



Ministerie van Infrastructuur en Milieu

2012 Work Programme

KiM Netherlands Institute for Transport Policy Analysis

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for Transport Policy Analysis

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o About KiM and this Work Programme

0.1 Introduction

This is the 2012 Work Programme of the Netherlands Institute for Transport Policy Analysis (KiM). It is intended for the staff of the Ministry of Infrastructure and the Environment and for other individuals and organisations interested in KiM's activities.

2012 is an important year for the further development and implementation of the National Policy Strategy for Infrastructure and Spatial Planning (*Stuatuurvisie Infrastructuur en Ruimte*, SVIR). The SVIR contains the government's integrated policy for spatial planning and mobility, which is geared to making and keeping the Netherlands competitive, accessible, liveable and safe. In pursuing this aim the government has set itself several goals: to create an outstanding, internationally accessible business climate in the urban regions, with a concentration of key sectors; to resolve the constraints on access to and mobility in the mainports, brainports and greenports; to realise a robust main road, rail and waterway network; to ensure better connections between the different modes of transport via multimodal hubs; to make better use of the capacity of existing mobility systems; to improve environmental quality; and finally, to improve traffic safety and protection from external safety risks. Essential to making and implementing policies for all these topics is having an up-to-date, evidence-based knowledge base. KiM seeks to make a significant contribution to bringing together the required knowledge and making it relevant and applicable to policy and practice.

2012 also sees the introduction of a new organisational structure for the Ministry of Infrastructure and the Environment. KiM will work primarily for the Directorate-General (DG) for Mobility and Transport. In addition, KiM will also provide input to the work of the DG for Spatial Development and Water Affairs, the DG for the Environment and International Affairs and, to a lesser degree, for the Finance, Management and Control Department (FMC), the Knowledge, Innovation and Strategy Department (KIS), Rijkswaterstaat (DG for Public Works and Water Management) and the Human Environment and Transport Inspectorate (ILT).

The creation of the Ministry for Infrastructure and the Environment (IenM) and the programme of Prime Minister Rutte's coalition government gave rise to the need for a critical review of the ministry's knowledge policy, which resulted in the IenM Multiyear Knowledge Policy Agenda. This Agenda addresses the knowledge infrastructure, knowledge management and the link between information supply and demand. Some of the actions in the Agenda will be carried out in 2012 and several of them affect KiM, which will therefore be closely involved in their execution. This involvement is described in detail in section 0.2.

0.2

Objective and role of KiM

Knowledge functions

KiM's stated objective is to strengthen and broaden the strategic knowledge base for mobility policy and thus enhance the quality of mobility policy. The term used for this is 'evidence-based policy': basing policy choices on relevant facts, sound analyses and reliable estimates of risks within the context of nationally and internationally available knowledge.

In this role, KiM has three knowledge functions:

- **Research projects:** exploratory studies and policy analyses based on factual information and reviews of scientific and other literature, which are then translated into a form that is applicable to policy and practice. The resulting publications are publicly available.
- **Knowledge at the Table:** introducing knowledge into policy processes in the following ways:
 - discussions, presentations and short reports on the available knowledge and empirical evidence;
 - answering ad hoc questions;
 - giving the Ministry of IenM access to national and international knowledge networks (what knowledge can be obtained from which sources?);
 - giving assistance to the IenM policy directorates in formulating research questions and methods for research to be contracted out to third parties;
 - participating in supervisory committees;
 - knowledge transfer by giving masterclasses;

and from 2012 also:

- advising on and assisting with the planning of knowledge development programmes for research institutes outside the Ministry of IenM.
- **Observational reports:** reports in which KiM draws attention within the ministry to various topics in response to current policy and research developments or reports by third parties. These reports are not included in the Work Programme, although capacity is made available within KiM for this purpose.

Focal points in 2012

About 20% of KiM's capacity is devoted to 'knowledge at the table' (KaT). Over the next few years KiM aims to raise this to about 50% in order to answer the same number of requests for knowledge with less capacity (given the programme of the Rutte government), because KaT is a more efficient, effective and valued form of knowledge delivery. KiM aims to bring its KaT capacity up to 35% of total capacity in 2012.

From 2012 KiM's KaT responsibilities include a new activity: advising on and assisting with the planning of knowledge development programmes for research institutes outside the Ministry of IenM.

From 2012 KiM will make more use of the flexible pool of expertise it has developed in recent years through the KiM fellows, national and international research networks and programmes, and the wider academic community. This will increase the effectiveness of individual KiM researchers and is, moreover, often an efficient way of working.

In 2012 KiM will also broaden the pallet of its products to improve the delivery of knowledge to policy processes in the ministry. Traditional reports and background documents are now often not the most effective delivery mechanisms.

The focus of KiM's research activities is on developing strategic knowledge of mobility in relation to related fields. In addition, KiM possesses a considerable body of knowledge on

the relation between mobility and economic issues, between mobility and spatial issues and between mobility and the environment and sustainability. KiM will further promote and develop this knowledge in view of the more integrated approach to addressing issues, the formation of the Ministry of IenM and the closer relation with the Ministry of Economic Affairs, Agriculture and Innovation (EL&I). Furthermore, attention will be devoted over the coming years to the development of new knowledge in the field of 'market organisation and the role of government' and to enhancing expertise on the design of policy and decision-making processes. The latter is important both for the improved uptake of research products and to more effectively answer requests for knowledge about administrative and governance issues.

IenM Multiyear Knowledge Policy Agenda

In 2012 KiM will be involved in several actions contained in the IenM Multiyear Knowledge Policy Agenda. These actions are:

- *Action 4: Enhancing behavioural science knowledge.* This broad field of enquiry can be broken down into three elements: knowledge of mobility among different social groups; taking greater account of rational and irrational behaviour when designing policy measures; and the social and cultural significance of mobility. KiM is currently discussing the details of this action with other organisations, including the Netherlands Institute for Social Research (SCP) and the Netherlands Environmental Assessment Agency (PBL). In any case, KiM intends to improve the available knowledge of the social and cultural significance of mobility.
- *Action 5: Developing a plan for cooperation between the Ministry of IenM and universities, universities of professional education and research clusters.* In this action KiM can contribute through its existing relations with universities (fellows) and other organisations (see section 0.3).
- *Action 8: Implementation of an open data policy.* KiM can make a substantive contribution to this action based on its knowledge of data collection, as well as the results of two projects to be carried out in 2012. The first of these two projects concerns the ministry's data collection needs on mobility and accessibility. The second project is about support and guidance on the use of models and model development.
- *Action 10: Identify and describe the consequences of the 25% target regarding in staffing and prepare the decision on the future positioning of KiM.*
- *Action 12: Ensure that the new policy departments possess a sufficient level of strategic knowledge.* KiM supports the development of this knowledge function with demand-led research and KaT.
- *Action 13: Update and publicise strategic knowledge agendas, both within the departments and agencies and across the Ministry of IenM as a whole.* KiM also provides an active input to this action through KaT.

Finally, KiM will contribute to two other actions in its capacity as a knowledge institute:

- *Action 3: Strengthen the dialogue between the knowledge functions of the Ministry of IenM, its 'own' knowledge institutes and the Environment and Safety Division of the National Institute for Public Health and the Environment (RIVM).*
- *Action 14: Improve the pertinence of research conducted by knowledge institutes by honing skills in articulating research questions and preparing research programmes through close interaction between knowledge workers in the government departments and in related knowledge institutes.*

KiM will contribute to these two actions by providing knowledge about the mobility system. In doing so we will help the policy directorates to precisely formulate their research requirements from knowledge institutes such as the Rijkswaterstaat Centre for Transport and Navigation and TNO, and also within research programmes supported by the Ministry of IenM (DBR, VERDUS).

Distinguishing features of KiM's products and services

KiM's products and services have several distinguishing features, which are characterised by the following:

- In close touch with policymakers: the short lines of communication between policymakers and KiM contribute to a better knowledge base, because close contact leads to a better exchange of policy questions and research results.
- Strategic: concerned with broad principles and knowledge relevant to the first phase of the policy cycle. In general KiM does not work on tactical or operational issues and does not conduct studies with a very narrow scope.
- Multidisciplinary: topics are addressed from different angles and from several disciplines, which makes KiM's analyses more robust. Even in studies with a single dominant perspective, the results are evaluated from a range of different perspectives to increase their robustness. This is also reflected in the wide range of disciplines represented within KiM (which include economics, social geography, regional planning, sociology, psychology, traffic engineering and public administration).
- Analytical: not only descriptive (which trends are apparent – the 'what' question), but also explanatory (what are the underlying factors – the 'how' question).
- Identifies potential 'policy levers', but does not make policy recommendations: KiM's aim is to provide a better knowledge base for making policy, which is why KiM indicates the (possible) effects of certain policy options, but because the expected effects of policy are just one of the considerations in the political decision-making process, KiM may not and does not make policy recommendations. More generally, KiM is concerned with policy-relevant research and not, for example, with obtaining a deeper theoretical understanding of specific issues. Nonetheless, it remains essential for KiM to undertake longer-term research to develop and deepen its in-house knowledge. However, this knowledge development ultimately remains in the service of supporting current and future policy projects and processes.
- A focus on one or more key mobility policy portfolios: the ambition to strengthen and broaden the ministry's knowledge base relates to the full range of the ministry's policy responsibilities. However, the needs and benefits are greatest in the most important policy fields (important in the sense of a policy's contribution to solving social problems and the degree to which an issue gives rise to public and political debate).

Differences and cooperation with the policy assessment agencies

There are clear differences between KiM and the policy assessment agencies. A key difference is that the policy assessment agencies examine issues in different policy areas (including mobility) from a certain perspective (economy, environment and behaviour), whereas KiM addresses specific issues within the field of mobility policy from various different perspectives (economy, environment and behaviour). In addition, KiM conducts studies in response to requests from the ministry, whereas the policy assessment agencies to a large extent determine their own research agendas over and above their statutory tasks, for which of course they keep their ear to the ground in the government departments. KiM also puts more emphasis on its 'knowledge at the table' function.

However, these differences have not precluded KiM and the policy assessment agencies from making multiyear agreements for an effective and efficient division of tasks. Agreements have also been made for productive cooperation on topics of common interest. These include making optimal shared use of the available expertise, participating in each

other's feedback groups, contributing to each other's publications, joint brainstorming sessions and critical commentary on each other's products.

The work programmes of KiM and the policy assessment agencies are aligned and coordinated as much as possible. In concrete terms, this cooperation finds expression in the following ways:

- A joint project with the Netherlands Institute for Social Research (SCP) on family mobility (G704) will soon be completed. The SCP will in future tailor its contract research more specifically to meet KiM's requirements for projects in the KiM Work Programme. This will begin in 2012 for projects in Core Theme 3 (Impact of ICT developments on individual mobility behaviour – GB1201 and Impact of social trends on individual mobility behaviour – GB1202).
- KiM is cooperating with the Netherlands Environmental Assessment Agency (PBL) on a range of projects in the area of data collection and delivery (Mobility Research Panel – DM1102). In addition, KiM and PBL are working together on three projects: Contribution to the Infrastructure and Spatial Planning Monitor (DM1113); SCBA Methodology (Follow-up to ex post evaluation – EA1104); Effects of Urbanisation (OG1110). KiM is participating in the feedback group for the PBL project Effectiveness of Policy Instruments (EA1205).
- KiM is cooperating with both PBL and CPB Netherlands Bureau for Economic Policy Analysis (CPB) on various projects, including Plans for the City (EA1120), Various Supra-project Questions on SCBA Methodology (EA1102), Organising Quality Assurance SCBAs (EA1108) and on updating long-term scenarios in relation to The Netherlands in 2040.
- KiM is working with CPB on the OEI method for integrated and area-based assessments (E1001).
- The involvement of the policy assessment agencies in new research projects will be further specified during the alignment and coordination of the work programmes. Further consultation will be held on this.
- Moreover, KiM is consulting with SCP and PBL on the possibilities for reinforcing the policy input from the social and behavioural sciences. See also section 0.1 of the IenM Multiyear Knowledge Policy Agenda.

0.3 Positioning and working methods

Positioning

KiM is positioned within the Ministry of IenM to facilitate the uptake of KiM products and direct interaction with the policy directorates.

Cooperation

The products listed in section 0.2 are developed by KiM either on its own or in collaboration with the policy assessment agencies, external knowledge institutes, universities and Rijkswaterstaat Centre for Transport and Navigation (RWS-DVS). KiM does this mainly on the basis of knowledge developed elsewhere (in the Netherlands and abroad), which KiM then integrates and makes applicable to policy and practice. KiM sometimes subcontracts parts of research projects to private organisations (or universities) and then integrates the results into a KiM product.

Contacts with the scientific community

KiM is associated with ten professors in various disciplines from the Netherlands and abroad: the KiM fellows. These fellows provide the academic backing for KiM's work. A core task of the fellows is to review project plans and draft publications. In addition they are

invited to give lectures and presentations and to take part in brainstorming sessions to give extra impetus to new research projects.

KiM aims to be a pivotal link between the Ministry of IenM and the universities in the field of mobility. To this end KiM plays an active role in the development of research networks, such as TRAIL, and multiyear knowledge programmes, for example Sustainable Accessibility of the Randstad (DBR). Members of the KiM staff are involved in all the relevant DBR projects.

International orientation

Many research questions involve the acquisition of knowledge through international academic cooperation or have a strong international context. However, the international research community is vast and KiM's capacity is limited. Our international strategy is therefore primarily geared towards 'gathering knowledge'. To be able to 'gather' knowledge it is sometimes necessary to 'give' knowledge and have 'acquaintances' or contacts. To give and gather knowledge and to maintain contacts with acquaintances, KiM has special relationships with several relevant international research institutes. KiM staff members also participate in conferences and symposia and work to a limited extent in international projects, and KiM participates in several international forums, such as the Joint Transport Research Committee (JTRC).

Publications

The results of all of KiM's research projects are published in the public domain. Publication occurs within three months of completion of the research. In some cases an exception is made, for example if the research forms an input to the development of a major policy document, in which case the relevant research reports are published simultaneously with the release of the policy document.

0.4 Core Themes

The research projects carried out by KiM fall within several core themes. These core themes are designed in the first instance to clarify what knowledge and expertise is available within KiM and to perform an agenda-setting function for identifying the knowledge that will be needed to answer future policy questions.

The key features of the core themes are that they:

- help to define KiM's profile by indicating the type of information and expertise KiM can be called upon to deliver;
- logically integrate the 'individual' studies and knowledge-at-the-table questions, which are a feature of demand-driven research;
- communicate and reinforce the hallmarks of a typical KiM product;
- give direction to future mobility research and coherence to the focus areas of current research; in other words, a core theme provides a multiyear, agenda-setting framework for concrete projects;
- can in time be discontinued, while new core themes can be added when required.

Core themes also provide the basis for structuring KiM's activities because they consist of complementary clusters of projects and other activities.

The core themes in 2012 are listed below.

1. **Accessibility and spatial planning.** Analysis of developments and trends in accessibility and their significance, investigation of the possibilities for improving accessibility, and the operationalisation of 'new' aspects of accessibility, such as robustness and reliability. The focus here is on both passenger and freight transport (smart use of networks and smart logistics), transport chains and hubs, and the interaction with spatial development and urban planning.
2. **Drivers and effects of mobility.** Description and explanation of national and international developments in mobility and transport, and of their effects on safety and the environment. The theme includes reviewing past developments (drawing conclusions in the light of socio-economic, spatial, demographic and technological developments and policy effects) as well as looking forward (development of environmental scenarios to support robust policy development and preparation of medium- and long-term outlooks).
3. **Mobility behaviour and influential factors.** This core theme provides insights into the factors that influence mobility behaviour, such as experience, perceptions, impressions, values and norms. Behavioural insights can be used to explain trends and develop more effective policy. Insights into people's behaviour at the micro level (the individual 'mobilitist') are translated via the meso level (target groups, segments) to the macro level (effects on the system).
4. **Availability of data and policy models.** Stimulating the model development and data collection required for preparing mobility and transport policies. Development of policy indicators for monitoring policy objectives and strategic issues.
5. **Market organisation and the role of government.** Exploration and analysis of effective and efficient government–market relations in the various sectors (road, regional public transport, rail, inland shipping, marine shipping, aviation). This includes examination of public interests, various forms of market organisation and governance, and effective political and administrative relations between the various tiers of government, as well as assessing the possibilities for public-private partnerships and alternative funding arrangements.
6. **Policy evaluations and assessment frameworks.** Ex ante and ex post evaluations of the effectiveness and efficiency of policy instruments for mobility and transport. Refining and broadening the methodology for ex ante and ex post evaluations (including social cost-benefit analyses – SCBAs), paying special attention to the economic and administrative aspects, in which people, profit and planet are integrated. Verifying evaluations and improving the quality assurance procedures for evaluations.
7. **Transition to a sustainable, robust and safe mobility system.** This core theme is about the Ministry of IenM's long-term policy goals for a transition in the mobility system. The research is geared to identifying and describing the options for creating a sustainable mobility system, as well as the transition process itself: how can the options be realised, what are the obstacles and constraints, and what are effective, socially feasible policy measures for attaining these policy goals?
8. **The importance of mobility and transport.** Providing insights into the importance of mobility, transport and infrastructure for the social, spatial and economic development of the Netherlands. The emphasis is on the national and international importance of the mainports, other logistical hubs and the transport connections of national significance for the economic structure and the creation of an attractive inward investment climate. Attention is given to the possibilities for government to influence how the main transport hubs function.

Defining projects in 2012

Many research projects and other activities (knowledge-at-the-table) are conducted within the core themes. Some projects and activities focus on a specific policy area and a specific policy directorate, while others are of wider significance for the ministry's policies. The table below lists for each core theme the defining projects in terms of their wider signifi-

cance. This is only a snapshot; political and social developments may lead to new situations in which other projects may come to be regarded as the most illustrative of their respective core themes.

Core Theme	Defining Project	Page
1. Accessibility and spatial planning	Supporting further development of the SVIR accessibility indicator	15
2. Drivers and effects of mobility	Mobility Report 2012	23
3. Mobility behaviour and influential factors	Target groups in and outside the rush hour	29
4. Availability of data and policy models	Mobility Research Panel	33
5. Market organisation and the role of government	Increasing market responsiveness of public transport	39
6. Policy evaluations and assessment frameworks	Effects of the EU ETS on the Dutch aviation sector	43
7. Transition to a sustainable, robust and safe mobility system	Exploratory study for a sustainable maritime system in 2050	51
8. The importance of mobility and transport	Importance of the transport of hazardous substances	55

Management team

The KiM management team consists of Jaap de Wit (scientific director), Arjen 't Hoen (deputy director), Odette van de Riet and Jan van der Waard. With the exception of the scientific director, each member of the management team is responsible for a number of core themes, as listed in the table below.

Core Theme	Responsible MT Member
1. Accessibility and spatial planning	Jan van der Waard
2. Drivers and effects of mobility	Jan van der Waard
3. Mobility behaviour and influential factors	Odette van de Riet
4. Availability of data and policy models	Jan van der Waard
5. Market organisation and the role of government	Arjen 't Hoen
6. Policy evaluations and assessment frameworks	Arjen 't Hoen
7. Transition to a sustainable, robust and safe mobility system	Odette van de Riet
8. The importance of mobility and transport	Arjen 't Hoen

0.5 About the Work Programme

Preparation of the Work Programme

KiM's Work Programme is demand-driven (with the exception of the observational reports mentioned in section 0.2), in line with KiM's stated objective of strengthening the strategic knowledge base for mobility policy. Nevertheless, the decision for demand-driven research does not mean that KiM has no influence on the research questions it is asked to investigate. The demand for research is not a case of one-way traffic from the policy directorates to KiM, in the sense of placing an order for a product. The articulation of research questions is based on an active dialogue in which KiM regularly alerts the policy directives to strategic developments, social trends and other issues affecting mobility that may require a policy response. In other words, KiM has an important strategic task of making the required knowledge available for developing and maintaining policy.

Ideas for new projects are prioritised through a critical assessment of the urgency of projects to the commissioning departments concerned, the match between the research questions

and the pool of knowledge and expertise within KiM, and the degree to which a typical KiM product (see section 0.2) can be delivered. This requires agreement with the ministerial departments at various levels. Moreover, the Work Programme has been discussed with the Netherlands Environmental Assessment Agency (PBL), the CPB Netherlands Bureau for Economic Policy Analysis (CPB) and the Netherlands Institute for Social Research (SCP). The Work Programme is formally adopted by the secretary-general of the Ministry of Infrastructure and the Environment.

A dynamic Work Programme

This Work Programme is dynamic in nature. Interim adjustments and additions to the Work Programme may lead to a different set of priorities, other forms of implementation or to cancelling research on certain topics. In 2012 the Work Programme will be updated at least once.

0.6 Explanatory remarks on Chapters 1 to 8

Chapters 1 to 8 of this Work Programme contain descriptions of the projects and activities per core theme.

For each core theme we first describe the subject matter covered and the topics under investigation. For each topic, we then describe the ongoing projects begun in 2011 and the new projects in 2012. The following information is given for each project: title, project type (research or KaT), the commissioning department, project number, expected capacity requirements (large, medium, small¹) and the expected starting date. This is followed by brief descriptions of more global project ideas that may be worked up in more detail in the next update. An update will be posted on the ministry's website once or twice a year.

The projects listed in this Work Programme will require full use of KiM's capacity. This means that while requests submitted after the publication of this Work Programme are welcome, they may lead, in discussion with the relevant commissioning departments, to a reordering of priorities. Any revision of priorities will be made clear in the next update.

Appendix A contains an analysis of the allocation of KiM's capacity by commissioning department, core theme and type of project. Appendix B contains a complete overview of all projects listed by commissioning department.

¹ See Appendix B for a quantification of capacity requirements of these three categories in hours.

1 Accessibility and spatial planning

1.1

Explanation of the core theme

A primary objective of national transport and traffic policy is to improve accessibility. Central to this core theme is the development and application of knowledge for operationalising the concept of accessibility, analysing problems and exploring possibilities for improving accessibility through specific policy measures, such as investing in infrastructure, spatial and urban planning, capacity utilisation measures, mobility management and fiscal measures. KiM takes a broad approach that encompasses both passenger and freight transport (smart use of networks and smart logistics, unimodal and multimodal), transport chains and hubs, and the interaction with urban planning and development.

The fact that the policy fields of infrastructure, spatial planning and the environment have been brought together within the Ministry of Infrastructure and the Environment (IenM) makes it possible to develop more integrated policies for spatial planning and mobility: infrastructure/accessibility policy, spatial development and spatial policy are all closely related. Accessibility policy can influence spatial structures, while new infrastructure can have a desirable – or sometimes even an undesirable – structuring effect on the physical fabric of the surrounding area. Conversely, spatial planning decisions, such as major urban development projects, can have desirable or undesirable consequences for accessibility. Knowledge about the interaction between urban planning and development and accessibility is important for gauging the effects of policy interventions and making balanced decisions on the use of policy instruments.

Operationalising the concept of accessibility is a key focus of KiM's more fundamental work. This involves broadening the concept of accessibility as a policy objective as well as gaining more in-depth understanding of specific aspects of accessibility, such as comfort and the reliability of journey times.

A second focus within this core theme is investigating how policy interventions in transport and traffic systems can improve accessibility. Besides research geared to the development of new policy options, the aim here is to gain further understanding of the effectiveness of certain measures in meeting current accessibility objectives.

Two topics are central to this core theme:

- accessibility as a policy objective;
- the development and analysis of accessibility policy options.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

1.2

Accessibility as a policy objective

Following a series of strategic policy documents in which the concept of accessibility was concerned largely with the loss of journey time on the trunk road network, the *Mobility Policy Document* introduced an additional focus on reliability and robustness as core concepts in national transport and traffic policy. This gave rise to the need for further elaboration of these concepts. KiM has already conducted studies to refine the definition of these concepts, but gaps in our knowledge still remain with regard to translating these concepts into assessment frameworks. In the recent *Draft National Policy Strategy for Infrastructure and Spatial Planning* (SVIR) the concept of accessibility has been considerably expanded by the introduction of an operationalisation based on generalised cost. Integrated and easily communicable accessibility indicators are essential for determining the nature and scale of accessibility problems and to indicate expected and generalised policy effects.

Concrete projects

DGB Strategy
Knowledge at the Table, BB1117,
medium, ongoing

Supporting further development of the SVIR accessibility indicator

The *Draft National Policy Strategy for Infrastructure and Spatial Planning* (SVIR) contains a new accessibility indicator. In the 2011 project *Accessibility: An Alternative View*, KiM provided an input to the choice of indicator. The Directorate-General for Mobility and Transport (DGB) is now refining the new accessibility indicator and in the course of 2012 intends to produce a fully developed indicator for use in monitoring and area-based policy initiatives. The indicator will also be extended to cover freight transport by rail and waterway. KiM is assisting DGB by providing knowledge at the table for the elaboration and refinement of the indicator.

DGB Strategy
Research project, BB1103, medium,
third quarter

Robustness and reliability in actual projects

The potential effects of policy measures to improve robustness and reliability cannot be satisfactorily assessed using the available models. It is therefore necessary to estimate these effects for actual projects using rules of thumb derived from research projects specifically conducted for this purpose. In 2010 a first step was taken in this direction, but further elaboration is needed in which – in addition to projects for the trunk road network – studies will be carried out on measures for the underlying road network and within other modalities.

DGB Roads and Traffic Safety
Research project, BB1102, medium,
ongoing

Unreliability from the passenger's perspective

Research into unreliability and robustness has so far paid relatively little attention to the passenger's perspective. This project aims to expand this knowledge base through research into the ways in which passengers plan their journeys (by car and public transport), the journey times they expect and their behavioural responses to various types of delays. The research is based on comparing passengers' objective behavioural responses with their subjective preferences. The methods used are questionnaires, observations, interviews and new data collection techniques.

Other, more global project ideas

Contribution to an assessment framework for proposals on rail network robustness

ProRail and Netherlands Railways (NS) are working on a further definition of robustness as applied to the rail network. In 2012 the Ministry of IenM will provide details on potential steering mechanisms and may require methods for including robustness in performance assessments. At that stage there may be a need for knowledge at the table (KaT) from KiM. (See also Robustness and Reliability in Actual Projects – BB1103.)

1.3

Development and analysis of accessibility policy options

The transport and traffic system consists of a set of complementary transport modes. The main transport modes are road, rail, water and air, but within these there is a wide range of forms of transport, such as car/goods vehicles, trains, pedal and electric bicycles, buses, trams, metro and taxis. Each of these means of transport has its own advantages and market. Depending on things like journey purpose and origin and destination, the traveller or shipper will choose the optimum transport mode. The private car/goods vehicle is a highly popular choice, which is putting intense pressure on accessibility via the road network.

In resolving this problem the emphasis is on how accessibility can be improved by adapting the transport and traffic system and various aspects of the surrounding areas (for example the spatial system). The research encompasses all transport modalities. Special attention is given to multimodal trips in which various modes of transport are used to make a single journey. For example, walking distance and the availability and ease of use of cycle parks are two factors affecting the attractiveness of public transport, and the quality of the bus, tram and metro has an influence on the attractiveness of travelling by train. Moreover, the presence of bicycle interchanges is a crucial factor in the attractiveness of travelling the first and final stages of a journey by bicycle. Besides research geared to the development of new policy options, this topic includes assessment of the effectiveness of these options in meeting accessibility objectives.

Concrete projects

Bicycles in the chain

Bicycles play an increasing role in multimodal travel, an example being the popularity of the public transport bike (OV-fiets). This role could be expanded further. This study investigates how the bicycle can play a bigger part in multimodal transport chains and whether it can play a bigger role in journeys over longer distances (> 7.5 km). Special attention is given to the use of the bicycle in travel to and from public transport and the potential role of electric bicycles. The project has been divided into two phases. Phase 1 is a knowledge-at-the-table process. In a meeting with experts within the ministry and external experts the main opportunities for national policy initiatives will be identified by scanning several relevant key issues. In phase 2, which is optional, the relevant research questions may be investigated in more depth.

DGB Infrastructure Efficiency Programme
Knowledge at the Table, BB1113, medium, ongoing

KiM Contribution to monitoring and evaluation of the Infrastructure Efficiency Programme

There is a need for monitoring and evaluation of the implementation of measures in the Infrastructure Efficiency Programme. The aim is to determine at the programme level what does and what does not work, and how to do this without evaluating each project individually. KiM was asked to provide expert assistance with the development a monitoring and evaluation procedure and possibly the contracting of external services, and to play a quality control role.

DGB Roads and Traffic Safety
Knowledge at the Table, BB1112, medium, ongoing

Review of the evaluation method for the Traffic Management Trial Amsterdam (PPA)

The goal of the Traffic Management Trial Amsterdam (*Praktijkproef Amsterdam*, PPA) is to investigate how network-wide coordinated traffic management measures can improve the efficiency of the road network in the Amsterdam region. It is a joint project between central government and the regional and local authorities. The trial will run for about three years. The DGB Roads and Traffic Safety department has commissioned KiM to review the planned ex ante and ex post evaluations of the PPA. Each review will contain an independent scientific judgement on the evaluation methods used and the results of the evaluations.

DGB Public Transport and Rail
Research project, BB1106, medium, ongoing

Quality needs of the modern public transport passenger

Public transport policy is becoming increasingly oriented towards the needs of the passenger. In connection with this, it is important to know what exactly potential users want. What types of passengers can be distinguished (target groups or, for example, 'public transport dependent', 'car dependent', 'optional' and such like)? What are the conditions that define the differences between these groups? Are there specific wants or needs associated with each passenger category? And can these be used to obtain a picture of the passengers who are most prepared to change their travel behaviour, and under what conditions? What success and failure factors are decisive in switching from the car to public transport (for example, expensive parking policy, good P+R, quality of the public transport offer, layout and design of areas around public transport nodes, etc.) and under what circumstances do people actually switch to public transport? How can these factors be better integrated into the current system of policy-driven contract financing, or are alternatives that are better oriented to the passenger needed? Drawing on existing knowledge, KiM can make an initial contribution to the development of policy in this area through the provision of knowledge at the table. Knowledge gaps can be filled by carrying out research.

DGB Roads and Traffic Safety
(other directorates involved: DGB Strategy, DGRW Spatial Development)
Knowledge at the Table, BB1201, small, first quarter

Opportunities for accessibility via spatial planning

The relation between spatial and urban planning and mobility is a much studied topic. Changing the structure and layout of development leads to changes in people's activity patterns and changes in the demand for mobility, which in turn have an effect on accessibility. For example, concentrating services in central locations around existing public transport stations (the 'A locations' of earlier policy), in combination with parking restrictions, reduces car traffic. Locating major new housing developments on the edges of cities (the 'Vinex' sites) can lead to more traffic congestion. Conversely, building new transport infrastructure (roads and public transport) has an effect on the spatial

behaviour of people and businesses. As a consequence of the 'new' mobility thus stimulated, the accessibility of some locations may be reduced and bottlenecks may arise in the transport system. KiM is preparing a report based on a literature study which will draw on past experiences and foreign examples to show how this interaction between urban planning, mobility and accessibility works. Which principles, derived from both the spatial planning system and the transport system, have a beneficial influence on accessibility and which have a less favourable influence on accessibility?

DGRW Spatial Development (other directorates involved: DGB Roads and Traffic Safety, DGB Strategy) Research project, BB1202, medium, first quarter

Transit Oriented Development

Transit oriented Development (TOD) is a planning and transport concept which integrates the design of urban development and transport infrastructure. This applies both to the physical planning aspect (development is concentrated around public transport stops) and to the financing and commercial operation of the infrastructure and new development. A combination of different housing preferences (greater preference for urban living now the baby boom generation is ageing), business location preferences (more synergetic locations) and transport planning (passenger-oriented market thinking) deliver a new environment in which Transit Oriented Development can thrive. Where can these developments already be seen, where do the opportunities lie, which actors can be involved and which interests are at stake? A global overview of the available knowledge will be presented in a working session with policymakers.

DGB Infrastructure Efficiency Programme (other directorates involved: DGB Public Transport and Rail, DGB Maritime Affairs, DGB Civil Aviation Department) Research project, BB1203, small, second quarter

Lessons on efficient utilisation of infrastructure

The abandonment of proposals for a road pricing policy and a lower level of investment in road infrastructure have focused attention on efficient utilisation of the existing infrastructure. However, this is not unique to the road system. In addition to an analysis of potential alternative policy options, as implemented in 2011 in the Smart Utilisation project, lessons may also be learned from approaches to efficient utilisation in other systems and sectors. What lessons for efficient utilisation of the road system can be learned from approaches (such as specific efficiency measures and the transport chain approach) taken in other transport modes (for example, rail and aviation) and other sectors (water management, gas distribution, electricity grid)? Links will be made to findings from Next Generation Infrastructures (NGI).

DGB Aviation (other directorate involved: DGRW Spatial Development) Research project / Knowledge at the Table, BB1119, small, ongoing

Support to SMASH

The Spatial Strategy for Mainport Amsterdam Schiphol Haarlemmermeer (SMASH) is currently in preparation. KiM will provide knowledge-at-the-table support as a follow-up to the landward accessibility aspect of the Mainports 2.0 project in 2011. KiM's input relates mainly to assessing spatial models of landward accessibility developed for the preparation of SMASH. After completion of KiM's input to SMASH, an assessment will be made of whether the knowledge gained in this project and the findings from the Mainport 2.0 project can be collated in a background report.

DGMI International Affairs Knowledge at the Table, BB1204, small, first quarter

Contribution to IenM TEN-T policy portfolios

KiM is contributing to the ministry-wide TEN-T policy portfolios with knowledge at the table on infrastructure planning, transport development and appraisal methods.

Other, more global project ideas

DGB Maritime Affairs

Raising the market share of inland shipping

Several programmes are underway to achieve the 2035 market share targets for inland shipping, including the Inland Logistics Masterplan. Further development and implementation of the plans will depend to a large extent on the transport sector itself, but there may be KaT questions for KiM in 2012.

DGB Roads and Traffic Safety

The last mile

To determine the policy leverage points for 'the last mile' (the last stage of the delivery of goods, for example ordered via internet), insights are needed into the opportunities and threats associated with this phenomenon. A 'kebab skewer' study to pull together existing knowledge and the results of ongoing research projects (including Sustainable Accessibility of the Randstad, DBR) may be helpful.

Doctoral research

VU Amsterdam and KiM
Doctoral research, P801

Reliability of journey times

The research questions are:

- How wide is the range of door-to-door journey times? Has this increased over time?
- Is the range (more or less) proportional to total journey time, or to total delays?
- What expectations do passengers and transport companies have regarding journey times? Are these expectations rational? Or is there a systematic bias?
- How do passengers and transport companies experience unexpected speed-ups and delays?
- Are the costs of factored-in and unexpected delays of the same order of magnitude?
- Does the value of unreliability change over time? Is 'just in time' delivery becoming more important?

1.4 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	Supporting further development of the SVIR accessibility indicator	BB1107	Knowledge at the Table	Ongoing	Medium
DGB Strategy	Robustness and reliability in actual projects	BB1103	Research project	Third quarter	Medium
DGB Roads and Traffic Safety	Unreliability from the passenger's perspective	BB1102	Research project	Ongoing	Medium
DGB Public Transport and Rail	Bicycles in the chain	BB1108	Research project	Ongoing	Medium
DGB Infrastructure Efficiency Programme	KiM Contribution to monitoring and evaluation of the Infrastructure Efficiency Programme	BB1113	Knowledge at the Table	Ongoing	Small
DGB Roads and Traffic Safety	Review of the evaluation method for the Traffic Management Trial Amsterdam (PPA)	BB1112	Knowledge at the Table	Ongoing	Small
DGB Public Transport and Rail	Quality needs of the modern public transport passenger	BB1106	Research project / Knowledge at the Table	Ongoing	Medium
DGB Roads and Traffic Safety	Opportunities for accessibility via spatial planning	BB1201	Knowledge at the Table	First quarter	Small
DGRW Spatial Development	Transit Oriented Development	BB1202	Research project	First quarter	Medium
DGB Infrastructure Efficiency Programme	Lessons on efficient utilisation of infrastructure	BB1203	Research project	Second quarter	Small
DGB Civil Aviation Department	Support to SMASH	BB1119	Research project / Knowledge at the Table	Ongoing	Small
DGMI International Affairs	Contribution to IenM TEN-T policy portfolios	BB1204	Knowledge at the Table	First quarter	Small
VU Amsterdam and KiM	Reliability of journey times	P801	Doctoral research	Ongoing	

2 Drivers and effects of mobility

2.1

Explanation of the core theme

The transport and traffic system is complex. Many factors determine the scale and nature of the demand for mobility of people and goods, including demographic, socio-economic and technological developments, computerisation, and spatial and urban planning. Other factors influence the way this demand will be met; for example, technological developments make new forms of transport possible. How and to what degree these transport means are used in turn have consequences for the environment in the form of emissions of pollutants and noise disturbance, as well as unsafe traffic conditions and potential dangers to residents from accidents and disasters. Understanding the mobility-determining factors and the interactions between transport and traffic and the physical environment provides insight into the possible points of policy leverage, and thus provides the basic knowledge required for policymaking. The increasingly rapid changes in these influential factors make it more important to closely monitor these developments and their consequences for mobility.

The core theme 'Drivers and effects of mobility' focuses on describing and explaining national and international developments in mobility and transport, and of their consequences for safety and for the built and natural environment. This involves reviewing past social developments and implemented policy to explain trends in mobility, as well as exploring possible (but essentially unknowable) future developments. The latter can be attempted by developing environmental scenarios to support robust policy development and through the preparation of medium- and long-term outlooks.

Two topics are central to this core theme:

- the linkages within the transport and traffic system;
- relevant developments in this area.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

2.2

The linkages within the transport and traffic system

To explain recent mobility trends in the light of social developments and implemented policy, it is essential to understand the internal linkages within the transport and traffic system and how the system interacts with the surrounding environment, for example the spatial system. The knowledge activities in this area involve describing the system in the past, present and future, and explaining the associated trends in mobility.

Concrete projects

DGB Strategy
Research project, OG1201, large,
first quarter

Mobility Report 2012

The annual *Mobility Report* provides objective (background) information for policymakers, researchers, politicians and organisations active in the field of transport and traffic. The publication reviews the current state of mobility in the Netherlands. In addition to a description of the trends in mobility, the report gives explanations for the growth in passenger and goods transport. It therefore provides input to the development of policy and for the public debate about mobility in general. In 2012, specific attention will be devoted to the relation between the growth in mobility and traffic congestion. For this aspect KiM will cooperate with the Rijkswaterstaat Centre for Transport and Navigation (RWS-DVS). Production of the *Mobility Report 2012* will be aligned and coordinated with the *Infrastructure and Spatial Planning Monitor*, which will be published for the first time in 2012.

DGB Strategy
Research project, OG1202, medium,
first quarter

Analysis of the levelling of growth in mobility

In recent years the credit crunch has led to a marked reduction in the growth of car traffic, but further analysis has shown that this stabilisation first began in 2005, much earlier than the onset of the financial crisis. This stabilisation is due in part to a reduction in the total number of passenger-kilometres travelled. The same trend can also be seen in other Western countries. Various studies indicate that the economic situation and fuel prices cannot fully explain this trend, but it is not clear what the other underlying causes are. More in-depth research is needed to confirm and explain this observed trend. Is demand for mobility reaching saturation point or are certain groups changing their behaviour? Are the Dutch travelling abroad more, and, conversely, are more foreigners travelling in the Netherlands? The study seeks to answer these questions and show how mobility patterns are changing in comparable countries.

DGB Public Transport and Rail
Research project, OG1203, medium,
first quarter

Regional cross-border public transport

Regional cross-border bus and rail connections currently make up a modest proportion of total mobility. The car is the dominant mode of transport for these trips, while cross-border public transport connections, particularly rail connections, are expensive to operate due to technical incompatibilities and other reasons. The question is which target groups use these forms of public transport at present and how demand will change in future. The study will not only examine the relative changes in the quality and cost of the transport offer, but also the influence of external determinants, such as population size and the disappearance of economic, social and cultural constraints on international transport.

DGB Civil Aviation Department
Research project, OG1204, medium,
second quarter

Factors influencing demand at regional airports

In recent years the regions airports have seen a rapid increase in their market share. This trend can also be seen in other countries. This growth is clearly associated with the rise of low cost airlines like Ryanair, but other factors also play a part. The project will also investigate which factors determine the function and role of regional airports. The regional governments are important actors as they are the ones that weigh up the economic and accessibility benefits against the costs (particularly noise disturbance).

The study will investigate the decisions these authorities come to and the circumstances and considerations influencing these decisions. Because, in the final instance, consumer preferences are decisive in the use made of the different airports, the research will examine travel behaviour and choice of airport made by Dutch aviation consumers (including their use of Amsterdam Airport Schiphol).

DGB Roads and Traffic Safety
(other directorate involved: DGB
Infrastructure Efficiency
Programme)
Knowledge at the Table, OG1205,
small, second quarter

The myth of latent demand

When decisions are made about the construction of infrastructure and traffic management measures, reference is often made to latent demand: 'building more infrastructure is pointless because the road will be full again in no time'. But what is latent demand; what is known about the forces driving this demand; are they properly accounted for in transport and traffic models; how big is the latent demand for transport on the Dutch road network and what is the consumer surplus? This project sets out to consolidate existing insights on this topic.

DGB Strategy (other directorate
involved: DGB Public Transport and
Rail)
Research project, OG1206, small,
second quarter

Role and significance of multi- and intermodality in passenger and freight transport

Multimodality and intermodality are core concepts in the *Draft National Policy Strategy for Infrastructure and Spatial Planning*. But what proportion of current passenger and freight trips can be called multimodal or intermodal, and what is the potential? Available information and analyses will be used to obtain insights into the scale, nature, composition and potential of inter- and multimodal passenger and freight transport.

DGB Strategy
Knowledge at the Table, MO1113,
small, ongoing

Contribution to Topteam Logistics action agenda

KiM is contributing knowledge-at-the-table support to the elaboration of the action agenda in the *Topteam Logistics Advisory Report*. The knowledge supplied is for the development of the action areas on synchromodal transport, the core network, and the national knowledge and innovation agenda.

DGB Strategy
Knowledge at the Table, OG1209,
small, first quarter

OECD Territorial Review

In 2012 the Organisation for Economic Co-Operation and Development (OECD) will be conducting its Territorial Review of the Netherlands. A relatively large part of the review may be devoted to infrastructure and accessibility. KiM can draw on the available sources of information and its specific knowledge of the mobility system to make an active contribution to answers provided by the Ministry of Infrastructure and the Environment to questions from OECD.

Other, more global project ideas

DGMI Safety and Risks (other
directorates involved: Human
Environment and Transport
Inspectorate)

Safety consequences of increasing container transport

The growth in container transport is expected to continue. The quality of information on the transport of hazardous substances in containers can be improved. As the demand for this information will depend in part on the consequences of the growth in container traffic, developments in the transport of hazardous substances by container and the consequences of this transport therefore need to be investigated. There is a link between

this subject and the demand for monitoring information from DGB Maritime Affairs and also with the information needs of the Human Environment and Transport Inspectorate (ILT)

2.3

Relevant developments in this area

The primary focus of these studies is not on the state of the transport system under various different conditions, but rather on the relevant actual and future developments influencing the transport system. Knowledge of such developments, together with knowledge of the linkages within the transport system, is essential for understanding how the transport and traffic system will function in future, including corresponding external effects. Early recognition of possible developments allows policymakers to respond to any expected negative consequences.

Concrete projects

DGB Civil Aviation Department
Research project, OG1107, medium,
ongoing

Recent and future developments in aviation

Dutch aviation policy operates within the context of several known and uncertain trends in aviation, including the liberalisation of the aviation market, increasing consolidation of airlines, increasing competition from the Middle East (Dubai, the United Arab Emirates, etc.), demographic trends, global economic trends, international tourism, changes in low-cost carrier (LCC) business models, concentration in the LCC sector, progressive internalisation of external environmental costs, etc. Some developments have been visible for some time, whereas others are relatively new or are some way off. In this project KiM is studying the potential significance of these developments for the competitive position of Amsterdam Airport Schiphol and is investigating policy options for responding to possible desirable and undesirable developments.

DGMI Safety and Risks
Knowledge at the Table, OG1207,
small, second quarter

Aligning assumptions for outlook studies

In 2006 the Dutch Government responded to the publication of the Welfare, Prosperity and Quality of the Living Environment (WLO) scenarios developed by the policy assessment agencies with the following statement: 'Exploring several possible futures, as expressed in the various scenarios, is an important and often essential element in judicious policymaking. However, the final decision on how to deal with uncertainties about future developments when making policy is ultimately a political one.' In practice, though, working with different assumptions about relevant future developments when developing policies often leads to apparently contradictory situations. Based on the available knowledge about the development and use of scenarios, KiM can provide knowledge at the table to resolve or align differences between the underlying principles in various policy portfolios and so provide a substantive response to the Government's standpoint. The 2007 publication *Denken in scenario's: onzekerheden beheersen* [Scenario Thinking: Managing Uncertainties] can provide a useful basis and, if necessary, will be updated.

DGMI International Affairs
Knowledge at the Table, OG1208,
small, first quarter

Contribution to IenM Horizon 2020 team

Horizon 2020 is the name of an upcoming EU framework programme. The transport related part of Horizon 2020 will be the Strategic Transport Technical Programme (STTP). A portfolio team in the Ministry of Infrastructure and the Environment is working to influence the content of the research programme relevant to the ministry. KiM is providing knowledge-at-the-table input to the portfolio team.

Other, more global project ideas

DGB Strategy

Updating long-term scenarios

In 2010 the Netherlands Bureau for Economic Policy Analysis (CPB) published the initial outlines of four new futures scenarios in *The Netherlands in 2040*. These will replace the WLO scenarios published in 2006. In consultation with CPB and the Netherlands Environmental Assessment Agency (PBL), KiM will establish if there is a need to work up the implications of these futures scenarios for various sectors, including mobility. Firm plans have not yet been drawn up for this study, but it is possible it may begin in 2012. KiM can provide input to the project on the topic of passenger and goods transport.

DGMI Safety and Risks

Consequences of global developments in the production and use of hazardous substances for transport in the Netherlands

What are the consequences of a global shift in the production locations for hazardous substances and the use of LNG and hydrogen as a transport fuel (car, inland shipping) for the transport of such substances in the Netherlands?

DGMI Safety and Risks

Analysis of the consequences of increasing growth in hazardous waste and biofuel wastes

It is expected that the transport of wastes, including hazardous waste, and biofuels will increase over the coming years. What are the possible consequences of this trend?

DGB Maritime Affairs

KiM contribution to IenM activities for the inland shipping transition committee

The prime responsibility for giving shape to the implementation of measures drawn up by the inland shipping transition committee lies with the sector itself. At a later stage in this process the ministry may receive requests for specific information or expertise; KiM can then contribute to answering these questions.

2.4 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	Mobility Report 2012	OG1201	Research project	First quarter	Large
DGB Strategy	Analysis of the levelling of growth in mobility	OG1202	Research project	First quarter	Medium
DGB Public Transport and Rail	Regional cross-border public transport	OG1203	Research project	First quarter	Medium
DGB Civil Aviation Department	Factors influencing demand at regional airports	OG1204	Research project	Second quarter	Medium
DGB Roads and Traffic Safety	The myth of latent demand	OG1205	Knowledge at the Table	Second quarter	Small
DGB Strategy	Role and significance of multi- and intermodality in passenger and freight transport	OG1206	Research project	Second quarter	Small
DGB Strategy	Contribution to Topteam Logistics action agenda	MO1113	Knowledge at the Table	Ongoing	Small
DGB Strategy	OECD Territorial Review	OG1209	Knowledge at the Table	First quarter	Small
DGB Civil Aviation Department	Recent and future developments in aviation	OG1107	Research project	Ongoing	Medium
DGMI Safety and Risks	Aligning assumptions for outlook studies	OG1207	Knowledge at the Table	Second quarter	Small
DGMI International Affairs	Contribution to IenM Horizon 2020 team	OG1208	Knowledge at the Table	First quarter	Small

3 Mobility behaviour and influential factors

3.1 Explanation of the core theme

An understanding of individual choice behaviour can improve the effectiveness of policy measures. Policy measures can be focused on a wide range of different problems, such as traffic congestion, air pollution and traffic safety. This makes it important to know how people respond to particular measures, how they make decisions, and how to anticipate and influence these mechanisms. Government policy can be made more effective by paying more attention to individual choice behaviour.

The core theme 'Mobility behaviour and influential factors' provides insight into the factors that influence individual mobility behaviour, including elements such as experience, perceptions, impressions, values and norms. These 'soft' factors provide insight into behaviour, how people make choices, and people's impressions and perceptions. This core theme attempts to open this 'black box'. The resulting evidence-based insights can then be used to explain people's choices and develop more effective policies. In this core theme we also aim to estimate the effects of this behaviour (both intended and unintended). To do this, insights into people's behaviour at the micro level (the individual 'mobilist', traveller) are translated via the meso level (target groups, segments) to the macro level (effects on the system).

The topics to be further investigated in 2012 are clustered as follows:

- **Knowledge of individual mobility behaviour:** how are the choices of the individual 'mobilist' formed and what factors influence these choices?
- **Possibilities for influencing behaviour:** how can policies take individual choice behaviour into account and make effective use of it?

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

3.2 Knowledge of individual mobility behaviour

This cluster addresses individual mobility behaviour: how are the choices of the individual mobilist formed and what factors influence these choices? How do developments in society affect people's mobility choices and their impressions and perceptions? And how can policies make use of these, in terms of opportunities and threats? Knowledge in this area can be expanded further in 2012.

Concrete projects

DGB Strategy (other directorate involved: DGB Infrastructure Efficiency Programme and others)
Research project, GB1201, medium, second quarter

Impacts of ICT developments on individual mobility behaviour

E-activities like teleworking, video conferencing, teleshopping and social networking are becoming increasingly commonplace. ICT applications are also found in road transport: smart infrastructure, smart vehicles and smart routeplanners that assist drivers or take control altogether. Certain ICT applications may also take on greater responsibilities during the journey itself. The goal of this study is to identify and describe the consequences of these developments on the choice behaviour of mobilists and to investigate how policy can act on and respond to these changes. The Netherlands Institute for Social Research (CSP) may be involved in the implementation of this project.

DGB Infrastructure Efficiency Programme
Research project, GB1202, medium, first quarter

Impacts of social trends on individual mobility behaviour

Important social trends, such as individualisation and re-urbanisation, have an influence on individual mobility behaviour. The goal of this study is to identify and describe the consequences of these developments on the choice behaviour of mobilists (taking account of different target groups) and to investigate how policy can act on and respond to these changes. The project builds on the 2011 KiM publication *Blik op de personen-mobiliteit* [Personal Mobility Examined], which reviews the main social trends. The Netherlands Institute for Social Research (CSP) may be involved in the implementation of this project.

DGB Roads and Traffic Safety
Research project, GB1203, medium, fourth quarter

The experience economy

People's impressions, emotions and perceptions are key to changing behaviour, because their experiences play a major role in the mobility related choices they make (place of residence, choice of transport mode, workplace, recreation, vehicle purchase, etc.). The goal of this study is to gain insight into important aspects of personal experiences and perceptions (and trends in these) and how policy can respond to them. The study will take the KiM study *Beleving en beeldvorming van mobiliteit* [Experience and Perceptions of Mobility] a step further and seek to obtain general insights into the way Dutch citizens experience their use of the car, bicycle and public transport.

Other, more global project ideas

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3.3 Possibilities for influencing behaviour

This cluster explicitly focuses on influencing behaviour: how can policies take account of the individual choice behaviour of mobilists, with their soft, psychological characteristics, and make effective use of these behavioural characteristics?

The KiM report *Behaviour in Policy* [*Gedrag in beleid*] was published in mid 2011. This study shows, through practical examples, what psychology and behavioural economics have to offer policymakers. People do not always make transport choices on rational grounds (such as considerations of time and money), but in practice are also led by their emotions, display

habitual behaviour and do not always use all the available information on which to base their choices. Insights from psychology and behavioural economics on this unpredictable, irrational choice behaviour make it possible to develop more effective mobility policies. The report contains an overview of the points of leverage for influencing behaviour that can make use of the rational and irrational ways in which people's travel behaviour takes shape. In 2011 KiM was asked to apply the ideas in this study to current policy issues. This work will be continued in 2012.

Concrete projects

DGB Infrastructure Efficiency Programme
Research project, GB1101a,
medium, ongoing

Target groups in and outside the rush hour

Within the Infrastructure Efficiency Programme measures are being sought to encourage rush-hour travellers to travel at different times or in other ways. The aim of the KiM study is to identify the different groups of rush-hour travellers and then to identify a group that will be receptive to such 'stimuli'. The measures will then be drawn up and tested, and the effects identified and described.

DGB Roads and Traffic Safety
Research project, GB1101b,
medium, ongoing

Safe cycling

Cyclists, especially older cyclists, are a vulnerable group. The goal of this project is to indicate how the proposed cycling measures can be reinforced and identify possible new measures, especially for those target groups with the greatest potential.

DGB Infrastructure Efficiency Programme
Knowledge at the Table, GB1101d,
medium, ongoing

Influencing behaviour within the Infrastructure Efficiency Programme

Within the Infrastructure Efficiency Programme a policy package approach is being developed which will combine several hard and soft measures. Influencing people's behaviour is an essential part of this, but the relevant knowledge is still being developed. The Infrastructure Efficiency Programme department has asked KiM for assistance with mobilising knowledge about behaviour to support the development of new mobility concepts.

DGMI Strategy Unit (other
directorates involved: DGMI
Climate, Air and Noise)
Knowledge at the Table, GB1206,
small, first quarter

Application of behavioural knowledge in environmental policies

The Directorate-General for the Environment and International Affairs (DGMI) is interested in the ideas contained in the KiM publication Behaviour in Policy. The goal of this project is to communicate this body of thought to DGMI in a workshop or presentation in which the ideas in the report can be tried out on an environmental policy issue in a theoretical exercise.

DGB Roads and Traffic Safety
(other directorates involved: DGB
Strategy)
Research project, GB1204, medium,
fourth quarter

Incentive policies

Policy instruments that reward people for desired behaviour are attracting increasing interest. The aim of this project is to provide an understanding of when incentives work better than disincentives, and which types of incentive work best, in which situation and for which target group. For example, the literature and practical experience suggest that directly rewarding good behaviour can be effective, but the question is whether this also applies over the longer term. The project will also look into ways of preventing such incentives having an adverse effect on the intrinsic motivations of the participants.

Other, more global project ideas

ILT

Influencing behaviour through enforcement

How can the behaviour of bargees, lorry drivers and other road users subject to regulation be influenced, directly or indirectly (for example via their employers), through enforcement actions? The goal of this project is to develop the ideas in the KiM publication Behaviour in Policy [*Gedrag in beleid*] for the Inspectorate so that they can be used in the training of inspectors.

DGB Roads and Traffic Safety

Influencing traffic safety behaviour

A follow-up to the 'Safe cycling' study is planned for 2012. This study may go into cycling safety in more depth, but may also cover another safety theme.

3.4 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	Impacts of ICT developments on individual mobility behaviour	GB1201	Research project	Second quarter	Medium
DGB Infrastructure Efficiency Programme	Impacts of social trends on individual mobility behaviour	GB1202	Research project	First quarter	Medium
DGB Roads and Traffic Safety	The experience economy	GB1203	Research project	Fourth quarter	Medium
DGB Infrastructure Efficiency Programme	Target groups in and outside the rush hour	GB1101a	Research project	Ongoing	Medium
DGB Roads and Traffic Safety	Safe cycling	GB1101b	Research project	Ongoing	Medium
DGB Infrastructure Efficiency Programme	Influencing behaviour within the Infrastructure Efficiency Programme	GB1101d	Knowledge at the Table	Ongoing	Medium
DGMI Strategy Unit	Application of behavioural knowledge in environmental policies	GB1205	Knowledge at the Table	Fourth quarter	Medium
DGB Roads and Traffic Safety	Incentive policies	GB1204	Research project	Fourth quarter	Medium

4 Availability of data and policy models

4.1 Explanation of the core theme

The quality of answers to just about every research question in the field of transport and traffic depends on the quality of the underlying data. The quality of data on historical and current trends in transport and traffic depends on standard data collection procedures, and the quality of data relating to future developments depends on the models used to generate these data. KiM does not compile data on mobility and accessibility itself on a regular basis (except for specific projects) and does not develop or manage transport and traffic models. For the production of knowledge for the policy directorates, KiM therefore relies on standard data collection and model development and management by other organisations, such as Statistics Netherlands (mobility and freight transport), Rijkswaterstaat Centre for Transport and Navigation (RWS-DVS) (traffic data), TNO (models), universities (incidental data collection and models) and private organisations (incidental data collection and models). The information requirements for policymaking (and therefore for KiM) are determined directly by current and possibly future policy indicators for monitoring strategic policy objectives. Interaction is clearly an issue here, because information demands are often limited by the availability of suitable data and the possibilities for and constraints on data collection. KiM has extensive knowledge of the available pools of data, data collection methods and models, and can use this knowledge to stimulate the development of models and data collection relevant to mobility and transport policy. At the same time, KiM is able to assist the policy process with the development and use of policy indicators for monitoring strategic policy objectives.

Two topics are central to this core theme:

- basic information about mobility and accessibility;
- transport and traffic models.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

4.2 Basic information about mobility and accessibility

This topic within the core theme concerns standard data collection in the field of mobility and accessibility, with the sharpest possible focus on information needed for the monitoring and evaluation of mobility and transport policy. KiM's knowledge and expertise on data collection and modelling methods is used to translate policy information needs into the continuous and improved collection and processing of data. These data are not collected by

KiM itself, but by organisations such as Statistics Netherlands and Rijkswaterstaat's Data-ICT-Dienst (DID) and Centre for Transport and Navigation (DVS). Conversely, KiM can play a role in 'translating' the available data into policy-relevant information.

Concrete projects

DGB Strategy (other directorates involved: DBG-wide, DGM Climate, Air and Noise, DGM Safety and Risks, DGRW Spatial Development) Research project/Knowledge at the Table, DM1101, medium, ongoing

IenM needs for data collection regarding mobility and accessibility

To satisfy its information needs the Ministry of Infrastructure and the Environment (IenM) is dependent on the availability of data and information on mobility (passenger and freight transport, aviation) and accessibility (network usage, congestion, transshipment, etc.). Such data are collected both within IenM and by third parties (for example, transport companies). These data are not only a means for creating knowledge within KiM, but also for meeting policy monitoring needs. The goal of this project is to identify the information that should be available to KiM and the policy directorates and how the delivery and/or availability of other sources of data can be secured (for example from Statistics Netherlands, Rijkswaterstaat, OAG, MIDT, etc.). In addition, the project will establish whether KiM should meet any identified specific monitoring needs, such as the *Goederenvervoermeter* [Freight Transport Monitor] and the customer valuation barometers for regional public transport, and if so, how.

DGB Civil Aviation Department Research project, E928, small, ongoing

Factsheet aviation data

The aviation data factsheet provides an annual overview of trends in traffic at Amsterdam Airport Schiphol and other (competing) airports. The airports covered are the Dutch regional airports, the major North-West European hubs and a number of Belgian and German airports that serve part of the Dutch market. The trends in global aviation are also presented for reference purposes. The factsheet is purely informative.

DGB Strategy Research project, DM1102, large, ongoing

Mobility Research Panel

Increasing attention is being given in transport and traffic policies to the behaviour of specific target groups in society. Accordingly, there is a growing demand for insights into the trends in the mobility of specific target groups over time and in the effects on mobility behaviour of changing circumstances among individuals and groups (changes in family composition, moving house, etc.). In 2012 KiM started a longitudinal mobility study, which will last at least four years, to obtain this type of information and understanding. The aim is to conduct a first survey in the autumn of 2012. The project will be implemented in cooperation with Goudappel Coffeng and the University of Twente, and with the involvement of RWS-DVS and PBL.

DGB Strategy Research project, DM1105, small, ongoing

Update 'The cost of a journey'

In 2004 CE Delft and VU University Amsterdam published the study *De prijs van een reis* [The cost of a journey], which was carried out for the former Ministry of Transport, Public Works and Water Management. The study provided insight into the external costs caused by the different transport modalities and the degree to which these costs are internalised via taxes and other charges. The aim of this project is to update the 2004 study to take account of new insights in valuation indices and new concepts for allocating social costs to the different modes of transport.

DGB Strategy
Knowledge at the Table, DM1113,
medium, ongoing

Contribution to the Infrastructure and Spatial Planning Monitor

The Netherlands Environmental Assessment Agency (PBL) was asked to develop, in cooperation with KiM, a monitor of spatial planning and mobility policy. This *Infrastructure and Spatial Planning Monitor* will indicate the progress being made towards realising the policy objectives for the thirteen national interests set out in the *National Policy Strategy for Infrastructure and Spatial Planning* (SVIR). The information will be used to report to the House of Representatives once or twice a year on progress with the policy. The monitor replaces the *National Spatial Strategy Monitor* and the *National Mobility Monitor*. In 2011 indicators will be developed for the thirteen national interests. Translation of the concepts of 'robustness' and 'coherent transport system' in particular will require special attention. The specification of the accessibility indicator will follow later in 2012. The first, baseline measurements for all the indicators are expected to take place in 2012. All the indicators will be published on the PBL website 'Environmental Data Compendium'. For DGB, KiM supplies KaT information on mobility and accessibility to PBL and ensures the information in the *Infrastructure and Spatial Planning Monitor* is aligned with and complements the *Mobility Report* (see *Mobility Report 2012 – OG1201*).

Other, more global project ideas

DGB Roads and Traffic Safety

Review/audit of data collection on road traffic deaths and hospitalisations

A review/audit of the collection methods for data on road traffic deaths and hospitalisations.

4.3 Transport and traffic models

Transport and traffic models make an important contribution to the development of policy. In ex ante evaluations of policy measures the policy effects of interest are almost always generated using models. These models are continually being adjusted in the light of new information, understanding and technical possibilities. Over the past few decades this innovation process has been driven largely by two, partly conflicting, objectives: one the one hand, the need for comprehensive information that meets the needs of current policy questions, and on the other hand the scientific desire to describe the world as accurately as possible. Over the past decade these developments have created problems in the use of models in the policy process because the information supplied is, in a certain sense, too complex. This has increased the chances of mistakes occurring, and thus adds to the vulnerability of the policymaking process. A rigorous quality control mechanism is therefore needed because the existing models apparently do not match the requirements of the policies well enough. The challenge for the future is to find better ways of interpreting model outcomes in the policy process. In previous research KiM has concluded that if the models are to remain workable in future they will have to be improved and subject to better quality assurance procedures, and the outcomes will have to be presented more effectively. KiM does not intend to develop and manage models itself (except for simple models for use in the production process of the *Mobility Report* and the Medium Term Outlooks (MLTs). However, KiM does have extensive knowledge of the available models and modelling techniques as well as knowledge of the policy process, and can use this knowledge to stimulate the development of models and data collection relevant to mobility and transport

policy. At the same time, KiM can assist the policymaking process by translating specific information needs (both substantive and process-related) into model development criteria.

Concrete projects

DGB Strategy
Knowledge at the Table, DM1106,
medium, ongoing

Supervisory support in model use and model development

DGB is working to improve the steering of mobility model development (including effects on air, noise levels and risk calculations), in part as a follow-up to recommendations made in the *Governance Models* project conducted by KiM in 2010, and will also articulate the relevant information needs. Simplifying the set of policy instruments is a core objective of the project. KiM is providing support for the design of the steering mechanism, the determination of new information needs and their translation into modelling criteria by providing knowledge at the table for various ongoing projects within DGB.

DGB Civil Aviation Department
Knowledge at the Table, B1014,
small, ongoing

AEOLUS supervisory group

The AEOLUS model (previously ACCM) is used by DGB for developing policy for Amsterdam Airport Schiphol and the regional airports. KiM is participating in the supervisory committee for projects on updating and applying the model.

DGB Strategy
Research project, DM1107, large,
first quarter

Model development for Medium Term Outlook

In 2010 KiM published its first Medium Term Outlook (MLT 2011–2015), which was enthusiastically received within the ministry. The Executive Board proposed that the report should be produced more often and improved by introducing spatial differentiation and including more information on the relation between mobility and congestion. Given the term of the present government, the next MLT is planned for the end of 2013. The aim of this project is to make the available forecasting methods suitable for obtaining the desired spatial differentiation and providing more detailed analyses. An assessment of the broad effects of policy instruments may be added if required, possibly by drawing on improvements already made to the ministry's more powerful models (NRM/LMS). At the end of 2011 a start was made with identifying the possibilities for model development and application in line with the proposals for improvement made by the Executive Board. At the same time, KiM will look into possibilities for improving the available aviation and freight transport forecasting models.

Other, more global project ideas

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4.4 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	IenM needs for data collection regarding mobility and accessibility	DM1101	Research project / Knowledge at the Table	Ongoing	Medium
DGB Civil Aviation Department	Factsheet aviation data	E928	Research project	Ongoing	Small
DGB Strategy	Mobility Research Panel	DM1102	Research project	Ongoing	Large
DGB Strategy	Update 'The cost of a journey'	DM1105	Research project	Ongoing	Small
DGB Strategy	Contribution to the Infrastructure and Spatial Planning Monitor	DM1113	Knowledge at the Table	Ongoing	Medium
DGB Strategy	Supervisory support in model use and model development	DM1106	Knowledge at the Table	Ongoing	Medium
DGB Civil Aviation Department	AEOLUS supervisory group	B1014	Knowledge at the Table	Ongoing	Small
DGB Strategy	Model development for Medium Term Outlook	DM1107	Research project	First quarter	Large

5 Market organisation and the role of government

5.1

Explanation of the core theme

This core theme focuses on the role of government and various forms of market organisation, and the relations between the different tiers of government.

This is a highly topical theme. The philosophy of the Rutte coalition government is that the role of government should be limited to doing what is absolutely necessary, cutting back on government tasks and subsidies, and reducing administrative burdens through a clear allocation of responsibilities and competences. For mobility policy this means, among other things, increasing the number of public-private infrastructure projects, alternative financing mechanisms for additional infrastructure, and a further division of public transport responsibilities with other government authorities. It is expected that this core theme will remain relevant for several years. In the current political climate of deregulation, spending cuts and decentralisation (and sometimes recentralisation), there is considerable emphasis on issues connected with market–government relations, market organisation and the relations between the various tiers of government.

Two topics are central to this core theme:

- the role of government and market organisation;
- relations between the tiers of government.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

5.2

The role of government and market organisation

This topic is about effective and efficient relations between government and the market. How can public interests be safeguarded and what will be the effects of a shift towards more market liberalisation or towards more government intervention? How can government make transport markets work better? How can the government steer semi-public and private organisations in such a way that they contribute to meeting government objectives? Apart from the fundamental tasks of government (such as defining ownership rights), the issue here is the degree to which government can operate as implementer, facilitator and regulator. This topic also includes examination of forms of public-private partnerships and financing mechanisms.

Concrete projects

DGB Public Transport and Rail
Research project, MO1201, large,
second quarter

Increasing market responsiveness of public transport

Central government may be able to make public transport more responsive to the needs of the customer by removing constraints and barriers and by taking measures to facilitate a more market-oriented approach. What measures will be most effective in this transition from a supply-led to a demand-led system? What are the main obstacles that have to be removed in densely populated areas, especially on the transport and real estate markets? What opportunities are there in sparsely populated areas to integrate public transport with contract transport? Answers to these questions can make an important contribution to meeting this challenge, which is set out in the vision on regional public transport.

DGB Public Transport and Rail,
DGB Civil Aviation Department,
DGB Maritime Affairs, DGRW
Spatial Development
Knowledge at the Table, MO1102,
medium, ongoing

Steering transport nodes

The smooth functioning of transport nodes, such as stations, ports and airports, is critical to achieving policy objectives in the areas of accessibility, spatial development, economic growth and environment. In practice, government has limited means at its disposal to influence how these nodes function. The main question is how government can effectively influence the functioning of these transport nodes. In this project KiM will map out the current government tasks and policy instruments for the various types of transport nodes in relation to their transport and business location functions. The interests of other parties involved with the functioning of these nodes will also be described. A workshop will then be held in which the policy directors (and possibly some external participants) will discuss the similarities and differences between the various steering mechanisms and the lessons that can be learned from them. KiM may use the outcomes from the workshop to identify and describe future policy options available to the Ministry of Infrastructure and the Environment for one or more types of transport nodes and the advantages and disadvantages of these policy options, with an emphasis on accessibility and spatial development aspects.

DGB Strategy, DGRW Spatial
Development
Knowledge at the Table, MO1202,
medium, second quarter

New earning models

What are the opportunities for introducing new earning models for infrastructure which can integrate the financial arrangements for its construction and commercial operation with development in adjacent areas? What can the various departments within Ministry of Infrastructure and the Environment (IenM) learn from each other, for example by comparing the working methods of the Port of Rotterdam with those of Netherlands Railways (NS) and ProRail. What can we learn from other sectors? In this project KiM will identify and describe the possibilities, to be derived in part from a comparison with other sectors. A workshop will then be organised in which IenM staff and several external experts will discuss the identified possibilities.

Other, more global project ideas

DGB Strategy

Regulation: leveraging results

How can the Ministry of Infrastructure and the Environment (IenM) steer semi-public and private organisations to obtain optimal progress towards policy objectives and stimulate innovation? What instruments are available for this? How do other countries manage this and what can we learn from them? And what can the various departments

within IenM learn from each other in this regard? For example, is a detailed system of performance indicators always the best option?

DGB Maritime Affairs

Port Services Directive

Possible delivery of knowledge at the table in relation to the proposed EU Port Services Directive.

5.3 Relations between the tiers of government

This topic is about how the division of responsibilities and cooperation between the various tiers of government can be designed to be as effective and efficient as possible. Important lessons can be learned from other countries and from other sectors. The topic covers inter-departmental and inter-authority relations within the Netherlands and the consequences of European transport policies for the Netherlands.

Concrete projects

DGB Roads and Traffic Safety
Knowledge at the Table, MO1203,
medium, third quarter

Traffic safety and the role of central government

The changing role of central government in traffic safety policy has an effect on the degree to which it can influence national traffic safety objectives, and therefore also on the nature of the objectives central government sets for its own policies. What role can central government play in traffic safety? What sorts of objectives can it set, and for what target groups? And how can traffic safety policy and traffic safety objectives be tied into other policies and objectives, such as those for accessibility?

Other, more global project ideas

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5.4 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Public Transport and Rail	Increasing market responsiveness of public transport	MO1201	Research project	Second quarter	Large
DGB OVnS, DGB LVT, DGB MZ, DGRW RO	Steering transport nodes	MO1102	Knowledge at the Table	Ongoing	Medium
DGB Strategy, DGRW Spatial Development	New earning models	MO1202	Knowledge at the Table	Second quarter	Medium
DGB Roads and Traffic Safety	Traffic safety and the role of central government	MO1203	Knowledge at the Table	Third quarter	Medium

6 Policy evaluations and assessment frameworks

6.1

Explanation of the core theme

This core theme focuses on ex ante and ex post evaluations of mobility policy and the assessment frameworks required for these evaluations. What are the most effective and efficient policy options for solving problems and capitalising on opportunities?

Identifying effective and efficient policy options has part of KiM's core business since its establishment. In the current climate of budget cuts, arguments for proceeding with infrastructure projects and deploying policy instruments are subject to more critical scrutiny. This underlines the need for transparent assessment frameworks that give extra weight to efficiency and effectiveness. Social cost-benefit analysis (SCBA) is an important assessment method in the field of infrastructure and spatial planning. However, SCBA is itself under scrutiny because sometimes too much emphasis is placed on the final balance of costs and benefits and because of questions about the capacity of SCBA to indicate actual progress towards achieving specific policy objectives. These issues require express attention within this core theme.

Four topics are central to this core theme:

- developing and broadening methodology;
- improving uptake of insights from assessment frameworks;
- learning from ex post evaluations;
- implementing and reviewing evaluations.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

6.2

Developing and broadening ex ante evaluation methodology

KiM's methodological development work is primarily concerned with the questions surrounding cost-benefit analysis. Despite the fact that the OEI method for infrastructure impact assessment has been used for more than ten years, various aspects are still subject to development. These relate to broadening the applicability of the instrument (for example to area-based projects and for management and maintenance decisions) and to accommodating the latest insights into the types of effects generated by mobility projects (reliability benefits, for example). Besides methodological development, we aim to devote more

attention to examining the position of SCBA within the full range of policy analysis methods, for example by revealing in a more structured manner the degree to which projects contribute to achieving policy goals.

Concrete projects

*DGB Strategy (other directorates involved: DGB Roads and Traffic Safety, DGB Public Transport and Rail, DGB Maritime Affairs)
Research project, E707, large, ongoing*

Economic valuation of reliability of journey times for various modalities

Two important benefits to society of reducing traffic congestion are shorter journey times and improved reliability. Much is already known about valuation of journey time savings in cost-benefit analysis, but this knowledge is not up to date. There is still little knowledge in the Netherlands about valuing reliability gains. Such knowledge is crucial to determining the social benefits of infrastructure projects and for weighing up investment decisions. This project aims to revise the currently available key figures for journey time valuation and to establish key figures for valuing journey time reliability.

*DGRW Regional and Project Development
Research project, EA1201, medium, first quarter*

Property valuation for area development projects with infrastructure

In SCBAs for infrastructure projects the main welfare effects are mainly journey time savings. In area development projects that include new infrastructure, however, the infrastructure is not usually intended to resolve traffic constraints, but is designed primarily to service new developments, such as new housing or employment locations. The welfare effects of the construction of infrastructure are in such cases primarily the indirect effects of a higher quality residential environment and higher business productivity. The value of these effects can be derived from the prices of homes and business premises. In area development projects the change in real estate values is therefore a better indication of the welfare effects of improved accessibility than journey time savings. As part of the Transumo research project, the VU University Amsterdam studied the relation between accessibility and property prices. KiM will establish whether the Transumo project has delivered an operational method that can be directly used in SCBAs of projects in which the primary purpose of building new infrastructure is to service new development, or whether the method needs to be further developed and refined. This question is relevant in relation to the SCBAs of major area development projects, such as the RRAAM project and development projects around transport hubs.

*DGB Civil Aviation Department
Knowledge at the Table, EA1202, small, second quarter*

The significance of nature in assessment processes

What role does 'nature' play in assessment processes and, more specifically in SCBAs, what developments can be expected in this area, what are the relevant effects, and which methods are available to identify and value them? Much is already known about this subject and a meeting of the OEI core team was recently held on this topic. KiM will prepare a compact report that will draw on existing material to investigate the above questions.

*FMC (other directorates involved: DGB, DGRW, DGMI, RWS)
Knowledge at the Table, EA1102, medium, ongoing*

Various supra-project questions on SCBA methodology

When cost-benefits analyses are conducted, questions arise that are not limited to one particular project, and for which, in consultation with relevant parties such as CPB, PBL and DVS, an appropriate and consistent solution must be found. Examples for 2012 are the zero alternative in assessments of replacement investments, how to deal with tolls in SCBAs, and coordination between NRM and SCBA.

DGRW Spatial Development
Knowledge at the Table, EA1120,
small, ongoing

Plans for the city

CPB and PBL are jointly conducting research into the effects of urban development projects on the functioning of cities with the aim of expressing these effects more explicitly and effectively in SCBAs. The project is a research follow-up to an earlier study within the framework of the CBA of the central government decisions on the Amsterdam-Almere-Markerwaard development projects. KiM is involved in the supervision of this research project.

DGB Roads and Traffic Safety
Knowledge at the Table, EA1203,
small, third quarter

Life cycle assessments in problem analyses of infrastructure projects

Life cycle management is by now a standard component of Rijkswaterstaat's assessments of infrastructure projects. However, the first part of the preparatory phase (including the problem analysis) may contain too few concrete proposals to warrant the inclusion of life cycle assessments at this stage of the process.

Other, more global project ideas

DGMI Climate, Air and Noise

Valuation of CO₂ and health in SCBA

How are CO₂ and health effects currently valued in SCBAs? Are there reasons to revise these methods, and if so, how?

DGB Roads and Traffic Safety

Study of possible new integration issues in evaluations

A study of the consequences of infrastructure projects, especially issues related to their integration into the surrounding area which could be relevant in future evaluations, such as low frequency noise.

6.3

Improving uptake of insights from assessment frameworks

At least as important as developing new knowledge is making sure that the insights gained by the research community are actually taken up by the ministry's policy officers. KiM pays a pivotal role in making knowledge about SCBAs and other assessment frameworks ready for use and aspires to continue in this role in future. This includes explaining in understandable terms how SCBA works as well as presenting and communicating the results of SCBAs of specific projects and programmes.

Concrete projects

FMC (other directorates involved:
DGB, DGRW, DGMI)
Knowledge at the Table, E712,
medium, ongoing

Communicating OEI and SCBA

KiM is jointly responsible for providing information about OEI and SCBA. Its tasks are:

- preparing and supervising a new guidance document on SCBA;
- participating in the SCBA Development Agenda programme team;
- updating and coordinating information on OEI and SCBA on the central government website;
- making information on OEI available for presentations and reports and making contributions to conferences and courses;
- running the secretariat of the interdepartmental OEI core team.

DGB Roads and Traffic Safety
Knowledge at the Table, EA1204,
small, second quarter

Workshop on dealing with uncertainties in project estimates

A workshop will be held to investigate the various aspects of dealing with uncertainties in project estimates, the significance of statements based on statistical analyses and the methods for presenting statistical analyses. It may also be appropriate to broaden the scope of this workshop to cover uncertainties in SCBAs, including how to use scenarios and the potential of real option theory.

DGMI Climate, Air and Noise
Knowledge at the Table, EA1205,
small, first quarter

Contribution to the PBL project Effectiveness of Policy Instruments

KiM will provide knowledge about mobility and assessment methods to this project through a feedback group.

Other, more global project ideas

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6.4 Learning from ex post evaluations

In recent years KiM has gained experience with ex post evaluations. Considerable ex ante evaluation research has been conducted for infrastructure projects, which is in stark contrast to the more limited use currently being made of ex post evaluations. Nevertheless, ex post evaluations of infrastructure projects have some important advantages. Learning from the past can improve the quality of future ex ante evaluations, and therefore the quality of decision making. Moreover, ex post studies and meta-evaluations can provide information of wider significance by revealing the policies that have been successful and under which circumstances, and which policies have not.

Concrete projects

FMC (other directorates involved:
DGB, DGRW and DGMI)
Research project, EA1104, medium,
ongoing

Follow-up to ex post evaluation

Over the past two years KiM, partly in collaboration with PBL, has documented current experiences with ex post analysis (in the Netherlands and abroad) and has reviewed the learning experiences with ex post analysis for a Dutch case study. Ex post analysis can have advantages: learning from the past can improve the quality of future ex ante evaluations, and therefore the quality of decision making. Accounting for public spending is also an important goal of ex post evaluations. Nevertheless, the use of ex post evaluation is far from automatic. In 2011, based on interviews and other research, KiM compiled an account of the pros and cons of making more use of ex post analysis in the ministry and pointed out where and in what form ex post analysis could be (better) situated within the ministry. Decisions on an obligation to carry out ex post evaluations and in what form are currently being prepared. This project will be completed in 2012 with an accessible publication containing concrete guidelines on how, why and when ex post analyses should be carried out in the ministry.

Commissioning directorate(s) not yet known
Research project, EA1206, large, second quarter

Learning from ex post evaluations

The interview results from the Follow-up to Ex Post Evaluation project (EA1104) will guide the direction in which further use of ex post analysis in the Ministry of Infrastructure and the Environment will be given shape. There is in any case support for the selective use of ex post evaluations covering several projects, programmes or measures: the 'kebab skewer approach'. This could be used, for example, to assess the new process for the Multi-annual Programme for Infrastructure, Spatial Development and Transport (MIRT), the effects of government instruments to promote innovation, the results of cooperative projects between various government authorities and the effects of various financing mechanisms. The purpose is to improve learning capacity within the ministry. It is a sign of strength to review the outcomes of several projects with a common theme to see whether something has worked or not – and in this time of spending cuts, to save time and money. Learning from evaluations occurs at the meta level, across several departments within the ministry or across several topics. In anticipation of the decision (see 'Follow-up to ex post evaluation' – EA1104), we have reserved capacity to conduct or supervise one or two meta ex post evaluations which, depending on the topic, will also cover projects in other core themes.

DGB Roads and Traffic Safety
Knowledge at the Table, EA1207, medium, third quarter

Best practices for outlooks and the role of reviews in the MIRT process

The aim of this project is to identify and review the approaches, methods and techniques used in recently completed MIRT-explorations. What are the best practices and where are the lacunas? A specific focus within the study will be on the role of 'reviews' in the MIRT process: what is reviewed, when, by whom and to what purpose, what risks do these reviews aim to control, and can this be done more efficiently?

Other, more global project ideas

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6.5 Implementing and reviewing evaluations

As well as conducting ex ante evaluations of concrete policy instruments, KiM gives second opinions on SCBAs, takes part in the supervision of SCBAs and advises the policy directorates on the implementation of SCBAs and the role of SCBA in the decision-making process. Moreover, the Work Programme contains a project to better streamline agreements on the quality assurance of SCBAs in the ministry's fields of policy.

Concrete projects

DGB Civil Aviation Department
Research project, EA1118, medium, ongoing

Effects of the EU ETS on the Dutch aviation sector

The EU Emissions Trading Scheme (EU ETS) came into operation on 1 January 2012. Although the effects of the EU ETS on the Dutch aviation sector have previously been exhaustively studied, new and more detailed information has since become available about the size of the emissions cap, the number of emission allowances the airlines need and the price of these allowances. DGB Civil Aviation Department therefore commissioned an updated study into the consequences of the EU ETS for the Dutch aviation sector, consumers and the environment. The project will result in a KiM

publication describing the effects of the ETS on ticket prices and the behavioural responses by passengers (fall-off in demand and avoidance behaviour), and the effects on the environment and the competitive position of airlines and hub airports.

DGB

Supervision and second opinions on SCBAs (as currently planned):

- **Supervision of SCBA sea access IJmuiden** (DGB Maritime Affairs, Knowledge at the Table, E1012, small, ongoing)
- **Supervision of SCBA canal zone Gent-Terneuzen** (DGB Maritime Affairs, Knowledge at the Table, E1012, small, ongoing)
- **Second opinion on standardised CBA Haaglanden** (DGB Roads and Traffic Safety, Research project, E1016, small, ongoing)

FMC

Research project, EA1208, small, to be determined

Second opinion on policy screenings and evaluations

Policy screenings and evaluations are conducted each year as part of the budgetary process. KiM can be asked to provide second opinions on these screenings and evaluations.

DGB Roads and Traffic Safety
(other directorate involved: FMC)
Knowledge at the Table, EA1108,
small, ongoing

Organising quality assurance for SCBAs

It is standard practice for all SCBAs to be reviewed by one or more independent external experts. At the moment project managers often have to decide themselves how the quality assurance should be organised. The winding up of the Economic Structure Enhancing Fund (FES) also means the end of the FES Feedback Group, which received a substantial proportion of the ministry's SCBAs for review. There is therefore much to be gained by further streamlining the arrangements. KiM is currently setting up a clear and consistent quality assurance system that will have the support of all those involved (including the policy assessment agencies).

FMC

Knowledge at the Table, EA1209,
small, first quarter

Indicators in the new budgetary system

Work is progressing within the ministry on filling in the details of the new budgetary system ('responsible budgeting'). Outstanding questions are: how can we draw a distinction between indicators used to pass judgement on performance and the effectiveness of policies and those used to provide more informative and general figures and statistics. What should these indicators measure: input, output and/or outcome? Should we have indicators to cover all areas of policy? Should the size of the budget be indicative of the need for an indicator, or perhaps political priority? KiM has been asked to consider how to set up a structured system of indicators.

Other, more global project ideas

DGB Maritime Affairs

Instruments for CO₂ reduction in the maritime sector

What possible measures (including forms of ETS) can contribute to CO₂ reductions in the maritime sector? What are the advantages and disadvantages of these measures?

6.6 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	Economic valuation of reliability of journey times for various modalities	E707	Research project	Ongoing	Large
DGRW Regional and Project Development	Property valuation for area development projects with infrastructure	EA1201	Research project	First quarter	Medium
DGB Civil Aviation Department	The significance of nature in assessment processes	EA1202	Knowledge at the Table	Second quarter	Small
FMC	Various supra-project questions on SCBA methodology	EA1102	Knowledge at the Table	Ongoing	Medium
DGRW Spatial Development	Plans for the city	EA1120	Knowledge at the Table	Ongoing	Small
DGB Roads and Traffic Safety	Life cycle assessments in problem analyses of infrastructure projects	EA1203	Knowledge at the Table	Third quarter	Small
FMC	Communicating OEI and SCBA	E712	Knowledge at the Table	Ongoing	Medium
DGB Roads and Traffic Safety	Workshop on dealing with uncertainties in project estimates	EA1204	Knowledge at the Table	Second quarter	Small
DGMI Climate, Air and Noise	Contribution to the PBL project Effectiveness of Policy Instruments	EA1205	Knowledge at the Table	First quarter	Small
FMC	Follow-up to ex post evaluation	EA1104	Research project	Ongoing	Medium
To be determined	Learning from ex post evaluations	EA1206	Research project	Second quarter	Large
DGB Roads and Traffic Safety	Best practices for outlooks and the role of reviews in the MIRT process	EA1207	Knowledge at the Table	Third quarter	Medium
DGB Civil Aviation Department	Effects of the EU ETS on the Dutch aviation sector	EA1118	Research project	Ongoing	Medium
DGB Maritime Affairs	Supervision of SCBA sea access IJmuiden	E1012	Knowledge at the Table	Ongoing	Small
DGB Maritime Affairs	Supervision of SCBA canal zone Gent-Terneuzen	E1012	Knowledge at the Table	Ongoing	Small
DGB Roads and Traffic Safety	Second opinion on standardised SCBA Haaglanden	E1016	Research project	Ongoing	Small
FMC	Second opinion on policy screenings and evaluations	EA1208	Research project		Small
DGB Roads and Traffic Safety	Organising quality assurance for SCBAs	EA1108	Knowledge at the Table	Ongoing	Small
FMC	Indicators in the new budgetary system	EA1209	Knowledge at the Table	First quarter	Small

7 Transition to a sustainable, robust and safe mobility system

7.1 Explanation of the core theme

This core theme is about the long-term policy goals of the Ministry of Infrastructure and the Environment (IenM), which require a transition in the mobility system. Transitions are 'long-term change processes characterised by a high degree of complexity and uncertainty. This complexity is caused by the large number of different actors and sectors involved in the change processes; the uncertainty is the result of the unpredictability of the course of the transition and the influence of exogenous factors.'² The Transition core theme contributes to long-term issues of importance to IenM, such as limiting dependence on oil, the introduction and use of sustainable fuels, reducing greenhouse gas and other polluting emissions, and traffic safety. These issues are the subject of intense policymaking activity, both in the EU and the Netherlands.

In this core theme the concept of 'sustainability' is interpreted in a broad sense and relates to all IenM objectives: all those issues affecting the built and natural environment, such as land use, nature, air quality, climate change and noise, as well as social aspects such as accessibility and safety. Also part of this core theme is the need to strike the right balance between the environment and social aspects on the one hand and the economic consequences for the Netherlands on the other hand (the triple P approach: people, planet, profit). In fact, the concepts of 'robustness' (including accessibility) and 'safety' (traffic safety, but also social safety and external safety) also fall under the broad approach to sustainability mentioned above. They are included in the title of this core theme for clarity's sake, because the term sustainability is often associated only with environmental issues.

The research in this core theme is geared to identifying and describing the options for creating a sustainable mobility system, as well as the transition process itself: how can the options be realised, what are the obstacles and constraints, and what are effective, socially feasible policy measures for attaining long-term policy goals?

An example of a completed KiM project in this core theme is the KiM report *Naar duurzaam wegverkeer in 2050* [Towards sustainable road transport in 2050], which was published in 2011. This study sets out the possibilities for reducing road transport emissions of CO₂ and air pollutants, and making it less dependent on oil. Another example is the KiM report *De rol van de ministerie van Infrastructuur en Milieu bij innovatie in de maritieme sector* [The role of the Ministry of Infrastructure and the Environment in innovation in the maritime sector], which was published at the end of 2011. In this project the maritime innovation system was analysed using an innovation model that identifies seven innovation functions.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following section shows per topic which concrete

² VROM-raad and Algemene Energieraad (December 2004). *Energietransitie: klimaat voor nieuwe kansen*, The Hague.

activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

7.2 Projects in this core theme

Concrete projects

DGB Civil Aviation Department
Research project, TD1102a,
medium, ongoing

Exploratory study for a sustainable aviation system in 2050

The aviation industry makes an important contribution to the economy, but is also accompanied by adverse effects such as noise nuisance, local air pollution and greenhouse gas emissions. The ministry is looking for ways to make aviation more sustainable. The aim of this project is to identify options for doing this and to investigate potential policy measures to realise the potential of these options.

DGB Maritime Affairs
Research project, TD1102b,
medium, second quarter

Exploratory study for a sustainable maritime system in 2050

The maritime sector (maritime shipping, inland shipping and ports) makes an important contribution to the economy, but this sector too has adverse effects. The ministry is looking for ways to make the maritime sector more sustainable. The aim of this project is to identify and describe options for doing this and to investigate potential policy measures to realise the potential of these options.

DGMI Climate, Air and Noise
Research project, TD1101b, medium,
second quarter

Follow-up study on sustainable road transport in 2050

The KiM report *Naar duurzaam wegverkeer in 2050* [Towards sustainable road transport in 2050] pays particular attention to possible substantive options and constraints. The question of which policy instruments could be deployed to realise the potential of the options was only investigated in outline. The aim of this project is to describe and analyse the possibilities to realise these options in more depth. How can the obstacles be removed? What government role and policy actions are necessary or desirable? What should be done now and what could be done at a later date?

DGB Public Transport and Rail
Research project, TD1201, medium,
fourth quarter

Innovative capacity of the public transport and rail sector

Innovation plays a major role in achieving policy objectives and anticipating and responding to new developments. The aim of this study is to describe the innovative capacity of the public transport and rail sector and identify the policy instruments that can be deployed to resolve potential constraints in the innovation system.

Knowledge, Innovation and
Strategy
Knowledge at the Table, TD1202,
medium, ongoing

Sustainable Accessibility in the Randstad (DBR)

The DBR programme, initiated by the Ministry of Infrastructure and the Environment (IenM) and the Ministry of Economic Affairs, Agriculture and Innovation (EL&I), is a multiyear research programme run by the Netherlands Organisation for Scientific Research (NWO). In this programme the best academic research groups in the

Netherlands are challenged to give their vision on what is needed to guarantee sustainable accessibility in the Randstad in the longer term and to make proposals for the research needed. So far ten research proposals have been honoured in two funding rounds. The approved research proposals in the third and last round will be announced at the end of January 2012. KiM has been asked to monitor these projects and determine the policy relevance of the research.

Other, more global project ideas

DGB Public Transport and Rail

Exploratory study for a sustainable public transport system

What are the possibilities for creating a sustainable mobility system for the public transport and rail sector, and what policy instruments could be used?

7.3 Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Civil Aviation Department	Exploratory study for a sustainable aviation system in 2050	TD1102a	Research project	Ongoing	Medium
DGB Maritime Affairs	Exploratory study for a sustainable maritime system in 2050	TD1102b	Research project	Second quarter	Medium
DGMI Climate, Air and Noise	Follow-up study on sustainable road transport in 2050	TD1101b	Research project	Second quarter	Medium
DGB Public Transport and Rail	Innovative capacity of the public transport and rail sector	TD1201	Research project	Fourth quarter	Medium
Knowledge, Innovation and Strategy	Sustainable Accessibility in the Randstad (DBR)	TD1202	Knowledge at the Table	Ongoing	Medium

8 The importance of mobility and transport

8.1

Explanation of the core theme

The main subject of this core theme is the importance of mobility, transport and accessibility for the social and economic development of the Netherlands. A specific topic is the part played by, and the economic importance of, the mainports, brainports and greenports.

The economic dimension of this core theme is clearly of great policy relevance. The Rutte Government emphasises the importance of Amsterdam Airport Schiphol and the port of Rotterdam for the development of the Dutch economy, and consequently the mainports, brainports and greenports are given priority in the Multi-annual Programme for Infrastructure, Spatial Development and Transport (MIRT). For this and other reasons, the Government is focusing attention on the national and international significance of the mainports, other logistical hubs and the transport connections of importance for the national economic structure and the creation of an attractive inward investment climate. The accessibility of the mainports is considered to be an important factor in the business location climate, along with factors like innovation capacity, knowledge infrastructure and the labour and housing markets. Although government policies are less concerned with the social, economic and cultural significance of mobility, transport and accessibility, research questions may also be expected on these topics in the longer term. In the competition for the limited funds, quantitative substantiation of the importance of mobility and transport will probably become increasingly important.

Two topics are central to this core theme:

- the social, economic and cultural significance of mobility and transport;
- mainports, brainports and greenports as economic hubs.

The recent dialogue with the policy directorates has led to the formulation of a number of research questions in this area. The following sections show per topic which concrete activities KiM will be undertaking in 2012 to provide answers to these research questions. In addition, we provide an overview of global project ideas that may warrant further elaboration.

8.2

The social, economic and cultural significance of mobility and transport

The key question in this topic is how we can substantiate in a quantitative and justifiable way the importance of mobility, transport and infrastructure to the social and economic development of the Netherlands. The approach we take adheres as far as possible to the broad concept of welfare that is widely used in the field of welfare economics, supplemented with the cultural dimension. Subtopics are the relation between accessibility and

economic growth, the importance of the mobility and transport sector (and subsectors) to the economy, and the importance of mobility broken down by motive (travel to work, business, social/recreational).

Concrete projects

DGB Strategy
Research project, BM1101, medium,
ongoing

The social, economic and cultural importance of mobility

The importance of mobility and transport to society is not easy to determine, with approaches ranging from 'without transport everything grinds to a halt' to 'the importance of mobility and transport is limited because they serve other activities'. The *Mobility Report 2011* contains a quantitative estimate of the travel expenses and journey times individuals and businesses are prepared to invest in mobility. This project examines other possible approaches that take account not only of the economic significance but also the social and cultural significance of mobility. The various approaches will be discussed with a wide range of experts, after which one or two approaches will be worked up in more detail.

DGB Strategy
Research project, BM1201, medium,
second quarter

Profit from transport expenditure

Which groups in society profit from government expenditure on mobility and transport, and to what degree? The answer to this question is important for the public and political debate about the use of resources. The report *Minder voor het midden* [Squeeze on the Middle] by the Netherlands Institute for Social Research (SCP) contains some information on which groups benefit from public funding on mobility. KiM will take a critical look at the approach taken in this report, make any necessary adjustments, and provide more detailed information.

DGMI Safety and Risks
Research project, BM1202, medium,
first quarter

Importance of the transport of hazardous substances

Following the identification and description of transport streams in 2011, the aim of this project is to analyse the costs and benefits (in broad terms) of the transport of hazardous substances. The results may provide useful pointers for business location policy and other policy areas.

Other, more global project ideas

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8.3

Mainports, brainports en greenports as economic hubs

Mainports, brainports and greenports are important links to destinations all over the world for both businesses and consumers. This topic investigates the economic importance of the mainports, brainports and greenports. We examine the functioning of mainports, brainports and greenports, the conditions required for their effective functioning, such as accessibility by sea, air and land, and the importance of mainports, brainports and greenports for the economy and the creation of an attractive inward investment and business location climate. Particular attention will be given to what the government, especially the Ministry of Infrastructure and the Environment, can and cannot do to positively influence the economic and other functioning of the mainports, brainports and greenports.

Concrete projects

DGB Maritime Affairs
Knowledge at the Table, BM1106,
small, ongoing

Research studies for Ports Alliance

Over the past year various studies were carried out for the Ports Alliance on topics including goods flow prognoses and land use. A final study will examine the relation between land use, inland connections and infrastructure. KiM has been asked to provide knowledge at the table for this study in 2012.

Other, more global project ideas

DGB Strategy

Mainport, brainport and greenport concepts

The terms mainport, greenport and brainport as used in the *National Policy Strategy for Infrastructure and Spatial Planning (SVIR)* refer to essentially different constellations of spatial, economic and environmental conditions, but what are the conceptual overlaps between these 'ports' and how do they differ? How do they interact with mobility and accessibility and what role do mobility and accessibility play in the business location factors and competitive positions of brainports and greenports?

DGB Civil Aviation Department

Insight into the role of Schiphol as European air freight hub

The databases available at KiM can provide a greater understanding of the role of Schiphol as a European air freight hub. The insights gained can be an important input to policies for air freight, while information derived from the databases can give further empirical substantiation to the Mobility Report and may also help with quantifying and measuring the concept of 'international competitiveness'.

DGB Civil Aviation Department

Links between the node and business location functions of Schiphol

Possible follow-up questions arising from the report by BCI on top sectors and Amsterdam Airport Schiphol will require investigation of the relation between the top sectors and the network quality and overland accessibility of Schiphol.

DGRW Spatial Development

Agglomeration advantages

What types of agglomeration advantages may be expected at mainports, brainports and greenports? How are agglomeration advantages expressed in social cost-benefit analyses (SCBAs)? What is the relation between agglomeration advantages and international competitiveness? What are the similarities and differences between the different sectors and policies under the responsibility of the ministry? What alternatives are there for strengthening agglomeration advantages? KiM will seek to collaborate with the Sustainable Accessibility of the Randstad project (DBR) and the activities of the Netherlands Environmental Assessment Agency (PBL) in this area.

Doctoral research

VU Amsterdam and KiM
Doctoral research, P1201

Transport infrastructure and agglomeration effects

Spatial economic research has shown that companies and employees are generally more productive in agglomerations than elsewhere. Transport infrastructure brings people and companies closer together and thus reinforces these agglomeration effects. The processes involved include 'non-linear effects', which can lead to additional benefits in an SCBA for transport infrastructure. However, little is known about the size of these extra benefits. The ministry is therefore contributing to a doctoral study at the VU University Amsterdam into the relation between transport infrastructure and agglomerations. In turn, this doctoral research will provide inputs to KiM projects.

8.4

Project overview table

Department	Title	Project Number	Project Type	Start	Size
DGB Strategy	The social, economic and cultural importance of mobility	BM1101	Research project	Ongoing	Medium
DGB Strategy	Profit from transport expenditure	BM1201	Research project	Second quarter	Medium
DGMI Safety and Risks	Importance of the transport of hazardous substances	BM1202	Research project	First quarter	Medium
DGB Maritime Affairs	Research studies for Ports Alliance	BM1106	Knowledge at the Table	Ongoing	Small
VU Amsterdam and KiM	Transport infrastructure and agglomeration effects	P1201	Doctoral research	Ongoing	

Appendix A

Analysis of KiM's capacity

Indications of the size of the demands on KiM's capacity made by the research projects and knowledge at the table (KaT) activities described in the Work Programme are given to the left of each project description. These are indications of the size of the project as a whole, not just the capacity requirements in 2012. This Appendix gives an overview of the expected capacity requirements in 2012.

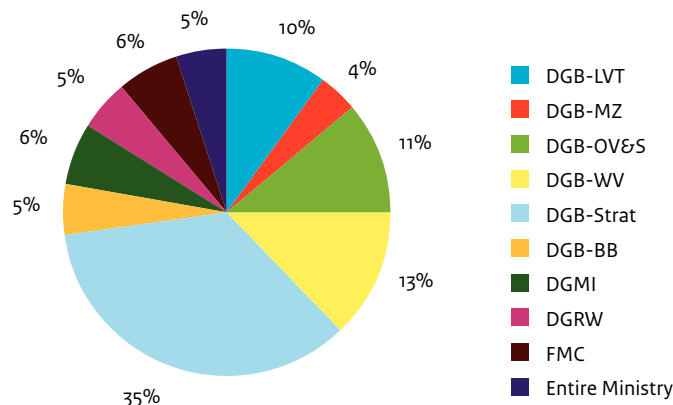
Available capacity

Taking account of job vacancies, management, supporting services and other overheads, KiM will have about 20,000 hours available for research projects, knowledge-at-the-table activities and observational reports in 2012. The concrete projects listed in this Work Programme will require full use of this available capacity. This means that while requests submitted after the publication of this Work Programme are welcome, they may lead, in discussion with the relevant commissioning departments, to a reordering of priorities.

Capacity distribution per department

Figure A.1 shows how KiM's capacity is divided between the directorates-general of the Ministry of Infrastructure and the Environment (for concrete projects), with a further breakdown by the main commissioning departments. Projects can also be of interest to other departments of the ministry. The largest group of projects are those for the Directorate-General for Mobility and Transport, which make up 78% of total available capacity. Within this directorate-general, the largest share is for the Strategy department (35%). The projects for the Directorate-General for the Environment and International Affairs take up 6% of capacity, the projects for the Directorate-General for Spatial Development and Water Affairs make up 5% and projects for the Finance, Management and Control Department make up 6% of the capacity requirements of the Work Programme. Projects for the entire ministry account for 5% of KiM's capacity.

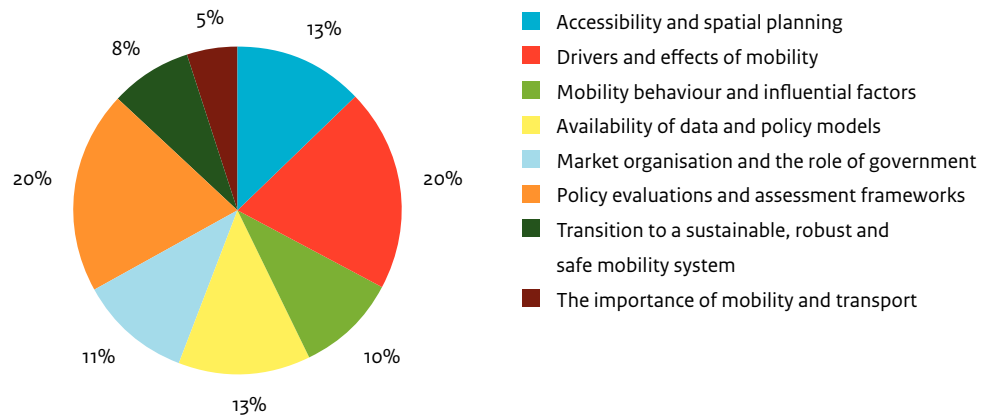
Figure A.1
Capacity distribution per directorate
and department



Capacity distribution per core theme

Figure A.2 shows how capacity is distributed across KiM's core themes. The largest core themes are 'Policy evaluations and assessment frameworks', 'Drivers and effects of mobility', 'Accessibility and spatial planning' and 'Availability of data and policy models'.

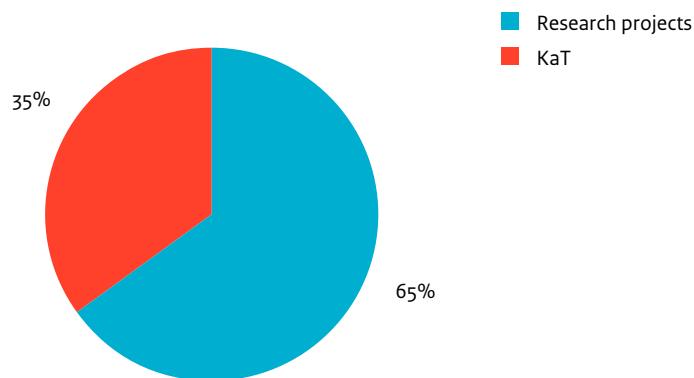
Figure A.2
Capacity distribution per core theme



Breakdown of capacity between research projects and knowledge at the table

Figure A.3 shows the distribution of capacity between research projects and knowledge at the table (KaT) activities. About two-thirds of the available capacity is devoted to research projects.

Figure A.3
Breakdown of capacity between research projects and KaT (for categories A and B)



Appendix B

Project overview

This appendix lists all the concrete projects with a project number that are described in this Work Programme, grouped by directorate-general (DG) and department. The page numbers in the tables refer to the project descriptions in the main text of the Work Programme.

Explanatory notes on the tables

Department

The projects are listed by the primary commissioning department (per DG) for the project. Many of these projects are carried out primarily for a single department, but that does not mean that the projects are not of interest to other departments or DGs.

Project Type

- Research projects: exploratory studies and policy analyses based on factual information and reviews of scientific and other literature, which are then translated into a form that is applicable to policy and practice. The resulting publications are publicly available.
 - Knowledge at the Table (KaT): introducing knowledge into policy processes in the following ways:
 - discussions, presentations and short reports on the available knowledge and empirical evidence;
 - answering ad hoc questions;
 - giving the Ministry of IenM access to national and international knowledge networks (what knowledge can be obtained from which sources?);
 - giving assistance to the IenM policy directorates in formulating research questions and methods for research to be contracted out to third parties;
 - participating in supervisory committees;
 - knowledge transfer by giving masterclasses;
- and from 2012 also:
- advising on and assisting with the planning of knowledge development programmes for research institutes outside the Ministry of IenM.

Core Themes

1. Accessibility and spatial planning
2. Drivers and effects of mobility
3. Mobility behaviour and influential factors
4. Availability of data and policy models
5. Market organisation and the role of government
6. Policy evaluations and assessment frameworks
7. Transition to a sustainable, robust and safe mobility system
8. The importance of mobility and transport

Size

The numbers of hours that are expected to be spent on each research project in category A in 2012 have been estimated as follows.

Large project: more than 0.5 FTE (1 FTE = 1,200 hours)

Medium project: between 0.15 and 0.5 FTE

Small project: less than 0.15 FTE

B.1

Projects for the Directorate-General
for Mobility and Transport (DGB)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
DGB Infrastructure Efficiency Programme (BB)							
DGB BB	KiM Contribution to monitoring and evaluation of the Infrastructure Efficiency Programme	BB1113	Knowledge at the Table	Ongoing	1 - BB	Small	18
DGB BB	Lessons on efficient utilisation of infrastructure	BB1203	Research project	Second quarter	1 - BB	Small	19
DGB BB	Target groups in and outside the rush hour	GB1101a	Research project	Ongoing	3 - GB	Medium	31
DGB BB	Influencing behaviour within the Infrastructure Efficiency Programme	GB1101d	Knowledge at the Table	Ongoing	3 - GB	Medium	31
DGB BB	Impacts of social trends on individual mobility behaviour	GB1202	Research project	First quarter	3 - GB	Medium	30
DGB Civil Aviation Department (LVT)							
DGB LVT	Support to SMASH	BB1119	Research project/ Knowledge at the Table	Ongoing	1 - BB	Small	19
DGB LVT	Recent and future developments in aviation	OG1107	Research project	Ongoing	2 - OG	Medium	26
DGB LVT	Factors influencing demand at regional airports	OG1204	Research project	Second quarter	2 - OG	Medium	24
DGB LVT	AEOLUS supervisory group	B1014	Knowledge at the Table	Ongoing	4 - DM	Small	36
DGB LVT	Factsheet aviation data	E928	Research project	Ongoing	4 - DM	Small	34
DGB OVenS, DGB LVT, DGB MZ, DGRW RO	Steering transport nodes	MO1102	Knowledge at the Table	Ongoing	5 - MO	Medium	40
DGB LVT	Effects of the EU ETS on the Dutch aviation sector	EA1118	Research project	Ongoing	6 - EA	Medium	47
DGB LVT	The significance of nature in assessment processes	EA1202	Knowledge at the Table	Second quarter	6 - EA	Small	44
DGB LVT	Exploratory study for a sustainable aviation system in 2050	TD1102a	Research project	Ongoing	7 - TD	Medium	52
DGB Maritime Affairs (MZ)							
DGB OVenS, DGB LVT, DGB MZ, DGRW RO	Steering transport nodes	MO1102	Knowledge at the Table	Ongoing	5 - MO	Medium	40
DGB MZ	Supervision of SCBA sea access IJmuiden	E1012	Knowledge at the Table	Ongoing	6 - EA	Small	48
DGB MZ	Supervision of SCBA canal zone Gent-Terneuzen	E1012	Knowledge at the Table	Ongoing	6 - EA	Small	48
DGB MZ	Exploratory study for a sustainable maritime system in 2050	TD1102b	Research project	Second quarter	7 - TD	Medium	52
DGB MZ	Research studies for Ports Alliance	BM1106	Knowledge at the Table	Ongoing	8 - BM	Small	57

continuation B.1
 Projects for the Directorate-General
 for Mobility and Transport (DGB)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
DGB Public Transport and Rail (OVenS)							
DGB OVenS	Quality needs of the modern public transport passenger	BB1106	Research project / Knowledge at the Table	Ongoing	1 - BB	Medium	18
DGB OVenS	Bicycles in the chain	BB1108	Research project	Ongoing	1 - BB	Medium	17
DGB OVenS	Regional cross-border public transport	OG1203	Research project	First quarter	2 - OG	Medium	24
DGB OVenS	Increasing market responsiveness of public transport	MO1201	Research project	Second quarter	5 - MO	Large	40
DGB OVenS, DGB LVT, DGB MZ, DGRW RO	Steering transport nodes	MO1102	Knowledge at the Table	Ongoing	5 - MO	Medium	40
DGB OVenS	Innovative capacity of the public transport and rail sector	TD1201	Research project	Fourth quarter	7 - TD	Medium	52
DGB Strategy (Strat.)							
DGB Strat.	Robustness and reliability in actual projects	BB1103	Research project	Third quarter	1 - BB	Medium	16
DGB Strat.	Supporting further development of the SVIR accessibility indicator	BB1107	Knowledge at the Table	Ongoing	1 - BB	Medium	16
DGB Strat.	Contribution to Topteam Logistics action agenda	MO1113	Knowledge at the Table	Ongoing	2 - OG	Small	25
DGB Strat.	Mobility Report 2012	OG1201	Research project	First quarter	2 - OG	Large	24
DGB Strat.	Analysis of the levelling of growth in mobility	OG1202	Research project	First quarter	2 - OG	Medium	24
DGB Strat.	Role and significance of multi- and intermodality in passenger and freight transport	OG1206	Research project	Second quarter	2 - OG	Small	25
DGB Strat.	OECD Territorial Review	OG1209	Knowledge at the Table	First quarter	2 - OG	Small	25
DGB Strat.	Impacts of ICT developments on individual mobility behaviour	GB1201	Research project	Second quarter	3 - GB	Medium	30
DGB Strat.	IenM needs for data collection regarding mobility and accessibility	DM1101	Research project / Knowledge at the Table	Ongoing	4 - DM	Medium	34
DGB Strat.	Mobility Research Panel	DM1102	Research project	Ongoing	4 - DM	Large	34
DGB Strat.	Update 'The cost of a journey'	DM1105	Research project	Ongoing	4 - DM	Small	34
DGB Strat.	Supervisory support in model use and model development	DM1106	Knowledge at the Table	Ongoing	4 - DM	Medium	36
DGB Strat.	Model development for MLT	DM1107	Research project	First quarter	4 - DM	Large	36
DGB Strat.	Contribution to the Infrastructure and Spatial Planning Monitor	DM1113	Knowledge at the Table	Ongoing	4 - DM	Medium	35
DGB Strat. and DGRW RO	New earning models	MO1202	Knowledge at the Table	Second quarter	5 - MO	Medium	40
DGB Strat.	Economic valuation of reliability of journey times for various modalities	E707	Research project	Ongoing	6 - EA	Large	44
DGB Strat.	The social, economic and cultural importance of mobility	BM1101	Research project	Ongoing	8 - BM	Medium	56
DGB Strat.	Profit from transport expenditure	BM1201	Research project	Second quarter	8 - BM	Medium	56
DGB Roads and Traffic Safety (WV)							
DGB WV	Unreliability from the passenger's perspective	BB1102	Research project	Ongoing	1 - BB	Medium	16
DGB WV	Review of the evaluation method for the Traffic Management Trial Amsterdam (PPA)	BB1112	Knowledge at the Table	Ongoing	1 - BB	Small	18
DGB WV	Opportunities for accessibility via spatial planning	BB1201	Knowledge at the Table	First quarter	1 - BB	Small	18
DGB WV	The myth of latent demand	OG1205	Knowledge at the Table	Second quarter	2 - OG	Small	25
DGB WV	Safe cycling	GB1101b	Research project	Ongoing	3 - GB	Medium	31

continuation B.1
Projects for the Directorate-General
for Mobility and Transport (DGB)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
DGB Roads and Traffic Safety (WV)							
DGB WV	The experience economy	GB1203	Research project	Fourth quarter	3 - GB	Medium	30
DGB WV	Incentive policies	GB1204	Research project	Fourth quarter	3 - GB	Medium	31
DGB WV	Traffic safety and the role of central government	MO1203	Knowledge at the Table	Third quarter	5 - MO	Medium	41
DGB WV	Second opinion on standardised SCBA Haaglanden	E1016	Research project	Ongoing	6 - EA	Small	48
DGB WV	Organising quality assurance for SCBAs	EA1108	Knowledge at the Table	Ongoing	6 - EA	Small	48
DGB WV	Life cycle assessments in problem analyses of infrastructure projects	EA1203	Knowledge at the Table	Third quarter	6 - EA	Small	45
DGB WV	Workshop on dealing with uncertainties in project estimates	EA1204	Knowledge at the Table	Second quarter	6 - EA	Small	46
DGB WV	Best practices for outlooks and the role of reviews in the MIRT process	EA1207	Knowledge at the Table	Third quarter	6 - EA	Medium	47

B.2
Projects for the Directorate-General for the Environment and International Affairs (DGMI)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
DGMI Strategy Unit (COS)							
DGMI COS	Application of behavioural knowledge in environmental policies	GB1205	Knowledge at the Table	Fourth quarter	3 - GB	Medium	31
International (Intern.)							
DGMI Intern.	Contribution to IenM TEN-T policy portfolios	BB1204	Knowledge at the Table	First quarter	1 - BB	Small	19
DGMI Intern.	Contribution to IenM Horizon 2020 team	OG1208	Knowledge at the Table	First quarter	2 - OG	Small	27
DGMI Climate, Air and Noise (KLenG)							
DGMI KLenG	Contribution to the PBL project Effectiveness of Policy Instruments	EA1205	Knowledge at the Table	First quarter	6 - EA	Small	46
DGMI KLenG	Follow-up study on sustainable road transport in 2050	TD1101b	Research project	Second quarter	7 - TD	Medium	52
DGMI Safety and Risks (VenR)							
DGMI VenR	Aligning assumptions for outlook studies	OG1207	Knowledge at the Table	Second quarter	2 - OG	Small	26
DGMI VenR	Importance of the transport of hazardous substances	BM1202	Research project	First quarter	8 - BM	Medium	56

B.3

Projects for the Directorate-General for Spatial Development and water Affairs (DGRW)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
DGRW Regional and Project Development (GenP)							
DGRW GenP	Property valuation for area development projects with infrastructure	EA1201	Research project	First quarter	6 - EA	Medium	44
DGRW Spatial Development (RO)							
DGRW RO	Transit Oriented Development	BB1202	Research project	First quarter	1 - BB	Medium	19
DGB Strat. and DGRW RO	New earning models	MO1202	Knowledge at the Table	Second quarter	5 - MO	Medium	40
DGB OVerS, DGB LVT, DGB MZ, DGRW RO	Steering transport nodes	MO1102	Knowledge at the Table	Ongoing	5 - MO	Medium	40
DGRW RO	Plans for the city	EA1120	Knowledge at the Table	Ongoing	6 - EA	Small	45

B.4

Projects for Finance, Management and Control (FMC)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
FMC							
FMC	Communicating OEI and SCBA	E712	Knowledge at the Table	Ongoing	6 - EA	Medium	45
FMC	Various supra-project questions on SCBA methodology	EA1102	Knowledge at the Table	Ongoing	6 - EA	Medium	44
FMC	Follow-up to ex post evaluation	EA1104	Research project	Ongoing	6 - EA	Medium	46
FMC	Second opinion on policy screenings and evaluations	EA1208	Research project		6 - EA	Small	48
FMC	Indicators in the new budgetary system	EA1209	Knowledge at the Table	First quarter	6 - EA	Small	48

B.5

Projects for the Knowledge, Innovation and Strategy Department (KIS)

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
Knowledge, Innovation and Strategy (KIS)							
KIS	Sustainable Accessibility in the Randstad (DBR)	TD1202	Knowledge at the Table	Ongoing	7 - TD	Medium	52

B.6

Projects for the entire Ministry of Infrastructure and the Environment

Department	Title	Project Number	Project Type	Start	Core Theme	Size	Page
Other clients							
VU Amsterdam and KiM	Reliability of journey times	P801	Doctoral research	Ongoing	1 - BB		20
To be determined	Learning from ex post evaluations	EA1206	Research project	Second quarter	6 - EA	Large	47
VU Amsterdam and KiM	Transport infrastructure and agglomeration effects	P1201	Doctoral research	Ongoing	8 - BM		58

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