

# Valuing the SDGs for Localization in Patiala, India

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## ACKNOWLEDGMENTS

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### Project Team



Community Systems Foundation

## ABOUT

The Local Data Action Solutions Initiative (LDA-SI) was established as a joint effort between the Sustainable Development Solutions Network's Thematic Research Network on Data and Statistics (SDSN TReNDS) and the USA Sustainable Cities Initiative as a program with one primary objective: to identify and promote replicable methods for sub-national Sustainable Development Goal (SDG) monitoring that facilitate local action in support of the “leave no one behind” principle. A growing number of subnational actors are attempting to implement the SDGs locally and are confronting specific questions related to data collection and monitoring. With this has grown the need for real, practical lessons and guidance that can be applied to different contexts worldwide.

For this reason, LDA-SI launched a microgrant initiative to support learning from existing subnational SDG data initiatives, harnessing this tacit local knowledge and informing a learning exchange. In 2018, five grantees were chosen both for their proven ability to support SDG implementation in a specified location and for their model's relevance and potential benefit for other sub-national SDG initiatives in the world. Each grantee has prepared a guidance brief that describes SDG localization challenges in the place where they are operating and the data solutions they have designed to support efforts toward SDG achievement.

Learn more at [sdstrends.org/ldasigrants](https://sdstrends.org/ldasigrants).

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## ABSTRACT

With no precedents and no impetus from central and state governments to use the language of the Sustainable Development Goals (SDGs), most Indian cities are resisting efforts to adopt them. They view the UN resolution laying out these goals, Agenda 2030, as an additional and foreign framework competing with their day to day priorities. And yet city-level SDG data and monitoring platforms can be used to align city development efforts across the country and ensure that no one is left behind. To maximize the value of SDG localization in Indian cities, Community Systems Foundation's (CSF) OpenCities Institute (OCI) worked with the city of Patiala in Punjab<sup>1</sup> to develop a proof-of-concept city-level SDG data system, which includes a model indicator list and data dashboard and provides a one-stop visualization tool to aid the city's decision-making and planning efforts.

This brief outlines an easy-to-use, four-step methodology tested in Patiala to demonstrate to cities the simplicity, feasibility, and value of subnational SDG monitoring through data visualization design and technology. It proposes ways to kickstart localizing the goals with "what is available" rather than "what is missing." The aim is to develop a long-term view for sustainability, to optimize municipal efficiency, and to bolster inter-departmental and citizen participation. This is done by setting a precedent for SDG localization for Indian cities that have less exposure to national programs, technical expertise, and the international stage. This model provides a roadmap for initiating a full-scale city-level SDG observatory, inclusive of a living reference data dashboard, which can be adapted to other cities irrespective of their size, geographic location, and existing capacities.

## PROBLEM

In 2018, at the UN High-level Political Forum (HLPF), Shri Hardeep Puri, Union Minister of State for Housing and Urban Affairs (MoHUA), stated, “The Millennium Development Goals succeeded largely because China lifted hundreds of millions of people out of poverty. The success of the Sustainable Development Goals depends entirely on India and we are determined to [achieve that]”<sup>2</sup>.

Facing rising urbanization, India is at an opportune moment to focus on long-term goals of sustainability and livability and on the evidence-based governance and policymaking practices that will help cities align and achieve the Sustainable Development Goals (SDG). Some 57 percent<sup>3</sup> of the total urban population in India lives in small and medium-sized cities, with city-by-city populations ranging from 100,000 to 2 million people. But on the ground, city administrations are skeptical about the SDGs and perceive the Global Goals as a framework that is imposed and irrelevant to their own priorities. In this context, three major questions arise: How can cities in India align their development priorities with the SDGs and acknowledge their usability as a guiding framework? How can data-driven approaches assist the adoption of SDG localization and mainstream the goals to strengthen evidence-based culture within the municipal body? How can such approaches make way for best practices to fast-track implementation of the SDGs and support for the Voluntary National Review (VNR) process by state governments?

The City of Patiala (founded in 1963), the administrative headquarters of Patiala district of Punjab, is the fourth largest city of Punjab. It has an area of 50.11 square kilometers, 60 wards, and a population of 406,192. The Patiala Municipal Corporation (MC) is responsible for governing, developing, and managing the city. The Patiala Metropolitan Area, with a total population of 446,246, is managed by the Patiala Urban Planning and Development Authority (PDA), a state agency. This includes Patiala MC and neighboring villages and settlements. The Patiala Municipal Corporation is responsible for providing urban municipal services. Under the 74th Constitutional Amendment (1992), also known as the Nagarpalika Act, urban local bodies (ULBs) play a role in the planning and implementation of 18 functions<sup>4</sup> broadly relating to public health, welfare, regulatory framework, public safety, public infrastructure, and other associated development activities (see Box 1). However, due to a lack of fiscal autonomy, most small- and medium-sized cities like Patiala are mostly dependent on fiscal transfers from Government of India and state governments to perform their obligatory duties. In India, urban local governments are governed by the provisions of the State municipal acts. Every State has its own municipal act derivative of the central government's decision to entrust state legislatures with the decision on the structure, functions and powers of the local governments. The states constitute urban local government institutions/ municipalities for the maintenance and planned development of urban areas where the objective is to ensure that suitable levels of infrastructure and services are available to the citizens<sup>5</sup>.

## **Box 1.** Responsibilities of Municipalities (Article 243-W/ Twelfth Schedule)

1. Urban planning, including town planning
2. Regulation of land use and construction of buildings
3. Planning for economic and social development
4. Roads and bridges
5. Water supply for domestic, industrial, and commercial purposes
6. Public health, sanitation, conservancy, and solid waste management
7. Fire services
8. Urban forestry, protection of the environment and promotion of ecological aspects
9. Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded  
*Editor's note: This language is reproduced directly from the Constitution of the Republic of India and does not reflect contemporary practice for referring to people with disabilities.*
10. Slum improvement and upgradation
11. Urban poverty alleviation
12. Provision of urban amenities and facilities, such as parks, gardens, playgrounds
13. Promotion of cultural, educational, and aesthetic aspects



### *Box 1 continued*

14. Burials and burial grounds; cremations, cremation grounds, and electric crematoriums
15. Cattle pounds; prevention of cruelty to animals
16. Vital statistics, including registration of births and deaths
17. Public amenities, including street lighting, parking lots, bus stops, and public conveniences
18. Regulation of slaughterhouses and tanneries

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In 2011, an Expert Committee on Indian Urban Infrastructure and Services (HPEC) observed that cities in India, under rapid urbanization pressures, are among the weakest in the world, both in terms of capacity to raise resources and financial autonomy. Due to this, municipal authorities are only responding to the daily needs and “firefighting” issues rather than engaging in any long-term planning and vision.

In the 2017 SDG Index and Dashboards Report produced by the Sustainable Development Solutions Network (SDSN) and Bertelsmann Stiftung, India is ranked at 116 out of 157 countries<sup>6</sup> in the assessment of country performance towards achieving the ambitious SDGs. While NITI Aayog, National Institution for Transforming India, a policy think tank of the Government of India, has been entrusted with the task of coordinating the SDGs for India and ensure monitoring at the highest level, neither the central or state governments have offered any indications yet on the SDGs to cities like Patiala. Therefore, small cities currently do not recognize the potential value of using Agenda 2030 as a framework for their own development.

Further, municipalities like Patiala have limited technical planning capacity, resources, and systems that can support global goals. In this setting, the ambitious vision that has been finalized at the international stage intimidates these cities. In addition, they have no immediate access to their own data to engage in any kind of vision planning and strategy development exercises. To add to the challenge, the capacity to use existing data or collect new datasets is lacking, and urban local bodies do not possess the autonomy to define priorities and processes across development sectors. While they may use national-level indicators and available service-level benchmarks as guiding documents, they have no precedent or push to monitor their own goals with relevant benchmarks.

## **SOLUTION**

Between May and November 2018, CSF's OCI and the City of Patiala valorized the SDG localization process by employing data visualization technology and a simple, step-by-step methodology rooted in what the city wants. The following outputs were the product of that initiative:

1. SDG and SDG-related indicator registry for urban local bodies in India (Annex A; Annex B)
2. SDG-oriented local indicators for Patiala (Annex C)
3. SDG data dashboard (version 2 available online [here](#); Annex D)

A master list for the SDG and SDG-related indicator registry for urban local bodies in India was developed by OCI under the LDA-SI microgrant, integrating indicators from the Inter-agency and Expert Group on SDG

Indicators (IAEG-SDGs)<sup>7</sup>, literature available from the cities featured in SDSN's U.S.A. Sustainable Cities Initiative (USA-SCI), and relevant documentation for cities in India. This included the Liveability Indicators, Service Level Benchmarks, etc. The indicators selected have been mapped to the 18 municipal functions under the Twelfth Schedule so that the cities can see a practical alignment of the Global Goals with their duties and responsibilities. This list can be used by a large group of stakeholders such as citizens, academia, and urban governance stakeholders in a city.

Indicators from the master list were shortlisted by OCI to respond to the priorities and immediate needs raised by the city of Patiala. This master list of SDG localization indicators for Patiala comprises of 50 indicators across issues of Solid Waste Management, Air Pollution, and Parking. This list gives an overview to the city administrators, such as the commissioner and joint commissioner, on what data could be measured or reported in order to make evidence-based decisions. The administrator also then has the onus to delegate the responsibility of providing the required information and data within various departments, or supporting coordination with relevant parastatals and state departments.

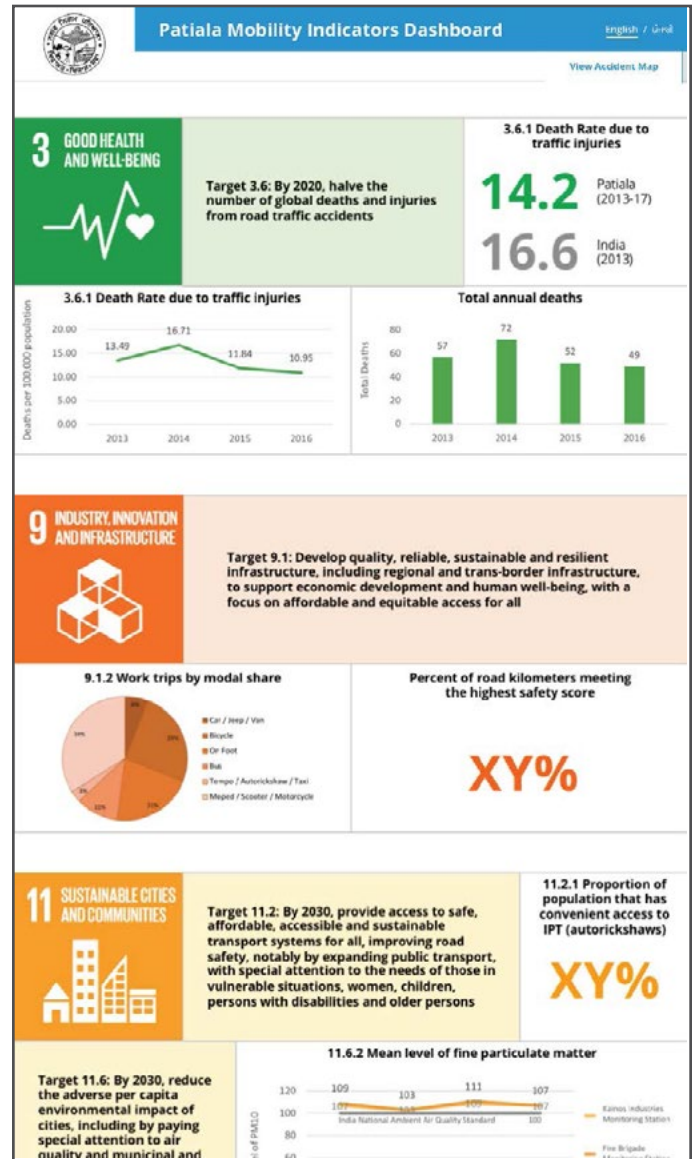
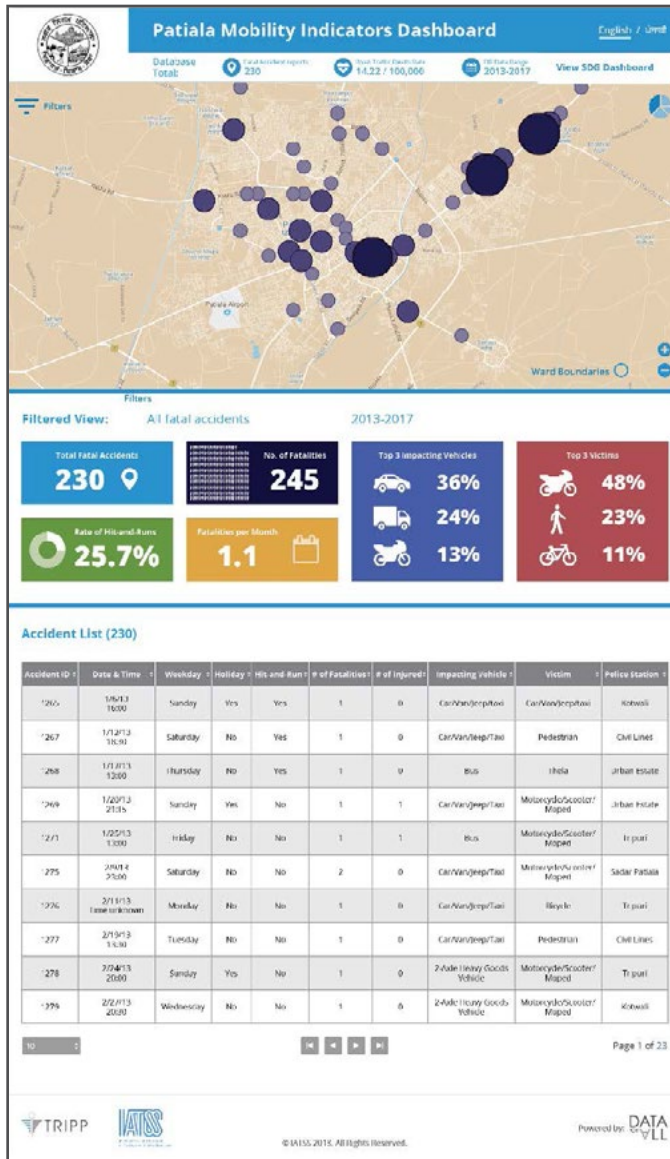
The mock SDG data dashboard is updated with relevant datasets and information provided by the city on the identified indicators. The selection of the Key Performance Indicators (KPIs) was an output of the availability of data. This information was later translated by OCI into visualization with maximum relevance, so that it is easy to understand and is understood by decisionmakers to inspire interest and action. A data dashboard here serves as a powerful planning and advocacy tool for local SDG

implementation. Even in its mock status, the current dashboard prototype can be used by a wide range of city users to get a one-stop overview of the city's priorities. Through proactive dissemination, it also drives the citizen to demand accountability and engage with urban local bodies for better cities and their wellbeing. The city administrators can use this output as a living reference dashboard to emphasize tight integration across city departments, and also generate further interest and curiosity to use Agenda 2030 as a guiding tool.

## **BUILDING PROCESS**

Between January and April 2018, OCI supported the Transportation Research Injury Prevention Program (TRIPP) at the Indian Institute of Technology, Delhi with an ongoing project called “SDG Oriented Planning and Design in Small Cities” supported by International Association with Traffic Safety Sciences (IATSS) Japan. OCI developed a mock dashboard harnessing road accident data collected by TRIPP in Patiala (Figure 1). All data was collected and analyzed by the TRIPP team. This also gave way to the development of a preliminary SDG Data Dashboard, visualizing SDG 3: Good Health and Well-being, SDG 9: Industry, Innovation and Infrastructure and SDG 11: Sustainable Cities and Communities as the baselines of the current state of mobility in the city and introducing alignment and linkages of transport-related SDGs between various goals. Through this visual representation, the city administrators were able to comprehend the gravity of the issue and understand the need for a coordinated effort and participation of more than one department to resolve the issue.

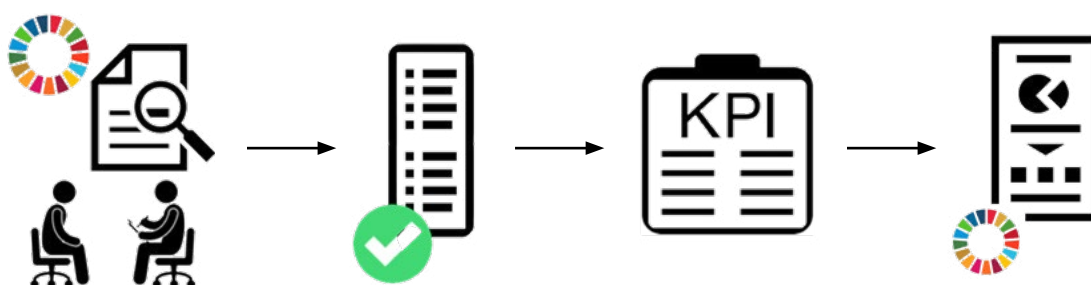
**Figure 1.** Mock Dashboard of Road Accident Data



This was the first attempt of the city to look at the complementarity of the SDGs, and Patiala city authorities were interested in supporting OCI to define a proof-of-concept package that demonstrates the feasibility and value of local SDG monitoring. The package was also discussed in a workshop with experts and practitioners from the urban development sector.

This SDG Localization Package, developed by OCI under a grant from SDSN's Local Data Solutions Initiative (LDA-SI), includes a four-step approach:

1. Define the city priorities
2. Map selected city priorities to the SDGs
3. Identify local indicators and report
4. Adoption of data visualization tools and dashboards



The project timeline is detailed in Figure 2.

**Figure 2.** Timeline of SDG Localization Project

SDG Localization Package Steps	Tentative Project Timeline								
	Q1			Q2			Q3		
1a. Establish a local team	✓								
1b. Consult and identify priorities	✓								
2a. Desk research	✓	✓							
2b. Mapping SDG to municipal functions		✓							
2c. SDG indicator consolidation for urban local bodies		✓	✓						
3. Identify indicators and collect data*				✓	✓	✓			
4. Adoption of data visualization tools and dashboard development**							✓	✓	✓

\*Time taken to finalize the KPIs based on availability of data

\*\* Maximum time taken to develop an online dashboard with a data warehouse

## 1 Define the City Priorities

**1a. Establish a local team:** At the start of the project, we identified stakeholders from the city who could support the SDG localization process. They included the Commissioner and Joint Commissioner; Municipal Corporation, Patiala (facilitating any coordination with the government functionaries); professors from Department of Civil Engineering, Thapar Institute of Engineering and Technology (a local university); and the founder of the Patiala Foundation (a nongovernment organization). TRIPP, IIT Delhi was available for any support and guidance on coordination with the local government.

**1b. Consult and identify priorities:** In June 2018, OCI and TRIPP convened a meeting with the Commissioner and Joint Commissioner at Municipal Corporation, Patiala, and the stakeholders were consulted to share the most pressing issues of the city. OCI asked the city administrators to shortlist three to four issues that could be tested in the prototype. The city administrators identified five priority areas:

- solid waste management
- air pollution
- parking management
- stray animals
- road safety (which the city was already working on in partnership with TRIPP, IIT Delhi).



In August 2018, OCI organized an SDG prioritization workshop in New Delhi with 15 urban experts and practitioners, working within different Indian cities on multiple sectors<sup>8</sup>. These included experts from [UN-Habitat India](#); the Institute of Social Sciences ([ISS](#)); [TRIPP, ITT Delhi](#); the Indian Council for Research in International Economic Relations ([ICRIER](#)); the Energy Resources Institute ([TERI](#)); the National Institute of Urban Affairs ([NIUA](#)); the TERI School of Advanced Sciences ([TERI-SAS](#)); and [ICLEI South Asia](#). The objective of the workshop was to showcase and discuss the SDG localization methodology, including the SDG mapping (Step 2b) proposed by OCI.

Participants suggested that city priorities can also be defined through a multi-stakeholder workshop in the city. This is one way to see if the priorities defined by the municipal corporation in the meeting with OCI match with the needs of the citizens. Alternately, the grievances and redressal records can be checked. The registered complaints resonated solid waste management, air pollution, and road conditions as the top pressing issues by citizens. This was validated by the Joint Commissioner, MC Patiala in a meeting in September 2018. The issue with stray animals in the city was mainly raised by the urban local body.

## **2** Map Selected Priorities to the SDGs

**2a. Desk research:** To establish an understanding of which SDG and SDG-related indicators have been previously identified by cities, OCI studied literature on SDG localization at the national and global levels and defined a relevant and practical indicator registry. The first go-to resource



explored was the official indicators from the IAEG-SDGs. The work done by SDSN under the USA-SCI with three American cities—San José, Baltimore, and New York—was also studied closely to learn approaches to localization and document indicators employed. Further, with the focus on the role of cities for the success of Global Goals, the [need for localization](#) is taking center stage, and there are additional literature and toolkits available. Within the Indian context, due to the growing focus on India's urban transformation, publications like *Smart City Bureau of Indian Standards*, [Liveability Standards](#), and [Service Level Benchmark Handbook](#), released by the Government of India's Ministry of Housing and Urban Affairs, were also reviewed.

**2b. Mapping SDGs to municipal functions:** It is critical to develop a consolidated indicator list that resonates with the duties and responsibilities of the urban local bodies. OCl first mapped each city priority to the 18 functions, and then the municipal functions with the relevant SDGs on the basis of similar definition and practical alignment of the goals. The prepared template is available in Annex E. This output was also presented to urban experts in the SDG prioritization workshop so that any missing SDGs could be mapped. Once this was available, it served as a tool to link SDGs to the objectives of municipal priorities and operate within the mandate of the constitutional provisions (Figure 3). The relationship of the city priorities to the municipal functions can vary from one to one, or one to many.

**Figure 3.** Alignment of City Priorities with Municipal Functions

City priority (Patiala)
Air pollution Solid waste management Parking management Stray animals



Municipal functions (Twelfth Schedule)		
1	Urban planning including town planning	
2	Regulation of land use and construction of buildings	
3	Planning for economic and social development	
4	Roads and bridges	✓
5	Water supply for domestic, industrial, and commercial purposes	
6	Public health, sanitation conservancy, and solid waste management	✓
7	Fire services	
8	Urban forestry, protection of the environment, and promotion of ecological aspects	
9	Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded	
10	Slum improvement and upgradation	
11	Urban poverty alleviation	
12	Provision of urban amenities and facilities such as parks, gardens, playgrounds	
13	Promotion of cultural, educational, and aesthetic aspects	
14	Burials and burial grounds; cremations, cremation grounds, and electric crematoriums	
15	Cattle pounds; prevention of cruelty to animals	✓
16	Vital statistics including registration of births and deaths	
17	Public amenities including street lighting, parking lots, bus stops, and public conveniences	✓
18	Regulation of slaughter houses and tanneries	

Figure 3 continued

	Municipal Functions (Twelfth Schedule)	SDG Goal	Definition
 <b>1</b> NO POVERTY	1 Urban planning, including town planning	11	Sustainable Cities and Communities
		13	Climate Action
		16	Peace and Justice Strong Institutions
		17	Partnerships to achieve the Goal
 <b>2</b> ZERO HUNGER	2 Regulation of land use and construction of buildings	11	Sustainable Cities and Communities
 <b>3</b> GOOD HEALTH AND WELL-BEING	3 Planning for economic and social development	1	No Poverty
		4	Quality Education
		6	Clean Water and Sanitation
		5	Gender Equality
		10	Reduced Inequality
		12	Responsible Consumption and Production
		16	Peace and Justice Strong Institutions
 <b>4</b> QUALITY EDUCATION	4 Roads and bridges	3	Good Health and Well-being
		9	Industry, Innovation and Infrastructure
		11	Sustainable Cities and Communities
 <b>5</b> GENDER EQUALITY	5 Water supply for domestic, industrial, and commercial purposes	6	Clean Water and Sanitation
 <b>6</b> CLEAN WATER AND SANITATION	6 Public health, sanitation conservancy, and solid waste management	3	Good Health and Well-being
		5	Gender Equality
		6	Clean Water and Sanitation
		11	Sustainable Cities and Communities
 <b>7</b> AFFORDABLE AND CLEAN ENERGY	7 Fire services	11	Sustainable Cities and Communities
 <b>8</b> DECENT WORK AND ECONOMIC GROWTH	8 Urban forestry, protection of the environment, and promotion of ecological aspects	15	Life on Land
		12	Responsible Consumption and Production
		13	Climate Action
 <b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE	9 Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded	5	Gender Equality
		4	Quality Education
 <b>10</b> REDUCED INEQUALITIES	10 Slum improvement and upgradation	11	Sustainable Cities and Communities
 <b>11</b> SUSTAINABLE CITIES AND COMMUNITIES	11 Urban poverty alleviation	1	No Poverty
		6	Clean Water and Sanitation
		11	Sustainable Cities and Communities
 <b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION	12 Provision of urban amenities and facilities such as parks, gardens, playgrounds	11	Sustainable Cities and Communities
 <b>13</b> CLIMATE ACTION	13 Promotion of cultural, educational, and aesthetic aspects	11	Sustainable Cities and Communities
		12	Responsible Consumption and Production
		4	Quality Education
 <b>14</b> LIFE BELOW WATER	14 Burials and burial grounds; cremations, cremation grounds, and electric crematoriums		
 <b>15</b> LIFE ON LAND	15 Cattle pounds; prevention of cruelty to animals		
 <b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS	16 Vital statistics, including registration of births and deaths	2	Zero Hunger
		16	Peace and Justice Strong Institutions
 <b>17</b> PARTNERSHIPS FOR THE GOALS	17 Public amenities including street lighting, parking lots, bus stops, and public conveniences	11	Sustainable Cities and Communities
	18 Regulation of slaughter houses and tanneries	6	Clean Water and Sanitation

**2c. SDG indicator consolidation for urban local bodies:** This step consists of the development of the master list “SDG and SDG-related indicator registry for Urban local bodies in India,” a consolidated registry of indicators (global/official and local) applicable to an urban local body, irrespective of its size, typology, and geography. (See Annexes A and B.) The list offers an opportunity for local administrators to see the relevance of SDGs in their day-to-day planning and governance activities. If more literature or secondary research become available, indicators can be added to the master list, aligning to Step 2b.

### **3** Identify Local Indicators and Collect Data

Based on the issues identified, a short list of indicators was prepared for each priority area and shared with the City of Patiala in a data entry sheet (Annex F). Shortlisting indicators will be an iterative process. Indicator selection is primarily driven by what the indicators will be measuring and decision-making aspects of the indicator. Other criteria include:

- **Relevance:** The indicator should be clearly linked to one or more targets/objectives. It should be able to inform policymaking.
- **Transparency and Ease of Interpretation:** The manner in which the indicator is constructed (metadata) should be easily understood, including the rationale behind it.
- **Measurability:** The indicator should be measured in a cost-effective and practical manner; it should be constructed from well-established sources of public and private data, using consistent procedures and calculation methods to make all indicators reliable.

- **Data Availability:** Indicators should include time series data and be based on local data.
- **Appropriate Time Series:** Once indicators have a correct time series, they are reliable.
- **Reliability:** They need to be fit for the purpose under stated conditions for a specified period of time.
- **Comparability:** Can be compared to existing data sets/past conditions.
- **Validity:** This points towards accuracy; the indicator is linked to something conclusive in the evaluation process.

In the case of Patiala, this would depend on availability of data within the city and the applicability of the indicator. The process of localization itself promotes customizing an indicator to make it relevant for the city.

Therefore, at this stage there are two sub-steps:

**3a. Apply existing indicators:** “SDG localization indicators for Patiala” comprises of 50 indicators (global and local) across issues of Solid Waste Management, Air Pollution, and Parking Management (Annex C). This is a brief concise and smaller list that is applicable to the City of Patiala for the issues identified. A simple view was essential so that it does not intimidate or overwhelm the city.

**3b. Designing effective indicators:** Effective indicators must be measurable, relevant, reliable, and comprehensible<sup>9</sup>. It is important that indicators directly measure what they are supposed to, and that they are easily

understood by implementers and policymakers alike. If Step 3a is not successful, it is recommended that stakeholders explore and design effective indicators. Step 3b has not been considered as part of the scope and has been defined as a lesson.

A data entry sheet was developed by including both numerator and denominator for the identified indicators. This also assisted in developing a technical understanding on data and statistics with the city administrators, and considers the method of calculations suggested.

The Joint Commissioner, MC Patiala acted as the focal point to provide data values, review indicators, and facilitate any coordination with the relevant departments.

Focusing on the isolated language, the students began the third step: considering whether the structural issue, defined measure, or population could be revised to make the target “applicable.” It is worth noting that the students, with direction from the City, endeavored to include or adapt as many targets as possible in order to maintain the City’s commitment to implement the framework holistically.

***How can local government map priority areas NOT directly mentioned in the SDGs?***

The Sustainable Development Goals and Urban Local Bodies Toolkit<sup>10</sup> mentions the key role of ULBs in implementing the SDGs in India, but also highlights each of the 18 subjects of the ULBs as mandated under the 74th Amendment, directly contributing to the fulfillment of the India’s commitment to SDGs. There are many goals that are directly relevant

within the purview of these subjects. OCI observed that for some issues, an indirect relationship exists and it would be difficult for the municipality to address these without any technical assistance. For example, the issues of air pollution and solid waste management are explicitly mentioned in the SDGs, there is good quality research and literature available on them, and cities have been implementing large infrastructural projects to tackle these issues, whereas for other identified issues (such as parking management and stray animals), there is little or no mention in the SDGs.

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## **Box 2.** Parking Management

Issues such as parking management need to be critically addressed from the lens of sustainable urban mobility principles. In the case of parking management, most of the indicators identified have been populated through national-level documents. Finding indicators was not the primary challenge, but rather selecting the right indicator for the issue.

The steps being taken by the administration are oriented towards responding to the immediate needs of citizens through the creation of parking lots, road widening, and other capacity enhancement strategies. The SDGs place the principle of “leave no one behind” at the heart of the new agenda, aiming to ensure the inclusion of marginalized, disempowered, and excluded groups. Also, Target 11.2 states, “By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all,” particularly public transport solutions. If cities want to adopt the goals, it is critical to track/report on the right indicator that reinforces a people-centric

### *Box 2 continued*

vision and promotes development of long-term strategies, such as improving and prioritizing public transport, cycling, and walking.

Therefore, while selecting localized key performance indicators for parking management, the SDGs offer Patiala an opportunity to steer towards for a paradigm shift in the way the city is planned and become accountable to more sustainable modes across the city.

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### **Box 3.** The Case of Stray Animals<sup>11</sup>

One of the 18 subjects for the ULB is specific to “cattle pounds, prevention of cruelty to animals.” The case of stray animals is not specific to Patiala.

The last few years have seen a rise in the number of stray animals in Indian cities, leading to greater traffic congestion and accidents, public safety and health issues, and cases of animal cruelty and death. The animals involved range from common domestic animals (like dogs, cows, monkey, and pigs) to wild (and sometimes bigger) animals—such as elephants or leopards—depending on the proximity of the city to their natural habitats. Each species requires a specific study on why its numbers are rising, the nature of its interaction with humans, the threats posed and faced by the species, and possible strategies to deal with them in a humane manner.

Patiala city administrators specifically mentioned the problem of stray dogs and cattle in the city. While this issue itself is not explicitly mentioned in the SDGs, the causal factors and the impact of these are linked to various SDGs and targets (Figure 4). One of the greatest contributing factors to the rise in the population of stray animals is the greater availability of food to



### *Box 3 continued*

them through growing garbage dumps and more open dumping sites. In the case of cattle, the issue is further compounded by political and religious tensions, with a rising number of cases, hate crimes, and deaths in India. Indian farmers rely on the beef-leather by-product market to dispose of their unproductive animals, sustain their livelihoods and the “dairy-draught-insurance-manure-role” of the animal in Indian agriculture, for which slaughter is a prerequisite<sup>12</sup>. The all-out ban on cattle slaughter by the central government has led to a greater number of old cows being abandoned as farmers are unable to meet the required costs for looking after them. In turn, the municipal government is grappling with a rising number of cows in state-run shelters and on the streets.

In the case of Patiala and other Indian cities, priority areas such as stray animals not only have no precedent in terms of existing localized indicators but also are difficult to place within the SDGs themselves. This poses the challenge of not just developing indicators for which data is available, but first placing the issues within the SDGs in order for the indicators to support SDG monitoring.

In Patiala, the issue of stray animals, particularly dogs and cattle, has been reviewed through a systems thinking approach. While the political, social, and cultural reasons linked to this issue deserve to be studied in detail, the time scope of the grant did not allow for further detail. Rather, OCI approached this issue by breaking it into its various parts—the causes, impacts, possible responses, and how each of these affects the other. The aim of this process was to understand which SDGs would best answer the causal factors and which may help mitigate the impacts.

The relationship of this issue thus could be linked to SDG 3: Good Health and Well-being, SDG 6: Clean Water and Sanitation, SDG 11: Sustainable Cities and Communities, and SDG 15: Life on Land.

**Figure 4.** Linkages Between Stray Animal Issue and SDGs

**Problem**

Stray animals

**Impact**

Traffic blocks  
Health risk  
Safety issues

**Causes**

Increasing animal populations  
Increased food availability  
Loss of habitat  
Changing laws/acts



**Possible responses**

Closing of open dumping sites  
Sterilization programs  
Increase in number of shelters



## 4 Adoption of Data Visualization Tools and Dashboard Development

The adoption of data visualization tools and dashboards valorizes the SDG localization process. CSF and its Data for All<sup>13</sup> initiative support a modular approach of loosely coupled, yet tightly aligned, opensource tools to support national and sub-national SDG monitoring.

Once the data entry sheets (shared in Step 3) were received from the city, OCl computed the indicators' value and converted the datasets into meaningful visualizations, presented in the dashboard. The prototype can be seen [online](#) and in Figure 5 (also, Annex D).

The KPIs selected from the datasets enabled the introduction of SDG 6: Clean Water and Sanitation on the dashboard. Indicator 6.3.1 (“Proportion of wastewater safely treated”) and Indicator 11.6.1 (“Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities”) were added. The final dashboard was reviewed by the Joint Commissioner. Since only two out of 48 indicators shared could be reported, the need for data consistency, data collection, and reporting emerged.

The public dashboard, once fully available online, can bridge the gap between citizens and the municipal corporation. Thoughtfully-designed data visualizations, broadly accessible on the web and updated in real time, restore priority to the issues identified through the localization process. They expand support for these through the city administration and with citizens (if the tool is publicly accessible). The potential of the mock dashboard will be fully realized once taken online.

**Figure 5.** Mockup of Prototype Public Data Dashboard



The prototype dashboard serves to kickstart this process, helping city administrators who do not understand the value of aligning to a global framework to understand intuitively the impact of this process, and helping administrators who have already supported an SDG localization effort see the potential of making the outcomes available in a dashboard.

## **STRENGTHS AND WEAKNESSES**

### **Intuitive and simple methodology**

The methodology to develop these tools is extremely intuitive, simple, and feasible. Cities can quickly develop iterations and see alignment of their priorities with the Sustainable Development Goals. The city administration and decision-makers have dropped any initial skepticism around Agenda 2030 as something imposed by an international body to drive sub-national priorities. This increases ownership by the city and excites them to evaluate this in other sectors like water and public places.

Currently, the SDGs shortlisted are SDG 3: Good Health and Well-being, SDG 6: Clean Water and Sanitation, SDG 9: Industry, Innovation and Infrastructure, SDG 11: Sustainable Cities and Communities, SDG 13: Climate Action, and SDG 16: Peace, Justice and Strong Institutions. The city realizes SDG 13 and SDG 16 have a broader role, especially to foster environmental sustainability and transparent, robust urban governance. The role of SDG localization is thus not only limited to data impact. Currently, Patiala uses the Agenda 2030 as a guiding light.

## **Data dashboard as a launchpad for long-term vision and integrated development**

Adopting innovative data tools, such as a dashboard, provides a common ground and promotes localized targets and results-based approaches.

Using data visualization technology and design, an SDG localization project evolves into a living reference dashboard and presents an opportunity to invest in data tools to increase accountability and monitoring.

The commissioner's office is able to employ the SDG Dashboard, emphasizing tight integration of departments around a shared set of priorities. The current dashboard includes information collected from eight departments, namely: Police, Municipal Corporation, Punjab Pollution Control Board, Public Works Department, Water Department, and Solid Waste Management Department.

## **The power of collaboration and partnerships**

The role of partnerships was key in this process. The prototype dashboard is an excellent output showcasing work by multiple partners working on the common objective to mainstream Agenda 2030. With the data was collected under respective projects, the city was able to see the SDG framework at work. The city constantly received technical assistance from CSF's OCI on data systems and academic partners such as TRIPP, IIT Delhi and Thapar University (on SDG-oriented road safety, air pollution, transport related SDGs), who supported data collection and analysis, and collectively bridged understanding on the SDGs when required. With the support of the LDA-SI grant and support by SDSN TReNDs, the city was able to expand into other SDGs and develop the prototype dashboard.

### **Online, real-time dashboard tool**

The prototype dashboard has been produced as a standalone webpage that can be disseminated widely. This is a step forward from the traditional methods of information sharing in the city.

### **Funding and technical capacity**

Although lacking state support and possessing limited resources and technical capacity, this small city has kickstarted its journey with the SDGs. It can now reach out to state governments, urban missions, and donor agencies for additional funds and to create partnerships for full-scale SDG local data action, data implementation, and technical assistance.

### **Data availability and data consistency**

OCI has been able to visualize two more indicators under this method to showcase what is available rather than what is not. The city understands that with the provision of new datasets, the type of visualization can change. At present, only the previous year's data points have been included for some indicators.

## **LESSONS**

### **Enabling local government to apply the SDGs to their context**

OCI leveraged the LDA-SI microgrant to develop a proof-of-concept package for Indian cities, kickstarting localization of the goals and leveraging of open-source data technology to valorize local data action across constituencies. While the success of the method has been acknowledged by the Patiala city government through their interest in exploring other priority areas, the official data that emerged after the exercise was underwhelming.

In the data entry sheet, Patiala was only able to fill data for the current year for three out of 48 indicators; the datasets were inconsistent and were mainly estimates provided by the Urban Local Body.

The scope was designed in such a way that official datasets could be visualized to empower ULB to start opening more datasets. With a lack of official datasets received, the team could rely on collection of non-official datasets resting with NGOs or civil society organizations, or also look at citizen-centered data. As mentioned, the process of identifying indicators is iterative, and this would link to defining efficient indicators. This is a learning that can be incorporated in the next iteration, and appropriate time and resources can be allocated to bolster local data action efforts.

Lacking human resources and technical capacity within the city were made clear in the process of extracting and reporting data from old, paper-based records. To bring efficiency in this process, the city has also seen the potential of an online data entry and management tool that can be shared with all departments for easy data collection. This will also facilitate digitization of records, timely provision of information at the time of decision-making, and development of a robust SDG implementation.

The mock dashboard itself can only help in generating an initial interest and curiosity from citizens and government counterparts. To drive proactive decision-making, taking the dashboard online is eminent. Further facilitating a real-time data update will be extremely instrumental. Supporting this with a sustainability officer or other resource, looking at data within the



municipal body, will create the momentum to continuously supply evidence to the decision-makers, disrupting “business as usual” urban planning and targeting a results-based approach to city governance.

**A need for collaboration and convergence of existing programs and schemes**

The prototype dashboard is a strong tool that supports a shift to collaborative decision-making. It indicates that urban development as a sector is cross-cutting, thereby not only a mandate of municipal corporation but a collaborative effort of various state departments and parastatals. Not only does such a tool address the priorities of the city and benefit the municipal corporation, it can also serve to fill information gaps and enable policy planning by state and national governments for facilitated action toward SDG target achievement.

There are various programs and schemes available at the national and state level, yet many such programs are not able to support or bypass city priorities. While some Gol programs such as Smart City Mission (SCM), HRIDAY might be exclusive or not apply directly to cities that were not selected, others such as Swacch Bharat (Urban) Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Pradhan Mantri Awas Yojana - Urban (PMAY-U), etc. can support cities building strategies to achieve the SDGs. As India drafts its urbanization story, such innovations at local level will not only be appreciated within the state, but have immense potential for replication in similar cities.

## **Local SDG reporting can complement India's VNR process**

NITI Aayog is also leading the process of Voluntary National Review (VNR) preparation. VNRs are not an end, but a means to exchange experiences, identify challenges, and accelerate implementation<sup>14</sup>. As a member state of the UN, India presented its VNR on SDGs 1, 2, 3, 5, 9, and 14 during the 2017 HLPF. NITI Aayog has been encouraging states and union territories across the country to share good practices that can fast-track implementation of SDGs. The VNRs enable sharing of experiences, challenges, and lessons learnt so as to accelerate SDG implementation. The outputs and the SDG localization package can be discussed by the state government in VNR processes. Also, while the proof-of-concept package assists any city in launching a prototype of its own evidence-based journey towards SDG localization, the gaps, challenges, and full-scale impact can be bolstered through participation of the state government.

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# ANNEXES

## Annex A. Template for SDG Alignment to Municipal Priorities

Function	Municipal Function Name	SDG Goal	Definition	Target	Target	Global SDG Indicators	
1	Urban planning including town planning	11	Sustainable Cities and Communities	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1	Ratio of land consumption rate to population growth rate	
					11.3.2	Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically	
					11.a.1	Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city	
					11.b.1	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030	
					11.b.2	Number of countries with national and local disaster risk reduction strategies	
					13	Climate Action	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
		13.3.2	Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions				
		16	Peace and Justice Strong Institutions	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	16.7.1	Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions	
					16.7.2	Proportion of population who believe decisionmaking is inclusive and responsive, by sex, age, disability and population group	
		17	Partnerships to achieve the Goal	17.14 Enhance policy coherence for sustainable development	17.14.1	Number of countries with mechanisms in place to enhance policy coherence of sustainable development	
					17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	17.19.1	Dollar value of all resources made available to strengthen statistical capacity in developing countries
						17.19.2	Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration
2	Regulation of land-use and construction of buildings	11	Sustainable Cities and Communities	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.1	Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	
					11.6.2	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	
				11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	11.c.1	Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials	
8	Planning for economic and social development	1	No Poverty	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.4.1	Proportion of population living in households with access to basic services	
					1.4.2	Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	
		4	Quality Education	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	
					4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill
		5	Gender Equality	5.1 End all forms of discrimination against all women and girls everywhere	5.1.1	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex	
					5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1	Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age
					5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1	Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18
						5.3.2	Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age
					5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.4.1	Proportion of time spent on unpaid domestic and care work, by sex, age and location
		5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1	Proportion of seats held by women in (a) national parliaments and (b) local governments			
5.5.2	Proportion of women in managerial positions						

				5.a	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.a.2	Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
		10	Reduced Inequality	10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	10.2.1	Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities
		12	Responsible Consumption and Production	12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature		Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
		16	Peace and Justice Strong Institutions	16.2	End abuse, exploitation, trafficking and all forms of violence against and torture of children	16.2.1	Proportion of children aged 1-17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month
4	Roads and bridges	3	Good Health and Well-being	3.6	By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1	Death rate due to road traffic injuries
		9	Industry Innovation and Infrastructure				
		11	Sustainable Cities and Communities	11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
		11	Sustainable Cities and Communities	11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1	Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
5	Water supply for domestic, industrial and commercial purposes	6	Clean Water and Sanitation	6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1	Proportion of population using safely managed drinking water services
				6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.1	Proportion of wastewater safely treated
				6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	6.4.1	Change in water-use efficiency over time
				6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	6.5.1	Change in the extent of water-related ecosystems over time
6	Public health, sanitation, consentancy and solid waste management	3	Good Health and Well-being	3.1	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.1	Maternal mortality ratio
				3.2	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1	Under-five mortality rate
				3.3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.1	Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations
				3.4	By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease
				3.5	Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	3.5.1	Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders
				3.8	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1	Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)
				3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1	Mortality rate attributed to household and ambient air pollution
		5		5.6	Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1	Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care
		6	Clean Water and Sanitation	6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1	Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
				6.b	Support and strengthen the participation of local communities in improving water and sanitation management	6.b.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management
		11	Sustainable Cities and Communities	11.6	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.6.1	Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities
				12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1	Number of companies publishing sustainability reports
7	Fire services	11	Sustainable Cities and Communities	11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1	Number of deaths, missing persons and persons affected by disaster per 100,000 people

8	Urban forestry, protection of the environment and promotion of ecological aspects	15	Life on Land	15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	15.2.1	Progress towards sustainable forest management
				15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	15.9.1	Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020
		12	Responsible Consumption and Production	12.2	By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1	Material footprint, material footprint per capita, and material footprint per GDP
				13	Climate Action	13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
		13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning			13.3.1	Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula
		6.6	By 2020, protect and restore water-related ecosystems, including savannas, forests, wetlands, rivers, aquifers and lakes	6.6.1	Change in the extent of water-related ecosystems over time		
9	Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded.	5	Gender Equality	5.1	End all forms of discrimination against all women and girls everywhere	5.1.1	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex
			Gender Equality	5.2	Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1	Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age
			Gender Equality	5.3	Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1	Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18
		4	Quality Education	4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
10	Slum improvement and upgradation	11	Sustainable Cities and Communities	11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1	Proportion of urban population living in slums, informal settlements or inadequate housing
11	Urban poverty alleviation	1	No Poverty	1.a	Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.a.1	Proportion of resources allocated by the government directly to poverty reduction programmes
				1.1	By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1	Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
				1.3	Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1	Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable.
				1.5	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.5.1	Number of deaths, missing persons and persons affected by disaster per 100,000 people
				1.a	Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.a.1	Proportion of resources allocated by the government directly to poverty reduction programmes
				1.b	Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.	1.b.1	Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups
12	Provision of urban amenities and facilities such as parks, gardens, playgrounds	11	Sustainable Cities and Communities	11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1	Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
13	Promotion of cultural, educational and aesthetic aspects.	11	Sustainable Cities and Communities	11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1	Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)
		12	Responsible Consumption and Production	12.b	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	12.b.1	Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools
		4	Quality Education	4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1	Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
				4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1	Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex
				4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
				4.a	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	4.a.1	Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)



14	Burials and burial grounds; cremations, cremation grounds and electric crematoriums						
15	Cattle pounds; prevention of cruelty to animals						
16	Vital statistics including registration of births and deaths	2	Zero Hunger	2.1	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1	Prevalence of undernourishment
				2.2	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1	Prevalence of stunting (height for age $-2$ standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age
		16	Peace and Justice Strong Institutions	16.9	By 2030, provide legal identity for all, including birth registration	16.9.1	Proportion of children under 5 years of age whose births have been registered with a civil authority, by age
17	Public amenities including street lighting, parking lots, bus stops and public conveniences	11	Sustainable Cities and Communities	11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
18	Regulation of slaughter houses and tanneries	6	Clean Water and Sanitation	6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.1	Proportion of wastewater safely treated
				6.b	Support and strengthen the participation of local communities in improving water and sanitation management	6.b.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

# Annex B. Local Registry

Municipal Function No.	Municipal Function Name	SDG Goal	Definition	Localized Target	City	Source
3	3 - Planning for economic and social development	1	No poverty	percent children living in poverty	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				distressed communities index (DCI)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				liquid asset poverty	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				number of homeless persons	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Lift 800,000 New Yorkers out of poverty or near poverty by 2025	New York	One New York, The Plan for a Strong and Just City
				Increase median household income from \$52,250	New York	One New York, The Plan for a Strong and Just City
				Slum/EWS households covered through formal/affordable housing	India	Liveability Standards in Cities
				slum areas covered through basic services	India	Liveability Standards in Cities
16	16 - Vital statistics including registration of births and deaths	2	Zero hunger	percent residents experiencing food hardships (BMA)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Ensure that all residents have sufficient access to healthful food, as defined by the U.S. Department of Health and Human Services and the U.S. Department of Agriculture	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Work with the County Health Department, school districts and non-profit health organizations, particularly at schools, community centers and libraries, on efforts to educate the community on the nutritional, economic, and environmental benefits of consuming locally grown and ecologically sound foods	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Revise the Zoning Ordinance to allow both community gardens and incidental gardening as permitted uses in appropriate zoning districts	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop a City Council Policy to address ways San Jose will support Urban Agriculture. This policy should include strategies to increase access to healthful foods, particularly in low income or nutritionally-deficient areas; increase the sale and availability of locally or regionally grown foods; increase urban food production; and clearly identify the appropriate City processes for dealing with agriculture issues	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Promote legislation to establish Countywide or Statewide agricultural preservation programs, including identifying sources of funding necessary for implementation of such programs	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Work with agricultural entities (i.e., farming industry, non-profits, land owners), the County, other Santa Clara County cities, and the Local Area Formation Commission and other stakeholders to promote public education to improve the community's understanding of the importance of agriculture in creating sustainable communities within Santa Clara County	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Identify potential new locations for farmers' markets in low-income and nutrition deficient neighborhoods, including joint use opportunities on publicly owned land	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Maintain an inventory of available vacant or underutilized land owned by the city or other public entities that could be used for food production	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Collaborate with the Santa Clara County Public Health Department to measure the accessibility of healthful foods as well as the relative concentration of fast food restaurants near schools. Use this data to identify any excessive concentration of fast food retailers in the vicinity of schools and the need for alternative healthful food options	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Collaborate with the Santa Clara County Public Health Department to measure the accessibility of healthful foods by neighborhood including both the percentage of residents living near full-service grocery stores or fresh produce markets and the relative concentration of fast food restaurants and convenience stores to healthful food retailers. Use this data to identify nutrition deficient neighborhoods in the city	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Collaborate with the Santa Clara County Public Health Department and the non-profit health sector to develop an economic development strategy to attract full-service grocery stores, fresh produce markets, and other healthful food retailers to low-income and nutrition deficient neighborhoods in the city. Also work collaboratively to develop an economic development strategy to attract healthful food options near schools	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Collaborate with the Santa Clara County Public Health Department and the non-profit health sector to explore the potential to develop an incentive program to encourage existing liquor stores, neighborhood markets or convenience stores in nutrition deficient neighborhoods to sell fresh fruits and vegetables. Incentives could include, but are not limited to increases in density, reductions in parking requirements, or grants to purchase refrigeration units or other equipment necessary to sell fresh produce	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Partner with the County and non-profits to promote community gardens in low income areas as an opportunity to grow affordable and healthful food	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop partnerships with non-profits and the school districts to connect school children with community gardens, providing children with educational opportunities and access/exposure to healthful foods	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Expand the cultivation and sale of locally grown agriculture as an environmentally sustainable means of food production and as a source of healthy food for San Jose residents	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Provide and protect sufficient agricultural land to facilitate local food production, to provide broad community access to healthful foods, to add to a distinct community image, and to promote environmental, fiscal, and economic benefits of rural agricultural lands	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				In the review of new locations for the off-sale of alcohol, give preference to establishments that offer a full range of food choices including fresh fruit, vegetables, and meat	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Work with the Valley Transportation Authority to ensure that public transit provides access to full-service grocery stores, farmers' markets and other retailers of healthful food	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Encourage healthful food choices, exercise, and the production of locally grown agriculture for personal use by providing community garden facilities	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Increase the average number of servings of fruits and vegetables that adult New Yorkers eat per day by 25% , from 2.4 to 3 servings by 2025	New York	One New York, The Plan for a Strong and Just City				
3	Good health and well-being	3	Good health and well-being	infant mortality rate per 1000 residents	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				number of drug and alcohol related emergency department visits per 1000 residents	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				average life expectancy	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Facilitate the development of new and promote the preservation and enhancement of existing health care facilities that meet all the needs of the entire San Jose community	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Build healthful communities through people, parks, and programs by providing accessible recreation opportunities that are responsive to the community's health and wellness needs	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016

4 6	4 - Roads and bridges 6 - Public health, sanitation conservancy and solid waste management		Provide 3.5 acres per 1,000 population of neighborhood/ community serving parkland through a combination of 1.5 acres of public park and 2.0 acres of recreational school grounds open to the public per 1,000 San José residents	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			Provide 7.5 acres per 1,000 population of citywide/regional park and open space lands through a combination of facilities provided by the City of San José and other public land agencies	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			To ensure that residents of a new project and existing residents in the area benefit from new amenities, spend Park Dedication Ordinance and Park Impact Ordinance fees for neighborhood serving elements within a ¼ mile radius of the project site that generates the funds	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			Locate all new residential developments over 200 units in size within 1/3 of a mile walking distance of an existing or new park, trail, open space or recreation school grounds open to the public or shall include one or more of these elements in its project design	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			At parks, trails, and recreational facilities, provide appropriate media to educate the public on options for reaching various recreational destinations using non-vehicular transportation and explain the environmental and health benefits of using these alternative means	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			Reduce infant mortality rate by 20% to achieve a historic low of 3.7 infant deaths per 1,000 live births citywide by 2040 up from 4.6, and dramatically decrease the racial/ ethnic disparity	New York	One New York, The Plan for a Strong and Just City
			Reduce overall premature mortality by 25% from 191.09 to 143.32 per 100,000 by 2040 and dramatically decrease racial and ethnic disparities	New York	One New York, The Plan for a Strong and Just City
			Increase the percentage of adult NYers with serious psychological stress who have received counseling or taken prescription medication for a mental health problem up from 44%	New York	One New York, The Plan for a Strong and Just City
			Reduce number of traffic fatalities to 0 from 255	New York	One New York, The Plan for a Strong and Just City
			Reduce the number of serious injuries due to traffic collisions 0 from 3,766	New York	One New York, The Plan for a Strong and Just City
			Increase the number of NYers who feel that they have received the medical care they needed in the past 12 months up from 89%	New York	One New York, The Plan for a Strong and Just City
			number of in-patient hospital beds per 10,000 population	India	Liveability Standards in Cities
			Healthcare professionals per 10000 population	India	Liveability Standards in Cities
			Average response time in case of health emergencies	India	Liveability Standards in Cities
			Period prevalence of water borne diseases	India	Liveability Standards in Cities
			Period prevalence of vector borne diseases	India	Liveability Standards in Cities
			transport-related fatality per lakh population	India	Liveability Standards in Cities
			Concentration of SO2	India	Liveability Standards in Cities
Concentration of NO2	India	Liveability Standards in Cities			
Concentration of PM10	India	Liveability Standards in Cities			
Quality of water in public surface water Bodies	India	Liveability Standards in Cities			
3 9 13	3- Planning for economic and social development 9- Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded. 13 - Promotion of cultural, educational and aesthetic aspects.	4	Quality education		
			percent disconnected youth	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			highschool graduation rate	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			Percent Students Reaching Advanced or Proficient Levels on the National Assessment of Educational Progress (NAEP) in Reading at Grade 4	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			Percent Students Demonstrating Readiness on the Kindergarten Readiness Assessment	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			Support access to quality, affordable early childhood care and education for all San José children and families to promote early literacy and school readiness	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			Partner with educational, civic, labor, and business institutions to provide job training programs that meet the needs of business and industry, including programs that enable the unemployed, under-employed, or economically or socially disadvantaged to enter or move up in the labor force. Connect local businesses with such programs, organizations, or educational institutions.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			Promote the operation of high-quality educational facilities throughout San José as a vital element to advance the City's Vision and goals for community building, economic development, social equity, and environmental leadership	San Jose	San Jose, Implementing the UN's Sustainable Development Goals, Strategies and Indicators; December 2016
			All 4 years olds receive access to free all day, high quality pre-kindergarten up from 53,230	New York	One New York, The Plan for a Strong and Just City
			Increase the number of New York City public school graduates attaining associates and bachelors degrees	New York	One New York, The Plan for a Strong and Just City
			school-aged population enrolled in schools	India	Liveability Standards in Cities
			female school- aged population enrolled in schools	India	Liveability Standards in Cities
			Primary education student- teacher ratio	India	Liveability Standards in Cities
schools with access to digital education	India	Liveability Standards in Cities			
students completing primary education	India	Liveability Standards in Cities			
students completing secondary education	India	Liveability Standards in Cities			
3	3- Planning for economic and social development	5	Gender equality		
			Gender Wage Ratio (Statewide average for Maryland)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			Survivors of Human Trafficking per 10,000 Residents (Maryland state total)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016
			Percent Businesses Owned by Women	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Dece 2016

9	9 - Public health, sanitation conservancy and solid waste management			Decrease the percentage of domestic violence victims turned away from shelters from 48%	New York	One New York, The Plan for a Strong and Just City
13	13 - Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded.			Increase vital city spending with minority and women owned business enterprises (M/WBEs) to \$16 billion over the next 10 years	New York	One New York, The Plan for a Strong and Just City
				Building a government workforce reflective of the diversity and inclusion of all New York City communities	New York	One New York, The Plan for a Strong and Just City
				extent of crimes recorded against women, children and elderly per year	India	Liveability Standards in Cities
		6	Clean water and sanitation	Lead in Water of 90 Percentile Sample	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators, December 2016
				Percent Households to Whom Water Service is Unaffordable	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators, December 2016
				Average Residential Daily Water Usage	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators, December 2016
				Recycle or beneficially reuse 100% of the City's wastewater supply, including the indirect use of recycled water as part of the potable water supply	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop and enact ordinance(s) that require new development to contribute to the improvement and expansion of the South Bay Water Recycling system	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Partner with the Santa Clara Valley Water District and other appropriate agencies to establish an adaptive outreach program to involve the community in development of strategies to promote the value of recycled water as an important part of a fiscally and environmentally sustainable urban water use portfolio	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Institute and support statewide laws and policies that increase the percentage of recycled water included in the State's water portfolio, encourage safe water recycling, promote community tolerance for the use of recycled water, and provide funding for regional and local recycled water projects	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Work with public and private water wholesalers and retailers to cost-effectively expand the South Bay Water Recycling distribution system to serve new non-potable water demand with emphasis placed upon areas experiencing or planned for significant amounts of new development	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop incentives to encourage the use of recycled water. Enact ordinances that ensure that new buildings in the vicinity of the SBWR pipeline are constructed in a manner suitable for connection to the recycled water system and that they use recycled water wherever appropriate	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Provide technical assistance to industries and community businesses to facilitate the use of recycled water. Support recycled water research to increase understanding of all safe and viable uses for recycled water in our community	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Adopt city recycled water use codes and standards and work with local, regional, state and other public and private agencies to substantially increase use of recycled water within San Jose and neighboring jurisdictions	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Review and publicly report on the achievement of water recycling goals and policies on a regular basis to monitor and achieve success	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Encourage graywater use whenever appropriate and in areas that do not impact groundwater quality as determined through coordination with local agencies	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Encourage stormwater capture and encourage, when feasible and cost-effective, on-site rainwater catchment for new and existing development.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Participate in regional efforts to develop codes and standards for stormwater capture and graywater reuse, wherever feasible and cost-effective, and in areas that do not impact groundwater quality as determined through coordination with local agencies.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Work with local, regional and state agencies to protect and enhance the watershed, including the protection of surface water and ground water supplies from pollution and degradation.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Consistent with the Goals, Policies and Implementation Actions for Water Supply, expand San Jose infrastructure for the delivery of recycled water	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Support programs to maximize the beneficial use of wastewater treatment and water reclamation byproducts, which may include water, bio-solids and nutrients.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Ensure that all water in San Jose is of the highest quality appropriate for its intended use.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Participate in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SVURPPP) and take other necessary actions to formulate and meet regional water quality standards which are implemented through the National Pollution Discharge Elimination System (NPDES) permits and other measures.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Partner with public, private, and non-profit agencies on public outreach and education on the importance of responsible stormwater management.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Protect water resources because they are vital to the ecological and economic health of the region and its residents.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Maximize the use of green building practices in new and existing development to minimize use of potable water and to reduce water pollution.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop and maintain policies, ordinances, and guidelines that require reduced use of potable water and that reduce water pollution.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Update the Green Building Ordinance to require installation of water efficient fixtures and appliances that are WaterSense certified, Energy Star rated, or equivalent during construction or renovation of bathrooms, kitchens, laundry areas, and/or other areas with water fixtures/appliances that are proposed to be replaced.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Continue programs to educate the community on water conserving landscaping methods and materials to discourage the use of turf when it is not required for a specific function.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop policies to promote water use efficiency, particularly for water-intensive activities.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Demonstrate environmental leadership through responsible and fiscally and environmentally sustainable management of water to restore our environment, enhance our quality of life and provide an adequate water supply to meet the needs of our community now and in the future.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Partner with the Santa Clara Valley Water District and other agencies to engage the public in an outreach program about the importance of water management to San Jose's quality of life. Develop strategies with the public on how the City can help meet future water supply challenges and minimize the need for imported water by conserving our local water supplies and using recycled water whenever appropriate.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
	3 - Planning for economic and social development			Quantitatively track the City's education program on the public use of water. Adjust the program as needed to meet Envision General Plan goals.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
	5 - Water supply for domestic, industrial and commercial purposes			Partner with other Bay Area cities to ensure that local, regional and statewide plans provide adequate water supplies to serve our community and protect the environment.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
	6 - Public health, sanitation conservancy and solid waste management			Review and provide input to Urban Water Management Plans prepared by water suppliers to ensure that they maximize water conservation and raise in order to fulfill San Jose water supply needs. Consider projected water supplies in updated Urban Water Management Plans as part of each Major Review of the Envision General Plan	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
	11 - Urban poverty alleviation			Continuously improve water conservation efforts in order to achieve best in class performance. Double the City's annual water conservation savings by 2040 and achieve half of the Water District's goal for Santa Clara County on an annual basis.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
	18 - Regulation of slaughter houses and tanneries			Sustainable Silicon Valley's Net Positive Water goal is to use only locally sourced water by 2050.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Reduce citywide per capita water consumption by 25% by 2040 from a baseline established using the 2010 Urban Water Management Plans of water retailers in San Jose	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Achieve by 2040, 50 Million gallons per day of water conservation savings in San Jose, by reducing water use and increasing water use efficiency	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016

			Encourage state legislation to improve water use efficiency through statewide mandates and appropriate regulations to encourage water efficient development (for example, plumbing code, graywater code, and the green building policy)	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Partner with other agencies to incentivize water conservation by developing cost-sharing agreements on rebates and other incentive programs	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Partner with other agencies on education and outreach to engage the community in an ethic of efficient water use and the use of water-efficient practices and technologies	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Adopt guidelines or ordinances that encourage or require Bay-friendly, water-efficient design, landscape and irrigation within San José	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Adopt city water use efficiency codes and standards and work with local, regional, state and other public and private agencies to increase water use efficiency within San José and neighboring jurisdictions	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Review and publicly report on the achievement of water conservation goals and policies on a regular basis to monitor and achieve success.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Encourage the development of new water efficiency, conservation and reuse technologies by providing opportunities for pilot testing and evaluation and incentives for early adoption of such technologies within the community	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Work with water retailers to provide water supply facilities that meet future growth within the City's Urban Service Area and assure a high-quality and reliable supply of water to existing and future residents.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Encourage water conservation and other programs which result in reduced demand for wastewater treatment capacity	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Revise Title 15 of the San Jose Municipal Code to address water conservation mandates due to the ongoing drought	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Various incentive programs to encourage water conservation including lawn replacement programs and other water efficiency upgrades offered by water agencies and city partners	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Maintain full compliance safe water drinking act with 0 violations	New York	One New York, The Plan for a Strong and Just City
			Increase the combined sewage overflow (CSO) capture rate from 78% in 2014	New York	One New York, The Plan for a Strong and Just City
			Maintain backlog of catch-basin repairs under 1%	New York	One New York, The Plan for a Strong and Just City
			Ecologically important areas covered through projects for restoration	India	Liveability Standards in Cities
			Household level coverage of direct water supply connections	India	Liveability Standards in Cities
			Per capita supply of water	India	Liveability Standards in Cities
			Quality of water supplied	India	Liveability Standards in Cities
			Extent of non-revenue water	India	Liveability Standards in Cities
			water connections covered through meters	India	Liveability Standards in Cities
			plots with rainwater harvesting facility	India	Liveability Standards in Cities
			Coverage of toilets	India	Liveability Standards in Cities
			Coverage of sewerage network and/or septage	India	Liveability Standards in Cities
			Collection efficiency of sewerage network	India	Liveability Standards in Cities
			extent of reuse and recycling of waste water	India	Liveability Standards in Cities

		7	Clean and affordable energy		
			Ratio of Utility, Fuels, and Public Services Cost to Before-Tax Income (Baltimore Metropolitan area)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
			Total Electricity Consumption per Capita	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
			Total Gas Consumption per Capita	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
			Provide access to clean, renewable, and reliable energy for all San José residents and businesses	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Promote the development of energy conversion technologies for converting residual wastes into energy Work with stakeholders to establish additional landfill gas-to-energy systems and waste heat recovery and prepare an ordinance requiring such action for San José City Council consideration	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Receive 100% of electrical power from clean renewable sources (e.g., solar, wind, hydrogen) by 2022 and to the greatest degree feasible increase generation of clean, renewable energy within the City to meet its own energy consumption needs	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Facilitate the installation of at least 100,000 solar roofs in San José by 2022 and at least 200,000 solar roofs by 2040	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Develop projects, policies and programs to convert wastewater treatment streams into energy so that the wastewater treatment facilities can operate as fully energy self-efficient	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Maximize the use of green building practices in new and existing development to maximize energy efficiency and conservation and to maximize the use of renewable energy sources	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Develop policies which promote energy reduction for energy-intensive industries. For facilities such as data centers, which have high energy demand and indirect greenhouse gas emissions, require evaluation of operational energy efficiency and inclusion of operational design measures as part of development review consistent with benchmarks such as those in EPA's EnergyStar Program for new data centers	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Develop, implement, and utilize programs that help businesses and homeowners improve the energy efficiency of new and existing buildings	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross-ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Update the Green Building Ordinance to require use of energy efficient plumbing fixtures and appliances that are WaterSense certified, Energy Star rated, or equivalent, in new construction and renovation projects	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Reduce per capita energy consumption by at least 50% compared to 2008 levels by 2022 and maintain or reduce net aggregate energy consumption levels equivalent to the 2022 (Green Vision) level through 2040.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Replace 100% of the City's traffic signals and streetlights with smart, zero emission lighting by 2022	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
			Partner with public, private, and non-profit agencies to develop policies that require existing residents and businesses to undertake building and appliance energy saving retrofit improvements	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016

				Partner with public, private, and non-profit agencies on public outreach and education on energy efficiency programs and services	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Establish minimum requirements for energy efficiency measures and onsite renewable energy generation capacity on all new housing developments	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Create partnerships and governance structures that improve the overall efficiency and reliability of energy production and supply	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Encourage regional and statewide air pollutant emission reduction through energy conservation to improve air quality	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Reduce customer hours of weather related utility and transit service outages	New York	One New York, The Plan for a Strong and Just City
				city population with authorized electrical service	India	Liveability Standards in Cities
				electrical connections covered through smart meters	India	Liveability Standards in Cities
				Average number of electrical interruptions per customer per year	India	Liveability Standards in Cities
				Average length of electrical interruptions per customer per year	India	Liveability Standards in Cities
				total energy derived from renewable sources	India	Liveability Standards in Cities
				Energy consumption per unit in water supply and sewerage	India	Liveability Standards in Cities
				energy consumption per unit - street lighting	India	Liveability Standards in Cities
				new and redeveloped buildings following green building norms	India	Liveability Standards in Cities
				total energy consumption per capita	India	Liveability Standards in Cities
			8	Decent work and economic growth		
				Median Household Income	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Labor Force Participation	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Total Number of Jobs	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Percent Residents Earning a Living Wage (Proposed)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Measure and report the number of jobs created in identified Growth Areas during the City Council's periodic review of this General Plan	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Provide widespread access to diverse employment and training opportunities in San José and strive to increase job growth, particularly jobs that provide self-sufficient wages and health care benefits, to allow the community to broadly share in the region's prosperity	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Plan for the retention and expansion of a strategic mix of employment activities at appropriate locations throughout the City to support a balanced economic base, including industrial suppliers and services, commercial/retail support services, clean technologies, life sciences, as well as high technology manufacturers and other related industries	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Create 25,000 Clean Tech jobs as the World Center of Clean Innovation by 2022	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Promote San José as an employment center. Nurture existing and attract new companies of all sizes (large anchor companies, emerging growth companies, small businesses) in industries that will drive the job and revenue growth for our City and regional economy	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				To monitor the City's balance of land uses and resulting tax base as well as its progress towards reaching the goal of 1.3 jobs per employed resident in San José, periodically review residential construction activity and supply versus industrial and commercial job growth rates. Report results of this review to the City Council as part of the annual General Plan reviews	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Partner with educational, civic, labor, and business institutions to provide job training programs that meet the needs of business and industry, including programs that enable the unemployed, under-employed, or economically or socially disadvantaged to enter or move up in the labor force. Connect local businesses with such programs, organizations, or educational institutions	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Out perform national economic growth NYC GCP v. US GDP	New York	One New York, The Plan for a Strong and Just City
				Increase the share of private sector jobs in innovation from 15% today to 20 % in 2040	New York	One New York, The Plan for a Strong and Just City
				Spur more than 4.9 million jobs by 2040	New York	One New York, The Plan for a Strong and Just City
				Increase workforce participation from 61%	New York	One New York, The Plan for a Strong and Just City
				Increase the number of New York City public school graduates attaining associates and bachelors degrees	New York	One New York, The Plan for a Strong and Just City
				Hotel occupancy	India	Liveability Standards in Cities
				Increase in VAT/Gst collection	India	Liveability Standards in Cities
				increase in collection of Professional tax	India	Liveability Standards in Cities
				increase in issuance of Construction permits	India	Liveability Standards in Cities
				Unemployment rate	India	Liveability Standards in Cities
				vendors registered and provided formal spaces	India	Liveability Standards in Cities
			9	Industry, innovation and infrastructure		
				Annual Hours of Delay per Auto Commuter	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Number of Utility Patent Grants	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016

4	4 - Roads and bridges			Total Value of City Innovation Fund Awards	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Provide and maintain adequate water, wastewater, stormwater, water treatment, solid waste and recycling, and recycled water infrastructure to support the needs of the City's residents and businesses	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Plan for the retention and expansion of a strategic mix of employment activities at appropriate locations throughout the City to support a balanced economic base, including industrial suppliers and services, commercial/retail support services, clean technologies, life sciences, as well as high technology manufacturers and other related industries	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Attract and sustain a growing concentration of companies to serve as the economic engine for San José and the region, particularly in driving industries such as information and communication technologies, clean technology, bioscience, and other sectors based on creativity and innovation	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Promote the development of clean technology companies, the adoption of clean technology products/services, and the creation of at least 25,000 clean technology jobs by 2022 and at least 70,000 clean technology jobs (or at least 10% of San José's total jobs) by 2040 to make San Jose the "World Center of Clean Tech Innovation."	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Track progress towards achieving at least 25,000 new Clean Technology jobs by 2022. Track progress towards achieving at least 70,000 new clean tech jobs by the year 2040 or achieving 10% of the City's total jobs in Clean Technology by the year 2040	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Increase percentage of NYer's with affordable, reliable, high-speed internet service at home to 100% by 2025 up from 78.1%	New York	One New York, The Plan for a Strong and Just City
				Increase percentage of commercial enterprises with access to fast affordable, reliable connection at 1 gigabits per second (gbps) by 100% by 2025	New York	One New York, The Plan for a Strong and Just City
				Increase the percentage of NYer's with access to free public Wi-Fi within 1/8th mile from home to cover a crucial mass of public spaces up from 13.9 %	New York	One New York, The Plan for a Strong and Just City
				3	3 - Planning for economic and social development	10
Infant Mortality Rates per 1,000 Residents, Disaggregated by Race	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016				
Percent Residents Living in Food Deserts, Disaggregated by Race	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016				
Minority Owned Firms	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016				
Percent of Students Reaching Advanced or Proficient Levels on the National Assessment of Educational Progress (NAEP) in Reading at Grade 4, Disaggregated by Race	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016				
Percentage of Students Demonstrating Readiness on the Kindergarten Readiness Assessment, Disaggregated by Race	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016				
Lift 800,000 New Yorkers out of poverty or near poverty by 2025	New York					
Systematically track performance of equity outcomes to ensure OneNYC is making a positive and equitable impact on all New York communities	New York					
		11	Sustainable cities and communities	Number of Days with Air Quality Index "Good" (AQI)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Number of Vacant Buildings	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Housing & Transportation Cost as a Percent of Income	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Percent Households Commuting More than 45 Minutes to Work	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Number of Affordable Housing Units	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; Decemb 2016
				Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Encourage the location of housing designed for senior citizens in neighborhoods where health and community facilities and services are within a reasonable walking distance and are accessible by public transportation.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Provide environmentally sustainable programs, facilities, and infrastructure assets, accompanied by a network of trails and pathways throughout the City to provide an alternate means of transportation.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				At parks, trails, and recreational facilities, provide appropriate media to educate the public on options for reaching various recreational destinations using non-vehicular transportation and explain the environmental and health benefits of using these alternative means.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Complete and maintain a multimodal transportation system that gives priority to the mobility needs of bicyclists, pedestrians, and public transit users while also providing for the safe and efficient movement of automobiles, buses, and trucks.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Increase substantially the proportion of commute travel using modes other than the single-occupant vehicle. The 2040 commute mode split targets for San José residents and workers are as follows: drive alone, no more than 40%; carpool, at least 10%; transit, at least 20%; bicycle, at least 15%; walk, at least 15%	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Update the City's engineering standards for public and private streets based on the new street typologies that incorporate the concept of "complete streets."	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Reduce vehicle capacity on streets with projected excess capacity by reducing either the number of travel lanes or the roadway width, and use remaining public right-of-way to provide wider sidewalks, bicycle lanes, transit amenities and/or landscaping. Establish criteria to identify roadways for capacity reduction (i.e., road diets) and conduct engineering studies and environmental review to determine implementation feasibility and develop implementation. When useful and effective measurement tools have been established by the Institute of Transportation Engineers, develop multimodal level of service (LOS) standards that address all travel modes and include them in the City's Transportation Impact Analysis (TIA) guidelines. Multimodal LOS standards should vary by facility type, travel mode, and location, and should establish a preference for selected modes based on the street type and/or location.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Pursue multimodal commute share goals and annually monitor and report on progress toward achieving them for both residents and employees. Report every five years using data from the Census Bureau's annual American Community Survey (ACS).	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Improve walking and bicycling facilities to be more convenient, comfortable, and safe, so that they become primary transportation modes in San Jose.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016
				Maximize use of existing and future public transportation services to increase ridership and decrease the use of private automobiles.	San Jose	San Jose, Implementing the UN's Sustainable Development G at the Local Level, December 2016

Work with the Valley Transportation Authority (VTA) and other public transit providers to increase transit frequency and service along major corridors and to major destinations like Downtown and North San Jose.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Collaborate with Caltrans and Santa Clara Valley Transportation Authority to prioritize transit mobility along the Grand Boulevards identified on the Growth Areas Diagram. Improvements could include installing transit signal priority, queue jump lanes at congested intersections, and/or exclusive bus lanes.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Regularly collaborate with BART to coordinate planning efforts for the proposed BART extension to San Jose/ Santa Clara with appropriate land use designations and transportation connections.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Collaborate with transit providers to site transit stops at safe, efficient, and convenient locations, and to develop and provide transit stop amenities such as pedestrian pathways approaching stops, benches and shelters, nighttime lighting, traveler information systems, and bike storage to facilitate access to and from transit stops.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Ensure that all street improvements allow for easier and more efficient bus operations and improved passenger access and safety, while maintaining overall pedestrian and bicycle safety and convenience.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Create 100 miles of trails connecting with 400 miles of on-street bikeways by 2022	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Implement effective Transportation Demand Management (TDM) strategies that minimize vehicle trips and vehicle miles traveled.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Update and enhance the existing TDM program for City of San José employees. This program may include the expansion of transit pass subsidies, free shuttle service, preferential carpool parking, ridesharing, flexible work schedules, parking pricing, car-sharing, and other measures.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Work together with large employers to develop a system for tracking Transportation Demand Management (TDM) programs implemented by employers to allow ongoing assessment of results.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Develop and implement parking strategies that reduce automobile travel through parking supply and pricing management.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Update existing parking standards to reduce parking requirements for transit-oriented developments, mixed-use projects, and projects within the Urban Villages to take advantage of shared parking opportunities generated by mixed-use development. Update existing parking standards to address TDM actions and to require amenities and programs that support reduced parking requirements.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Establish a program and provide incentives for private property owners to share their underutilized parking with the general public and/or other adjacent private developments	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
As part of the entitlement process, consider opportunities to reduce the number of parking spaces through shared parking, TDM actions, parking pricing or other measures which can reduce parking demand. Consider the use of reserve landscaped open space or recreational areas that can be used on a short-term basis to provide parking or converted to formal parking in the future if necessary.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Reduce Vehicle Miles Traveled (VMT) by 10%, from 2009 levels, as an interim goal.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Reduce vehicle miles traveled by an additional 10% above Goal TR-9 (a 20% reduction as measured from 2009), at a later date to be determined by the City Council, based on staff analysis of the City's achieved and anticipated success in reducing VMT.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Reduce VMT an additional 20% above Goals TR-9 and TR-10 (a total reduction of 40% as measured from 2009) by participating and taking a leadership role in on-going regional and statewide efforts to reduce VMT.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Develop a safe and accessible Trail Network to serve as a primary means of active transportation and recreation within an integrated multi-modal transportation system.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Develop a trail network that extends a minimum of 100 miles.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Work with local school districts to identify trails as Safe Routes to School.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Provide all residents with access to trails within 3 miles of their homes.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Design an accessible, safe, and well-functioning trail network that attracts diverse users of varying abilities.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Work with agencies, organizations, property owners, and business interests to develop and promote heritage tourism opportunities as an economic development tool.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Where feasible and appropriate, strategically incorporate public art into parks, trails, and recreation facilities, with preference given to public art that reflects the culture and identity of the surrounding community, local history, or the ecology of the area.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Support entertainment offerings and cultural facilities, including but not limited to parks, visual and performing arts, museums, libraries, theatres, historic structures/sites/ neighborhoods, festivals, and commercial entertainment venues, particularly those that provide significant social and economic benefit to San Jose's community, provide opportunities for community participation, achieve excellence and innovation, and/or reflect the City's reputation.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Strengthen San José as a regional center for arts, as a widely recognized cultural destination, and as the cultural and creative urban center of Silicon Valley.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Working in collaboration with non-profits and private businesses, develop and maintain a cultural destination strategy that encourages economic growth, the growth and health of the City's cultural organizations, and promotes a positive image of San Jose.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Continue to market San José's arts and cultural activities in the greater Bay Area and expand the marketing of key events to audiences across the state and country.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Explore opportunities to address cultural amenities as part of the private development process, including the incorporation of on or off site public art, and facilities and activities that support art and culture through a private development funding contribution.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Integrate arts and cultural activities into San José's neighborhoods and foster a thriving arts community citywide.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Explore development of spaces for cultural participation in San José neighborhoods. Space to explore could be City, other publicly-owned spaces, or private spaces, with the City facilitating the use of these private spaces by arts and cultural groups.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Preserve and conserve archaeologically significant structures, sites, districts and artifacts in order to promote a greater sense of historic awareness and community identity	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
The City will maintain a file of archaeological and paleontological survey reports by location to make such information retrievable for research purposes over time.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Promote community safety through planning, preparedness, and emergency response to natural and human-made disasters. Strive to protect the community from injury and damage resulting from natural catastrophes and other hazard conditions. Use emergency management planning to mitigate the effects of emergency situations.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Assist the County of Santa Clara with periodic updates of its County-wide Area Plan for emergency response.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Update the City's Emergency Operations Plan as needed based on experience in emergencies, deficiencies identified through drills and exercises, and changes in government structure and emergency organizations.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
When reviewing hillside development proposals, consider the potential for any extraordinary expenditures of public resources to provide emergency services in the event of a man-made or natural disaster.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Minimize the risk of injury, loss of life, property damage, and community disruption from seismic shaking, fault rupture, ground failure (liquefaction and lateral spreading), earthquake-induced landslides, and other earthquake-induced ground deformation.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Maintain and update Citywide seismic hazard maps for planning purposes on an on-going basis.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Revise and update provisions of the City of San José Geologic Hazard Ordinance, including geologic hazard zones, as new information becomes available from state and federal agencies on faults, earthquake-induced landsliding, liquefaction, and/or lateral spreading	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Require that a Certificate of Geologic Hazard Clearance be issued by the Director of Public Works prior to issuance of grading and building permits within defined geologic hazard zones related to seismic hazards.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Make information available to residents and businesses on ways to reduce seismic hazards and emergency preparedness for an earthquake in conjunction with regional, state and federal agencies such as the Association of Bay Area Governments (ABAG) and the United States Geological Survey (USGS).	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016
Minimize the risk of injury, loss of life, and property damage from soil and slope instability including landslides, differential settlement, and accelerated erosion.	San Jose	San Jose, Implementing the UN's Sustainable Development Goal at the Local Level, December 2016



- 1 1 - Urban planning including town planning
- 2 2 - Regulation of land-use and construction of buildings
- 3 4 - Roads and bridges
- 4 6 - Public health, sanitation conservancy and solid waste management
- 5 7 - Fire services
- 6 10 - Slum improvement and upgradation
- 7 11 - Urban poverty alleviation
- 8 12 - Provision of urban amenities and facilities such as parks, gardens, playgrounds
- 9 13 - Promotion of cultural, educational and aesthetic aspects.
- 10 17 - Public amenities including street lighting, parking lots, bus stops and public conveniences

Maintain and update Citywide geologic hazard maps for planning purposes.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Revise and update provisions of the City of San José Geologic Hazard Ordinance, including geologic hazard zones, as new information becomes available from state and federal agencies on landsliding potential and other geologic hazards.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Require a Certificate of Geologic Hazard Clearance to be issued by the Director of Public Works prior to issuance of grading and building permits within defined geologic hazard zones.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Require the preparation of geotechnical and geological investigation reports for projects within areas subject to soils and geologic hazards, and require review and implementation of mitigation measures as part of the project approval process.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Require review and approval of grading plans and erosion control plans (if applicable) prior to issuance of a grading permit by the Director of Public Works	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Use published maps and site specific geotechnical reports to identify possible areas of naturally occurring asbestos within the City of San José's Urban Growth Boundary for use in evaluating proposed development.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Protect the community from flooding and inundation and preserve the natural attributes of local floodplains and floodways.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Implement the requirements of FEMA relating to construction in Special Flood Hazard Areas as illustrated on Flood Insurance Rate Maps. Periodically update the City's Flood Hazard Regulations to implement FEMA requirements.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
San Jose will participate in the National Flood Insurance Program (NFIP) Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed minimum NFIP requirements. Flood Insurance	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from project sites.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Implement the Hydromodification Management requirements of the City's Municipal NPDES Permit to manage runoff flow and volume from project sites.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Maintain City storm drainage infrastructure in a manner that reduces flood hazards. As the storm drainage system is extended or modified, provide capacity to adequately convey the 10-year storm event.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Develop and maintain a Storm Drainage Master plan and work with other agencies to develop broader Watershed Management Plans to model the City's hydrology	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Monitor information from regional, state, and federal agencies on water level rises in San Francisco Bay on an on-going basis. Use this information to determine if additional adaptive management actions are needed and implement those actions to address flooding hazards from increasing sea levels for existing or new development and infrastructure.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Collaborate with the Santa Clara Valley Water District to ensure that new development does not preclude adequate access for levee repair or maintenance.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Protect lives and property from risks associated with fire-related emergencies at the urban/wildland interface.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Periodically assist with revisions and updates of appropriate sections of the County-wide Area Plan that address emergency response to fires at the urban/wildland interface.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Provide information to the public on fire hazard reduction in cooperation with local, regional, and state agencies, including the County of Santa Clara FireSafe Council.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Chapter 3 Environmental Leadership – details numerous goals, policies, and actions focused on environmental sustainability and environmental justice	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Demonstrate San José's commitment to local and global Environmental Leadership through progressive use of green building policies, practices, and technologies to achieve 100 million square feet of new or retrofitted green buildings by 2040.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Maximize the use of green building practices in new and existing development to maximize energy efficiency and conservation and to maximize the use of renewable energy sources.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Maximize the use of green building practices in new and existing development to minimize use of potable water and to reduce water pollution.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Maximize the use of green building practices in new and existing development to promote a healthful indoor environment.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Divert 100% of waste from landfills by 2022 and maintain 100% diversion through 2040.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Reduce generation of solid and hazardous waste.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Establish San José as a nationally recognized leader in reducing the amount of materials entering the solid waste stream.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Establish San José as a local, regional, and statewide model for responsible management of resources	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Operate a municipal solid waste management system that maximizes efficiencies in service delivery while protecting the environment, public health, and safety	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Minimize air pollutant emissions from new and existing development.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Minimize and avoid exposure of residents to objectionable odors.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Minimize air pollutant emissions during demolition and construction activities.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Reduce per capita energy consumption by at least 50% compared to 2008 levels by 2022 and maintain or reduce net aggregate energy consumption levels equivalent to the 2022 (Green Vision) level through 2040.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Receive 100% of electrical power from clean renewable sources (e.g., solar, wind, hydrogen) by 2022 and to the greatest degree feasible increase generation of clean, renewable energy within the City to meet its own energy consumption needs.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Provide access to clean, renewable, and reliable energy for all San José residents and businesses.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Demonstrate environmental leadership through responsible and fiscally and environmentally sustainable management of water to restore our environment, enhance our quality of life and provide an adequate water supply to meet the needs of our community now and in the future	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Continuously improve water conservation efforts in order to achieve best in class performance. Double the City's annual water conservation savings by 2040 and achieve half of the Water District's goal for Santa Clara County on an annual basis.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Recycle or beneficially reuse 100% of the City's wastewater supply, including the indirect use of recycled water as part of the potable water supply.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Ensure that all water in San José is of the highest quality appropriate for its intended use.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Build or retrofit 50 million square feet of green buildings by 2022	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Ensure that 100% of public fleet vehicles run on alternative fuels by 2022	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016
Provide housing that minimizes the consumption of natural resources and advances our City's fiscal, climate change, and environmental goals.	San Jose	San Jose, Implementing the UN's Sustainable Devel at the Local Level, December 2016

Preserve and protect existing trees and increase planting of new trees within San José to create and maintain a thriving Community Forest that contributes to the City's quality of life, its sense of community, and its economic and environmental well being.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Create a balanced park system that provides all residents access to parks, trails, open space, community centers, dog parks, skate parks, aquatics facilities, sports fields, community gardens, and other amenities	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Locate, orient, and design parks and recreation facilities using principles that promote safety, security, and policing, in part through use of the Crime Prevention through Environmental Design concept, when applicable	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Provide access to an existing or future neighborhood park, a community park, recreational school grounds, a regional park, open space lands, and/or major City trail within a 1/3 mile radius of all San José residents by either acquiring land within 1/3 mile or providing safe connections to existing recreation facilities outside of the 1/3 mile radius. This is consistent with the United Nation's Urban Environmental Accounts, as adopted by the City for recreation open spaces.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Apply resources to meet parks, recreation, and open space needs in underserved areas of the city, prioritizing lower income and higher density areas, which may have a demonstrably greater need for these amenities	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Design lighting locations and levels to enhance the public realm, promote safety and comfort, and create engaging public spaces. Seek to balance minimum energy use of outdoor lighting with goal of providing safe and pleasing well-lit spaces. Consider the City's outdoor lighting policies in development review processes.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Promote crime prevention through site and building designs that facilitate surveillance of communities by putting "eyes on the street." Design sites and buildings to promote visual and physical access to parks and open space areas. Support safe, accessible, and well-used public open spaces by orienting active use areas and building facades towards them.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
Accommodate 8.4 million households within the region by 2040, an increase of 1.1 million households units by 2040	New York	One New York, The Plan for a Strong and Just City
Finance new construction of 80,000 affordable housing units and preserve 120,000 units by 2024	New York	One New York, The Plan for a Strong and Just City
Preserve 120,000 of affordable housing by 2040	New York	One New York, The Plan for a Strong and Just City
Support creation of 240,000 new units by 2024; and an additional 250,000 to 300,000 by 2040	New York	One New York, The Plan for a Strong and Just City
Increase rail transit capacity into CBD between 8-9am by 20% by 2040 up from 627,890	New York	One New York, The Plan for a Strong and Just City
Double the number of cyclists, tracked by the NYC In-season cycling indicator by 2020 from 437 to 844	New York	One New York, The Plan for a Strong and Just City
Ensure the average NYer can reach 1.8 million jobs by transit within 45 minutes by 2040, an increase of 25% up from 1.4 million	New York	One New York, The Plan for a Strong and Just City
Increase the share of NYer's that can access at least 200,000 jobs within 45 minutes by transit to 90% up from 83%	New York	One New York, The Plan for a Strong and Just City
Increase in number of public, cultural, and civic events in community districts with the highest rates of poverty and lowest rates of public, cultural, and civic programming	New York	One New York, The Plan for a Strong and Just City
Increase in the percentage of households in the 100-year floodplain with flood insurance policies up from 55%	New York	One New York, The Plan for a Strong and Just City
Increase the square footage of buildings upgraded against flood risk	New York	One New York, The Plan for a Strong and Just City
Increase the number of homes elevated through the Build it Back Program, 31 underway	New York	One New York, The Plan for a Strong and Just City
Reduce the city's greenhouse gas emissions by 80% by 2050 relative to 2005 levels	New York	One New York, The Plan for a Strong and Just City
Achieve best air quality ranking among major US cities by 2030 up from 4th	New York	One New York, The Plan for a Strong and Just City
Reduce the emission by 80% by 2050 relative to 2005 levels	New York	One New York, The Plan for a Strong and Just City
Increase the number of New Yorkers living within walking distance of a park from 79.5% to 85% by 2030	New York	One New York, The Plan for a Strong and Just City
Eliminate disaster-related long-term displacement (more than one year) of NYer's from homes by 2050	New York	One New York, The Plan for a Strong and Just City
Reduce the social vulnerability index for neighborhoods across the city	New York	One New York, The Plan for a Strong and Just City
Reduce average annual economic losses resulting from climate related events, from \$1.7 billion	New York	One New York, The Plan for a Strong and Just City
population covered under Ward Committees/Area Sabhas	India	Liveability Standards in Cities
Restoration and reuse of historic buildings	India	Liveability Standards in Cities
budget allocated towards cultural/sports activities	India	Liveability Standards in Cities
number of cultural/sports events hosted by city authority	India	Liveability Standards in Cities
Per capita availability of green spaces	India	Liveability Standards in Cities
Per capita availability of public and recreational places	India	Liveability Standards in Cities
share of mixed land use area in overall city land use	India	Liveability Standards in Cities
Net Density	India	Liveability Standards in Cities
Geographical coverage of public transport	India	Liveability Standards in Cities
coverage of footpaths – wider than 1.2m to total road network	India	Liveability Standards in Cities
Percentage coverage of footpaths – wider than 1.2 m	India	Liveability Standards in Cities
traffic intersections with pedestrian crossing facilities	India	Liveability Standards in Cities
Extent to which universal accessibility is incorporated in public rights-of-way (facilities with universal design to total f	India	Liveability Standards in Cities
Availability of public transport	India	Liveability Standards in Cities
Mode share of public transport	India	Liveability Standards in Cities



				Protect water resources because they are vital to the ecological and economic health of the region and its residents.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Increase the acres of coastal ecosystems restored	New York	One New York, The Plan for a Strong and Just City
8	8 - Urban forestry, protection of the environment and promotion of ecological aspects	15	Life on land	Tree Canopy Coverage Rate	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Number of Species Observed in BioBlitz	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Number of Urban Agriculture Projects	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Preserve, protect and restore the ecological integrity and scenic characteristics of grasslands, oak woodlands, chaparral and coastal scrub in hillside areas.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Preserve, protect, and restore the City's riparian resources in an environmentally responsible manner to protect them for habitat value and recreational purposes.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop a City Council Policy based on the City's Riparian Corridor Policy Study and HCP/NCCP to successfully implement the riparian goals and policies of the Evident General Plan, which recognizes that a 100-foot setback is the standard to be achieved in all but a limited number of instances, where no significant environmental impacts would occur.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Develop and require the use of a criteria checklist from the Riparian Corridor Policy Study to evaluate new developments that propose to use riparian setback exceptions.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Preserve and restore natural characteristics of the Bay and adjacent lands, and recognize the role of the Bay's vegetation and wetlands in maintaining a healthy regional ecosystem.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Minimize adverse effects of urbanization on natural lands adjacent to the City's developed areas.	San Jose	San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016
				Increase number of tax lots remediated since beginning of 2014 to 750 by 2019	New York	One New York, The Plan for a Strong and Just City
1 13 16	1 - Urban planning including town planning 13 - Planning for economic and social development 16- Vital statistics including registration of births and deaths	16	Peace, justice and strong institutions	Public Funding of Lawyers for Income Eligible Clients (Proposed)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Civil Legal Aid Attorney Ratio (Proposed)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Percent Registered Voters Who Voted in the General Election	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Length of Time in Jail Pretrial for Misdemeanor Offenses (Proposed)	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Violent Crime Rate per 1,000 Residents	Baltimore	Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016
				Decrease crime rate from 110,023 crimes	New York	One New York, The Plan for a Strong and Just City
				Decrease the average daily population (ADP) in jails from 11,408	New York	One New York, The Plan for a Strong and Just City
				citizen services available online	India	Liveability Standards in Cities
				services integrated through Command Centre	India	Liveability Standards in Cities
				Citizens using online services	India	Liveability Standards in Cities
				Average delay in grievance redressal	India	Liveability Standards in Cities
				Capital spending as percentage of total expenditure	India	Liveability Standards in Cities
				number of streets, public places, junctions covered through surveillance systems	India	Liveability Standards in Cities
				number of recorded crimes per lakh population	India	Liveability Standards in Cities
1	Urban planning including town planning	17	Partnerships for the goals	Increase the rate of volunteerism in NYer's to 25% by 2050	New York	One New York, The Plan for a Strong and Just City
				Tax collected as % of tax billed	India	Liveability Standards in Cities
				Tax collected as percentage of tax billed	India	Liveability Standards in Cities
				Extent of O&M cost recovery in water supply	India	Liveability Standards in Cities
				Extent of cost recovery (O&M) in water supply services	India	Liveability Standards in Cities

**References**

**New York** One New York, The Plan for a Strong and Just City

**San Jose** San Jose, Implementing the UN's Sustainable Development Goals at the Local Level, December 2016

**Baltimore** Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators; December 2016

**India** Liveability Standards in Cities, Handbook of Service Level Benchmarks.

## Annex C. SDG-Oriented Local Indicators for Patiala

S.No	Patiala Priority Area	Existing Localized Indicator	Local Indicator Source (Secondary)	Reference
1	Solid Waste Management	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	SDG 3.9	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
2	Solid Waste Management	3.9.3 Mortality rate attributed to unintentional poisoning	SDG 3.9	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
3	Solid Waste Management	11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	SDG 11.6	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
4	Solid Waste Management	6.3.1 Proportion of wastewater safely treated	SDG 6.3	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
5	Solid Waste Management	6.3.2 Proportion of bodies of water with good ambient water quality	SDG 6.3	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
6	Solid Waste Management	<b>The Recycling Rate</b> A calculation that is made by dividing the tons of recycled materials (as defined by the Maryland Recycling Act) by tons of waste collected (as defined by the Maryland Recycling Act). The greater the recycling rate, the less the consumption of scarce resources.	Baltimore	<a href="#">Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators, December 2016</a>
7	Solid Waste Management	<b>Annual Waste Generation by Category</b> A measurement of waste generated in Baltimore City in tons by category within one year. Reducing waste generation and increasing recycle and reuse are the most common methods to reduce landfill waste.	Baltimore	<a href="#">Baltimore's Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators, December 2016</a>
8	Solid Waste Management	extent of municipal solid waste recovered through reuse (%)	14.3. Liveability Standards Document	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
9	Solid Waste Management	Energy consumption per unit in water supply and sewerage (kWh per million litres)	Liveability Standards Document	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
10	Solid Waste Management	Collection efficiency and treatment of waste water (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/seweraq2.htm">http://www.asci.org.in/sslb/seweraq2.htm</a>
16	Solid Waste Management	Recycling and reuse of MSW (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
11	Solid Waste Management	Source segregation of MSW (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
12	Solid Waste Management	Coverage of sewerage network and/or septage (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
13	Solid Waste Management	Coverage of storm water drains (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
14	Solid Waste Management	Coverage of toilets (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
15	Solid Waste Management	efficiency of collection of municipal solid waste (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/solid2.htm">http://www.asci.org.in/sslb/solid2.htm</a>
16	Solid Waste Management	extent of municipal solid waste recovered through reuse (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/solid2.htm">http://www.asci.org.in/sslb/solid2.htm</a>
17	Solid Waste Management	Extent of non-revenue water (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/water4.htm">http://www.asci.org.in/sslb/water4.htm</a>
18	Solid Waste Management	extent of reuse and recycling of waste water (%)	Handbook on Service Level Benchmarking	<a href="http://www.asci.org.in/sslb/SLB%20toolkit.pdf">http://www.asci.org.in/sslb/SLB%20toolkit.pdf</a>
19	Air pollution	3.9.1 Mortality rate attributed to household and ambient air pollution	SDG 3.9	<a href="https://unstats.un.org/sdgs/metadata/?Text=&amp;Goal=3&amp;Target=3.9">https://unstats.un.org/sdgs/metadata/?Text=&amp;Goal=3&amp;Target=3.9</a>
20	Air pollution	3.9.3 Mortality rate attributed to unintentional poisoning	SDG 3.9	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
21	Air pollution	11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	SDG 11.6	<a href="https://unstats.un.org/sdgs/metadata/">https://unstats.un.org/sdgs/metadata/</a>
22	Air pollution	Number of Days with Air Quality Index "Good"	Baltimore	<a href="https://www.dropbox.com/s/psr4n7erbcv0tv6/170125_SCI_Baltimore_Report_Interim.pdf?dl=0">https://www.dropbox.com/s/psr4n7erbcv0tv6/170125_SCI_Baltimore_Report_Interim.pdf?dl=0</a>
23	Air pollution	Rate of asthma emergency department visits by children	New York	<a href="https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf">https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf</a>
24	Air pollution	Greenhouse gas emissions reductions relative to 2005	New York	<a href="https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf">https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf</a>
25	Air pollution	Air-quality ranking among major U.S. cities	New York	<a href="https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf">https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf</a>
26	Air pollution	Disparity in SO2 across city neighborhoods	New York	<a href="https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf">https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf</a>
27	Air pollution	Disparity in PM2.5 levels across city neighborhoods	New York	<a href="https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf">https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf</a>
28	Air pollution	Concentration of PM10	15.3. Liveability Indicator, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
29	Air pollution	Concentration of SO2	15.1. Liveability Indicator, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
30	Air pollution	Concentration of NO2	15.2. Liveability Indicator, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
31	Parking	Kilometres of bicycle paths and lanes per 100,000 population	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
32	Parking	Number of two-wheel motorized vehicles per capita, Total	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
33	Parking	Total kilometres of bicycle paths and lanes per 100,000 population	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
34	Parking	Total kilometres of high capacity public transport system per 100,000 population	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
35	Parking	Total kilometres of light passenger public transport system per 100,000 population	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
36	Parking	Total number of annual public transport trips per capita	Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
37	Parking	Total number of personal automobiles per capita	17.4. Bureau of Indian Standards document	<a href="http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf">http://www.bis.org.in/sf/cedi/CED59(10000)_30092016.pdf</a>
38	Parking	Percentage coverage of footpaths – wider than 1.2 m	11.1. Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
39	Parking	Percentage of availability of paid parking spaces	11.9. Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
40	Parking	Percentage availability of Passenger Information System at major interchanges	11.7. Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>

41	Parking	Total availability of public transport per day per 1000 persons	Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
42	Parking	Total Extent of signal synchronisation in percentage	Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
43	Parking	Road network with dedicated bicycle tracks	Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
44	Parking	Total percentage of interchanges with bicycle parking facilities	Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
45	Parking	Total percentage of mode share of non-motorised transport	Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
46	Parking	Total percentage of mode share of public transport	11.3, Liveability Standards Document, India	<a href="http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf">http://smartcities.gov.in/upload/uploadfiles/files/LiveabilityStandards.pdf</a>
47	Parking	Ratio of maximum and minimum parking fee in the city	SLB Handbook on Urban Transport	<a href="https://smartnet.niua.org/sites/default/files/resources/SLB%202B.pdf">https://smartnet.niua.org/sites/default/files/resources/SLB%202B.pdf</a>
48	Parking	Percentage of encroachment on NMT roads by vehicle parking	SLB Handbook on Urban Transport	<a href="http://www.iutindia.org/downloads/Documents.aspx">http://www.iutindia.org/downloads/Documents.aspx</a>

# Annex D. SDG Data Dashboard Mockup



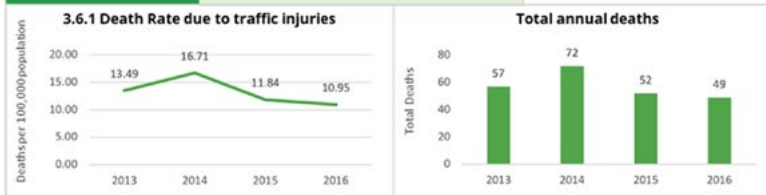
### 3 GOOD HEALTH AND WELL-BEING

**Target 3.6:** By 2020, halve the number of global deaths and injuries from road traffic accidents

#### 3.6.1 Death Rate due to traffic injuries

**14.2** Patiala (2013-17)

**16.6** India (2013)



### 6 CLEAN WATER AND SANITATION

**Target 6.3:** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

#### 6.3.1 Proportion of wastewater safely treated

**92%**

2017

### 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

**Target 9.1:** Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

#### 9.1.2 Work trips by modal share

Mode	Share
Car / Jeep / Van	20%
Bicycle	20%
On Foot	34%
Bus	11%
Tempo / Autorickshaw / Taxi	11%
Moped / Scooter / Motorcycle	2%

### 11 SUSTAINABLE CITIES AND COMMUNITIES

**Target 11.2:** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

#### 11.2.1 Percent of city's area under 500 m coverage of IPT

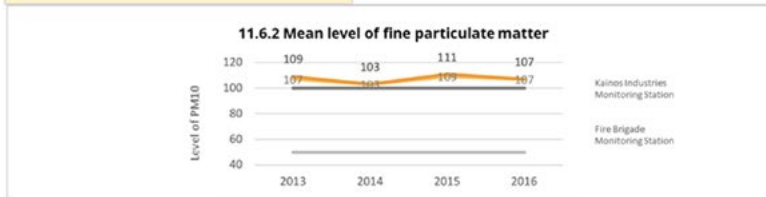
**44%**

**Target 11.6:** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

#### 11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities

**13.6%**

2017







# Annex F. Data Entry Sheet

S.No	Patala Priority Area	Existing Localized Indicator	Local Indicator Source (Secondary)	Reference	Source (ULB / Department/ Agency)	Indicator	Unit	Time Period (annual/ monthly)	Data Value	Time Period (annual/ monthly)	Data Value	Time Period (annual/ monthly)	Data Value
1	Solid Waste Management	3.0.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services)	SD G 3.9	<a href="https://wstats.un.org/indicators/indicator/SDG3.9">https://wstats.un.org/indicators/indicator/SDG3.9</a>	ULB Estimates	Number of deaths from unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services) in a year	Number	2017-18					
2	Solid Waste Management	3.3.3 Mortality rate attributed to unintentional poisoning	SD G 3.9	<a href="https://wstats.un.org/indicators/indicator/SDG3.9">https://wstats.un.org/indicators/indicator/SDG3.9</a>	ULB Estimates	Number of deaths of unintentional poisonings in a year	Number	2017-18					
3	Solid Waste Management	11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	SDG 11.6	<a href="https://wstats.un.org/indicators/indicator/SDG11.6">https://wstats.un.org/indicators/indicator/SDG11.6</a>	ULB Estimates	Municipal solid waste regularly collected and with adequate treatment and disposal	Tons	2016-17	30	2016-17	NA	2001-02	NA
4	Solid Waste Management	6.3.1 Proportion of wastewater safely treated	SD G 6.3	<a href="https://wstats.un.org/indicators/indicator/SDG6.3">https://wstats.un.org/indicators/indicator/SDG6.3</a>	ULB Estimates	Amount treated (off-site and on-site)	MLD	2015	135 lpcd X 4.5lacs				
5	Solid Waste Management	6.3.2 Proportion of bodies of water with good ambient water quality	SD G 6.3	<a href="https://wstats.un.org/indicators/indicator/SDG6.3">https://wstats.un.org/indicators/indicator/SDG6.3</a>	ULB Estimates	Number of water bodies classified as having good quality (i.e. with at least 80% compliance)	Number	2017-18	0	2016-17	0	2015-16	0
6	Solid Waste Management	The Recycling Rate A calculation that is made by dividing the tons of Annual Waste Generation by Category	Baltimore	<a href="https://wstats.un.org/indicators/indicator/SDG6.3">https://wstats.un.org/indicators/indicator/SDG6.3</a>	ULB Estimates	Total number of assessed water bodies	Number	2017-18	3	2016-17	3	2015-16	3
7	Solid Waste Management	Annual Waste Generation by Category A measurement of waste generated in Baltimore City in tons by category within one year. Reducing waste generation and increasing recycle and reuse are the most common methods to reduce landfill waste	Baltimore	<a href="https://wstats.un.org/indicators/indicator/SDG6.3">https://wstats.un.org/indicators/indicator/SDG6.3</a>	ULB Estimates	Tons of recycled materials	Tons	2017-18	30	2016-17	NA	2016-17	NA
8	Solid Waste Management	Extent of municipal solid waste recovered through reuse (%)	14.3. Liveability Standards Document		ULB Estimates	Total waste collected	Percentage	2017-18	30 tons				
9	Solid Waste Management	Energy consumption per unit in water supply and sewerage (kWh per million litres)	Liveability Standards Document		ULB Estimates	Average MSW generated in the city (tons per month)	Tons per month	2017-18	220				
10	Solid Waste Management	Collection efficiency and treatment of waste water (%)	Handbook on Service Level Benchmarking	<a href="http://www.scl.org.in/sclb/averaget2.htm">http://www.scl.org.in/sclb/averaget2.htm</a>	ULB Estimates	Energy consumption on water supply and sewerage sources	kWh						
16	Solid Waste Management	Recycling and reuse of MSW (%)	Handbook on Service Level Benchmarking		ULB Estimates	Total quantity of water and waste water handled during the period	Million litres						
11	Solid Waste Management	Source segregation of MSW (%)	Handbook on Service Level Benchmarking		ULB Estimates	Total water produced	Million litres per day (or) month	2017-18	0.1				
12	Solid Waste Management	Coverage of sewerage network and/or septage (%)	Handbook on Service Level Benchmarking		ULB Estimates	Estimated water use from other sources	Million litres per day (or) month						
13	Solid Waste Management	Coverage of storm water drains (%)	Handbook on Service Level Benchmarking		ULB Estimates	Wastewater collected	Million litres per day (or) month						
14	Solid Waste Management	Coverage of toilets (%)	Handbook on Service Level Benchmarking		ULB Estimates	Total quantity of waste that arrives in segregated manner at the treatment and / or disposal site (viz. composting yards, waste treatment plants, landfill sites, etc.) (tons per month)	Tons per month						
15	Solid Waste Management	Efficiency of collection of municipal solid waste (%)	Handbook on Service Level Benchmarking	<a href="http://www.scl.org.in/sclb/g12.htm">http://www.scl.org.in/sclb/g12.htm</a>	ULB Estimates	Total quantity of waste that is collected from common collection points. This should be based on actual weight/ or the collected waste (tons per month)	Percentage	2017-18	138000	2016-17	138000		
16	Solid Waste Management	Extent of municipal solid waste recovered through reuse (%)	Handbook on Service Level Benchmarking	<a href="http://www.scl.org.in/sclb/g12.htm">http://www.scl.org.in/sclb/g12.htm</a>	ULB Estimates	Total waste that is generated and which needs to be collected (tons per month)	Number	2017-18	2000	2016-17	2000		
17	Solid Waste Management	Extent of non-revenue water (%)	Handbook on Service Level Benchmarking	<a href="http://www.scl.org.in/sclb/water4.htm">http://www.scl.org.in/sclb/water4.htm</a>	ULB Estimates	Total waste that is generated and which needs to be collected (tons per month)	Percentage	2017-18	220	2016-17	NA		
18	Solid Waste Management	Extent of reuse and recycling of waste water (%)	Handbook on Service Level Benchmarking		ULB Estimates	Total quantity of waste that is collected by the ULB or authorized service providers (tons per month)	Percentage	2017-18	200	2016-17	NA		

S.No	Pollutee Priority Area	Existing Localized Indicator	Local Indicator Source (Secondary)	Reference	Source Survey / ULB / Department/ Agency	Indicator	Unit	Time Period (annual/ monthly)	Data Value	Time Period (annual/ monthly)	Data Value
1	Air pollution	3.9.1 Mortality rate attributed to household and ambient air pollution	SDG 3.9	<a href="https://www.bis.com.in/india/standards/india/standards/391/3910000.pdf">https://www.bis.com.in/india/standards/india/standards/391/3910000.pdf</a>		number of deaths of unintentional poisonings in a year	Number				
2	Air pollution	3.9.3 Mortality rate attributed to unintentional poisoning	SDG 3.9	<a href="https://www.bis.com.in/india/standards/india/standards/393/3930000.pdf">https://www.bis.com.in/india/standards/india/standards/393/3930000.pdf</a>		mean annual concentration of fine suspended particles of size less than 2.5 micrometers (PM2.5)	micrograms per cubic meter				
3	Air pollution	11.6.7 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10)	SDG 11.6	<a href="https://www.bis.com.in/india/standards/india/standards/1167/11670000.pdf">https://www.bis.com.in/india/standards/india/standards/1167/11670000.pdf</a>		number of emergency calls received by the fire department	Number				
4	Air pollution	Number of Days with Air Quality Index 'Good'	Baltimore	<a href="https://www.baltimore.gov/transportation/air-quality/air-quality-reports">https://www.baltimore.gov/transportation/air-quality/air-quality-reports</a>		emergency department visits by children	Number				
5	Air pollution	Rate of asthma emergency department visits by children	New York	<a href="https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports">https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports</a>		Air quality ranking among Indian cities/world ranking					
6	Air pollution	Greenhouse gas emissions reductions relative to 2005	New York	<a href="https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports">https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports</a>		SO <sub>2</sub> level across neighborhoods					
7	Air pollution	Air quality ranking among major U.S. cities	New York	<a href="https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports">https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports</a>		Disparity in PM2.5 levels across city					
8	Air pollution	Disparity in SO <sub>2</sub> across city neighborhoods	New York	<a href="https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports">https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports</a>		Annual mean concentration OR Mean concentration over 24 hours of PM10	µg/m <sup>3</sup>				
9	Air pollution	Disparity in PM2.5 levels across city neighborhoods	New York	<a href="https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports">https://www.nyc.gov/html/dep/html/about/dep-air-quality-reports</a>		Annual mean concentration OR Mean concentration over 24 hours of SO <sub>2</sub>	µg/m <sup>3</sup>				
10	Air pollution	Concentration of PM10	15.3, Liveability Indicator, India	<a href="https://www.bis.com.in/india/standards/india/standards/153/1530000.pdf">https://www.bis.com.in/india/standards/india/standards/153/1530000.pdf</a>		Annual mean concentration over 24 hours of NO <sub>2</sub>	µg/m <sup>3</sup>				
11	Air pollution	Concentration of SO <sub>2</sub>	15.1, Liveability Indicator, India	<a href="https://www.bis.com.in/india/standards/india/standards/151/1510000.pdf">https://www.bis.com.in/india/standards/india/standards/151/1510000.pdf</a>							
12	Air pollution	Concentration of NO <sub>2</sub>	15.2, Liveability Indicator, India	<a href="https://www.bis.com.in/india/standards/india/standards/152/1520000.pdf">https://www.bis.com.in/india/standards/india/standards/152/1520000.pdf</a>							

S.No	Pollutee Priority Area	Existing Localized Indicator	Local Indicator Source (Secondary)	Reference	Source Survey / ULB / Department/ Agency	Indicator	Unit	Time Period (annual/ monthly)	Data Value	Time Period (annual/ monthly)	Data Value
1	Parking	Kilometers of bicycle paths and lanes per 100,000 population	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Total bicycle paths (segregated)	Km				
2	Parking	Number of motorized vehicles per capita. Total	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Number of two wheelers	Number				
3	Parking	Total kilometers of bicycle paths and lanes per 100,000 population	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Total bicycle lanes (segregated)	Km				
4	Parking	Total kilometers of high capacity public transport system per 100,000 population	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Kilometers of bus network	Km				
5	Parking	Total kilometers of light passenger public transport system per 100,000 population	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Kilometers of e-rickshaw network	Km				
6	Parking	Total number of annual public transport trips per capita	Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf">https://www.bis.com.in/india/standards/india/standards/10000/10000000.pdf</a>		Total annual public transport trips	Km				
7	Parking	Number of personal automobiles per capita	17.4, Bureau of Indian Standards document	<a href="https://www.bis.com.in/india/standards/india/standards/174/17400000.pdf">https://www.bis.com.in/india/standards/india/standards/174/17400000.pdf</a>		Number of personal automobiles	Number				
8	Parking	Percentage coverage of footpaths – wider than 1.2 m	11.1, Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/111/11100000.pdf">https://www.bis.com.in/india/standards/india/standards/111/11100000.pdf</a>		Total length of footpaths (wider than 1.2m) available in the city	Km				
9	Parking	Percentage of availability of paid parking spaces	11.9, Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/119/11900000.pdf">https://www.bis.com.in/india/standards/india/standards/119/11900000.pdf</a>		Total length of road network in the city	Km				
10	Parking	Percentage availability of Passenger Information System at major inter changes	11.7, Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total available on-street parking spaces in the city	Number				
11	Parking	Total kilometers of public transport per day per 1000 persons	Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total available on-street parking spaces in the city	Number				
13	Parking	Total Extent of signal synchronization in percentage	Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total number of major interchanges with PIS	Number				
14	Parking	Road network with dedicated bicycle tracks	Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total number of major interchanges in the city	Number				
15	Parking	Total percentage of interchanges with bicycle parking facilities	Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total area of the city (road km) (sq.km)	Number				
16	Parking	Total percentage of mode share of non-motorised transport	Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf">https://www.bis.com.in/india/standards/india/standards/117/11700000.pdf</a>		Total number of signalised intersections that are synchronised	Number				
17	Parking	Ratio of maximum and minimum parking fee in the city	11.3, Liveability Standards Document, India	<a href="https://www.bis.com.in/india/standards/india/standards/113/11300000.pdf">https://www.bis.com.in/india/standards/india/standards/113/11300000.pdf</a>		Total number of signalised intersections in the city	Number				
18	Parking	Percentage of encroachment on NMT roads by vehicle parking	SLB Handbook on Urban Transport	<a href="https://www.mumbai.gov.in/urban/standards/india/standards/SLB2020.pdf">https://www.mumbai.gov.in/urban/standards/india/standards/SLB2020.pdf</a>		Total length of bicycle network	km				
19	Parking	Percentage of encroachment on NMT roads by vehicle parking	SLB Handbook on Urban Transport	<a href="https://www.mumbai.gov.in/urban/standards/india/standards/SLB2020.pdf">https://www.mumbai.gov.in/urban/standards/india/standards/SLB2020.pdf</a>		Total number of major transport interchanges with bicycle parking facility (within 250m radius) in the city	Number				
						Total number of major transport interchanges	Number				
						Total NMT (pedestrian, cycling and cycle rickshaw) trips	km				
						Total trips through all modes in the city	km				
						Total trips through all modes in the city	km				
						Minimum Parking Fee (on street)	ruppes				
						Maximum Parking Fee (on street)	ruppes				
						Total NMT roads encroached by parking	km				
						Total NMT roads	km				

## ENDNOTES

1. In 2018, the city of Patiala in Punjab was supported with the development of a prototype dashboard on mobility by mapping First Hand Information Reports of Police (FIR's) on road accident data and using indicators to map transport related SDG. The dashboard was developed by OpenCities Institute while data collection and analysis was conducted by Transportation Research and Injury Prevention Programme at Indian Institute of Technology, Delhi. (<http://tripp.iitd.ernet.in>)
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