

*The Economics of Land Use*



## **Final Report**

# **Economic Impacts of the San Diego Unified Port District in 2017**

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San Diego Unified Port District

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# 1. INTRODUCTION AND KEY FINDINGS

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## Introduction

The San Diego Unified Port District (District) retained Economic & Planning Systems (EPS) to prepare an updated economic impact analysis of operations on District property.<sup>1</sup> This study reflects economic activity during calendar year 2017 and relies on a methodological approach that is generally consistent with previous studies of the District. Economic impact estimates rely on EPS analysis of Port leasing and GIS data, interviews with key employers, and consideration of regional economic conditions and trends. As was the case in prior economic impact studies, the results contained in this study reflect a significant level of Port District staff involvement. In assessing the economic impact of the cruise industry and maritime cargo activities, this 2017 update extrapolates data from expert studies conducted in 2015, based on Port-reported cruise ship and cargo volumes.<sup>2,3</sup> The study also provides a review of the District's recent efforts to promote new "Blue Economy" business opportunities in and around San Diego Bay.

The key outputs of this study are quantitative estimates of spending and employment attributable to the District. In addition to capturing the "direct" economic activities supported by the District, the analysis estimates "ripple" or "multiplier" effects. Ripple effects include "indirect" and "induced" spending that stems from economic activity on District property.<sup>4</sup> For example, businesses operating on District land commonly purchase inputs to production from within the County. In addition, household spending by employees whose jobs are attributable to the District is considered.

## Background

The District is a public benefit corporation and regional government agency. It controls about 2,400 acres of land and about 3,500 acres of water spread across its five member city jurisdictions of Chula Vista, Coronado, Imperial Beach, National City, and San Diego. With control of more than 34 of the 54 total miles along the San Diego Bay, the District plays an important

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<sup>1</sup> See prior studies including (1) *Economic Impacts of the San Diego Unified Port District in 2015*, Economic & Planning Systems, December 20, 2016; (2) *Economic Impacts of the San Diego Unified Port District*, Economic & Planning Systems, February 25, 2015; and (3) *San Diego Unified Port District: Economic Impact on San Diego County and the State of California*, Economic & Planning Systems in association with Martin Associates, and BREA, September 9, 2013.

<sup>2</sup> *The Local and Regional Economic Impacts of the Port of San Diego Marine Terminals*, Martin Associates, August 1, 2016.

<sup>3</sup> *Economic Impact Analysis of the San Diego Cruise Sector 2015*, Business Research & Economic Advisors (BREA), June 2016.

<sup>4</sup> See *Overview of Input-Output Methodology* for a detailed description of "indirect" and "induced" effects.

role in administering a unique maritime, visitor-serving, environmental, and recreational asset, while also protecting the Tidelands of San Diego Bay for the people who live, work, and visit there.<sup>5</sup> The bay and its waterfront are essential elements of the San Diego geography, economy, and culture, serving as:

- A strategically located harbor for trade, cruise, and military uses;
- A workplace for marine cargo, shipbuilding and repair, commercial fishing, boat tours and other water-dependent industries;
- An important recreational and environmental asset for urban residents;
- A national and international destination for visitors and convention attendees; and
- A venue for special events, drawing hundreds of thousands of people to the waterfront for the July 4th Big Bay Boom, San Diego Bay Parade of Lights, and the San Diego Summer Pops series, among others.

By virtue of its size and responsibility for administering the scenic, strategic, and economically crucial San Diego bayfront, the District plays an important role in the regional economy and as a provider of recreational opportunities and environmental stewardship. Through the San Diego Harbor Police Department, the District serves as a key public safety agency and partner to local, state and federal entities in the security of San Diego Bay and high-value assets that include maritime cargo terminals, major shipyards, military installations, San Diego International Airport, a convention center, and prominent visitor-serving establishments. To balance competing demands for scarce space along the bayfront, the District must allocate its resources among commerce, industry, navigation, fisheries, tourism, environmental needs, and recreational demands, responding to changing requirements on an ongoing basis.

As part of its effort to understand how the District can best utilize its assets for the benefit of the region, the District retained EPS to analyze the impacts businesses and other entities located within the District's jurisdiction have on the regional economy. The District commissioned similar studies in 2015, 2014, 2013, 2007, 2003, 1999, and 1992.

This study measures jobs and economic activity:

- Originating on District property in 2017
- Categorized into two industry groups:
  - (1) Tourism and Commercial Activity
  - (2) Industrial and Maritime Commerce
- Within the San Diego County economy.

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<sup>5</sup> Current estimates of acreage and shoreline under District control provided to EPS by Port staff.

## Scope of the Analysis

The study analyzes impacts by geographic area for a specific point in time and assesses impacts by type of establishment. The categorization of establishments is consistent with those used in previous Port District analyses. These categories have been continued in this report for comparability.

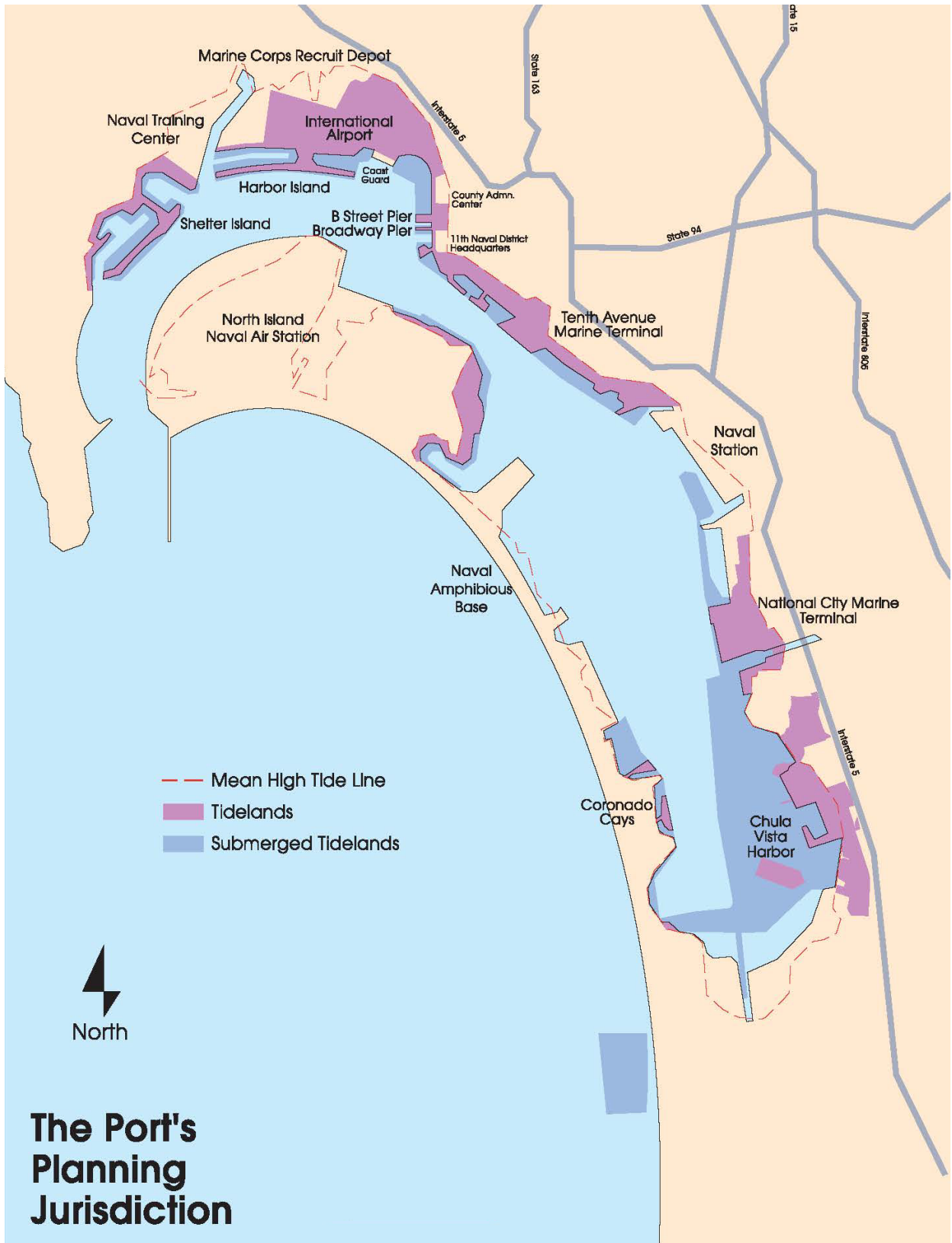
<b>Geographic Area</b>	<b>Figure 1</b> provides a map of the land and water within the District's jurisdiction. The analysis examines all of the economic activity (revenues and jobs) that take place on, or are directly attributable to, land and water areas administered by the District, with the exception of military installations and the San Diego International Airport. <sup>6</sup>
<b>Timeframe</b>	The report focuses on economic activity in 2017, the last complete calendar year for which data was available at the start of the analysis.
<b>Business Categories</b>	Previous District economic analyses have reported results for two categories of establishments: (1) Tourism and Commercial and (2) Industrial and Maritime. The Tourism and Commercial category includes retail, recreation and hospitality establishments, as well as most convention and cruise industry spending. <sup>7</sup> The Industrial and Maritime category includes maritime cargo operations, manufacturing, ship repair, marine terminal and cargo-related firms, and wholesalers.

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<sup>6</sup> As a federal entity, military uses are not subject to local controls. Accordingly, the District has limited influence over economic activities on those lands. Furthermore, the military's role in the regional economy is frequently examined by many sources, including a periodic report called the San Diego Military Economic Impact Study published by the San Diego Military Advisory Council (SDMAC). Also, San Diego International Airport is not part of the analysis as it is governed by the San Diego County Regional Airport Authority, an agency that was created when the airport was separated from the Port District in 2003.

<sup>7</sup> Some cruise industry spending occurring on District land is categorized as Industrial and Maritime, depending on the business type at which the spending occurs.

**Figure 1 San Diego Unified Port District Jurisdiction Map**



Source: Port of San Diego (Note that San Diego International Airport and military establishments are not analyzed in this report.)

## Summary of Methodology

### Economic Impacts Analysis Overview

The core economic impact of the District derives from the economic activities—sales and employment—that occur on District property. The analysis of these activities includes estimates of economic activity at private businesses, public sector entities, and other organizations located on District property. This on-site economic activity and associated employment on District land is a direct effect of the District. In addition, spending by cruise passengers, cruise ship crews, and convention center attendees that occurs off of District property also is a direct effect of the District. These off-site effects are attributable to the cruise ship terminal and the convention center, facilities sited on District property.<sup>8</sup>

The analysis relies on estimates of direct effects of the District to determine the total economic effect countywide. The analysis uses IMPLAN, a highly regarded “Input-Output” model encompassing up-to-date economic information for San Diego County. IMPLAN analysis reveals industry-specific multiplier effects. These effects are categorized as indirect or induced effects.

- **Indirect Effects:** economic impacts on upstream businesses that supply inputs (goods and services) to production.
- **Induced Effects:** economic impacts that are generated by household expenditures made by employees.

### Summary of Tasks

The research effort supporting this report included extensive data collection and analysis. Analytical methods were based on the approach developed in earlier impact analyses (2011, 2013, and 2015). This 2017 analysis relies on updated District data and an updated economic model. The procedures for the analysis are described below.

#### Data Collection

- **Review District data.** The District provided tenant databases, information on gross sales (for tenants operating under leases that require sales reporting), and information about its staffing. In addition, publicly available documents, including the District budget, the Port Master Plan, and statistics on the marine terminals and land use designations provided important background.
- **Conduct tenant research.** In addition to information provided by the District on tenants, EPS reviewed websites of major tenants, business news reporting, and other sources to obtain information about workers, sales, and customers targeted by Port tenants. EPS also conducted a number of phone interviews with major tenants to obtain additional data.

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<sup>8</sup> The analysis avoids double counting of spending on District land by estimating cruise and convention center spending patterns within the region.



- **Assess business data.** EPS reviewed datasets from proprietary business data providers Dun & Bradstreet and InfoUSA. These data provided another source of information on sales and employment.
- **Evaluate economic indicators for the San Diego region.** To provide context for the economic impact information, EPS collected and analyzed selected economic metrics for the region.

#### ***Data Analysis, Integration, and Adjustments***

- **Adjust data to avoid double-counting.** The analysis avoids double-counting of sales (double-counting would occur if the analysis counted a sale twice). For example, counting all of the sales from hotels within the District and counting all of the spending by convention center attendees and cruise passengers would result in a double count of sales (e.g., spending at hotels on District land). This analysis makes deductions accordingly.
- **Integrate marine terminals data.** This analysis utilized the findings from the 2016 stand-alone report focused on the marine terminals (Tenth Avenue and National City Terminals), produced by Martin Associates.<sup>9</sup> The 2017 update estimates economic impacts from the Martin Associates study by adjusting for inflation and applying a growth factor reflective of increased cargo tonnage at the Port's marine terminals in 2017.
- **Account for spending by convention attendees, cruise ship passengers and staff.** The direct effects of the convention center and cruise ship terminal include all spending by visitors and staff. Spending that occurs outside of the District jurisdiction is considered a direct effect. This analysis updates the findings of a 2015 independent study of the cruise market for inflation and cruise passenger volume trends.<sup>10</sup> Convention impacts reflect 2017 data from the San Diego Convention Center Corporation.<sup>11</sup>

#### ***Economic Modeling, Analysis, and Documentation of Findings***

- **Develop and run economic model.** With roughly 600 tenants and subtenants, this task included defining the regional economic model, inputting information into the appropriate industry sectors, running the model, and evaluating results.
- **Draft findings based on review of model results.** This task included documenting the findings on impacts and segmenting results by appropriate industry groupings.
- **Compare results to 2015.** This analysis differs from the previous report in two primary ways: (1) 2017 data is the basis for the impacts and (2) the analysis relies on an updated

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<sup>9</sup> *The Local and Regional Economic Impacts of the Port of San Diego Marine Terminals*, Martin Associates, August 1, 2016.

<sup>10</sup> *Economic Impact of the San Diego Cruise Sector 2015*, Business Research & Economic Advisors (BREA), June 2016.

<sup>11</sup> San Diego Convention Center Corporation FY2017 Annual Report.

regional model (IMPLAN/San Diego County 2016). This updated regional model includes the most current business data and economic multipliers available from IMPLAN.

- **Estimate tax revenue.** To estimate the level of tax revenue generated from establishments within the District, this analysis relies on tenant sales estimates and tax revenue data from the County Assessor's Office, as well as 2015 estimates from the Martin Associates cargo analysis.

## Key Findings

### **1. The District is an important economic driver in the region, directly supporting over 44,300 jobs and nearly \$5.6 billion in economic output in 2017.**

Establishments located on District property are very diverse, with the District's portion of the San Diego bayfront encompassing:

- Cargo terminals and surface transportation infrastructure (roadways and railways) that processed over **1.8 million tons of cargo in 2017**; <sup>12</sup>
- Major industrial users including shipbuilding and boat building and repair facilities such as **National Steel and Shipbuilding Company, BAE Systems Ship Repair, Huntington Ingalls Industries, and Marine Group Boat Works**;
- Cruise ship terminals that are enjoying increased activity, with **88 cruise calls** in 2017, up over 14 percent since 2015; <sup>13</sup>
- Maritime activities ranging from commercial seafood enterprises such as the new **Tuna Harbor Dockside Market** and **Chesapeake Fish** to pleasure and charter boating operators like **Point Loma Sportfishing**, as well as hundreds of associated businesses, including boat dealers, wholesalers, and retail suppliers; and
- Visitor attractions such as the **San Diego Convention Center** and **15 major hotels and resorts offering about 8,000 rooms**, along with visitor-oriented retail, restaurant, and recreation businesses.

These diverse economic activities support a broad range of employment opportunities. Employees at businesses and organizations within the District include manual laborers, machine operators, professional service providers, public servants, hospitality workers, and retail clerks, along with many other occupations found throughout the Industrial & Maritime and Tourism & Commercial industry groups.

### **2. Including multiplier effects, the District supported about 70,000 jobs and almost \$9.4 billion in economic output in San Diego County during 2017.**

In addition to direct effects attributable to the District, indirect and induced spending generated additional employment and sales within the San Diego County economy. These additional economic impacts contribute approximately 26,000 additional jobs and an

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<sup>12</sup> Calendar year 2017 data from the San Diego Unified Port District–Maritime Operations Department.

<sup>13</sup> Port District call numbers by calendar year.

estimated nearly \$3.8 billion in output countywide. Overall, this analysis finds that approximately 1 in 30 San Diego County jobs and more than 2.7 percent of San Diego County economic output is attributable to the District. This study finds that the total economic impact of the District is about 13 percent greater than in 2015. District impacts at different points in time are affected by both the economic activity occurring within the District as well as business linkages, consumer spending patterns, and the makeup of the regional, national, and global economy.

**Figure 2 Economic Impact of the District in San Diego County in 2017**

Impact Type	Industrial & Maritime	Tourism & Commercial	Total
<b>Direct Economic Impacts<sup>1</sup></b>			
Employment (jobs)	13,348	30,989	44,337
Labor Income (millions)	\$830	\$1,161	\$1,991
Labor Income & Benefits Per Job	\$62,205	\$37,451	\$44,903
Economic Output (millions)	\$2,651	\$2,932	\$5,583
<b>Indirect &amp; Induced Impacts</b>			
Employment (jobs)	11,392	14,321	25,713
Labor Income (millions)	\$611	\$741	\$1,352
Economic Output (millions)	\$1,691	\$2,100	\$3,790
<b>Total Economic Impacts</b>			
Employment (jobs)	24,740	45,310	70,050
Labor Income (millions)	\$1,441	\$1,901	\$3,343
Economic Output (millions)	\$4,342	\$5,031	\$9,373

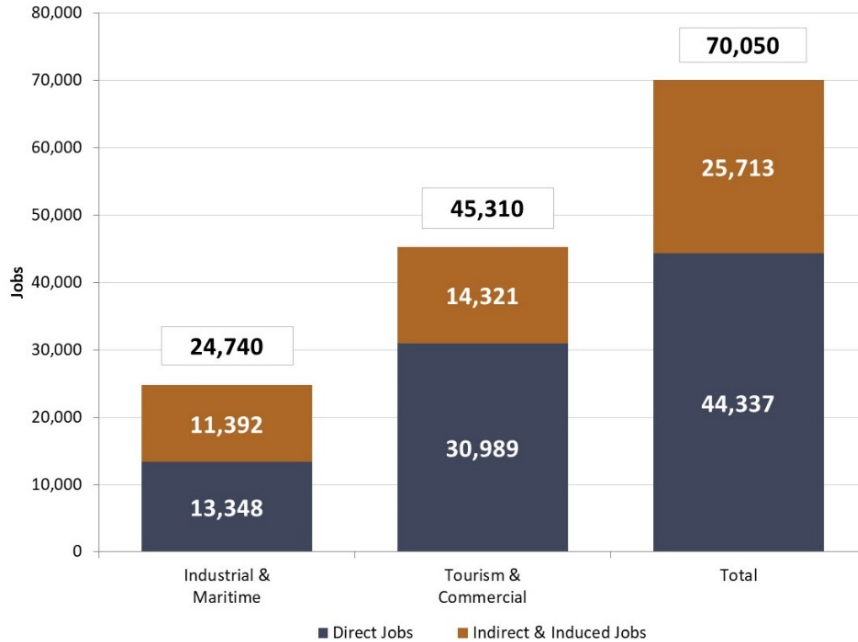
<sup>1</sup> Includes roughly 37,000 on-site jobs and \$4.95 billion in on-site direct output.

Source: Economic & Planning Systems; Port of San Diego; Martin & Associates; Business Research & Economic Advisors; IMPLAN Group

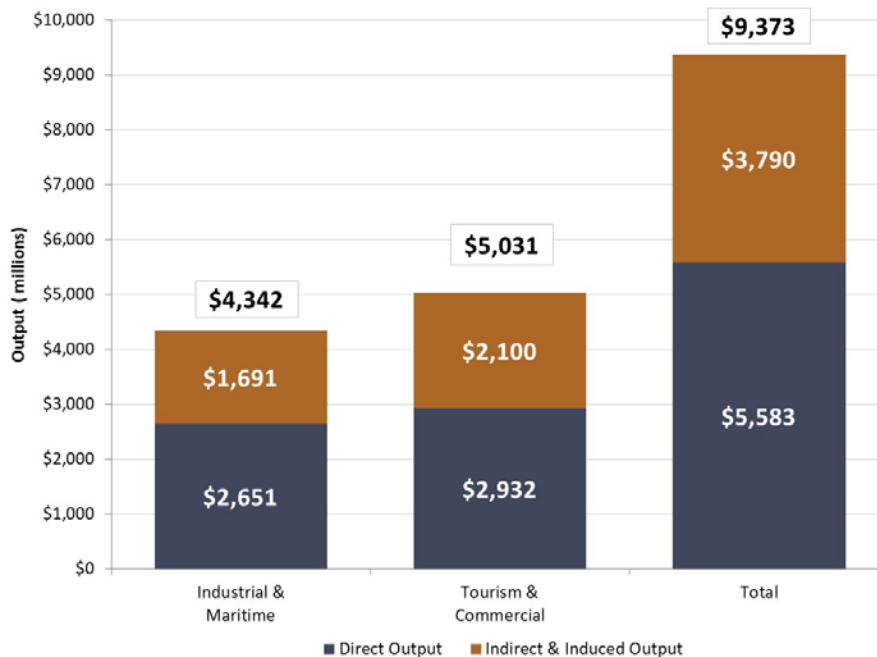
**3. Industrial and maritime commerce is a significant contributor to the District's economic impact, while tourism and commercial activity supports more jobs and economic output.**

Industrial and maritime activities are responsible for about 35 percent of the District's total employment effect and 46 percent of the District's total output effect within San Diego County. Tourism and commercial activity comprise 65 percent of jobs and 54 percent of the output generated countywide.

**Figure 3 Employment Impacts by Industry Group**



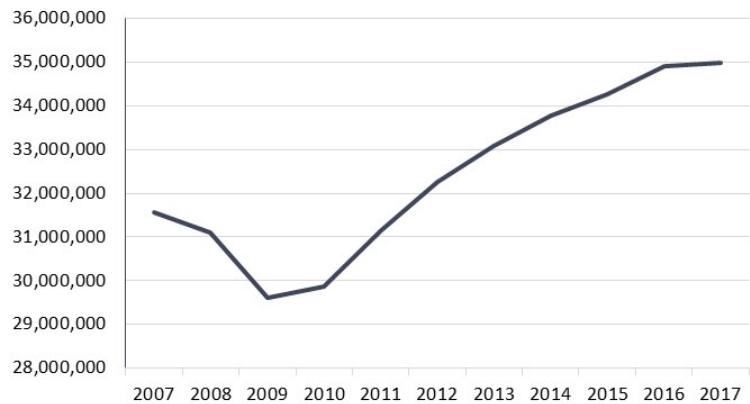
**Figure 4 Economic Output Impacts by Industry Group**



**4. The growth in direct employment attributable to the District increased by about 1.6 percent between 2015 and 2017, while direct economic output increased by 3.7 percent over the same time period.**

Following a strong recovery in the San Diego tourism industry from 2009 through 2016, visitor growth in San Diego County has started to level out over the past year (see **Figure 5** at right). Between 2015 and 2017, the number of visitors to the county increased by approximately two percent. This growth is mirrored by findings in this analysis regarding direct Tourism and Commercial jobs at the District, which are up by more than one percent from 2015 to 2017. At the same time, associated economic output from Tourism and Commercial activity at the District is up about seven percent, suggesting that spending per visitor has been increasing. The businesses contributing to this growth include hotels, recreation businesses, dining establishments, and retail, as well as general commercial activities that occur within the District boundary.

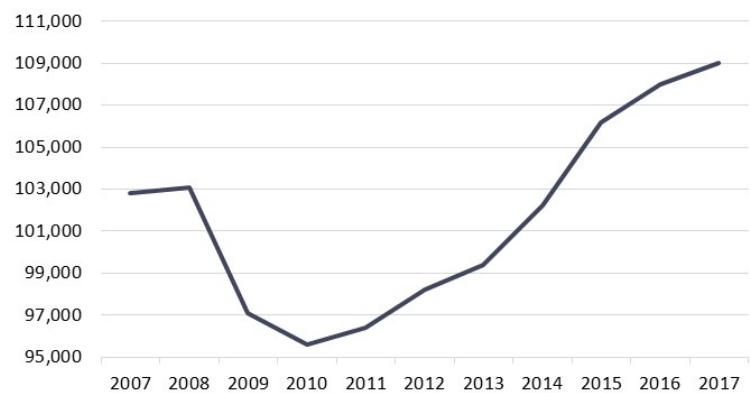
**Figure 5 Visitor Volume in San Diego County 2007-2017**



Source: The San Diego Tourism Authority

While the manufacturing sector in San Diego County has continued its post-recession recovery, growth has slowed somewhat in recent years (see **Figure 6** at right). From 2015 to 2017, manufacturing employment was up about 2.5 percent. This level of growth is matched by the District Maritime and Industrial job growth, which has been about 2.7 percent since 2015. At the same time, economic output from the District's Maritime and Industrial sector at the Port has held steady since 2015. The rising employment and steady output may be a signal that future increases in economic output are on the horizon, as sales catch up with staffing.

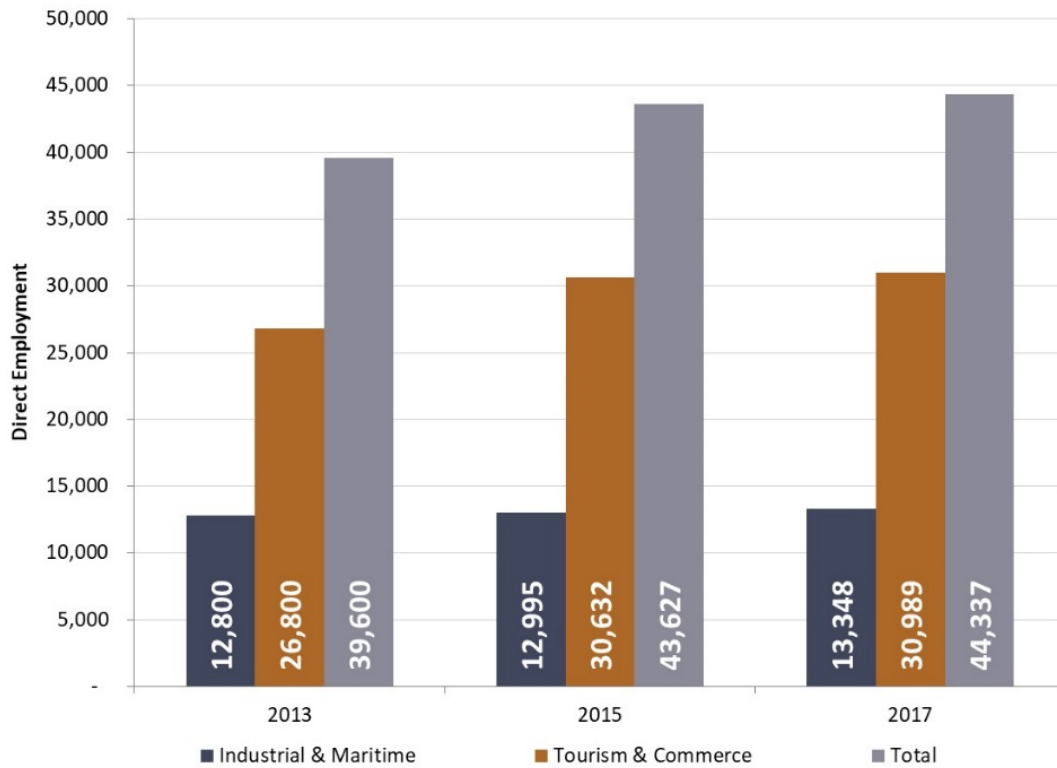
**Figure 6 Manufacturing Employment in San Diego County 2007-2017**



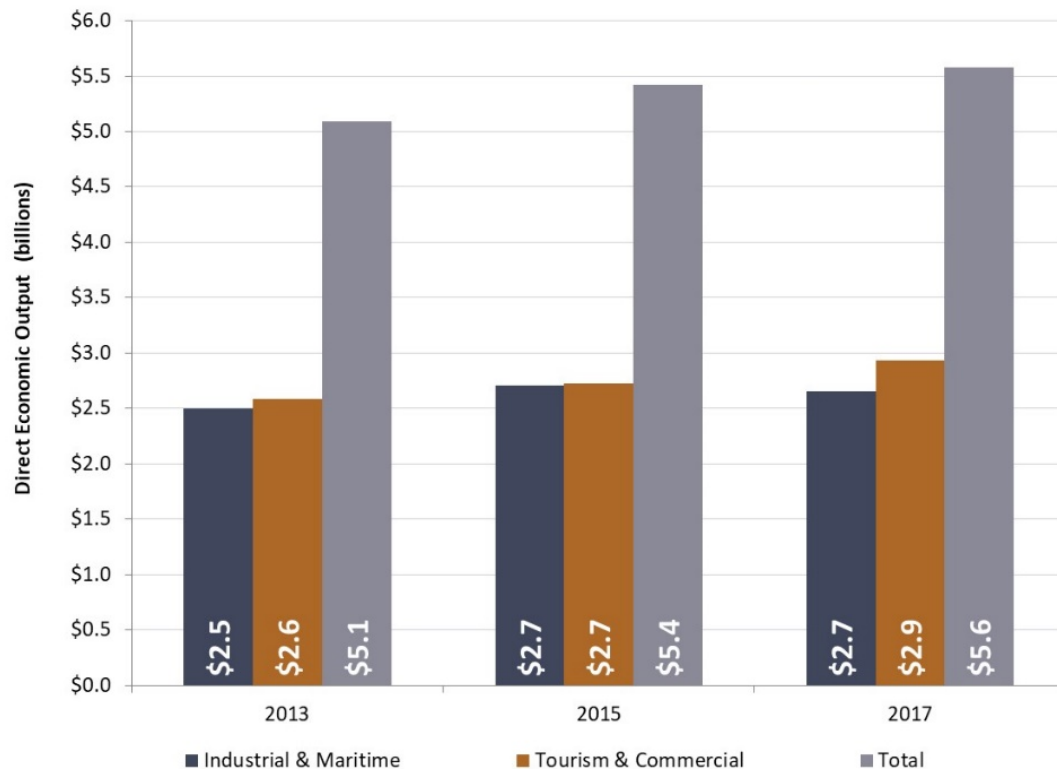
Source: State of California Employment Development Department

Direct employment and economic output attributable to the District in 2013, 2015, and 2017 is shown in **Figure 7** and **Figure 8** on the following page.

**Figure 7 Direct Employment Attributable to the District in 2013, 2015, and 2017**



**Figure 8 Direct Economic Output Attributable to the District in 2013, 2015, and 2017**



**5. *The infrastructure at the San Diego Unified Port District, along with the region's burgeoning scientific community and growing tech economy, have contributed to a growing Blue Economy—economic activity that leverages the ocean and its resources—and have created a unique maritime technology cluster.***

Realizing its location and strategic position within one of the world's leading Blue Economies, the Port of San Diego created a Blue Economy Incubator in 2016 to support entrepreneurship, foster sustainable aquaculture, and help drive port-related "Blue Tech" innovation. The Incubator's goal is to assist in the creation, early development, and scaling of new Blue Economy businesses along the San Diego Bay. The Incubator focuses on developing entrepreneurial innovation partnerships to build a portfolio of Blue Economy businesses that bring environmental and economic benefits to the San Diego Region.

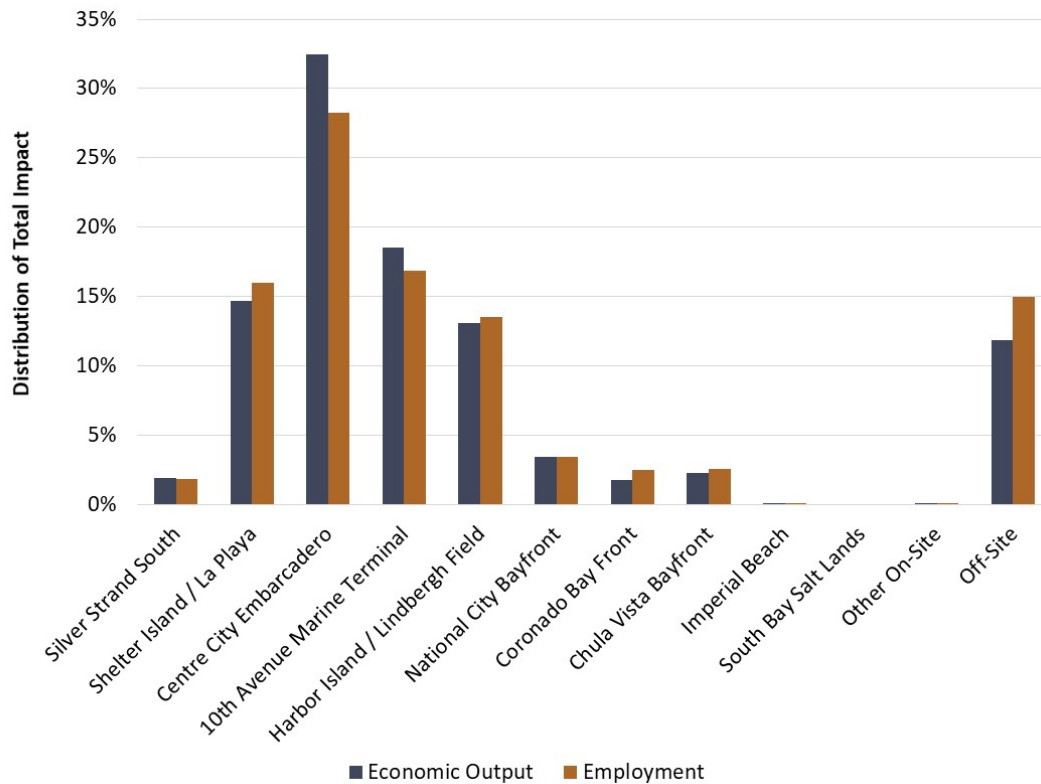
The numerous benefits of business incubators have been demonstrated by technology and green economy incubators around the world, spurring innovation that leads to the creation of new enterprises, new jobs, and potentially entire new industry sectors. Since 2017, the Port has launched eight pilot projects through its Incubator, including shellfish aquaculture operations, copper remediation, vessel washing technology, and smart marina optimization software.

One of the aquaculture projects supported by the Incubator is Sunken Seaweed LLC. Led by two marine ecologists, the aquaculture start-up company will set up a pilot farm where different seaweed species will be grown and monitored for commercial viability. Seaweed is already a multi-billion-dollar industry in the United States, and likely will grow rapidly and substantially in coming years as new uses are found for seaweed—from food and fertilizer to pharmaceuticals and bio-fuel.

**6. *Among the Port's Planning Districts, the Center City Embarcadero District has the most significant contribution to the Port's economic impact, followed by the Tenth Avenue Marine Terminal District.***

The Port divides its area of jurisdiction into ten planning districts, and this analysis estimates the economic impact attributable to each of these districts. The districts can generally be divided into those that are tourist-oriented, those that are residential and recreation-oriented, and those that are oriented around industry and cargo activities. Contributing 32 percent of economic output and 28 percent of jobs, the Center City Embarcadero District has the highest density of commercial and tourist-oriented development within the Port's jurisdiction. The next largest contributor—with 19 percent of economic output and 17 percent of jobs—is the Tenth Avenue Marine Terminal District, which handles refrigerated containers, bulk commodities, and break-bulk cargo, and is the location of Dole Fresh Fruit Company, one of the largest cargo tenants at the Port. **Figure 9** shows the distribution of economic impact by planning district.

**Figure 9 Distribution of Total Economic Impact by Port Planning District**



**7. Estimates of tax revenue generation directly attributable to economic activity within the District jurisdiction indicate that property, sales, hotel, and other taxes totaled more than \$140 million in 2017.**

The analysis considered retail sales estimates and hotel revenue generation to calculate sales taxes and transient occupancy taxes (TOT). EPS also coordinated with the San Diego County Assessor's Office to determine property tax revenues, including possessory interest taxes paid by District tenants. The results indicate that TOT is the most significant source of tax revenue, followed by property tax. When cargo-related state and local tax revenue is included, the tax 2017 revenue estimate exceeds \$140 million.



## 2. PORT DISTRICT OVERVIEW

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### Port District Tidelands and Submerged Lands

The California State Legislature created the San Diego Unified Port District in 1962 to serve as the San Diego Bay tidelands public steward. It is governed by a seven-member Board of Port Commissioners, appointed by the District's constituent cities' elected bodies.<sup>14</sup> The District includes historic tidelands and submerged lands in five member cities: Chula Vista, Coronado, Imperial Beach, National City, and San Diego. The District oversees two marine cargo terminals, two cruise ship terminals, 22 public parks, the Harbor Police Department, and the leases of master tenants all along San Diego Bay. The District is the fourth largest of the 11 ports in the State. See **Figure 1** for a map of the District and its subareas.

While the entire San Diego Bay Tidelands and submerged lands encompass about 4,400 acres of land and 10,500 acres of water, that area is divided among federal, state, local, and District control. Overall, the State of California is the largest owner, with about 43 percent of the total—almost all of which is water—followed by the District which controls 37 percent, and federal agencies with 20 percent. The District controls the largest portion of the land area, with about 2,400 acres, 56 percent of the land total. The District also controls more than 60 percent of the Bay shoreline, with about 34 of the 54 total miles.

The District's nearly 6,000 acres of Tidelands and submerged lands and 34 miles of shoreline are spread among its five member cities. The District's land use activities are guided by a Port Master Plan which was prepared and adopted by the District's Board of Port Commissioners in accordance with the provisions of the California Coastal Act. Initially adopted in 1964 and amended numerous times since, the Plan provides proposed land and water use allocations that "reflect a balanced

The Port is responsible for the development, operation, maintenance, control, regulation, and management of the tidelands and navigable waters of San Diego Bay for the promotion of commerce, navigation, fisheries, and recreation.

- San Diego Unified Port District Compass Strategic Plan 2012-2017

#### Mission Statement

The San Diego Unified Port District will protect the Tidelands Trust resources by providing economic vitality and community benefit through a balanced approach to maritime industry, tourism, water and land recreation, environmental stewardship and public safety.

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<sup>14</sup> The city councils of Chula Vista, Coronado, Imperial Beach and National City appoint one commissioner each and the San Diego City Council appoints three commissioners.

distribution of activities for the entire bay, evolved after considerable consideration of many factors and issues.”<sup>15</sup>

In the Plan, over 40 percent of the District’s land acreage is used for industrial purposes, while about 50 percent of the land is split roughly evenly among conservation (17 percent), commercial (16 percent), and public recreation uses (15 percent). About 10 percent is used for public facilities and military functions.

The vast majority of District water property (62 percent) is designated for conservation (38 percent) or public recreation uses (24 percent). The remaining 38 percent is split primarily among commercial (13 percent) and public facility uses (13 percent). Military and industrial uses make up only about 11 percent of the water acreage total. **Figure 10** presents the overall distribution of land uses within the Port Master Plan. Overall, including land and water areas, conservation is the most significant use, followed by industrial.

**Figure 10 Port Master Plan Land and Water Use Allocation Summary**

Use	Land Acreage		Water Acreage		Total Acreage <sup>1</sup>	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
Commercial	457.9	16%	388.6	13%	846.5	15%
Industrial	1,158.7	42%	212.0	7%	1,370.7	24%
Public Recreation	407.5	15%	681.3	24%	1,088.8	19%
Conservation	485.3	17%	1,084.6	38%	1,569.9	28%
Public Facilities	241.4	9%	387.9	13%	629.3	11%
Military	<u>25.9</u>	<u>1%</u>	<u>125.6</u>	<u>4%</u>	<u>151.5</u>	<u>3%</u>
<b>Total</b>	<b>2,776.7</b>	<b>100%</b>	<b>2,880.0</b>	<b>100%</b>	<b>5,656.7</b>	<b>100%</b>

<sup>1</sup> Total planning acreage differs slightly from District-owned lands presented in the Master Plan

Source: Port Master Plan, Unified Port of San Diego (Print July 2015 )

<sup>15</sup> Port Master Plan

### 3. *THE BLUE ECONOMY*

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#### **Blue Economy in San Diego**

Situated along a vast natural harbor, San Diego is a true maritime city with a rich history as a commercial port and center of international trade. In 2012, San Diego's Blue Economy employed an estimated 46,000 workers, with total revenues estimated at \$14 billion.<sup>16</sup> San Diego's Blue Economy is diverse, with robust traditional industries as well as emerging activities. San Diego's existing port infrastructure, burgeoning scientific community, growing technology economy, and geographic location have all contributed to the region's Blue Economy and have created a unique maritime technology, or Blue Tech cluster. In 2012, approximately 19,000 workers in San Diego worked in Blue Tech.<sup>17</sup>

The strength of the region's Blue Tech cluster is rooted in its history as one of the most technologically advanced naval communities as well as home to one of the top-rated oceanographic institutions in the world, the Scripps Institution of Oceanography. These existing institutions have made San Diego a birthplace of multiple maritime technologies and disciplines and a leader in emerging Blue Economy activities, which has created momentum for further growth and innovation within the Blue Economy.

#### **Port of San Diego Blue Economy Incubator**

The Port of San Diego has always promoted ocean-related enterprises, now referred to in aggregate as the Blue Economy. Shipbuilding and repair, commercial and recreational fishing, and environmental stewardship are just a few examples of the Port of San Diego's Blue Economy sector involvement. As this sector and technology have evolved, so has the role of the Port of San Diego. In 2016, the Port established a Blue Economy Incubator Program to assist in the creation, development, and scaling of new business ventures on San Diego Bay, focusing on aquaculture, or the cultivation of aquatic plants and rearing of aquatic animals for food; and on Blue Tech, particularly the research and development of technology for sustainable ocean use.

The Blue Economy Incubator Program is focused on developing "innovation partnerships" with businesses that can deliver multiple social, environmental, and economic benefits to the Port and the region. The Incubator Program acts as a launching pad for innovative projects by removing barriers to entrepreneurs and providing key assets and services focused on pilot project facilitation. Through the Program, the Port of San Diego seeks innovative Blue Tech proposals to inform and help address present and future Port challenges, from environmental compliance to security. By funding pilot projects, the Port of San Diego is promoting the development of early-stage, pre-commercial Blue Tech innovations and fostering sustainable aquaculture, and ultimately helping drive the creation of new blue jobs.

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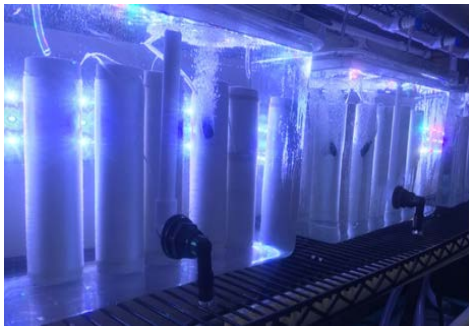
<sup>16</sup> ERISS Corporation.

<sup>17</sup> Ibid.

Although Blue Tech already represents a significant share of San Diego's Blue Economy, pioneering technologies forwarded by fledgling enterprises often require business guidance and investment. The Blue Economy Incubator Program seeks to foster nascent but innovative ventures. The Program receives and reviews aquaculture and Blue Tech business plans, explores opportunities for pilot projects to transform ideas into action, and provides the space to test new solutions in a real-time marine environment. The Incubator Program committed \$1 million per year for the first five years to support early-stage and market-ready ventures. Thus far, the Port of San Diego has responded to over 80 inquiries regarding the Incubator Program and has received 25 official proposals for review through the Incubator Program's competitive selection process.

Through an extensive cross-departmental effort, the Port of San Diego has launched six pilot projects through its Blue Economy Incubator Program. The Port made its first round of investments in June 2017, entering into agreements with four business entities for pilot projects that will receive a total of \$756,000 in Port funding. These first four pilot projects are shellfish aquaculture facilities, copper contaminate remediation technology, an innovative vessel washing system, and cutting-edge software that promotes efficiency in marina management to maximize the use of available vessel slips and streamline reservations. In 2018—as of this writing—the Port had approved two additional projects: a custom-made debris-removing vessel that also gathers data vital to determining key variables in debris accumulation in San Diego Bay and a sustainable seaweed aquaculture operation. The following case studies profile some of the Incubator investments.

### ***Sustainable Aquaculture***



San Diego Bay Aquaculture, which was part of the first round of selected pilot projects, is demonstrating an accelerated, year-round oyster nursery operation. The company uses a custom aluminum barge with a built-in FLUPSY, or Floating Upweller System, that allows bay water to flow into baskets holding seed oysters, bringing the oysters nutrients and food. The system, which is designed to also incubate other shellfish such as clams and scallops, can be adaptable to open waters as well as other ports. In warmer southern California waters, oysters

can grow from the seed stage to the nursery stage in approximately three months, a process that would take about twelve months in colder waters. San Diego Bay Aquaculture expects to grow a million oysters at a time, selling their nursery-stage oysters to oyster farms in Northern California or the Pacific Northwest, significantly speeding up the process to produce marketable oysters.

The Port's second aquaculture incubator project is a one-year pilot project with Sunken Seaweed LLC. The agreement invests up to \$137,000 and allows use of Port-owned property and/or equipment in exchange for royalties on future revenue in connection with



Sunken Seaweed operations, related equipment and services, and other considerations. Led by two marine ecologists, the aquaculture start-up company will set up a pilot farm where different seaweed species will be grown and monitored for commercial viability. Seaweed is already a multi-billion-dollar industry in the United States, and is expected to grow rapidly and substantially in coming years as new uses are found for seaweed—from food and fertilizer to pharmaceuticals and bio-fuel. For example, the owners of Sunken Seaweed also cite success with local chefs who are supportive of using seaweed in their restaurants.

### ***Seawater Copper Reduction and Remediation***

Cleaning seawater and waterways has become an important goal of coastal communities. The Port of San Diego has been exploring ways in which Blue Tech can reduce pollution in San Diego Bay. San Diego has been addressing copper pollution in its harbor since 2005, but the Incubator's recent support of two companies to develop and demonstrate their solutions for reducing copper pollution is a boon to these environmental efforts.

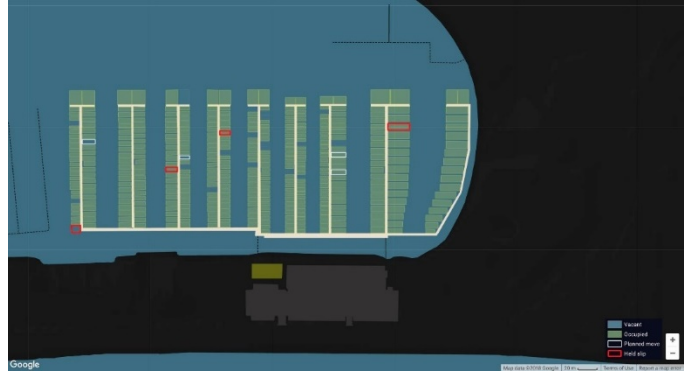


San Diego-based Red Lion Chem Tech, Inc. has developed technology to remove soluble copper in seawater through active and passive filtration systems. In addition, Retunder Boatwash, a company based in Sweden, is piloting its Drive-in Boatwash Technology, which is a new approach for in-water vessel hull cleaning, to help reduce copper particulates released into the bay. These two projects are the Incubator's initial pilot projects, and demonstrate the potential for various entities to tackle a single problem such as copper pollution through a collective multi-pronged solution.

### ***Improving Marina Management***

Marine spatial planning and management is becoming increasingly important as demand for coastal space rises. The Incubator has chosen a pilot project with Swell Advantage, a Canadian company that develops software technology and smart phone applications to automate and optimize the management of marinas and improve revenues. Swell Advantage aims to revolutionize customer service management by empowering marina staff with tools to engage customers with real-time information, allowing for enhanced community management with transparency for waitlists and move requests, efficiently organized member services, transient management and increased member engagement.

Swell Advantage also seeks to provide advanced management support by streamlining and simplifying complex marina management systems. Its software equips managers with timely information and data to help them make better decisions, increase accountability, and increase transparency while promoting a happier, healthier community of boaters. Swell Advantage also helps managers identify missed



revenue, reduce operational costs, and provide personalized customer experiences, which increases revenues from existing services while opening up new channels of revenue. Technology-based management solutions such as Swell Advantage not only create jobs and improve customer experiences, but they also have the potential to help maximize the utilization of premium marine space.

### **Future of San Diego's Blue Economy**

Going forward, San Diego's Blue Economy will continue to benefit from growing traditional and emerging maritime activities. Within this context, regional partnerships (e.g., San Diego's Maritime Alliance) will remain critical to increasing opportunities for economic development within the Blue Economy. And while recent policy and economic development efforts have emphasized emerging Blue Tech activities, future efforts also will promote traditional waterfront businesses and industries. Pursuing technological advances and changes that make all maritime industries stronger and better benefits everyone—workers, businesses, citizens.

The Port of San Diego's Blue Economy Incubator is a good example of a program that builds on the region's history of ocean-related research and development and its existing institutions. The Scripps Institution of Oceanography, NOAA, and UC San Diego are leaders in such research and development and provide an extensive network of local intellectual capital and industry talent. The numerous benefits of business incubators have been demonstrated by technology and green economy incubators around the world, spurring innovation that leads to the creation of new enterprises, new jobs, and potentially entirely new industry sectors. Further, the multiplier effect for innovation-related economic activity may be higher than is typical, creating potential economic for vast economic benefits from the Blue Tech Economy in San Diego.

The Blue Economy Incubator is playing an important role in promoting San Diego as a center for Blue Economy innovation, fostering the growth of local companies as well as attracting the attention and talent of companies from around the world. While the region already hosts a strong Blue Economy Sector, the Port's Incubator has the potential to cement the region a leader in Blue Tech. As Port Commissioner Rafael Castellanos wrote in a San Diego Union Tribune op-ed, "If we're successful, then just like the Santa Clara Valley came to be known as the Silicon Valley, perhaps one day the San Diego Bay will come to be known as the Blue Technology Bay."

## 4. *ECONOMIC IMPACTS METHODOLOGY*

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This chapter defines economic impacts, discusses the analysis methodology, details a selection of the major District users, and provides a detailed report of the results of the economic analysis. Information on tax revenues is provided in the next chapter.

### **Description of Economic Impacts**

The core economic impact of the Port District derives from the economic activities—sales, employment, and operating expenditures (purchases of goods and services)—that occur on District property. The analysis of these activities includes estimates of on-site employment and/or sales (revenues) of businesses, not-for-profit organizations, and public sector entities. In addition, spending associated with ocean cruises and convention center events, which both depend critically on District facilities, is a direct effect attributable to the District. Together, these economic activities constitute the direct effect of the District.

Beyond quantifying the District's direct effect, the next step in estimating economic impacts is accounting for the "ripple" or "multiplier" effects that result from the direct effects. The ripple effects are categorized as indirect or induced effects. Indirect effects are economic impacts on upstream businesses that supply inputs (goods and services) to production. Induced effects are economic impacts that are generated by the consumption expenditures of employees whose jobs are directly attributable to the District. In this analysis direct, indirect, and induced effects are defined as follows:

- The **Direct Effect** is the initial economic impact that is attributable to the District, including revenues and employment supported by business establishments located within the District and other first-round spending that would not occur but for the District (i.e., off-site direct effects from spending by cruise- and convention center-related visitors occurring off of District property).
- The **Indirect Effect** is a measure of the economic impacts generated by "upstream" industry-to-industry transactions that supply inputs to the production of goods and services consumed by businesses and other economic activities attributable to the District.
- The **Induced Effect** is a measure of the economic impacts generated when employees from the direct and indirect effects spend their labor income.
- The **Total Impact** is the sum of the direct, indirect, and induced effects. The total impact measures the overall impact of District activities on the San Diego County economy.

This report measures economic impact using common economic metrics, including employment, labor income, and output as defined below.

- **Employment** measures the number of jobs, a count that includes part-time and full-time workers.

- **Labor Income** represents the payments to labor in the form of both wages or salaries and benefits paid by the employer (e.g., health, retirement benefits). It also includes proprietor income.
- **Economic Output** is equivalent to sales or revenues achieved by businesses and other employment entities.

## **Data Collection and Analysis**

The goal of the data collection process was to quantify the direct impacts by assembling information on the number of employees and/or the revenue generated by business establishments located on Port Tidelands. The study also collected and analyzed expenditure data to quantify the economic impact of 1) business expenditures by cruise lines, 2) cruise passengers and crew expenditures, and 3) expenditures by visitors and organizers of events at the San Diego Convention Center.

## **Overview of Input-Output Methodology**

Input-Output (I/O) analysis is premised on the concept that industries in a geographic region are interdependent in the sense that they purchase outputs from and supply inputs to other industries within and outside the region. For example, consider the implications of an operating expenditure by a hotel establishment. Hotels purchase goods from producers, who in turn purchase goods and services from suppliers. Thus, an increase/decrease in the demand for hotel services will stimulate an increase/decrease in output and employment in the interdependent secondary industries.

Regional economic impact analysis and I/O models in particular provide a means to quantify economic effects stemming from a particular industry or economic activity. Specifically, I/O models produce quantitative estimates of the magnitude of regional economic activity resulting from some initial activity (e.g., hotel or manufacturing operations). I/O models rely on economic multipliers that mathematically represent the relationship between the initial change in one sector of the economy and the effect of that change on economic output, employment, and income in other industries. These economic data provide a quantitative estimate of the magnitude of shifts in jobs and revenues within a regional or state economy.

This study uses the IMPLAN model to analyze economic impacts generated by economic activities attributable to the San Diego Unified Port District in the San Diego Economy. IMPLAN (Impact Analysis for Planning) software is an I/O modeling system licensed by IMPLAN Group, LLC that utilizes data collected from several state and federal agencies, including the Bureau of Economic Analysis, Bureau of Labor Statistics, and the Census Bureau. The model is widely used in the United States for estimating economic impacts across a wide array of industries and economic settings.



## 5. ANALYSIS OF DIRECT ECONOMIC ACTIVITY

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The analysis reflects data concerning five key facets of economic activity that are attributable to the District:

- Port Tenants (excluding cargo-related businesses)
- Marine Cargo Terminals
- Cruise Terminal
- San Diego Convention Center
- Public Sector

**Figure 11** summarizes the direct effect of each of the District's primary economic contributors. The following narrative provides an overview of each of these economic drivers.

**Figure 11 Summary of Direct Effects by Economic Activity**

Economic Activity	Economic Output (millions)	Employment
District Tenants	\$4,543	34,946
Marine Cargo	\$245	1,649
Cruise Terminal*	\$46	463
Convention Center*	\$586	6,682
Public Sector	\$163	597
<b>Total</b>	<b>\$5,583</b>	<b>44,337</b>

\* Additional impacts above those captured by District tenants.

### District Tenants

Port tenants include a great diversity of businesses and organizations. Significant industrial users include shipbuilders and boat repair companies, as well as turbine manufacturers. Notable firms include National Steel and Shipbuilding Company and BAE Systems. The cruise ship terminals located on District land supported 88 cruise calls and passenger throughput of about 244,000 passengers in 2017. Additionally, maritime activities ranging from commercial seafood enterprises such as Santa Monica Seafood to pleasure and charter boating operators like Point Loma Sportfishing, as well as hundreds of associated businesses, including boat dealers, repair services, wholesalers, and retail suppliers operate on District land. Further, visitor-serving businesses including numerous hotels and resorts offer about 8,000 rooms, and visitor-oriented retail, restaurants, and recreation businesses also are located within the Port's jurisdiction. This

analysis estimates direct economic output and employment associated with District tenants, excluding cargo-related tenants, at roughly \$4.5 billion and 35,000 jobs.

### **Marine Cargo Terminals**

The Port has two marine cargo terminals, Tenth Avenue and National City, which processed over 1.8 million tons of cargo in 2017 including automobiles, agricultural commodities, lumber, and wind energy components. Four key economic sectors are involved in providing cargo and vessel handling services at the Port:

- Surface transportation sector
- Maritime services sector
- Shippers/consignees using the Port
- Maritime Operations Department of the Port of San Diego

The marine cargo terminals are key conduits for commodities important to many industries in San Diego and beyond. Major cargo-related tenants include Dole Fresh Fruit and Pasha Automotive (global logistics). Containerized fruit distribution occurs by truck, with deliveries to grocery retailers throughout California and as far east as the Rocky Mountain region. Steel is used locally in shipbuilding as well as trucked into northern Mexico. Petroleum is distributed from the Tenth Avenue Marine Terminal by pipeline and by barge. Overall, this analysis estimates that these marine terminal activities support about \$245 million in direct economic output and 1,650 direct jobs (excluding District employment and spending).

While not quantified by this study, the cargo terminals also serve as one of 17 Strategic Ports in the United States under an agreement with the Department of Defense administered by the Department of Transportation. These facilities provide the port infrastructure and services to support the deployment of US military equipment and vehicles in support of training exercises and during times of national emergency.

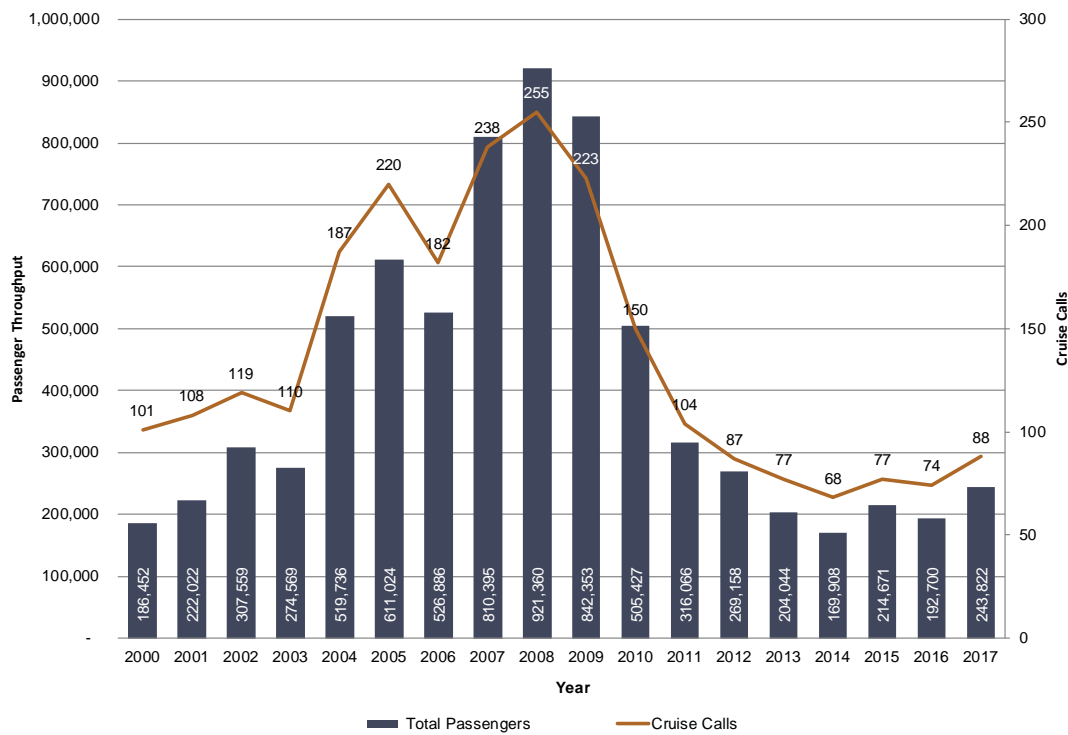
### **San Diego Convention Center (SDCC)**

The San Diego Convention Center (SDCC) operates a world-class venue for hosting major conventions, trade shows, meetings and special events. According to its annual report for fiscal year 2017, SDCC hosted 149 events attracting attendance of nearly 899,000. The operations of SDCC as well as visitor expenditure (which include attendees, exhibitors and event organizers) generate significant economic impacts in the County's economy. This analysis considered 2017 expenditures by attendees, which included local outlays associated with event costs (exhibitors and event organizers), as reported by the SDCC. Based on these data, this analysis estimates the direct effect of the SDCC at approximately \$586 million in spending and nearly 6,700 jobs, in addition to the spending and jobs at businesses on District land. Despite increasing attendance, economic impacts attributable to the SDCC are lower in 2017 than 2015 due to a 12.5 percent decline in average spending per attendee.

## Cruise Industry

The Port of San Diego receives cruise ships at the B Street Cruise Terminal and Broadway Pier locations. Cruise ships making calls in San Diego are still down from a high in 2008. However, 2014 appears to have been a cyclical low for the cruise industry. While there was another small dip in 2016, 2017 had the highest number of cruise calls since 2012, and throughput increased by over 20,000 passengers since 2015 (see **Figure 12**). In addition to passenger spending, the cruise industry generates economic impacts in San Diego County from expenditures made by cruise lines and ship crews. This analysis estimates that in addition to economic impacts enjoyed by District tenants, the cruise activity within the District directly supports \$46 million in economic output and roughly 460 jobs in San Diego County.

**Figure 12 San Diego Cruise Passengers and Cruise Calls 2000-2017**



Source: Business Research & Economic Advisors and Port of San Diego

## Public Sector

Direct public sector activity within the District primarily is composed of the employment and revenue of the San Diego Unified Port District itself. This analysis also includes the Coronado Municipal Golf Course as a public sector economic activity located within the Tidelands. While the District leases significant land holdings to a number of public sector entities (e.g., local jurisdictions, San Diego County, State of California), the majority of the leases with public entities are for easements, parks, and rights of way. Including District operations and the golf course, this analysis estimates that \$163 million in economic output and 597 jobs are directly attributable to public sector activities within the District jurisdiction.

## **Economic Impact by Port Planning Districts**

This section below provides an overview of each of the Port's planning districts and their estimated economic impacts. **Figure 13** provides a map of the districts as defined by the Port. The districts include the following:

- Silver Strand South
- Shelter Island/La Playa
- Centre City Embarcadero
- 10th Avenue Marine Terminal
- Harbor Island/Lindbergh Field
- National City Bayfront
- Coronado Bayfront
- Chula Vista Bayfront
- Imperial Beach
- South Bay Salt Lands

The economic impact analysis also includes estimates of impact attributable to the Port of San Diego but occurring outside of tideland areas in San Diego County, including cruise ship and convention-related spending.

### **District Subarea Profiles**

- 1. Silver Strand South:** This portion of Coronado—separated from the Coronado Bayfront by the Navy Amphibious Base—is occupied by a residential community with the Port-administered portion of the area largely consisting of commercial recreational uses (marinas), public parks, and other recreation uses.
- 2. Shelter Island/La Playa:** Tenants in this district include hotels, restaurants, marinas, car rental agencies, commercial sport fishing, and other tourist-oriented entities like boat tours.
- 3. Centre City Embarcadero:** This district contains some of the densest uses in the District:
  - Miles of scenic pedestrian promenades
  - High-rise hotels with marina space
  - Cruise, boat excursion, and ferryboat facilities on and adjacent to the B Street and Broadway piers
  - The USS Midway Museum
  - Tuna Harbor with commercial fishing, new Tuna Harbor Dockside Market and restaurant
  - Seaport Village and The Headquarters, centers for specialty shopping and dining
  - The San Diego Convention Center
  - Popular waterfront parks and open space
- 4. Tenth Avenue Marine Terminal:** Tenth Avenue Marine Terminal (TAMT) is a 96-acre omni-terminal that handles refrigerated containers, bulk commodities, and break-bulk cargo. Dole Fresh Fruit imports nearly 100 million bananas per month through this terminal. Bananas and other fresh fruit are distributed from TAMT to stores between San Diego and the Canadian

border, and east to the Rockies. Free flowing bulk products handled at TAMT include bauxite, cement products, soda ash, and fertilizers used in the local construction industry. Break-bulk cargo such as steel and large finished products used in shipbuilding, windmill components, and turbines are handled in the open areas of the terminal. Liquid fuel tanks provide storage and distribution for petroleum products to San Diego International Airport, as well as ocean-going ships, tug boats and other vessels. TAMT is also the homeport facility for the National Oceanic and Atmospheric Administration's (NOAA) research vessel, Reuben Lasker, and includes three shipyards on San Diego Bay.

- 5. Harbor Island/Lindbergh Field:** Like Shelter Island, this district contains a number of tourist-oriented entities. It also includes the San Diego International Airport, also known as Lindbergh Field. However, as the airport administration is controlled by the San Diego County Regional Airport Authority and not the Port District, economic impacts associated specifically with the airport are not included in this analysis.
- 6. National City Bayfront:** This district includes National City Marine Terminal (NCMT), the Port of San Diego's roll-on/roll-off terminal, operated by Pasha Automotive Services. NCMT processes automobiles and other rolling vehicles for import and export, including approximately one out of every 10 imported new cars sold in the United States, as well as lumber for Southern California from the Pacific Northwest. Pasha Hawaii Transport Lines also moves automobiles, household goods, and other specialty cargo on bi-weekly vessel service between Hawaii and NCMT.
- 7. Coronado Bayfront:** The Port-administered areas of the Coronado Bayfront contain hotels and a specialty retail facility with restaurants, piers, and public parks.
- 8. Chula Vista Bayfront:** This district is developed with parks, boat ramps, a recreational vehicle (RV) park, marinas, a boatyard, and a re-created wildlife habitat island.
- 9. Imperial Beach:** This district contains largely recreation-oriented development, including the Imperial Beach Pier on the Pacific Ocean, Portwood Pier Plaza, restaurants, and retail stores.
- 10. South Bay Salt Lands:** This district contains salt ponds and undeveloped land along the southern edge of the Port's jurisdiction. There are no structures present within the district boundaries.

Figure 13 Map of Port District's Planning Districts



Source: Port of San Diego and EPS

There are additional areas within the Port District's boundaries that are not directly controlled by the District, and therefore not included in the economic analysis. These include:

- **San Diego International Airport:** The San Diego County Regional Airport Authority was created in 2003 to manage the operations of the Airport. As the airport administration is controlled by another entity, economic impacts associated with the airport are not included in the Report.
- **Military Areas:** While most of the military uses along the waterfront are located on federal land (not District land), a small amount of District land (about 26 acres) is used by the US Navy. Given the size and economic importance of the military presence in San Diego, many analyses have examined the economic contribution of this sector. The military uses on District property are not included in this analysis.

**Figure 14** shows the estimated direct and total economic impacts of each planning district, including economic output and number of jobs. The City Centre Embarcadero District has the largest economic impact, followed by the 10th Avenue Marine Terminal District. This aligns with the high intensity of development and activity in these districts, as commercial and cargo centers, respectively. Two of the other tourist-oriented districts—the Shelter Island/La Playa District and Harbor Island/Lindbergh Field District—also contribute significantly to the Port's economic impact.

Districts which contribute relatively less to the Port's economic impact are primarily those that are less developed with commercial uses, and thus do not generate significant economic activity. The analysis also shows no economic impact from the South Bay Salt Lands District, which is due to the fact that that District only contains salt ponds. No businesses are physically located there and accordingly no economic activity is attributed to this location.

**Figure 14 Economic Impact of the District in San Diego County in 2017 by Geography**

Impact Type	Economic Output		Employment	
	\$ (millions)	Distribution	Jobs	Distribution
<b>Direct Economic Impacts</b>				
Silver Strand South	\$113	2%	841	2%
Shelter Island / La Playa	\$778	14%	7,148	16%
Centre City Embarcadero	\$1,926	34%	12,315	28%
10 <sup>th</sup> Avenue Marine Terminal	\$1,031	18%	6,961	16%
Harbor Island / Lindbergh Field*	\$697	12%	5,921	13%
National City Bayfront	\$184	3%	1,492	3%
Coronado Bay Front	\$96	2%	1,268	3%
Chula Vista Bayfront	\$124	2%	1,230	3%
Imperial Beach	\$1	0%	15	0%
South Bay Salt Lands	-	-	-	-
Other On-Site	\$0	0%	2	0%
Off-Site	<u>\$632</u>	<u>11%</u>	<u>7,145</u>	<u>16%</u>
Total	\$5,583	100%	44,337	100%
<b>Total Economic Impacts</b>				
Silver Strand South	\$180	2%	1,302	2%
Shelter Island / La Playa	\$1,372	15%	11,209	16%
Centre City Embarcadero	\$3,043	32%	19,790	28%
10 <sup>th</sup> Avenue Marine Terminal	\$1,738	19%	11,802	17%
Harbor Island / Lindbergh Field	\$1,225	13%	9,463	14%
National City Bayfront	\$322	3%	2,420	3%
Coronado Bay Front	\$167	2%	1,746	2%
Chula Vista Bayfront	\$209	2%	1,799	3%
Imperial Beach	\$2	0%	20	0%
South Bay Salt Lands	-	-	-	-
Other On-Site	\$1	0%	3	0%
Off-Site	<u>\$1,113</u>	<u>12%</u>	<u>10,497</u>	<u>15%</u>
Total	\$9,373	100%	70,050	100%

\*Does not include economic impacts from San Diego International Airport

Source: Economic & Planning Systems; Port of San Diego; Martin & Associates; Business Research & Economic Advisors; IMPLAN Group



## 6. TAX REVENUE EFFECTS

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In addition to consideration of the economic benefits of the District, this analysis also estimates the fiscal revenues generated by District properties located within each of the member jurisdictions. This 2017 analysis relies on District tenant sales data to estimate sales tax and transient occupancy tax, and San Diego County Assessor data to estimate property tax revenue. The estimates are considered conservative as they do not reflect business-to-business sales and use tax, other business taxes (e.g., business license tax), or in most cases taxes paid by employees (e.g., income tax, property tax, sales tax).<sup>18</sup> Since the scope of the analysis is focused on economic activity directly tied to District land, the evaluation of taxes focused on those revenues most closely-related to the Tidelands.

To generate property tax estimates, the analysis closely examines possessory interest taxes. EPS corresponded with the County Assessor's office to determine total assessed value and property tax rates for each Tax Rate Area within the District jurisdiction. The results indicate that possessory interest taxes associated with tenant operations on Port land are significant for the County and local government entities. **Figure 15** summarizes 2017 tax revenues calculated by this analysis, including possessory interest tax revenue.

Overall, the analysis finds that 2017 tax revenue attributable to the District is in excess of \$110 million, excluding cargo business activity. With cargo-related activity and associated tax revenue (based on estimates by Martin Associates), the total tax revenue attributable to the District is greater than \$140 million. As shown in **Figure 16**, this tax revenue estimate represents an increase of about \$10 million, or 8 percent, over tax revenue attributable to the District in 2015.

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<sup>18</sup> Note that tax estimates associated with District cargo activities (prepared by Martin Associates) do include business and personal income tax.

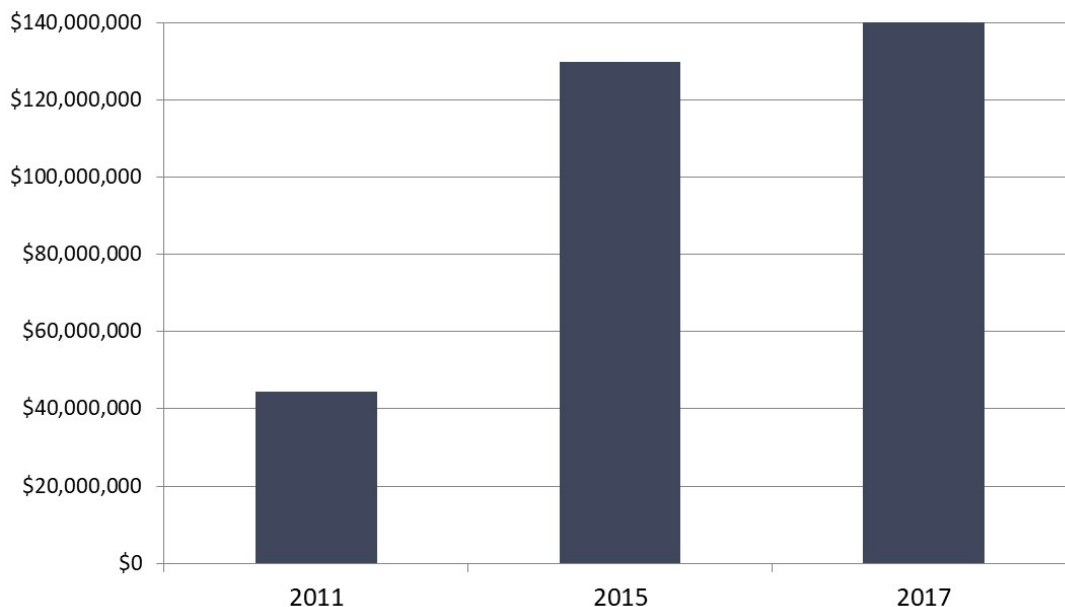
**Figure 15 Summary of 2017 Tax Revenues from District Tenants<sup>19</sup>**

City	Property Tax	Sales Tax <sup>1</sup>	Transient Occupancy Tax	Total
San Diego	\$38,852,000	\$8,503,000	\$51,940,000	\$99,295,000
Chula Vista	\$375,000	\$449,000	\$313,000	\$1,137,000
Coronado	\$2,186,000	\$719,000	\$5,470,000	\$8,375,000
Imperial Beach	\$1,000	\$11,000	\$0	\$12,000
National City	<u>\$1,396,000</u>	<u>\$168,000</u>	<u>\$0</u>	<u>\$1,564,000</u>
<b>Total</b>	<b>\$42,809,000</b>	<b>\$9,850,000</b>	<b>\$57,724,000</b>	<b>\$110,383,000</b>
<b>Marine Terminal-Related State and Local Taxes<sup>2</sup></b>				<b>\$30,000,000</b>
<b>Grand Total</b>				<b>\$140,383,000</b>

<sup>1</sup> Sales tax estimates do not consider potential business-to-business tax revenue.

<sup>2</sup> State and local income tax burdens attributable to cargo activity, rounded (Martin Associates 2016)

**Figure 16 Tax Revenue Estimate Comparisons**



<sup>19</sup> Table excludes nearly \$30 million in state and local tax effects attributable to Cargo activity reported by Martin Associates 2015.