



SRMUN Charlotte 2024
March 21-23, 2024
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Esteemed Delegates,

Welcome to SRMUN Charlotte 2024 and the UN-Habitat Assembly. My name is Xander Swain, and I am pleased to serve as your Director for the UN-Habitat Assembly. This will be my second time staffing SRMUN Charlotte, having previously served as the Director of the International Organization for Migration. I also have staffed SRMUN Atlanta three times. I graduated in May 2023 with my Bachelor's degrees in political science, environmental science, and sociology. I am currently working as an environmental educator at the Alabama 4-H Center and have plans to attend graduate school. Our committee's Assistant Directors will be Sarah Johnson and Harper Chassay. This will be Sarah's second time as a SRMUN staff member and Harper's first. Harper has attended three SRMUN conferences since 2022, and Sarah has attended four SRMUN conferences between 2018 and 2021. Sarah recently graduated with a Bachelor's degree in political science and is pursuing her Master's in international affairs. Harper is a rising junior pursuing her Bachelor's degree in political science with a minor in pre-law.

Founded on December 20, 2018, through A/RES/73/239, the UN-Habitat Assembly was created as a replacement of the Governing Council of UN-Habitat. The mission of the UN-Habitat Assembly is to provide international guidance on urbanization and human settlement issues. UN-Habitat promotes sustainable and equitable forms of development within towns and cities. Ultimately, UN-Habitat aims to ensure adequate housing and living standards for all and sustainable development towards a more urban world.

Focusing on the mission of the UN-Habitat Assembly, we have developed the following topics for the delegates to discuss come conference:

- I. Ensuring the Accessibility and Sustainability of Urban Transportation
- II. Exploring Solutions towards Urban Solid Waste System Improvements

This background guide will serve as the foundation for delegate's research, yet it should not be the extent of the research. Each topic is prepared to help guide delegates in their initial research and to serve as a starting place for more in-depth studies. It is expected that delegates go beyond this background guide in drafting their position paper and preparing themselves to contribute in committee in March. Each delegation is required to submit a position paper for consideration. Position papers should be no longer than two pages in length (single-spaced) and demonstrate the Member State's position, policies, and recommendations on each of the two topics. For more detailed information about formatting and how to write position papers, delegates can visit srmun.org. **All position papers MUST be submitted no later than Friday, March 1st, by 11:59pm EST via the SRMUN website to be eligible for Outstanding Position Paper Awards.**

Harper, Sarah, and I are excited for the opportunity to serve as your dais for the UN-Habitat Assembly. I wish you all the best of luck in your conference preparation and look forward to meeting and working with each of you. Should questions arise as you begin to prepare for this conference, contacting those on your dais is always encouraged.

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History of the United Nations Habitat Assembly

Established on January 1, 1975, the United Nations Habitat and Human Settlements Foundation (UNHHSF) was the first United Nations (UN) body created to address international urbanization.¹ Mandated by the United Nations General Assembly (UNGA) in A/RES/29/3327, UNHHSF was given the task of assisting national programs related to human settlements, especially those in developing Member States. The UNHHSF was to be governed by the United Nations Environment Programme (UNEP).² The resolution allocated four million USD from the UNEP to be given to the UNHHSF over the course of four years.³ The resolution outlined that further funding should be sought from regional and international financial institutions and fund-raising appeals from the Executive Director of the UNEP.⁴

In 1976, Member States were growing concerned over rapid urbanization in developing Member States. This concern ultimately led to the First United Nations Conference on Human Settlements, known as Habitat I, held in Vancouver, Canada.⁵ Member States acknowledged that rapid urbanization was negatively impacting the living standards of many people across the world.⁶ Habitat I culminated in the drafting and passing of the Vancouver Declaration on Human Settlements, which addressed multiple contemporary issues, including the international definition of adequate shelter.⁷ In addition, Habitat I passed a resolution that called for the creation of a new UN body whose sole focus is on issues that arise from the continued development of Human Settlements.⁸ Then, in 1996, the second United Nations Conference on Human Settlements (Habitat II) took place in Istanbul, Turkey, where the Member States present adopted the Istanbul Declaration and Habitat Agenda and governments made a commitment to achieve goals of sustainable human settlements and adequate housing.⁹ The summit's objective was to address two major concepts for the benefit of all Member States: "adequate housing and viable human settlement in a changing world."¹⁰ Habitat II tackled these two major concepts by drawing inspiration from the International Conference on Population and Development in Cairo's focus on stabilizing population growth. However, Habitat II further dissected the issue by examining the fundamental cause of urban growth: the continuing increase of inhabitants.¹¹

In 2002, the UNGA A/RES/56/206 transformed Habitat II into the United Nations Human Settlements Programme (UN-Habitat), a subsidiary body of the UN General Assembly.¹² The resolution outlines the structure of UN-Habitat to include three main bodies: the Governing Council (GC), the UN-Habitat Secretariat, and the Committee of Permanent Representatives.¹³ The GC operated as an intergovernmental decision-making body of UN-Habitat and reported to UNGA through the Economic and Social Council (ECOSOC).¹⁴ The GC had three main functions: (1)

¹ "History, Mandate & Role in the UN System," *UN-Habitat*, accessed June 23, 2023, <https://unhabitat.org/history-mandate-role-in-the-un-system>.

² United Nations General Assembly resolution 3327, *Establishment of the United Nations Habitat and Human Settlements Foundation*, A/RES/29/3327, (December 16, 1974). <http://un-documents.net/a29r3327.htm#fn65>.

³ United Nations General Assembly resolution 3327, *Establishment of the United Nations Habitat and Human Settlements Foundation*, A/RES/29/3327.

⁴ United Nations General Assembly resolution 3327, *Establishment of the United Nations Habitat and Human Settlements Foundation*, A/RES/29/3327.

⁵ "United Nations Conference on Human Settlements: Habitat I," *United Nations*, accessed June 26, 2023, <https://www.un.org/en/conferences/habitat/vancouver1976>.

⁶ "United Nations Conference on Human Settlements: Habitat I," *United Nations*.

⁷ United Nations. *Report of Habitat: United Nations Conference on Human Settlements*, Vancouver, Canada, 1976. <https://digitallibrary.un.org/record/793768?ln=en>.

⁸ United Nations. *Report of Habitat: United Nations Conference on Human Settlements*.

⁹ "United Nations Conference on Human Settlements: Habitat II," *United Nations*, accessed June 26, 2023, <https://www.un.org/en/conferences/habitat/istanbul1996>.

¹⁰ "United Nations Conference on Human Settlements: Habitat II," *United Nations*.

¹¹ "United Nations Conference on Human Settlements: Habitat II," *United Nations*.

¹² United Nations General Assembly resolution 206, *Strengthening the mandate and status of the Commission on Human Settlements and the status, role, and functions of the United Nations Centre for Human Settlements (Habitat)*, A/RES/56/206, (February 26, 2002). <https://daccess-ods.un.org/access.nsf/Get?OpenAgent&DS=A/RES/56/206&Lang=E>.

¹³ "Our Structure," *UN-Habitat*, accessed June 25, 2023, <https://unhabitat.org/our-structure>.

¹⁴ "Our Structure," *UN-Habitat*.

developing and promoting the body's policy objectives and programs, (2) observing the current progress of UN agencies and organizations when focusing on human settlements and providing suggestions for overall achievement, and (3) approving the body's programs and finances.¹⁵ The UN-Habitat Secretariat, plays an executive role in the organization as it serves as the "focal point for all human settlement matters within the United Nations system."¹⁶ The main functions of this particular operation are to manage and monitor human settlement programs and administer recommendations for such.¹⁷ The Committee of Permanent Representatives addresses issues within the GC meetings, and monitors and reviews GC decisions and implementations of UN-Habitat programs.¹⁸

On October 20, 2016, in Quito, Ecuador, the United Nations Conference on Housing and Sustainable Urban Development, also known as Habitat III, agreed and adopted the New Urban Agenda (NUA), which seeks to embrace urbanization at every level of civilization.¹⁹ The NUA was the first globally ratified document that addressed the urban aspect of the 2030 Sustainable Development Goals.²⁰ The NUA and the SDGs have three transformative shared ideals of:

"Leave no one behind...providing equal access to all physical and social infrastructure and basic services; (2) Ensure sustainable and inclusive urban economies...promoting secure land tenure and managing urban shrinking; (3) promoting clean energy and sustainable use of land and resources in urban development... by building urban resilience, reducing disaster risks and mitigating and adapting to climate change".²¹

On December 20, 2018, the UN General Assembly passed A/RES/73/239, which dissolved the GC in favor of a United Nations Habitat Assembly of the United Nations Human Settlements Programme (UN-Habitat Assembly).²² The resolution further explains that the UN-Habitat Assembly is to include all 193 Member States of the UN, who will meet every four years; and, that the first assembly would convene in May 2019 to discuss rules and procedures.²³ UN-Habitat Assembly's responsibilities include identifying areas of focus of UN-Habitat's normative and policy work and reviewing the trends relative to urbanization and human settlements.²⁴

Most recently, UN-Habitat held their second assembly in 2023 from June 5 through the 9 at the UN-Habitat headquarters in Nairobi concerning their goal to achieve the 2030 SDGs amid global crises.²⁵ At the 2023 assembly, UN-Habitat Assembly adopted 10 resolutions addressing topics such as localization of SDGs, urban planning, and sustainable infrastructure, and enhancing the interlinkage between urbanization and climate change resilience.²⁶

¹⁵ "Our Structure," *UN-Habitat*.

¹⁶ "Our Structure," *UN-Habitat*.

¹⁷ "Our Secretariat," *UN-Habitat*, accessed June 25, 2023, <https://unhabitat.org/our-secretariat>.

¹⁸ "UN-Habitat, Committee of Permanent Representatives," *United Nations Innovation Technology Accelerator for Cities (UNITAC)*, June 29, 2021, accessed June 26, 2023, <https://unitac.un.org/events/un-habitat-committee-permanent-representatives>.

¹⁹ "Habitat III," *UN-Habitat*, accessed June 23, 2023, <https://unhabitat.org/habitat-iii>.

²⁰ "The New Urban Agenda: Urban Indicators Database," *UN Habitat*, accessed June 26, 2023, <https://data.unhabitat.org/pages/new-urban-agenda>.

²¹ "The New Urban Agenda Urban Indicators Database," *UN Habitat*.

²² "UN Habitat Assembly," *UN-Habitat*, accessed July 23, 2023, <https://unhabitat.org/governance/un-habitat-assembly>.

²³ United Nations General Assembly resolution 239, *Implementation of the outcomes of the United Nations Conferences on Human Settlements and on Housing and Sustainable Urban Development and strengthening of the United Nations Human Settlements Program*, A/RES/73/239, (December 20, 2018). https://unhabitat.org/sites/default/files/2021/04/implementation_of_the_outcomes_of_the_united_nations_conferences_on_human_settlements_and_on_housing_and_sustainable_urban_development_and_strengthening_of_the_uni.pdf.

²⁴ "UN Habitat Assembly," *UN-Habitat*.

²⁵ "Events," *UN-Habitat*, accessed June 26, 2023, <https://unhabitat.org/events>.

²⁶ "Highlights and Images for 9 June 2023," *IISD Earth Negotiations Bulletin*, accessed July 22, 2023, <https://enb.iisd.org/united-nations-habitat-assembly-2-9Jun2023>.

Topic I: Ensuring the Accessibility and Sustainability of Urban Transportation

“...transform our transport systems in a sustainable manner that will improve human wellbeing, enhance social progress and protect our planet.” – Secretary General Ban Ki-moon²⁷

Introduction

In 2007, the percentage of people living in urban areas surpassed the population in rural areas, and as of 2021, an estimated 4.4 billion people live in urban centers.²⁸ This represents approximately 55 percent of the total world population.²⁹ An urban center is defined as having a population of over 50,000 residents with a population density of over 1,500 people per square kilometer.³⁰ Urbanization, defined as the increase of population in cities or townships, is expected to increase from 55 percent to 68 percent by the year 2050.³¹ Despite the large percentage of urban residents in 2022, only half of urban residents had access to convenient public transportation.³² Access, as defined by the United Nations (UN), is a 500-meter walking distance to the nearest low-capacity transportation system (trains, subways, etc.).³³ As a result, much of urban transport is done by car, which results in traffic blockages and parking congestion.³⁴ In addition to this, passenger vehicles such as cars account for over 45 percent of global greenhouse gas emissions.³⁵ The United Nations’ Sustainable Development Goal 11.2 (SDG 11.2) aims to provide universal access to sustainable and accessible transportation systems and improve road safety by the year 2030.³⁶ Sustainable transport is defined as the provisions of services and infrastructure for the mobility of people and goods—advancing economic and social development.³⁷ Taking SDG 11.2 into account, it is a responsibility of the UN to explore solutions to ensure that urban transportation is accessible as well as sustainable for the environment.³⁸ In 1997, the UN General Assembly (UNGA) noted that “over the next twenty years, transportation would be expected to be the major driving force behind a growing world demand for energy.”³⁹

History

Urbanization began to intensify in the 19th and 20th century as Member States, more specifically developing Member States, saw demographic shifts from rural environments to urban environments due to economic growth

²⁷ “The Answer to Global Transportation Challenges Is Not Less Transport – It Is Sustainable Transport” – UN Chief,” *United Nations*, November 26, 2016, accessed October 3, 2023. <https://www.un.org/development/desa/en/news/sustainable/answer-is-sustainable-transport.html#:~:text=News-,%20The%20answer%20to%20global%20transportation%20challenges%20is%20not%20less%20transport.is%20sustainable%20transport%20-%20UN%20chief.>

²⁸ Hannah Ritchie and Max Roser, “Urbanization,” *Our World in Data*, 2019, accessed August 9, 2023.

[https://ourworldindata.org/urbanization#urbanization-over-the-past-500-years.](https://ourworldindata.org/urbanization#urbanization-over-the-past-500-years)

²⁹ Hannah Ritchie and Max Roser, “Urbanization,” *Our World in Data*.

³⁰ Hannah Ritchie and Max Roser, “Urbanization,” *Our World in Data*.

³¹ “68% of the World Population Projected to Live in Urban Areas by 2050, Says UN,” *United Nations*, May 16, 2018, accessed August 9, 2023. <https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html#:~:text=Today%2C%2055%25%20of%20the%20world%27s,increase%20to%2068%25%20by%202050.>

³² “Goal 11: Make cities inclusive, safe, resilient and sustainable,” *United Nation*, accessed August 11, 2023.

[https://www.un.org/sustainabledevelopment/cities/.](https://www.un.org/sustainabledevelopment/cities/)

³³ “Goal 11: Sustainable Cities and Communities,” *United Nations*, accessed August 13, 2023.

[https://unstats.un.org/sdgs/report/2020/goal-11/.](https://unstats.un.org/sdgs/report/2020/goal-11/)

³⁴ “Mobility and Transport,” *United Nations*, accessed August 12, 2023. [https://unhabitat.org/topic/mobility-and-transport.](https://unhabitat.org/topic/mobility-and-transport)

³⁵ Ritchie, Hannah, and Max Roser. “Cars, Planes, Trains: Where Do CO2 Emissions From Transport Come From?” *Our World in Data*, September 27, 2023. [https://ourworldindata.org/co2-emissions-from-transport.](https://ourworldindata.org/co2-emissions-from-transport)

³⁶ “Goal 11: Make cities inclusive, safe, resilient and sustainable,” *United Nations*.

³⁷ Leila Mead, “The Road to Sustainable Transport,” *International Institute for Sustainable Development Brief 19* (May 2021),

[https://www.iisd.org/system/files/2021-05/still-one-earth-sustainable-transport.pdf.](https://www.iisd.org/system/files/2021-05/still-one-earth-sustainable-transport.pdf)

³⁸ “Goal 11: Make cities inclusive, safe, resilient and sustainable,” *United Nations*.

³⁹ “Sustainable Transport,” *United Nations*, accessed August 13, 2023.

[https://sustainabledevelopment.un.org/topics/sustainabletransport.](https://sustainabledevelopment.un.org/topics/sustainabletransport)

and industrialization.⁴⁰ Due to the rapid expansion of cities and the increased use of motorized transport, global leaders came together to address the challenges of urban development and sustainable transport, an event known as the Stockholm Conference. In 1972, the United Nations Conference on the Human Environment, also known as the Stockholm Conference, commenced. It was the first global conference that recognized and addressed global environmental issues.⁴¹ During the conference, Member States drafted the 1972 Stockholm Plan of Action, expressing the need for alternatives in transportation during periods of urbanization.⁴² However, it was not until 1992 that the role of transportation in sustainable development was recognized.⁴³ In 1992, the UN held a second conference, the UN Conference on Environment and Development, also known as the Earth Summit, in which international leaders acknowledged the role of transport in sustainable development.⁴⁴ Agenda 21 of the Earth Summit played a vital role in that acknowledgement. Established as a response to global concerns, Agenda 21 of the Earth Summit was a comprehensive plan of action to ensure sustainable development in the 21st century.⁴⁵ The agenda went under a five-year review until 1997.

In 2002, at the World Summit on Sustainable Development, the subject of sustainable transportation was again acknowledged in the Johannesburg Plan of Implementation (JPOI).⁴⁶ The JPOI discussed sustainable transport from different angles, including affordability, improving urban air quality, and reducing greenhouse gas emissions.⁴⁷ In 2012, Member States reiterated the importance of sustainable transportation. During the 2012 UN Conference on Sustainable Development (Rio +20), Member States adopted the document ‘The Future We Want’, which presented the advantages of sustainable transportation systems, such as improving urban-rural linkages, public health, and the economy.⁴⁸

In 2016, the UN held their first Global Sustainable Transport Conference in Ashgabat, Turkmenistan, which highlighted the “integrated and cross-cutting nature of sustainable transport and its multiple roles in supporting achievement of the Sustainable Development Goals (SDGs),” more specifically Goal 11.⁴⁹ The focus of the conference was to address all modes of transportation, focus primarily on developing Member States, and to emphasize the “economic favorability of amalgamating sustainable transportation in modern society.”⁵⁰ The outcome of the conference led to the adoption of many projects and programs, including Sustainable Business Australia’s (SBA) Sustainable Mobility Project and the 5-year “Sustainable transport connectivity in Asia and the Pacific” regional program aimed to balance and integrate sustainable development.⁵¹ In 2021, Member States held their second United Nations Global Sustainable Transport Conference in Beijing, China with hopes to elaborate on the ideas held in the first conference and help achieve the objectives of the SDGs.⁵²

Current Situation

As more people migrate to urban areas, parking congestion and traffic blockages lead to a multitude of challenges.⁵³ Globally, road crashes in cities kill 3,287 people daily and blockages negatively affect many Member States’ Gross

⁴⁰ Dr. Jean-Paul Rodrigue, “Transportation and the Urban Form,” *The Geography of Transport Systems: The spatial organization of transportation and mobility*, accessed August 13, 2023.

<https://transportgeography.org/contents/chapter8/transportation-urban-form/>

⁴¹ “United Nations Conference on the Human Environment, 5-16 June 1972, Stockholm,” *United Nations*, accessed August 11, 2023. <https://www.un.org/en/conferences/environment/stockholm1972>.

⁴² Leila Mead, “The Road to Sustainable Transport,” *International Institute for Sustainable Development Brief 19*.

⁴³ “Sustainable Transport,” *United Nations*.

⁴⁴ Leila Mead, “The Road to Sustainable Transport,” *International Institute for Sustainable Development Brief 19*.

⁴⁵ “The Rio Conventions,” United Nations Framework Convention on Climate Change (UNFCCC), accessed August 24, 2023, <https://unfccc.int/process-and-meetings/the-rio-conventions#The-Rio-Conventions-and-sustainable-development>.

⁴⁶ “Sustainable Transport,” *United Nations*.

⁴⁷ “Sustainable Transport,” *United Nations*.

⁴⁸ Leila Mead, “The Road to Sustainable Transport,” *International Institute for Sustainable Development Brief 19*

⁴⁹ Leila Mead, “The Road to Sustainable Transport,” *International Institute for Sustainable Development Brief 19*

⁵⁰ Global Sustainable Transport Conference, *United Nations*, accessed August 23, 2023,

<https://sustainabledevelopment.un.org/Global-Sustainable-Transport-Conference-2016>.

⁵¹ Global Sustainable Transport Conference, *United Nations*

⁵² “Second United Nations Global Sustainable Transport Conference 14-16 October 2021, Beijing, China”, *United Nations*, accessed September 24, 2023, <https://www.un.org/en/conferences/transport2021>.

⁵³ “Mobility and Transport,” *United Nations*.

Domestic Product (GDP).⁵⁴ Congestion in Manila, Philippines has cost the city an estimated five percent of its annual GDP.⁵⁵ In urban regions of South America and the Caribbean, traffic congestion is estimated to deprive the region's economy of approximately 3.5 percent of GDP.⁵⁶ Approximately 50 percent of all trips in global urban areas are 10 kilometers or less, leading many researchers to the conclusion that active transport, walking or cycling, would increase GDP and drastically decrease congestion.⁵⁷ However, 85 percent of roads do not meet the minimum safety standards for walking or cycling globally.⁵⁸ Every year, approximately 41,000 people die cycling to work, school, or home, representing three percent of global traffic related fatalities.⁵⁹ Pedestrian road traffic fatalities are more common, with more than 270,000 pedestrian fatalities annually, 23 percent of total annual traffic-related fatalities.⁶⁰ Low- and middle-income Member States experience the highest percentages of road fatalities, with 93 percent of road-side fatalities occurring within their borders.⁶¹

Additionally, urban transportation conditions in general greatly contribute to climate change.⁶² Motorized transportation, including public modes of transportation and private vehicles, contribute 23 percent of global carbon dioxide emissions and is expected to contribute to a third of all emissions by 2050.⁶³ Poor air quality, the result of vehicle emissions and pollution, can contribute to health conditions such as asthma, bronchitis, heart disease, and brain damage.⁶⁴ Pollution accounts for around seven million deaths each year.⁶⁵ Following the trend of increased motorized transportation, not only are road crash fatalities expected to increase, but the world's ability to keep the global temperature increase to only two degrees Celsius is at serious risk.⁶⁶

Public transportation continues to be a burden on women's safety.⁶⁷ In Ireland, over half of women report feeling unsafe on public transport after dark.⁶⁸ In India, 80 percent of women reported sexual harassment while using public transport.⁶⁹ Transportation policies historically overlook women's perspectives, preventing progress in not only SDG 11.2, but also SDG 5, which aims to achieve complete gender parity by 2030.⁷⁰ Transportation policy tends to cater towards male transportation patterns.⁷¹ Decisions for transportation are often made based on cost-benefit

⁵⁴ "Mobility and Transport," *United Nations*.

⁵⁵ Hannah Ohlund, Siba El-Samra, Claudia Adriaola-Steil, Giovanni Zayas, and Felipe Targa. "Invest in Walking and Cycling for Sustainable, Safe Cities. Here's How." *World Resources Institute*, December 3, 2021, accessed August 13, 2023. <https://www.wri.org/insights/invest-walking-cycling-sustainable-safe-cities>.

⁵⁶ Economic Commission for Latin America and the Caribbean. "Traffic Congestion: Its Economic and Social Consequences." *CEPAL*, October 2000. <https://repositorio.cepal.org/server/api/core/bitstreams/5050c483-68f3-4cc8-962a-f7446faf59fe/content>.

⁵⁷ Hannah Ohlund, et al. "Invest in Walking and Cycling for Sustainable, Safe Cities. Here's How." *World Resources Institute*.

⁵⁸ Hannah Ohlund, et al. "Invest in Walking and Cycling for Sustainable, Safe Cities. Here's How." *World Resources Institute*.

⁵⁹ "World Health Organization - Cyclist Safety." *World Health Organization*, accessed August 13, 2023. <https://apps.who.int/irs/rest.bitstreams/1314375/retrieve>.

⁶⁰ "More Than 270 000 Pedestrians Killed on Roads Each Year." *World Health Organization*, accessed August 13, 2023.

<https://www.who.int/news/item/02-05-2013-more-than-270-000-pedestrians-killed-on-roads-each-year#:~:text=More%20than%205000%20pedestrians%20are,and%20Injury%20Prevention%20and%20Disability>.

⁶¹ "Road Traffic Injuries," *World Health Organization*, accessed August 25, 2023. <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>.

⁶² "Fact Sheet Climate Change," *United Nations Sustainable Transport Conference*, October 14, 2021, accessed August 13, 2023. https://www.un.org/sites/un2.un.org/files/media_gstc/FACT_SHEET_Climate_Change.pdf.

⁶³ "UNEP Report: Put People, Not Cars First in Transport Systems," *United Nations*, accessed August 13, 2023.

<https://www.un.org/sustainabledevelopment/blog/2016/10/un-environment-report-put-people-not-cars-first-in-transport-systems/>.

⁶⁴ "UNEP Report: Put People, Not Cars First in Transport Systems," *United Nations*.

⁶⁵ "UNEP Report: Put People, Not Cars First in Transport Systems," *United Nations*.

⁶⁶ "UNEP Report: Put People, Not Cars First in Transport Systems," *United Nations*.

⁶⁷ "Making Cities Safer for Women: UN Report Calls for Radical Rethink," *United Nations*, October 24 2022, accessed August 13, 2023. <https://news.un.org/en/story/2022/10/1129752>.

⁶⁸ "Making Cities Safer for Women: UN Report Calls for Radical Rethink," *United Nations*.

⁶⁹ The International Transport Forum. *Women's Safety and Security: A Public Transport Priority*. Paris, France, 2018.

https://www.itf-oecd.org/sites/default/files/docs/womens-safety-security_0.pdf.

⁷⁰ "Goal 5," *United Nations*, accessed August 25, 2023. <https://sdgs.un.org/goals/goal5>.

⁷¹ "All Too Often In Transport, Women Are An Afterthought." *World Bank Blogs*. Accessed November 28, 2023. <https://blogs.worldbank.org/transport/all-too-often-transport-women-are-afterthought>.

analysis, which favors less safety precautions such as better lighting at bus stops.⁷² These safety precautions are often seen as necessary by women when considering whether or not to take public transport.⁷³

Actions Taken by the UN

In 2014, the United Nations Human Settlement Program (UN-Habitat) launched a bicycle sharing project in Gigiri, Kenya.⁷⁴ The project aimed to promote sustainable transportation through the concept of “pick, ride, and park”.⁷⁵ The success of the project resulted in the launch of a similar initiative by UN-Habitat in Tyre, Lebanon, which was coordinated with the city of Zurich in 2021.⁷⁶ The City-to-City partnership, originally started in 2017, aimed to provide cheaper public transportation to urbanized individuals, more specifically Syrian refugees, and promote a more sustainable, soft-mobility transportation method.⁷⁷ Soft-mobility is defined as human-powered or non-motorized transportation.⁷⁸ A second phase of the project, the “Park and Ride,” focused on providing parking lots for people to park their cars and take public transportation to their jobs or touristic destinations.⁷⁹ The goal of this phase was to reduce congestion in heavily trafficked areas as well as minimizing parallel parking blocking passageways and roads.⁸⁰ The project started off with two public bike stations throughout the city of Tyre and is expected to expand overtime as demand increases.⁸¹

On a larger scale, in 2022, the city of Cairo, Egypt, with support from UN-Habitat and the Institute of Transportation Development Policy (ITDP), launched “Cairo Bike,” the first public bike sharing system in Egypt.⁸² In its initial launch, 25 stations and 250 bikes were installed in downtown Cairo and neighboring areas, with plans to expand to a fleet of 500 bikes and 45 stations.⁸³ The goal of the project was to help “provide a network of publicly available bicycles that can be safely used between stations” while utilizing an app with competitive pricing to accelerate sustainability efforts in Egypt by providing accessible, affordable, and clean transportation options.⁸⁴ In the future, the Cairo Governorate and UN-Habitat plan to build safe and sustainable bike lanes and to continue researching the environmental and urban health benefits of active transport.⁸⁵

In 2022, ITDP and UN-Habitat met with the Ministry of Transportation and Communications of Quelimane, Mozambique.⁸⁶ The result was the establishment of the “Reclaiming the Streets for Pedestrians and Cyclists in Africa” project, funded by the United Nations Road Safety Fund (UNRSF).⁸⁷ Targeting five Member States — Mozambique, Guinea, Ethiopia, Rwanda, and Kenya — the main objective of the project is to improve pedestrian

⁷² “All Too Often In Transport, Women Are An Afterthought,” *World Bank Blogs*.

⁷³ “All Too Often In Transport, Women Are An Afterthought,” *World Bank Blogs*.

⁷⁴ “Goal 11: Make cities inclusive, safe, resilient and sustainable,” *United Nation*.

⁷⁵ “Goal 11: Make cities inclusive, safe, resilient and sustainable,” *United Nation*.

⁷⁶ Lubna Elmahdy, “Bikeshare Initiative Launches in Tyre through UN-Habitat Coordinated City-to-City Partnership with Zurich in Lebanon,” *United Nations*, accessed August 11, 2023. <https://lebanon.un.org/en/125384-bikeshare-initiative-launches-tyre-through-un-habitat-coordinated-city-city-partnership>.

⁷⁷ Lubna Elmahdy, “Bikeshare Initiative Launches in Tyre through UN-Habitat Coordinated City-to-City Partnership with Zurich in Lebanon,” *United Nations*.

⁷⁸ David Chapman and Agneta Larsson. “Toward an Integrated Model for Soft-Mobility,” *International Journal of Environmental Research and Public Health* 16:9, (September 29, 2019). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6801748/>.

⁷⁹ “City-to-City Partnership: Zurich and Tyre.” UN. Accessed November 28, 2023. <https://unhabitat.org/project/city-to-city-partnership-zurich-and-tyre>.

⁸⁰ “City-to-City Partnership: Zurich and Tyre.” UN.

⁸¹ “‘Tour in Sour’: Introducing Green Means of Transportation in Lebanon” *UN Habitat*, accessed August 25, 2023. <https://unhabitat.org/news/14-aug-2023/tour-in-sour-introducing-green-means-of-transportation-in-lebanon>.

⁸² “Cairo Launches the First Public Bike-Sharing System,” *UN Habitat*, October 21, 2022, accessed August 13, 2023. <https://unhabitat.org/news/24-oct-2022/cairo-launches-the-first-public-bike-sharing-system>.

⁸³ “Cairo Launches the First Public Bike-Sharing System,” *UN Habitat*.

⁸⁴ “Cairo Launches the First Public Bike-Sharing System,” *UN Habitat*.

⁸⁵ “Cairo Launches the First Public Bike-Sharing System,” *UN Habitat*.

⁸⁶ “Habitat Partners with the City of Quelimane to Reclaim Streets for Pedestrians and Cyclists,” *UN Habitat*, August 30, 2022, accessed July 22, 2023. <https://unhabitat.org/news/31-aug-2022/un-habitat-partners-with-the-city-of-quelimane-to-reclaim-streets-for-pedestrians>.

⁸⁷ “Habitat Partners with the City of Quelimane to Reclaim Streets for Pedestrians and Cyclists,” *UN Habitat*.

safety on roads, prioritizing children’s safety needs.⁸⁸ Being a fairly new project, limited progress has been made as of 2023, but the launch of the project showed a positive response from Quelimane residents.⁸⁹ At the launch, a seminar was held discussing road safety experiences with community members, civil society organizations, and national and international experts on road safety rights.⁹⁰

In Rwanda, UN-Habitat and the Urban Electric Mobility Initiative partnered with the city of Kigali in launching a technical publication, titled “Integration is Key: the role of electric mobility for low-carbon and sustainable cities,” which was supported by the Urban Pathways and SOLUTIONS plus projects in 2022.⁹¹ This publication discussed the roles of electric mobility in cities and provided examples of principles to implement future electric mobility plans.⁹² The publication listed 10 key principles including prioritizing people and public transport over private cars and designing integrated policy approaches seeking “synergies between national and local measures.”⁹³ Since the publication is so recent, it is unclear what will result from publication, but the existence of it shows a clear increase in public interest in electric mobility.⁹⁴ Public interest will hopefully lead to the establishment of new UN-Habitat initiatives in the area and programs supported by other organizations and donors.

Case Study: South Africa

The Republic of South Africa is among the most urbanized Member States in Africa. Approximately, 67 percent of its population is currently urbanized and by 2050, it will be approximately 80 percent.⁹⁵ With the rise of urbanization, urban transportation infrastructure has not been able to keep up. Public transportation in cities such as Cape Town and Johannesburg are known to be unreliable and costly, and therefore, have had a detrimental effect on their economic development.⁹⁶

There are three main modes of public transportation in South Africa: taxis, buses, and trains, each having their own drawbacks. Minibus taxis, which account for 80 percent of mass transport users, are unregulated and expensive.⁹⁷ Buses in South Africa are generally cheaper and safer than taxi services. However, they can be unreliable to some because of their tendency to run late or not arrive at all.⁹⁸ Trains are the cheapest option, but there are concerns with safety and timeliness.⁹⁹ In many developing Member States, public transportation is replaced with private transportation and is only used when necessary, like traveling to and from work.¹⁰⁰

To address these unfortunate challenges in South Africa, there have been many projects implemented, one project being the Johannesburg “Corridors of Freedom” project.¹⁰¹ This project was originally created in 2013 and aimed at “creating both inclusive transportation and housing options to address spatial isolation in the city”.¹⁰² Through this project, the Rea Vaya Bus Rapid Transit (CRT) system and pedestrian and cycling infrastructure was created, which connected different areas of Johannesburg together.¹⁰³

⁸⁸ “Habitat Partners with the City of Quelimane to Reclaim Streets for Pedestrians and Cyclists,” *UN Habitat*.

⁸⁹ “Habitat Partners with the City of Quelimane to Reclaim Streets for Pedestrians and Cyclists,” *UN Habitat*.

⁹⁰ “Habitat Partners with the City of Quelimane to Reclaim Streets for Pedestrians and Cyclists,” *UN Habitat*.

⁹¹ “Habitat Launches Technical Publication on the Role of Electric Mobility for Low Carbon Cities,” *UN Habitat*, May 13, 2022, accessed September 25, 2023. <https://unhabitat.org/news/13-may-2022/un-habitat-launches-technical-publication-on-the-role-of-electric-mobility-for-low>.

⁹² “Habitat Launches Technical Publication on the Role of Electric Mobility for Low Carbon Cities,” *UN Habitat*.

⁹³ “Habitat Launches Technical Publication on the Role of Electric Mobility for Low Carbon Cities,” *UN Habitat*.

⁹⁴ “Habitat Launches Technical Publication on the Role of Electric Mobility for Low Carbon Cities,” *UN Habitat*.

⁹⁵ “South Africa,” *UN-Habitat*, accessed August 12, <https://unhabitat.org/south-africa>.

⁹⁶ Staff Reports, “Lack of Reliable Public Transportation in South Africa,” *BORGEN*, June 14, 2019, accessed September 24, 2023. <https://www.borgenmagazine.com/lack-of-reliable-public-transportation-in-south-africa/>.

⁹⁷ “The Current State of Public Transportation in South Africa,” *Zeelo*, accessed August 12, 2023, <https://zeelo.co/blog/the-current-state-of-public-transportation-in-south-africa>.

⁹⁸ “The Current State of Public Transportation in South Africa,” *Zeelo*.

⁹⁹ “The Current State of Public Transportation in South Africa,” *Zeelo*.

¹⁰⁰ “The Current State of Public Transportation in South Africa,” *Zeelo*.

¹⁰¹ “Urbanization in South Africa,” *KfW*, accessed October 2, 2023,

<https://www.kfw.de/microsites/Microsite/nachhaltigkeitsbericht.kfw.de/archiv-2018/en/magazine/africa.html>

¹⁰² “Corridors of Freedom: Johannesburg, South Africa,” *EBRD*, accessed October 2, 2023,

<https://www.ebrdgreencities.com/policy-tool/corridors-of-freedom-johannesburg-south-africa/>.

¹⁰³ “Corridors of Freedom: Johannesburg, South Africa,” *EBRD*.

The Republic of South Africa also recognizes its need to improve Non-Motorized Transportation (NMT), which relies on secure access to transportation by cycling and walking, due to the cost and safety of public transportation.¹⁰⁴ KfW Development Bank of the German federal government currently finances the NMT infrastructure in some of the main urbanized centers in South Africa, such as foot and cycle paths.¹⁰⁵ The project allows citizens in urbanized areas to reach their destinations in a safe and affordable way while also promoting accessibility to public transportation.¹⁰⁶ In addition to this, the project focused on increasing awareness and awareness on NMT, specifically bicycles.¹⁰⁷

Conclusion

Today, more than half of the world's population lives in urban areas, and the percentage is likely to continue to increase as rapid urbanization increases.¹⁰⁸ Sustainable transportation is crucial to the world's economic and social development and can lead to increases in "the mobility of people by cutting down travel costs and time, contributes to greater road safety, and lessens the amount of greenhouse gasses released by cutting down the time spent on roads."¹⁰⁹ More importantly, it provides citizens opportunities for a better quality of life.¹¹⁰ UN-Habitat is committed to the cause of promoting sustainable transport and development within the global urban society. Individual economies have improved significantly because of the various measures taken by the UN around this issue. By involving Member States around the world and providing strategic guidance, we will get closer to achieving our Sustainable Development Goals.

Committee Directive

In preparation for the committee, delegates should research appropriate methods of transportation that can ensure accessible and sustainable transportation. How can these modes of transportation benefit citizens in urban areas? What pre-established policies and programs, if any, work to ensure the safety and accessibility of transportation? How can these programs be replicated at scale? How will these policies and programs benefit citizens from a financial standpoint? Delegates must understand the correlation between urbanization and transportation and what that can mean for their Member State. Delegates must also recognize the possible major socio-economic challenges, positive or negative, that could be present.

¹⁰⁴ "Project Information Transport- South Africa," *KfW Development Bank, April 2019*, accessed October 2, 2023, https://www.transformative-mobility.org/wp-content/uploads/2023/03/201904_Sdafrika_NMT_EN-WugYhu.pdf

¹⁰⁵ "Project Information Transport- South Africa," *KfW Development Bank*.

¹⁰⁶ "Project Information Transport- South Africa," *KfW Development Bank*.

¹⁰⁷ "Project Information Transport- South Africa," *KfW Development Bank*.

¹⁰⁸ "The Risks of Rapid Urbanization in Developing States", *Zurich*, April 13, 2023, accessed September 24, 2023, <https://www.zurich.com/en/knowledge/topics/global-risks/the-risks-of-rapid-urbanization-in-developing-countries>.

¹⁰⁹ Leila Mead, "The Road to Sustainable Transport", *International Institute for Sustainable Development Brief 19*.

¹¹⁰ Maria Elena Pinglo and Victor Vergara, "Why is urban transportation key in managing urban spatial growth?", *World Bank Group*, October 27, 2021, accessed September 24, 2023, <https://ieg.worldbankgroup.org/blog/why-urban-transportation-key-managing-urban-spatial-growth>

Topic II: Exploring Solutions towards Urban Solid Waste System Improvements

“To waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified.” – Theodore Roosevelt, 26th President of the United States of America

Introduction

In total, it is estimated that over 11.2 billion tons of solid waste is collected globally, and collected solid waste contributes to 5 percent of total global emissions.¹¹¹ It is estimated that over two billion tons of municipal solid waste is produced annually worldwide, with the number likely to double by 2025.¹¹²¹¹³ Solid waste is defined as any type of garbage, trash, refuse or discarded material according to the World Health Organization (WHO).¹¹⁴ The WHO categorizes solid waste as municipal solid waste, health care waste, and e-waste.¹¹⁵ According to UN Statistics, municipal waste is, “wastes produced by residential, commercial and public services sectors that are collected by local authorities for treatment and/or disposal in a central location.”¹¹⁶ A second working definition of solid waste, from the United Nations Human Settlements Programme’s (UN Habitat) “Solid Waste Management in the World’s Cities,” is, “wastes generated by households, and wastes of a similar nature generated by commercial and industrial premises, by institutions such as schools, hospitals, care homes and prisons, and from public spaces.”¹¹⁷

As urbanization increases globally, solid waste will increase.¹¹⁸ While collected solid waste contributes significantly to pollution and disease, uncollected waste is also a significant factor to consider when developing urban solid waste systems.¹¹⁹ Amounts of solid waste in an urban solid waste system can be calculated as Total Municipal Solid Generated by the City.¹²⁰ This is the total amount of municipal solid waste produced by a specific city, or the combined amount of collected and uncollected solid waste.¹²¹ Despite definitions of solid waste, and solid waste management frameworks, shifting between Member States over time, it is critical to fully separate streams of waste as different types of waste that require different forms of management.¹²² Solid waste management systems can be understood generally through the lens of a waste hierarchy.¹²³ The European Union (EU) waste hierarchy, established through the 2008 Waste Framework Directive, offers straightforward principles for waste

¹¹¹ “Solid Waste Management,” *United Nations Environmental Programme*, accessed August 20, 2023.

<https://www.unep.org/explore-topics/resource-efficiency/what-we-do/cities/solid-waste-management#:~:text=Every%20year%2C%20an%20estimated%2011.2%20billion%20tons,solid%20waste%20are%20collected%20worldwide.>

¹¹² “Compendium of WHO and other UN Guidance on Health and Environment.” *World Health Organization*, accessed August 20, 2023. <https://www.who.int/tools/compendium-on-health-and-environment>.

¹¹³ United Nations Habitat. *Module 5 Solid Waste Management in Cities*. Nairobi, Kenya, 2018.

https://unhabitat.org/sites/default/files/2019/02/Indicator-11.6.1-Training-Module_Solid-waste-in-cities_23-03-2018.pdf.

¹¹⁴ World Health Organization. *Compendium of WHO and other UN guidance on Health and Environment Chapter 4. Solid Waste*. Geneva, Switzerland, 2021. https://cdn.who.int/media/docs/default-source/who-compendium-on-health-and-environment/who_compendium_chapter4_v2_01092021.pdf?sfvrsn=b4e99edc_5#:~:text=Solid%20waste%20refers%20to%20any.care%20waste%20and%20e%2Dwaste.

¹¹⁵ World Health Organization, *Compendium of WHO...*

¹¹⁶ “Municipal Wastes: Definition,” *UN Data*, accessed December 1, 2023.

<https://data.un.org/Glossary.aspx?q=Municipal+Wastes.>

¹¹⁷ United Nations Habitat. *Solid Waste Management in the World’s Cities*. London; Washington, D.C, 2010.

https://unhabitat.org/sites/default/files/2021/02/solid_waste_management_in_the_worlds_cities_water_and_sanitation_in_the_worlds_cities_2010.pdf.

¹¹⁸ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹¹⁹ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹²⁰ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹²¹ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹²² United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹²³ Abubakar Ismaila Rimi, Khandoker M. Maniruzzaman, Umar Lawal Dano, Faez S. AlShihri, Maher S. AlShammari, Sayed Mohammed S. Ahmed, Wadee Ahmed Ghanem Al-Gehlani, and Tareq I. Alrawaf. “Environmental Sustainability Impacts of Solid Waste Management Practices in the Global South.” *International Journal of Environmental Research and Public Health* no. 19 (October 2022): 12717. <https://doi.org/10.3390/ijerph191912717>.

management.¹²⁴ The hierarchy shows what levels of management should be prioritized first.¹²⁵ Prevention of waste is at the top of the hierarchy, which is followed by preparing for re-use, then recycling, recovery, and finally disposal.¹²⁶ The goal of the EU waste hierarchy is waste prevention, and for landfill use to be the last resort of waste management.¹²⁷

History

The history of solid waste management policy can be summarized by three major influences.¹²⁸ First, solid waste management became a concern for public health during the onset of industrialization and rapid urbanization in the 18th century.¹²⁹ As diseases, such as cholera, began to sweep Europe and North America, municipal governing bodies were tasked with the responsibility of managing the increased amounts of waste and poor sanitation in the cities.¹³⁰ At this time, waste management was largely concerned with waste collection and waste removal with little concern of where the waste ended up.¹³¹ Then, with the rise of the environmental movement during the 1960s and the 1970s, solid waste management policy began shifting towards mitigating pollution from unregulated waste disposal.¹³² Legislators started to focus on the creation and implementation of regulatory policies with the goal of more sustainable disposal and controlling the negative effects from decades of unregulated disposal.¹³³ Additionally, solid waste management policy is influenced by waste value.¹³⁴ In many Member States, waste can be reused and resold, promoting entire local economic value chains.¹³⁵ While not strictly municipal solid waste, approximately one ton of e-waste contains as much as 5 to 15 tons of gold ore, according to the United Nations Environmental Programme (UNEP).¹³⁶ Lastly, and most recently, international solid waste management policies revolve around the import and export of waste.¹³⁷ It is widely recorded that more developed Member States export millions of tons of waste into lesser developed Member States as part of their waste management policy.¹³⁸ However, the recipients of this waste, Member States like Thailand, Vietnam, Malaysia, and Indonesia, historically do not have the resources or regulations to adequately manage imported waste.¹³⁹ In response to massive amounts of both legal and illegal waste exportation, Member States like the People's Republic of China (PRC), and the previously mentioned Association of Southeast Asian Nations (ASEAN) States have enacted import bans on waste.¹⁴⁰ Import restrictions and bans have already shifted international waste trade and the waste management policies of Member States who previously relied on exporting their waste.¹⁴¹

Within the United Nations (UN), solid waste management gained footing with the first world conference on the environment in June 1972.¹⁴² From this conference, the UN made a series of key decisions, including the creation of

¹²⁴ "Waste Framework Directive," *European Commission*, accessed August 20, 2023.

https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en.

¹²⁵ "Waste Framework Directive," *European Commission*.

¹²⁶ "Waste Framework Directive," *European Commission*.

¹²⁷ "Waste Framework Directive," *European Commission*.

¹²⁸ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹²⁹ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³⁰ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³¹ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³² United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³³ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³⁴ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³⁵ United Nations Habitat. *Module 5 Solid Waste Management in Cities*.

¹³⁶ United Nations Environmental Programme. *Guidelines for National Waste Management Strategies: Moving from Challenges to Opportunities*. Nairobi, Kenya, 2013. https://wedocs.unep.org/bitstream/handle/20.500.11822/8669/-Guidelines%20for%20national%20waste%20management%20strategies_%20moving%20from%20challenges%20to%20opportunities-2013UNEP%20NWMS%20English.pdf?sequence=3&isAllowed=y.

¹³⁷ United Nations Environmental Programme. *Global Waste Management Outlook*. Nairobi, Kenya, 2015.

<https://www.unep.org/resources/report/global-waste-management-outlook>.

¹³⁸ United Nations Office on Drugs and Crime. *Unwaste Trendspotting Alert No. 1*. Bangkok, Thailand, 2022.

https://www.unodc.org/res/environment-climate/asia-pacific/unwaste_html/Unwaste_Trendspotting_Alert_No.1.pdf.

¹³⁹ United Nations Office on Drugs and Crime. *Unwaste Trendspotting Alert No. 1*.

¹⁴⁰ United Nations Office on Drugs and Crime. *Unwaste Trendspotting Alert No. 1*.

¹⁴¹ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁴² United Nations Environmental Programme. *Report of the United Nations Conference on the Human Environment*. Stockholm, Sweden, 1973. <https://www.un.org/en/conferences/environment/stockholm1972>.

the UNEP, and issued some of the first references to bettering the management of solid waste.¹⁴³ More specifically, in the 1972 Report of the United Nations Conference on the Environment, several recommendations were created towards better financing and regulating how Member States and industries produce and dispose of waste.¹⁴⁴ Shortly after the conference in 1974, the UN General Assembly created what would become UN-Habitat, the United Nations Habitat and Human Settlements Foundation (UNHHSF).¹⁴⁵ Through the UNHHSF, the UN had its first UN-Habitat Assembly, Habitat 1 in 1974.¹⁴⁶ The conference aimed to recognize the importance and critical nature of increasing urbanization.¹⁴⁷ Among the numerous outcomes of the conference, the Report of Habitat: United Nations Conference on Human Settlements made recommendations and acknowledged the effects of urbanization on solid waste systems.¹⁴⁸

UN Habitat would continue to be guided by the Habitat Agenda and by the Millennium Declaration until the passage of the Sustainable Development Goals (SDG) in 2015.¹⁴⁹ For the first time, with the SDG's, the UN is guided by an explicit goal of reducing waste generated and reducing the total environmental impact of waste with SDG 11.6.¹⁵⁰

Actions Taken by the United Nations

The UN has taken numerous actions to promote waste cleanup and waste reduction. Among these initiatives are World Cleanup Day and the International Day of Zero Waste. The General Assembly adopted a resolution on December 14, 2022, that proclaims March 30 as the International Day of Zero Waste.¹⁵¹ UNEP and UN-Habitat both facilitate the event and aim to promote zero-waste initiatives at all levels of governance and participation.¹⁵² On June 9, 2023, the UN Habitat Assembly adopted HSP/HA.2/Res.3 in their second session.¹⁵³ The resolution, titled World Cleanup Day, was passed in response to zero-waste initiatives of the UN and requested the United Nations General Assembly to formally recognize World Cleanup Day.¹⁵⁴ The annual event promotes cleanup efforts across the world at the city and local level, and focuses primarily on education and awareness of waste management.¹⁵⁵ Now ongoing for six years, World Cleanup Day 2023 saw 195 countries and territories participate.¹⁵⁶ Since 2018, the event has seen 91.5 million volunteers across the world.¹⁵⁷

Other efforts by the UN towards promoting sustainable waste management include Waste Wise Cities.¹⁵⁸ Launched in 2018 by UN-Habitat, Waste Wise Cities is a call to action for developing sustainable waste management across the globe at a community level.¹⁵⁹ Its primary function is an information-sharing campaign that can help provide the needed foundation for a city that wants to better their waste management.¹⁶⁰ Becoming a waste wise city means incorporating 12 principles outlined by UN Habitat that encourage sustainable solutions in waste management, and

¹⁴³ United Nations Environmental Programme. *Report of the United Nations Conference on the Human Environment*.

¹⁴⁴ United Nations Environmental Programme. *Report of the United Nations Conference on the Human Environment*.

¹⁴⁵ "UN Habitat Learn More," *United Nations Habitat*, accessed September 9, 2023. <https://unhabitat.org/about-us/learn-more#:~:text=UN%2DHabitat%2C%20the%20United%20Nations%20Human%20Settlements%20Programme%2C%20is.matters%20within%20the%20UN%20s.system>.

¹⁴⁶ "UN Habitat Learn More," *United Nations Habitat*.

¹⁴⁷ "UN Habitat Learn More," *United Nations Habitat*.

¹⁴⁸ "UN Habitat Learn More," *United Nations Habitat*.

¹⁴⁹ "UN Habitat Learn More," *United Nations Habitat*.

¹⁵⁰ "UN Habitat Learn More," *United Nations Habitat*.

¹⁵¹ "International Day of Zero Waste," *United Nations*, accessed August 20, 2023. <https://www.un.org/en/observances/zero-waste-day>.

¹⁵² "International Day of Zero Waste," *United Nations*.

¹⁵³ United Nations Habitat Assembly of the United Nations Human Settlements Programme resolution 3, *World Cleanup Day*, HSP/HA.2/Res.3, (July 6, 2023). https://unhabitat.org/sites/default/files/2023/08/resolution_2-3_world_cleanup_day_-_hsp-ha.2-res.3_-_advance.pdf.

¹⁵⁴ United Nations Habitat Assembly of the United Nations Human Settlements Programme resolution 3, *World Cleanup Day*.

¹⁵⁵ United Nations Habitat Assembly of the United Nations Human Settlements Programme resolution 3, *World Cleanup Day*.

¹⁵⁶ "World Cleanup Day's 2023 record-breaking results show positive trends from youth and governments," *Jim Sherman*, accessed December 10, 2023. <https://www.worldcleanupday.org/post/world-cleanup-day-2023s-record-breaking-results-show-positive-trends-from-youth-and-governments>.

¹⁵⁷ "About World Cleanup Day," *World Cleanup Day*, accessed December 10, 2023. <https://www.worldcleanupday.org/about>.

¹⁵⁸ United Nations Habitat. *Waste Wise Cities*. Nairobi, Kenya, 2021. <https://unhabitat.org/waste-wise-cities>.

¹⁵⁹ United Nations Habitat. *Waste Wise Cities*.

¹⁶⁰ United Nations Habitat. *Waste Wise Cities*.

ultimately encourages prevention of waste.¹⁶¹ By committing to becoming a waste wise city, UN Habitat will help provide waste data and monitoring, information sharing, advocacy and education, and project finance and bankability support.¹⁶² Currently, the program is being implemented in 74 different cities.¹⁶³ To monitor progress against SDG 11.6.1 and the Waste Wise Cities initiative, UN Habitat created the Waste Wise City Tool (WaCT) to track the "proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by the city."¹⁶⁴

Another significant initiative organized by UN Habitat is the African Clean Cities Platform (ACCP).¹⁶⁵ The ACCP was established in 2017 with the Maputo Declaration.¹⁶⁶ The 46 African Member States that are signatories to the ACCP aim to share an open platform for all African cities to work towards more sustainable solid waste management systems.¹⁶⁷ 174 ACCP cities meet every three years, in conjunction with the Tokyo International Conference on African Development (TICAD) to engage in information sharing.¹⁶⁸ The ACCP will also hold different events to encourage further development of waste management policies in African cities, and to encourage a prioritization of waste management policy.¹⁶⁹ As the urban population in Africa is the fastest growing of any other continent, it is critical for cities to work towards reducing overall waste generation, and more sustainable waste disposal.¹⁷⁰

Current Situation

As urbanization continues to increase, challenges with waste management in developing and developed Member States will continue to arise.¹⁷¹ Some of these core challenges include financial instability, continued growth of slums and informal settlements, and technical challenges in accessing data and information.¹⁷² Another distinct challenge to sustainable waste management is the varied needs and differences between not just Member States, but local communities as well.¹⁷³ However, at the core of the current efforts to address solid waste management are three central frameworks. Those frameworks are the UNEP and International Solid Waste Association's (ISWA) joint document "Global Waste Management Outlook" (2015), the New Urban Agenda (2016), and SDG 11.6 and the Waste Wise Cities Tool (WaCT).¹⁷⁴¹⁷⁵¹⁷⁶¹⁷⁷

¹⁶¹ United Nations Habitat. *Waste Wise Cities*.

¹⁶² United Nations Habitat. *Waste Wise Cities*.

¹⁶³ Plastic Smart Cities. *Waste Wise Cities Tool*. World Wide Fund for Nature, 2023. <https://plasticsmartcities.org/waste-wise-cities-tools/#>.

¹⁶⁴ United Nations Habitat. *Waste Wise Cities*.

¹⁶⁵ African Clean Cities Platform. *Maputo Declaration*. Maputo, Mozambique, 2017.

http://africancleancities.org/sites/default/files/2023-06/2%20Maputo_Declaration.pdf.

¹⁶⁶ African Clean Cities Platform. *Maputo Declaration*.

¹⁶⁷ African Clean Cities Platform. *Maputo Declaration*.

¹⁶⁸ "About ACCP," *African Clean Cities Platform*, accessed December 10, 2023. <https://africancleancities.org/index.php/about-accp>.

¹⁶⁹ "About ACCP," *UN-Habitat*, accessed December 10, 2023. <https://unhabitat.org/african-clean-cities-about-accp>.

¹⁷⁰ African Clean Cities Platform. *Maputo Declaration*.

¹⁷¹ United Nations Habitat. *Solid Waste Management in the World's Cities*. Washington, D.C., 2010.

https://unhabitat.org/sites/default/files/2021/02/solid_waste_management_in_the_worlds_cities_water_and_sanitation_in_the_worlds_cities_2010.pdf.

¹⁷² United Nations Habitat. *Solid Waste Management in the World's Cities*.

¹⁷³ United Nations Habitat. *Solid Waste Management in the World's Cities*.

¹⁷⁴ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁷⁵ United Nations General Assembly resolution 71, *New Urban Agenda*, A/RES/71/256*, (December 23, 2016), https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_71_256.pdf.

¹⁷⁶ United Nations Department of Economic and Social Affairs. *Sustainable Cities and Communities: The Sustainable Development Goals Extended Report 2022*. United Nations Department of Economic and Social Affairs, 2022. https://unstats.un.org/sdgs/report/2022/extended-report/Extended-Report_Goal-11.pdf.

¹⁷⁷ United Nations Habitat. *Waste Wise Cities Tool*. Nairobi, Kenya, 2021.

<https://unhabitat.org/sites/default/files/2021/02/Waste%20wise%20cities%20tool%20-%20EN%203.pdf>.

The most recent document dedicated to waste management is the UNEP and ISWA's joint document titled "Global Waste Management Outlook."¹⁷⁸ Published in 2015, the document provides an extensive perspective into global waste management and demonstrates the ill effects of unmanaged waste. Rather than viewing waste as its namesake, something to be discarded, the GWMO pushes for an urgent consideration that waste management be reconsidered as both waste and resource management.¹⁷⁹ The central tenant of the GWMO is that waste management be considered as part of the circular economy.¹⁸⁰ Waste, as a resource in the circular economy, then focuses on not just the management of where waste should end up at, but waste prevention within the design and manufacturing of products and consumption behaviors.¹⁸¹

The next significant document regarding future waste management policies is the New Urban Agenda, adopted by the United Nations General Assembly in 2016.¹⁸² Working in the context of the SDG 2030 Agenda, the New Urban Agenda creates a framework for achieving sustainable and equitable goals in the world's cities.¹⁸³ The New Urban Agenda recognizes that cities represent a landscape of rapid change and development, and that with the rapid urbanization happening across continents, there must be a proper framework that reflects the urban cityscape.¹⁸⁴ Regarding solid waste management, the New Urban Agenda states a need for sustainable and climate resilient SWM infrastructure, a focus on waste prevention, recycling, and more accessible waste management services.¹⁸⁵

Following the New Urban Agenda, SDG 11.6 is the titular framework waste management. SDG 11.6.1 aims to reduce total municipal solid waste in cities.¹⁸⁶ According to the 2022 extended report for SDG 11, the global average collection rate for Municipal Solid Waste (MSW) in cities is 82 percent, but the global average MSW managed in controlled facilities is only 55 percent.¹⁸⁷ The SDG 11.6 report calls for policy interventions and investment in low to middle income Member States to better prepare areas for the current trend of rapid urbanization.¹⁸⁸ SDG 11.6.1 will continue to be supported by UN Habitat's Waste Wise Cities Tool, an informational tool that contributes significantly towards the development of SWM policies across the globe.¹⁸⁹

Most recently, and in response to the rapidly approaching 2030 deadline for the SDG Agenda, an expert group meeting was called to address "Resource Circularity and Solid Waste Management to Accelerate National to Local Progress on the Sustainable Development Goals."¹⁹⁰ Held November 21 to November 24, 2023 in collaboration with the Republic of Korea, the meeting discussed unregulated open waste dumping and burning, creating advancements in and promoting a circular economy regarding waste, and critical knowledge and informational gaps hindering sustainable SWM.¹⁹¹

Case Study: Bangladesh

Bangladesh is a rapidly growing Member State, both in terms of population and population density.¹⁹² Already experiencing historical health and environmental challenges, an influx of Rohingya refugees from neighboring

¹⁷⁸ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁷⁹ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁸⁰ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁸¹ United Nations Environmental Programme. *Global Waste Management Outlook*.

¹⁸² United Nations General Assembly resolution 71, *New Urban Agenda*.

¹⁸³ United Nations General Assembly resolution 71, *New Urban Agenda*.

¹⁸⁴ United Nations General Assembly resolution 71, *New Urban Agenda*.

¹⁸⁵ United Nations General Assembly resolution 71, *New Urban Agenda*.

¹⁸⁶ United Nations Department of Economic and Social Affairs. *Sustainable Cities and Communities...*

¹⁸⁷ United Nations Department of Economic and Social Affairs. *Sustainable Cities and Communities...*

¹⁸⁸ United Nations Department of Economic and Social Affairs. *Sustainable Cities and Communities...*

¹⁸⁹ United Nations Habitat. *Waste Wise Cities Tool*.

¹⁹⁰ "[2023] Expert Group Meeting on Policies for Resource Circularity and Solid Waste Management to Accelerate National to Local Progress on the Sustainable Development Goals," *United Nations Office for Sustainable Development*, accessed December 10, 2023. <https://unosd.un.org/events/2023EGM-Resource-Circularity-and-Solid-Waste-Management>.

¹⁹¹ "[2023] Expert Group Meeting on Policies for Resource Circularity and Solid Waste Management to Accelerate National to Local Progress on the Sustainable Development Goals," *United Nations Office for Sustainable Development...*

¹⁹² Md. Khalid Ibne Kamal, Dr. Md. Mostafizur Rahman, and Mohammad Tosnimul Hassan. "Final Evaluation of Sustainable Solutions to Solid Waste Management Project in Cox's Bazar District." *Disaster Management Watch* (2022). https://dmwatch.com/wp-content/uploads/2022/11/SWM_Final_Evaluation_Report.pdf.

Myanmar in 2018 has exacerbated the existing solid waste mismanagement.¹⁹³ In urban areas, a significant proportion of people do not have access to waste collection services.¹⁹⁴ Without proper waste disposal, flooding risk, an already prevalent issue, is increased, and health issues prevail. In response to the refugee influx, the United Nations Development Programme (UNDP), in collaboration with local organizations, the Government of Bangladesh, and Sweden, established the Sustainable Solutions to Solid Waste Management Project in 2018. The SWM project focuses on two Upazilas, or districts, Ukhiya and Teknaf in the Cox Bazar.¹⁹⁵ The population in this area has risen to 1.5 million due to the refugee influx and has seen a dramatic rise in uncontrolled waste disposal.¹⁹⁶ Prior to the project, the two targeted Upazilas were estimated to produce 22,000 cubic meters of waste per month and lacked a properly managed solid waste system.¹⁹⁷ The project lasted until 2022 and prioritized basic waste collection practices while targeting perceptions of waste management and increasing awareness.¹⁹⁸

The project began with identifying significant waste producing areas, identifying 13 main markets, and was followed by a mass cleanup campaign.¹⁹⁹ Other cleanup campaigns were started in refugee camps and other mass waste producing areas.²⁰⁰ Following cleaning campaigns, the project began to implement basic services like the distribution of 21,210 pairs of waste bins for household and community use.²⁰¹ Additionally, the project helped identify and construct multiple sanitary landfill sites.²⁰² Other initiatives of the project also include a recycling awareness campaign and a sustainable waste management campaign facilitated by Practical Action Bangladesh, a local Non-Governmental Organization (NGO).²⁰³ Through the project, the communities have also seen increases in income through the establishment of 41 scrap dealers and more than 20 different SWM-related training programs.²⁰⁴

After the project extension expired in 2022, the UNDP requested the DM Watch Limited to create a report evaluating the efficacy of project.²⁰⁵ The report found that by February 2022, SWM systems put in place helped collect and dispose of 47,775 cubic meters of waste.²⁰⁶ Additionally, sustainability of the project has been established through creating formal policies and waste management positions in local governments of the two Upazilas.²⁰⁷ The report also found that 93.8 percent of respondents to the evaluation stated that frequency of diseases has decreased within the previous four years, and that 95 percent of those respondents believe the UNDP project is responsible.²⁰⁸ However, challenges remain.²⁰⁹ Temporary landfill sites are approaching capacity, and new sites are difficult to establish due to bureaucratic processes and lack of available land.²¹⁰ In response, the report suggests continued efforts in education and awareness of waste segregation, increase the efficacy of the waste value chain, and an additional landfill site be created.²¹¹ Overall, short-term and midterm practices must continue to be built on and established so that future, more sustainable practices can be established.²¹²

Conclusion

As urbanization increases across Member States, and waste generation increases, solid waste management systems must evolve to meet the demands of consumption. Member States must begin to implement broader shifts towards decreasing individual and industry-level waste generation, must increase the realized value of reusing waste, and

¹⁹³ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁴ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁵ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁶ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁷ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁸ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

¹⁹⁹ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁰ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰¹ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰² Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰³ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁴ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁵ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁶ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁷ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁸ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²⁰⁹ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²¹⁰ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²¹¹ Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

²¹² Md. Khalid Ibne Kamal, et. Al., “Final Evaluation of Sustainable Solutions...”

continue to promote innovations in how solid waste may be sustainably disposed of. While information sharing and project development aid is critical to ensuring the rapid urbanization of rural areas does not dwindle into unsustainable waste practices, efforts must also be focused on developed Member States that overwhelmingly contribute to current levels of waste. Moreover, comparing the challenges of mitigating individual consumption to decreasing corporate overproduction is a critical step towards understanding the dynamics of our waste streams. Finally, after considering prevention and consumption in the waste hierarchy, the consideration of where waste goes, locally, nationally, and globally, is of the utmost importance in aspiring to achieve international zero waste.

Committee Directive

In preparing for the conference, delegates should be acutely aware of the types of waste categories and waste streams that are specific to their own Member States. As definitions of waste are varied, clear understandings of delegates' own Member State definitions are critical to productive debate. Moreover, delegates should be looking toward sustainable solutions that are not just one-size-fits-all in nature. In preparing for debate, delegates should be prepared to discuss a myriad of solutions that are well-informed and specific to what their Member States are targeting in developing more sustainable waste systems. Finally, delegates should consider the following questions: How does language and framing of solid waste management affect potential problems and solutions? What can be done to incentivize local and regional governments to act? At what point in the solid waste management hierarchy should the responsibility of managing waste fall upon the individual, the community, private companies, and then the Member State?

Annotated Bibliography:

Topic I: Ensuring the Accessibility and Sustainability of Transportation

Nadezhda Zavyalova, Dmitry Zavyalov, and Iosif Spirin, “Globalization and Development of Sustainable Public Transport Systems,” *16th International Scientific Conference Globalization and Its Socio-Economic Consequences*, (October, 2016): https://www.researchgate.net/profile/Dmitry-Zavyalov-5/publication/335881616_GLOBALIZATION_AND_DEVELOPMENT_OF_SUSTAINABLE_PUBLIC_TRANSPORT_SYSTEMS/links/5d81c562a6fdcc12cb98a324/GLOBALIZATION-AND-DEVELOPMENT-OF-SUSTAINABLE-PUBLIC-TRANSPORT-SYSTEMS.pdf.

This article provides an overview of the negative environmental effects of privatized automobile use in urban areas. It discusses the benefits of public transportation and the necessity of prioritizing sustainable public transport when planning urban developments. It also covers multiple different sustainable transportation methods cities could consider. Delegates may find this article beneficial because it provides ideas for potential proposals to improve sustainability of transportation.

Priyadarshan Patil, “Integrating Active Transportation into Transportation Planning in Developing Countries: Challenges and Best Practices.,” *Tensorgate Journal of Sustainable Technology and Infrastructure for Developing Countries* volume 1, no. 1 (January 7, 2018): 1–15. <https://research.tensorgate.org/index.php/tjstidc/article/view/24/22>.

Tensorgate Journal of Sustainable Technology and Infrastructure for Developing Countries is a journal that aims to provide and address the challenges developing countries face, including rapid urbanization. The article “Integrating Active Transportation into Transportation Planning in Developing Countries” focuses on the role of active transportation in developing Member States and how to properly implement that into transportation policies. The article highlights multiple challenges that occur when implementing active transportation methods, including lack of infrastructure and safety concerns. Even though there are disadvantages to incorporating active transportation, especially in urbanized areas, the article provides multiple methods and approaches Member States can take to ensure positive results.

Leila Mead, UN Secretary-General’s High-Level Advisory Group on Sustainable Transport, and Sunita Narain, “The Road to Sustainable Transport,” *International Institute for Sustainable Development*, May 24, 2021, assessed on November 2, 2023. <https://www.iisd.org/articles/deep-dive/road-sustainable-transport>.

In this article, the International Institute for Sustainable Development (IISD) addresses the United Nations’ Sustainability Policy on transportation and its development over the past 50 years. It discusses both the progress that has been made in sustainable transportation and the ongoing struggles being faced. It also highlights progress made in multiple Member States in both planning and executing sustainable development policies. Delegates may benefit by reading about the origin of certain transportation policies and their evolution over time.

M. Sohail, D.A.C. Maunder, and S. Cavill, “Effective Regulation for Sustainable Public Transport in Developing Countries,” *Transport Policy* volume 13, no. 3 (May 2006): 177–90. <https://doi.org/10.1016/j.tranpol.2005.11.004>.

Transport Policy is a journal that provides strong analysis of transportation policies and strategies on all modes of transportation. The paper “Effective Regulation for Sustainable Public Transport in Developing Countries” discusses the importance of effective methods of enforcing sustainable transport systems in urban development. Minority citizens in urban environments, such as women, children, elderly, and disabled, are highlighted to demonstrate how important it is to have sustainable public transportation. Delegates would use the two key points made in the paper as a foundation for their position on accessible and sustainable transport systems.

“Number of Road Fatalities in 2022 Key Transport Statistics”, *International Transportation Forum*, 2023, accessed September 25, 2023. <https://www.itf-oecd.org/sites/default/files/docs/key-transport-statistics-2023.pdf>.

In this article, the Organization for Economic Cooperation and Development (OECD) provides a number of important statistics on road fatalities in 2022. The source includes statistics from 49 states covering information such as traffic rates, percentage of motor diesel vehicles on the road, and road crashes resulting in fatalities over 11 months. It also covers the impact of road crash fatalities rates made by increase in air and sea freight transportation. Delegates would use this source to have access to numerical data on transportation for their papers.

Topic II: Exploring Solutions towards Urban Solid Waste System Improvements

Zhaowen Liu, Daan Schraven, Martin de Jong, and Marcel Hertogh. “Unlocking System Transitions for Municipal Solid Waste Infrastructure: A Model for Mapping Interdependencies in a Local Context.” *Resources, Conservation and Recycling* volume 198 (2023): 107180. <https://www.sciencedirect.com/science/article/pii/S0921344923003154?via%3Dihub>.

“Unlocking System Transitions for Municipal Solid Waste Infrastructure: A Model for Mapping Interdependencies in a Local Context,” uses a systems-based approach to understand solutions towards improving current municipal solid waste systems. The article focuses on municipal solid waste infrastructure and concludes that to transition to more sustainable waste systems, cities and urban centers must first identify the interdependencies in their current systems. The authors propose a model for transition and then apply the model to a city in the Netherlands. Delegates should use this resource to gain an understanding of how solutions towards waste system improvements must consider the local, geographic, and social pillars of solid waste system infrastructures.

Silpa Kaza, Lisa C. Yao, Perinaz Bhada-Tata, and Frank Van Woerden. “What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050.” Washington, DC: *World Bank*, 2018. <https://doi.org/10.1596/978-1-4648-1329-0>.

What a Waste 2.0 is a report that offers a snapshot glance of global waste management and urbanization looking to 2050. It is part of the Urban Development Series, a series of reports focusing on the challenges and issues of urbanization looking decades ahead. What a Waste 2.0 develops concepts of waste management through multiple regional and city specific case studies. The report is split into sections that cover administration and operations of waste management, financial sustainability, social and technological trends of waste management, and cases studies that include varying cities from the United States to Palau.

Poritosh Roy, Amar K. Mohanty, Alexis Wagner, Shayan Sharif, Hamdy Khalil, and Manjusri Misra. “Impacts of COVID-19 Outbreak on the Municipal Solid Waste Management: Now and beyond the Pandemic.” *ACS Environmental Au* volume 1, no. 1. (November, 2021): 32–45. <https://doi.org/10.1021/acsenvironau.1c00005>.

This article, “Impacts of COVID-19 Outbreak on the Municipal Solid Waste Management: now and beyond the Pandemic,” offers an additional perspective on how MSW’s can be affected by numerous factors, including pandemics. Delegates can use this resource to gain an understanding of how solutions to MSW improvements should not just address general improvements in developing areas, but also on how to improve efficiency and alleviate strained systems in times of disaster in already established urban sites.

United Nations, Environment Programme, *Global Waste Management Outlook*, Vienna, Austria, 2015. <https://www.unep.org/resources/report/global-waste-management-outlook>.

Global solid waste management is a core challenge to the achievement of the 2030 SDG Agenda. Within this challenge is the obstacle of proper governance and policy decisions. The Global Waste Management Outlook report, published by the United Nations Environment Programme, in collaboration with the International Waste Management Association, is a follow up to the Rio+Summit and a call to action for

developing sustainable waste practices. The report includes multiple case studies, frameworks, and topic sheets on the challenge of waste management.

“Best Practices for Solid Waste Management: A Guide for Decision-Makers in Developing Countries,” *United States Environmental Protection Agency*, Washington, DC, 2020.

https://www.epa.gov/sites/default/files/2020-10/documents/master_swmg_10-20-20_0.pdf.

Improving solid waste management systems is a vastly different task between developed countries, and developing countries. This EPA guide provides “Best Practices for Solid Waste Management” for developing countries. It is split between 14 sections and is aimed at decision-makers and policymakers. Included in the guide is numerous case studies and case points designed to illustrate best practices. While this guide provides an excellent resource for understanding solid waste management, delegates should continue to be aware that not every practice or case study will be applicable to all solutions in urban solid waste management.