

Clark International Airport and Special Economic Zone Republic of the Philippines

January 20–25, 2013



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Strategic Recommendations for a World-Class Airport

January 20–25, 2013

About the Urban Land Institute

THE MISSION OF THE URBAN LAND INSTITUTE is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is committed to

- Bringing together leaders from across the fields of real estate and land use policy to exchange best practices and serve community needs;
- Fostering collaboration within and beyond ULI's membership through mentoring, dialogue, and problem solving;
- Exploring issues of urbanization, conservation, regeneration, land use, capital formation, and sustainable development;
- Advancing land use policies and design practices that respect the uniqueness of both built and natural environments;

- Sharing knowledge through education, applied research, publishing, and electronic media; and
- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

Established in 1936, the Institute today has nearly 30,000 members worldwide, representing the entire spectrum of the land use and development disciplines. ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of the world's most respected and widely quoted sources of objective information on urban planning, growth, and development.

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About ULI Advisory Services

THE GOAL OF ULI'S Advisory Services Program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 400 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfields redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's advisory services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda for a five-day panel assignment is intensive. It includes an in-depth briefing day composed of a tour of the site and meetings with sponsor representatives; a day of hour-long interviews of typically 50 to 75 key community representatives; and two days of formulating recommendations. Long nights of discussion precede the panel's conclusions. On the final day on site, the panel makes an oral presentation of its findings and conclusions to the sponsor. A written report is prepared and published.

Because the sponsoring entities are responsible for significant preparation before the panel's visit, including sending extensive briefing materials to each member and arranging for the panel to meet with key local community members and stakeholders in the project under consideration, participants in ULI's five-day panel assignments are able to make

accurate assessments of a sponsor's issues and to provide recommendations in a compressed amount of time.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land Institute, this Advisory Services panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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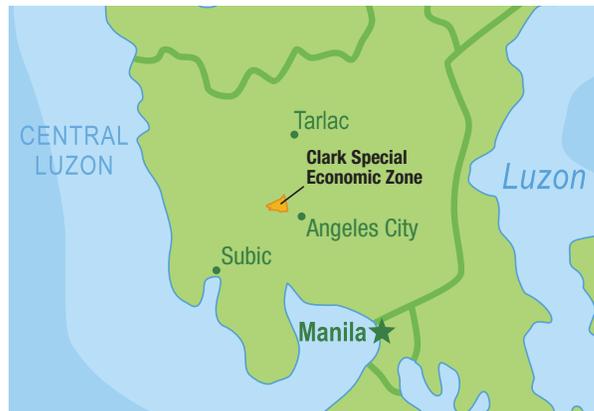
Background

THE CLARK SPECIAL ECONOMIC ZONE (CSEZ) is a 633-square-kilometer area located 90 kilometers north of Metro Manila on Luzon Island in the Republic of the Philippines. Until 1991, a 37-square-kilometer portion of the CSEZ was a U.S. military facility known as Clark Air Force Base.

In 1995, following years of neglect, cleanup and removal of volcanic ash from the eruption of Mount Pinatubo allowed the former base to reemerge as Clark International Airport and the CSEZ. The airfield infrastructure was improved to make it one of the most modern in Asia, and a second, parallel runway was built. The former base is now home to a golf resort and a number of industrial buildings, hotels, casinos, landmarks, and retail businesses. It also is the site of the annual Balikatan military training exercises between the United States and the Armed Forces of the Philippines. The Armed Forces of the Philippines continue to use the aviation facilities. A number of budget airlines have begun to use the facilities and, notably, Singapore Airlines has its primary maintenance facility at Clark.

The Base Conversion and Development Authority (BCDA) was created in 1992 under Republic Act 7227. Its primary purpose is to execute the declared government policy to accelerate the sound and balanced conversion of the Clark and Subic military reservations and their extensions into alternative productive civilian uses and to enhance the benefits to be derived from those properties in order to promote the economic and social development of Central Luzon in particular and the country in general.

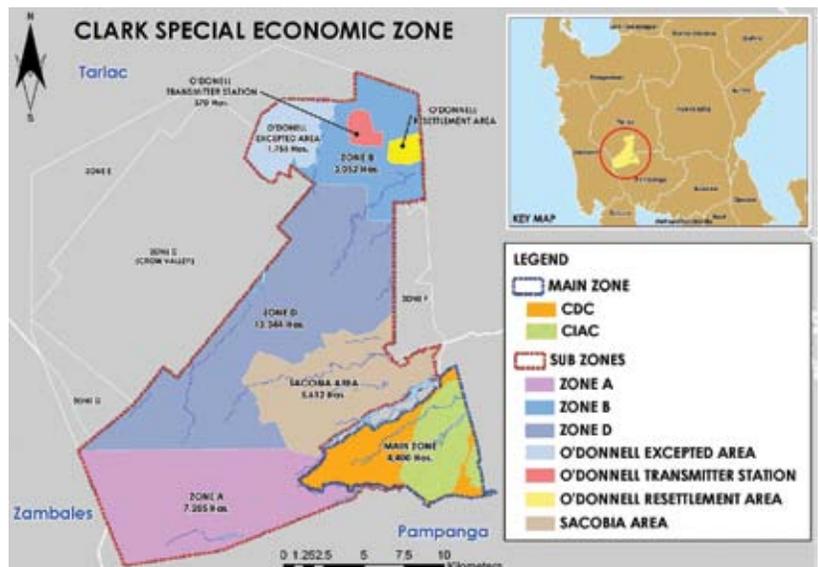
Since the United States returned Clark to the Philippines in 1991, the airfield has continued to serve as both a military and private airport facility. The BCDA asked a ULI Advisory Services panel to address various issues affecting redevelopment of the CSEZ—including urban design, use



Regional map.

of former air facilities, development incentives, the strategic vision, and financing considerations. Specific guidance was requested regarding Clark Green City, the portion of the CSEZ located north of the air operations area. Clark Green City is a master-plan concept for a series of “new towns”—a green metropolis with a mix of industrial, institutional, and commercial areas—that would apply green technologies by adopting a green building system. Renewable energy

The Clark Special Economic Zone.





Aerial photo of Clark International Airport.

from sustainable sources would be used by all facilities and buildings in Clark Green City, which is half the size of Metro Manila.

The Panel Process

The ULI panel members, representing expertise in development, land economics, urban planning and design, base closures, and municipal management, were provided extensive briefing materials in advance of their visit in January 2013. Upon arrival in Manila, the panel was briefed by BCDA officials and took a tour of the Clark site. This was followed by extensive interviews with dozens of stakeholders, including members of the military, BCDA staff members, private developers, landowners, design professionals, and economists. The panel then engaged in extensive internal discussion and analysis to reach its conclusions. Recommendations were framed and a draft report was written.

Below: The ULI Advisory Services panel with Philippine Secretary of National Defense Voltaire Tuvera Gazmin (center). Right: ULI Philippines Chairman Carlos Rufino (left)—with Rogelio Singson (center), secretary of the Department of Public Works and Highways, Arnel Casanova (right), president and CEO of the Bases Conversion and Development Authority—introduces members of the advisory panel and the sponsor group.



Summary of Recommendations

The panel made the following recommendations:

- Create a new, world-class airport facility—a new “gateway”;
- Concurrently improve the ground transport system, both road and rail;
- Coordinate *all* development—residential, commercial, industrial, educational, recreational, and tourist—under a comprehensive plan;
- Manage *all* activity under a centralized organization; and
- Use diverse financing techniques—fees, concessions, rents, sales, public/private partnerships, bonds, and off-site “exchange” development.

The remainder of this report elaborates on these recommendations.



Initial Observations and the Market

AN IMPORTANT PART OF ANY ULI PANEL is gaining an understanding of the real estate market and the general demographic and employment trends affecting a specific location. The following summarizes the panel’s market observations and findings.

Tiger Cub on the Rise

The Philippine economy is showing very strong growth in gross domestic product (GDP) and has a very positive outlook. The key for the country’s success is for it to continue this momentum and to increase the economic growth rate in terms of both quantity *and* quality. The higher the quality of the education provided to Filipinos, the higher the quality will be of the companies attracted and formed there, and the faster social conditions will improve.

The Philippines is moving in the right direction and at a rate faster than other regional countries. It is the only country that had positive performance on all measured economic structural facets when compared to a set of peer economies (see figure 1). The figure includes data for countries that compete with the Philippines for business, as well as two countries with more mature economies—Singapore and South Korea—with which the Philippines aspires to be competitive economically over time.

The value of the number in the table conveys the performance of each country in absolute terms. For example, for key economic indicators, the Philippines has a recent score of 5.07, compared with Singapore’s score of 8.40. The changes in the indicators since 1995 show that over time, the Philippines is on a trajectory to become as economically sophisticated as South Korea and Singapore are

Figure 1: Comparison of Regional Economies

Country	Key economic indicators		Economic incentive policy		Innovation		Education	
	1995	Recent	1995	Recent	1995	Recent	1995	Recent
Singapore	8.26	8.40	9.66	9.62	9.49	9.05	5.09	5.94
South Korea	7.97	8.16	5.93	6.93	8.80	8.22	9.09	9.13
Malaysia	6.10	6.26	5.67	7.16	6.91	6.28	5.22	4.62
Thailand	5.21	5.57	5.12	6.61	5.95	5.66	4.23	4.14
Philippines	3.94	5.07	4.32	4.57	3.77	4.09	4.64	6.25
Vietnam	3.40	2.94	2.80	2.64	2.75	2.34	2.99	2.28
Indonesia	3.11	3.68	3.47	4.08	3.24	2.38	3.20	3.07
Laos	1.75	1.92	1.45	0.10	1.69	1.79	2.01	1.61
Cambodia	1.71	2.77	2.28	2.12	2.13	1.69	1.70	3.11

Source: CIA World Fact Book.

Note: These numbers represent changes to actual expansion or contraction of a specific economic activity based on a reference series established by the Philippine National Statistical Coordination Board. The reference series used is the nonagriculture component of gross domestic product, or the gross value added of the industry and service sectors.

today. The questions are when this will happen, and what the Philippines can do to gain comparative market share and make the market come to the country faster than indicated by market forces or history.

Demographic Overview

The Philippines has one of the largest and youngest populations in the world. According to the 2000 national census of the National Statistics Office (NSO), 37 percent of Filipinos belonged to the age group 14 years old and younger. Given population trends in the region, this percentage of people in this age group likely has not changed since the census and, if anything, has increased slightly.

The Philippines' population as of July 2012 was estimated at 103.8 million, making it the world's 12th most populous country. It is also the second most populous nation in Southeast Asia after Indonesia, with a projected population of 248 million.

The annual population growth rate in the Philippines slowed to 1.9 percent in the 2000s from 2.34 percent in the 1990s, according to the NSO. The World Bank placed the country's gross national income per capita in 2010 at US\$2,060, nominal value.

Metro Manila has a population of 11.5 million. When that is combined with the population of the six nearest provinces—making up an area known as Mega Manila—the total population is 26.1 million, constituting 28 percent of the country's population.

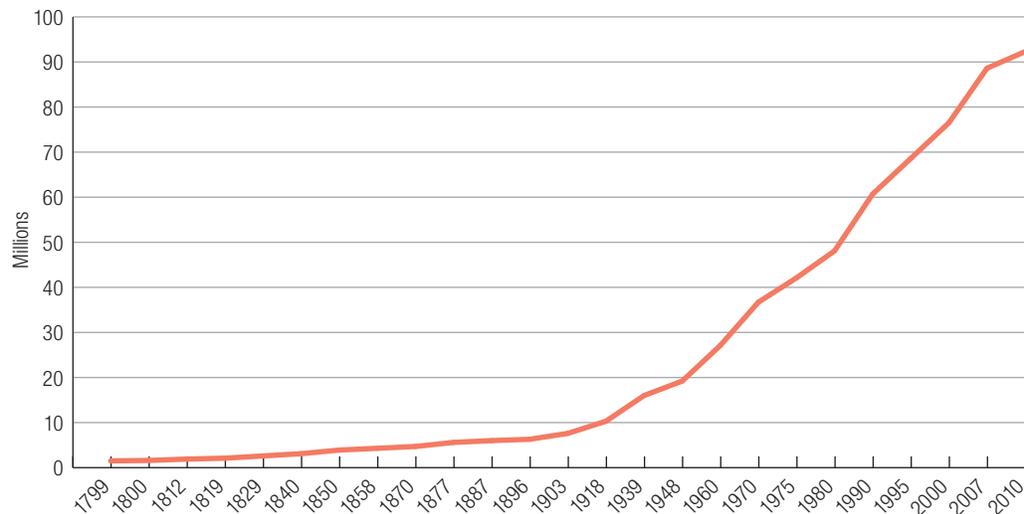
Young Population

According to the NSO, 21.5 percent of household members are five to 14 years old, 6.9 percent are 55 to 64, and 5.4 percent are 65 and older. This age distribution indicates that a significant increase in the country's labor force can be expected over the next decade as a much higher number of young people enter the labor force every year compared with the number of older people leaving.

This youthful demographic will provide a basis for economic growth by providing both a strong domestic population and an employment pool attractive to foreign direct investment. The large population of young people will be a source of economic growth for the Philippines in the coming years.

The Philippines is considered to be entering an economic sweet spot. Nearly a half million college graduates enter the labor force each year, providing companies with a big pool of employees to fill their requirements. If the economy

Figure 2: Philippines Population, 1799–2010



Source: National Statistical Coordination Board.

is growing, underlying that growth would be an increase in employment as well. So as the population grows, the country can generate more employment, leading to a population able to spend and help fuel economic growth.

Size of the Economy

The International Monetary Fund (IMF) classifies the Philippines as an upper middle-income economy. The IMF estimates the country's gross GDP at US\$213.1 billion as of 2011, 46th among 182 economies listed. Separate reports by American investment bank Goldman Sachs and British bank HSBC expect the country's current economic and population growth trajectory to make the Philippines one of the 20 largest economies over the next few decades.

In terms of purchasing power parity, the Philippines had a GDP of 390.4 billion in international dollars in 2011, according to the IMF, placing the country 33rd among world economies, ahead of Singapore at 38th, but behind its Asian neighbors Indonesia at 15th, Malaysia at 29th, and Thailand at 24th.

HSBC Global Research, in its report *The World in 2050*, predicts that the Philippines will have one of the fastest-growing economies over the next four decades, with its GDP predicted to be the 16th largest in the world by 2050 at US\$1.688 trillion. It would be the largest economy in Southeast Asia, outranking Indonesia at US\$1.502 trillion, Malaysia at US\$1.16 trillion, and Thailand at US\$856 billion.

"Asia is the stand-out region—with a notable showing by the Philippines," HSBC reported. "The Philippines looks set for a multi-decade run of strong growth."

By 2050, the Philippine economy will also be larger than that of the likes of Australia, Austria, Belgium, Greece, Israel, the Netherlands, Saudi Arabia, Singapore, South Africa, Sweden, and Switzerland, HSBC projects.

The Philippines is a net recipient of foreign exchange, which is an important factor in the stability of its exchange rate and inflation. In 2011, the country posted a balance-of-payments surplus of US\$10.179 billion. That surplus, which represents the external position of the Philippines, is

supported by remittances, outsourcing revenues, tourism receipts, and foreign portfolio and direct investments. It posted a current-account surplus of US\$7.1 billion in 2011, equivalent to 3.1 percent of the GDP, despite a wide trade deficit in merchandise. Total goods exports during the year reached US\$47.2 billion, representing 21 percent of GDP.

The Philippines GDP grew more than 4.0 percent annually each year during the 2000s. The Asian Development Bank expects the country's GDP growth to rebound to 4.8 percent in 2012 from 3.7 percent in 2011, supported by higher public spending, investment, and private consumption. Growth is expected to climb to 5.0 percent in 2013 and sustain approximately that rate of growth in the medium term.

Regional Comparative Statistics Trends

The Philippine economy is heavily weighted toward services and agriculture, with a large deficiency in manufacturing (see figure 3). With so many young people entering the economy, it is essential that the government devise policies that create jobs for them. Certainly, the service sector will grow in response to the need to sell to and serve this growing and increasingly wealthy population, but that is not value-added economic growth. Tourism and a strong logistics system are seen as new growth categories for the Philippines.

A comparison of the Philippine economy with those of the larger Association of Southeast Asian Nations (ASEAN) and Asian economies shows that the more advanced economies have extraordinary economic bases. Singapore and Hong Kong stand out: their economies are comparable in size to the Philippines though they have less than one-tenth its population. High-value trade, financial services, manufacturing, logistics, and tourism are the drivers in their economies. The overall strategy outlined for the CSEZ in this report can help the Philippines make inroads in logistics, manufacturing, and tourism and compete more effectively with more advanced economies.

Figure 3: Philippine Employment by Major Industry Group

Industry Group	Oct 2011	Jul 2011	Apr 2011	Jan 2011	Oct 2010	Jul 2010	Apr 2010	Jan 2010	Oct 2009	Jul 2009	Apr 2009	Jan 2009
Total	38,551	37,105	36,819	36,290	35,476	36,237	35,413	36,001	35,478	35,508	34,997	34,262
Agriculture	12,861	12,100	12,155	11,952	12,072	12,244	11,512	11,806	12,072	11,940	12,313	11,846
Agriculture, hunting, and forestry	11,373	10,643	10,663	10,532	10,563	10,760	10,073	10,351	10,563	10,476	10,841	10,446
Fishing	1,488	1,457	1,492	1,420	1,509	1,484	1,439	1,455	1,509	1,464	1,472	1,400
Industry	5,608	5,629	5,619	5,264	5,154	5,409	5,487	5,322	5,154	5,273	5,088	4,856
Mining and quarrying	226	205	230	184	169	194	212	193	169	177	166	152
Manufacturing	3,171	3,071	3,127	2,952	2,937	3,003	3,063	3,009	2,937	2,947	2,841	2,849
Electricity, gas, and water	143	178	139	130	160	141	137	157	160	145	130	134
Construction	2,068	2,175	2,123	1,998	1,888	2,071	2,075	1,963	1,888	2,004	1,951	1,721
Services	20,082	19,376	19,045	19,074	18,250	18,585	18,414	18,872	18,250	18,294	17,595	17,560
Wholesale and retail trade, vehicle repairs, personal and household goods	7,772	7,300	7,251	7,275	6,901	7,030	6,885	7,064	6,901	6,725	6,681	6,635
Hotels and restaurants	1,206	1,164	1,043	1,064	1,012	1,037	991	1,104	1,012	1,064	976	988
Transport, storage, and communication	2,799	2,801	2,697	2,802	2,735	2,704	2,741	2,735	2,735	2,694	2,628	2,660
Financial intermediation	467	418	406	447	375	420	383	384	375	376	389	337
Real estate, renting, and business activities	1,340	1,214	1,277	1,195	1,100	1,166	1,061	1,119	1,100	1,090	1,023	1,044
Public administration and defense, compulsory social security	1,840	1,908	1,939	1,806	1,771	1,835	1,959	1,823	1,771	1,772	1,794	1,659
Education	1,190	1,226	1,169	1,212	1,168	1,238	1,156	1,146	1,168	1,157	1,068	1,157
Health and social work	460	460	456	430	412	457	447	432	412	428	408	435
Other community, social, and personal service activities	951	923	955	906	868	866	984	949	868	876	907	857
Private households with employed persons	2,055	1,960	1,850	1,934	1,908	1,831	1,804	2,114	1,908	2,110	1,718	1,785
Extraterritorial organizations and bodies	2	2	2	3	–	1	3	2	0	2	3	3

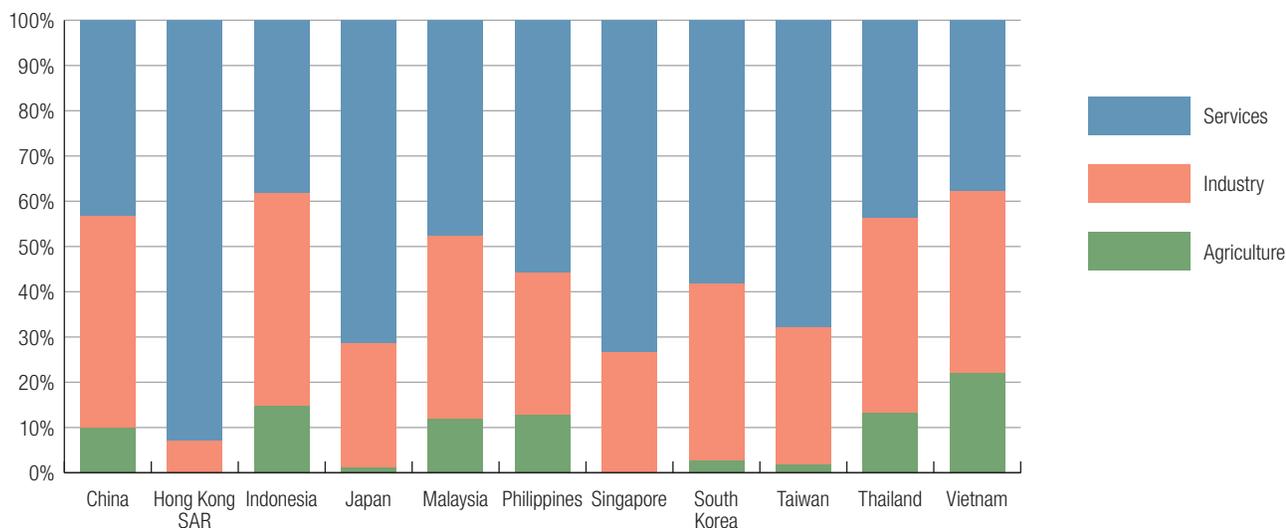
Source: National Statistics Office, Labor Force Survey.

A look at the economic mix of the regional economies shows that the manufacturing sector has a relatively small share of the Philippine economy compared with its role in China, Indonesia, Malaysia, South Korea, and Thailand (see figure 4). What one would hope to see is growth in the absolute value of the GDP and expansion of the services and manufacturing sectors. The business-process outsourcing (BPO) sector is a great niche for the Philippines and has great expansion potential. The next wave in services growth in the Philippines is BPO, higher-value outsourcing, and the evolution of a stronger financial service sector as the banking markets open up.

Tourism

Development of tourism, which is also a service sector, in the Philippines is way behind that in other regional economies. In comparative regional tourism statistics released recently by ASEAN, the Philippines does horribly, despite being viewed as having the best natural tourism offerings and the most friendly people (see figure 5). The Philippines ranks third lowest in arrivals per capita; Singapore, Malaysia, and Thailand take three of the top four spots in that category.

Figure 4: Comparison of Regional GDP Composition by Sector



Source: CIA World Fact Book.

The question is what the Philippines can do to improve its standing in tourism.

In the panel's view, exploiting the CSEZ, organizing the logistics system between Manila and the cities surrounding Clark, and forming those cities into a metro area—with a new international airport serving as a framework for creating this metropolis—are essential to the country's

prospects in logistics, tourism, and broader financial services growth.

The Role of the CSEZ in Accelerating Economic Growth

The CSEZ has a role to play in accelerating demand in the entire Philippine economy. If the CSEZ is visualized as and

Figure 5: Regional Tourism

	TTCI	International tourist arrivals		International tourism receipts			Population	GDP per capita
	Rank/139	Thousands	Per 100 pop.	US\$ million	% of GDP	US\$ per capita	Millions	US\$
Singapore	10	10,390	200.4	17,990	7.9	3,470.3	5.2	43,865
Malaysia	35	24,714	87.5	18,259	7.7	646.3	28.3	8,418
Thailand	41	19,098	29.9	26,256	8.2	411.0	63.9	4,992
Brunei	67	214*	51.7	254**	1.8**	613.5**	0.4	29,852
Indonesia	74	7,650	3.2	7,952	1.1	33.5	237.6	2,981
Vietnam	80	6,014	6.8	5,620	5.4	63.7	88.3	1,174
Philippines	94	3,917	4.2	2,783	1.7*	29.6	94.0	2,123
Cambodia	109	2,882	19.3	1,683	15	112.6	15.0	753
Laos	N.R.	1,670*	25.9	382*	6.8*	59.3*	6.4	1,004
Myanmar	N.R.	391	0.6	73*	0.2*	1.2*	61.2	742
ASEAN		76,940*	12.8	68,639*	4.6*	114.4*	600.2	3,117

Sources: The Travel & Tourism Competitiveness Report 2011: Beyond the Downturn, World Economic Forum; United Nations World Tourism Organization, 2012; World Economic Outlook, International Monetary Fund, April 2012; and authors' calculations.

Note: TTCI is the Travel and Tourism Competitive Index, created by the World Economic Forum to measure the factors and policies that make it attractive to develop the travel and tourism sector in different countries.

N.R. = no ranking. * 2010. ** 2009.

quickly catalyzes as a metropolitan hub for northern Luzon, based on the presence of a world-class airport and its status as a provider of good transportation, the Philippines will send a message that it is taking a more aggressive and ambitious approach to economic development in Central Luzon than in the past. Just by delivering this message, and by taking bold action on economic development, the country can brand itself as more like Thailand, Malaysia, and Singapore, and less like Indonesia and Vietnam, with which it has been grouped historically.

This is a marketing strategy on one hand, but also a strategic approach on the other. The CSEZ can allow the country to address one of its greatest infrastructure limitations for economic growth and tourism—poor air service and facilities. Over time, the panel sees the airport surroundings and nearby cities organizing into a fully functioning metropolitan area, with the airport and the CSEZ serving as an organizing center. Also, the area can become a strong urban metropolis north of but interrelated with Manila. As an example of what the panel sees for the future, these two metro areas could operate like the cities of Baltimore and Washington, D.C.

The national government is very sensitive to the need to provide economic growth opportunities for all the Philippines—north, central, and south. It is the panel's view that there is no more important real estate strategy for all the Philippines than developing a good international airport strategy and an effective logistics system among Manila, Subic/Clark, and airports and seaports elsewhere in the country.

Execution

It is the panel's belief that execution of a strategic plan for the CSEZ needs to occur on three fronts:

- creating a new metro-area hub around Clark International Airport and a new international airport;
- executing a two-airport strategy for Manila and Clark; and
- streamlining the coordination between ports and airports in Manila, the Clark area, and the Subic area.

This approach will increase demand in the services, logistics and manufacturing, and tourism sectors. The impact on the country's GDP is conservatively estimated by the panel at US\$50 billion to \$75 billion within ten years of opening a new airport. This strategy will also accelerate GDP growth.

Vision: Principles and Values

TO LEVERAGE THE ONGOING SUCCESS of the market, the panel believes that a vision for the CSEZ must be established and a clear set of principles and values formed to allow decision makers at all levels of government to respond to the changes that will take place there. Globalization, technology, demographics, and climate change are the forces of change, and every city in the world is grappling with their impact. Cities have a choice: to embrace the new realities—the future—or to hold on to the status quo of the past. Serious tensions and huge risks are at play as cities decide how to position themselves to compete in this new world. Sometimes taking no action seems safer—more prudent—in the short term, but doing so too often constitutes a decision to accept mediocrity rather than reach for excellence.

Particularly now, the stakes are clear. For Manila and the Philippines, the moment has arrived: the forces of change are moving opportunities toward the country's strengths. The Philippines as a work center for multinational companies, the recent high-quality real estate developments, and the improving workforce have all positioned the city and country for the future and begun to brand them as a world player. The challenge always is whether the national government and the private sector will have the will and vision to seize the moment and opportunity to build on this momentum. As the 2008 Olympics in China formally announced to the world that China had arrived on the world stage, so too will the scale and breadth of new developments at Clark announce that the Philippines is ready to compete internationally. The high-quality development of Clark can be the demonstration that Manila and the Philippines have arrived on the world stage.

Clark International Airport, with its existing air facilities and the huge amount of available land, has an unparalleled opportunity to serve as a globally competitive center for



Members of the ULI panel and sponsor group prepare for the site tour of the Clark Special Economic Zone.

trade, manufacturing, logistics, tourism, and residential development. The full potential of the site can be achieved only if it is developed with a firm commitment to establishing a facility of the highest quality and creating a comprehensive plan. The greatest risk is to do nothing and just allow the site to continue being developed incrementally. Do not sell it short!

A vision for the development of the Clark area is needed. It should be grand, bold, and world class; it needs to be far reaching but doable. The vision must be built of a series of principles and values that define and direct the effort. While it will be necessary for the BCDA and others stakeholders to refine the specific principles, the panel offers the following as a starting point:

- **Commit to making the CSEZ an international gateway.** The Philippines needs to make a national commitment to build a stunning and efficient international airport as a gateway for Manila and the country. This will do much to ensure that a long-term focus and funds will be committed to the project and help provide encouragement to and convince the private sector that investment in the CSEZ is worthwhile.

- **Establish the CSEZ as a single, coordinated economic zone.** Even as it comes to be seen as the grand entrance to Manila, the CSEZ also needs to be seen as the focal point and driving economic center in a unified Central Luzon that defines the region as one connected and coordinated economic zone rather than a series of uncoordinated entities with their own development and marketing plans. Achieving the institutional capacity to deliver such a vision and implementing it will require a realignment of many existing organizations.
- **Commit to providing efficient and effective ground transportation.** The country must build an efficient transportation system for both passengers and freight that connects the Clark area to Manila and to the cities and economic zones in Central Luzon, such as the Freeport Area of Bataan and the Subic Bay Freeport Zone. A high-speed rail connection from Manila to the new airport will be critical with the new terminal. To wait too long is to risk losing the full impact of the new airport.
- **Put the airport area first.** A primary focus should be on attracting high-value jobs such as those in the manufacturing, back office, and research sectors. The panel believes that the immediate area around the airport should be given priority as the first phase in the overall development. The quality of the development and the design of the terminal represent a unique, immediate branding opportunity that will set the stage and standard for development. If development is executed properly in the airport area, the proposed Clark Green City will act as a natural catalyst for additional successful development.
- **Amortize the new infrastructure over the entire CSEZ.** The cost of the investments made at the airport, in the transportation connections, and in the general infrastructure should be amortized over the thousands of hectares whose value will be enhanced by those public investments. Revenue from the sale of land, taxes collected, and revenue from development spinoffs can all go toward paying down these investments.
- **Prepare and implement a flexible menu of development incentives.** To maximize the value of the entire CSEZ, a more entrepreneurial and flexible menu of incentives than is currently available should be used to attract companies and developers and to leverage needed additional public and private investments. If necessary, these incentives should be tailored to particular companies identified as complementary to the goals of the effort. Thought should be given to seeding a venture-capital fund that, matched with private funds focused at Clark and privately managed, would support and attract startup companies.
- **Emphasize high-quality design.** Efforts on all components of development in the CSEZ need to strive to achieve the highest design and sustainability standards. In particular, the terminal should be designed to create a “wow factor” as an introduction to the Philippines. Bonifacio Global City is an example of the long-term value that can be created through such an approach; international examples of how high-quality design has driven value can be found in Singapore, San Francisco, and London. A commitment in both the Clark Airport and Clark Green City districts to high-quality design is critical. In the Airport District, the new international terminal should be seen as its central organizing feature. In the Green City district, creation of a central park should be considered as serving the same function. In many large cities across the world, the most valuable land is adjacent to such open space; it provides another opportunity to brand the location as a distinctive place. Also, development of high-quality housing of all types—from workforce to market rate—in the Green City District is important.
- **Brand it green.** Because of the location and large size of the CSEZ, a very tangible opportunity exists to brand it as a world-class model of the management of energy generation and use. The property’s location presents a particular opportunity for the development of sustainable energy sources ranging from hydropower to wind, solar, biomass, and particularly geothermal. At the same time, reduced energy use enabled by high-quality sustain-

able construction could well give Clark a green brand globally.

■ **Emphasize education.** An educated population can be the most important advantage a community can have. Whether in manufacturing or information technology (IT), the ready availability of educated workers provides a huge competitive advantage. A firm commitment to developing rigorous and high standards is needed from kindergarten through higher education, creating centers of excellence in vocational skills that complement employee needs. Just as the quality of the physical development needs to be of high quality for Clark to reach its full potential, so too does the education system. A strong commitment is needed to build a new model for the country in educational excellence. The potential to develop a significant university presence could shape yet another brand for the Clark Green City District. In addition to educating students, the university should

consider developing the capacity to form partnerships with private companies to do joint research partnerships. The availability of venture capital is essential in creating an entrepreneurial culture at the university that encourages students and others to stay in the Philippines and expand their companies.

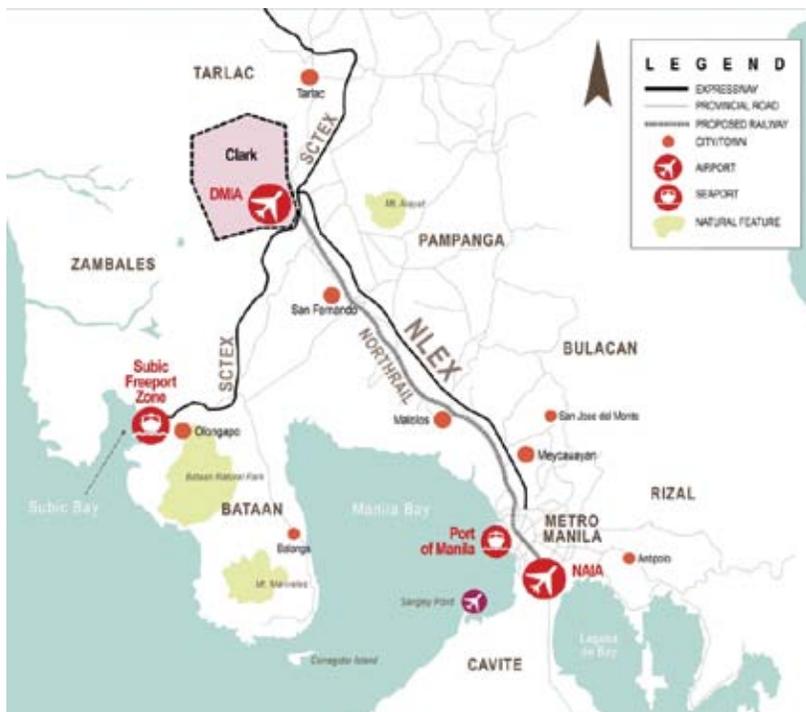
■ **Retain land for indigenous peoples.** The panel applauds the effort to retain a portion of the CSEZ for the Aeta people. The continued commitment to treat the indigenous population fairly and humanely so that they might live in their traditional areas and maintain their traditional lifestyles is itself an important statement. Such an approach will truly make Clark Green City a model of sustainable development.

Planning and Design

THE CREATION AND IMPLEMENTATION of regional plans and policies to address the airports, ports, and expressways in Central and Southern Luzon are of national significance. To establish and implement the principles for the Clark area, plans for the region must be aspirational, functional, and comprehensive.

The current air flight congestion at Ninoy Aquino International Airport in Manila, the traffic congestion of Epifanio de los Santos Avenue (EDSA) and other roadways, and the inability to adequately move goods and services around the region demand that priorities be assigned and actions taken to establish a better-functioning Metro Manila. The panel is concerned that no effective strategy is in place to facilitate the roles and responsibilities of and linkages among Ninoy Aquino Airport, the Port of Manila, the Port of Subic, and points in between.

This illustration outlines the relationship among the CSEZ, Metro Manila, Subic, and the ports. The panel believes that the economic components of this region need to begin operating in a coordinated and mutually beneficial manner.



The panel applauds the efforts made to build high-capacity new roadways such as the Subic-Clark-Tarlac Expressway (SCTEX) between Subic on the west and Tarlac northeast of Clark, and the North Luzon Expressway (NLEX) between Greater Manila and Clark. Indeed, the investments have been made; now is the time to leverage those much-needed infrastructure improvements. If the Clark and Subic areas are to be linked via a logistics axis that maximizes the port facilities at Subic with the existing airfield and burgeoning cargo and industrial activities at Clark, the SCTEX becomes a vital artery. Shipping goods between the two centers alleviates congestion in Greater Manila and allows for creative land development along the expressway to capitalize on business support as well as the creation of new housing centers.

A New International Airport

The introduction of a new international airport at Clark would announce to the world the presence of a new gateway to the Philippines. The panel envisions providing visitors to the country with an arrival that is gracious, efficient, and awe inspiring on many levels, and that blends seamlessly with their job-related activities. Precedents exist for multiple airport locations in a city, as well as airport locations that are away from city centers.

Many cities in Asia and around the world have chosen to remove their older, outdated airport facilities and replace them in locations in which restrictions to airspace can be minimized and the airport can grow and catalyze the growth of a new area. In order for these new outlying airports to be accessible, it is critical that reliable transport to the central business district take less than one hour, and under 45 minutes is ideal. This is often accomplished through dedicated or limited-stop fixed-rail service. The following airports or multiple-airport complexes provide

reliable transportation and or have become catalysts for new growth:

- Incheon International Airport and its associated smart city Songdo, Seoul, South Korea;
- Pudong International Airport, Shanghai, China;
- Kuala Lumpur International Airport, Malaysia;
- Denver International Airport, Colorado, United States;
- Narita International Airport, Tokyo; and
- Dulles International, Ronald Reagan Washington National, and Baltimore/Washington International airports in Washington, D.C./Baltimore, Maryland.

As was the case with Stapleton International Airport in Denver, the older, abandoned airports are sometimes then redeveloped as vital urban districts to take advantage of the valuable land close to the central business district.

Plan and Develop the Clark Airport District First

The panel recommends that the Clark Airport District be developed and in heavy use before resources are spent on the Clark Green City District. Both will be needed; however, the public resources and attention should be focused on the airport. Airport District plans that have been developed for the airfield should be revisited to study its capability to serve as a fully functioning passenger and cargo airport facility. The industry is now abuzz with the ideas of airport cities and “aerotropolises” that attract a multitude of uses in close cooperation with each other. These are valid ideas to test at the Airport District.

Unfortunately, it appears to the panel that some uses currently populating the Airport District serve neither the function nor aspirations of an aerotropolis design. Though some uses, such as the BPOs, traditional offices, retail businesses, and hotels, are viable in the Airport District, it is extremely important that the placement, intensity, and quality of those uses be better coordinated. Aerotropolis designs have been implemented or formed organically in

several cities of the world, the most notable example in Asia being South Korea’s Songdo International Airport and Business District. A fundamental key to success is maximizing land resources and putting business and service uses near airport operations.

In the early years of development at the Clark Airport District, the cargo and manufacturing capabilities should be established—as is now taking place with investment in a new Singapore Airlines maintenance facility—while budget airlines are allowed to expand their operations there. Protection of valuable flight-line locations for new airfield-related facilities should trump the sale or lease of land for uses not related to the airfield.

The panel heard of possible plans to temporarily introduce a bus rapid transit system into or alongside the NLEX in order to get both workers and budget airline travelers to the Airport District from central Manila. The panel supports this idea, but emphasizes that implementation of a limited-stop, fixed-rail train system is imperative and must be made a high priority.

As the cargo and related maintenance or manufacturing uses dependent on airport operations become successful, the second phase of the Clark redevelopment can take place—moving international flights from Ninoy Aquino International Airport to Clark. Obviously, that would involve construction of multiple runways, additional airfield operations equipment, and increased security. Plans must allow for flexibility and expansion of facilities to receive multiple truck deliveries and multimodal passenger arrivals and departures.

A new terminal or several terminals would need to be constructed to receive the international passengers and airplanes. The panel recommends that the design of this facility be world class and executed by international architects known for this building type. Good examples of world-class terminal design include Terminal 3 at Singapore Changi Airport and the new terminal at Kuala Lumpur International Airport. The building must express confidence and create excitement. Nothing less will do.

Clark Green City

While the panel has urged the community to focus on the Airport District, it does acknowledge there is a role for Clark Green City. As jobs are created and Clark becomes a destination within the broader region, workers will need housing, education, retail services, and open spaces to enjoy. The panel recommends land banking the Green City portion of the CSEZ until critical mass is achieved through the airport operations to warrant funding for additional roads and infrastructure within a predominantly greenfield environment. In the interim years, the increasing number of informal settlers throughout the CSEZ should be managed and contained to avoid delays in new development.

Given the investments and international reach required for the design and construction of facilities in the Airport District, no less thought should be dedicated to the layout and execution of Clark Green City.

The panel recommends that a differentiator for Clark Green City from developments near other world airports could be the use of renewable energy resources—perhaps geothermal, given the volcanic activity in the region, or some combination of geothermal, solar, and wind energy. Branding the new city as “carbon friendly” or “carbon neutral” should be a goal. Creative, sustainable development outcomes can often be maximized through cooperative land use relationships that decrease the need for automobile trips. The panel suggests implementation of “smart city” concepts that embrace holistic infrastructure and information technologies. Developing a system that can monitor and regulate utilities, traffic, parking availability, and security allows intelligent decision making and indeed suggests to companies that development is cutting-edge and the information technology is state-of-the-art. Branding should go beyond green to also be *smart*.

Clark Green City should have a public realm that is both memorable and functional. Because public streets consume much of the land developed, they should be designed to be multifunctional, providing places for parking, walking, landscaping, and stormwater detention. Neighborhoods need public open space that not only provides

the city with the “lungs” necessary for good air quality, but also creates places for people to meet and take part in recreation. Investments in high-quality open space can lead to higher real estate values. The Green City should have a unified walking and trail system that connects all neighborhoods and their centers, and a large public park that serves as a central focal point for the new city.

The neighborhood centers should have a mix of uses and can be anchored by different uses, such as a new university or vocational college. Additional businesses offering BPO jobs and other office or light-manufacturing employment not related to the airfield should also be located in the centers. Civic uses such as government buildings and religious facilities provide important community markers. In addition to new housing for earners of all levels of income, part of the property could be set aside for retirement or eco-village housing that caters to international visitors.

The Green City District will need to both be linked to the MacArthur Highway as well as directly tied to the Airport District through new arterial and collector roadway systems. The panel recommends that a people-mover system be considered for connecting the Airport District to Clark Green City. Portland, Oregon, has an effective light-rail system that connects its airport to the surrounding neighborhoods; the light rail also connects to a smaller streetcar system in the urban districts.

The density and intensity of uses that will be built within the Green City should be appropriate to the setting. In the neighborhood centers, buildings should be mid-rise in height and provide structured parking. The panel does not envision Clark Green City having high-rise buildings like those found in Makati and Fort Bonifacio. In the housing areas away from the centers, low-rise development can and should be expected. The panel also would recommend that design guidelines be implemented for Clark Green City in order to establish visual continuity, particularly in the public realm.

Organizational Structure

THERE ARE MANY ELEMENTS TO CONSIDER regarding the future of Clark and its place in the larger urbanized Central Luzon. The panel recognizes that much work has been done over the past 20 years. The massive cleanup after the volcanic eruption and construction of new infrastructure, including new highways, have resulted in some success, with new businesses coming into the area. However, the CSEZ today has the appearance of a great opportunity waiting for its many disparate functions—some competing and others just developing—to coalesce into a powerful development engine for this ever-expanding and important location in the country.

Concerns about the Current Organizational Structure

Plans for the Clark area seem to lack an overall vision, as well as road map for how to achieve that vision. Likewise, the CSEZ land bordering the airport facilities has much potential, but no master plan or marketing scheme is apparent. Growth at the site is slow and haphazard; if plans are not rethought soon, it will be difficult to place uses of real economic value there. Complicating the situation is the fact that the airport is managed by an entity separate from the BCDA that reports to a different part of the central government.

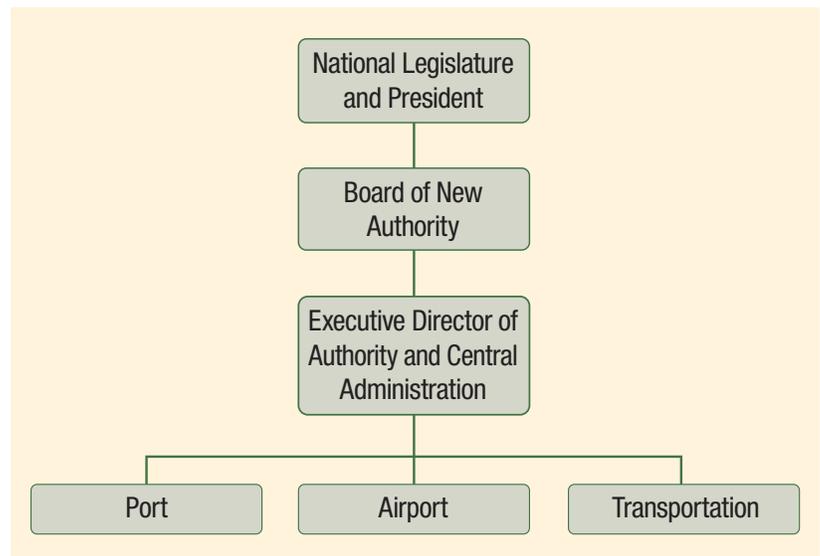
Therefore, the vision for the future and goals for the airport are unclear, and there seems to be no understanding of what will happen next, how it will be paid for, and how it will be implemented. In addition, there seems to be little discussion of how the existing Ninoy Aquino International Airport—overused and unable to meet the demands of a growing, vibrant Philippine economy—might relate to the Clark airport.

The planning framework currently being supported by the BCDA and plans for Clark Green City are admirable, but without the context of a plan for the airport and its environs, the viability of these plans is in question. If a comprehensive plan and implementation program were in place, the panel believes the goals being established for the Green City would have an excellent chance of coming to fruition.

Proposed Port Authority

The panel believes that a possible organizational solution is a port authority. The Philippines central government should create a nationwide airport, seaport, transportation, and land development authority. The president and national government should give this superagency extraordinary powers—to conduct planning and development for all airports, seaports, and free trade areas, and to serve as the operating agency for all these facilities. The port authority should have the power to borrow funds, float bonds, and raise revenue through special taxes, fees, and tolls.

A conceptual organizational chart for a new port authority.



This authority might be modeled after the Port Authority of New York and New Jersey in the United States. A highly successful entity established in 1921, it has jurisdiction over nearly every transportation function in a 3,900-square-kilometer area. It operates the region's three main airports plus two smaller ones, as well as the area's many bridges, tunnels, commuter trains, and the entire seaport—the third largest in the United States. The Port Authority has the power to buy, sell, and lease lands in one of the busiest urban areas in the world. Though it is a two-state entity, it has become such a strong financial organization that it can maintain and develop new facilities that it largely self-funds; the states and U.S. government still subsidize public transit and sometimes help with capital expenditures through the authority.

Port and airport authorities exist in regions across the United States and Canada. The panel envisions the creation of a similar entity in the Philippines, empowered by the national legislature with appointments to the board made by the president. Board members might work without monetary compensation, which is how most such authorities in the United States are organized. It would have a name describing its role, such as the Central Luzon Port and Airport Authority.

The panel is aware that creating something in the Philippines as potentially powerful as the Port Authority of New York and New Jersey may seem to represent the central government stripping power away from various interests. Major changes of authority would take place. However, the legislation establishing the authority should clearly define its goals and objectives and grant it the power to implement the vision for the future, as well as build new projects on its own. With strong leadership from the president, such an entity could transform this vital area of the nation and manage it for future generations. Organized correctly and managed well, this entity could be the vehicle to add substantially to the country's GDP. The goal should be nothing less!

The Port Authority of New York and New Jersey is empowered by both states and governed by a board appointed

by the two state governors. In the Philippines, the panel envisions that the national government would create the entity and give it initial funding. The representation on the authority board and appointment process would be worked out as the specifics of the agency are determined. Likewise, most senior management should be appointed through a system worked out in the legislation.

The ultimate goal would be for the authority to be essentially self-funding and have the ability to fund operations and capital projects.

Advantages of a Port Authority

Through the new port authority, there would be a comprehensive vision for the future of the entire area: Clark Green City, Subic, the Manila and Clark airports, new rail service, and additional highways and bridges supporting the entire area. Management of the massive Clark development and all airport and port development would be under one centralized development agency. The new agency's success would be tied to the success of the airports, ports, and free trade areas under its jurisdiction.

Planning and funding at this scale would make it possible to include under one umbrella numerous projects needed to make the region vital, progressive, and financially successful. The entire urbanized area could be marketed through one integrated system.

The ability to coordinate the ongoing development of this potentially vital area of the country should make the whole more powerful than the parts.

Financing

DESIGNATING CLARK INTERNATIONAL AIRPORT

as the Philippines' new international airport will entail a significant monetary commitment from the national government. The panel believes that in the long run, the value of the investment will substantially pay for itself through a variety of direct and indirect benefits for the entire nation and specifically for the Central Luzon area and Metro Manila. The types of improvements necessary to make Clark the new international airport include new terminals and associated infrastructure, efficient transportation that could include rail or bus rapid transit, and the associated improvements for Clark Green City. The multibillion-peso investment needed to construct these improvements, if viewed on a per-hectare basis, actually is quite reasonable. For example, if the first phase of improvements is

US\$2 billion, the cost amortized over 30,000 hectares would be US\$66,666 per hectare.

Tools Available

A variety of traditional government sources of funds exist. The Philippine government's main source of revenue is taxes; it also collects some nontax revenue. To finance its fiscal deficit and debt, the Philippines relies on both domestic and external sources. Domestic sources of financing are treasury bonds, facility loans, treasury bills, bond exchanges, promissory notes, and terms of deposits. External sources of financing include program and project loans, credit-facility loans, zero-coupon treasury bills, and global bonds.

Camp Aguinaldo

The panel believes that consolidation of operations, as an independent action by the military, can also generate revenues from properties made newly available.

If, for instance, Aguinaldo can be transformed into a Pentagon-like complex, with not only the secretary of national defense, but also each of the uniform service heads and their staff located there, large tracts of land will be available in Metro Manila for urban development that can generate revenue.

Those military support and administrative uses that could operate from a more remote location should consider moving to the Clark Special Economic Zone. Some of these uses, particularly office, technical, and research-oriented operations, could be appropriate catalytic uses in Clark Green City.



Though use of such vehicles is theoretically possible, more likely sources of financing are public/private partnerships that leverage the value of land through sale and leasing, instruments to capture land value gains like tax increment financing (TIF), and contribution of public land in exchange for development rights.

Another possible financing source would become available through relocation of government operations. Many government facilities are located in Metro Manila. While it is important that some of those operations continue to be located in the central city, it is possible that some could be relocated to the Clark area. The corresponding property in Metro Manila, newly vacated and available for sale, could be a substantial source of revenue for the Clark project. For example, if some of the administrative functions at Camp Aguinaldo were to move either to Clark or to portions of the Ninoy Aquino International Airport made available through the relocation of operations to Clark, the sale or lease of property for private commercial or residential use could generate substantial revenue.

Direct Benefits

A new international airport can be a significant source of revenue that can be used to pay off bonds and permit efficient operation of the airport. These revenues include terminal fees, gate leases, airline takeoff and landing fees, ticket taxes, departure taxes, advertising and naming rights, parking revenues, concessions rights, and energy revenues.

Airport revenue falls into two broad categories—revenue derived from air traffic operations, and revenue derived from ancillary (nontraffic, non-aeronautical) operations. Air operations constitute a major revenue stream and include aircraft landing and parking charges, passenger and cargo charges, leases of airline hangars and gates, and aeronautical and air-bridge lighting charges. Ancillary activities include concessions fees (rentals and profit-sharing arrangements with concessionaires such as restaurants and shops); revenue derived from rental of land, premises, and equipment (hotels, airline cargo space, kitchens, and office

space); income derived from airport shops and services (baggage handling and parking); various fees charged to the public; and revenues from rental car facilities and advertising.

According to the Airports Council International (ACI), 54 percent of airport revenue worldwide comes from aeronautical sources, and 46 percent is derived from non-aeronautical sources.

Indirect Benefits

Aviation makes a substantial contribution to the public finances. Increases will be seen in corporation tax paid by aviation companies, the taxes paid by their employees, and the revenue collected through aviation taxes. In addition to the direct tax payments of the aviation sector, additional revenue will be generated by the aviation sector's supply chain and through induced spending.

Increased Land Values

As Clark is designated as the new international airport, the value of properties near and bordering the facility will increase, leading to a corresponding increase in taxes collected by both the local and national government.

Job Multiplier

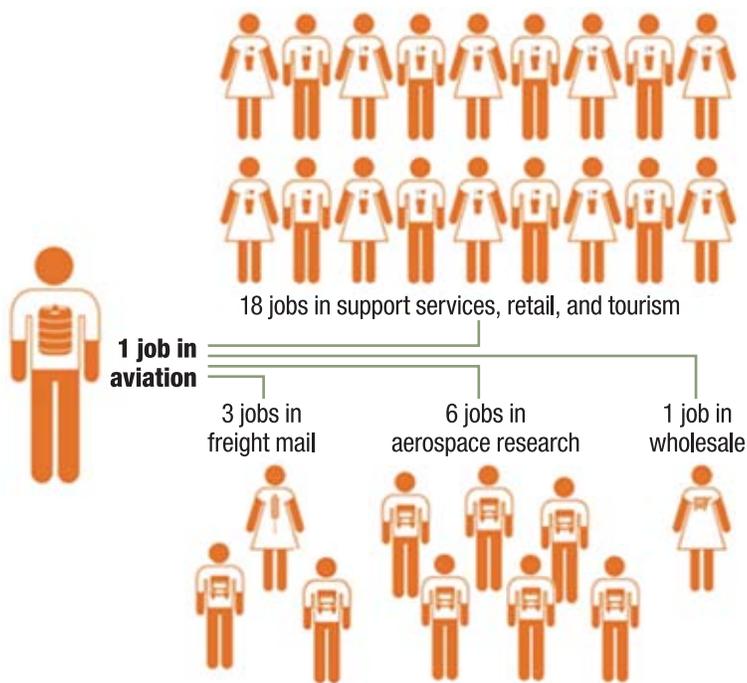
A recent study completed for Hong Kong estimated that every on-site airport-related job produces 1.43 indirect or induced jobs. The salary and wages of both the direct and indirect jobs will be substantial, as will the spending on domestic goods and services by employees of the aviation sector and its supply chain.

GDP Growth

It would be an understatement to say that a new, modern international airport will help the Philippine economy. Air connectivity increases with the number of destinations served by airlines using an airport and the frequency of flights along those routes. Such increases will only be possible with new runways, and the addition of runways is possible only at Clark. Additional destinations and more frequent flights, in turn, will make a location more attractive to foreign investment and increase the potential



The parking, retail, and support components of the airport can be a significant source of economic expansion for the region.

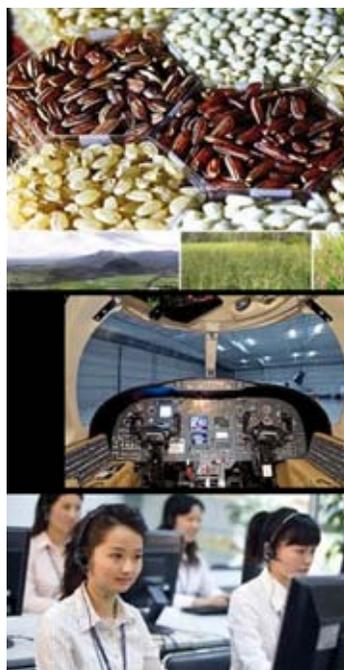


The job multiplier for airport jobs can produce significant revenue for the Clark Special Economic Zone.

for business efficiency, ultimately generating a virtuous circle of connectivity and economic growth. Connectivity is generated by an airport's ability to attract passengers, but also by the efficiency and availability of routes provided to international locations—mirrored by the growing complexity of air networks and the importance of hub airports for economic development. But just as GDP will improve with a new international airport, so too could it be constrained if the current airport continues to serve as the country's only international airport.

Investment, Productivity, and Innovation

In addition, investment, productivity, and innovation will benefit from a new international airport. As noted in the following section of this report, a new airport offers an opportunity to incubate and incentivize these activities.



GDP growth in all sectors of the Philippine economy can be realized with successful redevelopment of the Clark Special Economic Zone.

National Engagement and Implementation

DEVELOPMENT OF CLARK, because of its size, location, and existing infrastructure, will inevitably have an impact throughout the Philippines. The site must be regarded and planned as a national asset rather than merely a regional one. The planning and development of Clark create the opportunity to grow, develop, preserve, and protect other national assets—primarily the Philippine people and the country’s environmental resources. The national impact of development of Clark will include the following:

- Clark’s growth will create new revenue streams benefiting the nation as a whole, not just limited geographic districts or revenue sectors.
- Clark will create new jobs and new job opportunities in higher-value sectors; it will not merely relocate existing jobs.
- Clark will remove constraints on future economic growth and job creation in other areas. For example, it may reduce congestion at and near Ninoy Aquino International Airport or central Manila, or both, which may allow other high-value investments and uses to emerge there.
- Clark’s development will reaffirm and reinforce the unique and vibrant character of the Philippines and its people.
- Clark development will expand, diversify, preserve, and protect the Philippines’ current assets and competitive advantages.

Because of this national impact, a broad level of engagement—public and private, civilian and military, regional and national—is critical to successful planning and implementation of the development.

Revenue Growth

Planning needs to optimize Clark’s potential for revenue generation through a comprehensive engagement process. Immediate land uses, while providing near-term revenue, may create opportunity costs and constrain even greater long-term revenue potential.

Comprehensive planning should identify the major sources of revenue generation and implement growth in a prioritized and complementary manner. Development of the airfield will be the most significant factor in future revenue growth, and it must be allocated appropriate priority.

Among the key aspects of development of the airfield are the following:

- Revenue opportunities from logistics and cargo operations should be planned and implemented so that the optimal potential for revenue generation is unlocked. Incoming tenants and other users must be compatible with long-term land use plans.
- Consideration must be given to relocation of existing uses or reservation of particular parcels to maximize the revenue potential of logistics.
- Expansion of light manufacturing, including tires and information-technology hardware, should be clustered in a manner to both optimize future revenue and minimize supporting infrastructure costs, and to be synergistic with expansion of airport operations; these clusters must not be allowed to develop in a haphazard or ad hoc manner.
- Existing BPO uses likewise should be strategically located with a clear goal of expanding into higher-value BPO activities.

- Voice BPO operations may benefit from colocation in order to share upgraded infrastructure and human resources; other voice BPO opportunities will be generated from increased airport operations, such as travel/tourism planning and scheduling/logistics support services.
- Nonvoice BPO opportunities, already present due to existing businesses, could be expanded into areas such as depot-maintenance technical support, software- and avionics-related support, and support for compliance assurance, cargo manifest documentation, or other reporting requirements.
- The areas north of Clark, rich with agriculture, could see their export and other trade opportunities expand.
- Development and activities along the Clark–Subic Bay corridor and along the transportation corridor extending north of Clark will see collateral opportunities for revenue growth, not just at the terminus points (Clark and Subic), but also along entire transportation corridors (for example, in the north Luzon area).
- Higher-value BPO, agribusiness, and light-manufacturing uses may create the environment to foster/incubate development of intellectual property, such as software apps, data-analysis algorithms, unique business processes, or social and mobile media–optimized advertising, outreach, and targeting.

Job Creation and Job Opportunity Growth

Activities associated with increased airport operations present opportunities to increase employment and create higher-value jobs and careers. Planning for future job growth can optimize the competitive advantages of the existing Philippine labor force. These include the following:

- a young, vibrant, innovative, mobile workforce;
- a high proficiency in English—including familiarity with U.S. and European cultures and idioms, habits, and ways of operating—facilitating and reducing training and training times and accelerating productive employ-

ment by foreign businesses (for example, an earlier productivity/cost break-even point because less training is required); and

- a high proficiency with social and mobile IT applicable to evolution of both voice and nonvoice BPO.

The demographic characteristics and trends identified earlier in this report suggest that the Philippines will retain these competitive advantages into the near future. But Philippine success, particular in BPO, will spawn even greater global and regional competition. The Philippines itself has eroded India’s formerly leading position in BPO. Therefore, it is imperative that protecting and preserving competitive advantages be based on higher value added rather than lowest cost. Clark development must complement existing efforts.

Innovation

Related to higher-value job growth and preservation of competitive advantage is the potential to develop and expand innovation, which will both optimize Clark’s potential in the near and long terms and produce national economic benefits. General Electric, in its January 17, 2013, “Global Innovation Barometer” report, identified three main ways for businesses to compete effectively:

- better understand customer needs;
- anticipate market evolution; and
- stay ahead of the technology curve,

Airfield operations at Clark could serve to incubate or incentivize these activities and potentially lead to expansion into intellectual-property development, providing additional career opportunities for those in BPO jobs.

Expanding opportunities for career advancement in higher-value-added activities is critical in order to prevent loss of talent and expertise in the Philippine workforce. Lack of good jobs and opportunities for career advancement has resulted in significant “brain drain” for several member countries in the European Union. Clark must be used to

expand and preserve these opportunities. Clustering of high-value activities creates critical-mass synergies; enhanced training and education facilities will create centers of excellence and innovation hubs. Targeted and necessary supporting infrastructure improvements will advance these efforts. For example, Google's decision to build an innovative ultra-high-speed internet backbone in Kansas City, the Google Fiber Project, has spurred higher-value IT-dependent innovation in the region.

The development concepts for Clark Green City that highlight innovative energy savings and production could further spur innovation. Quality-of-life enhancements and the cachet of a green city may be attractive for the younger workforce that will preserve, protect, and expand competitive advantage and encourage foreign investment. Also, the quality of living and working conditions has increased demonstrably as a factor in global outsourcing decisions: for instance, Walmart recently instituted a policy requiring high-level central review of supplier subcontracting decisions to eliminate the possibility that sweatshop labor was being used.

Reaffirmation of National Character

Clark will provide the gateway to uniquely Philippine environmental assets, expanding revenues from tourism, casino gaming, and leisure and entertainment industries.

The plan for Clark's development and its implementation will highlight the following advantages of the fusion of Filipino/Asian and Western cultures:

- ease of business transactions and integration of business processes;
- comfort and familiarity to reduce risk in investment and location of revenue-generating activities; and
- the potential for expanding existing market penetration and opening new markets in the Asia Pacific.

These national characteristics can be effectively marketed as competitive advantages attractive for foreign investment

and siting of economic activity. The Philippine national identity is and must remain a powerful competitive brand.

Preserve, Protect, and Diversify Competitive Advantages

Comprehensive, strategic master planning implies near-, intermediate-, and long-term perspectives. Plans must diversify competitive advantages and be adaptive and agile in order to respond to the increasingly dynamic global marketplace. Disruptions—economic, political, and technological, among others—can quickly dilute existing competitive advantages and create new ones in ways that cannot be fully anticipated.

Clark development must not only protect existing competitive advantages, but also allow the CSEZ base to diversify and evolve in at least the following areas:

- workforce skills and training;
- infrastructure;
- opportunity for career progression;
- innovation;
- reduction of risk;
- ease of transition and earlier return on foreign investment in terms of productivity;
- education and training;
- export and trade;
- environmental assets critical to tourism and national identity;
- higher-value job and revenue generators; and
- development of intellectual property.

Efforts at Clark will foster complementary activities throughout the Philippines to the benefit of the entire country.

Institutional Engagement

Because of Clark's national economic impacts, strategic planning for and implementation of its development must entail engagement at the national level. The vision as well as the organizational and implementation structure must be created to:

- eliminate “winner” and “loser” scenarios;
- establish appropriate revenue- and cost-sharing allocations and mechanisms; and
- emphasize compatible growth and development opportunities beyond the geographic limits of Clark and the Clark-Subic corridor.

The organizational structure must ensure:

- broad stakeholder participation and benefits to ensure participation, and diverse and widespread national “ownership” of the future success of Clark;
- public/private structures to optimize revenue generation and implementation;
- commercial/military cooperative mechanisms to preserve essential military mission priorities while creating the opportunity to reduce operation costs. These include the following:
 - joint use of airfield or related depot maintenance facilities,
 - simultaneous development of policies and processes to facilitate cooperation and responsiveness to emergencies and other contingencies,
 - coordination of centralization and relocation of both commercial and military operations to minimize conflicts and optimize the potential of joint use,
 - appropriate revenue- and cost-sharing mechanisms, and
 - predetermined policies to guide use of joint infrastructure in response to emergencies and other contingencies;

- analysis of consolidation, merger, and colocation of activities and functions to create critical-mass synergies and improve coordination and cost-effectiveness. This includes the following:
 - consideration of relocating and clustering related organizations and activities—such as government administration and military missions—at Clark or other locations, and
 - realization that while geographic separation of entities may raise practical issues, it may assist in continuity of operations and force protection; and
- consideration of both incentives and disincentives to coordinate and focus planning and implementation, using diversified option menus so that these tools are tailored to unique scenarios rather than offer a generic, one-size-fits-all approach.

Attention and priorities must be focused to ensure that policy, planning, construction, and other implementation efforts are not only coordinated, but also evolve on simultaneous and parallel tracks rather than in a linear manner so that elements critical to success do not lag behind other developments and hinder or delay progress. Organizational structures that have achieved success in these areas were discussed in previous sections of this report.

Development of Clark will affect all the Philippines, but the Philippines is not just Clark. Yet Clark is an important national asset and does provide a unique opportunity to expand, develop, and diversify other national assets, such as the skills of the Filipino people, the country's environmental resources, and its unique and vibrant national character. Clark's planning and development must enable even higher-value job and revenue generators to thrive, and preserve and protect Philippine competitive advantages now and into the country's dynamic global future.

Conclusion

AS DETAILED IN THE FOREGOING sections, the panel offers the following conclusions:

- The focus of Clark development should be on establishing a new airport facility of world-class design and character that will serve as the gateway to the Philippines.
- Concurrently, efforts must be directed to improving the ground transport system, including enhanced rail and road access to Clark.
- Development of the districts surrounding the airport within the CSEZ must be undertaken in a coordinated and mutually supporting manner so as to create housing, commercial and industrial uses, as well as educational, recreational, and tourist facilities. This requires planning that involves flexibility, but also consistent goals, guidelines, and principles.
- Management should be implemented through a new, centralized structure that ensures comprehensive oversight and coordinated activity at all levels.
- Financing can be obtained from a mix of sources, including the funds generated through redevelopment of present facilities in Metro Manila from which govern-

ment agencies might be relocated to Clark, as well as public/private ventures, concessions, fees, and rents.

The task will require national commitment, but it is for national betterment. It is also an undertaking that will take many years, which will require a firm policy and organizational structure that will overlap several business and political cycles.

The Philippines is growing economically, improving in all social sectors, and has remarkable potential. The country is at the point of opportunity for undertaking extraordinary change, which can be demonstrated in an aggressive redevelopment of Clark. A comprehensive, well-managed plan for Clark will make an international statement and be a clear step toward an even better future.



About the Panel

James M. DeFrancia

Panel Chair

Aspen, Colorado

DeFrancia is a principal of Lowe Enterprises Inc., a national real estate development company engaged in residential, commercial, and resort development activities, and president of the company's national community development division. He is also president of Weston Capital Corporation, a privately held firm engaged in real estate asset management and development on behalf of private investors, banks, government agencies, and insurance companies.

Earlier, he held several positions with ITT Corp., including president of its Levitt homebuilding subsidiary in Puerto Rico, and was responsible for the restructuring and sale of ITT/Levitt's international land assets. Before joining ITT, he held executive positions with an international investment group in Venezuela. Before his private sector experience, DeFrancia was an officer in the U.S. Navy. Posts included naval headquarters, Saigon; aide to the commanding Rear Admiral NSC, San Diego; Office of the Chief of Naval Operations; and the U.S. embassy, Caracas, Venezuela.

He recently served as the receiver of the Dancing Bear project in Aspen, and is currently the receiver of the Mountain Sage Townhomes in Carbondale and Beaver Run Ranch in Pitkin County, and a managing director for the corporate receiver of Base Village in Snowmass, Colorado. He also served by British court appointment as the receiver and manager of Shanghai Links Executive Community Inc., a British company holding land use rights in China and actively engaged in community development in Shanghai.

DeFrancia is a life trustee of ULI and a director of Wynne/Jackson Inc. He is a past director of the National Associa-

tion of Homebuilders, former Virginia representative to the Southern Growth Policies Board, and a former member of the Metropolitan Washington Airports Authority Board. He was a member of the Defense Department's Marsh Panel, and was appointed by the secretary of defense specifically to contribute residential development expertise in restructuring the housing systems of the U.S. Department of Defense. He was a member of the Housing Advisory Group to the U.S. House Committee on Banking, Finance, and Urban Affairs and has been a guest lecturer/panelist for ULI; the Bank Lending Institute; the Lincoln Institute of Land Policy; the Graduate School of Design, Harvard University; George Mason University; and George Washington University. He is fluent in Spanish and has lectured in that language.

He currently is as an adviser to the secretary of the Navy on maritime strategy in the western Pacific and U.S. Navy energy policy. He has been an adviser on growth and development policies to the governments of Bermuda, Mexico, the Netherlands, the United Kingdom, the United Arab Emirates (Dubai), Saudi Arabia, and the Vatican. He has advised several U.S. cities and the Port Authority of New York and New Jersey. In addition, he has been a contributing writer to publications on urban growth, transportation, and real estate development.

DeFrancia is a graduate of the U.S. Naval Academy with a BS in engineering, and has engaged in executive studies in business and finance at the University of Michigan and the Wharton School. He has also completed strategy and policy courses at the Naval War College. He is a member of the Atlantic Council and the U.S. Naval Institute.

Thomas Eitler

Washington, D.C.

Eitler is vice president of Advisory Services for the Urban Land Institute. He is an urban planner and land use professional with more than 20 years of experience in comprehensive planning, revitalization, historic preservation, transportation systems, infrastructure planning, and sustainable design.

He is an expert on zoning law, municipal codes, urban design, and government operations. He has prepared and conducted dozens of community engagement plans, charrettes, advisory groups, workshops and panels. Eitler has written numerous plans, studies, strategies, articles, and reports on urban planning, design, land economics, public administration, and real estate development. He has participated in more than 40 ULI Advisory Services panels and has managed more than 100 panel assignments since 2006. He has directed urban planning projects in both the public and private sectors in a variety of locations throughout the United States, Europe, and Asia.

Eitler was a principal with Community Planning Associates LLC, a land planning consulting firm based in Washington, D.C. He was director of operations for the Onyx Group, a planning and architecture firm with offices in Virginia, California, and Hawaii. He was a principal planner with a number of local governments in the United States, including chief of long-range planning for Prince William County, Virginia, where he helped establish the county's first urban growth boundary initiative, traditional neighborhood design ordinance, and financial guidance for its impact fee system.

He has a master's degree in urban and environmental planning from the University of Virginia School of Architecture and undergraduate degrees in urban studies, political science, and public administration. He is a member of the American Institute of Certified Planners and the land economics honorary society Lambda Alpha International.

Allen K. Folks

Singapore

Folks is a registered landscape architect and urban designer with experience in urban revitalization and community planning assignments. In 29 years of practice, he has been responsible for a variety of assignments, including preparation of plans for new towns and existing communities, transit-oriented developments, reuse of military bases, design of corporate and civic campuses, and public open-space planning. Folks usually directs teams of engineers, environmental scientists, and economists to solve urban problems that have a creative vision and are economically feasible.

Folks now leads the AECOM Southeast Asia Planning, Design + Development business line. He is based out of Singapore with management responsibility for over 110 staff members in Singapore, Jakarta, Kuala Lumpur, and Manila.

Folks has been involved with the closure of numerous former military bases, including Naval Air Station Alameda, Mare Island Naval Shipyard, Castle Air Force Base, and McClellan Air Force Base, all in California. He was principal-in-charge on several of those assignments, helping the local community develop reuse plans that are market flexible and supportive of the greater community vision. Folks has done multiple assignments at McClellan following the preparation of the reuse plan, helping the developers and local government create specific plans to generate additional employment opportunities and create different types of housing.

He is a member of the American Planning Association and the American Society of Landscape Architects. For ULI, he was the district council chair for Sacramento and has been a member of several national product councils, including most recently the Transit-Oriented Development (TOD) Council. Folks has participated in ten ULI Advisory Services panels to help solve downtown and neighborhood redevelopment issues, including panels in Charlotte and Winston-Salem, North Carolina; Rochester, New York; Jer-

sey City and Trenton, New Jersey; Gardena, Fresno, and Vallejo, California; Mesa, Arizona; and Suffolk, Virginia. He is a graduate of Temple University and the University of Pennsylvania.

Charles Johnson IV

Chicago, Illinois

Johnson is a nationally recognized consultant with over 30 years of experience in convention, sports, hospitality, and general real estate consulting. Before forming Johnson Consulting, he worked for the Chicago-based real estate development firm Stein and Company, which was design builder for the expansion at McCormick Place in Chicago.

He was national director of KPMG Peat Marwick's convention, sports, and leisure consulting practice. He was program manager for the Puerto Rico Convention Center District project in San Juan, Puerto Rico, for four years, guiding that project from an idea to a highly regarded 110-acre urban redevelopment project. He has worked on numerous projects in western New York, including the expansion analysis of the Buffalo Convention Center.

Johnson has worked on more than 600 public assembly and urban development consulting assignments in the United States and abroad. He is a member of ULI and he has served on two Advisory Services panels.

Tom Murphy

Washington, D.C.

Murphy, ULI Canizaro/Klingbeil Families Chair for Urban Development, has been a senior resident fellow at the Urban Land Institute since 2006. A former mayor of Pittsburgh, he joined four other ULI senior resident fellows who specialize in housing, finance, retail, and sustainable development.

His extensive experience in urban revitalization—what drives investment, what ensures long-lasting commitment—has been a key addition to the senior resident fellows' area of expertise. Since January 2006, Murphy

has been ULI's Gulf Coast liaison, helping coordinate with the leadership of New Orleans and the public the rebuilding recommendations made by a ULI Advisory Services panel held shortly after Hurricane Katrina. He also worked on rebuilding strategies with leaders on the Mississippi and Alabama Gulf coasts in the wake of Katrina.

Murphy has served on 16 Advisory Services panels for ULI, including ones in Moscow and Hong Kong, as well as Baltimore, Chicago, and other U.S. cities. He wrote *Building on Innovation*, a ULI report discussing the economic impact universities and hospitals have on local economies and providing detailed strategies to shape a successful 21st-century city based on a private/public/university partnership.

Murphy has represented ULI in a number of cities, from Baton Rouge to Baltimore, helping them shape a revitalization strategy. He is a frequent speaker at ULI gatherings and other events.

Before joining ULI, Murphy served three terms as mayor of Pittsburgh, from January 1994 through December 2005. During that time, he initiated a public/private partnership strategy that leveraged more than \$4.5 billion in economic development in the city. Murphy led efforts to secure and oversee \$1 billion in funding for the development of two professional sports facilities, and a new convention center that is the largest certified green building in the United States. He developed strategic partnerships to transform more than 1,000 acres of blighted, abandoned industrial properties into new commercial, residential, retail, and public uses, and he oversaw the development of more than 25 miles of new riverfront trails and parks.

From 1979 through 1993, Murphy served eight terms in the Pennsylvania House of Representatives. He focused his legislative activities on changing western Pennsylvania's economy from industrial to entrepreneurial, and wrote legislation requiring state pension funds to invest in venture capital firms. In addition, he wrote legislation to create the Ben Franklin Technology Partnership, now over 25 years old, which is dedicated to advancing Pennsylvania's focus

on early-stage startup businesses and the commercialization of cutting-edge technologies.

Murphy served in the Peace Corps in Paraguay from 1970 to 1972. He is a 1993 graduate of the New Mayors Program offered by Harvard University's Kennedy School. He holds a master of science degree in urban studies from Hunter College and a bachelor of science degree in biology and chemistry from John Carroll University.

He is an honorary member of the American Society of Landscape Architects, a board member of Harmony Development Inc. of New Orleans, president of the board of the Wild Waterways Conservancy of Pennsylvania, and a board member of Mountain Lake Inc. of Virginia.

Richard M. Rosan

Washington, D.C.

Rosan is the president of the ULI Foundation, the philanthropic arm of the Urban Land Institute. The ULI Foundation, which has a corpus of more than \$40 million, supports many of the ULI's general research and education activities, as well as local programs offered through ULI's district council network. In addition, the foundation provides endowments for specific activities, including those related to workforce housing, infrastructure, sustainability, and public leadership in land use.

Rosan previously was chief executive officer of ULI Worldwide, serving for more than 17 years as ULI's top executive and as ULI Foundation president. Under Rosan's leadership, ULI experienced a fourfold increase in membership, expanded its global outreach into Europe and Asia, and secured many new funding sources. Rosan broadened ULI's intellectual content through the creation of the senior resident fellows program and the funded centers, which are supported through endowments from the ULI Foundation.

Rosan is an architect and a fellow of the American Institute of Architects. He spent 22 years in New York City in several capacities, including 12 years with the city of New York, concluding with his service as the city's economic development director. Rosan was president of the Real

Estate Board of New York for six years and spent five years in the private development business as a project director for several large New York City development projects.

Randall Yim

Alexandria, Virginia

Yim consults and teaches on a variety of infrastructure design and management, defense, homeland security, government decision making, and other national public policy matters.

As director of the Homeland Security Institute (HSI) from October 2004 to November 2005, he managed a new federally funded research and development center established pursuant to the Homeland Security Act of 2002. HSI is a strategic and independent analysis resource for federal and state agencies, including the Department of Homeland Security and the private and not-for-profit sectors.

Yim was a managing director at the U.S. Government Accountability Office (GAO) in Washington, D.C. He led the National Preparedness division of the Homeland Security and Justice team, serving as the focal point for GAO's multidisciplinary work on homeland defense and national preparedness. He provided expert testimony before Congress and the 9/11 Commission and was a frequent speaker at homeland security conferences and forums.

Yim also was the deputy undersecretary of defense for installations, responsible for oversight and policy guidance for management of the department's military installations worldwide with an annual budget of more than \$30 billion. His responsibilities included overseeing the department's infrastructure budget and policies; directing housing, base closure and reuse, energy, and economic development programs; and directing privatization and competitive sourcing initiatives. He previously was the principal deputy assistant secretary of the U.S. Army for installations, logistics, and environment.

In 2000, Yim received the Senator David Pryor Special Achievement Award for Outstanding Lifetime Achievement and Dedicated Public Service, presented by the National

Association of Installations Developers, for his work on behalf of base closure communities. In 2001, he received the Department of Defense Medal for Distinguished Public Service, the highest civilian award from the secretary of defense. In February 2004, he was profiled in *National Journal*, and *Government Executive* magazine named him one of 100 key government officials and outside experts in homeland security. Active in Asian Pacific–American issues, he served on the working committee supporting President Clinton’s Advisory Commission on Asian American and Pacific Islanders and is a frequent keynote speaker on such topics.

Before his federal public service, Yim worked extensively with state and local governments. He was appointed to the California Military Base Reuse Task Force by the governor of California, advising the governor, state agencies, and local governments on redevelopment of closing military infrastructure. He was an inaugural member and later chair of the Sacramento Environmental Commission. In his private law practice, Yim advised local governments on various topics, including environmental contamination, redevelopment and financing, and military base reuse. Yim took leave from his private law practice to work directly for Sacramento County as deputy director of the county’s newly created Department of Military Base Reuse.

Yim received a bachelor of arts degree in human biology from Stanford University and a doctoral degree in law from the University of Pennsylvania. He also received a graduate certificate in hazardous materials management from the University of California at Davis.

