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SPANNING POLICY SILOS IN URBAN DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT: WHEN GLOBAL CITIES ARE COASTAL CITIES TOO

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ABSTRACT

An obvious but grossly understated realization of urban policymaking is that global cities are mostly found in the coastal zone. This is true worldwide but it is especially characteristic of American global cities, where virtually all are found in coastal areas. According to NOAA, 53 percent of the U.S. population lives in the coastal zone and 40 percent of the coastal population live in global cities. This reality poses an uncomfortable truth about a basic conflict between managing global city growth and the sustainability of coastal resources. The former is often seen as the ultimate achievement of a "new political culture," while the latter refers to the most complex, delicate and interdependent sub-ecology on earth. As a result, American global cities exist today with a profound sense of discordant duality.

As global cities, they are known for their inspiring built environments where art meets function and for their centrality in the world economy. Most are distinguished as world "gateways" harboring major airports and "load-center" seaports. They also serve as command centers for managing world commerce, as the nexus of multi-cultural immersion, as world research crucibles, and as world stages for art and entertainment.

As coastal cities, they are associated with the beauty of a coastal habitat and their proximity and access to the open sea. The bays, wetlands and shorelines draw people to observe what happens when the sea meets the land. But a less conspicuous view is of the city overlaid on a "coastal zone" biologists see as a highly productive nursery of life for land and marine organisms but subject to intense and growing human population pressures.

Although much of the American population chooses to live in coastal regions because of their rich biodiversity, and in global cities because of the robust employment and lifestyle opportunities, the duality does not always mix well in producing sustainable outcomes. The paper develops the metrics for this duality and identifies two principal contributors to it: the concentration of foreign trade through global-city seaports and the accelerated activity levels and mobility needs of a global professional managerial class.

But the paper goes further by also focusing on the piecemeal public-policy process as the source of concern for sustainability, especially in managing transportation, economic development, migration, CO_2 emissions, pollution and species extinction. Specifically, global-city outcomes have often appeared to be driven by a "silo effect" (the dysfunctional segregation of policy disciplines often caused by differences in ideology, scientific fragmentation, and professional misunderstanding that limit the ability of one discipline to sufficiently interact with another).

The significant management challenge, therefore, is about how the policy process might be amended and restructured in light of the duality. This paper addresses a need to manage the duality by producing new intergovernmental instruments for spanning the policy silos. It specifically proposes a multiple-perspectives approach involving interdisciplinary team policymaking and other supporting institutional arrangements.

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For more than a generation, researchers in urban studies have bemoaned the fact that the United States has failed to produce a comprehensive national urban policy which would bring together the study of disparate urban policy issues and their interdependencies. This concern continues, for example, with Brookings' recent call to establish a holistic and synergistic framework it calls "Metro Policy" (Brookings, 2008; Katz, Muro and Bradley, 2009). Nevertheless, the fragmentation of urban policymaking and the lack of an integrating mechanism remain elusive and intransigent, especially regarding holistic or systemic problems.

In part, this is because the customary mindset on cities associates policy solutions with individual urban issues (e.g., housing, crime, energy, pollution, arts and entertainment) rather than a holistic picture of a city's reciprocal relationships. The mindset is further reinforced by the relentless parochial nature of urban thinking and prognosticating done by disparate clusters of scholars and policymakers known as "policy silos." No where are the fallout and risks from this parochial approach greater than in American global cities. It is in these few metropolises where principal connectivity to the global economy exists and where the largest collision between human habitation and the natural ecology are likely occurring. This is magnified by the fact that global cities are coastal cities too.

In the United States, only a few coastal cities are global cities, but virtually all global cities are coastal cities. This may be due in part to historical circumstance. For, example, most eastern U.S. global cities of the present trace their origins to the colonization period where they emerged as mercantile centers of wealth and power and as transshipment points in a far reaching web of maritime trading routes. The same can be said for certain west coast cities during the westward expansion. Even though much has happened in the last 150 years that weakens the maritime connection to urban development, most of the power and socioeconomic complexity acquired in those earlier periods gave these cities enduring advantages over great but newer cities that had no maritime connection. Coastal cities like New York and Los Angeles are frequently distinguished as more central world cities than are interior cities such as Denver and Dallas.

Beyond their historical origins, such world cities exist today with a profound sense of duality. As coastal cities, they are known for the beauty of their coastal resources and their proximity and access to the open sea. The bays, wetlands and shorelines draw people to observe what happens when the sea meets the land. Beside the obvious human activities of urban life, the city is overlaid on a "coastal zone" viewed by biologists as the nursery of life for as much as 90 percent of land and marine organisms.

As global cities, they are known for their inspiring built environments where art meets function and for their centrality in the world economy. Most are distinguished as global "gateways" harboring major airports and "load-center" seaports. Global cities also serve as command and control centers for managing world commerce, as the nexus of multi-cultural immersion, as major centers for research and as world stages for art and

entertainment. Hence, these cities hold the dual distinction of being at the top of the global urban hierarchy and of being located in delicate coastal ecosystems subject to intense human population pressures.

Although much of the U.S. population chooses to live in coastal regions because of their rich and complex resources, and in global cities because of the robust employment and lifestyle opportunities, the duality does not always align well in producing sustainable outcomes. This paper concentrates on the public policy challenge of managing the duality with particular reference to potential consequences on urban activity, development and environmental quality in the coastal zone.

What is a "Global City"?

Since Hall's brilliant treatise (1966), the term "global city" has come to connote what nearly everyone refers to as a unique urban habitat acting as a portal and stage for world connectivity. It bestows an image that is contemporary, international, multi-cultural, "wired," cosmopolitan, congested, polarizing and commanding geographically-boundless spheres of influence. However, until recent work by Boschken (2008), the term has not been widely understood as a collective vision that empirically sets apart the global city as a complex system for analyzing policy issues related to it. With a focus principally on the American experience, the work addressed the shortcoming by developing a multiple-perspectives approach using the lens of developmental policy theory. It found the global city to be a reflection of historical stages that evolved through interdependencies between globalization pressures and intra-urban developmental initiative.

In search of a collective understanding of the multi-dimensional global city, history informs us that the last half of the 20th century revealed a vastly changed world order based on a contemporary form of globalization. Characterizing this post-WWII reordering as a developmental experience within the city, Clark (2004, p.293) says contemporary globalization appears to have been a cumulative process involving a three-stage, partly-overlapping sequence of economic, sociological and political transformations. Moreover, as world leader of many new trends during this period, the U.S. appeared to represent the focal point of these global transformations. The developmental impacts of evolutionary globalization on the American urban setting become more apparent upon closer examination.

Probably ignited by post-war reconstruction economics, the first stage of transformation (**especially since 1960**) involved a geographic separation of goods-production from locations of product-consumption. For sure, self-contained regional economies (i.e., containing both producers and consumers of a product) had diminished in importance in the U.S. and elsewhere in the industrializing world by mid-20th Century. As a new dimension, however, the separation of production and consumption had taken on immense international proportions with the emergence of "offshore" sourcing of goods and the creation of global markets. Through a highly competitive system of remote multinational production sites controlled and coordinated by a new fiscal and logistical command structure, this economic stage originally appeared as a concentration of demand on American soil offset by a global dispersion of supply (albeit skewed to the Pacific Rim).

Based on a premise that products could be made anywhere in the world without significant regard for per-unit transportation costs, it was a stage underscored by a massive shift toward international trade flows made possible by an American-invented "container revolution" in global shipping (Boschken, 1988; Boschken, 1998). It was also underscored by a concentration in strategic cities of production-service firms needed to control the logistics of these flows from and among dispersed manufacturing sites worldwide to markets mostly in North America and Europe (Sassen, 2001; Thrift, 1994; Friedmann, 1986).

Because of globalization's initial dependency on the economics of maritime trade, it was probably this first stage that solidified the positioning of the global city as a coastal city. Nevertheless, the economic stage eventually yielded some of its visibility to a second transformation sparked by a revolution in information and media technologies (**especially since 1980**). It materialized in the rise of a symbols-driven cosmopolitan consumption, which concentrated on urban entertainment venues and post-modern interest in cultural immersion. The "global lifestyle" had arrived and brought with it mushrooming demand for culturally-significant goods from all over the world and a host of "quality-of-life" urban services, as well as the free movement of foreigners, information and ethnic lifestyles across national borders (Clark, 2001).

Media-driven celebrations and focus on internet applications, consumption of wares at international festivals, appreciation for ethnic foods and gourmet restaurant districts, and the presentation of "world-event" theatrical performances, music concerts and art exhibits became standard preoccupations of many Americans (Clark, 2004; Short, Kim and Wells, 1996). So also did "buying trips" by global-aspiring folks to such prominent destinations as New York, Los Angeles, Toronto, London, Paris, Rome, Tokyo, Shanghai, Hong Kong, Singapore and Mumbai, where at least a portion of the motive has been cultural immersion.

Arguing that "amenities are critical for most urban processes," Clark emphasizes "this is news since most past theories [of developmental policy] stress work and markets, rather than consumption and amenities" (2002, p. 1). Although a coastal setting may not be essential to the character of this stage, the establishment of global cities in coastal zones during the first stage probably added important momentum to defining the global lifestyle with a coastal feel.

More recently, these two stages appear to have given ground to a third (**especially since 1990**) involving a realignment of urban politics, said to be founded on a "new political culture" of fiscal conservatism and social liberalism (Clark and Hoffman-Martinot, 1998). Particularly evident in a few select cities, politically-important constituencies hold heightened aspirations for world-class status for their urban habitat that bestows membership in a global interaction spanning traditional political boundaries.

Being economically conservative, this political culture tends to promote a realignment of public policymaking priorities. It tends to favor "productive" developmental expenditures driven by global forces of consumption and it tends to de-emphasize traditional welfare programs that might otherwise sustain blight and perpetuate the dysfunctional lifestyles of an urban underclass (Abu-Lughod, 1999; McKenzie, 2001). Moreover, the realignment of priorities is accompanied by decline of hierarchical political organizations, traditional bureaucracies and clientelism (Clark and Hoffmann-Martinot, 1998; Hawes, 2000; Bishop, 2000; Thrift, 1994).

In this spirit of economic development, political support is often thrown to public-private partnerships that plan and carve out post-industrial habitats from economically-declining urban cores. Evidence of such consortiums at work is found, for example, in the comprehensive development of new multi-purpose central districts, having generously landscaped promenades threading together artfully-designed high rise business towers with entertainment and residential centers, all made regionally accessible by stylish, technologically-advanced rail transit. Satisfying to a productivity-minded fiscal conservative, the reclaiming of core cities in this way is said to reflect a forward-looking constituency determined to advance the global position of its city, competitively, symbolically and by appearance.

Being socially liberal, these same constituents also express deep commitment to their own personal freedoms and exhibit greater tolerance for and appreciation of foreign or ethnic cultures and variant lifestyles. As a consequence, many cities have developed social programs which invite and encourage the growth and integration of a multi-cultural community. A new integration is being formed by "hybridizing" (Tajbakhsh, 2001) the metropolitan area's legislative bodies, business leadership, community organizations, and public gathering places. Unlike earlier re-gentrification, a new paradigm of ethnic and lifestyle diversity seems to have fostered a multi-cultural community model which enlarges civil liberties and international experiences for most of those choosing to be immersed in it.

 From a developmental standpoint, the three-stage transformations point to a fundamental rethinking of the role of cities as connector nodes in a multi-nucleated global network of economic, sociocultural and political interaction and exchange. Even more pointedly, it leads us to expect the resulting global city to be more than a purely techno-economic outcome and more than a passive participant in a corporate-driven macro-world system. As seen both in <u>attributes</u> of disparate urban activities and in multiple overlapping patterns of <u>inter-urban relationships</u>, the global city seems to exhibit several distinguishing dimensions, and be more complex in its makeup and influence than either a linear information-processing model or the traditional hub-and-spoke configuration would predict.

As caldrons of contemporary globalization, global cities today exhibit a developmental process now spanning 50 years and paralleling that of the three-stage transformations. They have emerged incrementally by brewing and incorporating numerous economic, social and political forces of a persistent post-WWII globalizing world. They also emerged under American influence since the transformations followed a certain temporal and geographic ordering that, until recently, placed the U.S. at the center of contemporary global-city design and imitation.

Hence, in a highly discriminating fashion, "globalization can be deconstructed in terms of the strategic sites where global processes materialize" (Sassen, 1998, p. 392) and are grounded in what "geographically-situated people do" (Smith and Timberlake, 2001, p. 1657). As the differential result of both external globalizing demands and internal developmental policy responses, those that are global cities appear as <u>strategic platforms of world connectivity</u>.

As a cautionary note, however, most cities may have some global attributes and connectivity, but "platform" cities would be expected to contain a comprehensive set of dimensions reflective of the economic, social, and political components of the post-war

period of tri-stage globalization. Many metropolitan areas, for example, may appear global by their physical appearance, but this is often the result of mimicking urban redevelopment spurred on by stage-3 influences of political culture rather than long matriculation of the precursor attributes found in the first two stages of globalization.

With a focus on these components, Boschken's work (2008) carves from the literature seven distinguishing dimensions which are examined using a sample of 53 large U.S. cities (using the 2000 Census' definition for "urbanized areas"). The dimensions are statistically merged into a single factor which in turn is used to drive a K-means cluster analysis that separates out global from minimally-global cities.

The dimensions identified as distinguishing a global city include [1] scale of the urban area where size appears to provide a critical mass necessary for holistic global functioning. The list also includes the global city as [2] an agglomerated command and control center for the global economy (Taylor, 2004; Sassen, 2001), [3] a world entertainment stage providing symbols, innovations and standards for emulation globally (Clark, 2004; Glaeser and Gottlieb, 2006), [4] a non-corporate world research crucible composed of an agglomeration of university, government and tax-exempt organizations providing knowledge resources to a global village of policymakers (Brint, 2001), [5] a center of multiculturalism existing as a nexus for global social exchange (Sassen, 2004; Nyman, 1996), [6] a global gateway for international transportation including air passenger travel (Derudder and Witlox, 2005) and maritime trade (Boschken, 1988), and the city as [7] an integrated and accessible built environment augmented by effective rail-based mobility systems (Boschken, 2002). Of significance, having a high concentration of manufacturing is not a distinguishing feature of global cities.

Using the K-means clustering algorithm driven by a factor of the 7 dimensions, the results show that two metros (New York and Los Angeles), along with six other slightly lower-scoring metros (Washington, Chicago, Boston, San Francisco, Miami, and Philadelphia, respectively), to be distinctly separate from the remaining 45 in the U.S. sample (statistical significance = .000). For the most part, the difference between the two top global cities of New York and Los Angeles and the remaining six is explained by specialization. For example, the data show that Boston and Washington stand out as specialists in the command center function and as crucibles of research, and have world-class infrastructures that include transit and a global gateway (airport only for Washington). By comparison, Philadelphia provides exceptional global-city support systems (especially transit) but is not as distinguished in global platform functions (command center, entertainment and research).

The San Francisco/Oakland area specializes in command-center functions and has a strong multicultural presence consistent with "uneven globalization" having an Asian or Pacific Rim emphasis. It also has a well known rail transit system, global-gateway airport (San Francisco) and containerized load-center seaport (Oakland). Miami specializes as a global gateway and maintains a strong multicultural presence skewed toward its Caribbean and Latin American ties, but is not distinguished by platform functions.

As presented, the dimensions may be categorized into two types of urban artifacts. First, the global city contains a critical mass of central functions and infrastructure associated with a world assemblage of "parts." These interactive parts are engaged in the co-production of applied knowledge, symbolic creations, capital management, policy coordination, transaction control, logistics and mobility. Second, the global city exhibits

the "on-site" cultural and political content of globalization provided by an urban milieu of scientific research and education, media and entertainment, and multicultural amenities. Referring to these as dual identities of function and content, Nyman (1996) argues the global city is about both "the city in the world" and "the world in the city" (p. 6).

To more fully appreciate the potential synergy of these seven dimensions, one also might conceive of them as holistically interacting in a way that simultaneously imprints the momentum and routine of the world stage onto an urbanite's daily activities and consciousness. Global cities possess a "complex and multifaceted" character (Sassen, 2001, p. 351) which immerses urbanites in a different comprehensiveness than found in cities exhibiting minimal global attributes. Moreover, these cities have experienced "a renaissance as places of consumption, not production" (Glaeser and Gottlieb, 2006, p. 1276).Therefore, one would expect that how urbanites interact, what activities they pursue and what consumption patterns they exhibit might be driven by or determined within the context of a city's global centrality and connectivity.

The unmistakable reality of global cities is their immense scale, energy-consuming activity levels, culture-bearing ritualism, corporate protocols, and transterritorial dominance across numerous levels of consciousness. As Figure 1 indicates, eight U.S. cities were identified in Boschken's (2008) cluster analysis as global cities. Each is in rank order according to the number of global-city dimensions exhibited, which ranged from three to seven. By contrast, the remaining 45 U.S. cities in the sample averaged zero global city dimensions. In terms of population, these eight global cities combined represent 20 percent of the 2000 U.S. population, and the percentage figure is growing disproportionately relative to the more than 200 other large urbanized areas defined by the Census.

[FIGURE 1 ABOUT HERE]

Global Cities Are Coastal Cities

Beyond the seven global-city dimensions, a coincident characteristic of all eight U.S. global cities shown in Figure 1 is that they are coastal cities too. That is, they exist within 60 miles of a coastline which NOAA (2004) defines as the coastal zone (Chicago is located on a fresh-water coast as is Canada's Toronto). They contain the nation's largest working harbors, exist in the midst of major wetlands, and typically have extended resort beaches and developed waterfronts containing high rise residences, parks and commercial ventures. As such, all have coastal access and dependencies that make their environs subject to very different and more intense impacts than those of other smaller coastal enclaves and non-coastal cities.

Speaking of concentration pressure alone, the combined population of these eight coastal cities represent 40 percent of the 153 million people who reside in U.S. coastal counties (NOAA, 2004).These statistics belie the more common image of the coastal city as a bucolic, pastoral, cleansing setting of a town along a stretch of undisturbed pristine beach. Compare Manhattan with Cape Cod; Los Angeles with Mendocino. In terms of the proportion of population in the coastal zone, or relative amounts of point and non-point source pollution, or contribution to GDP, the eight global cities are the greater

representatives of the coastal city in all parts of maritime America except perhaps the Gulf.

What this suggests for the coastal zone is a greater and more concentrated risk to coastal sustainability. From a common-pool perspective, a "free rider" problem in global cities probably poses greater obstacles to sustainability than in less-global cities because of the greater collective and synergistic magnitude of corporate and individual "overuse [of resources] without concern for the negative effects on others, and a lack of contributed resources for maintaining and improving the common pool resource itself" (Ostrom, et al, 1999, p. 279). Moreover, the reach of global cities' physical, socioeconomic, and political impacts typically extend well beyond the metropolitan boundaries and coastal shorelines that define them geographically.

Herein lies the dilemma (some would say discontinuity), between the man-made built environment and the natural ecology (Turner, Subak and Adger, 1996; Marshall, 2005; Baird, 2008). Environmentally, the coastal zone is a particularly fragile and delicate ecology made up of multiple webs of terrestrial and aquatic interdependencies. There are no other ecological systems on earth that have the degree of complexity and interaction of subsystems as that found along the coast, its estuaries and harbors, saline wetlands and river deltas. Since the vast majority of all living organisms have their gestational origins within the coastal zone, the issues of sustainability and biodiversity should be apparent as major global-city policymaking considerations.

Yet, the two worlds – one human and urbane, the other natural and biodiverse – are seemingly irreconcilable. When the coastal city is a global city that imprints momentum and routine of the world stage onto an urbanite's daily activities and consciousness, many consequences are focused on the ecological systems of the coastal zone. Although many observers view cities on the coast in concert with a coastal landscape, global cities seem to simply overwhelm a coastal ecological character.

Two Agents of Consequence

To address the influences underlying this dilemma, one might ask: Are American global cities inherently coastal? Are there critical agents or forces in play that tend to be of only marginal significance in less-global cities? Would such agents be important enough to form a basis for singling out global cities in policymaking reforms? Some answers may be found in the requirements of globalization and in the socioeconomic source of lifestyles found in global cities.

1. Load-Center Seaports. Globalization is rooted in the ability to move huge tonnage of goods swiftly around the world at a scale and efficiency that makes the cost per unit of transportation minimal or insignificant in the final cost of goods sold. Such an achievement allows goods to be produced anywhere in the world and sold anywhere in the world, and allows producers to compete on the basis of a good's quality and manufacturing cost regardless of their geographical location. To make this possible, transformational technologies in ship design and at seaport terminals emerged in the 1970s that revolutionized maritime shipping by placing goods in large salt-resistant metal containers, the principal means by which international goods are shipped (Boschken, 1988).

At the core of this foreign-trade shipping revolution was the maritime seaport which acts as a transshipment point in a world system of logistics, finance and control. Its location in the coastal zone provides not only the ability to transfer goods across the sea-land barrier but also provides a host of other functions including container consolidation and redirection, insurance and documentation, security, global finance, and other activities of the command function of the global economy. Hence, the pressures emerging from globalization required the agglomeration and centralization of command and business-service functions around large containerized seaports.

Solidifying their presence in coastal areas, cities that had both large containerized ports called "load centers" and global command-center platforms in place by the 1980s were able to emerge as transshipment centers of the global economy. This type of seaport now dominates global trade because they are few in number and allow ships to on- and off-load their entire cargoes at one stop. As shown in Figure 2, load centers are a principal element connecting global cities to coastal areas. Five of the eight global cities identified by Boschken (2008) are recognized as having load-center ports. Boston and Chicago ports have a smaller presence and Washington, DC has none. Combined, the eight global cities account for 61 percent of all containerized cargo entering the U.S. Out of more than 200 other large American cities, three cities not included in the global-city cluster (Houston, Norfolk and Seattle) account for most of the remaining foreign container traffic. Seaports, therefore, matter in determining and perpetuating global cities.

[FIGURE 2 ABOUT HERE]

2. An Upper Middle Class Lifestyle (Genre). Some might argue that urban impacts on the coastal zone are greater for global cities simply because they rank among the largest in size (Glaeser and Gottlieb, 2006). Even so, there also may be an agent that delivers even higher and broader impacts by stimulating greater human activity per capita. Global cities are a magnet for lifestyles that engender exceptionally high activity and intra-urban mobility levels.

Not to be confused with activities of a stealth upper class, these "on-the- go" lifestyles seem to coalesce around a highly visible presence of upper middle class (UMC) – a socioeconomic status (SES) made up of well-educated and well-paid professionals and their cosmopolitan and urbane families (Boschken, 2002). Reich (1992) refers to them as "symbolic analysts" engaged in what Brint (2001) calls a "scientific-professional knowledge economy."

Both on and off the job, UMC individuals tend to envision their opportunities, movements and mobility in the context of an enriched "urban field", described by Friedmann and Miller (1965) as the mental construct of a holistic metropolitan area containing spatially noncontiguous but functionally integrated geography (as contrasted with a traditional finitely-bounded spoke-and-hub configuration). Perhaps unaware of their transterritorial movements, the UMC seem to give little thought to their cross-town commuting to activities and events that are spatially distanced and remote from one another.

Why is such a group more active in an urban setting? In addition to UMC professional commuting to work, they also are likely to have an "agglomeration" of face-to-face meetings (Porter, 1998) spread out in the urban field (beyond their offices) that

require high vehicle use. Consistent with this characterization is a non-parametric travel pattern involving professional use of other offices, conference facilities, restaurants, theatre, golf, and the airport. Since the UMC have proportionally higher dual-breadwinner families (often both professionally employed) than the median family, their work-related commuting habits may be magnified further.

Add to this the high-aspiring UMC family commuting with children to the best college-prep schools across town, meeting for a game of tennis at the club, after-school and weekend activities for the children, and evening events outside of work. Further, add myriad activities (jobs and commuting) of others induced by UMC consumption demands for residential maid service and landscapers, private social and recreational clubs, limo and retail pick-up & delivery services, dental and cosmetic maintenance, etc.

Of consequence, the UMC are more evident in global cities than elsewhere (Boschken, 2003). There are two reasons for this concentration. First, the nature of a global city in providing a platform for globally-connected organizations (i.e., corporations engaged in command-center functions, non-corporate global research institutions, world entertainment and media firms) creates a unique agglomeration of postindustrial (knowledge-processing) employment opportunities, contacts and exchanges for highly educated professionals in global business, academia, and entertainment and media (the latter of which includes artists, authors, playwrights, actors, electronic gurus, and entertainment managers). Furthermore, as a genre, the UMC imparts a "systemic power" (Stone, 1980) over the activity scene by providing a standard of behavior that some of the larger general urban population may emulate as well.

Second, global cities are gateways of travel and temporary stays for global business, research and entertainment purposes, and, therefore, attract a larger mix of highly-educated professionals from throughout the world than non-global cities. Like their indigenous counterparts, these "foreign" UMC are inclined to engage in heightened levels of activity and seek greater mobility throughout the city. This additional contingent (often with families in tow) further magnifies a UMC presence in the global-city "scene."

An extended discussion of this connection between the global city and the UMC is found in a variety of research, including that of Sassen, (2001), Brint (2001), Clark and Hoffman-Martinot (1998), Boschken (2002), and Florida (2001). Additionally, there is some empirical evidence supporting the association of UMC with global cities. In Boschken's 53-cities sample (2008) used here, correlations of the 7-dimension global-city factor with (1) the percent professional UMC in a city and (2) the number of international passengers passing through city airports in 2000 are significant at the .01 level (r sq = .40 and .87, respectively). Although the correlations do not mean UMC are found only in global cities, they do suggest a significant affinity of UMC for global cities.

Nevertheless, the empirical data also appear to support the argument that heightened levels of UMC activity in the global city has consequences on the human habitat and environment beyond what city size alone would predict. For example, Figure 3 shows significant correlations between three UMC global-platform activity areas (as measured by command-center and institutional research employment and entertainment consumption) and pressures on specific urban mobility modes.

[FIGURE 3 ABOUT HERE]

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With regard to public transit consumption, the greater the UMC global-platform activities, the greater the per capita consumption of public transit (r sq = .79, .69, .59, respectively). Higher levels of urban traffic congestion are also consistent with higher UMC platform activity levels (r sq = .50, .42, .54, respectively). From a global travel perspective, greater numbers of international airport passengers is highly associated with higher UMC platform activities (r sq = .76, .42, .84, respectively). Even though parts of global platform activities are found to some extent in cities other than the eight identified by Boschken (2008) as global, the data suggest these three indicators of urban mobility pressures are significantly related to specific areas of UMC activities, the highest concentrations of which are found in global cities.

Although this circumstantial evidence seems to indicate global cities may be disproportionately influenced by a UMC genre, how do we confirm that its comparatively larger impacts are mostly unique to global cities? One possible answer may be found in results produced by a K-means cluster analysis using three separate drivers including per-capita transit consumption, traffic congestion and international travel flows. The results are reported in Figure 4 and show global cities to dominate clusters having the highest traces of UMC-induced mobility pressures.

[FIGURE 4 ABOUT HERE]

In the case of per capita transit consumption, 75 percent of global cities (Los Angeles and Miami were excluded by the algorithm) appear in the highest consumption cluster containing 7 cities (of which Honolulu is the only non-global city included). Likewise, 75 percent of global cities (New York and Philadelphia were excluded) appear in the highest traffic congestion cluster containing 15 cities. By comparison, only 27 percent of the remaining 45 cities are in this cluster. In the case of international airport travel, all eight global cities are in the cluster of greatest concentration of international passengers containing 14 cities. Only 13 percent of the remaining 45 cities are in this cluster. Hence, beside global maritime trade, at least part of a global city's heavier footprint on the coastal zone also seems to be attributable to a UMC-induced lifestyle and consequent high-mobility demands expressed across a global city's urban field.

Cross-Silo Policy Challenges

Global cities are a special case in the American urban experience. In light of the skewed configuration and momentum imparted by the three stages of contemporary globalization, the eight global cities have evolved along a very different path than America's less-global cities. This path is characterized not just by centrality in a corporate global economy but also by the enrichment of multiple other perspectives regarding political culture, lifestyle and consumption, public regardingness and social tolerance. This differential reality is reflected in Figure 5, which ranks and compares Boschken's 53-cities sample according to scores for the scaled 7-dimension global-city factor. The eight urbanized areas identified as global cities by the k-means cluster analysis stand apart. Only three others not included in the cluster (Atlanta, Dallas and Houston) even approach the values of the 8 multi-dimensioned global cities.

This evidence suggests global cities are a special case not because of any single dimension but because of their complex socioeconomic contents and interrelationships represented by the seven dimensions. They are made more so by their wide-body and heavy footprint on the coastal zone. Going forward, it seems hard to imagine a spontaneous containment of population pressures and impacts associated with these eight global cities (and probably global cities worldwide) that would change this picture.

Indeed, evidence points to more concentrated centrality. The load-center seaports and gateway airports found within them are likely to experience continued concentration of global trade flows and inter-cultural exchange. Regarding seaports, for example, this is apparent in the recent deployment of "mega container ships" which are being used to "muscle aside smaller players" (Miller, 2009). Likewise, with the command-center platform and attendant amenities, the disproportional presence of a professional UMC lifestyle (along with its characteristic consumption patterns, urban-field mobility, entertainment-rich opportunities, and trendsetting influence on activity levels generally) is likely to grow with continued emergence of globalization.

From a coastal zone perspective, global cities are also likely to be seen as different from their less-global counterparts in the magnitude and complexity in which they impact environmental quality, carrying capacity and biodiversity both landward and seaward. One should expect greater incidence and concentrations in global cities (even on a per capita basis) of such aggravated conditions as transportation congestion across the urban field, harbor and coastal water pollution, solid waste leeching and chemical spills, intractable toxic wastewater effluents, depleting water resources, acute air pollution and global warming issues. Interactions among these sustainability problems will compound themselves holistically as well. Moreover, if American global cities eventually morph into vast coastal "mega-cities" as some have done worldwide, even more dire consequences may be at stake (see, for example Douglass, 2000; Yusuf and Wu, 2002; Monkkonen, et al, 2004).

The duality in this picture implies a co-evolution of the global city and its coastal setting. Hence, in the face of dynamic reciprocal complexities, the policy problem is about dual sustainability of a city's competitive position in global socioeconomic and cultural networks and maintenance of coastal ecology and biodiversity. For policymaking, it means understanding sustainability not only in terms of a plethora of socioeconomic and environmental factors, but also from the holistic nature of their web of interdependencies.

In various combinations, these interdependencies and their cumulative sources clearly exceed the perspectives of any existing policy silo (scientific discipline, specialized public authority, functional city department or private interest) relevant to or found within the global-city metropolitan area. The real issue, then, is that the current scale at which policymaking is done does not match the scale of the dual sustainability problem exhibited in global cities.

Like most American metropolitan areas, global cities are typically governed by a highly balkanized and departmentalized set of policymakers that are spread among general-function city and county governments, special districts, and regionalized planning, development and regulatory agencies. In what Wildavsky called "a bias toward

federalism" (1979, Chap. 6), this non-centralized metropolitan system of "concurrent government" consists of "separate but overlapping authorities" (Ostrom, 1989; Boschken, 1976) which provides a structure where public differences are mollified and the risks of synoptic policymaking avoided by "mutual adjustment" (Braybrook and Lindblom, 1970; Lindblom, 1965).

Yet, even with adequate public resources, technological innovations, "smart growth" planning techniques, local global warming initiatives and the green revolution, this non-centralized, silo-based policymaking apparatus does not speak to the need for a mechanism scaled to the holistic dimensions of a global city and its intertwined coastal impacts -- one that accounts for urban and environmental policymaking in a systemic metropolitan context.

It is clear that a major breakdown in urban policymaking generally is due partly to dysfunctions from the silo effect (Katz, Muro and Bradley, 2009; Batty, 2008; Shi and Singh, 2003). But, what is specifically missing for global cities is a focus on policy matters that fall beyond the purview of silos. What is missing is policymaking focused on critical matters that are embedded in webs of complex interdependencies (primary, secondary and nonlinear) but which are usually peripheral to the parochial purview of functionally structured general government or specialized authorities making up the balkanized authorities of a global-city metropolitan area.

What is needed to rectify this mismatch in scale is more difficult to say. However, the outline of a reasoned solution seems to be appearing from a variety of perspectives (see, for example, Katz, Muro and Bradley, 2009; Batty, 2008; Norgaard and Baer, 2005; Ostrom, et al, 1999). Most of these seem to envision structural reform that doesn't replace the balkanized and reductionist policy apparatus but supplements it with a new focus and authority based on understanding global cities as complex holistic systems.

For example, with regard to policy-relevant research, Norgaard and Baer argue that "The structure in which most reductionist science has been generated is seen by scientists as 'natural," indeed as 'carving nature at its joints,' but…it is more important to look at the network of communication and learning across the proliferation of diverse institutions in which science is now conducted than at the disciplines themselves" (2005, p. 955). Such reform would make room in the metropolitan governance of global cities for a purview over both systemic interactions and the larger holistic context encompassing socioeconomic and environmental sustainability. It would match policymaking with the scale and geographical reach entailed in the global city duality.

As complex systems, Batty contends all large cities have the earmarks of being "emergent, far from equilibrium, requiring enormous energies to maintain themselves, displaying patterns of inequality spawned through agglomeration and intense competition for space, and saturated flow systems that use capacity in what appear to be barely sustainable but paradoxically resilient networks" (2008, p. 769). Global cities in particular are quintessential because of their unique 7 dimensions and coastal location which create a complex situation of multiple systemic interactions across human and biological communities. Global cities are the "elephants in the room" of metropolitan policymaking.

What this possibly warrants is research on a new policymaking vehicle scaled to the global city, having cross-silo policymaking authority and matching the dynamics and momentum of the urban field with the coastal setting as a common-pool resource.

Consistent with this argument is focus on a new level of governance that (1) corresponds to the holistic complex interdependencies (implicit in the urban field and coastal common-pool resources) and that (2) is separate from but interdependent with existing balkanized authorities and silo-based policymaking bodies.

Global cities are more central to America's national and international policy interests than less-global cities and, some claim, than the 50 states as well (Katz, Muro and Bradley, 2009). Historically, these interests have been understood in specific policy areas such as transportation, housing, homeland security, education and health. But, the federal interest here speaks to the global city as a complex system involving interdependent pieces ranging across individual policy areas. With this distinction, it should be clear that, the eight American global cities reflect the place and the moment for the President and Congress to seize a unique and historic opportunity to forge a national urban policy demonstrating how to organize a new policymaking vehicle around the holistic city. Such a policy should identify the eight metropolitan areas by designating each with individual federal status and a new apparatus for holistic and systemic policy management.

Consistent with the above arguments, this apparatus should not further institutionalize "an ossified network of specialized and balkanized agencies at a time when most challenges require integrated solutions that 'join' up related areas" (Katz, 2009, p. 1). Instead, a federal role could be to create a process specific to the circumstances of each global city and that brings together multiple perspectives focused on systemic and cross-silo research and policymaking. As suggested in Figure 6, a federal organic law governing global cities certainly might contain two principal elements.

[FIGURE 6 ABOUT HERE]

First, a bi-level apparatus could be established to treat global cities collectively as a special domain in U.S. policy and individually in their unique policy contexts. The collective-level agency, perhaps called the Federal Inter-Silo Research and Clearinghouse Agency on Global Cities, would emphasize the "joining of expertise across scientific [and policy] communities" into "collective processes of learning and understanding" (Norgaard and Baer, 2005, p. 958). This structure and its collective processes might be fashioned after the Intergovernmental Panel on Climate Control (IPCC) which employs an integrated matrix of networks representing multiple perspectives to reveal status and connections among interacting factors.

Guided by a "philosophy of methodological pluralism" (Norgaard and Baer, 2005, p. 957), this body should be constituted of scientists, social scientists, policy wonks, and distinguished-citizens committed to interdisciplinary research and policy collaboration on global cities as holistic systems. As an additional means to "transcend the disparate nature of human understanding" (Norgaard and Baer, 2005, p. 959) and to lower access costs (Ostrom, et al, 1999), the research panel could be augmented by a clearinghouse function. This inter-silo entity, however, would not only act as a repository for global-city research, but also have the capacity to pursue interests in scanning and arranging information from across silos according to policy questions posed by different systemic concerns (Dean, 2009) . An example is found in the case of medical research where silo-bound information is extracted and re-assembled by a "broker" searching across silos for

interconnections pertaining to particular medical conditions having no currently recognized solutions (see, for example, Marcus, 2009).

Informed by the collective, policy-relevant, cross-silo information generated by the federal-level agency, the second level in the bi-level structure might consist of eight global-city authorities that could be vested with the decisional authority to make and act on systemic policy regarding the dynamic changes in individual global cities. Constituted as eight intergovernmental subgroups, they could be charged with monitoring and making policy concerning the holistic and dynamic attributes and interrelationships respective to each global city as-a-whole. Specifically authorized to manage dual sustainability of urban and coastal, it should not be confused however with the more limited role played by such single-silo agencies as metropolitan planning organizations (MPOs), which are employed mostly for transportation and land use planning.

Second, for global cities, federal intergovernmental funding could be subvented directly to the eight federally-designated global-city authorities. Under current programmatic distributions, "federal governance fails to recognize the interconnectedness of whole program areas…precluding integrated problem-solving" (Katz, Muro and Bradley, 2009, p. 28-29). Likewise, principal funding for metropolitan areas currently is often routed through the states, but could be redirected to the eight global-city authorities. This would not eliminate a role for the states, but would encourage them to establish their own distinct interest-defined funding. It also would eliminate the ability of states to obstruct federal intention by holding up subventions bound for the global cities.

This brief outline of a new federal role in global-city policymaking is only intended to extend the debate on how to address the dual sustainability with which the most important U.S. cities have to contend. But, it also incidentally speaks to the idea that worldwide, such cities have the same cross-silo problems in governing the systemic interactions between urban field and coastal zone. From many policy perspectives, global cities everywhere are essential and beneficial to the well being of human communities, but policymaking needs to dwell more on the unmitigated dysfunctions and systemic impacts they pose.

At the end of the day, policy solutions that simply result from an agglomeration of individual "quasi-independent" policymaking bodies with focused or specialized authority (adjudicated or not by mutual adjustment) are no longer sufficient for holistic dynamics given our state of scientific knowledge about systemic relationships and their multiple impacts. Co-evolutionary sustainability requires a new silo-spanning complement to the existing structure that deals specifically with the systemic overlay of a global city in the coastal zone. The scale of public policymaking needs to match the scale of the problem.

REFERENCES

Abu-Lugod, Janet L. (1999), <u>New York, Chicago, Los Angeles: America's Global Cities</u> (Minneapolis: University of Minnesota Press).

Baird, Ronald C. (2008), "Coastal Urbanization: The Challenge of Management Lag," presented at the 2008 Coastal Cities Summit, St Petersburg, FL, Nov. 17 – 21.

Batty, Michael (2008), "The Size, Scale, and Shape of Cities," <u>Science</u>, Vol. 319: 769-771.

Bishop, Bill (2000), "The Changing Face of American Politics," <u>Austin 360 News</u>, reproduced at: www.austin360.com/statesman/editions/today/news_4.html.

Boschken, Herman L. (1976), "Organizational Logic for Concurrent Government in Metropolitan Areas," <u>Academy of Management Review</u>, Vol. 1, #1, pp 5-13.

Boschken, Herman L. (1988), <u>Strategic Design and Organizational Change: Pacific Coast Seaports in Transition</u> (Tuscaloosa, AL: University of Alabama Press).

Boschken, Herman L. (1998), "Global Shift in Container Traffic," <u>Public Works Management & Policy</u>, Vol. 2:368-372.

Boschken, Herman L. (2002), <u>Social Class, Politics and Urban Markets: The Makings of Bias in Policy Outcomes</u> (Stanford, CA: Stanford University Press).

Boschken, Herman L. (2003), "Global Cities, Systemic Power and Upper-Middle-Class Influence," <u>Urban Affairs Review</u>, Vol 38:808-830.

Boschken, Herman L. (2008), "A Multiple-perspectives Construct of the American Global City," <u>Urban Studies</u>, Vol. 45:3-28.

Braybrook, David and Charles E. Lindblom (1970), <u>A Strategy of Decision</u> (New York: Macmillan Free Press).

Brint, Steven (2001), "Professionals and the 'Knowledge Economy': Rethinking the Theory of Postindustrial Society," <u>Current Sociology</u>, Vol 49 (4): 101-132.

Brookings, <u>Metro Policy: Shaping a New Federal Partnership for a Metropolitan Nation</u> (Washington, DC: Metropolitan Policy Program at Brookings).

Bureau of the Census (2002), <u>Census of the Population</u>, Summary File 3A (Washington, DC: U.S. Department of Commerce).

Bureau of the Census (1997), <u>Economic Census of the U.S.</u> (Washington, DC: U.S. Department of Commerce).

Clark, Terry Nichols (2001), "Amenities Drive Urban Growth," paper presented at the Annual Meeting of the American Political Science Association, San Francisco, August 28-31.

Clark, Terry N. (2002), "Urban Amenities, Migration, and Entertainment," an email exchange with the FAUI network (listserv.nd.edu, May 4).

Clark, Terry N. (ed.) (2004), <u>The City as an Entertainment Machine</u> (<u>Research in Urban Policy</u>, Vol. 9) (New York: JAI Press/Elsevier)

Clark, Terry Nichols and Vincent Hoffmann-Martinot (1998), <u>The New Political Culture</u> (Boulder, CO: Westview Press).

Dean, Cornelia (2009), "NOAA Chief Believes in Science as Social Contract," <u>New York Times</u>, March 24, p. D2.

Derudder, B. and F. Witlox (2005), "An Appraisal of the Use of Airline Data in Assessments of the World City Network," <u>Urban Studies</u>, Vol. 42(13): 2371-2388.

Douglass, Mike (2000), "Mega-urban Regions and World City Formation," <u>Urban Studies</u>, Vol. 37:2315-2335.

Erie, Steven (2004), <u>Globalizing L.A.</u> (Stanford, CA: Stanford University Press).

Federal Transit Administration (2000), "2000 National Transit Database: Table 20," <u>National Transit Summaries and Trends</u> (Washington, DC: U.S. Department of Transportation).

Florida, Richard (2001), <u>The Rise of the Creative Class: And How Its Transforming Work, Leisure, Community and Everyday Life</u> (New York: Basic Books).

Friedmann, John (1986), "The World City Hypothesis," <u>Development and Change</u>, Vol. 17: 69-83.

Friedmann, John and John Miller (1965), "The Urban Field," <u>Journal of the American Institute of Planners</u>, Vol. 31: 312-320.

Glaeser, Edward L. and Joshua D. Gottlieb (2006), "Urban Resurgence and the Consumer City," <u>Urban Studies</u>, Vol. 43: 1275-1299.

Hall, Peter (1966), <u>The World Cities</u> (London: Heinemann).

Hawes, Derek (2000), "Interpreting the New Political Culture," <u>Policy & Politics</u>, Vol. 28:263-268).

Katz, Bruce (2009), Director, Brookings Metropolitan Policy Program, "The White House Office of Urban Policy: Form and Function," a presentation at the NYU School of Law, February 12.

Katz, Bruce, Mark Muro and Jennifer Bradley (2009), "Miracle Mets: Our Fifty States Matter a Lot Less than our 100 Largest Metro Areas," <u>Democracy Journal. Org,</u> Spring, pp. 22-35.

Lindblom, Charles E. (1965), <u>The Intelligence of Democracy</u> (Macmillan Free Press).

Marcus, Amy D. (2009), "A Mom Brokers Treatment for Her Twins' Fatal Illness," <u>Wall Street Journal</u>, April 3, p. A13.

Marshall, J (2005), "Megacity, Mega Mess," <u>Nature</u>, Vol. 475: 312-314.

McKenzie, Evan (2001), "Is the New Political Culture Only Middle Class?" (Column in the <u>Chicago Journal</u>), reproduced on the worldwide web at FAUINET@ listserv.nd.edu, December 3.

Miller, John W. (2009), "The Mega Containers Invade." <u>Wall Street Journal</u>, January 26, p. B1.

Monkkonen, P, et al (2004), "Measurements in a Highly Polluted Asian Mega City," <u>Atmospheric Chemistry and Physics Discussions</u>, Vol. 4:5407-5431.

National Oceanographic and Atmospheric Administration (NOAA) (2004), <u>Population Trends Along the Coastal United States: 1980-2008</u> (Washington, DC: U.S. Department of Commerce).

Norgaard, Richard B. and Paul Baer (2003), "Collectively Seeing Complex Systems: The Nature of the Problem," <u>BioScience</u>, Vol 55: 953-960.

Nyman, Jan (1996), "Breaking the Rules: Miami in the Urban Hierarchy," <u>Urban Geography</u>, Vol. 17: 5-22.

Ostrom, Elinor, Joanna Burger, Christopher B. Field, Richard B. Norgaard, and David Policansky (1999), "Revisiting the Commons: Local Lessons, Global Challenges," <u>Science</u>, Vol. 284:278-282.

Ostrom, Vincent (1989), <u>The Intellectual Crisis in American Public Administration</u> (Tuscaloosa: University of Alabama Press).

Port Import Export Reporting Service (2001), "U.S. Waterborne Foreign Trade: Total Containerized Cargo" (Washington, DC: Maritime Administration).

Porter, Michael (1998), "Clusters and the New Economics of Competition," <u>Harvard Business Review</u>, Vol. : (November/December), pp 77-90.

Reich, Robert B. (1992), <u>The Work of Nations</u> (New York: Vintage Books).

Sassen, Saskia (1998), <u>Globalization and Its Discontents</u> (New York: The New Press).

Sassen, Saskia (2001), <u>The Global City</u> (Princeton: Princeton University Press).

Sassen, Saskia (2004), "The Repositioning of Citizenship: Toward New Types of Subjects and Spaces of Politics," a paper presented at the Conference on Transforming Citizenship? Transnational Membership, Participation and Governance, Campbell Public Policy Institute, Maxwell School of Syracuse University, April 30.

Schrank, David and Tim Lomax (2002), <u>The 2002 Urban Mobility Report</u> (College Station, TX: Texas Transportation Institute, Texas A&M University, June).

Short, J.R., Y. Kim and H. Wells (1996), "The Dirty Little Secret of World Cities Research: Data Problems in Comparative Analysis," <u>International Journal of Regional and Urban Research</u>, Vol. 20:697-717.

Smith, David A. and Michael F. Timberlake (2001), "World City Networks and Hierarchies, 1977-1997," <u>American behavioral Scientist</u>, Vol. 44: 1656-1678.

Stone, Clarence N. (1980), "Systemic Power in Community Decision Making," <u>American Political Science Review</u>, Vol. 74:978-90.

Tajbakhsh, Kian (2001), <u>The Promise of the City: Space, Identity and Politics in Contemporary Thought</u> (Berkeley: University of California Press).

Taylor, Peter J. (2004), <u>World City Network: A Global Urban Analysis</u> (London: Routledge).

Thrift, Nigel (1994), "Globalisation, Regulation, Urbanization: The Case of the Netherlands," <u>Urban Studies</u>, Vol. 31(3): 365-381.

Turner, R K, S E Subak and W N Adger (1996), "Pressures, Trends and Impacts in the Coastal Zones: Interactions Between Socio-Economic and Natural Systems," <u>Environmental Management</u>, Vol. 20: 159-173.

U.S. Army Corps of Engineers (2000), <u>Waterborne Commerce of the United States: Part 5 National Summaries</u> (New Orleans: Waterborne Commerce Statistics Center).

U.S. Department of Transportation (2002), <u>2000National Transit Database</u> (Washington,DC: National Transit Administration).

U.S. Department of Transportation, Bureau of Transportation Statistics (2001), <u>Airport Activity Statistics of Certified Air Carriers: Summary Tables for 2000</u> (Washington, DC: Bureau of Transportation Statistics at <u>www.bts.gov/publications/airactstats2000/</u>).

Walks, R. (2001), "The Social Ecology of the Post-Fordist/ Global City: Economic Restructuring and Socio-spatial Polarisation in the Toronto Urban Region," <u>Urban Studies</u>, Vol:38: 407-447.

Wildavsky, Aaron (1979), <u>Speaking Truth to Power: The Art and Craft of Policy Analysis</u> (Boston: Little Brown).

Yusuf, Shahid and Weiping Wu (2002), "Pathways to a World City: Shanghai Rising in an Era of Globalisation," <u>Urban Studies</u>, Vol. 39:1213-1240.

FIGURE 1
AMERICAN GLOBAL CITIES AND THEIR COASTAL CONNECTIVITY
53 U.S. Cities: K-Means Cluster Analysis, 2000

CITY (rank order by 7-dimension factor)	Global-City Dimensions*	Population (urbanized area in millions)	COASTAL CITY FEATURES	
			Coastal Access	Other Coastal Connectivity
New York	7	17,800	Harbor & Seaport	WTC & Waterfront
Los Angeles	6	11,790	Harbor & Seaport	Beaches & Wetlands
Chicago	5	8,308	Great Lake & Seaway	Beaches & Waterfront
Boston	5	4,034	Harbor & Seaport	Beaches & Wetlands
San Francisco/Oakland	4	4,016	Bay Harbor & Seaport	Beaches & Wetlands
Washington, DC	3	3,933	River	Waterfront
Miami	3	4,919	Wetlands & Seaport	Beaches & Waterfront
Philadelphia	3	<u>5,150</u>	Bay Harbor & Seaport	Waterfront
Combined Population of 8 U.S. Global Cities	-	59,950		
Mean Figures of 45 Remaining Cities	0	1,524		

*For those cities within the global-city cluster, the number of dimensions in which they scored as global cities ranged from 7 (for New York) to 3 (for Washington, Miami and Philadelphia). By contrast, minimally-global cities appeared in only 0 to 2 dimensions (80 percent of these scored on zero global-city dimensions).

FIGURE 2
CENTRALITY OF GLOBAL–CITY SEAPORTS IN FOREIGN CARGO TRADE
Foreign Containerized Maritime Cargo at Seaports, 2000 Data

CITY (rank order by 7-dimension factor	TRANSSHIPMENT CENTRALITY IN GLOBAL TRADE		
	Seaport Type* (3-cluster model)	Seaport Size** (millions of TEUs)	% US Foreign Waterborne TEUs
New York	Primary Load Center	2.36	13.0%
Los Angeles	Primary Load Center	6.62	36.5
Chicago	Small, Misc.	0.03	0.1
Boston	Small, Container	0.06	0.1
San Francisco/Oakland	Secondary Load Center	0.96	5.3
Washington DC	-	-	-
Miami	Secondary Load Center	.72	4.0
Philadelphia	Secondary Load Center	.27	1.5
8 Global Cities	-	11.02	61.0%
Total Foreign Containerized cargo	-	18.12	100.0%

* Cluster Categories determined by a K-means 3-cluster method.
**Measured by the number of "twenty-foot-equivalent units" (TEUs) transshipped at a seaport which are large 8 foot by 8 foot salt-resistant metal containers ranging in length from 20 to 52 feet. Only foreign trade is included.

Source: Port Import Export Reporting Service (2001), "U.S. Waterborne Foreign Trade: Total Containerized Cargo" (Washington, DC: Maritime Administration).

FIGURE 3
AN UPPER MIDDLE CLASS GENRE AND MOBILITY PRESSURES
53 U.S. Cities: Correlations (r sq) Using 2000 Data

MOBILITY PRESSURES	U P P E R M I D D L E C L A S S A C T I V I T I E S*		
	Command-Center Employment	Institutional Research	Entertainment Consumption
Transit Consumption (per capita)	.79	.69	.58
Urban Traffic Congestion	.50	.42	.54
International Airport passengers	.76	.42	.84

* Indicators for these activity types are three of the seven dimensions that make up the global-city factor. Correlations are significant at the .01 level using a 2-tailed method.

FIGURE 4
DISPROPORTIONAL MOBILITY IMPACTS OF UMC ON GLOBAL CITIES
53 U.S. Cities: K-Means Cluster Analysis, 2000 Data

GLOBAL CITY (Rank Order)	INCLUDED IN HIGHEST MOBILITY CLUSTER FOR:		
	Transit Consumption (cluster size = 7)	Traffic Congestion (cluster size = 15)	International Air Travel* (cluster size: 14)
New York	X	NO	X
Los Angeles	NO	X	X
Chicago	X	X	X
Boston	X	X	X
San Francisco/Oakland	X	X	X
Washington, DC	X	X	X
Miami	NO	X	X
Philadelphia	X	NO	X

 NO = Global City not in highest mobility cluster.

*Measured as the percent of total U.S. international travelers passing through the city's airport.

FIGURE 5

GLOBAL, PARTIAL-GLOBAL & NON-GLOBAL CITIES IN THE U.S.
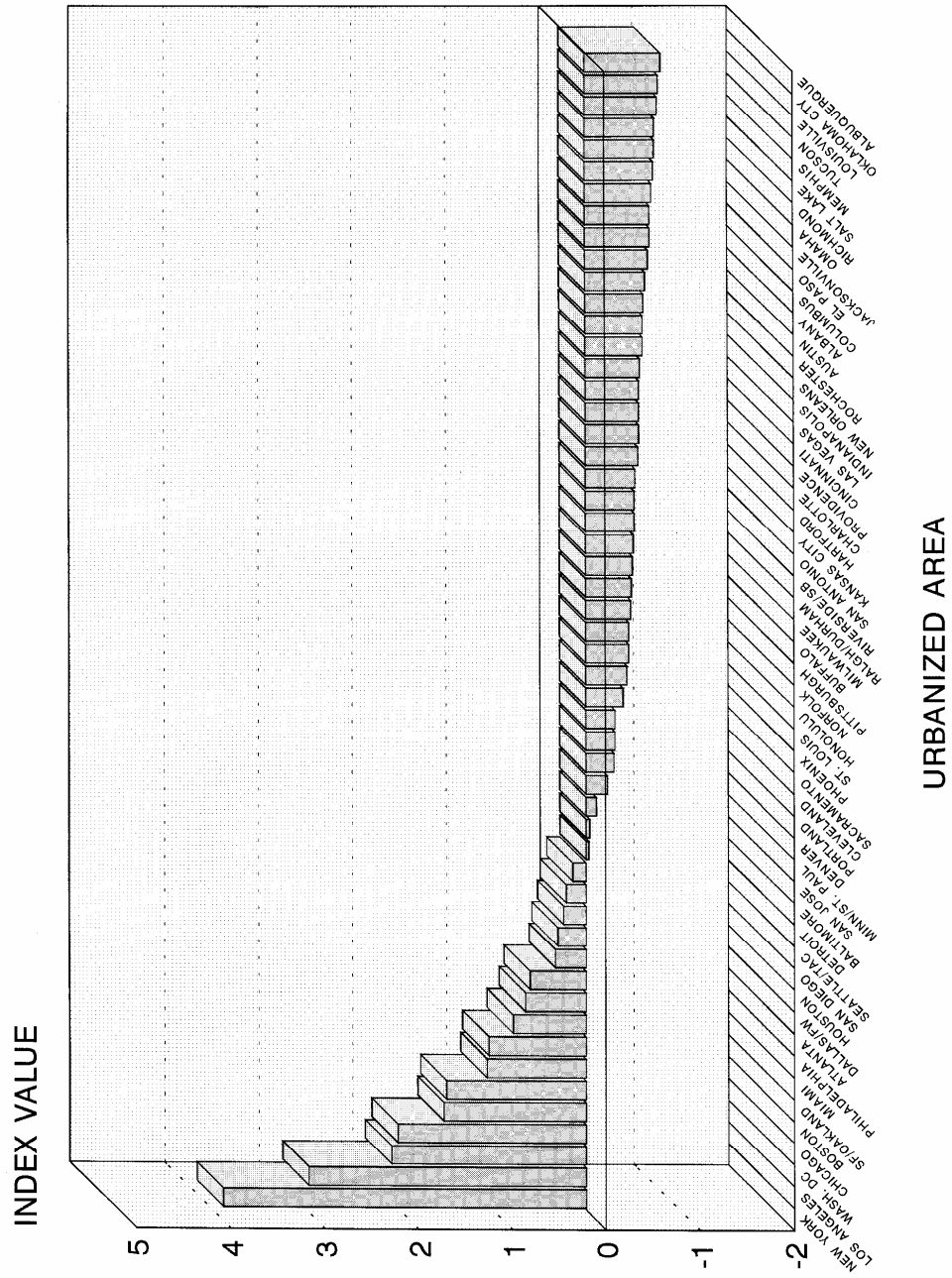## YEAR 2000 DATA: 7-VARIABLE INDEX (SINGLE FACTOR)

INDEX VALUE

URBANIZED AREA

FIGURE 6

A BI-LEVEL POLICYMAKING STRUCTURE

- **LEVEL 1**
- *Collective*
- *Global-*
- *Cities*
- *Policy*
- *Research*

FEDERAL INTER-SILO POLICY RESEARCH AND CLEARING-HOUSE PANEL ON GLOBAL CITIES AS COASTAL CITIES

SYSTEMIC RESEARCH ON ON DUAL SUSTAINABILITY

CLEARINGHOUSE AND BROKERAGE FOR INFORMATION INTEGRATION

- **LEVEL 2**
- *Individual*
- *Global-*
- *Cities*
- *Systemic*
- *Authorities*

CITY-SPECIFIC FEDERAL DISTRICT AUTHORITIES WITH CROSS-SILO AUTHORITY FOR URBAN SYSTEMIC POLICIES: DIRECT FEDERALLY SUBVENTED FUNDS TO GLOBAL CITY

- NY   LA   CHI   BOS   SF/OAK   WASH DC   MIAMI   PHILLY