

# Port of Long Beach Community Grants Program



Port of **LONG BEACH**  
*The Green Port*





# **Port of Long Beach Community Grants Program and Investment Plan**

**July 2016**





## Port Community Grants Program and Investment Plan

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## **PART I: PROGRAM BACKGROUND**

### **Introduction**

The Port of Long Beach (Port) is the nation's second busiest seaport and a vital economic engine for the city of Long Beach and the region. This economic vitality, however, comes at a cost to the local community, which bears the brunt of impacts associated with Port-related diesel equipment, traffic, noise, and water runoff. Over the last decade, the Port has been a leader in addressing its environmental and public health impacts through such groundbreaking efforts as the Clean Air Action Plan (CAAP) and Water Resources Action Plan (WRAP), which contain some of the most aggressive and innovative pollution-reduction strategies. The Port's success is evident. Since 2005, Port-related air pollution is down 85 percent, and the harbor is home to a thriving array of plant and animal life.

The Port recognizes, however, that even these cutting-edge and aggressive mitigation efforts cannot fully address the effects of Port-related operations on neighboring communities. In 2009, the Port launched its Community Mitigation Grant Programs to address cumulative air and health impacts arising from new development projects, such as the Middle Harbor Redevelopment Project and the Gerald Desmond Bridge Replacement Project. These two projects set aside \$17.4 million to be spent on community-based mitigation projects, such as air filters, new windows and doors, asthma education programs, energy-efficiency projects, and trees. Additional development projects have contributed \$788,270 to the mitigation programs. Since establishing the programs, the Port has funded nearly 120 community-based mitigation projects.

Despite this progress, the community continues to experience the impacts associated with operations at the Port. Moreover, these impacts are not limited to air quality and public health. In addition to diesel emissions, the community experiences heavily trafficked roads, noisy freeways, and contaminated stormwater runoff, all of which affects quality of life, particularly for those living closest to the Port and major goods movement thoroughfares.

To alleviate these impacts, this Community Grants Program (CGP) will support projects aimed at reducing the inherent conflict of operating a major seaport near homes, schools, and parks. The CGP will fund projects outside the Harbor District, in the neighborhoods and corridors where these impacts are most acutely felt. It builds upon the success of the Port's mitigation grant programs but provides additional funding for community programs and capital projects with long-lasting neighborhood benefits.

The investment plan for the CGP provides guidance for spending mitigation funds in order to most effectively address community impacts while conforming to the public trust doctrine, a state requirement that stringently governs the use of Port dollars.

#### *Public Trust Doctrine*

The Port is limited by the public trust doctrine on how and where its public trust revenues are spent. Within the confines of these limitations, the California State Lands Commission (CSLC) has advised the Port that trust revenues can be used to mitigate Port impacts to the surrounding community, over and above mitigation required by a law such as the California Environmental Quality Act (CEQA), if certain conditions are met. Those conditions are that a study has verified that (1) Port operations are

responsible for the impacts being mitigated, (2) there is a nexus between the impacts and the proposed mitigation, and (3) the proposed mitigation is proportional to the impacts. In addition to these three requirements, the trust grantee must ensure that the proposed mitigation is consistent with the public trust doctrine and the grantee’s overall management responsibilities for the granted public lands.

In compliance with this guidance, the Port completed a Community Impact Study (CIS) in 2016 to identify its community impacts in the areas of air quality, traffic, noise, and water quality. The CIS identified the scope of impacts, the Port’s share of the impacts, and potential mitigation strategies. Separately, the Port has calculated costs associated with its share of the impacts. Those calculations are set forth in detail in the monetization plan in the appendix. Together the CIS and the monetization plan serve to establish the base funding level for the CGP in the amount of \$46.4 million.

Coupled with the previous Community Mitigation Grant Programs, the total amount of the Port’s community investment since 2009 is detailed below.

**Port of Long Beach Community Mitigation Investments**  
*(as of June 2016)*

	Amount
<b>Development Projects (CEQA)</b>	
Middle Harbor <sup>1</sup>	\$15,000,000
Gerald Desmond <sup>1</sup>	\$2,400,000
Eagle Rock Aggregate Terminal <sup>2</sup>	\$429,000
Mitsubishi Cement Terminal <sup>2</sup>	\$333,720
Pier S Channel Improvements <sup>2</sup>	\$26,000
<b>Community Impact Study</b>	
Mitigation Monetization	\$46,400,000
<b>Total</b>	<b>\$64,588,720</b>

This CGP and Investment Plan set forth the framework within which the Port will manage the CGP and identifies overarching goals, focus areas, priority zones, and program administration components.

*Continued Commitment to Other Port Plans*

The CGP is designed to address current community conditions associated with Port-related operations. The Port recognizes, however, that the best way to relieve impacts on the community is to tackle pollution at the source. That is, the Port must continue to invest in environmental programs and strategies that reduce air emissions, water contaminants, noise, and traffic. The Port will continue to pursue aggressive emission-reduction and water improvement strategies under the CAAP and WRAP respectively and minimize other community impacts through thoughtful planning and regional efforts. The CGP will by no means replace – nor will this funding supplant – the dollars needed to reduce the source of impacts. The Port remains committed to its ongoing environmental programs in addition to the CGP.

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<sup>1</sup> Funds have been approved and expended.

<sup>2</sup> Funds have been approved but not yet awarded.

## Community Impacts

The CIS identified the following impacts on the community as a result of Port-related operations:

### *Air Quality*

- Port-related operations have a direct impact on criteria pollutant emissions in the community. In 2014, there were 7,807 tons of Port-related NOX emissions (4.2% of the region), 164 tons of PM10 (0.3% of the region), and 153 tons of PM2.5 (0.6% of the region).
- Port-related operations have a direct impact on GHG emissions. There were 774,714 metric tons of Port-related GHGs in 2014, representing roughly 2% of the state's GHG emissions for the transportation sector.
- Pollutants common to Port operations, such as DPM, have been linked to health effects, including cancer, asthma, cardiopulmonary conditions, and premature death. Port models have found that population-weighted cancer risk associated with operations at the Port of Long Beach and Port of Los Angeles averages 66 in a million, rising to an average of 143 in a million for residents living within approximately 1.25 miles of the ports and major goods movement routes.
- Due to limitations in the modeling available, it is not possible to quantify the Port of Long Beach's contribution to these health risks separately from the Port of Los Angeles and other air pollution sources near the Port area.

### *Traffic and Mobility*

- The majority of the cargo that travels through the Port is containerized and is moved by truck over the roadway network to warehouses, railyards, and other destinations within the surrounding area. While traffic congestion can be a sign of a healthy economy, excessive congestion can have negative effects such as loss of productivity, loss of personal time, stress, excess fuel usage, air pollution, and noise.
- There are about 24,150 daily Port-related truck trips, representing 0.06% of total trips in the Southern California region.
- The area experiencing the most significant Port traffic impact, referred to in this study as the Affected Region, has the highest concentration of Port truck volume and the highest proportion of Port trucks. The Affected Region encompasses areas within about 10 miles of the Port.
- The Affected Region represents approximately 27% of the total Port-related VMT. There are 371,939 daily VMT associated with Port-related trucks, equating to 102,283,225 VMT in the Affected Region over the course of a year.

### *Noise*

- Noise from Port-related trucks exceeds 65 dBA Ldn (a common threshold for excessive noise) at land uses directly adjacent to many of the roadways in the Affected Region.
- The contribution of Port-related trucks to overall traffic noise levels generally decreases with distance from the Port. Locations where Port trucks make a perceptible or noticeable increase to the overall traffic noise levels are generally located within about 5 miles of the Port. This result corresponds to the fact that the relative proportion of Port trucks is reduced beyond that point as the trucks spread out into the wider transportation network and mix with non-Port traffic from progressively more sources.
- Noise increases generated by Port-related truck traffic are generally modest in terms of human perceptibility.

### *Water Quality*

- The Port comprises roughly 3,200 acres out of the 1,060,400 acres of watershed discharging into San Pedro Bay, which is considered an “impaired water body” affecting the community’s full enjoyment of harbor waters.
- The Port’s contribution to the total stormwater discharge volume to San Pedro Bay is less than 1% (i.e., 0.51%).

More details about these impacts can be found in the CIS.

### **Future Impacts**

The CIS evaluated the Port’s current impacts on the community. Future impacts related to development projects will be captured in environmental documents required under CEQA. Projects that cause significant adverse environmental impacts as compared to existing conditions are required to mitigate those impacts, and if those impacts cannot be mitigated sufficiently, project applicants may need to contribute dollars to the CGP in accordance with the methodologies identified in the appendix. In short, the CGP addresses existing conditions, and the CEQA process addresses future impacts. With this two-pronged approach, the Port aims to mitigate its community impacts now and into the future.

## **PART II: INVESTMENT FRAMEWORK**

### **Purpose**

The CGP is designed to fund projects outside the Harbor District that mitigate the Port-related impacts identified in the CIS. The program is funded with a \$46.4 million contribution based on the community impacts identified in the CIS. Over time, funds may be added to the program through the CEQA process as a result of impacts on the community from new development projects. The program is intended to provide long-term funding for community-based mitigation and will continue until all funds are exhausted.

### **Investment Goals**

CGP investments are guided by three major goals. These goals are consistent with the Port's previous mitigation grant programs as well as guidance received from the CSLC.

*(1) Reduce Port-Related Community Impacts*

The primary purpose of the CGP is to mitigate the negative effects of port operations on the community. Projects funded by the CGP must reduce direct port-related impacts on air quality, traffic, noise, and water quality. Projects with the best mitigation potential for the largest number of residents will receive the highest consideration.

*(2) Benefit Areas Most Impacted by Port Operations*

As identified in the CIS, port operations are often felt far and wide; however, the most significant impacts are felt closest to the Port. These residents experience the heaviest burden of port impacts and deserve priority for mitigation. The Priority Zone outlined later in this section reflects the Port's intent to benefit neighborhoods most impacted by port operations in alignment with the findings of the CIS and CSLC guidance.

*(3) Maximize Co-Benefits*

To maximize the use of Port dollars, CGP investments prioritize mitigation projects that address multiple impacts, for example, a park that buffers noise, provides trees to capture greenhouse gases, and manages stormwater runoff. Such projects have co-benefits, thus ensuring the best use of Port funds and maximal benefits for the community.

### **Focus Areas**

As identified in the CIS, Port-related operations have adverse effects on air quality, traffic, noise, and water quality. Port revenues, pursuant to the public trust doctrine, can be spent only on direct mitigation of Port-related impacts; the CIS identified those mitigation strategies. Thus, in alignment with the findings of the CIS and CSLC guidance, CGP investments will target the following focus areas and projects, and only those projects listed below will be eligible for funding. More details on these mitigation projects, including technical specifications and allowable costs, will be provided in the Program Guidelines, which are described in more detail in Part III.

#### *Air Quality*

Air quality mitigation projects must (1) reduce exposure to or alleviate the health impacts associated with port-related air pollution, or (2) reduce, avoid, or capture greenhouse gas emissions.

Eligible projects include facility improvements, such as air filters, HVAC upgrades, new doors and windows to prevent intrusion of outside air; parks and open space to buffer residents from sources of ongoing air pollution; health programs to reduce impacts associated with asthma and other respiratory and cardiopulmonary ailments; trees and landscaping to reduce greenhouse gases; energy efficiency upgrades; electric transportation; and renewable energy projects, such as solar panels.

### *Traffic and Mobility*

Traffic mitigation projects must reduce the effects of congestion, which in turn mitigates the effects of Port-related truck volumes, by encouraging other transportation modalities, such as bicycling and walking. Eligible projects include bicycling and pedestrian infrastructure (new or extended bike lanes and sidewalks, pedestrian signals and overcrossings) and traffic-calming measures (pedestrian-scale lighting, raised crosswalks, crossing lights, and streetscaping). Due to safety considerations, such projects are not appropriate for designated truck routes or major arterials with high volumes of heavy-duty trucks. Rather, these projects should take place along roadways and in neighborhoods better suited for alternative modes of transportation.

### *Noise*

Noise mitigation projects must reduce exposure to port-related noise. Eligible projects include air filters, HVAC upgrades, sound insulation, and sealed doors and windows to block out noise; parks and open space to buffer residents from port-related noise sources; and noise barriers, such as soundwalls and noise berms.

### *Water Quality*

Water projects must reduce port-related impacts on San Pedro Bay waters or improve the water quality of San Pedro Bay by furthering attainment of water quality standards and promoting the beneficial uses enjoyed by the community. Eligible projects include those for multi-benefit regional projects, stormwater infiltration or retention, stormwater capture or reuse, or stormwater treatment. Due to physical constraints within the Harbor District, many of these projects will need to take place upstream from San Pedro Bay.

## Community Mitigation Program Focus Areas

### Air Quality

*Projects must reduce the exposure to or health impacts associated with port-related air pollution, or reduce, avoid, or capture greenhouse gas emissions.*

- Doors and/or windows replacement
- Air filters and HVAC
- Buffer parks and open space
- Trees and landscaping
- Health programs
- Energy efficiency upgrades
- Renewable energy projects
- Electric transportation

### Traffic and Mobility

*Projects must reduce the effects of congestion by encouraging other transportation modalities, such as bicycling and walking.*

- Bicycling infrastructure
- Pedestrian infrastructure
- Traffic-calming measures

### Noise

*Projects must reduce the exposure to port-related noise.*

- Doors and/or windows with seals
- Air filters and HVAC
- Sound insulation
- Noise barriers – soundwalls, noise berms
- Buffer parks

### Water Quality

*Projects must reduce port-related impacts on San Pedro Bay waters or improve the quality of harbor waters.*

- Multi-benefit regional projects
- Stormwater infiltration or retention
- Stormwater capture or reuse
- Stormwater treatment

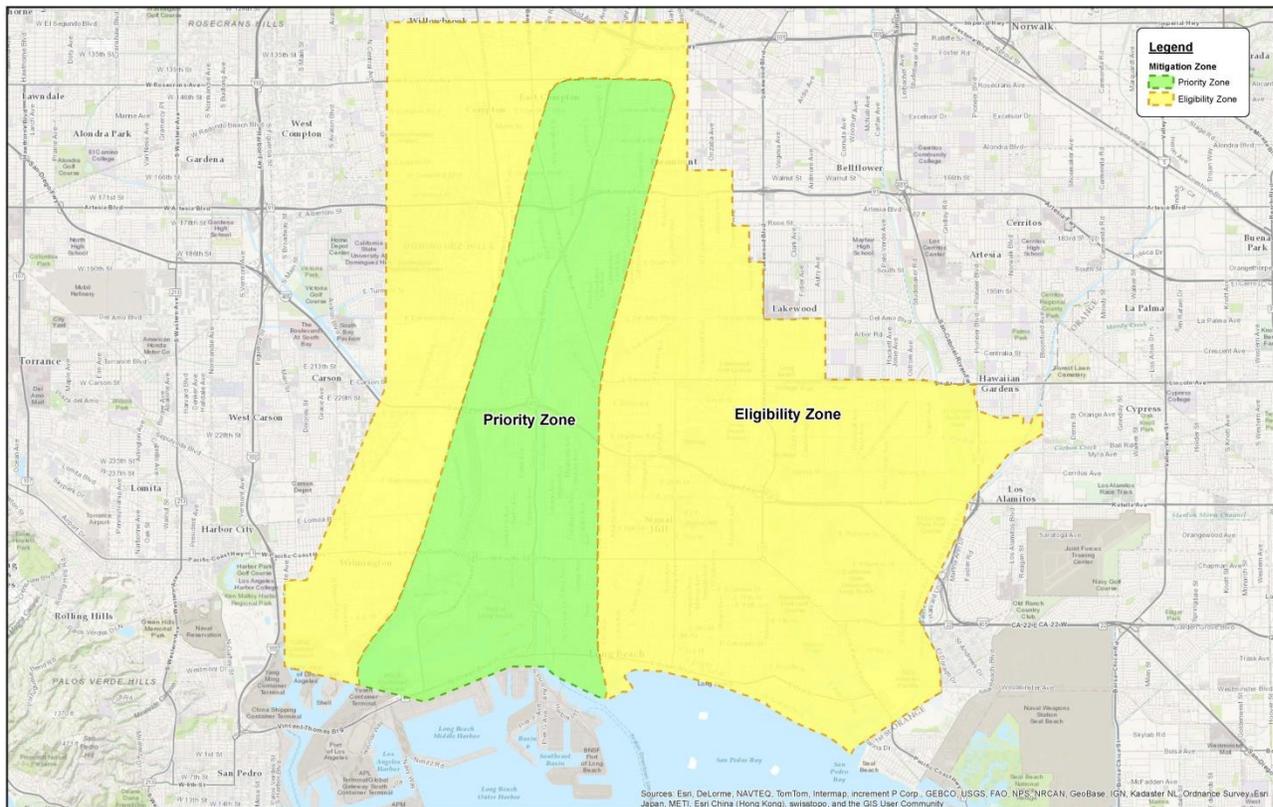
## Priority Zone

The Port has developed a priority funding zone to direct CGP investments to the areas most affected by Port-related operations. The zones displayed below are an interpolation of the geographic impacts identified in the CIS.

The “Eligibility Zone,” or “EZ,” is the area in which significant Port impacts have been identified. It includes the “Affected Region” defined in the CIS for traffic and noise impacts and extends east to incorporate health risk and greenhouse gas emissions as well as portions of the Los Angeles River and Nearshore Watersheds, which discharge into San Pedro Bay. At minimum, mitigation projects must take place within the EZ.

The “Priority Zone” is a subset of the EZ and is the area experiencing the highest community impact from Port-related operations. This zone has the highest health risk, proportion and volume of Port-related trucks, and Port-related noise levels, and it includes the Port’s direct stormwater drainage into San Pedro Bay. It is the Port’s intent to invest a majority of mitigation dollars into the Priority Zone; as such, projects in this zone will receive the highest consideration during the evaluation process.

## Mitigation Priority Zone



## Priority Populations

In addition to the geographic priority zone, the Port shall prioritize CGP expenditures on mitigation projects that benefit “sensitive populations,” that is, populations that are most affected by poor air quality, traffic, noise, and water pollution. As defined in the CIS, these populations include:

- Children
- Pregnant women
- Senior citizens
- Chronically ill
- Individuals with respiratory and cardiopulmonary disorders and illnesses

Facilities serving these populations include:

- Schools
- Day care centers
- Youth facilities and/or recreation centers primarily serving children
- Hospitals and health clinics
- Skilled nursing facilities
- Assisted living centers

Through the project evaluation process, the Port will give priority to mitigation projects serving these populations; for some mitigation projects, as described in the forthcoming section and detailed in the program guidelines, serving these populations is a minimum eligibility requirement.

## **PART III: PROGRAM ADMINISTRATION**

### **Funding Programs**

CGP funds are directed into three programs: (1) Community Health, (2) Facility Improvements, and (3) Community Infrastructure. Each funding program will have its own set of detailed guidelines that will be approved by the Board of Harbor Commissioners and will align with the CGP investment goals and public trust doctrine. The Program Guidelines will provide more information on the eligible mitigation projects, including performance requirements and technical specifications; applicant eligibility; allowable costs; application requirements; performance expectations; and scoring criteria.

The funding programs are described below.

#### *Community Health*

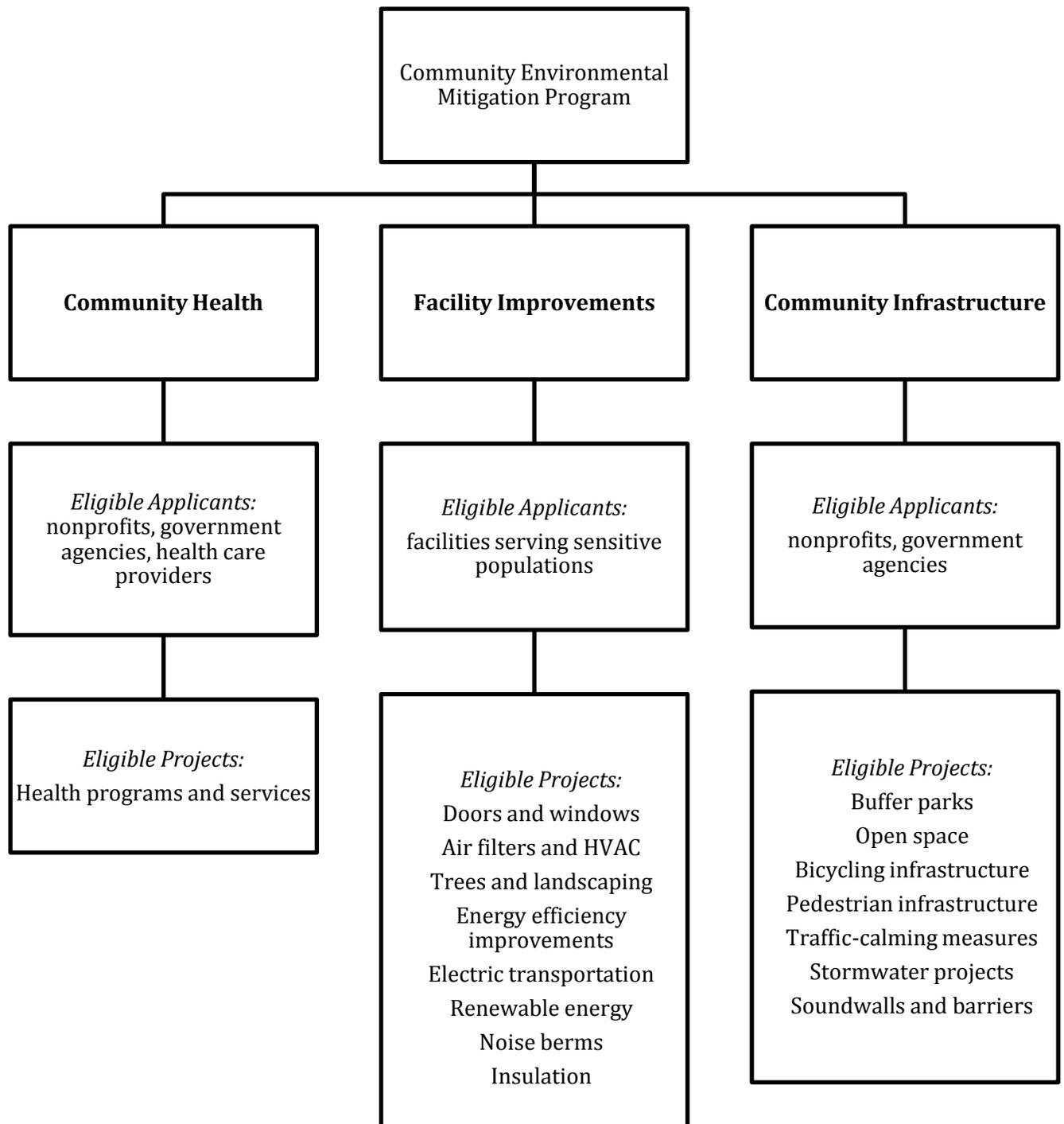
This program funds health projects and services designed to reduce the risks associated with asthma and other respiratory and/or cardiopulmonary ailments. Eligible applicants include nonprofit organizations, government agencies, and health care providers, such as hospitals and clinics.

#### *Facility Improvements*

This program funds upgrades at facilities serving sensitive populations. These upgrades include air filters, HVAC improvements, window and door replacements, sound insulation, noise barriers, landscaping and trees, energy efficiency upgrades, electric transportation, and renewable energy projects. Eligible applicants include nonprofit organizations, government agencies, and health facilities. These facilities must primarily serve children, pregnant women, senior citizens, or those with respiratory/ cardiopulmonary ailments.

#### *Community Infrastructure*

This program funds infrastructure projects that enhance access to various transportation modalities, such as bicycling and walking; minimize residential air and noise impacts; and address stormwater runoff. These projects include buffer parks, open space, bicycling infrastructure, pedestrian improvements, stormwater projects, and sound barriers. Eligible applicants include nonprofit organizations and government agencies.



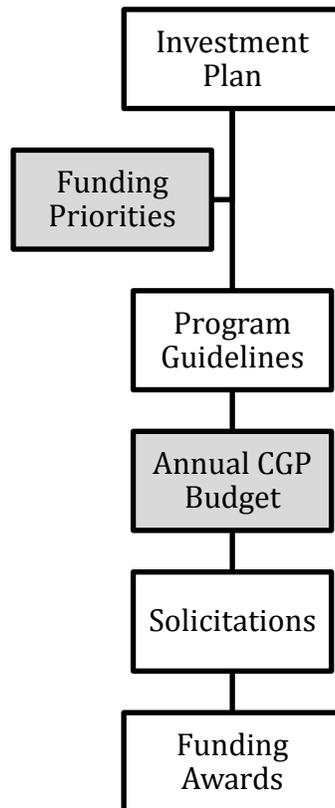
## Allocation of Funds

The CGP is intended to provide long-term stable funding for community-based mitigation. Funds are expected to be apportioned over the next 12-15 years at roughly \$3-4 million per year. Depending on budgetary conditions or mitigation needs, the Board of Harbor Commissioners, at its discretion, may choose in a given year to increase or decrease this allotment.

Following approval of the CGP and Investment Plan, the Port shall identify long-range priorities for expending community mitigation funds over the duration of the CGP. The process would define overarching funding priorities developed with extensive community input and would establish guidance for the Board in allocating dollars effectively and in the areas most in need of mitigation.

Additionally, as part of the yearly budget process, the Board shall approve a CGP budget for the coming fiscal year. The budget would contain a solicitation schedule and proposed allocations in alignment with the Investment Plan, Program Guidelines, and long-range funding priorities.

### Community Grants Program Framework



## Solicitation and Selection Process

Funds shall be awarded through a competitive grant process. Following approval of the CGP annual budget, the Port shall issue solicitations (i.e., Requests for Proposals, or RFPs) pursuant to the plan. Solicitations may be narrow in scope. For example, the Port may request proposals for a specific type of project and/or may target a specific facility type or population in alignment with the Investment Plan and Program Guidelines. Proposals will be evaluated based on quantitative and qualitative criteria

described in each program’s respective guidelines. All funding awards will be approved by the Board of Harbor Commissioners.

#### *Community Grants Advisory Committee*

As part of the selection process, the Port staff will work with an advisory committee composed of various stakeholders, including community members appointed by the Mayor of Long Beach.

The Community Grants Advisory Committee’s role is to advise Port staff on CGP administration by

- providing input on funding program guidelines and solicitations
- providing input on the annual CGP budget
- reviewing and evaluating grant applications
- making recommendations to Port staff on funding awards
- participating in community outreach efforts to support the direction of the grant programs

## **Evaluation Criteria**

To maximize community benefits and to ensure the most judicious expenditure of public trust funds as identified by the investment goals in Part II, the Port intends to fund meaningful, direct mitigation projects in the neighborhoods most impacted by Port-related operations. To identify those projects, the Port will prioritize CGP proposals based on the criteria described below. Program Guidelines and funding solicitations will contain more details on the criteria, including actual points allotted.

#### *Priority Zone*

To ensure that Port dollars benefit those most affected by Port operations, the Port will prioritize mitigation projects based on the Priority Zone identified in Part II. At minimum, projects must serve populations within the EZ, Eligibility Zone.

#### *Cost-Effectiveness*

The Port intends to favor projects that benefit the largest number of residents at the least cost. For this reason, the Port will evaluate a project’s cost-effectiveness using the following formula:

$$\text{Cost-Effectiveness} = \frac{\text{Port Dollars Spent}}{\text{Number of Beneficiaries}}$$

#### *Sensitive Populations*

Priority will be given to projects that benefit sensitive populations, which include children, pregnant women, the elderly, the chronically ill, and those with respiratory or other cardiopulmonary conditions. The greater the benefit for these populations, the higher the priority. In some project categories, serving sensitive populations is a minimum eligibility requirement.

#### *Other Criteria*

Additionally, the Port will evaluate mitigation projects based on the quality of the project, i.e., the project’s ability to mitigate community impacts effectively through a sound, well-defined plan. Such criteria may include:

- the applicant's experience
- project description
- budget justification
- the extent to which Port funds can be leveraged with other funding programs and/or through collaborative partnerships
- long-term sustainability of the project
- the extent to which the project addresses multiple impacts

## **Project Awards**

Project awards are made by the Board of Harbor Commissioners upon recommendations from Port staff, which will incorporate input from the grants advisory committee. Each awardee shall be required to enter into a contract with the Harbor Department specifying performance milestones and payment schedules. Awardees are required to complete the project by the completion deadline specified in the RFP and to meet the performance milestones by the corresponding deadlines. Awardees also must comply with documentation and record-keeping requirements specified in the Program Guidelines.

## **Community Transparency**

The Port is committed to managing the CGP through an open and transparent process. Program guidelines, annual budgets, and funding awards will be approved by the Board in a public forum. Workshops and focus groups will give the community an opportunity to shape the program guidelines, long-range funding priorities, and annual CGP budgets on an ongoing basis.

Additionally, each year the Port shall report its accomplishments from the previous year of mitigation grant funding, which may include outcomes and highlights from specific community projects, a statement of expenditures and revenues, and an evaluation of the program's effectiveness. This report shall be posted to the Port's Web site.

## **APPENDIX: Mitigation Monetization Study**

The Port of Long Beach Community Impact Study (CIS) identified the Port's direct impacts on the community and potential mitigation strategies to address those impacts. The CIS also used well-established metrics to quantify the Port's proportional contribution to community impacts. Using those metrics, this monetization study applies cost factors to establish a funding level for the mitigation strategies that is consistent with California State Lands Commission (CSLC) guidance on expenditures of revenues from public trust lands.

As explained in more detail below, this monetization study concludes that funding in the amount of \$46.4 million is consistent with CSLC guidance as well as mitigation fees and programs established by other government agencies that are working to address the same types of impacts identified in the CIS.

### **Background**

The CIS explains that the Port is limited by the public trust doctrine on how and where its public trust revenues are spent. In order to mitigate an impact, the Port must establish a nexus (i.e., a demonstrable connection) between the mitigation and Port operations, and the mitigation must be "roughly proportional" to the nature and extent of the impact (i.e., the mitigation must correlate to the magnitude of the impact).

As it relates to this monetization study, funding for mitigation must have a demonstrated linkage and be proportional to the Port's impacts. The CSLC, which is charged with safeguarding tidelands trust revenues, has opined on the funding levels dedicated to off-site community mitigation projects, specifically related to a Port of Los Angeles case, stating that agencies must "...adequately describe the relationship between the funding amounts and the mitigation needs or nexus associated with port specific impacts."

This monetization study documents the relationship between the proposed mitigation funding amount of \$46.4 million and the Port's share of the environmental impacts identified in the CIS.

### **Methodology**

In order to establish a mitigation amount, the Port must monetize its share of the impacts to air quality, traffic, noise and water quality identified in the CIS. To evaluate the various possible methods for this monetization, the Port developed several criteria:

- **Consistency with the CIS analysis:** The Port sought metrics most closely aligned with the methodologies used to assess Port-related impacts. This approach enables the Port to draw a clear nexus between the monetization calculation and the impacts identified in the CIS.
- **Standard practice:** Many agencies assess off-site mitigation fees or permit fees to alleviate impacts associated with various resource areas. The Port sought metrics commonly used by other agencies to assess similar impacts, whenever possible using the most standardized or widely used method.
- **Geographical proximity to the impact:** The Port sought metrics used by jurisdictions closest to the Port to capture the costs of mitigation in the immediate Port vicinity. Thus, when evaluating mitigation fees, the Port gave priority to those used by the region, then the state, and lastly the nation.

- Ease of calculation: The Port sought metrics that would be simple to use, now and in the future, with as much transparency as possible.

Using these criteria, this study identifies cost factors and calculations that can be applied to the impact metrics in the CIS to establish a mitigation amount.

### **Air Quality and Health Risk**

With respect to air quality, the Port has developed one calculation for criteria pollutants and health risk and a separate calculation for greenhouse gases (GHGs).

#### *Criteria Pollutants and Health Risk*

As set forth in the CIS, in 2014, the Port was responsible for 7,807 tons of nitrogen oxides (NO<sub>x</sub>) and 164 tons of particulate matter (PM<sub>10</sub>). Particulate matter, specifically diesel particulate matter (DPM), is of particular community concern because it is linked to health risk, including long-term cancer risk and acute respiratory and cardiopulmonary ailments, as described in the CIS. Because of the environmental and health concerns related to NO<sub>x</sub> and PM, the Port has chosen to concentrate its mitigation efforts on these criteria pollutants.

In keeping with the evaluation criteria, the Port identified a regional metric that assigns costs to NO<sub>x</sub> and PM emissions in tons per year, which is consistent with the methodologies used in the CIS. This metric is used by the South Coast Air Quality Management District (SCAQMD) in Rule 301. SCAQMD requires pollution sources to use the best available technology to control air emissions; however, full control of emissions is rarely possible. Thus, through Rule 301, SCAQMD requires sources to pay annual operating emission fees for this uncontrolled pollution, and then uses this fee revenue to fund clean air strategies, including monitoring, evaluation, and planning.

SCAQMD assesses emission fees at the following rates:

Annual Emissions (tons/year)	Nitrogen Oxides (\$/ton)	Particulate Matter (\$/ton)
> 75	\$806.21	\$1,068.66

Additionally, when developing cost-effectiveness calculations and/or off-site mitigation programs, many air agencies give higher weight to PM emissions due to the pollutant's link to health risk. In the Carl Moyer program through the California Air Resources Board, PM is weighted at 20 times the NO<sub>x</sub> level.

Combining these two approaches, the Port developed the following formula to calculate a mitigation amount for criteria pollutants and health risk:

$$(\text{Port NO}_x \text{ emissions} * \$806.21) + 20 * (\text{Port PM}_{10} \text{ emissions} * \$1,068.66) = \text{Mitigation Amount}$$

Using this formula, the total amount of the Port's contribution for criteria pollutant emissions and health risk is \$9,799,286.

## *Greenhouse Gases*

In 2014, Port operations contributed 774,714 tons of GHGs calculated as CO<sub>2e</sub>. In identifying an appropriate cost factor for GHGs, the Port relied on local and regional metrics, specifically, SCAQMD's Rule 2702 and the Port's own Greenhouse Gas Emissions Reduction Mitigation Grant Program, which use simple and transparent calculation methodologies in alignment with the CIS methodologies.

SCAQMD's Rule 2702 instituted a greenhouse gas program for development projects seeking off-site mitigation or for companies wishing to voluntarily reduce their carbon footprints. SCAQMD uses these dollars to fund mitigation projects that reduce or avoid greenhouse emissions. Rule 2702 established the participation fee for greenhouse gas mitigation at \$15 per metric ton of CO<sub>2e</sub>. This amount also is consistent with the Port of Long Beach's Greenhouse Gas Emissions Reduction Mitigation Grant Program, which funds projects to mitigate development-related GHGs.

The Port calculated its GHGs mitigation amount with the following formula:

$$\text{Port CO}_{2e} \text{ emissions} * \$15 = \text{Mitigation Amount}$$

The total amount of the Port's contribution for GHGs is \$11,620,710.

## **Traffic and Mobility**

In evaluating monetization approaches for traffic impacts, the Port investigated mitigation fees in various jurisdictions. Although many cities, including the City of Long Beach, charge traffic impact fees for new development projects, these fees are not appropriate for this study. Specifically, these fees generally reflect traffic impacts associated with residential development, not industrial land uses, and there is a significant amount of variation in fees across jurisdictions with no uniform standard. Additionally, these fees conflate multiple traffic-related impacts – air quality, noise, and congestion – which is not consistent with the CIS methodologies. For those reasons, the Port selected a standardized cost metric specific to congestion-related impacts associated with heavy-duty trucks, which is consistent with the CIS.

The Federal Highway Administration (FHWA), in its Highway Cost Allocation Study (updated in 2000), calculated the marginal costs per mile associated with various traffic impacts. These costs are used by a variety of agencies to inform traffic mitigation programs. According to the FHWA, the marginal cost of congestion is \$.20 per mile for Class 8 (heavy-duty) trucks on urban interstates, which is the most appropriate vehicle and highway class for this study.

The CIS identified the geographic area with the highest concentration and proportion of Port-related trucks, which was designated the "Affected Region." Within this Affected Region, which represents the zone of highest community impact, there were 102,283,225 on-road vehicle miles traveled (VMT) associated with Port operations.

The Port calculated its traffic and mobility mitigation amount with the following formula:

$$\text{Port VMTs in the Affected Region} * \$.20 = \text{Mitigation Amount}$$

The total amount of the Port's contribution for traffic and mobility impacts pursuant to the formula is \$20,456,645.

## Noise

The CIS identified community noise levels that result from port-related traffic; however, there is no regional or state cost metric associated with mitigating such noise impacts. In the absence of a state or regional approach, the FHWA's Highway Cost Allocation Study described above provides the best cost-metric for the marginal cost of traffic-related noise.

According to the FHWA, the marginal cost of traffic-related noise is \$.03 per mile for Class 8 (heavy-duty) trucks on urban interstates. The CIS identified the highest Port-related noise levels in the Affected Region, which experienced 102,283,225 on-road vehicle miles traveled (VMT) associated with Port operations.

Using this information, the Port calculated its noise mitigation amount with the following formula:

$$\text{Port VMTs in the Affected Region} * \$0.03 = \text{Mitigation Amount}$$

The total amount of the Port's contribution for noise, therefore, is \$3,068,497.

## Water Quality

Unlike the other resource areas, there is no readily accepted metric to represent the cost of industrial stormwater mitigation above and beyond that which is required by regulation. Thus, the Port used publicly available regional estimates developed by the Environmental Protection Agency (EPA) and the Los Angeles Regional Water Quality Control Board (LARWQCB) to derive an appropriate metric for this study.

Based on estimates from the LARWQCB's Harbor Toxics Total Maximum Daily Load (TMDL) Staff Report, the Port has determined the cost to mitigate its stormwater impacts above and beyond regulation is \$450 per acre.

This metric relies on LARWQCB's cost estimate to meet current regulations, which require industrial facilities to capture or treat 85% of their stormwater runoff. These regulations leave 15% of the stormwater impacts unmitigated even after all Best Management Practices (BMPs) have been applied. LARWQCB provided an estimate of \$3,000 per acre to capture or treat 85% of the impacts (USEPA and LARWQCB, 2012).<sup>3</sup> Thus, the cost to mitigate the remaining 15% of impacts is \$450 (15% of \$3,000).

The Harbor District consists of approximately 3,200 acres of land surface.

The Port used the following formula to calculate its water quality mitigation amount:

$$\text{Port Acreage} * \$450 = \text{Mitigation Amount}$$

The total amount of the Port's contribution for water quality is \$1,440,000.

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<sup>3</sup> As described in the CIS, new Port development must comply with the Post Construction Stormwater Quality Guidance Manual as well as water quality regulations that require industrial facilities to implement stormwater Best Management Practices (BMPs) designed to capture or treat the 85<sup>th</sup> percentile storm. Thus, \$3,000 per acre represents the cost to treat or capture 85% of the stormwater impacts per the regulatory requirements.

### **Total Mitigation Costs**

The aggregation of these costs is roughly \$46.4 million as shown in the table below.

	Mitigation Costs
Air Quality	\$21,419,996
Traffic	\$20,456,645
Noise	\$3,068,497
Water Quality	\$1,440,000
<b>TOTAL</b>	<b>\$46,385,138</b>

### **Future Impacts**

Future development projects subject to evaluation under the California Environmental Quality Act (CEQA) may be required to contribute to off-site mitigation if there are significant impacts. At the discretion of the Board of Harbor Commissioners in each instance, these future projects could be required to contribute according to the aforementioned formulas for the incremental impacts above the CEQA significance thresholds.