
Building Information Modeling for Sustainability

Environmental Impact Simulation

AASHTO stands for American Association of State Highway and Transportation Officials, which is an organization that provides guidelines and standards for infrastructure development, including sustainable practices. Related terms include transportation planning, highway design, and environmental impact assessment. In the context of Environmental Impact Simulation, AASHTO guidelines can be used to evaluate the potential effects of transportation projects on the environment.

ABAG stands for Association of Bay Area Governments, which is a regional planning agency that provides guidelines and resources for sustainable development, including environmental impact assessment and mitigation. Related terms include regional planning, urban development, and environmental sustainability. In the context of Environmental Impact Simulation, ABAG guidelines can be used to evaluate the potential effects of development projects on the environment.

Acoustics refers to the study of sound and its properties, including the impact of noise on the environment and human health. Related terms include noise pollution, sound waves, and acoustic mitigation. In the context of Environmental Impact Simulation, acoustics can be used to evaluate the potential effects of noise pollution on the environment and human health.

Adaptation refers to the process of adjusting to changing environmental conditions, including climate change. Related terms include resilience, vulnerability, and climate change mitigation. In the context of Environmental Impact Simulation, adaptation can be used to evaluate the potential effects of climate change on the environment and human health.

Aerial photography refers to the use of aircraft or satellites to capture images of the environment, including land use and land cover. Related terms include remote sensing, geographic information systems, and aerial mapping. In the context of Environmental Impact Simulation, aerial photography can be used to evaluate the potential effects of development projects on the environment.

Air quality refers to the measure of the cleanliness of the air, including the presence of pollutants and particulate matter. Related terms include air pollution, emission standards, and air quality monitoring. In the context of Environmental Impact Simulation, air quality can be used to evaluate the potential effects of development projects on air quality.

Alternative energy refers to renewable energy sources, including solar, wind, and hydro power. Related terms include sustainable energy, energy efficiency, and renewable energy systems. In the context of Environmental Impact Simulation, alternative energy can be used to evaluate the potential effects of energy production on the environment.

Ambient temperature refers to the surrounding temperature of a given environment, including the impact of temperature on human health and comfort. Related terms include thermal comfort, temperature regulation, and ambient air quality. In the context of Environmental Impact Simulation, ambient temperature can be used to evaluate the potential effects of temperature on human health and comfort.

Architectural design refers to the process of creating building designs, including the use of sustainable materials and energy-efficient systems. Related terms include building information modeling, sustainable design, and green building. In the context of Environmental Impact Simulation, architectural design can be used to evaluate the potential effects of building design on the environment.

ASHRAE stands for American Society of Heating, Refrigerating, and Air-Conditioning Engineers, which is an organization that provides guidelines and standards for building design and operation, including energy efficiency and indoor air quality. Related terms include building codes, energy standards, and indoor air quality. In the context of Environmental Impact Simulation, ASHRAE guidelines can be used to evaluate the potential effects of building design and operation on the environment.

Asset management refers to the process of managing and maintaining physical assets, including buildings, infrastructure, and equipment. Related terms include facility management, maintenance scheduling, and asset optimization. In the context of Environmental Impact Simulation, asset management can be used to evaluate the potential effects of asset management on the environment.

BIM stands for Building Information Modeling, which is a digital representation of physical buildings and infrastructure, including the use of sustainable design and energy-efficient systems. Related terms include architectural design, engineering, and construction. In the context of Environmental Impact Simulation, BIM can be used to evaluate the potential effects of building design and operation on the environment.

Biodegradation refers to the process of breaking down organic materials, including the impact of biodegradation on the environment. Related terms include decomposition, waste management, and pollution mitigation. In the context of Environmental Impact Simulation, biodegradation can be used to evaluate the potential effects of biodegradation on the environment.

Biodiversity refers to the variety of plant and animal species, including the impact of biodiversity on ecosystem health. Related terms include ecosystem services, conservation biology, and species preservation. In the context of Environmental Impact Simulation, biodiversity can be used to evaluate the potential effects of development projects on ecosystem health.

Carbon footprint refers to the amount of greenhouse gases emitted by a given activity or process, including the impact of carbon footprint on climate change. Related terms include greenhouse gas emissions, carbon offsetting, and climate change mitigation. In the context of Environmental Impact Simulation, carbon footprint can be used to evaluate the potential effects of development projects on climate change.

Carbon sequestration refers to the process of capturing and storing carbon dioxide, including the impact of

carbon sequestration on climate change. Related terms include carbon capture, carbon storage, and climate change mitigation. In the context of Environmental Impact Simulation, carbon sequestration can be used to evaluate the potential effects of carbon sequestration on climate change.

CEQA stands for California Environmental Quality Act, which is a statute that requires environmental impact assessments for development projects in California. Related terms include environmental impact assessment, CEQA guidelines, and environmental sustainability. In the context of Environmental Impact Simulation, CEQA can be used to evaluate the potential effects of development projects on the environment.

Climate change refers to the long-term changes in the Earth's climate, including the impact of climate change on ecosystem health and human health. Related terms include global warming, greenhouse gas emissions, and climate change mitigation. In the context of Environmental Impact Simulation, climate change can be used to evaluate the potential effects of climate change on ecosystem health and human health.

Commissioning refers to the process of testing and verifying the performance of building systems, including the use of sustainable design and energy-efficient systems. Related terms include building commissioning, energy efficiency, and indoor air quality. In the context of Environmental Impact Simulation, commissioning can be used to evaluate the potential effects of building design and operation on the environment.

Community engagement refers to the process of involving stakeholders in the planning and decision-making process, including the use of public participation and outreach. Related terms include public participation, stakeholder engagement, and community outreach. In the context of Environmental Impact Simulation, community engagement can be used to evaluate the potential effects of development projects on the community.

Composting refers to the process of breaking down organic materials, including the impact of composting on waste management and pollution mitigation. Related terms include waste reduction, recycling, and composting facilities. In the context of Environmental Impact Simulation, composting can be used to evaluate the potential effects of composting on waste management and pollution mitigation.

Construction management refers to the process of planning, coordinating, and controlling construction projects, including the use of sustainable design and energy-efficient systems. Related terms include project management, construction planning, and building information modeling. In the context of Environmental Impact Simulation, construction management can be used to evaluate the potential effects of construction projects on the environment.

Cooling systems refer to the systems used to cool buildings, including the use of sustainable design and energy-efficient systems. Related terms include air conditioning, cooling towers, and evaporative cooling. In the context of Environmental Impact Simulation, cooling systems can be used to evaluate the potential effects of cooling systems on energy consumption and indoor air quality.

Daylighting refers to the use of natural light to illuminate buildings, including the impact of daylighting on energy consumption and indoor air quality. Related terms include natural lighting, skylights, and solar tubes. In the context of Environmental Impact Simulation, daylighting can be used to evaluate the potential effects of daylighting on energy consumption and indoor air quality.

Decommissioning refers to the process of deactivating and removing facilities, including the impact of decommissioning on the environment. Related terms include facility closure, hazardous waste management, and environmental remediation. In the context of Environmental Impact Simulation, decommissioning can be used to evaluate the potential effects of decommissioning on the environment.

Demolition refers to the process of tearing down buildings, including the impact of demolition on waste management and pollution mitigation. Related terms include deconstruction, demolition waste, and recycling. In the context of Environmental Impact Simulation, demolition can be used to evaluate the potential effects of demolition on waste management and pollution mitigation.

Design-build refers to the process of designing and building projects, including the use of sustainable design and energy-efficient systems. Related terms include project delivery, design-build contracts, and integrated project delivery. In the context of Environmental Impact Simulation, design-build can be used to evaluate the potential effects of design-build projects on the environment.

Drought refers to the period of abnormally low rainfall, including the impact of drought on ecosystem health and human health. Related terms include water scarcity, drought mitigation, and water conservation. In the context of Environmental Impact Simulation, drought can be used to evaluate the potential effects of drought on ecosystem health and human health.

Ecosystem services refer to the benefits provided by ecosystems, including the impact of ecosystem services on ecosystem health and human health. Related terms include ecosystem function, ecosystem management, and ecosystem conservation. In the context of Environmental Impact Simulation, ecosystem services can be used to evaluate the potential effects of development projects on ecosystem health.

EIA stands for Environmental Impact Assessment, which is a process of evaluating the potential environmental impacts of development projects. Related terms include environmental sustainability, impact assessment, and mitigation measures. In the context of Environmental Impact Simulation, EIA can be used to evaluate the potential effects of development projects on the environment.

Embodied energy refers to the energy required to produce and transport building materials, including the impact of embodied energy on energy consumption and greenhouse gas emissions. Related terms include life cycle assessment, energy efficiency, and sustainable materials. In the context of Environmental Impact Simulation, embodied energy can be used to evaluate the potential effects of embodied energy on energy consumption and greenhouse gas emissions.

Energy audit refers to the process of evaluating the energy efficiency of buildings, including the use of

sustainable design and energy-efficient systems. Related terms include energy assessment, energy efficiency, and energy conservation. In the context of Environmental Impact Simulation, energy audit can be used to evaluate the potential effects of energy efficiency measures on energy consumption and greenhouse gas emissions.

Energy efficiency refers to the use of energy in a way that minimizes energy consumption, including the impact of energy efficiency on energy consumption and greenhouse gas emissions. Related terms include energy conservation, energy efficiency measures, and sustainable energy. In the context of Environmental Impact Simulation, energy efficiency can be used to evaluate the potential effects of energy efficiency measures on energy consumption and greenhouse gas emissions.

Environmental justice refers to the fair treatment of all people with respect to environmental laws and regulations, including the impact of environmental justice on community health and well-being. Related terms include environmental equity, environmental justice movement, and community outreach. In the context of Environmental Impact Simulation, environmental justice can be used to evaluate the potential effects of development projects on community health and well-being.

Environmental management refers to the process of managing and mitigating the environmental impacts of development projects, including the use of sustainable design and energy-efficient systems. Related terms include environmental sustainability, environmental impact assessment, and mitigation measures. In the context of Environmental Impact Simulation, environmental management can be used to evaluate the potential effects of development projects on the environment.

Environmental sustainability refers to the ability to sustain the environment for future generations, including the impact of environmental sustainability on ecosystem health and human health. Related terms include sustainable development, environmental conservation, and ecosystem management. In the context of Environmental Impact Simulation, environmental sustainability can be used to evaluate the potential effects of development projects on ecosystem health and human health.

Erosion refers to the process of wearing away soil and rock, including the impact of erosion on ecosystem health and human health. Related terms include soil erosion, water erosion, and erosion control. In the context of Environmental Impact Simulation, erosion can be used to evaluate the potential effects of erosion on ecosystem health and human health.

Facility management refers to the process of managing and maintaining facilities, including the use of sustainable design and energy-efficient systems. Related terms include asset management, maintenance scheduling, and facility operations. In the context of Environmental Impact Simulation, facility management can be used to evaluate the potential effects of facility management on the environment.

FEA stands for Finite Element Analysis, which is a method of analyzing the behavior of complex systems, including the impact of FEA on building design and operation. Related terms include structural analysis, thermal analysis, and finite element modeling. In the context of Environmental Impact Simulation, FEA can

be used to evaluate the potential effects of building design and operation on the environment.

Flood control refers to the measures taken to prevent or mitigate flooding, including the impact of flood control on ecosystem health and human health. Related terms include flood protection, floodplain management, and stormwater management. In the context of Environmental Impact Simulation, flood control can be used to evaluate the potential effects of flood control measures on ecosystem health and human health.

GIS stands for Geographic Information System, which is a tool used to analyze and visualize geographic data, including the impact of GIS on environmental planning and decision-making. Related terms include spatial analysis, geographic mapping, and remote sensing. In the context of Environmental Impact Simulation, GIS can be used to evaluate the potential effects of development projects on the environment.

Global warming refers to the long-term increase in the Earth's temperature, including the impact of global warming on ecosystem health and human health. Related terms include climate change, greenhouse gas emissions, and climate change mitigation. In the context of Environmental Impact Simulation, global warming can be used to evaluate the potential effects of global warming on ecosystem health and human health.

Green building refers to the practice of designing and building sustainable buildings, including the use of energy-efficient systems and sustainable materials. Related terms include sustainable design, energy efficiency, and green architecture. In the context of Environmental Impact Simulation, green building can be used to evaluate the potential effects of green building on the environment.

Green infrastructure refers to the systems and structures that support ecosystem services, including the impact of green infrastructure on ecosystem health and human health. Related terms include green roofs, green walls, and urban forestry. In the context of Environmental Impact Simulation, green infrastructure can be used to evaluate the potential effects of green infrastructure on ecosystem health and human health.

Greenhouse gas emissions refer to the release of greenhouse gases into the atmosphere, including the impact of greenhouse gas emissions on climate change. Related terms include carbon footprint, climate change mitigation, and renewable energy. In the context of Environmental Impact Simulation, greenhouse gas emissions can be used to evaluate the potential effects of greenhouse gas emissions on climate change.

Groundwater refers to the water that flows through the ground, including the impact of groundwater on ecosystem health and human health. Related terms include groundwater contamination, groundwater management, and water conservation. In the context of Environmental Impact Simulation, groundwater can be used to evaluate the potential effects of groundwater management on ecosystem health and human health.

Habitat restoration refers to the process of restoring and rehabilitating habitats, including the impact of habitat restoration on ecosystem health and biodiversity. Related terms include ecosystem restoration,

habitat conservation, and species preservation. In the context of Environmental Impact Simulation, habitat restoration can be used to evaluate the potential effects of habitat restoration on ecosystem health and biodiversity.

Heat island effect refers to the phenomenon of urban areas being warm than rural areas, including the impact of heat island effect on energy consumption and human health. Related terms include urban heat island, heat island mitigation, and cool pavement. In the context of Environmental Impact Simulation, heat island effect can be used to evaluate the potential effects of heat island effect on energy consumption and human health.

IAQ stands for Indoor Air Quality, which refers to the quality of the air inside buildings, including the impact of IAQ on human health and comfort. Related terms include indoor air pollution, ventilation, and air filtration. In the context of Environmental Impact Simulation, IAQ can be used to evaluate the potential effects of IAQ on human health and comfort.

IEQ stands for Indoor Environmental Quality, which refers to the quality of the indoor environment, including the impact of IEQ on human health and comfort. Related terms include indoor air quality, thermal comfort, and lighting quality. In the context of Environmental Impact Simulation, IEQ can be used to evaluate the potential effects of IEQ on human health and comfort.

Infrastructure refers to the systems and structures that support human activity, including the impact of infrastructure on ecosystem health and human health. Related terms include transportation infrastructure, energy infrastructure, and water infrastructure. In the context of Environmental Impact Simulation, infrastructure can be used to evaluate the potential effects of infrastructure on ecosystem health and human health.

LEED stands for Leadership in Energy and Environmental Design, which is a rating system for green buildings, including the use of energy-efficient systems and sustainable materials. Related terms include green building, sustainable design, and energy efficiency. In the context of Environmental Impact Simulation, LEED can be used to evaluate the potential effects of green building on the environment.

Life cycle assessment refers to the process of evaluating the environmental impacts of products and systems, including the impact of life cycle assessment on environmental sustainability. Related terms include life cycle costing, life cycle management, and sustainable development. In the context of Environmental Impact Simulation, life cycle assessment can be used to evaluate the potential effects of products and systems on environmental sustainability.

Microclimate refers to the local climate conditions, including the impact of microclimate on ecosystem health and human health. Related terms include urban microclimate, microclimate modeling, and microclimate mitigation. In the context of Environmental Impact Simulation, microclimate can be used to evaluate the potential effects of microclimate on ecosystem health and human health.

Mitigation measures refer to the actions taken to reduce or eliminate the environmental impacts of development projects, including the use of sustainable design and energy-efficient systems. Related terms include environmental impact assessment, mitigation strategies, and environmental sustainability. In the context of Environmental Impact Simulation, mitigation measures can be used to evaluate the potential effects of mitigation measures on the environment.

NEPA stands for National Environmental Policy Act, which is a statute that requires environmental impact assessments for development projects, including the use of sustainable design and energy-efficient systems. Related terms include environmental impact assessment, NEPA guidelines, and environmental sustainability. In the context of Environmental Impact Simulation, NEPA can be used to evaluate the potential effects of development projects on the environment.

Noise pollution refers to the unwanted sound that disturbs the environment, including the impact of noise pollution on ecosystem health and human health. Related terms include noise mitigation, sound pollution, and acoustic mitigation. In the context of Environmental Impact Simulation, noise pollution can be used to evaluate the potential effects of noise pollution on ecosystem health and human health.

Permeable pavement refers to the type of pavement that allows water to permeate through, including the impact of permeable pavement on stormwater management and ecosystem health. Related terms include porous pavement, pervious pavement, and stormwater management. In the context of Environmental Impact Simulation, permeable pavement can be used to evaluate the potential effects of permeable pavement on stormwater management and ecosystem health.

Photovoltaic systems refer to the systems that convert solar energy into electricity, including the impact of photovoltaic systems on energy consumption and greenhouse gas emissions. Related terms include solar energy, renewable energy, and energy efficiency. In the context of Environmental Impact Simulation, photovoltaic systems can be used to evaluate the potential effects of photovoltaic systems on energy consumption and greenhouse gas emissions.

Pollution refers to the contamination of the environment with harmful substances, including the impact of pollution on ecosystem health and human health. Related terms include air pollution, water pollution, and soil pollution. In the context of Environmental Impact Simulation, pollution can be used to evaluate the potential effects of pollution on ecosystem health and human health.

Rainwater harvesting refers to the practice of collecting and storing rainwater for non-potable uses, including the impact of rainwater harvesting on water conservation and ecosystem health. Related terms include rainwater collection, rainwater storage, and water conservation. In the context of Environmental Impact Simulation, rainwater harvesting can be used to evaluate the potential effects of rainwater harvesting on water conservation and ecosystem health.

Recycling refers to the process of converting waste into new products, including the impact of recycling on waste management and pollution mitigation. Related terms include waste reduction, waste management,

and recycling facilities. In the context of Environmental Impact Simulation, recycling can be used to evaluate the potential effects of recycling on waste management and pollution mitigation.

Renewable energy refers to the energy generated from natural resources that can be replenished, including the impact of renewable energy on energy consumption and greenhouse gas emissions. Related terms include solar energy, wind energy, and hydro energy. In the context of Environmental Impact Simulation, renewable energy can be used to evaluate the potential effects of renewable energy on energy consumption and greenhouse gas emissions.

Resilience refers to the ability of systems to withstand and recover from disturbances, including the impact of resilience on ecosystem health and human health. Related terms include adaptive capacity, vulnerability, and climate change resilience. In the context of Environmental Impact Simulation, resilience can be used to evaluate the potential effects of resilience on ecosystem health and human health.

Risk assessment refers to the process of identifying and evaluating risks to the environment and human health, including the impact of risk assessment on environmental sustainability. Related terms include risk management, risk mitigation, and environmental risk assessment. In the context of Environmental Impact Simulation, risk assessment can be used to evaluate the potential effects of risks on environmental sustainability.

Sea level rise refers to the increase in the level of the sea, including the impact of sea level rise on ecosystem health and human health. Related terms include coastal erosion, coastal flooding, and sea level rise mitigation. In the context of Environmental Impact Simulation, sea level rise can be used to evaluate the potential effects of sea level rise on ecosystem health and human health.

Sedimentation refers to the process of settling of particles in water, including the impact of sedimentation on water quality and ecosystem health. Related terms include sediment transport, sedimentation basin, and water treatment. In the context of Environmental Impact Simulation, sedimentation can be used to evaluate the potential effects of sedimentation on water quality and ecosystem health.

Simulation modeling refers to the use of computer models to simulate and predict the behavior of complex systems, including the impact of simulation modeling on environmental planning and decision-making. Related terms include systems modeling, simulation analysis, and scenario planning. In the context of Environmental Impact Simulation, simulation modeling can be used to evaluate the potential effects of development projects on the environment.

Solar energy refers to the energy generated from the sun, including the impact of solar energy on energy consumption and greenhouse gas emissions. Related terms include photovoltaic systems, solar thermal systems, and renewable energy. In the context of Environmental Impact Simulation, solar energy can be used to evaluate the potential effects of solar energy on energy consumption and greenhouse gas emissions.

Sustainable development refers to the practice of meeting the needs of the present without compromising the ability of future generations, including the impact of sustainable development on environmental sustainability. Related terms include environmental sustainability, sustainable design, and green building. In the context of Environmental Impact Simulation, sustainable development can be used to evaluate the potential effects of sustainable development on environmental sustainability.

Sustainable materials refer to the materials that are environmentally friendly and sustainably sourced, including the impact of sustainable materials on environmental sustainability. Related terms include green building, sustainable design, and environmentally responsible materials. In the context of Environmental Impact Simulation, sustainable materials can be used to evaluate the potential effects of sustainable materials on environmental sustainability.

Thermal comfort refers to the condition of being comfortable in a thermal environment, including the impact of thermal comfort on human health and comfort. Related terms include indoor air quality, thermal insulation, and heating and cooling systems. In the context of Environmental Impact Simulation, thermal comfort can be used to evaluate the potential effects of thermal comfort on human health and comfort.

Transportation planning refers to the process of planning and designing transportation systems, including the impact of transportation planning on environmental sustainability. Related terms include transportation infrastructure, transportation management, and sustainable transportation. In the context of Environmental Impact Simulation, transportation planning can be used to evaluate the potential effects of transportation planning on environmental sustainability.

Urban forestry refers to the practice of managing and maintaining urban forests, including the impact of urban forestry on ecosystem health and human health. Related terms include urban tree management, urban forestry planning, and green infrastructure. In the context of Environmental Impact Simulation, urban forestry can be used to evaluate the potential effects of urban forestry on ecosystem health and human health.

Urban planning refers to the process of planning and designing urban areas, including the impact of urban planning on environmental sustainability. Related terms include urban design, urban development, and sustainable urban planning. In the context of Environmental Impact Simulation, urban planning can be used to evaluate the potential effects of urban planning on environmental sustainability.

Vulnerability refers to the degree to which systems are susceptible to disturbances, including the impact of vulnerability on ecosystem health and human health. Related terms include resilience, adaptive capacity, and climate change vulnerability. In the context of Environmental Impact Simulation, vulnerability can be used to evaluate the potential effects of vulnerability on ecosystem health and human health.

Waste management refers to the process of managing and disposing of waste, including the impact of waste management on environmental sustainability. Related terms include waste reduction, recycling, and waste disposal. In the context of Environmental Impact Simulation, waste management can be used to

evaluate the potential effects of waste management on environmental sustainability.

Water conservation refers to the practice of conserving and managing water resources, including the impact of water conservation on environmental sustainability. Related terms include water efficiency, water management, and drought mitigation. In the context of Environmental Impact Simulation, water conservation can be used to evaluate the potential effects of water conservation on environmental sustainability.

Water pollution refers to the contamination of water with harmful substances, including the impact of water pollution on ecosystem health and human health. Related terms include water quality, water treatment, and aquatic ecosystems. In the context of Environmental Impact Simulation, water pollution can be used to evaluate the potential effects of water pollution on ecosystem health and human health.

Water quality refers to the measure of the cleanliness of water, including the impact of water quality on ecosystem health and human health. Related terms include water pollution, water treatment, and aquatic ecosystems. In the context of Environmental Impact Simulation, water quality can be used to evaluate the potential effects of water quality on ecosystem health and human health.

Wind energy refers to the energy generated from the wind, including the impact of wind energy on energy consumption and greenhouse gas emissions. Related terms include wind turbines, wind farms, and renewable energy. In the context of Environmental Impact Simulation, wind energy can be used to evaluate the potential effects of wind energy on energy consumption and greenhouse gas emissions.

Zero waste refers to the goal of eliminating waste and reducing the environmental impacts of waste management, including the impact of zero waste on environmental sustainability. Related terms include waste reduction, recycling, and waste management. In the context of Environmental Impact Simulation, zero waste can be used to evaluate the potential effects of zero waste on environmental sustainability.