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Title − 'Smart Cities - Indicators'

Name of the Commentator/ Organisation: The Centre for Internet and Society, India[1]

I. PRELIMINARY

1. This submission presents comments by the Centre for Internet and Society, India ("CIS") on the Smart Cities - Indicators (dated 30 September 2016), released by the Bureau of Indian Standards ("BIS").
2. CIS is thankful for the opportunity to put forth its views.
3. This submission is divided into three main parts. The first part, 'Preliminary', introduces the document; the second part, 'About CIS', is an overview of the organization; and, the third part contains the 'Comments'.

II. ABOUT CIS

4. CIS is a non-profit organisation[2] that undertakes interdisciplinary research on internet and digital technologies from policy and academic perspectives. The areas of focus include digital accessibility for persons with diverse abilities, access to knowledge, intellectual property rights, openness (including open data, free and open source software, open standards, open access, open educational resources, and open video), internet governance, telecommunication reform, freedom of speech and expression, intermediary liability, digital privacy, and cybersecurity.
5. CIS values the fundamental principles of justice, equality, freedom and economic development. This submission is consistent with CIS' commitment to these values, the safeguarding of general public interest and the protection of India's national interest at the international level. Accordingly, the comments in this submission aim to further these principles.

III. Comments

Clause/ Para/ Table/ Figure No. commented	Comments/Modified Wordings	Justification of Proposed Change
General Comment	The indicators could generally utilize more of smart data, from both analog and digital sources, to better reflect the performance of various	Using technology to gather information rather than limiting its scope to existing, mostly non-digital sources of data. There is a lot of potential information,

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[2] See The Centre for Internet and Society,available at http://cisindia.org for details of the organization, and our work.

	indicators.	already collected, that simply goes unused or underutilized. Principled use of such information to make informed decisions on key aspects of urban development will lead to 'truly' smart cities. Further, the indicators should include actionable aspects and include avenues to leverage research to better their performance. Moreover, indicators that allow for audits for rights and transparency should be focused on as core indicators.
General Comment	Indicators are limited in scope to basic sustainability.	The indicators in their current form restrict themselves to sustainability, focused on basic sustenance, which seems to limit the scope of the Smart Cities project. Having a core set of indicators that is more relevant to India but also have an optional, more ambitious set of indicators for cities to become truly advanced and for the standard to be more dynamic. Encourage them by leveraging technology in a sustainable, human welfare and development-oriented approach, which the indicators can inculcate. Further, policy pivots being driven by these indicators could be given to make the decision making in smart cities more transparent and accountable.
Economy	Granularity of information pertaining to macro-level economic indicators	All the indicators in the Economic section pertain to macro-level standards/

		indicators. Their limitation is that they provide very little information about the diversity of the economy of a city, the factors responsible for positive or negative effects and offer no real way to encourage microeconomic changes that can lead to the improvement of the economic condition of a city, aided by modern technology. Example indicators could be: average GDP of districts within a city, and total number of operating businesses and merchants in sub-localities in the city. All of this data can also be used to drive micro policies to enable localized development.
Education	Include data at city-level and indicators for higher education.	The indicators measured in the Education section only look at city level information about schools, ignoring district and even school level information already recorded and present in the system. Teacher and student attendance rates, level of basic infrastructure present in schools, presence of toilets for both genders, provisions for meals, etc. are some of the parameters that can be included in the indicator list. Further, the list completely excludes college education (both degree and diploma level) as a relevant indicator, nor does it include indicators for the average education of the population of the city, both of which can be easily measured using census data.

		Further, data that allows for a holistic decision making process - poverty levels, distance to schools, transportation levels, access to higher learning, etc. can also be used as supporting indicators. These could come from studies already done that call out the factors.
5. Education 5.1, 5.2, 5.3, 5.5	Include gender-specific indicators for students completing primary education, secondary education, and higher education, and enrolled in education institutions. Change the term “survival rate” to “retention rate”.	Indicators for the “survival rate” (may be better represented as retention rate) of students who identify as female or transgender in schools and universities, and enrollment of school-aged and college-aged girls, women and transgender students would help work towards an inclusive smart city.
Energy	Better utilisation of data from digital electricity meters.	The advent of digital meters allows for home/business level capturing of energy usage. This information can be leveraged to better target energy leaks, theft, repair work, pricing and even renewable energy incentives.
Finance	Indicators for digital and cashless payment and transaction systems.	The strong push by the government towards digital payments could also be reflected on the list of indicators, such as the “number of establishments accepting (and not accepting) digital payment systems” being a supporting indicator. Similar standards can be extended to include microfinance (number of avenues available for lending, successful payback of loans, et cetera.)

Governance	Recommended inclusion of indicators pertaining to the Right to Information Act, 2005	The number of requests made under the Right to Information Act, 2005, and the time taken by the responding office to reply to them (in terms of the number of days) by the government offices in the city as a relevant factor to gauge transparency and accountability of the governance structures. The same can also be extended to map the parliamentary performance of the elected officials from the city at the state and national level, especially for the interests of the city. Parliamentary performance here would mean attendance records, number of question raised, resources spent on constituency development, et cetera.
10. Governance 10.2, 10.3, 10.6	Indicators for the number of women and transgenders elected to public office in the city, employed in the government workforce in the city in reserved positions. Indicators for women and transgendered voters registered as a percentage of the voting-age population.	In the interest of inclusive smart cities, this indicator would help fathom if positions reserved for women and transgenders are filled out and the possible reasons, if any, for some of them going vacant.The number of women and transgender voters would help track the participation of women and transgendered voters in democracy. Further, inclusion of indicators that check voter fraud, political participation levels and technologies that enable secure voter participation and involvement would also be beneficial.
Health	“Cost of basic health services” and number of healthcare facilities as a	The cost, quality and access of public primary healthcare services, which can be

	supporting indicator.	easily measured using digital systems, should also be included in the overall scheme as a supporting indicator.
Recreation	“Utilisation of public spaces” as a supporting indicator.	Information about the utilisation of public spaces, such as parks and grounds. can be included as a supporting indicator. Relevant information could footfalls per month or year, number of public events held at these locations, et cetera. Most of this information is already present via figures for ticket sales while the rest could be collected using digital attendance systems. Other supporting indicators could include green space per resident, play area/park space per child, quality of the public space - (lack of garbage, sewage, etc)
Safety	“Overall crime reporting statistics”as a core indicator.	The overall incidence rates of various crimes reported, crimes solved, and data regarding investigations (such as mapping of the crime to a map, number of FIR's filed, not filed, outcomes of investigations, etc.) should all be included as core indicators to better gauge the safety record of the city.
Safety 13.3	Include “crimes carried out using technology or the Internet, as per the Criminal Procedure Code and Information Technology Act, 2008 (Amended)”.	This indicator will expand the scope of crimes against women to include acts of crime carried out using the Internet as well.
Safety 13.4	Include “Response time of the police department from the initial call in instances of	This would include crimes against women as defined in 13.3. This indicator gives

	crimes against women”	more granular information about safety in general and women’s safety in particular, and of the perception of certain kinds of crimes not being serious enough for the police to respond to.
Shelter	Expansion of indicators to include per capita living space, basic amenities within the houses.	The scope of shelter should be expanded to include per capita living space in housing units as well as availability of basic home amenities to provide a more wholesome view of the living situation in a city. Some basic amenities that could be included are electricity uptime, water distribution (in liters/ per household), number of residents in the household, kind of house roofing, etc.
Telecommunication and Innovation	Inclusion of indicators on mobile phone usage, mobile network connectivity and computer literacy.	There are no indicators for mobile phone usage and computer literacy, both of which are essential for the healthy functioning of any city. Indicators to gauge this could include number of mobile phone users, number of (active) mobile connections, number of computer literate people, etc. Similar indicators should also be included for cellphone network coverage, public WiFi connectivity and digital public service provisions as well. Indicators for the same could be number of neighbourhoods/ localities/ suburbs covered by 2G/3G/4G/ 5G out of the total number in city, total number of Public WiFi spots per unit area, etc.
Transportation	Inclusion of indicators for	The current set of indicators

	efficiency, sustainability and planning of city-level transportation.	do not include indicators to measure the efficiency, fuel consumption, sustainability and reach of public transport, especially in the outskirts or suburban areas. These can be included as supporting indicators: the number of GPS-connected public transport vehicles to the total number, number of vehicles equipped with panic buttons, quantum of vehicles in the city using renewable energy sources as fuel, automation of toll booths, automation of points where traffic offences can be logged (e.g illegal honking) or overspeeding..
Urban Planning	Digital information, such as geospatial data, remote sensing and digital mapping can be used to provide better and more sustainable core indicators.	Geo-spatial information (from surveys and satellites) can be utilised to provide macro-level data that can then be utilised to factor city expansions, illegal structures, suburban development, etc. Digital mapping and remote sensing capabilities can be leveraged to provide this information and the utilisation of such information in city development can be made a supporting indicator.
Sewerage and Sanitation	Indicators governing community hygiene and sanitation.	Information about covered toilets per capita of the population, sewage treatment plants, etc. are either absent or too vaguely detailed in the current set of indicators, despite the push from the government towards the Swachh Bharat programme. They should be included as Core Indicators to encourage sanitation at a citizen level.

Water Supply	Indicators for digital measurement of water consumption per capita and at the city-level.	Digital water meters are starting to become pervasive and can provide detailed information about water consumption at a household level that was previously unavailable in city planning. A supporting indicator at a minimum can be included to further bolster information aware governance in the field.