1. Agenda

   Documents: 12- PLANNING COMMISSION AGENDA .PDF

2. Packet

   Documents: PC PACKET DEC 18 2013 .PDF

Agenda
Planning Commission
Council Chambers
Wednesday, December 18, 2013 - 7:00 P.M.

I. Call to Order

II. Roll Call

Roderick Johnson, Chair	P	A
Anthony Bedogne	P	A
Mark Bullard	P	A
Gary Clark	P	A
Phil Hollifield	P	A
Heidi Jugenitz	P	A
Brett Lenart	P	A
Richard Murphy	P	A
Cheryl Zuellig	P	A

III. Approval of Minutes
- November 20, 2013

IV. Audience Participation
Open for general public comment to Planning Commission on items for which a public hearing is not scheduled.

V. Public Hearing Items
- none

VI. Old Business

VII. New Business
- Water Street Draft Infrastructure Plan
- Shape Ypsi – Zoning worksheets for parking, manufacturing discussion

VIII. Committee Reports
- Non-Motorized Committee
- Annual Report Committee – set date for Jan.

IX. Future Business Discussion / Updates

X. Adjournment

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PLANNING COMMISSION
MEETING MINUTES
November 20, 2013
CITY COUNCIL CHAMBER
7:00 P.M.

I. CALL TO ORDER

The meeting was called to order at 7:00 p.m.

II. ROLL CALL

Present: R Johnson, B. Lenart, M. Bullard, H. Jugenitz, P. Hollifield, A. Bedogne

Absent: G. Clark (excused) C. Zuellig (excused) R. Murphy (excused)

Staff: Teresa Gillotti, Community Development Director
Bonnie Wessler, Planner I
Nan Schuette, Executive Secretary

III. APPROVAL OF MINUTES – October 16, 2013

Commissioner Bedogne approved the minutes of October 16, 2013 with corrections as stated on By Chairman Johnson on Page 2, second from last paragraph to include recommendations as noted (Support: P. Hollifield) and the motion carried unanimously.

IV. AUDIENCE PARTICIPATION

Lewis Kennedy, 50174 Mott – owns the property at 220 N. Lincoln. He had originally planned to move there in the summer once it is fixed up and live in Florida in the winter. He stated that it is his opinion that they currently have enough businesses located in that area and do not need any more. It is a narrow street and a paint shop will affect residential.

James Griffin, 554 Davis – referred to Page 4 of the staff report for 212/216 N. Lincoln on Special Use: Criteria and Review. It is his opinion that there should be a number of corrections made to the staff review (6) – Comments: He noted on the second line "surrounded on three sides" should read "surrounded on four sides" – he also disagreed that they are surrounded by

commercial/industrial uses but instead are surrounded by residential. He stated that the current use calls for sales but no undercoating and painting, which he feels is inappropriate in a residential area. He also stated that the sentence on the fifth line is incorrect and should read "2002" instead of mid-1990s. He added that we are creating a junkyard there – he counted 31 cars sitting there prior to the meeting. He pointed out that this is the only used car lot in the Ann Arbor area on a side street. Furthermore, the entrance off Michigan Avenue is 21' wide and Ferrier 20' wide.

Chairman Johnson responded to Mr. Griffin regarding his comments on the corrections stating that they had been duly noted.

John Vincent, Attorney, 215 N. Park , also owns the property at 213 N. Park. His yard is directly behind this property. He is concerned about the painting since the fumes are hard to control. He has four daughters; there is a charter elementary school one block down the street close to this area as well as a dozen residential homes with children and he is concerned about the fumes when children are out playing. This type of business de-values his property – he is definitely opposed to painting since it is hard to contain any fumes and they have no mechanism to resolve this issue. He included a letter to the board written by his wife who is also against this proposed business.

Lanee Burgess, 211 N. Lincoln – agrees with other statements/comments made about the fumes. She is a severe asthmatic and opposes this request for health concerns. She also agreed it should be residential.

Renee Burgee, 1 Oak Street – Is opposed to this business – has problems already with cars in the area and does not need any more and asked that this request be denied.

K. Coleman, 109 N. Lincoln – does not own this property but agrees that the proposed business does not belong in this neighborhood.

V. PUBLIC HEARING ITEMS

None

V. OLD BUSINESS

1. 212/216 N. Lincoln: Auto sales and major auto repair

Commission Lenart moved to remove this item from the table (Support: P. Hollifield) and the motion carried unanimously.

Ms. Wessler presented the staff report stating that the major points discussed at the last meeting were traffic on streets, screening from neighbors and negative impact on the neighborhood. Some technical issues discussed were more lighting required on the site and eliminating hours of operation. The applicant is proposing replacing the chain link fence with a wooden fence, as shown on a rendering that she showed to the board. They have included another light on the site to be down drafted. Staff looked at B1 for a starting point on hours of

operation. Commissioner Lenart asked about hours of operation in B4 and Ms. Wessler responded that there are unlimited hours in B4.

Ali Wahab and Mohammed Wahab – are the applicants/owners for the request. They do not object to the city putting conditions on painting in any approval since they do not intend to do any painting. They also noted that the lot that has all the cars located nearby is not owned by them. Combination of the lots is requested by the city but they have no objection to not combining them. They also stated that at the time they bought the business, it was zoned B4 and when they investigated further as to its use; they were informed of everything under the B4 zoning, which included their intent. It is their opinion that the fact that a New Master Plan was underway should not affect what they want to do since they bought the business with the understanding that it was zoned B4 and came under the B4 zoning. They do not plan to do any body work – only mechanical repair.

Commissioner Lenart asked about their hours of business and Mr. Wahab responded 6 p.m. or 7 p.m. is fine. Chairman Johnson asked about number of cars that would be available for customers/employees. Ms. Wessler responded that they currently have 18 spaces. Mr. Wahab added that all of the parking would be within the property line. Ms. Gillotti gave a brief report on parking stating that we will be reinstalling no parking signs in front of this property and continue enforcement by officers as well as to monitor the east side of the street. Commissioner Lenart added that this is a difficult area to regulate with B4 on one side – he supports the special use request with conditions of no painting allowed and hours 8-6 p.m. Monday thru Saturday. Chairman Johnson is concerned about intensity – it is B4 today – future would be difficult. Commissioner Bullard is supportive of this request and agrees that the applicant bought the property at the time zoned B4 and was unaware of possible changes under the new Master Plan's vision in the future. It was also his opinion that this is appropriate for that site. Commissioner Bedogne added that the fence offers a buffer – he is conflicted since residential will be impacted.

Commissioner Lenart moved to approve the Special Use Permit for the North Lincoln auto sales and repair facility at 212 and 216 N. Lincoln with the following findings and conditions:

Findings:
1. The application is substantially in compliance with Sec. 122-165(b)

Conditions:
1. Special use approval shall be subject to approval of site plan.
2. That the special use be limited to mechanical repairs and any body or paint work or any other noxious paint repair work be prohibited.
3. That the hours of operation be limited to 8:00 a.m. – 6:00 p.m. Monday thru Saturday

The motion was supported by Commission Jugenitz. A roll call vote was taken with a vote of 4:2. Chairman Johnson and Commissioner Hollifield opposed.

Some discussion was held on the rationale for combining properties with Chairman Johnson adding that it is to the benefit of the applicant.

Commissioner Lenart moved to approve the Site Plan for the North Lincoln auto sales and repair facility at 212 & 216 N. Lincoln with the following findings, waivers, and conditions:

Findings:

1. The application substantially complies with Sec. 122-127.

Waivers:

1. Planning Commission waiver requested for 8% reduction in the required parking due to site dimensional constraints.
2. To accept proposed foundation landscaping, with the finding that the benefit intended to be secured by Sec 122-706 will exist with less than the required landscaping or screening.
3. To accept aisle-end protection as shown, with the finding that the benefit intended to be secured by Sec 122-704 will exist with less than the required landscaping or screening.
4. To accept proposed in-ground irrigation, with the finding that the benefit intended to be secured by Sec 122-712 will exist without it.

Conditions:

1. Applicant to combine 212 N. Lincoln and 216 N. Lincoln into one parcel.
2. Engineering approval.
3. Declaration of the required Special Use permit provisions on the site.

The motion was supported by Commissioner Bedogne. A roll call vote was taken and carried unanimously.

VI. NEW BUSINESS

1. Shape Ypsi: Zoning Ordinance Update

Ms. Gillotti stated that there will be a meeting on Monday to give an update on the zoning ordinance. Packets will be going out this week and she hopes to get input from everyone. She feels that we need to look at areas where we need to give special attention or hear from neighbors. She is having a meeting with each council member to get input or address any concerns they may have. If the board members know of any stakeholders that we should be in touch with that may have a particular issue or concern to let Ms. Gillotti know.

VII. COMMITTEE REPORTS

1. Non-motorized committee

Chairman Johnson stated that his term on this committee ends in December. He is unable to continue participating in this committee and asked

VIII. FUTURE BUSINESS DISCUSSION/UPDATES

- Water Street
- Non-Motorized

- Thompson Building PUD will be discussed at next council meeting

IX. ADJOURNMENT

Since there was no further business, Commissioner Bullard moved to adjourn the meeting (Support: A. Bedogne) and the motion carried unanimously.

City of Ypsilanti
Planning and Development Department

Memo

To: Planning Commission
From: Teresa Gillotti, Director of Community & Economic Development
Date: December 13, 2013

Subject: Next steps on Water Street grid layout – draft infrastructure plan

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The recently adopted master plan includes a concept plan and design standards for the Water Street Redevelopment Area. The next step is to formalize the plans with Planning Commission and City Council to achieve several goals:

1- Layout the street grid and block structure to provide an updated concept for marketing
2- To layout specific block sizes/locations for sale
3- To estimate the cost of related infrastructure in order to update the Brownfield Tax Increment Financing Plan
4- To clarify area used for linear or other park planning.

Scott Betzoldt form Midwestern Consulting will be present to discuss the layout, infrastructure needs, floodplain location, and discuss any potential changes to the plan.

In particular we're looking for the Commission to provide feedback on any desire for additional park land or other public space outside of the linear park and the potential removal of the collective storm water feature shown in the concept plan, provided DEQ signs off on the first flush approach for storm water.

Attachments:

- Water Street Redevelopment Area Concept plan from the Shape Ypsi Master Plan
- Draft Infrastructure plan for the Water Street Redevelopment Area

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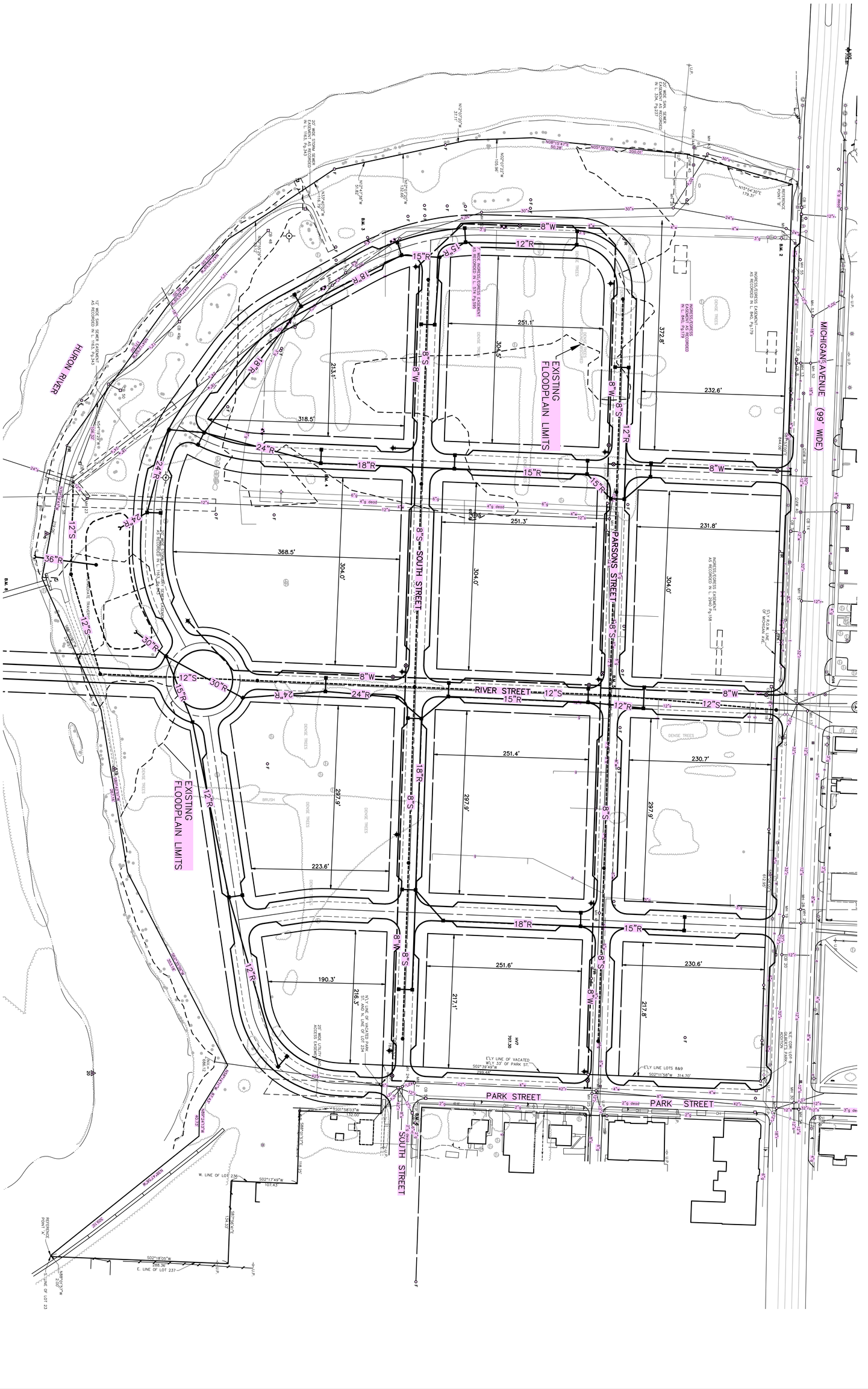
DRAFT

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. Further, the surveyor does not warrant that the utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



JOB No. 03162	DATE: 12-04-2013	1	**WATER STREET RE-DEVELOPMENT**
REVISIONS: REV. DATE	SHEET 1 OF 1		PRELIMINARY LAYOUT
	CADD: ACT		
	ENG: SWB		CLIENT
	PM: SWB		CITY OF YPSILANTI
	TECH: JCA		1 SOUTH HURON STREET
	03162CP5		YPSILANTI, MI 48197
	FB#:		

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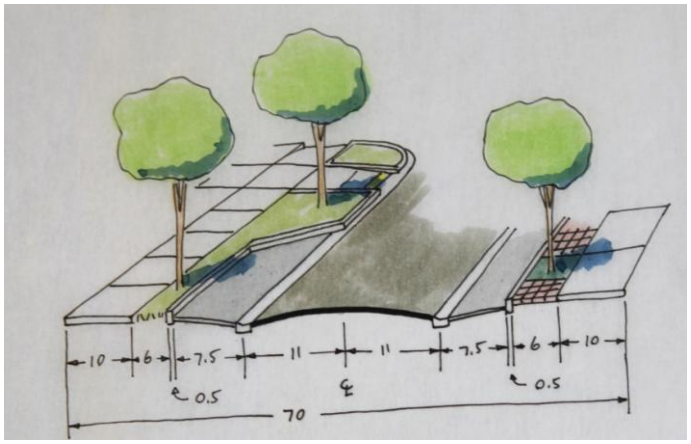
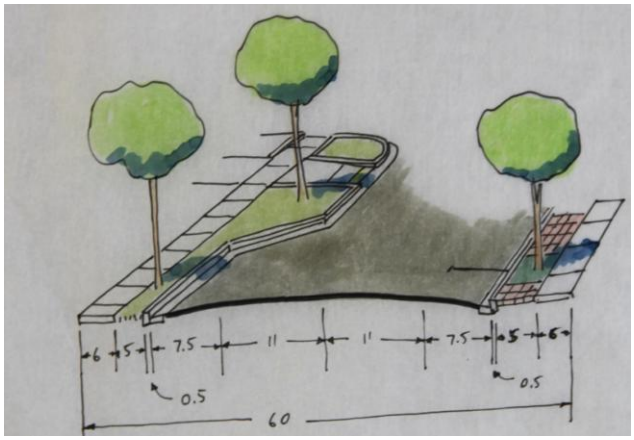
Block perimeter should be 1200 feet or less. Rear of site, west of River St., is area for collective storm water retention. Linear park/trail system is along River frontage for extent of the site. Street grid extends and in some cases mimics that of existing street grid pattern to the east.

"A" street - Buildings on "A" streets should be friendly to pedestrians by following these urban design rules:



- 90-100% of the building faces the "A" street
- It is built one to five feet from street right of way
- 60% of the front of the first floor is transparent windows or glazing
- The primary building entrance faces "A" street

"B" allow access and parking page.



"B" streets allow curb cuts and parking lots to front the street. "B" streets are allowed for the continuation of Parson, South and Lincoln Streets as well as other internal streets.

"A" streets in the above scenarios are: Michigan Ave., River, Park and the River frontage street. All streets to include sidewalk, on-street parking, street trees, etc.

ENP&ASSOCIATES

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Ann Arbor, MI 48113

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Website: www.enp-associates.com

MEMORANDUM

To: Shape Ypsilanti Steering Committee, City of Ypsilanti Planning Commission

From: Megan Masson-Minock, Planner, ENP & Associates

Subject: Food for Thought on Parking and Industrial District(s) Regulations

Date: December 13, 2013

The attached worksheet is for your reference and use to prepare for discussion about parking regulations and industrial districts in the zoning ordinance rewrite. Please use it however it best helps you – just a quick read, a place to take notes, filling it out entirely, etc. When preparing for the meeting, please think about these regulations in the context of different areas of Ypsilanti. Also, please brainstorm other options that you feel would best serve the City.

We have provided Teresa Gillotti with all the documents we used in researching these topics. She can provide them to you upon request.

During your meetings next week, either Teresa or I will ask the questions in the worksheet and record input from your groups. The input will be used to write regulations on these topics.

Thank you for all of your contributions! My e-mail is megan@enp-associates.com if you have any questions!

Parking

Why change parking regulations?

Staff has found that the required minimum parking does not often fit on parcels, especially in the cases of renovation or expansion. The Planning Commission often waives the number of spaces. Also, the regulations do not allow for imperious surface restrictions or give allowances for other modes of transportation (pedestrians, bicycles, bus),

Why have parking regulations? Does Ypsilanti have a parking problem? How are regulations going to solve the problem(s)?

The first section of the parking regulations will have an "intent" section, which lists why the City has parking regulations, its goals with parking, its challenges and how regulation aims to meet those goals and challenges.

The goal of parking regulations from Peoria, IL is an interesting example:

> *"The goals of the parking requirements are to:*
>
> 1. *Promote a "park once" environment that will enable people to conveniently park and access a variety of commercial and civic enterprises in pedestrian friendly environments by encouraging shared parking.*
> 2. *Reduce fragmented, uncoordinated, inefficient, single-purpose reserved parking.*
> 3. *Avoid adverse parking impacts on neighborhoods adjacent to the form districts*
> 4. *Maximize on-street parking*
> 5. *Increase visibility and accessibility of publicly available parking.*
> 6. *Provide flexibility for redevelopment of small sites.*
> 7. *Promote early prototype projects using flexible and creative incentives.*
> 8. *Incorporate convenient bicycle parking"*

The following are discussion questions to glean information to write the intent section but also to set the parameters for parking regulations.

Intent Discussion Questions: (If you would rather not go so broad, skip to the next page!)

Why are parking regulations needed?

What parking problems exist in Ypsilanti? Where? Do they differ based on location or context?

What are the goals of parking regulations?

Maximums and Minimum parking requirements:
The current zoning ordinance has minimum parking requirements. Other communities have minimums and maximums, or simply maximums. These requirements usually vary by use and in some cities, like Ann Arbor, only certain uses have maximums. The requirements could vary by use in zoning district as well. The following table details some benefits and possible consequences of these options:

Option	Benefit	Possible Consequence	Notes
Minimums only	Assurance of adequate parking if requirements calibrated correctly	Property can provide as much as parking as they want, which increases impervious surface	
Maximums only	Constrains impervious surface	Property can provide as little parking as they want, which may lead to parking on streets, sometimes in neighborhoods	Can provide an option for additional parking if the applicant wants through PC approval, land banking areas or impervious surface parking for that over the maximum.
Minimums & Maximums	Adequate parking but constrain amount of impervious surface	More regulation than currently	
Requirements by Use in all places	Simplicity of use	May over park or under park certain districts	
Requirements by district by use	Allows parking requirements to vary by context	More regulation than currently	

Question: Should maximum and/or minimum parking requirements be required?
Just Maximum ___ Just Minimum ____ Both ____ Vary by use ____
Other: _____

Question: If maximums are required, should it be a certain number by use (method in Ann Arbor and only for certain retail uses) or a percentage of the required minimum (usually 120%)?
Maximum # per use ____ 120% of minimum ____ Other ratio ____ No maximums ____
Other:_____

Question: If maximums are required, should there be a way for an applicant to have additional parking over the maximum?

Planning Commission waiver ____ Allowed if does not increase impervious surface ____
No maximum waivers ____ Land bank areas for future parking ____
Other:_____

Question: How should parking requirements be determined?

By use only ___ By zoning district ____ Both use and zoning district____
Other: _____

Parking Requirement Adjustments

Whatever method for regulating the number of parking space on-site, many communities adjust parking requirements based on factor affecting the number of cars coming to a site. An APA Zoning Practice on Parking Management Best Practices listed the following factors in parking demand (the entire article is in the supplementary packet): geographic locations, residential density, employment density, land-use mix, transit accessibility, car-sharing, rental or homeownership, pricing, parking sold or rented separate from building space, parking management and contingency plans.

According to the 2010 census, over 61% of the occupied housing units had access to no car or a single car. The American Community Survey ending in 2011 said that 64.3% of those employed in Ypsilanti commuted alone by car or vehicle. These factors should be considered. Also, the differences in housing areas. The near campus neighborhoods probably have a higher parking demand per building than other neighborhoods.

Questions: What factors should allow adjustments (most likely less required parking or a smaller maximum), if any?

Location (by zoning district) ___ Residential density ____ Near bus stop ____
Near train or bus station ___ Car-sharing ___ On-street parking available ___
Residential parking permit ___ Near municipal parking lot ___
Other: _____

Size and Dimensions – Allow for compact cars

The current zoning requires spaces to be 9 feet wide and 20-22 feet long, depending on the angle of the parking space. Some communities allow a percentage (20-30%) of the parking to be for compact cars with smaller dimensions – 8 feet wide and 15-21 feet long depending.

Question: What should a percentage be for compact cars with smaller parking dimensions?

Yes ___ No ____ If yes, what percentage _____
Other: _____

Bicycle Parking

The ability to get around Ypsilanti by any mode of transportation was a value of the Master Plan. Many communities require bicycle parking as well as automobile parking. Ann Arbor requires a certain number of parking spaces by use. Other cities use a ratio to the number of automobile spaces. For instance, the City of Denver City of Denver requires that off-street automobile parking facilities of 20 spaces or more provide bicycle parking equal to 5 percent of the automobile parking space requirement.

Question: Should bicycle parking be required?

Yes ___ No ____
If yes, by what method – minimum by use ____ Percent of auto parking spaces ____
Other: _____

Manufacturing District(s)

Currently, Ypsilanti has two manufacturing districts: Light Manufacturing (M1) and General Manufacturing (M2).

The following areas are zoned M1 and proposed to remain an industrial district of some sort: the industrial park in the southeast corner of the City, Michigan Ladder, GW Kent, the parking lot area of the former Visteon site, and the block northwest of the intersection of Babbit and Park. The intent of the M1 District is:

> *"Sec. 122-451. Description and purpose.*
> *(a) The M1 light manufacturing district is designed to provide locations for wholesale activities, warehouses, and industrial operations which produce minimal external impacts that are detrimental in any way to other uses in the district or to properties in adjoining districts. Permitted uses in the M1 light manufacturing district should be compatible with surrounding residential or commercial uses.*
> *(b) Accordingly, permitted manufacturing, distribution, warehousing, and light industrial uses permitted in this district should be fully contained within well-designed buildings, with adequate off-street parking and loading areas, and with property screening around outside storage areas. Truck traffic, loading and unloading operations are expected to be part of this district. New dwellings are not permitted in the M1 light manufacturing district."*

Discussion Question: Does the M1 district meet its intent? With the new framework, does it still apply in those locations?

The following areas are zoned M2 and proposed to remain industrial of some sort: the factory portion of the former Visteon site, the former Motor Wheel site, the manufactured housing recycling in the southeast corner of the City, and Marsh Plating. The intent of the M2 district is:

> *"Sec. 122-471. Description and purpose.*
> *(a) The M2 general manufacturing district is designed to provide locations for general or heavy industrial activities such as those which involve the use of heavy machinery, extensive amounts of contiguous land, service by railroad lines or major thoroughfares, processing of chemicals or raw materials, assembly of quantities of parts from several locations, generation of industrial waste, noise, odor or traffic problems or similar characteristics. Nearly all their raw materials or finished products are shipped to and from the plant by railroad or large trucks.*
> *(b) It is expected that permitted activities or operations will produce external impacts and should, therefore, be located only where such impacts will not be detrimental to other uses in the M2 general manufacturing district or to properties in adjoining districts. It is intended that industrial uses permitted in the M2 general manufacturing district be located where they can be adequately served by required roads, utilities, and services.*
> *(c) New dwellings are not permitted in the M2 general manufacturing district."*

Discussion Question: Does the M2 district meet its intent? With the new framework, does it still apply in those locations?

One District or Two?
We looked at a best practices for North American cities for industrial districts. Most had two districts, like Ypsilanti does now – one for light industry which is appropriate near residential and one for heavy industry that should be located away from where people live for health and safety reasons. The following table gives a quick analysis of the benefits and possible consequences of one district or two districts for industrial.

Option	Benefit	Possible Consequence	Notes
One District	Consolidation of regulations.	Some M1 properties abut neighborhoods. While heavy industrial uses would be special land uses, you are still opening the door to their possible approval next to residences.	
Two districts	Constrains impervious surface	Property can provide as little parking as they want, which may lead to parking on streets, sometimes in neighborhoods	

Question: Should there be one industrial district or two?

Yes ___ No ____

Other: _____

What is in a name?
We read reports for Washington, DC and Manassas, Virginia on industrial land use and zoning. The purpose of both reports was to give those communities tools to preserve industrial land, which was often being rezoned to office, commercial or high-density residential and impacting tax base and job availability. Both reports recommended changing the name of the industrial districts to a more modern name that reflected the uses and did not have the cultural baggage of the "industrial" label. The report for Washington recommended the industrial districts be renamed to Production, Distribution and Repair, while Manassas suggested as an option the creation of a Production, Manufacturing & Research district. The Manassas report also contains a case study overview which has the following relevant information: San Francisco has Production, Distribution and Repair (PDR) districts.

Question: What should be the name of the district(s)?

Manufacturing ____ Production, Distribution, Repair_____
Production, Manufacturing and Research _____ Other; _____

List all the use or use broad categories?
Currently, the Zoning Ordinance has a long list of uses allowed in the M1 and M2 districts described in detail. However, many of the uses no longer exist, either in the City or perhaps overall. Even if updated today, the language could quickly become out of date, since the list is not dynamic to change with technology.

The Manassas report found the use lists in the in industrial zoning districts there "often duplicative, incomplete, and out of date". They recommended that "the use list should be replaced by a thorough definition and description of industrial uses that would be defined as a category."

Question: How should the allowed uses be described?

List ___ General Categories _____
Other: _____

If general categories, what categories? Below is a list of possible categories:

_ Automobile Repair
_ Commercial/Office Use
_ Commercial/Office Use – accessory only
_ Adult Uses
_ Recreation/Assembly (gyms, dance, etc.)
_ Research
_ Distribution
_ Light Industrial
_ Medium Industrial
_ Heavy Industrial

Topics for January

1.

2.

3.

Additional Action items for Teresa:

-
-

Additional Action items for ENP:

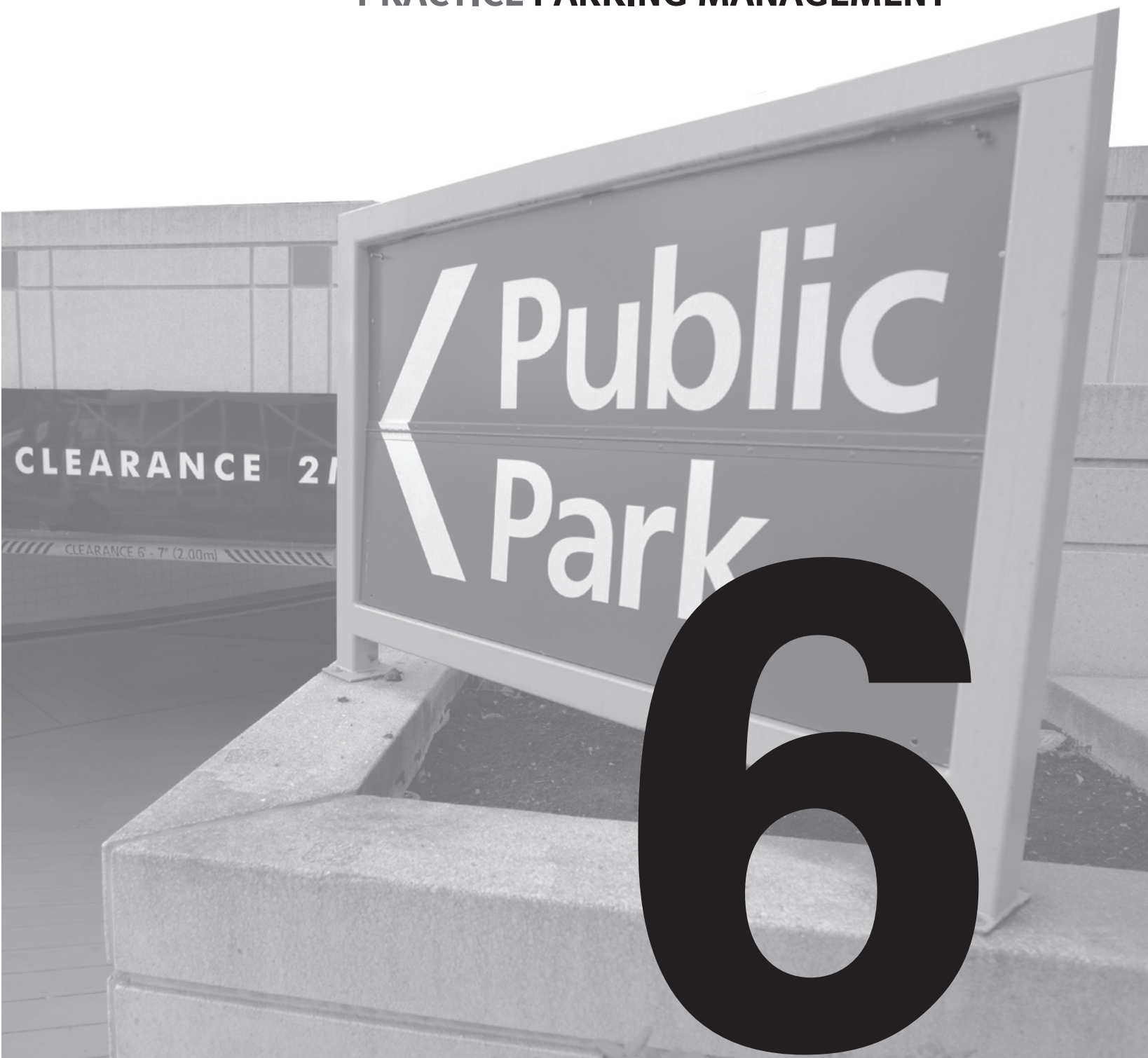
-
-

ZONING PRACTICE JUNE 2009

AMERICAN PLANNING ASSOCIATION

ISSUE NUMBER 6

PRACTICE PARKING MANAGEMENT



6

Parking Management Best Practices: Making Efficient Use of Parking Resources

By Todd Litman

Until recently, most planners assumed that—as much as possible—parking should be abundant and free.

Planning focused primarily on maximizing supply by applying generous minimum requirements and public subsidies of parking facilities. But there is growing realization that this approach can be harmful and that alternative management solutions are often better overall. Transportation professionals are now thinking about vehicle parking problems and evaluating solutions in new ways.

Parking management refers to policies and programs that result in more efficient use of parking resources. There are more than two dozen parking management strategies that, when appropriately applied, can significantly reduce the parking supply required in a particular situation and provide other economic, social, and environmental benefits, as summarized in the "Parking Management Benefits" sidebar. When all impacts are considered, improved management is often the best solution to parking problems. This article describes how to adjust parking planning practices to take advantage of management solutions. It is part of efforts by researchers and professional organizations to develop parking management guidance and evaluation tools.

HOW MUCH IS OPTIMAL?

Parking management changes the way we determine optimal parking supply. Most parking supply decisions are currently based on recommended minimum standards published by professional organizations such as the Institute of Transportation Engineers.

The current standards tend to be economically excessive. To appreciate why, it is helpful to know a little about how these standards are developed. They are based on parking demand surveys, most of which were performed in automobile-dependent locations. They reflect an 85th percentile curve, which means that only 15 out of 100 sites will be fully occupied even during peak periods. Peak period is based on the 10th to 20th design hour, which refers to the number of annual hours that demand is allowed to exceed supply at a particular location. A parking facility is considered *full* if it has 85 to 90 percent occupancy. These assumptions ensure that most parking facilities seldom or never fill. The standards tend to be excessive where parking is shared or priced; if overflow parking is available nearby; in areas with multimodal transport systems; where land costs are high; and where management programs are implemented.

This process is said to measure parking demand, but *demand* is actually a function: the quantity of a good that consumers would purchase at a given price. Most parking surveys are performed where parking is free, which is equivalent to asking how much food a store can give away. To truly measure demand, the analysis must determine how much parking would be used under various prices and conditions. For example, rather than saying, "This site requires 100 parking spaces," a planner could say, "This site requires 100 spaces if they are free, 80 spaces if priced at $2 per day, 60 spaces if priced at $5 per day, and 50 spaces if priced at $5 per day and a commute trip reduction program is implemented."

Most areas have economically excessive parking supply. For example, a parking demand study of Southern California suburban offices found that conventional standards are nearly twice as high as

PARKING MANAGEMENT BENEFITS

- **Facility cost savings.** Reduces costs to governments, businesses, developers, and consumers.
- **Improved quality of service.** Many strategies improve user quality of service by providing better information, increasing user options, reducing congestion, and creating more attractive facilities.
- **More flexible facility location and design.** Parking management gives architects, designers, and planners more ways to address parking requirements.
- **Revenue generation.** Some management strategies generate revenues that can fund parking facilities, transportation improvements, or other important projects.
- **Reduces land consumption.** Parking management can reduce land requirements and so helps to preserve green space and other valuable ecological, historic, and cultural resources.
- **Supports mobility management.** Parking management is an important component of efforts to encourage more efficient transportation patterns, which helps reduce problems such as traffic congestion, roadway costs, pollution emissions, energy consumption, and traffic accidents.
- **Supports smart growth.** Parking management helps create more accessible and efficient land-use patterns and supports other land-use planning objectives.
- **Improved walkability.** By allowing clustered development and buildings located closer to sidewalks and streets, parking management helps create more walkable communities.
- **Supports transit.** Parking management supports transit oriented development and transit use.
- **Reduced stormwater management costs; less water pollution and heat island effects.** Parking management can reduce stormwater flow, water pollution, and solar heat gain.
- **Supports equity objectives.** Management strategies can reduce the need for parking subsidies and improve travel options for nondrivers.
- **More livable communities.** Parking management can help create more attractive urban environments.

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About the Author

Todd Litman is founder and executive director of the Victoria Transport Policy Institute, an independent research organization dedicated to developing innovative solutions to transport problems.

needed. A University of Iowa study found that parking supply exceeded peak-period demand by 16 to 63 percent at various commercial centers. Parking surveys in 26 Seattle neighborhoods found that most had only 40 to 70 percent peak-period occupancy. In Minnesota, peak-period parking supply at several St. Paul-area shopping centers exceeded occupancy by an average of 31 percent; planners recommended reducing municipal parking requirements to about half of conventional standards. These survey results are particularly dramatic because many of these sites have less parking than current standards require; none have parking management programs, which can typically reduce parking requirements by 20 to 40 percent.

There are better ways to determine parking supply. Efficiency-based standards size facilities for optimal use—which means that the parking spaces are frequently full, provided that users have information on travel and parking options and that overflow parking is available nearby. Efficiency-based standards take into account geographic, demographic, and economic factors that affect parking demand. Where possible, parking is priced based on economic efficiency criteria.

Table 1 summarizes parking demand adjustment factors. Optimal parking supply is typically 20 to 50 percent lower than what conventional standards require, and even more over the long term if more efficient parking practices lead to additional diverse transport systems and more accessible land-use patterns.

Because it is impossible to predict future demand precisely, efficiency-based standards apply *contingency-based planning*, which means that planners identify solutions that can be deployed if needed in the future. For example, if a building is predicted to need 60 to 100 parking spaces, the conventional approach is to supply either a middle (80 spaces) or maximum value (100 spaces). With contingency-based planning, the lower-bound value (60 spaces) is initially supplied, with a plan that identifies solutions to be implemented if needed. This gives decision makers confidence that any future problems will be solved.

TABLE 1. PARKING DEMAND ADJUSTMENT FACTORS

(This table summarizes various factors that affect parking demand and parking requirements)

Factor	Description	Typical Adjustments
Geographic Location	Vehicle ownership and use rates in an area	Adjust parking requirements to reflect variations identified in census and travel survey data.
Residential Density	Number of residents or housing units per acre/hectare	Reduce requirements 1% for each resident per acre: Reduce requirements 15% where there are 15 residents per acre, and 30% if there are 30 residents per acre.
Employment Density	Number of employees per acre	Reduce requirements 10–15% in areas with 50 or more employees per gross acre.
Land-use Mix	Range of land uses located within convenient walking distance	Reduce requirements 5–10% in mixed use developments and more with shared parking.
Transit Accessibility	Nearby transit service frequency and quality	Reduce requirements 10% for housing and employment within 0.25 mile of frequent bus service and 20% for housing and employment within 0.25 mile of a rail transit station.
Car-sharing	Whether a car-sharing service is located nearby	Reduce residential requirements 5–10% if a car-sharing service is located nearby, or reduce 4–8 parking spaces for each car-share vehicle in a residential building.
Walkability	Walking environment quality	Reduce requirements 5–15% in walkable communities, and more if walkability allows more shared and off-site parking.
Housing Tenure	Whether housing is owned or rented	Reduce requirements 20–40% for rental versus owner occupied housing.
Pricing	Parking that is priced, unbundled, or cashed out	Reduce requirements 10–30% for cost-recovery pricing (i.e., parking priced to pay the full cost of parking facilities).
Unbundling Parking	Parking sold or rented separately from building space	Unbundling parking typically reduces vehicle ownership and parking demand 10–20%
Parking and Mobility Management	Parking and mobility management programs are implemented at a site	Reduce requirements 10–40% at worksites with effective parking and mobility management programs.
Contingency Plan	Use lower bound requirements if a contingency plan exists	Reduce requirements 10–30%, and more if a comprehensive parking management program is implemented.

Source: From Donald Shoup (1995), "An Opportunity to Reduce Minimum Parking Requirements," *Journal of the American Planning Association*, Vol. 61, No. 1, Winter 1995.

PARKING MANAGEMENT STRATEGIES

Table 2 summarizes potential parking management strategies and their typical range of effectiveness at reducing the parking supply needed in a particular situation. Not every strategy is appropriate in every situation: Actual impacts vary depending on geographic and demographic factors, how a strategy is implemented, and other factors. Below are some general guidelines.

- Impacts are higher where there are more parking and travel options. For example, park-

TABLE 2. PARKING MANAGEMENT STRATEGIES
(*This table summarizes potential parking management strategies. It indicates the typical reduction in the amount of parking required at a destination, and whether a strategy helps reduce vehicle traffic, thereby also providing congestion, accident, and pollution-reduction benefits.)*

Strategy	Description	Typical Reduction	Traffic Reduction
Shared Parking	Parking spaces serve multiple users and destinations	10–30%	
Parking Regulations	Favor higher value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs	10–30%	
More Accurate and Flexible Standards	Adjust parking standards to more accurately reflect demand in a particular situation	10–30%	
Parking Maximums	Establish maximum parking standards	10–30%	
Remote Parking	Provides off-site or urban fringe parking facilities	10–30%	
Smart Growth	Encourages more compact, mixed, multimodal land-use development	10–30%	√
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility	5–15%	√
Increased Capacity of Existing Facilities	Increases parking supply by using otherwise wasted space, smaller stalls, car stackers, and valet parking	5–15%	
Mobility Management	Encourages more efficient travel patterns, including changes in mode, timing, destination, and vehicle trip frequency	10–30%	√
Parking Pricing	Charges motorists directly and efficiently for using parking facilities	10–30%	√
Improved Pricing Methods	Uses better charging techniques to make pricing more convenient and cost-effective	Varies	√
Financial Incentives	Provide financial incentives to shift modes	10–30%	√
Unbundled Parking	Rent or sell parking facilities separately from building space	10–30%	√
Parking Tax Reform	Change tax policies to support parking management objectives	5–15%	√
Bicycle Facilities	Provide bicycle storage and changing facilities	5–15%	√
Improved User Information	Provides convenient and accurate information on parking availability and price	5–15%	√
Improved Enforcement	Ensures that parking regulation enforcement is efficient, considerate, and fair	Varies	
Transportation Management Associations	Establish member-controlled organizations that provide transport and parking management services in a particular area	Varies	√
Overflow Plans	Establish plans to manage occasional peak parking demands	Varies	
Address Spillover Problems	Use management, enforcement, and pricing to address spillover problems	Varies	
Parking Facility Design and Operation	Improve parking facility design and operations to help solve problems and support parking management	Varies	

Source: From Donald Shoup (1995), "An Opportunity to Reduce Minimum Parking Requirements," *Journal of the American Planning Association*, Vol. 61, No. 1, Winter 1995.

ing pricing will have greater demand-reduction impacts if implemented in conjunction with improvements in ride-share and public transit services.

- Financial incentives tend to have greater impacts on lower income consumers.
- Some strategies are complementary. For example, shared parking becomes more effective if implemented with suitable regulations, pricing, and walkability improvements.
- Impacts generally increase as programs mature.

Evaluating multiple strategies

Planners should take special care when predicting the impacts of a program that includes multiple parking management strategies. Some impacts overlap, while others have synergistic effects and become more effective if implemented together. For example, transportation management associations (TMAs) provide an institutional framework for implementing strategies that directly affect parking requirements. While it would be true to say that a TMA can reduce parking requirements by 10 to 30 percent, it would be incorrect to add the demand reductions of the TMA to the impacts of the individual strategies it helps implement.

Here is an illustration. Without a TMA, parking sharing, pricing, and mobility management strategies may each reduce parking requirements by 10 percent, but with a TMA they become more effective, providing reductions of 15 percent. Table 3 illustrates the incremental gain that can be attributed to the TMA due to the increase in the effectiveness of other strategies. In this example, the TMA causes an additional 12 percent reduction in parking requirements by enhancing the effects of other management strategies.

Total impacts are multiplicative, not additive. Shared parking reduces parking requirements by 10 percent, to 90 percent of the original level. The 10 percent reduction due to the parking pricing strategy reduces this further to 81 percent of the original level, and another 10 percent reduction from mobility management results in 73 percent of the original level. This results in a 27 percent reduction, somewhat less than the 30 percent reduction that might be expected if the total were calculated by adding three 10 percent reductions.

TABLE 3. TMA PARKING REQUIREMENT REDUCTIONS
(*This table shows how a transportation management association can reduce parking requirements by helping to implement specific management strategies)*

	Without TMA (percentage)	With TMA (percentage)	Reduction (percentage)
Shared Parking	10	15	5
Parking Pricing	10	15	5
Mobility Management	10	15	5
Total Impacts	*100%-(90% x 90%) = 27%*	*100%-(85% x 85%) = 39%*	*12*

Source: From Donald Shoup (1995), "An Opportunity to Reduce Minimum Parking Requirements," *Journal of the American Planning Association*, Vol. 61, No. 1, Winter 1995.

Examples of Successful Parking Management Programs

Downtown Pasadena, California, redevelopment. During the 1970s, Old Pasadena's downtown had become run-down, with many derelict and abandoned buildings and few customers—partly because of limited parking for customers. Curb parking was restricted to two hours, but many

employees simply parked in the most convenient, on-street spaces and moved their vehicles several times each day.

The city proposed charging for on-street parking as a way to increase turnover and make parking available to customers. Many local merchants originally opposed the idea. As a compromise, city officials agreed to dedicate all revenues to public improvements that made the downtown more attractive. A parking meter zone (PMZ) was established, and revenues from parking were invested in the downtown.

This approach of linking parking revenues directly to added public services—and keeping the money under local control—helped guarantee the program's success. With this proviso, the merchants agreed to the proposal. They began to see parking meters as a way to fund the projects and services that directly benefit their customers and businesses. The city formed a PMZ advisory board consisting of business and property owners to recommend parking policies and set spending priorities for the meter revenues. Investments included new street furniture and trees, more police patrols, better street lighting, more street and sidewalk cleaning, pedestrian improvements, and marketing (including maps showing local attractions and parking facilities).

This created a "virtuous cycle" in which parking revenue funded community improvements that attracted more visitors; this in turn increased parking revenue and allowed further improvements. Extensive redevelopment, new businesses, and residential development followed. Parking is no longer a problem for customers, who can almost always find a convenient space. Local sales tax revenues have increased far faster than in other shopping districts with lower parking rates or in nearby malls that offer free customer parking. This indicates that charging market rate for parking (i.e., prices that result in 85 to 90 percent peak-period utilization rates) with revenues dedicated to local improvements can be an effective way to support urban redevelopment.

Tri-Met Parking Management. The Tri-County Metropolitan Transportation District, which manages transportation in the Portland, Oregon, area, has implemented various parking management strategies around transit stations to minimize costs and support transit-oriented development. These include:

- sharing parking with Park & Ride and other types of land uses, including apartments, churches, movie theaters, and government buildings near transit stations;
- using lower minimum parking requirements around transit stations; and
- allowing Park & Ride capacity near transit stations to be reduced if the land is used for transit-oriented development, thus allowing walk/bike trips to replace car trips.

More accurate parking requirements. Vancouver, British Columbia, is developing a more flexible approach to parking requirements for multifamily dwellings to support efficient transportation, smart growth, and affordable housing planning objectives. City staff proposed a Sustainable Transportation Credit Program that allows developers more flexibility based on their specific location and circumstances. The program is loosely based on the LEED green building rating system. Developers receive credits for reducing the number of parking stalls, providing parking spaces for car-share vehicles, and providing annual transit passes to building occupants.

Rich Sorro Commons, San Francisco. Rich Sorro Commons is a mixed use project with 100 affordable units and approximately 10,000 square feet

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of ground-floor retail. Conventional standards would normally require 130 to 190 parking spaces for such a building, but it was constructed with only 85 spaces because of its proximity to high-quality public transit services, two car-share parking spaces in the building, and the fact that the building provides affordable housing for tenants who are unlikely to own a car. The reduced parking supply freed up space for a child care center and more ground-level retail stores. Avoiding the need to provide just 17 fewer parking spaces allows the project to generate $132,000 in additional annual revenues (300 square feet per space at $25.80 per square foot in rent), making housing more affordable. The two car-share vehicles give residents access to a car without the costs of ownership—a particularly important benefit for low-income households.

Aspen, Colorado. Aspen experienced growing parking problems because of its success as an international resort. In 1991, the city built a 340-space underground parking structure in the city center. Despite its convenient location and low price, it remained half empty most days while motorists fought over on-street parking spaces nearby. Most spaces were occupied by locals and downtown commuters who performed the "90-Minute Shuffle"—moving their cars every 90 minutes to avoid a parking ticket.

In 1995, the city began charging for on-street parking using multispace meters. Parking fees are highest in the center and decline with distance from the core. Parking is priced on nearby residential streets, but residents are allowed a limited number of passes. The city's marketing campaign let motorists know about the meters and each resident received one free $20 prepaid parking meter card. Motorists were allowed one free parking violation, and parking control officers allow an hour of free parking to drivers who are confused by the meters.

Although some downtown workers initially protested (opponents organized a "Honk if you hate paid parking" campaign the day pricing began), pricing proved effective at reducing the city's parking problems, and six months later the program was supported 3–1 in the municipal election. Most downtown business owners now support parking pricing to ensure convenient parking for customers and to raise funds for city programs.

Austin Parking Benefit District. Parking spillover can make it difficult for residents and visitors to find parking. Some residents are concerned that public service vehicles cannot pass two lanes of parked vehicles on the street, and also feel that street parking reduces a neighborhood's attractiveness.

Austin, Texas, addresses these problems by allowing neighborhoods to establish a parking benefit district (PBD). A PBD is created by metering on-street parking (with pay stations on the periphery of the neighborhood or with the traditional parking meters) and dedicating the net revenue (less costs for maintenance and enforcement) toward neighborhood improvements such as sidewalks, curb ramps, and bicycle lanes. The PMD may be used in conjunction with a residential permit parking program to ensure that parking is available for residents and their visitors.

Campus parking management. A survey of university campus managers indicates that many universities are converting parking lots to buildings, fewer are adding parking capacity, and that many are implementing various parking and transportation management strategies in order to devote more campus land to academic facilities rather than parking lots. Typical parking management strategies include permits, meters, a cash-out program, a prohibitive policy for freshmen, and eligibility based on residential location. Annual permit fees vary depending on the location of the campus and the location of a parking space within the campus. Various strategies are used to deal with spillover parking problems.

COSTS AND BENEFITS

Parking management costs include additional planning, operation, and enforcement activities—in addition to motorists' inconvenience. However, many of these costs can be minimized with good planning and new technologies, such as electronic parking payment systems that accommodate various types of payment (coins, bills, debit and credit cards, telephone, and online) and variable price structures. They do not require motorists to predict how long they will park and only charge for the number of minutes a space is actually used. With careful planning, significant parking supply reductions can be achieved in conjunction with improved travel options, better user information, and more convenient pricing methods. Programs costs are fully recovered, and travelers are better off overall.

A major benefit of parking management is its ability to reduce various facility costs. Because parking facility costs are usually paid indirectly through rents, taxes, and as a cost component of retail goods, most people have little idea how much they actually pay for parking facilities or the potential savings from improved management. Figure 1 illustrates examples of annualized parking facility costs. They range from about $400 per space in suburban areas with low land values to nearly $3,000 a year for underground parking with attendants.

Assuming two on-street and three off-street spaces (one residential and two commercial) per motor vehicle, with annualized costs averaging $400 per on-street, $600 per residential off-street, and $800 per nonresidential off-street space, parking costs total about $3,000 per vehicle or about $2,500 per capita. As described earlier, current parking planning practices result in a 20 to 50 percent greater supply than what is optimal, thereby increasing direct costs by $500 to $1,250 per capita.

FIGURE 1. TYPICAL ANNUALIZED PARKING COSTS

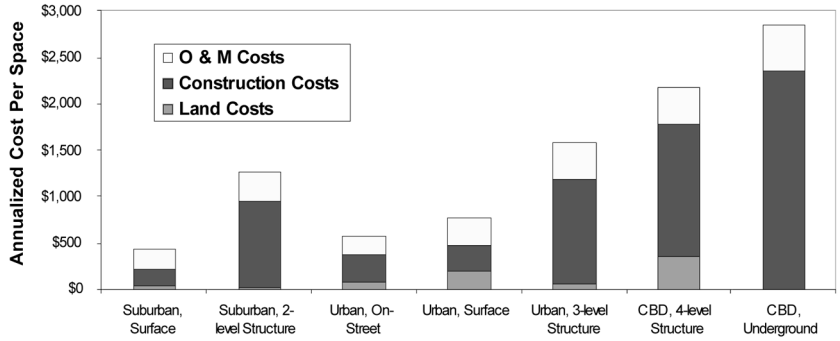


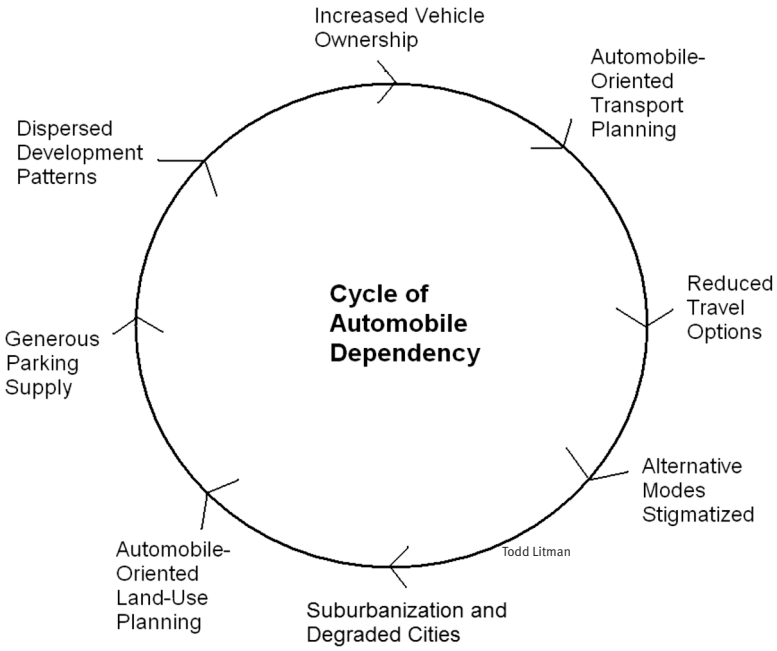
Figure 1 illustrates typical annualized parking facility costs, which range from less than $500 for suburban (low land value) surface parking to nearly $3,000 for structured or underground parking in a Central Business District.

Excessive parking standards contribute to the self-reinforcing cycle of increased automobile dependency and sprawled land use illustrated in Figure 2. This imposes indirect costs such as increased impervious surface and associated stormwater management costs, reduced green space, and reduced accessibility. This tends to be inequitable since it reduces accessibility for physically, economically, and socially disadvantaged people and forces people to pay for parking regardless of whether or not they own a vehicle. Although some lower income people benefit directly from subsidized parking, they would generally benefit more from flexible subsidies that can be used for other modes and nontransportation goods.

Where parking is efficiently managed with flexible standards, efficient pricing, and parking subsidies shifted to cost-effective alternative management strategies, people tend to own five to 10 percent fewer vehicles and make 15 to 25 percent fewer vehicle trips, at least in urban and growing suburban conditions. This suggests that a significant portion of current transportation problems result from inefficient parking management.

Described more positively, improved parking management can help create more accessible land-use patterns and more multimodal transport systems, and help reduce various transport problems including congestion, facility costs, consumer transportation costs, traffic accidents, energy consumption, pollution emissions, and stormwater management costs, typically by 15 to 25 percent. To the degree that such programs are rational (total incremental benefits exceed total incremental costs), they tend to improve economic efficiency. They also tend to achieve social equity objectives by improving accessibility for disadvantaged people and by reducing cost burdens on lower income residents.

FIGURE 2. CYCLE OF AUTOMOBILE DEPENDENCY AND SPRAWL



This figure illustrates the self-reinforcing cycle of increased automobile dependency and sprawl.

CONCLUSIONS

Current parking planning practices are inefficient and result in economically excessive parking supply, increased vehicle ownership and use, and more dispersed land-use development patterns that contribute to various economic, social, and environmental problems. As a result, planners increasingly emphasize management solutions to solve parking problems rather than continually increasing supply.

This article describes more than a dozen management strategies that result in more efficient use of parking resources. These strategies are technically feasible and cost-effective, and can provide many benefits to users and communities. A comprehensive parking management program that includes an appropriate combination of cost-effective strategies can usually reduce the amount of parking required at a destination by 20 to 50 percent and provide a variety of economic, social, and environmental benefits.

Although all these strategies have been implemented successfully in some situations, they are not being implemented as much as is economically justified. Implementing parking management requires overcoming substantial obstacles. Motorists have become accustomed to having abundant, free parking at most destinations and tend to oppose shifts to more rational management. Parking management implementation requires changing the way we think about parking problems and expanding the range of options and impacts considered during planning. It requires educating officials and the general public concerning the benefits of parking management, and reforming planning and funding institutions so resources currently devoted to parking facilities can be used for parking management.

Cover photo: Public parking in an underground garage. © iStockphoto.com/RyersonClark. Design concept by Lisa Barton.

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HOW MUCH DOES FREE PARKING COST?

6

5:167. Required parking.

Parking for vehicles and bicycles in the amount specified in this section shall be provided on the same parcel as the principal use or on a separate parcel within 500 feet of the principal building if zoned "P" or zoned for the same uses as allowed on the property of the principal use. No lot zoned other than "P" shall have parking as its principal use, excepting lots containing approved parking lots or structures in the D1 or D2 districts. An off-site permanent parking easement must be recorded if required parking is provided on another lot. An off-site parking easement may not include parking spaces or bicycle parking spaces required to keep the other owner's property in compliance with this chapter. Any fraction of a required parking space or bicycle parking space shall be considered a full space. Required bicycle parking shall meet the design requirements for Class A, B and C facilities provided in section 5:168.1. Property owners may provide a higher class of bicycle parking facility than is required by this section.

	Use	Required Parking Spaces	Required Bicycle Spaces	Required Bicycle Class
Uses in D1 and D2 Downtown Districts: See Section 5:169				
RESIDENTIAL				
(1)	Child care centers and nursery schools	As required by Chapter 55	1 space per 10 care givers	B
(2)	Convalescent homes, hospitals and sanitariums	1 space for each 6 beds	1 space per 60 beds	B
(3)	Group day care homes	As required by Chapter 55	1 space per 10 care givers	B
(4)	Multiple-family dwellings zoned R4A and R4A/B	2 spaces per dwelling unit	1 space per 5 units	A - 50% C - 50%
(5)	Multiple-family dwellings zoned R4B, R4C, R4C/D and R4D	1½ spaces per dwelling unit	1 space per 5 units	A - 50% C - 50%
(6)	Multiple-family dwellings located in any nonresidential zoning district	1 space per dwelling unit	1 space per 5 units	A - 50% C - 50%
(7)	1-family dwellings and mobile homes	1 space per dwelling unit	None	None
(8)	Rooming houses, boarding and lodging houses	1 space for each 3 beds	1 space per 5 beds	A - 50% B - 50%
(9)	Sororities, fraternities, student cooperatives and other organized group homes	1 space for each 5 beds	1 space per 2 beds	A - 50% B - 50%
(10)	Townhouse dwellings	2 spaces per dwelling unit	1 space per 5 units	A - 50% C - 50%
(11)	2-family dwellings	1½ spaces per dwelling unit	None	None
(12)	Community center clubhouse and private swimming club building	1 space per 200 square feet	1 space per 1,000 square feet	C

COMMERCIAL				
(20)	Athletic clubs, health spas and roller rinks	1 space per 200 square feet of floor area	1 space per 1,000 square feet	B
(21)	Auto washes—Automatic	1 space per 500 square feet of floor area	1 space	C
(22)	Auto washes—Self serve	1 space per bay	1 space	C
(23)	Banks and Similar Financial Institutions	One space for each 220 square feet of floor area—Minimum One space per 180 square feet of floor area—Maximum.(a)	One space per 2,000 square feet.	C
(24)	Barber, beauty shops	1 space per 100 square feet of floor area	1 space per 750 square feet	C
(25)	Bowling alleys	5 spaces per alley	1 space per 5 alleys	C
(26)	Dance halls, assembly halls and convention halls	1 space per 100 square feet of floor area	1 space per 1,000 square feet	C
(27)	Furniture, home furnishings and appliance stores	1 space per 600 square feet of floor area	1 space per 7,500 square feet	C
(28)	Gasoline filling station	1 space per 300 square feet of floor area	1 space	C
(29)	Gasoline service station, Auto repair and service	1 space per 200 square feet of floor area	1 space	C
(30)	Hotels/motels	1 space per room	1 space per 30 rooms	A
(31)	Indoor court game facilities (Handball, racquetball and tennis clubs)	1 space per 1,000 square feet of floor area	1 space per 2,000 square feet	B
(32)	Funeral homes	One space per 100 square feet of floor area used for viewing or services. Site must provide a separately designated off-street assembly area for the lead car, hearse and family vehicle to be used in funeral processions so that these vehicles do not interfere with off-site traffic or access to required parking spaces	None	None
(33)	Restaurants and taverns not located in a retail center	One space for each 100 square feet of floor area.	One space per 750 square feet.	B - 50% C - 50%
(34)	Retail stores and retail centers			
	Retail stores and retail centers less than 300,000 square feet of floor area	One space per 310 square feet of floor area—minimum. One space per 265 square feet of floor area—	One space per 3,000 square feet.	B - 50% C - 50%

		maximum.(a)		
	Retail stores and retail centers between 300,000—600,000 square feet of floor area	One space per 285 square feet of floor area—minimum. One space per 250 square feet of floor area—maximum.(a)	One space per 3,000 square feet.	B - 50% C - 50%
	Retail stores and retail centers more than 600,000 square feet of floor area	One space per 265 square feet of floor area—minimum. One space per 235 square feet of floor area—maximum.(a)	One space per 3,000 square feet.	B - 50% C - 50%
(35)	Storage and warehousing	1 space per 2,000 square feet of floor area	1 space per 30,000 square feet	B
(36)	Theaters	1 space for each 3 seats	1 space per 150 seats	C
OFFICE				
(50)	Business or professional offices	1 space per 333 square feet of floor area—minimum One space per 250 square feet of floor area—maximum(a)	1 space per 3,000 square feet	A - 30% C - 70%
(51)	Medical and Dental Offices and Clinics	One space per 220 square feet of floor area—Minimum. One space per 180 square feet of floor area-Maximum.(a)	One space per 1,500 square feet.	A - 30% C - 70%
EDUCATIONAL/INSTITUTIONAL				
(60)	Churches	1 space per 3 seats or 1 space per 6 feet of pew. Public off-street parking spaces within 1,000 feet of the site may be counted if approved as part of a site plan	1 space per 50 seats or 100 feet of pew	C
(61)	Elementary and junior high schools	3 spaces per classroom	5 spaces per classroom	C
(62)	Senior high schools and institutions of higher learning	5 spaces per classroom	5 spaces per classroom	C
(63)	Stadia auditorium, not incidental to schools	1 space per 3 seats or 1 space per 6 feet of bench	1 space per 100 seats or 200 feet of bench	C
MANUFACTURING AND RESEARCH				
(70)	Heavy manufacturing, including tool and dye, foundries, lumber yards, steel fabrication and	1 space per 1,500 square feet of floor area	1 space per 25,000 square feet	B

	welding			
(71)	Limited manufacturing, research and development laboratories	1 space per 600 square feet of floor area	1 space per 6,000 square feet	B
(72)	Headquarters business offices for commercial and industrial firms	1 space per 400 square feet of floor area	1 space per 3,000 square feet	A - 30% C - 70%
OTHER				
(80)	Other uses	Parking and bicycle spaces for uses not specified shall be determined by the planning and development services manager, based upon requirements for similar uses.		
(81)	Parking structures or principal use parking lots		1 space per 10 parking stalls	A - 30% C - 70%

[a]Additional parking may be provided if it does not increase impervious surfaces beyond that which would be provided by meeting the maximum parking required. Examples of additional parking may include, but not be limited to, under-structure parking, rooftop parking, or structured parking above a surface parking lot.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 8-98, § 1, 5-18-98; Ord. No. 38-99, § 2, 9-20-99; Ord. No. 27-00, § 3, 8-7-00; Ord. No. 51-50, § 1, 1-22-01; Ord. No. 12-02, § 2, 4-1-02; Ord. No. 9-03, § 1, 5-5-03; Ord. No. 43-04, § 24, 1-3-05; Ord. No. 09-28, § 18, 11-16-09)

D. Street Specifications

The street-type specifications illustrate typical configurations for streets within the Form Districts. Specifications address vehicular traffic lane widths, curb radii, sidewalk and tree planting area dimensions, pedestrian crossing distances, and on-street parking configurations.

E. Streetscape Standards

The streetscape standards are intended to ensure coherent street-space and to assist builders and owners with understanding the relationship between the public space of the form district and their own building. These standards set the parameters for the placement of street trees and other amenities or appurtenances (e.g., benches, signs, street lights, etc.) on or near each building site and are coordinated with the street specifications.

F. Parking Requirements

The goals of the parking requirements are to:

1. Promote a "park once" environment that will enable people to conveniently park and access a variety of commercial and civic enterprises in pedestrian friendly environments by encouraging shared parking.
2. Reduce fragmented, uncoordinated, inefficient, single-purpose reserved parking.
3. Avoid adverse parking impacts on neighborhoods adjacent to the form districts
4. Maximize on-street parking
5. Increase visibility and accessibility of publicly available parking.
6. Provide flexibility for redevelopment of small sites.
7. Promote early prototype projects using flexible and creative incentives.
8. Incorporate convenient bicycle parking.

6.1.5 How to Use this Code

In order to understand what this Article allows on property within each district in question, there are four basic steps. This information explains where the building will sit on the site, the parameters for its three dimensional form, the range of allowable uses, and the palette of materials that will cover it.

A. Look at the regulating plan (available on the City's website or from the Department of Planning and Growth Management). Find the property. Note the required building line and the parking setback line. Note the color of the fronting street-space – this determines the building envelope standards for buildings fronting that street (shown on pages 6-5, 6-10, 6-15, & 6-24).

B. Look at the appropriate building envelope standards pages. These pages will tell you the regulations for building on this site in terms of Height, Siting, Elements, and Use. Note: proposed encroachments into the public right-of-way must obtain approval pursuant to Section 26-11 of the City Code which includes above and below ground encroachments.

C. Look at the architectural standards section to understand the parameters for the external building materials and architectural configurations.

D. Additional information regarding the street-space is located in the street type specifications and the streetscape standards. These will show the prescriptions for the character of the street-space including vehicular traffic lane widths, curb radii, sidewalk and tree planting area dimensions, and on-street parking configurations.

(Ordinance No. 16,348, § 1, 10-28-08; Ordinance No. 16,521, § 1, 01-12-10)

6.1.6 Rules for New Development

A. Blocks/Alleys

1. All lots shall share a frontage line with a street-space.
2. All lots and/or all contiguous lots shall be considered to be part of a block for this purpose. No block face shall have a length greater than 400 feet without an alley, common drive or access easement, or pedestrian pathway providing through-access to another street, alley, common access easement,

6.9 PARKING REQUIREMENTS

6.9.1 Applicability

A. Zoning lots less than 12,000 square feet in land area in the Warehouse District and 7,500 square feet in the other Form Districts have no minimum parking requirements.

B. Zoning lots greater than 12,000 and 7,500 square feet, in the respective districts, shall meet the following requirements.

6.9.2 Standards

A. A minimum of 1 and 1/8 parking space per residential unit, of which a minimum of 1/8 parking space per residential unit shall be provided as shared parking. A maximum of two spaces per residential unit may be provided as reserved parking. There are no maximum limits on shared parking.

Example: a 24-unit apartment complex would require a total of 27 spaces (24 x 1-1/8). At least 3 spaces (1/8 x 24) must be made available as shared parking (not reserved).

B. A minimum of one space per 1,000 square feet of nonresidential gross floor area shall be provided as shared parking. A maximum of one space per 1,000 square feet of nonresidential gross floor area may be designated as reserved parking. There are no maximum limits on shared parking.

C. All on-street parking spaces abutting the development, may be counted toward the minimum requirement for shared parking. Any limitations on the shared parking (time limits or hours of the day) shall be subject to approval by the City which shall be given upon a finding that at least twelve hours of public parking are provided in any 24-hour period and that at least eight of those hours are provided during either business or nighttime hours depending whether the City determines that the primary public use will be for commercial or residential uses.

D. All calculations of parking spaces shall be rounded up to the nearest whole space.

E. Parking requirements may be met either on-site or within the parking zone (as defined below) in which the development is located:

1. Sheridan – within 600 feet
2. Prospect – within 600 feet
3. West Main –within 600 feet
4. Warehouse – within 800 feet
5. Shared parking shall be designated by appropriate signage and markings as required by City policy.

F. All required off-site parking spaces shall adhere to the following Off-Street Parking Sections in addition to the requirements noted above:

1. Section 8.1.5C. Size of Parking Stalls
2. Section 8.1.5D. Handicapped Accessible Parking
3. Section 8.1.5E. Access
4. Section 8.1.5F. Use of Required Parking Spaces
5. Section 8.1.5G. Design and Maintenance

(Ordinance No. 16,521, § 1, 01-12-10)

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
Chicago	**Manufacturing Districts**	**Summary:** The "M", Manufacturing districts are intended to accommodate manufacturing, warehousing, wholesale and industrial uses outside the Central Area. **Description:** The district regulations are intended to promote the economic viability of manufacturing and industrial uses; encourage employment growth; and limit the encroachment of unplanned residential and other non-industrial development within *industrial corridors.* Categorized as: **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. **Use Groups.** This Zoning Ordinance classifies land uses into 5 major groupings: Residential, Public and Civic, Commercial, Industrial, and Other. These are referred to as "Use Groups". **Use Categories.** Each Use Group is further divided into more specific "Use Categories". Use Categories classify land uses and activities based on common functional, product, or physical characteristics. Characteristics include the type and amount of activity, the type of customers or residents, how goods or services are sold or delivered and site conditions Permits a variety of uses in each category (commercial, sports facilities, and telecom) either by right or through special exception. Residential uses only permitted in MI and M2 for group living including temporary overnight shelters and transitional shelters through special exception. Daycare permitted by right in M1 and M2. **Floor Area Ratio.** All development in M districts is subject to maximum *floor area ratio* standards – range from 1.2 to 3 FAR. **Lot Area.** There are no minimum *lot area* standards in the M districts. **Front and Side Setbacks.** No *front setback* or *side setback* is required in M districts, except in the following cases: 1. All *industrial parks* and *business parks* within the M1 district must provide a *landscaped* setback along all *property lines* that abut public *streets*. This setback must be at least 10 feet in width. 2. M-zoned *lots* that are across the *street* from an R district must provide a setback along the *street property line* opposite the R district at least equal to the minimum *front setback* required on the R- zoned *lot* on the opposite side of the s*treet*.

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
		Online Source: http://www.amlegal.com/library/il/chicago.shtml
Portland	**Employment and Industrial Zones**	**Summary:** The employment and industrial zones are for areas of the City that are reserved for industrial uses and for areas that have a mix of uses with a strong industrial orientation. **Description:** The zones differ in the mix of allowed uses, the allowed intensity of development, and the development standards. The regulations protect the health, safety and welfare of the public, address area character, and address environmental concerns. In addition, the regulations provide certainty to property owners, developers, and neighbors about the limits of what is allowed. **General Industrial.** The General Industrial zones are two of the three zones that implement the Industrial Sanctuary map designation of the Comprehensive Plan. The zones provide areas where most industrial uses may locate, while other uses are restricted to prevent potential conflicts and to preserve land for industry. The development standards for each zone are intended to allow new development which is similar in character to existing development. The intent is to promote viable and attractive industrial areas. 1. General Industrial 1. IG1 areas generally have smaller lots and a grid block pattern. The area is mostly developed, with sites having high building coverages and buildings which are usually close to the street. IG1 areas tend to be the City's older industrial areas. 2. General Industrial 2. IG2 areas generally have larger lots and an irregular or large block pattern. The area is less developed, with sites having medium and low building coverages and buildings which are usually set back from the street. **Heavy Industrial.** This zone is one of the three zones that implement the Industrial Sanctuary map designation of the Comprehensive Plan. The zone provides areas where all kinds of industries may locate including those not desirable in other zones due to their objectionable impacts or appearance. The development standards are the minimum necessary to assure safe, functional, efficient, and environmentally sound development. **Uses** are divided into primary uses, conditional uses and prohibited uses. **Setbacks -** The setback standards promote different streetscapes. The setback standards are also intended to ensure that development will preserve light, air, and privacy for abutting residential zones. **Seems to have no max. FAR but FAR can be transferred to industrial sites.** Online Source: http://www.portlandonline.com/planning/index.cfm?c=31612
San Francisco	**Industrial Districts**	**Summary:** Zones are classified based on the business types. **Description:** M-1 (LIGHT INDUSTRIAL) DISTRICTS -- These districts provide land for industrial development. In general, the M-1 Districts are more suitable for smaller industries dependent upon truck transportation while the M-2 Districts are more suitable for larger industries served by rail and water transportation and by large utility lines. In M-1 Districts, most industries are permitted, with the large or noxious ones excluded. The permitted industries have certain requirements as to enclosure, screening and minimum distance from residential districts M-2 (HEAVY INDUSTRIAL) DISTRICTS -- These districts are the least restricted as to use and are located at the eastern edge of

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
		the City, separated from residential and commercial areas. The heavier industries are permitted, with fewer requirements as to screening and enclosure than in M-1 Districts, but some uses are permitted only as a conditional use or at some distance from residential districts. **Uses** -- Manufacturing, wholesale, storage, retail, repair, service uses permitted. Auto-wreckers and certain other uses including residential use are conditional uses requiring authorization by Planning Commission **Welling Unit Density** -- One for each 800 square feet of lot area, or density of nearest R District whichever provides the greatest density. **Off-Street Parking:** parking stall for each dwelling unit. Based upon "occupied floor area" as defined in Section 102 of the Planning Code: 1 space for each 2,000 square feet of warehouse, 1 for 1,500 square feet of industrial, 1 for 500 square feet of business office or retail and 1 for 300 square feet of medical office. See Table 151 of the Planning Code for parking requirements for other uses. No parking required for less than 10,000 square feet of warehouse, less than 7,500 square feet **FAR** -- 5 to 1 **Front and Sideyard Setbacks** -- None required. **Rear Yard** -- 25 percent of lot length at levels occupied by dwelling units. **C-M (HEAVY COMMERCIAL) DISTRICTS** -- These districts provide a limited supply of land for certain heavy commercial uses not permitted in other commercial districts. While the emphasis is upon wholesaling and business services, some light manufacturing and processing are also permitted though limited in most cases to less than an entire building. In recognition of the potential incompatibility of some of these uses and the proximity of these districts to residential and other commercial areas, standards are imposed as to enclosure within buildings and screening of outdoor uses. **SLR (SERVICE/LIGHT INDUSTRIAL/RESIDENTIAL) DISTRICT** -- The Service/Light Industrial/Residential (SLR) Mixed Use District is designed to maintain and facilitate the growth and expansion of small scale light industrial, home and business service, wholesale distribution, arts production and performance/exhibition activities, live/work use, general commercial and neighborhood-serving retail and personal service activities while protecting existing housing and encouraging the development of housing and live/work space at a scale and density compatible with the existing neighborhood. **USES** -- Retail, general commercial, home, personal and business services, light industrial, institutional, cultural arts and artisan, live/work space, parking and residential activities would be permitted as principal uses. General office, hotels, nighttime entertainment, movie theaters, adult entertainment and heavy industrial uses are not permitted. **HEIGHT AND BULK** -- Generally 65 or 50 feet **FAR LIMIT** -- The commercial/industrial FAR for the district would be 2.5:1. Exemptions from FAR limits include but are not limited to: floor area devoted to childcare facilities. **DWELLING UNIT DENSITY** -- One dwelling unit per 200 feet of lot area. **REAR YARDS** -- A 25 percent rear yard would be required at the first level of residential use. **OPEN SPACE** -- Open space would be required for all commercial and industrial uses, at the following ratios: one square foot of open space per 250 gross square feet of general commercial development, which includes retail, personal service, and wholesale trade space (1:250); 1:120 for home and business service space, manufacturing and light industrial space; and 1:90 for office space. Alternatively, the controls allow payment of an in-lieu fee at $.80 per square foot of required **PARKING** -- Parking spaces for dwelling units could be compact car-street; workspace for architects and engineers would require one parking space per 1,000 square feet of floor area (1:1000); artist and artisan production and performance spaces and live/work units would have a 1:2000 requirement.

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
		SLI (SERVICE/LIGHT INDUSTRIAL) DISTRICTS -- The Service/Light Industrial District is designed to protect and facilitate the expansion of existing general commercial, manufacturing, home and business service, live/work use, arts uses, light industrial activities and small design professional office firms. **USES** -- Retail, general commercial, home, personal and business services, light industrial, institutional, cultural arts and artisan, live/work space, and parking would be permitted as principal uses. Existing group housing and dwelling units are protected from demolition or conversion to nonresidential use and development of group housing and low-income affordable dwelling units are permitted as a conditional use. General office, hotels, movie theaters, nighttime entertainment and adult entertainment uses are not permitted. **HEIGHT AND BULK** -- Generally 50 feet and "X" bulk limit, indicating no bulk controls, with limited exceptions. See Height and Bulk Zoning Maps and Standards in Article 2.5 of the City Planning Code. **FAR LIMIT** -- The commercial/industrial FAR for the district would be 2.5:1. Exemptions from FAR limits include but are not limited to: floor area devoted to childcare facilities; and floor area devoted to live/work units when such floor area exceeds the basic FAR limit, subject to the limitations of Section 102.9(b)(19) of the Planning Code. **DWELLING UNIT DENSITY** -- New dwelling units (or group housing) at a ratio of one dwelling per 200 square feet of lot area (one bedroom per 70 square feet for group housing) would be permitted as conditional use only if low-income pursuant to Section 803.5 of the City Planning Code. **OPEN SPACE** -- Open space would be required for all commercial and industrial uses, at the following ratios: one square foot of open space per 250 gross square feet of general commercial development, which includes retail, personal service, and wholesale trade space (1:250); 1:120 for home and business service space; 1:120 for manufacturing and light industrial space; and 1:90 for office space. Alternatively, the controls allow payment of an in-lieu fee at $.80 per square foot of required open space. Residences would be required 36 square feet of open space per unit. **PARKING** -- Parking spaces for dwelling units could be compact car-street; workspace for architects and engineers would require one parking space per 1,000 sq. ft. of floor area (1:1000) Online Source*:* http://www.sfgov.org/site/planning_index.asp?id=24905

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
Arlington	**Industrial Districts**	**Summary**: The Industrial Districts are classified based on the business types. **Description:** **"CM" LIMITED INDUSTRIAL DISTRICTS :** The intent of this classification is to provide areas for light manufacturing, wholesale businesses and distribution centers and other uses inappropriate to residential or service business areas. **FAR** :Not to exceed a total of 1.5 to 1 **Use Regulations.** 1. One (1) dwelling unit for a caretaker or resident manager serving a storage or warehouse complex within the district may be permitted, provided that such dwelling unit is developed as an integral part of the storage or warehouse complex on the site and that the complex contains a minimum of thirty-five thousand (35,000) square feet of gross floor area. **"M-1" LIGHT INDUSTRIAL DISTRICTS:** Permits all uses in CM District except dwellings**.** **FAR:** shall not exceed a total of 1.5 to 1 **"M-2" SERVICE INDUSTRIAL DISTRICTS:** All uses as permitted in "M-1" Districts, except that: Public parking areas shall be as permitted and regulated in "M-1" Districts; and Hotels are prohibited. **FAR:** shall not exceed a total of 1.5 to 1 Online Source: http://www.arlingtonva.us/departments/CPHD/planning/zoning/CPHDPlanningZoningOrdinanceCode.aspx
Baltimore	**Industrial Zoning Districts**	**Summary:** The regulations are designed and intended to promote growth and stability of industrial and related development and to protect the character of the district and its suitability for particular uses; and to preserve and expand the City's tax base and employment potential. New residential development and other uses of land are excluded from these districts, both to protect industrial development from the intrusion of non-industrial uses and to ensure the reservation of adequate areas for industrial development. Lists permitted uses and conditional uses subject to performance standards in each industrial category. Uses Performance Standards for noise, vibrations, smoke, toxic matter, odorous matter and glare**.** **Description:** **M-1 Industrial District** - Has 3 subcategories and designed to provide areas suitable for industrial and related activities that require, deserve, and promote a relatively nuisance-free environment compatible with and not detrimental to an adjoining Business or Residence District. **Yards –** Front Yard 30 ft for M-1-1; M-1-2 – at least 20 feet deep; M-1-3 – none required. Interior side and corner side yards are required. Rear yard must be at least 30 ft. deep **FAR**- M-1-1 – Not to exceed 1.0 ; M-1-2- Not to exceed 3.0 and M-1-3 – not to exceed 6.0 **Height** – No higher than 40 feet in all M1` categories. **M-2 District** - customarily regarded as general manufacturing and industrial uses. These uses generally have moderate nuisance characteristics associated with their operation. The uses permitted are mutually compatible and compatible with the character of a general industrial area. Has 4 sub-districts with permitted, prohibited, accessory and conditional uses. **Yards:** In an M-2-1 District - at least 30 feet deep; M-2-1S District - at least 10 feet deep; M-2-2 District - at least 20 feet deep;M-2-3

BEST PRACTICES BY CITY: INDUSTRIAL ZONING		
CITY	**NAME**	**SUMMARY DEVELOPMENT STANDARDS**
		District-none required. Required rear yard of at least 30 feet for all subcategories except for the M-2-3 District. **FAR -** M-2-1 – not to exceed 2.0; M-2-1S - not exceed 2.0; M-2-2 –not to exceed 5.0; M-2-3 – not to exceed 8.0. **M-3 District:** this district is primarily for those areas located deep within the industrial portions of the City, usually but not necessarily adjacent to the harbor and major railroad facilities. **Yards:** Front and street corner side yard at least 10 feet deep. No required rear or interior side yards. However, where a side or rear lot line adjoins a residence or office-residence district a minimum of 10-foot yard must be provided on the industrial ot wherever the lot lines so coincide. **FAR – not to exceed 6.0** Online Source*:* http://cityservices.baltimorecity.gov/charterandcodes/Code/Art%2000%20-%20Zoning.pdf
San Jose	**Industrial Zoning Districts**	**Description: Recently rewritten** with recommendations for changes to the requirements to the industrial zone districts to refine and streamline requirements for data centers, large format retail establishments, tow yards retail sales incidental to industrial uses, performing arts rehearsal space and outdoor uses proximate to residential uses. ***See link to staff report below.*** Categorized into industrial park, light and heavy industrial with performance standards. **Industrial Park** - intended for a wide variety of industrial users such as research and development, manufacturing, assembly, testing, and offices. **Light Industrial** - intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. The design controls are less stringent than those for the Industrial Park Zoning District. Examples of typical uses are warehousing, wholesaling, and light manufacturing. **Heavy Industrial** - intended 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. Extractive and primary processing industries are typical of this district. Uses may be permitted either as special or conditional. Subject to front, rear and side setbacks and maximum height limits and lot area. Online Source **: http://www.sanjoseca.gov/planning/pdf/zoning_code.pdf** **http://www.sanjoseca.gov/plannin g/zoning/docs/PC_Staff_Report_Industrial_zoning.pdf**

INDUSTRIAL LAND IN A POST-INDUSTRIAL CITY

District of Columbia Industrial Land Use Study:

A Detailed Investigation of Industrial Land in the District of Columbia and role of Production, Distribution and Repair Industries in the District Economy

Prepared for:
District of Columbia Office of Planning

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Executive Summary

INTRODUCTION AND OBJECTIVES

The economy and real estate market in the District of Columbia are undergoing rapid change. Starting in 1997 the office, residential, and more recently the retail development markets have been booming. This boom started by filling in the gaps in the downtown block pattern, and has since expanded outward to include new developments in the Anacostia Waterfront Initiative, the recently-opened New York Avenue MetroRail Station, and extensions of the downtown into the NOMA area. New residential and retail projects are springing up throughout DC, even in areas heretofore considered off the map for new development.

In the midst of this boom, DC's industrially-zoned areas—hugging rail corridors, tucked away in remote locations, and sprawling next to major automotive service corridors—had been largely forgotten. However, as many of the more easily developed and favorably located sites disappeared, commercial and residential developers have begun to turn their interest to industrial land, particular those sites which occupy strategic locations and offer relatively straightforward property assemblages. Requests for the rezoning of industrial land to some other category, typically one permitting residential development, have been increasingly common.

At the same time, several factors have conspired to increase the space needs of government and public entities. Some of this demand is growth related. Some relates to the need to relocate several key public functions related to DC operations, water and sewer service, and bus maintenance and storage away from the site of the new Washington Nationals stadium. Many of these needs are quasi-industrial in nature, and will be hard to site: bus garages, helipads, and vehicle storage and maintenance yards, have unique site selection criteria for functionality and at the same time are uses that are less-than-welcome in established or emerging neighborhoods elsewhere in DC. Since DC government is bound by its own zoning, the need for industrially-zoned land for government functions goes beyond concerns over NIMBYism.

Much of the land in question is already occupied by a diverse array of industrial and quasi-industrial users, grouped in this report under the descriptive title of Production, Distribution and Repair businesses (PDR). PDR businesses in DC are paying higher rents for less suitable space than many of their suburban counterparts, evidencing a need, and willingness to pay premiums, to be located in DC. Yet the role these industries play in DC economy is poorly-understood. The relatively lower real estate value generated by such users has made it easy to dismiss their relevance to a national and global capital primarily concerned with the business of government and policy-making.

Clearly, there are increasing demands to make policy decisions regarding DC's inventory of industrially-zoned lands, decisions which are currently being made on a site-by-site basis

without the benefit of a comprehensive strategy or the basic information needed for understanding the opportunity costs of rezoning industrial land and make knowledgeable policy choices. This report attempts to clarify the situation by addressing two purposes: (1) to provide the factual and analytical base for future land use decisions impacting industrial land and PDR land uses; and (2) to provide a set of recommendations for strategically managing DC's scarce supply of land suitable for accommodating PDR users and certain municipal, utility, and governmental functions.

STUDY METHODOLOGY

The findings and recommendations contained in this report are founded on a detailed and comprehensive methodology examining DC's industrial lands from a land use, economic, and market perspective. In the effort to analyze DC's existing industrial land base, the Office of Planning delineated "study areas", which correspond roughly to areas surrounding CM or M zoning or containing a concentration of industrial businesses and/or industrial land. OP further divided these areas into analytical sub-areas. The accompanying **Study Areas Map** indicates each area and its OP-given name.

The sub-areas provide the geographic organization for the land use analysis and for the specific recommendations. However, the objectives of this study required a methodology that went far beyond a typical land use study, incorporated the following tasks and investigations into a logical framework for analysis and decision-making.

- Field surveys and mapping of land use patterns and physical characteristics of each industrial area.
- An Opportunities and Constraints Analysis of each sub-area based on the field surveys and mapping.
- Scoring Matrix based on the above.
- Survey of existing industrial tenants.
- An analysis of the market of industrial buildings and sites in DC and the metro region.
- An economic analysis of the role that PDR business plays in DC economy.
- A round of meetings and interactions with a Technical Advisory Committee comprised of representatives of DC agencies, the Federal Government, and public authorities.
- A review of case studies and best practices.
- Development of criteria to assist in evaluating requests for zone changes way from industrial designation.

The work described above, while focused on the issue of industrial land, has not occurred in a vacuum, but has been undertaken concurrently with work on the economic development element of DC's new Comprehensive Plan. The background studies for the Comprehensive

Plan, summarized as an economic development White Paper, were conducted in tandem with this industry study, and data and findings from each report have helped inform the other. This high level of coordination insures that the Comprehensive Plan and the Industrial Areas Study will be fully consistent with each other.

SUMMARY OF MAJOR FINDINGS

Importance of Industrial Land

It is important to accommodate industrial land for at least two reasons. First, there is a need for appropriate space for municipal functions. PPSA estimated, based on the needs identified through the TAC process, that DC's immediate public sector space needs equaled almost 70 acres of land. This land will be needed to house those quasi-industrial functions such as waste hauling and transfer, street cleaning and plowing, road construction and repair, water and sewer construction and repair, and police, fire, and parking enforcement services that are essential to the business of city government.

Second, PDR jobs are critical to a healthy DC economy and must be retained. As compared with other employment areas for those without college degrees, PDR uses provide higher quality jobs, with better wages and career paths, to workers without an advanced education. PPSA conservatively estimated that the private PDR sectors will need approximately 31 acres of developable land to accommodate the amount of projected future economic growth.

Thus, in total, this study estimates that in the immediate term alone DC will require 100 acres of industrial-type land in which to house its municipal functions and PDR jobs.

Limited Supply of Industrial Land

Unfortunately, the study also found that there is a limited supply of this type of land, and that much of the District's industrial land is either undevelopable, has been rezoned, or is under significant development pressures.

Including land that is zoned for non-PDR uses, the areas examined by this study total only 2,390 acres, which represents just over five percent of DC's total 43,850 acres of land area (including Federal land inside DC). But the actual amount of land on which industrial development is permitted as of right is even smaller: the existing zoning within these areas serves to reduce by 386 acres the actual supply of as-of-right industrial land. Within the 2,390 acres of our study area, the industrial zones of C-M, M, and W Zones comprise a total of 2,026 acres, and make up only about five percent of total DC land.

The predominance of railroad tracks within the largest industrial areas limits the amount of *buildable* land even further. Roads, streets, alleys, other right-of-ways reduce lot sizes and

building footprints elsewhere. New York Avenue/Bladensburg, for example, is the second largest sub-area, totaling 328 acres, but 22 percent of it, about 77 acres, is road or railroad/transportation right-of-way.

Moreover, most of this limited amount of industrial land is already occupied, and therefore existing PDR businesses have limited room to expand in place and DC has diminished potential of attracting of new PDR businesses. By our calculations, only about 27 acres, or 1.2 percent, of the land in industrial areas is vacant.

Additionally, most of these sub-areas are greatly subdivided—only five sub-areas have average parcel sizes of more than one acre. Fifteen sub-areas have average parcel sizes of less than an acre, and eight of those sub-areas have average parcel sizes of less than 20,000 square feet, or, less than one-half of an acre.

Finally, a total of 447 acres of PDR land are under direct pressure or have already been lost—94 acres of PDR land is under pressure from housing and related neighborhood development, 111 acres area to be enveloped by large-scale initiatives such as the Anacostia Waterfront Initiative (AWI), and the Buzzard Point / Capitol Gateway Overlay District initiative resulted in the rezoning of 242 acres of PDR land.

Therefore, the District's supply of remaining industrial land is very limited and continues to shrink. While it is impossible to calculate the non-reducible core that must be preserved in perpetuity, it is clear that the District should exercise all caution in future land use decisions, for the evidence from this study suggests that the city may be approaching that lower bound.

Industrial Land Use Policies

Given the *need* for industrial land to accommodate existing PDR businesses and future growth, as well as public needs; and the *desirability* of capturing a greater share of PDR employment (both public and private) within the District; it is clear that a public policy response is required.

Developable land of any type is scarce in Washington, DC, and industrial land even more so. As DC's inventory of favorably located development sites is exhausted, the development community will inevitably hunt for opportunities in areas heretofore considered unsuitable for residential, commercial, or mixed-use development. Further, industrial uses generate lower land rents than residential, office or retail uses, and therefore will always lose out to such uses when policy does not restrain the marketplace.

The rationale for providing restraints on the ability to rezone land from industrial is related to the notion of scarcity. Considered in isolation, each individual development site could be subject to its own highest and best use analysis. Taken together, however, they represent a portfolio of assets that District government could and should manage in a strategic manner specifically

because these assets are scarce. Unlike many suburban jurisdictions with ample space for accommodating future growth, each development decision made in DC carries with it an opportunity cost: the foreclosure of other development options. The portfolio perspective means that the District should view its inventory of developable sites as serving potentially different functions: addressing immediate needs and opportunities, hedges against future uncertainty, or resources held in reserve for anticipated future needs.

DC's current zoning policies do not adequately protect and foster the PDR sector or provide adequate space for local municipal functions (DC is subject to its own zoning). DC has two primary industrial zoning districts: C-M (Commercial-Light Manufacturing) and M (manufacturing). Both districts permit a wide variety of commercial uses (basically everything permitted in the C-1, C-2, C-3 and C-4 zones, which includes a wide variety of retail and service uses, including gasoline service stations) as well as industrial and production uses. Further, the bulk standards in these districts permit taller and more massive buildings than those generally preferred by PDR users, where low-scale and high coverage development is the norm. Industrial land today must therefore compete against retail and office uses. Only residential uses are prohibited.

The appropriate public policy response could and should take two tracks. The first is the use of zoning to provide appropriate standards and protections for PDR businesses where such continued use is appropriate. The second consists of policy response—industrial Business Improvement Districts, contracting assistance, in-place industrial parks—intended to promote business development and growth in PDR sectors.

Land Use Findings

Out of the land use surveys, scoring exercise, and compilation of opportunities and constraints for each area, certain patterns began to emerge. For example, it was clear that some sub-areas faced imminent and growing redevelopment pressures from other land uses. Some areas contained a concentration of healthy PDR businesses, and some areas were relatively underutilized. Finally, there can be friction where industrial uses abut incompatible land uses such as new residential development. Map 3.1 in the full report illustrates these areas in distinct colors.

Areas of pressure

The District's office development boom and housing market explosion has rapidly utilized many of the most desirable and easily accessible downtown development sites, and now real estate development forces are pressing heavily against industrial districts.

Nowhere is this more evident than in those areas near Metro stops and with relatively easily-developed lots. North of Union Station towards Florida Avenue, including the market area and the New York Avenue Metro stop, and at each successive Red Line Metro stop—Rhode Island Avenue, CUA/Brookland, Fort Totten, and Takoma—real estate pressures are growing.

Rezoning requests trend towards these areas, and some larger initiatives including possible Planned Unit Developments in the NY/Florida Avenue Market area and along Eckington Place, as well as spin-off from large initiatives such as NoMa and the H Street Corridor redevelopment are all increasing real estate values to the point where current PDR business area threatened. Map 3.2 illustrates known rezoning requests and major large initiatives. Areas of pressure are shown in light brown on Map 3.1.

It makes sense that some of these areas be considered for land use change. In fact it is difficult to argue against well-planned transit oriented development in a relatively built-out city such as DC, where household and job gains are projected to continue relatively unabated over the coming years. However, several areas under development pressure, such as the NY/Florida Avenue Market area, are more appropriate for an evolution or intensification of the existing land use, rather than a land use change.

Areas of Healthy PDR Fabric

The sub-area existing conditions maps (found in the Appendix) reveal that some industrial zones contain a concentration of PDR businesses or municipal facilities. The businesses in these areas contribute to the DC economy directly by providing products and services, but also by supporting the core economic sectors and providing much needed well-paying jobs. The municipal facilities located in these areas provide necessary services for DC's growing residents and businesses (Map 2.2 locates concentrations of municipal facilities).

We describe these as areas of "healthy PDR fabric." All of these areas also exhibit good opportunities for continued or intensified PDR use and scored well in our industrial area scoring exercise (see the Opportunities and Constraints analysis matrix and the scoring matrix in the Appendix).

Areas of healthy PDR fabric are shown in blue on Map 3.1. These areas include much of CSX1 - Lamond Riggs south of the Metro, significant portions of Fort Totten and Brookland, and large swaths of New York/Ivy City and New York/Bladensburg. Some of these areas deserve land use protection, and some should be considered for municipal services. None of these, save perhaps a narrow strip of land directly bordering New York Avenue, deserve consideration as land use change areas.

Areas of Underutilization

Some of DC's industrial areas are underbuilt, have significant vacancies, or are otherwise underutilized—the existing conditions maps plainly reveal areas with few businesses and swaths of land used only for parking, junkyards, or railroad tracks. These areas are shown in olive green in Map 3.1.

Vast areas of the CSX railroad yards are underutilized, as are large parcels including Fort Lincoln and portions of Bladensburg and Ivy City. Benning Road, 11th Street, SE, Water Street,

SE, DC Village, Anacostia Poplar Point, and Scattered Site 1 are underutilized and present excellent opportunities to intensify current uses and strategically locate government facilities. Some may also be areas where DC could consider undertaking redevelopment activities as part of a coordinated plan. Ivy City near the Hecht Building may be one such location where DC intervention could help jumpstart the upgrading and intensification of the area.

Areas of friction

Lastly, it is apparent in some areas that PDR businesses and incompatible land uses are located in very close proximity to each other. Nuisance complaints about noise, pollution, and visual blight relating to PDR businesses are likely most prevalent in these areas, and it is logical to assume that expansion or retention of PDR uses in these zones may be difficult. These areas of friction are shown in red on Map 3.1.

These places more or less correspond to areas where PDR businesses and residential communities flow almost seamlessly with little or no buffer. Notably, areas of healthy PDR fabric in Lamond Riggs, Fort Totten, and Brookland all experience friction with the residential communities on their eastern edges. In many cases there is not even a street, much less an alley or fence line, dividing these two land uses. Most other areas of friction occur where the industrial land is underutilized. The protection and/or intensification of current PDR uses in these areas (e.g. Lamond Riggs) would require buffer considerations; on the other hand, land use changes may be more appropriate in some areas (e.g. CSX2-Kennilworth).

SUMMARY OF MAJOR RECOMMENDATIONS

The recommendations herein consider the need for and importance of appropriate industrial land in DC, the supply and demand for industrial land and buildings, and the overall findings resulting from the land use surveys and sub-area analyses described above. They are intended for two purposes: (1) guide zoning policy as it relates to industrially-zoned land; and (2) guide the formulation of strategies to maintain and enhance our base of PDR employment. Item one speaks directly to land use; item two has both land use and policy components.

Simply put, this study revealed that DC's existing zoning framework regarding industrially zoned land requires amendment and modernization. This study posits a new zoning framework for industrial land, which is then referenced in subsequent sections. This framework is in direct response to deficiencies identified in the existing zoning categories and regulations, and is designed to address the issues outlined in the previous sections of this report. The recommendations for different industrial sub-districts cannot be adequately implemented within the existing zoning framework. The new framework keeps the existing zone districts, with

modifications, but further recommends two new zoning districts to be added to the zoning ordinance and map.[1]

New Zoning Framework

A new zoning framework is proposed to overcome the limitations of the current C-M and M districts, including the following:

- They do not prohibit retail or office uses from overtaking industrial areas and displacing PDR tenants.
- The bulk standards bear do not reflect the low-scale, high-coverage built environments generally found within these districts.
- The regulations are somewhat vague as to what precisely is permitted in the M district.
- The performance standards for industrial areas require modernization.

The proposed new zoning framework for the DC's industrial areas is as follows:

C-M Districts

Only minor modifications are proposed to the C-M district regulations. The general intent of the district—to permit a variety of retail, office, and industrial/PDR uses—remains unchanged. However, the following revisions are proposed:

- Prohibit high-impact industries such as intermediate materials recycling and solid waste handling facilities, to minimize the possibility of land use conflicts.
- Prohibit certain community uses that detract from the commercial or PDR nature of the area and which present immediate conflicts with their PDR neighbors, specifically, charter schools and emergency shelters.
- Make retail uses above a certain size (for instance, 30,000 square feet) permitted only by special exception, to provide more control over their siting and location.

Bulk standards in the C-M-1, C-M-2, and C-M-3 district can be left unchanged subject to further review. Continued C-M zoning is contemplated for areas where a mix of industry, office and retail development is appropriate, such as the New York Avenue corridor in the vicinity of the Hecht Building.

[1] A Municipal Use zone, per se, is not recommended, as it would likely be viewed as a taking of private property. However, a municipal use or public use designation on a land use map is recommended, as a statement of policy.

M District

The M district should be retooled to serve as an industry-only district. Heavy and intense industrial uses such as cement and asphalt batching would be specifically permitted, subject to strict performance and location standards (not within certain distances of residential districts, for example). Other categories of commercial use, including office and hotel, would be prohibited. The M district would find limited application in the few areas where such intense use is already found. An example is the area south of Fort Totten Metro, where cement and asphalt batching, as well as a municipal waste transfer station, are found.

IP Industrial Park District

The IP district would be a new zone specifically geared towards healthy industrial areas that would benefit from more coordinated planning. It would differ from suburban industrial park zoning in that bulk and coverage regulations would be tailored for older industrial areas characterized by low height and high site coverage. It differs from the Chicago PMD model in that it does not overlay existing zoning, but instead creates a new designation with its own use and bulk restrictions. Like the M district, this new IP district would encourage industrial over other commercial uses. However, certain types of office and retail would be permitted, including:

- Retail accessory to a PDR use (such as a wholesaler with a small retail operation, or a manufacturer selling goods on site).
- Offices accessory to a PDR use.
- Eating places, which would help serve the worker population's needs.

Areas where IP zoning would be appropriate could include Chillum Place and the Florida Avenue Wholesale Market. The latter requires special consideration, and may in fact merit its own special-purpose overlay district.

MXD Mixed-use District

The MXD permits residential, commercial and light PDR uses, for a truly mixed use approach. This district is intended for the following types of areas:

- Funky areas where live/work arrangements combining residential with craft trades or the visual and performing arts is appropriate.
- Areas that are surrounded by and/or will likely trend to residential uses, but where there do exist PDR businesses that should not be rendered non-conforming by a change of zoning.
- Areas where the direction is unclear and therefore better left to the marketplace.

The types of PDR uses contemplated for these new zones would be things such as self-storage, printing, craft occupations such as furniture making and cabinetry, and light fabrication. More than any other district, appropriate performance standards would be essential. And, mixed-use

zoning requires vigilant enforcement of regulations to ensure the various uses remain "good neighbors" to each other. Areas where MXD zoning would be appropriate would include Scattered Site 2, a healthy industrial enclave entirely surrounded by residential; and portions of the Fort Totten area, where a mix of industry and residential is already the norm.

This new zoning framework provides a flexible approach to manage change in DC's industrial areas. The zoning generally avoids large-scale changes to minimize property owner concerns. It envisions that these districts would only be mapped in areas where the proscribed land uses predominate. The proposed MXD district actually provides greater property owner flexibility in contemplating use options. Finally, the proposed zoning provides greater protection for existing and future PDR users, which should help promote a more stable climate, and less speculation, in key industrial areas.

Land Use Recommendations

Based on this new zoning framework and our recommendations logic, DC's industrial areas were divided into four categories based on the appropriate policy response:

- **Areas for Retention and Reinforcement:** Intended for areas that exhibit healthy PDR fabric, provide a significant concentration of support services and PDR jobs, and have good prospects for continuing to host viable PDR businesses into the future. The new IP and MXD zoning districts would be proposed for most of these areas, except for areas of intense uses, which would be zoned M.
- **Areas for Retention and Intensification:** This category is for areas where PDR use exists and continues to be desirable, but where intensification is warranted due to a pattern of underutilization, and where non-PDR uses are an appropriate part of the overall land use mix. These areas are most appropriate for C-M zoning.
- **Areas for Strategic Public Use:** Certain industrial areas have been identified as appropriate areas to accommodate municipal/government/utility space needs. Other uses are not precluded, but these are potential priority areas for public acquisition and reuse. In most cases, zoning can remain the same as the current condition.
- **Areas for Land Use Change:** These are areas where a move away from PDR use is appropriate, due to a lack of viable PDR businesses, and the desirability of these sites for other uses. In most cases, residential development is contemplated. There are two sub-categories within this category: areas where a gradual replacement of PDR use with residential is envisioned (letting the market take its course); and areas where PDR should essentially be zoned away. Many of these areas are proposed for a new zoning district permitting both residential and light PDR uses such as storage and light fabrication.

Areas for Industrial Retention and Reinforcement

The following specific recommendations for the areas targeted for industrial retention are keyed to Map 4.1. They are:

- Map IP zones for areas 1, 4 and, tentatively, 6.
- Map the retooled M zone in area 2.
- Map C-M zones in areas 3, 5 and 7.
- Adopt stringent rezoning criteria for all of these areas.
- Adopt strategies and guidelines for industrial parks and industrial business districts, and consider such a designation for the Chillum Place corridor.
- Work with the Department of Employment Services to institute a “Back Street”-like program for businesses in these areas, and provide support for job training and apprenticeship programs.

Areas for Retention and Intensification

The following specific recommendations for the areas targeted for evolution and intensification are keyed to Map 4.2. They are:

- Work with the Home Again Initiative to ensure that the envisioned residential uses mesh well with surrounding PDR uses—artist live/work housing is one example of a residential use that is appropriate.
- Make access and road improvements in Areas 1 and 2 after completing appropriate transportation and planning studies.
- Consider assembling land for private users in Area 2.
- Institute appropriate regulations to protect industrial/commercial uses in Area 4, but provide buffers between incompatible land uses.
- Initiate building renovation loan program.
- If planned destination retail development at Area 4 is not fruitful, consider development as an office park, and/or consider rezoning parcel directly south of Area 4 for PDR use.
- Consider taking a leadership role with regards to the reuse of the Hecht Building, potentially pursing a multi-tenant technology and media “incubator.”

Areas for Strategic Public Sector Use

The following specific recommendations for the areas targeted for strategic public sector use are keyed to Map 4.3. They are:

- Retain current industrial zoning, but consider designations such as Municipal Use zones to land bank these areas and guarantee that the areas will be available in the long-term for needed public sector use.[2]
- Target these Zones for technical innovations.
- Be proactive in acquiring land for public sector uses at Benning Road, 11th Street, SE, Water Street, SE, Scattered Site 1, and Anacostia Poplar Point.
- Improve road and access conditions after completing appropriate transportation and planning studies.
- Address any needed security/perimeter infrastructure that may be required.
- Consider Area 7 for municipal offices or other destination, public sector use.
- Undertake modifications to free up additional property in DC Village for municipal purposes.
- Relocate the Emergency Family Shelter to a more humane location, potentially several scattered sites located in residential and mixed residential/commercial areas.
- Consider those areas indicated in purple as additional areas for public sector use, where industrial zoning may be appropriate to protect and retain the current users.

Areas for Land Use Change

The following specific recommendations for the areas targeted for land use change are keyed to Map 4.4. They are:

- Program Areas 1, 7 and 8 for residential and mixed-use TOD development.
- Encourage upgraded retail uses in area 10, and consider rezoning to a commercial land use classification.
- Encourage the redevelopment of Area 6 for either a more modern and attractive shopping center, or for residential use.
- In addition, all MXD areas should be studied to determine their needs for physical improvements, including land clearance and assemblage to encourage investment as well as road and circulation and access improvements. Overall, environmental issues and historic properties deserve consideration, and new developments in MXD areas should follow appropriate procedures in this regard. Additionally, DC should adopt a coherent and effective brownfield program to identify and remediate contaminated sites and inject them back into the property market.
- Vigilantly enforce zoning use regulations and performance standards to ensure mixed-use remain “good neighbors.”

[2] Again this is not a new zoning district. A Municipal Use zone, per se, is not recommended, but, a municipal use or public use designation on a land use map is recommended, as a statement of policy.

Government Facilities

The public sector demand for industrial land is great, but large developments and the superheated regional land market are shrinking supply at the same time that increasing service requirements are raising immediate and long-term demand for land. As such a significant user of industrial land in DC, clearly government has the potential and responsibility to better manage its own industrial land resources.

This report thus recommends that DC should:

- Strategically acquire land for municipal uses for current and future needs
- Implement a single-agency asset management structure to budget, operate, lease, acquire, dispose, and plan for all municipal property
- Improve efficiency of land use by co-locating government facilities
- Reduce land use demand through fleet reduction and technological innovations, including distributed generation.

1 Introduction

1.1 PURPOSE AND SCOPE

The economy and real estate market in the District of Columbia are undergoing rapid change. Since 1997, the District has seen impressive private sector job production, which has led to a boom in office building construction. This boom started by filling in the gaps in the downtown block pattern, and has since expanded outward to include new developments in Buzzard Point, the recently-opened New York Avenue Metro stop, and extensions of the downtown into the NOMA area. Likewise, a robust housing market has produced a torrent of new residential projects, most of them multifamily developments located in or near the downtown, at transit-oriented sites near Metro stops, and in scattered infill locations in desirable and up-and-coming neighborhoods. Following on the heels of the office and residential markets, major retailers have rediscovered DC. Regional and national retail tenants, ranging from supermarkets to big boxes to boutiques, have gone from reluctant partners to eager participants in the District's recent retail renaissance.

In the midst of this boom, the District's industrially-zoned areas—hugging rail corridors, tucked away in remote locations, and sprawling next to major automotive service corridors—have been largely forgotten. However, as many of the more easily developed and favorably located sites disappeared, commercial and residential developers have begun to turn their interest to industrial land, particular those sites which occupy strategic locations and offer relatively straightforward property assemblages. Requests for the rezoning of industrial land to some other category, typically one permitting residential development, have been increasingly common.

At the same time, several factors have conspired to increase the space needs of government and public entities. Simple growth—jobs and households—in the District increases demand for municipal services and utilities. Related is the growth in transit ridership and demand for better transit service, which translates into more bus garages, proposed light rail yards, and other related services. Further, the plan to build a new stadium for the Washington Nationals on a site in Buzzard Point has created the immediate need to relocate several key public functions related to District operations, water and sewer service, and bus maintenance and storage. Many of these needs are quasi-industrial in nature, and will be hard to site: bus garages, helipads, vehicle storage and maintenance, have unique site selection criteria for functionality and at the same time are uses that are less-than-welcome in established or emerging neighborhoods elsewhere in the District. Since District government is bound by its own zoning, the need for industrially-zoned land for government functions goes beyond concerns over NIMBYism.

Much of the land in question is already occupied by a diverse array of industrial and quasi-industrial users, grouped in this report under the descriptive title of Production, Distribution and Repair businesses (PDR). As this report will describe in detail, PDR businesses in the District

are paying higher rents for less suitable space than many of their suburban counterparts, evidencing a need, and willingness to pay premiums, to be located in the District. Yet the role these industries play in the District economy is poorly-understood. The relatively lower real estate value generated by such users has made it easy to dismiss their relevance to a national and global capital primarily concerned with the business of government and policy-making.

Clearly, there are increasing demands to make policy decisions regarding the District's inventory of industrially-zoned lands, decisions which are currently being made on a site-by-site basis without the benefit of a comprehensive strategy. Decision-making is further hampered by a lack of basic information necessary to make knowledgeable choices. Gaps in information—information necessary for understanding the opportunity costs of rezoning industrial land—that existed at the start of this study, included the following:

- The amount of industrially-zoned land, including how much is vacant, and how much is underutilized.
- The types of users occupying industrially zoned land in the district, and their geographic distribution.
- The role and importance of these users, and PDR businesses generally, in the District's economy.
- The current state of the market for industrial land and buildings.

On the municipal and government space needs side, the gaps in knowledge and data are even more pronounced, and some can not be fully addressed in this report. As part of the research undertaken, it was discovered that:

- Many District agencies are not able to produce a complete inventory of what properties they own or lease. Inventories put together for this report lack such key details such as the size and use of the property, the square footage of any improvements, and the property's zoning.
- Property site identification is currently undertaken both by DC's Office of Property Management (OPM) and individual agencies; sometimes, representatives of OPM and a specific agency are both looking for sites at the same time.
- There is inadequate coordination between agencies when developing plans for improving current operations and providing for future space needs. Opportunities for shared facilities and other synergies may therefore be lost.

The purpose of this report is therefore twofold: (1) to provide the factual and analytical base for future land use decisions impacting industrial land and PDR land uses; and (2) to provide a set of recommendations for strategically managing the District's scarce supply of land suitable for accommodating PDR users and certain municipal, utility, and governmental functions.

1.2 METHODOLOGY

The findings and recommendations contained in this report are founded on a detailed and comprehensive methodology examining the District's industrial lands from a land use, economic, and market perspective. The study "areas" for this report refer to blocks of land delineated by the DC Office of Planning (OP) to correspond roughly areas surrounding CM or M zoning or containing a concentration of industrial businesses and/or industrial land. OP further divided these areas into analytical sub-areas.[3] The accompanying **Study Areas Map** indicates each area and its OP-given name.

The sub-areas provide the geographic organization for the land use analysis and for the specific recommendations. However, the methodology for the report went far beyond land use studies to incorporate the following tasks and investigations:

- **Field surveys and mapping.** Each of the delineated sub-areas was surveyed to identify existing land uses, major tenants, and other physical planning issues such as access, building typology, and intensity. Land uses and tenants were then mapped onto base maps showing building footprints and paved areas. The Office of Planning's existing land use layer provided the surrounding land use context. (The Study Areas Map illustrates the District's industrially zoned areas and shows the sub-area names).
- **Opportunities and Constraints Analysis.** Based on the field surveys and mapping, an Opportunities and Constraints matrix was prepared to assess particular attributes of each industrially-zoned sub area. The purpose of this analysis was to provide qualitative bases for differentiating areas appropriate for PDR retention from areas suitable for land use change, as well as to suggest specific strategies aimed addressing identified issues.
- **Scoring Matrix.** After being surveyed, each sub-area was scored on criteria including adjacent land uses, access and circulation, parcel size, and existing PDR users to determine its overall fitness as an industrial area. This scoring exercise was meant to provide a quantitative basis for our findings.
- **Industrial Users Survey.** A survey of industrial users was mailed to every address located in an industrial zone. Almost 2,000 were mailed out, and several hundred were returned—182 in usable condition. The surveys asked questions regarding the nature of the respondents business, their reasons for locating and remaining in the District, the importance of a District location to their business, relationship to the District's economy, and their future plans for expansion or relocation
- **Market analysis.** An investigation of the market for industrial land and buildings was undertaken. The analysis included a review of market summary reports issued by large commercial real estate brokerages active in the region, such as CoStar; as well as

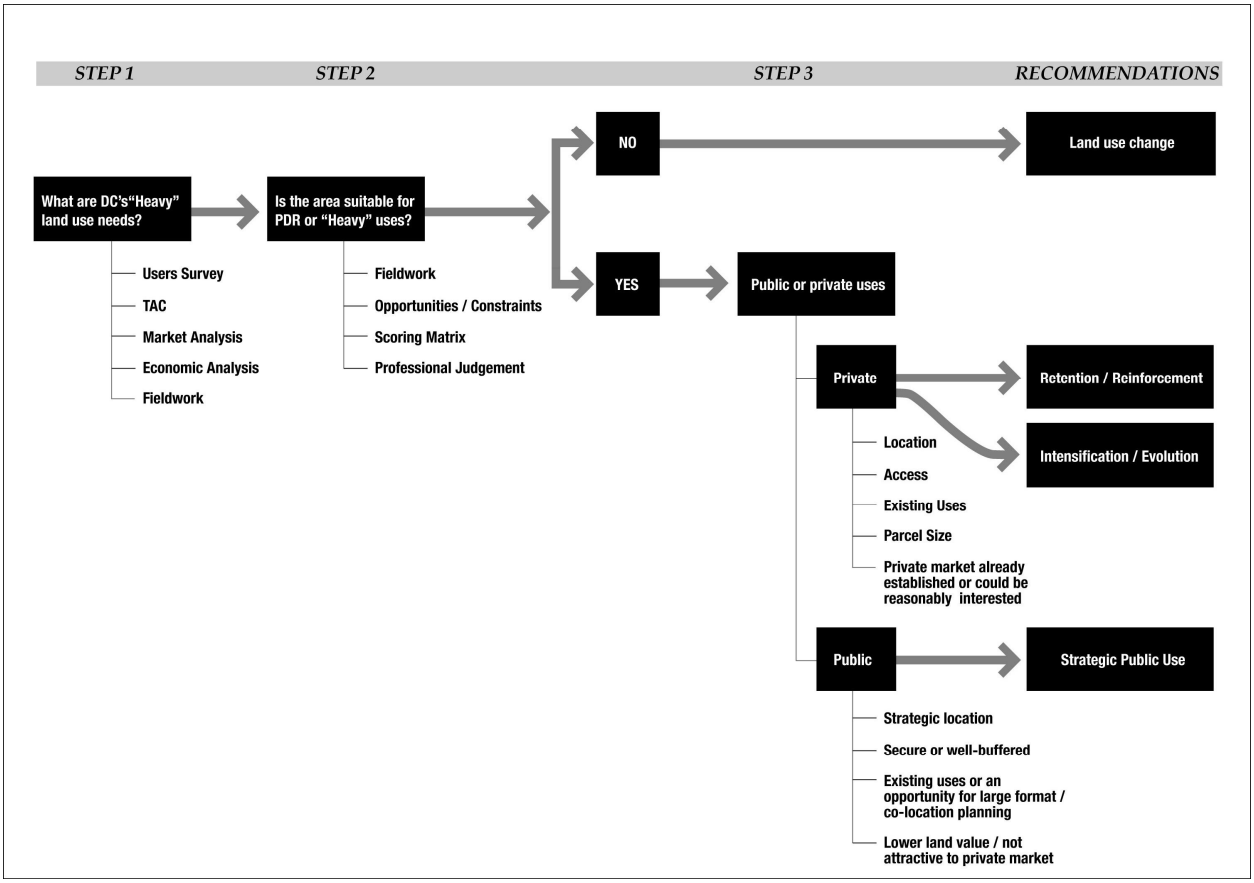
[3] These sub-areas are predominately zoned C-M or M in the City's zoning ordinance, but in many cases they include areas zoned for residential or commercial use. The accompanying zoning maps indicate the precise zoning designations within each sub-area comprising this study.

interviews with individual brokers and leasing agents active in DC and knowledgeable about local market conditions.

- **Economic analysis.** In order to understand the role that PDR business play in the District economy, an economic analysis was undertaken. Tasks included a sector employment analysis for PDR industries; interviews with businesses, economic development professionals, and others; and an investigation of backward linkages from DC's core sectors to PDR sectors. A key question has been the importance of certain PDR support services being located within the District, near to their customer base. The industrial users survey, the interviews, and secondary data sources such as the national input-output accounts, were used to inform these issues.
- **Technical Advisory Committee (TAC).** Municipal/government/utility facility and space needs merited a veritable "study within a study". At the heart of this process was a Technical Advisory Committee comprised of representatives of District agencies, the Federal Government, and public authorities such as the Washington Metropolitan Area Transit Authority (WMATA) and Washington Area Sewer Authority (WASA). The purpose of the TAC has been to identify pressing needs; brainstorm solutions; and test recommendations for addressing the identified needs.
- **Case studies and best practices.** A number of relevant case studies from other cities, many identified by the Office of Planning, were reviewed as a part of this report. Summaries of these case studies appear in the relevant sections. The case studies included sample industrial land studies, industrial retention strategies, zoning strategies, and municipal facilities best practices.
- **Potential zone change criteria.** In response to a request from the Office of Planning, a preliminary set of criteria were developed to provide interim advice to the Zoning Commission regarding petitions for a change of zone affecting an industrial area. Originally conceived of as criteria for determining the appropriateness of a zone change, they later evolved into criteria for determining the appropriateness of *considering* a zone change. These preliminary criteria have been further refined and appear in the Chapter 4 of this report.

The report's land use recommendations followed a clear logical path—they were not made arbitrarily or without great deliberation. The field work and mapping, TAC, users survey, and economic analysis helped determine the District's future "heavy" land use needs. Then, the sub-area analyses helped us determine which areas were suitable for PDR use. Based on the specific site characteristics and market factors, we then determined whether suitable sites were better for public or private uses. Figure 1.1 shows how the technical and analytical analyses contributed to the recommendations.

Figure 1.1: Recommendations Logic Path



The work described above, while focused on the issue of industrial land, has not occurred in a vacuum, but has been undertaken concurrently with work on the economic development element of DC's new Comprehensive Plan. The background studies for the Comprehensive Plan, summarized as an economic development White Paper, were conducted in tandem with this industry study, and data and findings from each report have helped inform the other. This high level of coordination insures that the Comprehensive Plan and the Industrial Areas Study will be fully consistent with each other.

1.3 KEY CONCEPTS

Throughout this report, several key concepts are repeatedly referenced. These concepts are defined and discussed in this section.

The first is the term **PDR**, standing for **Production, Distribution and Repair**.[4] This terminology is adopted from an industrial areas study for the City of San Francisco. The word "industry"

[4] See San Francisco Planning Department. 2002. *Industrial Land in San Francisco: Understanding Production, Distribution, and Repair*. San Francisco, CA. July.

brings to mind images of manufacturing plants, mills, and other heavy uses not reflective of what goes on in DC's industrial districts. The PDR term, while not perfect, better captures the types of "heavy services" that are found in the Districts industrial areas: Production, i.e., the actual making of things, including construction-related industries; distribution, including warehousing and transportation; and repair, which includes the maintenance and repair of vehicles, machinery and equipment, and buildings through the building trades.

Based on employment data for the District of Columbia, specific industrial sectors, as represented by three-digit North American Industrial Classification System (NAICS) codes, have been developed *for industries that are present in the District*. This classification is shown in Table 1.1.

The second key concept is economic **linkages**, also referred to as buyer-supplier relationships. This report is primarily concerned with **backward linkages**, which are features of the economy in which the major core industries—lawyers, consultants, computer systems designers, and the hospitality industries of lodging and dining—source services, materials, and other inputs from local and regional suppliers. Some of these supplying businesses can reap particular advantages from a location close to their customer base. These advantages include timeliness, a significant issue in a region with some of the nation's most severe traffic congestion; lower transport costs, important when these make up a significant share of the cost of delivering the good or service; and simple proximity, which makes it easier for the purchaser to visit and communicate in a face-to-face manner with the supplier. For many buyer-supplier relationships, these advantages may be small and outweighed by the differential in land and space costs between the District and the suburbs. For others, however, they can be critical enough that not only the supplier, but also the buyer (in this case, the core industry) might suffer were the supplier to be unable to locate in an easily accessible location.

1.4 STRUCTURE OF THE REPORT

The remainder of this report is structured to provide the background information necessary for understanding the recommendations, and then to present the recommendations in a manner that is most useful for the primary audiences for this report, namely the Zoning Commission, the Office of Planning, and the agencies that participated in the TAC process, including the Office of Property Management.

Chapter Two summarizes much of the background research for the report by way of answering the fundamental question: Why should public policy be concerned with the fate of DC's industrial lands? The answer comes in the form of an analysis of PDR uses and their importance to the local economy and as a source of jobs; the strategic value of industrial land in the face of increasingly scarce land resources; and the peculiar needs of particular government functions which are best satisfied on industrial land located within the District.

Table 1.1: PDR Industries in the District of Columbia

Production
NAICS 221 Utilities
NAICS 236 Construction of buildings
NAICS 237 Heavy and civil engineering construction
NAICS 238 Specialty trade contractors
NAICS 311 Food manufacturing
NAICS 315 Apparel manufacturing
NAICS 323 Printing and related support activities
NAICS 324 Petroleum and coal products manufacturing
NAICS 327 Nonmetallic mineral product manufacturing
NAICS 332 Fabricated metal product manufacturing
NAICS 333 Machinery manufacturing
NAICS 334 Computer and electronic product manufacturing
NAICS 336 Transportation equipment manufacturing
NAICS 337 Furniture and related product manufacturing
NAICS 339 Miscellaneous manufacturing
NAICS 511 Publishing industries, except Internet
NAICS 512 Motion picture and sound recording industries
NAICS 515 Broadcasting, except Internet
NAICS 517 Telecommunications

Distribution
NAICS 423 Merchant wholesalers, durable goods
NAICS 424 Merchant wholesalers, nondurable goods
NAICS 444 Building material and garden supply stores
NAICS 481 Air transportation
NAICS 483 Water transportation
NAICS 484 Truck transportation
NAICS 485 Transit and ground passenger transportation
NAICS 488 Support activities for transportation
NAICS 492 Couriers and messengers

Maintenance & Repair
NAICS 562 Waste management and remediation services
NAICS 811 Repair and maintenance
NAICS 812 Personal and laundry services

Source: Phillips Preiss Shapiro Associates, Inc.
U.S. Bureau of Labor Statistics, Covered Employment & Wages (CEW) Series

Chapter Three presents an analysis of existing conditions in DC's industrial zones, with a particular emphasis on land use and physical planning considerations, but also including an overview of current industrial real estate market conditions. This chapter references and summarizes a more exhaustive sub-area analysis prepared for an interim technical document. The major findings of that analysis are presented here, culminating in the classification of each sub-area according to the particular opportunities and constraints found in the sub-area.

Chapter Four presents the detailed recommendations of the report. It begins by proposing a new zoning framework for industrial land that more closely reflects the particular character of different industrial sub-districts. It then presents detailed land use and policy recommendations aimed at four categories of industrial area: (1) areas meriting preservation for their existing use, including zoning protections, infrastructure investments, and industrial retention policies; (2) areas which should retain industrial use, but which would benefit from a change in the use profile and an overall intensification, to fully activate these areas economically; (3) areas that should be strategically targeted and managed for their ability to satisfy critical public-sector needs; and (4) areas where a change of use, particularly to permit residential, mixed-use and TOD development, is warranted. The chapter closes with two sections specifically targeting District government policies and procedures, specifically ways to better manage and utilize the Districts current and future real property inventory; and guidelines for land use decision-making when industrial lands are involved.

References and appendices are provided in additional chapters at the end of this report.

This report has been prepared at a critical time, when both the opportunities for positive change and the potential for missteps have seldom been more pronounced. It is hoped that this report can provide a new level of clarity and insight into one of the key areas that the District must consider as it moves forward with its new Comprehensive Plan.

2 Rationale for the Study

Office and housing provide far better returns on investment than industrial development, and developers are ready to move with projects converting industrial areas over to commercial and residential use. Why should zoning, and District government policy, stand in the way? The answer, which lies at the core of this study, is multifactorial, but essentially reduces to the need to think strategically about existing and future needs. Considered in isolation, each individual development site could be subject to its own highest and best use analysis. Taken together, however, they represent a portfolio of assets that District government must manage in a strategic manner specifically because these assets are scarce. Unlike suburban jurisdictions with ample space for accommodating future growth, each development decision made in DC carries with it an opportunity cost: the foreclosure of other development options. The portfolio perspective means that the District should view its inventory of developable sites as serving potentially different functions: immediate opportunities, hedges against future uncertainty, or resources held in reserve for anticipated future needs.

This chapter explores various aspects of the question posed above. The first two sections are economic in nature, and explore the role of PDR industries in the District's economy, with a particular focus on linkages to core industries and impacts on the cost of business; as well as PDR businesses as a source of jobs, particularly jobs requiring less than a post-secondary education but still offering possibilities for living wages and advancement. The remaining sections take up the theme of thinking strategically about industrial land as a needed, and irreplaceable, asset. First, the extent of the development pressures impacting industrial land are described and quantified, where appropriate. Next, the supply of industrial land, including an analysis of the amount that is vacant or underutilized, is detailed: this represents the supply side of the equation. Next, public and private sector demand is described and quantified. First, public sector needs identified through the TAC process are tabulated; next, private sector demand, based on PDR employment forecasts, is projected. The analysis shows both the scarcity of industrial land, and its apparent inability to fulfill the demands placed upon it by both the public and private sectors. Balancing these demands against other planning considerations, and managing demand from the public sector side, is a major focus of the recommendations presented in Chapter Four.

2.1 IMPORTANCE OF PDR TO THE DISTRICT ECONOMY

2.1.1 SECTOR ANALYSIS

Production, Distribution & Repair industries are not typically considered a fundamental part of the District's total economy. Indeed, their share of employment as individual sectors is swamped by the big core industries such as government, legal services, and professional services. DC is, after all, an office economy, boasting one of the largest inventories of downtown office space in

the nation. However, when considered collectively, the importance of DC's PDR industries is not as small as normally assumed. In fact, the sectors identified as PDR sectors (based on the nature of the industry and their presence in DC's industrial zones) account for about 10 percent of total District employment, as shown in Table 2.1.

Table 2.1: PDR Employment, District of Columbia, 2004

Industry	Employment	Percent of Total	Percent of PDR
Total Employment	***429,176***	***100.0%***	
PDR Employment			
NAICS 221 Utilities	2,487	0.6%	5.0%
NAICS 236 Construction of buildings	4,512	1.1%	9.1%
NAICS 237 Heavy and civil engineering construction	1,858	0.4%	3.7%
NAICS 238 Specialty trade contractors	5,963	1.4%	12.0%
NAICS 311 Food manufacturing	400	0.1%	0.8%
NAICS 315 Apparel manufacturing	18	0.0%	0.0%
NAICS 323 Printing and related support activities	868	0.2%	1.7%
NAICS 324 Petroleum and coal products manufacturing	74	0.0%	0.1%
NAICS 327 Nonmetallic mineral product manufacturing	109	0.0%	0.2%
NAICS 332 Fabricated metal product manufacturing	80	0.0%	0.2%
NAICS 333 Machinery manufacturing	33	0.0%	0.1%
NAICS 334 Computer and electronic product manufacturing	263	0.1%	0.5%
NAICS 336 Transportation equipment manufacturing	50	0.0%	0.1%
NAICS 337 Furniture and related product manufacturing	131	0.0%	0.3%
NAICS 339 Miscellaneous manufacturing	163	0.0%	0.3%
NAICS 423 Merchant wholesalers, durable goods	2,135	0.5%	4.3%
NAICS 424 Merchant wholesalers, nondurable goods	1,871	0.4%	3.8%
NAICS 444 Building material and garden supply stores	760	0.2%	1.5%
NAICS 481 Air transportation	154	0.0%	0.3%
NAICS 483 Water transportation	153	0.0%	0.3%
NAICS 484 Truck transportation	185	0.0%	0.4%
NAICS 485 Transit and ground passenger transportation	1,058	0.2%	2.1%
NAICS 488 Support activities for transportation	138	0.0%	0.3%
NAICS 492 Couriers and messengers	668	0.2%	1.3%
NAICS 511 Publishing industries, except Internet	9,180	2.1%	18.5%
NAICS 512 Motion picture and sound recording industries	1,591	0.4%	3.2%
NAICS 515 Broadcasting, except Internet	4,374	1.0%	8.8%
NAICS 517 Telecommunications	3,232	0.8%	6.5%
NAICS 562 Waste management and remediation services	336	0.1%	0.7%
NAICS 811 Repair and maintenance	875	0.2%	1.8%
NAICS 812 Personal and laundry services	5,915	1.4%	11.9%
Total PDR Employment	**49,634**	**11.6%**	**100.0%**

Source: U.S. Bureau of Labor Statistics, Covered Employment & Wages (CEW) Series

Within the PDR industries, the construction trades (NAICS 236, 237 and 238) account for one-quarter (25 percent) of PDR employment. The next largest sector is publishing, followed by Personal and Laundry Services. This indicates that PDR employment in the District is largely driven by the ongoing boom in construction and rehabilitation; as well as industries that are related to the District's media companies, and support services for the hospitality industries. Wholesalers, many of whom sell to DC-based customers in the hospitality, restaurant, and entertainment industries, account for about eight percent of District PDR employment.

Table 2.2: Location Quotients, PDR Industries, District of Columbia, 2004

Industry	Location Quotients	
	District to U.S.	District to MSA
Total Employment	***1.00***	***1.00***
PDR Employment		
NAICS 221 Utilities	*1.11*	*1.44*
NAICS 236 Construction of buildings	0.70	0.52
NAICS 237 Heavy and civil engineering construction	0.52	0.48
NAICS 238 Specialty trade contractors	0.34	0.27
NAICS 311 Food manufacturing	0.07	0.40
NAICS 315 Apparel manufacturing	0.02	0.17
NAICS 323 Printing and related support activities	0.33	0.38
NAICS 324 Petroleum and coal products manufacturing	0.17	0.71
NAICS 327 Nonmetallic mineral product manufacturing	0.06	0.15
NAICS 332 Fabricated metal product manufacturing	0.01	0.10
NAICS 333 Machinery manufacturing	0.01	0.04
NAICS 334 Computer and electronic product manufacturing	0.05	0.08
NAICS 336 Transportation equipment manufacturing	0.01	0.09
NAICS 337 Furniture and related product manufacturing	0.06	0.24
NAICS 339 Miscellaneous manufacturing	0.06	0.38
NAICS 423 Merchant wholesalers, durable goods	0.18	ND
NAICS 424 Merchant wholesalers, nondurable goods	0.24	0.59
NAICS 444 Building material and garden supply stores	0.16	0.18
NAICS 481 Air transportation	0.08	0.05
NAICS 483 Water transportation	0.70	ND
NAICS 484 Truck transportation	0.03	0.09
NAICS 485 Transit and ground passenger transportation	0.71	0.85
NAICS 488 Support activities for transportation	0.07	0.11
NAICS 492 Couriers and messengers	0.30	0.34
NAICS 511 Publishing industries, except Internet	*2.56*	*1.59*
NAICS 512 Motion picture and sound recording industries	*1.06*	*1.47*
NAICS 515 Broadcasting, except Internet	*3.42*	*2.40*
NAICS 517 Telecommunications	0.80	0.49
NAICS 562 Waste management and remediation services	0.26	0.30
NAICS 811 Repair and maintenance	0.18	0.21
NAICS 812 Personal and laundry services	*1.18*	*0.91*
Total PDR Employment	**0.39**	**0.56**

(ND) Not disclosed

Source: U.S. Bureau of Labor Statistics, Covered Employment & Wages (CEW) Series

However, PDR is in general less prevalent in the District than is the national norm. Table 2.2 provides Location Quotients for DC's PDR sectors, using both the national economy and the Metropolitan Region's economy as a point of comparison. The location quotient is the ratio of local employment share to employment share in the reference region economy. Quotients greater than one indicate specialization; those smaller than one indicate that the industry accounts for a smaller amount of total employment than in the reference region. This analysis shows that DC only has PDR specializations in media-related companies and Personal and Laundry services. For this latter industry, the District has less of a concentration than the region, supporting findings from interviews that such support services not needing rapid turn-around times are tending to choose suburban locations for reasons of cost and quality and availability of space.

In spite of assumptions regarding the decline of industry, overall PDR employment in the District has been steady over the past several years, with declines in some sectors (manufacturing) being offset by growth in other sectors (construction and warehousing). Interviews suggest that steady PDR employment is a result of the growing stability of the District's political environment, which stemmed the outflow of businesses and made the city a more viable option for businesses considering relocation. The following table provides an overview of employment trends for the past five years by major industry sector. It shows PDR employment increasing very modestly over this time period, with an overall growth rate slower than the District economy has a whole.

Table 2.3: Employment Change in PDR Industries, District of Columbia, 1999 – 2004

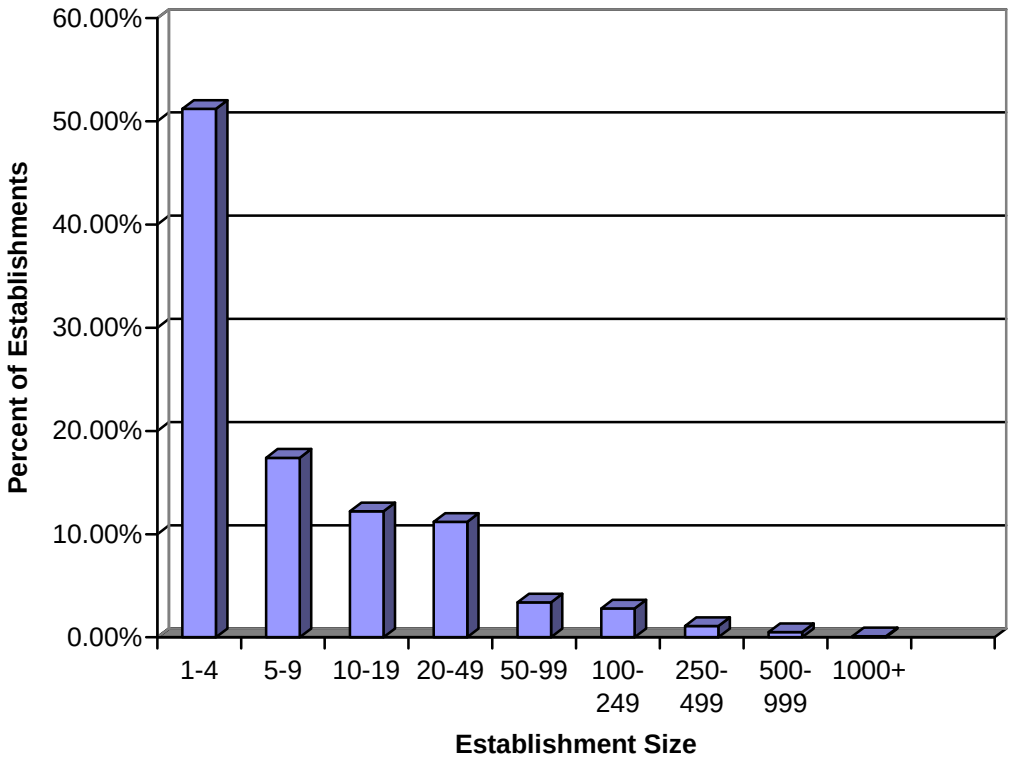
		Employment (000s)		Employment Change	
NAICS	Industry	1999	2004	Absolute (000s)	Annual % Growth Rate
--	Total Employment	627.4	672.4	45.0	1.40%
31-33	Manufacturing	3.8	2.5	-1.3	-8.03%
23	Construction	9.6	12.3	2.7	5.08%
42	Wholesale Trade	4.3	4.5	0.2	0.91%
22	Utilities	2.5	ND	--	--
48-49	Transportation & Warehousing	5.1	3.4	-1.7	-7.79%
51	Information	23.7	23.8	0.1	0.08%
5617	Services to Buildings and Dwellings	12.1	12.4	0.3	0.49%
	Total change, PDR Industries			**0.3**	

Source: Prepared by the Department of Employment Services Office of Labor Market Research and Information

Consistent with findings that most PDR users looking for space in DC's industrial zones are looking for small blocks of space, an overview of PDR sectors by establishment size confirms

that small companies dominate the PDR landscape, with small firms of 19 or fewer employees accounting for 80 percent of all PDR establishments.

Chart 2.1: PDR Establishments by Size, 2003



Source: U.S. Census Bureau, 2003 County Business Patterns, District of Columbia

2.1.2 BACKWARD LINKAGES WITH CORE INDUSTRIES

DC's core industries, such as professional services and hospitality, purchase inputs from many other linked industries, including PDR industries. To address these linkages quantitatively, it is necessary to know in detail the purchasing patterns of core industries as they relate to goods and services demanded of other industries. While no local data set is available, the Bureau of Economic Analysis does compile such accounting for the nation as a whole. Known as "Input-Output" accounts, these I-O tables track what impact an increase in output from a specific industry has on an array of other industries, in terms of output, earnings and employment. The BEA further adjusts these national accounts for specific regions, through a methodology that uses location quotients, to create regional I-O models. This model is known by the acronym RIMS, which stands for Regional Input-output Modeling System.

RIMS tables were obtained for the Washington, DC PMSA. The tables provide a matrix disaggregating the output, earnings and employment impacts that occur across a range of industry groups from a change in output in one particular industry. Impacts can be estimated for 20 industry groups. Four of these—construction, manufacturing, wholesale trade, and transportation and warehousing—have been grouped together as PDR industries. In truth, other PDR industries are aggregated within other groups, but there is no way to separate them out using the RIMS model. The analysis here should therefore be understood as capturing much, but not all, potential PDR multiplier impacts.

Table 2.4 shows the PDR-specific employment multipliers for non-PDR, aggregate RIMS industries. These multipliers represent the sum of the individual multipliers for the four PDR aggregate RIMS industries, and show the employment increase resulting from an addition $1 million in output from the each row industry in the table. They are sorted in descending order. The table shows that some of the "core" industries in the District that are most strongly linked with regional PDR industries include educational services, social assistance, and hospitals. Professional, scientific and technical services; as well as accommodation, are somewhat less strongly linked.

While Table 2.4 is useful for comparing different industries in terms of the strength of their links with PDR industries, the multipliers in isolation do not speak to resulting magnitude of impacts. Output for most of these industries in the District alone is measured in the hundreds of billions or trillions of dollars, not millions; therefore even these modest multipliers can result in big impacts. To get a better understanding, a case study approach using one core industry—professional, scientific and technical services—has been undertaken to better understand the magnitude of the linkages and the implications for DC's industrial areas.

Looking first at the existing condition, the Professional, Scientific and Technical Services industry (which includes lawyers and various consultants) had annual gross sales (or output) of nearly $18 trillion in the District as of the 2002 Economic Census. The regional PDR job impact of this industry can be estimated using the RIMS multipliers, as shown in Table 2.5. The table indicates that DC's Professional, Scientific and Technical Services directly support over 14,000 PDR jobs throughout the region. The number of these jobs actually located within the District is unknown. By way of comparison, in 2002, the year to which this analysis is benchmarked, total PDR employment in the District in these four industry aggregations was about 31,000.

Table 2.4: PDR Multipliers for Non-PDR Industries, Jobs Created per $1 million in Additional Output by Industry, Washington PMSA

RIMS Industry	Multiplier*
59. Other services*	1.17
51. Educational services	0.98
37. Publishing including software	0.95
54. Social assistance	0.93
53. Hospitals and nursing and residential care facilities	0.91
40. Information and data processing services	0.89
55. Performing arts, museums, and related activities	0.81
58. Food services and drinking places	0.81
52. Ambulatory health care services	0.81
42. Securities, commodity contracts, investments	0.81
28. Retail trade	0.80
48. Management of companies and enterprises	0.79
56. Amusements, gambling, and recreation	0.78
47. Professional, scientific, and technical services	0.77
57. Accommodation	0.77
60. Households	0.73
49. Administrative and support services	0.71
44. Funds, trusts, and other financial vehicles	0.67
41. Federal Reserve banks, credit intermediation and related services	0.61
43. Insurance carriers and related activities	0.48
46. Rental and leasing services and lessors of intangible assets	0.43
45. Real estate	0.40

* Includes government enterprises

Source: Bureau of Economic Analysis, Regional Input-output Multiplier System
Phillips Preiss Shapiro Associates, Inc.

Table 2.5: Regional PDR Employment Impacts from Existing Output in the Professional, Scientific and Technical Services Industry in the District of Columbia

	Multiplier	PDR Job Impact	Percent
3. Utilities*	0.0295	530	3.7%
4. Construction	0.0647	1,162	8.1%
5. Manufacturing	0.1518	2,727	19.0%
6. Wholesale trade	0.1428	2,566	17.9%
8. Transportation and warehousing*	0.4088	7,345	51.3%
Total		**14,331**	**100.0%**

* Includes government enterprises

Source: Bureau of Economic Analysis, Regional Input-output Multiplier System
Phillips Preiss Shapiro Associates, Inc.

The Professional, Scientific and Technical Services industry is projected to grow significantly within the region and the District in the near future. Employment projections prepared by the Department of Employment indicate a 21 percent increase in employment between 2002 and 2012. Assuming that sales increase linearly with employment (a reasonable assumption, as worker productivity in professional services does not tend to change significantly over time), sales (i.e. output) within this industry will increase by about $3.8 trillion over the same time period. The following table details the regional PDR increase of this growth.

Table 2.6: Regional PDR Employment Impacts from Projected Growth in the Professional, Scientific and Technical Services Industry in the District of Columbia

	Multiplier	PDR Job Impact	Percent
3. Utilities*	0.0295	111	3.7%
4. Construction	0.0647	244	8.1%
5. Manufacturing	0.1518	573	19.0%
6. Wholesale trade	0.1428	539	17.9%
8. Transportation and warehousing*	0.4088	1,542	51.3%
Total		**3,009**	**100.0%**

Source: Bureau of Economic Analysis, Regional Input-output Multiplier System
Phillips Preiss Shapiro Associates, Inc.

PDR impacts are but one portion of the total impacts of this growth. The following table shows the full regional multiplier impact on all industries (including the Professional, Scientific and Technical Services industry), PDR industries, and non-PDR industries outside of the Professional, Scientific and Technical Services industry. The table illustrates that a little less than half of the regional employment impacts associated with growth in the Professional, Scientific and Technical Services industry occur outside of the industry itself. Of these jobs, about 90 percent are non-PDR jobs, while 10 percent are PDR jobs. The implication is that when the Professional, Scientific and Technical Services industry expands, 48 percent of the direct and indirect employment impacts are due to backwards linkages to other industries and other indirect effects, and 10 percent of *those* impacts are felt within the four PDR industry groups.

Table 2.7: Total, Non-PDR, and PDR Employment Impacts from Projected Growth in the Professional, Scientific and Technical Services Industry in the District of Columbia

	Jobs	Percent
Total new jobs	61,116	100.0%
New jobs within the industry	32,087	52.5%
New jobs outside the industry	29,029	47.5%
New non-PDR jobs outside the industry	26,020	89.6%
Total new PDR jobs	3,009	10.4%

Source: Bureau of Economic Analysis, Regional Input-output Multiplier System
Phillips Preiss Shapiro Associates, Inc.

In summary, demand for PDR goods and services increases regionally as growth occurs in the core industries. Just the projected growth in one industry in the District will result in over 3,000 new PDR jobs regionally. This does not even count continued growth in these industries due to other factors such as population growth, growth in other economic sectors, and 'export' trade with customers outside of the region. The challenge for DC will be to capture those segments of this growth that can reasonable find space to succeed within the District.

2.1.3 IMPORTANCE OF A DC LOCATION

The above analysis shows that PDR businesses collectively contribute significantly to employment in the District; that as a whole they can be expected to exhibit modest growth; and that they are linked with the District's core industries. However, these facts do not reveal the true flavor of these linkages, and the importance of a DC location for key PDR users. Most PDR users are located in the District because of a particular relationship with local industries which form their customer base. Proximity provides them with a competitive advantage, whether its short delivery times, ease of face-to-face interaction, etc.

To better understand these factors, a survey of industrial users was undertaken for this study. A full summary of the survey results is included as an appendix. Respondents were directly asked about their relationship with DC customers and the factors that favor a DC location. The highlights were as follows:

- When asked, three-quarters of respondents agreed that their access and proximity to DC customers is a significant advantage, while only 4 percent disagreed.
- A majority of 86 percent still want to be operating in the District five years from now.
- A majority of 65 percent achieve half or more of their sales from DC customers. For only 14 percent does this share fall below 25 percent.
- Nearly 60 percent agreed that their location in DC is an advantage from the standpoint of their customers.
- Of businesses planning to stay in DC, 38 percent plan to do so due to proximity to their customers.
- Of businesses planning to depart, only 4 percent are doing so because the move will bring them closer to their customers. Much more important factors for businesses contemplating a move are the cost of land (19 percent) and taxes (20 percent).
- Proximity to their customer base in all cases outweighed accessibility to their workforce for survey respondents.

Clearly, these results further underline the linkage between DC's PDR businesses and the purchasing sectors of the DC economy. Likely, these relationships are a two-way street: PDR suppliers benefit from the competitive advantage of a DC location, while buyers benefit from reduced turnaround, lower costs, and/or other advantages that decrease the cost and hassle of conducting a business in the District.

2.1.4 INTERVIEWS

The data presented above provide an overview of trends within PDR industries. For a more detailed view of what particular industries most desire space within the District, industrial real estate brokers and economic development officials were interviewed. These interviews revealed that the strongest demand for industrial space today comes from the following types of PDR users:

- **Food and beverage services:** In addition to traditional alcoholic beverage distributors (required by law to be in the District), newer specialty spirit distributors are seeking space in the District. Another source of demand are distributors to smaller grocery stores, hotels, and restaurants, and distributors of specialty (e.g., ethnic) foods. This latter market is particular strong, but also particularly hard to capture, as it is difficult to meet their requirements. Some are looking for larger sites, 40,000 to 50,000 square feet; many are looking for space with cold storage, all at a competitive cost. Interviews

with the hospitality industry suggest the food distributors most likely to be in the city are those distributing the most perishable products—produce, meat, seafood, baked goods. While the bulk of food products delivered to the hospitality industry are provided by distributors such as US Foods or Sysco (both located outside the District), businesses dealing in products that require frequent delivery are more likely to be located very close to their customers.

- **Transportation:** This includes all manner of auto-related uses, including used auto dealers; auto/motorcycle service/repair; tow truck companies; limousine companies (fleet parking); and truck, bus, and auto fleet storage. Since auto repair involves leaving a prime means of transportation at a location for some time, these uses preferentially like to locate close to places where people live or work, and where alternative transportation (buses, taxis) is available.
- **Construction/building services:** Demand is typically from small contractors looking for space for building supplies or staging yards. However, it has been reported that contractors needing to store heavy equipment on site are often reluctant to locate in DC due to the fear of vandalism or theft. This underlines the need for greater security in many of DC's industrial zones.
- **Telecommunications:** The combination of the national government, news media, and large office economy makes DC a hub for advanced telecommunications. DC's industrial zones house satellite dish farms, telco hotels, as well as more mundane tecommunications equipment storage. Verizon is a notable presence in DC's industrial zones.
- **Waste management services:** These services want to be in the District to cut down on transport costs and times. They include trash hauling (truck storage); and transfer stations. These are high-impact uses, and there is obviously little additional space for such users outside of where they are already found. Attempts to capture more of this sector would undoubtedly meet with NIMBY objections.
- **Light manufacturing:** Some businesses have expressed an interest in locating in the District, looking to the city for free or low cost PDR space for their operations in exchange for significant job creation. Interviews revealed such interest from a corrugated cardboard assembly operation and an industrial laundry seeking to serve the District's hospitality industry.

Among the sectors identified above, the two that appear to be most promising from the standpoint of attracting desirable and employment-generating PDR users are the warehousing, wholesaling and distribution of specialty foods for the hotel and restaurant industries; and contractors in the building trades. The former is well represented in certain areas such as the Florida Avenue Wholesale Market; and many hotels and restaurants want the quick delivery of perishables that can be provided with a DC location. While the provision of perishable wholesale goods to the hospitality industry is likely to continue, expansion of this market will be limited. Interviews suggest that many hotels' purchasing decisions are constrained by centralized purchasing agreements made by their national management companies.

The other area of opportunity, the building trades, is scattered throughout DC's industrial districts. A greater capture rate could likely be achieved through policies which emphasize security for businesses with open-air storage, such as in place industrial parks with shared security and perimeter fencing. In addition, any measure to assure that building trades businesses fully tap the government construction market will benefit the PDR districts. Most major construction contracts are awarded to prime contractors who then seek local contractors. Additional forums to match local building trades contractors with these primes would be beneficial.

Despite the massive presence of the Federal government, this appears to be a limited market for the District's PDR businesses. In most cases, businesses achieve no advantage in serving this market by locating in the District. Interviews suggest that a very small number of contracts specify a geographic distance from which a good or supply can be sourced. This has happened in the case of security related services and pest control but it is considered rare. The notable exception is construction in which the prime contractor needs to have a local presence; however, a local presence can be defined as a corporate office for the general contractor and does not necessarily translate into demand for space in the District's industrial areas. In general, the Federal government has an intentionally national view in its sourcing and no preference is given to local vendors. Location or proximity can not be considered in evaluation of proposals; vendors are selected on the basis of technical and managerial merit, past performance, and price.

The greatest opportunities for PDR businesses to access the Federal market depend on either getting certified as an 8(A) business or working on behalf of a prime contractor. Approximately 1,600 of the 8,000 8(A) businesses nationally are located in the District. While most of these businesses are IT-related, there are a couple hundred construction and building trades firms. While ample assistance is available to help businesses get certified as 8(A) contractors, interviews with the SBA suggest another barrier to securing government contracts: time and resources. Anecdotal information suggests that companies hoping to secure such contracts need to be able to devote a full time person to marketing to the government, a commitment that many District businesses may be unwilling to make. Finding work with primes has been made easier through the SBA's introduction of Sub-Net, an electronic database of subcontracting opportunities, which should assist PDR businesses link to general contractors doing business with the Federal government.

The District itself represents a significant market for PDR businesses. Particularly with the passage of legislation in July, implemented this past fall, which states that any procurement under $100,000 must be filled by an SBE on the DC Supply Schedule, opportunities for smaller District PDR businesses are abundant. City procurement officials estimate that 80 percent of the city's transactions are for under $100,000. Further study should be given to what support PDR businesses need to become part of the DC Supply Schedule.

2.1.5 CONCLUSIONS

These findings collectively paint an interesting picture. PDR sectors in DC are underrepresented as a share of District employment, a fact which should come as no surprise. Yet, these sectors play an important role in supporting other larger sectors in the economy. Contractors support the local construction and rehabilitation boom that is transforming downtown and neighborhoods; and specialty food wholesalers play an important role in supplying the hospitality industry and ethnic markets and restaurants. Media companies whose operations involve an industrial-component (studios, satellite dish farms, etc.) also find a home in DC's industrial zones. Linkages between PDR businesses and purchasing sectors are strong. Providing support for these sectors to continue operations in the District is therefore a legitimate public policy goal.

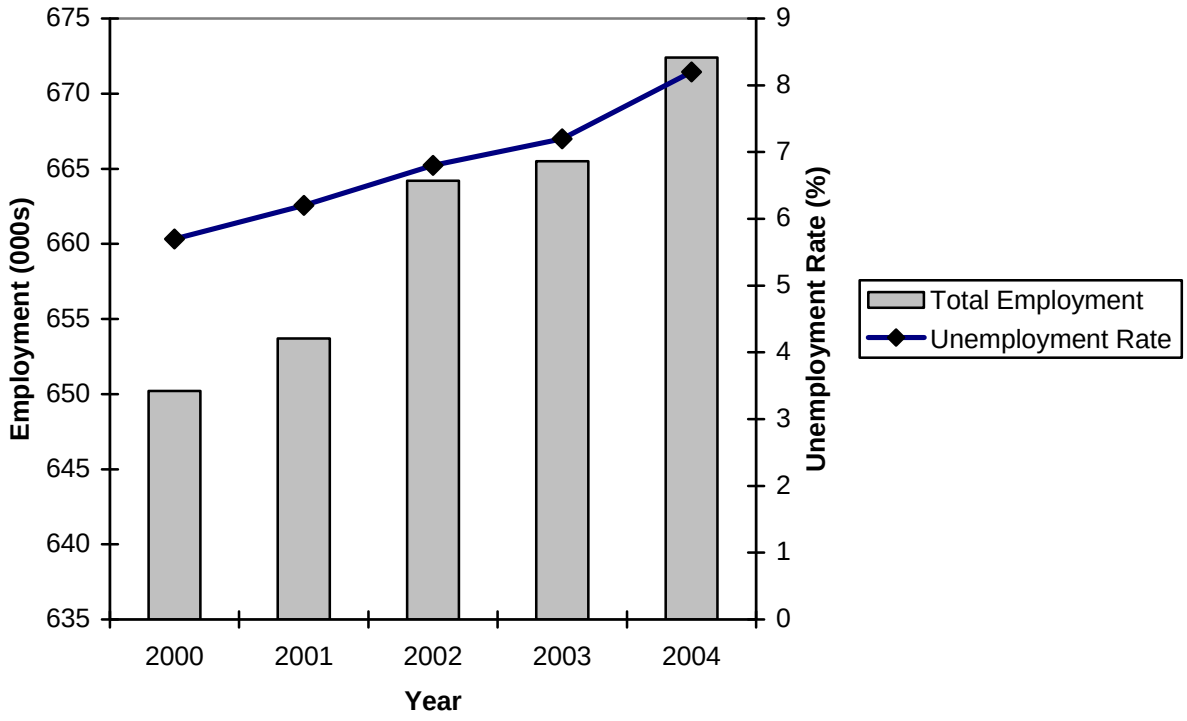
2.2 NEED FOR PDR JOBS

The District of Columbia has no shortage of jobs—total employment exceeds the resident labor force by more than a factor of two! Yet, the District continues to be beset by high unemployment rates exceeding those of the region by a significant margin. As an example, the 2004 unemployment rate in the District was 8.2 percent, compared with 3.7 percent for the Metropolitan Statistical Area (MSA). Further, the 2004 unemployment rate was at a seven-year high, coming off a five year period in which the average unemployment rate grew every year, even as total employment in the district also grew (see Chart 2.2). Intuitively, there is a mismatch between the types of new jobs being created in the District, and the skill sets of many of DC's unemployed, and underemployed, residents.

This mismatch can be seen in the most recent occupational projections prepared by the Department of Employment Services. These projections, summarized by major occupational group, are shown in Table 2.8. They cover the period of 2002 to 2012, and are based upon employment projections by industry converted into occupational projections through the use of the Occupational Staffing Matrix published by the Bureau of Labor Statistics.

The table shows that the base majority of the job growth projected for the District will occur in skilled, white-collar occupations. A full 65 percent of the growth will be for management occupations and professional services (attorneys, consultants, etc.). The major source of entry-level jobs will be in services and sales, which together account for 25 percent of new jobs. However, these occupations tend to pay wages at or below the accepted living wage threshold for DC, as shown in a subsequent table. PDR-related occupations are highlighted in bold text. These occupations are projected to account for less than 5 percent of future job growth. By far the biggest gains will be in construction-related jobs, due to the local and regional boom in residential and commercial construction.

Chart 2.2: Total Employment and Unemployment, District of Columbia, 2000 – 2004



Source: Bureau of Labor Statistics

Table 2.8: Occupational Projections for the District of Columbia by Major Occupational Category, 2002 – 2012

Occupational Group	New Jobs	Percent of New Jobs: Percent	Percent of New Jobs: Cumulative
Total, All Occupations	67,758	100.0%	
Management, Business and Financial Occupations	18,480	27.3%	27.3%
Professional & Related Services	25,840	38.1%	65.4%
Service Occupations	13,711	20.2%	85.6%
Sales and Related Occupations	3,155	4.7%	90.3%
Office and Administrative Support Occupations	3,399	5.0%	95.3%
Farming, Fishing and Forestry Occupations	14	0.0%	95.3%
Construction and Extraction Occupations	*1,994*	2.9%	98.3%
Installation, Maintenance, and Repair Occupations	*615*	0.9%	99.2%
Production Occupations	*336*	0.5%	99.7%
Transportation and Material Moving Occupations	*213*	0.3%	100.0%

Source: District of Columbia Department of Employment Services (2005): *District of Columbia Employment Projections by Industry and Occupation, 2002 – 2012.*

Table 2.9: Annual Wages by Occupational Group, District of Columbia

SOC	Occupational Title	10th Percentile Annual Wage	Median Annual Wage	90th Percentile Annual Wage
00-0000	**All Occupations**	**$18,940**	**$44,440**	**$107,280**
	Management, Business & Financial Occupations			
11-0000	Management occupations	$41,590	$87,590	$144,180
13-0000	Business & financial operations occupations	$37,090	$65,280	$106,570
	Professional & Related Occupations			
15-0000	Computer and mathematical occupations	$39,180	$68,960	$104,020
17-0000	Architecture and engineering occupations	$37,460	$69,890	$111,080
19-0000	Life, physical and social science occupations	$36,840	$75,410	$118,810
21-0000	Community and social services occupations	$20,950	$36,320	$60,070
23-0000	Legal occupations	$34,080	$97,450	$145,600
25-0000	Education, training, and library occupations	$21,710	$44,910	$88,330
27-0000	Arts, design, entertainment, sports & media occupations	$29,340	$52,850	$88,440
29-0000	Healthcare practitioners & technical occupations	$32,270	$52,250	$105,750
	Service Occupations			
31-0000	Healthcare support occupations	$17,510	$25,240	$38,000
33-0000	Protective service occupations	$15,120	$35,700	$78,000
35-0000	Food preparation and serving related occupations	$13,860	$17,990	$28,860
37-0000	Building and grounds cleaning and maintenance occupations	$15,280	$22,300	$29,110
39-0000	Personal care and service occupations	$14,630	$21,050	$40,330
	Sales and Related Occupations			
41-0000	Sales and related occupations	$15,710	$26,650	$68,200
	Office and Administrative Support Occupations			
43-0000	Office and administrative support occupations	$21,840	$35,760	$70,020
	Construction Occupations			
47-0000	Construction and extraction occupations	$23,810	$41,040	$62,310
	Installation, Maintenance & Repair Occupations			
49-0000	Installation, maintenance, and repair occupations	$22,970	$40,990	$61,160
	Production Occupations			
51-0000	Production occupations	$15,650	$35,450	$65,340
	Transportation & Materials Moving Occupations			
53-0000	Transportation and material moving occupations	$15,090	$24,730	$43,850

Source: District of Columbia Department of Employment Services (2005): *District of Columbia Employment Projections by Industry and Occupation, 2002 – 2012.*

Table 2.9 shows wage rates for a spectrum of occupations. As a useful benchmark, the District Council is currently considering a "living wage" ordinance that would set this wage at $11.50 per hour; this corresponds to an annual income of about $23,000. The tables show that three of the PDR occupational categories—construction; installation, maintenance and repair; and production—have pay scales and exceed this threshold by a significant degree. By contrast, most service occupations, save those in the security services, are at or below this threshold;

and the average sales occupation is just a little above. The spread in wages in sales occupations is further broader than most other occupations, as this category encompasses sales managers as well as clerks and cashiers. As shown by the 10th percentile wage, entry-level sales positions can pay less than $16,000 a year. The 10th percentile wage for construction and installation, maintenance and repair occupations is significantly higher. Thus, leaving aside the important fact that PDR jobs are also generally associated with good benefits and union representation (something often lacking in sales and service jobs), PDR jobs provide a level of compensation that the District should make every effort to retain and expand for its working families.

Table 2.10: Employment Growth by Education and Training Category

Education & Training Category	2002	2012	Growth	Percent of New Jobs	Cumulative Percentage
1 First professional degree	52,734	54,800	2,066	3.06%	3.06%
2 Doctoral degree	6,646	8,057	1,411	2.09%	5.14%
3 Master's degree	32,016	35,220	3,204	4.74%	9.88%
4 BA degree, plus work experience	88,015	99,967	11,952	17.68%	27.56%
5 Bachelor's degree	136,631	154,930	18,299	27.07%	54.63%
6 Associate degree	29,481	33,471	3,990	5.90%	60.54%
7 Postsecondary vocational training	25,698	28,282	2,584	3.82%	64.36%
8 Work experience in a related occupation	51,487	54,575	3,088	4.57%	68.93%
9 Long-term on-the-job training	30,543	32,975	2,432	3.60%	72.52%
10 Moderate-term on-the-job training	81,494	85,137	3,643	5.39%	77.91%
11 Short-term on-the-job training	189,321	204,252	14,931	22.09%	100.00%
Total	**724,066**	**791,666**	**67,600**	**100.00%**	

Source: District of Columbia Department of Employment Services (2005): *District of Columbia Employment Projections by Industry and Occupation, 2002 – 2012.*

Finally, Table 2.10 shows projected employment growth by the necessary level of education and training necessary for the position. At the lowest end of the entry-level job spectrum are those positions, such as cashiers, that call for only short on-the-job training. Such occupations are expected to make up over a fifth of all new jobs between 2002 and 2012. At the other end of the spectrum are jobs requiring a bachelor's degree or better—these make up over half of new jobs. PDR jobs such as construction, maintenance and repair typically require technical skills acquired either through vocational training or medium and long-term on-the-job training. Collectively, these mid-range occupations in the skills spectrum are projected to account for about 17 percent of new jobs, or 11,700 jobs in total. This is fewer than half of the jobs needed

to move the District's 24,000 unemployed residents into productive employment, even if 100 percent of these jobs were to be filled by DC residents, not to mention providing opportunities to underemployed residents. In fact, according to the Industrial Users Survey undertaken for this report, about 40 percent of PDR jobs are held by DC residents.

Under the best of circumstances, PDR industries will only account for a fraction of DC's future job growth. Yet, increasing that fraction could have a significant impact on the range and type of job opportunities available to DC residents, particularly jobs which offer career ladders and living wages. "Growing and Inclusive City" is the organizing theme of the District's new Comprehensive Plan. Economic inclusiveness requires access to meaningful job opportunities for all of DC's residents, even those without advanced education. PDR jobs can provide these types of opportunities. A strong base of PDR employment should be an important part of an array of strategies addressing chronic unemployment in the District.

2.3 DEVELOPMENT PRESSURES

2.3.1 DISCUSSION OF DEVELOPMENT PRESSURES

Developable land of any type is scarce in Washington, DC, and industrial land even more so. As the District's inventory of favorably located development sites is exhausted, the development community will inevitably hunt for opportunities in areas heretofore considered unsuitable for residential, commercial, or mixed-use development. Such forces are already at work in DC, as development pressures are increasingly manifest in formerly bypassed neighborhoods and other less than prime locations, including the areas zoned for industrial (PDR) use.

In general, real estate pressures in the District are extremely high—supply is very limited and demand has never been greater. In the resultant high-stakes bidding contest, those willing to pay the most win the land. PDR businesses are at a great competitive disadvantage in a superheated market because they have limited ability to afford ever-increasing rents. Moreover, PDR users are unable to compete head-on with traditional "high value" uses such as office, retail, and residential, thus putting them at the end of the pecking order in the competition for scarce land. Typical industrial rents in the District's industrial areas, at $5 to $15 per square foot, compare unfavorably with residential rents of $25 to $30, retail rents of $25 to $30, and office rents of $30 to $40 per square foot. In addition, given escalating land prices, typical PDR businesses cannot compete at all when land is developed for for-sale products such as condominiums, which often sell for $550 per square foot compared to an average industrial sales price rate of $100 per square foot.[5] Moreover, most PDR users prefer one or two story buildings, while office and residential buildings can be developed in a multistory format, increasing returns (hence land values) even further. To make planning more difficult, the typical

[5] *The CoStar Industrial Report, Third Quarter 2005, Washington, DC Industrial Market*. The CoStar Group, 2005.

winning uses, including housing, commercial development, high tech sectors, and municipal services, are all significant and important in their own right.

Development plans and proposals, mostly in the form of housing and related neighborhood commercial development, as well as from large-scale mixed-use initiatives such as the Anacostia Waterfront Initiative (AWI), exert significant pressures on all of the industrial lands examined in this study. The AWI itself would reclaim vast stretches of the Anacostia Waterfront for much-needed parks and open space, including now-industrial areas such as 11th Street, SE (about 74 acres), Water Street, SE (about 37 acres), and portions of Benning Road and Anacostia Poplar Point. **Map 2.1** illustrates areas in which large initiative like AWI and specific proposals such as those noted below will affect industrial areas.

One of the most significant proposals to affect the District's industrial areas was the Buzzard Point / Capitol Gateway initiative, in which a 242-acre industrial area was rezoned from its M and CM-2 designations to mixed use zones which promote residential and commercial re-development.[6] The recent Council decision to locate the new stadium for the Washington Nationals has greatly increased the pace of redevelopment in the area. Of most immediate issue is that the industrial businesses within the 19-acre footprint of the proposed stadium must be relocated, including a 55,000 square foot waste transfer facility and an 88,000 square foot asphalt plant. Numerous municipal facilities including a 67,000 square foot WMATA bus lot, several DPW facilities totaling nearly 47,000 square feet, an 80-100,000 square foot Parks and Recreation warehouse are also being forced to relocate. While the Capital Gateway Overlay District allows for "continuation of existing industrial uses, which are important economic assets to the city, during the extended period projected for redevelopment," development plans clearly do not welcome industrial uses in the Buzzard Point area.[7] Moreover, as developers continue to assemble land and break ground for adjacent projects, industrial uses are quickly being pushed out of Buzzard Point.

Other known development proposals or initiatives that would necessitate rezoning of industrial land include:

- a townhouse development near the Fort Totten Metro (Sub-area: Fort Totten)
- a development at Rhode Island Avenue and Reed Street, NE, near the Metro (Sub-area: CSX 1)
- a large residential development of about 700 units on Eckington Place near Q Street, NE (Sub-area: New York Ave/Florida)

[6] Because it is no longer industrially-zoned, the Buzzard Point area has been removed from the scope of this study, except insofar as the study must account for the space needs of displaced industrial uses.

[7] See District of Columbia Zoning Commission. 2005. *Zoning Commission Case No. 05-10, Capitol Gateway Overlay District Amendments*. Attachment 1. Chapter 16, Section 1600.2 (c). November 21.

- a redevelopment of the Capital City/New York/Florida market to include a mix of residential, commercial, hotel, and entertainment space, displacing the market area north of Neal Street (Sub-area: New York Ave/Florida)
- A proposed development of 3,5000 residential units and 150,000 square feet of retail space for the 16-acre triangular site south of New York Avenue, bordered by Bladensburg Road and Montana Avenue (Sub-area: New York Avenue/Bladensburg)
- a 120-unit residential development along New York Avenue, south of the railroad tracks, east of Bladensburg (Sub-area: New York Avenue/Bladensburg)
- a hotel development parallel to Shannon Place, approximately between V and U Streets, SE (Sub-area: CSX2 – Anacostia/Fairlawn)
- a proposed stadium for the DC United soccer team, and associated mixed-use development, in Poplar Point (Sub-area: Anacostia Poplar Point)
- a proposed Senior's housing development on what is currently a church parking lot on Bladensburg Road NE (Sub-area: Bladensburg/Ft. Lincoln)

Table 2.11 shows the amount of industrially zoned land that has actually seen a change of use or has been targeted for a change of use.

Table 2.11: Actual or Proposed Land Use Changes in Industrial Areas

Name	Comments	Area (acres)
Ft. Totten site	Known proposal/rezoning request	13.8
Rhode Island/Reed St	Known proposal/rezoning request	5.3
Eckington Pl. site	Known proposal/rezoning request	4.8
NY/Florida Market area	Known proposal/rezoning request	36.7
NY-Bladensburg triangular site	Known proposal/rezoning request	23.0
NY-Bladensburg, NY Ave site	Known proposal/rezoning request	5.5
Anacostia hotel proposal	Known proposal/rezoning request	4.6
	Subtotal	93.7
Barney Circle	Anacostia Waterfron Initative	37.0
Maritime Plaza	Anacostia Waterfron Initative	74.0
Buzzard Point	Recent rezoning, entire area	242.0
	TOTAL	**446.7**

Thus, the status of approximately 94 acres of land is now in question due to rezoning requests, an additional 111 acres may be taken due to AWI, and 242 acres has already been lost in Buzzard Point.

2.3.2 IRREVERSIBILITY OF ZONING AND LAND USE DECISIONS

In general, housing and commercial development are important to any city's tax base and ability to compete in the national and global marketplace. In the District, public policy and the private market have collectively favored these types of developments and increased real estate pressures on industrial land,[8] even though industrial areas play just as important a role in strengthening and diversifying the District. Once industrial land is developed for a non-industrial use, the return of industrial use to the redeveloped property is extremely unlikely. In short, once industrial land is lost, it is typically lost for good. Moreover, the introduction of non-industrial uses into an industrial area changes the land use context, increasing the likelihood of nuisance complaints, land use and traffic conflicts, and additional rezoning requests.

Similar issues affect the District's municipal space needs. Many municipal and public uses—vehicle storage and repair, salt storage, bus maintenance and storage, etc.—are industrial or quasi-industrial in nature. These uses would be difficult to site in a residential or commercial district due to property owner opposition and potential land use conflicts. Since government functions are subject to the same zoning requirements and NIMBY pressures as private enterprise, they are often driven to the same sites as private PDR users.

For these reasons, District government has historically proceeded cautiously with respect to rezoning its industrial lands for other uses. It must continue to do so. Recognizing that the decision to rezone an industrial area for non-industrial uses is practically irreversible, this study urges the District to undertake only limited and strategic rezonings and to initiate zoning to insulate and protect remaining industrial areas from the private property market.

2.4 NEED FOR APPROPRIATE SPACE FOR PUBLIC FUNCTIONS

Municipalities require dedicated, secure areas in which to conduct the business of government. This includes those quasi-industrial functions such as waste hauling and transfer, street cleaning and plowing, road construction and repair, water and sewer construction and repair, and police, fire, and parking enforcement services. Cities also need areas to house equipment and supplies as well as places to store and repair the light and heavy vehicles which service all corners of the city.

Whenever possible, these types of quasi-industrial areas must be located within the city's jurisdiction, for at least three reasons. First, cities can rarely compete in the suburban land market, so that finding and purchasing appropriately-zoned land in an outlying jurisdiction is difficult if not impossible. Second, many government services are important employers of city residents. Government jobs, especially quasi-industrial skilled positions, are well-paying, have

[8] For example, ad-hoc rezoning requests remove land from industrial use, and the District's Comprehensive Plan proposed land use policy map targets some industrial areas for land use change, infill, and/or residential development.

good security and benefits, and are good areas to learn new skills and trades. Third, most, if not all, of these government functions must be located strategically so that service areas are never too far away. Response times, travel distances, or turn-around times can be critical in some situations. Additionally, when government services are inefficient, both constituents and the bottom line suffer. It can be a significant waste of time and money, for example, for a tow truck and driver, or snowplow, or street sweeper, to be stuck in downtown traffic when a more strategically located staging area could have been reached sooner.

In this regard, the District is of course no different than any other city. If anything, given the very precarious nature of the District's fiscal imbalance, well-paying employment of city residents and the optimal location of public facilities and efficient use of that land is all the more important here in the nation's capitol. However, it is becoming more and more difficult to achieve optimal locations within the District, and the demand for city services, due to growth in jobs and households, continues to increase.

Map 2.2 shows where public facilities are concentrated in industrial areas. Many of these needs are quasi-industrial in nature, and are hard to site. It is generally difficult to site a "locally unwanted land use" due to pollution, noise, odors and resulting NIMBY ("not in my backyard") concerns, but because District government is bound by its own zoning, the task of locating appropriate land in a city in which there is already limited supply becomes monumental.

To better understand the space needs of the District government, a Technical Advisory Committee comprised of representatives of District agencies, the Federal Government, and public authorities such as the Washington Metropolitan Area Transit Authority (WMATA) and Washington Area Sewer Authority (WASA) was convened. The purpose of the TAC was to identify pressing needs; brainstorm solutions; and test recommendations for addressing the identified needs. From the TAC process, it is estimated that immediate public sector space needs amount to about 70 acres (see Table 2.12).

TAC participants also reported on short and medium-term space needs. Only some could give reasonable estimates, which amount to 65 acres for two agencies alone (25 or more acres for WMATA and 40 acres for the Architect of the Capitol). Many agencies related their medium-term relocation or consolidation plans, including:

WMATA (Washington Metropolitan Area Transportation Authority)

- Replacement for 133-bus Western Garage, 8.5 acres
- New 150 – 200 bus garage to accommodate system expansion, 8.5 – 11.3 acres
- Two light rail yards at Anacostia Station and northern terminus, 3 – 5 acres each

Department of Public Works

- Scattered impoundment "staging" areas, strategically located in the District, allowing DPW to avoid rush hour downtown traffic as they tow vehicles.

- DPW is currently planning a consolidation of functions at West Virginia Avenue, which may free up space elsewhere

Architect of the Capitol

- While not a District agency, its support to the federal government is critical. 20 acres are needed for support services, including contractor staging and secure storage.

Department of Transportation

- Reducing footprint at 1403 W Street (street & bridge maintenance storage facility), but targeting a large headquarters facility in the Anacostia Gateway project.
- 1338 G Street NE (City Street Sign Shop) & 2000 14th Street NW (Administrative Planning & Traffic Operations) will be relocating to Anacostia Gateway
- New materials testing facility at 4901 Shepard Parkway
- Vacating 350 & 400 McMillan Drive

Table 2.12: Immediate Public Sector Space Needs

Agency	Need	Building SF	FAR	Land Area
DCPD	Evidence warehouse	200,000	1	4.59
DC Parks & Rec	Warehouse/workspace	Undetermined	NA	NA
DDOT	Urban forestry	--	--	2
DPW	Parking near Ward 3	--	--	5
DPW	Displacement	--	--	12.8
Architect of the Capitol	Various	--	--	10
WASA	Storm sewer maint. fac.	--	--	10
WASA	Fleet operations	--	--	4
WASA	Pumping, access	--	--	4
WMATA	Bus garage, 120 buses	--	--	11.1
DCRA	Storage for 20 vehicles	--	--	0.25
NPS	Heliports (2)	--	--	0.5
FEMS	Fleet maintenance	--	--	2.5
Total land area				**66.74**

Source: Technical Advisory Committee

The implications of these immediate and future space needs are enormous. The existing limited supply of appropriate industrial land should be protected. If District, WMATA, or other services had to move outside of the District, their response times, efficiency, and cost of operation would surely increase. Existing agency plans (DDOT, DPW) will create new co-location opportunities, however. This should alleviate some of the pressure for industrial land, freeing up space for other municipal agencies or, hopefully, new or expanding PDR businesses.

2.5 NEED TO ACCOMMODATE PROJECTED EMPLOYMENT GROWTH

In addition to public space needs, additional industrial space would be needed to accommodate the projected growth in employment in PDR sectors. As described above, the growth in the

District's PDR sectors is driven largely by growth in its core industries, and if the District's economy is to continue to strengthen, it should be assumed that demand for the PDR users that service those core sectors will strengthen as well. A rough estimate of how much space would be needed can be made through the use of standard square foot multipliers that are based on the average floor space per employee for prototypical uses such as warehousing. The results of such a projection are shown below in Table 2.13.

Based on this projection, DC would need to absorb about 1.6 million square feet of industrial space to accommodate this projected growth. Some of this space would be absorbed in existing vacant buildings, but much would require new construction. An accounting of how much land this would require is given in Table 2.14.

Table 2.13: Projected Private Sector Space Needs, 2002 – 2012

Occupation	Jobs	Space type	SF/Employee	Square Feet
Construction and Extraction Occupations (Part)*	199	Industrial	500	99,700
Installation, Maintenance, and Repair Occupations	615	Industrial	500	307,500
Production Occupations	336	Industrial	500	168,000
Transportation and Material Moving Occupations	213	Warehousing	5,000	1,065,000
Total				1,640,200

* It is projected that only 10 percent of construction employment will be at fixed locations, i.e., 90 percent will be located at job sites, and therefore will not translate into industrial space.

Source: Phillips Preiss Shapiro Associates, Inc.
District of Columbia Department of Employment Services (2005): *District of Columbia Employment Projections by Industry and Occupation, 2002 – 2012.*

Table 2.14: Projected Net Absorption and Private Industrial Land Needs

Total space need (SF)	1,600,000
Less recent construction	25,000
Less vacant warehouse space	550,000
Net space need (SF)	1,025,000
Floor Area Ratio	0.75
Land area (acres)	**31**

Source: Phillips Preiss Shapiro Associates, Inc.

Therefore, in addition to the public sector needs described above, the private sector conservatively will need approximately 31 acres of developable land to accommodate the amount of projected future growth. In total, public and private space needs will require up to 100 or more acres of *developable* industrial land just to meet short term public and medium term

private, identified space needs. As the following section will show, this figure exceeds immediately available supply by a significant margin.

Not all of the space needed by private industry will be traditional warehousing space. Although a precise prediction of the types of space needed is not possible, one clue is to look at the existing space needs of PDR businesses. Businesses surveyed as part of the Industrial Users Survey were asked about their current use of space. The results are summarized below in Table 2.15. The table illustrates the diversity of space requirements for these businesses, and therefore the need for flexible planning and zoning to accommodate these needs.

Table 2.15: Existing Uses of Space

Type of Space	Proportion of space in respondent's buildings	Estimated proportion of space adjusted by building size
Industrial	22.5%	24.0%
Flex/R&D	2.0%	2.2%
Warehouse	37.4%	43.7%
Showroom	4.1%	1.0%
Office	19.1%	14.7%
Manufacturing	8.2%	14.4%
Totals	93.4%	100.0%

Source: Industrial Users Survey, Office of Planning, Phillips Preiss Shapiro Associates, Inc.

2.6 LIMITED SUPPLY OF INDUSTRIAL LAND

2.6.1 CHARACTERISTICS

Industrially-zoned lands are the only areas where the District's zoning allows PDR activities. Ideally, these areas contain the certain types of land and buildings that PDR sectors such as light manufacturing, processing, fabricating, or repair establishments, wholesale or storage facilities, repair garages, construction and building services, industrial uses for roadway and transportation, carting and hauling, and warehouse storage facilities require.

PDR uses require access to excellent transportation infrastructure, including road, rail, and water transport, both to receive supplies and distribute goods. Roads built to handle heavily loaded trucks and capable of accommodating wide turning radii are almost universally required. Moreover, these sites must be accessible 24 hours per day, in order to access customers and receive shipments from suppliers. Good transportation helps ensure reliable supply, reduce time to market and thus reduce costs and maintains competitive businesses. Asphalt and concrete

suppliers, for example, must be within close proximity of building sites, generally 30 minutes and no more than 60 minutes for asphalt (asphalt must be in place and worked within 90 minutes).[9] PDR uses may also require special utility infrastructure, such as minimum 6-inch water lines and 440-volt power.

Parcel and building size is also critical. A majority of PDR uses require parcels large enough to accommodate truck staging and maneuvering, employee parking, and materials storage. Large and open building floorplates are critical for shipping and warehousing businesses, many of whom prefer larger loading bays and higher ceilings that ever before.

In addition to accessibility and special infrastructure, PDR businesses seek areas where they can operate without negative external effects on neighboring properties, particularly residences and schools. Constant truck traffic, noise, dust, odors, hazardous materials, and outdoor storage areas increase the likelihood of nuisance complaints, land use and traffic conflicts, and additional rezoning requests. Any combination of these factors can hinder their operations and force them to move in response to such complaints.

A lack of any of these characteristics would most likely increase the cost of doing business for these firms and possibly necessitate a change in business location.

2.6.2 SUPPLY OF INDUSTRIAL LAND

Considering the factors above, one can imagine that there are few places in a dense global city such as Washington, DC that PDR businesses can operate efficiently. Indeed, the District has a constrained supply of industrially-zoned land.

The **Study Areas Map** shows how the District's industrially-zoned land is concentrated in a few specific areas, primarily concentrated along several historic rail corridors:

- The B&O branches in Northeast
  - one route running approximately north from Union Station through Fort Totten to Takoma at the Maryland border (today this is an active CSX freight and Metro corridor);
  - another route branching off and running approximately east paralleling New York Avenue to the Maryland border (today this is a CSX freight and Amtrak corridor);
  - a final route which branches off the New York corridor to roughly parallel Bladensburg Road northeast into Maryland (today is this a CSX freight corridor);

[9] Though normal asphalt is time-dependent, "hot mix asphalt" is maintained at working temperature during transport. However, hot mix is often not feasible, as it is almost double the cost of normal asphalt.

- A B&O route along the eastern shore of the Anacostia River, paralleling Minnesota Avenue for much of its route (today this is both a CSX freight and Metro corridor, and may host a portion of a proposed light rail line);
- The Baltimore and Potomac Railroad line, which runs through the Southeast and spurred the development of industrial land in the Buzzard Point and Navy Yard areas, and continues east through 11th Street, SE and Water Street, SE before crossing the Anacostia and joining the B&O near Minnesota Avenue and E Street, SE (today this is a CSX freight corridor, and may host a portion of a proposed light rail line).

Residential areas appear just beyond these railroad-hugging industrial lands; today's land use mix is still reflective of this close proximity of industrial and residential uses. The area of Buzzard Point just east of South Capitol Street and west of the Navy Yard is one of the few areas that saw industrial development exclusively in the 1900s, though even that began as an area of mixed residential and industrial uses. Machine works, lumberyards, warehouses, and wholesale food stores dominated this area, and many of those buildings remain standing today.[10]

Table 2.16 below shows the total amount of industrial land in the District by sub-area. Including land that is zoned for non-PDR uses, the areas examined by this study total only 2,390 acres, which represents just over five percent of the District's total 43,850 acres of land area (including Federal land inside the District). The combined total of DC Village and Blue Plains represents the largest area, although only the eastern half, DC Village, is practically available for industrial development (Blue Plains is a secure limited-access area containing the District's wastewater treatment plant). The next largest areas are concentrated along the CSX rail corridors and New York Avenue area.

[10] For more information on the industrial history of the District and architecturally significant industrial buildings, see Traceries. 1992. *DC Warehouse Survey Phase II Final Report*. Prepared for the DC Historic Preservation Division. Washington, DC. July.

Table 2.16: Total Land in Study Areas

Industrial Sub-Area Name	Area (sq. ft.)	Area (acres)	Percent
Anacostia Poplar Point	2,613,191.70	59.99	2.51%
Barney Circle	1,611,922.14	37.00	1.55%
Benning Road	4,349,973.77	99.86	4.18%
Bladensburg/Fort Lincoln	1,434,427.76	32.93	1.38%
CSX1	7,292,689.71	167.42	7.00%
CSX1 - Brookland	2,410,402.65	55.34	2.31%
CSX1 - Fort Totten	4,311,220.68	98.97	4.14%
CSX1 - Lamond Riggs	5,481,600.75	125.84	5.26%
CSX1 NY/NOMA	3,324,665.54	76.32	3.19%
CSX2 - Anacostia/Fairlawn	1,027,331.94	23.58	0.99%
CSX2 - Anacostia/Fairlawn	2,277,047.91	52.27	2.19%
CSX2 - Kennilworth	6,884,158.83	158.04	6.61%
DC Village/Blue Plains	16,789,896.54	385.44	16.13%
Fort Lincoln Urban Renewal	4,002,333.08	91.88	3.84%
Maritime Plaza	3,219,500.77	73.91	3.09%
New York Avenue/Bladensburg	15,163,065.09	348.10	14.56%
New York Avenue/Florida	8,569,489.60	196.73	8.23%
New York Avenue/Ivy City	10,861,042.03	249.34	10.43%
Scattered Site 1	487,513.02	11.19	0.47%
Scattered Site 2	456,683.99	10.48	0.44%
Scattered Site 3	819,444.16	18.81	0.79%
Scattered Site 4	52,156.61	1.20	0.05%
Scattered Site 5	122,402.75	2.81	0.12%
Scattered Site 6	560,003.23	12.86	0.54%
TOTAL INDUSTRIAL LAND	104,122,164.27	2,390.32	100.00%

Source: Office of Planning, 2005

But the actual amount of land on which industrial development is permitted as of right is even smaller. Table 2.17 shows that the existing zoning within these areas serves to reduce by 386 acres the actual supply of as-of-right industrial land. Within the 2,390 acres of our study area, the industrial C-M, M, and W Zones comprise a total of 2,026 acres, and make up only about five percent of total District land.[11] Compared to other major American cities, this percentage is a very small—San Francisco's industrial lands comprise 14 percent of its total land area, and even that is considered small by Bay-area analysts.

[11] W Zones also permit industrial uses as-of-right, but are not prevalent in the District. In this study, they appear only in Anacostia Poplar Point and total only 22 acres.

Table 2.17: Zoning in Sub-Areas

Name	Zone	Area (sq.ft)	Area (acres)
Anacostia Poplar Point	C-2-A	3,734.20	0.09
Anacostia Poplar Point	C-M-1	1,135,566.53	26.07
Anacostia Poplar Point	GOV	419,867.84	9.64
Anacostia Poplar Point	R-5-A	86,819.11	1.99
Anacostia Poplar Point	W-3	967,201.90	22.20
		2,613,189.57	**59.99**
Water Street, SE	C-M-1	**1,611,922.14**	**37.00**
Benning Road	C-M-1	2,940,072.60	67.49
Benning Road	M	1,409,901.17	32.37
		4,349,973.77	**99.86**
Bladensburg/Fort Lincoln	C-M-1	962,873.98	22.10
Bladensburg/Fort Lincoln	GOV	81,991.48	1.88
Bladensburg/Fort Lincoln	R-1-B	389,562.31	8.94
		1,434,427.76	**32.93**
CSX1	C-2-C	243,843.11	5.60
CSX1	C-3-A	129,191.43	2.97
CSX1	C-M-1	533,886.94	12.26
CSX1	C-M-2	2,424,258.57	55.65
CSX1	M	3,742,943.80	85.93
CSX1	R-2	141,342.68	3.24
CSX1	R-5-A	42,097.59	0.97
CSX1	R-5-D	35,128.10	0.81
		7,292,692.22	**167.42**
CSX1 - Brookland	C-M-1	**2,410,402.65**	**55.34**
CSX1 - Fort Totten	C-M-1	31,565.26	0.72
CSX1 - Fort Totten	FT/C-3-A	691,227.62	15.87
CSX1 - Fort Totten	FT/C-M-1	886,558.68	20.35
CSX1 - Fort Totten	FT/M	1,689,999.26	38.80
CSX1 - Fort Totten	GOV	343,218.03	7.88
CSX1 - Fort Totten	R-2	191,455.20	4.40
CSX1 - Fort Totten	R-5-A	477,196.42	10.95
		4,311,220.48	**98.97**
CSX1 - Lamond Riggs	C-1	207,000.40	4.75
CSX1 - Lamond Riggs	C-2-A	727,478.86	16.70
CSX1 - Lamond Riggs	C-M-1	3,763,482.73	86.40
CSX1 - Lamond Riggs	GOV	46,101.83	1.06

CSX1 - Lamond Riggs	R-1-B	299,925.59	6.89
CSX1 - Lamond Riggs	R-2	65,218.53	1.50
CSX1 - Lamond Riggs	R-5-A	372,398.99	8.55
		5,481,606.93	**125.84**
CSX1 NY/NOMA	C-2-B	41,742.44	0.96
CSX1 NY/NOMA	C-3-C	409,856.96	9.41
CSX1 NY/NOMA	C-M-1	494,892.29	11.36
CSX1 NY/NOMA	C-M-3	2,310,964.13	53.05
CSX1 NY/NOMA	R-4	67,216.87	1.54
		3,324,672.69	**76.32**
CSX2 - Anacostia/Fairlawn	C-2-A	164,378.99	3.77
CSX2 - Anacostia/Fairlawn	C-M-1	798,079.34	18.32
CSX2 - Anacostia/Fairlawn	GOV	1,614,188.24	37.06
CSX2 - Anacostia/Fairlawn	R-2	82,514.14	1.89
CSX2 - Anacostia/Fairlawn	R-3	90,097.48	2.07
CSX2 - Anacostia/Fairlawn	R-5-A	555,116.37	12.74
		3,304,374.55	**75.86**
CSX2 - Kennilworth	C-3-A	695,247.00	15.96
CSX2 - Kennilworth	C-M-1	5,701,470.90	130.89
CSX2 - Kennilworth	GOV	184,956.27	4.25
CSX2 - Kennilworth	R-3	108,416.98	2.49
CSX2 - Kennilworth	R-5-A	194,062.53	4.46
		6,884,153.68	**158.04**
DC Village/Blue Plains	C-M-1	8,777,504.65	201.50
DC Village/Blue Plains	C-M-3	8,012,391.89	183.94
		16,789,896.54	**385.44**
Fort Lincoln Urban Renewal	C-2-B	2,225,010.65	51.08
Fort Lincoln Urban Renewal	GOV	119,124.19	2.73
Fort Lincoln Urban Renewal	R-5-D	964,383.52	22.14
Fort Lincoln Urban Renewal	SP-2	693,810.71	15.93
		4,002,329.07	**91.88**
11th Street, SE	C-M-1	1,601,917.38	36.77
11th Street, SE	C-M-2	421,478.00	9.68
11th Street, SE	M	1,196,106.17	27.46
		3,219,501.54	**73.91**
New York Avenue/Bladensburg	C-2-A	4,334.79	0.10
New York Avenue/Bladensburg	C-M-1	8,215,877.22	188.61
New York Avenue/Bladensburg	C-M-2	**3,240,159.35**	**74.38**
New York Avenue/Bladensburg	LO/C-M-1	554,750.39	12.74
New York Avenue/Bladensburg	M	2,884,184.10	66.21
New York Avenue/Bladensburg	R-1-B	263,758.85	6.06
		15,163,064.71	**348.10**

New York Avenue/Florida	C-M-1	2,289,626.36	52.56
New York Avenue/Florida	C-M-2	779,091.81	17.89
New York Avenue/Florida	GOV	918,178.27	21.08
New York Avenue/Florida	M	4,582,597.92	105.20
		8,569,494.36	**196.73**
New York Avenue/Ivy City	C-M-1	2,442,309.65	56.07
New York Avenue/Ivy City	C-M-2	1,255,390.09	28.82
New York Avenue/Ivy City	GOV	301,453.52	6.92
New York Avenue/Ivy City	LO/C-M-1	260,987.86	5.99
New York Avenue/Ivy City	M	5,435,595.59	124.78
New York Avenue/Ivy City	R-4	1,165,301.61	26.75
		10,861,038.32	**249.34**
Scattered Site 1	C-M-1	487,513.02	11.19
Scattered Site 2	C-M-1	456,683.99	10.48
Scattered Site 3	C-M-2	123,495.99	2.84
Scattered Site 3	C-M-3	695,948.17	15.98
Scattered Site 4	C-M-1	52,156.61	1.20
Scattered Site 5	C-M-1	122,402.75	2.81
Scattered Site 6	C-M-1	560,003.23	12.86
		2,498,203.77	**57.35**
		Total Area:	**2,390.32**
		Total zoned C-M or M:	**2,004.06**

Source: DC Office of Planning, 2005

The predominance of CSX rail lines within the largest industrial areas limits the amount of buildable land even further. Roads, streets, alleys, other right-of-ways reduce lot sizes and building footprints elsewhere. New York Avenue/Bladensburg, for example, is the second largest sub-area, totaling 328 acres, but 22 percent of it, about 77 acres, is park, road, or railroad/transportation right-of-way. Table 2.18 shows the land coverage of industrial sub-areas.

Table 2.18: Land Coverage of Industrial Sub-Areas

Land Use	Anacostia/ Poplar Point	Water Street, SE	Benning Road	Bladensburg/Fort Lincoln	Buzzard Point	CSX1	CSX Anacostia/ Fairlawn	CSX1/ Brookland	CSX1/Fort Totten	CSX2/ Kenilworth
Undetermined	1.015			0.307	0.300	0.112				0.163
Percent	*1.76%*	*0.00%*	*0.00%*	*0.93%*	*0.12%*	*0.07%*	*0.00%*	*0.00%*	*0.00%*	*0.10%*
Alleys		0.009	0.093	0.215	1.912	1.684	0.739	0.623	0.518	1.059
Percent	*0.00%*	*0.02%*	*0.09%*	*0.65%*	*0.79%*	*1.01%*	*0.97%*	*1.13%*	*0.52%*	*0.67%*
Commercial	8.024		2.720	6.077	54.143	43.629	3.131	5.655	7.170	9.566
Percent	*13.91%*	*0.00%*	*2.72%*	*18.46%*	*22.39%*	*26.07%*	*4.13%*	*10.22%*	*7.25%*	*6.06%*
Federal Public					4.780	12.876				
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*1.98%*	*7.69%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
High Density Residential						0.312				
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.19%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Industrial	2.779			4.951	41.143	34.898	3.392	14.834	40.596	8.480
Percent	*4.82%*	*0.00%*	*0.00%*	*15.04%*	*17.01%*	*20.85%*	*4.47%*	*26.82%*	*41.04%*	*5.37%*
Lake			0.036							
Percent	*0.00%*	*0.00%*	*0.04%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Low Density Residential		0.000		2.074	0.063	0.000	1.892			0.264
Percent	*0.00%*	*0.00%*	*0.00%*	*6.30%*	*0.03%*	*0.00%*	*2.49%*	*0.00%*	*0.00%*	*0.17%*
Low-Medium Density Residential				0.273	2.151	2.468	1.995	0.370		0.013
Percent	*0.00%*	*0.00%*	*0.00%*	*0.83%*	*0.89%*	*1.47%*	*2.63%*	*0.67%*	*0.00%*	*0.01%*
Local Public	0.226		0.282		15.991	0.324		1.548	8.733	
Percent	*0.39%*	*0.00%*	*0.28%*	*0.00%*	*6.61%*	*0.19%*	*0.00%*	*2.80%*	*8.83%*	*0.00%*
Medium Density Residential					0.004	0.366	0.087		1.994	0.313
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.22%*	*0.11%*	*0.00%*	*2.02%*	*0.20%*
Median	1.664	0.843	0.216	0.101	0.154	0.106	0.031	0.021	0.242	1.364
Percent	*2.88%*	*2.28%*	*0.22%*	*0.31%*	*0.06%*	*0.06%*	*0.04%*	*0.04%*	*0.24%*	*0.86%*
Mixed Use										
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Office	1.049			0.322	10.253		0.795		0.098	0.635
Percent	*1.82%*	*0.00%*	*0.00%*	*0.98%*	*4.24%*	*0.00%*	*1.05%*	*0.00%*	*0.10%*	*0.40%*

Parking					1.918			1.883		
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.79%*	*0.00%*	*0.00%*	*3.40%*	*0.00%*	*0.00%*
Public, Quasi-Public, Institutional					3.613	0.946		0.684	3.258	
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*1.49%*	*0.57%*	*0.00%*	*1.24%*	*3.29%*	*0.00%*
Parks and Open Spaces	0.394	29.904	7.441	1.127	5.275		0.926	0.083	8.074	1.191
Percent	*0.68%*	*80.84%*	*7.45%*	*3.42%*	*2.18%*	*0.00%*	*1.22%*	*0.15%*	*8.16%*	*0.75%*
River		0.006			1.111					0.378
Percent	*0.00%*	*0.02%*	*0.00%*	*0.00%*	*0.46%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.24%*
Roads	15.558	4.057	6.353	3.937	46.431	13.131	17.005	5.423	6.731	26.054
Percent	*26.98%*	*10.97%*	*6.36%*	*11.96%*	*19.20%*	*7.85%*	*22.43%*	*9.81%*	*6.80%*	*16.49%*
Institutional	2.563			2.573	11.688	0.976	0.000			2.226
Percent	*4.44%*	*0.00%*	*0.00%*	*7.82%*	*4.83%*	*0.58%*	*0.00%*	*0.00%*	*0.00%*	*1.41%*
Transport, Communication, Utilities	8.407		80.357	10.025	6.023	42.738	36.506	20.021	18.078	100.904
Percent	*14.58%*	*0.00%*	*80.50%*	*30.46%*	*2.49%*	*25.54%*	*48.15%*	*36.20%*	*18.27%*	*63.87%*
Transportation Right of Way	15.996	2.171	2.323	0.934	34.907	12.779	9.327	4.167	3.437	5.370
Percent	*27.74%*	*5.87%*	*2.33%*	*2.84%*	*14.43%*	*7.64%*	*12.30%*	*7.53%*	*3.47%*	*3.40%*
Sub Total	57.67	36.99	99.82	32.92	241.86	167.35	75.83	55.31	98.93	157.98

(Table 2.18, continued)

Land Use	CSX1/ Lamond Riggs	CSX1/NoMA	DC Village/Blue Plains	Fort Lincoln/Urban Renewal	11th Street, SE	NY Ave/ Bladensburg	NY Ave/ Florida	NY Ave/ Ivy City	Scattered Sites	Total (all sites)
Undetermined		0.335		0.116	0.001	0.002				2.351
Percent	*0.00%*	*0.44%*	*0.00%*	*0.13%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.09%*
Alleys	0.773	0.972				0.804	1.335	2.052	0.466	13.253
Percent	*0.61%*	*1.27%*	*0.00%*	*0.00%*	*0.00%*	*0.23%*	*0.68%*	*0.82%*	*0.81%*	*0.50%*
Commercial	5.324	10.574	0.012	44.708	6.783	73.605	18.353	23.316	4.282	327.074
Percent	*4.23%*	*13.86%*	*0.00%*	*48.68%*	*9.18%*	*21.15%*	*9.33%*	*9.36%*	*7.47%*	*12.44%*
Federal Public	1.410		116.286		0.400	23.092	18.260	2.920		180.024
Percent	*1.12%*	*0.00%*	*30.18%*	*0.00%*	*0.54%*	*6.64%*	*9.29%*	*1.17%*	*0.00%*	*6.85%*
High Density Residential										0.312
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.01%*
Industrial	14.167	7.896		17.718	0.836	122.366	31.228	34.289	10.774	390.349
Percent	*11.27%*	*10.35%*	*0.00%*	*19.29%*	*1.13%*	*35.17%*	*15.88%*	*13.76%*	*18.79%*	*14.85%*
Lake				0.059						0.095
Percent	*0.00%*	*0.00%*	*0.00%*	*0.06%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Low Density Residential	0.629					3.443		1.721		10.085
Percent	*0.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.99%*	*0.00%*	*0.69%*	*0.00%*	*0.38%*
Low-Medium Density Residential	1.843	0.763				1.086	0.004	7.437	0.592	18.995
Percent	*1.47%*	*1.00%*	*0.00%*	*0.00%*	*0.00%*	*0.31%*	*0.00%*	*2.98%*	*1.03%*	*0.72%*
Local Public		0.001	181.052			2.653	0.000	6.638	5.345	222.794
Percent	*0.00%*	*0.00%*	*46.99%*	*0.00%*	*0.00%*	*0.76%*	*0.00%*	*2.66%*	*9.32%*	*8.48%*
Medium Density Residential	2.630	0.025				0.025		4.689		10.133
Percent	*2.09%*	*0.03%*	*0.00%*	*0.00%*	*0.00%*	*0.01%*	*0.00%*	*1.88%*	*0.00%*	*0.39%*
Median	0.255	0.279	0.316	0.490	10.305	1.415	0.250	0.927	0.209	19.188
Percent	*0.20%*	*0.37%*	*0.08%*	*0.53%*	*13.95%*	*0.41%*	*0.13%*	*0.37%*	*0.36%*	*0.73%*
Mixed Use	0.896	8.419								9.314
Percent	*0.71%*	*11.03%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.35%*
Office	0.966	0.406			0.173		0.381		6.981	22.061
Percent	*0.77%*	*0.53%*	*0.00%*	*0.00%*	*0.23%*	*0.00%*	*0.19%*	*0.00%*	*12.18%*	*0.84%*

Parking					5.465					9.265
Percent	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*7.40%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.35%*
Public, Quasi-Public, Institutional	0.157					1.260		3.909	0.981	14.808
Percent	*0.13%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.36%*	*0.00%*	*1.57%*	*1.71%*	*0.56%*
Parks and Open Spaces	0.477	0.189	5.167	19.386	15.149	10.672		0.024	0.072	105.552
Percent	*0.38%*	*0.25%*	*1.34%*	*21.11%*	*20.51%*	*3.07%*	*0.00%*	*0.01%*	*0.13%*	*4.02%*
River			0.121		0.003	0.383				2.002
Percent	*0.00%*	*0.00%*	*0.03%*	*0.00%*	*0.00%*	*0.11%*	*0.00%*	*0.00%*	*0.00%*	*0.08%*
Roads	13.661		23.115	6.571	20.432	41.046	24.318	26.437	9.718	309.979
Percent	*10.86%*	*0.00%*	*6.00%*	*7.16%*	*27.66%*	*11.80%*	*12.37%*	*10.61%*	*16.95%*	*11.79%*
Institutional	1.579	6.962			0.426	2.913	2.945	2.140	11.701	48.692
Percent	*1.26%*	*9.13%*	*0.00%*	*0.00%*	*0.58%*	*0.84%*	*1.50%*	*0.86%*	*20.41%*	*1.85%*
Transport, Communication, Utilities	76.335	31.238	52.667		3.805	38.059	85.483	115.268		725.914
Percent	*60.71%*	*40.95%*	*13.67%*	*0.00%*	*5.15%*	*10.94%*	*43.47%*	*46.25%*	*0.00%*	*27.61%*
Transportation Right of Way	4.635	8.230	6.532	2.786	10.101	25.123	14.087	17.462	6.205	186.571
Percent	*3.69%*	*10.79%*	*1.70%*	*3.03%*	*13.67%*	*7.22%*	*7.16%*	*7.01%*	*10.82%*	*7.10%*
Sub Total	125.74	76.29	385.27	91.83	73.88	347.95	196.65	249.23	57.33	2,628.81

Source: Office of Planning, 2005

Moreover, most of this limited amount of industrial land is already occupied, and therefore existing PDR businesses have limited room to expand in place and the District has little potential of attracting of new PDR businesses. By our calculations, only about 27 acres, or 1.2 percent, of the land in industrial areas is vacant (this calculation does not include the 3.7 acres of vacant land that is zoned for residential use).[12]

Table 2.19: Vacant Parcels, by Zoning and Sub-Area

Name	Zone	Vacant properties	Area (sq.ft)	Area (acres)	Percent that is Vacant
Anacostia Poplar Point	C-2-A	0	0.00	0.00	0.00%
Anacostia Poplar Point	C-M-1	0	0.00	0.00	0.00%
Anacostia Poplar Point	GOV	6	83,290.00	1.91	19.84%
Anacostia Poplar Point	W-3	19	196,027.00	4.50	20.27%
		25	279,317.00	6.41	11.06%
Water Street, SE	C-M-1	0	0.00	0.00	0.00%
Benning Road	C-M-1	0	0.00	0.00	0.00%
Benning Road	M	0	0.00	0.00	0.00%
		0	0.00	0.00	0.00%
Bladensburg/Fort Lincoln	C-M-1	1	1,061.00	0.02	0.11%
Bladensburg/Fort Lincoln	GOV	0	0.00	0.00	0.00%
		1	1,061.00	0.02	0.10%
CSX1	C-2-C	0	0.00	0.00	0.00%
CSX1	C-3-A	0	0.00	0.00	0.00%
CSX1	C-M-1	0	0.00	0.00	0.00%
CSX1	C-M-2	1	2,130.00	0.05	0.09%
CSX1	M	0	0.00	0.00	0.00%
		1	2,130.00	0.05	0.03%
CSX1 - Brookland	C-M-1	3	89,822.00	2.06	3.73%
CSX1 - Fort Totten	C-M-1	2	8,388.00	0.19	26.57%
CSX1 - Fort Totten	FT/C-3-A	4	23,509.00	0.54	3.40%
CSX1 - Fort Totten	FT/C-M-1	0	0.00	0.00	0.00%
CSX1 - Fort Totten	FTM	0	0.00	0.00	0.00%
CSX1 - Fort Totten	GOV	0	0.00	0.00	0.00%

[12] In an analysis of the District's land capacity, HNTB Associates calculated that only 25.2 acres in C-M and M zones were vacant. See HNTB 2005. *Land Capacity in the District of Columbia*. Memo to the Comp Plan Task Force. February 24, 2005.

		6	31,897.00	0.73	0.88%
CSX1 - Lamond Riggs	C-1	0	0.00	0.00	0.00%
CSX1 - Lamond Riggs	C-2-A	6	42,634.00	0.98	5.86%
CSX1 - Lamond Riggs	C-M-1	1	3,174.00	0.07	0.08%
CSX1 - Lamond Riggs	GOV	0	0.00	0.00	0.00%
		7	45,808.00	1.05	0.97%
CSX1 NY/NOMA	C-2-B	3	5,352.00	0.12	12.82%
CSX1 NY/NOMA	C-3-C	0	0.00	0.00	0.00%
CSX1 NY/NOMA	C-M-1	3	24,684.00	0.57	4.99%
CSX1 NY/NOMA	C-M-3	24	86,345.00	1.98	3.74%
		30	116,381.00	2.67	3.57%
CSX2 - Anacostia/Fairlawn	C-2-A	1	20,779.00	0.48	12.64%
CSX2 - Anacostia/Fairlawn	C-M-1	5	53,510.00	1.23	6.70%
CSX2 - Anacostia/Fairlawn	GOV	1	22,554.00	0.52	1.40%
		7	96,843.00	2.22	3.76%
CSX2 - Kennilworth	C-3-A	3	5,362.00	0.12	0.77%
CSX2 - Kennilworth	C-M-1	5	13,509.00	0.31	0.24%
CSX2 - Kennilworth	GOV	0	0.00	0.00	0.00%
		8	18,871.00	0.43	0.29%
DC Village/Blue Plains	C-M-1	0	0.00	0.00	0.00%
DC Village/Blue Plains	C-M-3	0	0.00	0.00	0.00%
		0	0.00	0.00	0.00%
Fort Lincoln Urban Renewal	C-2-B	0	0.00	0.00	0.00%
Fort Lincoln Urban Renewal	GOV	0	0.00	0.00	0.00%
Fort Lincoln Urban Renewal	SP-2	0	0.00	0.00	0.00%
		0	0.00	0.00	0.00%
11th Street, SE	C-M-1	3	1,614.00	0.04	0.10%
11th Street, SE	C-M-2	0	0.00	0.00	0.00%
11th Street, SE	M	0	0.00	0.00	0.00%
		3	1,614.00	0.04	0.05%
New York Avenue/Bladensburg	C-2-A			0.00	0.00%
New York Avenue/Bladensburg	C-M-1	1	96,202.00	2.21	1.17%
New York Avenue/Bladensburg	C-M-2	1	23,204.00	0.53	0.72%
New York Avenue/Bladensburg	LO/C-M-1	3	29,619.00	0.68	5.34%
New York Avenue/Bladensburg	M	0	0.00	0.00	0.00%
		5	149,025.00	3.42	1.00%
New York Avenue/Florida	C-M-1	1	13,668.00	0.31	0.60%
New York Avenue/Florida	C-M-2	0	0.00	0.00	0.00%
New York Avenue/Florida	GOV	0	0.00	0.00	0.00%
New York Avenue/Florida	M	1	187,930.00	4.31	4.10%

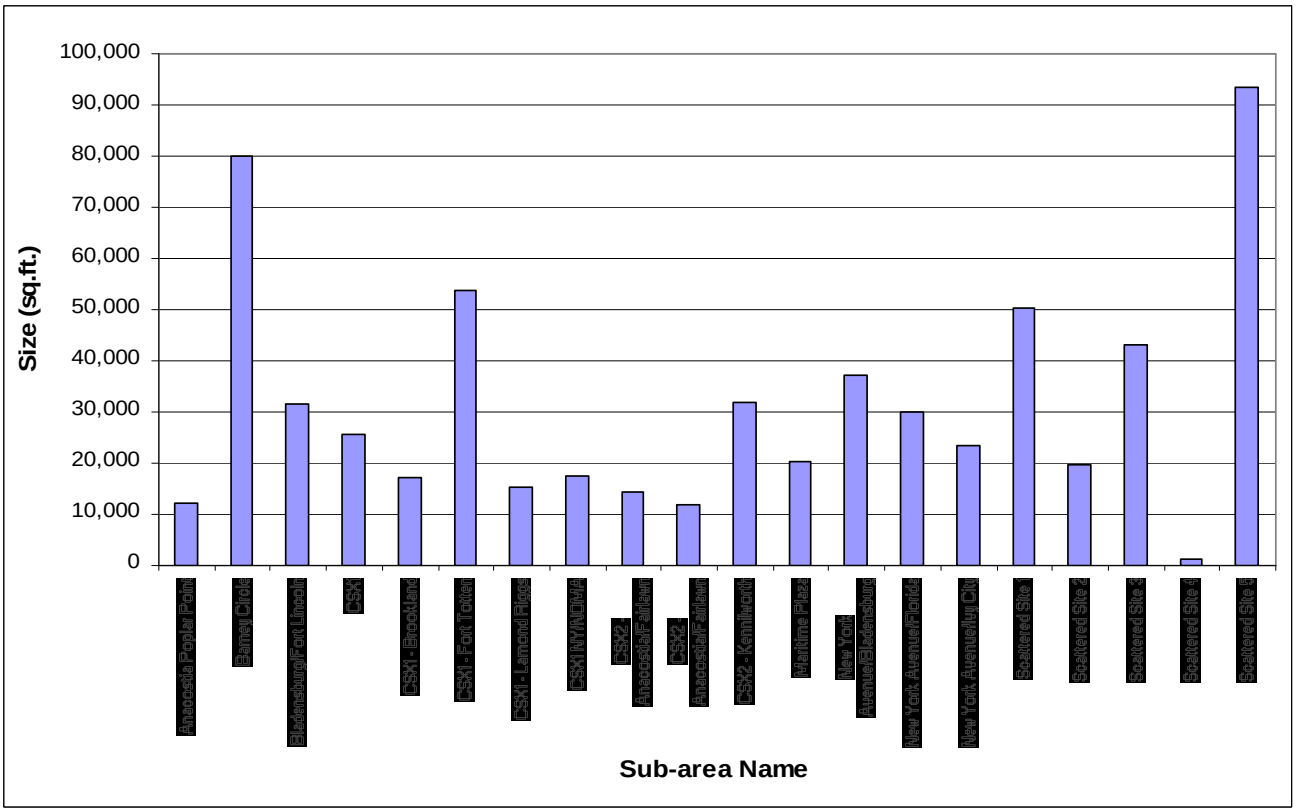
		2	201,598.00	4.63	2.35%
New York Avenue/Ivy City	C-M-1	1	145,898.00	3.35	5.97%
New York Avenue/Ivy City	C-M-2	0	0.00	0.00	0.00%
New York Avenue/Ivy City	GOV	0	0.00	0.00	0.00%
New York Avenue/Ivy City	LO/C-M-1	0	0.00	0.00	0.00%
New York Avenue/Ivy City	M	0	0.00	0.00	0.00%
		1	145,898.00	3.35	1.50%
Scattered Site 1	C-M-1	0	0.00	0.00	0.00%
Scattered Site 2	C-M-1	0	0.00	0.00	0.00%
Scattered Site 3	C-M-2	0	0.00	0.00	0.00%
Scattered Site 3	C-M-3	4	7,201.00	0.17	1.03%
Scattered Site 4	C-M-1	0	0.00	0.00	0.00%
Scattered Site 5	C-M-1	0	0.00	0.00	0.00%
Scattered Site 6	C-M-1	0	0.00	0.00	0.00%
		4	7,201.00	0.17	0.29%
			TOTAL	**27.26**	**1.21%**

Source: Office of Planning, 2005

Finally, most of these sub-areas are greatly subdivided—only five sub-areas have average parcel sizes of more than one acre. Fifteen sub-areas have average parcel sizes of less than an acre, and eight of those sub-areas have average parcel sizes of less than 20,000 square feet, or, less than one-half of an acre.

The District's supply of industrial land is at a critical juncture. The mere 2,000 acres of actual zoned industrial land is consumed in large part by railroad yards and rights-of-way, there is high demand for the small, segmented parcels, and there is a very low vacancy rate. Also, as discussed in Section 2.3, many of the most desirable areas are under increased redevelopment pressure from private entrepreneurs and large-scale public initiatives. It appears, then, that the supply of industrial land that remains in the District is very limited and continues to shrink. What now remains is a core that should be conserved wherever practical. Chapter Four of this report discusses our recommendations for which industrial areas deserve the most protection, which areas should undergo some land use evolution or intensification, and which areas are appropriate for other land uses.

Chart 2.16: Average Parcel Size by Sub-Area



NOTE: Excludes outliers: Benning Road (average 622.588), DC Village/Blue Plains (average 1,483,532), Fort Lincoln (no data), Scattered Site 6 (1 lot, average 274,761).

Source: Office of Planning, 2005

3 Existing Conditions Analysis

3.1 INDUSTRIAL LAND AND PUBLIC POLICY

3.1.1 COMPREHENSIVE PLAN POLICIES

The District has a Comprehensive Plan that guides land use and zoning in the District. It was adopted in 1985 and updated in 1999, and is currently under a major revision process, which began in 2003 and is scheduled to conclude in mid-2006 with its adoption. The District's Office of Zoning and Zoning Commission is directed to consult the Comprehensive Plan to ensure that zoning and zoning amendments are consistent with the Comprehensive Plan.

The existing Comprehensive Plan's Land Use Element sets the following objective for "production and technical employment areas:"

> The objectives for production and technical employment areas are to encourage the growth of centers of high technology, research and development, and to provide for essential support services and nonpolluting production activities.

The Plan's Generalized Land Use Map designates most of DC's industrial land for "production and technical employment," or PTE. The Plan describes this land use category as follows:

> "Restructured industrial land use intended to encourage growth industries and industries with a high ratio of employees to land area occupied, such as office support systems, communications, printing and publishing, wholesaling, transportation services, food services and tourism support services; warehousing; and other commercial activities that generally do not occur to a substantial degree in other commercial areas."

As is clear from this description, the Comprehensive Plan envisions these areas not as traditional industrial districts, which generally have a low ratio of employment to land area, but rather as areas to locate all manner of production, distribution and repair activities (hence the PDR moniker used throughout this report). The Comprehensive Plan also identifies the crucial *support* role that these districts can play, by accommodating essential uses that are not typically found in office and retail areas.

The Land Use Element prescribes that industrial areas shall be designated in:

- Areas where buffering can protect adjacent residential areas from adverse impacts or where no residential areas are present
- Areas adjacent to railroads and major highways
- Certain areas where there is sufficient land to meet the needs of production and technical employment users, and

- Certain areas where there are viable industrial uses in operation.

Thus the Comprehensive Plan seeks to guide industrial land uses into certain areas, and also seeks to provide spatial separation of industry with incompatible land uses such as housing.

3.1.2 DISTRICT POLICIES REGARDING INDUSTRIAL LAND USE

The District recognizes that current viable land uses that provide services, jobs, and fiscal benefits are essential to the District's economy. In the Comprehensive Plan Land Use Element, District policies state that it will make efforts, through appropriate zoning and related means:

- To ensure that these uses are maintained and that sufficient land is reserved for production and technical employment uses;
- Restructure industrial areas which are not needed for essential non-PTE type industrial uses, but which are suited to continued industrial development, into production and technical employment centers;
- Stimulate the growth of industries providing a high ration of employees to land areas;
- Discourage underutilization of industrial land for nonproductive purposes;
- Strengthen the economy and job base of the District by designating selected areas as production and technical employment centers for research and development, high technology, manufacture and assembly, wholesaling, and service production activities, through modifications to the District's industrial land use controls in some areas of the District, along with concentrated public efforts to retain existing businesses and to attract new ones;
- Determine the status, trends, and future needs for industrial land in the District and the value of both traditional uses and production and technical employment uses to the District in terms of essential services and jobs for residents and in terms of fiscal benefits to the District; and,
- Develop appropriate measures to mitigate or eliminate the adverse impacts caused by industrial uses.

3.1.3 EXISTING ZONING

The zoning for these areas both does and does not reflect this vision. DC has two primary industrial zoning districts: C-M (Commercial-Light Manufacturing) and M (manufacturing).[13] These districts permit a wide variety of commercial uses (basically everything permitted in the C-1, C-2, C-3 and C-4 zones, which includes a wide variety of retail and services, including

[13] Again, W zones also permit certain light industrial uses as a matter of right, but given that they also permit residential uses, and their relative scarcity within our study area, PPSA does not consider W zones as purely industrial zones for this discussion.

gasoline service stations) as well as industrial and production uses. A full list of uses is provided in Tables 3.1 and 3.2. The M zone is a heavier industrial district that provides for industrial uses not expressly prohibited. However, both districts permit, either as-of-right or via special exception, high-impact uses such as incinerators and solid waste and recycling facilities. All industrial uses are subject to specific performance standards.

The three types of C-M district—C-M-1, C-M-2, and C-M-3—differ in terms of the building bulk permitted. All three permit buildings considerable bulkier than most buildings found in the industrial zones, where tall multi-story buildings are the exception. The height and floor area standards are summarized in Table 3.3. Even the lowest intensity district permits building bulk of three times the lot area (FAR = 3.0) and three stories/40 feet. The allowed intensities go up from there, to a maximum of 90 feet and 6.0 FAR. Likely only the Hecht building on New York Avenue approaches these densities.

The C-M and M districts are part of an ordinance which follows a “pyramid” structure common to older zoning ordinances, whereby each less restrictive district incorporates the all the uses permitted in the more restrictive districts. This is seen in the C-M and M zones, which, in addition to PDR uses, permit neighborhood commercial, community commercial, major business, and central business district uses. Critically, there is nothing in the current ordinance that prohibits the development of retail and office complexes in the industrial zones. Only new residential development is prohibited. To date, retail and commercial pressures have not had a major impact on industrial lands outside of a few developments (such as the Home Depot). However, given the current real estate development climate in DC, pressures are likely to escalate even more in the near future. Revisiting this pyramid structure to consider zoning that will better protect existing PDR users is warranted.

Table 3.1: Permitted Uses in the C-M Zones

Uses permitted as of right:

- Commercial uses up to the C-4 district
- Pre-existing residential uses
- Hotel or inn
- Carting, express, moving or haling terminal or yard
- Commercial athletic field
- Experimental research or testing laboratory
- Incinerator
- Motorcycle sales and repair
- Laundry or dry-cleaning
- Public utility pumping station
- Repair garage
- Wholesale or storage establishment, including open storage, but no junk yards
- Any light manufacturing, processing, fabricating or repair establishment
- Temporary detention or correctional institution on leased property for a period not to exceed three years
- Electronic Equipment Facilities (EEF) (i.e. data switches, telco hubs, data centers, etc.) subject to limitations on location

Special exception uses:

- Massage parlors
- Intermediate materials recycling facilities
- Solid waster handling facility
- An EEF not permitted as of right
- Concrete or Asphalt plant

Source: District of Columbia Zoning Ordinance

Table 3.2: Uses Permitted in the M Zone

Uses permitted as-of-right:

- Permitted uses in the C-M zones
- Intermediate materials recycling facilities, subject to conditions
- Uses not expressly prohibited

Special exception uses the M zone:

- Massage parlors
- Solid waste handling facilities
- An EEF not permitted as of right
- Concrete or Asphalt plant

Prohibited uses:

- Abattoir or slaughter house
- Acetylene gas manufacture
- Ammunition and explosive manufacture or storage
- Animal rendering
- Arsenal
- Bituminous products refining or manufacture, other than an asphalt plant
- Bone products manufacture
- Calcium carbide manufacture
- Curing, tanning or storage of hides
- Fertilizer manufacture
- Rock quarry of the excavation of rock for commercial purpose
- Rubber products manufacture or treatment
- Steel furnace, blast furnace, bloom furnace, coke even, or rolling mill
- Any other use with objectionable characteristics similar to those listed in this subsection.

Source: District of Columbia Zoning Ordinance

Table 3.3: Bulk Standards in the C-M and M Zones

Zone	Height (feet)	Height (stories)	FAR
C-M-1	40	3	3.0
C-M-2	60	N/A	4.0
C-M-3	90	N/A	6.0
M	90	N/A	6.0

Source: District of Columbia Zoning Ordinance

The zoning maps contained in the Appendix show the zoning for each industrial sub-area.

3.2 THE MARKET FOR INDUSTRIAL LAND AND BUILDINGS

Industrial land markets are unlike other types of real estate markets. Tenants tend to choose their space and site location based on purely functional criteria: access to transportation resources, layout, the number of loading docks, ceiling clearances, floor loads, etc. Variables that drive other real estate decisions, such as image or a prestigious address, play little role for industrial real estate. Further, unlike office rents, which can vary wildly based on the type, location and quality of buildings, industrial rents tend to fall into a narrower range. Finally, no matter high-value the location, industrial rents and land values tend to significantly lag other types of real estate on a per square foot basis, meaning that industrial development must be developed at lower cost, and on lower cost land, than other types of uses.

The DC market and the suburban market differ significantly in terms of prevailing rents and the type and quality of product on offer—ironically, the District typically offers a lower quality product at a higher price than suburban competition, meaning that most users in the District must have a compelling reason for a DC location. Within DC, both private and public users looking to buy or lease industrial space will be facing an increasingly tight market. Strong demand, buoyed by the real estate boom and a strong economy, has coupled with a lack of new construction to create a constrained market. While the DC market has, on paper, a reasonable vacancy rate, most of this vacant space is of poor quality and/or unsuitable for most users. When it comes to quality space, the vacancy rate in the District remains quite low.

The following section provides an overview and summary of current conditions in the market for industrial buildings in DC and the region, with references to national norms included where such comparisons are useful. The analysis relies primarily on market reports from major brokerages, as well as interviews with brokers active in DC's industrial areas. Note that while the former track market statistics for all industrial buildings regardless of whether they are located in an industrial zoning district, the latter concentrated specifically on DC's industrially-zoned land and buildings.

3.2.1 NATIONAL AND REGIONAL CONTEXT: WASHINGTON, D.C. METRO AREA INDUSTRIAL MARKET

National Perspective

Across the country, industrial markets have been in a state of flux over the past four years. Construction of new industrial space throughout the 1990s outpaced demand resulting in double-digit vacancy rates in nearly every submarket. Slowed construction and a continuing strong economy have contributed to the stabilization of the United States industrial real estate market with the District of Columbia and the Washington, D.C. Metro area reflecting these national trends[14].

At the end of the second quarter of 2005, the national vacancy rate for industrial space was 8.6 percent, over a full percentage point lower than second quarter reporting of last year, indicating a tightening market.[15]

Market indicators for industrial space are commonly separated into two categories: Warehouse and Flex-Industrial. Research and Development (R&D) space is included in the Flex category, as are modern industrial/office hybrids. The national average asking rent for Warehouse space had increased from $4.26 a year ago to $4.41 per square foot for second quarter 2005. Flex space had declined 30 cents from its asking rent a year ago to $9.11 per square foot. The strongest market for Warehouse and Flex space in terms of rents was San Diego, with the Washington, D.C. Metro Area ranking as the second strongest in both categories.[16] Asking rents for warehouse/distribution and flex space in San Diego average $8.16 and $14.88, respectively, compared with $7.78 and $12.37 in the DC Metro Area.

Regional Perspective

The amount of existing industrial inventory for the Washington, D.C. Metro Area is estimated to total a little over 177 million square feet. Approximately 42 percent of this inventory is occupied as Flex space. The remaining 58 percent is leased to Warehouse users.[17]

Throughout the region, approximately 2,089,500 square feet of industrial space is under construction, representing a 1.7 percent growth in floor space. Over 25 percent of this total is

[14] The “region” discussed in the office market reports quoted here is roughly the same as the MSA; however these proprietary reports do not adopt the precise geography used by the Census Bureau.
[15] *Industrial Market Trends: North America, Second Quarter 2005*. Grubb & Ellis Research, 2005.
[16] *Industrial Market Trends: North America, Second Quarter 2005*.
[17] *The CoStar Industrial Report, Third Quarter 2005, Washington, DC Industrial Market*. The CoStar Group, 2005.

pre-leased. No new industrial construction is being undertaken or planned for the District of Columbia.[18]

For the year-to-date 2005, the I-270 corridor is the strongest performing submarket in the Flex category with a vacancy rate of 10.4 percent, net absorption of 304,408 square feet, and an asking rent rate of $17.12 per square foot. Bethesda/Silver Spring, Frederick County and Springfield/Newington are also exceeding regional averages in this category.

Springfield/Newington posts the strongest numbers in the Warehouse category. Year-to-date absorption for this submarket totaled 152,562 square feet with a 3.9 percent vacancy rate and $8.96 average asking rent per square foot.[19] Fairfax, Arlington/Alexandria, and Woodbridge also record low vacancy rates and high asking rents in the Warehouse category.

Overall, as of the third quarter of 2005, the District of Columbia submarket is an average performer in the Flex category, but one of the strongest areas in the Warehouse category, consistent with economic findings that support services, contracting and distribution are some of the most in-demand uses for DC's industrial buildings.

Table 3.4: Comparative Industrial Market Statistics, Third Quarter, 2005

Category	Metro DC Region	District of Columbia
Existing Inventory		
Number of Buildings	4,147	378
Total RBA (SF)	177,072,368	13,041,064
Vacancy		
Direct SF	16,738,744	1,475,654
Total SF	17,731,850	1,475,654
% Vacant	10.0%	11.3%
YTD Net Absorption (SF)	1,506,460	311,083
YTD Deliveries (SF)	2,348,658	-
Under Construction SF	2,089,485	-
Quoted Rental Rates/SF	$10.24	$14.30
Average Building Size (SF)	42,699	34,500

Source: The CoStar Group (2005):
The CoStar Industrial Report, Third Quarter 2005, Washington, DC Industrial Market.

[18] *The CoStar Industrial Report, Third Quarter 2005, Washington, DC Industrial Market*. The CoStar Group, 2005.
[19] *The CoStar Industrial Report.*

3.2.2 THE DISTRICT OF COLUMBIA SUBMARKET: AN OVERVIEW OF THE EXISTING INVENTORY

Current Inventory of Space

According to databases maintained by CoStar, a private provider of commercial real estate information and data, the existing industrial inventory within the District of Columbia totals 13,041,064 square feet of space located in 378 buildings. Approximately 16 percent or 2,034,689 square feet is occupied as Flex space, whereas the remaining 84 percent or 11,006,375 square feet is Warehouse space. [20] Since the first quarter of 2001, the inventory of industrial space has decreased 252,300 square feet.

The Third Quarter 2005 CoStar Industrial Report records an average size of 34,500 square feet for industrial buildings in the District of Columbia. This amount is considerably smaller than the Washington, DC Metro Area average of 42,699 square feet.[21]

Vacancy

In the Flex space category, the District of Columbia lists the highest vacancy rate of any submarket in the Washington, D.C. Metro Area, at 44.6 percent. Conversely, the District's Warehouse vacancy rate is one of the region's lowest at 5.2 percent. [22] This would suggest that there is about 900,000 square feet of vacant flex space and 570,000 square feet of vacant warehouse space in the District, for a total of nearly 1.5 million square feet of vacant industrial space, or 11 percent of DC's total industrial inventory. Qualitatively, field surveys did not reveal anywhere near such a large amount of vacant industrial space within DC's industrial districts. The source of these vacancy numbers is therefore uncertain. It is likely that at least some of the vacant flex space corresponds to R&D and other buildings located outside of the industrial zones, and hence the study area, for this study. The industrial market reports are keyed to how different buildings are marketed, rather than the zoning district in which they are located.

Rental Rates

Recorded rental rates for Flex space at $19.54 per square foot have inflated average quoted rates for the District's industrial space. Being the highest in the Washington, D.C. Metro Area, the average rate for Flex space is a likely contributor to the category's high vacancy rate, although the quality of space available likely plays a significant role as well.

[20] *Ibid..*
[21] *Ibid.*
[22] *Ibid.*

At $12.31 per square foot, the Warehouse rental rates are a more accurate reflection of market activity in the industrial sector. This average rate is 50 percent higher than the regional average of $8.08 per square foot, but it is somewhat lower than the average for Fairfax County, which commands the highest warehouse rents in the region. [23]

Recent Absorption Trends

During the past five years, vacancy rates for each category of industrial space have gradually decreased after the region's Flex vacancy peaked in 2003 at 16.8 percent and the Warehouse market highest rate of 8.0 percent in 2003.

The District's industrial absorption rates have been more tenuous. Although positive absorption rates have been recorded for the first three quarters of 2005, this uptrend follows a year of four consecutive quarters of negative absorption.

In the third quarter of 2005, net absorption of industrial space (Flex and Warehouse space inclusive) totaled 123,190 square feet.

New Construction

Since the beginning of 2002, only 25,000 square feet of new industrial space has been constructed in the District of Columbia.

3.2.3 FACTORS IMPACTING THE DISTRICT OF COLUMBIA'S CURRENT INDUSTRIAL MARKET

In November 2005, six active industrial real estate brokers were interviewed regarding conditions in the District of Columbia's industrial market. Based on their input and independent research, the following five issues were identified as critical to the future strength of the District's position in the region's competitive industrial landscape.

Location and Accessibility

Proximity to railroads and major roadways has guided industrial real estate value for over 100 years. Based on these criteria, the low vacancy rates and high appeal of the V Street Industrial Corridor is unsurprising. However, despite its location between freight lines and Routes 50 and Alternate 1, asking rents along V Street range between $5.00 and $7.00 per square foot, which

[23] *Ibid.*

is a low rate for the DC market, and lower than the regional average.[24] These low rates help explain the low vacancy rate in this area, and may be due to the presence of long term leases which delay response to a rising market. The combination of modest rents and low vacancy may also stem from another issue: spaces along the V Street corridor are constrained from significant expansion/reconfiguration, so any tenant must be satisfied with the space size and configuration, number of loading bays, etc.

One of the issues with industrial space in the District is the relative inaccessibility of the region's airports, namely Dulles and Baltimore-Washington International Airports. For this reason, industries located in the District are more likely to have locally or regionally-focused businesses.

The rental rates for available space near the District's border with Takoma Park, Maryland typically range between $7.00 and $9.00 per square foot (this would include the Chillum Place area). A partial explanation for this increase is related to the area's relative accessibility to I-295 and I-95, as well as BWI Airport.[25]

Size and Expansion Capabilities

Demand for industrial space is highest for space ranging between 10,000 and 20,000 square feet in size. Space under 10,000 square feet is almost equally sought. Two brokers stated that the time on market for space in these ranges is short and rarely requires advertising.[26]

Unlike the suburban markets, where industrial space of this small size generally remains after the larger leases are signed, small space leases are a premium in the District. This condition creates difficulties when industries in the District seek expansion opportunities. Especially in the Warehouse category, as businesses grow, they are forced to relocate to the suburbs where a wider variety of spaces provide a greater number of options. Strategies aimed at easing expansion within the District's industrial zones could play an important part in efforts to retain successful PDR uses in the District.

Geography of the District

The basic geography of the District of Columbia, paired with the city's historic industrial trends, creates difficulty for its Flex and Warehouse markets. As previously discussed, roadway and airport accessibility can be critical for industrial businesses. Proximity to population density and a diverse workforce can also be factors in location decision-making.

[24] Retail Compass interviews with two brokerage representatives for V Street Industrial Park, November 2005.

[25] Retail Compass interviews with two brokerage representatives for industrial parcels at Blair Road and Rittenhouse Street and Kansas Avenue and Chillum Place, November 2005.

[26] Retail Compass interviews with five brokerage representatives, November 2005.

Historically and currently, the District's industrial supply has been largely focused in its rail corridors. As highways expanded, airports were constructed, and Northern Virginia developed, the focal point of the industrial market's regional interest shifted west. Along the Dulles Corridor and as far from the city's center as Manassas, industries took advantage of the growing population base as well as the roadway capacity of Routes 66 & 50, I-495 and I-95 as well as the Dulles Toll Road and Dulles Greenway.

For District businesses, access to these routes is hindered by limited crossings over the Potomac River and traffic congestion through the city. Perhaps more significantly, available land for and private development interest in new industrial space in the District prevented urban industrial growth while suburban submarkets added (and continue to add) new, modern and flexible space each year.

Longevity and Tradition

Vacancy rates in the District have remained remarkably consistent over the past sixteen quarters with only a 2.5 percent fluctuation. One possible explanation for this steady condition is the relative lack of turnover in the District's industrial spaces. Local brokers report that space rarely becomes available due to the commitment of businesses to the District as well as the cost and effort associated with relocation. Modest rents and rent increases also facilitate this stability.[27]

Local Business Standing with the District Government

One of the factors that influence new businesses to seek industrial space in the District are the benefits associated with a local address. Location in an Enterprise Zone or standing as a Local, Small, Disadvantaged Business Enterprise (LSDBE) provide financial incentives, lending capabilities and special consideration for government contracts that are not offered to businesses outside the District.

Regulatory Factors

Within the District of Columbia, provisions for a Storage Facility Permit or ABC Wholesaler's License require wine, beer and liquor wholesale distributors to have facilities within the City to sell to DC businesses. Because no similar regulations apply to food distribution, a majority of grocery wholesalers serve the District from Prince George's County, via Route 50.[28] The only major food distribution center in the District is the Florida Avenue Wholesale Market. This unique resource addresses ethnic markets and local restaurants rather than chain grocery stores.

[27] As stated in interviews by Retail Compass with three industrial brokerage representatives, November 2005.

[28] Interview with Paul Pascal, Pascal & Weiss, P.C. December 2005.

Unlike the ABC laws that increase the demand for industrial space in the District, city regulations decrease the available supply of space for another industrial use, trash transfer facilities, or TTFs.[29] In the 1998 amendment to DC's Solid Waste Facility Permit Act of 1995, new provisions requiring facilities to be located 300 feet from any residential property line effectively eliminated any eligible property for this type of use in the District.[30]

Business Taxation

Although industrial space within the District is competitive with suburban offerings, the city's taxation policies are less so. In comparing corporate franchise income taxation rates, the District 9.975 percent rate is measured against Maryland's 7 percent and Virginia's 6 percent rate. Another significant taxation consideration for industrial businesses is the cost differential between the District's Worker's Compensation premiums and those of surrounding jurisdictions. The District's are reported to be as much as twice as high as Virginia or Maryland.

3.2.4 LOOKING AHEAD: THE FUTURE OF THE DISTRICT'S INDUSTRIAL MARKET

Continued Job Growth

Industrial job growth in the Washington, D.C. Metro Area has consistently outperformed national averages by a full percentage point since 2001. The region's rate of new industrial jobs per year is expected to grow 1.7 percent over this year, according to the Department of Labor and Bureau of Labor Statistics. Over the past five years, expansion of the industrial workforce has increased at higher rate than the development of new industrial inventory (6.00 percent to 5.20 percent, respectively).[31]

These conditions indicate a high probability of stabilized or growing demand for the city and the possibility of further decreases in vacancy rates and increases in asking rents. However, it is also likely that much of this growth will pass the District by—existing industrial buildings don't provide the amount of quality of space demanded by many tenants, and higher land costs will discourage speculative construction.

Strengthening Competition

Several submarkets near the District of Columbia are experiencing rapid growth in their industrial sectors. The Dulles Corridor area has added approximately 895,000 square feet of new space since the beginning of 2005 with an additional 995,000 square feet currently under construction. The Manassas/I-66 submarket has increased its inventory by 461,000 square feet with over 100,000 square feet being built.

[29] TTFs are also referred to as Intermediate Materials Recycling Facilities.

[30] District of Columbia Municipal Regulations (DCMR), Sections 802.3-802.4.

[31] *The CoStar Industrial Report.*

These two areas are examples of the immense growth in many of the region's suburban areas. During the same period of time, the District of Columbia did not witness any increases to its existing industrial capacity. As surrounding competitive markets grow, the range of options for size, rent, and amenities available in other locations will put added pressure on the District to expand incentive programs for downtown sites. For a number of industrial users, however, space in the District will hold a convenience, city access, and government amenities attraction that will not be undone by suburban offerings.

Limited Development Potential

One of the major issues with the future of the District of Columbia's industrial market is its limited ability to expand. As demonstrated above, other communities are creating industrial centers intended to provide expansion opportunities and to satisfy a variety of space requirements for the vast array of industrial users that coexist in this regional market. The District is limited by available land and space from supplementing its market in a similar manner.

The District's industrial market serves a critical role in the region's industrial framework. It provides small industries with an opportunity to establish themselves with the support of the District government and reasonably affordable space. It also offers convenience to downtown project sites and access to a concentrated workforce for construction, infrastructure-related industries, and manufacturing enterprises. The importance of these businesses and their associated space is not limited to the District, but extends to the health and strength of the region's industrial future.

3.2.5 IMPLICATIONS FOR THE STUDY

The District is at a distinct competitive *disadvantage* in the regional industrial market. A May 2006 analysis by the DC Office of Planning was particularly telling.[32] It noted that given current market trends, private firms would likely out-compete DC in the regional and local market. It is not realistic for DC to expect to house its essential public sector functions outside of its own borders—the market is too competitive and the space is too limited. Assuming the private sector absorbed the available space industrial within DC, then, in order to meet its public sector industrial land use needs, DC would have to capture 80 percent of the remaining space in the regional market! This would be a highly unlikely proposition for a fast-moving, deep-pocketed private investor; it would be impossible for a government actor with limited funds. This underlines the need to strategically plan for public sector land use needs.

Furthermore, the District's industrial inventory is generally characterized by a stagnant inventory and declining availability due to constrained land resources, declining vacancy rates, and a

[32] See Chart 6.1 in the Appendix of this report.

general lack of new development. Barring policy change, this situation is unlikely to change for the foreseeable future: rising rental rates will likely be insufficient to spur significant new construction or redevelopment of obsolete spaces by industrial developers. Long-term leases will also slow the rate of change in DC's industrial zones. Finally, vacancy rates can be expected to continue to fall, but not to disappear. When vacancies do appear, they will typically be slow to fill: Rents do not support major rehabilitation; the ability to redesign buildings is limited; space for expansion is constrained; thus each tenant must be happy with the available space, loading docks, ceiling heights and floor loads.

Any significant new investments are much more likely to be made by individual users: successful businesses with the internal incentive and wherewithal to assemble adjacent property and upgrade their operations. However, this will only happen in an environment where such investments can be made with the long term in mind; i.e., an environment where real estate speculation and the potential for encroaching residential development does not threaten the continued viability of industrial businesses or districts. This underlines the need to provide greater *predictability* in targeted industrial areas, so that property owners and developers can be reasonable certain as to which areas are likely to change, and which will remain stable havens for PDR use.

3.3 SUB-AREA ANALYSIS

In a mature and built-out city, the formulation of land use policy requires a detailed understanding of the current conditions on the ground. To this end, field surveys have been undertaken of all of the District's industrially-zoned properties. The full results of these surveys are detailed on Existing Conditions maps, which appear in the Appendix to this report.

The Office of Planning divided each of the District's industrial zones 24 into sub-areas, named after defining features (such as CSX rail corridors); local landmarks (Fort Totten); and neighborhood names (Brookland). This report adopts these sub-areas as the organizing structure for the discussion of existing conditions. These sub-areas are illustrated on the key map in Section 2, with individual maps provided in the Appendix to illustrate existing uses and surrounding use patterns.

Based on the field surveys and mapping, an Opportunities and Constraints matrix was prepared to assess particular attributes of each industrially-zoned sub area and to identify areas appropriate for retention strategies or for land use change, as well as to suggest specific strategies aimed at addressing identified issues. It was a useful tool in for weighing an area's strengths, weaknesses, and any future development plans. The full matrix can be found in the Appendix to this report.

Next, each sub-area was scored to determine its overall fitness as an industrial area. Eleven scoring criteria were developed collaboratively by the Office of Planning and PPSA. A total of 55 points were possible (five points per criteria multiplied by 11 criteria). The criteria were:

A. Predominant Adjacent Land Uses
B. Interior Access/Circulation
C. Existing Road Conditions
D. Proximity to Highway
E. Rail Freight Access
F. Average Parcel Size
G. Brownfield/Contamination
H. Metro/Transit
I. Existing Industrial User Concentration
J. General Area Condition
K. Building Stock

This scoring exercise was meant to provide a quantitative basis for our findings. Descriptions of scoring criteria and a matrix detailing the scores for each sub-area can be found in the Appendix.

Based on the data from our field surveys, and reflecting on the scoring, opportunities, and constraints for each sub-area, PPSA formulated key findings for each sub area. These can be found at the conclusion of each sub-area analysis in the Appendix. For example, is the area a high-performing industrial zone or is it an island in the middle of residential areas? Is it a strategically important municipal services area with good highway and rail access? Is it a struggling area with many vacancies or is it thriving?

3.4 OVERALL FINDINGS

Out of the land use surveys, scoring exercise, and compilation of opportunities and constraints for each area, certain patterns began to emerge. For example, it was clear that some sub-areas faced imminent and growing redevelopment pressures from other land uses. Some areas contained a concentration of healthy PDR businesses, and some areas were relatively underutilized. Finally, there were some areas of friction where industrial uses abutted against incompatible land uses such as residences or new neighborhood development. Map 3.1 illustrates these areas in distinct colors.

3.4.1 AREAS OF PRESSURE

The District's office development boom and housing market explosion has rapidly utilized many of the most desirable and easily accessible downtown development sites, and now real estate development forces are pressing heavily against industrial districts

Nowhere is this more evident than in those areas near Metro stops and with relatively easily-developed lots. North of Union Station towards Florida Avenue, including the market area and the New York Avenue Metro stop, and at each successive Red Line Metro stop—Rhode Island Avenue, CUA/Brookland, Fort Totten, and Takoma—real estate pressures are growing. Rezoning requests trend towards these areas, and some larger initiatives including possible Planned Unit Developments in the NY/Florida Avenue Market area and along Eckington Place, as well as spin-off from large initiatives such as NoMa and the H Street Corridor redevelopment are all increasing real estate values to the point where current PDR business area threatened. Map 3.2 illustrates known rezoning requests and major large initiatives. Areas of pressure are shown in light brown on Map 3.1.

It makes sense that some of these areas be considered for land use change. In fact it is difficult to argue against well-planned transit oriented development in such an expensive, congested, built-out city such as the District, where household and job gains are projected to continue relatively unabated over the coming years. However, several areas under development pressure, such as the NY/Florida Avenue Market area, are more appropriate for an evolution or intensification of the existing land use, rather than a land use change.

3.4.2 AREAS OF HEALTHY PDR FABRIC

The sub-area existing conditions maps (found in the Appendix) reveal that some industrial zones contain a concentration of PDR businesses or municipal facilities. The businesses in these areas contribute to the District economy directly by providing products and services, but also by supporting the core economic sectors and providing much needed well-paying jobs. The municipal facilities located in these areas provide necessary services for the District's growing residents and businesses (Map 2.2 locates concentrations of municipal facilities).

We describe these as areas of "healthy PDR fabric." All of these areas also exhibit good opportunities for continued or intensified PDR use and scored well in our industrial area scoring exercise (see the Opportunities and Constraints analysis matrix and the scoring matrix in the Appendix).

Areas of healthy PDR fabric are shown in blue on Map 3.1. These areas include much of CSX1 - Lamond Riggs south of the Metro, significant portions of Fort Totten and Brookland, and large swaths of New York/Ivy City and New York/Bladensburg. Some of these areas deserve land use protection, and some should be considered for municipal services. None of these, save perhaps a portion of land directly bordering New York Avenue, are appropriate for land use change.

3.4.3 AREAS OF UNDERUTILIZATION

Many of the District's industrial areas are underbuilt, have significant vacancies, or are otherwise underutilized—the existing conditions maps plainly reveal areas with few businesses and swaths of land used only for parking, junkyards, or railroad tracks. These areas are shown in olive green in Map 3.1.

Vast areas of the CSX railroad yards are underutilized, as are large parcels including Fort Lincoln and portions of Bladensburg and Ivy City. Benning Road, 11th Street, SE, Water Street, SE, DC Village, Anacostia Poplar Point, and Scattered Site 1 are underutilized and present excellent sites in which to intensify current uses and strategically locate government facilities. Some may also be areas where the District could consider undertaking redevelopment activities as part of a coordinated plan. Ivy City near the Hecht Building may be one such location where District intervention could help jumpstart the upgrading and intensification of the area.

3.4.4 AREAS OF FRICTION

Lastly, it is apparent in some areas that PDR businesses and incompatible land uses are located in very close proximity to each other. Nuisance complaints about noise, pollution, and visual blight relating to PDR businesses are likely most prevalent in these areas, and it is logical to assume that expansion or retention of PDR uses in these zones may be difficult. These areas of friction are shown in red on Map 3.1.

These places more or less correspond to areas where PDR businesses and residential communities flow almost seamlessly with little or no buffer. Notably, areas of healthy PDR fabric in Lamond Riggs, Fort Totten, and Brookland all experience friction with the residential communities on their eastern edges. In many cases there is not even a street, much less an alley or fence line, dividing these two land uses. Most other areas of friction occur where the industrial land is underutilized. The protection and/or intensification of current PDR uses in these areas (e.g. Lamond Riggs) would require buffer considerations; on the other hand, land use changes may be more appropriate in some areas (e.g. CSX2-Kennilworth).

3.5 SUMMARY

This section has described in detail the existing conditions of the District's industrial land, through both a real estate market lens and a detailed land use planning analysis. Building upon the important concepts delineated in Section 2, Section 3 informs the report's determination of PDR suitability and whether the area bears protection for continued PDR use. The detailed land use recommendations that are the culmination of this report follow now in Section 4.

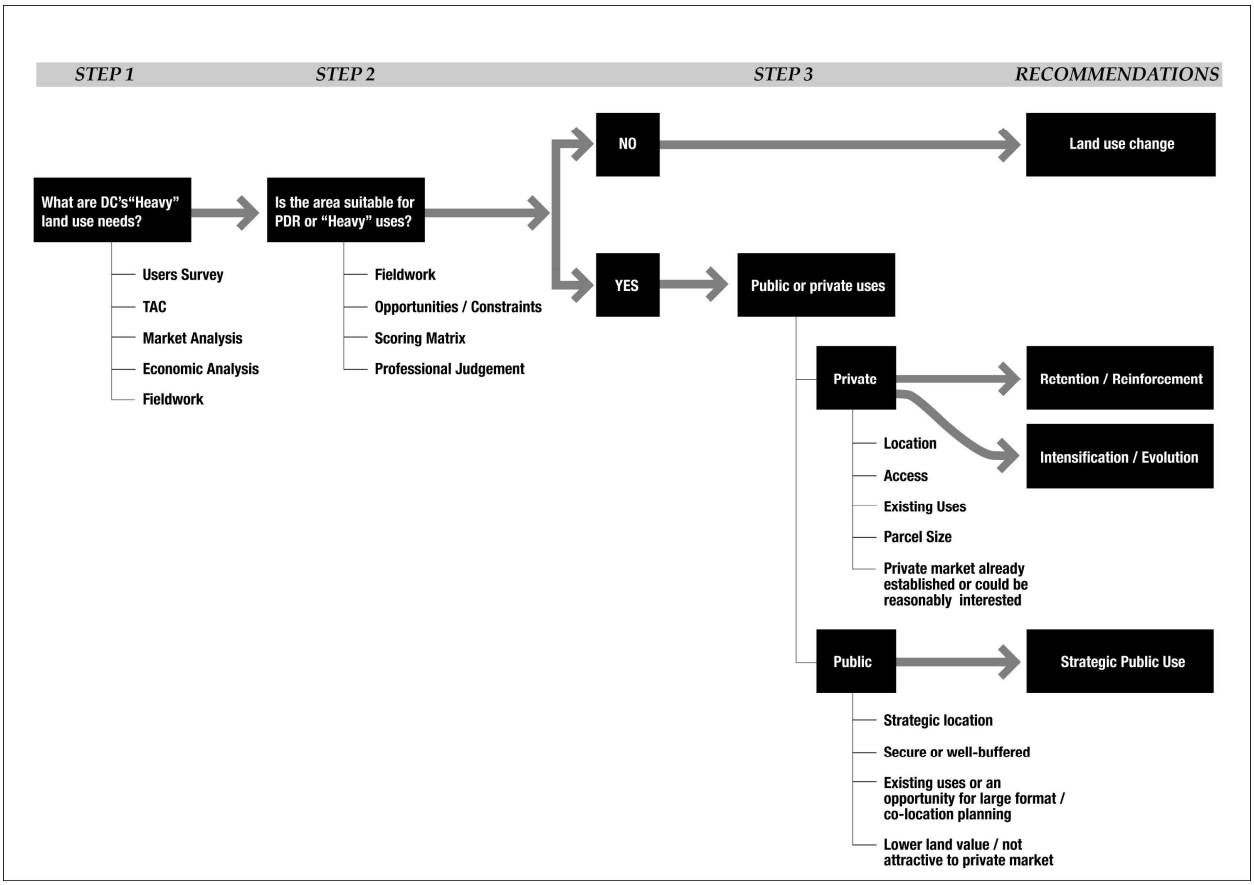
4 Recommendations

The recommendations herein build from the previous chapters of this report by considering the need for and importance of appropriate industrial land in the District, the supply and demand for industrial land and buildings, and the overall findings resulting from the land use surveys and sub-area analyses described above. They are intended for two purposes: (1) as a guide to zoning policy as it relates to industrially-zoned land; and (2) as a guide to strategies the District can undertake to maintain and enhance its base of PDR employment. Item one speaks directly to land use; item two has both land use and policy components.

Simply put, this study revealed that the District's existing zoning framework regarding industrially zoned land requires modernization. As a result, this chapter begins by positing a new zoning framework for industrial land, which is then referenced in subsequent sections. This framework is in direct response to deficiencies identified in the existing zoning categories and regulations, and is designed to address the issues outlined in the previous sections of this report. The recommendations for different industrial sub-districts cannot be adequately implemented within the existing zoning framework. The new framework keeps the existing zone districts, with modifications, but recommends two additional zoning districts to be added to the zoning ordinance and map.

These recommendations were not made arbitrarily or without great consideration—each recommendation followed a discernible logic. First, based on information compiled from the user's survey, technical advisory committee, market analysis, economic analysis, and fieldwork, PPSA and OP analyzed the District's "heavy" land use needs. Second, using fieldwork, the opportunities and constraints and scoring matrices (both described Section 3) and PPSA's professional judgment, we analyzed the study areas' suitability for continued PDR use. Areas deemed suitable were analyzed to determine whether they were more appropriate for private (or market driven) or public (municipal) use. Areas unsuitable for continued PDR use (e.g. areas near Metro stations) were considered for land use changes. Discussed in Section 1.2 and reproduced here, Figure 4.1 clearly illustrates this logic:

Figure 4.1: Recommendations Logic Path



Thus, the District's industrial areas were divided into four categories based on the appropriate policy response. Sections 4.2 through 4.5 set forth our recommendations based on the following policy responses:

- **Retention and reinforcement:** Intended for areas that exhibit healthy PDR fabric, provide a significant concentration of support services and PDR jobs, and have good prospects for continuing to host viable PDR businesses into the future. A new zoning category is proposed for most of these areas, except for areas of intense uses, which would be zoned M.
- **Intensification/evolution:** This category is for areas where PDR use exists and continues to be desirable, but where intensification is warranted due to a pattern of underutilization, and where non-PDR uses are an appropriate part of the overall land use mix. These areas are most appropriate for C-M zoning.
- **Strategic for public use:** Certain industrial areas have been identified as appropriate areas to accommodate municipal/government/utility space needs. Other uses are not precluded, but these are potential priority areas for public acquisition and reuse. In most cases, zoning can remain the same as the current condition.

- **Land use change:** These are areas where a move away from PDR use is appropriate, due to a lack of viable PDR businesses, and the desirability of these sites for other uses. In most cases, residential development is contemplated. There are two sub-categories within this category: areas where a gradual replacement of PDR use with residential is envisioned (letting the market take its course); and areas where PDR should essentially be zoned away. Many of these areas are proposed for a new zoning district permitting both residential and light PDR uses such as storage and light fabrication.

The next section addresses the issue of government facilities, with a particular emphasis on the District's municipal space needs. A prior section addressed particular location where public uses might be sited; this section addresses the policy and programmatic side of meeting public needs. To this end, the section addresses systems of property and resource management and various methods of increasing the efficiency of public properties and resources. Given the scarcity of both land and public funds, ways of doing more with less are a major focus.

While this report sets forth a detailed policy with respect to industrial land use, land use decisions not foreseen by this report may also need to be brought before the relevant District bodies such as the Zoning Commission. Thus the final section of this chapter provides a set of criteria for evaluating future proposals for land use change which impact industrial areas.

4.1 A NEW ZONING FRAMEWORK FOR PDR

The existing zoning ordinance has two types of industrial district. The C-M districts permit retail, office and industrial uses, with permitted FARs ranging from 3.0 to 6.0. The M district permits everything permitted in the C-M district, but extends the permitted uses to encompass anything not specifically prohibited, and has a maximum FAR of 6.0.

There are several issues with this zoning scheme:

- It does nothing to prohibit retail or office uses from overtaking industrial areas and displacing PDR tenants.
- The bulk standards bear little resemblance to the low-scale, high-coverage built environments found within these districts.
- It is somewhat vague as to what precisely is permitted in the M district: it may be fully specified in theory, but multiple trips around the zoning ordinance are required to try to figure this out.
- The performance standards for industrial areas need modernization.

A variety of industrial zoning strategies were reviewed for this report, some of which are esoteric in their application, many of which were formulated for use in big cities with a significant industrial and manufacturing past. The strategies proposed here, while representing a

substantial modification to the existing zoning categories, are nonetheless fairly straightforward in concept, involving a retooling of the existing zones and an addition of new additional zones. General outlines for these new and modified districts are provided—specific standards will require additional study and analysis by OP, and deliberation by the Zoning Commission.

One concept worth exploring further is the Planned Manufacturing District (PMD) overlay developed by the City of Chicago. Application of a PMD district to an existing industrial area carries with it a strong presumption that the area is off-limits to rezoning for residential use. This concept could be adopted by the District to further strengthen the zoning proposals presented below. This and other zoning case studies are presented here in the accompanying case studies.

Sample Industrial Land Use Policies

While the District is unique in its economy, function, and political status, other American cities are facing many of the same land use pressures. This report has considered other cities' perspectives and industrial land use policies, and, in some cases, borrowed best practices from their experiences.

San Francisco, CA: Production, Distribution, and Repair [33]

San Francisco is similar to the District in several ways, notably in that it is also a city with very limited amounts of land and where industrial land is under pressure from "higher and better" uses including housing and high-tech sector offices. Recognizing the need to develop appropriate land use policies to accommodate industry, housing, and office development, the San Francisco Planning Department completed a study of its industrial areas in 2002. Its study resulted in a new framework with which to view the import of industry to the city's economy. Instead of using the term "industrial," which conjures images of heavy "smoke-stack" industry, the terms production, distribution and repair (PDR) are used.

Production uses include building contractors, printing firms, and light manufacturers such as specialty signs and building mechanical systems. Distribution includes warehousing, trucking, wholesaling, and retailing operations which cater both industries and public. It is essential that these firms have good access to rail and road transportation. Finally, Repair includes building systems and automobile repair, including municipal fleet maintenance garages, and serves both other industrial users as well as the general public.

The report recognizes that PDR businesses provide fast and efficient support services for core sectors of the San Francisco economy (including property development, tourism and hospitality), that PDR provides employment options for skilled and unskilled residents without advanced degrees, and that PDR helps stabilize the local economy and reduce some of the costs of doing business in the city. The report urges land use planning that considers the needs (space that is affordable, flexible, and away from housing) of PDR users.

Chicago, IL: Planned Manufacturing Districts [34]

Chicago's experience in the 1980s was very similar to what the District is experiencing today. Rezonings in and around Chicago's manufacturing areas allowed residential and commercial land uses to encroach upon industry. Throughout the 1980s, as rezonings became commonplace, manufacturers had less and less confidence that they could safely invest their capital on in-place expansion. Thus a dwindling supply of appropriate land, combined with high taxes and labor costs, conspired to drive more and more industry from the city.

[33] See San Francisco Planning Department, 2002

[34] Adapted from Appendix B, Pratt Institute Center for Community and Environmental Development, 2001. See also University of Wisconsin-Milwaukee, 2005.

The city determined that losing industry meant losing good jobs in the Chicago area, permanently displacing of many skilled industrial workers, and sacrificing business activity that had an important role in Chicago's economy. In order to retain these important businesses within the city, in 1988 the city created the Planned Manufacturing District (PMD), a special zoning designation which creates an "industrial sanctuary."

A PMD designation preserves the existing industrial character of an area. It maintains the underlying zoning's bulk restrictions, therefore preserving density, but does not include design standards to enhance quality. The PMD's main action is to place significant additional use restrictions on the industrial or manufacturing land and place restrictions on the rezoning of industrial land for non-industrial uses. "Supplementary Regulations" specifying these uses restrictions, as well as other restrictions, are developed and adopted by the city council for each area when a PMD district is applied to the zoning map. Any change in the PMD ordinance requires the approval of city council. PMD regulations are district-specific – this allows for targeted regulations, but varying district-by-district regulations make the program challenging to enforce.

Three PMDs were established in existing industrial areas between 1988 and 2000. Currently, the city has 13 PMDs. The city also has established "Industrial Corridors," planning districts proposed by the city as part of a comprehensive industrial land use policy to be implemented through zoning review and targeted public investments. The corridors do not make up all the industrial land in Chicago, but represent key concentrations of industrial investment and employment. Industrial retention and preservation programs include low-interest loans for industrial firms, business infrastructure assistance, enterprise zone incentives, and tax increment financing. Additionally, the city targets capital improvement dollars to support industrial infrastructure including bridges, viaducts, and streets.

The PMD experience has not been problem free or totally successful, but, in terms of business retention and job creation, they have performed well. Some neighborhood opposition to PMDs meant that the designations could not be imposed lightly, and that a participatory process with businesses and surrounding residents yielded better sustainability and more support.

New York, NY: Proposals for Manufacturing Development Zones and Industrial Business Zones [35]

Finally, New York City, where, perhaps more than anywhere else, land is at a premium, is only now realizing that equitable development and a sustainable economy are founded in part on a comprehensive industrial land use policy.

In its 2001 report on manufacturing land use in New York City, the Pratt Center concluded that Manufacturing Development zones be established in areas that have strong concentrations of manufacturing to give extra protection and support to manufacturing businesses. MD zones would overlay the existing industrial zoning and would, to varying degrees, restrict the location of non-industrial uses, especially residential conversions. MD zones would require that commercial, auto-related, and other non-manufacturing uses currently permitted as of right, but which have the potential to create negative

[35] See "Recommendations," in Pratt Institute Center for Community and Environmental Development, 2001. See also City of New York, 2005.

impacts, would need a special permit. Such uses include utilities, solid waste facilities, and parking as a principal use.

New York City Mayor Michael Bloomberg's office in 2005 issued a report outlining the industrial policies of the city in order to create "best-in-class" industrial zones. It stated that Industrial Business Zones (IBZ) should be drawn to include areas that "can best support vibrant industrial business districts with competitive advantages over industrial districts in other parts of the metropolitan region." The policy outlines several critical industrial retention and protection strategies, including, (1) the Bloomberg Administration pledges that it will not rezone IBZs to allow residential use, (2) Additional incentives for businesses relocating from within the city to an IBZ will be created, (3) Area-planning studies for each IBZ will be conducted, and (4) IBZs will be marketed to new, expanding, or relocating businesses.

The city would also undertake additional initiatives to safeguard industrial land, including, (1) discourage illegal conversions, (2) lower costs of development and expansion with incentives and funding, including an expansion of Industrial Development Agency assistance, (3) launch a commercial fleet parking violations program, (4) create a dumpster shed program, (5) form an industrial energy Consumer Coalition, and (5) administer a biannual Industry NYC survey to identify key trends and measure the effectiveness of city programs.

The PMD Zones or IBZ proposals are good examples of zoning strategies to protect industrial users and foster industrial development.

The proposed new zoning framework for the District of Columbia's industrial areas is as follows:

4.1.1 C-M DISTRICTS

Only minor modifications are proposed to the C-M district regulations. The general intent of the district—to permit a variety of retail, office, and industrial/PDR uses—remains unchanged. However, the following amendments are proposed:

- Prohibiting high-impact industries such as intermediate materials recycling and solid waste handling facilities, to limit the possibility of land use conflicts.
- Prohibiting certain community uses that detract from the commercial or PDR nature of the area and which present immediate conflicts with their PDR neighbors, specifically, charter schools and emergency shelters.
- Making retail uses above a certain size (say, 50,000 square feet) special exception uses to provide more control over their location.

Bulk standards in the C-M-1, C-M-2, and C-M-3 district can be left unchanged subject to further review. Continued C-M zoning is contemplated for areas where a mixing of industry, office and retail is appropriate, such as the New York Avenue corridor in the vicinity of the Hecht Building.

4.1.2 M DISTRICT

The M district should be retooled to serve as an industry-only district specifically permitting heavy and intense industrial uses such as cement and asphalt batching, and prohibiting other categories of commercial use. These uses would be subject to strict performance and location standards (not within certain distances of residential districts, for example). The M district would find limited application in the few areas where such intense use is already found. An example is the area south of Fort Totten Metro, where cement and asphalt batching, as well as a municipal waste transfer station, are found.

4.1.3 IP INDUSTRIAL PARK DISTRICT

The IP district would be a new district specifically geared towards healthy industrial areas that would benefit from more coordinated planning. It would differ from suburban industrial park zoning in that bulk and coverage regulations would be tailored for older industrial areas characterized by low height and high site coverage. It differs from the Chicago PMD model in that it does not overlay existing zoning, but instead creates a new designation with its own use and bulk restrictions. Like the M district, this new IP district would emphasize industry at the expense of other commercial uses. However, certain types of office and retail would be permitted:

- Retail accessory to a PDR use (such as a wholesaler with a small retail operation, or a manufacturer selling goods on site).
- Offices accessory to a PDR use.
- Eating places, which would help serve the worker population's needs.

Areas where IP zoning would be appropriate would include Chillum Place and the Florida Avenue Wholesale Market. The latter requires special consideration, and may in fact merit its own special-purpose overlay district.

4.1.4 MXD MIXED-USE DISTRICT

The MXD permits residential, commercial and light PDR uses, for a truly mixed use approach. This district is intended for the following types of areas:

- Funky areas where live/work arrangements combining residential with craft trades or the visual and performing arts is appropriate.
- Areas that are surrounded by and/or will likely trend to residential uses, but where there are existing PDR businesses that should not be rendered non-conforming by a change of zoning.
- Areas where the direction is unclear and therefore better left to the marketplace.

The types of PDR uses contemplated for these zones would be things such as self-storage, printing, craft occupations such as furniture making and cabinetry, and light fabrication. More than any other district, appropriate performance standards would be essential. And, mixed-use zoning requires vigilant enforcement of regulations to ensure mixed-uses remain "good neighbors" to each other.[36] Areas where MXD zoning would be appropriate would include Scattered Site 2, a healthy industrial enclave entirely surrounded by residential; and portions of the Fort Totten area, where a mix of industry and residential is already the norm.[37]

[36] The automobile repair and service industry is a good example of where better enforcement is desperately needed. The visual blight, overcrowding of sites, hazardous and polluting waste, illegal parking, rodent harborages, damage to sidewalks, and polluting painting facilities that are frequently associated with this industry are all deterrents to business and residential investment in areas which otherwise have the potential to encourage mixed-use development.

[37] DC might also consider introducing MXD zoning into C-zoned areas that contain a mix of PDR, commercial, and residential uses already, or where encouraging that type mix is desirable. Identifying such areas was beyond the scope of this study, but, given the fast-paced development climate and the Comprehensive Plan goals for growing an inclusive city, it is logical to have an MXD use code in the zoning toolkit for areas not in established industrial corridors.

This new zoning framework provides a flexible approach to managing change in DC's industrial areas. The zoning avoids large-scale shifts which would engender property owner resistance. It envisions that these districts would only be mapped in areas where the proscribed land uses predominate. The proposed MXD district actually provides greater property owner flexibility in contemplating use options. Finally, the proposed zoning provides greater protection for existing and future PDR users, which should help promote a more stable climate, and less speculation, in key industrial areas.

4.2 AREAS TARGETED FOR INDUSTRIAL RETENTION

4.2.1 DESCRIPTION OF THE AREAS

Map 4.1 shows those areas recommended for retention and reinforcement as PDR zones. There are seven discrete areas in total. These include portions of CSX1 Lamond Riggs, CSX1 Fort Totten, CSX1 Brookland, CSX1, New York/Florida, New York/Ivy City, New York/Bladensburg, and Scattered Site 3. Each discrete area targeted for retention is numbered. For the purposes of this section and those that follow, the cumbersome sub-area names are jettisoned, and each area is referred to by its number on the relevant map.[38]

Area 1 corresponds to the southern portion of CSX1 Lamond Riggs, and includes Chillum Place. This area deserves consideration because of it is intensively used by PDR businesses. It is zoned C-M-1. There are very few vacancies in this area, and the building and site conditions are all favorable for PDR businesses. Many of these businesses, such as building supply and maintenance and shipping/warehousing, support key sectors of the district economy. Others, such as sign-makers and light fabricators, provide well-paying jobs. This well-tenanted, high-employment industrial area could be enhanced with an in-place industrial park strategy to preserve existing users and provide for roadway and infrastructure improvements.

Area 2 corresponds to the southern stretch of CSX1 Fort Totten, and includes heavy industries (asphalt and cement), light fabrication businesses, and support services such as warehousing. It is zoned FT/M, FT/C-M-1, and R-5-A. Site conditions are generally fair, but residential buffering should be sought. (This is all the more urgent as the Rocky Gorge residential townhouse development is sure to move forward on the site south of the Metro, between Park Service land and Thomas Somerville Co.) Similarly, portions of CSX 1 Brookland (zoned C-M-1) and CSX 1 (C-M-2) are home to warehousing and support services such as building and maintenance trades. While the cement mixing operations are poorly sited in the vicinity of the Fort Totten metro station, there are no alternative sites for such a NIMBY use. The same is true of the waste transfer station just to the south. Buffers should be provided, in the form of mixed residential / light industry (MXD) at the Metro Station and including the Rocky Gorge residential

[38] Also, detailed existing conditions/inventory maps and descriptions of the sub-areas can be found in the Appendix and are an important compendium to each of the target area discussions below.

site, in part to create a more hospitable environment for transit users, but surely to protect existing industries from nuisance complaints.

Area 3 is the same as Scattered Site 3. Located near Howard University, Area 3 presents an opportunity to build on the Hospital and other investments made by the University and reinforce the medical research industry in the District. The area boasts a top employer (the University Hospital), well-paying jobs, and easy access. Also considering that several large buildings are ripe for re-use and that real estate pressure in this area are growing, this area needs PDR protection. It is now zoned C-M-2 and C-M-3.

Area 4 includes the southern part of CSX 1 Brookland and a portion of CSX 1 north of Rhode Island Avenue. Uses found here include catering, a bakery, and variety of PDR support services: commercial uniforms, storage, industrial hardware, auto repair, and construction contracting. A portion of CSX 1 that corresponds to a small shopping center and a proposed mixed-use development around the Rhode Island Avenue Metro is excluded. This area generally intensively utilized with only a few vacancies. A row of residential buildings fronting on 10th Street will require some protection from these adjacent uses.

Area 5, the northwestern portion of New York Avenue/Ivy City, is home to a concentration of television and telecommunications businesses, including Verizon and BET (Black Entertainment Television). This area is zoned M. It offers a combination of large sites and relatively difficult access, which actually works well for its current users—remote and guarded areas provide good security for high value equipment like satellite/microwave receivers. It is an exciting example of how the District could capture the television and telecom industry within its borders. The area can be a center for innovation and creative, well-paying jobs.

Area 6, the northern and eastern portions of New York Avenue/Florida, also merits retention as industrial. These are zoned C-M-2, M, and C-M-1, and are home to a concentration of transportation uses, including busing and taxi/limo maintenance, electrical and building trades, and the New York/Florida Wholesale Market. The Wholesale Market area creates value for the District and should continue to benefit from its proximity to the New York Avenue Metro. This is prime example of where policies encouraging shared loading, docking, parking, and security could benefit all businesses. This wholesale market is a major source of employment, important to the cost-effectiveness of the hospitality and restaurant sectors. It is also a cost-saving place for lower- and moderate-income residents to buy produce and products. Given its access as well as new housing and office development and renewal nearby, the area could evolve into a real destination, which is all the more reason to protect it from rampant real estate speculation.

Area 7, encompassing most of New York Avenue/Bladensburg north of the CSX/Amtrak rail line, should be reinforced as a PDR zone. Zoning is now M, C-M-1, and C-M-2. V Street, NE, in particular represents an exciting, vibrant PDR zone—businesses include light industrial, building support services such as electrical contracting, several medical offices and research labs such

as the police forensics and crime scene lab, a large beer storage and distribution warehouse, and catering and food distribution services. Other users include the DC Fire Department (supply and storage), Washington Hospital (printing services), and a creative arts center. This is an excellent opportunity for an in-place industrial park, given the high intensity of use and its relative isolation.

4.2.2 ZONING STRATEGIES

M, C-M and IP zoning are recommended for different areas targeted for retention.

Areas 1 and 4 are appropriate for the new IP category. These areas are nearly exclusively occupied by PDR businesses. Unlike some other areas, they form cohesive industrial districts that have a recognizable identity and easily ascertained borders. Protection from non-PDR use is appropriate, particularly for Area 1, which could easily feel residential pressures. In fact, part of Area 4, south of Michigan Avenue, is already operating as an industrial park, but it lacks the protection of an actual zoning designation.

Area 2 is appropriate for the retooled M district. The area is characterized by heavy uses such as cement and asphalt batching and waste transfer. It represents one of the only areas in the District capable of accommodating such uses, although the Rocky Gorge residential development plans is a hindrance to this. Because of the existing use pattern, the introduction of other types of uses such as Rocky Gorge would likely result in nuisance complaints, making the retooled M zone is all the more important.

Areas 3, 5, and Area 7 are recommended for C-M zoning. Area 3 includes Howard University Hospital and some related uses, and should be zoned to accommodate research and medical office facilities. Area 5 already has a large office building occupied by BET as well as broadcasting, TV production and telecommunications uses. The portion of Area 7 that includes the V Street, NE corridor should be designated C-M.

Area 6, corresponding to the Florida Avenue Wholesale Market, is tentatively recommended for the IP district. However, this area is so unique that it may require its own special district to adequate regulate the diverse array of uses found in the area. In particular, whatever zoning is adopted should not restrict the ability of the wholesalers in this market to also engage in retail sales. It is this bazaar-like quality that gives this area its particular appeal and charm. The unique character of this area and its potential as a regional destination may warrant a special study to outline potential planning and development initiatives to enhance its existing functions.

4.2.3 RETENTION PROGRAMS

One way to retain PDR businesses and encourage their long-term viability is to establish industrial parks or industrial business improvement districts (iBIDs). These strategies would

work especially those areas with multiple-ownership, such as Chillum Place in Area 1. Industrial park strategies include shared loading and parking, shared security and marketing, and perimeter fencing and buffering. Wherever possible iBIDs should be set up to govern management and provide special services such as waste hauling and recycling.

These areas should be targeted by the District for employment and job training programs. The DC ARCH program, which has had great success Ward 8, and the DC-area ACE Mentors program, are model programs for training and engaging young people in the workforce. Also deserving of consideration is the Back Streets program in Boston, which focuses on retaining industrial area businesses ("Back Street," as opposed to "Main Street," businesses) in the city. It provides real estate services (site finding), job training and work force development, and special loan programs.

Market development support is another form of retention assistance the city could provide. New tools could be developed to help small District-based PDR firms obtain additional contracts with major purchasers of PDR services, including federal and local government, the hospitality industry, non-profit institutions, construction companies, and property management firms. For example, technical assistance could be provided, either directly or through partnerships with existing business assistance organizations (e.g., SBA's Sub-Net program described in Section 2.1), to help PDR businesses bid on government and corporate procurement contracts. Or a buyer-supplier match program that connects local buyers of products and services with local suppliers could be established. These types of activities support retention by increasing company sales and profitability.

Sidebar: Sample Policies

Job Training and Employment in Washington, DC

ARCH (Action to Rehabilitate Community Housing) was established in Historic Anacostia in 1986 as a training-oriented development organization. ARCH began as an organization to encourage and train DC's 'at risk' residents in academic and carpentry skills while rehabilitating residential property in Anacostia. Today, ARCH has evolved to provide services including assessment, job training, career development, up-to- date technology, and personal counseling to ensure individuals and families access to quality education, livable wage jobs, cultural activities, affordable housing, neighborhood businesses, effective health and social services; while supporting the successful transition to a life-long journey of education, self-sufficiency, and community awareness.

In 2003, ARCH finished a five-year development project on a new home in the historic Woolworth building; the new facility is a state of the art school with 16,000 square feet of usable space. The new training center's top floor offers academic classrooms, computer classrooms and computer labs with high-speed Internet access. The training center has locker areas, large lunchrooms, the skills lab, our version of a lecture room and offices for our teachers, counselors and caseworkers. Next door to the school is ARCH's Career Services Department and Executive offices, along with a small computer lab for students working with Job Developers – for a total of 20,000 square feet utilized for academics, training, counseling and career development. Visit http://www.archdc.org/ for more information.

ACE Mentors: Developing New Professionals

Founded by principals of leading design and construction firms, ACE is an after-school mentoring program for high school students interested in exploring career opportunities in architecture, engineering and construction management. Comprised of a "unique partnership of schools and universities, architects, interior designers, engineers, construction companies, professional organizations, and related corporations," ACE volunteers from these fields mentor high school students by introducing them to the broad range of people and projects within the construction industry. Students tour project offices and visit active construction sites, and mentors present students with challenging real-world projects.

For more information about the ACE program, visit http://www.ace-mentor-dc.org/index.html

Industrial Investment and Retention: Boston's Back Streets

Boston has a policy of no net loss of industrial space and implemented the Back Streets program to "retain and grow viable industrial and commercial businesses through the strategic use of land, workforce and financial resources." Back Streets "complement yet stand in contract to Main Street businesses," as Back Street businesses are often "unknown and undervalued but are essential to the flow of goods" and significant employment centers in their own right. Backstreets targets the following sectors:

- Manufacturing — metal; chemical; high tech; printing and publishing.
- Wholesale — distribution; receiving; reselling.
- Commercial Services — business services; data management; security services; maintenance.
- Logistics — moving; transportation; warehousing; storage.
- Building and contractors — general contractors; subcontractors.

- Food Processing and Importing — fish and meat processing; food production.

Economic development plans were adopted for each of the city industrial zones to identify land use, circulation, business and workforce services, image development, and infrastructure improvements. Stronger zoning review guidelines are being developed, including review clauses that protect existing small businesses for situations when development proposals seek to convert industrial land and buildings to office, commercial, residential or institutional use.

The program provides real estate services including development and site finding assistance, workforce development including job-readiness services such as Boston's Career Centers, neighborhood English language and job training programs, and the Youth Opportunity *Journal*, business assistance services including one stop shopping for zoning, permitting, city department resources, and financing and partnerships such as low-interest loans, a dedication of city capital funds to upgrade industrial roadways, sidewalks & lighting, industrial development authority financing, and local development corporation loans.

Back Streets businesses can also avail themselves of planning services. The program provides to individual businesses and small districts a range of comprehensive industrial planning services including area and development planning services to:

- Protect industrial land use through planning and zoning
- Identify opportunities for expansion and development
- Identify transit and infrastructure improvements
- Identify public realm improvements.

For more information, go to http://www.cityofboston.gov/bra/backstreets/backstreets.asp

Buyer-Supplier Match Programs

There are a number of examples of established buyer supplier match programs. A few of these are described below.

The Kansas Match program, operated by the state Department of Commerce, connects Kansas manufacturers that are currently buying products from outside the state with Kansas suppliers of those same products. Participating suppliers register to be added to a supplier database. Participating buyers contact the program to request a product or service for purchase from an in-state supplier. Program staff conducts a search of the supplier database and additional resources to locate Kansas suppliers. They then forward the buyer a list of Kansas suppliers to contact directly.

The National Minority Supplier Development Council manages MBISYS, a national database of over 15,000 minority-owned firms. The database is made available to the Council's corporate members.

The Delaware Valley Industrial Resource Center, a publicly-funded manufacturing assistance program in eastern Pennsylvania, has used a private web-based service, ManufacturingQuote.com to help manufacturers find suppliers. Via the Web, buyers submit a request-for-quote that specifies the product they need, the price they are willing to pay, and when the product is needed. When a supplier responds to a request on the Web site with a proposal, the buyer is notified via e-mail and told to check the Web site to see the proposal.

Finally, targeted physical improvements in all of these areas should assist in retaining current PDR businesses and making their operations more efficient, and making the District more attractive to new PDR businesses. Industrial park or "iBID" specific strategies could be suggested by constituent businesses. There is also a municipal role here. Many of the public streets in these areas suffer from deferred maintenance, poor paving condition, and inadequate curbing, guttering and drainage. In making a commitment to keep these areas activated as vital business locations, the District should also make a commitment to keeping the public infrastructure in good condition as well.

4.2.4 SPECIFIC RECOMMENDATIONS

- Map IP zones for areas 1, 4, and, tentatively, 6.
- Map the retooled M zone in area 2.
- Map C-M zones in areas 3 , 5 and 7.
- Adopt more stringent rezoning criteria for all of these areas.
- Adopt strategies and guidelines for industrial parks and iBIDs, and consider such a designation for the Chillum Place area.
- Work with the Department of Employment Services to institute a "Back Street"-like program for businesses in these areas, and provide support for job training and apprenticeship programs.
- Work with the Business Resource Center to develop targeted market development support tools for PDR businesses.

4.3 AREAS TARGETED FOR RETENTION AND INTENSIFICATION

4.3.1 DESCRIPTION OF THE AREAS

Map 4.2 illustrates those areas that should be targeted for retention and intensification of use.[39] These are areas which are currently underutilized but contain infrastructure, access, or other characteristics that are sought by PDR businesses. The overall policy for these areas should be to maintain the industrial zoning and to make PDR expansion and retention easier. However, policy should also be aware of the appropriateness of permitting other types of uses in these areas. A move to industrial/office and warehousing/retail hybrids, and other flexible space types, is called for.

Area 1 corresponds to the portion of CSX1 south of Rhode Island Avenue, but does not include the planned shopping center development at the Metro. The current zoning is M and C-M-1. This area is notable for the Home Depot just above Brentwood Road. While a more conventional commercial use, not a PDR or industrial use, this site is also a major employer

[39] Again, detailed existing conditions/inventory maps and descriptions of the sub-areas can be found in the Appendix and are an important compendium to each of the target area discussions below.

convenient to transit. Its continued intensification for big box / semi-industrial / hybrid uses like Home Depot is desirable.

Area 2 consists of a large central portion of the New York Avenue/Ivy City area that is currently underutilized, but which has excellent transportation access and is rumored to have recently been wired with fiber optic cables. The landmark Hecht's building is found in this area. The area is a mix of C-M-1, C-M-2, M, and R-4 zoning. The residential area is in very poor condition, and the current vision for this enclave is that of a revived residential core as per the District's Home Again Initiative. As such, consideration, through the Home Again Initiative, of the development of artists' live/work housing, residential as an accessory use, or other such residential development typologies is recommended, as these uses could mesh well with the surround PDR-oriented fabric. We also encourage the assemblage of large parcels in Area 2 for PDR use and expansion of current warehousing and shipping businesses. This would also allow plenty of buffer space for heavy municipal uses across West Virginia Avenue.

The Fort Lincoln Urban Renewal area, **Area 3**, is well-buffered and enjoys excellent interior roadways, and is currently home to a beer distributor. Its area encompasses zones SP-2 and R-5-D—neither of which are industrial. The western portion of the area has been programmed for big and medium box retail and has been rezoned commercial, so can no longer be considered for an industrial designation. However, the warehouse/distribution character of the eastern portion, which contains the distributor, should be preserved with an industrial designation.[40]

Area 4 is Bladensburg/Fort Lincoln consists of a number of quasi-industrial and industrial uses, though there are interspersed concentrations of non-industrial uses including several houses of worship, and the relatively narrow strip of industrial land is in close proximity to residential neighborhoods. Bladensburg is an important commercial corridor, and the uses here fill an important service niche. As such, they should be protected and zoning guidelines which buffer the industrial and non-industrial uses are required to minimize conflicts.

4.3.2 ZONING STRATEGIES

The zoning in these areas is very mixed, and in some cases does not include industrial zoning at all. We recommend that the Home Again Initiative, targeting the R-4 portion of Area 2, include artist live/work housing or residential as an accessory use, or other special residential use that might mesh better with increased PDR uses in the area. In other places, the existing C-M zoning is appropriate for these areas because it permits both PDR uses and traditional offices. The Home Depot shopping center could remain in its current zoning, or be rezoned to a purely

[40] Even if Area 3 is not lost to retail/commercial development, the District might consider rezoning the parcel immediately south, between New York Avenue and the railroad tracks, to industrial use, in order to encourage PDR businesses dependent on the excellent road access or to bank the land for strategic public use. It is now zoned GOV, and is unused. This area is indicated on the inventory/existing conditions map for the area.

commercial district reflective of its current use. The Fort Lincoln area (Area 3) may eventually require a rezoning, depending upon its final use. However, with that use in flux, it would premature to specify here precisely what that zoning should be. Area 4 should retain its existing C-M zoning to ensure retention of this viable PDR corridor, although selective rezoning within the concentrations of other (mainly church related) uses may be appropriate with effective buffering.

4.3.3 PHYSICAL DEVELOPMENT STRATEGIES

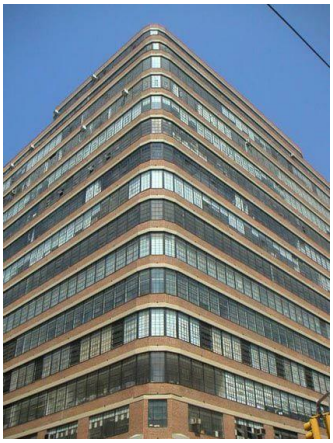
Development in Area 1 should focus on the needs the big box retailers and major shipping/distribution uses. This includes making access to both Brentwood Road and Rhode Island Avenue easier and safer. PDR users in the central portion of Area 2 would benefit from land assemblage assistance and improvements in access to both New York Avenue and West Virginia Avenue. Interior roads are in poor condition, and should be improved.

Further, the District may wish to take a leadership role in identifying reuse opportunities for the Hecht Building. The Economic Development White Paper prepared as a background study for the Comprehensive Plan recommends exploring a technology-intensive reuse strategy, and has this to say:

> The Hecht Building is an architectural landmark that also happens to offer large floor plates, high load-bearing capacity, abundant daylighting, and a location on a major traffic arterial, adjacent to a fat internet backbone. Its combination of assets as well as its physical appearance is reminiscent of the Starrett-Lehigh building in Manhattan. The latter is much larger, at 2.3 million square feet, but like the Hecht Building sat partially utilized by industrial users for decades before being rediscovered by contemporary tenants looking for more than office space. The most notable tenant to occupy space in the building has been Martha Stewart International, which operates its Internet operation, photography studios, and more out of its space in the Starrett-Lehigh.
>
> A similar strategy may work for the Hecht Building, given the assets listed above. The building should prove endlessly adaptable. At its best, it could provide the type of space ideal for startups and other fast-changing businesses whose needs are not well served by traditional single-purpose office space. The high floor loads make it ideal for operating large numbers of computer servers, or combining offices with distribution. The District should therefore have in place zoning which permits an easy mixing of different uses and activities in the same building to encourage creative approaches to the reuse of this landmark.

Scarrett- Lehigh Building: From Old Warehouse to Sought-After Address

The Starrett-Lehigh building, bounded by West 26th and 27th streets and 10th and 11th avenues in New York City, rises 19-stories above the Chelsea neighborhood. The brick and concrete, 1.8 million square feet building was originally a warehouse and manufacturing center. Designed to facilitate easy railroad freight access, it contained railroad tracks running into the bottom floors allowing freight to enter from the nearby piers on the Hudson River. Although it was an innovative building from the outset, it has been redesigned to attract tenants that can afford the $35 to $40 per square foot rents it draws. Only two years prior, rents hovered around $5 per square foot. Improvements financed by a group of investors, 601 West Associates, included a thorough gutting of the building, the addition of a large glass-enclosed lobby, and the installation of T 1 cable wiring throughout. The new office space appeals to businesses that wish to convert and divide up the space to suit their needs. Most of the current tenants are those that have a creative proclivity, like media, dot-com, and fashion companies including Martha Stewart Living Omnimedia, Inc., Concrete Incorporated, and Tommy Hilfiger U.S.A., Inc.



Other portions of New York Avenue/Ivy City are home to telecommunications and communications firms, including Verizon and BET, but a great deal of adjacent land is consumed by the railroad yards. Perhaps some of these railroad areas could attract development for the television and motion picture industry, in much the same way the Brooklyn Navy Yard in New York City has been converted from a derelict industrial area to a high-powered economic engine.

Brooklyn Navy Yard: From Shipbuilding Facility to Economic Development Engine

The historical Brooklyn Navy Yard, the birthplace of many American battleships, has transformed from a dilapidated shipbuilding facility into a 260-acre commercial and industrial park that serves as an economic development engine for New York City. Acquired in 1967 by the City of New York, the industrial park is currently host to an array of industries, ranging from movie studios to electronic distributors and from furniture manufacturers to food processing plants. Run by the Brooklyn Navy Yard Development Corporation, the site contains forty buildings, four dry docks, five active piers, over 200 tenants, more than 4,500 employed workers, and 3.5 million square feet of leasable space. With Mayor Michael Bloomberg's 2004 commitment of $71,000,000 of city money to infrastructure

improvements, easy access to Manhattan, airports, and the greater metropolitan area, and an open campus environment the park has attracted new industries to the City. One notable example, Steiner Studios, has recently constructed an enclosed 15-acre, full-service movie production facility complete with spacious soundstages. It is currently the largest, modern production facility east of Los Angeles and expected to contribute more than 1,000 new jobs to the local economy.

4.3.4 SPECIFIC RECOMMENDATIONS

- Rezone (where necessary) all four of these areas for commercial/industrial uses with a C-M designation and guidelines that will minimize nuisance complaints with adjacent land uses.
- Work with the Home Again Initiative to ensure that the envisioned residential uses mesh well with surrounding PDR uses—artist live/work housing is one example of a residential use that is appropriate.
- Make access and road improvements in Areas 1 and 2 after completing appropriate transportation and planning studies.
- Consider assembling land for private users in Area 2.
- Initiate a building renovation loan program.
- Consider taking a leadership role with regards to the reuse of the Hecht Building, potentially pursing a multi-tenant technology and media "incubator."

4.4 AREAS TARGETED FOR STRATEGIC PUBLIC SECTOR USE

4.4.1 DESCRIPTION OF THE AREAS

Map 4.3 illustrates strategic areas which should be targeted for public sector use. These areas tend to have current concentrations of public sector uses (Map 4.3 overlays Map 2.2 to illustrate this point), relatively buffered sites, good access and infrastructure, and strategic locations with easy access to all areas of the District. It is not contemplated that all of the land area in these designated areas will become public facilities—merely that these represent strategic areas for the public sector to meet public needs while simultaneously redeveloping underutilized properties.[41]

[41] As with Sections 4.2 and 4.3, the detailed existing conditions/inventory maps and descriptions of the sub-areas can be found in the Appendix and are an important compendium to each of the target area discussions below.

Note that there are areas within DC that we did not study in depth, but where there are now housed important public-sector activities. These include the areas around the McMillan Reservoir and DC's portion of the Fort Reno site. See Section 4.4.5 below for more information.

Area 1 (Scattered Site 1) is currently home to a WMATA bus garage and is zoned C-M-1. The southern portion of this site is underutilized and could house other municipal uses that are "good neighbors" with the surrounding residential communities. The bus garage itself could perhaps be decked and built higher (assuming that the busses are not fueled by compressed natural gas), accommodating additional buses or presenting collocation space. PPSA acknowledges that WMATA is currently seeking a joint venture partner to redevelop the bus garage site, presumably to a "higher and better use," which may result in a relocation of the bus garage. From the perspective of this report, repositioning this site is not desirable—once it is redeveloped, any chance of having a strategic municipal location in this area will be lost.

Areas 2, 3 and 4, corresponding to portions of New York Avenue/ Ivy City and New York Avenue/ Bladensburg, are currently home to municipal uses and have the ability to absorb more. The northern portion of Area 2, now zoned M and LO/C-M-1, is home to DPW street cleaning, waste management, and a small vehicle impoundment area. Some of these uses may be consolidated into the DPW campus on West Virginia Avenue, so these lots would be available for other District municipal needs. The southern portion of Area 2, zoned C-M-1, contains an extremely large DPW campus consisting of vehicle maintenance yards and other light and medium industrial uses. Given the sites strategic location and other characteristics, and the DPW campus and collocation plans for the site, this area should be protected for continued public sector use.

The Bladensburg area south of New York Avenue (**Area 4**), zoned C-M-1 and M, houses a police station and housing authority building, as well as a large auto salvage/repair site and an underutilized federal government parcel abutting the Arboretum. This area abuts, but does not include the large triangular site which is being targeted for redevelopment. This area should be targeted for municipal use, given its strategic location, access to New York Avenue, and buffered character. The police station, which is west of the triangular site, should in particular be retained. The federal parcels are very open and the location near the green spaces of the Arboretum present an excellent collocation opportunity for the District's Department of Parks and Recreation and federal agencies like the Park Service. The parcels immediately along New York Avenue, however, could be developed as convenience retail and commercial, so long as the industrial lands between it and the Arboretum are protected.

Benning Road (Area 5) and a portion of 11th Street, SE / Water Street, SE (**Area 6**) are additional strategic locations for public sector uses. Significant portions of these sites are underutilized, and they all enjoy strategic locations and have good to excellent highway/thoroughfare access. Moreover, they are all highly secure. However, all or portions of all three sites are within the Anacostia Waterfront Initiative (AWI) area, so are generally

envisioned for open space and waterfront uses. In addition, much of Water Street, SE is currently federal land. Even so, the sites are excellent locations proximate to downtown and Capitol Hill for very pressing needs such as secure government records storage or even police forensics storage. Areas that are probably unusable for any other purpose—the areas under the I-295 and Pennsylvania Avenue highway ramps, for example—would be perfect for that purpose. Benning Road is zoned C-M-1 and M; 11th Street, SE and Water Street, SE are zoned C-M-1, C-M-2, and M.

Area 7 (Anacostia Poplar Point) is a challenging area—AWI plans and the major highway interchanges make it difficult to assemble any meaningful land for PDR use, but its strategic location and proximity to a new government center at Anacostia make it appropriate for municipal uses. It is now zoned C-M-1, W-3, and GOV. The area is currently grossly underutilized despite its highway proximity, likely due to access constraints and oddly shaped parcels. The areas immediately abutting the interchanges and the narrow sliver of land between the freight rail tracks and the highway, which is already used for vehicle staging/storage, could be strategic public use areas.

Area 8 (DC Village), zoned C-M-1, is now home to an unorganized mix of public sector uses, including police and fire facilities, the District's main impoundment lot, a job training facility and special needs prep school (Potomac Job Corps), and a dilapidated emergency family shelter. These current uses, along with its secure, buffered location make this area ideal for more intense government uses. Large sites could be obtained with strategic planning and efficient location.

Area 9 was not studied in depth, but we are aware that it now houses WMATA's western bus garage. It represents a de facto industrial area strategically placed to serve established residential neighborhoods.

4.4.2 ZONING STRATEGIES

The current zoning in these areas is most likely adequate for public sector uses, but it may be desirable to distinguish public sector use areas with designations such as Municipal Use Zones. These designations would put limitations on the amount of private sector development in these areas, thereby "banking" or guaranteeing land for municipal uses and retaining a secure perimeter around sensitive government areas. The designation would also provide for any special buffer requirements or the like on an as-needed basis. It is desirable that the District initiate master plans for each of these areas in order to maximize their use, much like DPW has done at the West Virginia Avenue site.

4.4.3 PHYSICAL DEVELOPMENT STRATEGIES

Most of the areas discussed above could benefit from access and interior circulation improvements. Further, site perimeters should be made more secure where necessary. On the other hand, some sites, such as the vehicle inspection station on West Virginia Avenue, need to remain accessible and open to the public. In all cases, as we just noted, it is desirable to master plans for each of these areas.

Area 7 is unique. It invites regional destinations, due to its tremendous highway and Metro access, soon to be augmented by light rail along the Anacostia River, as well as tremendous highway and Anacostia River visibility. The siting of the District's proposed soccer stadium nearby is one such use. This area may be a good location for municipal offices, or municipal uses serving the general public, such as the DMV.

Area 8, DC Village/Blue Plains, is perhaps the most important municipally-owned area in terms of its immediate ability to satisfy additional municipal needs. Master planning for the location and inter-relation of public uses on this site especially is important. There are several ways in which the property could be better utilized:

- First, it contains at least one large, vacant structure which could either be rehabilitated (perhaps for storage and warehousing) or demolished to create a new development site.
- Decking over the impoundment lot would halve its size, freeing up significant amounts of land. Such an undertaking would of course be very expensive, but the test of whether it makes financial sense is to measure the cost against the price of an equivalent amount of vacant property elsewhere.
- The Emergency Family Shelter should be relocated, possibly to scattered sites throughout the District—the current location is isolated from transit, jobs and services, and the existing buildings are not in good condition. This would further free up significant amounts of property.
- Potomac Job Corps could remain in its current location, but should continue to make improvements to the campus, and be strengthened in terms of its connection to the neighborhood, given the concentration of unemployment east of the River.

4.4.4 SPECIFIC RECOMMENDATIONS

- Retain current industrial zoning, but consider the use of designations such as a new Municipal Use zones to land bank these areas and guarantee their availability in the long-term for needed public sector use.
- Target these Zones for technical innovations, discussed in 4.6.4, below.
- Be proactive in acquiring/leasing/using land for public sector uses at Benning Road, portions of 11th Street, SE, Water Street, SE, Scattered Site 1, and Anacostia Poplar Point.

- Improve road and access conditions after completing appropriate transportation and planning studies.
- Address any needed security/perimeter infrastructure that may be required.
- Consider Area 7 for municipal offices or other destination, public sector use. Be sure to retain the vehicle staging/storage areas that do exist now.
- Undertake modifications to free up additional property in DC Village for municipal purposes.
- Relocate the Emergency Family Shelter, potentially to several scattered sites located in non-industrial areas.
- Protect with industrial zoning the western bus garage at Area 9.

4.4.5 ADDITIONAL AREAS FOR PUBLIC SECTOR USE

Several areas that were not subject to this study came to our attention as serving important public sector functions. The District should consider acquiring, if necessary, or otherwise protecting these areas with appropriate C-M or M zoning designations. These areas, including the eastern side of McMillan Reservoir as well as part of Fort Reno, are colored purple on Map 4.3.

4.5 AREAS TARGETED FOR CHANGE OF USE

4.5.1 DESCRIPTION OF THE AREAS

After studying the District it was apparent that various industrially zoned areas are no longer appropriate for PDR uses and should be targeted for change of use—specifically, to either permit residential development and let the real estate market take its course, or to zone away PDR uses. Generally these areas are under substantial rezoning pressure already, are positioned near Metro stations and thus are suitable for transit oriented development, do not host many PDR users, and are not suitable for industrial uses. Map 4.4 illustrates these areas.[42]

The portions of Takoma, Fort Totten, and Brookland around the Metro stops (**Areas 1, 2** and **5**) are under intense residential pressure and are more appropriate for transit-oriented-development (TOD) including mixed commercial, retail, and residential uses. The Takoma area, now zoned R-5-A and C-2-A, functions more as a neighborhood main street than as a PDR area, and the historic district designation does not facilitate PDR development in any case. Fort Totten, now zoned GOV, FT/C-M-1, and FT/M, consists of a large amount of open space and Metro-associated facilities including parking lots. This is a transit hub and is targeted by the District for mixed-use TOD, and residential development spurred by Rocky Gorge Homes is proceeding just south of the Metro. Brookland is zoned C-M-1 and the Metro area is proximate

[42] The detailed existing conditions/inventory maps and descriptions of the sub-areas, found in the Appendix, are an important compendium to each of the target area discussions below.

both to Catholic University and stable residential communities. Given the District's overall Comprehensive Plan goals and the strategy of better utilizing its transit system to promote economic development, it makes sense to redevelop this area for TOD.

Areas 3 and **4** correspond to Scattered Sites 2 and 4. Both are zoned C-M-1 and are small sites surrounded by residential neighborhoods. Area 4 is in fact occupied exclusively by residential uses. They are isolated and are not appropriate for intense PDR use. However, some PDR uses and social service uses remain active in Area 3, and should be allowed to remain. A rezoning to mixed-use would permit this while allowing more context-appropriate residential uses with associated retail and commercial development.

Area 6 corresponds to a narrow protuberance from the CSX 1 area, which is currently occupied by a poorly configured shopping center with a supermarket and a National Wholesale Liquidators, as well as the area immediately around the Rhode Island Avenue Metro station, where a mixed-use shopping center will be developed. There are no PDR users in this area, and land use policy should seek to upgrade the existing property condition.

Area 7, the western portion of New York Avenue/Florida, zoned C-M-2 and M, is also under intense development pressure, including new offices such as XM Satellite Radio and the Bureau of Alcohol, Tobacco, and Firearms. A very large site on Eckington Place has been proposed for rezoning for a planned residential development. This location near two major thoroughfares and a Metro, and on the northern edge of the NoMa initiative, is *the* prime development site outside of Downtown. It no longer contains a large number of PDR uses and is appropriate for a change of use to accommodate this development.

Area 8, which includes Union Station and land immediately to the north, is now zoned C-M-3 but is primed for a mixed-use designation to allow multi-family residential as well as commercial, retail, and hospitality development along and over the Amtrak rail yards. Major development proposals using these air rights are already in discussion, and have the ability to connect the new NoMa with residential neighborhoods to the east.

Portions of New York Avenue/ Bladensburg north of the CSX Bladensburg line, **Area 9,** are also appropriate for land use change. They currently have a mix of residential, commercial, and PDR uses, and are surrounded by residential neighborhoods. Current zoning includes C-M-1, CO/C-M-1, and R-1-B. These areas are appropriate for mixed-use, including housing (MXD), especially if commuter rail service is someday provided. Importantly, land use pressures in these areas are not as great as in others, so land value increases due to a rezoning to a mixed-use designation would not immediately displace existing PDR businesses.

The triangular site is targeted for a change of use now, and a private developer has already assembled much of the land. It should be noted, however, that should this development not come to fruition, this site could be re-cast for certain strategic public uses, as there are other

public uses to the east and west. Analysis of the underlying ownership patterns of this site suggest that it would be unlikely that District government – much less private sector users – would be able to acquire it, and its current tenancy patterns suggest that it is significantly under performing and in fact contributing to the blighted image of the New York Avenue gateway. As it is trending toward redevelopment, a change of use is not unreasonable.

Area 10 contains a strip of land along New York Avenue and a large triangular site south of New York Avenue, west of Bladensburg Road and east of Montana Avenue. Reuse of the narrow band of land between the CSX/Amtrak railroad and New York Avenue for strip retail is advisable, so long as roadway improvements such as shared access / egress are made. This corridor, a gateway into the District, could accommodate a good mix of convenience retail and office uses, and is a strategic area for economic development. This area is now primarily C-M-1 and M zoning.

Area 11, part of the 11th Street SE area, includes parcels that have received approvals, prior to this Study's completion, for office and hotel development – uses currently permitted in the M zone, but which may not be permitted if the M zone is amended as recommended by this report. Other portions of this area are currently within a residential context and are largely within the Capitol Hill Historic District, so a land use change from industrial use to a mixed use district would be appropriate. However, other portions of this area under and adjacent to the highway and along the railway tracks should be considered for public sector use (see Section 4.4).

East of the Anacostia, all of CSX2, including Anacostia/Fairlawn and Kennilworth, can be rezoned to a mixed-use designation (**Area 12**). At the northeastern end, in Kennilworth, residential and commercial development already surrounds the Metro stations of Deanwood and Minnesota. Anacostia/Fairlawn, meanwhile, is underutilized. Meaningful PDR development has not yet taken place along this corridor and is probably not possible, most likely due to its very small and narrow parcels hugging the rail line and I-295. Kennilworth and much of Anacostia Fairlawn are zoned C-M-1. Other portions of Anacostia Fairlawn are zoned GOV, C-M-1, R-5-A, and C-2-A.

Area 13 (Scattered Site 5) is a scrap yard located in the middle of a residential area, and near Nannie Helen Burroughs Avenue, a designated "Great Street." Regardless of whether this is a viable business, it is an inappropriate use to be located in the middle of a residential area; rezoning for residential use would help facilitate its relocation and redevelopment.

4.5.2 ZONING STRATEGIES

As we noted above, there are two sub-strategies under the "change of use" recommendation—to either zone away PDR uses or to permit residential development and let the real estate market take its course.

There are two areas where PDR use need no longer be accommodated by zoning. Area 1 is an appropriate site for planned TOD development. There is little to no PDR use that would be displaced by redevelopment, and a complete removal of PDR zoning would be appropriate for this area. Area 7 (near XM and FedEx) is more appropriately zoned for residential and offices. However, pockets of PDR zoning might have to be retained to ensure that neither FedEx nor XM is rendered nonconforming.

Area 10 is a location where a transition to retailing uses is the logical option. Located along a major traffic corridor, in a gateway location, and retail is the predominating use. A rezoning to a purely retail/commercial district might provide investors with more confidence to develop retail in these areas, safe in the knowledge that they will not be impinged upon by conflicting uses such as auto body shops.

Mixed-use designations (MXD) should be established in the remaining areas. MXD zoning, by opening the door to residential use, will eventually result in the displacement of PDR businesses. In all these areas, a decision has been made to tolerate the eventual loss of PDR businesses, because PDR use is already lacking, is inappropriate, and/or residential development is already established or targeted on these sites. An MXD zone, as opposed to a drastic change to more restrictive C or R zoning, has the flexibility to allow current PDR uses to continue and possibly expand without the need for variances, while encouraging other uses to populate the sites. This is desirable from both a land use and economic development perspective.

4.5.3 SPECIFIC RECOMMENDATIONS

- Program Areas 1 and 7 for residential and mixed-use TOD development. The northern portion of Area 8, next to the New York Avenue Metro, is also appropriate for TOD development.
- Encourage upgraded retail uses in area 10, and consider rezoning to a commercial land use classification.
- Encourage the redevelopment of Area 6 for either a more modern and attractive shopping center, or for residential use.
- New office and hotel uses have been approved in Area 11. It is appropriate to change the zoning designation here, particularly if changes to the M zone as recommended in this report are implemented.
- In addition, all MXD areas should be studied to determine their needs for physical improvements, including land clearance and assemblage to encourage investment as well as road and circulation and access improvements. Overall, environmental issues and historic properties deserve consideration, and new developments in MXD areas should follow appropriate procedures in this regard. Additionally, the District should adopt a coherent and effective brownfield program to identify and remediate contaminated sites and inject them back into the property market.

- Vigilantly enforce zoning use regulations and performance standards to ensure mixed-use areas remain “good neighbors.”

4.6 GOVERNMENT FACILITIES

As discussed in Section 2.4, the public sector demand for industrial land is great, but large developments and the superheated regional land market are shrinking supply at the same time that increasing service requirements are raising immediate and long term demand for land. As such a significant user of industrial land in the District, clearly government has the potential and responsibility to better manage its own industrial land resources.

4.6.1 POTENTIAL LOCATIONS FOR GOVERNMENT FUNCTIONS

Several locations, illuminated in Section 4.4 above, are appropriate for consolidated public sector uses. The District should strategically plan for its own industrial land demands—the identification and acquisition of industrial areas is absolutely necessary for a government that must meet growing service demands while being constrained by its own zoning. DC Village and Blue Plains, for example, are now and should remain important locations of municipally controlled industrial land. Other industrial areas should be acquired for government use and more intensely built. The PEPCO site on Benning Road is one excellent example—the District may have the opportunity acquire large portions of this underutilized and strategically located site and use it to meet immediate space needs or bank the land for future needs. Scattered Site 1, and portions of the 11th Street, SE, Water Street, SE, and Anacostia Poplar Point areas are also underutilized, and strategically located industrial areas which should be considered for municipal uses such as school bus storage under highway overpasses or secure records storage. The District should act on these opportunities promptly, and consider designating them under a new Municipal Use Zone category to ensure access for strategic public use.

4.6.2 CHANGING THE WAY ASSETS ARE MANAGED

4.6.2.1 Property Management

Of course, strategically planning to meet municipal space needs requires knowing exactly how much land and of what type each District agency requires. But this study found three major flaws in the way District assets are managed. These are:

1) The absence of a comprehensive inventory of District land and property holdings, including leased properties;
2) A dearth of information regarding immediate and future space needs; and,
3) District agencies compete against each other in the industrial land market, sometimes for the same properties.

To address both issues, a stronger role for the Office of Property Management (OPM) is recommended as the single most important solution to these problems. Currently OPM is the one agency that is authorized to acquire and dispose of District property, but it is not able to provide sufficiently comprehensive planning, budgeting, or real estate services. It also does not have jurisdiction over all District agencies in this regard.

One model for OPM to follow is the U.S. General Services Administration or, more appropriately, the Chicago Department of General Services (DGS). The Chicago DGS manages, operates, leases, disposes, and budgets for each municipal facility, for all agencies (except for agencies not wholly subject to the city budget, such as schools and transportation authorities). DGS is also the lead agency for capital budgeting, and it is the only recipient of capital budget funds, which it then distributes to agencies, thereby giving it the ability to prioritize needs, pursue cost savings, and maintain direct accountability. It is also the lead agency for directing environmental programs such as green buildings, because it can, through the capital process, reward with funds or provide incentives to agencies that pursue cost savings through environmental initiatives.

An OPM re-formed into a Chicago DGS-type agency could thus benefit the District. Importantly, it would be able to plan for future space needs, shift assets as needed, and have the authority to acquire and bank land for future municipal use. Working with the Office of Planning and the Advisory Neighborhood Commissions, this one agency would centralize or decentralize facilities as the city grows and needs shift, helping to best serve citizens' needs. This partnership can also help locate facilities in neighborhood growth centers to spur economic development. This type of comprehensive facility planning can also ensure the equitable siting of municipal facilities, helping to promote fair shares and environmental justice.

While most existing agencies have a good working relationship with OPM, there is bound to be some resistance to this proposal, particularly from agencies currently heavily involved in property transactions. It must be stressed, however, that centralized property management is the *only* alternative to destructive competition for land resources among agencies. There simply is no other option for addressing this issue. Opposition to a strengthened OPM is essentially an endorsement of the current system by which property allocation decisions are made on the basis of who was quickest on the draw, not on considerations of need and appropriateness.

4.6.2.2 Fleet Management

Another possibility for asset management is consolidating the acquisition, fueling, maintenance, and repair for all District vehicles under one agency. Currently DPW handles most of these functions, particularly the acquisition and service of light-duty vehicles, but several agencies such as Police (MPD) and Fire (FEMS) service their own fleets at separate locations.

Historically, DPW served as the District's fleet management agency, but dissatisfaction with service rates and response times by constituent agencies, as well as lack of sufficient funding for DPW, led to the secession of MPD and FEMS. It is strongly suggested that the District investigate whether DPW can resume the performance of this function.

A unified Office of Fleet Management, such as the one in Philadelphia, is desirable for several reasons. First, it could free up time and money of other agencies. Agencies would in many cases be relieved of having to budget for and dedicate staff to vehicle maintenance and repair in addition to their chartered duties. Second, it has the potential to consolidate fleet operations on several centralized sites, rather than having numerous small sites using valuable industrial land. And thirdly, it has the potential to push green technologies such as hybrid and alternative fuel vehicles through the budget process.

4.6.3 IMPROVING EFFICIENCY

It has been noted that there is an already limited supply of industrial land in the District, and it is shrinking as large initiatives and zoning changes encroach. So, in addition to better planning for its industrial land needs, the District should seek ways to reduce its overall demand for, and footprint on, industrial land. This would have the added benefit of reducing the municipal costs and reprogramming industrial areas for tax-paying private businesses.

4.6.3.1 Co-Location

One way to reduce land demand is to consolidate several municipal uses onto one site or into one building. There are two approaches to co-location. The "joint-use approach" means that agencies/users operate in the same facility or building, at different hours. This approach requires less land and fewer buildings, and thus maximizes investment and spreads out economic impact over day and night. This requires carefully coordinated use and funding agreements. Secondly, the "campus approach" is the siting of several like-uses on the same plot, or in a centralized fashion. This may require more land and multiple facilities, and can take longer to implement in terms of project coordination, land assemblage, and complex financing, but there is less of a problem with legal and regulatory issues, the technical/operational difficulties resulting from specialized functions and funding, and any inherent cultural attitudes of the agencies used to operating in relative isolation.

The District has already begun to look at co-location opportunities. DPW is consolidating most of its functions onto one major campus on West Virginia Avenue. The District has also recognized the possible economic development benefits of "government centers" (the co-location approach) at Benning Road/Minnesota Avenue (DOES + DHS) as well as Anacostia (DDOT). DCPS (public schools) has undertaken an initiative to co-locate public and charter schools, and other educational services (joint use approach).

The potential gains from co-location, including lessening the municipal demand for industrial land, the re-use of existing facilities and infrastructure, the economies of scale in shipping and delivery, utilizing existing and cheaper support services, creating a locus of stable jobs and employment, and cost efficiencies from sharing management, space and rent are all reasons for the District to continue its co-location efforts.

4.6.3.2 Fleet Reduction

To further reduce municipal demand for industrial land, the District should consider reducing the overall size of the municipal vehicle fleet, if possible. Philadelphia's Office of Fleet Management, for example, has instituted a car sharing program to reduce its overall fleet size by 400 vehicles. A fleet reduction program, coupled with an improved car share/ motor pool program has the potential to decrease the total space required for fleet servicing and parking, as well as reducing overall fleet management responsibilities.

4.6.4 TECHNOLOGICAL INNOVATIONS—REDUCING DEMAND FOR INDUSTRIAL LAND

Advances in technology and a push towards environmental sustainability are examples of less obvious but equally valid ways to reduce overall demand for industrial land. As the nation's Capitol and a world city, the District should play an influential role in adopting technical innovations and "going green." Chicago, for example, is lauded for its environmental initiatives, which include green roofs. The District has instituted policies for sustainable, environmentally-friendly development recently, and the Mayor has created a cabinet level Department of the Environment.

Following are several examples of technical innovations which could reduce demand for industrial land. While there is no guarantee that the District will adopt the following technologies, these are food for thought and should help craft a comprehensive response to managing the District's land assets.

4.6.4.1 Diesel-electric Hybrid Buses

Using diesel-electric hybrids instead of compressed natural gas (CNG) buses would benefit the District in several ways, since hybrids use less space and less-costly fuel, and are more efficient overall. Firstly, hybrids run on low-sulfur diesel, not unstable and explosive CNG, so they do not require open air, single-story garages. Garages can be multi-level, eliminating the need for very large bus campuses, such as the WMATA garage on Bladensburg Road. Secondly, as the price of natural gas continues to increase and supply is constricted by field depletion, pipelines and appropriate fueling facilities, hybrids become a more reliable and less costly option in the public transportation authority's toolkit. Thirdly, hybrids are also more efficient, because they can recycle the energy normally lost through braking into electricity to charge their batteries—a major gain for heavy vehicles which are constantly starting and stopping. Finally, modern hybrid technology can achieve emissions levels comparable to CNG vehicles, meeting the District's clean air goals by alternative means.

4.6.4.2 Distributed Generation

Distributed generation (DG) refers to using local sources of energy production and distribution for power, rather than large, centralized facilities like fossil fuel plants. While DG can utilize conventional fuels, its real potential lies with easily obtainable energy from renewable sources like solar, wind, biomass, and tidal currents. DG facilities can generally be installed on buildings, meaning that no additional space is required. Because power is generated close to its where it will be used, transmission losses are minimized. Further, DG eliminates the need for gigantic, highly secure power plants, like the peaking plants found at Benning Road and in Buzzard Point. Instead, these vast swaths of industrial land could be made now available for employment-generating PDR uses.

Municipal landfills and sewage plants are man-made sources of methane, or natural gas. Some municipalities have looked at the potential for generating electrical power from methane evolved from landfills. The same potential may exist for a methane-driven power plant capitalizing on waste gas from the Blue Plains water treatment facility. The benefits are twofold—capturing a "free" source of energy, and combusting a greenhouse gas more potent than carbon dioxide. This alternative energy source could further reduce the need for large "dirty" power plants.

4.6.4.3 Green Buildings, Green Planning

Green building and planning standards and technologies are aimed at finding low-energy, more natural solutions to the problems common to all development: heating and cooling, disposing of liquid and solid wastes, managing stormwater flows. While this topic may seem unrelated to industrial land, it does in fact address directly issues related both the efficient deployment of municipal resources and the ability to accommodate future growth without overstressing the District's infrastructure.

As more and more people live and work in the District, demands on the District's sewers and Blue Plains wastewater treatment plant will grow. Blue Plains has the capacity to absorb this demand, but large rainfall events flood the District's older combined sanitary/storm sewers and runoff pours, untreated, into rivers. To alleviate this, WASA is retrofitting its system to separate water and storm sewers in the few areas where they are still combined, but additional storm water management and retention strategies should be pursued, especially in industrial areas where runoff tends to be toxic.

The Office of Planning guidelines for "green" development in NoMa are important steps in the right direction. Recognizing that intense development could have considerable environmental impacts, OP notes that certain strategies should be investigated to reduce demand on an already overburdened water management system. Strategies could include rainwater collection and reuse (which has the potential to decrease costs for water-heavy PDR businesses), increasing permeable surfaces and decreasing hardscapes like parking lots (car sharing and transit would reduce auto use and space lost to parking lots), and using bioswales and green roofs and other buffers to control, channel, filter, and mitigate runoff. These strategies not only

have positive effects on the bottom line, they also help keep the region's wetlands and rivers clean, and ensure that the District's waterfronts remain amenities for residents and attractions for tourists.

Riverbank State Park: A Locally Unwanted Land Use Becomes a Community Amenity

There is rarely the opportunity to convert a facility such as a water treatment plant into a community amenity. Yet, with Riverbank State Park this is just what happened. As a concession to local activists in nearby Harlem who protested the construction of the North River Water Treatment Plant, the plant that treats most of New York City's sewage, a rooftop park was sited on top of the sewage treatment plant. The state park, 69 feet above the Hudson River, provides local residents with spectacular views of the Hudson, New Jersey, and the George Washington Bridge. It is also a full-service recreational facility, consisting of five buildings that house an Olympic-size swimming pool, a covered skating rink, an 800-seat cultural theater and an athletic complex with fitness rooms. Outdoor facilities include tennis courts, basketball courts, a softball field, and an eight-lane running track with an artificial turf football/soccer field. At water level, there is a 900-seat amphitheater and boat docks. Currently, it is the only park in the United States using this rooftop model, which was inspired by rooftop gardens found in Tokyo, Japan.

More possibilities may present themselves. As an example, green roofs help cool in the summer and insulate in the winter—what if they were combined with active recreation facilities and located on the roofs of large slab-like building such as bus and vehicle garages?

4.7 RECOMMENDATIONS FOR FUTURE LAND USE DECISIONS

While this plan provides a detailed set of land use recommendations based on current conditions in DC's industrial districts, events will occur that will require decisions to be made regarding particular industrial parcels. This section first discusses the relationship of this report to the District's forthcoming Comprehensive Plan, and then presents some criteria for judging the merits of future proposals to zone land away from PDR use.

4.7.1 COMPREHENSIVE PLAN GUIDELINES

The four industrial land classifications discussed in sections 4.2 through 4.5—areas for retention, intensification, municipal use, and land use change—should be reflected in the final adopted update of the Comprehensive Plan's land use policy map. On the prior Comprehensive Plan map, these areas were designated "production and technical employment." Striping was used to indicate where this category could be mixed with other uses.

The new map should adopt the PDR designation, consistent with this report, and the map should reflect all the areas programmed for retention, intensification, municipal use, and land use change. A new category of 'Municipal Service Area" should be added to the Comp Plan map as well. This designation can be shown as a solid color over publicly-owned land such as DC Village; and in a striped pattern mixed with the PDR color for areas where private ownership predominates. Likewise, the PDR color should be solid in areas recommended for IP and M zoning; and striped with commercial designations elsewhere.

The economic development chapter, as well as the land use chapter, of the Comprehensive Plan should reflect the recommendations of this report. To that end, a summarized version of the major land use recommendations, albeit in a less specified form, has been incorporated into the Economic Development background study for the Comprehensive Plan. It is hoped that some version of this language will be incorporated into the policies and strategies of the final Plan document.

4.7.2 REZONING CRITERIA

Early in this planning process, OP requested that criteria be developed that would provide guidance to the Zoning Commission with regards to rezoning requests. These criteria would be based upon the following factors:

- **Land use context:** is the area clearly industrial in nature? Does it adjoin residential or commercial areas? Would it function as a logical extension of such areas? Would a land use change likely result in addition pressure on remaining industrial lands?
- **Transportation context:** does the site have appropriate access for trucks or freight rail? Can the property be accessed without using residential streets? How far is the property from a major arterial roadway or freeway? Is it adjacent to a Metro stop?
- **Environmental context:** is the site contaminated? If so, could it be cleaned to residential standards? What use would best facilitate environmental cleanup? Conversely, are there sensitive environmental features that would make the site inappropriate for industrial use?
- **Existing conditions:** Are the current uses considered appropriate or undesirable? Would redevelopment require significant displacement of existing uses?

- **Unique characteristics:** Would redevelopment remove from the District's "portfolio" a unique building or site that would be difficult to replace? Conversely, is there a unique building that is functionally obsolete but attractive for adaptive reuse?
- **Municipal needs:** Can it be reasonably anticipated that the site in question may be needed for municipal or other public service purposes in the foreseeable future?

From these topical points, the Office of Planning is currently developing a systematic set of zoning criteria to evaluate zoning change proposals going forward. The development of this criteria is near completion at the time of the writing of this report.

5 References

5.1 INTERVIEWS AND MEETINGS

Technical Advisory Committee

Meeting Dates:

November 1, 2005
November 22, 2005
December 14, 2005

Invited Agencies and Major Industrial Tenants:

Office of Planning (OP)
Office of Property Management (OPM)
Department of Motor Vehicles (DMV)
Department of Consumer and Regulatory Affairs (DCRA)
Architect of the Capitol (AOC)
DC Water and Sewer Authority (WASA)
Washington Metropolitan Area Transportation Authority (WMATA)
U.S. General Services Administration (GSA)
District Department of Transportation (DDOT)
Department of Public Works (DPW)
Metropolitan Police Department (MPD)
Fire and Emergency Medical Services (FEMS)
Department of Parks and Recreation (DPR)
DC Public Schools (DCPS)
Office of the City Administrator (OCA)
National Park Service
Pepco
Verizon Communications
Amtrak
CSX Corporation

Interviews

Private industrial real estate brokers and economic development officials involved in recruitment and site finding assistance

Paul Pascal, Pascal and Weiss
Mark Payne, Wilkes Company
George Tyler, B&R Property Management
Cydney Fowler, Crowder Realty Team
Keith Sellers, DC Economic Partnership

PDR user representatives:

Patrick Horn, Restaurant Association of Metropolitan Washington
Chip Sraver, President, Federal Center Chapter, National Property Management Association
Arnetta Cook, Special Assistant to the Head of Small Business Assistance, National Capital Region, General Services Administration

5.2 DOCUMENTS AND REPORTS

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Wolf-Powers, Laura. 2005. "Up-Zoning New York City's Mixed-Use Neighborhoods: Property Led Economic Development and the Anatomy of a Planning Dilemma." *Journal of Planning Educations and Research*. 24: 379-393.

6 Appendices

6.1 ZONING MAPS FOR STUDY AREAS

Please see attached zoning maps.

6.2 SUB AREA ANALYSES AND ILLUSTRATIVE LAND USE MAPS

The discussion of each sub-area follows a standard format. First, physical characteristics, including the location and land area, existing building typologies, and site conditions are described. Next, land use considerations such as existing uses, surrounding uses, and access are discussed. Real property information, such as major owners and tenants and existing property assemblages, is presented. Lastly, any other issues affecting the sub-area are described and analyzed, including likely environmental considerations and planning issues.

The reader should also refer to the attached zoning maps, also in this Appendix. The chart of average parcel sizes for each sub areas (Chart 2.16) is a useful resource as well.

6.2.1 CSX1—LAMOND RIGGS

PHYSICAL CHARACTERISTICS

Location and Land Area In the far northern corner of the District, along the CSX railroad and Metro Red Line right-of-way, is the long and narrow CSX1-Lamond Riggs sub-area. It is bounded at its north end by Piney Branch Road and the District/Maryland border and runs south to Riggs Road, NE. It encompasses 125.84 acres, representing 4.78 percent of the District's industrial study areas.

Building Typologies Many buildings were built in the railroad age and front on the railroad, with low-rise brick warehouse structures, large floor plates and loading bays. These types represent only a small portion of the buildings in Lamond Riggs, however. For the most part, buildings are low-rise rectangular brick and/or concrete block commercial buildings. Some residential units of varying brick and wood frame construction exist along 2nd Street, NE.

General Site Condition Conditions vary greatly. While some buildings are vacant and for lease, most are occupied and seem to be doing well; abandoned buildings or vacant lots were not prevalent. Overall, businesses in this area appear to be "good neighbors", with notable exceptions in the poorly-regulated automotive repair industries. Major north-south roads such as Blair Road, Chillum Place, and 2nd Street, NE are in need of significant repairs. Interior service drives are also in need of significant repairs.

LAND USE

Land Use, General Character, and Function The northernmost area, around the Metro station (Red Line: Takoma) is a transit and retail hub. The area functions almost as a "Main Street" around the Takoma Metro station. New residential and commercial development is occurring in the area.

Moving southwards, the area centering on Kansas Avenue and Chillum Place and south to New Hampshire Avenue is home to manufacturers and fabricators, notably a building and storefront display sign manufacturer, serving clients such as Sprint, Nextel, and other retailers. Also prominent are electrical and mechanical contractors such as HVAC (heating, ventilation and air conditioning) contractors, and suppliers of construction materials to service the District's construction and building trades. The United States Postal Service maintains a medium-sized facility in the area. There is also a large liquor retailer, office furniture supply, cabinet makers, printers and graphics, self-storage buildings, auto repair shops, an environmental contracting firm, contractors' unions, vocational-technical training schools, and several houses of worship.

The area south of New Hampshire Avenue to Riggs Road is predominately warehouse in nature but includes a Metro substation, a roofing/siding/windows contractor and supplier, a printing business, and graphics design establishments.

Surrounding Land Use Context This entire study sub-area is surrounded by low-density residential areas consisting of mainly of single-family homes of brick and frame construction. Some of the industrial study area falls within the Takoma Park Historic District.

Access and Circulation These areas enjoy good circulation from Blair Road, Kansas Avenue, and Minnesota Avenue. Chillum Place is busy with truck and automobile traffic to and from the many businesses. Interior service roads vary in quality from fai to very poor.

PROPERTY DATA

Major Tenants Major tenants include the United States Postal Service, WMATA, Gelberg Signs, a set design company, light manufacturing and building and mechanical trades.

Ownership Patterns and Property Assemblages There are no major assemblages of multiple properties by a single owner, though several real estate developers as well as commercial brokers and partnerships are active.

OTHER

Environmental Issues There was no obvious evidence of environmental issues or pollution hotspots. Of course, the freight railroad and truck traffic contribute particulates and other air pollutants; fabricators and manufacturers in the area are of the light-industrial type and probably do not present high levels of toxic pollutants.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings, but some of the study area falls within the Takoma Park Historic District.

Development pressures The most significant development pressure on this industrial land is centered on the Takoma Metro station, where new construction of residential buildings and convenience retail is concentrated.

Other Planning Issues This industrial area is very viable, and its character and function should be retained. However, any possible industrial expansion must take into account the neighboring residential communities. Areas 14 and 15 of the October 19, 2005 DRAFT Land Use Change Map fall within this study area. The map and key accurately describe portions of these areas as underutilized with opportunities for infill development.

KEY FINDINGS

- The development pressures on the industrial lands, as well as the presence of a historic residential district surrounding the Takoma metro station are significant enough factors to consider a land use change in the northern portion of this sub-area.
- The southern portion of the sub-area is a high-performing, high-value industrial area with a sustainable and viable tenant mix. Appropriate zoning and land use policies should be enacted to preserve this industrial area.

6.2.2 CSX1—FORT TOTTEN

PHYSICAL CHARACTERISTICS

Location and Land Area This sub-area extends along the CSX/Red Line corridor from Riggs Road to Taylor Street, NE. It encompasses 98.97 acres, or 3.76 percent of the District's industrial study areas. The Metro Red and Green lines intersect here at Fort Totten station.

Building Typologies Buildings are generally one- and two-story brick or concrete block industrial buildings.

General Site Condition Those sites that were accessible seemed in good condition. The largest sites, particularly the concrete and asphalt batching plants and gravel yards are fenced off and inaccessible. The Fort Totten solid waste transfer station receives two-thirds of the District's trash and is correspondingly busy, noisy, and dirty.

LAND USE

Land Use, General Character, and Function The Metro station at Fort Totten is the anchor for this area. This bustling hub serves the Red and Green lines. A parking lot for Metro commuters seems well-used. North of the Metro station is a catering business, apartment houses, union offices, cellular phone towers, and HVAC contractors. South of the Metro is an asphalt plant, a concrete/gravel yard, and the aforementioned Fort Totten waste transfer station.

Surrounding Land Use Context On the east is a mixed-use area, and on the overlooking ridge to the west is Fort Totten Park. Beyond this are low- and moderate-density residential neighborhoods.

Access and Circulation Access to the Metro station is generally good, though it is considerably easier to find when coming from the east as opposed to the west. The major industrial sites (asphalt, concrete, waste transfer) are generally inaccessible to the public and foreboding.

PROPERTY DATA

Major Tenants Major tenants include the Metro station, waste transfer station, asphalt and concrete plants, and several building mechanical systems contractors.

Ownership Patterns and Property Assemblages There are no major assemblages of multiple properties by a single owner.

OTHER

Environmental issues While not known as fact, apparent environmental issues are numerous. Waste transfer, asphalt mixing, concrete batching, and the railroad contribute dust, debris, and particulates into the air. They may also contribute to water and soil contamination.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings.

Development Pressures A rezoning application to build about 80 townhouses has been approved for the Rocky Gorge site, south of the Fort Totten metro. While it is desirable to concentrate residential development around Metro stations, these residential units would be bordered on the south by the asphalt plant, a noisy and dirty land use. Compatibility could be an issue, and one or both of the two neighbors may find life in the neighborhood uncomfortable.

Other Planning Issues Open space advocates, the District, and the Federal government have expressed interest in developing a “Fort Circle Greenway” linking the Civil War era forts that encircle the District. Fort Totten is one of those.

The area is designated as a Development Opportunity Area and Housing Opportunity Area under the current Comprehensive Plan, and listed as areas D and 16 on the October 19, 2005 DRAFT Land Use Change Map. The map and key accurately note that the area is generally underutilized and has the potential, if land use compatibility issues are reconciled, for infill development.

KEY FINDINGS

- Significant development pressures surround the Fort Totten Metro, a prime area for transit-oriented development and a land use change.
- The "heavy" industrial uses south of the Metro should be preserved, if possible.

6.2.3 CSX1—BROOKLAND

PHYSICAL CHARACTERISTICS

Location and Land Area This area extends along the CSX/Red Line corridor from Taylor Street south to Girard Street. It encompasses 55.34 acres, or 2.10 percent of the District's industrial study areas. There is a Metro stop at Michigan Avenue (Red Line: Brookland/CUA).

Building Typologies Buildings are generally one-story brick or concrete warehouse buildings with large floor plates and loading bays.

General Site Condition Conditions are generally good, with only incidental aesthetic concerns such as litter. The buildings seem well-kept. Interior service roads are in fair condition.

LAND USE

Land Use, General Character, and Function The land use is mostly industrial with a mix of commercial buildings. A strip of buildings (probably former railroad warehouses) has a range of businesses from a bakery to theater storage to a food bank. The area functions both in support of the District's core economic sectors and as a home to social services. Also present are an auto scrap yard, Housing Authority storage, and Comcast cable company.

Surrounding Land Use Context Surrounding land uses include Catholic University of America (CUA) to the west and moderate-density residential to the east. Notably, many residential units rear yards border on this industrial/commercial land, with only a chain-link fence to separate the two uses.

Access and Circulation Access to the northern end of the site is restricted to one driveway off of Taylor Street. This area is dangerous during the mornings and other common delivery times when trucks and vans are pulling in and out of this driveway. Local neighborhood streets also provide access points—9th Street, NE, provides access on the eastern side, and 8th Street, NE provides access from the western side.

PROPERTY DATA

Major Tenants Major tenants include the Capitol Area Food Bank, The Shakespeare Theater, Ottenberg Bakers, DCHA, Comcast, and the United Cerebral Palsy organization. Other commercial tenants include an equipment rental company, an elevator company, and other mechanical contractors.

Ownership Patterns and Property Assemblages There are no major assemblages of multiple properties by a single owner. Some properties appear to operate as an ad-hoc industrial park, though they are not zoned as such.

OTHER

Environmental Issues Aside from truck traffic and noise, there are no apparent or known environmental issues.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings.

Development Pressures While the Metro station is used heavily by the surrounding residential communities and by CUA students and is a prime area for transit oriented development, there are no known rezoning requests of industrial lands. It is possible that if CUA looks to expand its academic or residential property, it will look to these industrial lands around the Metro station.

Other Planning Issues As with all of the areas along the CSX/Red Line corridor, new development in Brookland must be undertaken with full consideration of the surround residential communities. The October 19, 2005 DRAFT Land Use Change Map notes area E near the Metro is a Development Opportunity Area under the Comprehensive Plan. Area 17 on the same map is accurately noted as having potential for compatible infill development.

KEY FINDINGS

- Significant development pressure for transient-oriented development surrounds the Brookland/CUA Metro, and a land use change should be considered.
- The portions of the sub-area north and south of the Metro are home to active industrial users, primarily warehouse or light industrial in nature. These should be preserved.

6.2.4 CSX1

PHYSICAL CHARACTERISTICS

Location and Land Area The CSX/Red Line corridor forms the central axis of this area, which is roughly bounded by Girard Street to the north, 10th Street to the east, Brentwood Road to the Southeast, T Street to the south, and 7th Street to the west. It encompasses 167.42 acres, representing 6.36 percent of the District's industrial study areas.

Building Typologies Building typologies vary greatly within this area, from one-story brick and concrete commercial buildings to multi-story industrial facilities, to very large modern big box facilities.

General Site Condition The site conditions also vary greatly. Sites along the rail line are generally ill-kept, while sites fronting on the larger streets tend to be cleaner and better maintained. Sites on Reed Street, NE and on 5th Street, NE are in poor condition, reflecting the character of the streets themselves.

LAND USE

Land Use, General Character, and Function The northern portion of CSX1 houses construction contractors, WMATA, industrial hardware stores, a community development corporation, Old Towne Trolley Parking, and various other industrial users. However, 10th Street, NE, within the industrially-zoned land, is a well-established neighborhood residential street, and several small houses of worship are sprinkled throughout the area. A large wholesale store and supermarket are west of the railroad tracks, off of 4th Street, SE between Channing Street and Bryant Street.

The site south of Rhode Island Avenue is a mix of commercial and industrial. The eastern side is home to Home Depot, Giant supermarket, and an accompanying sea of parking. There is room for a third big box on this site. The United States Postal Service maintains a very large mail facility here. To the west of the railroad are industrial users, including a concrete batching plant, construction contractors, storage, auto salvage, taxi and auto uses, a local fire house, a DCPS vehicle facility, and two United States Postal Service fleet facilities. Some of this land falls in what appears to be the District's only de facto industrial park, called the ABDO Industrial Park.

Surrounding Land Use Context Active industrial land borders this site to the south and southeast. To the east are residential communities and neighborhood streets, and to the west lie a mix of uses including light commercial and moderate density residential.

Access and Circulation Access into and out of these areas is generally easy, with most traffic utilizing Franklin Street, Rhode Island Avenue and Brentwood Road. Circulation ranges from fair to good, as there are plenty of entrance and egress options with minimal friction points.

Entrance to the big box stores is fair. It should be noted that the major longitudinal access roads, Reed Street and 5th Street, are narrow and in poor condition. The Metro Red Line stops at Rhode Island Avenue (with an associated commuter parking lot).

PROPERTY DATA

Major Tenants Major tenants include construction contractors, WMATA, industrial hardware stores, Manna House (a community development corporation), Old Towne Trolley parking, and various other industrial users, as well as a large wholesale warehouse and Safeway grocery store to the north of Rhode Island Avenue.

To the south of Rhode Island Avenue is the United State Postal Service Brentwood mail processing distribution facility, a big box shopping plaza anchored by Home Depot and Giant supermarket, as well as a concrete batching plant, construction contractors, storage, auto salvage, taxi and auto uses, a local fire house, a DCPS vehicle facility, and two United States Postal Service fleet facilities

Ownership Patterns and Property Assemblages There are several owners of multiple properties. Edgewood Associates, LLC controls several parcels on Edgewood, north of Rhode Island Avenue, to the west of the rail line. An organization called variously Jemal's Channing Place, LLC and Jemal's Springworks controls several parcels on Reed Street. Home Depot, the Postal Service, and WMATA also control large areas of land.

OTHER

Environmental Issues The presence of a concrete batching plant, auto salvage yard, and other industrial users contribute noise, debris, and particulate pollution at the least. As the entire area is one of former medium and heavy industrial uses, ground and soil contamination and underground tanks may be present.

Historically or Architecturally Significant Buildings The former Heinz 57 Warehouse, at 2101 5th Street, NE (at V Street) may be eligible for historic designation. This 2-story brick building was built in 1927 as a food storage and distribution warehouse, and operated by Marriott Distribution for a time. Its current use is undetermined. Also, on Rhode Island Avenue NE, between 8th Street and Reed (9th) Streets, is the former Merkle Press complex. These three buildings of cast concrete, built in the 1920's, housed printing presses and offices. Merkle Press clients included the government, AFL-CIO, and private sector companies such as Time Magazine.

Development Pressures A rezoning application has been submitted for several parcels on Reed Street (9th Street) just north of Rhode Island Avenue. Also, a development on the WMATA-owned parking lot south of Rhode Island Avenue near the Metro is slated for retail and mixed-use development.

Other Planning Issues The big box site is the most prominent feature of this sub-area. It can accommodate at least three big box retailers, and currently only serves two (Kmart would have been the third, but the company pulled out). The residential areas to the west of 10th Street NE and to the east of 4th Street NE appear to be stable areas and should be taken into account in any development activities.

The October 19, 2005 DRAFT Land Use Change Map notes area J near the Rhode Island Avenue Metro station has several development projects in the pipeline and is designated a Development Opportunity Area under the existing Comprehensive Plan.

KEY FINDINGS

- Reed Street north of Rhode Island Avenue is in need of significant investment and repair.
- The Rhode Island Metro area is experiencing some development pressure. It is a prime area to capture commercial and retail development, but residential development on the industrial land in this sub-area is not desirable. Mixed-use development around the Metro should be encouraged.
- Efforts should be made to complete the build-out and occupancy of the final big box site near Home Depot. Possible historic buildings on the western side should be preserved in their industrial states as warehouse or other commercial (even office) buildings.

6.2.5 NEW YORK AVENUE/FLORIDA

PHYSICAL CHARACTERISTICS

Location and Land Area This area is roughly bounded by T Street on the north, 9th Street to the east, Florida Avenue to the south, and 1st Street, Eckington Place, and 3rd Street to the west. It is the nexus of the CSX, Amtrak, and B&O rail lines which enter the District from the north and east. The area encompasses 196.73 acres, which is 7.47 percent of the District's industrial study areas.

Building Typologies Building sizes and types vary greatly in this area. The buildings to the west of the railroads are generally mid-rise brick and concrete commercial buildings, many of which are former railroad-oriented warehouses. The southwest of the site, at the convergence of New York and Florida Avenues is new construction rehabilitation of concrete and brick multi-story office buildings, now the site of XM Satellite Radio and FedEx. South of New York Avenue and north of Florida Avenue is dominated by the Capitol City Market's low-rise, one- and two-story concrete and brick wholesale buildings with loading docks and large truck bays.

General Site Condition Site conditions vary from very good, to fair, or poor. The Eckington Place and New York Avenue area is generally good. Many of the sites within the wholesale market south of New York Avenue are small and rundown in places. Truck and vehicular traffic is chaotic.

LAND USE

Land Use, General Character, and Function The northern portion of the site is comprised exclusively of railroad lines, switching yards, and maintenance buildings.

The southeastern portion of the site, the area of 4th and 5th Streets, NE between New York Avenue and Florida Avenue is a truly unique wholesale and retail district that offers products such as ethnic and specialty foods, a fish market, discount clothing, and restaurant supplies. Built in the 1930's, the Market area also seems to offer some areas for walk-in customers, an excellent example of wholesalers capitalizing on the retail market. For example, the Italian foods store A. Litteri Inc. is probably a destination—people arrive from all over the District to purchase specialty meats, cheeses, and olive oils. Some parcels (open lots) and buildings in the area may be underutilized. Given its tremendous accessibility to New York Avenue, Florida Avenue, Metro Bus, and the recently-opened New York Avenue Metro (Red Line), this is an area where more intense development could produce tangible benefits for the District.

West of the railroad, north of Florida Avenue is an area of new commercial development and older industrial buildings. XM Satellite Radio headquarters are here, along with a major FedEx facility, the Washington Flower Center, and an art/drama therapy center. There are also several storage buildings and a Verizon telecommunications facility.

Surrounding Land Use Context To the east of the Market is Gallaudet University, an attractive campus of buildings which is insulated from the bustle of the Market (although students and staff are said to frequent the market). Stable residential communities border the commercial buildings to the west of Eckington Place and north of R Street. The site south of the intersection of New York and Florida is under construction, to be a new headquarters for the Bureau of Alcohol Tobacco and Firearms and a hotel complex, just a block from the brand new Metro station (Red Line: New York Avenue).

Access and Circulation Access to and through most of these areas, from New York and Florida Avenues is good. However, traffic on New York Avenue is very heavy at rush hours and the road can be dangerous. Traffic and circulation within the Market is chaotic as delivery trucks and personal vehicles frequently block entire streets.

PROPERTY DATA

Major Tenants Major tenants include the Capitol City Market, XM Satellite Radio, and FedEx.

Ownership Patterns and Property Assemblages The most notable assemblages occur within the Capitol City Market, with Sang Oh & Company controlling a number of the sites and buildings.

OTHER

Environmental Issues The railroads are the most likely source of contamination in this area, but no known environmental issues are present. The older industrial buildings were primarily used as warehouses, not manufacturing facilities, and the presence of pollutants seems less likely.

Historically or Architecturally Significant Buildings The XM Radio Headquarters is located in the former Judd & Detweiler Printing Company complex, a unified complex comprised of historic three- and four-story brick and concrete structures. A potential landmark building, the Sanitary Grocery Company, was originally a warehouse and was converted to office space and storage areas sometime in the early 1980s. The Sanitary Grocery Company and the National Geographic Society building, as well as the entire Market area, are also worthy of historic and cultural consideration.

Development Pressures The New York Avenue/Florida Avenue area is sure to become a hub of mixed-use activity. Excellent Metro access from a new station, the presence of national headquarters, a new Federal office building, and a bustling market area all contribute to day and nighttime activity and development "buzz." A rezoning application for 700 residential units has been submitted for the parcel immediately north of FedEx.

Other Planning Issues The presence of adjacent residential areas, new offices and associated employment opportunities, the Market, and a new Metro station make new residential and mixed-use development on infill sites in this area an almost natural course. Consideration should be given to opening the Market area up to the broader public, linkages to the Gallaudet community and the new office buildings are especially promising.

The October 19, 2005 DRAFT Land Use Change Map lists area 24, the Market area, as capable of sustaining significant mixed-use development, but with special protections for the market area. This area is a Special Treatment Area under the existing Comprehensive Plan.

KEY FINDINGS

- There is limited available land for development, and much of the interior of the site is occupied by railroad yards. However, significant commercial and office development is taking place near the New York Avenue Metro and intersection of New York and Florida Avenues - this specific area should be considered for a land use change.

- Potentially historic buildings should be retained as industrial or commercial uses. They are currently occupied and are too distant from the Metro to warrant conversion to residential use.
- Limited residential exposure to the north, east, and south, as well as excellent road and rail access makes this area a prime candidate for preservation of its industrial character.
- The Wholesale Market should be protected as a culturally and industrially-significant area. Portions of it may benefit from increased density. Limited commercial/office development in the market area near the Metro and Florida Avenue could help bolster the market's retail businesses with additional daytime population.

6.2.6 CSX1 NY/NOMA

PHYSICAL CHARACTERISTICS

Location and Land Area This area around the railroad corridor is bordered to the north by Florida Avenue, and the south by Union Station. It encompasses 76.32 acres, or 2.90 percent of the District's industrial study areas.

Building Typologies Buildings are generally industrial in character, of brick and concrete construction. The newest developments, on 2nd Street just north of Union Station are modern glass and steel office buildings. Small residential buildings are present along Parker and 3rd Streets.

General Site Condition The sites around Union Station are in excellent condition. Sites north of the station, near M Street, NE and along 3rd Street NE are in fair to poor condition, with run-down structures, overgrown brush, and litter contributing to an unwelcoming atmosphere.

LAND USE

Land Use, General Character, and Function The sites are a mix of transportation, commercial, and industrial. Union Station and its railroad yards and parking deck dominate the area, but older warehouse and factory buildings are also present. These apparently no longer function as such, as the Uline buildings and others are houses of worship and storage lots. The site and buildings are unique, but not inviting.

Surrounding Land Use Context To the west is office development, and to the east are residential communities. This industrial land is a distinct boundary between the two areas.

Access and Circulation Access to Union Station is very good (via car, bus, and Metro). The industrial buildings are accessed from Florida Avenue or the residential neighborhoods to the east; streets are rough and in marginal condition. Heavy truck traffic is not an issue in this area.

PROPERTY DATA

Major Tenants Union Station/Amtrak occupy most of the area.

Ownership Patterns and Property Assemblages The old Uline buildings are now held by Jemal's Uline LLC. Other property owners with significant assemblages include M Street Development Group LLC and K Street Developers LLC.

OTHER

Environmental Issues There are no known environmental issues, but it can be assumed that the railroad presents some ground and air contamination.

Historically or Architecturally Significant Buildings The Uline Ice Company and arena were built in the early 1930s and are unique for their construction, type, and function. It is reported that The Beatles' first Washington, DC concert was played in the Uline arena. Neighboring buildings not in the industrial zone also deserve consideration.

Development Pressures Union Station, the terminus for the Northeast Corridor rail system and a hub for Metro and commuter rail, is one of the most active surface transportation hubs in the country. Thus the development air rights from the railroad and Union Station have been highly prized. The new SEC building at F and 2nd Street is one manifestation of the mixed-use and office development pressures in this area. One plan calls for a very large residential development in two ten-story buildings, including an office, hotel, and very large retail component, on 15 acres to the north and south of H Street.

Other planning issues Area 21 and K of the October 19, 2005 DRAFT Land Use Change Map are within this area, and noted as infill and change areas, respectively. Both areas are Development Opportunity Areas under the existing Comprehensive Plan.

KEY FINDINGS

- Very significant commercial and residential development pressures area associated with the air rights from Amtrak's Union Station – this area could benefit from a land use change.
- There are a number of underutilized industrial sites to the east of the railroad that should be retained as industrial use, if the small building floorplates and land areas make that possible.
- The northern portion of the area near the New York Avenue Metro could support commercial and mixed-use development. Consider permitting residential as an accessory use in this area.

6.2.7 BLADENSBURG/FORT LINCOLN

PHYSICAL CHARACTERISTICS

Location and Land Area This area stretches along Bladensburg Road, NE, between South Dakota Avenue and Eastern Avenue, the District's Maryland border. The site is 32.93 acres, comprising 1.25 percent of the District's industrial study areas.

Building Typologies The buildings are generally low-rise brick and concrete block structures, some set against the street, some set back behind parking lots.

General Site Condition The site is more commercial than industrial in appearance. The prevailing image is of bustling auto repair shops.

LAND USE

Land Use, General Character, and Function Land uses include commercial, transportation/utility, institutional, and residential. This strip includes at least three houses of worship, about five auto-repair shops, a convenience store, a social service office, three low-rise residences (which may be associated with the churches), value retail, and mechanical contractors.

Surrounding Land Use Context The area is surrounded by low-density residential neighborhoods, with some higher density residential to the south.

Access and Circulation All sites enjoy good access to Bladensburg Road. There are no circulation problems, although parking on worship days may be difficult.

PROPERTY DATA

Major Tenants The most common tenants here are auto repair shops and houses of worship.

Ownership Patterns and Property Assemblages Two owners control several properties each: Samuel J. Decker and Bristol Bladensburg LLC.

OTHER

Environmental Issues There are no known environmental issues, but it can be surmised that there is some petroleum contamination and runoff from the auto shops.

Historically or Architecturally Significant Buildings There are no historic or historic-eligible buildings.

Development Pressures There are few apparent development pressures in this area, although there have been some preliminary discussions regarding a possible proposal to develop a piece of land, which is currently not used for industrial purposes, as residential.

Other Planning Issues There is a need to buffer the residential areas from the auto-related uses on Bladensburg. This is listed as area 22 on the October 19, 2005 DRAFT Land Use Change Map.

KEY FINDINGS

- The automobile-related uses concentrated along Bladensburg appear viable but require some buffering from adjacent residential communities.
- The area also represents a concentration of non-industrial uses. Relocation of these uses is not likely, although some redevelopment of these lands is possible. Therefore, buffering between incompatible land uses is needed.

6.2.8 FORT LINCOLN URBAN RENEWAL

PHYSICAL CHARACTERISTICS

Location and Land Area The Fort Lincoln Urban Renewal Area is a very large, strategically-located site just inside the District boundary with Maryland accessible from New York Avenue (Route 50). It encompasses about 91.88 acres, or 3.49 percent of industrial study areas.

Building Typologies The only building is a modern one-story, large floor plate alcohol distribution facility.

General Site Condition The site condition of the existing building is good. The balance of the area consists of rolling slopes and is covered with overgrown brush and immature woodland.

LAND USE

Land Use, General Character, and Function The only current facility is an alcohol distributor, which enjoys good access to both the District and the suburbs. A Costco and other large to medium format retail stores are planned for the commercially zoned portion of this area.

Surrounding Land Use Context The surrounding area is semi-wooded. Multi-story residential buildings are located on Fort Lincoln Drive.

Access and Circulation The roads within this area provide excellent truck access and circulation. Access from inbound New York Avenue/Route 50 is excellent, but the outbound traffic must navigate a difficult exit onto South Dakota Avenue to access the site.

PROPERTY DATA

Major Tenants There is currently only one tenant, an alcohol distribution facility.

Ownership Patterns and Property Assemblages None. The urban renewal area is controlled by public and quasi-public entities.

OTHER

Environmental Issues There are no known environmental issues.

Historically or Architecturally Significant Buildings There are no historic or historic-eligible buildings.

Development Pressures The District is planning for the commercially zoned portion of the area to be developed as a large and medium format destination shopping center, including a Costco. Limited neighborhood serving retail is also possible.

Other Planning Issues A portion of this area was listed on the October 19, 2005 DRAFT Land Use Change Map as area L. It is identified for further residential development is both a Housing Opportunity Area and Development Opportunity Area under the existing Comprehensive Plan.

KEY FINDINGS

- With the exception of a planned destination retail shopping center, there are very few development pressures on this sub-area, although the retail center may increase development pressures.
- The area enjoys excellent interior circulation, highway access, and ability to accommodate modern, large-floorplate buildings.
- It is not zoned industrial, and would be best programmed for a technology-oriented R&D office park or strategic public PDR use if the retail development does not move forward.

6.2.9 NEW YORK AVENUE/BLADENSBURG

PHYSICAL CHARACTERISTICS

Location and Land Area This is the second-largest sub-area of industrial study areas, encompassing 348.10 acres and comprising 13.22 percent of the District's industrial land. It is an irregularly shaped area centering on New York Avenue and the railroad corridor, approximately west of South Dakota Avenue and east of West Virginia Avenue and 18th Street NE.

Building Typologies Building types vary greatly in this area. Old, medium sized brick buildings associated with the railroad give way to comparatively newer and larger brick and concrete structures. The largest and newest buildings are of post-war vintage built of concrete block and steel.

General Site Condition Site conditions also vary widely. In general, V Street and Bladensburg are in good condition. Sites and roads north of Bladensburg (Queens Chapel Road, 24th Place, 25th Place) are in poor condition—heavily used and poorly-maintained.

LAND USE

Land Use, General Character, and Function The area is very heavily used by a mixture of industrial, transportation/utility, and commercial uses. Just off of and paralleling New York Avenue NE to the north is V Street, NE, a heavily-used district. There is a concentration of uses including light industrial, building support services such as electrical contracting, several medical offices and research labs such as the police forensics and crime scene lab, a large beer storage and distribution warehouse, and catering and food distribution services. Other users include the DC Fire Department (supply and storage), Washington Hospital (printing services), and a creative arts center. Just south of V Street, along New York Avenue, is the Washington Times newspaper headquarters. Several gas stations line New York Avenue and Bladensburg.

North of Bladensburg is a WMATA bus maintenance facility, building contractors, a large private waste transfer facility, DC Public Schools bus parking, automobile repair shops, warehouses, and smaller facilities such as a church, credit union, and insurance offices.

South of New York Avenue is a large automobile scrap yard and a DC Police station/facility, as well as building contractors' supply and automobile repair.

Surrounding Land Use Context Low and moderate density residential development borders this area closely to the north. The open space of the National Arboretum border New York Avenue is located to the south.

Access and Circulation Access off of New York Avenue is good, though New York Avenue is very busy and congested during rush hours. V Street is heavily used but has adequate circulation. Bladensburg is in good condition and provides good access to industrial and commercial users on both sides. Large garbage trucks, Metro buses, and school buses are very frequent on strip of Bladensburg north of New York Avenue. Dead-end streets such as Adams, 24th, 25th, and 26th Places are used only by local industrial traffic.

PROPERTY DATA

Major Tenants There are numerous municipal facilities in this area, including Police, Public Schools, WMATA, and Housing Authority facilities. Other tenants include the Washington Times, a large waste transfer station, and a very large auto scrap yard.

Ownership Patterns and Property Assemblages The only significant assemblage occurs along V Street, where SMC United Industrial Limited Partnership controls many of the parcels.

OTHER

Environmental Issues It is likely that there are significant environmental issues in these areas, given the concentration of light industrial activities including waste transfer, vehicle maintenance, and an auto scrap yard.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings, but it is suggest that the V Street corridor is deserving of some industrial area recognition.

Development Pressures The low density residential neighborhoods and the Arboretum present no direct pressures on this industrial area. However, parcels on the triangular site south of New York Avenue are being assembled for private commercial development.

Other Planning Issues There are some sites or spaces along V Street that may be vacant or are for lease, which, along with the concentration of municipal facilities in the area, present interesting co-location opportunities for businesses or municipal services. New York Avenue should be reviewed for the possibility of a creating a convenience retail corridor, given its high visibility and high traffic volumes.

Area 21 of the October 19, 2005 DRAFT Land Use Change Map is an infill area. It is a Development Opportunity Areas under the existing Comprehensive Plan.

KEY FINDINGS

- The area is home to a wide variety of users, and the V Street corridor is particularly robust. Appropriate zoning and land use policies should be enacted to preserve the V Street industrial area in use and character.
- Several municipal government uses exist in the area. Two police (MPD) facilities provide an opportunity for consolidation. A large WMATA bus garage facility presents some opportunity for more efficient use through technical innovations. Open space on federal government land is an opportunity for DPR to collocate with NPS or other park-like agency.
- Government/ public sector use zones should be established where the real estate market permits cost-feasible development.

6.2.10 NEW YORK AVENUE/IVY CITY

PHYSICAL CHARACTERISTICS

Location and Land Area This site is approximately bordered by W Street to the north, Brentwood Road to the west, and Mt. Olivet Road and cemetery to the east and south. It encompasses 249.34 acres, or 9.47 percent of industrial study areas.

Building Typologies The Hecht warehouse building is the most prominent in the area. It is a multi-story utilitarian warehouse of concrete and brick construction, but is distinguished by its curved corners and bands of glass brick windows. The northwestern portion of the site is a mix of industrial and commercial buildings, including new office buildings for telephone and television companies. Low-lying horizontal block type buildings make up the balance of the Ivy City area.

General Site Condition The northwest portion of the site is in good condition, with new buildings and clean sites. Several smaller structures appear vacant or abandoned however. This problem is very apparent in the Ivy City area; an older neighborhood around the Hecht building is now reduced to vacant lots and the occasional residence. The District DPW sites, Hecht building, and smaller warehouses are all well-used and well-maintained, though it is our opinion that the DPW site is not configured optimally and could accommodate additional use intensity.

LAND USE

Land Use, General Character, and Function The most prominent site along New York Avenue, NE in the Ivy City area is the Hecht's Department Store warehouse. This building is still in use and occupies a prime site enjoying convenient access to truck transportation routes. Also present include a historic school building, a school bus parking lot, a nightclub, food distributors, a large school bus parking lot, and a small core of dilapidated residential structures. Along West Virginia Avenue are a large number of municipal users including a municipal vehicle inspection lot, bus facilities, and distribution users. The northwestern portion of the site, off of Brentwood Road, is home to telecom and technology uses such as Verizon and BET (Black Entertainment Television). A waste transfer facility is also located there, off of W Street. The railroads dominate the middle of the area.

Surrounding Land Use Context Industrial uses and railroads border to the north, east and west. The site is bordered to the south by Mt. Olivet Cemetery and stable residential neighborhoods.

Access and Circulation Access from Brentwood Road, New York Avenue and West Virginia Avenue is excellent. However, truck circulation within the Ivy City/Hecht building area is constrained by narrow streets. The municipal facilities off of West Virginia have sufficient access and circulation.

PROPERTY DATA

Major Tenants Amtrak, Verizon, BET, Hecht's (owned by Federated Department stores), and the District own a significant portion of the area's properties.

Ownership Patterns and Property Assemblages Federated Department Stores (Hecht Building), BET, and the District control the most significant assemblages.

OTHER

Environmental Issues Railroad yards, waste transfer, bus parking, and municipal vehicle parking all raise environmental concerns.

Historically or Architecturally Significant Buildings The Hecht building, an abandoned school, and other warehouses are all worthy of historic consideration. The Hecht building is a landmark.

Development Pressures There are no known rezoning requests for this area. Given the prominence of municipal maintenance facilities and the lack of a Metro stop, it is unlikely that residential development will encroach upon the area anytime soon. However, should Gallaudet University seek to expand its campus, it could look northward into the low density area across Mt. Olivet Road. Also, the residential area is targeted by the District as a pilot site for its Home Again Initiative.

Other Planning Issues The District's vehicle maintenance facilities occupy much of the southern portion of the Ivy City area. Given the particular use and large area occupied, it would be very difficult to relocate these facilities if they are forced out by real estate pressures. Much of the District-owned land area seems under-utilized, however. Co-location and concentration of more municipal facilities would be an excellent way to optimize these sites.

KEY FINDINGS

- The DPW campus on West Virginia Avenue is an excellent opportunity for consolidation and collocation of municipal fleet maintenance activities. It should be protected as a municipal service area
- The northwestern portion of this sub-area houses a robust concentration of information and communications users – this area should be protected and intensified
- The Hecht warehouse building is a landmark whose appearance and function should be preserved.
- The residential area targeted for the Home Again Initiative should include residential uses that are compatible with their industrial neighbors.

- There is little development pressure on this sub-area. It is a prime location for uses such as information and communications, warehousing and transportation, and heavy municipal operations. Appropriate zoning and land use policies should be enacted to preserve this industrial area in use and character.

6.2.11 WATER STREET, SE AND 11TH STREET, SE

PHYSICAL CHARACTERISTICS

Location and Land Area This sub-area is located on the west bank of the Anacostia River east of 11th Street, SE, south of I-295 and the Congressional Cemetery, and south of the Baltimore & Washington Railroad Bridge. Pennsylvania Avenue, SE cuts the site in two pieces: Water Street, SE is the northeastern portion and 11th Street, SE is the southwestern portion (according to the labels on the map). In total, these sub-areas amount to 37.0 acres, representing 1.41 percent of the District's industrial study areas.

Building Typologies Buildings along the river appear to be marina and boating facilities, including docks, and are low-rise. Several buildings in 11th Street, SE, on the Maritime Plaza site, are medium-rise brick and concrete commercial buildings.

General Site Condition The site appears to be in good condition, but numerous open and apparently vacant parking lots and large cylindrical tanks of an unknown nature contribute to a decidedly "no man's land" feel.

LAND USE

Land Use, General Character, and Function The area contains commercial, industrial, and parking uses. Quite a large amount of the land is unimproved and vacant surface parking, or is under / adjacent to freeways, bridges, and railway tracks. Marina buildings, on what is currently National Park Service land, line the waterfront. At the north-west corner of the 11th Street area is a mixed use subarea, including some light industrial, warehouse, and open space uses.

Surrounding Land Use Context I-295, the CSX railroad corridor, and the 11th Street bridges isolate these areas from surrounding land uses. The Navy Yard is beyond 11th Street to the west, and to the north of I-295 lie moderate density residential areas, and open space in the form of a Congressional cemetery.

Access and Circulation The area is neither particularly accessible nor inviting to the public. O Street, SE and M Street, SE provide some access from the west, and an access road to RFK Stadium provides very limited access from the north east.

PROPERTY DATA

Major Tenants Washington Gas and Light Company, CSX railroad, and the Federal government are the major tenants.

Ownership Patterns and Property Assemblages Washington Gas and Light Company, CSX railroad, and the Federal government are the land owners.

OTHER

Environmental Issues It is likely that many portions of the area have surface and subsurface contamination along the rail corridor, and, perhaps, around the old storage tanks.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings. A portion of the area at the north-west corner of the 11th Street area is within the Capitol Hill Historic District.

Development Pressures A large office and/or hotel proposal is pending for the Maritime Plaza site, zoned M. This would be a by-right development. A proposal for a small adjacent piece of land which included a rezoning to allow residential development was received but was not set down for a public hearing by the Zoning Commission, pending completion of this study.

Other Planning Issues The Anacostia Waterfront Initiative (AWI) targets this area and surrounding areas as part of a plan to improve access to the waterfront and make connections across the river and between neighborhoods. A spur of the proposed light rail line is planned to run through this area to RFK Stadium. Major waterfront open space developments are planned.

KEY FINDINGS

- Both of these areas enjoy good highway, rail, and water access. They are also strategic locations for municipal uses.
- Both areas are underutilized, but their utility and road infrastructure are unknown. Both areas are targeted for open space and mixed-use development under the AWI.
- Given their advantages in transportation access, available land, and relative isolation from residential uses, consideration should be given to retaining at least portions of these sites for light industrial uses compatible with open space/waterfront redevelopment. Perhaps secure records storage facilities or drop screening facilities could be located here (little pollution, noise, etc + good access to Capitol Hill and Downtown), particularly in underutilized areas under the highway overpasses.
- Small portions to the north and west are appropriate for land use change.

6.2.12 BENNING ROAD, NE

PHYSICAL CHARACTERISTICS

Location and Land Area Benning Road sits on the east side of the Anacostia River, bounded on the west by the river and Anacostia Avenue, on the north by Anacostia Park and Foote Street, on the east by I-295 and Kennilworth Avenue, and on the south by Benning Road itself. The site is 99.86acres, representing 3.79 percent of total industrial land study areas.

Building Typologies The area is dominated by the PEPCO (Potomac Electric Power Company) power plant. The buildings of the PEPCO site are of varying size and construction. Because of restricted access, it was impossible to determine age or individual uses (e.g. office, transformer stations, vehicle facilities, etc.). There is a Federal facility behind the PEPCO plant on the far north edge of the site which appears to be a power plant, but surveys were unable to determine its exact function or type.

General Site Condition The site is distinctly industrial but appeared well maintained. Access roads are limited and of varying quality.

LAND USE

Land Use, General Character, and Function The PEPCO plant is strictly industrial and functions as a peaking plant for the District, operating only about 30 days per year. PEPCO also maintains a very large service fleet on the site. A Federal power plant also appears to be located to the north and west of PEPCO. Several buildings south of Benning Road, NE at I-295 are commercial and auto-oriented. To the immediate west of PEPCO, on Anacostia Avenue, is a solid waste transfer facility which handles about one-third of the District's trash (the balance is taken to Fort Totten).

Surrounding Land Use Context The PEPCO plant is surrounded on the west and north by open space. The Metro track carrying the Orange and Blue lines is elevated above Benning Road's northerly edge and, along with the power plant itself, is a major visual mark on the landscape. To the east is the Parkside residential neighborhood, for which a proposal to significantly increase density is in process. That development is intended to include as many as 2,000 new residential units in a mix of low to high rise buildings, plus new office and retail space. Across Kennilworth and I-295 to the west are low-density residential developments, and across Benning Road, NE to the south are commercial uses including auto repair, convenience shopping, and low-rise office space.

Access and Circulation The Metro Orange line stops at Minnesota Avenue just north of Benning. This station serves mainly surrounding residential neighborhoods and does not provide ready access to the industrial areas. In terms of vehicular access, Benning Road, NE, I-295, and Minnesota Avenue, NE all provide good access into the area. However, Benning Road is very poorly maintained and the sheer volumes of cars on it and I-295 make entrance and

egress difficult and dangerous. The PEPCO plant has one main gate, and is generally very restricted. The public cannot enter or pass through this very large site.

PROPERTY DATA

Major Tenants PEPCO is the major tenant. Its facility is gigantic; its buildings and stacks dominate the surrounding landscape. Also, the District Department of Public Works maintains the Benning Road Waste Transfer facility.

Ownership Patterns and Property Assemblages PEPCO is the major owner at Benning Road.

OTHER

Environmental Issues Numerous issues, caused by the PEPCO power plant and the Benning Road waste transfer facility, are likely to include toxic chemicals and fine particulates, truck traffic and associated pollution, noise, and vermin. In addition, traffic on Benning Road and I-295 are likely to contribute localized noise and tailpipe pollution.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings.

Development Pressures There are no known development pressures directly on the Benning Road site, although the new Parkside development will be directly to the east, with new residential units overlooking the power plant. As discussed below in the Kennilworth sub-area description, the District is also planning a Government Center and transit oriented development around the Minnesota Avenue Metro.

Other Planning Issues PEPCO has considered selling or leasing a portion of its site in the past. The Anacostia Waterfront Initiative (AWI) is targeting the waterfront near Benning Road for the development of a riverfront greenway trail, and for access to Kingman Island in the Anacostia River.

KEY FINDINGS

- This sub-area received a total score of 41, tying it for fifth best.
- The site is comprised of heavy industrial uses and should remain industrial in function.
- Appropriate zoning and land use policies, especially a designation for utility and municipal uses, should be enacted to preserve this industrial area in use and character.
- The District should discuss with PEPCO the possibility of buying or leasing a significant portion of the land. It presents an excellent location for municipal services being moved from Buzzard Point.

6.2.13 CSX2—KENNILWORTH

PHYSICAL CHARACTERISTICS

Location and Land Area CSX2—Kennilworth is a long narrow strip of industrial land running along both sides of I-295 and Minnesota Avenue, SE from just north of Massachusetts Avenue, SE to the District's Maryland border at Eastern Avenue. This corridor totals about 158.04 acres, representing 6.0 percent of the District's industrial land.

Building Typologies Buildings in this area are predominately low-slung brick and/or concrete block buildings. Many, particularly the auto- and transportation-related uses, are of newer vintage. Several, however, are perhaps relics of the age when warehouses fronted the railroad lines; they are now either vacant or occupied by other commercial/industrial facilities.

General Site Condition The conditions vary widely. Along I-295, some sites are heavily-trafficked and their appearance belies this. Some of these lots are vacant, save for rusting metal and overgrown brush. The sites off of Minnesota Avenue, SE are generally more well-maintained and cleaner, with a not un-inviting appearance and fair to good access.

LAND USE

Land Use, General Character, and Function This sub-area is basically a very narrow strip of industrial land hugging close to the CSX (B&O) rail corridor and I-295. As such, the most prominent land uses are commercial auto-related enterprises such as gas stations and auto repair, accessible via Kennilworth Avenue (which acts as an I-295 service road). There are also several small warehouses and self-storage buildings along Kennilworth. On the other side of the railroad corridor to the east, Minnesota Avenue is home to several small religious institutions and a Metro station (Orange Line: Deanwood). At Minnesota Avenue and Nannie Helen Burroughs Avenue there is a fast food restaurant and what is apparently a storage building. Between Benning Road and Hayes Street is a Metro station (Orange Line: Minnesota Avenue), which serves the surrounding mixed-use and residential areas.

Surrounding Land Use Context As noted above, residential and commercial mixed-uses surround the Minnesota Avenue Metro station. Moderate density residential areas surround the Deanwood Metro station.

Access and Circulation Access from the residential areas is good, as Minnesota Avenue and Kennilworth Avenue are capable of carrying medium volumes of traffic and heavy loads. Transit across the corridor is severely limited by the expressway and railroad right-of ways, however. Also, as noted above, two Metro stations are located within this industrial corridor.

PROPERTY DATA

Major Tenants Major tenants include WMATA (Metro stations and parking lots), Churches and religious institutions, and auto-related commercial uses.

Ownership Patterns and Property Assemblages Several owners carry multiple small properties, but there are no significant concentrations of large properties under one owner.

OTHER

Environmental Issues We presume that the railroad and the expressway have related pollution and noise, and the auto-related uses such as gas stations may present environmental issues.

Historically or Architecturally Significant Buildings There are no known historic or historic-eligible buildings.

Development Pressures The District intends to locate several government offices near the Minnesota Avenue Metro to form a Government Center and promote local retail and commercial development.

Other Planning Issues The Government Center will also be the terminus for the proposed light rail line, part of the Anacostia Waterfront Initiative (AWI). A transit-oriented, mixed-use neighborhood with ground floor retail will be developed around the Center. Also, AWI's "East of the River Gateways" project hopes to reconnect areas east of I-295 back to the waterfront with streetscape, bridge, and pedestrian improvements.

KEY FINDINGS

- Small, shallow lots along Kennilworth Avenue and the railroad tracks characterize the area. There is little room for expansion.
- The area does present a good location for a concentration of automobile-related and warehouse uses, however.
- A land use change to mixed-use, to retain existing businesses but encourage new development, should be considered.

6.2.14 ANACOSTIA—POPLAR POINT—CSX2—FAIRLAWN

PHYSICAL CHARACTERISTICS

Location and Land Area The Anacostia—Poplar Point—CSX2- Fairlawn area is located just east of the Anacostia River along I-295, approximately between South Capitol Street and Massachusetts Avenue, SE. It is a narrow corridor that hugs the I-295 and CSX right-of-way, overlooking the Anacostia River. The land totals about 135.85 acres (5.16 percent of total industrial study areas). Anacostia Poplar Point, the southern-most sub area, where South Capitol Street and I-295 converge, and including the Metro station (Green Line: Anacostia), totals about 59.99 acres. CSX2 Anacostia Fairlawn, from just north of the Metro station to just north of Massachusetts Avenue, SE, is a long narrow strip totaling 75.86 acres.

Building Typologies The building typologies are very mixed, ranging from low concrete structures for auto repair uses to multi-story brick structures that are evidently former warehouses.

General Site Condition The long, linear, narrow character of this area greatly disperses the land uses, and even Poplar Point, dominated as it is by the South Capitol Street/I-295/Suitland Parkway cloverleaf intersection cannot be thought of as "one site." In general, however, the sites contain run-down concrete structures and vacant lots. The CSX2 Fairlawn area along I-295 is mostly right-of-way and almost devoid of use, save for an occasional automobile-related building.

LAND USE

Land Use, General Character, and Function This area contains primarily transportation-type and automobile related uses, including towing services and a towing storage facility. Towards the southwestern end of this area (Anacostia Poplar Point), there is a small charter school, a telecommunications building, and a WMATA Metro/Bus station. Several residential buildings line the streets immediately north of the Metro station. Following I-295 in a northeasterly direction from the Metro station, what users exist are predominately auto-related, with a few religious institutions occupying former commercial spaces. A rezoning is being sought by a hotel developer for a parcel paralleling Shannon Place between V and W Street, SE.

Surrounding Land Use Context Bordering this area to the south, on the other side of Martin Luther King Jr. Avenue, is Berry Farms, a low-rise housing complex in very poor condition. Residential areas also border to the east. To the north of this area and extending northwestward along the Anacostia River is Poplar Point, an open space included in the Anacostia Waterfront Initiative plan. The areas around the Metro station and Martin Luther King Jr. Avenue at Good Hope Road (Fairlawn) are emerging neighborhood commercial centers.

Access and Circulation I-295, Suitland Parkway, SE, and South Capitol Street converge in the Anacostia Poplar Point Area, providing good arterial access to the area. However, signage is poor and the cloverleaf design is confusing. (A redesign of this interchange is proposed by D-DOT.) Traffic lights interrupt traffic flow, and the intersections are very dangerous. The commercial area emerging around the Metro station and around Good Hope Road has very poor circulation due to poor one-way street patterns and streets end abruptly against the I-295 right-of-way. There is currently little or no access across I-295 to the River.

PROPERTY DATA

Major Tenants Major tenants include a towing and truck storage facility, a charter school, a news distribution building, a Verizon telecom building, and the WMATA Metro/bus station.

Ownership Patterns and Property Assemblages The District and WMATA are the major property owners in the area.

OTHER

Environmental Issues There are no known environmental hazards in the area. However, it is probable that fuel leakage and runoff from the towing yard, auto repair shops, and from I-295 itself present some soil and water contamination problems.

Historically or Architecturally Significant Buildings There are no apparent historic or historic-eligible buildings in the study area. A school and several buildings along Martin Luther King Jr. Avenue may be historic and deserve recognition.

Development Pressures The only known pressure is a rezoning request submitted for a 120-unit hotel on a parcel on the southerly side of I-295, paralleling Shannon Place between V and W Street, SE. The area is currently home to auto/transportation uses.

Other planning Issues The Anacostia Waterfront Initiative (AWI) includes some of Anacostia Poplar Point in its plan. While the AWI does not currently contemplate developing on the industrial land in this study area, its adjacent land improvements, including a 60-acre waterfront cultural park, will most likely draw its own real estate and speculative development pressures, for both residential and commercial uses. Also, the DC United professional soccer team has proposed a stadium and mixed-use development for the Poplar Point parkland. Barry Farm is in poor condition and in need of revitalization.

It is also probable that the area surround the Metro station will see a sort of transit-oriented development (TOD) take place over the next several years. Office, retail, and residential development will all seek to take advantage of this location, only several Metro stops from Downtown.

Portions of the area and environs are listed on the October 19 DRAFT Land Use Change Map (V, 44, 45) as revitalization and land use change areas.

KEY FINDINGS

- Proximity to residential uses and a planned open space development associated with the AWI do not make this area ideal for heavy industrial use. Rather, its strategic access could be a good location for municipal uses. The CSX2 corridor should be rezoned for mixed-use.
- Transit-oriented development at the Anacostia Metro and neighborhood Main Street commercial corridor development will be a boon to this area - mixed-use should be encouraged around the Metro station.

6.2.15 DC VILLAGE AND BLUE PLAINS

PHYSICAL CHARACTERISTICS

Location and Land Area These areas in the far southwest of the District are roughly bounded by Martin Luther King Jr. Avenue, SW on the east and the Potomac River on the west. Interstate 295 splits the two areas, with Blue Plains to the west and DC Village to the east. The area slopes down towards Interstate 295 and the Potomac River. In total, the area of DC Village and Blue Plains is 385.44 acres (14.64 percent of total industrial land).

Building Typologies The DC Village area is characterized by low one- and two-story square brick and concrete buildings of 1950's vintage. The Job Corps buildings seem to be in particularly poor condition. Blue Plains is the District's only wastewater treatment facility, operated by the DC Water and Sewer Authority (WASA).

General Site Condition The sites are low density and uninviting to a casual visitor. The municipal areas are gated to restrict access. Overgrown brush, rusting and falling chain-link fences, and largely empty tracts of land abut the major interior circulation roads in DC Village. Blue Plains is a vast wastewater treatment plant is not accessible to the public.

LAND USE

Land Use, General Character, and Function Land use in DC Village is classified as "Local Public" and is characterized by very low density municipal uses and social service uses. Several large lots such as the impoundment lot dominate the southern end of the area. Small campuses of residential buildings exist in the Job Corps and Family Shelter areas. Blue Plains Advanced Wastewater Treatment Plant (AWTP) is classified "Industrial" and consists of separating tanks, settling ponds, and treatment pools. The Blue Plains AWTP is the largest advanced wastewater treatment facility of its type in the United States.

Surrounding Land Use Context There are residential developments and schools to the east of Martin Luther King Jr. Avenue, SW. The downward slope, dense vegetation, and site fencing form a distinct boundary between these areas. To the north of Blue Plains is the Navy Research Laboratory.

Access and Circulation The main access road for this area are Blue Plains Drive, SW, from Martin Luther King Jr. Avenue, SW, and Shepherd Parkway, which is accessible from I-295. While these major arterial roads provide fair access for the municipal users, they severely isolate the Job Corps and the Family Shelter from any neighborhood residential or commercial area, and from the rest of the District (however there is a Metro bus line through the area). With the exception of roads within the Job Corps complex, all roads are in fair to good condition.

PROPERTY DATA

Major Tenants The only tenant at Blue Plains is WASA. Major tenants in DC Village include the Potomac Job Corps, DDOT vehicle storage, a DPW towing impoundment lot, a Police vehicle maintenance facility and K-9 patrol training, a Fire Department training facility, and an emergency family shelter known as DC Village. Also in this area is the Architect of the Capitol tree farm, Senate Furniture, and an AmeriCorps campus building.

Ownership Patterns and Property Assemblages The District is the major, and perhaps sole, owner of all property in DC Village and Blue Plains.

OTHER

Environmental Issues There is no known contamination in the DC Village area, however it is likely that there are environmental issues such as fuel leakage and other contamination associated with the impoundment lot. The Blue Plains AWTP facility is subject to strict environmental requirements in terms of treatment and effluent, but it is not a site that would be readily re-used.

Historically or Architecturally Significant Buildings There are no discernible historic or historic-eligible buildings in these areas.

Development Pressures Blue Plains, of course, is not experiencing any development pressures. While a major residential developer, KSI, proposed a new town center with 865 new homes, a hotel, and marina for the DC Village area several years ago, the District did not act on the offer and the developer eventually abandoned its plans. As of now, there are no known development pressures on this area. However, there is no doubt that a town center development here would present a tempting opportunity for the District to capture residential development and retail spending at an Interstate-accessible site bordering Maryland.

Other Planning Issues The DPW Impoundment Lot is very large. It enjoys good access from the arterials and large interior roadways to accommodate tow trucks and large vehicles. However, while it seems desirable to have such a land use isolated from vibrant commercial and residential areas, this is not a very strategic location. As it is, any car picked up in the far northwest must be towed many miles across the District to this single municipal lot. Response time for towing requests and the accumulated transit time for trucks does not make this an efficient location.

The DRAFT Land Use Change Map (area Z) identifies this area as a land use change area, and suggests improved site efficiency and new public and private uses.

KEY FINDINGS

- There are no development pressures on Blue Plains; it is likely to remain, and should remain, industrial land for a long time to come.
- DC Village's conglomeration of federal and local public uses are poorly planned. There is abundant land available. It is insulated from residential uses.
- Both areas should be preserved as industrial land, and preferably protected as municipal service areas.

6.2.16 SCATTERED SITES 1 – 6

6.2.16.1 Scattered Site 1

PHYSICAL CHARACTERISTICS

Location and Land Area This site between 14th Street NW and Arkansas Avenue NW is 11.19 acres, representing 0.43 percent of the District's industrial land.

Building Typologies Approximately six buildings are located on this site. The largest is a low-rise brick and concrete building. Old industrial brick buildings and church are also on the site.

General Site Condition The portion of the site north of Buchanan Street is well maintained and seems to be a "good neighbor." The portion south of Buchanan is generally ill-kept. The industrial buildings appear abandoned. The church and gasoline station are well-maintained.

LAND USE

Land Use, General Character, and Function The major building on the site is a WMATA Metro bus terminal. Other uses include a gas station, a church, and a vacant former ice factory or distribution facility.

Surrounding Land Use Context Both low- and moderate-density residential areas surround this site.

Access and Circulation Arkansas Avenue, Iowa Avenue, and 14th Street, NW all provide excellent access to and around the site.

PROPERTY DATA

Major Tenants Major tenants include WMATA, the Ethiopian Orthodox Church, and a gas station.

Ownership Patterns and Property Assemblages WMATA owns the largest portion of this site—the entire block between Decatur and Buchanan Streets. The bus depot building itself occupies nearly two-thirds of that block.

OTHER

Environmental Issues While no specific contamination is known, runoff and other pollutants from the bus garage may contribute to soil and water contamination. Fumes from buses probably contribute to high localized particulate levels.

Historically or Architecturally Significant Buildings There are no discernible historic or historic-eligible buildings in these areas.

Development Pressures WMATA has issued an RFP for a joint venture partner to help redevelop and reposition the site, and possibly relocating the bus garage.

Other Planning Issues Any development on this site should be in keeping with the surrounding residential area.

KEY FINDINGS

- About 1/3 of the site is underutilized and is a good site for light and moderate municipal uses to collocate.
- The active WMATA bus depot is strategically located and should remain in use.

6.2.16.2 Scattered Site 2

PHYSICAL CHARACTERISTICS

Location and Land Area Just southeast of Scattered Site 1, this scattered site is bounded by 13th Street, NW, Upshur Street, Kansas Avenue, and Taylor Street. The site is 10.48 acres, representing 0.40 percent of the District's industrial land.

Building Typologies The buildings are primarily two- and three-story brick and concrete commercial structures. Several have adjacent parking; one has a parking deck on top.

General Site Condition The buildings and sites are well-used and in good condition. There do not appear to be any vacancies.

LAND USE

Land Use, General Character, and Function This site is primarily a mixture of social service centers and commercial uses. Out of thirteen buildings on the site, two are self-storage, two are auto repair, five are social service related, one is a custom cabinet maker, and one is a WASA pumping station.

Surrounding Land Use Context Primarily low- and moderate-density residential areas surround this site. However, a high school and related athletic field/open space border to the north, across Upshur Street. Kansas Avenue meets Georgia Avenue in a commercial/retail intersection only one-half block away.

Access and Circulation Access to and circulation to and within the site is excellent.

PROPERTY DATA

Major Tenants WASA maintains a water pumping station on the western side near 13th Street. A childhood development center, neighborhood development corporation, Library for the Deaf and Handicapped, District office, and the High Road School comprise the social service nature of this site. As noted above, there are also two storage buildings and two auto repair shops, as well as a custom cabinet maker.

Ownership Patterns and Property Assemblages There are no significant assemblages, although the two largest parcels are held by Himmelfarb Properties, LLC.

OTHER

Environmental Issues There are no known environmental issues at this site.

Historically or Architecturally Significant Buildings There are no discernible historic or historic-eligible buildings in these areas.

Development Pressures There are no known or obvious development pressures on this site.

Other Planning Issues Any development on this site should be undertaken with the adjacent school, residential, and neighborhood retail areas in mind.

KEY FINDINGS

- This is a concentration of neighborhood and social services. There is little or no vacancy.
- Current uses can remain, but adjacent residential and educational users preclude expansion of the area or transition to heavy industrial uses. A mixed-use designation is appropriate here.

6.2.16.3 Scattered Site 3

PHYSICAL CHARACTERISTICS

Location and Land Area Located on the east side of 7th Street NW between Barry Place on the north and Florida Avenue on the south, this site occupies 18.81 acres, or about 0.71 percent of the District's industrial land.

Building Typologies The building types vary, but they are primarily old brick industrial buildings. The one exception to this is the Howard University Hospital. Storefronts with comparison and convenience retail uses line 7th Street.

General Site Condition The site and buildings all appear to be in good condition.

LAND USE

Land Use, General Character, and Function Except for a few small structures on Florida Avenue (residences, a small church, and a fast food restaurant), the entire site directly serves Howard University. Storefronts on 7th Street are lined with college-oriented retail, including college apparel, a Starbucks coffee shop, a University bookstore, and a student health center. There is also a Sickle Cell Disease research center. Buildings on 6th Street include a power plant (not known if it is in use), an industrial building (possibly vacant), and a brick industrial building formerly a Wonder Bread warehouse or factory, now the National Human Genome Center. Finally, there is the Hospital.

Surrounding Land Use Context The center of the Howard University campus lies immediately to the north and east of the site. Across 7th Street, on its western side, are several large surface parking lots. Residential areas border to the south.

Access and Circulation In general, access to and circulation within the site are good. The Hospital occupies a very large superblock type parcel, which impedes 6th Street, V Street, and Elm Street.

PROPERTY DATA

Major Tenants Howard University is the major tenant. It maintains a hospital, book store, health center, and several associated research labs on the site.

Ownership Patterns and Property Assemblages Howard University is the major property owner.

OTHER

Environmental Issues There are no known environmental issues on the site. However, the power plant, former industrial buildings, research labs, and hospital could all pose industrial or medically-related contamination.

Historically or Architecturally Significant Buildings While there are several old industrial buildings on the site, it does not appear as if any have been listed or are eligible to be listed as significant.

Development Pressures There are no known development pressures on the site itself.

Other Planning Issues The site functions fairly well from a retail point-of-view, serving both Howard University students and the general public, although well-planned infill development could maximize the site's value. Also, although we do not know of any such plans, if Howard University is looking to expand its campus, no doubt it has considered the parking lots across 7th Street.

KEY FINDINGS

- Howard University is the prime tenant in most of these buildings. It currently serves both medical and university-related retail functions.
- The site's present use and zoning should be maintained. Existing buildings are being rehabilitated and reused.
- While much of the frontage along 7th Street is mixed-use, and a temptation exists to rezone to a mixed use district, we do not recommend any such action. Such action could preclude expansion of value-added technology and research sectors in the area.

6.2.16.4 Scattered Site 4

PHYSICAL CHARACTERISTICS

Location and Land Area This site occupies the corner of, and several adjacent lots along, T Street and 9th Street NW, as well as several parcels along 9½ Street NW, just southwest of Howard University and Scattered Site 3. This site occupies only 1.2 acres of land.

Building Typologies The buildings are all two- and three-story brick or frame residential structures.

General Site Condition The site is in fair to poor condition. Several buildings are vacant and several are under renovation. Several lots are in poor condition.

LAND USE

Land Use, General Character, and Function This site is residential in nature and character.

Surrounding Land Use Context The surrounding area is also residential in nature. However, more commercial and retail uses appear up the block at the intersection of U Street/Florida Avenue and 9th Street, an area now sometimes referred to as "Little Ethiopia."

Access and Circulation Access and circulation is good.

PROPERTY DATA

Major Tenants All of the tenants are residential renters or homeowners.

Ownership Patterns and Property Assemblages There are no major property assemblages. The parcels are held by individuals or as part of limited liability real estate corporations.

OTHER

Environmental Issues There are no known or apparent environmental issues.

Historically or Architecturally Significant Buildings There are no discernible historic or historic-eligible buildings in these areas.

Development Pressures It appears that several structures are being rehabilitated and the commercial uses near U Street/Florida and 9th Street are also undergoing renovation. The area may be poised for some broader renewal.

Other Planning Issues The nearby area is sometimes referred to as "Little Ethiopia," and the U Street area was once primarily African-American. Neighborhood cultural concerns should be well-vetted and understood before undertaking any steps toward something like a cultural or historic district-driven redevelopment plan.

KEY FINDINGS

- There is very little, if any, industrial use occurring in this area. We recommend it be rezoned for residential or mixed-use to spur the further revival of the Shaw/Little Ethiopia neighborhoods.

6.2.16.5 Scattered Site 5

PHYSICAL CHARACTERISTICS

Location and Land Area This site is located east of the Anacostia River, on Hayes Street NE roughly between 50th Street and Division Avenue. It comprises 2.81 acres of land, or 0.11 percent of the District's industrial land.

Building Typologies Low-lying concrete and block structure.

General Site Condition The general condition is poor and unsightly. Scrapped autos and old trucks litter the interior lot.

LAND USE

Land Use, General Character, and Function This appears to be an auto-repair or salvage yard.

Surrounding Land Use Context The surrounding area is a mix of moderate-density residential and low-density commercial uses.

Access and Circulation Access to the site is good.

PROPERTY DATA

Major Tenants There is only one tenant. As yet undetermined.

Ownership Patterns and Property Assemblages The one building on the site is owned by 1915 New York Avenue LP.

OTHER

Environmental Issues Contamination related to auto repair/scrap/salvage.

Historically or Architecturally Significant Buildings There are no discernible historic or historic-eligible buildings in these areas.

Development Pressures There are no known development pressures on the site itself.

Other Planning Issues None

KEY FINDINGS

- The site is small, and adjacent land uses make the site inappropriate for heavy uses, but access to transportation routes make it appropriate for light trucking or commercial shipping operations.
- The site should be rezoned and could be redeveloped for locally serving retail or shopping, as appropriate.

6.2.16.6 Scattered Site 6

PHYSICAL CHARACTERISTICS

Location and Land Area This site is bordered by E Street SE to the north, 1st Street to the east, Virginia Avenue to the south, and South Capitol Street to the west. It encompasses 12.86 acres, or 0.49 percent of the District's industrial land.

Building Typologies The buildings are all industrial in nature—primarily a medium sized-power plant.

General Site Condition The site appears to be in good condition. It is well-guarded and fenced.

LAND USE

Land Use, General Character, and Function This site is home to the U.S. Capitol Power Plant, which provides steam for heating and chilled water for cooling the entire Capitol complex.

Surrounding Land Use Context Some residential is located nearby, but the primary uses are medium-high density commercial uses. So the immediate south are CSX railroad tracks which extend southeast to 11th Street, SE and across the Anacostia, northeast through Southwest and then across the Potomac into Virginia, and spur into Buzzard Point and the Power Plan complex itself.

Access and Circulation Getting to the site is easy. Access to this well-guarded site is highly restricted.

PROPERTY DATA

Major Tenants The one tenant is the U.S. Capitol Power Plant.

Ownership Patterns and Property Assemblages The Federal government owns this land.

OTHER

Environmental Issues We were unable to discern exactly what fuel is burned at this facility, but given its vintage (1910) we presume it is oil or coal. It may have been upgraded to natural gas, of course. In any case, there would be numerous associated environmental issues including air, water, and soil pollution.

Historically or Architecturally Significant Buildings The power plant was built in 1910, and may be eligible for historic listing, though we were unable to determine this for ourselves.

Development Pressures There are no known development pressures on this land.

Other Planning Issues It is unlikely that the Federal government will ever relinquish control and operation of this facility.

KEY FINDINGS

- The presence of the U.S. Capitol power plant makes it unreasonable to seek any change in land use.
- Security concerns and the small size also preclude any private users on the site, but foresighted federal planning should consider locating additional appropriate federal users on the site.

6.3 OPPORTUNITIES AND CONSTRAINTS MATRIX

Based on the field surveys and mapping, an Opportunities and Constraints matrix was prepared to assess particular attributes of each industrially-zoned sub area. The purpose of the matrix was to identify areas appropriate for retention strategies or for land use change; as well as to suggest specific strategies aimed addressing identified issues. The matrix can be found on the following pages.

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
Anacostia – Poplar Point	59.99	• Good arterial access • Close to downtown CBD • Government center being located at Metro nearby – to include District DOT and possible WMATA. • AWI to redevelop parkland, provide waterfront access • Opportunity to promote government center uses in close proximity to downtown CBD and promote transit oriented development	• Poor internal circulation • Residential area to the south and east, would preclude "heavy" industrial use • Small, irregular parcels not attractive to private sector PDR uses • Anacostia Metro station transit-oriented, mixed-use plans • South Capitol St. Bridge realignment • Proposed AWI open space and Metro Stars soccer stadium/mixed use development	• Yes	• Public	• Plan for strategic public use in connection with new government center and area plans	• Map 4.3 Area 7
Benning Road	99.86	• PEPCO may consider selling or leasing some portion of site, moving fleet elsewhere • Prime site for strategic location of municipal users – "Municipal Use Area" • Acquire some land across Benning Road (southern side of road) for PDR or government use?	• Benning Road in need of repair. • PEPCO site secure, access therefore difficult	• Yes	• Public	• Maintain industrial use and character • Pursue purchase or lease of PEPCO property. • Consider a utility or municipal service designation.	• Map 4.3 Area 5
Bladensburg - Fort Lincoln	32.93	• Good access to Bladensburg Road	• Surrounding residential communities • Existing houses of worship • Constrained sites & small parcel sizes	• No		• Consider land use change to mixed-use (MXD) • Buffer from adjacent residential neighborhoods	• Map 4.4 Area 11

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
Buzzard Point	241.96	• Excellent transportation access to all parts of DC • Proximity to downtown – centrally located w/in DC • Presently limited residential exposure • Vast areas are underutilized	• Area has been rezoned. Industrial uses now non-conforming • Intense development pressures - planned ballpark and development is increasing land costs	• No		• Area cannot be considered for additional industrial uses.	n/a
CSX 1	167.42	• Rhode Island Ave Metro transit oriented development • One large big box parcel vacant near Home Depot • Good road and transit access • Construction, environmental, and auto-related concerns west of railroad	• Surrounding residential uses • Reed Street in need of repair • Dangerous intersections onto Rhode Island Ave. • Development pressures around Metro station	• Yes	• Private	• Complete build out and occupancy of big box site – intensify use • Preserve potential historic buildings for warehouse or other commercial use.	• Map 4.2 Area 1 • Map 4.1 Area 4
				• No		• Carefully consider targeted land use changes around Rhode Island metro	• Map 4.4 Area 6
CSX1 – Brookland	55.34	• Existing PDR businesses are viable and active	• Surrounding residential and educational uses • Metro transit oriented development	• Yes	• Private	• Preserve industrial uses to the north and south of Brookland/ CUA Metro	• Map 4.1 Area 4
				• No		• Rezone to MXD around Metro	• Map 4.4 Area 5
CSX1 – Fort Totten	98.97	• Existing PDR businesses are viable and active • Good access and	• Fort Totten Metro transit oriented development • Rezoning granted for	• Yes	• Private	• Preserve heavy industrial uses south of the Metro	• Map 4.1 Area 2

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
		infrastructure for PDR	Rocky Gorge residences	• No		• Promote mixed-use transit oriented development around Metro station	• Map 4.4 Area 2
CSX1 – Lamond Riggs	125.84	• Concentration of active, high-value PDR businesses • Potential industrial park/protected "PDR Zone" between Van Buren St and Riggs Road, especially on Chillum Place	• Takoma Metro transit-oriented development • Adjacent residential neighborhoods and historic district – very limited possibility for industrial area expansion	• Yes	• Private	• Create industrial park or PDR zone around Chillum Pl	• Map 4.1 Area 1
				• No		• Promote mixed-use transit oriented development around Metro station	• Map4.4 Area 1
CSX1 – NY/NoMa	76.32	• Very underutilized sites around Uline arena. • Good transportation access • Air rights from railroad yards could spur development	• Much of the industrial land is railroad/Amtrak • Small parcel size	• Yes	• Private	• Consider PDR uses that are compatible with new development around Metro, allow residential use as accessory	• Map 4.2 Area 3
				• No		• Land use change to mixed-use immediately north of Union Station. • Comprehensively plan to link new developments to NoMa and market area	• Map 4.4 Area 8
CSX2 – Anacostia Fairlawn	75.86	• Good railroad and highway access	• Long, linear, narrow – absence of deep lots • Almost all CSX/I-295 right of way – very limited buildable area	• No		• Consider land use change to mixed-use – allow existing PDR users to remain in place	• Map 4.4 Area 13
CSX2 – Kenilworth	158.04	• Good railroad and highway access	• Long, linear, narrow – absence of deep lots • Almost all CSX/I-295 right of way – very limited buildable area • Limited room for expansion	• No		• Concentrate auto and warehouse uses along Kennilworth. • Consider land use change to mixed-use – allow existing PDR users to remain in place	• Map 4.4 Area 13

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
DC Village and Blue Plains	385.44	• Abundant underutilized space • Very isolated - limited residential exposure • Prime area for municipal uses, especially "locally undesirable uses"	• Use are very poorly organized • Blue Plains Sewage Treatment Plant – essentially off limits to PDR development • Limited transportation and public transit access • Poor building conditions at DC Village	• Yes	• Public	• Retain existing industrial designations. • Maximize use of land at DC Village. • Concentrate local and federal government functions.- consider designation for public use • Implement Master Plan for DC Village area	• Map 4.3 Area 8
Fort Lincoln Urban Renewal	91.88	• Abundant vacant land • Excellent road access and circulation	• Not industrially zoned • Big box retail programmed for much of the site	• Yes, for light industry or shipping uses	• Private	• Heavy industry not appropriate. Existing distributor and other like uses are appropriate. • Intensify land use. Encourage R&D office park or public sector PDR use, if big box retail is a no go	• Map 4.2 Area 4
11th Street, SE	73.91	• Good highway, rail, and water access – especially proximate to Capitol and Downtown • Relatively inaccessible to the public – secure site • Strategic location for municipal users	• Waterfront open space plans • Existing commercial uses in northwestern portion of site	• Yes	• Public	• Consider light industrial or municipal uses compatible with open space and waterfront access. • Good location for secure records storage	• Map 4.3 Area 6
				• No		• Consider land use change	• Map 4.4 Area 12
New York – Bladensburg	348.10	• V Street PDR businesses very active and viable • Excellent access to NY Avenue • Underutilized federal government land south of NY Ave. bordering • Arboretum Mixed-use commercial and retail on	• National Arboretum borders on the south • Private development focused on NY Avenue and west of Bladensburg	• Yes	• Private • Public	• Enact zoning regulations and create industrial district to preserve and enhance V Street corridor. • Encourage collocation of existing municipal facilities, and consider municipal service zone south of NY Ave.	• Map 4.1 Area 7 • Map 4.3 Area 4

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
		NY Ave.		• No		• Mixed-use for strip along NY Ave., triangle west of Bladensburg, and the two northwestern corners of area	• Map 4.4 Areas 9, Area 10
New York - Florida Ave	196.73	• Excellent transportation access • Proximity to downtown – centrally located w/in District • Presently limited residential exposure • Wholesale Market area could add density	• Significant real estate pressures for conversion to non-industrial • Established residential communities to the west • Limited available land for development - much land occupied by rail lines	• Yes	• Private	• Preserve industrial zoning for much of area, and intensify use • Preserve and intensify use of Wholesale Market • Pay close attention to appropriate reuse of historic buildings	• Map 4.1 Area 6
				• No		• Change to mixed-use for area around Eckington Place to accommodate new development	• Map 4.4 Area 7
New York – Ivy City	249.34	• Excellent for municipal co-location / strategic municipal use area • Information and Communications also concentrated • Area rumored to have fiber optic cable infrastructure • Excellent area for warehousing/truck transport uses	• Internal circulation limited for large trucks • Residential area in Ivy City targeted for Home Again Initiative	• Yes	• Private • Public	• Preserve info/tech PDR uses • Preserve Hecht Building – consider innovative reuse as information/ technology hub if appropriate • Pursue collocation and technical innovations to maximize DPW site • Pursue consolidation of municipal fleet maintenance functions at W. Virginia Ave • Pursue municipal service zone on W. Virginia Ave and north of railroad lines	• Map 4.1 Area 5 • Map 4.2 Area 2 • Map 4.3 Area 2 Area 3
Scattered	11.19	• About 1/3 of site is underused – prime for	• Residential areas border the site on all sides	• Yes	• Public	• Preserve existing zoning and intensify use	• Map 4.3 Area 1

Sub-Area	Total Acres	PDR Opportunities	PDR Constraints	Suitable for Continued PDR Use?	If Yes, Private or Public Use?	Recommendation	Policy Map & Area Number
Site 1		strategic location of municipal uses	• WMATA is seeking partner for redevelopment of bus garage site			• Encourage location of light municipal uses on vacant/abandoned parcels • Designate site for municipal services	
Scattered Site 2	10.48	• Hub of community and social services	• Little or no vacancy • Residential and educational uses surround the site	• No		• Rezone to mixed-use – existing users can remain, but land use change is appropriate	• Map 4.4 Area 3
Scattered Site 3	18.81	• Rehab potential of upper floors on 7th St, NW • Infill potential • Concentration of medical/research uses	• Georgia Avenue targeted for revitalization	• Yes	• Private	• Continue reuses of older buildings • Pursue opportunities in bio tech and medical research around hospital	• Map 4.1 Area 3
Scattered Site 4	1.20	• Shaw / "Little Ethiopia" revival • Some residential rehabs underway	• Primarily residential	• No		• Rezone for mixed-use	• Map 4.4 Area 4
Scattered Site 5	2.81	• Good location for neighborhood retail and commercial	• Current use is unsightly and under-regulated	• No		• Consider mixed-use designation – encourage locally serving retail or other like opportunities	• Map 4.4 Area 14
Scattered Site 6	12.86	• Centrally located	• U.S. Capitol Power Plant is here – thus area will remain under federal control	• Yes	• Public (federal)	• Maintain existing zoning and use. • Encourage foresighted federal planning and collocation of federal government uses	• Map 4.1
Water Street, SE	37.00	• Good highway, rail, and water access • Relatively inaccessible to the public – secure site • Strategic location for municipal users	• Federally-owned land – not available for consideration • AWI and waterfront open space plans	• Yes	• Public	• This area may be suitable for opportunistic public-sector PDR use	• n/a

6.4 SCORING MATRIX AND CLASSIFICATION OF "PDR FITNESS"

After being surveyed, each sub-area was scored to determine its overall fitness as an industrial area. Eleven scoring criteria were developed collaboratively by the Office of Planning and PPSA. A total of 55 points were possible (five points per criteria multiplied by 11 criteria). The criteria were:

A. Predominant Adjacent Land Uses
B. Interior Access/Circulation
C. Existing Road Conditions
D. Proximity to Highway
E. Rail Freight Access
F. Average Parcel Size
G. Brownfield/Contamination
H. Metro/Transit
I. Existing Industrial User Concentration
J. General Area Condition
K. Building Stock

Working from the perspective of a PDR business, a score of five is highest and one is lowest. For example: For Criteria A, since residential and industrial land uses are generally incompatible, if residential areas are the prevailing adjacent land use, the resulting score is one because it would be difficult to locate or expand a PDR business in this area.

Descriptions of scoring criteria and a matrix detailing the scores for each sub-area can be found in the Appendix.

Taken together, the existing conditions discussion and total sub-area score inform our statements of key findings that appear at the end of each sub-area analysis (section 6.2, above). For example, is the area a high-performing industrial zone or is it an island in the middle of residential areas? Is it a strategically important municipal services area with good highway and rail access? Is it a struggling area with many vacancies or is it thriving?

The scoring criteria and scores by sub area are listed below.

CATEGORY	SCORE
A. Predominant Adjacent Land Uses	
Residential/Schools	1
Parks/Open Space/Waterfront and/or MIXED use / retail	2
Office/Commercial	3
Highway/railroad/underutilized land	4
Industrial/Heavy Uses	5
B. Interior Access/Circulation	
Inadequate Space for Truck Access/Loading/Turning	1
Inadequate Space for Truck Loading/Turning	2
Inadequate Space for Truck Turning	3
Adequate Space for Truck Access/Loading/Turning	4
Excellent Configuration for Truck Access/Loading/Turning	5
C. Existing Road Conditions	
Undeveloped or Under-developed Roadways	1
Heavily-Worn Roadway; Numerous Road Defects; Undetermined Load Capacity	2
Moderately-Worn Roadway; Few Road Defects; Moderate Load Capacity	3
Good Road Conditions with No Road Defects; Moderate-Heavy Load Capacity	4
Industrial-Grade Road with Smooth Road Conditions; Heavy Load Capacity	5
D. Proximity to Highway/Major Thoroughfare	
> 1 mile through several blocks of residential	1
> 1 mile through few residential blocks	2
> 1mile (clean access)	3
< 1 mile through at least one residential block	4
< 1 mile (clean access)	5
E. Rail Access	
No Rail Access	1
Proximate to Abandoned Rail, No Existing Spur	2
Proximate to Active Rail, No Existing Spur	3
Proximate to Active Rail, Existing Rail Spur	4
Active Rail Spur	5
F. Average Site Size	
0.5 acre or less	1
0.6 - 1 acre	2
1.1 - 3 acres	3
3.1 -5 acres	4
5.1 acres or more	5
G. Brownfields	
No real or perceived threat of contamination	1
Perceived threat of contamination	2
Heavy Use - Potential for Contamination	3

	High Potential for or Real Contamination	4
	Confirmed Contamination - Brownfield Site	5
H.	**Metro/Transit**	
	Metro Rail within 1/4 Mile	1
	Metro Bus within 1/4 Mile	2
	Metro and/or Park/Ride within 1 Mile	3
	Existing Bus Route with Limited/No Stops	4
	No existing Metro presence	5
I.	**Existing Industrial User Concentrations**	
	None.	1
	Predominantly Non-Industrial (Social Services, Non Profits, Churches, etc.)	2
	1-3 identified user classifications	3
	3-5 identified user classifications	4
	> 5 identified user classifications	5
J.	**General Area Condition**	
	Significant Disrepair, Numerous Dilapidated Buildings, Perception of Abandonment	1
	Some heavy wear on buildings, some vacancies	2
	Moderate wear and tear; most buildings in need of reinvestment	3
	Indications of new investment/renovation; few vacancies, if any	4
	Well-Maintained Facilities with Active Businesses/Activities; Fully-Occupied	5
K.	**Building Stock**	
	Historic or historically-significant buildings	1
	Older, multi-story industrial and/or flex buildings	2
	Multi-story industrial/flex buildings	3
	Mixture of two- and one-story industrial/warehouse buildings	4
	Modern industrial buildings with loading bays and marketable configuration	5

	CRITERIA												
SUB AREA NAME	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**TOTAL**	**Rank**
Blue Plains	5	4	4	5	2	5	4	5	3	5	4	**46.0**	1
NY Ave./Bladensburg	5	4	4	4	4	2	4	3	5	4	4	**43.0**	2
NY Ave./Ivy City	5	4	4	5	4	2	4	3	5	3	3	**42.0**	4
Benning Road	5	4	3	5	4	5	4	2	3	3	3	**41.0**	5
Fort Lincoln Urban Renewal	2	5	4	4	3	5	1	4	3	5	4	**40.0**	6
Scattered Site 6	4	4	4	4	4	5	4	2	3	3	3	**40.0**	6
DC Village	5	4	3	5	2	5	4	2	3	3	3	**39.0**	8
CSX 1	5	4	3	4	4	2	3	1	5	3	4	**38.0**	9
CSX 1 - Lamond Riggs	5	4	3	1	4	1	3	2	5	5	5	**38.0**	9
NY Ave./Florida	4	3	3	5	4	2	4	1	5	4	3	**38.0**	9
CSX 1 - Fort Totten	5	4	3	1	4	3	3	1	4	4	4	**36.0**	12
Water Street, SE	4	4	3	5	4	3	3	4	2	1	2	**35.0**	13
CSX 1 - NY/NOMA	4	4	3	5	4	2	3	1	3	3	3	**35.0**	13
11th Street, SE	4	4	5	5	3	1	2	5	3	1	2	**35.0**	13
Anacostia Poplar Point	4	4	3	5	3	1	3	1	3	2	2	**31.0**	16
CSX 1 - Brookland	3	3	3	1	4	1	3	1	4	3	4	**30.0**	17
Bladensburg/Fort Lincoln	1	3	4	2	4	2	2	2	3	3	2	**28.0**	18
Scattered Site 1	2	4	4	1	1	4	2	2	3	2	2	**27.0**	19
Scattered Site 5	3	2	3	1	1	4	2	3	3	3	2	**27.0**	19

CSX 2 - Anacostia Fairlawn	2	2	3	4	3	1	2	2	3	2	2	**26.0**	21
CSX 2 - Kennilworth	2	3	3	4	3	1	2	1	3	2	2	**26.0**	21
Scattered Site 2	1	3	3	1	1	1	2	2	4	4	2	**24.0**	23
Scattered Site 3	3	2	2	1	1	2	2	2	2	4	3	**24.0**	23
Scattered Site 4	3	2	2	1	1	1	1	1	2	2	1	**17.0**	25
Buzzard Point[43]	-	-	-	-	-	-	-	-	-	-	-	**-**	-

AVERAGE SCORE	***3.6***	***3.5***	***3.3***	***3.4***	***3.0***	***2.6***	***2.8***	***2.2***	***3.5***	***3.1***	***2.9***	***34.0***

[43] Buzzard Point was also included as a study area, but, since new industrial uses are no longer permitted in this area, it has not been included in the scoring matrix.

6.5 INDUSTRIAL USERS SURVEY

6.5.1 OVERVIEW

A survey of industrial tenants was undertaken in order to obtain data and insights from existing PDR users. The survey instrument was intended to elicit the following information:

- The characteristics of responding businesses in terms of industry sector and size (both in terms of sales and employees)
- The advantages and disadvantages of a DC location
- The importance of a DC location for respondent's businesses
- Future business plans, including expansion, contraction, moving out of the District, etc.

A survey was mailed to every address located within an industrial zone district. Several hundred of these were returned, and of these, 182 were in some sort of usable condition. Many of these surveys, however, were returned by non-PDR businesses: a total of 30 were received from residential properties, while another 22 were received from retail businesses. Therefore, a maximum of 130 surveys were actually received from PDR businesses. A breakdown of respondents by business type is shown in Table 5-1.

Table 6.1: Survey Respondents by Business Sector

	Respondents	
Type of Business	**Number**	**Percent**
Warehousing	44	29.1%
Other	31	20.5%
Residential	30	16.6%
Business Offices	23	15.2%
Vehicle Repair	22	14.6%
Retail	22	14.6%
Manufacturing	16	10.6%
Construction	16	10.6%
Storage	11	7.3%
Equipment Repair	7	4.6%
Health	6	4.0%
Printing	3	2.0%
Research	0	0.0%
Utilities	0	0.0%

The majority of businesses surveyed are independent. A total of 88 percent are headquarters locations, with only 12 percent identifying themselves as subsidiaries. These businesses are also generally small. Over half (54 percent) have fewer than 10 employees, and 55 percent have annual gross sales of $1 million or less. Nor have the responding businesses seen significant growth during the recent boom—the distribution of employment was virtually the same three years ago as it is today. Further, 40 percent of respondents expect their profitability to decline in the future, compared with 36 percent who expect it to increase (25 percent did not answer the question).

Chart 6.1: Number of Employees

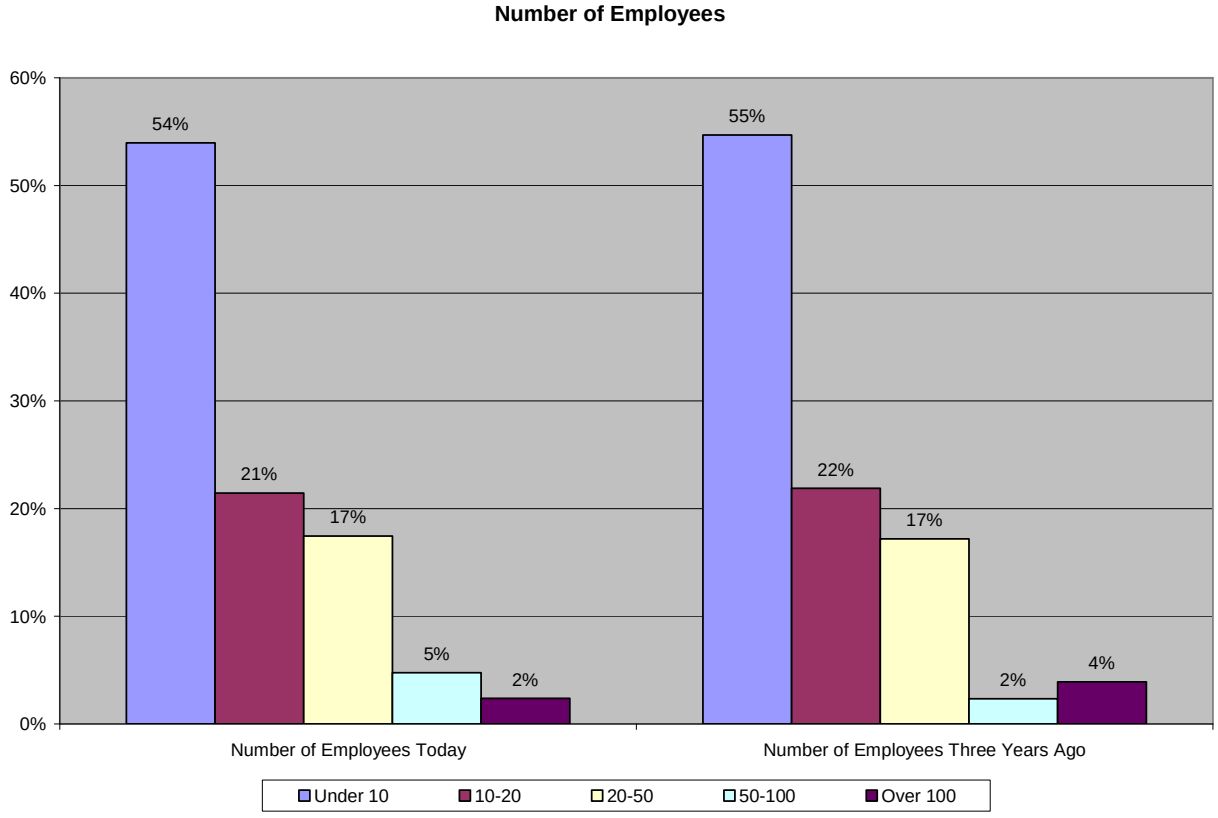
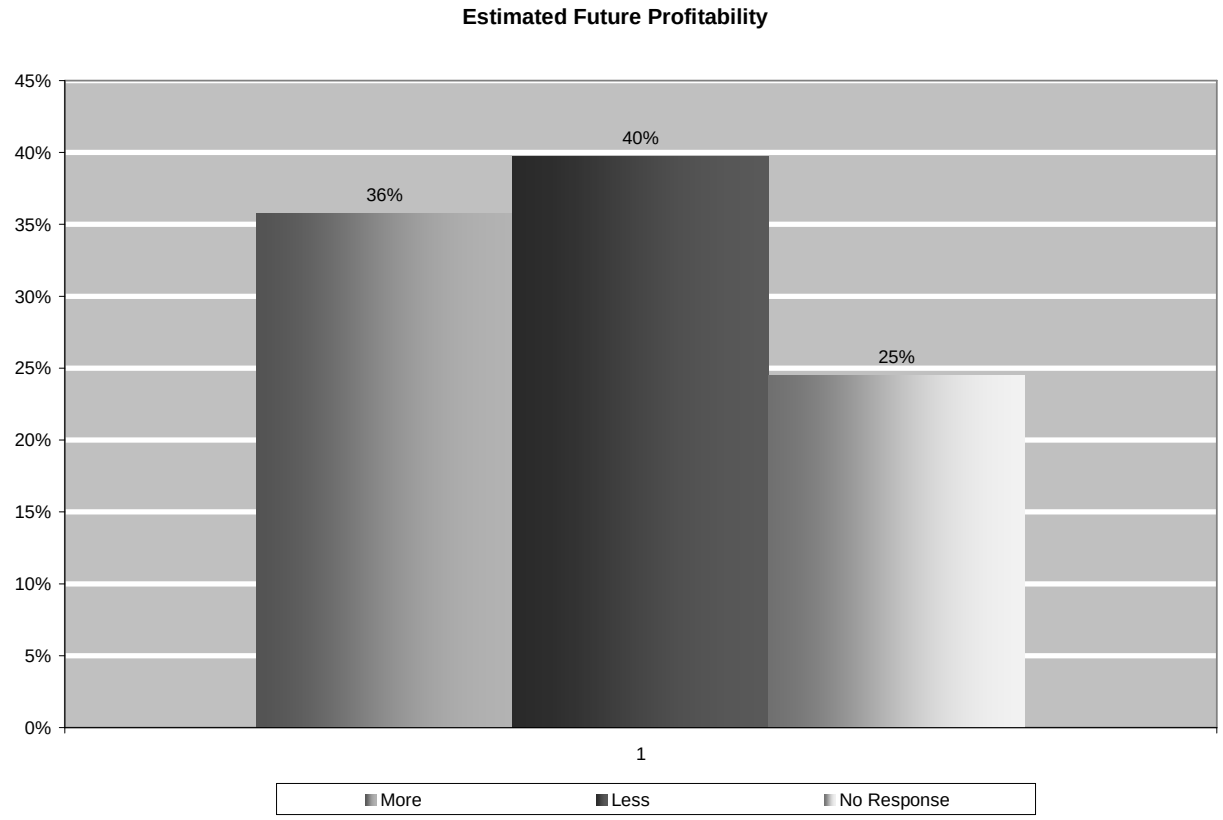


Chart 6.2: Profitability



The responding businesses serve a wide variety of customers. Table 5-2 below tabulates the percentage of respondents answering that they serve the following sectors. The table shows that while the "other" category was most often checked by respondents, responding businesses primarily serve retail customers, followed by government and the building trades. However, if restaurants and hotels are consolidated together as hospitality uses, then they would form the largest sector after "other," with nearly 30 percent of respondents.

6.5.2 EMPLOYEE CHARACTERISTICS

A significant number of people working in DC's industrial zones come from outside the District. Around 40 percent of responding businesses report that 25 percent or fewer of their employees come from within the District. Under the most optimistic set of assumption, no more than 52 percent of respondent's employees could be DC residents—the true percentage is likely closer to 40 percent. This means that the proportion of PDR jobs held by DC residents is perhaps only somewhat larger than the proportion for all jobs in the District.

Table 6.2: Types of Customers Served

Type of Customer	Percent
Other	31.1%
General Public/Retail	27.2%
Government	22.5%
Building/Construction	21.9%
Restaurant/Entertainment	17.2%
Hotels	11.9%
Transportation	8.6%
Industrial End User	7.9%
Industrial Manufacturer	7.3%
Medical	6.0%
Legal/Professional	3.3%
High Technology	2.6%

Many of DC's industrial areas lack good transit connections, and with a significant share of workers coming from outside of the District, it is not surprising to find that a substantial share of the workforce in the industrial zones drives to work. Nearly half of all respondents (46 percent) report that 75 percent or more of their employees drive to work. Yet, the number taking transit is still significant: 37 percent of respondents report that less than half their workforce drives to work. Taking the midpoints from each category would indicate that no more than 73 percent drives, with the true value likely being closer to 60 percent.

6.5.3 SPACE NEEDS

Most responding businesses occupy modest amounts of space. Users with spaces under 5,000 square feet in size are most common, with most occupying spaces of 50,000 square feet or smaller. In general, businesses would like to be in larger spaces, but not radically larger than the spaces they already occupy. This distribution between existing space and desired space shifts upwards in most categories, but relatively review users want to occupy spaces larger than 100,000 square feet.

Respondents were asked how their optimal space configuration would be used. Since industrial buildings are typically able to accommodate multiple uses (storage, offices, production), respondents were asked to estimate the percentage of floor area devoted to each use. The resulting answers give an estimate of the types of space most in demand.

As a first cut of the analysis, the average proportion of respondent's buildings devoted to various types of use was computed. The tabulations are only for respondents who answered the question, and the

percentages do not total to 100 percent due to the failure by some respondents to fully answer the question, or to enter percentages that total to 100 percent. The results are shown in Table 5-3, and indicate that the average PDR user would prefer to utilize 23 percent of their building's floor area for industrial use, 37 percent for warehousing, and 19 percent for offices.

Table 6.3: Uses of Space

Type of Space	Proportion of space in respondent's buildings	Estimated proportion of space adjusted by building size
Industrial	22.5%	24.0%
Flex/R&D	2.0%	2.2%
Warehouse	37.4%	43.7%
Showroom	4.1%	1.0%
Office	19.1%	14.7%
Manufacturing	8.2%	14.4%
Totals	93.4%	100.0%

The above analysis does not account for the fact that some respondents have large buildings, while others have small buildings. All but three respondents to this question also answered a question asking about their building size. Using the midpoints of these categories, an estimate of the percentage of space across the respondent pool used for various uses was developed. The results are shown in the third column of Table 5-3. These results show that warehousing is the predominant use of space, followed by industrial use, with office and manufacturing tied at about 14 percent apiece.

Respondents generally have modest parking needs. Forty percent need fewer than 10 parking spaces, while another 33 percent need 50 or fewer spaces. A small percentage, however, have significant parking needs, as shown in Chart 5-3.

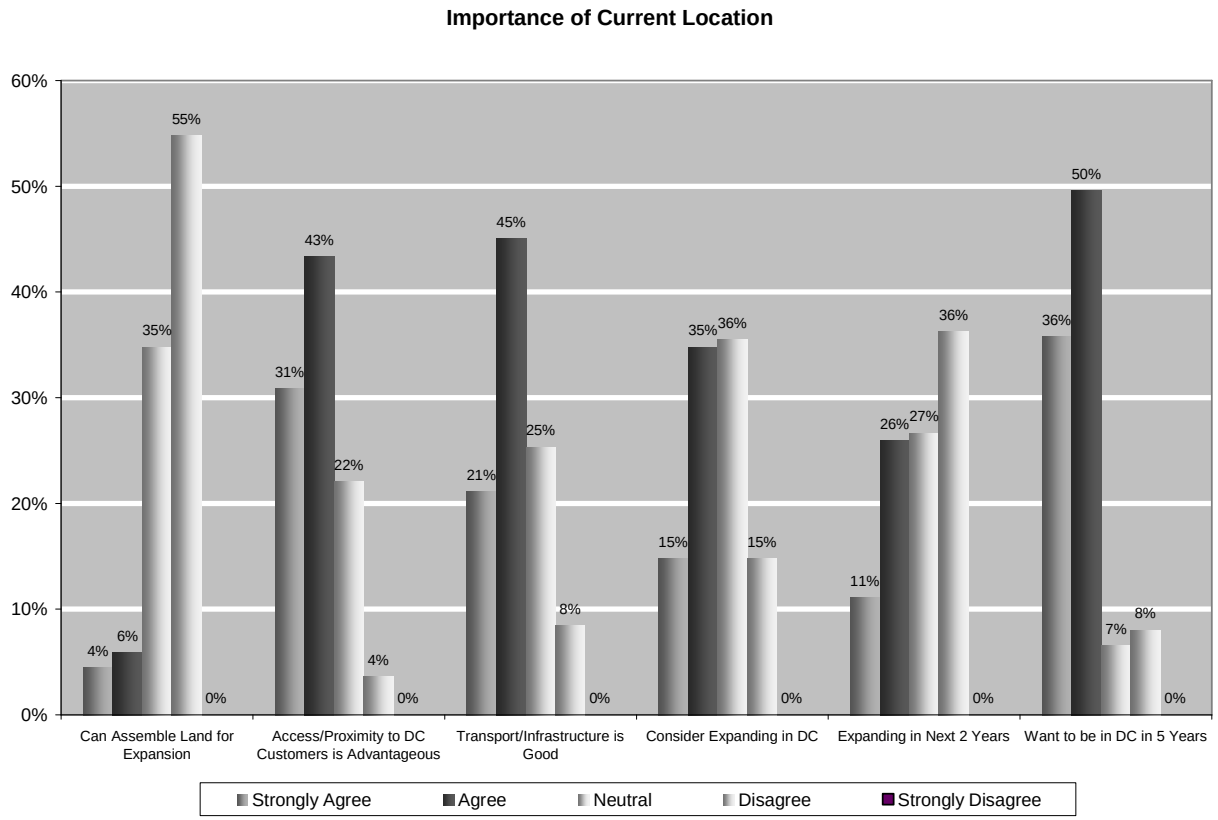
One-story buildings are the preferred building typology for 50 percent of respondents. Another 37 percent desire a two-story buildings. Only a few would prefer a building or 3 or more stories.

6.5.4 IMPORTANCE AND ADVANTAGE OF A DC LOCATION

DC's PDR businesses are often hemmed in at their current location. A majority—55 percent—are unable to assemble land for expansion, and only 10 percent were able to affirm that they could assemble additional land. However, the responding businesses appear to believe that their current location provides significant advantages. For example, nearly three-quarters (74 percent) agreed that their access and proximity to DC customers is advantageous, while only 4 percent disagreed with this

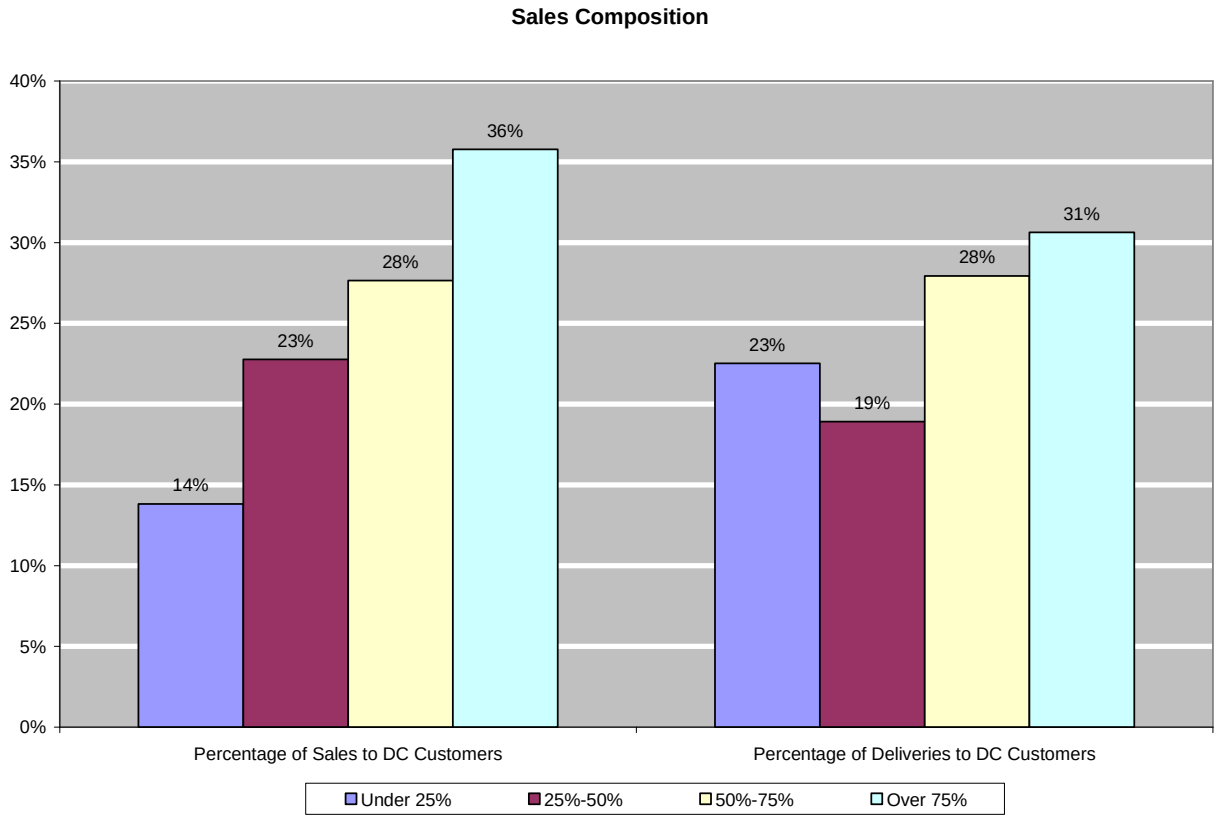
statement. Another 66 percent agreed that transportation and infrastructure at their location was good, while only 8 percent disagreed. Further, in spite of the problems assembling property, half of respondents would consider expanding their operations in DC. Perhaps most tellingly, a clear majority of 86 percent still want to be operating in the District in five years from now. Unfortunately, perhaps due to space constraints, 36 percent to not plan to expand in the next two years, and another 27 percent are unsure.

Chart 6.3: Importance of Current Location



As might be expected, the businesses in DC's industrial districts tend to do a significant amount of business with end users and customers located within the District, but a substantial share of their trade goes outside of the district as well. Sixty-four percent achieve half or more of their sales from DC customers, and only for 14 percent of respondents does this value fall below 25 percent. These figures suggest that somewhere between 50 and 60 percent of sales are to DC-based customers. The figures differ somewhat for deliveries, indicating that deliveries within the District are larger, on average, than those destined outside of the District.

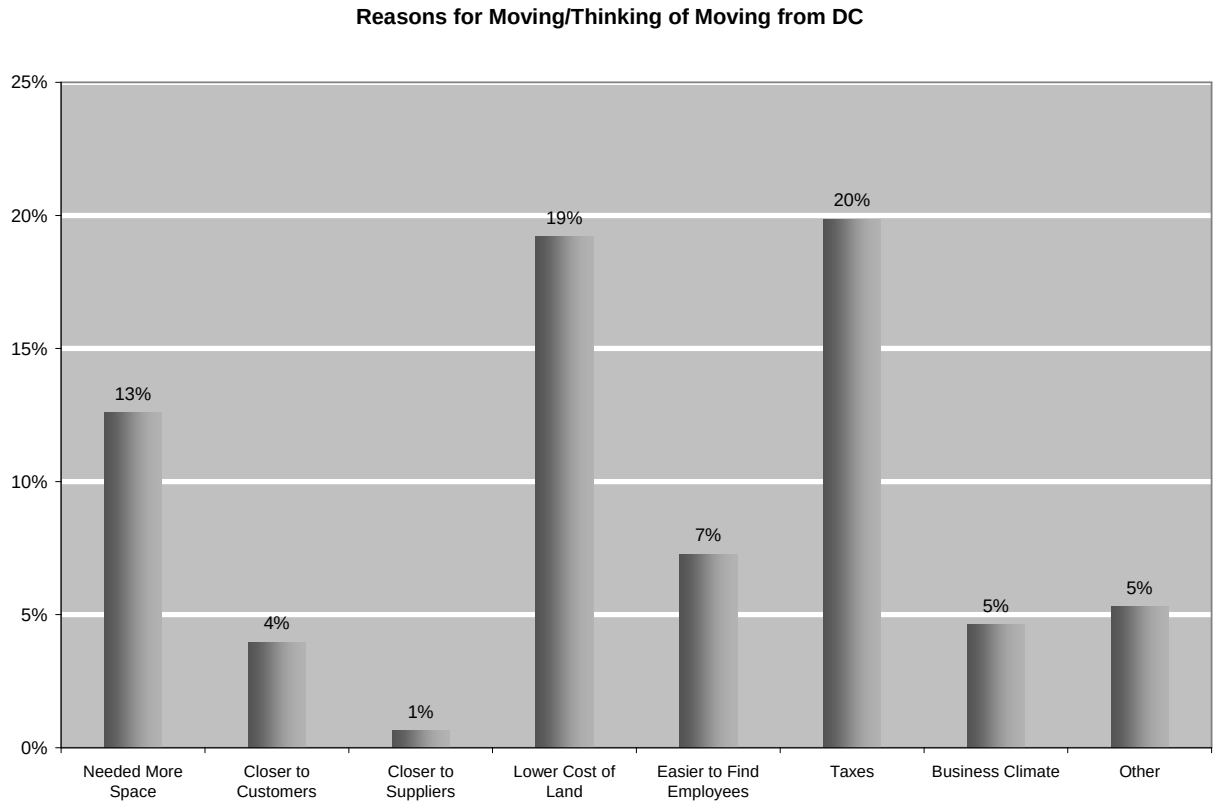
Chart 6.4: Sales Composition



Responding businesses also agree that their location in DC is an advantage from the standpoint of their customers. A total of 59 percent agreed with this statement, and only 10 percent disagreed. Respondents were unsure, however, whether their business was increasingly slipping across the District border to competitors in Maryland and Virginia. Over half (51 percent) had no opinion on this topic, while 21 percent felt that it was not happening, and 28 percent were either sure or very sure that it was happening. A larger proportion—39 percent—agreed that their customers could easily switch to suppliers outside of the District, while a quarter disagreed and 35 percent were neutral on the topic.

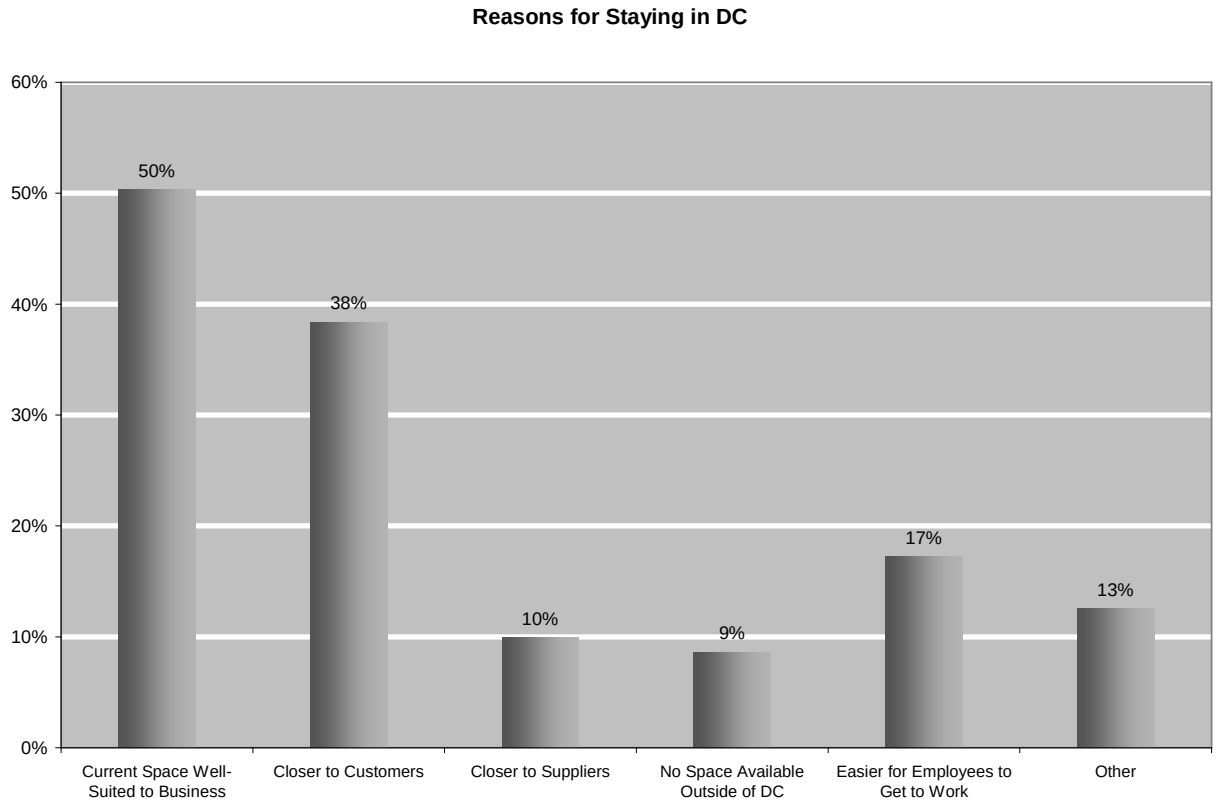
With regards to moving plans, 13 percent have moved some portion of their business outside of the District within the past decade, while a quarter (25 percent) have considered such a move. When asked why, respondents indicated that the three most important reasons for considering moving were taxes, land costs, and the inability to satisfy space needs within the District. Only 4 percent would be closer to customers, and only 7 percent would have an easier time finding employees.

Chart 6.5: Reasons for Moving



As a general rule, most businesses are reluctant to undertake major changes (such as a move) without a strong impetus. For those businesses not considering a move from the District, the most common reason for staying put was that the existing space was working well for their business. Half the respondents who plan on staying indicated this as a reason. The second most common reason, for 38 percent of respondents, was to be closer to customers. Another 17 percent indicated that it was easier for their workforce to get to work than would be the case at location outside of DC.

Chart 6.6: Reasons for Staying



6.5.5 INTERIM FINDINGS

The land use surveys conducted as part of this study revealed a large diversity within DC's industrial zones, but with the following patterns standing out:

- Land use in many areas is dominated by a few giant government and institutional users, such as DC government, the US Postal Service, and WMATA.
- Wholesalers and distributors dominate the Florida Avenue Wholesale Market, and are scattered in small and mid-sized buildings elsewhere.
- Other common uses are building/HVAC contractors and automobile repair establishments.
- There is already a significant amount of non-PDR activity in the industrial zones, including office uses, retail uses, and residences.
- Areas that are defined industrial districts with configurable space in good condition tend to exhibit high occupancy rates and the greatest variety of businesses.

Comparing these conditions with the responses generated by the survey show some correlations. Many of the respondents are not PDR businesses. Of those that are, wholesaling was the most common business category, followed by manufacturing, then construction/contracting. The survey

confirms that while the large users may dominate land use, most PDR businesses in the district are of modest size. Their businesses appear stable but many are not partaking of the local economic boom. They either have no expansion plans, or only modest additional space needs. They lack the dynamism that characterizes the District's rapidly expanding office sector, for example.

A primary purpose of the survey was to assess the importance of a DC location for the businesses occupying the District's industrial zones. Future land use policy might seek to preserve the zones, or, through rezonings, facilitate the loss of industrial land. If PDR businesses can easily relocate outside of the district and continue to serve their customers, then (1) their displacement is less of a cause for concern, and (2) efforts to keep them in the district would have to go beyond maintaining existing zoning protections. If, on the other hand, these businesses truly need to be in the district, then their displacement is a more serious matter.

The survey findings indicate, perhaps unsurprisingly, that a majority of the respondents do derive extra value from being in the District. Proximity to their customers is the primary benefit, and is apparently sufficient to outweigh identified detriments including taxes, high land costs, and insufficient space with few or no expansion options. These findings suggest that for a significant share of existing tenants, a move will only be contemplated when their existing situation becomes untenable.

Even still, for every DC tenant that does most of their business within the District, there are others who serve a more regional clientele. These businesses may be the first to leave if better opportunities are available elsewhere. Inertia is a powerful force behind many business decisions. It cannot be discounted that many businesses may not be planning to move simply because it is easier not to.

In sum, the survey backs up some initial hypotheses informing this study, namely that regional congestion provides value to location closer to the end users of goods and services provided. Further research, particularly into the industrial property market, will hopefully shed additional light on how this value translates into lease rates and land costs, and the extent to which it influences the demand for industrially-zoned land and buildings in the District.

6.6 REGIONAL INDUSTRIAL SPACE

Chart 6.7: Regional Market Capture of Industrial Space

Jurisdiction	State	RBA	Occupied SF	Vacancy	Vacancy Rate	Avg. Lease*	Closeby?
	DC	11,079,663	10,442,738	636,925	5.7%		
	MD	74,745,419	68,060,137	6,685,282	8.9%	$7	
	VA	47,773,984	45,025,527	2,748,457	5.8%	$9	
Maryland Detail							
Beltsville	MD	6,032,320	5,391,083	641,237	10.6%		Y
Bowie	MD	2,844,813	2,453,837	390,976	13.7%		
Branch Ave	MD	2,224,491	2,101,377	123,114	5.5%		Y
Brandywine	MD	1,021,479	771,169	250,310	24.5%		
Capitol Heights	MD	3,708,454	3,224,916	483,538	13.0%		Y
Cheverly	MD	5,167,171	4,855,194	311,977	6.0%		Y
Montgomery Unincorporated	MD	14,300	14,300	0	0.0%		Y
Frederick County	MD	7,071,320	6,425,456	645,864	9.1%		
Gaithersburg	MD	3,314,190	3,221,138	93,052	2.8%		
Germantown	MD	228,882	159,882	69,000	30.1%		
Greenbelt	MD	107,176	65,176	42,000	39.2%		Y
I-270 Corridor	MD	76,533	70,233	6,300	8.2%		
Kensington	MD	213,498	202,498	11,000	5.2%		
Southern PG County	MD	12,372,584	10,959,536	1,413,048	11.4%		
Lanham	MD	752,631	752,631	0	0.0%		Y
Laurel	MD	2,050,615	2,050,615	0	0.0%		Y
Bethesda	MD	844,007	651,826	192,181	22.8%	$11	Y
North Rockville	MD	3,178,792	3,051,678	127,114	4.0%	$12	
Oxon Hill	MD	297,572	297,572	0	0.0%		Y
Penn Ave Corr	MD	2,264,632	2,137,732	126,900	5.6%	$7	Y
Rockville	MD	2,381,834	2,284,809	97,025	4.1%	$12	
Route 29	MD	337,963	254,711	83,252	24.6%	$12	Y
Silver Spring	MD	754,502	720,602	33,900	4.5%	$7	Y
College Park	MD	1,168,553	1,136,053	32,500	2.8%	$10	Y
Upper Marlboro	MD	445,542	358,112	87,430	19.6%		Y
Montgomery Unincorporated 2	MD	3,194	3,194	0	0.0%		Y
Washington County	MD	15,868,371	14,444,797	1,423,574	9.0%	$4	
Virginia Detail							
Arlington	VA	74,219	74,219	0	0.0%		Y
Fairfax/Chantilly	VA	299,090	285,948	13,142	4.4%	$14	Y
Crystal City	VA	1,070,353	965,224	105,129	9.8%	$9	Y
Eisenhower Ave	VA	897,537	861,037	36,500	4.1%	$9	Y
Falls Church	VA	388,551	351,366	37,185	9.6%	$14	
Fauquier County	VA	332,905	197,942	134,963	40.5%	$13	
Herndon	VA	348,255	316,197	32,058	9.2%	$9	
I-395 Corridor	VA	3,341,202	3,113,010	228,192	6.8%	$9	Y
Leesburg	VA	309,680	301,014	8,666	2.8%	$7	
Manassas	VA	3,058,558	2,933,955	124,603	4.1%	$9	
Merrifield	VA	1,640,509	1,572,649	67,860	4.1%	$13	
Newington	VA	6,400,033	6,079,251	320,782	5.0%	$9	
Oakton/Vienna	VA	267,102	225,650	41,452	15.5%	$15	
Old Town Alexandria	VA	1,196,119	1,103,488	92,631	7.7%	$12	Y
Loudoun County	VA	316,077	313,458	2,619	0.8%	$8	
Reston	VA	164,450	162,850	1,600	1.0%	$13	Y
Dulles North	VA	7,772,932	6,900,253	872,679	11.2%	$9	
Dulles South	VA	4,294,334	4,059,224	235,110	5.5%	$8	
Route 29/I-66 Corr	VA	5,120,406	4,995,862	124,544	2.4%	$7	
Springfield	VA	7,124,376	6,919,521	204,855	2.9%	$9	Y
Tyson's Corner	VA	771,706	718,418	53,288	6.9%	$14	Y
Woodbridge	VA	2,587,591	2,574,991	12,600	0.5%	$10	

DC Private Sector Need
Less Available DC
Avail nearby in MD
Avail nearby in VA
Total Suburban Avail
DC Capture MD/VA

Remainder
Acres
DC Pub Need (acres)
DC Public Capture

** Triple Net Lease (NNN)*

Source: DC Office of Planning, 2006

Industrial Zoning District Review

Final Report: September 20, 2013

BERKLEY GROUP

HERD PLANNING & DESIGN, LTD.
Collaborative Community Planning

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Overview

The City of Manassas commissioned this project to review the City's industrial zones to assess their stated purposes and goals, particularly as they relate to public health and welfare; to assess the land use impacts and compatibility of uses that are permitted in those zones; to review the need for the City to provide adequate and appropriate areas for industrial uses; and, to potentially recommend updated industrial zoning districts.

The City has set forth three primary tasks, the first two of which were provided in the Technical Memorandum and the *Existing Conditions Survey*. This Final Report focuses on the significant findings and options for code modifications for the City's industrial zones. With each option, an analysis is provided that shows the benefits and opportunities as well as potential "trade-offs" or adverse impacts.

Through this analysis, and with continued input from City staff, these options are recommended to:

- Implement relevant Comprehensive Plan goals and strategies;
- Support Council's stated economic development goals;
- Overhaul outdated requirements, internal inconsistencies, poor organization and overly technical language in the industrial zoning district sections of the Ordinance; and
- Clearly identify uses that should or should not be included in the City's industrial zones.

The research and analysis presented in the Technical Memorandum (see *Appendices*) demonstrates that much of modern industrial zoning is oriented toward light or medium production, manufacturing, and research & development (R&D) activities.

Auto or truck repair and storage uses are common to industrial districts, but they are also representative of heavier intensity commercial areas in less urban or mixed-use areas such as the County's Balls Ford Road area Uses such as Lockheed Martin and Micron are classic production and manufacturing uses with significant R&D components that may be more compatible with an urbanizing city.

There are a number of trends worth noting from the best practices research, such as:

- Moving away from the use of the term "industrial" and the stigma often associated with heavier uses.
- Use of performance standards to mitigate potential adverse impacts such as sound, smoke, odor, fumes, dust, glare, and vibration as opposed to requiring special use permits.
- Replacing use lists in industrial zoning districts that are often duplicative, incomplete, and out of date with a thorough definition and description of industrial uses that would be defined as a category.
- Implementing policies and ordinances that protect a limited and shrinking supply of industrial land that typically generates lower land rents than residential, office, or retail uses but provides a solid tax base and employment for area residents.
- Emphasizing the development potential of industrial land to encourage industrial uses while also permitting the continued development of non-industrial uses as guided by market demand.

Many of these concepts are explored in this report, and the recommendations for Manassas' industrial zoning districts are influenced by these macro-level industrial trends.

Key Findings

Industrial District Existing Conditions Analysis

The Technical Memorandum research and *Existing Conditions Survey* demonstrate:

1. Commercial and office uses permitted in the industrial zoning districts constitute the predominant use, particularly on I-2 zoned property.
2. Some prominent industrial uses (e.g., Georator) are located in areas more suitable for office development than I-1 (industrial) uses. Parking availability and compatibility with surrounding uses are two primary drivers of this phenomenon.
3. The Zoning Ordinance needs to treat public assembly uses equally within each zoning district category. Individually listed assembly uses should be re-categorized as *place of assembly* and regulated according to size or some other uniformly applied measure.
4. Amendments to the Zoning Map should be considered to better align the Character Areas Map in the newly adopted Comprehensive Plan to the existing and future projected uses in the industrial zoning districts.
5. Maximizing the City's industrial land use intensity will be difficult without code and/or map amendments due to limited land and competing uses for industrial zoned sites, along with relatively high market rates for industrial zoned property (i.e., $7/SF and up).
6. Any new industrial district standards that are set forth should effectively promote the stated purpose of the district which, in turn, correlates with the Comprehensive Plan.
7. The best practice zoning standards, in the context of the *Industrial Zoning Comparison Survey*, are recommended as performance standards for at least certain industrial uses, as appropriate. These include, but are not limited to:
    - Building site coverage;
    - Building heights;
    - Floor Area Ration (FAR);
    - Landscaping and buffering; and
    - Use categories.
8. A key finding of the *Industrial Zoning Comparison Table* is that Manassas is more advanced than many jurisdictions analyzed in terms of its industrial regulations.
9. As stated in the Comprehensive Plan, "Older industrial areas and newly developing areas around the airport are key to economic growth of the City…". They should also:
    - Organize and coordinate to avoid isolating businesses.
    - Significantly buffer, and mitigate use impacts, to protect surrounding neighborhoods and businesses.
    - Review older industrial areas to consider potential redevelopment opportunities.

Stakeholder Interviews

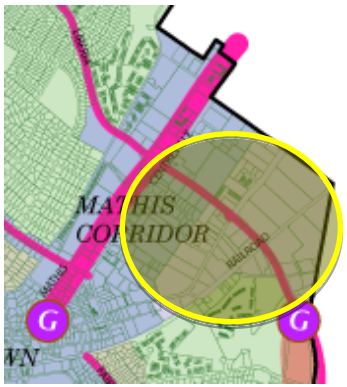
- The City needs an electrical infrastructure capacity of 460/480 volts for their industrial areas to be competitive.
- City leaders should focus on assisting existing industrial businesses who need to relocate, preferably within the City.
- New professional office buildings with insufficient parking have created vacant office space and artificially lowered the lease rates (review zoning ordinance parking provisions).
- There are at least several industrial businesses leasing space more appropriate for office uses (and they need better industrial-oriented space).
- Great trucking terminals in the City.
- Government is responsive to citizens; very professional; open minded; has improved over the years; very supportive of concerns.
- The area surrounding the airport should be the focus for future industry.
- Maximize the use of industrial land with appropriate uses; limit commercial uses on industrial land.
- The City should market available industrial land more proactively, especially city-owned industrial zoned properties.
- Industrial zoned land is in very short supply and is expensive in the area, especially the City ($7/SF and up)
- The Manassas I-2 zoning district is the most permissive in the area (allows for a wide array of uses).
- The City's industrial zoned land is more service rather than production oriented.
- The City is easy to work with and quickly addresses issues.
- Don't out-zone existing industrial uses in the process or downzone industrial to other zoning uses, especially residential.
- The business process is critical – speed and fees. Land use policies are less of an issue than building code issues.
- The City's Economic Development staff is doing a good job and moving fees and processes in the right direction.
- The City has very limited industrial land so it needs to maximize its industrial potential for economic development in tandem with Prince William County.
- The City's utility rates need to lower and be competitive with that of Dominion, and other utilities, in the County.
- The City owns available land nearby that should be used in a compatible way to the existing uses.
- The City should address how to best repurpose areas (and structures) for investment and when to rezone property for higher and better uses.
- The future of Manassas Landing will have a significant impact on its industrial neighbors – either positive or negative.

Industrial District Existing Conditions

While it is a primary objective of this project to realign the City's industrial zoned areas with its Economic Development goals and Comprehensive Plan, it is also important to remedy existing deficiencies, particularly as they relate to outdated requirements, internal inconsistencies, poor organization and overly technical language. These "administrative issues" inhibit the effectiveness of the ordinance on achieving the intended land uses, as well as its enforcement. The *Existing Conditions Survey* was useful in providing a "reality check" to what actually exists in the City's industrial zoning districts.

An examination of I-2 uses in the east end of the City reveals limited true industrial uses in the district intended for the heaviest industrial. Not only is the district not used as intended, there does not appear to be a real intent for it to be industrial. The City of Manassas has an existing economy centered on services and the Euclid corridor, for example, demonstrates this market. The properties are generally small, the uses are located directly adjacent to one another, and there is a heavy commercial emphasis which affects the market rate of the properties so that they are priced for commercial uses.

Given these barriers to true industrial uses in the east end of the City, rezoning the area to commercial use, or at least less intense industrial, should be considered. The dominance of the Mathis Corridor has influenced commercial development in the Centreville Road and Euclid Avenue corridors as well. Office and commercial uses are more appropriate in this area than true industrial activity.



The *Existing Conditions Survey* was also beneficial in demonstrating deficiencies in buffers from adjacent uses, traffic and access conditions, and environmental conditions (e.g., stormwater, erosion, dust, noise, odors, and hazards). Parking and sidewalks were two infrastructure amenities that appear to be adequate. Interestingly, neither are typically needed or desired in industrial areas. Industrial uses such as Gerator, for example, are located in industrially zoned space that is surrounded by office uses and has an oversupply of parking for the current use. Due to these market and infrastructure conditions, the space will likely be converted to an office use in the near future.

There are a number of industrial businesses in this situation and their future in the City is predicated on having adequate, appropriately zoned (and priced) locations. Business retention and development, as a primary Council goal, needs to include appropriately zoned industrial space and infrastructure.

The current I-1 zoning district does not function as intended. The stated purpose and intent of the district is:

> The I-1 district is to provide areas for campus employment including research and development, business offices, light manufacturing assembly, distribution, supply, and related activities.

Commercial and office businesses dominate this zoning district and the few "campus" businesses are located on larger properties with more intensive industrial uses (e.g., Micron and Lockheed Martin) in the west end of the city. As mentioned, a significant number of companies, such as Georator, are located in I-1 areas that are more appropriate for professional office.

The current I-2 zoning district is even less functional than the I-1 district. Its purpose and intent is:

> The I-2 district is intended to provide areas for industrial uses including manufacturing and business activities otherwise prohibited by this chapter due to their heavy truck traffic, excessive noise, and/or unique development needs. Due to the cumulative nature of this chapter, virtually all uses permitted by right in the other nonresidential zones are permitted in the I-2 zone unless listed in the special use permit section.

This broad purpose has resulted in mostly commercial uses, particularly in the eastern portion of the City. The vacant I-2 land in the western portion of the City will have a similar fate unless adjustments to this purpose are implemented.

Local commercial realtors interviewed voiced a concern about the scarcity of industrial properties in the City, but they like the versatility of the industrial zoning. This dichotomy is the primary dysfunction of the industrial zoning districts. An industrial zoning district that permits all business uses along with industrial uses will naturally end up with more commercial and office uses than industrial. The market rate for commercial and office property is higher than industrial locations (per square foot). As a result of the City's permissive industrial districts, there is a much smaller supply of property appropriate for industrial uses and the market values are expensive which excludes many types of industrial uses.

The primary drivers of any modifications to the industrial zoning districts should be aligning the ordinance with the City Council's goals for economic development and the Manassas Comprehensive Plan.

The purpose of industrial zoned areas, along with the number and type of uses and the physical location of the zoning district can promote or discourage business development and retention. The recently adopted Comprehensive Plan includes the following issues and priorities:

Land Use Key Issues

- Industrial development and redevelopment should be organized and coordinated to avoid isolating businesses.
- Industrial uses shall be significantly buffered, and use impacts mitigated, to protect surrounding or nearby residential neighborhoods and businesses.
- Older industrial areas should be reviewed to consider potential redevelopment opportunities.

Focus Priorities

The primary land use and community character issues to be addressed in Industrial/Suburban Business Districts include:

- Support business and economic development for local and national companies.
- Provide access to regional transportation networks to efficiently move goods.
- Encourage high-quality development and redevelopment.
- Promote energy efficient and sustainable development practices.
- Appropriate buffering to adjacent uses.

For example, the City may wish to consider replacing the current industrial zoning districts (I-1 and I-2) with a new district intended to provide areas for truly industrial businesses to engage in production, manufacturing, assembly, research and development, distribution supply, and similarly related activities. These activities typically have more potential impacts than commercial or office uses, and therefore need to be located in proximity to one another with appropriate buffers and other performance standards to protect adjacent districts from potentially adverse impacts such as noise, dust, odors, and the dangers of fire, explosion, and release of hazardous materials.

This simple, but fundamental, change would directly realign the City's industrial zoning district with Council's economic development goals. This recommended change is also consistent with the Comprehensive Plan's Land Use Key Issues and Industrial/Suburban Business Districts Character Area Focus Priorities. These guidelines, along with other industrial land use policies, are outlined in the Technical Memorandum (see *Appendices*) and directly influence the recommendations presented at the conclusion of this report.

The City should also consider limiting the number and nature of permitted commercial uses in either the existing industrial zoning district or a newly constituted industrial district. The district may still permit an array of commercial uses that are accessory to a primary industrial use, and some stand-alone support services by special use permit. For example, industrial zoning may permit a manufacturer to repair their own fleet vehicles but general auto repair would be limited to the heaviest commercial district and not the City's industrial districts. Most of the district's regulations in terms of setbacks, height, and other standards are not recommended to change. As discussed in the Technical Memorandum, the *Industrial Zoning Comparison Survey* demonstrated that, in many respects, Manassas is in line with, or ahead of, other localities with their industrial zoning regulations. It should be noted that any ordinance change will impact all properties that are zoned I-1 and I-2 and should be considered carefully in light of the zoning principles outlined in state law and in light of the City's economic and land use goals.

An added difficulty will be that the effectiveness of any change to the City's industrial zoning districts is contingent on associated Zoning Map amendments. For example, the I-2 zoned land in the east side of the City could be rezoned to a B-4 zoning classification in the Euclid Avenue area, and industrial zoning south of the railroad line to better reflect existing uses, market conditions and the City's service oriented economy. Or the less desired commercial uses could be taken out of the industrial zoning districts and those that exist at this time made lawfully non-conforming. Similarly, the west end could be the focus for better framed technology and research & development uses though those I-1 zoned properties in the west end closer to the downtown could also be rezoned to a more appropriate business classification (e.g., B-3 or B-4) to support the intended commercial or office uses in those areas and the expansion of the downtown commercial base.

Stakeholder Interview Analysis

Interviews conducted with key local industrial business stakeholders highlighted several areas of common interest and reinforced many observations made in the Comprehensive Plan, zoning ordinance diagnostic, *Industrial Zoning District Comparison Survey*, and best practices research. Matching the business community's opinions and perceptions to the other data reveals valuable insight and direction for how to reconstitute the City's industrial zoning districts.

One of the most significant "findings" of the interviews is that the City received universally high marks in its responsiveness and open, service-oriented environment. There are numerous other comments that are beneficial and can help the City achieve its broader economic development goals. Feedback on utility rates, infrastructure deficiencies, and market prices are among the realities that can work in tandem with a revised land use policy, such as with updated industrial zoning.

The stakeholders interviewed were not aware of the City's intent to revise its industrially zoned areas, but they were not concerned about the effort either. The City's apparent positive relationship with the business community has enhanced the credibility of, and trust in, Manassas public officials.

A primary issue of concern was the limited availability of industrial zoned properties. The few that are vacant are generally, although not exclusively, zoned I-2 and located in the west end of the City. This presents a unique opportunity for the City to avoid the I-2 land use pattern that exists in the eastern portion of the City and enhance the existing industrial uses in the west end, particularly around the airport and Godwin Drive areas.

Larger industrial uses on more open, campus-like parcels oriented toward research & development, technology and similar light or medium industrial uses would strengthen the City's existing industrial uses, provide opportunities for existing industrial businesses in other parts of the City, improve the west end entryway, compliment Innovation Technology Park, and maximize the utilization of the City's technology zone incentives and its significant transportation infrastructure (i.e., the airport and routes 28 and 234).

Another primary concern was with a number of existing industrial businesses that are no longer in ideal locations. They are in existing I-1 or I-2 zoning, but surrounded by office and commercial businesses. Additionally, the infrastructure needed by some in terms of electricity or utilities is too limited or expensive while infrastructure that is not necessarily needed, such as sidewalks and parking, is abundant.

This reality is a major driver of the recommendation to realign the zoning district purpose with corresponding standards and Zoning Map amendments. Being able to accommodate companies like Micron, Georator, and Lockheed Martin within the City limits on appropriately zoned and located property with compatible adjacent uses will help to ensure the City's economic viability and diversity for years to come.

A final message was for the City to use its available land to set the tone for industrial businesses. How those properties are developed and provide incentives and examples to other businesses and property owners can have a reinforcing influence on economic development by setting standards, ensuring use compatibility, and generating revenue.

Recommendations

Based on the research and analysis provided in this report, including the appendices, the following recommendations should be considered by the City to enhance their industrial zoning.

Industrial Zoning Options

Option 1

Replace the I-1 and I-2 districts with a new district for Production, Manufacturing & Research (PMR) to better promote a modern, industrial-oriented district.

- The purpose of a PMR District would focus on the desired industrial uses of production, manufacturing, research and related uses, as opposed to more service oriented activities such as auto/truck repair, service, replacement, and other commercial endeavors more suited for the B-4, General Commercial Zoning District.
- The PMR district would provide areas for industrial businesses engaged in production, manufacturing, assembling parts into finished items, research and development, distribution, supply, and related activities. These activities typically have more potential impacts than commercial or office uses, and therefore need to be located in proximity to one another and away from residential areas.

Option 2

Reconstitute the I-1 and I-2 zoning districts.

- Reorient both districts to light and medium industrial uses.
- Create a more effective zoning district for the west end of the City that will complement the Innovation Technology Park and existing airport-related industrial uses and limit or prohibit heavy commercial uses.
- Maintain heavy commercial uses in the east end of the city with performance, or use and design, standards for more intensive industrial uses, as appropriate.

Permitted Uses

- With either option, present the uses clearly and neatly in each zoning district.
  - Provide a clear definition for each listed use.
  - List the uses by category (i.e., civic, office, industrial).
- With either option, treat public assembly uses equally within each zoning district.
  - Adopt a "place of assembly" use and definition to replace other assembly uses such as places of religion, recreation assembly, etc.
  - Regulate places of assembly by size with performance standards and/or identify size thresholds where land use impacts such as increased traffic would require special conditions based on a traffic impact analysis.
  - Places of assembly present substantial conflicts with the uses typically found in, and the uses desired for, an industrial zoning district.
- Limit commercial and office uses to those that add value to the PMR District, or the reconstituted I-1 and I-2 districts, and use all available zoning tools to prevent them from dominating the industrial district.

Other Recommended Modifications

- Consider amendments to the official Zoning Map such as:
  - Change the zoning designation of east end I-2 properties to B-4 in the Euclid Ave corridor and PMR south of the rail line to better correlate with the Comprehensive Plan's Industrial/Suburban Business Districts Character Area.
  - Change the zoning designation of some west end industrial properties to more accurately reflect their intended (and actual) commercial or office uses.
  - Modify other areas as appropriate to achieve the City's economic development and land use goals.

Next Steps

The Industrial Zoning District Review project's analysis and recommendations are scheduled to be shared with Council's Land Use committee at its regularly scheduled September 26, 2013 meeting. A logical outcome of that work session would be an agreed upon prioritization of "Next Tasks" including amending the Zoning Ordinance and Zoning Map as appropriate.

There are numerous recommendations that can be implemented at one time, or in a phased sequence if "incremental adjustments" are preferred. Due to the nature of the amendments, it may be easier to make all of the desired amendments in one process. Due to the nature of the proposed changes, some existing commercial or office businesses will become non-conforming uses unless there are subsequent Zoning Map changes.

City staff should determine what level of additional input should be received for this project. A public work session and a subsequent Open House informational meeting could be conducted. Additional industrial business stakeholders can also be interviewed.

The Berkley Group stands ready to assist the City in whatever processes lie ahead in order to successfully implement the desired changes to the City's industrial zoning.

Report Conclusion

This project is a key opportunity for Manassas to begin implementing its new Comprehensive Plan's land use recommendations. Additionally, approximately one year ago Council adopted a series of economic development goals that these amendments can significantly advance, particularly in terms of west end business improvements and retaining existing (and attracting new) businesses.

The recommendations outlined in this report constitute a detailed analysis of Manassas' industrial zoning districts, Comprehensive Plan, industrial business community, and current industrial land use pattern. Action seems sensible to ensure that Council's goals, and their new Comprehensive Plan, are effectively implemented. As an aside, similar changes are necessary throughout the Zoning Ordinance to ensure Comprehensive Plan implementation and the realization of the Plan's vision, but those extensive revisions are not the focus of this report.

It is important to realize that the recommendations contained in this report will require action if the desired results are to be realized. Failing to act, whether it's with regard to specific use regulations, Zoning Map amendments, or other recommendations the City finds to be important, will ensure business as usual. The concerns outlined by key stakeholders, and observed in the *Existing Conditions Survey* will not change unless the conditions that permit those issues are effectively addressed.

Manassas is an advanced, proactive community with talented, committed, and highly respected public officials. The *Industrial Zoning District Comparison Survey* demonstrates that Manassas has solid industrial zoning regulations. Implementing these recommendations will ensure the City remains in charge of its planned community and economic development future.

APPENDICES:

1) Technical Memorandum

2) Industrial Zoning Comparison Table

3) Existing Conditions Survey

BERKLEY GROUP

To: Martin Crim, Manassas City Attorney
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Date: August 22, 2013

Subject: City of Manassas Industrial Zoning Districts Review

Technical Memorandum

Overview

The City of Manassas commissioned this project to review the City's industrial zones to assess the stated purposes and goals of those zones in serving the public health, and welfare; to assess the compatibility of uses that are or may be permitted in those zones based on their land use impacts; to review the need for the City to provide adequate and appropriate areas for industrial uses; and, to recommend updated industrial district zone(s) for the City.

The City has set forth three primary tasks in order to accomplish the above objectives – the preparation of a technical memorandum, an existing conditions survey of the City's industrial areas, and recommended code modifications for the City's industrial zones. The first task, this technical memorandum, consists of a review of best practices for industrial zoning categories, a zoning survey of similar sized cities in Virginia, a review of the City's Comprehensive Plan regarding industrial uses, and a draft list of possible uses to be allowed by-right, or otherwise permitted, in the industrial zones.

Through this analysis, and working closely with City staff, we will be able to recommend comprehensive revisions to the industrial zones that will:

- further the goals and strategies of the Comprehensive Plan,
- reinforce Council's stated economic development goals, and
- address staff's concerns regarding outdated requirements, internal inconsistencies, poor organization and overly technical language as those issues pertain to the industrial zoning districts.

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Best Practices

Major innovations in industrial zoning practices are not the subject of most planning literature nor are they the focus of most localities. There is an apparent disconnect between a community's economic development goals and its zoning district regulations and permitted uses for the majority of localities. Often economic development and land use objectives work against one another instead of working to reinforce mutual goals. In this regard, Manassas has a unique opportunity to align these objectives and set an example for many other communities, particularly in Virginia.

So that we can get as broad a view as possible of industrial zoning best practices, we will begin with an overall review and then focus on a survey of eight Virginia localities as determined jointly by the consultants and City staff.

Overview

The first observation to be made from a current literature review is that there are relatively few publications about industrial zoning, or even industrial land use in general. Most articles and papers are focused on the reuse of old multi-level industrial buildings for non-industrial uses and mixed use development projects. Brownfield development has been a primary planning and local government topic for decades.

The majority of the literature focuses on matters other than that of zoning, but there is much that land use regulations can do to reinforce industrial best practices such as efforts to intensify industrial lands, improve building designs, provide more flexible zoning and regulations, and improve government plans, processes, and incentives.

Some of the benefits of industrial land intensification that are cited include:

- the opportunity to accommodate increased economic and employment activity on a limited land base,
- more efficient use of lands and resources,
- extending the lifespan of available industrial lands
- using transportation infrastructure more efficiently,
- reducing impact on the environment and non-industrial areas by containing industrial activity, and
- reducing the pressure to convert agricultural and rural lands to industrial uses.

Zoning Standards

Industrial zoning districts vary considerably - internationally, nationally, regionally, and even locally - as our limited, eight-locality comparison study will reflect. The most successful efforts to improve industrial zoning regulations involve provisions that do not needlessly restrict industrial density potential. Primary examples include overly restrictive site coverage limits, building heights, floor area ratios, building setbacks, landscaping, and parking, among other considerations. A brief summary of recommended best practices for these areas is provided below. **It should be noted that these recommendations reflect a review of the cited literature and are not necessarily recommended for the City of Manassas**. Specific recommendations will be provided for the City as part of the Final Report. The *Industrial Zoning Comparison Survey* will also lend itself to this effort. There is some consensus on the below findings, but these specific recommendations are from the *Metro Vancouver Discussion Paper: Best Practices for the Intensive Use of Industrial Land.*

Building Site Coverage

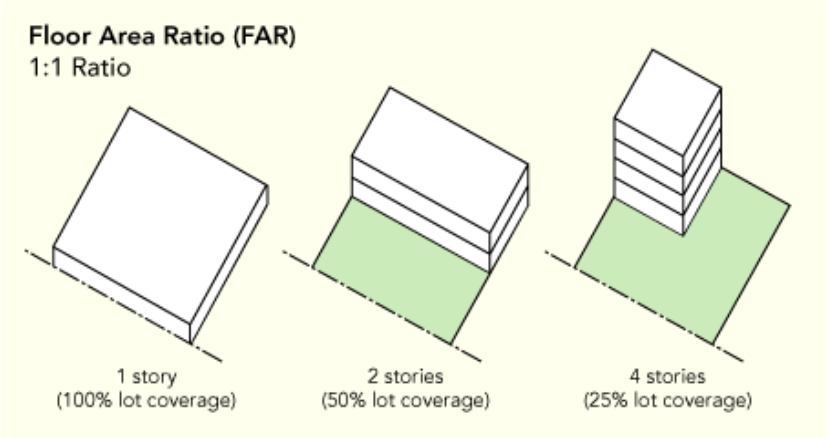
If the building setbacks, parking, loading and other necessary requirements can be fully satisfied while providing a greater amount of building site coverage, there should not be a cap on the amount of building permissible. New, efficient industrial buildings on rectangular shaped properties are achieving approximately 40-60% site coverage and this may further increase in the future, as such zoning regulations should recognize this trend and not limit it.

Building Heights

Maximum building heights limit the potential for higher ceilings which are increasingly being developed for larger and more efficient (and sometimes automated) racking / high bay warehouse buildings. These high buildings accommodate more volume of space. Further, a height limit can prevent the potential for multi-level buildings. In most cases, there is no apparent need for industrial building height limits, for such reasons as views, aesthetics, or shading as might be the case in commercial or residential areas.

Floor Area Ratio (FAR)

A number of municipalities do not have a cap on floor area ratio (they use the site coverage and building heights as limits), and some impose a 1.0 FAR (as a minimum). If a multi-level industrial building can be erected on the site, a floor area ratio cap could needlessly limit the potential for this form of development.



Building Setbacks

Building setbacks vary by front, rear, side, and generally depend on the neighboring land use (greater setbacks required if this use is residential). The setbacks can be as much as 30 feet in some cases. These setback requirements may serve little purpose, especially if the neighboring land uses are also

industrial. In other cases, a side driveway may be located along the edge of the property to provide vehicular access to the rear of the property and building.

Landscaping
A number of zoning ordinances require that the parts of the property not used for building or parking/loading should be landscaped, or that a minimum area be set aside for landscaping. This may slightly enhance the aesthetic appeal of the area, but does not add value to the functional efficiency of the business operation. Requiring landscaping in these areas consumes land, and imposes an extra construction cost as well as maintenance cost. Further, the landscaping is often poorly maintained and does not survive well in industrial conditions. However, some landscaping along district boundaries can soften the visual impact on adjacent non-industrial areas.

Parking
Parking requirements for industrial buildings vary by municipality, and are usually set based on the use in the building (which can change) rather than the zoning district. Some standards are based on the amount of building floor area (usually gross) which is industrial, as well as additional parking requirements for other uses on site (such as office and retail), while some regulations also include a component for the number of employees at the site, and even an extra allowance for the number of company vehicles. These total requirements can range between 1 to 2 parking spaces per approximate 1000 square feet (SF) of building floor area. Shared parking between complementary uses is also a common trend although it is seen less in industrial areas than other zoning districts.

Road Widths
In some cases the width of public road standards could be narrowed, with widening at intersections and curves to accommodate truck turning movements. More economical (in terms of land consumption) ways to handle turning radius might be to focus on wider intersections and use narrower travelling lanes for the remainder of the road. Reductions in road widths could allow more land for industrial development while still providing the road transportation infrastructure necessary to support industrial users. For other roads, there may be the opportunity at certain locations to use parts of the roads for vehicle parking, loading and maneuvering associated with industrial activities.

Source: Metro Vancouver Discussion Paper: Best Practices for the Intensive Use of Industrial Land, 2012.

While single story industrial buildings are among the most common (and least expensive), there are numerous examples of multi-level industrial buildings with floor area ratios (FAR) between 2.0-3.0, which often includes accessory office and retail uses. Many of these buildings are purposely built for an owner or tenant wanting a building custom-designed for their specific business needs. There are other examples with even higher FARs (e.g., NYC goes as high as 12), but those are not seen at the local level in Virginia, at least not in towns and small to medium cities.

In addition to the variability of industrial zoning regulatory standards, some common challenges of traditional zoning ordinances include:

- they do little to prohibit retail or office uses from overtaking industrial areas and displacing industrial-oriented tenants,
- standards encourage low-scale, minimum coverage built environments,
- ambiguity in precisely what is permitted in the industrial zoning districts, and
- performance standards for industrial areas need modernization.

Case Studies

One of the most instructive methods of performing research on industrial practices is examining case studies, although most of these studies focus on large cities such as New York, San Francisco, and Chicago. However, there is also relatively current literature on Washington D.C. thanks largely to the District of Columbia Office of Planning.

Some of these studies include:

- **Philadelphia** - 'City Wide Vision 2035' identifies high priority areas for industrial protection. This is reinforced through zoning, infrastructure investment, and special district management.
- **Chicago** - 'Industrial Corridors and Sustainable Industrial Initiative Plan' sets out Planned Manufacturing Districts and protected industrial corridors.
- **San Francisco** - industrial lands, threatened by non-industrial uses and relatively high land values, are protected under the Production, Distribution, and Repair (PDR) Districts, which act as a reservoir of space for new and evolving industry and business activities. The PDR districts generally have historic industrial building stock, some of which are multi-level.
- **Seattle** - 'Industrial Lands Strategy' was completed with stakeholder consultations to identify priorities for industrial lands and resulted in some reductions in the permitted accessory office and retail uses.
- **Portland** – The comprehensive plan promotes a variety of efficient and attractive industrial and mixed employment areas by allowing flexible land use designations for commercial or mixed employment that encourage a broad range of employment opportunities while preventing land use conflicts.

Source: **INDUSTRIAL LAND IN A POST-INDUSTRIAL CITY**, **District of Columbia Industrial Land Use Study**: A Detailed Investigation of Industrial Land in the District of Columbia and role of Production, Distribution and Repair Industries in the District Economy, prepared by Phillips Preiss Shapiro Associates, Inc., 2006.

As mentioned previously, the District of Columbia Office of Planning has synthesized much of the current industrial zoning research and reached the following consensus:

- Industrial districts should be renamed Production, Distribution & Repair (PDR).
- Performance measures should be modernized and coordinated with other city standards.
- PDR uses should be defined by category rather than listed as individual uses.
- The development potential of PDR land should be adjusted to encourage the construction of PDR uses while also permitting the continued development of non-PDR uses as guided by market demand.
- Existing special exceptions and overlays should be replaced with uniform buffering standards for all PDR areas.

Name of Industrial Districts
There is a trend moving away from use of the terms "industrial" and "manufacturing" in favor of PDR. Production, Distribution, and Repair (PDR) better encompasses the breadth of uses allowed in these zones and removes the stigma that can be associated with the existing terms.

Performance Measures
Currently, many performance measures focus on regulating adverse impacts such as sound, smoke, odor, fumes, dust, glare, and vibration. Most regulations, however, are either based on outdated standards or vague to the point of providing no standard at all. Where possible, ensure that measurable standards are used.

Industrial Uses
The use lists in industrial zoning districts are often duplicative, incomplete, and out of date. A list is not dynamic enough to keep up with modern technology or uses, and there is often difficulty in matching a proposed use to one of the choices on the list. The use list should be replaced by a thorough definition and description of industrial uses that would be defined as a category.

Development Potential
There is a limited and increasingly shrinking supply of industrial land. At the same time, industrial uses typically generate lower land rents than residential, office, or retail uses. The development potential of industrial land should be adjusted to encourage industrial uses while also permitting the continued development of non-industrial uses as guided by market demand.

Buffering
Most regulations provide separate buffering standards for different areas and uses which adds unnecessary complication to the regulations. Create uniform buffering standards to apply wherever industrial zones abut residential zones.

An example of suggested standards from Washington D.C. are:

- 25 foot yard required adjacent to residential districts
    - 15 foot yard required when separated by street or alley
    - Yard must contain solid vegetative buffer, fence or wall to visually screen use
- No outdoor storage of materials/waste within 200 feet of a residential zone
- No truck queuing or idling on public streets adjacent to residential districts

Source: District of Columbia Industrial Areas Study, 2006

Other Land Use Best Practices

While not mentioned in any of the other industrial best practices literature, and also not evident in any of the Virginia locality information to be presented subsequently, it is important to note some best practices regarding the treatment of assembly uses. In this context, assembly does not refer to the traditional definition associated with manufacturing assembly, rather assembly as it pertains to events that attract an audience generally referred to as public assembly uses. Public assembly uses can be permitted either by-right or by a special (or conditional) permit in any zoning district, and may be generated by public or private facilities and events.

The issue to be explored here is with particular regard to the Religious Land Use and Institutionalized Persons Act (RLUIPA). If public assembly uses are permitted in industrial, or any zoning, districts then they should be treated equally regardless of the nature of the specific use. In other words, religious assembly uses should be treated no differently than recreational assembly uses. For example, the zoning regulations pertaining to a concert hall should be very similar to, or the same as, that of a church.

In religious land use disputes, RLUIPA's general rule is the most commonly cited and challenged section.

1. General rule. No government shall impose or implement a land use regulation in a manner that imposes a substantial burden on the religious exercise of a person, including a religious assembly or institution, unless the government can demonstrate that imposition of the burden on that person, assembly or institution
    a. is in furtherance of a compelling governmental interest; and
    b. is the least restrictive means of furthering that compelling governmental interest.
2. Scope of Application. This subsection applies in any case in which—
    a. the substantial burden is imposed in a program or activity that receives Federal financial assistance, even if the burden results from a rule of general applicability; or
    b. the substantial burden affects, or removal of that substantial burden would affect, commerce with foreign nations, among the several States, or with Indian tribes, even if the burden results from a rule of general applicability; or
    c. the substantial burden is imposed in the implementation of a land use regulation or system of land use regulations, under which a government makes, or has in place formal or informal procedures or practices that permit the government to make, individualized assessments of the proposed uses for the property involved.

[Source: 42 U.S.C. § 2000cc-5(a)]

The intent here is not to enter into a legal discussion regarding RLUIPA, but to ensure that land use regulations dealing with public assembly uses are dealt with consistently and fairly according to best practices, particularly as it relates to typical industrial zoning district uses. While it can be argued that commercial assembly uses may differ from civic assembly uses which may differ again from residential assembly uses, it is best to think of places of assembly in terms of their size and not the nature of the activity attracting the audience.

For example, a zoning ordinance could define Place of Assembly and set forth regulations based on zoning district and use size accordingly.

> *Place of assembly*. A building or structure, or portion thereof, at which an average of more than 25 persons gather together for purposes of attending civic, social, or religious functions, recreational events, or entertainment performances and who arrive at scheduled times on a regular or recurring basis occurring an average of four or more times per month.
>
> *Place of assembly, large*. Any place of assembly involving (a) in residential and planned development districts, a building at least 2,000 square feet in gross area and more than 25 people at any one time. (b) in commercial and industrial districts, a building at least 5,000 square feet in gross area and more than 100 people at any one time. (c) in all other districts, a building at least 2,000 square feet in gross area and more than 50 people at any one time.
>
> *Place of assembly, small*. Any place of assembly which does not meet the definition of "Place of assembly, large."

This is just one example for how to treat different assembly uses on equal terms, ensure that they are indeed similarly situated, and that their regulation will not cause a substantial burden for any individual user groups. Other examples of successful approaches can be found across the country and in Virginia. Even more numerous, as documented in court case after court case, are examples of unacceptable practices whether intentional or otherwise. The example presented here is one attempt to show a method of land use regulation that would be difficult to challenge legally.

Best Practices Conclusion

While there are no major surprises from this review of the current industrial best practices literature, there are many good examples and trends that can provide a useful context in our analysis for the City of Manassas. In particular, it is useful to consider what is done at a national and large urban scale relative to the regulations of some Virginia localities which we will examine in the next section. Before we leave this section however, here is a brief summary of some other industrial land use efforts.

Other best practices derived from the relevant literature include:

- Regional economic, industrial, and land use strategies/efforts.
- Host industrial lands workshops/meetings to explore relevant industrial issues.
- Host design competitions or develop prototype examples to explore possible industrial design ideas.
- Explore potential for roof top uses on industrial buildings, such as agriculture or energy generation.
- Explore eco-industrial features which also support industrial lands intensification.
- Explore opportunities to include recreational trail networks through industrial areas without compromising the potential industrial use of the lands.
- Consider higher quality pedestrian and bike infrastructure in areas with plans for industrial intensification.
- Develop criteria and measures for industrial land intensity and density.
- Explore potential to reduce road standard widths in industrial areas.
- Explore allowing vehicle parking, loading and maneuvering on select public roads to serve industrial users.
- Ensure industrial property taxes are appropriate to provide a competitive cost environment.
- Explore possible incentives to encourage industrial intensification, such as:
    - Facilitate/expedite the approval process for reviews of higher intensity industrial development.
    - Offer greater development rights for larger sites to encourage land assembly.
    - In order to encourage and not deter development, possibly reduce development permit fees for projects constructed beyond the typical industrial building density, or charge fees based on land area or ground level building floor area only, rather than total building floor area.

Virginia Benchmarks

Eight Virginia localities were surveyed for their industrial zoning practices in order to better benchmark the City of Manassas' zoning regulations. The localities range somewhat geographically and demographically but are of a similar size and forward-thinking orientation. Manassas' two industrial zoning districts were compared to those of Prince William County, Town of Blacksburg, City of Fairfax, Falls Church, Fredericksburg, Leesburg, Manassas Park, and Warrenton. Each locality has differences, but there are also many similarities and the survey process resulted in numerous recommendations for consideration by the City.

One key result of the comparative survey is that the City's industrial zoning regulations are not out of line or outdated, at least compared to those of its peer communities. In fact, in some cases, Manassas seems to be a leader in addressing certain standards. Precisely how Manassas compares to these eight localities will become more evident in this analysis.

***Industrial Zoning Comparison Survey* Overview**

Ordinance Section	Consultant Comments
Desired Purpose	The I-1 District is not "campus-like". Most peer communities provide for light but not heavy industrial. Manassas has a "heavy zoning district" (I-2) but it is not utilized as such and does not appear to desire truly heavy industry within the community. The City needs to figure out what it wants to provide. What is its Industrial Economic Development Brand? For example, the I-2 District could be converted into an R/D District.
Notable Uses	Issues include the intensity of the industrial district in terms of heavy vs. light industry, and whether retail and/or residential should be allowed at all, as well as other uses such as auto repair. Very little actual R&D occurring in I-1.
HAZMAT/Combustible material restrictions	Should Manassas permit such activities even by SUP, particularly in I-1?
Other By-Right	A primary issue is whether the City wants to craft use lists with an eye toward competing directly with neighbors such as PWC, Manassas Park, Warrenton and Leesburg, either by matching them closely or by allowing some uses they do not allow. The permitted uses - by right and by permit - need to support the district purpose. As a housekeeping matter, all permitted uses need to be comprehensively listed in each zoning district (not refer back to other districts). Also, all assembly uses should be addressed equally.
Other SUP	SUP uses need to reinforce the district purpose along with the by-right uses. Uses for consideration should include uses that would reinforce a campus-like theme; not necessarily R&D, but economic development oriented.
Accessory Structures/Uses	This is a customary use and does not pose any material issues.
Prohibited uses section	Explicitly stating that all uses not listed are prohibited is a good practice for clarity, however, allowing for the inclusion of additional uses through a zoning text amendment process should also be considered. Any uses should be carefully measured against the district purpose and associated adverse impacts.

Use limitations	Enclosed buildings match typical practices. Requiring underground utilities is a good practice. Dustless parking surfaces = paved Requiring additional use and design standards for certain uses is a good practice and can allow for uses by-right where otherwise they might require an SUP.
Ancillary activity restrictions	Manassas addresses as well as, or better than, others.
Screening requirement	Manassas screening requirements are comparable to, or better than, others - could be strengthened by the performance standard of "not visible from public ROW" although that requires interpretation and enforcement.
Landscaping requirements	Lot coverage standards should be considered to enhance a "campus-like" atmosphere, and the type of plantings should also be addressed (i.e., native species or others that are desired or not desired).
Storage	Limits on amount of coverage devoted to outdoor storage may be useful, although effective screening should mitigate most issues. If a coverage limit is imposed, it needn't be as restrictive as 15% or 20% as with Blacksburg and PWC, but could be enough to prevent a de facto storage yard and no other use, such as 50% limitation.
Parking requirements	Article VI needs to be evaluated as a separate review exercise. The standards appear to be typical, but not reflective of some newer parking philosophies and practices. The phased and shared parking provisions seem to be good as long as they have been successfully administered.
Development Standards	There is some merit in requiring a minimum district size, particularly for I-2, and if the goal is to encourage a "campus-like" atmosphere.
Min. lot size	One acre minimum lot size is a common standard. In theory, no minimum is necessary, but as a practical matter, having a conservative minimum protects against unintended consequences, surprises, and conflicts over subdivision applications.
Min. lot width	This does not appear to be a major issue and any standards set forth are minimal. The nature of the use should dictate the lot size and shape.
Min. lot depth	This appears to be a non-issue.
Max. FAR (floor area ratio)	A higher FAR, combined with a strict lot coverage requirement can result in a more efficient building design and a more campus-like industrial park.
Max. lot coverage	In tandem with the FAR, this requirement can enforce a park-like atmosphere, yet still allow for significant development.
Max. structure height	75 feet max height is more permissive than some other peer communities but the City's setback requirements protect against conflicts and allow more flexibility for users. This height also permits a much higher FAR along with open space (Lot Coverage) requirements.
Special Exceptions	This appears to be a non-issue and is handled well by the City.
Yard/Setback Requirements (Front, Rear, Sides)	These standards can also reinforce the creation of a campus-like atmosphere, but none of these comparisons are particularly aggressive. Nominal setbacks appear to be the norm.
Lot access (private/public)	This does not appear to be a major issue and any standards set forth are minimal.

Notes:	Use & design standards are recommended for many uses to allow them to be by-right as opposed to SUP. For example, treating assembly uses similar to adult uses in that regard, or it may be that an outdoor recreation use is an SUP in I-1, but by-right with required performance standards in I-2. As an alternative to listing individual uses, the City should consider defining light, medium, and heavy industry and letting the Zoning Administrator determine what use fits what category. This would allow for more flexibility in ordinance administration. However, there are advantages to specifically listing (and defining) some desired uses for economic development clarity. All listed uses should be defined in the ordinance.

A more thorough review of the *Industrial Zoning Comparison Table* needs to be made to flesh out all of the nuances between each locality's zoning districts, however the above summary of categories and comments is intended to give a brief overview of findings based on the district comparisons.

Benchmarks Analysis

Many of the comments and recommendations are consistent with the research presented in the ***Best Practices*** section which was conducted after the industrial zoning district comparison. Examples of this include the height, floor area ratio, treatment of assembly uses, categorization of uses, parking, among others. Some discrepancies with the literature would include lot coverage and landscaping recommendations as primary examples. For example, if it is the intent of an industrial zoning district to create a research oriented, campus-style setting then landscaping, screening, lot coverage, and other such regulations need to be set accordingly. However, multi-storied structures for such high end industrial development should be able to achieve the types of FAR and lot coverage ratios to allow for the success of such industrial parks. In other words, traditional industrial zoning 'best practices' may not apply because of the non-traditional nature of a research & development (R&D) campus.

Benchmarks Conclusion

As previously indicated, there are instructive examples of regulations that merit consideration by City staff, but in many cases Manassas is ahead of the other jurisdictions analyzed in terms of its industrial regulations. Planning staff needs to carefully analyze the *Industrial Zoning Comparison Table*, and the Consultant Comments, to be able to make further recommendations and provide guidance prior to the Final Report recommendations.

Comprehensive Plan Review

The Manassas Comprehensive Plan was recently adopted on July 8, 2013. It provides clear direction regarding the City's economic development goals and gives more than a hint to preferred industrial land use practices. Further, there are specific guidelines for the industrial areas including the Industrial/Suburban Business District character area. The Comprehensive Plan sections cited here are directly relevant to the proposed modifications of the industrial zoning districts and correlate with information and consultant comments presented in the *Industrial Zoning Comparison Table*.

The industrial zoning amendment process will be the City's first significant opportunity to amend one of its major land use tools to further the goals and strategies of the new Comprehensive Plan. In this regard, very close attention should be paid to ensure implementation of these stated priorities.

Comprehensive Plan Industrial Overview

In the Executive Summary a Plan Framework outlines key issues facing the City which includes the following: "Older industrial areas and newly developing areas around the airport are key to economic growth of the City."

Three of the Land Use Key Issues cited in the Plan Framework are:

- Industrial development and redevelopment should be organized and coordinated to avoid isolating businesses.
- Industrial uses shall be significantly buffered, and use impacts mitigated, to protect surrounding or nearby residential neighborhoods and businesses.
- Older industrial areas should be reviewed to consider potential redevelopment opportunities.

The Land Use chapter further states that, "The Industrial/Suburban Business District also includes the most substantial land for growth, so the principles in this category also establish a vision for currently undeveloped land."

The Industrial/Suburban Business Districts Character Area has several focus priorities.

Focus Priorities

The primary land use and community character issues to be addressed in Industrial/Suburban Business Districts include:

- Support business and economic development for local and national companies.
- Provide access to regional transportation networks to efficiently move goods.
- Encourage high-quality development and redevelopment.
- Promote energy efficient and sustainable development practices.
- Appropriate buffering to adjacent uses.

The Industrial/Suburban Business District's description is very specific stating:

> Industrial/Suburban Business District areas represent existing and future large format business subdivisions with large lots, with local infrastructure to accommodate large format structures, heavy peak time traffic, and truck traffic. The diversity in architecture and site layout is balanced with consistent heavy landscaping to soften the appearance of structures and parking.

The intent of the district furthers the district description statement:

> Industrial/Suburban Business Districts should provide highly accessible and quality environments to support office, wholesale, manufacturing, distribution, and accessory retail businesses. The district should offer flexible options for the demands of a variety of business models in scale of operations, and demands of individual site and building needs. A green or open space theme and elements should knit the areas together and offset the impact of the large areas of impervious surfaces.

Appropriate land uses in the district include office, manufacturing/wholesale/distribution, vertical mixed uses, civic, and parks.

<u>Other relevant Excerpts from the Industrial/Suburban Business Districts Section</u>

Design Principles

The character of the Industrial/Suburban Business Districts is defined in large part by the function of these areas: large scale uses, separated from daily services and residences. This form is defined in a number of ways, including 1) the way the street grid divides the land into blocks (the "district"), 2) how individual properties are developed, 3) the shape and size of parcels and where buildings sit on the site; 4) the size of the buildings, and 5) what features are common throughout the district. The following are the design principles for the Industrial/Suburban Business Districts.

District

- The districts are very large land areas with good regional access via railroad, highway, and/or airport.
- The districts are often designed in a "park like" setting and may include multiple small business campuses.
- Subdivision of land is semi-regular and lots are consolidated if possible to accommodate various sized operations.
- Local streets are wide and designed to accommodate heavy truck traffic, with adequate foundation and turning radii.
- Through roads connecting developments allow for multiple and alternative routes in and out of the district.
- Pedestrian and bicycling trails or facilities are provided within the district and connect to the local network. Some facilities are provided within the "park" areas to offer amenities to employees during breaks.
- District infrastructure capacity is designed to meet the generally higher intensity water, sewer, communications and energy needs of locally serving retail, office and services uses.

Site

- The placement of buildings on lots varies but central or rear locations are common. Variation in setbacks is permissible within a district. On-site stormwater management (retention ponds) is present with large landscaped surface parking areas in coordination with City policies for stormwater management in the area.
- Naturalized or manicured green areas are included to offset the intensity of the impervious surfaces needed to accommodate the large format buildings and significant surface parking areas for employees.
- The Euclid Area Industrial/Suburban Business area has slightly smaller lots than those in the Gateway area, with buildings set closer to the street and loading and parking located to the side or rear. This pattern should be maintained in this area.
- Outdoor storage areas are well screened with walls or dense landscaping and located out of view from residential areas or major corridors.
- Surface parking areas are broken up by internal planting islands.
- Significant landscaping is used to unify sites within the district and promote a high quality appearance.
- Sites are designed to incorporate sustainable development practices including storm water and energy management.

Building

- Architectural styles are unique to their use, and buildings vary from 5-story plus office buildings of brick to very large footprint buildings designed to accommodate manufacturing operations.
- Building materials are durable and low maintenance, complementing the demands of large format manufacturing, wholesale, distribution, and office construction.
- Buildings are designed with energy efficient components.

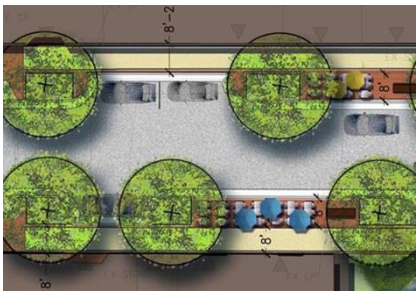
Infill and Redevelopment Principles

- Subdivisions should have flexible design to accommodate a range of scale and types of business uses. Proactive management of emissions and pollutants should be of high priority in facility design and site design.
- Redevelopment/development in these areas is to address the relationship to adjacent areas and provide buffering from residential uses.
- Redevelopment should implement enhanced access management principles and provide road capacity capable of maintaining high levels of service and business activity.
- Redevelopment/development district designs in these areas should accommodate cost effective and sustainable industrial development through improved water or energy management practices, and provide options for possible alternative energy sources.

Implementation Strategies

Relevant economic development implementation strategies (by number) include:

15. (Strategy 5.4.5) Implement programs to locate regional market attractions to the City, such as retail, office and entertainment uses.
16. (Strategy 5.5.1) Guide and prioritize efforts to market Manassas as a business-friendly community with surrounding jurisdictions and regional economic development organizations to maintain relationships that assist in the recruitment of new businesses.
17. (Strategy 5.5.2) Support the retention, growth and expansion of existing businesses as the core element of the City's economic development efforts.
95. (Strategy 3.1.2) Implement ordinances that ensure infill and redevelopment occurs according to standards and guidelines that protect the integrity of surrounding areas and provide appropriate buffering and transitions between uses.



98. (Strategy 4.4.3) Stabilize residential neighborhoods next to commercial areas by establishing transitional land uses, controlling vehicular access, and establishing landscaping buffers and/or architectural screens. Regulate the amount of noise and/or lighting produced by land uses to minimize the impacts on nearby properties.
99. (Strategy 4.4.6) Review and amend Zoning and Subdivision Ordinances to enable and enhance crime prevention through improved site design and building design standards.
103. (Strategy 6.3.4) Review and adjust regulations and requirements for new development or redevelopment projects to upgrade access provisions and support the objectives of the Comprehensive Plan. Implement access management programs to study and evaluate the comprehensive impacts of new projects.
107. (Strategy 8.1.2) Promote sustainable development practices including but not limited to storm water management, tree protection, maintenance of non-disturbance zones in critical areas, conservation set-asides in development plans, low impact development methods.

Comprehensive Plan Conclusion

The Comprehensive Plan, as a guidance document, sets specific priorities, use categories, and design principles. The Industrial/Suburban Business Districts section provides a roadmap for any proposed amendments to the industrial zoning districts, particularly in terms of site and building standards, connectivity, and uses. Much of what is desired for these districts correlates directly with the research presented in this memorandum as well as that of the Industrial Zoning Comparison study.

The Plan is less clear on specific implementation strategies for industrial areas, but the strategies cited above can be influenced by, and should be pursued in context with, the industrial zoning district amendments. The Comprehensive Plan sets a clear vision for the industrial districts that needs to be directly reflected in the district purpose of the zoning ordinance, which will directly influence the subsequent district standards that are set forth (i.e., setbacks, landscaping, site coverage, minimum lot size, FAR, and so on).

Industrial Use Recommendations

The City will need to work with the consultants to provide a direction for the recommended Zoning Ordinance amendments to the industrial zones. However, based on the findings presented in this report, along with an analysis of the *Existing Conditions Survey*, there are a number of areas that need to be considered.

Industrial Use Overview

Automobile Repair

While the literature review suggests that auto repair facilities are a standard and appropriate use in industrial zoning districts, this use takes up a considerable portion of the City's industrial zoned land, particularly in the I-1 district. This use is also permitted as a B-4 use allowing for plenty of opportunities for future and existing automobile repair businesses to operate. These operations do not fit the vision set forth for the industrial areas of Manassas which are more research and technology based, situated on larger lots in a campus-style setting, and require good freight transportation access.

Commercial/Office Uses

The focus of each industrial zoning district should be on industrial uses oriented to the purpose of the district. Any commercial or office uses should be supplementary to an industrial use, or on property that does not compete in the market with targeted industrial uses. In other words, a small corner lot on an arterial or collector road will obviously be more suited for a convenience store or similar use than a research building. These types of uses are expected and help to diversify the character of the district in terms of goods and services. They should not become the primary focus of the industrial district as that is the role of the various business districts.

Adult Uses

The City has recently amended its Zoning Ordinance to permit a variety of adult uses. These standards are necessary, well done, and should be maintained to ensure their continued use status. Consideration should be given to how these uses are presented in the ordinance. The regulation standards associated with adult uses are necessarily extensive, but they should not inadvertently undermine the main intent of both industrial zoning districts.

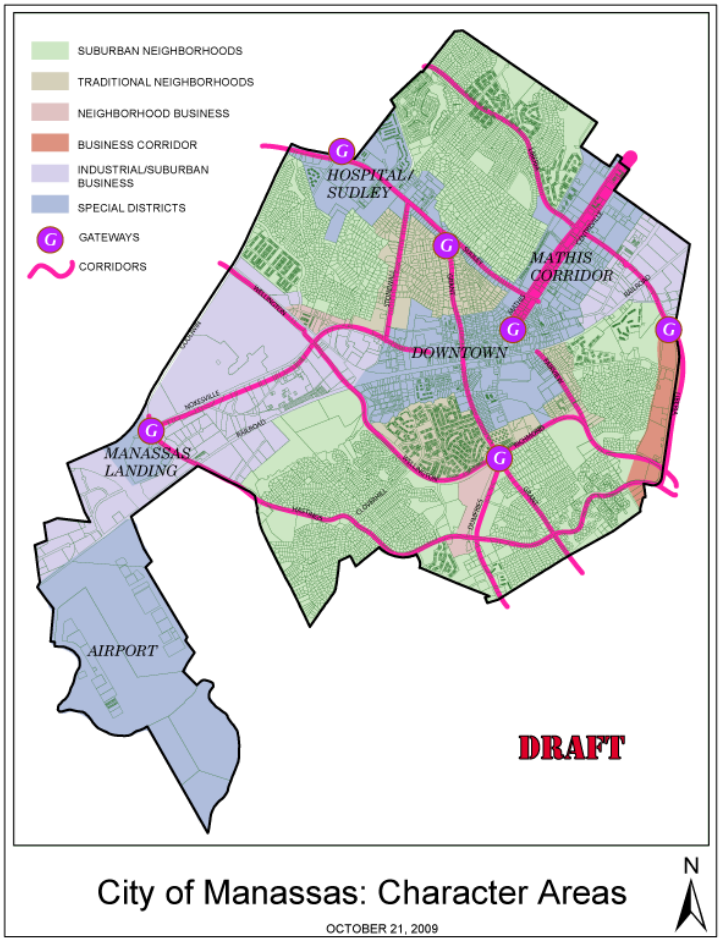
Assembly Uses

A potential high end, high traffic economic development use for the City is recreational or entertainment facilities such as a tournament complex, convention center or auditorium, a stadium, or similarly scaled regional use. This type of public assembly use needs to be carefully considered and further direction from City staff is needed. One implication of such a use is that whatever standards are set forth to regulate that type of assembly use should also apply to any other types of assembly uses. Also, if a recreation assembly use is permitted by-right then a religious assembly use should also be permitted by-right. If the assembly uses are permitted by special exception (or SUP), then they should be evaluated on the same adverse impact standards and any other evaluative criteria. Currently, public uses are permitted in the I-2 district by-right but other assembly uses are not. This portion of the zoning ordinance should be amended to treat all assembly based uses (uses that attract audiences) with the same performance standards.

While a large "event venue" might be an economic and tax-base attraction for the City on an industrial zoned property, civic oriented uses such as a park or a church will occupy "zero tax revenue" property. Nonetheless, since the City's Comprehensive Plan lists parks and civic uses as two of the five main land use categories, we recommend that all assembly uses be permitted in industrial areas by-right with specific performance (or design/use) standards. Similar to the example in the best practices review, a place of assembly use could be created to replace existing assembly uses and be regulated based on its size (small or larger).

Future Land Use

While no zoning map changes are anticipated by the City, an examination of the Character Areas Map is recommended. Like Mathis, Euclid Avenue, is an eastern gateway to the City and lends itself more toward commercial redevelopment than continued industrial zoning. The *Existing Conditions Survey* will demonstrate that there are very few actual industrial uses in this corridor. An emphasis on the "Suburban Business" portion of the Industrial/Suburban Business district should be a focus of future zoning changes in this area. Fewer B-4 uses should be permitted in the industrial zoning districts to more clearly differentiate the value of industrial land as set forth clearly in the Comprehensive Plan. If the City were to consider a proactive Zoning Map amendment along the Euclid corridor from I-2 to B-4, almost no uses or property values would be materially affected due the limited size and current commercial use of the parcels. Similarly, the rezoning of land from I-2 to I-1 for the remainder of this section of the City would also be appropriate since there are almost no heavy industries in this section of the City. An I-2, Heavy Industrial, zoning designation in this area seems inappropriate and is not utilized as such by any businesses in the Euclid corridor, in particular.



Another area for consideration is Prince William Street. This is in the Downtown Special District and the I-1 zoning along the north portion of the street stands in conflict with the variable residential zoning districts along the south side of the road. It is recognized that the rail line north of these properties is likely the impetus behind their industrial zoning classification, but neither their current, nor apparent historic, uses are of a primarily industrial nature. A civic, commercial, and residential zoning mixture along the north side of Prince William Street would be appropriate.

Use Types
All uses permitted in either industrial zoning district need to be listed fully in each district. Further, the uses should be divided into use categories to ensure their alignment with the Comprehensive Plan. Recommended use categories include, but are not necessarily limited to - Civic, Commercial, Office, and Industrial. Industrial uses should include light, medium, and heavy industry with corresponding definitions. This will allow the Zoning Administrator to have more flexibility in determining the appropriateness (and type) of industry proposed for an area.

The nature of industry changes constantly and in order to maximize the effectiveness of economic development policies, and the longevity of the Zoning Ordinance, accommodations in the ordinance that recognize the dynamic nature of the uses being regulated will benefit both the City and future (and existing) industrial businesses.

Listing uses by category will also help to de-emphasize uses that are not the primary focus of the industrial zoning districts. Commercial, office, and civic uses will be listed within their appropriate contexts with recommended performance (or use & design) standards as necessary. They will not be the dominant theme of the districts.

Industrial Use Analysis
The I-1 and I-2 industrial zoning districts do not appear to function as intended, nor where intended. Much of the eastern I-2 zoning is clearly B-4 oriented, commercial businesses with a smattering of light industrial uses (mostly auto repair). The presence of any heavy industry in the eastern portion of the City is all but absent and does not appear to be appropriate.

The Purpose of each district, as stated in the Zoning Ordinance, also does not align with either the reality of the uses that exist or the newly adopted Comprehensive Plan's vision for the Industrial/Suburban Business Districts. The I-1 district actually has more intense uses particularly around the airport. Based on the I-2 district's currently stated purpose, many of the western I-1 businesses actually fit that purpose more appropriately.

Industrial Use Conclusion
The amendments to the industrial sections of the zoning ordinance need to start with a retooled and clear purpose for each district. Then each district can more accurately list uses, by category, that are appropriate for the district. The Use & Design standards for certain uses could also be logically derived based on the impacts of the individual uses (regardless of zoning district), and the individual zoning district standards could then also be better tailored to the district's purpose and uses.

These matters need to be further discussed and developed in partnership with City staff, but they represent a logical extension of the analysis presented in the technical memorandum – the best practices, benchmarks, Comprehensive Plan, use recommendations – and the subsequent *Existing Conditions Survey*.

Memorandum Conclusion

The City of Manassas has set a specific direction and vision for its industrial areas through its newly adopted Comprehensive Plan. This vision will be supported directly by the modifications to the industrial zoning districts that result from this project. The research presented in this technical memorandum also correlates well with the Plan's stated priorities and principles. Organizing the district by use categories, establishing FAR standards, evaluating appropriate lot coverage (open space v. impervious), setbacks, access, among other standards, will all be influenced by the research presented here and staff's input and evaluation of this information moving forward.

This technical memorandum represents the completion of Task 1 but should be taken into close consideration with Task 2 which is the *Existing Conditions Survey*. The survey will show what exists in the industrial zoned areas which lends support to the recommendations presented in the Industrial Use section of this document. Staff's evaluation of the information in Tasks 1 and 2 will lead to the project's Final Report setting forth recommended code modifications for the City's industrial zones.

Next Steps

The *Existing Conditions Survey* has been conducted and will be finalized as the next task so that it, taken with the *Industrial Zoning Comparison Survey* and this technical memorandum, can lead to the final project task which is recommended changes to the City's industrial zoning regulations. All tasks are scheduled to be finalized, in draft form, for City staff review by August 31, 2013. The final, staff approved products will then be presented at a joint meeting of the Land Use Committee and ZORC on September 26th. Their recommendations, along with the zoning ordinance review information, will be presented to Council in October. The Planning Commission and Council are anticipated to conduct their public hearings on proposed ordinance amendments in the October/November timeframe.

	Manassas		Prince William County			Manassas Park		Consultant Comments
District Name	I-1	I-2	M-1	M-2	M/T	I-1	I-2	
District Type	Light Industrial	Heavy Industrial	Heavy Industrial	Light Industrial	Industrial/ Transportation	Industrial	Light Industrial	
Desired Purpose	Campus style employment centers	Provide areas for industrial uses including manufacturing and business activities otherwise prohibited by this chapter due to their heavy truck traffic, excessive noise, and/or unique development needs	Heavy and intensive industrial processing, manufacturing, and storage with limited retail and service uses	Flexible use employment center; research and development, light industrial manufacturing, warehousing, related office and institutional uses	Provide areas for and encourage development of heavy industrial uses, and in particular for including those which generate considerable truck and/or heavy equipment traffic, or which require access to more than one mode of transportation	Promote employment opportunities and enhance the city's tax base through the development of research and development centers, light industrial manufacturing, warehousing, and related office and institutional uses	Encourage the development of compatible industrial, commercial and office uses … creating a positive image for the city	The I-1 District is not "campus-like". Most peer communities provide for light but not heavy industrial. Manassas has a "heavy zoning district" (I-2) but it is not utilized as such and does not appear to desire truly heavy industry within the community. The City needs to figure out what it wants to provide. What is its Industrial Economic Development brand? For example, the I-2 District could be converted into an R/D District.
Notable Uses	Research & development, business offices, light manufacturing, distribution, and supply	Virtually all uses permitted by right in the other nonresidential zones are permitted in the I-2 zone unless listed in the special use permit section	Intended to promote employment	Not for retail and service unless in support of primary use	Specialized transportation, industrial equipment, supporting services	R&D (non-HAZMAT)	Defense production, R&D, Technology businesses	Issues include how intensive should the industrial districts be in terms of heavy vs. light industry, and should retail and/or residential be allowed at all, as well as other uses such as auto repair. Very little actual R&D occurring in I-1.
HAZMAT/Combustible material restrictions	Requires SUP	Requires SUP	Requires SUP	Requires SUP	Requires SUP	None permitted		Should Manassas permit such activities even by SUP, particularly in I-1?

Other By-Right	All B-4 uses (with exceptions); adult uses; airport; bottling, manufacturing, cold storage, milk facilities; general manufacturing, quarters for facility caretakers; wholesale trade; building material sales; scientific R&D; public storage; printing; warehouse and storage	In addition to I-1 uses and adult uses, public and semipublic uses (excluding detention); truck terminals; storage yards (non-HAZMAT)	Allows for 68 listed uses varying from light and medium industrial to office and commercial uses; By-right uses are non-HAZMAT	Allows for 39 uses including, but not limited to, educational facilities; data and computer services; pharmaceutical processing; research and development; offices; vocational school; veterinarian; convention center	Allows for 71 listed uses including, but not limited to, farm equipment; cold storage; equipment and material storage yards; feed distribution center; manufacturing; motor vehicle sales, repair, storage; railroad services; truck terminal; By-right uses are non-HAZMAT	Ambulance services; commercial studios; assembly (non-HAZMAT); industrial bakery; building material sales yards; cleaning /dyeing; data processing center; equipment storage yard; gunsmith shop; janitorial; laboratory; manufacturing; office; packaging, telecommunications, courier services; printing; public utilities; radio/TV broadcasting; recording studio; business/trade schools/ self-storage; warehouse	All uses permitted in the Public Facilities and B-2 districts; light/medium manufacturing	A primary issue is whether the City wants to craft use lists with an eye toward competing directly with neighbors such as PWC, Manassas Park, Warrenton and Leesburg, either by matching them closely or by allowing some uses they do not allow. The permitted uses - by right and by permit - need to support the district purpose. As a housekeeping matter, all permitted uses need to be comprehensively listed in each zoning district (not refer back to other districts). Also, all assembly uses should be addressed equally.

Other SUP	Animal hospital; chemical storage (in excess of 5 tons); child care; combustible materials; places of worship; commercial amusement facilities; laboratories; funeral/cemetery uses; gas station; heliport; kennel; intermediate residential housing; auto repair; motor vehicle sales (min. lot area of 20,000 sq. ft.); private schools; public facilities; restaurants; transient housing; truck terminals	Asphalt/concrete plants; child care; chemical storage; telecommunications; motor vehicle repair, sales; combustible materials in excess of 10,000 gallons; public dancehall; all repair shops/garages	Allows for listed and unlisted uses by SUP including HAZMAT and other uses with potentially adverse impacts	Ambulance service repair; HAZMAT research & development, assembly, testing laboratories, wholesale; commercial parking; gas station; shooting ranges; marina; heliport; race track; recreational facilities; recyclable materials separation; stadium; water transportation; taxi	Asphalt/concrete plant; HAZMAT assembly; day care; mineral extraction; heliport; manufacturing; research and development; marina; storage; gas station; motor vehicle graveyard; racetrack; shooting range; saw mill; stadium; laboratories; truck stop; warehouse; water transportation	Auto repair; indoor shooting range; indoor or outdoor stadium; taxi or limo services	Business or commercial uses with buildings over 60'; vehicle sales; commercial recreation	SUP uses need to reinforce the district purpose along with the by-right uses. Uses for consideration should include uses that would reinforce a campus-like theme; not necessarily R&D, but economic development oriented.
Accessory Structures/Uses	Yes	Yes	Yes	Yes	Yes	Yes	Retail supply & equipment uses; retail & refreshment uses (not to exceed 25% of principal area)	This is a pretty customary use and does not pose any material issues.

Prohibited uses section	Yes; all uses not specifically permitted are prohibited	Yes; all uses not specifically permitted are prohibited	Any unlisted use may be considered in a SUP	N/A		Salvage, scrap or vehicle storage yards		Explicitly stating that all uses not listed are prohibited is a good practice for clarity, however, allowing for the inclusion of additional uses through a zoning text amendment process should also be considered. Any uses should be carefully measured against the district purpose and associated adverse impacts.
Use limitations	Principal uses shall be conducted within a completely enclosed building	Principal uses shall be conducted within a completely enclosed building	Uses permitted by-right in conjunction with, and secondary to, a permitted principal use: locksmith, quick service food store, motor vehicle fuel station (for primary business vehicles), commercial indoor recreation facility, restaurants, retail store	Uses permitted by-right in conjunction with, and secondary to, a permitted principal use: adult/child day-care, salon, bus station, catalog sales, equipment storage, financial institution, helistop, fuel station (for primary business), office, commercial indoor recreation, restaurants, retail store, taxi	Uses permitted by-right in conjunction with, and secondary to, a permitted principal use: locksmith, motor vehicle fuel station (for primary business vehicles), commercial indoor recreation facility, quick service food store, restaurants, retail store	Manufacturing and repair business shall be conducted within enclosed building; underground utilities	Underground utilities	Enclosed buildings match typical practices. Requiring underground utilities is a good practice. Dustless parking surfaces = paved Requiring additional use and design standards for certain uses is a good practice and can allow for uses by-right where otherwise they might require an SUP.

Ancillary activity restrictions	May be exterior with appropriate screening	May be exterior with appropriate screening				Must be screened from public view		Manassas addresses as well as, or better than, others.
Screening requirement	Required for all residential boundaries and abutting publicly visible storage areas; 6' opaque screen, landscape buffer, 25' depth	Required for all residential boundaries and abutting publicly visible storage areas; 6' opaque screen, landscape buffer, 25' depth	Not in district section	Not in district section	Not in district section	Screen or locate private trash receptacles, loading docks, and garage doors so they are not visible from a public street.	Screen or locate private trash receptacles, loading docks, and garage doors so they are not visible from a public street.	Manassas screening requirements are comparable to, or better than, others - could be strengthened by the performance standard of "not visible from public ROW" although that requires interpretation and enforcement.
Landscaping requirements	Yes per above	Yes per above	Not in district section	Not in district section	Not in district section	20% of lot		Lot coverage standards should be considered to enhance a "campus-like" atmosphere, and the type of plantings should also be addressed (i.e., native species or others that are desired or not desired).

Storage				No more than 20% of lot devoted to outdoor storage			Limits on amount of coverage devoted to outdoor storage may be useful, although effective screening should mitigate most issues. If a coverage limit is imposed, it needn't be as restrictive as 15% or 20% as with Blacksburg and PWC, but could be enough to prevent a de facto storage yard and no other use, such as 50% limitation.
Parking requirements	Yes (Article VI)	Yes (Article VI)	Not in district section	Not in district section	Not in district section		Article VI needs to be evaluated as a separate review exercise. The standards appear to be typical, but not reflective of some newer parking philosophies and practices. The phased and shared parking provisions seem to be good as long as they have been successfully administered.

Development Standards								There is some merit in requiring a minimum district size, particularly for I-2, and if the goal is to encourage a "campus-like" atmosphere.
Min. lot size	None	None	None	None	N/A	None	2 acres	One acre minimum lot size is a common standard. In theory, no minimum is necessary, but as a practical matter, having a conservative minimum protects against unintended consequences, surprises, and conflicts over subdivision applications.
Min. lot width	N/A	N/A						This does not appear to be a major issue and any standards set forth are relatively nominal.
Min. lot depth	N/A	N/A						This appears to be a non-issue.
Max. FAR (floor area ratio)	N/A	N/A	.50; No more than 20% of principal use may be used for accessory retail sales	.50; No more than 20% of principal use may be used for accessory retail sales	0.75			The higher the FAR, combined with a conservative lot coverage requirement, the more efficient the buildings will be designed and a more campus-like industrial park can result.
Max. lot coverage	N/A	N/A	85%, 15% open space	80%, 20% open space	85%, 15% open space	70%		In tandem with the FAR, this requirement can enforce a park-like atmosphere, yet still allow for significant development.

Max. structure height	75' (excluding screened mechanical equipment)	75' (excluding screened mechanical equipment)	75', excluding screened mechanical equipment	60', excluding screened mechanical equipment	75', excluding screened mechanical equipment	60'	60' without CUP	75 feet max height is more permissive than some other peer communities but the City's setback requirements protect against conflicts and allow more flexibility for users. This height also permits a much higher FAR along with open space (Lot Coverage) requirements.
Special Exceptions	Screened mechanical equipment; towers & antennas owned by municipal government; airport overlay district supersedes	Screened mechanical equipment; towers & antennas owned by municipal government; airport overlay district supersedes						This appears to be a non-issue and is handled well by the City.
Yard/Setback Requirements								These standards can also reinforce the creation of a campus-like atmosphere, but none of these comparisons are particularly aggressive. Nominal setbacks appear to be the norm.
Front	15' from lot line; +6":1' for structures over 75'	15' from lot line; +6":1' for structures over 75'	20' from all rights-of-way; +2' of additional setback for every 1' height above 45'	20' from all rights-of-way; +2' of additional setback for every 1' height above 45'	20' from all rights-of-way	15'	15'	

Rear	25' from residential district line; +1':1' for structures over 25'; none adjacent to C or I	25' from residential district line; +1':1' for structures over 25'; none adjacent to C or I	20' setback from abutting C or Office district property lines; 50' from Ag or R district property lines	20' setback from abutting C or Office district property lines; 50' from Ag or R district property lines	20' setback from abutting C or Office district property lines; 50' from Ag or R district property lines	10' (only if adjacent to R)	10' (only if adjacent to R)	
Sides	Same as above	Same as above	Same as above	Same as above	Same as above	20' (50' adjacent to R)	20' (only if adjacent to R)	
Lot access (private/public)	N/A	N/A	20' service area in rear	20' service area in rear	20' service area in rear			This does not appear to be a major issue and any standards set forth are relatively nominal.

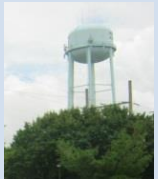
Notes:	All permitted uses should be listed in each district section and not reference other district uses; no structure shall exceed 75', however there is an additional setback for structures over 75'?; the material difference between industrial districts is minimal	Same as for I-1	Secondary uses must not take up more than 25% of floor area	Prohibits truck storage except during loading or unloading activities; Secondary uses must follow primary provisions. Secondary uses must not take up more than 25% of floor area	Secondary uses must follow primary provisions. Secondary uses must not take up more than 25% of floor area	Manassas Park seems to have taken many of its cues from PWC's industrial and economic development efforts. MP also seems to have very similar goals to the City of Manassas. Their approach is worth noting in many areas.	Use & design standards are recommended for many uses to allow them to be by-right as opposed to SUP. For example, treating assembly uses similar to adult uses in that regard, or it may be that an outdoor recreation use is an SUP in I-1, but by-right with required performance standards in I-2. As an alternative to listing individual uses, the City should consider defining light, medium, and heavy industry and letting the Zoning Administrator determine what use fits what category. This would allow for more flexibility in ordinance administration. However, there are advantages to specifically listing (and defining) some desired uses for economic development clarity. All listed uses should be defined in the ordinance.

Existing Conditions Survey
for Industrial Zoned Properties

Note: This inventory is not intended to be a complete record of industrial zoned land, rather an extensive inventory of industrial properties to assess the current use (i.e., residential, commercial, industrial, civic, etc.).

* The properties are presented in the order the windshield survey was conducted so there is some geographical flow rather than an alphabetical listing by street.

Zoning	Owner's Name	Use	Address*	Comments
I-1	Reformed Presbyterian Church	religious assembly	8913 Center Street	
I-2	Manassas Ice and Fuel Company (MIFCO)	manufacturing & distribution	9003/9005/9007/9007 A/9009/9011A Center Street	
I-1	City of Manassas	civic	9317 Center Street	cemetery
I-1	Davison-Swann Living Trust	commercial (auto sales)	9321 Center Street	Harley Davidson
I-1	Pierce, Robert W. and Liza	office	9605 Center Street	Pierce Insurance (Nationwide)
I-1	Pierce and Price LLC	specialty service	9609 Center Street	Pierce Funeral Home
I-1	Society For Worldwide Interbank	commercial; financial	9623 Center Street	Swift
I-1	Maverick Realty III, LLC	industrial manufacturing	9635 Center St	Georator Corporation

				Southern States
I-1	B-Del Corporation	retail	9751 Center St	
I-1	Vicken Properties, LLC	commercial	9781 Center Street	
I-1	Commonwealth of Virginia	commercial	9779 Center St	Not sure if this is leased, but it's taxed C
I-1	Redbird LLC	flex; office/commercial	9654 Center Point Ln	
				ABC Photo & Imaging Services
I-1	Prince Properties LLC	vacant	9002/9004 Prince William St	
				Water tank
I-1	City of Manassas	civic	9116 Prince William St	
I-1	S and S Holding LLC	commercial	9150 Prince William St	E Car Sales and Rentals
I-1	Sfreddo, Anthony M and Sfreddo, Phillip		9160/9162/9164 Prince William St	
I-1	Brown Brothers, LLC		9166/9168/9170 Prince William St	Brown's Insurance Agency
I-1	Orange And Alexandria Real Estate, LLC		9216 Prince William St	Gregory Industrial Park
I-1	Smith, Steve B		9230 Prince William St	

I-1	Olde Town Auto Repair	auto sales & repair	9278 Prince William St	OTAR, LLC – lengthy legal (see deed)
I-1	Kratzer Brothers Ventures, LLC	paint, storage, office	9288 Prince William St	
I-1	Pitts, James K, Trs of the James		9294 Prince William St	
I-1	Berry, Terry W and Brenda S	mechanical, plumbing, electrical	9400 Prince William St	
I-1	Conger, Dennis R Jr	storage	9402/9402A Prince William St	Piedmont Products
	Gregory, John O	office/storage	9410 Prince William St	Gregory Construction
I-1	Eagle, Brett		9414 Prince William St	
I-1	Rizkallah, Issam S and Erika L		9416/9418 Prince William St	
I-1	Amezquita, Tomas E	commercial	9500 Prince William St	
I-1	Costa Enterprises LLC	vacant	9502 Prince William St	
I-1	Burns, Tommy	commercial	9504 Prince William St	
I-1	Rivera, Fidel	residential	9508 Prince William St	Lawful non-conforming
I-1	Griffin, Michael T and Linda M	commercial	9510 Prince William St	
I-1	Stark, Faye S	residential	9512 Prince William St	Lawful non-conforming
I-1	Select Locations, LLC	commercial	9514 Prince William St	

I-1	Costa Enterprises, LLC	religious assembly/ office	9518/9520 Prince William St	
I-1	Harmon, Ernest R and Bessie Lee	commercial	9524 Prince William St	
I-1	Barbour, Richard D Jr and Mary	residential	9526 Prince William St	
I-1	Alstadter, Sandra		9528 Prince William St	
I-1	MHP Enterprises, LLC	commercial	9530 Prince William St	
I-1	Manassas School Board	civic	9601 Wellington Rd	Manassas Elementary School
I-1	City of Manassas	civic	9723-27 Dean Drive	water tank/pumping facility
I-1	Manassas Ventures LLC	vacant	9501/9729/9733/9755/ 9764-76/9786-92/ 9796/9974/9976/ 10015-19 Dean Dr	
I-1	Logan Sinclair Limited Partnership	vacant	9720 Dean Dr	
I-1	Rivera, Rose D and Miguel A	storage	9735/9737 Dean Dr	commercial
I-1	Estate of Strother, Moses	vacant	9743 Dean Dr	commercial
I-1	Kane, James Scott		9745 Dean Dr	
I-1	Robinson, Simon		9782 Dean Dr	commercial
I-1	Kincheloe, John T	vacant	9731,9739-41, 9747-49, 9757-9769, 9781-9795 Dean Dr	
I-1	Burke, Vera Y		9798 Dean Dr	
I-1	Cook, Danny L and Bonnie R	residential	9840 Dean Drive	Lawfully non-conforming
I-1	Pickett, Charles A and Althea A		10001 Dean Dr	
I-1	Cook, Danny L and Bonnie R		10025 Dean Dr	

I-1	Pickett, Charles A and Annie A	residential	10034 Dean Drive	
I-1	FAVOR LLC	commercial/civic	10035 Dean Drive	Doggie Daycare/animal shelter
I-1	Northern Virginia Family Service, Inc.	civic	10056 Dean Drive	SERVE (homeless shelter)
I-1	Crigger Holdings, LLC and Cowne Holdings		10060 Dean Dr	
I-1	Virginia Electric and Power Company		10068 Dean Dr	
I-1	Jeffrey L Lehew Family, LLC XI		10198-99 Dean Dr	
I-1	Pickett, Lillie Mae		9905 Foster Dr	
I-1	City of Manassas		9985 Foster Dr	
I-1	Matias, Alberto E and Grace Del Carmen		10021 Foster Dr	
I-1	Manassas Ventures LLC	vacant	10023/25 Foster Dr	
I-1	A and M Enterprises LC		10024 Foster Dr	
I-1	Wright, H James and Wright, David L	residential	10046 Foster Dr	
I-1	Singla, Raj and Chand R		10049 Foster Dr	
I-1	Virginia Electric and Power Co	power generation/ distribution	10212 Foster Dr	electrical distribution substation

I-1	Steelman, Corena K	residential	10216, 18 Foster Dr	
I-1	City of Manassas	civic	10218a Foster Dr	Rose Hill Cemetery
I-1	Nussbaumer Real Estate, LLC		10219 Foster Dr	
I-1	9500 Technology Drive LLC		9500 Technology Dr	Manassas Office & Research Park
I-1	Manassas Ventures LLC	vacant	9501/9507/9509/9521/ 9523/9531 Technology Dr	
I-1	National Religious Broadcasters	service communication/ warehouse	9510 Technology Dr	
I-1	9511 Technology LLC	commercial	9511 Technology Dr	Minnieland Academy (daycare)
I-1	Logan Sinclair Limit Part The	vacant	9811 Nokesville Rd	
I-1	Virginia Department of Transportation		9967, 71, 73, 77 Nokesville Rd	
I-1	The Baker Post, LLC	specialty services	10001 Nokesville Rd	Funeral Home
I-1	Kerlin, Stella B	residential	10017 Nokesville Rd	Lawful non-conforming
I-1	A and M Enterprises, LC	commercial	10021, 25 Nokesville Rd	
I-1	Kline, Orrin M Jr and Jane C	residential	10030 Nokesville Rd	Lawful non-conforming
I-1	Brethren Housing Corporation	office/residential	10033 Nokesville Rd	
I-1	Manassas Church of Brethren	religious assembly	10037, 47 Nokesville Rd	
I-1	Thompson, Warren P and Charlene	residential	10053 Nokesville Rd	Lawful non-conforming
I-1	Cemetery	civic	10200 Nokesville Rd	
I-1	Berean Baptist Church Inc	religious assembly	10203 Nokesville Rd	
I-1	Nussbaumer Real Estate, LLC	commercial	10209 Nokesville Rd	small shopping center
I-1	TEBS LLC	commercial	10227 Nokesville Rd	Veterinarian; auto sales, misc.
I-1	Saffouri, Judith C Trustee		10401 Nokesville Rd	
I-1	WMH Properties, L.C.		10403 Nokesville Rd	

I-1	PHA Nokesville, LLC	commercial	10405, 07, 09, 11 Nokesville Rd	Stone Center
I-1	Swansen, Deanna and Aubrey Christopher J	auto sales	10415 Nokesville Rd	Voyage Auto Sales
I-1	Taghipour, Hamid Reza and Navab, Fatemeh		10417, 19 Nokesville Rd	
I-1	Haverty Furniture Companies Inc	truck/distribution	10421 Nokesville Rd	
I-1	Taghipour, Hamid Reza and Navab, Fatemeh	vacant	10431 Nokesville Rd	For Sale
I-1	Jimenez Properties, LLC	auto sales	10439 Nokesville Rd	Peruvian Motors
I-1	Winco Inc	gas station, convenience store	10441 Nokesville Rd	BP
I-1	Virginia Department of Transportation		10511 Nokesville Rd	
I-1	Lockheed Martin Federal System	industrial/ research & development	9500 Godwin Dr	
I-1	Micron Technology, Inc.	industrial/ manufacturing	9600 Godwin Dr	
I-1	Beville, Norborne P Jr Trustee	commercial	9748 Godwin Dr	
I-1	EVR Investments, LLC		9750 Godwin Dr	
I-1	City of Manassas	vacant	9698/9800/9911 Godwin Dr	
I-1	Store Master Funding II, LLC		9811 Godwin Dr	

I-2	BCG Chantilly, LLC	flex/office	9813,15 Godwin Dr	Godwin Business Park
I-2	Global Mindset Enterprise, LP	flex/office	9817 Godwin Dr #201	Godwin Business Park
I-2	Olive Enterprises, LLC	flex/office	9817 Godwin Dr #202	Godwin Business Park
I-2	Godwin Investments LLC		9821 Godwin Dr	
I-2	Natmi National Manassas, LLC	truck/distribution	9825 Godwin Dr	Fed Ex
I-2	Fullerton, Samuel F Jr and Patricia J	instruction	9835 Godwin Dr	Dance Academy
I-2	Glen-Gery Corporation	industrial/ manufacturing	9905 Godwin Dr	Glen-Gery Brick Center; the most evident I-2 use in the City.
I-2	Upper Occoquan Sewage	civic	9909 Godwin Dr	
I-2	City of Manassas		9913 Godwin Dr	
I-1	Aerographics Inc	aviation	10678 Aviation Ln	
I-1	Colgan Group LLC	aviation	10660 Aviation Ln	

I-1	Aurora Flight Sciences Inc	aviation/research & development	9950 Wakeman Dr	
I-1	Manassas FBO LLC	aviation	9998 Wakeman Dr	
I-1	City of Manassas	aviation	10453 Wakeman Dr	
I-1	Chantilly Hangars, LLC	aviation	10500 Wakeman Dr	
I-1	Chantilly Hangars, LLC and Chantilly	aviation	10502 Wakeman Dr	
I-1	Dulles Aviation Inc	aviation	10520 Wakeman Dr	
I-1	T-Hangars of Virginia, Inc	aviation	10630 Wakeman Dr	
		aviation		
I-1	Aerosolutions Group Inc	aviation	10681 Frank Marshall Ln	
I-1	Airport Development Group LLC	aviation	10671 Frank Marshall Ln	
I-1	Airport Development Group LLC	aviation	10661 Frank Marshall Ln	
I-1	Kao/Buchanan Properties, LLC	specialty service/ distribution/ storage/office/ manufacturing	10662 Wakeman Ct	
I-1	Key, Anna C	vacant	10669 Wakeman Ct	
I-1	Cannon Park Associates L C	specialty service; packaging; distribution; warehouse	10678 Wakeman Ct	
I-1	Cannon Park Associates	auto auction	10700 Wakeman Ct	
I-1	City of Manassas	vacant	10867 Wakeman Ct	

I-1	Manassas Airport	transportation service		All of the uses in and surrounding the airport seemed very appropriate to I-1 zoning uses An airport Land Use Study is underway.
I-2	Advantage Property Management, LLC		10351 Residency Rd	
I-2	Contractors Storage, LLC		10599 Residency Rd	
I-2	Vucci, Josephine C and Vosburg	auto repair	10591 Redoubt Rd	Industrial Park; Earl's Auto Body
I-2	Prince William County Board	vacant	10558 Redoubt Rd	
I-2	City of Manassas	vacant	10560/10568/10579 Redoubt Rd	Pending sale to landscaping business
I-2	Wilson Real Estate LLC	construction sales/supply	10589 Redoubt Rd	Industrial Park; Stock Building Supply
I-1	Morais Properties Inc	specialty service	10580 Redoubt Rd	Security & Associates; My & Son
I-2	Manassas Transfer & Delivery	mini-storage	10440 Colonel Ct	
I-2	Morais Properties Inc	commercial	10450 Colonel Ct	Roto Rooter; Unique Automobile Cable
I-2	Natmi Truck Terminals, LLC	shipping/truck	10451 Colonel Ct	YRC Freight
I-2	Sills Family Limited Partnership		10460 Colonel Ct	
I-2	Rkt3 Holdings LLC		10461 Colonel Ct	Park (IND)
I-2	Godwin Associates LLC		10470 Colonel Ct	Godwin Industrial Park
I-2	Godwin Park Enterprises LLC		10480 Colonel Ct	
I-2	Page Leasing Company, LLC		10481 Colonel Ct	
I-2	SSTI 10490 Colonel Ct LLC	self-storage	10490 Colonel Ct	Smart Stop Self Storage

I-2	Godwin Park Enterprises, LLC		10491 Colonel Ct	Godwin Industrial Park
I-2	E&L Builders	construction/office	Colonel Ct	
I-2	Architectural Products	manufacturing	Morais Ct	This street is not listed at all in the tax records.
I-2	City of Manassas	vacant lot	10310 Central Park Dr	
I-2	Central Park Drive, LLC		10360 Central Park Dr	Central Park Business
I-2	Central Park Drive, LLC C/O American Dis	waste management transfer station/ pre-processing	10370 Central Park Dr	Central Park Business; American Disposal Services
I-2	Swan Holdings, LLC		10371 Central Park Dr	Industrial Ctr; Builder's First Source; Master Craft Awards
I-2	Simoes, Fernando F and Lesley S	construction storage yard	10379 Central Park Dr	Industrial Ctr; Premier Concrete; ASML
I-2	Caleast Nat, LLC	manufacturing; repair	10380 Central Park Dr	Industrial Ctr; J&J Automotive Services; Extreme Steele
I-2	Cannon Branch Industrial Center LLC	construction storage yard	10381 Central Park Dr	Central Park Bus & Industrial Ctr;; Broadwater Development

I-2	Diamond Enterprises LLC	concrete delivery	10391 Central Park Dr	Indust Ctr; Simeos Concrete; Alexander's Concrete Pumping
I-2	Advanced Laparoscopic and General	vacant	10399 Central Park Dr	Indust Ctr; corner parcel with Godwin
I-2	Broadwater Investments II	flex/commercial	10426 Central Park Dr	Industrial Ctr
I-1	Middlebrooks, Anthony L	residential	9809 Cockrell Rd	
I-1	Sills Family Limited Partnership	commercial; storage	9813 Cockrell Rd	Sills Car Wash
I-1	9819 Cockrell Rd LLC	auto repair	9819 Cockrell Rd	Fries Garage
I-1	Ashton Professional Center	office	Cockrell Rd	Corporate Circle and Business Way offices
I-1	City of Manassas	vacant	9909 Cockrell Rd	
I-1	Shree Lavani Inc	hotel	9913 Cockrell Rd	Home Style Inn
I-1	City of Manassas	vacant	9917 Cockrell Rd	
I-1	American Legion	civic	9950 Cockrell Rd	
I-1	Lockheed Martin Federal System	vacant	9251 Wellington Rd	
I-1	Manassas Ice and Fuel Company	vacant	9269 Wellington Rd	
I-1	Lockheed Martin Federal System	vacant	9279/9285 Wellington Rd	
I-1	Manassas Ice and Fuel Company	vacant	9291 Wellington Rd	
I-1	AF & WB Enterprises, LLC	vacant	9299/9301 Wellington Rd	
I-1	AF & WB Enterprises, LLC	storage	9311 Wellington Rd	Warehouse; space for lease sign; code issues?

I-1	AF & WB Enterprises, LLC	legally non-conforming?	9325 Wellington Rd	auto graveyard; Nolasco Landscaping (tenant)
I-1	VDOT	commercial	9400 Wellington Rd	This parcel is shown as vacant and owned by VDOT it is occupied by RCS among other commercial interests.
I-1	Virginia Department of Transportation	median/rail ROW	9403/9480 Wellington Rd	Tax Exempt
I-1	Crayons To Perfume LLC	vacant	9405-07 Wellington Rd	
I-1	Colgan Powersports LLC	commercial	9409 Wellington Rd	
I-1	United Rentals (North America), Inc	commercial	9415 Wellington Rd	
I-1	Alexander, Hugh Cline Trustee	vacant	9460 Wellington Rd	
I-1	Southern Railway	civic	9599 Wellington Rd	Rail, Commercial
I-1	Electromotive, Inc and EMRE, LLC	technology	9131 Centerville Rd	Electrogroove Engine Controls; Key Commons
I-1	Pinnacle Motors Inc	auto sales	9141 Centerville Rd	Caspian Auto; Key Commons
I-1	Intersport Properties, LLC		9145 Centerville Rd	Allied – building products; Koma – building supply
I-1	Sully Park Assoc @ Birmingham LLC	civic; commercial	8500/8521/8600 Phoenix Dr	New Covenant Fellowship; Parts Unlimited

I-1	Milleson Enterprises Inc	storage	8645, 47,49 Phoenix Dr	commercial
I-1	Saylors Properties, LLC	commercial	8669 Phoenix Dr	Saylors Dental Lab
I-1	B and L Investments and Rentals	storage	8629 Phoenix Dr	commercial
I-2	numerous small automotive shops	auto repair	Jerry's Cir	
I-2	Manassas Scrap Metal	salvage yard	Jerry's Cir	
I-2	Euclid LLC	commercial	9020 Euclid Ave	Euclid Business Center
I-2	Kao/Buchanan Euclid Ave LLC	commercial; offices	9021 Euclid Ave	Euclid Business Center
I-2	Euclid A LLC	commercial	9022, 24 Euclid Ave	Euclid Business Center
I-2	Starr Enterprises L C	commercial	9026 Euclid Ave	Euclid Industrial - Commercial
I-2	Mc and E Properties LLC	commercial	9030 Euclid Ave	
I-2	Walker, John M and Sandra H	commercial	9046 Euclid Ave	Franklin Square
I-2	Starnes, Mark A and Susan R	commercial	9048 Euclid Ave	Franklin Square
I-2	Walker, John M and Hale, Gary S	commercial	9050 Euclid Ave	Franklin Square
I-2	Ho, William Trustee Living Trust	commercial	9052 Euclid Ave	Franklin Square
I-2	Virginia Water Conditioning	commercial	9054 Euclid Ave	Franklin Square
I-2	Carolla Family Real Estate LLC	commercial	9056,58 Euclid Ave	Franklin Square
I-2	Merchants Associates LLC	vacant structure & property	9059 Euclid Ave	Looks like it may be leased to various, miscellaneous businesses or vacant
I-2	Carolla Family Real Estate LLC	commercial	9060 Euclid Ave	
I-2	Euclid Avenue Investors, LLC	vacant structure	9061 Euclid Ave	Part of Merchants structures
I-2	Menditch Investments Limited	commercial	9070 Euclid Ave	American Residential Services

I-2	Aksoylu Properties LLC	auto sales	9075 Euclid Ave	
I-2	Kaybar Associates Limited	commercial	9088 Euclid Ave	Frank's Auto Service & Repair
I-2	Sills Family Limited Partnership	industrial	9090 Euclid Ave	
I-2	Mid-Atlantic Real Estate Investment Inc	commercial	9091 Euclid Ave	Sign Graphics; Infinite Printing; misc businesses
I-2	C. Nelson, LLC	commercial	9109 Euclid Ave	Shane's Signs
I-2	City of Manassas		9109a Euclid Ave	
I-2	Gaston, Michael L and Jacqueline		9110 Euclid Ave	
I-2	Sunrise Investments LLC	commercial	9111 Euclid Ave	Enterprise-Rent-A-Car
I-2	Nokesville Properties, Inc	vacant	9112/9116 Euclid Ave	Skyline Concrete Pumping
I-2	Eck Enterprises Inc		9120 Euclid Ave	Eck Supply Company
I-2	Fitzgerald and Hartselle LLC		9121 Euclid Ave	Ironworks
I-2	Fitzgerald, Thomas B and Assoc	civic; residential	9127 Euclid Ave	Arlington Ironworks; work release housing
I-2	Fitzgerald Brothers LLC	storage; scrap	9141 Euclid Ave	Ironworks
I-2	Hugill, Thomas B and Pamela S	commercial auto sales	9150 Euclid Ave	Tom's Truck Sales
I-2	Fitzgerald Brothers LLC	commercial	9151 Euclid Ave	
I-2	Southland Insulators	insulation supplier	5101 Quarry Rd	manufacturing
I-2	Volvo	heavy construction	Quarry Rd	manufacturing

		equipment		
I-2	Shemin Nurseries Inc	nursery	8309 Quarry Rd	
I-2	KRJK Realty	manufacturing	8440 Quarry Rd	McClung Logan Equipment
I-2	Muddiman, Leonard B	residential	8497 Quarry Rd	
I-2	Tripp, Albert and Daisy Estate,	residential	8541 Quarry Rd	
I-2	Totten, Marvin G Jr and Shirley	residential, vacant	8531/51 Quarry Rd	
I-1	Sunrise Investments LLC	glass tinting	8607 Quarry Rd	Atlantic Sun Control; Roberts Oxygen
I-1	Merchant, W.T. Jr	commercial	8703 Quarry Rd	Oriental Sports Academy
I-1	Northland Forest	lumber distribution, sales	8707 Quarry Rd	
I-1	Quarry Road Holdings LLC	cleaning products	8709 Quarry Rd	Loyal Hygiene Solutions
I-2	Wine, Robert R Trustee	storage units	8490 Signal Hill Rd	Signal Hill Mini Storage
I-2	Signal Hill 101, LLC	manufacturing (cabinetry, furniture restoration)	8492 Signal Hill Rd	Signal Hill Cabinets; Carrison Restorations; A Quality Finish
I-2	CFP L C		8510 Signal Hill Rd	Custom Fence & Repair

Sources:
City of Manassas Tax Records
City of Manassas GIS
City of Manassas Zoning Map
Windshield Survey(May 9th and July 1, 2013)/Field Verification (July 1st)
Google Earth