ACRONYMS AND ABBREVIATIONS

AFV	Alternative Fuel Vehicle
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BMP	Best Management Practice
CARB or ARB	California Air Resources Board
CEQA	California Environmental Quality Act
CHE	Cargo Handling Equipment
CIP	Capital Improvement Planning
CNG	Compressed Natural Gas
CO	Carbon Monoxide
DOC	Diesel Oxidation Catalyst
DPF	Diesel Particulate Filter
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
Genset	Generator Set
GHG	Greenhouse Gas
GMAP	Goods Movement Action Plan
GMERP	Goods Movement Emission Reduction Plan
HC	Hydrocarbon
LNG	Liquefied Natural Gas
MAQIP	Maritime Air Quality Improvement Plan
MOU	Memorandum of Understanding
NM	Nautical Mile
NOx	Oxides of Nitrogen
NGV	Natural Gas Vehicle
OGV	Ocean-going Vessel
PM	Particulate Matter
PM_{10}	Particulate matter less than 10 micrometers in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micrometers in diameter

PPM	Parts per million
ROG	Reactive Organic Gas (also known as volatile organic compound, VOC)
SOx	Sulfur Oxide
TEU	Twenty-Foot Equivalent Unit
VDEC	Verified Diesel Emission Control (verified by CARB)
VOC	Volatile Organic Compound
ULSD	Ultra-low Sulfur Diesel
WOTRC	West Oakland Toxics Reduction Collaborative

GLOSSARY OF TERMS*

Alternative Fuel	As defined by the Energy Policy Act of 1992, these include ethanol, natural gas, propane, hydrogen, biodiesel, electricity, methanol, and p-series fuels. These fuels are being used worldwide in a variety of vehicle and equipment applications. (note: pure biodiesel – B100 – is considered an alternative fuel under EPAct. Lower-level biodiesel blends are not considered alternative fuels by the US Department of Energy.). Non-petroleum based fuels are commonly referred to as 'alternative fuels' and can have emission reduction benefits for certain pollutants; nonetheless, it is important to note the official definition of 'alternative fuel' provided by the U.S. Department of Energy.
Bonnet	A bonnet is a hood-like structure, in this case referring to the hood that is at the end of the articulating arm used by the Advanced Marine Emissions Control System (AMECS). The arm is extended so that the bonnet covers the exhaust outlet from a berthed vessel, and sucks the exhaust gases into the bonnet and through piping to the AMECS emissions treatment unit (ETU). A similar application has been studied for rail locomotives.
Cancer Risk	A quantification of the probability that cancer will develop in a human being due to exposure to a toxic air contaminant (for example, diesel particulate matter). The risk is usually expressed as the number of individuals who may develop

	cancer out of a population (for example "1 in 10 million") due to exposure to the toxic air contaminant. Sometimes, the risk is also expressed as "chances in a million".
Cold Ironing	Also known as "shore-side or shore power". Cold ironing is a procedure by which a ship at berth shuts down its on-board auxiliary generators and relies instead on electric power provide from shore.
Cost Effectiveness	The relationship between cost and emission reductions, stated in terms of dollars per weight of emissions and used to compare relative costs of projects, technologies, and fuels.
Criteria Pollutant	Under the Clean Air Act Amendments of 1990 the EPA set National Ambient Air Quality Standards (NAAQS) for six important pollutant types which are harmful to human health and the environment. Collectively, these pollutants are referred to as the "criteria" pollutants. These are: CO, Lead, NOx, PM_{10}, $PM_{2.5}$, Ozone and SOx.
Dispersion Modeling	Dispersion modeling is a modeling tool capable of predicting concentrations of pollutants in air in the vicinity of the pollutant sources. It is typically used to predict PM concentrations at receptor locations around a source of PM. AERMOD and CALPUFF are two of several dispersion modeling tools.
Diesel Oxidation Catalyst (DOC)	A catalyst that is retrofit to a diesel engine, capable of oxidizing PM and HC in the exhaust. Typically DOCs can remove up to 50% of PM from the exhaust and are considered Level 2 VDECS by the CARB.
Dose/Dosage	The amount of a contaminant or pollutant that is absorbed or deposited in the body of an exposed organism (for example, a human being) for an increment of time. It is measured in units of [mass].
Emissions Inventory	An emissions inventory is the quantification of emissions rates and/or total emissions over a specified period of time from all sources (or a subset of sources) associated with a defined facility, operation, or geographic location.
Exposure	Contact between a person (for example, skin, nose, or mouth) and a chemical (for example, a toxic air contaminant). Exposure is measured in units of

	[concentration x time].
Genset Locomotive	Also known as "generator set locomotive." A switcher locomotive, powered by multiple Tier 2 or Tier 3 diesel engines known as "sets". The resulting operation is more power-efficient than a traditional diesel-powered switcher locomotive, and produces fewer PM emissions.
Goods Movement	The processes and activities involved in the pickup, movement, and delivery of goods from points of origin to points of use or delivery. Goods movement relies on a series of transportation, financial, and information systems for these processes and activities to occur, that involves international, national, state, regional, and local networks of producers, suppliers, carriers, and representative agents from the private and public sectors, and the general public.
Goods Movement Emission Reduction Plan (GMERP)	The GMERP is a plan developed by the CARB in 2006 to address the public health impacts of goods movement in California. The plan specifically addresses the emissions inventory of goods movement in California; a public health assessment; emission and health risk reduction targets; emission reduction strategies; and health and economic impacts of the plan.
Green Goat	A hybrid switcher locomotive, powered by batteries and a small diesel engine for recharging the batteries and providing additional power. The resulting operation is more power-efficient than a traditional diesel-powered switcher locomotive, and produces fewer PM emissions.

Human Health Risk Assessment (HHRA or HRA)	A health risk assessment (HRA) is the quantitative evaluation of the risk of cancer (and sometimes non-cancer health effects) that may result from human exposure to pollutants such as toxic air pollutants. HRAs are complex and typically involve emissions quantification, air dispersion modeling, and risk modeling. HRAs estimate the overall potential for cancer and other health impacts in a specific population due to exposure under idealized and simplified conditions, (e.g., living outdoors at one location over a 70 year lifetime). HRAs do not predict an individual's actual likelihood of developing these impacts.
Infrastructure	The system of roads, rail lines and yards, bridges, ports, and airports that support the safe, efficient, and effective movement of goods throughout the goods movement system. Infrastructure can also refer to the resources required to support goods movement (e.g. personnel, equipment, logistical support).
Marine vessel	Also known as ocean-going vessel (OGV). The marine vessels calling at the Port of Oakland are ships owned or leased by global shipping companies (also knows as carriers). These vessels operate on regularly scheduled services that call at predetermined groups of ports. The carriers that operate the vessels contract with terminal operators for the use of their facilities and services for unloading, loading, or temporary storage of goods.
Marine terminal	A facility designed to load and unload cargo on and off marine vessels, temporarily store cargo, and process pick-up and drop-off of cargo. At the Port of Oakland, the marine terminals are built on Port-owned land, which is leased to private companies. The companies that lease terminals are usually global terminal operators or the terminal operating division of global shipping companies.
Nitrogen Oxide (NOx)	Nitrogen oxides are typically created during the engine combustion process, and are major contributors to regional smog formation. NOx is defined as a “criteria pollutant”.
Particulate Matter (PM)	Any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of the particulate matter can vary from coarse (e.g. wind-blown dust) to fine (combustion by-products). This Plan focuses on PM with a

	particle size of 2.5 to 10 microns (PM2.5-PM10).
Switcher Locomotive	A switcher locomotive is a locomotive designed to operate mostly within a railyard to conduct pulling and towing operations, remove broken-down train cars and occasionally pull train cars or other locomotives between yards. They are generally diesel powered and have a lower maximum power than a linehaul locomotive, which is used to transport cargo to its final destination.
TEU	Twenty-Foot Equivalent Unit. A standard linear measurement used in quantifying container traffic flows. One twenty-foot long container equals one TEU; one forty-foot long container equals two TEUs.
Throughput	A measure of how much cargo is moving through the goods movement system, measured in terms of volume of trucks, trains, or containers. At the Port of Oakland, throughput refers to the volume of cargo (TEUs) moving through the facilities operating at the seaport. Generally, the goal is to increase throughput by increasing the capacity of the transportation system, access to or from the system, by increasing operational efficiency and reducing unnecessary restrictions.
Toxic Air Contaminant	Toxic Air Contaminants (TACs) are pollutants that may cause serious, long-term health effects in humans, such as cancer, even at low levels. The ARB has a currently identified list of approximately 200 TACs which includes some VOCs and PM emissions from diesel combustion, among others.
VDECS	Verified Diesel Emission Control System. This refers to a variety of control technologies for reducing emissions of PM, NOx or HCs from diesel engines, that have been verified by the CARB to reduce emissions by a specified percentage.
Volatile Organic Compound (VOC)	Carbon-containing compounds that evaporate into the air (with a few exceptions). VOCs contribute to the formation of smog and/or may be toxic. VOCs often have an odor. Examples include gasoline and paint solvents. VOCs are also known as reactive organic gases (ROG).

* Selected portions adapted from Goods Movement Action Plan; Business, Transportation and Housing Agency and California Environmental Protection Agency; January 2007.