

# Charting the Future of Baltimore's Industrial Waterfront

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# Executive Summary

Originally enacted in 2004, the Maritime Industrial Zoning Overlay District (MIZOD) modifies the provisions of Baltimore City's 1973 zoning code through an overlay district. The criteria for inclusion in MIZOD include parcels with deepwater access (18 feet or more), with rail access leading to a parcel with deepwater access, that provide contiguity, or are zoned M-3 and not designated a Planned Unit Development. MIZOD comprises five distinct areas of the city, all with access to deepwater as a common denominator, but each with unique features, influences, problems, and opportunities. These areas include Locust Point, Canton and Dundalk, Curtis Bay, Fairfield, and Hawkins Point.

The MIZOD ordinance contains a sunset provision and expires in 2014. The city is currently considering a proposal to extend the provisions of MIZOD for an additional ten years with expiration in 2024. An extension at this time is somewhat paradoxical since the city, having recently adopted a new comprehensive master plan and economic development strategy, is in the midst of crafting a comprehensive zoning ordinance, the first revision since 1973, which will include not only a new set of zoning classifications and the regulations to govern them, but also a revised map of zoning districts.

Planning officials relate that drafting of the new zoning ordinance is slated to begin in January 2009, with adoption targeted for 2010. Completion of the more time-consuming and challenging process of mapping the new zoning classifications is estimated to occur between 2011 and 2016.

## **Protection of Maritime Land**

MIZOD is intended to preserve land with deepwater access for industrial use, including non-maritime industrial uses, and prohibit hotels and motels, business and professional offices other than accessory uses, planned unit developments, and restaurants and lunchrooms other than accessory uses. Deepwater is prerequisite to maritime business and is a scarce resource that once converted to non-industrial use is not easily restored to maritime use. Marine terminals operate 24-hours per day, seven days per week and often produce noxious odors, bright light, noise, particulates, vibrations, unsightly views and the potential for industrial accidents that might be considered nuisances by non-industrial neighbors and the source of complaints to regulatory authorities with the potential to result in increased costs and decreased productivity. The extensive sunk cost and corresponding reduced operating expense from lengthy tenures at existing locations are built into current business pricing models, and relocation would produce competitive disadvantage relative to other ports. There are few alternative locations available for new or relocated marine terminals for the following reasons:

- Few parcels with adequate size and deepwater are available;
- Considerable cost for dredging and construction to develop new or replacement marine terminals;

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- Capacity of existing dredge material placement sites is committed to maintenance of the shipping channel; and
  - Identification of and regulatory approval for new dredge material placement sites to accommodate development of new terminal facilities is a lengthy and often contentious process requiring long lead time.

### **The Port of Baltimore**

The Port of Baltimore consists of both private and public marine terminal facilities, as follows:

- 49 Marine Terminal Facilities;
- 43 are located within Baltimore City;
- 36 are privately owned and operated; and
- seven are owned by MPA.

The Maryland Port Administration (MPA) administers the state-owned public terminals and as such, is only one component of the port.

According to a study conducted by Martin Associates entitled *The Economic Impacts of the Port of Baltimore* conducted in 2008, the port excels in handling certain niche cargoes for which it is a dominant port, namely paper, automobiles and roll on/roll off (RO/RO) and bulk commodities. The Port of Baltimore is a significant regional economic engine with:

- 16,493 direct jobs plus 33,693 induced & indirect jobs,
- 59% of direct jobs (9,718) are associated with privately owned marine terminals,
- 2,921 of the total 6,775 jobs associated with the public marine terminals are held by city residents (43.12%), while Baltimore and Anne Arundel County residents hold 1,609 (23.75%) and 849 (12.53%) jobs respectively,
- Personal Income associated with direct jobs at private marine terminals (\$491.5 million) is 1.5 times that of public terminals (\$296.4 million),
- The port is a source of job diversity for local economy offering high paying blue collar employment to those with less than college education,
- Average 2006 wage \$47,780; and
- Average 2003 wage \$50,870.

### **Demand for Non-Industrial Uses**

Developers have discovered that the waterfront is an attractive location for lucrative and successful mixed use residential and commercial projects in areas formerly reserved exclusively for industrial maritime users. The economics of development gives commercial and residential users the ability to pay more for waterfront property than industrial users creating an affordability problem for industrial users in the

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competition for waterfront land. The economic analysis presented in this study concludes that mixed residential and commercial use development actually yields greater job benefits to the city in certain redeveloping communities than the maritime uses that MIZOD is intended to protect. Public and private port interests would have to expend considerable sums to acquire property rights to buffer, preserve and protect the port's vital deepwater assets but for the city's willingness to impose land use controls like MIZOD.

### **Summary of Findings and Recommended Actions:**

Land with access to deepwater that is functional and conducive to maritime use is a scarce resource that warrants preservation and protection within the context of a land-use plan based on present and prospective demand. Fortunately, most MIZOD-protected parcels comport with contemporary parameters and are clustered among other compatible industrial uses. But, industrial properties on the frontier of residential-commercial uses should first be scrutinized to ascertain whether they meet the threshold of physical and functional utility for maritime industrial use before being automatically reserved for maritime purposes.

For properties located along the residential-commercial frontier in neighborhoods already experiencing conflicts, a class of workable transitional uses that can serve as effective buffers for properties near industrial uses, together with mandatory architectural and engineering regulations and design standards with the potential to neutralize the nuisances associated with maritime industrial uses need to be devised. Likewise, encroaching non-industrial projects along the existing MIZOD periphery should bear equal responsibility for providing buffers and design elements to mitigate any unfavorable attributes of pre-existing nearby maritime industrial properties as originally recommended by the *Maritime Industrial Retention and Growth Management Study* (MIRGMS) published by the Port Land Use Development Advisory Council in September 2005.

For those parcels whose physical and location characteristics do not meet the expectations and requirements of contemporary maritime users, holding out for an eventual maritime use of the property might be futile. If a parcel has physical or functional deficiencies so pronounced that the cost to cure them no longer supports its economically feasible industrial use for maritime purposes, the justification for maritime industrial preservation and protection is weak.

The unconditional preservation and protection of underutilized or marginal properties without first determining their feasibility for maritime industrial use denies a cash-starved city with the highest tax rate in the state the opportunity to reap potentially greater benefits from otherwise feasible alternative uses, while contributing little to the overall success of the port. For such parcels, the

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development of suitable compatible transitional uses that would not undermine the efficacy of nearby maritime uses, the specification of architectural and engineering design elements that could mitigate use conflicts, and the establishment of a means to infuse economic and community development resources capable of preserving the viability of the maritime use should be considered.

*Finding:* MIZOD preserves properties adjacent to deepwater for industrial, not necessarily maritime, use; however it ignores functional utility and/or economic feasibility for such use.

*Recommended Action:* Properties should be reserved for maritime-related, not merely industrial, use and the rules governing their use should have the capacity to deal with and provide for compatible non-industrial uses for those sites that are not suitable for deepwater maritime industrial use, especially at residential-commercial frontier locations.

*Finding:* MIZOD does nothing to mitigate use conflicts that already exist nor does it establish effective buffers or define transitional uses to be located therein.

*Recommended Actions:*

1. Define the composition of a suitable buffer and the appropriate transitional uses that can best serve to protect and mitigate the effects of nearby heavy industrial uses.
2. Adopt mandatory architectural and engineering design regulations, including required buffers for new and redeveloped non-industrial projects proposed in the vicinity of existing maritime industrial uses to lessen the conflict between industrial and non-industrial uses.
3. Provide that all leases and real estate sales contracts for property within a certain distance of a maritime industrial facility contain a disclosure and acknowledgement that the property is subject to certain unavoidable hazards and nuisances originating from the maritime use.

*Finding:* MIZOD does nothing to preserve and protect essential industrial transportation corridors that serve the properties located within MIZOD.

*Recommended Action:* Refine and reconcile city land use policies and decisions and improve interagency coordination and communication to minimize adverse effects on primary industrial transportation corridors.

*Finding:* MIZOD does not consider or address the off-dock and off-port land use needs to facilitate and support port expansion and growth.



*Recommended Action:* Provide protection for viable off-dock and off-port expansion areas such as the Point Breeze Business Center and Chesapeake Commerce Center that could be needed to support port operations now and in the future.

*Finding:* MIZOD does nothing to eliminate safety and security issues associated with industrial proximity to residential and commercial uses in the event of an industrial mishap or act of terrorism.

*Recommended Action:* Consider requiring mandatory architectural and engineering design regulations, including required buffers for new and redeveloped non-industrial projects proposed in the vicinity of existing maritime industrial uses to lessen the effect of a possible industrial accident or security incident.

*Finding:* The port is a regional resource producing benefits beyond the city limits, yet the city bears the direct costs and foregoes opportunity costs and tax revenue associated with alternative non-industrial land uses that MIZOD prohibits.

*Recommended Action:* Develop a formula for the equitable sharing of port-related costs and rewards to compensate the city for the benefits that might otherwise have resulted from alternative uses of the land.

*Finding:* MIZOD does not provide assurance of continued industrial use for capital sources and sunset provisions may actually encourage the land speculation activity that MIZOD was intended to eliminate.

*Recommended Action:* Consider implementing periodic or cyclical comprehensive zoning review and revision to address changing patterns of demand and land use within city areas and neighborhoods as an alternative to the sunset provisions of MIZOD.

*Finding:* By itself, MIZOD is not enough to preserve and promote a vibrant port.

*Recommended Actions:*

1. Protect maritime industrial sanctuaries such as Fairfield and Hawkins Point where there are few apparent land use conflicts now, to avert problems before they can arise.
2. Devise financing and tax initiatives to assist vulnerable industrial users to retrofit and reconfigure their properties to create better compatibility with adjoining non-industrial land uses.
3. Encourage the creation of a new regional entity to foster and facilitate the sharing of information regarding maritime industrial land use needs, regional cooperation and the coordination of efforts and resources among public and private sector interests to promote the port's success.

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4. Baltimore City and the metropolitan counties need to better coordinate their land use planning and zoning actions especially in areas along their common borders, including examining the feasibility of Baltimore City, Baltimore County and Anne Arundel County adopting uniform industrial zoning classifications (particularly those concerning maritime uses) since the city is in the process of drafting its first new comprehensive zoning code in over 35 years.

*Finding:* Currently, the city is required to report annually on the status of the MIZOD. The measurements were selected on the basis of availability, cost-effectiveness and practicality of collection and include: property taxes, number of permits, amount of fixed cost investments, number of firms and cargo volume, and vessel arrivals. However, all of the measures are currently presented without the benefit of context or comparison.

*Recommended Actions:*

1. The city should provide the comparative context for existing measures.  
For example, property taxes collected, building permits issued, fixed cost investments, and number of new firms within MIZOD should be compared and contrasted with industry on a city wide basis. Cargo volume and vessel arrivals should be compared with experience at competitive ports.
2. The city should also measure whether:
  - The city is receiving benefits commensurate with the diminished tax revenues and forgone opportunity costs,
  - the MPA is being funded at sufficient levels to enable the Port of Baltimore to compete for its appropriate share of the market and to properly maintain MPA facilities, and
  - the port's market share in its targeted commodity classes has grown or at least remained the same relative to the competition.

*Finding:* The collection and analysis of data to support land use planning, especially the assignment of responsibility for tracking data and comparing actual performance relative to original projections over time, is lacking.

*Recommended Action:* The city needs better mechanisms to track and assess the supply of and demand for various land uses, as well as the utilization and allocation of economic and community development resources to gauge their productivity and payoff.

*Finding:* Although MPA develops and issues a strategic plan, there is no strategic plan or corresponding land use plan for the Port of Baltimore as a whole. This is problematic as there is no calculation of the land requirements to accompany projected expansion of the port and need for industrially zoned land with deepwater access. With ownership divided between public and private marine terminal

operators it is difficult to establish responsibility and accountability for the POB's performance and success. Further, the needs, objectives, decision criteria and viewpoints of the MPA and private terminal operators are not always identical.

*Recommended Action:* The city should encourage and the MPA should support the development of a comprehensive maritime land use plan for the Port of Baltimore that is based on an empirical determination of the port's land use needs that can serve as the basis for future comprehensive zoning decisions.

*Finding:* To the extent that the Port of Baltimore may be disadvantaged by competitors that are better funded and more agile, the city's investment in MIZOD (opportunity cost and diminished tax revenues foregone) may be for naught.

*Recommended Action:*

1. Establish a private port venture fund to work in tandem with public and private terminal operators to provide bridge funding for opportunistic property acquisitions.
2. Establish a port tax district, similar to a neighborhood tax district, with proceeds dedicated to funding projects that specifically benefit the port and maritime industrial users, including funding improvements to aid integration of industrial facilities into the community, costs of ameliorating the effects of encroaching non-industrial uses, etc.

### **Conclusion:**

The challenge for the city is to craft a solution that ideally:

- Allows adequate time to plan the land use framework and preserve the requisite amount and location of maritime land based on an empirical determination of the port's present and projected land use needs including the amount and location of off-dock and off-port support land;
- Provides maritime industrial users with:
  - Adequate protection from and/or economic and community development resources to mitigate the effects of nearby incompatible uses, and
  - Assurance of continued industrial use for their properties to make informed decisions and attract investment capital;
- Addresses issues within the context of a new comprehensive zoning code that has the capacity to:
  - Resolve present and prospective land use conflicts,
  - Maximize opportunities for the city to prosper, and
  - Remedy the shortcomings of the existing MIZOD; and

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- Provides the owners of properties that are located on the periphery of the existing MIZOD boundary, which have characteristics that render the property incapable of maritime industrial use, or are of adequate size to be master planned as a transitional use buffer area between existing residential and/or commercial and industrial uses the opportunity to propose to the city, without undue delay, alternative uses for their land that would not undermine the efficacy of nearby maritime users. The Baltimore Development Corporation and the Planning Department have identified only a handful of property owners who have expressed such intent at this time.

While the City might accomplish the foregoing in any number of ways, some actions, whether taken together or alone that the City might wish to consider, include the following:

- Formulate the new zoning code in a sequential manner.

Conceptually, the process of devising and mapping the new zoning code could be segmented to prioritize the development and approval of the applicable zoning classifications, their associated governance, and the land use framework and its mapping first for those areas that now comprise the MIZOD on an expedited, fast-track basis to facilitate completion and adoption before MIZOD's scheduled 2014 expiration. In the event that the development and mapping of the new zoning code in its entirety is delayed and not completed by MIZOD's scheduled 2014 expiration, those provisions developed for the communities comprising the existing MIZOD could be adopted as an amendment to the existing zoning code pending incorporation into and the subsequent approval of the new zoning code at a later date.

- Extend MIZOD's protective provisions or, in the alternative, enact substitute legislation, for a period to run concurrent with the process of developing the new zoning code.

This action would serve to protect strategic maritime parcels, avert renewed speculation, price distortion, and the possible loss of deepwater sites to non-industrial uses, and forestall any other detrimental effects envisioned by maritime users as MIZOD's scheduled 2014 expiration draws near, pending adoption of the new zoning code, even if enactment of the new zoning ordinance extends beyond the current 2014 expiration. It would also provide the time necessary to devise the land use framework within the context of a new zoning code, as well as empirically determine the port's present and prospective land use needs. Any legislation should also include provisions that would afford the owners of those few parcels possessing the characteristics stipulated above and

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· awaiting MIZOD's 2014 expiration the opportunity to formulate development  
· plans that incorporate acceptable, compatible transitional uses along with  
· satisfactory buffers; effective architectural and engineering design standards;  
· suitable security measures; and adequate economic and community development  
· resources to resolve any inherent conflicts with nearby maritime industrial uses.

· Finally, the Port of Baltimore is a regional asset that yields significant economic  
· benefits within and beyond the borders of Baltimore City. In certain city communities  
· higher value residential and commercial projects are now economically feasible on  
· the very land that maritime users deem essential creating not only a competition  
· between land uses, but also a conflict between local and regional interests as well.

· Some governmental jurisdictions contribute or forego little in exchange for the  
· economic rewards that they reap from the port. Moreover, but for the city's  
· willingness to impose land use controls like MIZOD, public and private port interests  
· would have to expend considerable sums for the acquisition of land or easements to  
· attain similar levels of preservation and protection of the essential deepwater assets.

· With MIZOD, the city, through exercise of its police power of zoning, is asked, in  
· part for the benefit of the region, the state, and private port interests to constrain a  
· market that, if left unchecked, might otherwise produce superior tax and economic  
· benefits for the city than the maritime industrial uses that the legislation is designed  
· to protect.

· For this reason, the city must consider whether the current formula for the sharing  
· of rewards from this vital regional asset among governmental jurisdictions adequately  
· compensates the city for the benefits that it might otherwise have received from the  
· very land uses that MIZOD prohibits.



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# Introduction

The Abell Foundation has requested that Hentschel Real Estate Services (HRES) analyze the costs and benefits associated with the extension of the Maritime Industrial Zoning Overlay District (MIZOD) on Baltimore City's tax base, economy, and employment. Originally enacted in 2004, the MIZOD modifies Baltimore City's 1973 zoning code to restrict allowable land uses to industrial and industrial-related uses in waterfront areas with or adjacent to deepwater access. Although MIZOD is not set to expire until 2014, the city is currently contemplating the extension of its original provisions for an additional ten years until 2024.

To assist in this endeavor, HRES engaged Daraius Irani, Ph.D., and RESI of Towson University Research and Consulting (RESI) to design and administer a survey of MIZOD firms, and to perform economic analyses related to alternative uses of land within MIZOD.

The findings and recommendations presented in this report are the result of four months of work conducted from June through October 2008, the scope of which included, but was not limited, to:

- Interviews with individuals representing the Port of Baltimore including
  - Members of the Baltimore Industrial Group (BIG), the Maryland Industrial Technology Alliance, Maryland Motor Truck Association, South Baltimore Business Alliance, and various officials of the Maryland Port Administration and Maryland Department of Transportation Office of Real Estate;
- Interviews with representatives of the Baltimore City Departments of Planning, Transportation, Real Estate, and Finance, and the Baltimore Development Corporation;
- A review of salient existing studies, reports, and documents related to transportation and maritime industry, the Port of Baltimore, and MIZOD. A small sample of documents of particular note include:
  - A report of the Port Land Use Task Force,
  - The Maritime Industrial Retention and Growth Management Strategy Report (MIRGMS),
  - The Baltimore Industrial Land Use Analysis,
  - Baltimore Economic Development Strategy,
  - Live, Earn, Play, Learn, The Baltimore Comprehensive Plan,
  - Baltimore City Zoning Code and Zoning Code Diagnostic,
  - Annual MIZOD Reports of 2006 and 2007,
  - Zoning for Maritime Industrial Protection,
  - Maryland Port Administration Vision 2025,
  - The Economic Impacts of the Port of Baltimore, Martin Associates 2002 and 2008,
  - Maryland Port Administration Marine Terminal Development Plan,
  - Community SNAP Plans for Locust Point, Key Highway, Brooklyn-Curtis Bay;

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- Interviews with real estate executives of Colliers Pinkard and Cushman & Wakefield, and with Aeigir Port Property Advisors, an international consulting firm that specializes in maritime property;
  - Interviews with representatives of property and business owners unrelated to the maritime industry that are affected by MIZOD;
  - Interviews with Baltimore County Planning and Economic Development officials;
  - A review of studies, reports and articles concerning industrial land preservation, zoning, land use, and development issues affecting other cities and ports in the U.S. and abroad;
  - Interviews with representatives of the Port of San Diego and the City of San Diego Departments of Planning and Zoning, together with a site visit and inspection of select San Diego Marine terminal facilities;
  - Field inspection of the MPA public marine terminal facilities;
  - A RESI-administered survey of MIZOD businesses conducted in August 2008; and
  - An analysis of the economic impact of alternative land uses within MIZOD.

A complete list of interviewees and documents reviewed is contained in the report bibliography. In addition to John J. Hentschel, CRE, MAI, FRICS, other members of Hentschel Real Estate Services who materially contributed to the preparation of this report include Andrija Skopac, Jeremy D. Hentschel, and Jessica S. Hentschel.

The conclusion of our four-month examination of MIZOD has revealed more about what MIZOD does not do, rather than what it does, and about what should and needs to be done by the city and others to preserve, protect, and promote the port and the maritime industry in Baltimore.

The investigation discovered not only conflicts in land use, but also inconsistencies between the aspirations of neighborhoods and the needs of commerce and industry. The research raised questions not only about the proper role and responsibility of the city and others with regard to a resource that is critical to the economy of the region and the state, but also about the appropriate equation to ensure an equitable distribution of the benefits as well as sharing of the responsibilities, including opportunity costs foregone.

The study uncovered inconsistencies in the interpretation of goals and the application of policies that has resulted in ad hoc decisions that once made can have lasting and profound consequences not just for the city, but the region as well, a circumstance that is perfectly understandable for a city that is unaccustomed to having options and needing to make choices.

Despite over ten years of blue ribbon committees, meetings, discussions and reports, the investigation highlighted the current lack of coordination and communication



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regarding port land use needs among local governments of the region and the state, as well as between the public and private sector components of the Port, including professionals in the real estate community, and those responsible for local land use decisions.

Finally, the study revealed that the city's reliance on ad valorem property taxes and income taxes that are based on place of residence rather than place of employment as principal sources of budget funding can profoundly and inexorably influence land use decisions.

The circumstances underlying the need for MIZOD, namely the changing character of existing communities and the incursion of new residential and commercial uses in the vicinity of established seaport facilities, and the conversion of land adjacent to navigable deep water to non-maritime uses is a phenomenon that is not unique to Baltimore. Indeed, port cities throughout the U.S. and the world are grappling with similar issues. Although constrained by time and scope of work, this study has also briefly looked at the experience of other cities in their search for solutions.

While the increased population and tax revenues resulting from the renaissance of decaying and underutilized urban waterfronts are welcome news to struggling local governments, the occurrence is particularly untimely for U.S. ports, including Baltimore, as they contend with the effects of burgeoning global trade and rising cargo volumes that are the result of the outsourcing of U.S. manufacturing production to lower cost facilities overseas, as well as the "just in time distribution" models which have altered the supply chain for the delivery of foreign goods from the dock to U.S. consumers.

Although historically influenced by changes in currency exchange rates, trade is now driven more by the economy and the demand for goods. The impending expansion of the Panama Canal in 2014 is not only expected to dramatically increase business for East Coast port facilities, but the competition for it as well.

It is indeed ironic that the debate about the destiny of port facilities in the United States, the strategic pipeline through which the goods that satisfy our daily needs flows, is being discussed and decided in the context of local zoning ordinances.

Although the issues that MIZOD seeks to address may be intractable, they are not insurmountable, nor are there any obvious or easy solutions. Some good recommendations have already been developed and presented in prior studies and reports, but have not as yet been implemented. For certain, the city must carefully weigh the options, for once made, the decisions are long lasting and difficult to reverse and can have substantial regional consequences.

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Consideration of whether to extend the provisions of MIZOD for an additional ten years must begin with what at first might appear to be an irrational question – do the city, the region and the state really want the port and the benefits associated with it, because if so, there are certain fundamental prerequisites that accompany such a decision. An examination of the corollary issue, namely, what alternatives and associated benefits are available to the city, and a comparative analysis follow.

An assessment of the port, in terms of its assets and its capacity to effectively vie for business and produce benefits (in tax revenues as well as economic spin off) to the city on par with or greater than those afforded by alternative uses of the land now and in the future is essential, especially if the land use decisions confronting the city are conflicting, irreconcilable and mutually exclusive. Of equal import is consideration of whether moving marine terminal facilities to other locations to make way for alternative land uses is feasible or even possible.

One of the author's biggest disappointments was the inability to ascertain the "right size" of the Port of Baltimore. None among the public or private sector port officials and port real estate experts interviewed was willing or able to proffer an estimate of the port's appropriate size (in terms of acres) or in the alternative, its best case, maximum size relative to its potential and likelihood to capture market share based on its competitive stature. This is a significant shortcoming because if the port's proper physical size is unknown, how does one know whether legislation like MIZOD is reserving and protecting too much or too little land for maritime purposes. Although the Maryland Port Administration develops a strategic plan for its own operations, it acknowledges that there is no apparent on-going process to collect or analyze empirical data to assess either its own or the Port of Baltimore's collective present and prospective land use needs.

Moreover, the author discovered a dearth of corroboration and factual follow up to refine future decision making. For instance, although numerous studies over the years have recited a statistic that originally appeared in a Port Land Use Development Advisory Council report in 2002 citing the need for 412 acres of port related industrial land by 2012, this study was unable to identify anyone responsible for tracking data over time to verify whether the projected need ever materialized, and if so, the extent to which it was satisfied or not.

These are important questions because essentially with MIZOD, the city is asked to exercise its regulatory police power of zoning to forestall market forces which, if left unchecked, could definitely pose a threat to port interests, but also possibly yield significant benefits, in terms of tax revenue, to a cash-starved city with the highest tax rate in the state.

The alternative to such regulatory action by the city would entail the expenditure of funds by the Maryland Port Administration and/or private port interests to acquire (if even possible and at ever escalating prices) property rights (in fee, by easements or covenants) to buffer, preserve and protect the port's vital assets.

In this regard, the land use protection afforded by MIZOD represents a decision by the city to hitch its wagon to the port's star whereby the city becomes a veritable partner with a vested interest in the port's success. One measure of the city's investment in such enterprise would be the tax revenue from alternative land uses that might have come about in the absence of MIZOD protection.

As a regional resource, the Port of Baltimore produces numerous benefits to governmental jurisdictions far beyond the city's borders. The report briefly considers whether such benefits are being equitably shared by the port's beneficiaries.

The report also looks at those relatively few, but significant, parcels most likely to seek to opt out of MIZOD in 2014, which are concentrated exclusively in Locust Point and Canton along the frontier of residential and commercial development.

Finally, the report briefly presents a few examples of actions taken in other port cities to address land use issues, as well as some recommended actions and strategies for the Port of Baltimore, the city, the region and the state to consider.



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# Background

The Maritime Industrial Zoning Overlay District (MIZOD) was originally enacted in 2004. As set forth in Ordinance 04-804, the intent of MIZOD was

*“...to delineate an area where maritime shipping can be conducted without the intrusion of non-industrial uses and where investment in maritime infrastructure is encouraged.” (Sec 8-402)*

The MIZOD was the culmination of a process that began in 1996 with the formation of the Port Land Use Task Force (PLUTF), which was originally assembled to address the issue of underutilized land surrounding the Baltimore harbor. The focus of PLUTF was to *“catalog and analyze land assets surrounding the Port of Baltimore and to define the issues and impediments which inhibit the highest and best use of available and underutilized land.”*

Among other things, PLUTF conducted an initial effort to survey, inventory, and analyze available waterfront, water dependent and proximate non-water dependent land, and underutilized facilities. In addition to creating and maintaining a database of properties, PLUTF espoused the creation of an *“over-arching planning and development entity”* that would create a multi-jurisdictional comprehensive master plan for port areas to provide a platform for regional cooperation. PLUTF concluded that the most critical business imperative was to create a *Port Development Zone* together with an *“authority to clearly articulate and implement strategic development of underutilized land,”* recognizing the need to coordinate and resolve the inevitable conflicts between the zoning, land use, and economic development initiatives of the autonomous political jurisdictions that govern the area containing the port.

To implement PLUTF’s recommendations, in 1998 the legislature adopted Chapter 414 of the laws of Maryland, which, among other things, established the Port Land Use Development Zone comprising all public and private properties within 3,000 feet surrounding the Port’s waterfront in Baltimore City and parts of Baltimore and Anne Arundel counties. The Port Land Use Development Office within the Maryland Port Administration (MPA) was charged with the responsibility of coordinating the Port Land Use Development Zone and to establish a collaborative effort to market zone properties for *“port related or port compatible uses.”*

This legislation also created the Port Land Use Development Advisory Council (PLUDAC) which, among other things, was responsible for compiling and maintaining an inventory of underutilized property within and developing a master plan for the Port Land Use Development Zone. PLUDAC was the inter-jurisdictional body envisioned by PLUTF that included representatives of Baltimore City, Baltimore County, Anne Arundel County, and various state agencies as well as representatives of maritime businesses, real estate developers, and residential communities.

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Contrary to the original perception that a significant amount of property within the zone was vacant or underutilized, it became apparent as properties were surveyed and the inventory database was compiled, that the original parameters of intensity and extent of land use were flawed as indicators of property underutilization. Thereafter, the tone of PLUDAC's annual reports shifted from hopeful anticipation, optimism, and promotion of redevelopment opportunities to cautious concern about the perils of new development infringing upon and conflicting with existing waterfront industrial uses that were first expressed in its 2001 annual report. By 2003, PLUDAC was cautioning that

*"...conversion of industrial use properties to mixed use activity creates the potential for land use conflicts between existing Port and Industrial Uses and new mixed use tenants and residents and that local governments value redevelopment based on its return in property taxes and job impacts."*

The report further acknowledged that the Port Land Use Zone was

*"...once an area in which private investment was scarce but [it is] now the site of competition for well positioned property...A policy decision needs to be made as to where future growth should be directed."*

Despite these warnings and the foreboding about the growing incursion of mixed-use development and the accompanying potential for conflicts within the Port Land Use Development Zone, by 2004, PLUDAC itself appeared to be conflicted, touting among its successes *"projects too numerous to mention involving the conversion of former industrial use properties to mixed use developments throughout the Port Zone."*

In September 2005, PLUDAC published the *Maritime Industrial Retention and Growth Management Strategy* (MIRGMS) to serve as the inter-jurisdictional master plan originally envisioned by PLUTE. But, by 2005, developers had discovered that waterfront living was the lure to attract affluent suburban baby boomers back to the city, while cheap, easy-to-obtain, flexible mortgages in the aftermath of 9/11 had already been fueling an unprecedented housing boom along the city's waterfront.

While port activity had been waning for years prior to the formation of PLUTE, by the time PLUDAC was empanelled, port business was already on the rebound, and was booming by the time MIRGMS was published. Indeed, the combined national total value of imports and exports increased 65 percent between 1997 and 2005, and had doubled by 2007 (see exhibit on page 29).

Contrary to PLUTF's original assumption (that there was a surplus of underutilized property within the Port Development Zone that should be promoted for redevelopment) PLUDAC concluded that there was a limited amount of vacant land without development plans in place proximate to port facilities. PLUDAC worried that strong investment activity throughout the region would challenge the port's ability to meet future market demand for land proximate to port facilities, especially for land-intensive cargoes, such as Roll On Roll Off (RO/RO machinery and equipment), envisioned by the MPA's strategic plan.

MIRGMS estimated a need for 412 acres of land to support expansion, environmental mitigation, and dredge placement through 2011, further projecting a Port Land Use Development Zone requirement for 897,000 square feet of Port direct-related space, and 4.858 million square feet of warehouse space, and 4.308 million square feet of flex space within Baltimore City, far overshadowing the demand projections for Baltimore and Anne Arundel counties.

#### **Projected New Construction Demand by Sector**

	ANNE ARUNDEL	BALTIMORE CO.	BALTIMORE CITY
PORT DIRECT	0 sq.ft.	0 sq.ft.	897,336 sq.ft.
WAREHOUSE	722,000 sq.ft.	955,000 sq.ft.	4,858,000 sq.ft.
FLEX SPACE	491,000 sq.ft.	1,400,000 sq.ft.	4,308,000 sq.ft.

*Source: Maritime Industrial Retention and Growth Management Strategy*

As illustrated in the exhibit entitled *Warehouse Space Statistics* on page 26, CoStar data indicate that between 2003 and 2006, the city added approximately 488,888 square feet of new flex and warehouse construction, an average of approximately 163,000 square feet each year. The total standing stock inventory of city warehouse and flex space was up only slightly (about 200,000 square feet) during the same period. This is far short of the MIRGMS estimated average annual demand for the city of 917,000 square feet (projected 9.17 million square feet apportioned over 10 years).

Over the same period port container traffic increased almost 33 percent while total port tonnage increased about 24 percent from 22.5 million to about 29 million tons before declining to 27.8 million tons in 2006. Was the original MIRGMS demand projection for the city too aggressive, or did the city fail to capture and produce its share of the warehouse and flex space inventory?

Unfortunately, no public or private sector interviewee was able to comment on the level of demand that actually ensued or whether the projected land and space needs were met. Likewise, none could point to the organization or individual with the responsibility for tracking actual performance relative to original projections, or for modifying those projections over time.

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MIRGMS espoused certain strategies to support its stated Land Use Goal of retaining industrially zoned land that would support the growth of industrial and Port Related Industries within the Port Focus Areas, namely, to encourage local governments to adopt:

1. Zoning and development controls to protect access to and use of transportation infrastructure serving and connecting area distribution channels;
2. Zoning classifications and development guidelines that would maintain appropriate land use buffers between port and other uses;
3. Legislation placing developers of land contiguous to industrial uses on notice about the nature of industrial operations; required installation of buffers by the developer of a new residential or commercial project contiguous to existing industrial uses; requirements that developers of land adjacent to industrial properties ensure that existing traffic flow will not be adversely impacted by the proposed new residential or commercial development; and
4. Development guidelines and policies that would take MIRGMS into consideration and promote MIRGMS vision and goals.

The original MIZOD legislation was viewed as a capstone supporting the tenets of MIRGMS and was lauded among PLUDAC's land use successes in its 2004 annual report.

However, as will be discussed elsewhere in this report, the city's policies and actions, as well as the provisions of the original MIZOD ordinance, appear to have fallen short of MIRGMS' intended land use goals.

Upon publication of MIRGMS, PLUDAC viewed its work as completed and, thereafter, disbanded, leaving implementation of MIRGMS to existing state and local agencies. The Port Land Use Development Office (PLUDO) and the PLUDAC property inventory database were reportedly transferred to MDOT's Real Estate Unit, which reports PLUDO to be defunct and the PLUDAC property inventory database retired and outdated.

Thus, it is currently unclear who bears the responsibility designated by the legislature to coordinate activities within the Port Land Use Development Zone and the collaborative effort to market Port Land Use Zone properties for "*port related or port compatible uses*."



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# What Is MIZOD?

The Maritime Industrial Zoning Overlay District (MIZOD) was originally enacted in 2004 as an overlay zoning district, the intent of which was to delineate an area where:

- Maritime shipping can be conducted without intrusion of non-industrial uses; and
- Investment in maritime infrastructure is encouraged.

An overlay district is not distinct. It merely modifies certain provisions of the underlying zoning district the provisions of which otherwise remain intact.

While waterfront industrial retention programs in some U.S. cities restrict uses of deepwater land to water-dependent or maritime uses, MIZOD permits any industrial use but excludes the following uses that would otherwise be permitted in an M-3 zone or within an industrial planned unit development (PUD):

- Hotels and motels;
- Business and Professional Offices other than accessory;
- Planned Unit Developments;
- Restaurants and lunchrooms other than accessory without live entertainment or dancing; and
- Taverns.

According to the city's Department of Planning, the criteria used to establish eligibility for inclusion within MIZOD was:

- A parcel with deepwater access (although the definition of deepwater varies considerably depending on the source; MIZOD defines it as 18 feet or more);
- A parcel with rail access leading to a parcel with deepwater access;
- A parcel that needed to be included for contiguity of the zone; and
- A parcel that is zoned M-3 and not designated as a PUD.

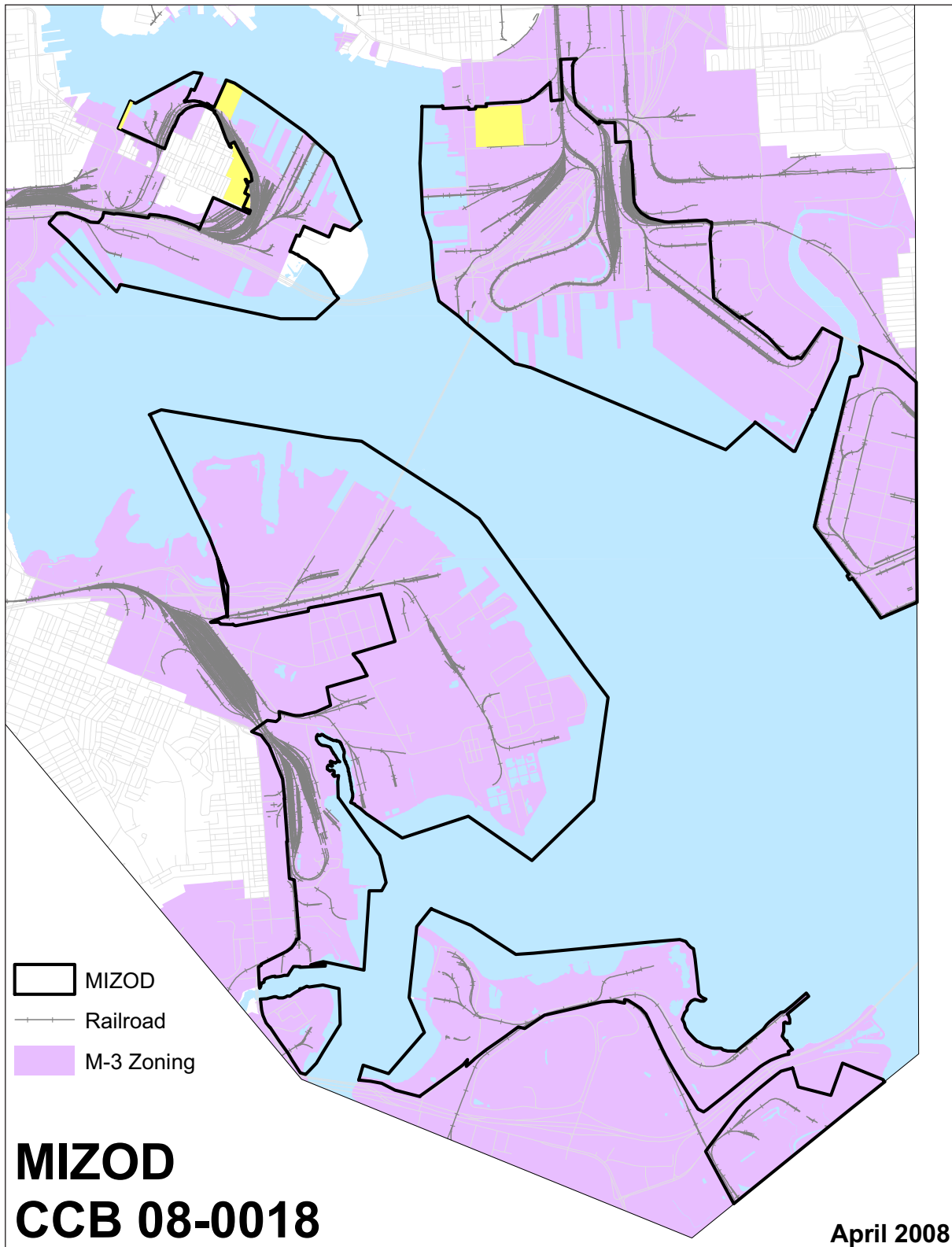
MIZOD is generally referred to, viewed, and regulated as a single district, but it actually comprises five separate and distinct areas of the city, all with deep water as a common denominator, but each with unique features, influences, problems, opportunities, and issues:

## 1. Locust Point

A long-standing redeveloping residential community that abuts a combination of public and private marine terminals with existing land use conflicts

## 2. Canton/Dundalk

Historically, an isolated enclave of public and private marine terminals and other related industrial uses into which new residential and commercial uses have only recently been introduced



Source: Baltimore City Planning Department

MAP OF MIZOD – PROPERTIES LIKELY TO OPT OUT IN 2014 IN YELLOW

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3. **Curtis Bay**

Private marine terminal facilities abutting a well-established residential community albeit at an earlier phase of the redevelopment cycle than Locust Point or Canton

4. **Fairfield**

An isolated sanctuary or enclave of industrial and maritime uses totally segregated from commercial and residential uses; the remaining residential properties were purchased by the city over a decade ago.

5. **Hawkins Point**

An isolated industrial sanctuary with a considerable amount of unimproved land near the long-term future expansion areas of the port (Cox Creek and Sparrows Point)

The MIZOD overlay district was originally enacted under the provisions of a city zoning ordinance that has been in effect and generally unchanged since 1973. MIZOD has a finite term that is currently scheduled to expire in 2014.

Having recently adopted a new comprehensive master plan, the city is now in the process of developing a new comprehensive zoning code to implement the plan's vision, the first rewrite in 37 years. In July 2008, *Transform Baltimore*, as the zoning code rewrite is known, published a *Zoning Code Diagnosis* document that not only identifies the strengths and perceived shortcomings of the existing zoning code, but also sets forth the framework within which the city intends to develop a new comprehensive zoning code. The process began with an internal review by city agencies with subsequent public input via a series of public meetings conducted during the summer of 2008.

The new comprehensive zoning code will emerge from a two-phase process. According to city planning officials, the first phase, which is expected to begin in January 2009 and hopefully conclude with enactment of a new zoning ordinance by the end of 2010, will focus on drafting the provisions of the new zoning ordinance including development of the relevant zoning classifications and the rules to govern them.

The second and more difficult mapping phase which will specify the exact locations where each zoning classification and its corresponding restrictions will apply is programmed to begin in 2011. Because this process will require extensive public input and series of hearings, planning officials are uncertain of the amount of time required to complete the mapping process, estimating a period of one to five years from commencement.

A viable land use plan and the zoning to implement it begin with a vision but should always be grounded in reality. A land use plan should not only consider the supply of various classifications of zoned land in terms of its geographic and physical characteristics and economic linkages, but also should examine the extent of present and prospective demand for the various classifications envisioned for each use and community. Furthermore, since market conditions are constantly in flux, an effective land use plan must also have the capacity to evolve in tandem with market needs. Such deliberation appears to be lacking historically in Baltimore, and is absent from the current dialogue about developing a new zoning code in general and with respect to MIZOD in particular.

Similarly, although MPA develops and issues a strategic plan for its operations, there does not appear to be a strategic plan for the Port of Baltimore as a whole. Likewise there is no maritime land use plan for the Port of Baltimore as a whole that is based on an empirical determination of the Port’s land use needs that can serve as a basis for comprehensive zoning decisions.

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# Industry Trends

Does the city want heavy industry and the industrial uses associated with the port? This might seem like an odd question for a city with a long heritage as a blue-collar manufacturing town. But many communities that once relied on heavy industry as their primary source of employment now include within their comprehensive plans goals and directives to replace heavy smokestack concerns with “cleaner,” more environmentally friendly industries. Are heavy industries an integral part of Baltimore’s future, or a remnant of its past?

*The Industrial Land Use Analysis*, commissioned by the Baltimore Development Corporation in 2003, reported that the city’s industrial job base had been steadily contracting. This trend has not only continued since that time, but the rate of decline appears to be accelerating.

Across the board, total employment in Baltimore City has declined 5 percent since 2001, a loss of 23,203 jobs. This is in stark contrast to the 5 percent rise in jobs statewide, and the 9 percent gain of 41,665 jobs experienced by neighboring Baltimore County over the same period.

The contraction in the industrial job base (consisting of Manufacturing, Wholesale Trade, and Transportation and Warehousing) has been even more severe. The city’s total industrial employment has declined at a rate more than 2.5 times that of the state (21 percent versus 8 percent), a loss of approximately 11,200 jobs from 2001 to 2006. In terms of manufacturing related employment, the city’s 31 percent decline overshadowed that of Baltimore County and the state at 18 percent and 19 percent respectively.

While Wholesale Trade employment remained generally static statewide and in Baltimore County, the city, however, posted a 26 percent job loss. On a brighter note, the city gained 368 jobs in Transportation and Warehousing from 2001 to 2006, but at a rate of increase of three percent, half of the six percent increase realized by the State.

While losses of such magnitude are disturbing, as illustrated by the following table, the acceleration in the rate of decline is of greater concern.

## BALTIMORE CITY JOBS

	1990	2000	% change 1990- 2000	2006	% change 2000- 2006
MANUFACTURING	41,500	26,900	(35%)	17,554	(35%)
WHOLESALE TR	21,600	13,300	(38%)	11,033	(17%)
TRANS WH UTIL	20,900	14,300	(32%)	13,509	(6%)
TOTAL	85,990	56,500	(34%)	44,102	(22%)
CHANGE		(29,490)		(12,398)	
PER YEAR		(2,949)		(2,480)	

Source: Maryland Department of Planning

While total industrial employment was down 34 percent for the 10 year period 1990 to 2000, it sustained a further 22 percent decline in just six years between 2000 and 2006. Meanwhile, manufacturing employment, which fell 35 percent over the 10-year period between 1990 and 2000, plummeted another 35 percent over the 6 year period between 2000 and 2006.

In addition to those jobs lost as a result of technological advances and enhanced productivity, a combination of factors reported in the *Industrial Land Use Analysis* has most likely contributed to the city's continued industrial employment decline:

- An antiquated and functionally deficient supply of industrial space relative to suburban locations;
- A dearth of industrial land parcels in functional denominations suitable for industrial use convenient to transportation corridors;
- Incompatible adjoining land uses; and
- A noncompetitive tax rate relative to suburban locations.

## Warehouse Space Statistics

Warehouse & Flex Region				Warehouse Only Region				Warehouse & Flex Baltimore City					
	TOTAL SQ. FT.	INCREASE SQ. FT.	ABSORP. SQ. FT.	TOTAL SQ. FT.	% OF WH&FLX	INCREASE SQ. FT.	ABSORP. SQ. FT.	TOTAL SQ. FT.	% REGION	INCREASE SQ. FT.	ABSORP. SQ. FT.	% OF REGION	SF UNDER CONSTR
2000	185,269,291		3,588,325	150,612,110	81%		2,373,124	N/A		N/A	N/A		
2001	188,524,437	3,228,146	-71,939	152,487,747	81%	1,875,637	-411,168	N/A		N/A	N/A		
2002	190,935,525	2,411,088	-1,603,972	154,213,368	81%	1,725,621	-1,559,605	N/A		N/A	N/A		
2003	194,035,228	3,099,703	4,008,670	156,709,383	81%	2,496,015	3,698,922	48,926,735	25%	N/A	888,476		
2004	196,867,071	2,831,843	2,708,455	158,998,246	81%	2,288,863	2,027,097	49,118,907	25%	192,172	-114,705		192,172
2005	196,881,036	2,013,965	1,040,849	160,469,925	81%	1,471,679	-73,209	49,225,907	25%	107,000	-936,627		130,000
2006	201,194,544	2,313,508	1,735,773	162,323,963	81%	1,854,038	1,293,764	49,125,034	24%	-100,873	362,559		165,600
AVG/YR	2,649,709		1,629,452	AVG/YR		1,951,976	1,049,846	AVG/YR		66,100	199,703	12%	
2003-06	7,159,316			2003-06		5,614,580		2003-06		198,299		3%	487,772
								AVG.ANNUAL					
								ACRES	0.3 FAR	15			12
								REQUIRED					

Source: CoStar

*The Industrial Land Use Analysis* concluded that “...without upgrading and redevelopment of key industrial properties, Baltimore’s industrial demand will continue to lag behind other jurisdictions in the region with only 10 to 15 acres of annual demand.” As illustrated in the above exhibit entitled *Warehouse Space Statistics*, it would appear that, at least through 2006, market experience resembled the *Industrial Land Use Analysis* forecast.

The recent opening of the 184-acre Chesapeake Commerce Center on the former GM site and the 50-acre Hollander-95 Business Park may help the city achieve the *Industrial Land Use Analysis* prediction that “with modern buildings developed on competitive sites in the I-95 corridor, Baltimore could expect to attract up to 15 to 20 percent of the region’s industrial activity, or 30 to 40 acres per year.”

During the interviews conducted in conjunction with this study, some members of the city’s industrial business community expressed reservations about the city’s interest in retaining or expanding heavy industrial enterprises within the city, including the port. A brief look into the matter did reveal some conflicting policies, statements and actions that would suggest that the city might have a less-than-cohesive industrial retention and growth policy, and that the city does not always act in tandem with its stated policies or with a uniform mindset when it comes to industrial development.

For instance, in light of globalization, the propensity to outsource productive capacity to lower cost locations abroad, and the corresponding decline in industrial employment, it is not surprising that the city’s Economic Development Strategy and the Comprehensive Master Plan documents would both emphasize the importance of knowledge-based industries, targeting five growth sectors on which the city should focus its economic development efforts.

Although admittedly new to their posts, the sector planners responsible for those areas of the city containing the port, while familiar with MIZOD, were unaware of Chapter 414 that created the Port Land Use Zone; or with the provisions of the *Maritime Industrial Retention and Growth Management Study*, or the work and findings of the Port Land Use Development Advisory Council (PLUDAC); or its predecessor, the Port Land Use Task Force.

Although the city has a functioning GIS system, it apparently lacks a systematic means of tracking and analyzing land use changes over time. This makes it difficult to compare and contrast the amount of industrial land by zoning classification that existed as of the MIZOD’s 2004 inception date with that which currently exists, or to track the amount and location of industrial land lost to non-industrial uses as a result of rezoning and/or redevelopment. Likewise, the ability to assess the extent of the

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city's commitment of economic development resources (e.g., tax abatements, PILOTs, public works contributions, loans, grants, TIFs etc.) to industrial versus non-industrial ventures over time and to gauge and compare the relative productivity and return on the respective investments appears to be limited. Despite the ongoing comprehensive rezoning process, city officials interviewed acknowledge that there has been no explicit attempt to estimate or project the amount of industrial land that will be needed to support future industrial demand, including that generated by the port.

The incongruity of city actions at times seems to underscore the need for city officials to view their actions and decisions in the context of the “big picture” and recognize how land use decisions, including property dispositions, can have imperceptible and unintended consequences with profound and long-lasting effects on industrial communities.

For instance, in a recent Request For Proposals (RFP) to dispose of industrially zoned surplus land situated in Anne Arundel County and associated with the closed Pennington Avenue Landfill in Curtis Bay, the city's RFP imposed the obligation on the prospective developer not to overburden area residential streets, citing the area SNAP plan's recommendation that “...*Pennington Avenue should be a local residential street protected from heavy traffic levels...*,” despite Pennington Avenue's designation as a federally supported intermodal transportation corridor as reported in MIRGMS.

Despite the parcel's industrial zoning, the RFP established a residential land use goal, reportedly in response to Anne Arundel County's request. The city entered into agreements with a developer who had also acquired adjoining land in Anne Arundel County, portions of which had been zoned industrial, but had been rezoned by the developer for residential use. The developer was seeking to create a residential community to be known as Cedar Hill, some of which would overlook the Curtis Bay industrial waterfront. The acquisition of city property would provide a means of secondary ingress and egress via Aspen Street to Pennington Avenue.

The increased residential traffic and potential for future congestion of a designated inter-modal, industrial transportation corridor that might ensue from the residential development facilitated by this sale of city property is an example of how seemingly innocuous property decisions made by the city can have inadvertent and unintentional consequences on port related industrial users.



# The Port Of Baltimore

The Port of Baltimore (POB) is not synonymous with the Maryland Port Administration (MPA), an agency of the Maryland Department of Transportation.

According to the *Regional Landside Access Study*, The Port of Baltimore actually comprises 49 marine terminals. Of the 43 that are located in Baltimore City, only seven are under the control of the MPA. The other 36 marine terminals are privately owned and operated. The aggregation of terminals within the city is, in part, a function of the location of navigable deep water. Baltimore and Anne Arundel counties have few deepwater locations, most requiring considerable, expensive dredging with no readily available dredge material placement sites. Paradoxically, because the city has a dearth of large well-located industrial sites, much of the land for off-port expansion and support services is located in the counties.

As manufacturing capacity has been outsourced to lower-cost venues overseas resulting in a general decline in U.S. manufacturing output and employment, U.S. trade has been steadily increasing over the last decade with the dollar volume of imports and exports doubling since 1997.

## U.S. Imports and Exports Value in Millions of Dollars

YEAR	IMPORTS	%	EXPORTS	%	TOTAL	%
1997	876,794	CHG	678,366	CHG	1,555,160	CHG
1998	918,637	5%	670,416	-1%	1,589,053	2%
1999	1,031,784	12%	683,965	2%	1,715,749	8%
2000	1,222,684	19%	771,994	13%	1,994,678	16%
2001	1,148,231	-6%	718,712	-7%	1,866,943	-6%
2002	1,167,377	2%	682,422	-5%	1,849,799	-1%
2003	1,264,307	8%	713,415	5%	1,977,722	7%
2004	1,477,094	17%	807,516	13%	2,284,610	16%
2005	1,681,780	14%	894,631	11%	2,576,411	13%
2006	1,861,380	11%	1,023,109	14%	2,884,489	12%
2007	1,967,853	6%	1,148,481	12%	3,116,334	8%

Source: U.S. Census Bureau, Foreign Trade Division

Similarly, while manufacturing and other industrial activity in the city has been steadily contracting, trade has been expanding.

The POB excels in certain niche cargo categories and is reportedly regarded by shippers as a service-oriented port. As illustrated by the exhibits, in terms of total tonnage, automobiles and trucks, Roll On Roll Off (RO/RO machinery and equipment), Forest Products, and Bulk Cargo including coal and steel, Baltimore is a dominant port.

Although matching the five-year growth reported for all U.S. ports, the POB has lagged behind some of its East Coast competitors in terms of growth in container traffic in part because of its inland location and constraints on railroad service. As a result, the *Regional Landside Access Study* describes POB as “a local and regional distribution port serving a freightshed consisting mostly of customers within 500 miles, and because it handles a diverse mix of cargo types, most of its cargo prefers truck over rail.” Citing a Drewry Shipping Consultants Ltd. study of the Seagirt Marine Terminal, *The Baltimore Sun* recently reported that despite Seagirt’s location within the fourth largest consumer market in the country, the terminal captures just 16 percent of the market for goods shipped within a 100 mile radius, while trucks bring in goods from the ports of New York and Norfolk.

Local and national port and maritime real estate experts interviewed predict that Baltimore could reasonably expect to expand its container business, in part by capturing those medium-sized ships that will be displaced by larger post-Panamax vessels from other ports. Recent media reports document MPA’s actions aimed at striking a public- private partnership arrangement to procure funding of needed improvements and the long- term operation of the currently underutilized Seagirt Marine Terminal container facility in Dundalk, as well as the relocation of the adjacent 66-acre ICTF operated by CSX, which handles predominantly domestic rather than international cargo.

While the MPA terminals handle mostly general cargo (principal commodities include autos and trucks, RO/RO, machinery and farm equipment, forest products, breakbulk cargo such as steel and palletized cargo, and containerized cargo), some of the privately operated marine terminals handle more targeted or specialized cargo (e.g., the CSX Curtis Bay and Consolidation Dundalk Piers concentrate on coal, the Apex Canton terminal on oil, and the Westway N. Locust Point Terminal on liquid storage), while some manufacturers (e.g., Domino Sugar and Sverstal Steel) use their deepwater piers to receive raw materials and/or ship finished products).

# U.S. Waterborne Foreign Trade

TEU'S*	US. PORTS	%	CHANGE	BALTIMORE			BALTO			SAVANNAH			NORFOLK			CHARLESTON			PHILADEL			WILMINGTON		
				CHG	%	INCR	CHG	%	INCR	CHG	%	CHG	%	CHG	%	CHG	%	CHG	%	CHG	%	CHG	%	
1997	14,860,367			260,553			530,261			770,790			955,620			90,517			104,200					
1998	15,556,255	5%		255,312	-2%	-5,241	557,642	5%		793,359	3%		1,034,918	8%		114,981	27%		126,586	21%				
1999	16,563,789	6%		255,378	0%	66	624,497	12%		829,094	5%		1,169,552	13%		89,345	-22%		131,608	4%				
2000	17,937,670	8%		275,955	8%	20,577	720,231	15%		850,400	3%		1,246,181	7%		83,256	-7%		122,690	-7%				
2001	18,116,582	1%		273,418	-1%	-2,537	812,984	13%		885,392	4%		1,158,751	-7%		83,408	0%		128,028	4%				
2002	19,729,422	9%		301,944	10%	28,526	1,013,893	25%		982,007	11%		1,197,398	3%		114,659	37%		133,186	4%				
2003	21,288,545	8%		306,845	2%	4,901	1,124,409	11%		1,093,207	11%		1,249,770	4%		103,408	-10%		195,028	46%				
2004	23,850,523	12%		354,180	15%	47,335	1,290,178	15%		1,206,034	10%		1,421,251	14%		132,223	28%		148,098	-24%				
2005	26,092,405	9%		381,984	8%	27,804	1,490,663	16%		1,324,507	10%		1,521,601	7%		159,557	21%		157,394	6%				
2006	27,631,493	6%		406,865	7%	24,881	1,587,813	7%		1,413,926	7%		1,507,472	-1%		181,706	14%		174,051	11%				
2007	29,020,343	5%		429,851	6%	22,986	2,017,255	27%		1,568,112	11%		1,400,806	-7%		197,002	8%		185,278	6%				
1997-2007		95%			65%			280%			103%			47%			118%			78%				
2002-2006					49%																			

TONS (METRIC)	%	CHANGE	BALTIMORE	%	CHG	BAITO	INCR	SAVANNAH	%	CHG	NORFOLK	%	CHG	CHARLESTON	%	CHG	PHILADEL	%	CHG	WILMINGTON	%	CHG
2003	1,209,587,568		22,421,588					19,987,207			20,446,484			17,262,889			50,785,114			11,655,039		
2004	1,305,610,188	8%	29,130,245	30%		6,708,657		24,307,047	22%		19,552,572	-4%		18,600,364	8%		53,576,318	5%		12,898,479	11%	
2005	1,351,046,274	3%	29,066,781	0%		-63,464		27,231,233	12%		23,282,593	19%		19,885,611	7%		54,903,654	2%		13,457,166	4%	
2006	1,380,605,363	2%	27,823,877	-4%		-1,242,904		30,700,209	13%		25,542,305	10%		21,798,203	10%		55,825,689	2%		13,409,912	0%	
2003-2006		14%		24%					54%			25%			26%				10%			15%

Source: U.S. Department of Transportation Maritime Administration

\* TEU – twenty foot equivalent unit- containers

According to the 2008 Martin Associates study entitled *The Economic Impacts of the Port of Baltimore*, approximately 16,493 direct jobs and about three times that amount (33,693) of induced and indirect spin-off jobs are associated with the Port of Baltimore. While approximately 59 percent (9,718) of the direct jobs are connected with private terminals, the total number of jobs (direct, indirect, and induced) associated with private terminals (33,768) is about twice that of the public marine terminals (16,418). Likewise, personal income at private terminals (\$2.371 billion) is approximately twice the amount at the public marine terminals (\$1.158 billion), with private terminals accounting for 83 percent of the estimated local purchases linked to port activity.

#### 2006 POB Economic Impacts

	PUBLIC TERMINALS	PRIVATE TERMINALS	TOTAL
JOB			
DIRECT	6,775	9,718	16,493
INDUCED	7,497	12,035	19,532
INDIRECT	2,146	12,016	14,161
TOTAL	16,418	33,769	50,186
PERSONAL INCOME (\$1000)			
DIRECT	\$296,432	\$491,525	\$787,957
RE-SPENDING	\$874,533	\$1,450,097	\$2,324,630
INDIRECT	\$87,133	\$429,793	\$516,926
TOTAL	\$1,258,098	\$2,371,415	\$3,629,513
			\$0
BUSINESS REVENUE(\$1000)	\$986,861	\$863,859	\$1,850,720
			\$0
LOCAL PURCHASES (\$1000)	\$220,408	\$1,066,475	\$1,286,883
			\$0
STATE/LOCAL TAXES	\$134,617,000	\$253,741,000	\$388,358,000

SOURCE: Summary of Economic Impacts for the Port of Baltimore, 2008, Martin Associates

Container cargo is the category with the most direct employment (2,454 jobs) and is overwhelmingly concentrated at the public marine terminals. Other commodities that account for similar levels of direct employment include breakbulk, dry bulk, coal, and iron ore cargos which are handled exclusively at private marine terminals. However, as pointed out in the Martin Associates report "...coal, dry bulk cargo, and liquid bulk cargo is less labor intensive, and the growth in these bulk cargoes has a lower impact on job growth than the more labor intensive cargoes." Automobiles are

# Baltimore Market Share – MPA Target Commodities

AUTO&TRUCK TONS		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2004-2007 % CHNGE	AVG ANNUAL %
BALTIMORE		479,000	556,000	503,000	573,000	931,000	1,012,000	848,000	N/A	974,000	1,175,000	145%	16%	39%	13%
NEW YORK		817,000	953,000	976,000	965,000	1,049,000	1,246,000	1,016,000	N/A	1,322,000	1,371,000	68%	8%	35%	12%
JACKSONVILLE		649,000	606,000	630,000	666,000	709,000	712,000	774,000	N/A	1,143,000	1,478,000	76%	8%	48%	16%
BRUNSWICK		254,000	323,000	343,000	356,000	455,000	466,000	399,000	N/A	446,000	478,000	10%	10%	20%	7%
OTHER EAST COAST		511,000	569,000	598,000	805,000	708,000	700,000	610,000	N/A	1,186,000	3,159,000	518%	58%	418%	139%
TOTAL EAST COAST		2,710,000	3,007,000	3,052,000	3,365,000	3,852,000	4,138,000	3,647,000	N/A	5,071,000	5,528,000	104%	12%	52%	17%
E.C. % TON CHANGE		11%	11%	1%	10%	14%	7%	-12%			9%				
BALTO. MARKET SHARE		17.7%	18.5%	16.5%	17.0%	24.2%	24.5%	23.3%	N/A	19.2%	21.3%	20%		-9%	
RO/RO TONS		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2004-2007 % CHNGE	AVG ANNUAL %
BALTIMORE		425,000	384,000	389,000	350,000	381,000	382,000	529,000	N/A	727,000	745,000	75%	8%	41%	14%
NORFOLK		111,000	93,000	67,000	56,000	58,000	76,000	52,000	N/A	107,000	121,000	9%	1%	133%	44%
CHARLESTON		109,000	89,000	93,000	92,000	85,000	87,000	56,000	N/A	104,000	108,000	-1%	0%	93%	31%
SAVANNAH		187,000	138,000	147,000	137,000	156,000	212,000	286,000	N/A	363,000	283,000	69%	8%	-1%	0%
OTHER EAST COAST		118,000	123,000	140,000	150,000	121,000	154,000	144,000	N/A	743,000	1,000,000	747%	83%	594%	198%
TOTAL EAST COAST		930,000	827,000	836,000	785,000	801,000	911,000	1,067,000	N/A	2,044,000	2,257,000	143%	16%	112%	37%
E.C. % TON CHANGE		-11%	-11%	1%	-6%	2%	14%	17%			10%				
BALTO. MARKET SHARE		45.7%	46.4%	46.5%	44.6%	47.6%	41.9%	49.6%	N/A	35.6%	33.0%	-28%		-33%	
FOREST PRODUCTS TONS		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2004-2007 % CHNGE	AVG ANNUAL %
BALTIMORE		542,000	676,000	863,000	1,168,000	1,328,000	1,460,000	1,534,000	N/A	1,835,000	1,731,000	219%	24%	13%	4%
NEW YORK		209,000	153,000	270,000	341,000	383,000	412,000	585,000	N/A	1,724,000	2,476,000	1085%	121%	323%	108%
PHILADELPHIA		1,274,000	1,125,000	1,171,000	886,000	1,007,000	1,310,000	1,659,000	N/A	1,513,000	1,089,000	-15%	-2%	-34%	-11%
NORFOLK		331,000	473,000	638,000	775,000	361,000	291,000	482,000	N/A	1,003,000	1,248,000	256%	28%	159%	53%
OTHER NORTH AMERICA		339,000	378,000	484,000	562,000	712,000	729,000	726,000	N/A	1,253,000	978,000	188%	21%	35%	12%
TOTAL NORTH AMERICA		2,715,000	2,805,000	3,426,000	3,722,000	3,791,000	4,202,000	4,986,000	N/A	7,328,000	7,522,000	177%	20%	51%	17%
N.A. % TON CHANGE		3%	3%	22%	9%	2%	11%	19%			3%				
BALTO. MARKET SHARE		20.0%	24.1%	25.2%	31.4%	35.0%	34.7%	30.6%	N/A	25.0%	23.0%	15%		-25%	
STEEL TONS		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2004-2007 % CHNGE	AVG ANNUAL %
BALTIMORE		626,000	312,000	315,000	204,000	220,000	338,000	297,000	N/A	365,000	329,000	-47%	-5%	11%	4%
BOSTON		903,000	553,000	792,000	550,000	404,000	265,000	314,000	N/A	NA	NA	NA	NA	NA	NA
PHILADELPHIA		3,922,000	4,703,000	4,362,000	3,416,000	4,079,000	2,029,000	3,341,000	N/A	5,849,000	3,197,000	-18%	-2%	-4%	-1%
NORFOLK		238,000	107,000	46,000	39,000	26,000	33,000	29,000	N/A	39,000	59,000	-75%	-8%	103%	34%
OTHER NORTH AMERICA		120,000	235,000	189,000	109,000	167,000	152,000	24,000	N/A	682,000	427,000	256%	28%	1679%	560%
TOTAL NORTH AMERICA		5,809,000	5,910,000	5,704,000	4,318,000	4,896,000	2,817,000	4,005,000	N/A	6,935,000	4,012,000	-31%	-3%	0%	0%
N.A. % TON CHANGE		2%	2%	-3%	-24%	13%	-42%	42%			8.2%				
BALTO. MARKET SHARE		10.8%	5.3%	5.5%	4.7%	4.5%	12.0%	7.4%	NA	5.3%		-24%		11%	
TOTAL TONNAGE		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2003-2006 % CHNGE	AVG ANNUAL %
BALTIMORE		NA	NA	NA	NA	NA	22,421,588	29,130,000	29,066,781	27,823,877				24%	8%
SAVANNAH		NA	NA	NA	NA	NA	19,987,207	24,307,047	27,231,233	30,700,209				54%	18%
NORFOLK		NA	NA	NA	NA	NA	20,446,484	19,552,572	23,282,593	25,542,305				25%	8%
CHARLESTON		NA	NA	NA	NA	NA	17,262,889	18,600,364	19,885,611	21,798,203				26%	9%
PHILADELPHIA		NA	NA	NA	NA	NA	50,785,114	53,576,318	54,903,654	55,825,689				10%	3%
WILMINGTON		NA	NA	NA	NA	NA	11,655,039	12,898,479	13,457,166	13,409,912				15%	5%
U.S. PORTS		NA	NA	NA	NA	NA	1,209,587,568	1,305,610,188	1,351,046,274	1,380,605,363				14%	5%
U.S. % TON CHANGE							1.9%	7.9%	3.5%	2.2%				9%	
BALTO. MARKET SHARE								2.2%	2.2%	2.0%					
CONTAINERS TEU'S		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998-2007 % CHNGE	AVG ANNUAL %	2003-2007 % CHNGE	AVG ANNUAL %
BALTIMORE		255,312	255,378	275,955	273,418	301,944	306,845	354,180	381,984	406,865	429,851	68%	8%	21%	7%
SAVANNAH		557,642	624,497	720,231	812,984	1,013,893	1,124,409	1,290,178	1,490,663	1,587,813	2,017,255	262%	11%	56%	19%
NORFOLK		793,359	829,094	850,400	885,392	982,007	1,093,207	1,206,034	1,324,507	1,413,926	1,568,112	98%	11%	30%	10%
CHARLESTON		1,034,918	1,169,552	1,246,181	1,158,751	1,197,398	1,249,770	1,421,251	1,521,601	1,507,472	1,400,806	-1%	4%	-1%	0%
PHILADELPHIA		114,981	89,345	83,256	83,408	114,659	103,408	132,223	159,557	181,706	197,002	71%	8%	49%	16%
WILMINGTON		126,586	131,608	122,690	128,028	133,186	195,028	148,098	157,394	174,051	185,278	46%	5%	25%	8%
U.S. PORTS		15,556,255	16,563,789	17,937,670	18,116,582	19,729,422	21,288,545	23,850,523	26,092,405	27,631,493	29,020,343	87%	10%	22%	7%
U.S. % TON CHANGE		6%	6%	8%	1%	9%	8%	12%	9%	6%	5%				
BALTO. MARKET SHARE		1.64%	1.54%	1.54%	1.51%	1.53%	1.44%	1.48%	1.46%	1.47%	1.48%	-10%		0%	

Source: Maryland Port Administration, U.S. D.O.T. Maritime Administration, and Hentschel Real Estate Services

the most job-intense commodity (1.71 jobs per 1,000 tons), followed by breakbulk, RO/RO, and lumber (1.41, 0.63, and 0.63 per 1,000 tons, respectively).

#### **Distribution of Direct Jobs by Commodity**

Commodity	Public Terminals	Private Terminals	Total
Containers	2,454 (99%)	24 (1%)	2,478 (15%)
Breakbulk	783 (33%)	1,575 (67%)	2,358 (14%)
Dry Bulk	NA	2,044 (100%)	2,044 (12%)
Iron Ore	NA	1,832 (100%)	1,832 (11%)
Coal	NA	1,527 (100%)	1,527 (9%)
Other	3,538 (57%)	2,716 (43%)	6,254 (38%)
Total	6,775 (100%)	9,718 (100%)	16,493 (100%)

*Source: Martin Associates, Economic Impacts of the Port of Baltimore, 2008*

Job data and economic impact are not calculated for each public or private marine terminal facility.

According to the 2008 Martin Associates report, the average wage of the 16,493 individuals directly employed in port-related activities was \$47,780, a slight decline from the \$50,870 reported in 2003. Despite the decline, port proponents hasten to point out that, as manufacturing jobs have declined in the region, the port remains a source of job diversity, offering high-paying, blue-collar employment for those with less than a college education.

While all public and private terminals contribute to and/or benefit from the port's overall success, their specific needs, objectives, decision criteria, and viewpoints are not always identical.

Many of the private terminals are long-term owner-occupants of their facilities. Among those responding to the survey of businesses located within MIZOD conducted in conjunction with this study (see a discussion in the next section of this report), the average tenure of occupancy was 46.4 years, with 56 percent of the respondents occupying the location for more than 30 years, 25 percent over 50 years, and 12 percent over 100 years.

# Maryland Port Administration Facilities

Facility	Size/ Capacity	Cargo & Use	Berths	Equipment	Covered Storage	Rail-Highway Access	Ships Per Week	Potential for Growth/ Planned changes	Primary Customers	Potential Land Expansion
1 DUNDALK Marine Terminal (DMT)	570 acres	Ro/Ro, Autos, Woodpulp, Lumber Project Cargo Containers, via barge. Breakbulk Cruise Terminal	13 total 3 at 42' depth 10 at 34' depth (6-gen cargo; 7-container berths)	9 container cranes, 2 revolving tower gantry cranes	9 sheds = 765,375 sq.ft. existing, Sheds 5 - 108,500 sq. ft. being built, Shed 6 - 108,500 sq. ft. funded	Rail: NS direct service, Highway: 2.5 miles I-95, 1.5 miles I-695	11 3 barges	No available land contiguous to Dundalk for expansion. Move cruise terminal. Move containers to Seagirt. Remove internal gates, Expand MAT, New Auto processing Bldg, Construct Sheds 6A (funded), 3B, 5A, 3A (unfunded) Rehab berths 1-4. Crane improvements. Lot 1800 Rehab, Berths 7-10 Reconstruction.	ACL, APM, Wallenius/Wilhelmsen, Star Shipping, AmPorts, Columbia Coastal, BalTerm, Baltimore Packaging	
2 SEAGIRT Marine Terminal (SMT)	191 acres, 430,000 containers, with 2 new cranes and gate work	Containers, Interim Cruise passenger parking	4 total 3 at 42' depth 1 barge berth at 32' (very limited usefulness)	7 cranes - load/unload ships, 12 RTG' cranes - stack terminal	None	Rail: Adjacent ICTF Leased to CSX, Highway: 1.5 miles I-95	6 2 barges	Container capacity potential of 570,000 lifts/year if construct Berth 4, dredge to 50' and 3 additional cranes. Relocate cruise parking (14-18 acres). Additional land capacity achieved by: Relocation CSX, use ICTF's 66 acres Development of Canton Warehouse 18 acres	Mediterranean Shipping Co. (30% of container business) Columbia Coastal, Evergreen	CIGNA, Canton Warehouse, Possible GM Site
3 SEAGIRT ICTF	66 acres	Domestic trailers and intermodal containers (Leased to and equipped by CSX)	None	2 trainstainers, 2 toploaders	None	Rail: Capable of direct access by CSX, NS and Canton, Highway: 1.0 mile I-95	N/A	Expansion of SMT Relocation of CSX will provide additional container storage capacity.	Leased to CSX	
4 SOUTH LOCUST POINT Marine Terminal (SLP)	79 acres 650,000 <sup>2</sup> tons paper	Forest Products (paper) Autos Breakbulk	4 berths at 36' depth	3 container cranes, 1 revolving crane, Forest product ships have built-in cranes	320,000 sq. ft. shed for paper. 300,000 sq. ft. shed being built	Rail: CSX direct service, Highway: .75 mile I-95	.6	To 1,950,000 tons paper. Complete 2nd shed (2005) Fill in fruit slip to add & connect acres. Build 3rd shed by 2010. Buy Tyco grass lot & add Cruise Terminal.	UPM Kymmene BalTerm	Fill Fruit Slip, CSX 6 acre plot between SLP & NLP
5 NORTH LOCUST POINT Marine Terminal (NLP)	23 acres of land; (65 acres under water)	Paper Liquid Bulk Steel Sanctuary berth	4 finger piers provide 7 cargo berths and 1 lay berth. Depths 34' -40'	One container crane, Two revolving cranes	2 sheds 365,000 sq. ft.	Rail: CSX direct service, Highway: 1.0 mile I-95	1.3	Breakbulk Shed limited to light load cargoes Potential for grain barge transfer facility. Potential site for steel Most impacted by residential development	UPM Kymmene Westway Trading BalTerm Firestone	CSX Car Float, CSX Brunswick Yard
6 FAIRFIELD Marine Terminal (FMT) Phase II Kurt Iron	44 acres 90,000 <sup>3</sup> Autos 42 acres 10 acres	Automobiles	1 at 42'	None	None	Rail: No direct rail, Adjacent to: CSX Highway: 0.5 mile I-895	2.6	To 200,000-Auto storage capacity + Complete clean-up of Kurt Iron Metal Property. Mercedes to build out Phase II property. FUTURE: site for dredge placement land development	Mercedes	Terminal creation with dredged material. Fill vessel slip.
7 MASONVILLE Marine Terminal (MMT)	45 acres 90,000 autos	Automobiles	Uses berth at FMT Berth sharing agreement with AmPorts' Atlantic pier	None	None	Rail: CSX direct service, Highway: 0.5 mile I-895	(above)	90,000-Auto storage capacity NO land contiguous to Masonville Buy Curtis Bay Amoco @ 1.5 miles from site, for overstock storage (50 acres)?	ATC, Inc.	Terminal creation with dredged material
8 Hawkins Point	20 acres	Aluminum ore, Cement, Fertilizer	1 at 38' 1 at 34'	Conveyors	Bulk storage silos	Rail: CSX direct service, Highway: 1.0 mile I-695	0.6 and barges	Long-term turnkey lease until 2019.	East Alco	
9 Cambridge	11 acres	None	1 at 25'	None	16,800 sq. ft.			Leased to Sailwinds	Cambridge	

1 RTG = "Rubber Tire Gantry" crane, for stacking containers on the terminal  
2 Assumes annual throughput of approximately 1.0 ton per square foot. (can vary based on cargo mix)

3 Assumes annual throughput of approximately 2,000 autos per acre (can vary based on cargo mix) July 14, 2004 MPA Planning and Environment

Source: Maryland Port Administration

As discovered through the interviews, the sunk costs represented by such long tenure and the relatively high cost of replacing the facilities (in particular the cost of dredging and dredge material placement) generally make any consideration of relocation difficult because the current pricing structure and business model of most companies typically incorporate the correspondingly low occupancy costs. An increase in cost would not only affect the profitability of individual firms, but it also influences shippers' decisions of whether to route traffic through the Port of Baltimore or go elsewhere. Similar to farmers in rural areas, when confronted with development pressure and opportunities for sale, owner-occupants of industrial properties not only consider the exchange or fair market value of their real estate for alternative development at its highest and best use, but they also consider the enterprise or contributory value of the real property to the overall value of the going concern.

Likewise, the significant cost associated with creating and maintaining industrial transportation infrastructure, e.g. railroad corridors, road networks, and shipping channels, requires a threshold critical mass of industrial users that can only be achieved through clustering to produce operational efficiency and economies of scale.

The seven public marine terminals owned by MPA located in Baltimore City comprise 1,038 acres that are improved with 1,967,375 square feet of shed space with capacities, utilization rates, equipment, ship calls, and principal customers and cargo detailed on the accompanying exhibits.

Information obtained from the interview process and inspection of MPA marine terminal facilities suggests that some facilities are antiquated, functionally deficient, and poorly maintained.

For instance, North Locust Point Marine Terminal was regarded by some interviewees from the maritime and real estate communities as functionally deficient, comprised of finger piers that do not comport with current industry standards. Many of the piers are in poor physical condition or are unusable, and are served by antiquated equipment and sheds. The same interviewees cited a history of this facility being underutilized. MPA recently entered into a long-term lease with Westway Terminals in 2002 and 2007 to develop and operate a liquid storage facility on seven acres, and more recently executed a short-term three-year-lease with Ceres Terminals for most of the facility's surface storage space (about nine acres) for the processing and transport of cars, trucks, and construction equipment. Although the Locust Point SNAP Plan authorizes new residential and commercial development within the circle formed by the railroad right of way, new residential and commercial uses have been introduced within feet of this facility's fence line.



## MPA General Cargo Terminals

TERMINAL	COMMODITY & TONS (1,000)				VESSEL CALLS	COMMENTS
	COMMODITY	FY08	FY07	CHANGE		
SEAGIRT	Containers	4,708	4,510	4.4%	516	Operated by Maryland International Terminals with an agreement to Ports America for providing stevedore services. Currently Seagirt is operating at about 50% to 70% of capacity; however, this could be consumed by one new large account.
DUNDALK	Containers	1,189	1,143	4.0%	741	All useable acreage is currently leased with the exception of about 5 acres used for surge/overflow. Principle tenants are: Pasha, BalTerm, Amports, WWL, Ports America, BDS, Western Fumigation and Baltimore Packaging. Approx.8 additional acres will come online upon demolition of Shed 5 and paving Lot 600.
	RoRo	954	771	24%		
	Autos	411	372	11%		
	Forest Prod.	443	425	4.2%		
	Break Bulk	323	394	-18%		
SO. LOCUST PT.	Forest Prod.	634	556	14%	102	All cargo sheds are open space and under long term leases with BalTerm, Mreal and UPM-Kymmene. Cruise business will grow to at least 75 cruises by 2010; we are currently developing additional parking to expand capacity.
	Auto	0	4	-100%		
	Cruise (CY)	26	29	-10%		
NO. LOCUST PT.	Forest Prod.	99	140	-29%	68	The remaining useable acreage at NLP was recently leased. Principle tenants are: Westway, Ceres, Maryland Maritime and Firestone.
	Other	10	13	-23%		
FAIRFIELD	Autos	293	219	34%	182	Completely leased to Mercedes long term.
MASONVILLE currently	Autos					Completely leased to ATC (AmPorts) long term. Note: Masonville has no vessel berth; Autos arrive via AMPorts' Atlantic Terminal, (a private facility), and are counted at Atlantic Terminal.

## Other MPA Facilities in POB

CLINTON STREET	Lay Vessel Berthing	All berths are completely leased.
HAWKINS PT.	Various Bulk Commodities	Completely leased to East Alcoa long term.

Source : Maryland Port Administration

- Many of the same interviewees also considered MPA's Pier One on Clinton Street in Canton to be functionally deficient and in poor physical condition. With no adjacent land to support its use for cargo (the land was sold 20 years ago), sole access to the second level via a deteriorating viaduct through property owned by others, and a deteriorating substructure and superstructure, this pier has been used solely for layberthing for some time. The interior shed space is almost completely vacant.
- Although data regarding the theoretical maximum throughput capacity, actual cargo handled, and the number of jobs connected with each public marine terminal facility was requested to determine the extent of capacity to which each terminal is being utilized, the information was not obtainable from MPA. However, information obtained from maritime and real estate community interviewees together with visual inspection of the terminal facilities tends to confirm MPA's assertion that the Masonville, Fairfield, Dundalk, and S. Locust Point terminals are very intensely utilized at the present time, with little elbow room for expansion or growth.
- MPA projections anticipate an annual growth in commodity traffic in the three percent to four percent range. MPA officials reported that automobile growth may substantially exceed that figure if Chinese vehicle imports begin to enter the U.S. market within the next five years. With most terminals reportedly operating at or near capacity, MPA

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estimates that development of a new auto terminal facility would require an additional 30 to 100 acres of land. Further, if RO/RO traffic is to increase three percent to four percent per year as projected, terminals operating at capacity would have to displace other commodities to off-terminal location because RO/RO cargo must remain close to the dock, unless the rate of commodity throughput could be increased.

A key question to consider, especially in those communities like Locust Point and Canton where demand for alternative non-industrial land uses can produce substantially higher property values than current industrial uses, is whether existing maritime industrial uses in these communities could be developed at or relocated to alternative locations, and if so, in what time frame.

In addition to significant expense and issues of sunk costs discussed previously, the ability to relocate an existing or develop a new public or private marine terminal facility requires extensive lead time and is complicated not only by the limited number and availability of alternative deepwater sites of adequate size, but also by the cost of dredging and the limited options for the placement of dredge material.

MPA officials stated, and area industrial real estate experts concurred, that there are few large deepwater sites that could be made available for terminal development or relocation at this time. Those few available would require varying degrees of dredging, whether to create access from the shipping channel or to prepare berths for the mooring of vessels. According to MPA the existing approved dredge material placement sites currently have the capacity to accommodate annual maintenance dredging of the main shipping channel and little else. Therefore, the dredge material placement needs associated with creating a new replacement or public marine terminal facility would displace existing dredge material placement capacity for maintenance dredging, jeopardizing upkeep of the main shipping channel. Private terminals are responsible for the cost of all dredging and disposal in relation to their terminal facilities as well as locating a suitable dredge material placement site. Open water dredge material disposal is no longer permitted in Maryland.

Because the selection and regulatory approval process for new dredge placement facilities is lengthy and contentious, developing or moving an existing marine terminal facility would require a considerable lead time.

In the long term, as part of its Dredge Material Management Program (DMMP) MPA marine terminal expansion is planned to come about as the result of new marine terminals slated for development at current dredge placement sites in outer harbor locations at Cox Creek (approximately 130 acres projected to be available in about 12 years) and at Masonville (approximately 140 acres projected to be available in about 20 to 30 years). An additional placement site is contemplated for an area of Sparrows Point as well.

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# U.S. Port Trends

According to industry sources, there are a number of issues and trends that are currently affecting East Coast U.S. ports, including POB, that should be monitored and considered when making future land use planning decisions because they influence the port's competitive stature and its ability to capture and retain market share.

1. Larger ships are calling on fewer terminals, increasing the distance that goods are willing to travel.

The trend toward larger ships, particularly container carriers, has resulted in carriers calling on fewer ports and concentrating more cargo at selected hubs heightening the competition for a contracting customer base.

Work to expand the capacity of the Panama Canal, scheduled to be completed in 2014, is expected to create a considerable amount of new business for East Coast Port facilities as ships are diverted from congested West Coast ports to the East Coast. The very large Post-Panamax ships require channels deep enough and equipment large enough to handle them. While Baltimore's 50-foot channel is a rarity on the east coast, it currently lacks a 50-foot berth (the deepest at Seagirt is now 46 feet) although MPA's capital construction program reports that dredging is now underway to accommodate these larger ships. However, according to interviewees, the equipment at MPA marine terminals is aging, with current crane equipment capacity below that needed to handle the new larger ships.

2. Single user marine terminal facilities are emerging.

As a result of industry consolidation, the traditional East Coast model of public port authorities building and leasing container terminals to multiple shipping lines may be supplanted by the West Coast model of developing terminals for the exclusive use of a single carrier. MPA acknowledges that POB would be challenged to provide land and terminal structures to attract customers should this model take hold on the East Coast.

3. Rail is re-emerging as a means of long-haul, inter-modal travel.

Nationally, while the number of rail-car loadings decreased 1.3 percent between 1995 and 2005, rail container shipments increased 98 percent. Rail enjoys a competitive advantage for heavy loads and long distances. The deficiencies associated with Baltimore's Howard Street tunnel constrain the port's capacity for high-cube double-stack container rail shipments to and from the POB. Port officials and port real estate experts concede that the POB, as a result, remains a local traffic destination for containers. This is corroborated by the *Regional Landside Access Study's* finding that 95 percent of inbound and outbound



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# Survey of Businesses Within MIZOD

Because data specific to businesses located within the MIZOD was not readily available from existing published sources, a survey by the RESI of Towson University Research and Consulting (hereinafter referred to as the RESI survey) was conducted to collect and analyze data regarding those businesses. A copy of the complete report is presented in the appendix.

The information obtained from this survey was not only intended to provide greater insight into current industrial use of the land within MIZOD, but it also was to serve as input for the economic impact analysis of alternative land uses for the MIZOD area.

To summarize, the RESI survey found:

- The majority (82 percent) of the respondents operate from private, rather than public marine terminals;
- On average, 89.5 percent of the respondents' business is port-related;
- 62.5 percent report port related business has increased since MIZOD's 2004 inception;
- 30 percent of the respondents report operating at 96% or more of their facility's operating capacity;
- 87 percent anticipate an increase in business over the next five years and none expect business to decrease;
- The majority of respondents plan to accommodate the anticipated increase in business by augmenting the rate of through-put at the facility by adding shifts or employees and by reconfiguring operations on their existing property;
- 67 percent of the respondents reported that the number of jobs at their MIZOD locations increased since MIZOD's 2004 inception with a similar amount projecting further job increases over the next five years;
- The average 2007 salary reported for all employees whose work was physically located within the MIZOD was \$59,946 (above the \$47,780 Martin 2008 estimate) with hourly workers averaging \$56,360; and
- Approximately 26 percent of the employees physically located within MIZOD are residents of Baltimore City.



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# Economic Impact Of Alternative Land Uses

The *Industrial Land Use Analysis* compared and contrasted the tax (from income and real and personal property) revenue potential to Baltimore City associated with a variety of land uses. That study concluded that among warehouse, flex space, office, and big-box retail, the warehouse use would yield the least benefits in terms of tax revenue for the city while office use would produce the most.

While tax revenues to fund the city's operating budget are its lifeblood, they are not, and should not, be the sole criteria upon which to base public policy decisions.

Land use decisions can also have a profound influence on the health and vitality of a local economy. The nature and number of jobs, and the corresponding wages and spending patterns that will subsequently ripple through the local economy as a result, differ, sometimes significantly, among alternative land uses. A land use that might generate the highest tax revenue for the city might not necessarily provide a level of economic stimulus as great as an alternative use with lesser tax paying capacity.

Periodically, the Maryland Port Administration has commissioned recurring economic impact studies to describe the economic impact of the jobs associated with the POB, on the region and its governmental jurisdictions including the taxes generated for collection by the state and local governments in the aggregate. MPA advises that the conclusions apply only to the POB as a whole, and have not been estimated or apportioned on the basis of each individual terminal or for the area comprising MIZOD.

Although these studies, most recently performed by Martin Associates, have considered taxes and the economic multiplier effect of maritime-related jobs on the regional economy, they do not include any comparison with mixed, residential, and/or commercial use of the land. While the *Industrial Land Use Analysis* compared and contrasted the tax-producing capacity of office and retail land uses versus warehouse and manufacturing industrial land uses, it did not consider the economic multiplier effects of such uses on the local economy.

To overcome such shortcomings, RESI and Hentschel Real Estate Services have performed an economic impact analysis that includes an estimate of the tax revenue potential to the city and the economic multiplier effect of varying land uses on the local economy, the results of which are summarized on the matrix presented at the end of this section.

The matrix compares and contrasts the economic impact of industrial uses of two parcels of land, each approximately 30 acres in size, versus that of a mixed-use parcel as if developed on the same tract at the same location.

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To illustrate the impact of a water-oriented manufacturing/processing facility, the Domino Sugar property along Key Highway in Locust Point was selected. The 2006 MIZOD annual report reported employment for this facility at the rate of 17 jobs per acre.

The second parcel selected as an illustration of a port freight-service use is the Highland Marine Terminal, a 30 +/- acres property at 1601-1681 S. Highland Avenue in Canton. In the absence of employment data specific to the Highland Marine Terminal property, for purposes of analysis, a rate of 1.17 jobs per acre has been applied based on the adjoining port service use at the Rukert Terminals Corporation facility as reported in the 2006 MIZOD Annual Report. Additionally, a composite rate of all harbor-related uses conducted at the publicly operated marine terminals reported in the Martin Associates 2008 study at 6.15 jobs per acre has also been applied.

To quantify the economic impact of a new business entering into an area, economists typically measure three types of economic impacts: direct, indirect, and induced impacts. The direct economic effects are generated as new businesses create jobs and hire workers to fill new positions. The indirect economic impacts occur as new firms purchase goods and services from other firms. In either case the increases in employment generate an increase in household income, as new job opportunities are created and income levels rise. This drives the induced economic impacts that result from households increasing their purchases at local businesses.

Consider the following example. A new firm opens in a region and directly employs 100 workers. The firm purchases supplies, both from outside the region as well as from local suppliers, which leads to increased business for local firms, thereby creating jobs for say, another 100 workers. This is called the indirect effect. The workers at the firm and at suppliers spend their income mostly in the local area, creating jobs for another 50 workers. This is the induced effect. The direct, indirect and induced effects add up to 250 jobs created from the original 100 jobs. Thus, in terms of employment, the total economic impact of the firm in our example is 250.

The effects of a mixed use project if developed at the same location, have been calculated at a rate of 1.5 square feet of improvements for each one square foot of land (i.e. 1.5 floor area ratio, or FAR). Office use has been projected at 25,000 square feet per acre totaling 750,000 square feet with corresponding employment estimated at 250 net rentable square feet per employee (85 percent building efficiency) for a total of 2,550 employees. Projected retail space at 110,000 square feet represents 15 percent of projected office space. The remaining space is projected for residential use at a rate of 21 units per acre or 83 units per 100,000 square feet of office that is apportioned 75 percent for-sale housing versus 25 percent rental housing.



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The floor area ratio and the proportion for each of the uses comprising the mixed use have been developed as a composite that was derived from an analysis of actual and proposed Planned Unit Development projects in and around the Baltimore waterfront, as well as a November 2007 ratio analysis of space and allocation of uses within the Central Business District and Harbor East that was prepared by Colliers Pinkard (see appendix). Occupancy levels and pro forma office and retail rents, together with the distribution of unit types, sizes, rents, and prices have been formulated based on a survey of current comparable sales, rentals, and offerings in and around the Baltimore waterfront. Capitalization rates used to estimate the value of the components of the mixed use have been derived from published investor surveys. A spreadsheet of this analysis is presented in the appendix.

Although the author is a designated and certified general real estate appraiser, the analysis presented herein is not intended for use as an appraisal of any particular property and has been prepared and presented solely for illustrative purposes. Property taxes have been estimated by applying current city tax rates to the values determined in the analysis.

As presented in the matrix, output is defined as the value of all goods and services generated by the economic activity associated with the type of activity on the land, while wages are defined as the earnings of the workers associated with those activities. The estimate of Baltimore City taxes includes only local income, real property, and personal property taxes.

The matrix analyzes food processing; freight services; and retail, office, and residential uses of the land. For each use, an input-output model based on the Bureau of Economic Analysis (BEA) RIMS II multipliers was employed. The multipliers for each industry examined in the matrix are different since each industry has different input requirements to produce a unit of output. The econometric model uses base wages [irrespective of employee benefit packages] and is not designed to address qualitative attributes of the jobs or job holders.

Output and wages for the industrial uses have been estimated for the direct jobs, as well as the ensuing indirect and induced jobs. Unlike the Martin Associates reports, whose tax estimates include payments to local and state governments in the aggregate, the accompanying matrix isolates tax payments due and payable only to Baltimore City (including real property taxes, personal property taxes computed at the rate of 18 percent of real property taxes based on historical analysis, and income taxes assuming that 50 percent of the employees are residents of Baltimore City).

The matrix presents output and wages for the direct office and retail jobs, as well as the ensuing indirect and induced jobs. The output and wages for the direct, indirect, and induced jobs associated with the construction of the mixed-use project have also

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been estimated and presented. The output and wages derived from direct, indirect, and induced employment reflects those jobs that are associated with and arising from the residential uses to be located on the site.

The taxes reported for the residential use component reflect only Baltimore City's entitlement (i.e., real property taxes, personal property taxes computed at the rate of 18 percent of real property taxes based on historical analysis, and income taxes assuming that 50 percent of the employees and 100 percent of the unit occupants are residents of Baltimore City).

With a greater number of city tax-paying residents working and living on site and a significantly higher employment density per acre, it is not surprising that the city would reap infinitely more in tax receipts from a mixed use of the 30-acre tracts (approximately \$24.5 million with an additional \$1.9 million associated with project construction) than for many of the industrial uses analyzed regardless of employment density (ranging from a low of \$293,301 to high of \$2,048,644).

Arguably, the intensity of jobs, economic benefits, or tax revenues associated with any particular property within MIZOD could be greater than or less than those analyzed in the economic impact matrix depending upon the actual size of the parcel, mix of uses, and intensity of development (FAR). For instance, Tide Point, a 400,000-square-foot office complex immediately adjacent to the Domino Sugar property, is reported to contain either 9.7 acres or 15 acres with 1,650 jobs suggesting a FAR of 0.95 or 0.61, and either 110 or 170 jobs per acre depending upon the property size data source. The FAR of the Canton Crossing PUD, adjoining the Highland Marine Terminal used in the matrix, varies from 1.338 to 3.657, depending upon whether the 32.39 acre Exxon property is included or excluded from the computation which would materially influence the calculation of jobs per acre.

Although the specifics may vary from property to property, the following exhibit clearly illustrates the relative superiority that mixed residential/commercial use of land would yield for the city in terms of jobs (quantity without regard to quality), economic benefits, and tax revenues versus maritime-related industrial use of the same property.

### Per Acre Comparison of Land Uses

LAND USE	TOTAL* JOBS PER ACRE	TOTAL* OUTPUT PER ACRE	TOTAL* CITY TAXES PER ACRE
MANUFACTURING/ FOOD PROCESSING	49.8	\$15,678,512	\$68,288
PORT FREIGHT SERVICES	1.6	\$147,597	\$9,777
PORT COMPOSITE	8.7	\$911,716	\$32,187
RETAIL/OFFICE	162.9	\$22,904,787	\$316,721
RESIDENTIAL	23.1	\$2,803,626	\$498,828

*\*Total is the sum of Direct, Indirect and Induced sources*

Additional data and assumptions used in performing the economic impact analysis are detailed in the appendix of this report.

### Economic Impacts of Alternative Land Uses

		DIRECT	INDIRECT	INDUCED	TOTAL	MULTIPLIER
17 JOBS/ACRE	Employment	510	670	313	1,494	2.93
MANUFACTURING	Output	\$321,894,272	\$109,814,356	\$38,646,734	\$470,355,370	1.46
FOOD PROCESSING	Wages	\$ 51,553,100	\$37,190,935	\$13,264,024	\$102,008,058	1.98
	Taxes	\$1,035,349	\$746,911	\$266,383	\$2,048,644	1.98
1.17 JOBS/ACRE	Employment	35	4	8	47	1.33
PORT FREIGHTSVCS.	Output	\$3,002,041	\$425,373	\$1,000,529	\$4,427,917	1.47
	Wages	\$2,114,166	\$196,903	\$343,392	\$2,654,461	1.26
	Taxes	\$233,602	\$21,757	\$37,943	\$293,301	1.26
6.15 JOBS/ACRE	Employment	185	30	45	260	1.41 +
PORT TERMINAL	Output	\$18,179,277	\$3,584,634	\$5,587,569	\$ 27,351,480	1.50
COMPOSITE	Wages	\$11,006,269	\$1,580,723	\$1,917,678	\$14,504,670	1.32
	Taxes	\$736,542	\$103,862	\$125,204	\$965,608	1.31
Retail/Office	Employment	2,969	1,081	837	4,887	1.65
99 JOBS/ACRE	Output	\$454,878,069	\$129,095,305	\$103,170,238	\$687,143,611	1.51
	Wages	\$172,836,705	\$51,973,620	\$35,407,156	\$260,217,476	1.51
	Taxes	\$6,310,996	\$1,897,776	\$1,292,864	\$9,501,636	1.51
Construction	Employment	1,771	543	474	2,788	1.57
59 JOBS/ACRE	Output	\$269,606,040	\$64,559,906	\$58,406,718	\$392,572,664	1.46
	Wages	\$102,769,080	\$25,845,033	\$20,044,928	\$148,659,040	1.45
	Taxes	\$1,300,800	\$327,134	\$253,719	\$1,881,652	1.45
Residential	Employment	497	106	89	692	1.39
16.5 JOBS/ACRE	Output	\$59,125,724	\$13,924,824	\$11,058,233	\$84,108,766	1.42
	Wages	\$19,657,890	\$5,291,211	\$3,796,822	\$28,745,923	1.46
	Taxes	\$11,870,882	\$1,724,489	\$1,369,483	\$14,964,854	1.26
Total	Employment	5,237	1,730	1,400	8,367	
Retail/Office +	Output	\$783,609,833	\$207,580,035	\$172,635,189	\$1,163,825,041	
Construction +	Wages	\$295,263,675	\$83,109,864	\$59,248,906	\$437,622,439	
Residential	Taxes	\$19,482,677	\$3,949,399	\$2,916,066	\$26,348,142	

Source: RESI of Towson University Research and Consulting

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# What MIZOD Does Not Do:

## Findings and Recommended Actions

During the interview process, the port community described its needs as:

- Access to navigable deep water as a prerequisite to function;
- A location among like-minded industrial neighbors together with buffers from incompatible land uses, especially residential uses, to:
  - Insulate them from potential liabilities and lawsuits, and
  - Deter complaints from residential and commercial neighbors that could lead to increased regulations and correspondingly greater operating costs and/or decreased productivity;
- Access to reliable transportation with:
  - Adequate clustering of industrial users to warrant continued service by a railroad, and
  - Functional, well maintained, uncongested, diversion-free transportation routes for trucks; and
- Assurance of continued industrial use at a location over sufficient time to allow equity and debt capital to amortize sunk costs.

In its current form and as proposed for extension, MIZOD has a number of limitations as follows.

- MIZOD preserves those properties adjacent to deep water for industrial, not necessarily maritime, use; however it ignores their functional utility and/or economic feasibility for such use.
- MIZOD does nothing to mitigate use conflicts that already exist nor establish effective buffers or define transitional uses to be located therein.
- MIZOD does nothing to preserve and protect essential industrial transportation corridors that serve the properties located within MIZOD.
- Does not provide assurance of continued industrial use for capital sources and may actually encourage the land speculation activity that MIZOD was intended to eliminate.
- Does not measure or address the off-dock and off-port land use needs to facilitate and support port expansion and growth.
- Does nothing to eliminate safety and security issues associated with proximity to residential and commercial uses in the event of an industrial mishap or act of terrorism.
- By itself, is not enough to preserve and promote a vibrant port.

### **Finding:**

MIZOD preserves those properties adjacent to deep water for industrial, not necessarily maritime, use; however it ignores functional utility and/or economic feasibility for such use.

Oddly, although its espoused purpose is to preserve deepwater for maritime uses, as currently written and proposed for extension, MIZOD does not oblige maritime use

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of deepwater sites. MIZOD's provisions would be satisfied even if no seagoing vessel ever visited the Baltimore harbor, so long as deepwater waterfront properties are reserved for heavy industry, despite the documented, protracted, and accelerating decline of industrial activity within the city.

The utility or usefulness of a parcel of real estate is greatly determined by its physical capacity to accommodate those uses for which it is legally permitted, as well as those physical standards and criteria that are demanded by users in the marketplace.

For example, a small, functional warehouse in today's market would typically be built to contain no less than 50,000 square feet of improved space. Hence, a 50,000-square-foot warehouse would need at least 2.3 to 3.8 acres of land to comply with the criteria of users in today's market based on a ratio of 0.3 to 0.5 square feet of building for each square foot of land. Unless there were some legally permitted and market-supported use for land parcels of smaller denominations, such properties would likely remain unused or underused for lack of effective demand if restricted solely to warehouse use.

Discussions with industrial property brokers and private- and public-sector port officials concluded that a minimum of six acres of adjoining land would likely be needed to warrant productive maritime use of deepwater, and that parcels of 30 acres or more would be necessary for contemporary maritime uses to function efficiently. This does not include layberthing of vessels like the *Sanctuary* at N. Locust Point or the *John Brown* at Pier One Clinton Street or the military vessels at each location that would require much less land. Although a legitimate and necessary use of deepwater, layberthing provides the city with less in the way of taxes, jobs, or economic spin-off than other more intense maritime activities.

An undated white paper issued by the city's Planning Department, entitled *Zoning for Industrial Maritime Protection*, noted, "*An important principle of zoning is that use areas should be contiguous, and spot zoning should be avoided.*"

While introducing new residential or incompatible commercial uses into the center of an existing industrial enclave like Hawkins Point or Fairfield would obviously alter the character of the area, the development of compatible commercial uses on small parcels with limited or no industrial utility at locations in transitional communities like Canton or Locust Point, especially on the periphery or frontier where land uses already coincide, should be less influential.

MIZOD's current provisions are not conducive to tailoring the site-by-site solutions for small parcels not suitable for industrial development as envisioned by the *Industrial Land Use Analysis*.

Rather than encourage creative solutions that optimize the utility of marginal properties without compromising the needs of the adjoining industrial users, as written, MIZOD inflexibly would allow such marginal properties to languish, unused or underutilized, diminishing, rather than enhancing, city tax revenues.

One useful example is the property located at 1000 Key Highway between the General Ship property and Domino Sugar, one of the parcels likely to seek to opt out from MIZOD in 2014.

With reportedly limited docking rights, relatively shallow water, and less than an acre of land, the parcel is not well suited for heavy industrial use and is significantly below the size threshold suggested for feasible maritime use. This parcel forms the MIZOD district boundary abutting the General Ship property which has already been approved for non-industrial use.

From the city's perspective, a preferable alternative to the underutilization and unrealized tax revenue of such a property might be to identify and limit its use to one that is compatible with the adjoining industrial use, to prescribe adequate buffers, landscaping, and design guidelines intended to neutralize any negative effects, and to obligate the site to implement enhanced security requirements.

**Recommended Action:**

MIZOD property should be reserved for maritime-related, not merely industrial, use and the rules governing their use should have the capacity to deal with and provide for compatible non-industrial uses for those sites that are not suitable for deepwater maritime industrial use, especially at residential-commercial frontier locations.

**Finding:**

MIZOD does nothing to mitigate use conflicts that already exist nor does it establish effective buffers or define transitional uses to be located therein.

The Planning Department's white paper entitled *Zoning for Industrial Maritime Protection* states, "...the goal is to demarcate areas of the waterfront for each (sic. industrial and non-industrial) use ...in order to avoid the incompatibilities created when the two are located in the same area."

Such a goal is attainable within industrial sanctuaries like Hawkins Point or Fairfield, or when nestled at the center of a MIZOD district among like industrial uses. But what about those locations where residential and commercial uses have already encroached and now exist?

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Neither the original MIZOD ordinance nor the proposed extension contains any provisions that address the issue of industrial-use buffers or the transitional uses that might be allowed there.

The term “buffer” is not universally conceived, commonly defined, or uniformly applied. The *Industrial Land Use Analysis* included a recommendation for a minimum 35-foot buffer yard containing one shade tree per 30 linear feet with shrub planting every ten feet for industrial uses adjacent to residential use. Like the current zoning code, the recommendation does not contemplate the opposite, namely buffer requirements for residential or commercial uses that are introduced adjacent to existing industrial uses.

Regardless of the definition, the purpose of a buffer is to separate uses with the intent to lessen the effect or impact of one use deemed to be incompatible with or unwelcome by another use. The effect or impact can be sensory (sight, smell, or sound) or physical (e.g., vibration, dust, dirt, and particulates).

Baltimore’s current zoning code acknowledges the adverse physical and sensory effects associated with certain industrial land uses by establishing and imposing performance standards that are set forth in Chapter 12.

Some view a buffer as a dedicated area that physically separates incompatible land uses and is comprised of green or other open space, with or without barriers, such as berms, trees, fences, etc. This “green space” view of an industrial buffer is tantamount to a dedicated, albeit large, setback or yard area.

Each of Baltimore’s three existing industrial zoning classifications require setbacks and yards of varying sizes, especially when abutting residential or office-residential use districts. Oddly, the heavier the industrial use, the lesser is the setback required from the adjoining office or residential use:

- M-1 requires a 30-foot setback
- M-2 requires a 20-foot setback
- M-3 requires a 10-foot setback

Each industrial zoning classification requires that industrial and storage uses located within 200 feet of and visible from the ground level of a residence or office-residence district be located within enclosed structures or screened by a wall or fence or a terrain or landscaping feature. However, there is no reciprocal requirement for new residential or office uses that are introduced within 200’ of an industrial zone to incorporate such features.

Others view a buffer as the physical space contained within the distance separating incompatible land uses, within which are located uses that progressively mitigate the



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adverse effects of heavy industrial land uses. Such buffers vary in terms of the nature of acceptable intervening uses and the size of the buffer area. A common view is to form a progression from heavy industrial to warehouse and flex space, and thereafter to office and retail uses and only then to residential use, with each successive use providing a suitable transition to buffer the negative aspects of industrial activity.

Creating adequate buffers of green space or transitional uses is problematic in built-up areas. While green space and setbacks can be required of new uses, they are difficult to impose on existing properties, industrial or non-industrial. Likewise, it is difficult to prohibit or eliminate existing conflicting non-industrial uses or impose suitable transitional uses within the land use fabric of existing communities.

In 2005, the Port of San Diego (which controls all land abutting the San Diego Harbor) implemented a 1,000 foot buffer zone surrounding port cargo terminals and industrial areas and is working with the city to adopt and incorporate transitional-use zoning classifications into its general and community plans to discourage and alleviate incompatible land uses. Although the port appropriated \$2.0 million for buffer property acquisition with the intent of acquiring and retaining certain lands, while reselling others after imposing restrictive covenants on future use, port personnel reported that acquisitions proved to be cost prohibitive.

While MIZOD aspires to the ideal of an enclave location among like minded neighbors, obviously an industrial site located near or within established communities containing residential and commercial uses can not be moved and must be addressed in place.

Appropriate and mandatory architectural and engineering design standards might afford the most palpable solution to an otherwise troublesome circumstance. Regulations and guidelines could be adopted requiring the following: all new or redevelopment projects proposed for locations near port facilities to include design elements to mitigate nuisances and reduce conflicts like augmented setbacks; appropriate placement of protective berms and/or other physical or landscaped barriers; ingress and egress points designed to separate non-industrial from industrial traffic; the orientation of buildings (e.g., designing a solid wall facing the area of nuisance or concern) on the site in a fashion that would lessen the effects of port nuisances (odors, bright lights, noise, unsightly views) on occupants of the proposed project and the required inclusion of blast-proof, fire-proof, and/or sound-insulating materials in structures, to name a few. While such requirements might increase development costs and/or decrease attainable density they could neutralize incompatibilities and facilitate cohabitation.

Located in Locust Point directly across Fort Avenue from a main CSX switching yard, the townhouses at Silo Point vividly illustrate this point. Fort Avenue comprises the sole buffer for noise, visual pollution, fire, and/or terrorist attack between the

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townhouses and the rail yard across the street. Instead of fronting the townhouses directly along the Fort Avenue street frontage overlooking the rail yard, perhaps an augmented set back with landscaped and elevated berms or an orientation of the homes away from the railyard could have provided a more effective buffer from the effects of the industrial use, albeit at the expense of some residential density.

The city already has a mechanism for the formulation, review, and implementation of such guidelines, namely the Urban Design and Architectural Review Panel (UDARP). While the panel's opinions and recommendations are more advisory than mandatory and are not solicited for every development project, those projects proposed near port facilities could be subjected to mandatory architectural and design standards intended to mitigate inherent use conflicts. The UDARP currently examines building proposals to see if they "negatively impact surrounding properties." Such a guideline could easily be expanded to include an evaluation of how well the proposed project handles and alleviates the negative aspects and effects posed by existing nearby maritime industrial properties.

Such a requirement would implement the provisions of MIRGMS that originally recommended that local governments promote zoning and development guidelines to maintain appropriate land use buffers between port industry and other uses, and devise regulations that would require the developers of new projects, contiguous to port uses, to provide appropriate buffers as part of the new project.

The Highland Marine Terminal property in Canton, another of the relatively few parcels likely to opt out in 2014, aptly illustrates the shortcomings of MIZOD when dealing with peripheral properties located on the residential-commercial frontier. This 30 +/- acre parcel abuts portions of the Apex Marine Terminal as well as the Canton Crossing PUD. The property's southern boundary is formed by the Canton railroad right of way. Danville Avenue (a paper street) abuts the parcel's northern boundary and serves as the MIZOD border, while Holabird Avenue to the south is a surfaced street separating the tract from the Rukert Terminal site. The Department of Planning's white paper entitled *Zoning for Industrial Maritime Protection* relates that, "*since the waterfront parcels between Boston Street and Danville Avenue have already been allowed to convert to mixed use under the PUD, it is assumed that the port compatible area would begin south of Danville Avenue...*," suggesting that the selection of the northern MIZOD boundary may have been arbitrary.

The large size and rectangular configuration of the Highland Marine Terminal parcel, its physical separation from Rukert Terminals by Holabird Avenue, and its physical adjacency (by virtue of Danville Avenue, a paper street) to Canton Crossing constitutes a significant opportunity to master plan an effective buffer of transitional uses that, once defined, would separate and mitigate the heavy industrial uses within the Canton MIZOD district from Canton Crossing's residential and commercial uses.

Instead of encouraging the development of a transitional-use buffer, inclusion of this property within MIZOD, which prohibits the flexibility associated with a Planned Unit Development (PUD), could result in an unintended consequence of continuing a heavy industrial use within 10 feet (the required setback in the M-3 zone) of the Canton Crossing commercial uses.

Perceiving the potential liability and lawsuits feared by the Baltimore Port community, San Diego and other ports have sought to incorporate disclosure provisions in office, retail, and residential leases, and in residential sale contracts concerning properties that are located in proximity to marine terminal properties. The purpose is to notify buyers and tenants of the ramifications of their decision to locate near a port facility (namely, ports are noisy, produce noxious odors and bright lights, operate around the clock, etc.). While such disclosures do not necessarily eliminate complaints or exposures to liability, the awareness and proof of disclosure does afford a line of defense and a retort to future complaints.

House Bill 1100 and Senate Bill 672, which would have required a residential contract of sale to contain a disclosure statement notifying buyers that the property may be located near an industrially zoned property, were introduced during the 2007 Maryland legislative session but were not enacted. Discussion with the Greater Baltimore Board of Realtors concluded that the language of the bills was too vague to garner the support needed for their passage.

Similar legislation concerning properties located within a specified distance of a marine terminal facility could be introduced. Inclusion of such disclosure language within standard Board of Realtor contracts could also be negotiated with local Boards without legislative action.

Likewise, legislative relief to impose limits on legal liability from lawsuits dealing with the nuisances associated with port-related activities could also be sought.

#### **Recommended Actions:**

1. Define the composition of a suitable buffer and the appropriate transitional uses that can best serve to mitigate the detrimental effects of nearby heavy industrial uses.
2. Adopt mandatory architectural and engineering design regulations, including required buffers for new and redeveloped non-industrial projects proposed in the vicinity of existing maritime industrial uses to lessen the effect of industrial nuisances.

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3. Provide that all leases and real estate sales contracts for property within a certain distance of a maritime industrial facility contain a disclosure and acknowledgement that the property is subject to certain unavoidable hazards and nuisances originating from the maritime use.

**Finding:**

MIZOD does nothing to preserve and protect essential industrial transportation corridors that serve the properties located within MIZOD.

Although MIZOD preserves access to deep water, its provisions do little to preserve transportation corridors leading to and from it. According to the *Regional Landside Access Study*, 95 percent of the container freight moving in and out of the port is by truck.

The effect of conflicting government policies and uncoordinated decisions are most immediately apparent within transportation corridors. For instance, Boston Street is cited in the *Regional Landside Access Study* as a principal industrial transportation corridor that connects the Canton Industrial Area with I-95 and I-895 via Clinton Street.

*The Baltimore Sun* recently reported that an additional 20,000 peak-hour trips are expected in the Canton area as a result of new development within the next seven years and that 22 of 31 intersections in Southeast Baltimore are projected to fail (i.e., traffic volume exceeds capacity). Increased congestion not only decreases productivity and increases costs for industrial users, it also invites the potential for imposition of truck restrictions and/or prohibitions to and from Boston and/or Clinton streets in contravention of the intent of MIRGMS and MIZOD.

*The Baltimore Sun* article indicated that of the four solutions under consideration, the city's Transportation Department favored the alignment that, among other things, "would retain development opportunities... and preserve development parcels."

Unless the city develops a "big picture" uniform mindset, resolves industrial and community development policy conflicts, better coordinates actions and decisions, and communicates objectives and policies among various officials at all levels of the organization, MIZOD will do little to protect essential industrial transportation corridors.

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**Recommended Action:**

Refine and reconcile city land use policies and decisions, and improve interagency coordination and communication to minimize adverse effects on primary industrial transportation corridors.

**Finding:**

MIZOD does not provide assurance of continued industrial use for capital sources and may actually encourage the land speculation activity that MIZOD was intended to eliminate.

Proponents of extending MIZOD before its 2014 scheduled expiration assert that sizable capital investment is needed to fund the acquisition and expansion of maritime land, buildings, machinery, and equipment. Most of today's maritime funding is reportedly from foreign sources, which are quite sensitive to encroaching incompatible land uses that may interfere with or undermine the security of their investment. Maritime capital expenditures tend to be sizable and represent sunk costs that are not quickly recaptured, requiring extended amortization periods.

As recent events demonstrate, there are no guarantees or assurances for lenders or equity investors when capital is invested in either real estate, whether industrial, residential, commercial, or mixed use, or in a business enterprise. Risk is inherent in all investments and hopefully capital will be equitably compensated and returned. No lender or equity investor ever has complete assurance that over time a property's zoning will not be changed or that the character of a surrounding neighborhood won't transition either for better or worse. That is an essential component of business risk, especially for real estate due to its immobility.

Although providing MIZOD with an expiration date may indeed provide some flexibility for subsequent modifications and adjustments to zoning to accommodate a changing marketplace, such flexibility can actually contribute to the land speculation activity that MIZOD was intended to eliminate as illustrated by the following simple example.

Consider a ten-acre tract of land with a value of \$450,000 per acre as zoned for industrial use. Suppose that commercial use of the property would be reasonably probable and economically feasible in ten years, at which time zoning for its commercial use could be expected. Assume that commercial land fetches \$1,100,000 per acre in today's market.

Valuation theory prescribes that real property be valued at its highest and best use (i.e. the physically possible, legally permissible, economically feasible use that returns

the highest value to the land over time). In the example, although the ten-acre tract is currently zoned and used for industrial purposes, speculative investors would be attracted to the property in the expectation of a substantial profit as a result of an anticipated use change in year 10. In this circumstance, the current industrial use would reflect an interim use pending its conversion to the more profitable commercial use at the end of the ten-year period.

As presented in the following table, the property’s value would be calculated by discounting the present worth of the property’s future commercial use value in year 10. The table compares and contrasts the progression of industrial values over time (appreciated 3 percent per year for inflation) against the projected future commercial use value of the parcel in year ten discounted to a present value at a 12 percent return on investment.

As the following exhibit illustrates, by year four value of the property as an interim use (i.e., calculated at the present value of the anticipated future commercial use of the property) surpasses its value for industrial use. Each year thereafter, the interim use value of the property progressively surpasses the price warranted for its industrial use. By year seven, the value of the property significantly exceeds the price that an industrial user could afford or justify paying at which point the industrial buyer is effectively priced out of the marketplace.

**Comparison of Land Values Based on Future Use**

YEAR	PRES. VALUE COMMERCIAL REVERSION PER ACRE	VALUE OF INDUSTRIAL LAND PER ACRE	PV 10 AC. COMMERCIAL USE	VALUE OF 10 AC. INDUSTRIAL USE
1	\$354,171	\$450,000	\$3,541,706	\$4,500,000
2	\$396,671	\$463,500	\$3,966,710	\$4,635,000
3	\$444,272	\$477,405	\$4,442,716	\$4,774,050
4	\$497,584	\$491,727	\$4,975,841	\$4,917,272
5	\$557,294	\$506,479	\$5,572,942	\$5,064,790
6	\$624,170	\$521,673	\$6,241,695	\$5,216,733
7	\$699,070	\$537,324	\$6,990,699	\$5,373,235
8	\$782,958	\$553,443	\$7,829,583q	\$5,534,432
9	\$876,913	\$570,047	\$8,769,133	\$5,700,465
10	\$982,143	\$587,148	\$9,821,429	\$5,871,479

As illustrated above, incrementally extending MIZOD for finite periods will almost certainly invite further requests for extension well before the stipulated expiration date.

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Not only can MIZOD's sunset provision inadvertently escalate property values and price industrial users out of the marketplace, it can actually encourage and reward land speculation as an unintended consequence. This can occur at the expense of the city, since Maryland SDAT assesses non-residential interim use property at its then-current use, irrespective of the speculative value that reflects its future highest and best use. This was evident as chronically vacant office properties that were being held for speculation in the city's financial district were sold for adaptive reuse at prices far in excess of their assessed values earlier in the decade. Hence, while the land speculator is progressively enriched over the interim holding period, he can count on the city to help carry him through the speculation period with cheaper property tax obligations as he awaits cash-out upon sale at the expiration of MIZOD.

**Recommended Action:**

Consider implementing periodic or cyclical comprehensive zoning review and revision to address changing patterns of demand and land use within city areas and neighborhoods as an alternative to the sunset provisions of MIZOD.

**Finding:**

MIZOD does not measure or address the off-dock and off-port land use needs to facilitate and support port expansion and growth.

The eligibility criteria originally established for inclusion within MIZOD were relatively narrow and focused solely on protecting deepwater sites. There was little concern for off-dock and off-port land needed for expansion of a growing port.

MPA laments that terminals are nearing capacity, are boxed in, and have little elbow room for expansion. Recent media reports relate MPA's elusive goal of acquiring additional land for expansion.

Obviously, locations closest to the dock afford economies of scale and would be the most ideal for port use, especially because shippers and insurers sometimes impose limitations on the distance from the dock to which goods can be moved and/or stored.

Neither the Point Breeze Business Center nor the Chesapeake Commerce Center on the former GM site met the MIZOD inclusion criteria. Consequently, albeit strategic parcels, neither is currently preserved or protected in any way for future port-related use.

Although essential, deep water alone is insufficient for a port to flourish. Well-located and properly zoned land of adequate size that is reasonably affordable must also be

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available, especially because much of the port’s targeted commodity cargo is land intensive.

The city should consider protecting critical parcels like Point Breeze and the Chesapeake Commerce Center for port-related use.

The land mass surrounding the Hawkins Point Marine Terminal, including the city’s Hawkins Point landfill, should be similarly considered for protection as maritime industrial support land because, in the long term, port expansion is slated for this section of the outer harbor.

**Recommended Action:**

Consider long term protection for viable off-dock and off-port expansion areas that could be needed to support port operations now and in the future.

**Finding:**

MIZOD does nothing to eliminate safety and security issues associated with proximity to residential and commercial uses in the event of an industrial mishap or act of terrorism.

The Maritime Transportation Security Act of 2002 (MTSA 33 CFR Part 105) requires that owners and operators of certain maritime facilities that:

- Receive vessels that carry more than 150 passengers;
- Receive vessels greater than 100 gross register tons of domestic or foreign cargo;
- Receive barges carrying dangerous cargo; or
- Have other specializations defined in Section 105.105 of MTSA,

prepare and present for review and approval by the US Coast Guard a facility vulnerability assessment and security plan. The plan, among other things, must include security measures to control access to the facility and designated restricted areas including shore areas immediately adjacent to moored vessels. The plan must also provide for perimeter protections to secure landside and water access to the facility and vessels moored at the facility, as well as monitoring of the facility through a combination of “...lighting, security guards, waterborne patrols, automatic intrusion detection devices, or surveillance equipment.”

As described by security personnel, waterfront industrial facilities require protection not only from acts of terrorism, but also from criminal acts like theft, vandalism, industrial espionage, or those that may affect the personal well-being and safety of employees and visitors.



Ideally, security personnel prefer the layered protection of shared perimeters abutting other like waterfront facilities that are also governed by the provisions of MTSA. Peripheral locations that abut non-MTSA regulated uses require that additional attention be paid to perimeter protection regardless of the nature of the abutting non-MTSA regulated use. Additionally, industrial locations on the frontier of commercial or residential uses have a higher incidence of vehicular traffic interaction thus increasing the risk of an incident. Locations on the periphery of industrial communities, whether isolated sanctuaries or otherwise, especially those on the frontier of residential or commercial uses, or those abutting large unimproved properties, tend to increase the costs of security.

Although MIZOD contains no specific provisions that relate directly to the security of maritime facilities, MIZOD's exclusion of those uses that are not subject to MTSA could be beneficial to MTSA-regulated maritime facilities, except for those located on the MIZOD frontier. However, unlike certain maritime protection zones in other cities (e.g., Philadelphia and Boston), MIZOD does not mandate maritime use of deepwater property. Hence, unless an adjoining industrial use receives vessels or is a specialized facility subject to the provisions of MTSA, MIZOD provides no greater security protection than a location within any cluster of industrial uses located outside MIZOD.

In addition to the effect of potential security breaches on industrial uses, there should be equal concern about potential incidents occurring at industrial facilities that could affect the safety and security of abutting non-industrial uses. This is especially true on the MIZOD periphery at the residential-commercial frontier.

For example, Canton Crossing is near the property of Apex Terminals, a working petroleum terminal facility that off-loads large transport tanker vessels at the dock for storage in dockside tanks, and subsequent pipeline transport to a satellite facility (portions of the pipeline are above ground and span over Clinton Street). Rail cars reportedly containing caustic and explosive materials are sometimes loaded and stored on another portion of the Apex property that abuts the proposed retail development slated at Canton Crossing.

An explosion or fire involving a tanker vessel, a storage tank, the pipeline, a railcar or truck, whether the result of an accident or a terrorist incident, has the potential for disaster for those patronizing or residing at nearby offices, shops or residences. Similarly, the proximity of commercial-office patrons and residents to a volatile industrial facility can precipitate an incident and thus add to the security concerns and costs of the industrial operator.

Because peripheral industrial sites abutting the residential-commercial frontier can not be moved, appropriate architectural and engineering design standards might

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afford at least some level of protection. Regulations and guidelines could be adopted for properties located on the MIZOD frontier that could include protective requirements like augmented setbacks; the placement of protective berms and/or other physical barriers; the placement of buildings on the site to lessen the effects of a possible incident (e.g. placement of a blank wall facing the area of concern); and the inclusion of blast-proof, fire-proof and sound-insulating materials in structures, to name a few.

**Recommended Action:**

Require mandatory architectural and engineering design regulations, including required buffers for new and redeveloped non-industrial projects proposed in the vicinity of existing maritime industrial uses to lessen the effect of a possible industrial accident or security incident.

**Finding:**

By itself, MIZOD is not enough to preserve and promote a vibrant port.

The port's desire for a location among like-minded industrial neighbors is mirrored by industrial enterprises across the country and reflects an era when industry was either segregated from incompatible uses or had neighbors who relied on the enterprise for business or employment with little incentive to complain about annoying sights, sounds or smells. Industrial sanctuaries (clusters of industrial users segregated and isolated from residential and commercial uses, like Fairfield and Hawkins Point) are rare and rapidly becoming endangered species. They are the exception rather than the rule, and, if left unprotected, they are susceptible to extinction.

As such, these communities warrant the benefit of protection, especially since the outer harbor area is the planned location for future port expansion. The same could also be said for the areas containing the Dundalk and Seagirt Marine Terminal facilities.

Portions of the Canton industrial district have generally remained an industrial sanctuary, except for the fringes along Clinton Street and Boston Street which now form a frontier with significant residential and commercial uses. The Canton area marine terminals are all privately owned and operated and are served by notable transportation infrastructure including interchanges with I-95 and I-895 as well as short line railroad connector service at Canton Railroad's Penn Mary Yard. The ability of these privately owned terminals to relocate elsewhere is materially constrained by the sizeable costs of relocating, and the sunk costs inherent in their existing facilities and locations as a result of their long term tenure, all of which is now reflected in

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their business models and competitive price structures. The ownerships of relatively large parcels of land that are situated south of Holabird Avenue and east of Clinton Street are concentrated in the hands of a limited number of mostly owner-occupant users that, due to their business models, are unlikely to request to opt out from MIZOD in 2014. Therefore, the city should similarly consider protecting the area of the Canton Industrial District south of Holabird Avenue and east of Clinton Street for industrial use.

Except for the residential-commercial frontier along Curtis Avenue, the Curtis Bay industrial waterfront is also exclusively occupied by heavy industrial uses and private marine terminals that constitute another veritable industrial sanctuary of large owner-occupied properties unlikely to opt out from MIZOD in 2014. The city might wish to consider protection of the Curtis Bay industrial waterfront.

Before peripheral land use conflicts like those in Canton can emerge along the residential-commercial frontier in Curtis Bay, the city needs to establish a transitional use buffer area and define those appropriate transitional uses and performance standards to be applied therein, a feature not currently envisioned or permitted by MIZOD.

Baltimore is an old city with many neighborhoods that have long housed a variety of residential, commercial, and industrial uses located in close proximity to each other. While it is understandable that industry would prefer to be isolated and segregated from other incompatible uses, especially residential uses, in redeveloping areas like Locust Point, Canton, and Curtis Bay, integration within the community is becoming the new reality that demands novel solutions to the challenge of fostering tolerant cohabitation among differing land uses.

Past decisions have radically altered the character of the balance of the Canton district along the frontier with new and proposed residential and commercial uses, especially in the vicinity of Canton Crossing PUD, which will likely increase congestion and possibly truck restrictions in the Boston Street and Clinton Street transportation corridors. As a result of rezoning and the approval of PUDs, the remaining industrial area between O'Donnell, Boston, Conkling, and Ponca streets is now entirely surrounded by existing and proposed residential and mixed uses which could yield further changes in land use and traffic patterns with unknown future effects on the remaining industrial area. Shifting land use patterns might require that over time certain properties in this area, like the Highland Marine Terminal property detailed elsewhere in this report, be individually planned and/or evolve into transitional-use buffers, features not currently envisioned or permitted by MIZOD's parameters.

The comprehensive zoning code currently being developed should consider means to neutralize use conflicts through creative building and site design standards

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whenever possible since isolation or separation of industrial uses from other incompatible uses is not always possible in a fully developed city and can result in idle or underutilized property and the corresponding unrealized tax revenue.

In this regard, the city needs to devise financing initiatives and tax incentives designed to encourage and enable those maritime industrial property owners who are vulnerable to the effects of conflicting land uses to retrofit and reconfigure their sites and buildings to better harmonize with surrounding land uses as well as help industrial users defray the costs of streetscape and facade improvements to lessen the impact of heavy industrial use on surrounding properties, thereby integrating the facilities into the community and minimizing the potential for complaints and conflicts.

Similarly, the city must be mindful that all of its policies and decisions, including those involving the disposition of property, should be coordinated and considerate of their sometimes imperceptible and unintended effects on the port.

**Recommended Actions:**

1. Protect maritime industrial sanctuaries such as Fairfield and Hawkins Point where there are few apparent conflicts now, to avert problems before they can arise.
2. Develop buffers and compatible transitional uses for those areas where use conflicts already exist, especially along the residential-commercial industrial frontier.
3. Develop effective methods and means to neutralize conflicts between uses, including creative architectural and site design standards, because isolation and separation of uses is not always possible in a fully developed city.
4. Implement periodic or cyclical comprehensive zoning review and revision to consider changing patterns of demand and land use within city neighborhoods.
5. Devise financing and tax initiatives to assist vulnerable industrial users to retrofit and reconfigure their properties to better harmonize with adjoining non-industrial land uses.

# Measuring MIZOD Performance

Measuring the success of MIZOD as stipulated by the provisions of Ordinance 04-804 is not a simple task. The stated intent of MIZOD is to ensure that something does not happen, namely that:

- non-industrial uses do not encroach and conflict with industrial maritime uses; and
- deep water sites are not converted to non-industrial uses.

In this regard, the job is to measure a negative, that is, to assess the success of something that did not occur, rather than to quantify the benefits of something that did.

In the absence of other discernable, readily available data, the Baltimore Development Corporation and the Planning Department formulated and currently report the following parameters annually in an attempt to gauge the success of MIZOD:

- Amount of property taxes collected within MIZOD;
- Number of permits issued within MIZOD;
- Amount of fixed cost investments within MIZOD;
- Total number of firms located within MIZOD; and
- Cargo volume and vessel arrivals within MIZOD.

Unfortunately, all of the measures are currently presented in a vacuum without the benefit of context.

When property taxes are viewed in the context of tax revenues obtained from all industrial properties as a class or revenues obtained from properties of all types on a city-wide basis, although taxes within the MIZOD have been shown to be increasing,

## Trend in Property Taxes

YEAR	INDUSTRIAL TAXES	% CHGE	TOTAL TAXES	% CHGE	MIZOD TAXES	% CHGE	MIZOD AS %OF INDUSTR TAXES	MIZOD AS% OF TOTAL TAXES
2009	\$39,423,464	8%	\$719,560,324	19%	NA			
2008	\$36,523,181	9%	\$604,029,350	15%	NA			
2007	\$33,358,702	5%	\$525,692,919	9%	\$5,906,272	2%	17.7%	1.12%
2006	\$31,885,146	3%	\$482,852,506	7%	\$5,771,337	1%	18.1%	1.20%
2005	\$30,887,281	5%	\$453,029,271	6%	\$5,695,965	1%	18.4%	1.26%
2004	\$29,518,380	3%	\$426,508,700	5%	\$5,644,112	5%	19.1%	1.32%
2003	\$28,689,349	-1%	\$405,969,287	2%	\$5,362,491	-3%	18.7%	1.32%
2002	\$28,952,437		\$396,170,906		\$5,504,092	2%	19.0%	1.39%
2001	NA		NA		\$5,404,734	-2%		
2000	NA		NA		\$5,498,383			

Source: Baltimore City Department of Finance

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property taxes collected within the MIZOD, although growing, have actually lagged both of the foregoing categories as illustrated by the table on the previous page.

Without the benefit of context the number of permits issued and the amount of fixed-cost investments measured thereby are similarly problematic and may not accurately reflect the nature and extent of work performed. For instance, MPA and some businesses reportedly are not required to obtain permits, while some permits and the values associated therewith might solely reflect the cost of routine maintenance. Furthermore, as a metric, building permit activity is a poor barometer for those facilities that are fully built out and functional.

MIZOD is a fixed area contained within finite boundaries. Much of MIZOD is located within established, fully developed areas of the city. If the absolute number of firms within MIZOD has increased or decreased, such change only indicates a shift in density, rather than measures any difference in productivity or productive capacity. If reporting the number of firms located within MIZOD is intended for use as a surrogate for employment, it is a poor measure. For example, if five new firms each employing five people locate within MIZOD, the five additional firms represent a net gain of 25 jobs within MIZOD. If, on the other hand, three firms each employing 25 people for a total loss of 75 jobs leave MIZOD and are replaced by a single firm that employs 100, the net reported result is a loss of two firms, notwithstanding that there was a net gain of 25 jobs within MIZOD.

According to a draft critique of the MIZOD annual report provided by the MPA, cargo volume and vessel arrivals have several measurements, with cargo volume the most useful indicator and MPA dockage days of lesser value. MPA points out that cargo volume listed in the MIZOD annual reports only reflects foreign commerce because domestic waterborne cargo reported to the U.S. Army Corp of Engineers is voluntary, and that reported arrivals are to the entire Port of Baltimore and not just the terminals located within MIZOD.

When reported in a vacuum, the volume of cargo moving through the Port of Baltimore is inadequate. An absolute three percent reported increase in the port's cargo volume loses some of its luster if the volume handled by competitor ports has increased by ten percent or if an erosion of the port's competitive market share has occurred. Only when presented in the context of performance against competition and relative market share can cargo volume data be properly evaluated as a measure of success.

There is a distinct difference between developing parameters to measure the success of a zoning ordinance versus those used to gauge attainment of the public policy objective that originally prompted the zoning ordinance in the first place.

As gleaned from the various interviews that were conducted, in practice MIZOD's goals are to prevent the loss of deepwater land that is prerequisite to maritime use; halt the encroachment of incompatible land uses that could infringe on and possibly inhibit the operations of maritime industrial users; control the escalation of land values beyond the economic feasibility for industrial use; and assure capital funding sources that industrial use of the property would continue for a period sufficient to recapture their investment.

Measuring MIZOD's success at attaining these objectives is problematic. MIZOD does not mandate maritime use of the deepwater property within its boundaries, but restricts properties to the industrial uses permitted by the M-3 zone. Hence, gauging the incidence of maritime use of the industrial waterfront is not a useful measure of success.

Because it is impossible to know what would have happened in the absence of MIZOD's use prohibitions, noting the number of new residential and commercial uses that *did not* occur is infeasible.

A registry of property transfers within MIZOD could be useful not only to gauge the affordability of land for industrial purposes but also to identify the incidence of speculation. Unfortunately, isolated instances of speculation would be hard to detect and property values difficult to easily assess because large industrial properties are not homogenous and seldom turn over in sufficient numbers within small geographic areas to create a useful database.

Measuring success of the original public policy objective underlying the MIZOD legislation begins by defining what success is and from whose perspective. Only then can criteria be developed and appropriate benchmarks established. Ordinance 04-804 and the current bill to extend it are silent with regard to each.

The perspective from which to measure success is that of Baltimore City. Upon review of the city's Economic Development Strategy and Comprehensive Master Plan, objectives could be summarized (though not necessarily in the order of priority) as:

- Maximize the city's tax base and enhance the revenue yield to the city from all sources;
- Enhance the local economy of the city and, when possible, that of the region so long as the city incurs no disproportionate costs in promoting regional interests;
- Provide jobs for the citizens and economic opportunities for businesses residing in the city; and
- Minimize land use conflicts to enhance the quality of life and promote the safety and welfare of the citizens and businesses.

With objectives in place, the criteria for success can then be discerned and defined and appropriate benchmarks to measure performance developed which could include:

1. Is the city receiving benefits at least commensurate with the diminished tax revenues and lost opportunity costs associated with hosting port facilities within the city?

Periodically, MPA commissions and publishes economic impact studies to gauge the economic benefits that the Port of Baltimore yields to the region and its economy. Previous reports have apportioned, at least in terms of direct employment segregated by public and private terminals, the benefits to each governmental subdivision. In the most recent study (dated January 28, 2008), Martin Associates reports that 2,921 of the total 6,775 jobs associated with the public marine terminals are held by city residents (43.12 percent), while Baltimore and Anne Arundel county residents hold 1,609 (23.75 percent) and 849 (12.53 percent) jobs respectively. The survey conducted in conjunction with this study found that approximately 26 percent of those working within the MIZOD boundaries are city residents. To the extent the income taxes are paid to the jurisdiction in which people live rather than work, localities reap a direct benefit from the employment at the public marine terminals.

While the economies and tax coffers of all of the region's governmental jurisdictions share the benefits of a regional economic engine like the POB, only the city must forego opportunity costs associated with alternative higher value non-industrial uses of the industrially zoned land on which marine terminal facilities are located in redeveloping communities, and realize reduced tax revenues associated with the public use of the MPA marine terminal properties almost all of which are located within the city.

Comparing the amount of opportunity costs foregone (by measuring the tax revenues obtainable from alternative uses of the land in the absence of MIZOD against the actual revenue to be collected with MIZOD in place) is an important exercise when enhancing tax base is a goal.

As detailed in the following table, MPA is scheduled to pay service charges in lieu of taxes (PILOT) to the city in the following amounts:

YEAR	PILOT
2007	\$743,598
2008	\$930,084
2009	\$930,084



The following table compares annual rents received by the MPA from private tenants occupying MPA's facilities with the Payment in Lieu of Taxes (PILOT) that MPA pays annually to the city.

#### RENT AND PILOT BY LOCATION

PROPERTY	PILOT	RENT COLLECTED
PIERS 1 & 6 CLINTON STREET	\$73,359	\$231,780
LOCUST POINT SOUTH	\$14,000	\$21,502
LOCUST POINT NORTH	\$30,000	\$713,915
HAWKINS POINT	\$25,750	\$229,655
FAIRFIELD	N/A*	\$2,507,139
MASONVILLE	\$171,850	\$2,082,850
POINT BREEZE	\$50,000	N/A
MCCOMAS A2; DMT-BENDIX;SEAGIRT		
PARCEL B; TOYOTA-MD. SHIP	\$564,105	N/A
SEAGIRT	N/A	\$2,317,360
DUNDALK	N/A	\$10,878,621
WORLD TRADE CENTER	\$1,000	N/A
U.S. QUARANTINE STATION	\$20	N/A
MCCOMAS STREET	N/A	\$25
TOTAL	\$930,084	\$18,982,846

\*N/A indicates detailed data are not available

Source: Maryland Port Administration

While interviews with some international marine terminal property experts reported that operating marine terminal facilities are currently being priced at a six percent capitalization rate based on composite tariff revenues at the dock and for on-port storage areas, others contend that such a capitalization rate would somewhat understate value. MPA's current tariff for rent of paved surface is \$25,000 to \$28,000 per acre at dockside. Applying a six percent overall capitalization rate as suggested above to an average rent of \$26,500 per acre would impute a land value of approximately \$442,000 per acre to the *land* not including buildings at MPA terminals.

Although detailed information about the tax liability for the 36 privately operated marine terminal facilities within the city was not readily available, the MIZOD annual reports cites tax payments for all privately owned properties within MIZOD to be approximately \$5.9 million for 2007.

The mayor's Blue Ribbon Committee on Taxes and Fees recognized the benefits to the citizens of the region, not just the city, of the many tax-exempt cultural assets that are disproportionately concentrated within the city and sought to formulate a remedy to equitably share the costs associated with providing such benefits among the beneficiaries. The opportunity costs related to alternative uses of MIZOD-protected land foregone by the city in certain communities and the reduced tax revenues associated with MPA facilities that are disproportionately concentrated within the city are additional examples of how other regional governmental jurisdictions share the rewards from a regional resource without necessarily having to contribute, forego, or risk anything in return.

The economic impact studies of the POB periodically commissioned by MPA could be expanded to measure and apportion not only the benefits received by each jurisdiction from the marine terminal facilities located within the city, but also the costs and contributions (including foregone opportunity costs and tax revenues) borne by each beneficiary as a basis for devising a regional sharing formula.

2. Is MPA being funded at levels sufficient for the Port of Baltimore to compete for its appropriate share of the market and to properly maintain MPA facilities within the MIZOD?

The MIZOD equation is relatively simple: If the port wins, the city and the region win. The inverse is also true. If the port loses, the city and the region do as well. However, should the port falter, the city stands to lose more than others in the region by virtue of its stake in the game, regarding the reduced tax revenues received from public marine terminal facilities and the lost opportunities from alternative land uses as a result of the protective effects of MIZOD.

MIZOD, in effect, makes the city and the port partners with a vested interest in the port's success. As any prudent investor in an enterprise, the city should expect adequate returns on its investment.

In this regard, port performance relative to industry benchmarks and that of competitors should be periodically reviewed to assure that MIZOD-protected port assets are being maintained and utilized at optimum capacity to promote the success of the port. Idle or underutilized assets that are not fully contributing to the success of the enterprise, especially those under the protection of MIZOD, deprive the city of the economic benefits to which it might otherwise be entitled.

For example, as stated earlier, the North Locust Point Marine Terminal (NLP) has been described by interviewees from both the maritime and real estate

community as physically and functionally deficient. The marine terminal site comprises the majority of the Locust Point peninsula's north shore along the Patapsco River. Tide Point, an office complex that is slated for mixed use expansion, has previously penetrated and interrupted the continuity of industrial use in this area and has effectively isolated the Domino Sugar plant in the wake of the General Ship property's recent designation for commercial use. By virtue of its size and placement, the use of this terminal's site can significantly influence the character of the surrounding neighborhood.

On the one hand, a cessation of this terminal's use, or its conversion to a non-industrial use could have notable negative consequences, not only for industrial concerns throughout the region that rely on commodities that pass through these terminals, but also for the remaining industrial users in the vicinity, including Domino Sugar, the Baltimore Metals and Commodities Terminal, and the Westway Bulk Liquid Terminal. These users worry that without the North Locust Point Marine Terminal, there would be insufficient volume and critical mass to justify the continuation of rail service to their facilities. MPA also has concerns about the cost of continued channel dredging, should the user base in this area decline.

On the other hand, if the marine terminal facility were converted to a mixed-use (assuming that the Locust Point SNAP plan could be amended to permit such development) the city would be in a position to reap substantially greater rewards. For example, based on the results of the economic impact analysis in this report, the city might have the opportunity to realize approximately 279 jobs per acre and \$878,271 per acre in tax revenue at full build-out of a residential-commercial mixed use of the property, versus approximately nine jobs per acre and \$32,186 per acre in tax revenue based on its current maritime freight-services use.

If MPA is unwilling or unable to commit its own resources or devise a plan (via sale, joint venture, public private partnership, etc.) to make this facility optimally productive for maritime industrial use, is it reasonable to expect the city to protect and preserve the parcel for maritime purposes and deprive itself of the superior benefits posed by the mixed use alternative that it is asked to prohibit? While performance might be one measure of success, in the case of the Port of Baltimore, it is difficult to evaluate because responsibility and accountability for performance and success are not clearly defined and distinguished between the MPA and private terminal operators. This complicates any decisions about the preservation and protection of maritime-oriented land because the private terminals outnumber and contribute more to the regional economy than do the public terminals.

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MPA's vision statement indicates that its actions *"to promote the resources of the Port and ensure that navigable waters in the state are safe for efficient commercial navigation,"* support not only public-sector facilities and operations, but the private sector and private port facilities and operations as well. While such a statement might infer that the port is a monolith under unified guidance, MPA and the private operators hasten to point out that the MPA and the port are not synonymous, and that there is no strategic plan or corresponding estimate of land use needs guiding the Port of Baltimore as a whole.

In the absence of an entity with designated or perceived responsibility and accountability for POB performance, the State of Maryland's commitment to the POB's success, as measured by its willingness to fund MPA operations and capital projects at levels consistent with those of the port's principal competitors, could serve as a useful surrogate and an essential barometer to track over time. To the extent that the POB is hampered in the competition with autonomous, better capitalized, and more agile Port Authorities elsewhere, the city's contribution associated with MIZOD might be for naught.

Historically, MPA has often lacked the resources it needs to excel. For instance, MPA's strategic plan and vision statement speak of the need for:

- A proactive land acquisition policy to ensure that land is acquired before conversion to non-port uses;
- The ability to make quick decisions when land becomes available and
- A strategic opportunity fund for property acquisitions to overcome the cumbersome procedures that can inordinately delay transactions that discourage property owners from selling to the port.

Yet, MPA acknowledges that to date these goals have remained elusive, and that in the past MPA has failed to act strategically and decisively due to lack of funds and arcane processes to control critical parcels when needed for port expansion.

During a period of fiscal austerity when governments are trimming (not bolstering) expenditures, creative, outside-of-the-box solutions would be in order.

For instance, a port venture fund might be organized and capitalized by those with a vested interest in the port (banks and service providers to name a few). The fund could work in tandem with MPA and private marine terminal operators and provide bridge funding as necessary for opportunistic property acquisitions that otherwise would have been lost while awaiting approvals and/or appropriations.

A special port tax district might be established, similar to a neighborhood tax district, with collections used to fund projects or property acquisitions that specifically benefit the port. Among other things, funds could be used to help maritime industrial users defray the costs of retrofitting on-site improvements or operations to ameliorate the effects of encroaching uses that are conflicting, or for façade improvement, landscaping, or other beautification projects to assist with their integration into the community.

Public-private partnership opportunities are currently under consideration to fund operation and improvements for the Seagirt Marine Terminal.

Among other information that the city might wish to examine over time to assess how well the port is performing would include:

- The level of operational efficiency of each public (and private when information is available) marine terminal facility relative to published industry standards and efficiencies at competitor ports; and
- The return on assets at public (and private when information is available) marine terminals relative to that of published industry standards and that attained by principal competitor ports.

Because public marine terminal facilities are scattered among different neighborhoods, it would be useful for information to be compiled on the basis of each public marine terminal facility located within the city under the protection of MIZOD, as well as in the aggregate. The utilization rate of each public (and private when information is available) marine terminal, (i.e., the theoretical maximum throughput capacity and the extent of maximum capacity being utilized), would be a useful barometer of performance. It would be helpful if the economic impact studies periodically commissioned by MPA reported the amount and type of cargo; the number of direct, indirect, and induced jobs; and the economic impact of each terminal facility located within the city and protected by MIZOD on an individual terminal as well as an aggregate basis.

3. Has the port's market share in its targeted commodity classes grown or at least remained the same relative to the competition over time?

As the saying goes, the proof is in the pudding. If the port is retaining or expanding its share of target commodity traffic relative to the competition, its business model is successful and the city's investment in protecting port assets is warranted and working.

4. Is there adequate regional cooperation and coordination of resources to bolster the port's competitiveness?

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Successful endeavors require organization, commitment of sufficient resources, and direction and coordination by acknowledged leadership. The city, the region, the companies, and their employees whose livelihoods depend on the port's success all have a vested interest in and are relying on the POB to prevail in the competition for business. A well-orchestrated and coordinated effort is, therefore, warranted and essential.

Unfortunately, the study suggests that planning, coordination, and communication between essential players at all levels are lacking and in need of improvement. In 1996, the Port Land Use Task Force (PLUTF) recognized the need and called for regional cooperation and coordination of efforts to facilitate the port's success. The Port Land Use Development Advisory Council's (PLUDAC) original vision and mission emanated from a concern about underutilized land. However, different conditions now dictate the need for a new entity that can not only foster but focus regional cooperation and coordination on the port's ability to compete.

MPA's targeted commodity cargos for future growth are land intensive. The MPA is projecting three percent to four percent annual growth. Existing terminals are reportedly at or near capacity. For the port to prevail in the competition for cargo, all constituents (MPA, private terminal operators, the real estate community, and state and local land use planners and regulators) must act with a coordinated plan and land use strategy to address dockside and off-port land use needs.

Although MPA develops and issues a strategic plan, there is no strategic plan for the Port of Baltimore. Likewise, there is no maritime land use plan for the port of Baltimore as a whole that is based on an empirical determination of the port's land use needs that can serve as a basis for comprehensive zoning decisions.

A new forum comprising all constituents that meets regularly to coordinate and communicate information about the POB's land use requirements should be established.

Pat Keller, Baltimore County's Planning Director, related that, early in the PLUDAC process, the city and Baltimore and Anne Arundel counties had considered adopting a unified set of industrial zoning classifications to assist port users in their consideration of alternative locations and sites. Now would be an excellent time to revisit the discussion of uniform industrial zoning classifications because the city is drafting its first new comprehensive zoning code more than 35 years. Collectively, the city and Anne Arundel and Baltimore

counties need to better coordinate their land use planning and zoning decisions, especially in areas along their common borders to promote the port’s common good as originally envisioned by PLUTF and PLUDAC, and cited in MIRGMS.

The real estate community must also take a more integral and active role in advising state and local government land use planners, regulators, and economic developers about the changing nature of the supply and distribution chain so that all can collectively plot contemporary strategies that afford the best chance to prevail in the intense competition for global trade.

The foundation of informed decision making is factual data. Unfortunately, this study has found that, for the most part, the collection and analysis of data to support land use planning, especially the responsibility for tracking data and comparing actual performance relative to original projections over time, are somewhat lacking.

While the CoStar information system amply reports supply and absorption statistics for warehouse and flex space in the region over time, a considerable component of port cargo commodities is land-intensive rather than building-intensive. Though CosStar, DBED, and local economic development entities maintain a roster of area industrial land currently being offered for sale or lease, neither they nor any local, regional, or port planning agencies seem to compile aggregate data over time to discern trends and/or spot looming imbalances in the supply of and demand for industrial land that could benefit land use decision making that affects the port. From such information, when combined with the port’s strategic marketing goals, projected cargo demand, and anticipated business capture rates relative to the competition, an estimate of the “right size” of the port can emerge and serve as the basis for future planning of the preservation and protection of maritime assets.

Likewise, the city needs an ongoing mechanism to track and assess the utilization and allocation of its economic and community development resources (e.g., tax abatements, PILOTs, public works contributions, loans, grants, TIFs, etc.) for industrial and non-industrial ventures, and to gauge and compare their relative productivity and payoff over time. From analysis of such data, valuable performance assessment criteria can be derived and useful benchmarks to guide future allocation of these scarce resources can be established.

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**Recommended Actions:**

1. MPA's periodic economic impact analysis of the POB should measure, reconcile, and apportion the benefits obtained from the POB relative to the contributions (including opportunity costs and tax revenues foregone) made by the region's governmental jurisdictions as one means of devising a regional sharing formula.
2. The city should periodically evaluate MPA funding and port performance against competitors and industry benchmarks to assure that MIZOD-protected port assets are being maintained and utilized at optimal capacity to promote success of the port.
3. A regional entity should be established to facilitate the collection and dissemination of information about the POB's land use needs, and foster regional cooperation, planning and coordination of resources among public and private sector interests to address the needs and promote the POB's success in the competition for trade.
4. Baltimore City and the metropolitan counties need to coordinate their land use planning and zoning actions especially in areas along their common borders to promote the common good of the POB.
5. The city needs better mechanisms to track and assess the supply of and demand for various land uses, as well as the utilization and allocation of economic and community development resources to gauge their productivity and payoff.
6. The city should encourage and the MPA should support the development of a comprehensive maritime land use plan for the Port of Baltimore that is based on an empirical determination of the port's land use needs that can serve as a basis for comprehensive zoning and land use decisions.



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# Conclusion

Although MIZOD is not set to expire until 2014, the city is currently contemplating the extension of its original provisions for an additional ten years until 2024. An extension at this time is somewhat paradoxical since the city, having recently adopted a new comprehensive master plan and economic development strategy, is in the midst of crafting a comprehensive zoning ordinance, the first revision since 1973, which will include not only a new set of zoning classifications and the regulations to govern them, but also a revised map of zoning districts.

Planning officials relate that drafting of the new zoning ordinance is slated to begin in January 2009, with adoption targeted for 2010. Completion of the more time-consuming and challenging process of mapping the new zoning classifications is estimated to occur between 2011 and 2016.

With a new zoning code and land use framework on the horizon, MIZOD at this point could be viewed as an interim solution, a patch to plug a perceived loophole in an outdated system that is about to be replaced. In this regard, it is a bridge, or a place holder to preserve and protect strategic maritime parcels from speculation, price distortion, or conversion to other uses pending the eventual adoption of a new land use map and regulations. As such, its extension for an additional ten years now at the advent of a new zoning code and map would be incongruous.

However, with no assurance that a new zoning code will be ready by 2014, a decision to take no action at this time concerning MIZOD issues might not only create considerable uncertainty for maritime business decision making and investment, but also increase the potential for renewed land speculation, price distortion, and the possible loss of deepwater sites to non-industrial uses. It might also inopportunistly inhibit capital investment in the port at the very time that capturing new opportunities for trade afforded by the imminent expansion of the Panama Canal should be paramount.

As currently written, MIZOD is a passive approach that is founded on a principle of confinement and containment through the segregation and isolation of heavy industrial uses from commercial and residential uses. Such an approach reflects traditional thinking and is most relevant for those clusters of industrial uses where it is still possible to erect walls around the fortress, like Fairfield and Hawkins Point. However, in neighborhoods like Canton, Locust Point and Curtis Bay where the character of the neighborhood is changing and use conflicts have already encroached upon long-established industrial clusters, innovative and proactive strategies might be better suited and conducive to attaining the city's objectives (maximizing the tax base, enhancing the local economy, increasing jobs and preserving quality of life) without compromising maritime industrial needs.

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Land with access to deepwater that is functional and conducive to maritime use is a scarce resource warranting preservation and protection within the context of a land use plan based on present and prospective demand. However, neither the city nor the MPA is able to empirically quantify the extent of need at this time.

Fortunately, most MIZOD-protected parcels comport with contemporary parameters and are clustered among other compatible industrial uses. But, industrial properties on the frontier of residential-commercial uses should first be scrutinized to ascertain whether they meet the threshold of physical and functional utility for maritime industrial use before being automatically reserved for maritime purposes.

For properties located along the residential-commercial frontier in neighborhoods already experiencing conflicts, a class of workable transitional uses that can serve as effective buffers for properties near industrial uses, together with mandatory architectural and engineering regulations and design standards with the potential to neutralize the nuisances associated with maritime industrial uses need to be devised. Likewise, encroaching non-industrial projects along the existing MIZOD periphery should bear equal responsibility for providing buffers and design elements to mitigate any unfavorable attributes of pre-existing nearby maritime industrial properties as originally recommended by the *Maritime Industrial Retention and Growth Management Study* (MIRGMS) published by the Port Land Use Development Advisory Council in September 2005.

For those parcels whose physical and location characteristics do not meet the expectations and requirements of contemporary maritime users, holding out for an eventual maritime use of the property might be futile. If a parcel has physical or functional deficiencies so pronounced that the cost to cure them no longer supports its economically feasible industrial use for maritime purposes, the justification for maritime industrial preservation and protection is weak.

The unconditional preservation and protection of underutilized or marginal properties without first determining their feasibility for maritime industrial use denies a cash-starved city with the highest tax rate in the state the opportunity to reap potentially greater benefits from otherwise feasible alternative uses, while contributing little to the overall success of the port. For such parcels, the development of suitable compatible transitional uses that would not undermine the efficacy of nearby maritime uses, the specification of architectural and engineering design elements that could mitigate use conflicts, and the establishment of a means to infuse economic and community development resources capable of preserving the viability of the maritime use should be considered.

Reality needs to be acknowledged, not ignored. The effects of past decisions on an area's existing land-use fabric can be lamented, but can not be undone. Once conflicts are in place they must be addressed because otherwise they will intensify.

Real solutions may also require resources. Sometimes the remedies to neutralize the effects of incompatible uses will require modifications to the maritime industrial user's property or industrial process in addition to or instead of the encroaching non-industrial property or development. The city (and the state) should be prepared to provide assistance in the form of economic development (tax credits, loans, loan guarantees, grants, etc.) and community development (public works contributions, roadway modifications, landscaping, etc.) inducements to both industrial and non-industrial users to help defray the cost of resolving use conflicts. The motivation and justification to allocate these scarce, finite, but essential resources is the accomplishment of the city's objectives, enhancement of the city's tax and economic base, jobs and quality of life, that can ensue. The measure of whether or not to commit funds should be if the cost of resolving the use conflict is less than or equal to the expected value of the resulting benefits.

The city's *Economic Growth Strategy* envisioned the use of Tax Increment Financing (TIF) for industrial uses. Perhaps, as a corollary, proactive solution, when non-industrial projects are proposed for sites near maritime industrial uses, a TIF that transcends property boundaries could fund improvements not only on the proposed non-industrial property, but also for alterations of or improvements to nearby maritime industrial use(s) that could neutralize negative attributes.

The challenge for the city is to craft a solution that ideally:

- Allows adequate time to plan the land use framework and preserve the requisite amount and location of maritime land based on an empirical determination of the port's present and projected land use needs including the amount and location of off-dock and off-port support land;
- Provides maritime industrial users with:
  - Adequate protection from and/or economic and community development resources to mitigate the effects of nearby incompatible uses, and
  - Assurance of continued industrial use for their properties to make informed decisions and attract investment capital;
- Addresses issues within the context of a new comprehensive zoning code that has the capacity to:
  - Resolve present and prospective land use conflicts,
  - Maximize opportunities for the city to prosper, and
  - Remedy the shortcomings of the existing MIZOD; and
- Provides the owners of properties that are located on the periphery of the existing MIZOD boundary, which have characteristics that render the property incapable of maritime industrial use, or are of adequate size to be master planned

as a transitional use buffer area between existing residential and/or commercial and industrial uses the opportunity, to propose to the city, without undue delay, alternative uses for their land that would not undermine the efficacy of nearby maritime users. The Baltimore Development Corporation and the Planning Department have identified only a handful of property owners who have expressed such intent at this time.

While the City might accomplish the foregoing in any number of ways, some actions, whether taken together or alone that the City might wish to consider, include the following:

- Formulate the new zoning code in a sequential manner.

Conceptually, the process of devising and mapping the new zoning code could be segmented to prioritize the development and approval of the applicable zoning classifications, their associated governance, and the land use framework, and its mapping first for those areas that now comprise the MIZOD on an expedited, fast-track basis to facilitate completion and adoption before MIZOD’s scheduled 2014 expiration. In the event that the development and mapping of the new zoning code in its entirety is delayed and not completed by MIZOD’s scheduled 2014 expiration, those provisions developed for the communities comprising the existing MIZOD could be adopted as an amendment to the existing zoning code pending incorporation into and the subsequent approval of the new zoning code at a later date.

- Extend MIZOD’s protective provisions or, in the alternative, enact substitute legislation, for a period to run concurrent with the process of developing the new zoning code.

This action would serve to protect strategic maritime parcels, avert renewed speculation, price distortion, and the possible loss of deepwater sites to non-industrial uses, and forestall any other detrimental effects envisioned by maritime users as MIZOD’s scheduled 2014 expiration draws near, pending adoption of the new zoning code, even if enactment of the new zoning ordinance extends beyond the current 2014 expiration. It would also provide the time necessary to devise the land use framework within the context of a new zoning code, as well as empirically determine the port’s present and prospective land use needs. Any legislation should also include provisions that would afford the owners of those few parcels possessing the characteristics stipulated above and awaiting MIZOD’s 2014 expiration the opportunity to formulate development plans that incorporate acceptable, compatible transitional uses along with satisfactory buffers; effective

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architectural and engineering design standards; suitable security measures; and adequate economic and community development resources to resolve any inherent conflicts with nearby maritime industrial uses.

Finally, the Port of Baltimore is a regional asset that yields significant economic benefits within and beyond the borders of Baltimore City. In certain city communities higher value residential and commercial projects are now economically feasible on the very land that maritime users deem essential creating not only a competition between land uses, but also a conflict between local and regional interests as well.

Some governmental jurisdictions contribute or forego little in exchange for the economic rewards that they reap from the port. Moreover, but for the city's willingness to impose land use controls like MIZOD, public and private port interests would have to expend considerable sums for the acquisition of land or easements to attain similar levels of preservation and protection of the essential deepwater assets.

With MIZOD, the city, through exercise of its police power of zoning, is asked, in part for the benefit of the region, the state, and private port interests to constrain a market that, if left unchecked, might otherwise produce superior tax and economic benefits for the city than the maritime industrial uses that the legislation is designed to protect.

For this reason, the city must consider whether the current formula for the sharing of rewards from this vital regional asset among governmental jurisdictions adequately compensates the city for the benefits that it might otherwise have received from the very land uses that MIZOD prohibits.



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### **List of Interviewees**

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