# SUSTAINABLE DEVELOPMENT? A PRACTICAL TOOL FOR SOUTH AFRICAN TRANSPORT PLANNERS

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## ABSTRACT

Post 1994 the transport sector, in line with most other sectors of South African government, underwent a period of fundamental policy shift. The principle cause of this was, of course, the new democratic government and the need to realign government policy with new priorities. The policy and strategy documents which were published reflect the transition to a more people-centered transport planning process, and use 'customers' as a central theme. Coincidentally, the international transport planning scene was also undergoing a fundamental shift in the 1990s. The US and the UK both underwent a 'watershed' period of transport policy change, with public transport receiving higher priority than ever before; integrated planning and demand management rising up the agenda; and the realization increasing that urban transport problems could not be solved by road construction.

An additional policy issue was influencing planning circles during the 1990s, that of sustainability. The debate on sustainability peaked at the Rio Conference of 1991, and was revisited at the Johannesburg Conference of 2002. In South Africa, this concept is encapsulated in the National Environmental Management Act (1998), which is supposed to guide actions in sectors impacting upon the environment, including transport. However, it has been suggested that progress in the urban transport sector towards sustainability has been unsatisfactory.

In June 2002 the Urban Transport Research Group (UTRG) of UCT entered into dialogue with the Environmental Protection Agency of the US concerning topics of interest in the area of urban transport and the environment. In response to this the UTRG proposed a project with the intention of developing a practical checklist for the assessment of policies, programmes and projects in the transport sector which addresses the sustainability, environmental and integrated planning requirements of policy and legislation.

A partnership was formed between the Environmental Evaluation Unit (EEU) and the Urban Transport Research Group (UTRG) of UCT for the purposes of the project. This paper briefly outlines the findings of the project, which was divided into three phases: a current practice review; development of a checklist; and input from case studies.

## 1. BACKGROUND

Post 1994 the transport sector, in line with most other sectors of South African government, underwent a period of fundamental policy shift. The principle cause of this was, of course, the new democratic government and the need to realign government policy with new priorities. The policy and strategy documents which were published by the National Department of Transport in the 1990s (The White Paper on National Transport Policy (1996) and Moving South Africa (1999)) reflect the transition to a more people-centered transport planning process, and use 'customers' as a

central theme. Coincidentally, the international transport planning scene was also undergoing a fundamental shift in the 1990s, but for different reasons. The US and the UK both underwent a 'watershed' period of transport policy change, with public transport receiving higher priority than ever before; integrated planning and demand management rising up the agenda; and the realization increasing that urban transport problems could not be solved by road construction. To some extent, the South African transport policy documents of the 1990s also reflect the international shifts which were occurring at that time.

An additional policy issue was influencing planning circles during the 1990s, that of sustainability. The debate on sustainability peaked at the Rio Conference of 1991, and was revisited at the Johannesburg Conference of 2002. In South Africa, this concept is encapsulated in the National Environmental Management Act (1998), which is supposed to guide actions in sectors impacting upon the environment, including transport. However, it has been suggested that progress in the urban transport sector towards sustainability has been unsatisfactory.

Despite sound progress in the field of policy development there are reasons to argue that insufficient progress has been made towards the policy directives of the 1990s, and in response the present government has delivery as a major theme. Members of the Urban Transport Research Group at UCT have argued that urban transport planning practice needs to become more responsive to policy and one of the mechanisms for achieving the realignment of practice is through the adoption of new practice guidelines. This document concerns the development of a new guideline for the better integration of sustainable development principles into urban transport planning.

In June 2002 the Urban Transport Research Group (UTRG) of UCT entered into dialogue with the Environmental Protection Agency of the US concerning topics of interest in the area of urban transport and the environment. In response to this the UTRG proposed a project which would help to address shortcomings in the practice of urban transport planning, as it related to the environment.

In particular it was argued that:
- Integrated transport planning is not being undertaken in the manner intended by legislation;
- (Strategic) environmental assessments for transport projects are not always undertaken, even for those projects with the potential for significant (strategic) environmental impacts;
- There is a lack of communication and integration between the departments of transportation and environmental affairs.

UTRG speculated that the reasons for this included:
- Environmental assessment is not regarded as an integral part of transport planning (although the legislative framework calls for more environmental consideration);
- Environmental assessment skills are not well developed in SA, particularly within the government sector;
- Environmental concerns are frequently seen to add to the cost (time and money) of development initiatives and, as such, do not receive a high priority in the decision-making process.

A project was proposed, which would address some of these shortcomings, with the intention of:
- Developing a practical framework for the assessment of policies, programmes and projects in the transport sector which addresses the environmental and integrated planning requirements of policy and legislation;
- Work with local and national government role players in the development of such a checklist in order to ensure its ultimate relevance, acceptance and implementation, and;
- Using the findings of the study in the graduate and post-graduate teaching programmes at UCT in order to inform current and future transportation and environmental planners of the importance of integrated planning and environmental assessments.

A partnership was formed between the Environmental Evaluation Unit (EEU) and the Urban Transport Research Group (UTRG) of UCT for the purposes of the project. This paper briefly outlines the findings of the project, which was divided into three phases: a current practice review; development of the checklist; and evaluation of the checklist through case studies. A full report of findings is available from the author.

## 2. PHASE 1: CURRENT PRACTICE REVIEW OF LOCAL AND INTERNATIONAL TRANSPORT PLANNING AND ENVIRONMENTAL PRACTICE

The aim of the Current Practice Review was to test the knowledge and assumptions within the study team regarding urban transport planning assessment and decision-making both locally and nationally. This phase comprised literature reviews of local and international assessment practice and interviews with South African transport planning and environmental practitioners.

A questionnaire was designed, informed by the literature review and was administered by a series of one-on-one and telephonic interviews. A total of 23 interviews were undertaken in the three largest metropolitan areas in South Africa. This provided the study with a representative geographical spread of transport and environmental planners.

The Current Practice Review interviews generally confirmed the assumptions made before the project. The only proposal assertion that was not supported through this study was the expectation that "environmental assessments for transport projects are not always undertaken, even for those projects with the potential for significant environmental impacts". This hypothesis was found to be false, with all respondents indicating that, for "major projects", environmental assessment was considered an essential part of the transport planning process. In the main, though, the rationale for the project was upheld through the Current Practice Review.

Further more, the interviews highlighted the following:
- An expressed need for guidelines for integrated sustainable transport planning on the part of practitioners;
- A more politicised decision-making framework since 1994, which has increased the role of the public and has changed the role of officials, and implies the need for a fresh approach to assessment;
- (Where assessment takes place) a shift from the consideration of mainly technical and/or financial criteria to a broader assessment framework including sustainability environmental issues;
- A lack of identification of alternatives, especially at the outset of the transport planning process;
- The need to promote integrated planning.

The findings of the current practice questionnaire review are summarised in a separate report, State of Current Practice in Transport Planning, Decision Making and Assessment in South Africa (Kruger et al, 2003). This report and the findings of the literature review provided the study with the necessary baseline information for the development of the Draft Integrated Sustainable Transport Checklist (ISTC) in Phase 2 of the project

## 3. PHASE 2:DEVELOPMENT OF DRAFT 'INTEGRATED SUSTAINABLE TRANSPORT CHECKLIST' (ISTC)

The development of a Draft Integrated Sustainable Transport Checklist, which could be developed into a practical tool, was informed by the information collected in the Phase 1, a review of additional literature, specifically literature on transport planning in a developing world context, and numerous discussions and debates between the members of the UTRG and EEU project team and ICF (the US consultants working on the project). A number of concepts were explored, and these

are written up fully in the report (Barbour and Kane, 2003), and briefly here.

From the reviews of existing transport planning, other planning, development and environmental legislation, several legal principles were derived, and these were used to structure the checklist, together with a review of the 'sustainable livelihoods framework', developed by the Department for International Development in the UK (2004a). The sustainable livelihoods framework was used because it is purposefully directed towards understanding the resources and livelihood strategies employed by the poor. While the focus of the sustainable livelihoods framework is on the *rural* poor, it does provide the ISTC with a set of guiding principles that the project team believe can inform the process and approach to transport planning, in a practical way.

The literature reviews gave rise to the following principles, which would need to be integrated into a checklist:

Principles regarding the transport **planning process**
▪ open and transparent decision-making;
▪ co-operative governance;
▪ integrated planning; and
▪ public participation.

Principles regarding the specific project **intervention**
▪ sustainable development, considered both generally and in terms of :
▪ natural resources;
▪ social resources;
▪ human resources;
▪ financial resources;
▪ physical resources; and
▪ time resources.

These principles subsequently formed the main headings of the checklist. In summary the Phase 2 part of the project concluded that a useful checklist would need to:
▪ recognise a fundamental shift in transport policy and planning, to one where issues of the environment and sustainability have some importance.
▪ use accepted good practice and legal principles as the starting point for a series of questions related to the sustainability of the *planning process* and the *intervention*.
▪ reflect the need for transport planning to move into arenas more inclusive of human and social concerns.
▪ use 'sustainable livelihoods assets' concepts as a starting point for a consideration of the sustainability of transport planning interventions with particular reference to the poor and vulnerable.
▪ introduce integration and sustainability concerns at the outset of the transport planning process.
▪ focus on the notion of accessibility, and including those who have been excluded from mainstream planning efforts.
▪ attempt to create a new checklist tool for transport planners, which will inform the planning process in terms of a set of sustainability criteria. In the case of South Africa these criteria are also entrenched in the legislation and as such are legally binding.
▪ be clear, readily understood and efficient in terms of time.
▪ make best use of available data, and use appropriate data to assist as necessary.
▪ inform the transport planning process at a strategic level.

## 4. PHASE 3: EVALUATION OF CASE STUDIES AND FINALISATION OF INTEGRATED SUSTAINABLE TRANSPORT CHECKLIST

In the ideal situation, the Draft Checklist would have been tested in the field against a number of case studies, reviewed and then finalized. Unfortunately, due to time constraints, this was not possible. Instead, the principles and the basic structure behind the checklist were applied by the project team to three case studies, and the draft checklist was improved based on this work.

The case studies, which were examined via literature collection and face-to-face interviews, were:
▪ Stock Road Railway Terminal Station;
▪ Klipfontein Road Transportation Corridor Project;
▪ 'Penway' R 300 Toll Ring Road.

The case studies provided the study with a range of transport projects to review. Due to the reduced timeframe all three case studies were all located in the Cape Town Metropolitan Region.

The selection of case studies was informed by:
▪ Availability and ease of access to information and key stakeholders;
▪ Familiarity of the UTRG and EEU project team with the case studies and the key stakeholders involved; but at the same time maintaining sufficient distance from the case studies in terms of previous advocacy work to ensure that access to stakeholders and information was not compromised; and
▪ The need to select as diverse a range of transport related projects as possible.

## 5. THE FINAL CHECKLIST

The development of the final ISTC was the result of several rounds of discussion and review, and also other informants, principally:
▪ The information gathered from the three case studies;
▪ Experience of the project team in assessment and decision-making in transport planning in South Africa;
▪ Experience of the project team in social and environmental assessment methods;
▪ Work underway by Booz-Allen Hamilton on developing environmental management guidelines for use in Tshwane and Gauteng municipalities (these particularly assisted in the development of Part 1, see Appendix, Figure 1);
▪ The extensive work being done by DfID, UK on the inclusion of social benefits in transport planning in developing countries, and in the sustainable livelihoods approach (DfID, 2004b).

This knowledge informed the development process, but the final ISTC is a piece of original work which has not been produced elsewhere.

The objective of the final 'Integrated Sustainable Transport Checklist (ISTC)' is to provide a clear and practical checklist for ensuring that transport planning adheres to accepted good practice principles for sustainable development. In addition, given the South African context of the study, a set of relevant legal requirements affecting transport planning in South Africa have also been identified. The intention is that the checklist may be used in the early conceptual and planning stage of the transport planning process in order to check that issues relating to sustainable development have been considered. As such the aim of the checklist is to inform the transport planning process while at the same time raise the awareness of transport planners on the need to address issues pertaining to sustainable development. The checklist does not replace the need for a decision-making framework, nor does it replace the need for project specific Environmental Impact Assessments. It could, however, assist decision-makers in reaching a decision which is consistent

with principles of sustainable development, and, in so doing, may alert transport planners to social and environmental issues earlier in the decision-making process than would otherwise be the case.

The ISTC consists of a set of tables which ask a series of questions about both *the planning process* being undertaken and *the specific project intervention* being planned. As mentioned, these questions are based on good practice principles, South Africa legal principles, as extracted from planning-, environment- and development-related law current in September 2003, and selected concepts from the 'sustainable livelihoods framework'.

The final Integrated Sustainable Transport Checklist (ISTC) is divided into four components.
- Part 1 (shown in Figure 1) provides a checklist of the *issues* that should be considered when identifying and defining the needs and applicability of the proposed transport intervention.
- Part 2 provides checklist for the *transport planning process*. The checklist is divided into five components, namely the open and transparent decision-making process (shown in Figure 1, without the legal referencing); co-operative governance; integrated planning; public participation and a summary of the constitutional rights relating to sustainable development (shown with legal referencing in Figure 1).
- Part 3 provides a checklist for identifying and assessing the resources which may be impacted by the *intervention*, defined using sustainable livelihoods categories of natural physical, human, social, financial resources/capital. An additional element, time (shown in Figure 1), has been added.
- Part 4 (shown in Figure 1) summarises the whole checklist.

To use the ISTC Checklist, the practitioner can independently use the tables to inform the design of the transport planning process (the starting point for a decision-making process) or as a check for an existing plan, programme or project that is ongoing or proposed; or as a tool for the discussion of a project within professional teams. In all cases it is intended to raise awareness regarding sustainable development. Due to space constraints, the whole checklist cannot be reproduced. However, an overview is given below, together with selected tables from the Checklist. The full reports, describing the project and giving the Checklist in full are available from the author (Kruger et al, 2003; and Barbour and Kane, 2003).

## 6. CONCLUDING REMARKS

In order for this work to be developed into something of practical value it would need to be adopted and developed further by stakeholders such as those at National, Provincial and Local level. In this way its usefulness in the field could be fully tested, and its use in projects or planning could be promoted. To date sustainability in transport planning has been mainly an ideal. This tool is one step towards turning ideology into something of practical value.

## 7. REFERENCES

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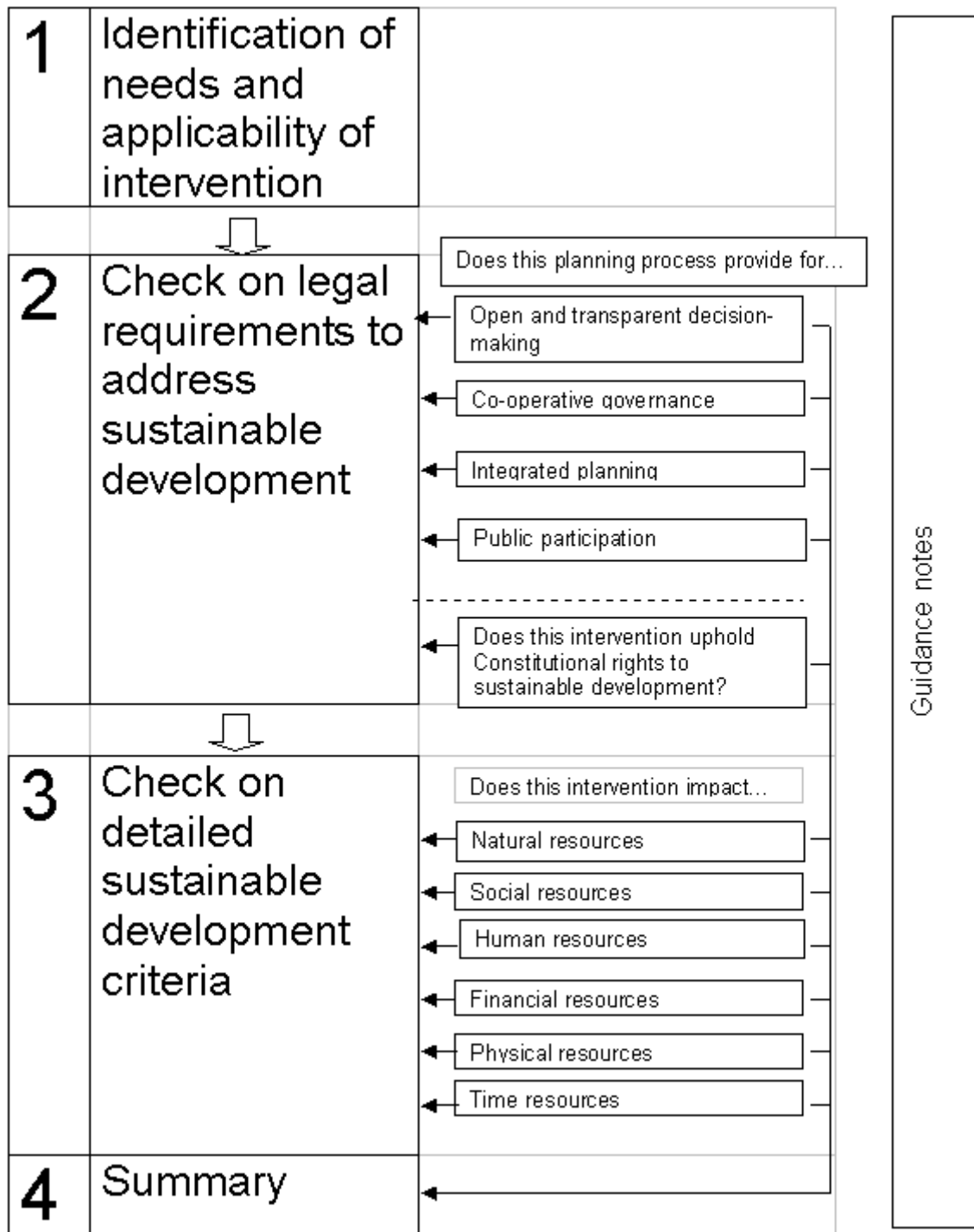[8]  National Environmental Management Act No. 107 of 1998 [Online]. Accessed 20 April 2003: http://www.gov.za/acts/1998/a107-98.pdf

# Appendix



**Figure 1. Integrated sustainable transport checklist structure.**

| *Has the planning process for the policy/plan/project taken into account 1:* | *Response Yes / No* |
|---|---|
| • The level of intervention of the proposed policy/plan/project and size of the affected area/s. | |
| • Social and economic characteristics of the affected area/s, including political, institutional, religious and cultural characteristics. | |
| • Current land-uses (formal and informal) and economic (formal and informal) activities in the affected area/s. | |
| • Current location of community facilities, such as schools, hospitals, police stations, clinics, libraries, community halls, churches and crèches in the affected area/s. | |
| • Current type and location of transport infrastructure and modes, including non-motorized transport modes such as pedestrians, bicycles, horse drawn carts etc in the affected area/s. | |
| • Current operating hours and costs associated with public transport modes. | |
| • Current transport user groups and their needs, with specific reference to vulnerable groups such as women, children, elderly and the disabled in the affected area/s. | |
| • Current economic development needs in the affected area/s. | |
| • Vulnerable social and economic groups in the affected area/s and their economic development and transport needs? | |
| • Existing/proposed transport, land-use planning and economic development policies, plans and initiatives for the affected area/s? | |
| • Predicted future transport and economic development needs in the affected area/s. | |
| • Transport alternatives, including infrastructure, location and modal alternatives in the affected area/s. | |

| **Overall Assessment: Has the planning process for the policy/plan/project taken into account the needs and applicability of the proposed policy/plan/project ?** | |
|---|---|

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1 This table is based partly on Booz-Allen and Hamilton (South Africa) Ltd (2003) Guidelines for the Environmental management of Transportation Projects for Tshwane Metropolitan Municipality.  Section F – Guidelines for Review Procedure. Table F1.

## OPEN AND TRANSPARENT DECISION-MAKING

| *Has the planning and identification process taken into account the following principles for open and transparent decision making?* | *Response Yes / No* |
|---|---|
| • The need to uphold the right of individuals and the public to administrative action that is lawful, reasonable and procedurally fair. | |
| • The promotion and implementation of transparency and accountability in public administration and decision-making by providing the public with timely, accessible and accurate information. | |
| • The promotion and implementation of public access to information relating to transport and land use planning . | |
| • The promotion and practice of open and transparent decision-making. | |
| • The provision of adequate written reasons for decisions taken. | |
| • The provision of procedural fairness in administrative decision-making that affects individuals as well as the public. | |

| **Overall Assessment: Does the project/programme/plan planning and identification process take into account the principles for open and transparent decision-making?** | |
|---|---|

**Sustainable Development**

| *Does the project identification and planning process take into account:* | Response Yes / No | Reference |
|---|---|---|
| • The need to "…heal the divisions of the past…" and "… improve the quality of life of all citizens". | | Constitution preamble |
| • The need to uphold the right to an environment that is not harmful to health and well-being. | | Constitutions 24(a) |
| • The need to promote justifiable economic and social development while securing ecologically sustainable development and use of natural resources. | | Constitution s 24(b)(iii) |
| • The need to ensure socially, environmentally and economically sustainable development | | NEMA s 2(3) |
| • The need, at local government level, to promote a safe and healthy environment. | | Constitution s 152(1)(d) & LGMSA s 4(2)(i) |
| • The need, at local government level, to promote social and economic development. | | Constitution s 152(1)(c) & s 153(a) |

| Overall Assessment: Does the project/programme/plan identification and planning process take into account legal requirements for sustainable development? | |
|---|---|

**Example with legal referencing**

**Time Resources/Capital**
*(In the context of transport planning, the checklist time resources refers to the that is, the time available for discretionary activity)*

| Checklist criteria<br>*Has the transport planning process considered the potential for the policy, plan or project to:* | Specifically, has the transport planning process for the policy, plan or project considered the following issues: | Response<br>*Yes / No* |
|---|---|---|
| Promote or reduce access to schools, hospitals etc? | Promoting or reducing access to schools, hospitals etc | |
| Promote or reduce access to water supplies? | Improving or reducing access to or the provision of water supplies | |
| Promote or reduce access to energy? | Improving or reducing access to or the provision of energy sources, such as electricity, firewood, paraffin, gas and batteries etc | |
| Promote or reduce access to waste collection services? | Improving or reducing access to or the provision of waste collection services | |
| Promote or reduce access to sanitary services? | Improve or reduce access to or the provision of sanitary service | |
| Promote or reduce communications? | Improving or reducing access to public telephones, post offices, radio, television and news papers | |
| Impact on land ownership and tenure? | Changing landownership and tenure rights by expropriating land | |
| Impact on rights-of-way? | Cutting or disrupting existing access routes and rights of way | |
| Promote or impact on *other* physical resources? | | |

| Overall Assessment: Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the physical resources/ capital in the affected area? | |
|---|---|

# Integrated Sustainable Transport Checklist
## Part 4: CHECKLIST SUMMARY FOR SUSTAINABLE DEVELOPMENT AND TRANSPORT PLANNING

| Checklist Part | Overall Assessment Questions: | Response |
|---|---|---|
| **1** | Has the policy, plan, project planning and identification process taken into account the **needs and applicability** of the proposed transport intervention? | |
| **2** | Has the policy, plan, project planning and identification process taken into account the principles of and legal requirements for **open and transparent decision-making**? | |
| | Has the policy, plan, project planning and identification process taken into account the principles of and legal requirements for **co-operative governance**? | |
| | Has the policy, plan, project planning and identification process taken into account the principles of and legal requirements for **integrated planning**? | |
| | Has the policy, plan, project planning and identification process taken into account the principles of and legal requirements for **public participation**? | |
| | Has the policy, plan, project planning and identification process taken into account the principles of and legal requirements for **sustainable development**? | |
| **3** | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **natural** resources/ capital in the affected area? | |
| | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **social** resources/ capital in the affected area? | |
| | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **human** resources/ capital in the affected area? | |
| | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **financial** resources/ capital in the affected area? | |
| | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **physical** resources/ capital in the affected area? | |
| | Does the proposed transport intervention (policy, plan, project) promote or impact negatively on the **time** resources/ capital in the affected area? | |

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**BIOGRAPHY**

Lisa Kane is an Honorary Research Associate working with the Urban Transport Research Group at the University of Cape Town, where she has been working since 1996. Prior to that she worked as a transport planning consultant for two UK consultancies. She is interested in how the lofty words of policy get translated into practice, and in the mismatches between transport reality and transport rhetoric.