A Plan for Industrial Land and Sustainable Industry in the City of Atlanta

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INTRODUCTION

> I attended a funeral once in Pickens county in my State. . . The funeral was particularly sad. . . . They buried him in the midst of a marble quarry: they cut through solid marble to make his grave; and yet a little tombstone they put above him was from Vermont. They buried him in the heart of a pine forest, and yet the pine coffin was imported from Cincinnati. They buried him within touch of an iron mine, and yet the nails in the coffin and the iron in the shovel that dug his grave were imported from Pittsburg . . . . The South didn't furnish a thing on earth for that funeral but the corpse and the hole in the ground.[1]

This story, told by *Atlanta Constitution* Editor, Henry Grady, to a group of investors in the late nineteenth century, represents the vision and potential of a "New South" as Grady referred to it. In the "New South," Atlanta would be an industrial leader and move away from its agrarian roots and economy. The ground for this transformation had been laid several decades earlier when Atlanta, then known as Terminus, became the destination for a railway line designed to connect it with Chattanooga and provide access to the Midwest.

Today, we find ourselves in a situation not all that dissimilar to what Grady described nearly 120 years ago. Metro Atlanta remains a strategic distribution center with an economy highly dependent on the service sector that drove much of the last two decades' growth. It is an economy that has been overly dependent on building and construction. Consequently, it is an economy that has experienced even worse levels of foreclosure and unemployment than that nationwide in the current recession.

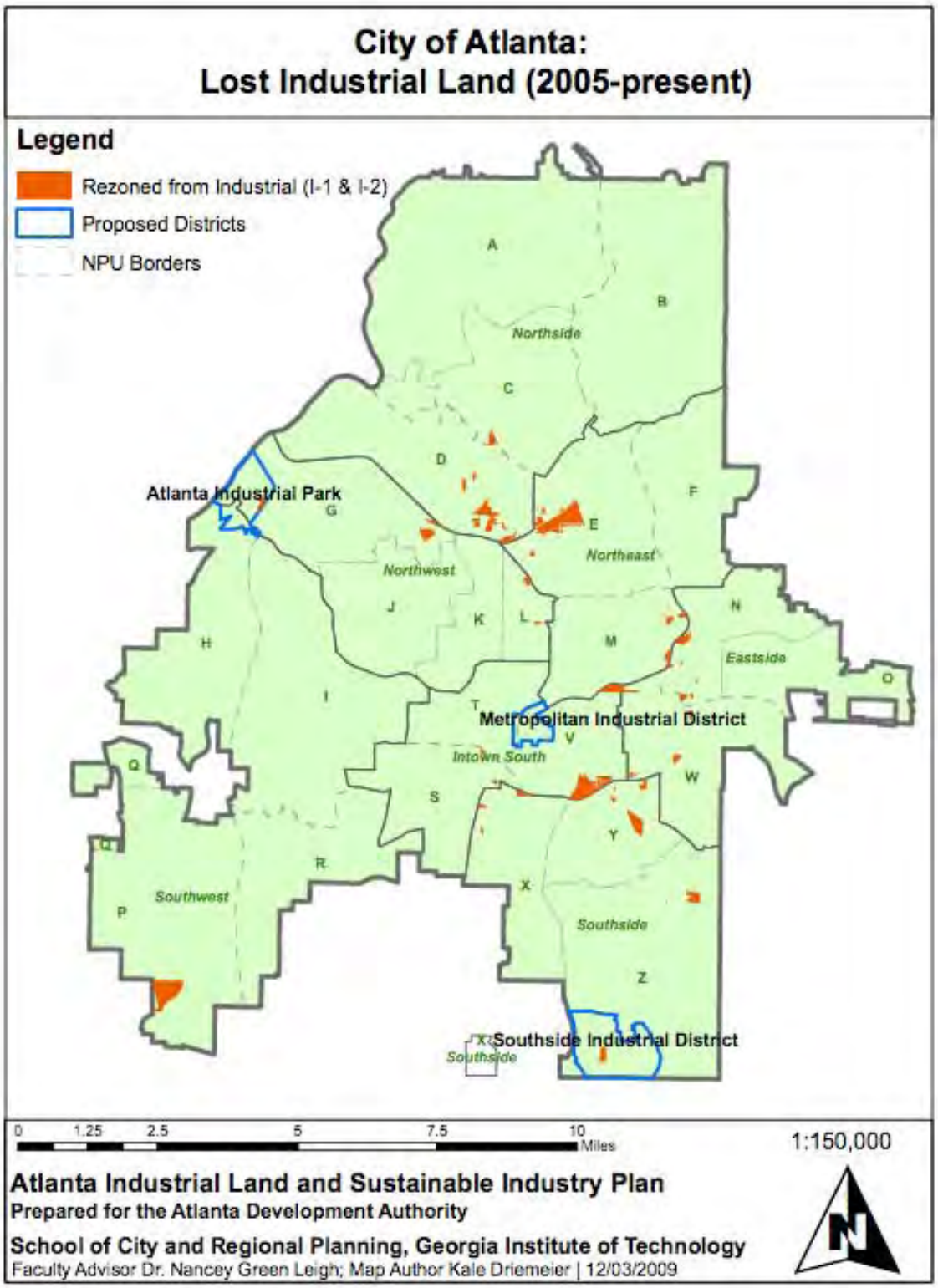
To recover and remain competitive in the future, metro Atlanta and the City of Atlanta need a diversified economic base. We need employment opportunities that allow for people of varying educational backgrounds to earn living wages. This means that we need a range of industry and firms to create a variety of opportunities for employment requiring different skill levels. In order to foster a diverse employment base, we need to maintain a supply of job-producing land–land on which economic opportunities can be made available to both today's residents and future residents.

[1] Speech given by Henry Grady to the Bay State Club of Boston, 1889. Grady, Henry W. (1910.) In Edwin Dubois Shorter, *The Complete Orations and Speeches of Henry W. Grady*. Hinds, Noble & Eldredge. Retrieved December 1, 2009 from http://historymatters.gmu.edu/d/5745/

Unfortunately, in the past five years alone, there has been increasing pressure to reduce industrial land in the City of Atlanta. Pressure to convert industrial acreage has come from a variety of sources led mostly by increased demanded for residential housing–multifamily and single family–within the metro perimeter. Developers are attracted to industrial properties for their relatively low cost and desirable location, albeit often on the fringes of already established neighborhoods. In addition, it is anticipated that future development around the Beltline will result in further displacement of industrial businesses and conversion of industrial acres, a process that has already begun.

Since 2004, there has been a 12% reduction in the number of acres zoned for industrial use in the City of Atlanta. Map 1 shows where Atlanta has lost industrial land. Atlanta is not the only major U.S. city experiencing loss of industrial land. Planning departments and economic development agencies in cities across the United States–Chicago, New York, Los Angeles, Philadelphia, and Minneapolis to name a few –have launched extensive studies of their industrial land lost and have begun to implement innovative solutions.

Map 1: Lost Industrial Land (2005-Present)



The Atlanta Development Authority commissioned this report from the School of City and Regional Planning at Georgia Tech to better understand the problems and solutions to its loss of industrial land. In this report, we present a plan for the protection of industrial land in the City of Atlanta and to further the goal of stimulating future growth in Atlanta's industrial sector, all with an eye toward sustainability.

This report is divided into three main sections:

The ***Making the Case for an Industrial Policy*** section establishes a baseline for where we are in terms of industrial land, industrial real estate, and industrial employment in the City of Atlanta. Although the sector is referred to as industrial, our focus in this report is on the manufacturing subsector. Manufacturing creates the opportunity for import substitution – local production and consumption intended to stimulate the local economy, generate jobs, and encourage innovation.

The ***Analysis of Key Atlanta Industrial Areas*** section presents the fieldwork undertaken by the members of our Studio team. A framework for the evaluation of industrial areas was established along with a survey of nine major industrial areas in the City of Atlanta. Based on this survey, three were selected for more detailed analysis:

- Atlanta Industrial Park
- Southside Industrial Park (and nearby Browns Mill, Zip Industrial, and Empire Industrial Areas)
- Metropolitan Parkway Industrial Corridor

These three areas are proposed as Atlanta's first protected industrial districts and are intended to serve as models for future industrial districts. The areas were surveyed in more detail to assess their current status and identify supportive strategies for their continued and potentially increased industrial use.

The ***Recommendations*** section provides next steps to implement *Atlanta's Industrial Land and Sustainable Industry Plan*. These recommendations include design considerations for future industrial development and/or redevelopment, suggested public policy modifications to the Atlanta Strategic Action Plan and Zoning Ordinance, future data collection protocols, a targeted emerging and sustainable industry plan, and a strategic communications plan. While the end goal of our Studio is the establishment of Atlanta Planned Manufacturing Employment Districts (PMEDs), we recognize that interim steps will be needed to move toward this goal.

The ***Appendices*** section includes summaries of our methodology, copies of tools, and overviews of other cities' strategies.

We have also included ***Background Reports*** on the subjects of Real Estate, Design, GIS and Policy that summarize our research on peer cities and other cities that have been identified for having model industrial policies. There is also a background report on green manufacturing trends.

The current economic downturn presents a unique opportunity. With a decline in the number of applications for rezoning from industrial, now is the time to put in place a comprehensive policy to address the problem of industrial land loss citywide, rather than on a case-by-case basis. It is also the time to position Atlanta to take advantage of a marked shift in national direction, and a renewed interest in domestic manufacturing, especially in sustainable and green technology-related manufacturing. Finally, with unemployment at such high levels, it is the time to focus on employment, particularly the need for a diversity of employment opportunities. A sound policy for industrial land in the City of Atlanta is the first step in moving toward these goals.

MAKING THE CASE FOR AN INDUSTRIAL POLICY

"A concerted effort must be made to preserve industrial land within the City."

Atlanta Strategic Action Plan, 2007-2032[2]

In the most recent update to the Atlanta Strategic Plan, the Bureau of Planning recognized both the threat to the city's industrial land supply and the need to formulate a policy to respond to future zoning requests. Once a parcel has been transitioned for a use other than industrial, it is unlikely to ever return to that status. The loss of industrial acreage is a critical public policy issue because it is associated with a decline in good jobs and a narrowing of the economic base that makes an economy more vulnerable.

Industrial Land and Zoning in Atlanta

In Atlanta, industrial land is highly concentrated in the Northside/Northwest and in Southside. Map 2 shows the location of Atlanta's existing industrial land. To protect and strengthen the industrial sector, it is critical to maintain an inventory of land where industrial and manufacturing businesses can locate.

Atlanta's comprehensive plan contains four major categories for zoning: residential, office, commercial, and industrial. Within the industrial zones, there are two categories based on intensity. Heavy Industry allows for more intensive uses such as manufacturing, transportation and logistics, and scrap metal. Light Industry allows for less intensive industrial uses and allows businesses that have no "adverse effects beyond the boundaries of the property." It includes uses such as mailhouses, assembly, packaging, repair garages, MARTA storage, and yards for contractors.[3]

[2] Atlanta Strategic Action Plan, 2007-2030. Retrieved from http://www.atlantaga.gov/government/planning/asap.aspx

[3] City of Atlanta, Code 1977, § 16-17.003; Ord. No. 1995-69, § 7, 11-13-95; Ord. No. 2001-96, § XXXVII, 12-12-01; Ord. No. 2005-41(06-O-0381), § 22, 7-12-05

Map 2: Location of Industrial Land

Zoning codes are intended to separate incompatible uses. In the case of industrial use, the code protects homes and schools from industrial impact such as noise, traffic, and, of course, toxic exposure. In return, zoning protects businesses by allowing them to operate without interference or nuisance claims from surrounding residents. Changes in zoning such as allowing residential use in predominantly industrial areas create friction between two very different uses. This is the primary reason why industrial districts, or other protective zoning ordinances, are useful tools in industrial policy.

Industrial areas play a significant role in the City's economy. They support not only traditional industrial activities but also a range of users that require industrially-zoned land to conduct business. Due to the lower rent in most industrial areas, it is not uncommon to find start-up and entrepreneurial businesses in industrial areas. Jobs in production, distribution, and repair (PDR) businesses are often located in industrial areas because of the need to be near their clients. Lastly, Atlanta's city operating departments rely on industrial areas for staging and storage associated with providing city services. The idea that industrial land is the required destination for a significant number of users that are not otherwise considered industrial led the Studio team to coin a new phrase, "Industrial Land Dependent Occupations (ILDOs)." ILDOs will be further explained in the Workforce Analysis section of this report.

The Importance of Industrial Land to the Atlanta Economy

By real estate standards, Atlanta is considered a significant industrial market, mostly due to its prominence as a distribution center. Along with Dallas and Houston, it is considered one of the major "inland" ports. According to the North American Industry Classification System (NAICS) that is used to classify business establishments, the industrial sector is comprised of transportation and warehousing, construction, wholesale trade, and manufacturing. Using this definition of industrial, we find that 2008 industrial employment accounted for 57,327 jobs in the City of Atlanta and represented 14.57% of the City's workforce as seen in Table 1.

Table 1: Atlanta's Industrial Employment by Sectors, 2008

Industry	Employment	Wages per month
Construction	10,038	$5,392
Manufacturing	16,259	$6,396
Wholesale Trade	18,788	$6,741
Transportation and Warehousing	12,242	$3,587
Total Industrial Sector	57,327	$5,733 (weighted average)
Total All Sectors	393,367	$5,109
Percent Industrial	14.57%	

Source: Quarterly Workforce Indicators for the City of Atlanta, WIB, Q408. Retrieved from *//lehd.did.census.gov/led/datatools/qwiapp.html*

In addition to the significant number of employees in Atlanta's industrial sectors, industrial jobs are also relatively well paying. Manufacturing jobs pay $6,396 per month, which is higher than the average of $5,109 per month for all industries in the City. By way of comparison, retail jobs pay an average of $2,448 per month.

Value of Industry to the City of Atlanta

Not only do industrial and manufacturing sectors produce good jobs, they also bring revenue to the City of Atlanta. Revenue comes to the City in the form of property tax, inventory tax, business license fees, and service fees. According to the 2007 Fulton County Tax Digest, industrial users contributed $5,966,906 or 3.11% of the total tax levied in the County.

In return, industrial businesses are less expensive to service. A Cost of Community Service (COCS) analysis can be used to determine land use and development impacts for local budgets. In a COCS, government revenues and costs of public service are assigned to the land use class from which, or to which, they apply most directly. The information is then presented as a ratio of expenditure to revenue for the different land use types (Dorfman, 2008).

Generally, residential development is found to be a net loss with tax revenue not covering the cost to provide services while industrial and commercial uses result in a net gain because they do not require as many community services. COCS's have repeatedly shown that the reliance on residential development to increase the tax base is misguided because it does not generate sufficient revenue to cover expenditures. As seen in Table 2 below, for every dollar of revenue that a community collects from a

residential user, the municipality spends a median of $1.15. For every dollar of revenue collected from a commercial or industrial user, however, the community only spends a median of $0.27.

Table 2: Revenue: Expenditures

County	Residential	Commercial/Industrial
Minimum	1 : 2.11	1 : 1.04
Median	1 : 1.15	1 : 0.27
Maximum	1 : 1.02	1 : 0.05

Source: The above figures are based on a compilation of 83 COCs by the American Farmland Trust retrieved from *http:www.farmlandinfo.org/fic/tas/COCS_9-01.pdf.*

Exact numbers for the City of Atlanta have not been compiled. A study of Morgan County, Georgia, however found that the residential users pay $0.94 for every $1.00 in services they receive while commercial and industrial users produce a surplus, paying $1.94 for every $1.00 of county services received. When the cost of providing schools is included in this analysis, the benefit of maintaining an industrial base is made even clearer as the industrial user provides $4.01 for every $1.00 spent by the county and schools while the residential user provides $0.70 (Dorfman, 2008). Similar analyses have been performed in approximately 25 states to determine the true cost of providing service and to guide future land use and growth scenarios. We recommend that Atlanta conduct a COCS analysis to gain a better understanding of its own costs to provide service and the relation to land use.

Real Estate Economics and Impact on Land Use

In the Atlanta metro area, there are currently over 508 million square feet of industrial space, yet only 16 million square feet of manufacturing space. The vast majority of the industrial space is used for warehouse and distribution activity. There is also a fair amount of space availability or vacancy, though this varies by area of the city. The Chattahoochee Industrial area in the northwest part of the city has a vacancy rate of 6%, while the Southside's rate is 14.3%. Overall, the metro-wide vacancy rate is 12.3% for industrial, and 10.4% for manufacturing.[4]

[4] Real estate data sources: Jones Lang LaSalle. (2009). *United States Industrial Report, Winter 2009*. Retrieved from http://www.us.am.joneslanglasalle.com/UnitedStates/EN-US/Pages/ResearchDetails.aspx?ItemID=1849 and The Co-Star Group. (2009). *Mid-Year Report*. Retrieved from http://www.costar.com.

There is a mismatch, however, between the availability of industrial land and buildings in Atlanta and the requirements of twenty-first century industrial businesses. For example, the City of Atlanta has few large buildings over 100,000 square feet. As of October 2009, there were less than 10 properties in this size range being marketed. In addition, much of Atlanta's building stock is aged and likely to be obsolete since much of the stock was built in the 1960s.

There is no official estimate of the demand for industrial buildings. We know that there was a 19.5% decline in the number of manufacturing establishments in the City of Atlanta between 1998 and 2006.[5] We do not know, however, to what extent this decline was due to business closures, lack of available space for modernization, or expansion and concomitant space for new industries. Nonetheless, a review of the leads at local economic development agencies revealed that 49% of requests received by the Atlanta Development Authority were related to industrial space and 19% of requests made to the Atlanta Metro Chamber of Commerce were for industrial space. The requests at these agencies ranged from 1,000 square feet for life science research space, to 500,000 square feet for manufacturing.

Land for Emerging Industry Sectors

While it is important to protect industrially-zoned land for traditional industries, it is also important that any future policies and new zoning classifications be flexible enough to accommodate emerging, modern industrial sectors. Some of these uses require exclusive industrial zoning, however, many research- and life science-related companies can be accommodated in mixed office park/industrial zoned areas. Cities such as Los Angeles, for example, have designated specific areas for cleantech and green technology industries. Atlanta's industrial land policy needs to be flexible but it should also provide protection for highly valuable manufacturing, job-producing land.

[5] Bureau of Labor Statistics, County Business Patterns (2006) for NAICS codes 311, 312, 314,315, 316,321,322,3232,324,325,326,327,331,332,333,334,335,336,337 and 339. Data retrieved July 7, 2009 from http://www.census.gov/econ/cbp/index.html.

INDUSTRIAL AREA EVALUATIONS AND FRAMEWORK

We approached the evaluation of Atlanta's industrial areas as would a professional planner or economic development practitioner. Taking the best practices and lessons learned from cities across the country that have undertaken similar studies of industrial properties, we developed a framework to organize and analyze area-specific information as identified in Table 3. Our objective in developing a framework and conducting complete evaluations of three industrial areas was to demonstrate how reliable evaluations can be replicated to support effective policy decisions for improving Atlanta's industrial areas.

Table 3: Summary of Evaluation Framework

Productive Industrial Area Criteria	
Form	Refers to the role of land and the unique importance of compatible adjacent properties to industrial productivity.
Function	A measurement of an area's capacity to support industrial businesses.
Marketability	Refers to an area's current real estate characteristics and patterns.
Public Priority	A summary of important public priorities that impact an industrial area. The criterion is useful to identify local priorities.

Evaluation Activities	
Windshield Survey	An evaluation of a targeted industrial area to assess general characteristics primarily relating physical conditions, industry mix, area boundaries, and compatibility with near-by land uses.
Field Reconnaissance	A more in-depth analysis of an area's industrial productivity measured and observed in the field using indicators of form, function, marketability, and public priority.
GIS and Content Analysis	Refers to supplemental data collection and analysis of specific information not able to be observed in the field for an area.
Classification of Areas	
Healthy Fabric	Refers to an area's strong mix of supportive and compatible industrial businesses, and observed infrastructure and amenities that support the area's function and marketability.
Expand	Observed opportunities for expanding an industrial area's boundary or incorporating additional industrially zoned land in an area.
Underutilization	Refers to the significant vacant or underutilized land and buildings exhibited in an area.
Pressure	Observed development patterns that may be threatening industrial land uses and zoning, and negatively impacting an area's form and industrial productivity.
Friction	A characterization of the incompatibility of near-by non-industrial uses.
Categories of Policy Responses	
Retention and Reinforcement	A policy response intended to protect and enhance a healthy industrial area.
Intensification and Evolution	A policy response to improve quality and density of industrial uses in an area.
Strategic for Public Use	Refers to the potential of public control of critical properties for future development of an area or for locating public facilities.
Land Use Change	A policy decision to replace industrial uses with other uses in an area because of the inability to support productive industrial operations.

Our framework for evaluation included four main criteria important for productive industrial land: 1) form, 2) function, 3) marketability, and 4) public priority. The organizational scheme of evaluating areas was developed after the review of several reports addressing industrial uses in Atlanta as well as eight other cities listed on Table 4.

Table 4: Case Cities

Atlanta
Chicago
Los Angeles
Minneapolis
New York
Philadelphia
San Jose
Seattle
Washington, D.C.

We carried this framework through all of our evaluation activities. The evaluation process started with a windshield survey of targeted industrial areas. See Table 5 for the targeted areas provided by the Atlanta Development Authority.

Table 5: Preliminary Targeted Industrial Areas for Evaluation

Atlanta Industrial Park
Atlanta Technology Enterprise Park
Cleveland Avenue
Former Georgia State Farmers Market
Honor Farm
Metropolitan Parkway Industrial Corridor
Moreland Avenue Corridor
Ridge Avenue
Southside Industrial Park (and nearby Browns Mill, Zip Industrial, and Empire Industrial Areas)

From a windshield survey, observations and notations were made of each area's general characteristics. The objective of the windshield survey was to collect area-specific observations primarily relating to each area's form and how well it functioned. Examples of specific observations noted during the survey include physical conditions, land uses, industry mix, area boundaries, and characteristics of surrounding neighborhoods. A simple field tool was created to guide the windshield survey. Completed surveys for all nine targeted areas are located in Appendix A.

We selected three of the targeted industrial areas for further evaluation as Planned Manufacturing Employment Districts (PMEDs): 1) Atlanta Industrial Park, 2) Southside Industrial Park, and 3) Metropolitan Parkway Industrial Corridor. These three areas encompass nearly 2,150 acres and are locations of thousands of industrial jobs.

The three targeted areas have attributes that provide clear evidence for the need and usefulness of a specific industrial plan for Atlanta, one that expands and protects productive industrial land and fosters local industrial employment. Each is adequately serviced by Atlanta's industrial infrastructure such as the airport, freight rail, and highway access. All three areas have a mix and evident concentration of

industrial uses. Two are established industrial parks with expansion and intensification opportunities (providing knowledge about supporting these urban industrial parks was a significant motivation for our evaluations). The other is characterized as an industrial corridor anchored by clusters of industrial facilities and serviced by good infrastructure (evaluating a corridor was useful because there are other similar industrial areas in Atlanta). Underutilized parcels within each of the area's boundaries were observed, and each area exhibited other general issues, especially development pressures from encroaching residential and retail uses and public priorities such as the Beltline.

Working in groups of two to three people, each of the three recommended industrial areas was further evaluated. Before proceeding with a more-in-depth field reconnaissance, detailed area maps were produced using the geographic information system (GIS) database created specifically for evaluating Atlanta's industrial areas.

Each group used the large-scale maps to document field observations. The maps showed useful information such as the industrial area's boundary and buffers, parcels, buildings, current land uses, roads, and availability. During the field reconnaissance, groups recorded visual observations to confirm or revise the information provided by the GIS maps. Additionally, each group was provided a list of indicators organized by the four criteria (form, function, marketability, and public priority) to help in guiding their field observations. A template of this list is available in Appendix A. Groups also made photographic documentation of significant conditions on the ground.

The detailed field maps, annotations, and photograph logs were organized and used to revise/create data sets within GIS. Additional parcel-specific information, such as assessed values, property taxes, and names of property owners, were retrieved from online local public sources. All of this information and the new GIS maps were analyzed for significance, patterns, and themes as they relate to form, function, marketability, and public priority. We utilized a descriptive classification scheme with categories of policy responses developed by the District of Columbia to organize our evaluation findings for all nine targeted industrial areas[6]. Tables 6 and 7 provide information on the targeted industrial areas.

[6] The District of Columbia developed an excellent evaluation framework and is a good example for future evaluations of Atlanta's industrial areas. See pages 16, 76-80, and 161-163 in the District of Columbia, Office of Planning. (2006, August). *Industrial Land in a Post-Industrial City: District of Columbia Industrial Land Use Study*. The report is available electronically at https://www.communicationsmgr.com/projects/1355/docs/DCIndustrialLandUseStudyFinal.pdf

Table 6: Recommended Planned Manufacturing Employment Districts

Area	Classification	Policy Response
Planned Manufacturing Employment Districts: Existing Industrial Parks		
Southside Industrial Park	Healthy Fabric	Retention/Reinforcement
	Expand	Intensification/Evolution
Including areas of Zip Industrial Blvd., Browns Mill Road, and Empire Boulevard	Pressure and Friction	Land Use Change
		Intensification/Evolution
Atlanta Industrial Park	Healthy Fabric	Retention/Reinforcement
	Expand	Intensification/Evolution
	Pressure and Friction	Retention/Reinforcement
Planned Manufacturing Employment Districts: Corridors		
Metropolitan Parkway Industrial Corridor	Pressure	Intensification/Evolution
	Underutilized	Land Use Change

Table 7: Additional Targeted Areas for Future Consideration

	Area	Classification	Policy Response
Planned Manufacturing Employment Districts: Existing Industrial Parks			
4	Atlanta Technology Enterprise Park	Healthy Fabric	Retention/Reinforcement
		Expand	Intensification/Evolution
Planned Manufacturing Employment Districts: Corridors			
5	Moreland Avenue	Pressure	Intensification/Evolution
Planned Manufacturing Employment Districts			
6	Cleveland Avenue	Underutilized	Strategic for Public Use
7	Former GA State Farmers Market	Underutilized	Strategic for Public Use
8	Honor Farm	Underutilized	Strategic for Public Use
9	Ridge Avenue	Underutilized	Strategic for Public Use

Detailed Area Evaluations

The following section provides additional information about the three recommended Planned Manufacturing Employment Districts (PMEDs).

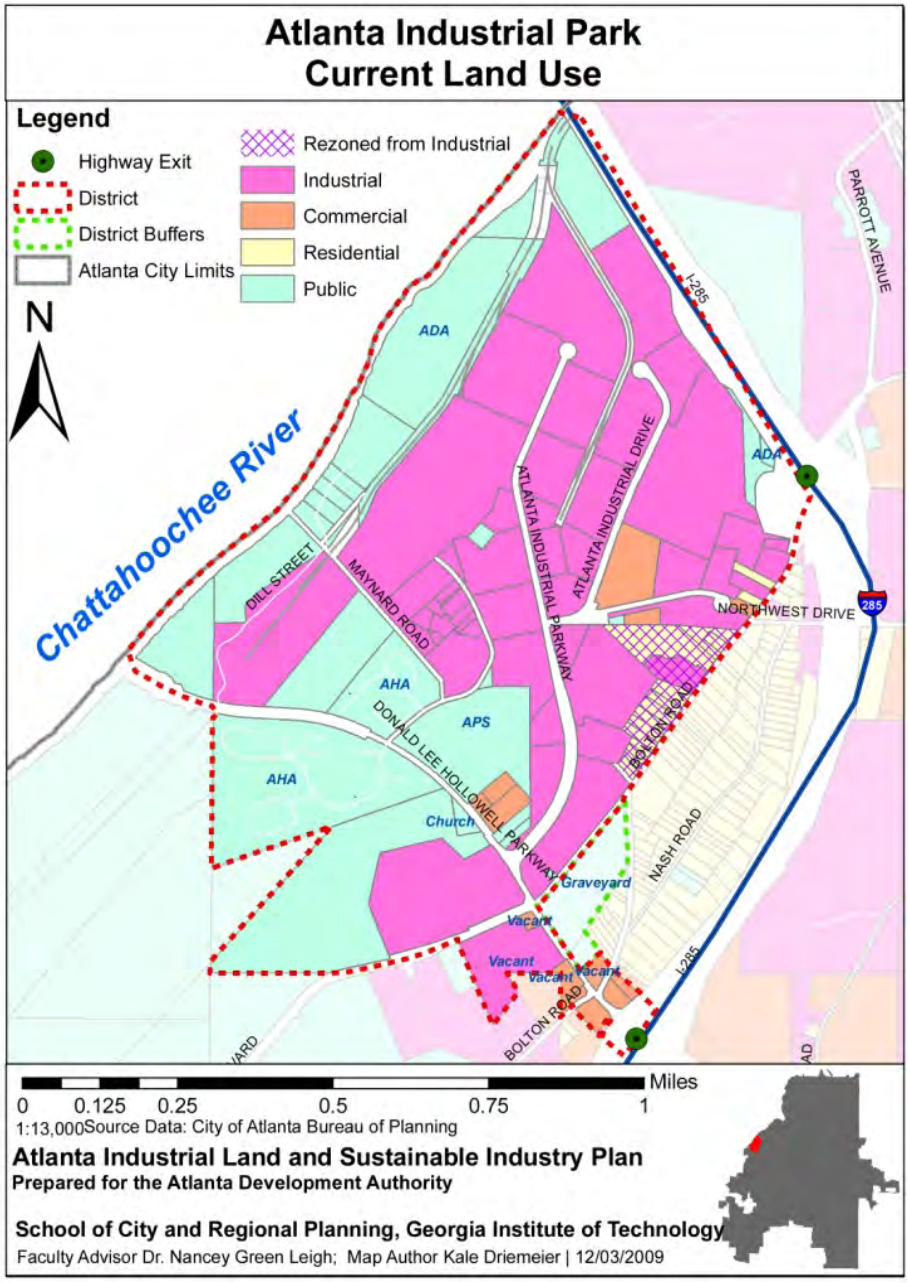
Atlanta Industrial Park

Atlanta Industrial Park (AIP) was established in the 1980s by the City of Atlanta as a large-scale industrial area. Over the past decades, AIP has been home to a variety of light industrial and commercial businesses. Suburban competition from more attractive industrial parks containing larger parcels and modern facilities has taken its toll on AIP. However, there are significant expansion opportunities to strengthen AIP and companies such as Wamar International, Inc. are still locating manufacturing operations in the industrial park.

Figure 1: Atlanta Industrial Park's entrance at D.L. Hollowell Parkway

The recommended PMED encompasses slightly over 550 acres. It includes both the established industrial park and additional adjacent land. The area is bordered by Donald Lee Hollowell Parkway (Bankhead Highway NW) to the south, I-285 to the north, an area of residential development to the east (between Fulton Industrial Boulevard NW and I-285), and the CSX railroad to the west (see Map 3). There is some leasable space in existing buildings, but there is not much vacant land in the established industrial park to accommodate new manufacturers. The border of AIP is relatively strong. The inclusion of the recently vacated public housing areas and underutilized commercial properties along D.L. Hollowell Parkway into the industrial park makes sense to maintain the fabric of the industrial area and expand future industrial land.

Map 3: Atlanta Industrial Park



Form

AIP is accessible from I-285 via the D.L. Hollowell Parkway. The main entrance to the park is at D.L. Hollowell Parkway and Atlanta Industrial Parkway (see Figure 1). The development along D.L. Hollowell Parkway between the park's entrance and the highway exit is sparse. There are gas stations on both sides of the road near the exit. Other commercial development at the prominent intersection near the highway appears older and underutilized. Heartland Express, a national truckload carrier, is located at

the intersection of D.L. Hollowell Parkway and Fulton Industrial Boulevard NW. There is also an available corner lot (approximately an acre) at the same intersection. The former public housing facilities and underutilized commercial and vacant land are visible from D.L. Hollowell Parkway to the west of Atlanta Industrial Parkway. As D.L. Hollowell Parkway is the main commercial route to the industrial park, these observations of the area's form will need to be taken into consideration in the planning efforts of reinforcing the industrial area.

Figure 2: Single-family homes Located on AIP's Border

Future planning efforts of AIP will also need to address the non-industrial uses that border the industrial park. Single family homes are located immediately adjacent of the eastern border (see Figure 2). The construction of new soccer fields was also observed at AIP's entrance. This encroachment of recreational uses at the industrial park's southern boundaries merits serious concern (see Figure 3). These areas are suitable for buffer and transition areas that maintain the form of the industrial park and protect adjacent residential and recreational uses.

Figure 3: Encroachment of recreational soccer fields

Function

AIP's entrance at D.L. Hollowell Parkway and Atlanta Industrial Parkway is occupied by offices and a deli. The offices and amenities appear to be compatible uses. There is a mix of different industrial businesses. Prominent industries include building materials, food, and manufacturing. Table 8 provides information about the top five industrial employers in AIP.

Table 8: AIP's Top Five Industrial Employers[7]

Employer	Industry Type
Dust-Away, Inc.	Commercial Custodial Services
Empire Distributors, Inc.	Beverage Distributor
Sanderson Industries, Inc.	Metal Fabricator
3M Bondo Corp.	Chemicals
Wamar International, Inc.	Military Defense Manufacturer

[7] The Studio defines "Top Five Industrial Employers" as the five businesses conducting industrial operations within the boundaries of each of the three PMEDs employing the most people as determined by data from the City of Atlanta Business Licenses (2005).

Although bordering roads are well connected, the main roads within the park have cul-de-sacs. This design feature found commonly in suburban-style industrial parks limits the circulation within the industrial park. There are also several portions of road network that are in poor condition.

Many parcels within AIP have direct access to freight rail (see Figure 4). The large Tilford Yard rail and intermodal center is approximately 2 miles away. Such access to the region's strong rail network improves the industrial park's function and marketability.

Figure 4: AIP is serviced by freight rail and is close to a large intermodal rail yard

Marketability

Buildings within AIP tend to be one- or two-stories and have adequate truck access. Many, if not all, were constructed after AIP was established. There is some leasable space in existing buildings, but there is not much vacant land in the established industrial park to accommodate new manufacturers. Future opportunities for expanding the industrial area include the recently vacated Atlanta Housing Authority public housing areas north and south of D.L. Hollowell Parkway at Maynard Road NW (see Figure 5). A total of over 40 acres sit vacant where public housing previously existed. This situation provides the best opportunity to expand and intensify the productive industrial land in AIP. Cooperation with the Atlanta Public Housing Authority to protect this land from being redeveloped into incompatible uses is a critical next step in the future of the industrial area.

Figure 5: The recently decommissioned public homes provide new land to expand and intensify the industrial productivity of AIP

AIP Attracts Wamar International, Inc. and Hundreds of Jobs

On November 16, 2009, Governor Sonny Perdue announced that Wamar International, Inc. will expand its Georgia operations, creating 100 jobs over the next three years and 300 jobs over the next 10 years. Wamar will consolidate its three business units–defense and security, energy and procurement and logistics–into one location in AIP. Wamar's manufacturing operations will be relocated to a 98,000 square foot building at 3735 Atlanta Industrial Parkway. The company has a 10-year lease with the option to purchase the property. The Atlanta Development Authority cited AIP's access to Hartsfield-Jackson Atlanta International Airport, interstates, and skilled workforce as major considerations in the business's decision to locate in the park.

Sources: State of Georgia. (2009). Retrieved November 19 from http://www.georgia.org/Press/Pages/NewsItem.aspx?newsid=502; Atlanta Leasing and Investment Commercial Real Estate Advisors. (2009).Retrieved November 23 from http://www.atlantaleasing.com/index.php?s=5&item=43

Public Priority

The Livable Centers Initiative (LCI)[8] for the Donald Lee Hollowell Parkway/Veterans Memorial Highway Corridor is a public priority for the area. The City of Atlanta and Cobb County are committed to including AIP as a priority for the study, in addition to addressing the underutilized commercial properties surrounding the industrial area (see Figure 6). The study sets out to "strengthen and improve the competitiveness of viable industrial areas such as Atlanta Industrial Park" (City of Atlanta and Cobb County, 2009, p. 9). The redevelopment of the former public housing areas should also be considered as a critical public priority for the future of Atlanta Industrial Park.

Figure 6: The LCI study focus on improving AIP will include addressing the underutilized commercial properties along D.L. Hollowell Parkway

Metropolitan Parkway Industrial Corridor

The recommended Metropolitan Parkway Industrial Corridor extends 5.5 miles. Its northern terminus is at Northside Avenue and Peters Street, just north of I-20, and its southern terminus is at Mt. Zion Road SW and I-75. Metropolitan Parkway is the main north-south road until the corridor turns east at Cleveland Avenue (see Map 4). We recommend that four nodes encompassing 608 acres be considered as part of the PMED for the Metropolitan Parkway Industrial Corridor. Each node is characterized by a concentration of current and potential industrial land uses. We conducted a windshield survey of three nodes, and we conducted a complete evaluation on the fourth node, the North Node.

Central Nodes A and B: Crossroads Center and Metropolitan Village District[9]

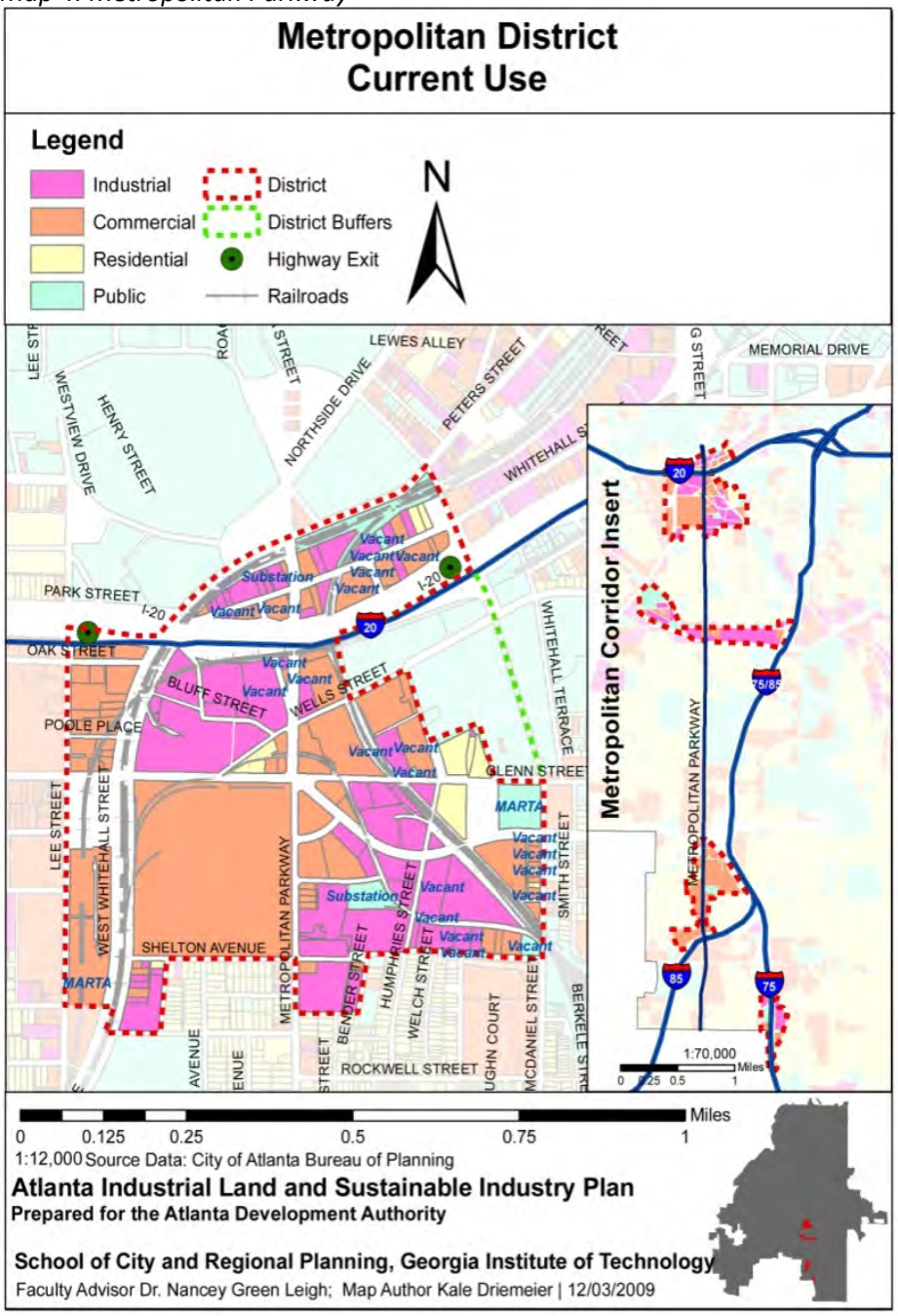
The area off Metropolitan Parkway stretching east towards I-75 and west towards the Former Georgia State Farmers Market along University Avenue has a cluster of industrial uses and several vacant industrial parcels—some of which have been identified as brownfield sites by the City of Atlanta.

[8] The Livable Centers Initiative (LCI) is a program offered by the Atlanta Regional Commission that encourages local jurisdictions to plan and implement strategies that link transportation improvements with land use development strategies to create sustainable, livable communities consistent with regional development policies. Source: Atlanta Regional Commission. (2009). Retrieved from http://www.atlantaregional.com/html/308.aspx

[9] The notation of the Metropolitan Parkway Industrial Corridor's nodes A-C is consistent with the Atlanta Development Authority's *Metropolitan Parkway Tax Allocation District and Redevelopment Plan*. Node A is the "Crossroads Center"; Node B is the "Metropolitan Village District"; and Node C is the "Cleveland Avenue 'Gateway' District" and includes the Kroger Citi-Center and K-Mart Center.

However, this area is targeted for proposed redevelopment associated with the Beltline. Future consideration of the redevelopment of this area will need to balance the demand for uses.

Map 4: Metropolitan Parkway



Three-quarters of a mile further south along Metropolitan Parkway sits Atlanta Technical College. This anchor institution can function as a key asset in leveraging any future industrial redevelopment in the proposed corridor by providing technical skill education to local residents through industrial programs targeted for nearby industrial businesses.

The two-mile stretch of Metropolitan Parkway south of Atlanta Technical College to Cleveland Avenue is characterized by a mix of older commercial retail strips, auto body repair shops, and car dealerships (many of which are vacant). Bishop Brothers Auto Auction located just south of Arthur Langford Parkway occupies over 30 acres of land. Most of the site is a paved parking lot for automobiles. Land uses surrounding the auctioneer are dedicated to auto repair, including mechanic and tire shops. Metropolitan Parkway south of Bishop Brothers to Cleveland Avenue can best be characterized as being completely developed, but considerably underutilized. Several of the commercial parcels are concrete surface areas with little to no aboveground structures. There are areas of contiguous parcels that consist of more than 3 acres of vacant land. This area in the proposed PMED has the potential for viable industrial redevelopment projects.

Southern Node C: Cleveland Avenue 'Gateway' District

The stretch east along Cleveland Avenue from Metropolitan Parkway to I-75 is predominantly small retail establishments and vacant commercial land. Cleveland Avenue is the main access route to the proposed industrial corridor from I-75. As such, recent efforts to improve the physical conditions and redevelop the area (as indicated by the City of Atlanta's *Draft Cleveland Avenue Corridor Study*, 2009) should be integrated into the planning efforts for future industrial revitalization of the Metropolitan Parkway Industrial Corridor.

There is a cluster of industrial businesses immediately south of Cleveland Avenue at Mt. Zion and I-75. This area was observed during the windshield survey and we recommend that it be considered for future protection as part of the PMED for Metropolitan Parkway.

Metropolitan Parkway Industrial Corridor North Node

The North Node consists of 274 acres. We decided to focus on this node because it has a variety of active industrial facilities, and it is a fitting entry way into the corridor with access to I-20 and close proximity to downtown.

Form

The North Node has a variety of active industrial facilities. The area's industrial uses are fragmented by commercial and retail establishments, along with vacant land and buildings. There is east-west access for I-20 at Lee Street. The West End MARTA station services the area, and bus, pedestrian, and bicycle routes from the station extend into the area via Ralph David Abernathy Boulevard. The non-industrial uses east of the MARTA station are sub-standard automotive repair and used tire stores. These businesses occupy older buildings with finishes that are below average for the area's industrial and other retail establishments. The stores have poor signage, and lack adequate indoor storage or screening. The residential units within the area tend to be recently converted loft spaces. There are several well-maintained light industrial facilities that should be incorporated into future land use plans.

The North Node is under significant pressure from the Atlanta University Center District, the Historic Castleberry Hill Neighborhood, and new housing developments in the Pittsburgh and Mechanicsville neighborhoods. The McDaniel-Glenn Hope VI project is a large urban infill redevelopment project consisting of rental and for-sale housing, retail, office, and recreation. It has been under construction for several years (Tunnel, 2009). A phase of the project is complete but construction appears to have stopped. Several acres southwest of the completed development sit vacant (see Figure 7).

Figure 7: Vacant land in the North Node between the McDaniel-Glenn mixed-use redevelopment project and the converted GE Tower loft apartments

Function

There are several well-established employers in the North Node. The five companies listed in Table 9 employ over 800 people and occupy 21 acres. These and other prominent businesses in the area, such as Concessions International, LLC, are potential leaders and stakeholders in the future process of improving the industrial area. The main obstacles to establishing a more functional industrial area are the large scrap yards, abandoned rail spurs, and the challenge of reconfiguring the antiquated street network to better service existing industrial users and new industrial land (see Figure 8).

Table 9: Metropolitan Corridor North Node's Top Five Industrial Employers

Employers	Industry Type
Associated Imports, Inc.	Building Material Manufacturer
Atlanta Marble Co.	Building Material Manufacturer
Bronner Brothers	Beauty and Cosmetic Manufacturer
Country Home Bakers	Commercial Bakery
Stevens Graphics	Commercial Printing Services

Future industrial redevelopment is especially hampered in the North Node because of the large area dedicated to used auto parts and scrap facilities. Three large facilities, Pirkle, C&L, and Samson, occupy the over 20 acres in the core of the area. They lack proper screening, which attributes to the negative perception of the area, employ few people relative to alternative industrial uses on the land, and contribute little in terms of property taxes. A concerted effort to redevelop the scrap yards in conjunction with the available vacant land in the area would help preserve the industrial area from the surrounding encroachment of residential uses. Furthermore, the replacement of the scrap yards with better designed and productive industrial uses would have positive influences on the nearby residential developments and provide local opportunities for good industrial jobs.

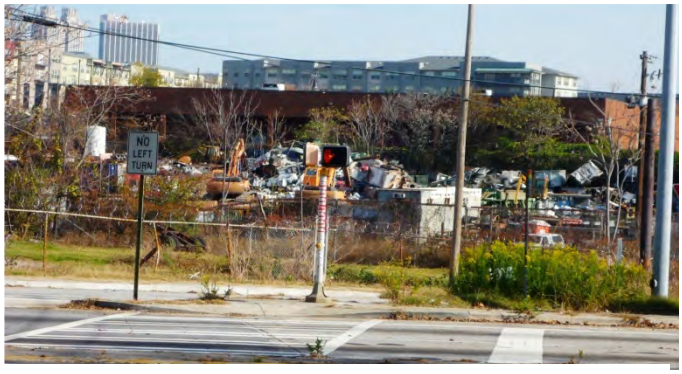


Figure 8: Several large salvage yards operate in the Metropolitan Parkway Industrial Corridor

Though the area has some major streets that support commercial truck traffic, the area's circulation is impacted by an antiquated street network of side streets that service long-abandoned industrial parcels.

Norfolk Southern operates the nearby Pegram Yard. Freight rail traffic is heavy on the active lines, but abandoned rail spurs cross over streets and slice parcels leaving undesirable sizes and shapes.

Marketability

There are several small and large industrial buildings for sale, but most appear to be inadequate to accommodate new industrial uses (see Figure 9). For instance, the multi-story industrial buildings are of older construction. Many of these older buildings include truck bays and floor areas that are not conducive to modern industrial needs. The smaller, single-story industrial buildings also appear to have difficult truck access and loading areas. The ceiling heights of the potential manufacturing areas in many of these single-story buildings also appear to be low (less than 30 feet).

Figure 9: There are several industrial properties for sale in the North Node, such as this four-acre site with a pre-1950, multi-story building

Several buildings and whole blocks in the area are noticeably deteriorated. We identified the following issues that reduce the redevelopment potential of the area (see Figure 10).

- Fire-damaged homes and industrial structures.
- Unsecured demolition debris that can attract scavengers.
- Illegal dumping that is unsanitary, attracts rodents, and is unsightly.

Tying economic development planning to targeted code enforcement could be extremely beneficial in improving the industrial area in the short-term.

Figure 10: Dilapidated buildings, illegal dumping, demolition debris, and fire-damaged houses located in Metropolitan Corridor North Node

Public Priority

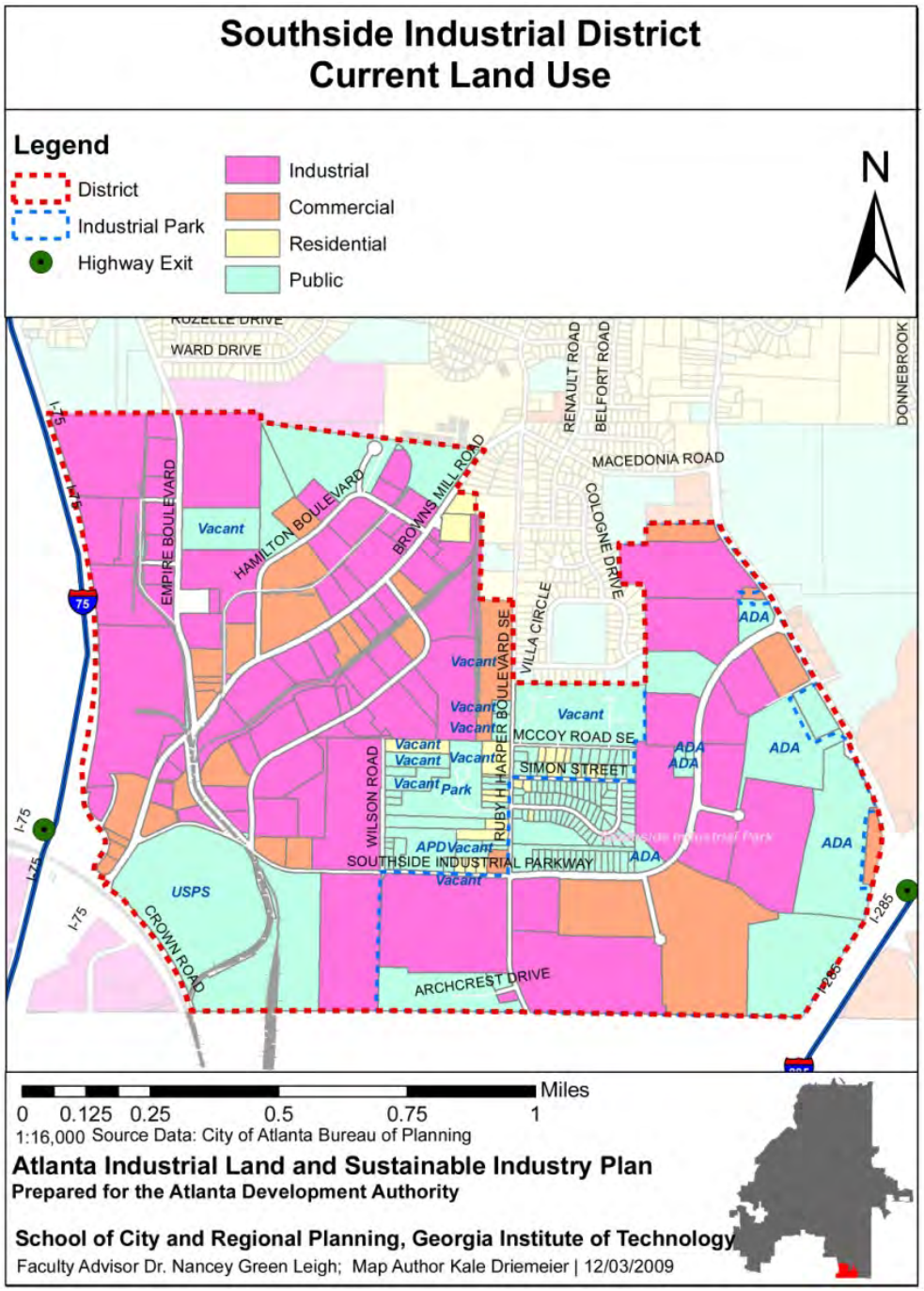
Community involvement in future land use planning for the recommended Metropolitan Parkway Industrial Corridor will be critical. In the past five years, there have been Livable Centers Initiative plans, and Beltline, Peachtree Streetcar, streetscape, and corridor studies that directly influence the recommended Corridor, including the North Node. In regards to planning for the North Node, critical stakeholders include the community organizations that represent the development interest of Westside, Adair Park, Pittsburgh, and Mechanicville neighborhoods, Atlanta's Neighborhood Planning Unit (NPU) V, the Atlanta Housing Authority, local transportation planning agencies, Norfolk Southern, and the major land owners and businesses. Observations, such as those of new residential developments adjacent to vacant industrial buildings exemplify the need for a concerted community effort to protect and redevelop the industrial area (see Figure 11). The recommended industrial corridor also overlaps with the Metropolitan Parkway Tax Allocation District (TAD). These previous efforts and networks of established stakeholders are resources for strengthening the area's industrial productivity and creating industrial jobs for local residents.

Figure 11: New residential project in the Pittsburgh neighborhood and fire-damaged industrial buildings

Southside Industrial Park and Surrounding Areas

The Southside Industrial Park, like Atlanta Industrial Park, was also established by the City of Atlanta in the 1980s (Map 5). The proposed Southside Industrial PMED is 984 acres and consists of the existing Southside Industrial Park and an adjacent industrial area established along three principal streets: Zip Industrial Boulevard SE, Browns Mill Road, and Empire Boulevard SW.

Map 5: Southside Industrial Park



Form

The overall layout reflects a separation of uses according to intensity in most areas. The heaviest industrial and highest traffic-generating uses can be found along Browns Mill Road and Empire Boulevard. Zip Industrial Boulevard is lined with a mixture of offices and other smaller-scale businesses. The Southside Industrial Park contains relatively newer and uniformly larger light industrial facilities. Lot sizes range from three to fifty acres with building floor area ratios ranging from 25-50% (ADA, n.d.). The Park's industrial zoning allows for wholesaling, storage, light manufacturing, and processing. The current uses consist mainly of warehousing and distribution. Protective covenants for the area keep it free of unsightly fences, open storage, and other noxious activities (ADA, 2005). The park exudes a serene, suburban aesthetic in the midst of a frenetic industrial environment. Traffic is relatively sparse, and there is significant vacancy, with both developed and undeveloped lots available for lease or sale.

In contrast, the Zip/Browns Mill/Empire area is less uniform, with smaller lots and irregular spacing between buildings. There are no covenants to guide this area's development patterns and land uses. The assessment of the area's physical appearance during the site reconnaissance identified an inconsistent streetscape. For instance, a variety of screening and fences were observed. Fences were of various heights, constructed of different material, and many were topped with barbed wire. The streets were noticeably sub-standard. There were also several areas that require repairs to potholes, and several abandoned rail crossings were paved over, resulting in rough and bumpy street surfaces.

Function

A diversity of users occupies the proposed Southside Industrial Park PMED. Industrial uses range from construction contractors to food suppliers and heavier industrial users such as Harvard Chemical Research. Notable tenants include two recycling operations and a Coca-Cola equipment manufacturer. Distribution and logistics are major uses in

Table 10: SIP's Top Five Industrial Employers

Employers	**Industry Type**
Fresh Pack, LLC	Wholesale Food Distributer
Geographics	Commercial Printing Services
Royal Food Service	Wholesale Food Distributer
Vertis, Inc.	Commercial Printing Services
Wilen Products, Inc.	Manufacturer of Sanitary Paper Products

the area because of the excellent highway access and close proximity to Hartsfield-Jackson Atlanta International Airport. Norfolk Southern's Forest Park Yard is also within two miles from the area. Table 10 lists the top five industrial employers in the recommended PMED.

Potential friction and encroachment can be seen coming from the north at three major points. A residential neighborhood appears to be in the early stages of development at the north end of Empire Boulevard (see Figure 12). Likewise, at the north end of Browns Mill Road, a MARTA maintenance facility abuts a new subdivision on Ruby Harper Boulevard.

The other area of potential friction is in the Blair Villa/Poole Creek neighborhood, which is framed by potential industrial users on three sides. At present, there is a discernable buffer, but careful attention must be paid to minimize potential incompatibilities if the industrial area is to expand.

Figure 12: 21 acres of vacant land in the recommended District are under considerable pressure. 14 acres have recently been cleared presumably for residential development

<u>Marketability</u>

Many properties along Empire Boulevard SW abut I-75 to the west. In this line, which includes Coke and the U.S. Postal Service, there are several large parcels with potential for redevelopment. Throughout the area, there is considerable vacancy with many dilapidated, but developed lots available for sale or lease (see Figure 13). Traffic in this part of the proposed district is steady, as all aforementioned streets feed into Brown's Mill Road. Browns Mill Road provides the easiest point of access to highway on-ramps via Crown Road. Potential expansion of the industrial uses adjacent to Southside Industrial Park is available with the recent removal of the former Gilbert Gardens Public Housing. The City of Atlanta acquired 57 acres of the former Gilbert Gardens in 2004, using federal airport improvement funds. All housing stock is now demolished (see Figure 14). There are also approximately 11 acres of vacant land across the

Figure 13: Vacant parcel used for dumping ground

street, some owned by the City. The areas afford the opportunity to expand the industrial park. Due to the lack of activity on these parcels, the City should regularly monitor the sites to prevent vandalism and illegal dumping.

Figure 14: Former public housing site provides potential industrial expansion

Public Priority

The potential expansion area in the former Gilbert Gardens could also be a location for urban agriculture, an initiative that ADA is currently investigating. The City owns 68 acres in the area that would support this use and would offer a transition from the industrial park proper that would be appropriate given the nearby residential neighborhoods. In addition to urban agriculture, food manufacturing and food related services could be targeted for expansion in the area. The box below describes an industrial district in Los Angeles that illustrates some of the possibilities for Southside Industrial District.

Figure 15: Vacant 400,000 square-foot distribution center located in SIP

There are already a large cluster of these businesses along Empire Industrial Road. Several buildings are available for sale or lease that could potentially accommodate other food related services (see Figure 15). The addition of signage in the form of banners to mark the area would brand the district and help promote it as a destination for these businesses. In addition to inviting local area businesses to take part in the proposed Atlanta Industrial Council (to be discussed later in the report), the city could also work

with the neighborhood to investigate the possibility of setting up a business improvement district to fund landscaping and other aesthetic improvements as well as security.

Los Angeles' Downtown Industrial District (LADID)

Los Angeles' Downtown Industrial District (LADID) is the center of L.A.'s fresh and frozen produce, cold storage and food related services. It is organized as a Business Improvement District (BID) that was formed by the Central City East Association, a nonprofit that works to give voice to business and property owners in the areas of zoning and other local planning processes. Property owners pay an assessment that funds security patrols for the area and other clean up services. Recently, the district unveiled a signage campaign to brand the district. The campaign was produced in partnership with a Los Angeles City program and Inner-City Arts students.

Source: Central City East Association. (2009). *Industrial District*. Retrieved from http://www.centralcityeast.org/industrial/index.html

The area immediately outside of Southside Industrial Park along Jonesboro Road has been designated as a public priority in several economic development and long-term planning projects in the past five years. The entire six-mile corridor of Jonesboro Road to the Clayton County border is one of 14 Economic Development Priority areas designated by the City. This designation followed a redevelopment plan for the entire Jonesboro Road Corridor completed in 2006 that identified a node just outside of Southside Industrial Park for concentrated activity as one of its recommended locations for a village center area of concentrated mixed-use activity. In addition, Southside Park is a 200+ acre park across the street from Southside Industrial Park. A 2007 master planning process recommended significant investment in the recreation park to enhance recreational and cultural opportunities.

Other already existing economic development tools that could be utilized in the area immediately around and within the proposed Southside Industrial Park PMED include the Urban Enterprise Zone (UEZ) and Industrial Revenue Bonds. The UEZ program is one that individual property or business owners can use to apply for a ten-year tax abatement. The 2005 Bay Area Economics study recommended the use of UEZ's for the area of Jonesboro Road near Southside Industrial Park which was designated as having a medium likelihood of redevelopment at that time. Finally, the ADA has the authority to issue Industrial Revenue Bonds as Private Activity Bonds to "finance the acquisition, construction, improvement or modification of plants, factories, mills, sewage, solid waste facilities, machinery, equipment, or any other property which an industrial concern might desire to acquire or lease in connection with the operation of such a facility within the City of Atlanta" (ADA, 2009).

GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR INDUSTRIAL LAND PLANNING

GIS was used extensively as part of the Studio team's activities.[10] GIS offers a tool that interested parties can use to measure, evaluate, and analyze spatial data. However, inconsistencies between GIS layers can create problems stemming from the way the layers were created. For instance, the Industrial Business Park Opportunity Areas (IBPOAs) designated by the City of Minneapolis were created as points rather than polygons making the boundaries unclear for land use and zoning purposes. In creating our proposed districts, we were careful to align our borders with either parcel boundaries or street centerlines (using the "snapping" function in ArcGIS) so as to minimize any confusion, spatial mismatch, or inconsistencies.

In producing our maps, we used existing ArcGIS shapefiles obtained directly from the City of Atlanta's Bureau of Planning for the following layers:

- Zoning
- Future Land Use
- Buildings (impervious surfaces)
- Rezoning Cases
- Priority Areas
- Tax Allocation Districts
- Livable Centers Initiative Areas
- Neighborhood Planning Units
- Street Centerlines
- Highway Interchanges
- Atlanta City Limits

The shapefiles for interstate highways, railroads, and census tracts were taken from the repository of the Center for GIS at Georgia Tech. Building footprints and data on buildings for sale was obtained through CoStar, an online subscriber real estate database.

[10] One of the Studio team members is currently working in the Division of GIS within the Bureau of Planning at the City of Atlanta and the City graciously made available a wide range of data.

As no current land use layer exists within the Bureau of Planning, a land parcel dataset from the City of Atlanta was used, which was recalculated to show current use by using the "property class" field (which is linked to assessor data for Fulton and DeKalb counties). Through the property class listing, we were able to determine whether a land parcel is currently being used for industrial, commercial, residential, or public (government) use. In addition, studio member survey teams visited the proposed districts to make observations about land use, which were used to reclassify and/or note use for some parcels.

GIS Recommendations

In order to offer a better set of GIS data with which to serve parties interested in the development (or conservation) of city land, we make the following recommendations for GIS data development within the City:

1. Current Land Use layer – To get a sense of land uses within any given locale, it is necessary to know the current land uses; however, such a layer is not (to our knowledge) maintained by the Bureau of Planning. This would be fairly easy to maintain as it can be linked to tax records for Fulton and DeKalb counties and could be updated on an annual basis.

2. Rezoning Cases – A rezoning layer exists and covers cases for approximately the last five years. It would be beneficial to add data from previous periods if possible. As we have seen, industrial land in Atlanta has been steadily declining and policy makers should be knowledgeable about how their land use decisions will affect the ongoing makeup of the city.

3. Priority Areas based on streets or parcels – The one layer obtained from the City that may create some confusion is the Priority Areas layer. Within the Atlanta, there are six priority areas based on road corridors or neighborhoods. However, the polygons used for these areas appear to be solely distance buffers. It would create better clarity to have the priority areas joined to parcel boundaries (through the use of the spatial join or intersect tool in ArcGIS).

INDUSTRIAL SITE DESIGN

> I find it ironic that in spite of the unprecedented scientific accomplishments of this age, and the fact man has garnered more knowledge so far in this century than in all the previous millennia of his existence, the places where these events take place so often give no outward clue to the significance of what takes place inside, much less mirrors its importance…From a physical and visual point of view the work place no longer reflects the importance and nature of the work itself. The new industrial architecture and landscape are generally uninspired.
> (David Plowden–*Industrial Landscape* (1985) p. ix)

This author was referring to what he viewed as Chicago's desolate industrial landscape, but the same could very well be said of many of Atlanta's industrial districts. More often than not, these areas show physical signs of neglect and a lack of broader organization. They scarcely reflect the significance of industrial land and its attending occupations to the local economy, and, in at least some ways, they substantiate the claims of industry's potential incompatibility with other land uses.

The primary objective of this studio is the creation of a comprehensive industrial land use plan for the City of Atlanta. Aside from the desire to strengthen the industrial base through the attraction of complementary new industrial businesses, goals for this plan also include the creation of a policy for the protection of existing industrial land. These areas, commonly derelict and underutilized, have been under pressure from residential and commercial developers seeking to convert them to "higher," more profitable uses from a developer's perspective. The looming perception of industry as a nuisance to good neighborhood character has only served to further the developers' cause. Thus, there arose the need for an *industrial district design* component with the focus of providing guidance for overcoming these perceptions, and affirming the idea that the "industrial" of today is indeed a *good neighbor* and desirable element of a sustainable community.

The studio's initial design research centered on the assessment of policies instituted by cities deemed proactive with regard to industrial retention and attraction. We examined these cities' design practices aimed at fortifying industrial district boundaries and making these critical employment centers more palatable aesthetically. Several *sources of structure* were identified and explored for their potential to bolster Atlanta's industrial presence.

Local zoning codes were observed to be the principal means through which municipalities exerted control over the situation of industrial land uses and their general character. While the Euclidian approach to zoning remains predominant, the most proactive cities have consistently undertaken the task of reforming their zoning codes to permit the inclusion of small-scale production and other industrial activities of compatible intensity in commercial areas. As zoning is subject to pressure to change, some cities took further action to adopt ordinances and other measures to make the process of industrial up-zoning more difficult. These policies, typified by Chicago's Planned Manufacturing Districts (PMDs) and Portland's Industrial Sanctuaries, have been the object of critical evaluation by a number of cities looking to offer protection to shrinking industrial land holdings.

Policies not specific to industry were also found to be positively influential in shaping viable and attractive industrial districts. The City of Chicago's Department of Environment adopted a landscaping ordinance that applied to the majority of commercial establishments and required that they include landscaping features on-site. Similarly, Chicago's Department of Transportation instituted a Streetscape Program to assist communities in creating inviting, pedestrian-friendly street frontages. The program has also brought about the improvement of streetscapes in some communities hosting industrial land uses, encouraging neighborhoods to embrace these businesses, and to integrate them effectively into the local fabric.

From an assessment of the case study cities, as well as thorough evaluation of the three targeted industrial districts within Atlanta, we have developed a strategy to revitalize the city's industrial areas. This strategy is presented via design principles specifically applicable to Atlanta's urban context. The design principles are organized around the conceptual framework of *form*, *function*, *marketability*, and *public priority*.

Form

Form must remain conscious of district location, local land use mix, and demographic make-up.

(1) Take advantage of intersecting business and community needs. Identify and support cultural and other links that strengthen the community, and facilitate participation in a manner that establishes businesses as *neighbors*.

At least two of Atlanta's prime industrial developments are located in suburban settings with residential uses nearby. This implies that industrial protection must involve finding ways to turn these potential weaknesses into strengths. The presence of industry is often seen as a nuisance, but by working with residents, these districts can become *partners* as opposed to *problems*.

Chicago's Little Village, the self-proclaimed "Capital of the Mexican Midwest," provides an excellent example of how industrial businesses can be incorporated into the local fabric. A 2005 LISC (Local Initiatives Support Corporation) Quality of Life Report proposed that these businesses, which employ a substantial share of the local population, be consolidated into a PMD to secure this critical job source for the community's future. The plan, which combines the local Mexican cultural identity with branding of the local business community around food processing, was conceived to produce not just a new industrial district, but also a true community (LISC/Chicago, 2009).

Figure 16: Conceptual plan in Chicago
Source:www.newcommunities.org/communities/littlevillage/

Figure 16 is a conceptual plan, indicating how industrial businesses were integrated into the local planning process.

(2) Provide functionally sufficient and attractive buffering between industrial activity and potentially incompatible uses.

Figure 17: Vegetative buffer
Source:www.ncdot.org/doh/preconstruct/pe/OHE/noiseair/barrierpics.html

Figure 18: Acoustic buffer
Source: http://bettaacousticbarriers.co.uk

This buffering may be vegetative or made from other materials, but should be attractive, suitable for the intended application, and utilized consistently (where necessary) by all businesses within the district. Figure 17 provides an example of vegetative buffers used to screen a sidewalk and street from unsightly activity. Figure 18 provides an example of an acoustic barrier constructed of wood and steel beams. In this example, a wall of earth covers an 8.5 ft. concrete base, topped by wooden beams extending just over 16ft. in height.

(3) If employees live in an adjacent neighborhood, find alternative ways to facilitate their travel to work. Provide a shuttle bus, or system of circulation that minimizes non-motorized interaction with commercial traffic.

The *Tech Trolley* (Figure 19) is a local example of an alternative system of circulation that links the Georgia Tech campus with the broader public transit system. Employees of industrial businesses could benefit from a similar link to facilitate their travel to and from work, or to destinations within the district.

Figure 19: Georgia Tech Trolley
Source: www.urbanreviewstl.com/?cat=146&paged=2

(4) Encourage the addition of complementary uses that promote a more sustainable land use mix and reduce demand on limited roadway infrastructure.

Reinforcing industrial district boundaries should be accompanied by the thoughtful addition of supporting land uses. Careless placement of housing in proximity to industrial operations has been cause for the displacement of many industrial jobs. For this reason, it has become necessary to implement stringent use controls to protect industrial land uses and secure these job sources for the future. Nonetheless, complementary uses, sited to promote access and efficiency, can produce a viable mixture of land uses that support and enrich these districts. Residents living nearby can benefit from the jobs industrial businesses provide, but also demand district upkeep. Flexibility as well as strong industrial zoning will be critical in the development of vibrant and resilient industrial districts.

Currently lacking in convenience stores and other small commercial establishments, the proposed Southside Industrial District PMED incorporates space for neighborhood-scale businesses. These establishments will provide food and other services to residents as well as to those employed within the district. With placement along Ruby Harper Boulevard this may reduce private automobile presence on Browns Mill Road and Empire Boulevard SW, leaving these routes for larger commercial vehicles. At present, these roads are heavily utilized by local residents to access restaurants and other businesses located on Crown Road and across Interstate 75.

Function

Form impacts function. The goal of design with regard to function should be to adapt district form to meet the needs of the businesses within the district.

(5) Where possible, close unproductive streets ("streets to nowhere") and assemble parcels to accommodate larger facility needs.

(6) Ensure proper street access, traffic circulation, and ease of highway access for commercial vehicles.

(Current) (Proposed)

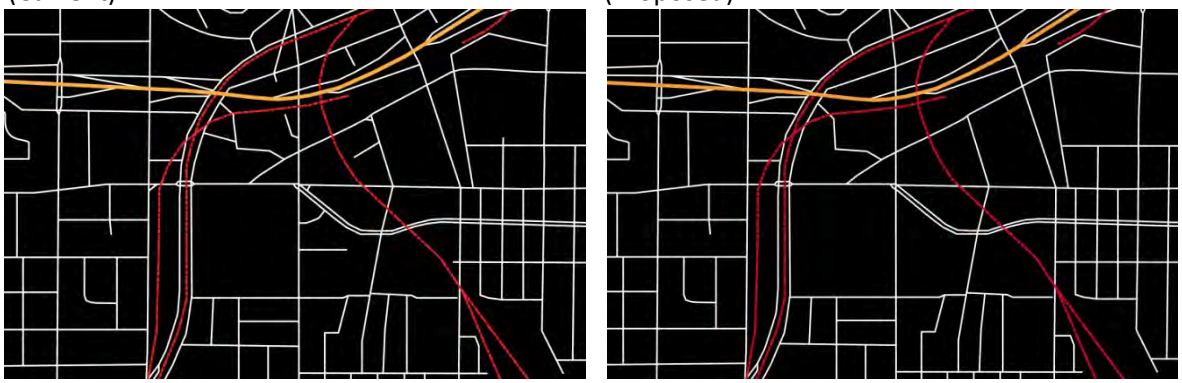


Figure 20: Road network in the Metropolitan Parkway Industrial Corridor North Node

These diagrams (Figure 20) depict the road network of the proposed Metropolitan North Industrial Corridor. At left is the current roadway configuration. The right diagram has been altered to show how roadways might be altered to function more effectively for local businesses. Despite closing some roads, each parcel remains surrounded on several sides by street frontage. Driveways should also be reconfigured to achieve maximum site utilization.

(7) Minimize private automobile and non-motorized traffic on roadways utilized primarily by commercial vehicles.

(8) Where necessary, make sure that multi-use streets balance the needs of motorized traffic and the safety of pedestrians and cyclists.

Figure 21 was published by the San Francisco Planning Department to show how industrial mixed-use streets can be configured to meet the needs of a multiplicity of users. This report provides a number of options for maximizing motor vehicle functionality and pedestrian safety.

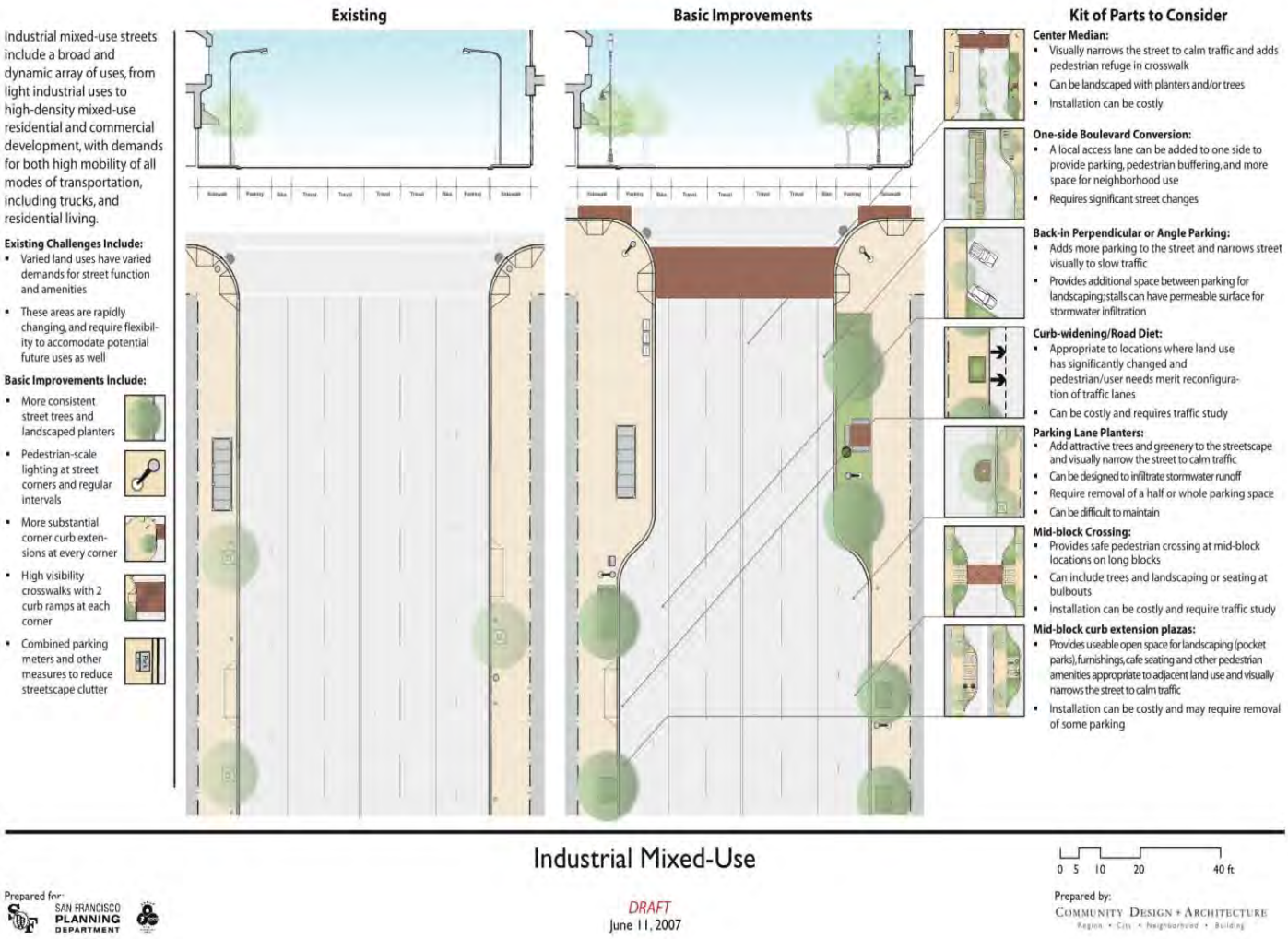
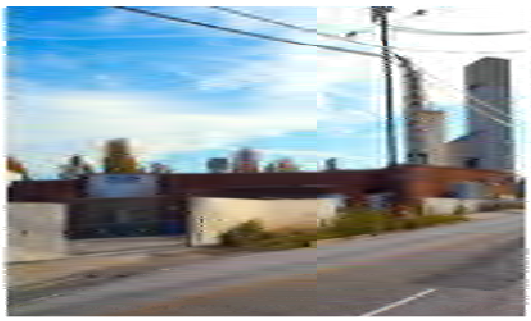


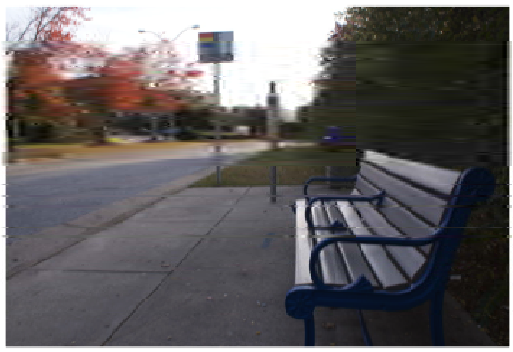
Figure 21: Industrial Mixed-Use Streets

Marketability

A campaign to improve the basic aesthetic qualities of Atlanta's industrial areas should become a key priority in increasing the city's attractiveness to industrial businesses. Close attention to ensure that industrial lots and district streetscapes are attractive, orderly, and consistent will reflect positively in local perceptions of the strength and value of Atlanta's industrial presence. Streetscape improvements like the addition of robust landscaping, more street trees, and consistent screening are simple additions that will reinforce this image.

(9) Create a district environment that is aesthetically pleasing, and representative of the significance of industrial land uses.





District improvements, as shown in Figure 23, need not be ornate but should signal an organized and attentive business presence.

(10) Use landscaping and screening strategically to hide unsightly outdoor storage and activity areas.

Figure 24 provides an example from the Atlanta Glenwood Park neighborhood of screening used to hide unsightly activity.

Figure 24: Screening of a cement plant in Atlanta

(11) Mandate district-wide consistency in landscaping and screening methods. Provide a list of approved screening materials, and tree and shrub species appropriate for the area and application.

(12) Create districts that nearby residents and the city can be proud of and evoke Atlanta's industrial legacy.

The City of Chicago's Stockyards PMD is one industrial district that is notable for its reproduction of a historical landmark into a recognizable image. The Union Stockyards Arch still stands as a reminder of the city's one-time predominance in meatpacking.

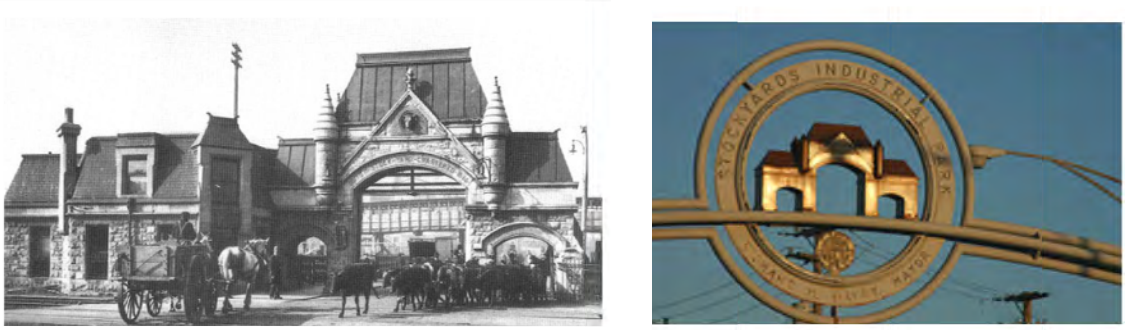


Figure 25: Symbols of Chicago's Stockyards
Sources: http://egov.cityofchicago.org/Landmarks/U/UnionStock2.html and http://www.flickr.com/photos/skron/391583625/

Figure 25 provides a historical record of Chicago's Union Stockyard on the left. The picture on the right shows a reproduction of the archway image reintegrated as a new community identifier.

Public Priority

Establishing the City of Atlanta as a leader in sustainability is a key public priority. The incorporation of new "green" elements is an easily achievable first step in re-creating Atlanta's image as an environmentally proactive and sustainable city. Additionally, these elements may present new manufacturing possibilities for local firms.

13) Incorporate new "green" features to reduce environmental impacts and beautify industrial districts.

With many local industrial districts in need of beautification and landscaping, the inclusion of green features is an excellent opportunity to beautify Atlanta's industrial areas and reduce their impact on the

local environment. The U.S. Green Building Council, with its range of LEED (Leadership in Energy and Environmental Design) certification programs, now makes it possible to build even spec industrial buildings to LEED standards. The intensity of energy use in industrial buildings can make it difficult to achieve points in energy management. However, spec industrial properties can get points for sustainable landscaping elements such as bioswales and French drains. Interior features such as daylighting through strategically placed windows and skylights for natural light; clerestory glass for more ambient lighting; use of non-volatile organic chemical emitting paints and finishes are some of the areas that industrial developers can focus on and receive credits for in the LEED ranking system (Ryan, 2008).

In addition, with current streetscapes lacking aesthetic value, the use of green walls may be an effective means to frame district roadways, shield unattractive outdoor storage and activity areas, and signal that the local business community is attentive to appearance and environmentally proactive. Figures 26 and 27 provide examples of a green wall and a green roof.

Figure 26: Green wall with hanging planters

Figure 27: Seattle's City Hall Green Roof
Source: http://www.greenroofs.com/projects/pview.php?id=310

Other unique green features have been developed that may find appropriate applications within Atlanta's industrial areas, functioning to improve environmental quality, and, possibly, reduce long-run business costs.

- Where compatible with use intensity, pervious pavers are an effective way to offset industrial reliance on vast imperviously paved surfaces (Figures 28 and 29).

Figure 28: Pervious Walkwy
Source: www.usbg.gov/education/events/loader.cfm?csModule=security/getfile&pageid=29114

Figure 29: Seattle's First Pervious Pavement Street
Source: www.usbg.gov/education/events/loader.cfm?csModule=security/getfile&pageid=29114

- Investment in systems for rainwater collection and reuse will reduce costs associated with upkeep of additional vegetation (Figure 30).

Figure 30: Rainwater Harvesting Tank

Adherence to the design principles explained here can help to establish Atlanta's industrial districts as good neighbors and productive community partners.

POLICY AND ZONING

To create a strong industrial base in the City of Atlanta we recommend several policies. These policies include an Atlanta Industrial Council (AIC), the implementation of Planned Manufacturing Employment Districts (PMEDs) and a Mixed Industrial node as well as recommended industrial buffers.

A key finding of our policy research is that cities that are successful in retaining and further attracting new businesses have some form of manufacturing council. Therefore, we propose creating an Atlanta Industrial Council. The AIC will create a formal networking body for supporting departments of the city, members, and possible industrial partners. The proposed Atlanta Industrial Council will be an independent body supported by the Atlanta Development Authority (ADA) and the Bureau of Planning. Even though ADA and the Bureau of Planning will oversee programs benefiting the industrial community, the body of the AIC should be composed of manufacturers, businesses, and industrial developers. Figure 31 highlights the composition of the proposed AIC.

In addition, we recommend collaborating with local technical colleges and universities. This partnership will provide assistance in workforce training to different industries. We also recommend the inclusion of corporate citizens and utilities, such as Georgia Power to ensure the support and expertise provided by these entities. Finally, the Atlanta Housing Authority and each Neighborhood Planning Unit (NPU) located in an industrial district should be a part of this council. See Map 6 for the location of NPUs G, V, and Z. The NPUs will provide insight and essential support to the council and conduct public education campaigns on the importance of manufacturing jobs.

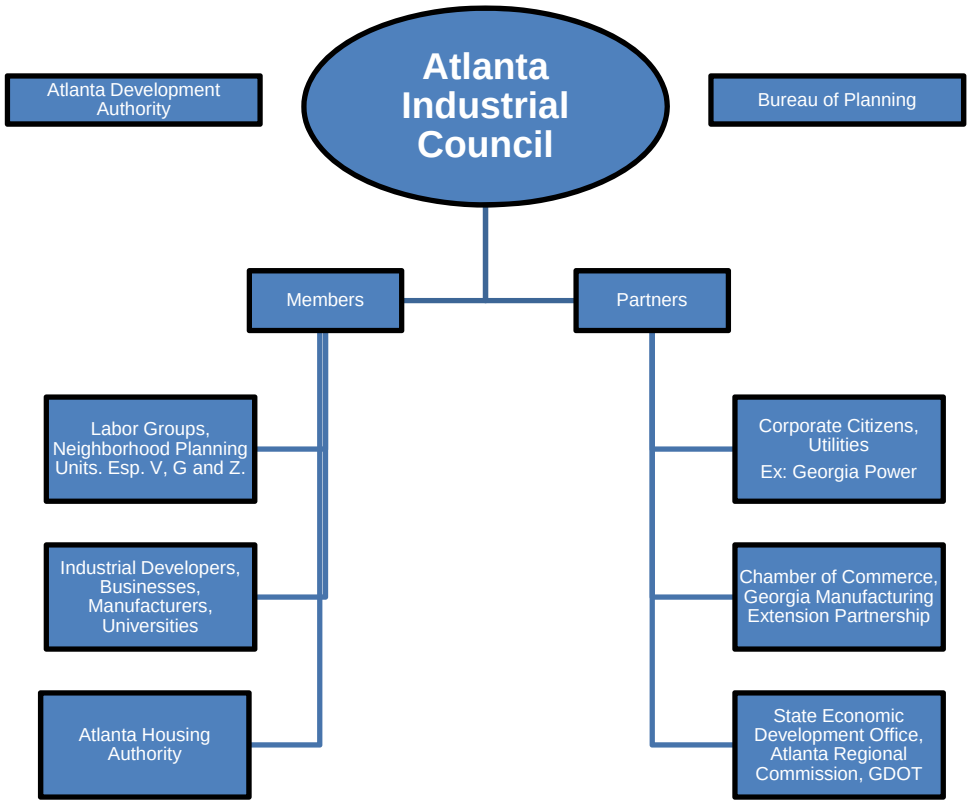


Figure 31: Atlanta Industrial Council

The AIC will also facilitate meetings between various members of the council, manage and conduct communication plans and surveys, and provide information about tax credits, loans, and other monetary incentives. AIC will conduct an ongoing search to maintain a current database of tax delinquent properties located near the PMEDs. This database will allow the city to purchase tax delinquent properties and create an industrial land bank. In addition, AIC will provide dedicated business counselors that will assist the PMEDs with specific problems and requests. AIC counselors will also help businesses navigate policies and incentives offered by the city and state.

Precedent for such industrial councils can be found in Seattle's Manufacturing Industrial Council and New York City's Industrial Business Zones. The following sections provide a brief description of these organizations and some of their inner workings.

Map 6: Proposed Districts and NPU Borders

Seattle's Manufacturing Industrial Council (MIC)

The Manufacturing Industrial Council was established in 1998 by volunteers concerned with the lack of livable wage jobs in the city. The council includes 60 members from various sectors of industry, local and state government, and non-profit organizations. Table 11 describes some of the key council affiliates. In

addition, the Manufacturing Industrial Council publishes *Seattle Industry*, a local magazine, and sends out weekly bulletins with current information on the city's industries. The council created "Seattle First" to serve as a business retention program. This program provides direct services to the Council's members and the business community at large.

Table 11: Members and Partners of Seattle's Industrial Council[11]

Partner Name	Function of Organization
Association of Washington Business	Focused on strengthening private sector
Environmental Coalition of South Seattle	Provides environmental education and assistance to communities and businesses in the Puget Sound region;
Kent Chamber of Commerce	Among other activities leads the annual Washington Manufacturer Appreciation celebration
Puget Sound Industrial Excellence Center (PSIEC)	A collaboration between business, industry and education that assists local businesses and is particularly focused on manufacturing, construction and transportation industries;
South Park Neighborhood Association	NA
Washington Manufacturing Services (WMS)	Provides technical assistance to the State of Washington's manufacturers
Seattle Office of Economic Development, Seattle Office of Planning and Development	NA

New York City's Industrial Business Zones (IBZs)

New York City, like Seattle, has a proactive business council. In addition, they have an innovative support system based on site-specific counselors that provide services to the manufacturers within the Industrial Business Zones (IBZs). Industrial Business Zones are modeled after Chicago's Planned Manufacturing Districts. IBZs build upon the existing In-Place Industrial Parks and represent areas where the city will provide extensive assistance services to industrial firms.

Through the local government, the Department of Small Business Services contracts with non-profit organizations that provide detailed information on each industry located in the IBZ. To gain a better understanding of the services and support needed by each industry, the Department of Small Business Services administers surveys. Using the information gathered, the counselors assist the industrial firms in connecting them to various non-profit organizations that are able to provide the services needed.

[11] The full list of affiliates and members can be found at http://www.micouncil.org.

Some services provided by the IBZ counselors include information regarding business loans, assistance in understanding tax credits, and help in navigating the city's zoning policies.

Educational Institution Partnerships

A key activity of the AIC should be to create partnerships with local educational institutions. These partnerships will allow Atlanta to build and capitalize on a well-trained and knowledgeable workforce that will attract future employers. AIC and the educational institutions can facilitate placement programs for employers and employees. In particular, the AIC should form partnerships with institutions near the recommended PMEDs. For example, the Metropolitan Parkway mixed-use industrial corridor is located near the Atlanta Technical College, and the Atlanta Industrial Park is near Southern Polytechnic State University. Both of these institutions provide diplomas, certificates, and associate's degrees in fields related to manufacturing. A list of degrees, certificates, and diplomas offered by the Atlanta Technical College is provided in Appendix B.

Supporting the AIC

For the AIC to be successful, it must be supported by strong zoning and land use regulations that protect industrial areas from potential encroachment. Therefore, the next step in policy recommendations will be the creation of Planned Manufacturing Employment Districts.

Planned Manufacturing Employment Districts Zoning

Based on our findings from other cities and the knowledge gained from analyzing Atlanta's industrial areas, we recommend that the City of Atlanta create Planned Manufacturing Employment Districts (PMEDs) in some of Atlanta's key industrial areas. These districts will allow for light and heavy industry, while excluding many other uses. Atlanta's PMEDs are based on Chicago's Planned Manufacturing Districts (PMDs). In Chicago, these districts prohibit rezoning of the district and provide strict guidelines on the type of businesses allowed in the districts. To create Atlanta's PMEDs, we propose a restructuring of Atlanta's industrial zoning and the official designation of PMEDs in the City's land use inventory[12].

Tables 12 and 13 provide an example of businesses currently allowed in Atlanta's industrially zoned areas. As noted in these tables, examples of incompatible uses include adult businesses, worship

[12] We recognize the lengthy process that changing zoning plans typically takes; therefore, prior to the official designation of PMEDs, we recommend the City create a PMED overlay district. The overlay districts will facilitate the recommended zoning changes and policies prior to the adoption of an official zoning ordinance.

facilities, and retail establishments. These incompatible uses encourage encroachment, which diminishes the availability of industrial land. In addition, the loss of industrial land pushes manufacturing to the metro suburban areas. An industrial glossary listing the types of businesses located in industrial areas in the case study cities and the City of Atlanta is located in Appendix B.

Table 12: Examples of Businesses Allowed in Atlanta's Light Industrial Areas

Adult businesses as defined in section 16-29.001(3).
Banks, savings and loan associations, and similar financial institutions.
Broadcasting towers, line-of-sight relay devices for telephonic, radio or television communications when located 200 feet or more from any off-site residential districts or residential use not located within an industrial district, and when such towers or devices are greater than 200 feet in height, when located a distance which is greater than or equal to the height of the tower or device from a residential district or residential use which is not in an industrial district.
Business service establishments, including those providing duplicating, printing, maintenance, communications, addressing, mailing, bookkeeping, or guard services.
Churches, synagogues, temples, mosques and similar worship facilities.
Conversion of existing industrial buildings to multi-family dwellings
Hotels
Offices, clinics (including veterinary), laboratories, Studios.
Parking surface and structures.
Recreational establishments.
Repair garages, paint and body shops, welding shops.
Retail establishments, including those with sales or display lots or storage lots.
Sales and leasing agencies for new and used passenger automobiles, bicycles, mopeds and commercial vehicles.
Service station; car washes.
Supportive housing.
Trade schools, colleges and universities.

Table 13: Examples of Businesses Allowed in Atlanta's Heavy Industrial Areas

Adult businesses as defined in section 16-29.001(3).
Any machinery or processing method otherwise lawful under these or other lawful regulations applying generally or with the district may be used within the district so long as character of operations, emissions and by-products do not create adverse effects beyond the boundaries of the district.
Banks, savings and loan associations, and similar financial institutions.
Churches, synagogues, temples, mosques and similar religious facilities.
Eating and drinking establishments, including those licensed for the on-premises consumption of malt beverages, wine and/or distilled spirits and those with drive-in service; catering establishments, delicatessens, bakeries.
Junkyards, automobile salvage yards or scrap metal processors where such activity is enclosed within a building.
Professional and personal service establishments.
Recreational establishments.
Retail establishments, including those with sales or display lots or storage lots.
Sales and leasing agencies for new and used passenger automobiles, bicycles, mopeds and commercial vehicles.
General advertising signs subject to the limitations contained in section 16-17.006(1).
Structures and uses required for operation of MARTA or a public utility, including uses involving storage, train shops, warehousing, switching or maintenance shops as the primary purpose.
Trade schools, colleges and universities.
Yards for storage of contractor's equipment; sand and gravel; lumber and similar operations.

Tables 14 and 15 illustrate the businesses allowed in the proposed PMEDs. We recommend the City designate the Atlanta Industrial Park and Southside Industrial Park as PMEDs. Within each PMED, we suggest the City limits the number of offices, commercial, and eating establishments. By curtailing these types of businesses, the PMEDs will experience less encroachment, and the industrial use of the districts will be maintained.

Table 14: PMED Light Industrial Zoning

Broadcasting towers, line-of-sight relay devices for telephonic, radio or television communications when located 200 feet or more from any off-site residential districts or residential use not located within an industrial district, and when such towers or devices are greater than 200 feet in height, when located a distance which is greater than or equal to the height of the tower or device from a residential district or residential use which is not in an industrial district.
Business service establishments, including those providing duplicating, printing, maintenance, communications, addressing, mailing, bookkeeping, or guard service.
Eating establishments, including those with drive-in service, delicatessens, and bakeries.
Manufacturing, wholesaling, repairing, compounding, assembly, processing, preparation, packaging or treatment of articles, foods, components, products, clothing, machines and appliances and the like, where character or operations, emissions and by products do not create adverse effects beyond the boundaries of the property.
Offices, laboratories, and studios.
Repair garages, paint and body shops, welding shops.
General advertising signs subject to the limitations contained in section 16-16.006(1) in Chapter 28A.
Structures and uses required for operation of MARTA or a public utility, including uses involving extensive storage and railway rights-of-way and yards.
Warehousing, storage facilities, distribution centers.
Yards for storage of contractor's equipment; sand and gravel; lumber and the like but specifically excluding junkyards, salvage yards and scrap metal processors.

Table 15: PMED Heavy Industrial Zoning

Broadcasting towers, line-of-sight relay devices for telephonic, radio or television communications when located 200 feet or more from any off-site residential districts or residential use not located within an industrial district, and when such towers or devices are greater than 200 feet in height, when located a distance which is greater than or equal to the height of the tower or device from a residential district or residential use which is not in an industrial district.
Business service establishments, including those providing duplicating, printing, maintenance, communications, addressing, mailing, bookkeeping, or guard service.
Eating establishments, including those with drive-in service, delicatessens, and bakeries.
Junkyards, automobile salvage yards or scrap metal processors where such activity is wholly enclosed within a building.
Manufacturing, wholesaling, repairing, compounding, assembly, processing, preparation, packaging or treatment of articles, foods, components, products, clothing, machines and appliances and the like, where character or operations, emissions and by products do not create adverse effects beyond the boundaries of the property.
Repair garages, paint and body shops, welding shops.
General advertising signs subject to the limitations contained in section 16-16.006(1) in chapter 28A.
Structures and uses required for operation of MARTA or a public utility, including uses involving extensive storage and railway rights-of-way and yards.
Warehousing, storage facilities, distribution centers.
Yards for storage of contractor's equipment; sand and gravel; lumber and the like but specifically excluding junkyards, salvage yards and scrap metal processors.
Any machinery or processing method otherwise lawful under these or other lawful regulations applying generally or with the district may be used within the district so long as character of operations, emissions and by-products do not create adverse effects beyond the boundaries of the district.

Mixed Use Industrial Districts

In addition to Planned Manufacturing Employment Districts, we recommend the creation of a Mixed Industrial District (MID) to use in areas such as along Metropolitan Parkway. The proposed MID zoning would allow for light industry, as well as limited commercial, retail, and residential uses.[13] The basis of the recommendation is due to the number of existing residential units and the proposed Beltline segment located in this area.

Industrial Buffers

To prevent encroachment in industrially zoned areas, we propose that the City also create light industrial buffers. These buffers will separate the PMEDs from residential neighborhoods. Light industrial buffers will surround the industrial district, allowing for a gradual transition from heavy and

[13] Recommended uses for Atlanta's MID are based on the State of Washington. For more information on mixed-used employment districts, see http://www.mrsc.org/mc/battleground/battlgr17/battlgr17122.html#17.122.

light industry. The buffers will allow limited office, retail, and institutional use and will prohibit residential encroachment. In addition, where greenspace is available, we recommend the City purchase this land and prohibit development. This will allow the greenspace to serve as a buffer and provide recreational opportunities for employees and nearby residents. An example of a greenspace buffer is the proposed Chattahoochee River Greenway (Project Greenspace Technical Report, 2009). A portion of this proposed river greenway is located near the Atlanta Industrial Park. The greenway will serve as a buffer between existing industry and the Chattahoochee River. In addition to transitional and greenspace buffers, districts zoned as heavy industrial may require some type of physical barrier to provide a buffer between the district and surrounding uses. We recommend the city adopt a cohesive architectural or landscaped buffer throughout the city to use in these areas.

Policy Conclusion

To attract and retain industrial firms, several steps must be taken. First, the City must re-evaluate its industrial zoning. The proposed zoning excludes unnecessary establishments while allowing limited supportive businesses such as restaurants and commercial businesses. In addition, the City must designate protected industrial districts, such as the proposed PMEDs and allow for light industry within future mixed-use sites. These sites should be designated on the City's existing land use maps and included in the comprehensive plan. An industrial council should be created to assist firms with various needs and act as a liaison between industry and the City. Finally, to provide the necessary workforce for a strong manufacturing economy, partnerships need to be forged between industries, the Atlanta Industrial Council, the City of Atlanta, and local educational institutions.

WORKFORCE ANALYSIS AND BUSINESS LINKAGE

Atlanta and Metro

For this portion of the analysis, the "Metro" area is defined as the following five counties: Clayton, Cobb, DeKalb, Fulton, and Gwinnett (unless otherwise noted). This section contains an analysis of the demographic and workforce changes in the City of Atlanta and the Metro between 2000 and 2008. Specifically, the analysis focuses on changes in population, educational attainment, employment by industry, employment by occupation, and employment by age. The data used in this section comes from the U.S. Census Bureau's 2000 Decennial Census and American Community Survey estimates from 2004, 2006-2008, and 2008.

Population

This decade has seen Atlanta's population rebound after consecutive decades of population decreases. While the metropolitan region has been growing steadily over the past couple of decades, the city had been experiencing a steady decline. Atlanta's almost nine percent population increase between 2000 and 2008 may be attributable to several factors. Some cite specific recruitment efforts on the part of the city government, nonprofit, and business partnerships. Others suggest that the population growth has been a product of "back to the city" movements experienced in many urban areas across the country over the same period. This school of thought attributes growth to new development patterns and an increase in cultural amenities, sometimes in conjunction with local governments. Whether the increase is due to private development, city-led efforts, or a combination of both is unclear. The numbers, however, are quite clear. While the metropolitan region continued to grow by just over 20% between 2000 and 2008, the population within the city limits grew substantially for the first time in decades. Table 16 shows specific growth numbers.

Table 16: Population: Atlanta & Metro 2000-2008

Population	2000		2008		% Change 2000-08	
	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro
Total (Estimate)	416,629	2,914,587	453,038	3,516,263	**8.7%**	**20.6%**

Source: American Fact Finder. (2009). Retrieved fromhttp://factfinder.census.gov/home/saff/main.html?_lang=en

Educational Attainment

Both Atlanta and the larger metropolitan region experienced an increase in residents holding either a high school diploma or college degree. Perhaps of greatest significance for the city's workforce outlook is the striking increase in residents holding a bachelor's degree or master's degree. As Table 17 shows, the number of residents holding a bachelor's degree almost doubled between 2000 and 2008. In addition, the number of residents holding a master's degree increased by 41% over the same period.

Table 17: Educational Attainment: Atlanta and Metro 2000-2008

Educational Attainment	2000		2008		% Change 2000-08	
	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro
High school graduate or Equivalent	59,876	398,765	65,836	516,061	**10.0%**	**29.4%**
Associate's degree	9,620	109,610	12,940	146,607	**34.5%**	**33.8%**
Bachelor's degree	55,982	456,238	83,059	583,407	**48.4%**	**27.9%**
Master's degree	23,025	154,350	32,424	227,058	**40.8%**	**47.1%**
Professional school degree	10,036	49,793	12,945	57,342	**29.0%**	**15.2%**
Doctorate degree	3,886	21,742	6,426	33,395	**65.4%**	**53.6%**

Source: American Fact Finder. (2009). Retrieved from http://factfinder.census.gov/home/saff/main.html?_lang=en

Altogether, the number of city residents holding a bachelor's degree or higher totals 134,854, or almost 30% of the total population (not just residents of working age). This is a substantial percentage for a city that aspires to attract and develop a well-educated workforce. Atlanta's growth in population with professional school or doctorate degrees was significantly higher than the metro area's.

Employment By Industry

Note: This section uses combined 2006-2008 estimates for both the city and metropolitan numbers because 2008 data was unavailable. The "Metro" in this section consists of data for the following four counties: Cobb, DeKalb, Fulton, and Gwinnett. Clayton was excluded from this portion of the analysis because no county data existed for the 2004 American Community Survey estimates. Because Atlanta is part of both Fulton and DeKalb counties, city numbers are also included in the Metro measurements.

Atlanta's unemployment is currently above ten percent. This figure should be taken into account when reading the employment analysis that follows (because these numbers do not go beyond 2008 when unemployment was 7.8%). While specific industries and occupations will be affected unevenly by the current economic downturn, without specific data, we can only subtract around ten percent from the employment numbers below (in both the industry and occupation sections) to estimate what present employment might be. It is also worth noting that all the tables relating to employment by industry and by occupation show mostly across-the-board decreases between 2000 and 2004. This is likely due to the recession the nation experienced in the early 2000s that was compounded by the effects of attack on the World Trade Center.

Table 18: Employment By Industry: Atlanta & Metro 2000, 2004, 2006-08

Industry	2000		2004		2006-08		% Change 00-04		% Change 04-08	
	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro
Construction	9,551	95,548	7,011	108,085	12,457	128,804	**-26.6%**	**13.1%**	**77.7%**	**19.2%**
Manufacturing	13,998	131,662	12,037	113,609	11,405	119,308	**-14.0%**	**-13.7%**	**-5.3%**	**5.0%**
Wholesale Trade	6,103	61,382	4,907	68,518	6,358	64,666	**-19.6%**	**11.6%**	**29.6%**	**-5.6%**
Transportation and Warehousing	9,978	66,415	10,575	76,518	11,216	80,341	**6.0%**	**15.2%**	**6.1%**	**5.0%**

Source: American Fact Finder. (2009). Retrieved from http://factfinder.census.gov/home/saff/main.html?_lang=en

The occupations that comprise these four industries, which are described more thoroughly in the next section, combine to create the bulk of Atlanta's industrial workforce. As such we have created a term to highlight these types of jobs: "Industrial Land Dependent Occupations" (or ILDOs). Specifically, these are jobs that depend upon a supply of industrially zoned land for their existence. Therefore, decreases in

industrial land lead to decreases in ILDO employment. Currently, 15% of Atlanta's workforce is employed in ILDOs, and this is true for an even greater percentage of the workforce in our three target areas, which are discussed in greater detail in the next workforce section.

The ILDOs by industry (construction, manufacturing, wholesale trade, and transportation and warehousing) mostly declined in the City of Atlanta between 2000 and 2004, with the exception of transportation and warehousing. However, all industries in the city, except for manufacturing, experienced net growth between 2000 and 2008. Because this studio is focused primarily on manufacturing, this finding is significant. There are two primary causes for the decline in manufacturing jobs. First, the nation as a whole has experienced a well-documented and long-standing decline in manufacturing employment over the last several decades. Part of this decline is due to automation trends, and part is due to industrial restructuring and the prevalence of an increase in offshore U.S. manufacturing as well as growing manufacturing among non-U.S. firms. The second cause is related to the loss of industry and industrial land suitable for manufacturing in Atlanta, as discussed in other portions of this report.

Similarly, the Metro region experienced net increases in industrial employment between 2000 and 2008 in all sectors except manufacturing. However, while the Metro lost manufacturing jobs between 2000 and 2004, it gained between 2004 and 2008, while Atlanta experienced a decrease over both periods. This shows that the Metro area remains attractive to manufacturers, but the City of Atlanta needs an effective strategy for attracting and retaining the manufacturing industry.

Employment By Occupation

This section analyzes the change in different occupations found in industrial employment (ILDOs) between 2000 and 2008. As in the last section, the "Metro" in this section consists of data for the following four counties: Cobb, DeKalb, Fulton, and Gwinnett. Clayton was excluded from this portion of the analysis because no county data existed for the 2004 American Community Survey estimates. Again, because Atlanta is part of both Fulton and DeKalb, city numbers are also included in the Metro measurements.

Most noticeable from Table 19 is that employment for all occupations decreased between 2000 and 2004 for the City of Atlanta. However, over the period from 2004 to 2008, construction occupations

more than doubled, while production occupations declined more than 20%. Of all the occupations analyzed, these production occupations are most directly related to manufacturing. Our analysis shows that Atlanta lost 2,624 jobs in production occupations between 2000 and 2008, the largest decline in any occupation job category. In contrast to Atlanta, the Metro's employment in production occupations rebounded with a 14% increase from 2004 to 2008. This is further evidence that Atlanta needs a serious strategy for attracting and retaining manufacturing.

Table 19: Employment By Occupation: Atlanta & Metro 2000, 2004, 2008

Occupation	2000		2004		2008		% Change 00-04		% Change 04-08	
	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro
Construction	6,887	63,197	4,091	82,767	8,880	90,509	**-40.6%**	**31.0%**	**117.1%**	**9.4%**
Installation, maintenance, and repair	3,506	40,913	1,671	33,944	2,897	37,991	**-52.3%**	**-17.0%**	**73.4%**	**11.9%**
Production	8,946	64,267	8,168	52,183	6,322	59,506	**-8.7%**	**-18.8%**	**-22.6%**	**14.0%**
Transportation and material moving	11,540	66,251	8,559	71,721	10,135	85,152	**-25.8%**	**8.3%**	**18.4%**	**18.7%**

Source: American Fact Finder. (2009). Retrieved from http://factfinder.census.gov/home/saff/main.html?_lang=en

Again, related to the industry section above, production occupations are associated with manufacturing. Thus, manufacturing jobs suffered the greatest loss. It is also noteworthy that only construction occupations experienced a net increase within the city from 2000 to 2008. Much of the increase in the construction sector was related to the real estate boom of the 2000s, and this is a key reason why Atlanta's unemployment rate has been higher than the national average for much of the current recession.

Parallel to industrial employment trends, occupational employment fared better in the Metro between 2000 and 2008. While installation, repair, and maintenance along with production occupations experienced a decrease between 2000 and 2004, employment across all sectors showed rebounding numbers in the Metro between 2004 and 2008. The two occupational categories that experienced a net loss between 2000 and 2008 were installation, maintenance, and repair jobs and production jobs – again, those occupations which are most closely associated with manufacturing activity.

Employment By Age Group

This section and the corresponding Table 20 show changes in employment by age group in Atlanta and the Metro between 2000 and 2008. The largest employment increases for Atlanta were in the age groups of 35-44 and 55-64. Atlanta's 45% increase in the 35-44 age range is significant when compared to that of the Metro, which only experienced an increase of around four percent. The Metro's 72% increase in employment for the 55-64 age range is much closer to that of Atlanta's (70% over the same period). Both Atlanta and the Metro experienced decreases in employment in the 25-34 year age range, though Atlanta's four percent decrease was much smaller than the Metro's 21% decrease. Both Atlanta and the Metro experienced significant increases 30% in their workforce for the 45-54 year age range. The overall employment numbers in the final row of the table below show that Atlanta experienced a substantially higher growth rate (20%) than the surrounding metropolitan area (only four and a half percent). Because migration patterns in and out of the city were not analyzed, it is unclear whether the changes in age cohorts were the result of migration, aging in place, or other factors.

Table 20: Employment By Age Group: Atlanta and Metro 2000-2008

Age Group (Years)	2000		2008		% Change 2000-08	
	Atlanta	Metro	Atlanta	Metro	Atlanta	Metro
16 to 24	26,366	236,972	24,762	190,572	**-6.1%**	**-19.6%**
25 to 34	59,456	497,593	57,135	393,953	**-3.9%**	**-20.8%**
35 to 44	43,961	471,216	63,561	488,111	**44.6%**	**3.6%**
45 to 54	32,253	335,316	42,581	429,794	**32.0%**	**28.2%**
55 to 64	15,368	143,631	26,056	246,611	**69.5%**	**71.7%**
65 and over	5,532	40,233	5,470	53,965	**-1.1%**	**34.1%**
Total	182,936	1,724,961	219,565	1,803,006	**20.0%**	**4.5%**

Source: American Fact Finder. (2009). Retrieved from http://factfinder.census.gov/home/saff/main.html?_lang=en

Select Industrial Areas

In this section, we provide a picture of the workforce surrounding the three district areas selected for industrial land expansion and protection as Planned Manufacturing Employment Districts. Using ArcGIS, a one-mile buffer from the center of each site was created to include all Decennial Census block groups within the buffer area. The combined population of these block groups is the level of analysis for understanding the local workforce. The sum population of all three sites was just under 105,000 residents, 86,000 of which were located within the City of Atlanta. At the time at which the census was taken, these 86,000 residents represented over 20% of the city's total population. Yet over 33% of the city's poverty population was located in these three areas. Table 21 analyzes the racial and ethnic makeup of the total population located in the buffer area.

Table 21: Race and Hispanic Population, Totals and Percent of Total Population

Workforce Analysis Area	Atlanta Industrial Park		Southside Industrial Park		Metropolitan North	
	Number	Percent	Number	Percent	Number	Percent
White	5,845	22.9%	8,114	25.5%	2,394	5.1%
Black	18,880	73.9%	19,002	59.7%	42,990	90.0%
Asian	270	0.1%	1,463	4.6%	879	1.9%
Other	529	2.1%	3,232	10.2%	1,006	2.1%
Hispanic	977	3.8%	5,090	16.0%	741	1.6%
Total Population	25,534	100%	31,811	100%	47,269	100%

Source: U.S. Decennial Census, Year 2000 Data

All three of the workforce analysis areas are predominantly African American. Southside Industrial has the most diverse demographic mix, with over a quarter of the population identifying itself as white and over 15% as Hispanic. These areas are reflections of their relative geographic location in the city, which has had historically large African American populations to the west of I-75 and south of I-20.

The average median incomes for these areas were lower than the median income city-wide ($22,116). AIP has the highest average median earnings at $20,571, followed by SIP with an average median earnings of $18,312. Metropolitan North had the lowest average median earnings, at just under

$15,000. These median earnings merit serious consideration in creating a plan for how to generate jobs that provide living wages for local residents. Educational attainment as an important factor to increased job access, was also examined to understand the capabilities of the local workforce. Table 22 illustrates the education attainment rates for the workforce population.

Table 22: Education by Total Population and Percent of Residents 25 Years of Age and Greater

Education Level	Atlanta Industrial Park		Southside Industrial Park		Metropolitan North	
	Population	Percent	Population	Percent	Population	Percent
High School Degree or Some College	6,341	45.3%	9,665	54.3%	11,407	46.0%
Associates Degree Received	3,473	24.8%	1,620	9.1%	3,890	14.8%
Bachelor's Degree and Above	3,009	21.5%	1,141	6.4%	3,155	12.0%
Total Population – 25 years and over	13,998	100%	17,803	100%	26,205	100%

Source: U.S. Decennial Census, Year 2000 Data

The three areas in this study are below citywide averages for all of the education attainment levels. AIP has the most educated workforce in terms of basic skills, which include reading, writing, and basic math; Metropolitan North trails the other two areas in percentage of population that has obtained high school degrees or equivalents. Yet because of the population of the area, it also has the largest pool of workers for firms that require basic skills. Metropolitan North also has the greatest number of residents with associate's and bachelor's degrees, perhaps reflecting its proximity to universities along the corridor. AIP slightly lags citywide averages, but it is much closer to narrowing the education gap for these degrees. Finally, SIP falls far behind both of the two other workforce analysis areas in all three categories, an ominous sign in a city where job opportunities have skewed toward highly skilled labor.

This data suggest how critical the provision of jobs is for a lower skilled workforce and for the residents in these areas. The prospects for job entry in manufacturing as well as other occupations that are tied to industrial land, including transportation and moving materials, and install, repair and maintenance occupations, would improve the economic prospects of the workforce within these high poverty areas.

Specific occupations within these larger groups may also need semi-skilled workers, which may be aided through industrial education programs in conjunction with nearby universities and technical colleges.

The significance of lower skill requiring work for local residents is reinforced by the occupational distribution of residents in these areas (see Table 23). The City of Atlanta distribution is also included for comparison. Special emphasis is given to the four occupation groups that benefit from industrial land within the city: production, transportation and moving materials; install, repair, and construction. As noted previously, these have also been referred to as Industrial Land Dependent Occupations (ILDOs).

Table 23: Occupations of Employed Residents 16 and Over, Population and Percent Employed, (Occupation Groups in Boldface denote ILDOs)

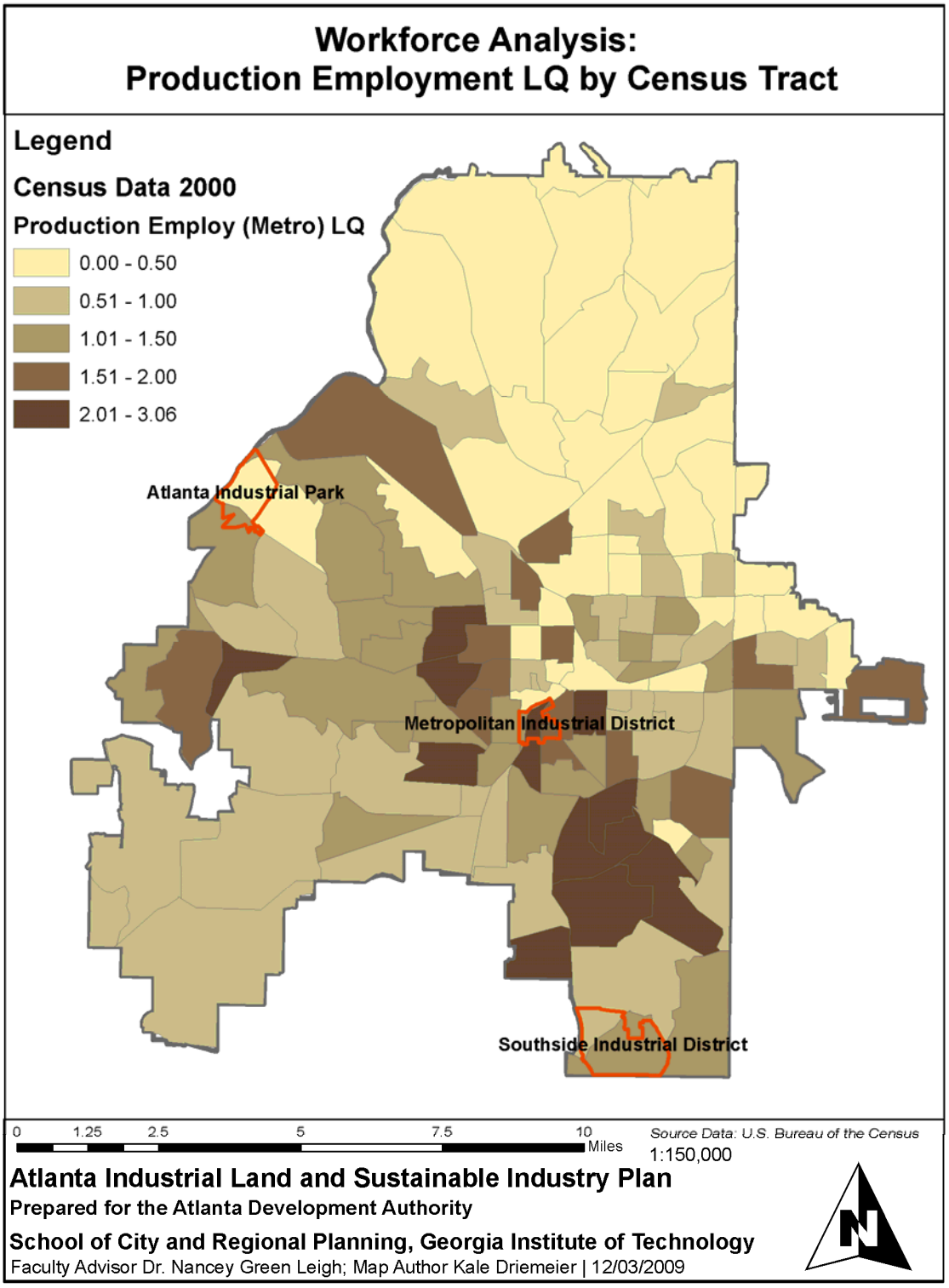
Occupational Groups	**Atlanta Industrial**		**Southside Industrial**		**Metropolitan North**		**City of Atlanta**	
	Population	**Percent**	**Population**	**Percent**	**Population**	**Percent**	**Population**	**Percent**
Production Occupations	**535**	**5.7%**	**1,250**	**9.8%**	**1,173**	**7.9%**	**8,946**	**4.8%**
Transportation & Moving Materials	**757**	**8.0%**	**1,663**	**13.0%**	**1,307**	**8.8%**	**11,540**	**6.3%**
Install, Repair & Maintenance	**221**	**2.3%**	**704**	**5.5%**	**326**	**2.2%**	**3506**	**1.9%**
Construction Occupations	**683**	**7.2%**	**1,707**	**13.4%**	**798**	**5.4%**	**7,508**	**4.1%**
Mgmt, Professional & Related Occupations	2,814	29.8%	1,634	12.8%	3,317	22.4%	74,202	40.1%
Service Occupations	1,654	17.5%	2,635	20.6%	4,079	27.5%	29,960	16.4%
Sales & Office	2,713	28.7%	3,158	24.7%	3,742	25,2%	46,865	25.6%
Total Employed	9,440	100%	12,784	100%	14,830	100%	182,936	100%

Source: U.S. Decennial Census, Year 2000 Data

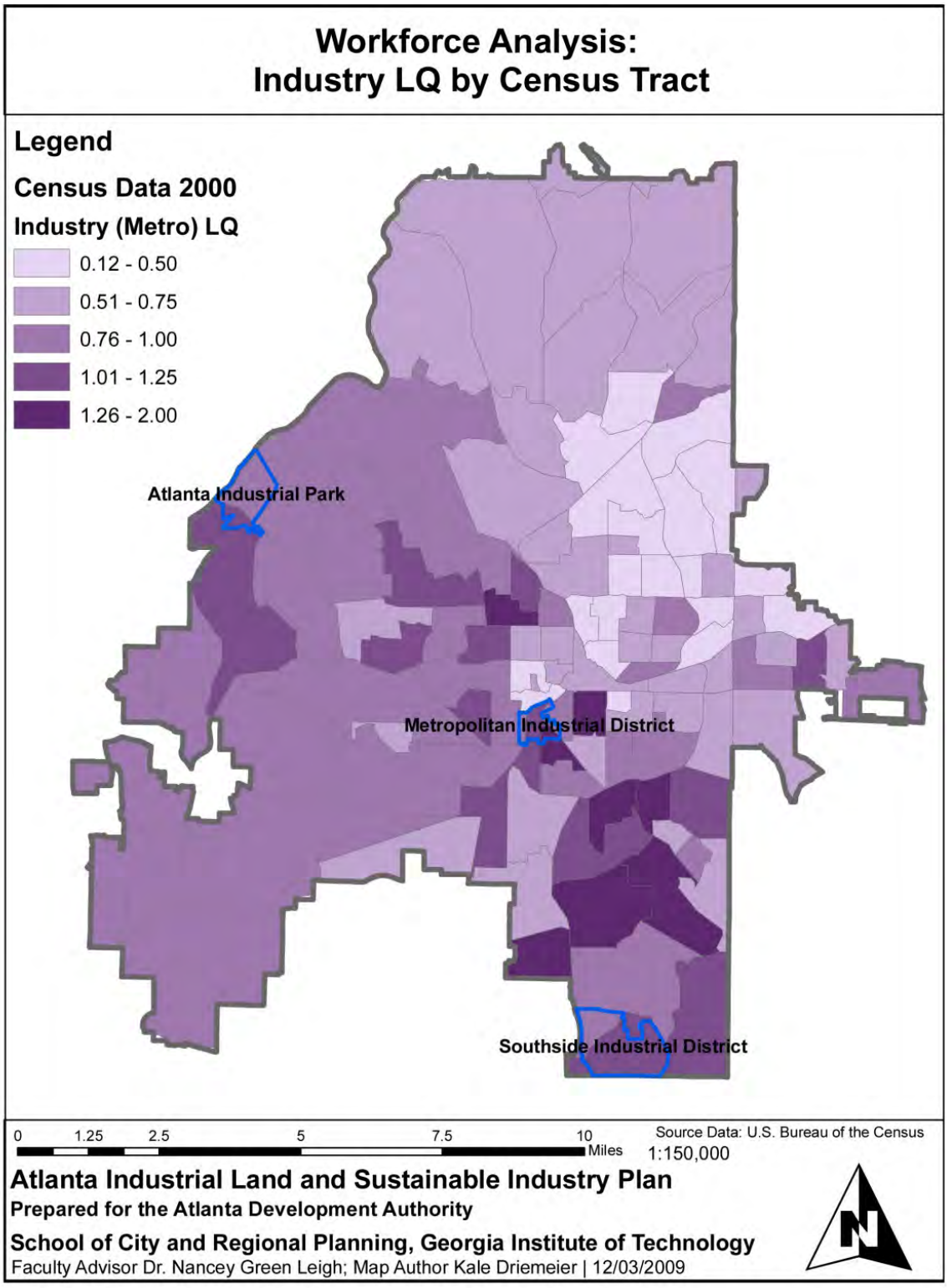
Over 24% of total employment in both AIP and Metropolitan North was in the four occupations that are dependent on industrially zoned land. In contrast to just 17% of total employment in Atlanta, SIP had 41.7% of its workforce employed in ILDOs. The Production Location Quotient Map (Map 7) and the ILDO Location Quotient Map (Map 8) highlight the geographic concentration of employment in ILDOs.

In examining gender differences by occupation for the three workforce areas, we found that production occupations account for over 10% of male employment in both SIP and Metropolitan North and approximately 6.5% in AIP, in contrast to 5.5% citywide. When all ILDO employment is examined, it becomes clear that the male workforce of SIP (62%), Metropolitan North (40.4%), and AIP (38.7%) is more reliant on industrial land than the city as a whole (25.8%). Further, of the total male workforce that constitutes these four occupational groups citywide, 36.1 % reside within a mile of the three proposed PMEDs. This figure becomes more significant when we realize that only 19.3% of the city's entire male workforce population resides in this area. Consequently, the deterioration of industrial land in Atlanta significantly affects the job prospects of males in the area. These facts are especially poignant given the effect of the current recession on employed men, and especially black male workers, who have seen 5.7% and nearly 9% drops in their employment rates since the recession began in 2007 (Sum et al., 2009). Although current city-level gender and minority specific employment rate data is unavailable, the rising citywide unemployment rate accompanying the recession, coupled with the disparate effects on male and/or minority workers strongly suggests that increased employment prospects in ILDOs are needed.

Map 7: Production Location Quotient



Map 8: Industry Location Quotient Map



Future Workforce

One way to understand future workforce needs is by analyzing the population's age profile. The local workforce is in constant need of replenishment, especially for the occupational groups in this project, which often need able-bodied workers. Table 24 underlines workforce age demographics for our target areas.

Table 24: Number and Percent of Total Population by Age Cohort, 2000 Decennial Census

Age Cohort	Atlanta Industrial Park[14]		Southside Industrial Park		Metropolitan North		City of Atlanta	
	Population	Percent	Population	Percent	Population	Percent	Population	Percent
Total Population	25,534	100%	31,811	100%	47,269	100%	416,629	100%
0-18	9,198	36.0%	10,408	32.7%	13,069	27.6%	99,627	23.9%
19-29	4,462	17.5%	6,508	20.5%	10,679	22.6%	91,706	22.0%
29-39	4,181	16.4%	5,139	16.2%	6,835	14.5%	73,814	17.7%
40-49	3,163	12.4%	4,193	13.2%	6,398	13.5%	57,343	13.8%
50 and Over	4,530	17.7%	5,563	17.5%	9,545	20.2%	94,139	22.6%

Source: U.S. Decennial Census, Year 2000 Data

The areas surrounding the proposed PMEDs had a younger population than the city overall. Fifty four percent of the population was under the age of 29 in 2000, compared to less than 46% for Atlanta as a whole. The City of Atlanta also has the highest number of citizens in the age cohort of 50 and over, many of whom are now in or will be entering retirement in the coming years. Since the data reported are from the 2000 Decennial Census, many of the residents in these areas have since moved into, or will soon be entering the local workforce. These numbers bode well for the continued neighborhood supply of labor for Atlanta's manufacturers (with the possible exception of AIP). It may also be in the best interest of residents of our workforce sites to welcome manufacturers, as the education gap for the younger workforce has continued over the past decade.

[14] *Atlanta Industrial Park Decennial Census numbers include Atlanta Housing Authority site in buffer area, which has since been vacated. Age demographics are likely to be significantly impacted due to the large young population housed at this site.*

As the country has shifted to non-production related industries, Atlanta has been at the forefront. Lost in this shift, however, are the occupations in the manufacturing sector that allow less educated workers to earn living wages. The historical trend in production jobs that are, in turn, dependent on industrially zoned land not only show this dependency, but also the lack of education that leads to a reliance on service jobs (which typically pay far less than their manufacturing counterparts). Making opportunities available for less skilled occupations dependent on industrial land is an important goal for keeping residents in these areas attached to the local economy. Where necessary, basic and technical skill education through industrial programs and technical schools remains an effective and important bridge to creating opportunities for residents located near and within these workforce areas.

Business Linkage Analysis

This section of the report presents a business linkage analysis. The purpose of this analysis is to show how local industries are tied to one another. To illustrate some of Atlanta's existing linkages, we chose two products unique to Atlanta. The first is the Georgia Tech Annual Report which disseminates key information about university activities. The second product is Waffle House's All-Star Special™ Breakfast, which we chose because of Waffle House's connections with Atlanta, its wide appeal and popularity throughout the nation, and the fact that two Georgia Tech alumni started the restaurant business.

Our goal in illustrating these supply connections is to show the many opportunities that exist for Atlanta to capitalize on linkages. This is particularly true in terms of import substitution, which occurs when localities substitute externally produced goods and services with internally produced ones. When communities successfully foster import substitution policies, they can put their money and profits to work within their own boundaries rather than exporting them to other areas.

<u>The Georgia Tech Annual Report: A Product's Journey</u>

Each year, the *Georgia Tech Annual Report* chronicles the recent successes and changes at the Georgia Institute of Technology. We performed a business linkage to understand how local businesses are affected by the creation of this publication and where Atlanta may benefit from import substitution efforts.

Figure 32: Georgia Tech Annual Report Production Cycle
Source: Google Map

The Georgia Tech Communications Office, which employs 35 people, undertakes the writing, photography, and design of the report. Internal Mailing Services at Georgia Tech shuttled the report back and forth between the President's Office and the communication department during the drafting process. Georgia Tech hired the Williams Printing, firm which operates on Camp Creek Parkway in East Point and employs 50 people. Within Williams, Sun Chemicals operates an in-plant staff of two people to aid with printing ink orders and relaying information to Sun's Main Atlanta Printing Ink Plant in Northwest Atlanta, which employs 59 people. Georgia Tech also selects the paper, which was manufactured in a paper mill in Massachusetts by a company named Sapia. Color proofs used by Williams are supplied by Pitman, a graphic communication and digital imaging firm located in Kennesaw employing 20 people. The print presses are supplied by Komori, a Japanese multi-national firm that manufactures printing presses in two plants in Japan. Williams receives packaging boxes from International Packaging Corp, with plant operations on Fulton Industrial Drive employing 60 workers. Finally Williams' in-house trucking fleet delivers the annual reports to the Georgia Tech Communications

Office, completing the circular story of just one of the Atlanta's venerable institutions dependence on local industry. Figure 32 illustrates the cyclical production process.

Waffle House All-Star Special™ Breakfast: A Southern Tradition

The Waffle House business linkage example is not as detailed with respect to jobs numbers and specific supply functions as the *Georgia Tech Annual Report* example. This is primarily because of difficulty with data collection and proprietary information. However, Waffle House was very generous in sharing some of the names and locations of its local suppliers in order to illustrate the connections that exist within the region and state.

Three major suppliers for Waffle House call metropolitan Atlanta home. Sara Lee/Earthgrains, located on Fulton Industrial Boulevard–just outside the City of Atlanta limits–supplies bread. Canterbury Press, located on Interstate North Parkway–again, just outside the city limits–supplies menus. Finally, Dart Container Corp, which is located in Lilburn, supplies Styrofoam cups. In addition to Waffle House's three metropolitan suppliers, it also uses two other manufacturers located in Georgia, though outside the metro region. The first is Crystal Farms, located in Chestnut Mountain. The company supplies Waffle House with fresh eggs. The second Georgia supplier is Riverside Manufacturing, located in Moultrie, which supplies uniforms.

Aside from direct manufactured goods, Waffle House uses two other metro Atlanta businesses for transportation and warehousing services. North Star Foods in Norcross delivers most of Waffle House's food and supplies. Waffle House negotiates pricing with suppliers and instructs North Star Foods to purchase products at specific prices. North Star then buys the products, warehouses them, and finally delivers them to Waffle House locations. North Star then invoices Waffle House for the products at the negotiated prices, plus a fee. Dexter's Farm Produce in Buford delivers produce, including milk and eggs, to Waffle House locations. Waffle House single sources almost all of its products, so the companies linked to Waffle House as suppliers are in a position to supply more than 1,500 restaurants in 25 states.

As mentioned in the introduction, the theme of these business linkage analyses is to illustrate import substitution opportunities for Atlanta. Import substitution is a way to both increase Atlanta's manufacturing base and put local dollars to work within the city limits.

INDUSTRY IN ATLANTA

Manufacturing in Atlanta–An Overview

Atlanta is well known for its strong service economy. Manufacturing, defined in the North American Industry Classification System (NAICS) by 31-33 codes in this paper, accounted for 31,129 jobs in 2008, or 4.2% of all jobs in the City of Atlanta, by place of business. This is a decline from the 5.2% that manufacturing was of total employment in 2002. Food Manufacturing, Printing and Related Support Activities, Miscellaneous Manufacturing, and Nonmetallic Mineral Product Manufacturing are over half of this total.

The benefits of manufacturing jobs should not be discounted. Average weekly wages for the existing jobs in the manufacturing sector in Atlanta were $1,397, almost 20% greater than the average for all industries in the city. As noted in Table 25, manufacturing subsectors also had significantly higher wages than that of the retail sector in Atlanta, which had a $570 weekly wage for 2008.

Table 25: Atlanta Manufacturing Overview by Subsectors

NAICS	Industry Description – Subsector	Employment 2008	Percentage of Mfg.	Avg. Weekly Wage 2008
311	Food Manufacturing	9,475	30.4%	$2,012
323	Printing & Related Support Activities	3,202	10.3%	$952
339	Miscellaneous Manufacturing	2,418	7.8%	$1,222
327	Nonmetallic Mineral Product Mfg.	2,203	7.1%	$1,096
325	Chemical Manufacturing	2,025	6.5%	$1,242
326	Plastics & Rubber Products Mfg	1,790	5.8%	$812
332	Fabricated Metal Product Mfg.	1,775	5.7%	$909
334	Computer & Electronic Product Mfg.	1,454	4.7%	$1,491
337	Furniture & Related Product Manufacturing	1,182	3.8%	$819
321	Wood Product Manufacturing	886	2.8%	$835
322	Paper Manufacturing	814	2.6%	$1,395
313	Textile Mills	685	2.2%	$1,595
312	Beverage & Tobacco Product Mfg.	653	2.1%	$928
336	Transportation Equipment Mfg.	511	1.6%	$1,110

Source: Georgia Department of Labor, LaborMarket Explorer.

Manufacturing in the City of Atlanta has declined by approximately 17.7%, from 37,840 since 2002. This decline can be partially attributed to losses in Transportation Equipment Manufacturing and Printing & Related Support Activities, of over 2,000 and 1,000 jobs, respectively. Computer & Electronic Product Manufacturing and Paper Manufacturing also experienced significant job loss, with nearly 1,500 jobs lost in the two subsectors. Despite the continued effects of economic restructuring on Atlanta's manufacturing base, some subsectors performed well, including: Miscellaneous Manufacturing, a growing category; Food Manufacturing; and Fabricated Metal Product Manufacturing. These three industries gained over 1,800 of the manufacturing jobs created during this period.

Sustainable Industries

Sustainable or "Green" industry is a term that stretches across many standard industry sectors, including those with ties to industrial land–manufacturing, transportation, repair and maintenance, and construction. The essence of green industry is to reduce human resource consumption and attendant pressures on the environment. However, the green industry revolution also stands to generate new investment and stimulate the economy, potentially creating new jobs and new industrial classifications along the way. In 2008, Nielsen Company projected growth of all green products to rise to $400 billion by 2010 (Nielsen Co., 2008). Growth of the market for green products is not limited to any one industry or sector. Energy, food, materials, and medical goods are just a few industries poised to see growth in sustainable products

Sustainable Atlanta, the initiative created in 2006 by Mayor Shirley Franklin, is an example of the City's recognition of this potential growth. Efforts to harness the economic opportunities while making Atlanta more environmentally friendly is strategically aligned with the efforts laid out in this sustainable industry plan.

Green Building and Construction Materials

Atlanta has strengths in many of the industries that fall under the larger umbrella of building materials. Architectural and Structural Metals, Fabricated Metals, Non-Metallic Mineral Products, Paint and Coatings and Sheet Metal Work Manufacturing are all industries within this larger sector that should be protected and helped to expand where possible. Additionally, forestry and carpeting are strong sectors within the state, and may be leveraged in the future through partnerships to create a full regional supply chain for building products, which can spur substantial growth.

Despite the current downward trend in the construction market and its effect on building materials, bright spots in the sector may show us how the road to recovery is paved: in green. One of the main indicators for green building is the change in LEED project registrations. LEED, the Leadership in Energy and Environmental Design, is an "internationally recognized green building certification system" (USGBC, 2009). LEED registrations in 2009 were projected to follow the market downward. Even the rosiest forecasts projected the total market for green building as only stable. Instead, global LEED certified floor area is slated to rise 40% in 2009 over 2008. Already, 350 million square feet has been LEED certified in 2009 (Watson, 2009). The production of high quality green building materials to supply the eventual rebound of the construction market, both for existing buildings and ultimately new construction, will be important to capitalize on potential growth trends in the future.

According to a 2009 report by the Green Building Alliance, the potential of the total "green" construction market will be between $100 billion and $475 billion by 2015. The demand for green building materials will accompany this growth, with estimates for the total market ranging from $97 billion to $287 billion for the same timeline (Green Building Alliance, 2009). McGraw-Hill Construction noted that the green construction market was $12 billion in 2008 and should grow to $60 billion in 2010 (Green Building Alliance, 2009). The import substitution strategies that encourage local industrial growth from reducing imports and recycling dollars within a locality's boundaries are ripe for use in the green building materials arena. Both extraction and production are given LEED credit points for being supplied regionally. These numbers do not include possible growth in green civil infrastructure construction, which is in a more nascent stage, but should benefit from infrastructure upgrading both in the U.S. and abroad.

Growth in the green building market only tells half of the story for what is needed to create a sustainable plan for the sectors identified in this report. The other necessary component for this plan is the research and support systems for new and innovative products. Atlanta is in an especially good position from this perspective, as it is the home of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE); Southface; and the Georgia Tech Research Institute's (GTRI) Sustainable Facilities & Infrastructure Program, all of which promote the use of energy-efficient, new materials. These organizations and businesses have the capacity to educate builders (and their suppliers) on the use of green materials. The GreenGuard Environmental Institute, which oversees the

GreenGuard Certification Program for product indoor air quality and emissions standards, is also located in Atlanta's metro area (Marietta). Many product manufacturers must undergo rigorous testing procedures and send their product samples in from relatively remote locations, and GreenGuard sends process overview testers to manufacturing facilities all over the country.

Establishing a local network between manufacturers who create green building products, the builders who use them, and the institutions that consult on best practices is something that few cities could achieve as well as Atlanta. Enhancing current synergies can help all stakeholders in the process and increase innovation. Sharing information between these collaborators may lead to new goods, faster turnaround times, better feedback, and an environment that thrives on continued improvement for processes and products. Working to increase collaboration may allow local manufacturers to take advantage of the research taking place in local institutions.

Product innovation in construction materials is not a new concept to Atlanta, where local research institutions have a long history of creating materials for the future. One such material currently in the research process at GTRI is Cenocell™, created by a research professor at Georgia Tech. The material which turns coal ash–a byproduct of coal burning power plants and steel factories–into concrete without cement, is an exciting sustainable product that may become one of the building materials of the future. Some of the potential applications for the material include building construction, the transportation industry, the aerospace industry, and protective installations. Dr. Doyoyo, the professor behind this technology, predicts Cenocell™ can provide an "economic development impact from a new industry" (Toon, 2008). Exciting sustainable opportunities such as these that are being created in the City of Atlanta should be kept local and extrapolated into employment opportunities for local residents.

Sustainable Atlanta has made sustainable building a key initiative of its mission. Public officials have continued to work toward the adoption of a sustainable building ordinance for city-owned and other large buildings. This ordinance will only increase the local need for green building materials in the future.

With the increased visibility of Green Construction standards, including LEED, Green Globes, and EnergyStar, green building has been cited as a key growth area for green technologies and products. Atlanta is in a strong position to supply these products due to the foresight of local officials, the

attraction of progressive institutions and firms, and its research capabilities. Atlanta can take advantage of increasing demand for green building products locally and elsewhere by supporting current green building product producers as well as encouraging new ones.

Life Sciences

Life Sciences is a broad industry group that includes, among others, the industry subsectors of biotechnology, pharmaceuticals, diagnostics, and medical devices. In contrast to other manufacturing industries, manufacturing associated with life sciences has grown over the past 20 years (Rosen, 2008). As a highly innovative sector, the existence of strong local research institutions and support organizations is essential for bringing new products to market. The continued aging of the United States population and associated demand for medical care contributes to the strong projected growth of the life sciences industries noted above. We focus on the two sectors with the most growth potential in Atlanta: Medical Devices and Pharmaceuticals. We note first, however, that Pharmaceutical Manufacturing employment has been stagnant in the city, though other producers in the large Chemicals sector (Soaps and Cleaning Compounds, and Paints and Coatings) have increased employment. Because of the strong growth prospects of the industry nationwide, shared characteristics with other local growth industries, and significant resources in the local healthcare industry, Atlanta should seek to capture some of the national projected growth in the industry.

Some of the trends identified which will drive growth for both the medical device and pharmaceutical market are the aging population, consumer-driven healthcare, advancement in technologies, and an increasing percentage of GDP spent on healthcare (MDDI, 2009). The world market for Medical Devices was over $300 billion in 2008, and showed even stronger growth than Pharmaceuticals. Of the 25 largest Medical Device companies, 15 showed double digit growth in 2008, despite a sluggish year for the overall economy (Rosen, 2008). Shorter turnaround times than those for drugs, and less regulation from the FDA, are other factors that should lead to the continued growth and profitability of medical devices in the future. Despite tougher restrictions on drugs and continued regulatory risk, pharmaceuticals are also expected to see strong continued growth projections into the future. A report on the world pharmaceutical market in 2008 notes that the five year compound growth rate of the industry is projected to be 5.5% until 2012, amounting to over $900B (Bioportfolio, 2008).

The life sciences industry is currently experiencing a technology convergence of drugs, diagnostics, devices, and biotechnologies (Austin et al., 2009). Firms that have the foresight to recognize synergies in their own product lines or create affiliations with other companies' product segments can benefit from convergence. Bringing technologies together to harness the compounded benefits of each product is specifically beneficial to Atlanta due to the emergence of nanotechnology as one of the dynamic tools intersecting these industries. As home to the largest nanotechnology center in the Southeastern United States–the Marcus Nanotechnology Center–research attempting to bridge these gaps is literally in Atlanta's backyard. Fostering collaboration between local firms and research institutions may create partnerships that develop new technologies, firms, and jobs.

The desire for "greening" the life sciences sector is a major trend that can be capitalized upon. According to Deloitte's Center for Health Solutions, 17% of consumer and 24% of shareholder-initiatives, are "green" related (Deloitte, 2009). Atlanta life sciences producers can benefit from incorporating green strategies that are occurring elsewhere. For instance, General Electric's Ecoimagination is in the process of more than doubling its green R&D from $700M in 2005 to $1.5 billion in 2010. When GE started this program, the goal for revenue in 2010 was $20 billion, yet the success of this program has led them to increase their target to $25 billion. Kaiser Permanente, one of the largest health care providers in the country, has converted to over 70% PVC-free IV tubing. Kaiser is expected to continue its attempts to green even more of the products it administrates (Deloitte, 2009).

Atlanta is home to one of the Top Ten Green Hospitals: the Winship Cancer Institute (Deloitte, 2009). As a cutting edge National Cancer Institute –the first of its kind in Georgia –Winship could be a significant customer for locally designed and manufactured "green" medical devices, providing quick feedback for local producers from one of the most respected cancer centers in the country.

Technology transfer has been cited as part of the success stories for other regions where manufacturing centers for life sciences technology have been created or expanded (siteselection.com, 2008). Of the three medical device company manufacturing success stories in a recent issue of *Site Selection* magazine, two were located in their respective geographic areas due to the technology's origination in a nearby university. All three manufacturers discussed in the article cited the specialization in certain medical fields of the local university as a key component of their site selection decision. Emory, Georgia Tech, Georgia State, the Centers for Disease Control, and other local non-profit institutions all have

processes in place to further commercialization of their research. As an example, Georgia Tech's incubator, the Atlanta Technology Development Center, has twelve companies at present that are looking to commercialize current research work on medical devices. EmTech Bio, a collaboration between Emory and Georgia Tech, is focused specifically on Life Science technology commercialization. Technologies created by the companies in these incubators include catheters, therapeutic systems, diagnostic device aids, and new vaccine distribution platforms.

Finally, the research and development pipeline for new technologies remains strong. In the past two years, GTRI has noted seven technologies in their major newsletter that are related to the life sciences industry. New research helps ensure that the firms locating in Atlanta today will be prepared to develop the products of tomorrow. Atlanta's world class hospitals and disease treatment centers, top-tier research projects, and commitment to incubation and technology transfer, make the city well-positioned to take advantage of the future expansion potential of the life sciences industry. In order to optimize this potential, Atlanta must lead in creative solutions for bringing together its scientists and engineers in the life science industries and promoting new and innovative strategies to deal with technological convergence and the emergence of a green life sciences market.

Retention and Expansion

Companies that call Atlanta home now serve as the backbone of any sustainable industry plan. Aside from the targeted sectors noted earlier in this report, all manufacturing industries can seek to "green" their product's life cycle and take advantage of the nascent movement to make things in an environmentally friendly manner. Increased media attention, attention to supplier relationships, regulatory scrutiny, and a scientific focus on green solutions mean that firms willing to take the initiative on environmental sustainability will be in a strong position moving forward (Deloitte, 2009). Although some sectors, such as medical devices and building materials have been given special due in this report, others, such as food manufacturing, printing, rubber products, truck trailer manufacturing, and machinery manufacturing, all of which were also noted as strengths in Atlanta, may also benefit from a greening process.

One local organization that can provide valuable assistance in greening production processes is the Georgia Tech Manufacturing Extension Partnership (MEP). Energy costs for manufacturing firms are often spread across departmental budgets, and firms rarely have access to experts who may be able to

identify areas where they may conserve energy (Helper, 2008). Yet the Georgia Tech MEP offers technical and other assistance for a variety of issues pertaining to the conservation of energy. The MEP's Energy Efficiency, and Management and Sustainable Strategy Development, are two programs focused on this goal. MEP also offers an Environmental Overview, which focuses on reduction in environmental costs and the minimization of waste.

This recommendation to utilize the MEP is particularly significant given findings about assistance and the needs of local firms. For this project, we were able to procure data from the Georgia Manufacturing Survey to assess the needs of local industry. The Georgia Manufacturing Survey can increase the City of Atlanta's understanding of local firms. Data from the survey is aggregated by Fulton County, the Atlanta Metro Region, and the State. We have examined this data to: 1) identify issues more specific to local companies, and 2) identify concerns of the targeted sectors in this plan. For this analysis, Fulton County serves as the proxy for local firm concerns and strengths since City of Atlanta data was not separately available. The available larger sample size of targeted sector firms found in the Metro-wide data also helps us to understand sector concerns.

The Georgia Manufacturing Survey questions focusing on innovation, technical assistance utilization, and sustainable methods were particularly relevant to our analysis. To begin, geographical comparisons for measures of innovation are presented in Table 26.

Table 26: Innovative Measures and Indicators (Percent)

Category	Fulton	Metro	State
Facility Engaged in In-House R&D	37.9%	32.9%	29.7%
Purchase R&D from Research Orgs	9.1%	5.8%	5.7%
Purchased Machinery and Equipment	48.5%	53.0%	53.3%
Purchased or Licensed Patents	18.2%	8.9%	8.1%
Trained Staff for Innovative Techniques	31.8%	26.2%	22.7%
Market Research/Advertising	18.2%	18.5%	16.0%
Worked With Customers on Product Creation	66.7%	64.9%	60.2%
Worked With Suppliers on Product Creation	45.5%	42.5%	42.4%
Applied for a Patent	30.3%	16.3%	13.7%
Registered a Trademark or Assumed a Copyright	21.2%	13.1%	12.9%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803.

Firm activity in Fulton County under the categories of Application and Purchasing of Patents, Registration and Assumption of trademarks, R&D creation and purchase, and cutting edge training were all greater than that of firms in the region and state. The higher level of these activities may be attributed to spillover effects of local research centers (Koo, 2005) and they suggest that firms locating near Atlanta tend to have higher innovation capabilities than their statewide counterparts.

While firms that look to use innovative techniques appear to have benefited from their proximity to local research centers, they have missed out on another valuable tool available to Georgia companies -- public technical assistance programs. Local firms lag behind both the region and, to a greater extent, the state, on the use of these resources as seen in Table 27.

Table 27: Source of Technical Assistance Received by Firms (Percent)

Business Technical	Fulton	Metro	State
Georgia Tech	13.6%	14.4%	18.0%
Other University	4.5%	4.5%	5.1%
Technical Schools	3.0%	5.1%	9.8%
GA Dept of Labor	4.5%	9.6%	12.8%
Private Sector Asst.	13.6%	14.4%	13.9%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803.

Although, intuitively, the firms in closest proximity to Georgia Tech would be most likely to use manufacturing extension services, this is not the case. As mentioned earlier, the benefits of the Manufacturing Extension Partnership are strongly based on its ability to specifically cater to firm needs. Indeed, the U.S. Census Bureau's Center for Economic Studies found that the clients of manufacturing extension programs "experienced between 3.4 and 16% more growth in labor productivity than similar non-client firms" (Jarmin, 1999). As a state institution and one of the finest Manufacturing Extension Partnership Programs in the country, Georgia Tech MEP helps firms throughout the state. Why manufacturers closer to home have a lower utilization rate is unclear, but encouraging local firms to utilize the MEP and strengthening the MEP's ties with the City of Atlanta are important steps for growing local manufacturing.

In addition, programs available through the Georgia Department of Labor and local technical schools are especially beneficial for manufacturing firms, where industrial training and associate's degrees are made available for part time enrollment. Education and training to increase basic and technical skill sets

provides benefits both to residents and employers, increasing human capital in our communities and making our labor pool more attractive to existing and prospective firms. Georgia's Quick Start program has been cited as one of the nation's best examples of a strong skills creation program. Furthermore, Quick Start has industry experience in biotech, healthcare, warehousing, advanced manufacturing, and food manufacturing.

Sustainability, despite the prioritization of the city, has not been a goal of local firms when compared to regional and state manufacturers. Table 28 highlights some of the deficiencies in sustainable practice measures from which local manufacturers suffer.

Table 28: Sustainable Practices Used by Manufacturing Firms Surveyed (Percent)

Sustainable Practice	Fulton	Metro	State
Alternate Energy Used	1.5%	1.2%	4.2%
Energy Reduction Targets Set	10.6%	16.3%	17.8%
Supplier Selection (Sustainable Practice Used)	54.5%	47.6%	56.5%
Sustainable Raw Materials (no lead, less toxic)	48.5%	44.4%	50.2%
Product Design (for resource reduction)	n/a	33.2%	39.8%
Mfg. Process Design (waste reduction)	47.0%	48.6%	59.8%
Facility Planning (e.g energy efficiency)	27.3%	28.1%	36.2%
Packaging (reduction, reuse)	34.8%	33.5%	38.7%
Marketing (green branding, eco-labeling)	15.2%	19.8%	22.0%
Employee Training in Sustainable Practices	34.8%	29.4%	37.2%
Logistics (emission reduction)	18.2%	20.4%	25.9%
Use/Reuse of Product	47.0%	36.4%	41.7%
End of Life (recycling, disposal)	36.4%	37.1%	41.2%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803.

Considering the magnitude and visibility of the issue in the press, in combination with the local development of new products that are aiming to address sustainability in many of the targeted sectors noted earlier, the City of Atlanta must move to educate local firms and steer them toward institutional resources that will help them grow in a more sustainable manner. Local centers of knowledge on the issue of sustainability are vast. Networks and collaborations joining these experts and Atlanta's manufacturers must be created and fostered so that cutting edge green products and processes are utilized locally first, as opposed to trailing the rest of the state.

Georgia Manufacturing Survey data was also used to identify industry and sector concerns of firms within the region in order to better aid economic developers in catering to their specific needs. Almost half of the firms noted that high quality products are the most important issue relating to their facility's competitive strength. High quality goods were found to be especially important for firms in the transportation equipment, medical equipment, food, nonmetallic materials, machinery, and textile industries. Many of these overlap with the industry strengths we have noted in this industry analysis and may be aided by the Manufacturing Extension Partnership, which has a special division dedicated to quality standards. Innovative techniques, as one of the methods for increasing high quality goods and bringing new goods to market, are again analyzed in Table 29. In order to better delineate the sectors we have mentioned as targets for the city, regional firm information has been grouped into specific industry groups: Food, Building and Construction Materials, Chemicals & Life Sciences, and Lumber, Paper and Printing Manufacturing.

Table 29: Innovative Measures and Indicators used by Firms (Percent)

Innovative Technique	Food	Building & Const. Materials	Chemicals & Life Sciences	Wood Products & Printing
Facility Engaged in In-House R&D	30.4%	23.2%	48.2%	24.6%
Purchase R&D from Research Orgs.	4.3%	2.4%	6.9%	3.5%
Purchased Machinery and Equipment	52.1%	60.9%	41.3%	52.6%
Purchased or Licensed Patents	0.0%	8.5%	10.3%	3.5%
Trained Staff for Innovative Techniques	26.1%	29.3%	34.5%	22.8%
Market Research/Advertising	13.0%	22.0%	24.1%	15.7%
Worked With Customers on Product Creation	39.1%	56.9%	58.6%	68.4%
Worked With Suppliers on Product Creation	34.8%	34.1%	27.6%	47.4%
Applied for a Patent	0.0%	17.1%	20.1%	5.3%
Registered a Trademark or Assumed a Copyright	8.7%	6.1%	17.2%	7.0%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803.

Sectors where great importance is given to innovation and related measures, such as the use of customer and supplier relationships for product creation, are prime targets for the marketing of benefits from association with Atlanta's institutions, which range from private research and higher education to associations and advocacy groups. Knowledge spillover effects and collaborative processes are far more

likely to take place in an area where such resources are abundant. Whether it is the importance of research institutions to the Life Sciences sector or the importance of customer communication to the Wood Product and Printing sector, there are real advantages that may be highlighted for firms looking to locate or expand in Atlanta.

An assessment of firms' workforce needs helps in identifying what training programs are needed locally, which residents may benefit most from the recruitment or expansion of certain types of manufacturing firms, and what firms are looking for in employees. Table 30 attempts to gauge specific needs of four main industry groups to gain perspective on what average workforce skills and education are for employees.

Table 30: Workforce and Training Indicators by Industry Grouping,

Workforce & Training Indicator	Food	Building & Const. Materials	Chemicals & Life Sciences	Wood Products & Printing
More than 50% of workers use computer or programmable controllers	26.1%	31.6%	46.4%	20.0%
More than 50% of workers use internet for job	13.0%	17.9%	25.0%	3.3%
More than 50% of workers have HS Degree	77.8%	84.8%	80.1%	90.0%
More than 50% of workers have 2+ year of Industrial Training	0.0%	19.4%	30.4%	4.0%
More than 50% of workers have four year degree	5.3%	9.6%	11.1%	0.0%
5+ Employees majored in Science, Eng., or IT	20.0%	51.6%	46.2%	21.7%
More than 50% of workers work in teams	17.6%	31.9%	28.6%	31.0%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803.

High percentages of workers with high school degrees across industry groups suggest that Atlanta may benefit from a program that works to increase the number of high school equivalency degrees among the citywide workforce. Still, the low overall rate of workers with four-year college degrees shows that there are job opportunities available in manufacturing for workers who complete this minimal amount of education. One of the methods for enhancing local residents' prospects is through industrial training. Industrial training has been especially successful for workforce entry into the Chemicals and Life Sciences group, highlighting the potential of technical school programs for this specific sector.

An important component to marketing the benefits of Atlanta is in making sure that local firms' needs are met. The Georgia Manufacturing Survey asks manufacturing firms what are their "most significant problems or needs" (Shapira & Youtie, 2008). The results for our four focus industry groups are presented in Table 31.

Table 31: Companies that Noted Issues as a Significant Problem or Concern (Percent)

Category	Food	Building & Const Materials	Chemicals & Life Sciences	Wood Products & Printing
Facility Planning	13.0%	13.4%	13.7%	14.0%
Lean Mfg. & Workflow Improvement	43.4%	32.9%	37.9%	35.1%
Quality Assurance	17.4%	18.3%	13.8%	19.3%
Product Development	8.7%	13.4%	10.3%	14.0%
Marketing and Sales	17.4%	35.3%	31.0%	38.6%
Information Systems/Hardware	17.4%	7.3%	17.2%	12.3%
Business Strategy/Financial An.	17.4%	8.5%	13.8%	19.3%
Basic Workforce Skills	17.4%	20.7%	31.0%	10.5%
Technical Skills	39.1%	30.4%	13.7%	10.5%
Mgmt & Leadership	13.0%	21.9%	10.3%	24.6%
Energy Cost Mgmt.	26.1%	14.6%	20.7%	21.1%
Water Resource Mgmt.	30.4%	3.7%	13.8%	3.5%
Environ. Compliance	8.7%	6.1%	20.7%	7.1%
Safety Compliance	8.7%	18.3%	20.7%	10.5%

Source: Georgia Manufacturing Survey. (2008). Georgia Tech Enterprise Innovation Institute.n=803

This data may be used to create effective strategies to aid our firms by sector. As an example, Food Manufacturers have a significantly higher need for technical skills than other firms. Efforts to increase advertising for local technical schools that run Quick Start's Food Manufacturing Program, working with local food manufacturers to enroll their current workforce for increased technical training, and eventually marketing the successes of this program to prospective firms looking to locate or expand in the region is one method for turning our current weaknesses into strengths. Lean Manufacturing, as a concern of manufacturers across the board, may benefit from a larger seminar program through the

Manufacturing Extension Partnership, increasing awareness of technical assistance available, and reminding local firms of the benefits derived from their location in Atlanta. These are a few of the ways in which information about local manufacturing firms aids in the process of retention, expansion, and eventual recruitment of outside firms. A continuous understanding of local manufacturing firm needs and strengths is necessary for any plan that attempts to optimize the city's resources. This understanding would also display Atlanta's commitment to the future role of manufacturers in the local economy.

The creation of a healthy manufacturing network goes beyond connecting process specialists and firm product developers. In a recent paper on fostering 'stickiness' (which means remaining local) among Atlanta's high technology entrepreneurs, a strong argument was made for the enhancement of a business social structure (Breznitz & Taylor, 2009). The same idea is relevant in keeping local manufacturers committed to Atlanta. Enhancing interaction between decision-makers of large stakeholders, including research institutions, industrial real estate developers, large suppliers and consumers of manufactured goods, and, of course, the manufacturers themselves creates a social structure that increases information sharing and access to resources amongst firms (Breznitz & Taylor, 2009). This "business community building" gives companies another reason to stay where they are, planting their roots deeper into what becomes the Atlanta manufacturing community. One method for boosting the potential for such a program is to have an anchor organization where manufacturing executives meet formally and are encouraged to create informal relationships, thus strengthening their businesses to the benefit of all members and the larger community.

Sustainable Industries Conclusion

The combination of lower barriers to entry for employment and higher wages make manufacturing an excellent source of opportunity for unskilled and semi-skilled workers. Manufacturing is not only important for blue collar workers, who are most often associated with changes in the sector, but also for scientists and engineers. These occupations make up over nine percent of the total manufacturing workforce, almost double that of sectors in the rest of the economy. Furthermore, manufacturing accounted for 60% of U.S. research and development spending in 2003 (Helper, 2008). Stemming the decline of manufacturing in Atlanta would allow the city to capitalize on the potential of graduates from some of the top research institutions in the country. Although it is commonly perceived that manufacturing overseas is focused on products that need cheaper labor, such as textiles and toy

production, there are alarming changes in the location of the production of advanced technology as well. The U.S. trade balance in advanced technology products shifted from a surplus to a deficit in 2001, and information and communication products have had large, escalating deficits (Helper, 2008). Eventually, R&D funds will follow these manufacturing processes abroad, looking to strengthen products on site and create more efficient production techniques. Here we have outlined some methods for aiding local businesses beyond policy levers, which were outlined earlier in this paper. Some of these recommendations include:

- Target sectors of local industrial strength that have future projected growth.
- Increase collaboration between local firms and universities through technical assistance and research alliances.
- Strategically advocate for sustainability measures and standards, while providing local firms' access to knowledge centers for product development and innovation.
- Facilitate networking opportunities between all stakeholders involved in the product life cycle.
- Adjust and provide workforce aid utilizing local technical schools that specifically cater to the needs of targeted sectors.

Large-scale programs that benefit economic development have been a focus of U.S. policy and practice before. Connectivity through rail and the interstate highway system, military advancements, and exploration have all led to substantial changes in everyday economic goods, such as the transport of freight and the manufacturing of computers and semiconductors (Helper, 2008). We are on the cusp of a new challenge–environmental sustainability–where the threat has been increased by global climate change. Already states are installing renewable energy portfolios, and municipalities have taken the lead on employing sustainable products and building practices. Although a large portion of this initiative will have to come from higher levels of government, current regulation making its way through Congress ensures that some change on this front is almost inevitable. Atlanta must be ready to capitalize on this industrial shift. It is exceedingly important to harness the capabilities of Atlanta's scientists and researchers; commercialize or expand current local products lines to meet new challenges; and allow for our workforce to reap the benefits by preparing them for future employment available through manufacturing.

STRATEGIC COMMUNICATIONS PLAN

Strategic communication is a critical component of this report. For the past two decades, the conversation about industrial activity in Atlanta has been focused on warehousing and distribution at the expense of production activities. It is time to expand that conversation to include a diverse mix of industrial activities and call attention to the role that industrial land plays. In addition to the lack of awareness, there are also widespread misconceptions about what constitutes 21st century industrial activity that need to be addressed.

Educating key stakeholders about the public policy rationale to protect existing industrial land and invest in its growth is the first step toward the implementation of virtually all the strategies in this report. This plan outlines key messages designed to raise awareness among target stakeholders of the issues that are at stake. Also included are strategies to achieve the stated goals and recommended tools to implement the proposed strategies.

Audience

The key to an effective communications strategy is targeting specific stakeholders. While passionate advocates maintain that everyone in the general public needs to hear their message, good strategy (and limited budgets) requires focusing and prioritizing key audiences. Based on our research and the policy recommendations from the Studio team, we propose the following key stakeholders.

Elected Officials: With a new mayor and new city council members starting in January, now is the time to begin a pro-active campaign to inform veteran and new policymakers about the value of industrial land. This group is likely to see industry as a threat to quality of life of its constituents rather than a job generator.

Commissioners: While industrial policy may not be a high priority for many of the city department heads, the reality is that many of these departments rely on industrially zoned property to fulfill their organizational missions. These departments include Public Works and Watershed but also any department whose vehicles require servicing and staging. ADA's Economic Development Subcabinet provides an excellent way to keep this team engaged. There is also likelihood that there will be new members in this group after the mayoral transition.

City Employees: This group includes staff at the Bureau of Planning and ADA. They are aware of the issues but can benefit from learning best practices in other cities. Limited resources keep these staff members focused on their immediate projects, which makes it challenging to see potential alternatives and opportunities.

Zoning Review Board and Board of Zoning Adjustment: Both of these groups are appointed and make recommendations to the City Council based on input from the NPUs and the Bureau of Planning Staff. This group is highly knowledgeable about zoning but, like the City Employees, could benefit from learning about best practices in other communities and being reminded about the employment impact of zoning-related decisions.

NPU and Civic Association Presidents: NPUs are dominated by local property owners who are likely to see the lower assessed values of industrial properties, along with many industrial uses, as a threat to their own investments. In the past, requests for changing zoning from industrial to mixed-use or other use have not been opposed by neighborhood leaders unless the change brings with it significant traffic or other challenges that threaten the quality of life in the neighborhood. NPU and civic association leaders, however, have the potential to be allies in a campaign to protect existing industrial land once they understand the consequences (particularly the job implications) for the neighborhood at large.

Real Estate Community: This group includes industrial landowners as well as investors in industrial lands. Since profit maximization is the goal, as a group, they prefer higher land use such as residential and mixed-use. With a group this large and geographically disparate, organizations such as the Urban Land Institute and SIOR (Society of Industrial and Office Realtors) are a good way to deliver the messages in this plan. Brokers and investment sales advisors from companies such as Colliers Spectrum, Southport, and Bryant and King Realty, are also important targets and potential vehicles for communicating key messages.

Industrial Business Owners: Industrial business owners are one of the most important targets of these communications and one of the voices least represented in the City. Because the majority of industrial properties are leased, not owner occupied, the future of industrial land is often beyond the control of this group. Interviews with industrial business owners in several cities reveal that location is the single

most important selection criteria followed by cost of land, cost of operating, energy costs, and building specifications. This is also a large, diverse group. Efforts should be made to reach out to a sample of owners, but the group can also be targeted by industry sector. For example, recycling companies, food manufacturers, and metal fabricators all have their own individual trade associations that can be identified. As the current and potential occupiers of Atlanta's industrial properties, this group is highly important.

Affiliates: This broad category includes economic development organizations, especially private non-profits such as Central Atlanta Progress, and metro/regional organizations, such as the Metropolitan Atlanta Chamber of Commerce and the Atlanta Regional Commission. At the State level, the Georgia Department of Economic Development, the Department of Community Affairs and the Georgia Chamber of Commerce all interact with companies seeking to locate in, and relocate within, Atlanta. Since many of these groups have a regional focus, messages must be carefully crafted to identify the value to the both the City and the region in maintaining the industrial land base.

Other target affiliates could include the relatively new Green Chamber of Commerce for targeting sustainable businesses, the Civic League for Regional Atlanta for its education and issue-focused approach, and the Georgia Budget and Policy Institute for its research expertise and credibility.

Media: Since the public is not the communications target for this effort, relationships with media outlets that are read, heard, or viewed by policymakers, leaders, etc. should be the focus of media efforts. This includes *The Atlanta Journal-Constitution*, *Georgia Trend, Atlanta Business Chronicle,* and *Creative Loafing* locally, and *Governing*, *Commercial Property News*, and *City Feet* to name a few national publications with local coverage. In addition, most of the membership and trade associations listed above produce print and/or online publications that can be directed at specific audiences.

Key Messages

Key messages form the backbone of every communication. The following messages should be included in all communications whether it is in print, online, or at an event. Messages do not need to be repeated verbatim but the meaning needs to come across clearly and consistently in each and every encounter. Each of the messages below could become a more fully developed campaign if desired.

We don't just move it. We make it.

For many years, Atlanta's economic development strategy has focused on its services and logistics sectors. The downside of this focus is that the city is not known as a producer. "We don't just move it. We make it." not only reinforces Atlanta's strategic position for logistics and the importance of the airport as an economic driver, but it also expands the city's role to producer and contributor. In order for this to be effective, several products and companies will need to be identified that can be associated with Atlanta.

Atlanta's hospitality sector depends on Atlanta's industrial sector.

The convention and hospitality sector is highly dependent on local, small to medium-sized industrial or commercial businesses that create the products or deliver the services that keep the hospitality industry running. These businesses have a greater need to locate close to the area where they deliver products or services; hence the importance of available industrial land to support them. In San Francisco, this sector is called PDR (Production, Distribution and Repair), and in Boston it is called Back Streets Businesses. Atlanta has its own version of this sector that is underappreciated and very much in the shadow of larger businesses and corporate entities. When the impact of these smaller businesses is aggregated, however, it becomes a significant sector that should not be ignored.

It’s a whole new industrial world.

Visions of smokestacks, pollution and other hazards are usually associated with industrial businesses. Today's industrial sector is not necessarily dominated by noxious producers. While there are many types of industrial users that require industrial zoning, there are others that can operate in non-industrial zoned land but may require a flexible type of zoning that is transitional between commercial and industrial. Profiles of clean (and green) industries are the key to re-branding the idea of industrial land from previous associations to one that shows opportunity and respect for the natural environment and public health.

Industry = Jobs. Good jobs.

The decline in manufacturing entities and jobs is a nationwide phenomenon that has affected Atlanta disproportionately. In recent years, access to cheaper land and labor outside the United States has resulted in the global dispersion of production. Rising energy costs have the potential to slow this trend, but it remains a significant obstacle. While we cannot reverse this trend entirely, we can preserve the jobs we have and use our policies to maintain industrial land for future industry and employment growth.

Goals and Strategies

Based on our full strategic plan and related policy recommendations, these are the main communications goals to support those efforts. These are the 10,000-foot goals. Specific strategies and tools to achieve these goals follow:

Goal 1: Educate target audiences about the value of industrial land and industrial jobs in Atlanta.

Create an inclusive stakeholder process designed to educate key stakeholders about Atlanta's industrial sector and best practices in land use policy.

- Review preceding stakeholder list for prioritization and additional names.
- Design a multi-day program series to engage stakeholder groups.
    - Offer a three- or four-part series consisting of lessons from other cities (panel discussion with model cities), one or two facilitated conversations about challenges and opportunities for industrial activities in Atlanta and a “What's Next for Atlanta Industry” program. Make the latter program a signature, annual event.
- Take NPU leaders and City Council members on a tour of Atlanta's industrial properties and to meet with industrial business owners.

Create an "industrial curriculum" to present during key leadership training programs.

- Offer program ideas to Leadership Atlanta.
- Incorporate curriculum into the Atlanta Regional Commission’s (ARC) Regional Leadership Academy.
- Identify other citizen leadership programs that can incorporate an industrial curriculum.

Goal 2: Reposition what industrial means to include not just heavy industrial and manufacturing but also green technology and production, distribution and repair (PDR) jobs.

Launch media campaign to raise awareness of "unappreciated" sectors.

- Pitch *Atlanta Journal-Constitution* on an article or series of articles that traces trends in industrial Atlanta. The *Atlanta Business Chronicle* is another good outlet for a series or article about the economic impact of Atlanta's industrial sector.
- Create a "story bank" of successful Atlanta industrial businesses. This is an online or offline location where interesting case studies are filed for future use.

Create vocational opportunities to support this sector.

- Partner with Atlanta public high school students to create video/newspaper reports that involve interviewing Atlanta industries and highlighting what is made in Atlanta.
- Partner with technical colleges to create "branded" courses (identified graphically or in some other fashion) that will produce jobs with living wages.

Create curriculum for educators (K-12) that introduces "green" technology into science programs.

- Offer teacher training over the summer or in shorter workshops at local companies and/or universities that introduce teachers to advances in biotechnology, recycling and related topics.
- Create a green industry toolkit with print materials and curriculum ideas that tie to required curriculum (former QCC) for incorporation in the classroom.

Goal 3: Position Atlanta as industry-friendly and invested in industrial activity.

Create a knowledge center to maintain and promote information about the industrial sector.

- Conduct benchmark surveys of industrial businesses in Atlanta.
    - Qualitative: Phone interviews to identify areas of key concern, relationships between location and cost of operations, advantages of current locations. See Appendix C for sample questionnaire.
    - Quantitative: Mail survey to ascertain information not available from public databases such as detailed business demographics, linkages, space location rationale, etc. See Appendix C for sample questionnaire.
- Implement regular data collection and analysis practices.

Create a pre-certification program to feature shovel-ready properties for industrial development.

- Identify target properties.
- Survey properties to determine key attributes (see Appendix C for data collection).
- Create logo and overall campaign materials to support promotions of these properties. Create promotional materials (print and email flyers).
- Develop searchable database of approved properties.

Give "voice" to the industrial sector in the zoning and other legislative processes.

- Create an Industrial Energy Consumer Coalition to represent the unique concerns of this group at state and federal legislative levels.
- Create the Atlanta Industrial Council with representatives from business, development, and brokerage communities. See this report's Policy Recommendations for more details.
- Launch an annual award to honor an Atlanta sustainable manufacturing company.

Become the "go-to" resource for Atlanta's industrial businesses

- Designate ombudsman.
- Repackage tax benefits and other City benefits in a one-page briefing sheet to make it specific for industrial users.
- Assist with employee recruitment by partnering with technical colleges.

Obstacles

Although the strategies in this plan are designed to move the communications effort forward, there are inevitable obstacles that need to be addressed. It is not possible to solve all these obstacles at once, but it is important to acknowledge them at the outset and keep them in the forefront as communications work is underway.

Limited time and resources

This is an obstacle for most organizations and a factor in the implementation of all communications strategies. The key is prioritization of the strategies and tools.

Legislative uncertainty

A new administration will take office in January 2010, and it is not known what the priorities for this administration will be. We can be certain that fiscal responsibility and stabilization will be at the top of the list, so raising revenue is certain to be a priority. Communicating the fiscal value beyond revenue production of industrial property and industrial jobs will be critical.

Diminished urgency

With the lull in development we are experiencing, it would be easy to dismiss this issue as no longer relevant. Experience from other cities suggests, however, that the pressure is not likely to ease up long-term. The metro area may not have land constraints, but the City of Atlanta always will.

Recommendations for Plan Implementation

Prioritize and make assignments

Issues to consider include internal capacity to complete the projects, budget availability, and potential audiences reached. Look carefully at writing, design, and web resources, and decide where outside assistance will add the most value. Issues to consider in making assignments include particular skills required, timeliness of the project, and degree of creative control desired.

Designate a communications "center"

It is very important that all materials are professional both in writing and design, and that they contain consistent use of the key messages identified in this plan (as well as a consistent visual identity). Designate one staff member to be responsible for providing "quality control" for communications processes to ensure consistency in writing and messaging.

Train for key messages

Encourage all staff to learn the key messages and incorporate at least one of them in every discussion or presentation about Industrial Atlanta. Share the key messages with everyone who presents the "outside face" of the organization on this initiative, and periodically revisit the messages to make sure that they remain in the forefront. To help internalize the key messages, all staff should visit at least one industrial business per quarter and use that opportunity to collect personal stories and observations to share during their own presentations and conversations.

Summary

Table 32 provides a summary of recommended methods used to promote and retain Atlanta's industrial base. Using these various methods will raise awareness of the City's manufacturing base, educate residents on sustainable industries, and create a strong industrial workforce.

Table 32: Summary of Recommended Communications Strategies and Tactics

Medium	Tactic	Audience	Frequency
PRINT	Storybank	Media	Ongoing
	Industrial Fact sheet	Media, Policymakers	Quarterly
ONLINE	Searchable database of pre-certified properties	Real Estate Community, Industrial Businesses	Ongoing
	Industrial Fact Sheet (see above)	Media Policymakers	Quarterly
EVENT/OTHER	Educational Series	ALL	6 months for first events, then annually for signature event
	Award Program	Industrial businesses	Annually
	City Tour	Policymakers, Investors	Quarterly
	Industrial Curriculum (may have a print component as well)	Leadership programs	Ongoing
	High school video	Media	Ongoing
	Vocational training partnership	Industrial businesses, Policymakers	Ongoing
	Benchmark Survey	Industrial businesses	Every other year
	Industrial Business Council	Industrial businesses	Quarterly
	Industrial Energy Coalition	Industrial businesses	Ongoing, January meeting

NEXT STEPS

This Studio report demonstrates the direct connection between land use and employment and presents the case that Atlanta must carefully consider the long-term impact on the city's economy. Given the rapid loss of industrial acres that has been documented in the City of Atlanta, we propose a policy that will protect industrial acreage through the use of Planned Manufacturing Employment Districts (PMEDs). PMEDs are proposed for select parts of Atlanta where there is an existing concentration of industrial activity and the form, function, marketability, and public policy demonstrate that these areas can sustain an industrial base for the long-term. Two of the areas–Atlanta Industrial Park and Southside Industrial Park–were also selected because they have the possibility for expansion.

PMEDs offer the strongest form of protection from land use changes. The districts that we have proposed, however, are not the only policy action that is needed to protect our industrial base. Below is a summary of the key points covered in this report and recommendations for implementation.

Summary of Recommendations

1. *Launch strategic communications strategy*

   One of the primary goals of the communications strategy is to begin the important process of education to lay the groundwork for implementing the other strategies offered in this report. Issues of industrial policy and land use have not been top of mind in this City and, in order to gain support for passing some measures of protection, the conversation about their value must begin. A panel discussion with experts from other cities or a working symposium including key stakeholders, namely policymakers, is the first step. In addition, the formation of the Atlanta Industrial Council should be part of the first phase implementation to engage our current industrial users and related partners.

2. *Apply evaluation framework*

   This report includes a detailed evaluation tool that can be applied to other industrial areas in the city. Classifying industrial areas according to its need for protection, ability to withstand a zoning category that would allow for limited other uses without jeopardizing the employment base or as an area where industrial zoning is no longer appropriate is the next step in this process. These classifications can be then used as a guideline for the Bureau of Planning in making future recommendations.

With a classification system in place, the next step would be to design a developer agreement to require a community benefits agreement process that would work in tandem with the classification system. The community benefits program would be triggered in the event of any land use change and to compensate for any anticipated job loss associated with the change. The types of benefits that could be required include: relocation consultation for displaced businesses, funds for job training assistance, affordable housing requirements, open space requirements, and infrastructure improvements.[15]

3. *Amend the Atlanta Strategic Action Plan to create Planned Manufacturing Employment Districts and modify zoning ordinance.*

   Amending the CDP will be the next step after identifying the evaluated areas. Since this is a large endeavor, a first step could be the creation of the new, more flexible, industrial zoning categories that would allow for limited residential and retail use but still protect the industrial nature of the area. Another area for further investigation with regard to zoning is increasing the floor area ratio (FAR) for industrial areas to accommodate potential vertically-structured manufacturing facilities.

4. *Adopt urban design standards for industrial areas.*

   Retaining current industrial users and attracting future users to designated industrial areas involves making the areas attractive. Implementing overall design standards in these areas through an overlay could improve their existing conditions. In addition, marketing and signage can be used to reinforce different areas as clusters for certain industries.

5. *Tie existing economic development tools to industrial needs.*

   ADA already has several financing tools to encourage the growth of industrial businesses. Packaging these tools specifically for industrial users would make their availability better known.

[15] See Los Angeles Planning Department /Community Redevelopment Agency of Los Angeles Memo, *Staff Direction Regarding Industrial Land Use and Potential Conversion to Residential or Other Uses* (January 3, 2008) available online at http://cityplanning.lacity.org/Code_Studies/LanduseProj/Industrial_Files/StaffDirections.pdf for more information about community benefits agreements designed for this purpose.

The formation of the Atlanta Industrial Council will provide the opportunity to hear from industrial users as well as promote ADA's financing tools. Encouraging the use of Urban Enterprise Zones where appropriate is one of the simplest ways to provide assistance to industrial users. Lastly, the expansion of the Freeport Exemption program to a 100% exemption to make the City of Atlanta competitive with surrounding communities is a public policy initiative that should be pursued and is supported by the research in this report.

6. *Target growth industries and expand clusters.*

   The key to a targeted retention and expansion plan is to identify what businesses need to be in the City of Atlanta. Given the challenge of competing with surrounding and farther out counties for large-scale manufacturing assignments, this report suggests that the focus should be on smaller businesses that have the potential to grow organically. Food manufacturing emerges as a key growth industry. In addition, there are opportunities to build on Atlanta's existing strengths in the building construction industries, pharmaceuticals and medical devices, all industries that are experiencing rapid changes in green production. Finally, the connection with Georgia Tech and start-up companies looking for space is a critical connection that needs to be made to encourage Atlanta's institutions to grow and maintain production locally.

7. *Monitor key data indicators and produce regular reports for stakeholders.*

   The connection between land use and employment is a primary theme of this report. Moving forward, we recommend ongoing documentation of this connection to reinforce the need for an industrial policy. There is also a body of information that is not currently collected that would be useful to support industrial policy. This includes qualitative and quantitative studies of our current industrial users to assess future needs. One low-cost way to access some of this information would be to modify the current business permit form that is filed by local users or create a follow-up form for industrial users as identified by their NAICS code.

This report is intended to serve as a guide for the Atlanta Development Authority and the Bureau of Planning in its efforts to create a comprehensive industrial policy for the City of Atlanta. As demonstrated, the impact of land use changes on employment and the Atlanta's economic base is significant. With a renewed framework to focus on sustainable industrial production–and with the appropriate land use to support these industries –we can create a culture that is attractive to the rapidly growing sector of environmentally and economically sustainable manufacturing businesses.

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Appendix A

Windshield Surveys for Preliminary Targeted Industrial Areas

1. Atlanta Industrial Park
2. Atlanta Technology Enterprise Park
3. Cleveland Avenue
4. Former Georgia State Farmers Market
5. Honor Farm
6. Metropolitan Parkway Industrial Corridor
7. Moreland Avenue Corridor
8. Ridge Avenue
9. Southside Industrial Park (and nearby Browns Mill, Zip Industrial, and Empire Industrial Areas)

Tool for Field Reconnaissance: List of indicators organized by the four productive industrial area criteria (form, function, marketability, and public priority)

AREA: Atlanta Industrial Park			
Observations When Approaching Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		-Stable
Land Use	Ind / Comm / Residential / Other		-Industrial and residential -Public housing (demo)
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		-Sharp
Any major land and buildings available?	Yes / No		-Yes-public housing property
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		-Acceptable
Traffic hot spots impeding access to area	Yes / No		-Yes
Truck friendly	Yes / No		-Yes
Highway Access	Direct Access / Good Enough / Too Far		-Direc:
Construction	Yes / No		-Yes
Rail access	Direct Access / Good Enough / Too Far		-Direc:
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			-Nothing -Busy off the highway
Any Indication of community groups, policing, etc.?	Yes/No		
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Already an established incustrial area with public housing going-even
What makes the area not special for industrial businesses?			

AREA: Atlanta Industrial Park			
Observations In Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			-Good
Physically describe the buildings			-Good, vacancy
Is land underutilized?	Yes / No / Sort Of		
Describe your perception of how well the area functions			-Functions well
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Mix of food makers, chemical, industrial supplies
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			-Yes-several buildings, not much land
Describe Vacant Bldgs/Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		-Medium
Road conditions	Acceptable/Not Acceptable		-Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		-No
Major rail or intermodal use?	Yes/No		-Yes
Any other infrastructure access Issues?			
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical…)			-Food makers -Recycling -Chemical -Bio-medical and Pharm
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Good industrial mix in an established industrial park
What makes the area not special for industrial businesses?			-Area is starting to deteriorating

AREA: Atlanta Technology Enterprise Park			
Observations When Approaching Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		-Stable and improving
Land Use	Ind / Comm / Residential / Other		-Light industrial, institutional, commercial
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			-No
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		-Gradual
Any major land and buildings available?	Yes / No		-Spotty parcels around campus
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			-Buffer is good
Good infrastructure leading to the area?			-Appears to be supported by adequate infrastructure because of previous large industrial uses
Road conditions	Acceptable / Not Acceptable		-Acceptable
Traffic hot spots impeding access to area	Yes / No		-No
Truck friendly	Yes / No		-Yes
Highway Access	Direct Access / Good Enough / Too Far		-Good enough
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			-Busy street but not so much pedestrian traffic
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Nearby industrial and institutional uses
What makes the area not special for industrial businesses?			-Access through campus and other office areas -Truck access

AREA: Atlanta Technology Enterprise Park			
Observations In Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			-vacant industrial lots
Physically describe the buildings			-Nice, New construction -Multi-story lab/office building '-Plenty of parking, surface and garage
Is land underutilized?	Yes / No / Sort Of		-Yes
Describe your perception of how well the area functions			-Functions well-100% occupancy but there are empty lots
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Office, lab, light industrial and institutional (college/RD)
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			-Yes- land
Describe Vacant Bldgs/Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		-small, maybe medium
Road conditions	Acceptable/Not Acceptable		-Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		
Major rail or intermodal use?	Yes/No		
Any other infrastructure access issues?			
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			-R&D
What do you observe on the street? (people, places, interactions, etc.)			-College and office
Any Indication of community groups, policing, etc.?	Yes/No		-GT has presence
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Vacant parcels adj. to available industrial to create larger contiguous properties
What makes the area not special for industrial businesses?			-Lack of density and connectivity with major throughway -cut off from positive spill-off by wide streets?

AREA: Cleveland Avenue			
Observations When Approaching Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		-Stable
Land Use	Ind / Comm / Residential / Other		-Residential, commercial/industrial -Pallets, truck repair, construction, junkyards
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			-Dumping -Heavy equipment/demo debris(?)
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		-Mix of sharp and gradual
Any major land and buildings available?	Yes / No		-Yes, land is available
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		-Good-appears to be new wide road ending at the potential access to the site
Traffic hot spots impeding access to area	Yes / No		-No
Truck friendly	Yes / No		-Yes
Highway Access	Direct Access / Good Enough / Too Far		-Good enough
Construction	Yes / No		-No
Rail access	Direct Access / Good Enough / Too Far		
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		Yes
What makes the area special for industrial businesses?			-Out of the way -Industrial area
What makes the area not special for industrial businesses?			

AREA: Cleveland Avenue			
Observations in Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Physically describe the buildings			
Is land underutilized?	Yes / No / Sort Of		-Yes -Vacant Land
Describe your perception of how well the area functions			
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Church-like building -No other but surrounding area
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			-Land is available
Describe Vacant Bldgs/Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		-Med-Large -Perhaps one or 2 lots?
Road conditions	Acceptable/Not Acceptable		-Acceptable -Need new road and possible underground utilities to service within the area
Traffic Hot Spots impeding access to area?	Yes/No		-No
Major rail or intermodal use?	Yes/No		
Any other infrastructure access issues?			
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			-Biomass company interest -Logistics Urban farm and food
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Available land
What makes the area not special for industrial businesses?			-Labor force issues -Terrain and ravine in the area

AREA: Former Georgia State Farmers Market			
Observations When Approaching Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		Deteriorating
Land Use	Ind / Comm / Residential / Other		Industrial/Commercial (Dept of Corrections and Archives have buildings here)
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			Possible contamination
Can you figure out the district's boundary?			
Transition between residential and incustrial	Sharp / Gradual		Unclear
Any major land and buildings available?	Yes / No		
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		Not acceptable
Traffic hot spots impeding access to area	Yes / No		No
Truck friendly	Yes / No		Yes
Highway Access	Direct Access / Good Enough / Too Far		Good
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		Direct
Any other Infrastructure Access Issues?			Potential Beltline transit area
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		Yes
What makes the area special for industrial businesses?			Location
What makes the area not special for industrial businesses?			

AREA: Former Georgia State Farmers Market			
Observations In Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Physically describe the buildings			Many deteriorating buildings
Is land underutilized?	Yes / No / Sort Of		Sort of - Archives and Corrections use some buildings in area but other lots for sale
Describe your perception of how well the area functions			Unclear
Major operations? (think about supply chains)			
Describe the Major Industrial Users			Record and supply storage
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			1114 Murphy
Describe Vacant Bldgs/Brownfields/Demolition issues			Many vacant buildings
Perception of typical lot size	Small/Med/Large		Mid to Large
Road conditions	Acceptable/Not Acceptable		Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		Potential
Major rail or intermodal use?	Yes/No		Yes
Any other infrastructure access Issues?			
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			Food distribution, incubator space
What do you observe on the street? (people, places, interactions, etc.)			Very little
Any Indication of community groups, policing, etc.?	Yes/No		No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		If helped
What makes the area special for industrial businesses?			Proximity to other viable industrial area and access
What makes the area not special for industrial businesses?			Assembly and prep issues, future incompatibility issues

AREA: Honor Farm			
Observations When Approaching Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		-Deteriorating
Land Use	Ind / Comm / Residential / Other		-Institutional and some residential
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			-No -Some minor demos could be useful (old board-up homes) -Landfill-probably smells
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		-Sharp
Any major land and buildings available?	Yes / No		
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		
Traffic hot spots impeding access to area	Yes / No		
Truck friendly	Yes / No		-No
Highway Access	Direct Access / Good Enough / Too Far		-Too Far
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		Too Far
Any other Infrastructure Access Issues?			-Substation nearby
What do you observe on the street? (people, places, interactions, etc.)			-Nothing
Any Indication of community groups, policing, etc.?	Yes/No		
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Maybe but it needs help
What makes the area special for industrial businesses?			-Industrial uses already appears would be acceptable
What makes the area not special for industrial businesses?			-Landfill (unlined it appears)

AREA: Honor Farm			
Observations In Area	Notes		Summary of Field Notes
How are the general area's conditions?			-deteriorating
Physically describe the buildings			-No buildings
Is land underutilized?	Yes / No / Sort Of		-Yes
Describe your perception of how well the area functions			-It seems to be a hodge-podge -Hard to figure out how it would
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-City
Describe the Majority of the Uses			-Landfill,
Redevelopment Potential?			
Any major land and buildings available?			-Yes -Open, vacant land (forested)
Describe Vacant Bldgs/Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		
Road conditions	Acceptable/Not Acceptable		-Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		-No
Major rail or intermodal use?	Yes/No		-Norfolk Southern RR may be possible spur?
Any other infrastructure access Issues?			-Access from highway is confusing
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical…)			-Who could use the methane -Be next to a municipal landfill
What do you observe on the street? (people, places, interactions, etc.)			-Empty
Any Indication of community groups, policing, etc.?	Yes/No		-NO
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Maybe if helped
What makes the area special for industrial businesses?			-Available Land -Neighbors would be institutional/public works that wouldn't mind industry -Substation nearby -Potential for methane -City Owned
What makes the area not special for industrial businesses?			-Munitions, landfill -Distance to highway and rail, questioned, but landfill deliveries and other deliveries are occurring -Site-prep work will be a lot

AREA: Metropolitan Parkway			
Observations When Approaching Area	Notes		Summary of Field Notes
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		•OVERALL CORRIDOR -Vacant, underutilized •NORTH NODE -Stable and improving at the Mechanicsville and Pittsburgh neighborhood boundaries -Underutilized south and west (significant retail) -Area of transition from Castleberry Hill neighborhood
Land Use	Ind / Comm / Residential / Other		•Light industrial, institutional, commercial, residential
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			-Yes
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		-Gradual -NORTH NODE- Sharp
Any major land and buildings available?	Yes / No		-yes
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			-Hard to make sense of buffers in North Node
Good infrastructure leading to the area?			-Appears to be supported by adequate infrastructure because of previous large industrial uses
Road conditions	Acceptable / Not Acceptable		-Acceptable
Traffic hot spots impeding access to area	Yes / No		-No
Truck friendly	Yes / No		-Yes
Highway Access	Direct Access / Good Enough / Too Far		-Good enough in North Node -Excellent by Cleveland Ave.
Construction	Yes / No		Yes
Rail access	Direct Access / Good Enough / Too Far		Yes
Any other Infrastructure Access Issues?			-Road circulation appears to be difficult in parts of North Node
What do you observe on the street? (people, places, interactions, etc.)			-Busy street but not so much pedestrian traffic
Any Indication of community groups, policing, etc..?	Yes/No		-Yes
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Nearby industrial and institutional uses
What makes the area not special for industrial businesses?			-Poor building conditions -Scrap yards, and incompatible uses/encroachment

AREA: Metropolitan Parkway			
Observations In Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			-fragmented, vacant and underutilized commercial and industrial properties -Large acres of just concrete slab along Metropolitan in the middle and southern nodes
Physically describe the buildings			-Sub-standard,
Is land underutilized?	Yes / No / Sort Of		-Yes
Describe your perception of how well the area functions			-Functions well-100% occupancy but there are empty lots
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Office, lab, light industrial and institutional (college/RD)
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			-Yes- land and buildings
Describe Vacant Bldgs/Brownfields/Demolition issues			#NAME?
Perception of typical lot size	Small/Med/Large		-small, maybe medium
Road conditions	Acceptable/Not Acceptable		-Acceptable to poor conditions in parts of North Node
Traffic Hot Spots impeding access to area?	Yes/No		-Yes- Abernathy and Metropolitan; Lee and Abernathy
Major rail or intermodal use?	Yes/No		
Any other infrastructure access issues?			Rail by Southern Mills; and McDaniel and Stephens congests traffic)
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			-R&D, Metall, Food Dist.
What do you observe on the street? (people, places, interactions, etc.)			-Scrap yards, some people walking
Any indication of community groups, policing, etc.?	Yes/No		-New public housing and other housing development in North Node
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Vacant parcels adj. to available industrial to create larger contiguous properties
What makes the area not special for industrial businesses?			-Poor building conditions -Scrap yards, and incompatible uses/encroachment

AREA: Moreland Avenue Industrial Corridor			
Observations When Approaching Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		Vacant and Deteriorating
Land Use	Ind / Comm / Residential / Other		All
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			Vacant houses and brownfields
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		
Any major land and buildings available?	Yes / No		
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		
Traffic hot spots impeding access to area	Yes / No		
Truck friendly	Yes / No		
Highway Access	Direct Access / Good Enough / Too Far		
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		
What makes the area special for industrial businesses?			Good Access
What makes the area not special for industrial businesses?			Conversation of industrial to residential and mixed use pressure

AREA: Moreland Avenue Industrial Corridor			
Observations In Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			Good
Physically describe the buildings			Mix
Is land underutilized?	Yes / No / Sort Of		Yes
Describe your perception of how well the area functions			
Major operations? (think about supply chains)			
Describe the Major Industrial Users			Industrial supply companies, towing companies
Describe the Majority of the Uses			Automotive
Redevelopment Potential?			
Any major land and buildings available?			Moreland Shopping Plaza, Thomasville
Describe Vacant Bldgs/Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		Mid to Large
Road conditions	Acceptable/Not Acceptable		Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		I-285
Major rail or intermodal use?	Yes/No		
Any other infrastructure access Issues?			Access to I-285, I-20
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical…)			Manufacturing, logistics. Also commercial/industrial mix (R&D)
What do you observe on the street? (people, places, interactions, etc.)			
Any Indication of community groups, policing, etc.?	Yes/No		Yes, faith based
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		Yes
What makes the area special for industrial businesses?			Access to 285, circulation
What makes the area not special for industrial businesses?			Challenge of DeKalb/City of Atlanta boundary

AREA: Ridge Avenue			
Observations When Approaching Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		Stable;
Land Use	Ind / Comm / Residential / Other		-Residential; Some new/rehab -School nearby
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			Towing Lot with no screening;
Can you figure out the district's boundary?			
Transition between residential and industrial	Sharp / Gradual		Sharp
Any major land and buildings available?	Yes / No		Some vacant lots in residential area (prominent corner lot)
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			-Access to area appears to be through a residential area which abuts area directly
Good infrastructure leading to the area?			-Appears to be supported by adequate infrastructure because of previous large industrial uses
Road conditions	Acceptable / Not Acceptable		-Acceptable -RR Crossing may need repair
Traffic hot spots impeding access to area	Yes / No		-No
Truck friendly	Yes / No		-Yes -Residential street to access seems to be the only route -Access by rail road is cul-de-sac
Highway Access	Direct Access / Good Enough / Too Far		-Good enough
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		-Direct access (spur to buildings unknown)
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			-desolate
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes/No/Maybe if Helped
What makes the area special for industrial businesses?			-Nearby (some adjacent, but mostly further away) industrial uses -Nearby industrial uses include recycling, large GM site (rezoned for residential/mixed use?), small commercial corridor
What makes the area not special for industrial businesses?			-Residential area adjacent to area -Access through residential -Truck access

AREA: Ridge Avenue			
Observations In Area	Notes		Summary of Field Notes
How are the general area's conditions?			-Medium-sized vacant industrial buildings and vacant industrial lots
Physically describe the buildings			-Less than 20,000 sf 1 story facilities with semi truck loading docks -Older construction
Is land underutilized?	Yes / No / Sort Of		-Yes
Describe your perception of how well the area functions			-Area too vacant and underutilized to be functional
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Previous industrial uses (bakery for one)
Describe the Majority of the Uses			-Light industrial
Redevelopment Potential?			
Any major land and buildings available?			-Yes- buildings last occupied 3 years ago
Describe Vacant Bldgs./Brownfields/Demolition issues			
Perception of typical lot size	Small/Med/Large		-small, maybe medium
Road conditions	Acceptable/Not Acceptable		-Good, but cul-de-sac area may make truck access difficult to existing buildings -What are possibilities of connecting the street with the main by the rr crossing
Traffic Hot Spots impeding access to area?	Yes/No		
Major rail or intermodal use?	Yes/No		-RR goes through but unknown if spur can service
Any other infrastructure access issues?			-Cul-de-sac and 2 way road through residential
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			-Food distribution '-Urban Ag
What do you observe on the street? (people, places, interactions, etc.)			-Kids using the cul-de-sac
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Maybe if Helped
What makes the area special for industrial businesses?			-medium buildings and parcels available •Vacant parcels adj. to available industrial to create larger contiguous properties
What makes the area not special for industrial businesses?			•Lack of density -Perhaps residential area (though not strong) may be a deterrent -Lots don't appear to be in good condition-graffiti, barbed wire, lack of screening -Limited access

AREA: Southside			
Observations When Approaching Area	**Notes**		**Summary of Field Notes**
How are the general area's conditions?			
Conditions	Improving/Stable/Deteriorating/Vacant		-Stable
Land Use	Ind / Comm / Residential / Other		-Industrial
Do you notice Contamination / Brownfields / Crime / Dumping / Smell / Noise			-Noise (airport)
Can you figure out the district's boundary?			-Industrial park already
Transition between residential and industrial	Sharp / Gradual		-Sharp
Any major land and buildings available?	Yes / No		-Yes
Where would a buffer make sense?			
Street intersections			
Distance between major uses (how big of a buffer?)			
Good infrastructure leading to the area?			
Road conditions	Acceptable / Not Acceptable		-Acceptable
Traffic hot spots impeding access to area	Yes / No		-No
Truck friendly	Yes / No		Yes
Highway Access	Direct Access / Good Enough / Too Far		-Good/Good Enough
Construction	Yes / No		
Rail access	Direct Access / Good Enough / Too Far		-Good enough
Any other Infrastructure Access Issues?			
What do you observe on the street? (people, places, interactions, etc.)			-Lack of activity
Any Indication of community groups, policing, etc.?	Yes/No		-No
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Good access -Airport nearby -Established Industrial Park -Vacant land -Norfolk Southern Inter-Modal nearby
What makes the area not special for industrial businesses?			

AREA: Southside			
Observations In Area	Notes		Summary of Field Notes
How are the general area"s conditions?			-Good
Physically describe the buildings			-Good stock -Not old -An attractive characteristic for the area
Is land underutilized?	Yes / No / Sort Of		-Yes
Describe your perception of how well the area functions			-Vacant buildings and land
Major operations? (think about supply chains)			
Describe the Major Industrial Users			-Distribution
Describe the Majority of the Uses			
Redevelopment Potential?			
Any major land and buildings available?			-Yes (400,000 5-yr old open space/30' ceiling/vacated a year ago)
Describe Vacant Bldgs/Brownfields/Demolition issues			-Large vacant buildings '-Lots are vacant as well
Perception of typical lot size	Small/Med/Large		-Large
Road conditions	Acceptable/Not Acceptable		-Acceptable
Traffic Hot Spots impeding access to area?	Yes/No		-No
Major rail or intermodal use?	Yes/No		-Yes
Any other infrastructure access issues?			
What industrial users would like to be here? (think about our targets- food dist., urban gardens, green tech, logistic, metal, chemical...)			-Distribution/Logistics -Food Distribution
What do you observe on the street? (people, places, interactions, etc.)			-Not much action -If any street action it is predominately
Any Indication of community groups, policing, etc.?	Yes/No		-Nearby policy academy
Is Area Marketable for Industrial Business?	Yes/No/Maybe if Helped		-Yes
What makes the area special for industrial businesses?			-Already an established industrial park with good buildings, land availability
What makes the area not special for industrial businesses?			-Noise was indicated

Tool for Field Reconnaissance

Criteria and Indicators	Notes for Observations and Assessments	Notes for Further Evaluation Needs; GIS and Content Analysis
Form		
Current zoning for area		
Current land use patterns		
Land area (acres in area)		
Current zoning for surrounding area		
Future land use for area		
Future land use for surrounding area		
Compatibility issues with surrounding area		
Encroachment and pressure issues		
Conversations of industrial land to other uses		
Opportunity for expansion		
Average lot size		
Overall condition		
Buffer and landscaping (existing and potential)		
Function		
Inventory of existing businesses (i.e., industry mix)		
Business operations		
Compatibility issues within area		
Location relative to materials		
Location relative to suppliers		
Location relative to accessible labor		
Truck access		
Road conflict (truck/auto congested areas)		
Rail access		
Water utilities		
Storm/sanitary/sewer utilities		
Power utilities		
Gas utilities		
Alternative energy utilities		
Crime statistics/issues		
Marketability		
Existing building stock		
Building ages and sizes		
Land size		
Potential for redevelopment, rehab, expansion		
Parcels for sale in evaluated and surrounding areas		
Vacancy in evaluated and surrounding areas		
Assembly opportunities		
Restrictions on land use		
Known cleanup and/or demolition issues		
Building code violations		
Neighborhood amenities		
Property taxes and liens		
Public ownership of properties		
Ownership of key parcels		
Public Priority		
Tax Allocation Districts/Redevelopment Plan		
Transportation and neighborhood Plans		
Economic Development Focus Area		
Brownfields		
Active/planned capital improvements in area		
Significant residential/commercial redevelopment projects		

Appendix B

Atlanta Technical College

Atlanta Technical College offers various Associate Degrees and Diplomas. For a list of all diplomas and degrees at Atlanta Technical College see: http://www.atlantatech.edu/student_info/programs_of_study.html.

Atlanta Technical College Degrees, Certificates, and Diplomas		
Degrees	**Certificates**	**Diplomas**
Accounting	C++ Programmer	Air Conditioning Technology
Business Administrative Technology	Certified Customer Service	Automotive Collision Repair
Computer Programming	Computerized Accounting	Automotive Technology
Database Specialist	Computer Hardware and Network Technician	Maintenance Technology
Marketing Management	Database Administrator	Carpentry
Networking Specialist	Distribution specialist	Diesel Equipment Technology
Paralegal Studies	General Office Assistant	Drafting
Visual Communications	Human Resources Management Specialist	Electrical Construction and Maintenance
Fire Science Technology	Java Programmer	Electronics Fundamental
Health Information Technology	Linux-Unix Administrator	Electronics Technology
Pharmacy Technology	Microsoft Advanced Networking	Plumbing

Appendix C: Permitted Uses and Zoning Categories in Case Study Cities and Atlanta

Industrial Zoning Categories		
City	Zoning Categories	Permitted Uses
Baltimore	M1	Relatively nuisance-free. Industrial uses compatible with adjoining business and residential districts. Industries causing noise, vibration, smoke and particulate matter, toxic matter, odors and glare are no permitted. Operations must be located in enclosed structures. 30 ft yard required beside R & OR Districts. Conditional uses include: marinas, hotels and motels and offices. Excludable uses include: restaurants and residential uses.
	M2	General industry but not as heavy as in M-3. Moderate nuisance characteristics. Allows all M-1 uses and restaurants without live entertainment. Operations must be enclosed or effectively screened within 200 ft. of R & O-R Districts. 20 ft yard beside R & O-R Districts. Conditional uses include: hotels and motels, offices and restaurants with live entertainment. Excludable uses include: recreational marinas and residential uses.
	M3	Industrial, manufacturing and related activities described as "heavy" industry. Allows all M-1 and M-2 uses. Operation must be enclosed or effectively screened within 200 ft of R or O-R Districts. 10 ft yard beside R & C-R Districts. Conditional uses include: hotels and motels, offices and restaurants with live entertainment. Recreational marinas and residential uses.
**Source: Industrial Land Use Analysis, City of Baltimore, Maryland, 2004		
Charlotte	UI Urban Industrial	Provides a substantial number and wide variety of industrial land uses in the central area of Charlotte.
	I1 Light Industrial	To create and protect industrial areas for light manufacturing and the distribution of products as wholesale.
	I-2 General Industrial	To create and protect wholesaling and industrial areas for manufacturing, processing and assembling of parts and products, distribution of products at wholesale, transportation terminals and a broad variety of specialized industrial operations.
**Charlotte-Mecklenburg Planning Department. http://www.charmeck.org/Departments/Planning/Zoning+Administration/home.htm		
Chicago	M1 Limited Manufacturing/Business Park District	The primary purpose of the M1, Limited Manufacturing/Business Park district is to accommodate low-impact manufacturing, wholesaling, warehousing and distribution activities that occur within enclosed buildings. The district is intended to promote high-quality new development and reuse of older industrial buildings.
	M2 Light Industry District	The primary purpose of the M2, Light Industry district is to accommodate moderate-impact manufacturing, wholesaling, warehousing and distribution uses, including storage and work-related activities that occur outside of enclosed buildings. The M2 district is generally intended to accommodate more land-intensive industrial activities than the M1 district.

	M3 Heavy Industry District	The primary purpose of the M3, Heavy Industrial district is to accommodate high-impact manufacturing and industrial uses, including extractive and waste-related uses.
**Source: Department of Zoning and Land Use Planning. http://egov.cityofchicago.org		
Los Angeles	Light Industrial: MR1, MR2, & M1	These districts allow clothing design and manufacturing, furniture design and manufacturing, packaging and assembly, warehouse/distribution, biomedical research/manufacturing, and wholesale. Also includes "neighborhood industrial services" that are defined as close geographic relationship to customers, wholesalers, and related services. Examples of neighborhood industrial services are animal hospitals and kennels, automobile services and painting, lumber yards, and specialty construction materials.
	Heavy Industrial: M2 & M3	Heavy industry includes large scale manufacturing, transportation and logistics, aerospace, refineries, scrap metal facilities, produce storage and distribution, and other uses whose impact on adjacent land may be significant, noxious, or noisy.
	Studio and Production	Require specialized buildings with high ceilings, wide clearances, and extensive power infrastructure. Activities include film and television production campuses with sound studios, lumber yards and prop houses, digital sound studios and graphic production offices. Locations located near related industrial and commercial businesses.
**Source: Los Angeles' Industrial Land: Sustaining a Dynamic City Economy, City of Los Angeles, CA, 2007		
Minneapolis	I1 Light Industrial	This district regulates low impact uses which produce little or no nuisance or other objectionable influences, and which have very little adverse effect on surrounding properties. No processing of raw materials or production of primary materials is allowed in the I1 District. Some examples of uses allowed in the Light Industrial District are: fabric products, computers/electronic accessories, household appliances, medical/optical goods, novelty items, paper products & publishing (no mills), health & beauty products, sporting goods.
	I2 Medium Industrial	The Medium Industrial District includes most uses allowed in the Light Industrial District as well as metal working, glass and other uses which have the potential to produce greater nuisances or other objectionable influences than light industrial uses and which may have an adverse effect on surrounding properties. Medium industrial uses may include processing of raw materials or production of primary materials. Some examples include: electrical equipment & machinery (motors, generators, heating & cooling, etc.), fabricated metal, plastic, glass & rubber products (except tires), ceramics, china, dishes, ,gypsum/plaster products, latex paints, lumber products/plywood, metal working.

	I3 General Industrial	Uses regulated in the General Industrial District include "high impact and outdoor uses which are likely to have a substantial adverse effect on the environment or on surrounding properties and which require special measures and careful site selection to ensure compatibility with the surrounding area." Processing of raw materials and production of primary materials are often included in this district, as is transportation, public service and utility services. These general industrial uses include, but are not limited to, the following: asphalt & roofing materials, battery manufacture/reprocessing, chemicals & chemical products, oil-based paints, etc., petroleum/coal products (no mining), primary metals (steelworks, rolling, foundry), sand and gravel (no mining), stone, concrete products (cement, bricks), tires & inner tubes
**Industrial Land Use and Employment Policy Plan for the City of Minneapolis, Minnesota: Technical Report, 2006		
New York	M1 Light Manufacturing	M1 Districts are designed for a range of manufacturing and related uses that confirm to a high level of performance standards. This district provides a buffer between Residential or Commercial Districts and other industrial uses. Industries found in these districts include woodworking shops, auto storage and repair shops, and wholesale service and storage facilities. Most office and retail uses are permitted. In addition, some community facilities, such as hospitals, are allowed in M1 districts only by special permit but houses of worship are allowed as-of-right. New residential development is excluded in M1 districts, except for joint living-work quarters for artists in M1-5A and M1-5B districts, dwelling units in M1-5M and M1-6M districts, and dwelling units in M1-1D, M1-2D, M1-3D, M1-4D, and M1-5D districts. The City Planning Commission must approve these developments.
	M2 Medium Manufacturing	M2 Districts are designed for a range of manufacturing and related uses that confirm to a medium level of performance standards. M2 districts allow more notice, vibration, and smoke. Enclosure of activities is not normally required except in areas bounding Residential Districts. No residential or community facilities permitted.
	M3 Heavy Manufacturing	M3 Districts accommodate heavy industrial uses that involve more objectionable influences and hazards, and are not expected to conform to M1 and M2 performance standards. Typical uses include power plants, solid waste transfer facilities and recycling plants, and fuel supply depots. No residential or community facilities permitted.
**New York City Department of City Planning. http://www.nyc.gov/html/dcp/html/zone/zh_m3.shtml		
Portland	IG1 General Industrial 1	IG1 districts have smaller lots and a grid block pattern. The area is mostly developed, with sites having high building coverages and buildings close to the street. Uses allowed in all three zoning districts include manufacturing and production, warehouse and freight movement, wholesale sales, industrial services, and railroad yards. Waste-related categories are limited in IG1, IG2, and IH1 districts.
	IG2 General Industrial 2	IG2 areas have larger lots and irregular or large block patterns. Areas are less developed, with sites having medium and low building coverages and buildings set back from streets.

	IH Heavy Industrial	IH zones implement the Industrial Sanctuary designations. Allows industries considered undesirable in other areas. Minimum development standards are in place to ensure safe, functional, efficient, and environmentally sound development.
**City of Portland Bureau of Planning and Sustainability. http://www.portlandonline.com/bps/index.cfm?c=36238&a=64435		
San Jose	CIC Combined Industrial/ Commercial	These districts allow commercial or industrial uses or a compatible mix of these uses. Districts allow for a range of commercial uses with a local or regional market, including big box retail and a small range of industrial uses, primarily industrial parks. In addition, these districts include light industrial uses. Assembly uses and day care centers permitted when compatible with and not impose constraints on neighboring industrial uses.
	IP Industrial Parks	Permit a wide variety of industrial uses such as research and development, manufacturing, assembly, testing and offices. May contain limited amount of supportive commercial. Warehouse retail uses allowed when compatible with adjacent industrial uses.
	LI Light Industry	Permits a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance efforts. Examples of uses include warehousing, wholesaling, and light manufacturing . In addition, warehouse retail uses may be allowed where they are compatible with adjacent industrial uses and will not constrain future use of the subject site for industrial purposes.
	HI Heavy Industrial	These districts allow for industrial uses with nuisance or hazardous characteristics which for reasons of health, safety, environmental effects, or general welfare are best segregated from other uses. Typical industries include extractive and primary processing. Limited scale retail sales and service establishments that serve nearby businesses and their employees are considered appropriate. Warehouse retail uses may be allowed where they are compatible with adjacent industrial uses and will not constrain future use of the subject site for industrial purposes.
**City of San Jose. http://www.sanjoseca.gov/planning/pdf/zoning_code.pdf		
Seattle	IG1 General Industrial 1	Protect marine and rail-related industrial areas from inappropriate retail and commercial uses through the use of density or size limits. Acceptable uses in these zones include general and heavy manufacturing, limited commercial uses, institutional uses in existing buildings, entertainment uses, transportation and utility services, and salvage and recycling businesses.
	IG2 General Industrial 2	Zones coded IG2 allow a range of uses where the industrial function of a zone is less established than IG1 areas, and where additional commercial activity can better employment opportunities and physical condition of the area.

	IC Industrial Commercial	This zone incorporates a mix of industrial and commercial activities, including light manufacturing and research and development. Acceptable land uses include light and general manufacturing, commercial uses, transportation facilities, entertainment, institutions in existing buildings, utilities, and salvage and recycling uses. Additional regulations and restrictions are required for setbacks, screening and landscaping, access to parking and loading, major odor sources, and light and glare.
	IB Industrial Buffer	The IB zone provides a suitable transition between industrial areas and adjacent residential zones or commercial zones with residential and/or pedestrian character. Uses allowed in the IB zone include light and general manufacturing, limited commercial uses, some transportation services, entertainment uses, institutions in existing buildings, and salvage and recycling uses.
**Seattle Department of Planning and Development. http://www.seattle.gov/DPD/cms/groups/pan/@pan/@publication/documents/web_informational/dpds_007437.pdf		
Vancouver	MC-1 and MC-2	These districts permit mixed use, commercial, residential, and light industry.
	M-1 & M-1A	These districts permit industrial and other uses incompatible with near and adjacent residential districts. Uses considered potentially dangerous or environmentally incompatible when situated near residential districts are prohibited.
	M-1B	These districts permit industrial and other related uses under conditions designed to minimize conflicts with adjacent or nearby residential uses. Non-industrial sectors are discouraged. In addition, the type and scale of non-industrial uses is restricted.
	IC-1 and IC-2	These districts permit light industrial uses that are compatible with one another and adjoining residential or commercial districts. Permitted uses include advanced technology industries, research and development, and commercial related to light industry.
	IC-3	These districts permit light industry, live arts and theatre, residential and related uses compatible with adjoining residential and commercial districts. Services compatible with light industrial uses and a limited number of office uses are permitted in IC-3 districts.
	I-1	These districts permit light industrial uses that are compatible with one another and with adjoining residential or commercial districts. Permitted uses include advanced technology industry, and industry with a significant amount of research and development activity. Service commercial uses compatible with and complementing light industrial uses are also permitted but not offices or retail stores.
	I-2	These districts permit industrial and other uses that are generally incompatible with residential land use but are beneficial in that they provide industrial and service employment opportunities or serve a useful or necessary function in the city. It is not the intent, however, to permit uses that are potentially dangerous or environmentally incompatible when situated near residential districts

	I-3	These districts permit high technology industry and related industry with a significant amount of research and development activity. Permitted uses include light industrial uses that compatible with high-technology and other industrial uses, and with adjoining residential or commercial districts.
**City of Vancouver Community Services. http://vancouver.ca/commsvcs/BYLAWS/zoning/zon&dev.htm#sections		
Atlanta	I-1 Light Industrial Districts	A building or premises shall be used only for the following principal purposes: (1) Adult businesses as defined in section 16-29.001(3). See section 16-28.016 for locational requirements. (2) Banks, savings and loan associations, and similar financial institutions. (3) Broadcasting towers, line-of-sight relay devices for telephonic, radio or television communications when located 200 feet or more from any off-site residential districts or residential use not located within an industrial district, and when such towers or devices are greater than 200 feet in height, when located a distance which is greater than or equal to the height of the tower or device from a residential district or residential use which is not in an industrial district. (4) Business service establishments, including those providing duplicating, printing, maintenance, communications, addressing, mailing, bookkeeping, or guard services. (5) Clubs and lodges, union halls, hiring halls. (6) Churches, synagogues, temples, mosques and similar worship facilities. (7) Eating and drinking establishments, including those licensed for the on-premises consumption of malt beverages, wine and/or distilled spirits and those with drive-in service; catering establishments, delicatessens, bakeries. (8) Manufacturing, wholesaling, repairing, compounding, assembly, processing, preparation, packaging or treatment of articles, foods, components, products, clothing, machines and appliances and the like, where character of operations, emissions and by-products do not create adverse effects beyond the boundaries of the property. Use of heavy drop hammers, punch presses or other machinery; or processing methods creating excessive noise or vibration is prohibited in this district. (9) Offices, clinics (including veterinary), laboratories, studios. (10) Parking surface and structures. (11) Professional and personal service establishments. (12) Recreational establishments. (13) Repair garages, paint and body shops, welding shops. (14) Retail establishments, including those with sales or display lots or storage lots. (15) Sales and leasing agencies for new and used passenger automobiles, bicycles, mopeds and commercial vehicles.

		Light Industrial Continued (16) Service station; car washes. (17) General advertising signs subject to the limitations contained in section 16-16.006(1) in chapter 28A of this part. (18) Structures and uses required for operation of MARTA or a public utility, including uses involving extensive storage and railway rights-of-way and yards. (19) Trade schools, colleges and universities. (20) Warehousing, storage facilities, distribution centers. (21) Yards for storage of contractor's equipment; sand and gravel; lumber and the like but specifically excluding junkyards, salvage yards and scrap metal processors. (22) Hotels. (23) Conversion of existing industrial buildings to multi-family dwellings. (24) Supportive housing.

	I-2 Heavy Industrial	Sec. 16-17.003. Permitted principal uses and structures. In addition to I-1 Uses I-2 allows: A building or premises shall be used only for the following principal purposes: (1) Adult businesses as defined in section 16-29.001(3). See section 16-28.016 for locational requirements. (2) Banks, savings and loan associations, and similar financial institutions. (3) Broadcasting towers, line-of-sight relay devices for telephonic, radio or television communications when located 200 feet or more from any off-site residential districts or residential use not located within an industrial district, and when such towers or devices are greater than 200 feet in height, when located a distance which is greater than or equal to the height of the tower or device from a residential district or residential use which is not in an industrial district. (4) Business service establishments, including those providing duplicating, printing, maintenance, communications, addressing, mailing, bookkeeping, or guard services or the like. (5) Clubs and lodges, union halls, hiring halls. (6) Churches, synagogues, temples, mosques and similar religious facilities. (7) Eating and drinking establishments, including those licensed for the on-premises consumption of malt beverages, wine and/or distilled spirits and those with drive-in service; catering establishments, delicatessens, bakeries. (8) Junkyards, automobile salvage yards or scrap metal processors where such activity is wholly enclosed within a building. (9) Manufacturing, wholesaling, repairing, compounding, assembly, processing, preparation, packaging or treatment of articles, foods, components, products, clothing, machines and appliances. (10) Offices and clinics (including veterinary), laboratories, studios. (11) Parking surface and structures. (12) Professional and personal service establishments. (13) Recreational establishments. (14) Repair garages, paint and body shops, welding shops. (15) Retail establishments, including those with sales or display lots or storage lots.

		Heavy Industrial Continued (16) Sales and leasing agencies for new and used passenger automobiles, bicycles, mopeds and commercial vehicles. (17) Service station; car wash. (18) General advertising signs subject to the limitations contained in section 16-17.006(1) and in chapter 28A of this part. (19) Structures and uses required for operation of MARTA or a public utility, including uses involving storage, train shops, warehousing, switching or maintenance shops as the primary purpose. (20) Trade schools, colleges and universities. (21) Warehousing, storage facilities, distribution centers. (22) Yards for storage of contractor's equipment; sand and gravel; lumber and similar operations. (23) Hotels. Any machinery or processing method otherwise lawful under these or other lawful regulations applying generally or with the district may be used within the district so long as character of operations, emissions and by-products do not create adverse effects beyond the boundaries of the district.
**Source: Municode.com		

Appendix D

Seattle's Industrial Survey Tool

City of Seattle
Industry Survey

Name _____ Position _____

Firm/Organization _____ Phone _____

Address _____ Fax _____

City _____ State _____ Zip _____ E-mail _____

Background Information

1. What are the primary goods and/or services that you manufacture/sell from this location?

   _____

   _____

2. How many years has the company been located at this address? _____ years

3. Is the company an owner or a tenant at this location?

   Owner _____ Tenant _____

4. Is this location a multi-tenant building?

   Yes _____ No _____

5. Please estimate the current land area and building space at your site.

   Land: _____ acres Building Space: _____ sq. feet

6. How is your floor space used? (Indicate % of total floor space)

Manufacturing/Industrial/Repair	_____%
Warehouse/Storage	_____%
Retail/Showroom	_____%
Office	_____%
Other	_____%
TOTAL	100%

7. What is the approximate annual gross business revenue provided from this site?

   ___ Less than $1 million ___ $1-$5 million ___ $5-$20 million
   ___ $20-$50 million ___ over $50 million

8. In the last three years have business revenues:
Increased ____ Decreased ____ Stayed the same ____

Employee Information

9. Approximately how many employees currently work at this location?

Full Time ____ Part Time ____

9a. How many employees do you anticipate at this location 3 to 5 years from now?

Full Time ____ Part Time ____

10 Please estimate the percentage of your employees who live in the city of Seattle

____%

Industry Linkages

11. Currently, who are your three Primary *vendors*?

	Name of Vendor	Products/Services	Primary Location of Vendor	Method of Shipment Used
A.				
B.				
C.				

Recent and anticipated trends:

_____

_____

12. Currently, who are your three primary *customers*?

	Name of Customer	Products/Services Purchased	Location	Primary Shipment Method
A				
B.				
C.				

Recent and anticipated trends:

_____

_____

Location Factors

13. Please indicate how important each factor is to you when deciding on an operating location for a business. Circle one number for each factor.

	Essential	Important	Desirable	Not Important	Satisfied		
Space Characteristics							
Room to expand	4	3	2	1	Yes	No	N/A
Ground floor occupancy	4	3	2	1	Yes	No	N/A
Loading bay	4	3	2	1	Yes	No	N/A
High ceilings	4	3	2	1	Yes	No	N/A
Site Characteristics							
Cost of land/rent	4	3	2	1	Yes	No	N/A
Outdoor storage space	4	3	2	1	Yes	No	N/A
Adequate parking	4	3	2	1	Yes	No	N/A
Access to transit	4	3	2	1	Yes	No	N/A
High visibility	4	3	2	1	Yes	No	N/A
Large truck access	4	3	2	1	Yes	No	N/A
Rail access	4	3	2	1	Yes	No	N/A
Water transport access	4	3	2	1	Yes	No	N/A
Away from residential areas	4	3	2	1	Yes	No	N/A
Labor							
Close to management	4	3	2	1	Yes	No	N/A
Close to skilled labor	4	3	2	1	Yes	No	N/A
Close to unskilled labor	4	3	2	1	Yes	No	N/A
Business Links							
Close to customers	4	3	2	1	Yes	No	N/A
Close to suppliers/services	4	3	2	1	Yes	No	N/A
Close to competitors	4	3	2	1	Yes	No	N/A
Transportation							
Close to downtown Seattle	4	3	2	1	Yes	No	N/A
Close to major highways	4	3	2	1	Yes	No	N/A
Close to rail transport	4	3	2	1	Yes	No	N/A
Close to Port of Seattle	4	3	2	1	Yes	No	N/A
Close to airport	4	3	2	1	Yes	No	N/A

14. Did you move to this location from elsewhere?

Yes ____ No ____

If you answered YES:

Where did you move from? _____

14. Why was your present location chosen?

_____

_____

_____

15. Currently, what are the primary *advantages* of operating at your present location?

_____

_____

_____

_____

16. Currently, what are the primary *disadvantages* of operating at your present location?

_____

_____

_____

_____

17. What is the *anticipated* remaining useful life of existing facilities?

_____

_____

Business Plans

18. What are your plans for your present location?

No Change ____ Close ____ Downsize ____

Move ____ Expand ____

19. If your company were to consider a new facility, where would this investment most likely occur?

City of Seattle ____ Seattle metro area ____

Outside Seattle metro area ____

20. If you were to consider areas outside of Seattle, what areas would be considered and why?

_____

_____

_____

_____

21. What governmental actions could help facilitate your company's existing operations and/or future plans?

_____

_____

_____

_____

22. Do you have any suggestions or concerns that you would like to communicate to the city of Seattle?

_____

_____

_____

_____

23. Is there anyone else we should contact?

Name _____ Firm/Organization _____

Phone _____ Email _____

SEATTLE INDUSTRIAL LANDS STUDY INTERVIEW

Section 1: General Industry

1. What do you consider to be the key concerns for your industry right now?

2. What are the growing areas in your industry?

    2.b. What is driving that growth?

3. What are the declining areas in your industry?

    3.b. What is driving that decline?

4. Do you participate in any professional trade associations?

    If yes: 4.b.1. Which ones?

    If no: 4.b.2. Why not?

5. What are your sources for labor?

    Prompt: Do you use trade fairs, vocational schools, high schools or help wanted ads?

Section 2: Location Attributes

6. What are your most significant costs of operation?

    6.b. How do these costs affect where you locate your business?

    6.c. Have there been any changes in these costs?

        If yes: 6.c.2. How will these changes affect where you prefer to locate?

7. How is your company's bottom line affected by access to your location?

    7.b. Access to what or by whom is most important?

    7.c. What types or modes of transportation are most important? Why?

8. What are the characteristics of a building and site that are important to your industry?

    Prompt: Could you explain your particular building and site needs?

9. How about the characteristics of your neighbors: what industries or businesses would be your ideal neighbors?

9.b. What benefits or consequences do you incur from being next to other industrial operations?

9.c. What benefits or consequences would you incur from being next to non-industrial operations?

Section 3: Regional Preferences

10. What are the benefits or advantages to locating or expanding a business like yours in Seattle?

10.b. Within Seattle, what areas work best for your type of business and why?

Prompt: Are there areas or systems of activity that might be advantageous to be near?

10.c. How about outside Seattle?

11. Where is the ideal location for your business?

If someplace other than where they are:

11.b. What is preventing you from locating there?

Section 3 B: For those who are relocating

12. Why are you currently moving or expanding?

13. Why are you seeking a location outside of Seattle?

13.b. Will this be your primary location, or will it be in addition to others?

If there are multiple locations:

13.b.2. Do you see a benefit to spacing out your activities?

Section 4: Assessment of Seattle as an Industrial Location

14. What do you see as the opportunities for Seattle industrial users?

14.b. Are there specific businesses or types of economic activity that would find Seattle attractive?

14.c. Are there certain industrial businesses you'd like to come to Seattle?

14.c.2. Why would this be of benefit to your industry or person?

14.d. Are you aware of other firms that may be interested in expanding or locating in Seattle?

15. What can the City do to encourage growth within your industry in Seattle?

16. How does Seattle's land use policy currently constrain your business or other businesses in your industry?

17. What do you see as the constraints for your industry within Seattle's business and cultural environment?

18. And lastly, is there anybody in particular you recommend we speak to about these issues?