

Comments on “Indicators and a Monitoring Framework for Sustainable Development Goals” by SDSN, 16 Jan 2015

Partnership for Sustainable Low Carbon Transport (SLoCaT Partnership), 28 Jan 2015

Summary of comments

This is a comprehensive document, and the SLoCaT Partnership notes that it is both important (and challenging) to strike a balance between providing a suitable range of indicators while at the same time limiting indicators to the most important areas. Indicators are proposed along with an assessment of alternatives, complementary indicators and data availability. The logic on desirable features of indicators is strong and clear as is the aim of having annual reporting. The desirability of measuring indicators at “outcome” level was stated, though it is important to note that transport indicators are often rather a means to achieve an outcome; as a result, most indicators do not provide direct inputs or incentives for planning and policy processes. The potential for use of ‘big data’ is recognized in aiding measurement. Targets are not proposed at this stage.

The SLoCaT Partnership has previously noted^{1,2} that the major omissions in the 17 proposed SDGs of the OWG were: (i) the absence of a clear statement on the importance of improved rural access; (ii) adequate treatment of improved national and regional connectivity (namely: (a) passenger access for national inclusion; and (b) logistics given its importance for food security (acknowledged by SDSN), rural productivity and sustainable economic development); and (iii) the cross-cutting nature of sustainable transport without which other SDGs may not be fully realized.

SLoCaT proposed six targets in its detailed [Results Framework on Sustainable Transport](#)³ (with a 4-level hierarchy of indicators) for the following areas:

- *Rural access*: Secure universal access by sustainable transport for rural populations by 2030.
- *Urban access*: Secure universal access by sustainable transport for urban populations by 2030.
- *National access and regional connectivity*: Facilitate national inclusion and regional connectivity by sustainable multi-modal freight and passenger services by 2030.
- *Road safety*: Halve the burden due to global road traffic crashes by halving the number of fatalities and serious injuries by 2030 compared to 2010.
- *Air Pollution and Human Health*: Halve premature deaths from road related air pollution by 2030 compared to 2010.
- *Greenhouse Gas Emissions*: Total world transport-related GHG emissions peak no later than 2020 then begin to decline at a 2% per year rate and at 2030 transport-related emissions are no higher than 2010 emissions.

A summary of the current treatment of sustainable transport in SDSN’s proposed indicator framework for the 13 relevant proposed SDGs is shown in Table 1 below.

¹ <http://www.slocat.net/transport-open-working-group-process>

² http://www.slocat.net/sites/default/files/slocatfiles/000slocat_assessment_of_final_owg-sdg_document-july_19_final.pdf

³ Sayeg, P. Starkey, P. and Huizenga, C. (2014). Updated *Draft Results Framework on Sustainable Transport*. Partnership on Sustainable Low Carbon Transport (SLoCaT). Available at <http://www.slocat.net/resultsframework>

From a sustainable transport perspective, much of what SLoCaT has sought to have addressed by the SDGs is reflected in some way in SDSN’s indicators or the accompanying discussion. SDSN recognize SLoCaT’s contribution in the discussion about the importance of urban access under Goal 11.

SDSN previously had recognized the importance of a rural access indicator. The current SDSN paper retains rural access as an indicator (indicator 61) now under Goal 9 “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.” However, the paper does not fully address the importance of improvements on national passenger accessibility and improved national and regional logistics that were raised by SLoCaT. SDSN does recognize the importance of these aspects as part of its treatment of specific issues (e.g. Goals 2 and 12).

Table 1: SDSN Proposed Indicators of Relevance to Sustainable Transport

Proposed SDGs	Transport-related indicators proposed by SDSN
1. <i>End poverty in all forms everywhere</i>	<ul style="list-style-type: none"> • Nil
2. <i>End hunger, achieve food security and improved nutrition and promote sustainable agriculture</i>	<ul style="list-style-type: none"> • Access to storage and drying facilities (indicator 14)
3. <i>Ensure healthy lives and promote well-being for all at all ages</i>	<ul style="list-style-type: none"> • Road traffic deaths per 100,000 population (indicator 27) • Mean urban air pollution of particulate matter (PM10 and PM2.5) (indicator 33)
4. <i>Ensure inclusive and equitable quality education and promote life-long learning opportunities for all</i>	<ul style="list-style-type: none"> • Nil
5. <i>Achieve gender equality, empower all women and girls</i>	<ul style="list-style-type: none"> • Nil
6. <i>Ensure availability and sustainable use of water and sanitation for all</i>	<ul style="list-style-type: none"> • Nil
7. <i>Ensure sustainable energy for all</i>	<ul style="list-style-type: none"> • Fossil fuel subsidies (\$ or % GNI) as potential complementary indicator for countries to consider (pg 79)
8. <i>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</i>	<ul style="list-style-type: none"> • Nil
9. <i>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</i>	<ul style="list-style-type: none"> • Access to all-weather road (% within x-km distance to road) (indicator 61) • Total energy and industry-related GHG emissions by gas and sector, expressed as production and demand-based emissions (tCO₂e), (indicator 66)
10. <i>Reduce inequality within and among countries</i>	<ul style="list-style-type: none"> • Nil
11. <i>Make cities and human settlements inclusive, safe and sustainable</i>	<ul style="list-style-type: none"> • Percentage of people within 0.5km of public transit running at least every 20 minutes (indicator 71).
12. <i>Ensure sustainable consumption and production patterns</i>	<ul style="list-style-type: none"> • Global Food Loss Indicator (or other indicator to be developed to track the share of food lost or wasted in the value chain after harvest) (indicator 74).
13. <i>Take urgent action to combat climate change and its impacts</i>	<ul style="list-style-type: none"> • Availability and implementation of a transparent and detailed deep decarbonization strategy, consistent with the 2°C - or below - global carbon budget, and with GHG emission targets for 2020, 2030 and 2050 (indicator 78). • CO₂ intensity of new power generation capacity installed (gCO₂ per kWh), and of new cars (gCO₂/pkm) and trucks (gCO₂/tkm) (indicator 79)

Specific comments on the formulation of the indicators proposed by SDSN and some complementary indicators are provided below.

Specific comments on indicators

Access to storage and drying facilities (indicator 14)

It is noted that a suitable indicator is to be developed. This indicator represents a particular aspect of rural and national access requiring improved transport in rural areas. There are many other situations that would also require improved access such as access by farmers and rural people to markets for supplying produce and purchasing food and goods.

Improved passenger access across nations is needed to promote inclusion and national unity. Improved regional and national logistics and its supply chains are needed not only in rural areas but between rural areas and cities and between production zones, ports and airports and international gateways to promote equitable economic development. A more encompassing, higher-level indicator as proposed by SLoCaT is needed. It is noted the World Bank's Logistics Performance Index⁴ measured annually provides a ready-made data source for tracking logistics performance.

Road traffic deaths per 100,000 population (indicator 27)

This is a highly relevant indicator. UN-Habitat has requested to SLoCaT that it be listed together with WHO as a potential responsible agency under this indicator.

Mean urban air pollution of particulate matter (PM10 and PM2.5) (indicator 33)

This is a highly relevant indicator. The assessment of data availability as 'A' seems optimistic but it is accepted WHO are confident they can make relevant estimates that if not perfectly accurate are suitable for tracking progress over time. The number of premature deaths and disease due to air pollution should also be incorporated, and a complementary source is the Global Burden of Disease Studies e.g. that can provide country estimates of deaths from air pollution by sector.⁵

Access to all-weather road (% within x-km distance to road) (indicator 61)

This indicator is essentially a formulation of the World Bank's Rural Accessibility Index. SLoCaT proposed a similar indicator as one of three "process" indicators (output) to measure the target of: "Secure universal access by sustainable transport for rural populations by 2030."

Paragraphs 82-90 of SLoCaT's Results Framework document sets out the logic for the need for something more than the single RAI-like index – RAI's main limitations being: (i) importantly it does not measure accessibility to destinations (jobs, schools, markets, health facilities); (ii) it does not say anything about whether any public transport services operate on a rural road and what their quality may be (for example, in parts of rural China, rural bus services may not exist due to government prohibition); and (iii) it does not measure the incidence of accessibility by income, gender or other relevant demographic characteristics. Nevertheless, it is recognized measurement of accessibility is challenging (as it depends on context, trip, person and household characteristics).

⁴ <http://lpi.worldbank.org/>

⁵ World Bank (2014), "Transport for health: the global burden of disease from motorized road transport" prepared by the Institute for Health Metrics and Evaluation for the Global Road Safety Facility. Refer page 23 and Annex 2 for Country Estimates. [<http://documents.worldbank.org/curated/en/2014/01/19308007/transport-health-global-burden-disease-motorized-road-transport>].

As current measurements of the Rural Access Index show the baseline is very variable (from less than 30% to about 100%), local achievement target levels will need to be set, based on guidelines and realistic investment prospects.

Page 84 of SDSN's document states that "Preferably such roads should be paved to ensure all-year access for heavy vehicles". While all-year access may be desirable it may be prohibitively expensive to ensure 365 day x 24 hour passability. Instead SLoCaT proposed that 'all season' be the most relevant, socially-relevant and affordable standard since 'all season' accepts that occasionally roads may not be passable for a day or two at a time. To build all roads to all-year access standard would be significantly more expensive (likely 20-30% more) and risks a more limited coverage of the needed rural access network, that may be detrimental to achievement of the desired target.

The use of 'mobile phone' data suitably aggregated across people, but disaggregated spatially and temporally, would have potential to measure access to rural roads, the quality of bus services running on them and travel times to destinations. But the magnitude of the task of achieving universal and reliable measurement should not be underestimated.

Two further aspects of SLoCaT's proposals we would commend to SDSN to recognize: (i) an important part of improved rural access is for movement from farm to market of agricultural produce; and (ii) what constitutes adequate transport is location-specific (e.g. motorcycles may be the most relevant "last mile" service).

Global Food Loss Indicator (or other indicator to be developed to track the share of food lost or wasted in the value chain after harvest) (indicator 74)

Refer to comments in second paragraph.

Percentage of people within 0.5km of public transit running at least every 20 minutes (indicator 71)

SLoCaT proposed a similar indicator as one of three "process" indicators (output) to measure the target of: "Secure universal access by sustainable transport for urban populations by 2030."

The SLoCaT formulation is: "Proportion of households within 500 metres of good quality affordable public transport accessible by dedicated walking and/or cycling facilities (desired achievement: 100%)."

As for the discussion of rural access, the desirable aim would be to measure access by urban populations to destinations (jobs, schools, markets, health facilities etc) stratified by income, gender, and people with disabilities, to reflect equality of access. The formulation by SDSN of indicator 71 is more comprehensive than that for rural access as it specifically recognizes the need for good quality services. SLoCaT generally agrees with the discussion provided by SDSN on pages 94 and 95 although it is not fully correct that as stated on page 95 that that it is difficult to define what good quality public transport is. It can be defined adequately with perhaps the most reliable way of assessing quality is what public transport users say. SDSN do not mention the affordability of public transport but expensive fares may exclude many people.

As for rural areas, the definition of public transport service may be location-specific e.g. may include mini-buses, small para-transit vehicles, or motorcycle taxis. The definition of public transport needs therefore to not be too rigid. SDSN's proposal to use service headway (time interval between services) as a minimum measure of quality is reasonable. However, whether 20 minutes is good or

not depends on many things – in peak periods 20 minutes may be too infrequent but as an off-peak level of service may be adequate.

The use of ‘mobile phone’ data suitably aggregated by people, but disaggregated spatially and temporally, would have potential to measure access to urban public transport, the quality of public transport services and travel times to destinations. The task would be less challenging than measuring rural access reliably and universally.

A useful and direct way of measuring the quality of public transport, affordability and travel times to destinations is to use mobile phone user responses (i.e. ask users to rate quality, affordability etc.) as is being done elsewhere for health and other facilities. Whether the information would be sufficiently reliable for measuring travel times by types of destination or could be reliably disaggregated by income/ gender etc., may depend on technical aspects as well as possible privacy considerations.

Given there may be some limitations to rely solely on mobile phone data, it may be prudent to preserve a role for more traditional household surveys in many cities. Household surveys are done frequently in many countries by national statistical departments and with a little effort the scope of questions could be expanded and standardized to include suitable questions on transport (and other sectors) with substantial benefits.⁶ The surveys are often called ‘household expenditure’ or ‘household living standard’ surveys. They may measure incomes, demographic characteristics, assets owned, expenditures by type of goods and services, and amongst other things may include one or two questions on transport and access to energy services.

At present the transport questions are often rudimentary. However, as an example of what can be done even in small countries, Bhutan’s National Statistics Bureau has conducted comprehensive national living standards surveys in 2003, 2007 and 2012⁷ in which a full range of questions on urban and rural transport access (% h/holds within 30, 60 mins etc. of different types of facilities), affordability, ownership of cars etc, and incidence of walking, cycling, use of public transport and cars, as well as access to energy, medical and other services. Because such surveys cover all or most sectors the cost per individual sector is low⁸.

It is also important to incorporate public transport modal share as a process indicator (i.e. UITP’s strategy to double global market share of public transport⁹), which will help define “expand public transport,” as described in the proposed OWG target. Given the associated co-benefits, modal share goals will help deliver other sub-targets in the urban SDG framework proposed by the OWG such as road safety, accessibility, sustainable integrated urbanism, positive economic development and air quality. Ultimately modal share goals will help “expand public transport” systems, thereby linking cities to with peri-urban and rural areas, which was a key issue in the urban target debate.

Total energy and industry-related GHG emissions by gas and sector, expressed as production and demand-based emissions (tCO₂e), (indicator 66)

AND

⁶ Currently, in many developing and developed cities household travel surveys (for transport studies) are carried out periodically. Such surveys are expensive (interviews cost from \$20 to 60 per household) and it is likely impractical to do them more than every 5 years.

⁷ National Statistics Bureau, Royal Government of Bhutan, (2013). “Household Living Standards Surveys 2003, 2007 and 2012”

⁸ The 10,000 sample 2012 survey cost approximately USD 200,000.

⁹ <http://www.uitp.org/strategy-public-transport>

Availability and implementation of a transparent and detailed deep decarbonization strategy, consistent with the 2°C - or below - global carbon budget, and with GHG emission targets for 2020, 2030 and 2050 (indicator 78)

Broken down by sector these would be useful indicators. SLoCaT proposed the following relevant target for GHG emissions reduction from transport: “Total world transport-related GHG emissions peak no later than 2020 then begin to decline at a 2% per year rate and at 2030 transport-related emissions are no higher than 2010 emissions.” The logic for this formulation of the target indicator is set out in paragraphs 170-171 of SLoCaT’s Results Framework for transport.

Four process (output) indicators relevant to the GHG target were also defined as shown in SLoCaT’s Results Framework. One of these four indicators is discussed below in the discussion of SDSN’s proposed Indicator 79.

Of particular importance among the other SLoCaT process indicators is one calling for an elimination of fossil fuel subsidies. In the SDSN document fossil fuel subsidies (\$ or % GNI) is noted as only a “potential complementary indicator” for countries to consider (page 79) under proposed SDG 7 ‘Ensure sustainable energy for all’. This seems a significant omission, since fuel subsidies are prevalent in 40 countries, including major economies¹⁰. In addition, it is suggested that the indicator reflect the share of vehicle kilometers travelled by clean transport (NMT, public transit, electric mobility) among all VKTs.

CO₂ intensity of new power generation capacity installed (gCO per kWh), and of new cars (gCO₂/pkm) and trucks (gCO₂/tkm) (indicator 79)

The final version of SLoCaT’s Results Framework proposed the equivalent indicator for transport “Fuel economy in all new Light Duty Vehicles by 2030, and in all Light Duty Vehicles by 2050 both from a base year of 2005 (desired achievement: double fuel economy)”.

SLoCaT wished to include reference to improved fuel economy in heavy vehicles (refer para 172 of SLoCaT’s Results Framework) but the reference to light duty vehicles only is currently adopted as the relevant stakeholders have not presently agreed on the technical target for heavy vehicle fuel economy. SLoCaT agrees it should also improve.

SDSN transport-related indicators on climate change focus on passenger kilometres travelled, with a strong focus on technological enhancements. Therefore, SLoCaT recommends that public transport mode share goals be included in indicator 79 as well as indicator 71 (as described above).

Cross-Cutting Nature of Sustainable Transport

Annex 4 of the SDSN document identifies 17 cross-cutting issues but sustainable transport is not identified as one of the key issues. This is a major omission because without substantial achievement of transport targets many SDGs risk under achievement.

SDSN’s proposed indicators do to some extent recognize sustainable transport’s cross-cutting nature through the proposed indicators. However, SLoCaT’s assessment of how the various targets relevant to sustainable transport cut across 13 of the 17 proposed SDGs is shown in Table 2:

¹⁰ GIZ (2011), “International Fuel Prices 2010/ 2011.” Seventh Edition. August 2011.

Table 2: SLoCaT's assessment of the cross-cutting nature of sustainable transport

Proposed SDGs	Cross-cutting contributions from transport generally currently not recognized
1. <i>End poverty in all forms everywhere</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved road safety • Improved air quality
2. <i>End hunger, achieve food security and improved nutrition and promote sustainable agriculture</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics)
3. <i>Ensure healthy lives and promote well-being for all at all ages</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved road safety • Improved air quality
4. <i>Ensure inclusive and equitable quality education and promote life-long learning opportunities for all</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access
5. <i>Achieve gender equality, empower all women and girls</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access
6. <i>Ensure availability and sustainable use of water and sanitation for all</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access
7. <i>Ensure sustainable energy for all</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics) • Reduced GHG emissions
8. <i>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics)
9. <i>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics) • Reduced GHG emissions
10. <i>Reduce inequality within and among countries</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics)
11. <i>Make cities and human settlements inclusive, safe and sustainable</i>	<ul style="list-style-type: none"> • Improved rural access • Improved urban access • Improved national access and regional connectivity (freight and logistics) • Improved road safety
12. <i>Ensure sustainable consumption and production patterns</i>	<ul style="list-style-type: none"> • Improved national access and regional connectivity (freight and logistics)

13. *Take urgent action to combat climate change and its impacts*

- Reduced GHG emissions
- Improved rural access
- Improved urban access

Finally, the SLoCaT Partnership believes that it is necessary to have a coordinated approach to reporting on the implementation of the respective targets and indicators on sustainable transport under the different proposed SDGs. This is something that SLoCaT is planning as part of regular bi-annual updates on the implementation of the SLoCaT Results Framework on Sustainable Transport¹¹.

¹¹ http://www.slocat.net/sites/default/files/u10/draft_final_report_for_st_results_framework_july_25th_july.pdf (page 6, paragraph 23)