

Summary

Objective: insights into land-based accessibility of Rotterdam and Schiphol mainports

One component of Mainport Holland (IenM, 2011b), the Directorate-General for Civil Aviation and Maritime Affairs' (DGLM) long-term vision for mainports, is a strategic view of the land-based accessibility of mainports. DGLM moreover is looking for opportunities to translate the policy aims of developing Rotterdam and Schiphol mainports, and the land-based accessibility required for this, into the desired quality levels for hinterland infrastructure. Based on this perceived 'quality', we can then determine which measures are required to achieve the desired quality levels. In order to develop such policy measures, insights into the quality of the mainports' land-based accessibility are needed. In this study, we present an indicator that meets these aforementioned needs. The choice of this indicator is supported by a literature study. We then customised the indicator to the specific questions pertaining to mainport policy. To conclude, we illustrate which opportunities the composite quality indicator offers to measure the accessibility of mainports, and which policy information we can hereby convey.

Choice for 'generalised transport costs' based on literature analysis

Based on an analysis of available literature, a choice was made for generalised transport costs as an indicator of accessibility. Generalised transport costs, such as those identified by Jorritsma et al. (2010), Groot et al. (2011), and others, comprise, with regard to physical accessibility, all the relevant quality aspects from the perspective of economic development. A thus defined quality indicator of accessibility includes a number of flexible options for further customising the indicator to policy questions pertaining to mainports. This is also simultaneously consistent with other ongoing initiatives aimed at developing indicators for the Ministry of Infrastructure and the Environment (IenM).

Customisation for mainport policy possible

The methodological starting point of basing the quality indicator of accessibility on generalised transport costs offers ample opportunity for further customisation, in order to meet the accessibility requirements of Schiphol and Rotterdam mainports. The choices are not, by nature, explicitly methodological, but rather primarily related to the identified user objectives. In this case, that involves deploying the indicator in support of policy development. We therefore mapped the various options and submitted them to the indicator's designated user: DGLM. DGLM indicated a particular need for conducting comparisons with competing airports and sea ports, and for comparisons over time, in which developments can be monitored. The focal point then is monitoring development in relation to a policy target. The measurements need not be conducted with great regularity. Of particular interest is the monitoring of 'major trends'.

Illustration: 1 picture says more than a 1000 words

How the indicator works is illustrated through the use of images in the form of Geographic Information System (GIS) maps of the Netherlands and surrounding countries. The maps provide alternate information about Schiphol and Rotterdam

for various target groups, as well as for the total amount of generalised transport costs or parts thereof.

Given the formulated policy objective of offering 'good quality' to the mainports' hinterland transport, the GIS maps help indicate what the quality of accessibility is in terms of the generalised transport costs. The indicator is now focused on monitoring 'major trends' and thus only reflects in general terms on the effects of mainport policy. The indicator is especially not intended to provide insights into the effectiveness or efficiency of specific policy measures.

In revealing the quality of accessibility, more variations are possible. The illustrations show three different elements of the indicator:

- Absolute. An absolute measurement of 'the accessibility' in a particular year reveals which regions the mainport can serve well or less well, and thus where possible actions are desirable.
- Relative over time. The indicator is focused on monitoring; therefore, at any given moment, the effects of mainport policy can be reviewed, in so far as this translates into developments in the position of mainports as a consequence of changes in land-based accessibility. The indicator is – if desired – also suitable for revealing how future policy will influence accessibility.
- Relative in relation to competitors. In opting to use maps for drawing comparisons with competing sea ports and airports, it becomes clear how large the 'catchment area' is and in which areas there is major competition with other sea ports and airports.

Conclusion: a useful indicator, but beware of the limitations

The illustrations reveal that the quality indicator, as developed based on the demand specification, provides useful insights. The developed indicator is both specifically focused on the accessibility of mainports and consistent with more general notions about accessibility as detailed in the framework of the Structural Vision of Infrastructure and Spatial Planning (Structuurvisie Infrastructuur en Ruimte (IenM, 2011a)). Yet it is important when using the indicator to remain aware of the limitations, which concern both data collection and the scope of the indicator:

- The indicator has a great need for data. Partly owing to the international perspective, this can only be completed on an aggregation level that is higher than is strictly desirable. If the desire for international comparisons is disregarded, it becomes possible to operate with less data, to provide greater detail or to update more regularly. When undertaking a new measurement, attention must also be paid to ensure that the observed changes are the results of actual measured development in mobility and not of technical alterations in the calculation methods. This is because it is necessary to use a transport model.
- The indicator looks 'inside' land-based accessibility and offers no insights into the relative importance of this in terms of the total door-to-door chain of transport costs. However, these are also often elements that fall outside the scope of government influence. The indicator is not focused on offering insights into the larger policy objective of contributing to economic development.