Urban Site Acquisition Program. This program will fund \$15 million in grants to urban municipalities that wish to acquire and remediate contaminated properties, returning them to productive use. By taking advantage of this program, facilities can be built along Portway with most of their related remediation costs refunded through tax abatements and other measures. In addition, private parties that voluntarily agree to clean up a contaminated site are offered

some protection from future State enforcement action at the site, either in the form of a "no further action" letter or "certificate of completion" from the State. This provides a degree of protection against further liability.

A unique method for reclaiming brownfields uses fill dredged from the harbor. This fill is sediment that is considered contaminated from years of pollution. When mixed with concrete, dredged fill becomes insoluble and can effectively and safely cap contaminated soil in a brownfield. This method has undergone extensive environmental testing by government agencies. The successful recent development of the Jersey Gardens Mall atop a brownfield employs this method of reclamation.

Through these government initiatives, brownfield sites near the port become competitive on the real estate market with other properties throughout the state.<sup>18</sup>



Image from Portway Website  
Source: [ww.state.nj.us/transportation/portway](http://ww.state.nj.us/transportation/portway)

# CASE STUDIES

## LINEAR CITIES

The Ironbound study researched proactive planning examples which could provide insight into the regional pressures impacting the Ironbound. These focused on linear cities, ones designed along arterial systems (like the Turnpike) and green ports, ports that follow environmentally sustainable guidelines for development. Lessons learned from research on these precedents influenced the design proposals that were later developed.

Linear cities are idealized urban models envisioned by the leading architects and planners of the nineteenth and twentieth centuries. Responding to collateral problems associated with the Industrial Revolution, linear city designs attempted to alleviate the plight of the inner city by spreading out and separating different functions, such as manufacturing, commerce and housing, into zones organized along arterial transportation networks. Students researched the work of Arturo Soria, Frank Lloyd Wright, Richard Neutra, Ebenezer Howard, Kenzo Tange, Le Corbusier, Tony Garnier and the Soviet Planners.<sup>19</sup>

The study of linear cities yielded several important findings. A fine grain understanding of adjacencies is paramount to design as densities increase. Simply separating uses into distinct zones leads to a dependence on the automobile and hence sprawl. While planners must be careful not to locate industrial facilities near residential zones, certain clean industries can be interspersed within mixed use neighborhoods, or located near transit. This allows workers to get to their jobs without having to drive. Eliminating excess parking facilities allows for more compact, more livable, sprawl-free neighborhoods. Arturo Soria's Ciudad Lineal is a good example of this transit-based development while Frank Lyoyd Wright's Broadacre City and Richard Neutra's Rush City are both negative, auto-dominated examples. Another important feature is the application of landscaped, park-like or "green" buffers. Where different uses must be separated, green buffers can protect certain uses, such as residences and schools from undesirable adjacencies, such as heavy industry or dangerous transportation infrastructure. These same

green buffers can still provide pedestrian networks. Le Corbusier's Linear Industrial City and Tony Garnier's Cite Industriale both successfully use this strategy. In complex, mixed use environments, frequency of repeating elements becomes an important notation of scale and change in uses. The frequency of transit stops, for example, can define neighborhood centers based on walkability, defining one unit in a larger whole. Other uses can then locate at different frequencies following this basic rhythm, creating larger patterns. The linear projects of the Soviet Planners show this best.

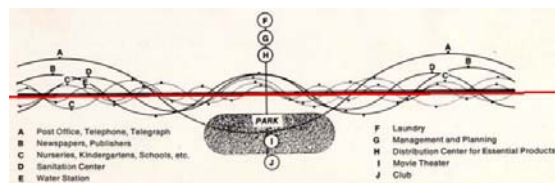


Land Use Along I-95



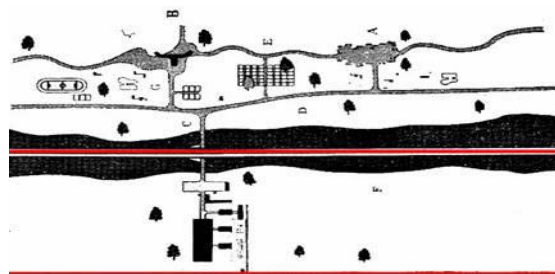
### Ciudad Lineal

Source: The Ciudad Lineal of Madrid, George R. Collins; Journal of the Society of Architectural Historians, vol. 18



### Soviet Linear City

Source: Town and Revolution, Soviet Architecture and City Planning 1917-1935, A. Kopp; G. Braziller, 1970.



### Linear Industrial City

Source: Town and Revolution, Soviet Architecture and City Planning 1917-1935, A. Kopp; G. Braziller, 1970.

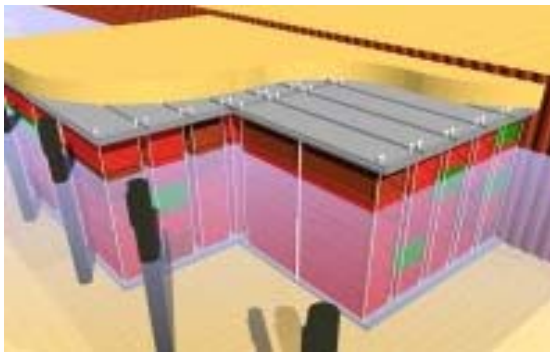




**Rotterdam, The Netherlands**  
Source:www.portmanagement.com



**Rotterdam, The Netherlands**  
Source:www.portmanagement.com



**Rotterdam, The Netherlands**  
Source:www.portmanagement.com



**Harbor Island, Texas**  
Source:www.portofcorpuschristi.com

The Ironbound Research Project studied two “green” ports, Rotterdam in The Netherlands and Corpus Christi in Texas. These ports were selected because they follow strategies intended to positively affect the areas adjoining them. Rotterdam has initiated several programs that attempt to lessen the environmental impact of the shipping industry. An incentive program gives trade benefits to shipping companies that meet a high level of safety and environmental standards. “Distriparks” separate incoming goods into specialized handling facilities, ensuring that similar products are kept together for maximum efficiency. Computerized warehouses offer superior product tracking and maximum space efficiency. Certain goods are assembled on site in value-added facilities, then sent directly to the consumer market. In a final strategy, Rotterdam re-uses excess storage containers to reclaim land which will be used for additional storage.<sup>20</sup>

The Port of Corpus Christi takes a different approach by diversifying activities in the port in the best spirit of mixed use. Through various programs and development schemes, the port is making a sustained effort to balance industrial productivity with local community needs. Harbor Island, nearly 350 acres of premier developable land on the Gulf of Mexico owned by the Port of Corpus Christi, is being developed to incorporate seemingly incompatible uses such as industrial oil fabrication and container storage with residential and resort programs. New waterfront development will transform a cargo dock into a place for meetings, banquets, concerts, special events and the docking of cruise ships, including ones that allow gambling. All initiatives have been furthered by working closely with the community through committees and focus groups. Ultimately, the Port of Corpus Christi will become a diversified, exciting area: entertainment, retail and restaurants all treating harbor facilities as a public amenity and tourist destination. By reaching out to the community and providing facilities that the community can use, the Port of Corpus Christi becomes a positive influence.<sup>21</sup>

# **PART TWO- ASSESSMENT**

## **FIVE KEY DIRECTIVES**

The results of research on existing conditions and planning initiatives indicate that both the I-95 corridor and the Ironbound community are in a highly dynamic state. On a regional level, steadily increasing congestion plus the increased volume projected for the port could lead to complete transportation paralysis. Locally, the Ironbound is experiencing dynamic pressures internally and externally. Demographic changes within the community may threaten its fine grained, village-like nature. Changes to the City of Newark may lead to similar results. Because of its adjacency and integration with larger infrastructure systems that have global implications, the community is experiencing pressure from beyond its borders. The nature of inevitable change, both regional and local, in the next decade will set the course for the next fifty years. The challenge for the Ironbound is to control that change, thereby maximizing the long term benefits that change can bring.

In order to enable the Ironbound to benefit from this change, the study identified five key directives, all of which are inter-related, having both regional and local implications. The student projects that follow this section provide examples of how design following these directives can solve the problems associated with change. These studies can be used as guides for development that can be of lasting value to the community.

### ***Fragility of the Ironbound***

The Ironbound is a thriving yet fragile community. Its village-like quality suggests that it is a complex organism of local retail and dense residential development. An active street life along tree-lined streets populated by shops gives the community qualities that sprawling suburbs lack. For the Ironbound to survive, these qualities must be maintained. New residential development, whether in existing neighborhoods or in appropriate former industrial zones, should be high density. Current zoning that mandates unnecessarily high parking requirements, which turn streets into treeless parking lots, should be reformed. Non-residential development in industrial zones should be non-polluting and well integrated with pedestrian and transit networks to discourage single occupancy automobile



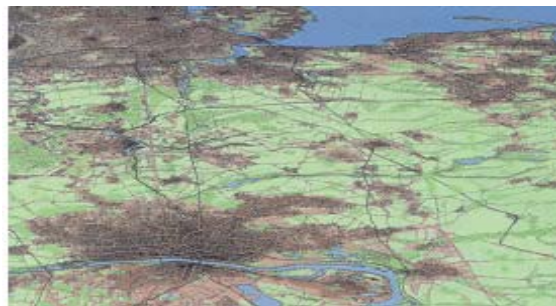
**Issue 1– Fragility of the Ironbound**



**Issue 2- Vehicular Congestion**



**Issue 3– Port Expansion**



**Issue 4– Sprawl**



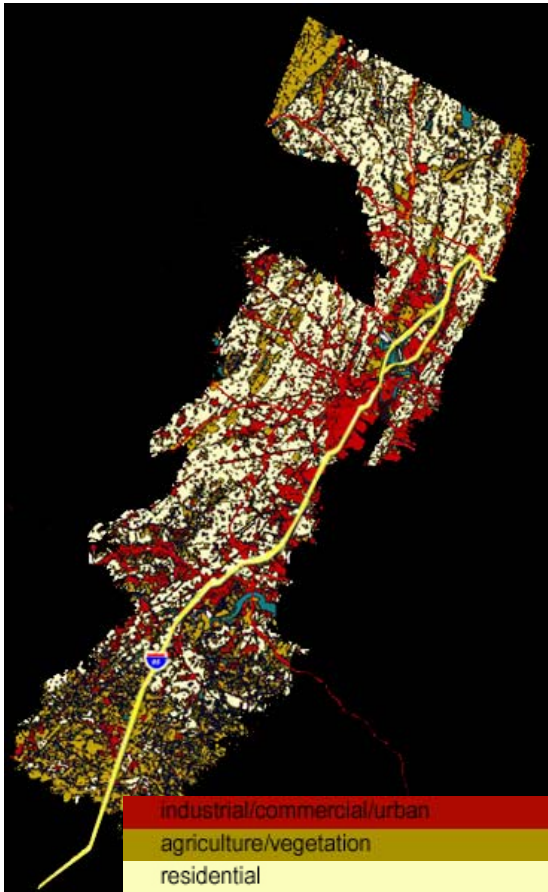
**Issue 5– Environmental Concerns**



use. Industrial and commercial facilities should be coordinated with truck and rail access so as to not adversely impact the larger community. Container storage should be banished from the entire East Ward and the recycling of containers for community and environmental uses should be supported.

### ***Vehicular Congestion***

Automobiles and trucks congest roads throughout the region, negatively impacting the quality of life. The benefit of vehicular mobility is illusory in the face of steadily increasing congestion. In response, the capacity of the underutilized mass transit network should be met in order to decrease automobile dependency. The NJ State Plan should be adhered to. Transit-supportive development of housing, retail and industry should be encouraged through zoning reform. Industrial uses that minimize excessive freight movements should be aggressively promoted.



**Land Use Along I-95**  
Source: GIS Mapping Data

### ***Port Expansion***

Not only is the port critical to the region's economy, but keeping it close to the center of the region's markets makes good sense. Adapting the port to accommodate super-ships is essential. However, every effort should be made to minimize the impact of increased volume on already stressed infrastructure. This can be achieved by encouraging the Portway project; coordinating the location of value-added facilities and other appropriate industries with the Ironbound and greater Newark communities; shifting the burden from trucks to intermodal rail and barge; and developing a comprehensive plan to deal with the storage of shipping containers.

### ***Sprawl***

If this study highlights one thing, it is that the problems of a community do not occur in a vacuum; the problems of an inner city community like the Ironbound are inextricably linked to those of distant suburban communities and far-reaching economic and societal patterns. Any remedies for the Ironbound's challenges should be viewed holistically, taking into account the whole region that impacts it. The New Jersey State Plan, through its adherence to smart growth principles, offers an effective strategy for this holistic approach.

### ***Brownfields***

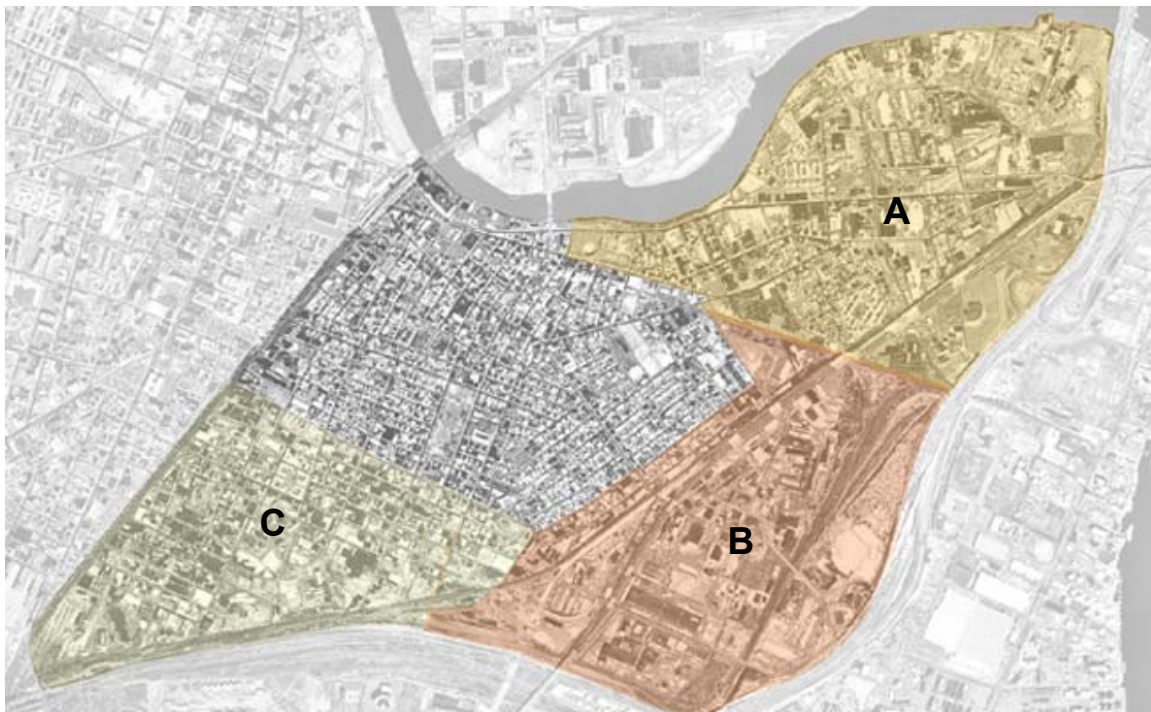
Brownfields are contaminated and abandoned sites whose return to productive use will provide needed space for business, residential and retail expansion. Their re-use is critical to the success of any smart growth strategy and to the prevention of unnecessary development of pristine or agricultural land. However, care must be taken not to repeat the mistakes of the past in Newark and the region by proceeding out of ignorance and expediency. Brownfields must be assessed with diligence and prudence and only appropriate uses should be encouraged for their redevelopment.

## **PART THREE– PLANNING PROPOSALS**

After concluding the research and assessment phases, student teams developed designs for the industrial neighborhoods on the periphery of the Ironbound. The area was divided along natural boundaries into three distinct zones. Teams of five students focused on each zone. Each team inventoried the characteristics of their respective zones and developed designs that sought a balance between the needs of industrial productivity and the quality of life in the Ironbound. At the semester's conclusion, an audio-visual presentation, written, imaged and narrated by students, was made to project contributors, faculty critics and members of the community. The section that follows represents the designs shown in that presentation.

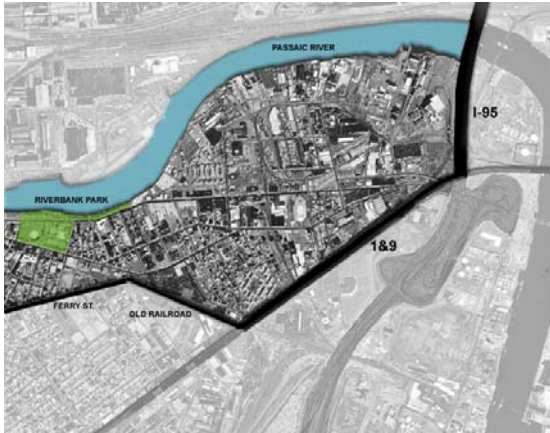


**Model of the Ironbound**



**Zones Studied in the Ironbound**

## ZONE A



### Zone A Boundaries

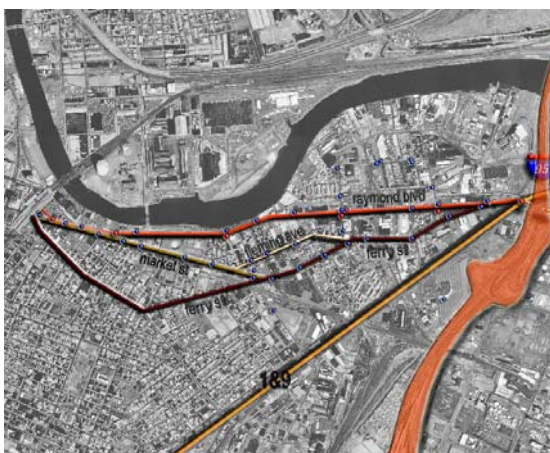
Source: GIS Mapping Data/ MIP Studio

Group A addressed the mixed-use area of residences and factories east of the newly restored Riverbank Park, bordered on the north by the Passaic River and the southeast by Routes 1 and 9. The group studied Raymond Boulevard, a major gateway into Newark, which gives many their first impression of the city after exiting the Turnpike. Today, derelict properties along this approach give a negative impression. Shipping containers, some stacked seven high, are a contributing factor. These containers also create a physical barrier between residential neighborhoods and the waterfront. Many former heavy industrial facilities, now closed, make the area seem forlorn. Notorious among these is the Diamond Shamrock site, now a stabilized superfund site, for which an appropriate remediation plan has yet to be developed.



### Brownfields

Source: GIS Mapping Data/ MIP Studio



### Transportation

Source: GIS Mapping Data/ MIP Studio



# ZONE A

Raymond Boulevard is a one-way, three to four lane boulevard into the city and clearly auto-oriented. Its outbound one-way counterpart, a combination of Market Street continued by East Ferry Street, is of a different character, only two lanes and in some locations lined with shops. This outbound route has the potential to be more pedestrian oriented if volume is rerouted. The group proposed uses and streetscapes that reinforce and diversify this auto/pedestrian dichotomy of Raymond and Market/East Ferry. In the proposal, Raymond Boulevard will be landscaped, with truck traffic limited to the industrial loop east of Chapel Street. Former industrial sites will be rezoned for auto-oriented retail. By providing an outlet for these uses at this location, auto-oriented development can be curtailed in denser parts of the Ironbound. North-south streets crossing Raymond will become pedestrian based, connecting the isolated residential area north of Raymond to the East Ferry Street neighborhood to the south. By synchronizing stop-lights on Raymond, traffic will be modulated to leave generous time for pedestrians to cross this wide street. In this way, Raymond Boulevard successfully accommodates both auto and pedestrian based uses.<sup>22</sup>

**Raymond Boulevard**



**Containers**



**Diamond Shamrock Site**



**Zone A Land Use**



**Proposed Redevelopment of Raymond Boulevard and Ferry Street**



**Proposed Auto Based Rentals Along Raymond Boulevard**



**Proposed "Mom and Pop" Sores Along Ferry Street**

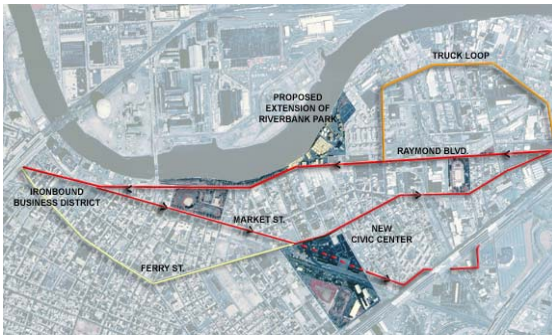


# ZONE A

Pivotal to any development of the Market/ East Ferry corridor is the Ballantine site. This property will be developed as an urban node to complement the Ironbound's western node, Penn Station. The Ballantine site is currently being recommended as a possible Redevelopment Zone in the Ironbound Community Corporation's Master Plan and is under consideration by the Newark School Board as a possible location for a new East Side High School. The group explored developing the Ballantine Site as a new civic center, with the high school in a prominent location flanked by a new library and post office. The site will be gridded with new streets that continue and complement surrounding ones.



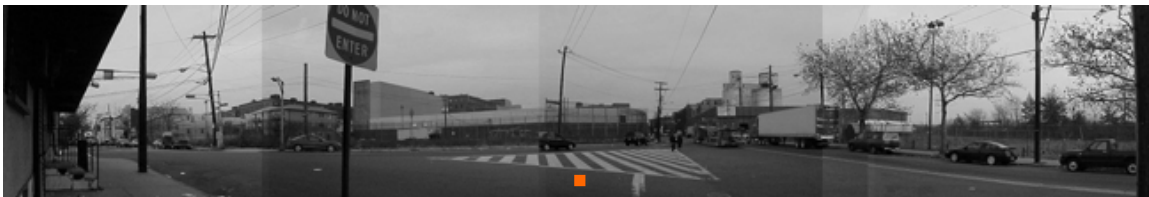
Containers on Open Lot



Zone A Circulation and Proposals, Showing the New Civic Center that Would Include the New High School, Library and Post Office



Site for Proposed High School



Existing Ballantine Site



Proposed Ballantine Site



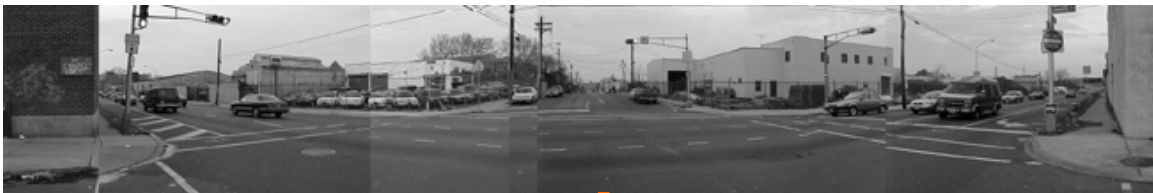
# ZONE A



**Proposed Park and View When Containers are Removed.**

The new civic center will also integrate with an existing recreation center and stadium (both currently being environmentally abated). These will provide playing fields for the high school and open green space, currently in short supply in the Ironbound. A new street will provide an outlet for outbound Market Street traffic directly to Routes 1 and 9. This reroutes volume from a re-invigorated East Ferry Street.

If the political will exists to remove the stacks of containers on the riverfront (the property is currently in condemnation proceedings by Essex County), broad parkland can be created. This will complete the transformation of Raymond Boulevard from a forlorn industrial corridor to a successful, visually-enhanced, urban connector.<sup>23</sup>



**Existing Conditions Along Chapel and Ferry Streets**



**Proposed Pedestrian-Friendly Intersection Along Chapel and Ferry Streets**



**Existing Conditions along Chapel and Ferry Streets**



**Proposed Pedestrian-Friendly Intersection along Chapel and Ferry Streets**

# ZONE B

The Zone B study area covers the land west of the I-95 corridor to Rome and Jabez Streets. It extends north to include the recreational center and south to the freight rail line. The area is predominantly light to heavy industrial on the east side of Routes 1 and 9. The west side is a mixed-use, linear strip of residences, light industry, 'mom and pop' stores and restaurants. Wilson Avenue traverses and bisects both the predominantly residential zone to the west and the Doremus Avenue portion of Portway to the east. Wilson Avenue accesses numerous vacant, city-owned properties and brownfields, which can be used for manufacturing related to the port expansion. Of all zones studied, Zone B can benefit most from the Portway project.

**Recreation Center**



**Jabez Street**



**Wilson Avenue East**



**Wilson Avenue West**



**Heavy Industry**



**Zone B Boundaries and Land Use**



## ZONE B

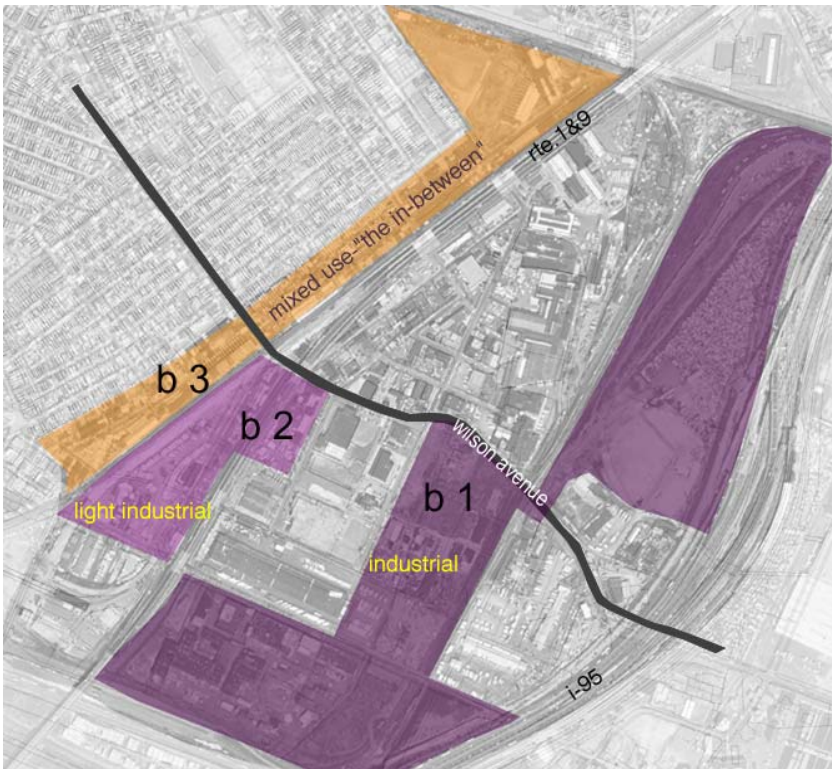
For study purposes, the zone was subdivided into three distinct but closely related areas: B1, B2 and B3. Each sub-zone was studied with regard to specific land uses and transportation linkages.



**Brownfields**



**Transportation**



**Zone B Specific Study Areas**



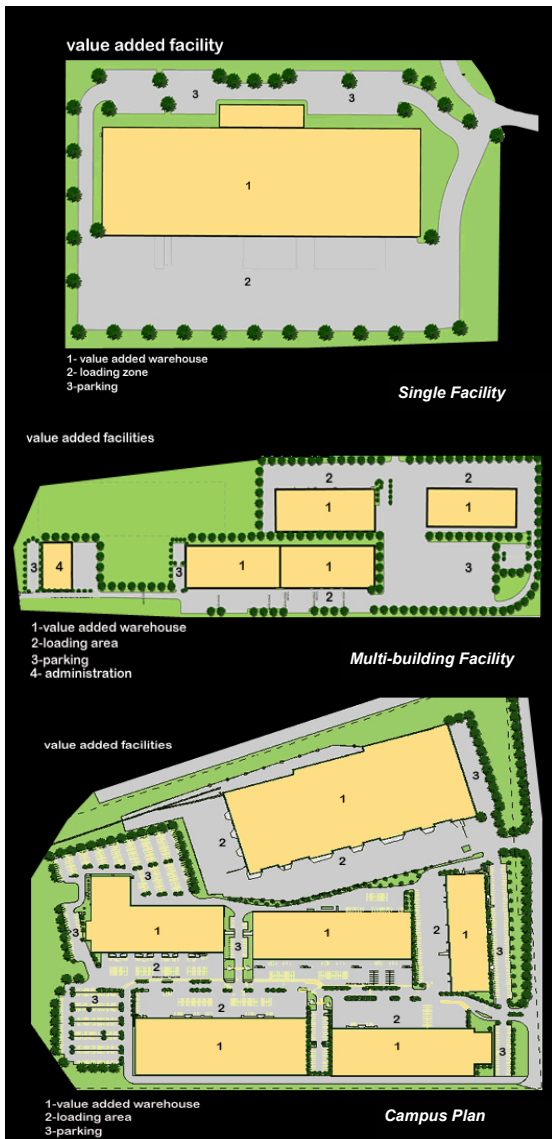
# ZONE B

## ZONE B1

The B1 study area focuses on industrial areas immediately to the west of I-95. Mixes of light to heavy industrial uses exist in this zone, though few appear to be in operation. The area is dominated by container storage and truck parking. Given the road and rail connections, considerable amounts of city-owned land and underutilized brownfields, the area is prime for redevelopment consistent with ongoing initiatives. The team identified different size parcels and designed value-added prototypes for each.

	residential
	mixed use
	auto/commercial/retail
	mom & pop retail
	office building
	light industry
	industrial
	public institutions
	parks
	water body
	parking

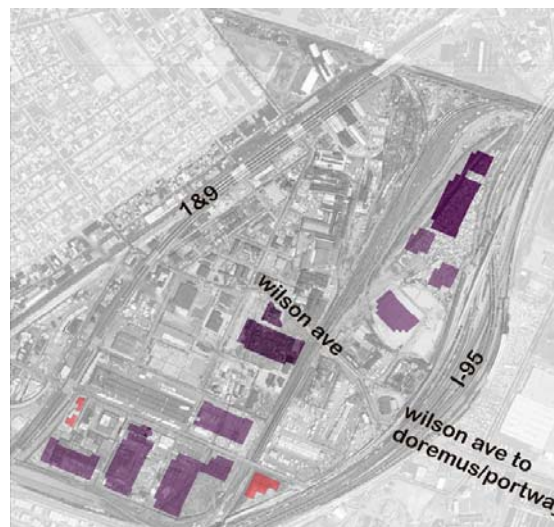
Key



Different Generic Types of Value-Added Facilities



Zone B1 Existing Land Use



Zone B1 Proposed Land Use

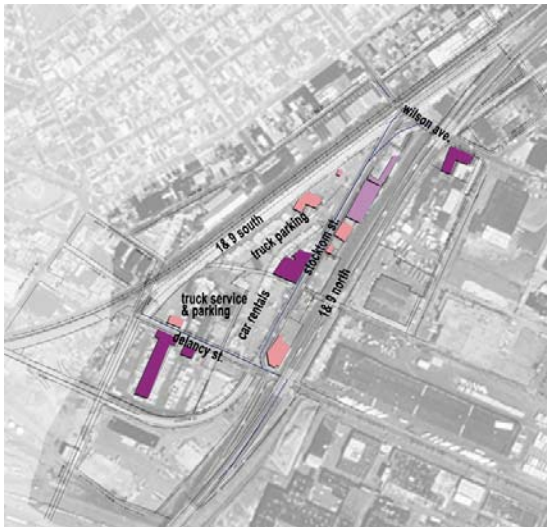
# ZONE B



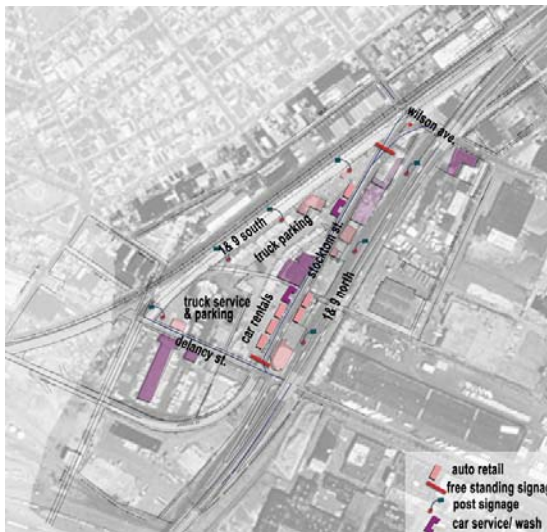
**Stockton Street Car Sales Lot Below Routes 1 and 9 North Overpass**

## Zone B2

The B2 study area lies between the Routes 1 and 9 north and south overpasses, with Stockton Street as its central spine. This is primarily a light industrial area with facilities such as used car sales, lunch truck repairs, gas stations and a lone restaurant. Given the auto-related nature of this area and the proximity to Routes 1 and 9, new car-oriented uses will be developed featuring extensive signage, highly visible from heavily traveled adjacent roads. Truck parking will be regulated and auto retail uses connected by a pedestrian enhanced sidewalk along Stockton Street, with parking lots in the rear. Development in this area will be designated through overlay zoning as a special district catering to a diversity of auto-related uses.



**Zone B2 Existing Land Use**



**Zone B2 Proposed Land Use**



**Zone B2 Proposed Intervention**



**Zone B2 Cross-Section**



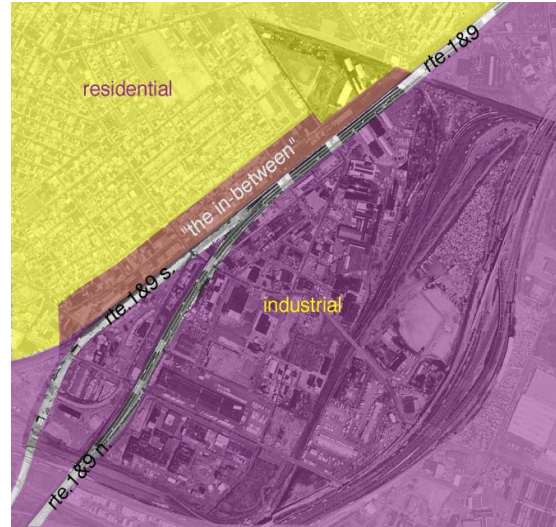
# ZONE B

## Zone B3

Zone B3 is an 'in-between' zone along Rome and Jabez Streets. It is influenced equally by residential and industrial pressures, forming a linear zone of mixed uses. Existing uses include multi-family residences, light industries, retail distribution warehouses, restaurants and a few "mom and pop" stores. This area is well connected to Routes 1 and 9 via Wilson Avenue.

Similar to Group A, the team proposed development that reinforces the positive overall patterns of the Ironbound. Because of excellent highway access, the kinds of auto/truck dependent development, which would adversely affect the Ferry Street core if built there, are proposed in Zone B3. However, the design stresses dense layouts that are consistent with nearby mixed-use neighborhoods.

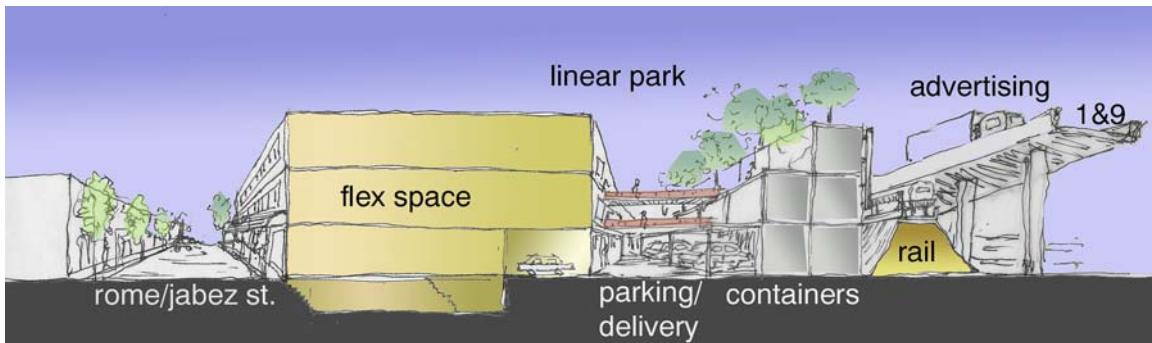
This will be achieved through the development of a "flex" building type. Similar in concept to that of the contemporary loft building, a flex building can include any combination of uses ranging from residential to office to industrial. Each building will be three to four stories tall with a total of 6,400 square feet per floor. The upper floors will be used for offices or residences. A typical flex building has an open concrete structure with pre-cast components for minimal construction assembly. A parking ratio of 1 car to every 600 square feet will be accommodated in the rear of the building.



The "In-Between" Zone



Zone B3 Existing Land Use



Sectional Concept





**1. Containers as Sound and Visual Filters**

In Zone B3, the flex building will accommodate uses consistent with the neighborhood on the ground level, or new uses such as walk-in factory retail, warehousing or office space. All access will be from Rome Street. The team identified a number of sites to locate eleven new flex buildings. Three of these sites are vacant and the remainder house light industrial uses such as retail distribution that can be converted to a higher level of use. This neighborhood of flex buildings can be coordinated with the auto-based retail center and value-added warehousing on the other side of Routes 1 and 9, proposed by the other two Zone B teams.



**2. Linear Park Built Using Containers**

Source:www.seabox.com



**3. Advertising/ Signage**

Directly behind the flex buildings a wall of storage containers will be constructed. This wall will be located in the vacant space just outside existing property lines and made up of 40 foot long containers stacked up to three high. Parking for the flex buildings will be located in the base of the wall. The wall will serve as a sound and visual barrier between the neighborhood and the rail and I-95 corridors. Extending from the southern end of Jabez Street to the Ironbound Community Center, a landscaped linear park will be built atop the barrier. Advertising located on the side facing Routes 1 and 9 will generate income for the Ironbound.



**4. Flex Space**

Many precedents of adaptive container re-used as public, urban components exist worldwide. Their re-use acknowledges sustainable ecological values that promote recycling. As seen from Routes 1 and 9, the containers will give an entirely new image of the Ironbound and convey the message that the community is progressive, resourceful and thriving.

**PRECEDENT STUDY**



**Creating a Controlled Environment**  
Source:www.seabox.com



**As a Screen in the Production of "Pocahontas"**  
Source:www.seabox.com

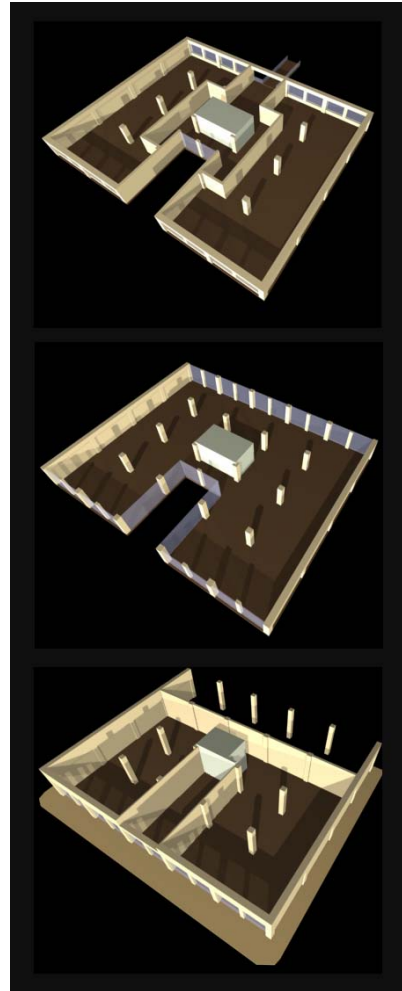


**Philadelphia, 34' High Arch as Gateway**  
Source:www.seabox.com

# ZONE B



**Contemporary Loft Concept**  
Source: [www.archi-technics.com](http://www.archi-technics.com)



**Floor Layouts**



**Concept Section**

# ZONE B



Rome Street View



Rear Parking View



Proposed Floor Plan Layout of "In-Between" Zone



View Along Routes 1 and 9



Birds-Eye View of Proposed Area



# ZONE C

Zone C is defined by the elevated Amtrak railroad line and McCarter Highway to the northwest, Chestnut Street to the northeast, and Conrail and Amtrak railroad lines to the south and southeast. South Street bisects Zone C and runs east-west through Newark. The street is a connector between downtown, Route 21, the Ironbound and Routes 1 and 9. South Street carries heavy automobile and truck traffic and acts as an edge between the Ironbound and an established industrial area to the south. Although its character is more residential to the west, it becomes increasingly industrial further east.

Large tracts of new housing have been built in this neighborhood on former industrial properties. The quality of construction and planning is poor and these developments lack the amenities that typically make a neighborhood.

The team focused on introducing services to reinforce recently developed neighborhoods and to grow new ones. The process began with an inventory of existing amenities and their patterns. Their placement along South Street currently corresponds with density patterns; there are many public telephones between Hermon and Pacific Streets, but only a few near the Routes 1 and 9 access ramp. Bus stops are placed at regular intervals along South Street but they are not highly visible, nor are they covered, nor do they provide seating. Detailed information about bus routes is typically not provided.



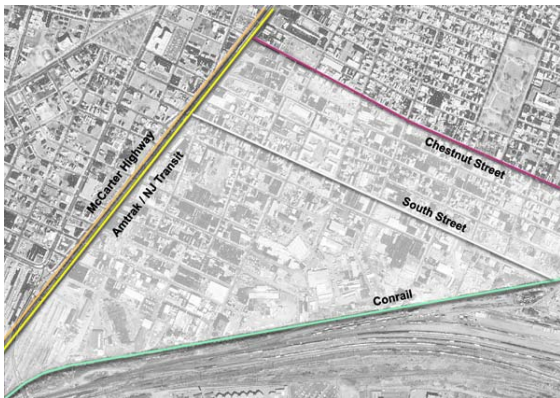
South Street—West



South Street—East



New Housing on Thomas Street



Zone C Boundaries

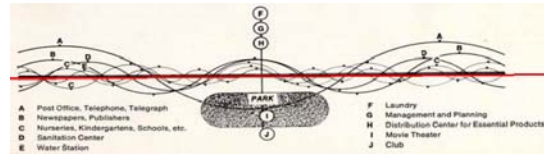


Existing Land Use

# ZONE C

Outdoor space, including sidewalks, plantings and building facades, is neglected and overhead utilities are chaotic. New residential development lacks landscaping elements such as trees, benches and street lamps. The intersections along South Street convey the nature of adjacent neighborhoods. Where South Street crosses Hermon Street, the area is pedestrian friendly, with corner stores, a school, and a church. Further east, sparse industrial buildings reflect service industry and strip-type developments. Through the ordering of activities and the placement of utilities, future development can be directed with minor interventions to existing infrastructure. Using the concept of Barsch and Ginzburg's Soviet linear city as a precedent, the team organized public amenities along the South

Street activity spine. Use of each service will determine its frequency. Various nodes were identified as activity centers and these nodes determined the nature of the design interventions. The main intervention tool will be the 'folly'.



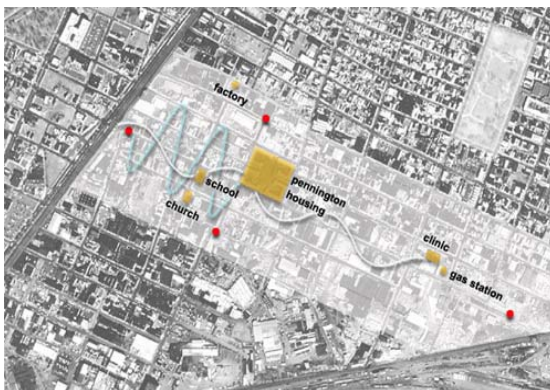
**Soviet Linear City**  
 Source: Town and Revolution, Soviet Architecture and City Planning 1917-1935, A. Kopp; G. Braziller, 1970.



**Brownfields**



**Transportation Routes**



**Important Activity Nodes**



**Types of Nodes**



# ZONE C

A folly is an object that suggests activity and defines outdoor space. A light pole will be the core of the folly; its height and color will be visible from afar and at night it will signal activity. The folly is intended to catalyze future neighborhood improvements. Electricity from the light structure will supply the folly attached to it. Based on location and need, follies can be bus shelters, telephones, food trucks and carts, information bulletin boards, and green space identifiers. Follies will promote interaction between residents and commuters in the Ironbound. These follies will bring a sense of order, rhythm and identification to the South Street neighborhood.

Where Hermon Street crosses South Street, existing nodes at either end, a church and a factory, define it. Recently constructed housing next to the factory indicates that the neighborhood is transforming into a residential one. To reinforce this, the factory, because of its presence at the end of the street, will be rehabilitated and saved. In order to enhance community life, the team proposed a park and soccer field on vacant parcels adjacent to the factory. The two ends of Hermon Street will be linked by a corridor of sycamore trees. At night, lighting will act as an additional connector with both church and factory chimney illuminated.

A Light Pole is at the Core of a Folly.



Hermon Street– Factory View



Hermon Street– Church View



Hermon Street– Proposal

## HERMON STREET- PARK/ SOCCER FIELD





**Existing**



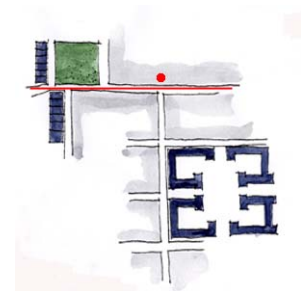
**Intervention**



**After 5 Years**

**DAWSON STREET-  
FOOD CART PLUG-IN**

On Dawson Street, a food cart will plug into the light pole and become a folly. This food cart can be modeled on one of the itinerant food trucks that are common in Newark. As the neighborhood's population grows and the cart's clientele becomes established, the business can relocate to an existing, adjacent building, becoming permanent. In this way, the folly incubates seeds to grow a neighborhood.



**Dawson Street**



# ZONE C



Existing

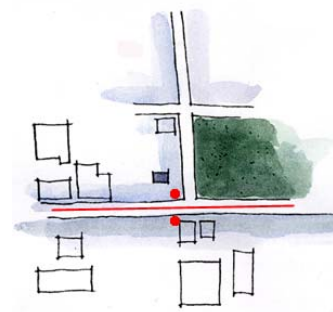


Intervention



After 5 Years

Near where it intersects Routes 1 and 9, the team proposed making South Street a gateway. The landscape will be improved at this threshold incrementally. Initially, follies will be placed to define location and encourage activity. This will be followed by relocating electrical cables underground, restoring sidewalks and adding trees. The follies will become prominent nodes, improving the legibility and image of South Street. In this way, they will emphasize entrance and exit, arrival and departure.



South Street Gateway

Note: All graphics, unless noted otherwise, are the product of the Infrastructure Planning Studio.

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- <sup>2</sup> **IBID** page 13.
- <sup>3</sup> **Cunningham, John T.** Newark. Newark, New Jersey Historical Society, (1966).
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- <sup>21</sup> **The Port of Corpus Christi**; [www.portofcorpuschristi.com](http://www.portofcorpuschristi.com) (2001).
- <sup>22</sup> This analysis will be part of the Ironbound Research Project Phase Three traffic study.
- <sup>23</sup> Phase two of the Ironbound Research project studied redevelopment of Ferry street and the Ballantine site. Report is forthcoming.



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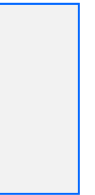
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