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Building up an engineering system for road safety management within the transport field

A PhD thesis in Gdansk

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Institut national de recherche
sur les transports et leur sécurité



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In transportation research, why road safety?

- **Road safety is a public health problem**
 - Happens to everyone
 - Ranks high within or mortality and injury causes
- **Road transport is a complex system**
 - Millions of operators (from road users to engineers)
 - Political and social issues

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Why an engineering system for road safety management

- **There is a broad gap between decision and implementation of road safety programmes**
 - Decision-makers do not have a clear idea of the practical implications of a road safety programme
 - Providing guidance by defining tasks, means and necessary framework may help
- **An engineering system for road safety management has not yet been produced**
 - Systemic view of road safety management
 - Integrating engineering logic and human factors

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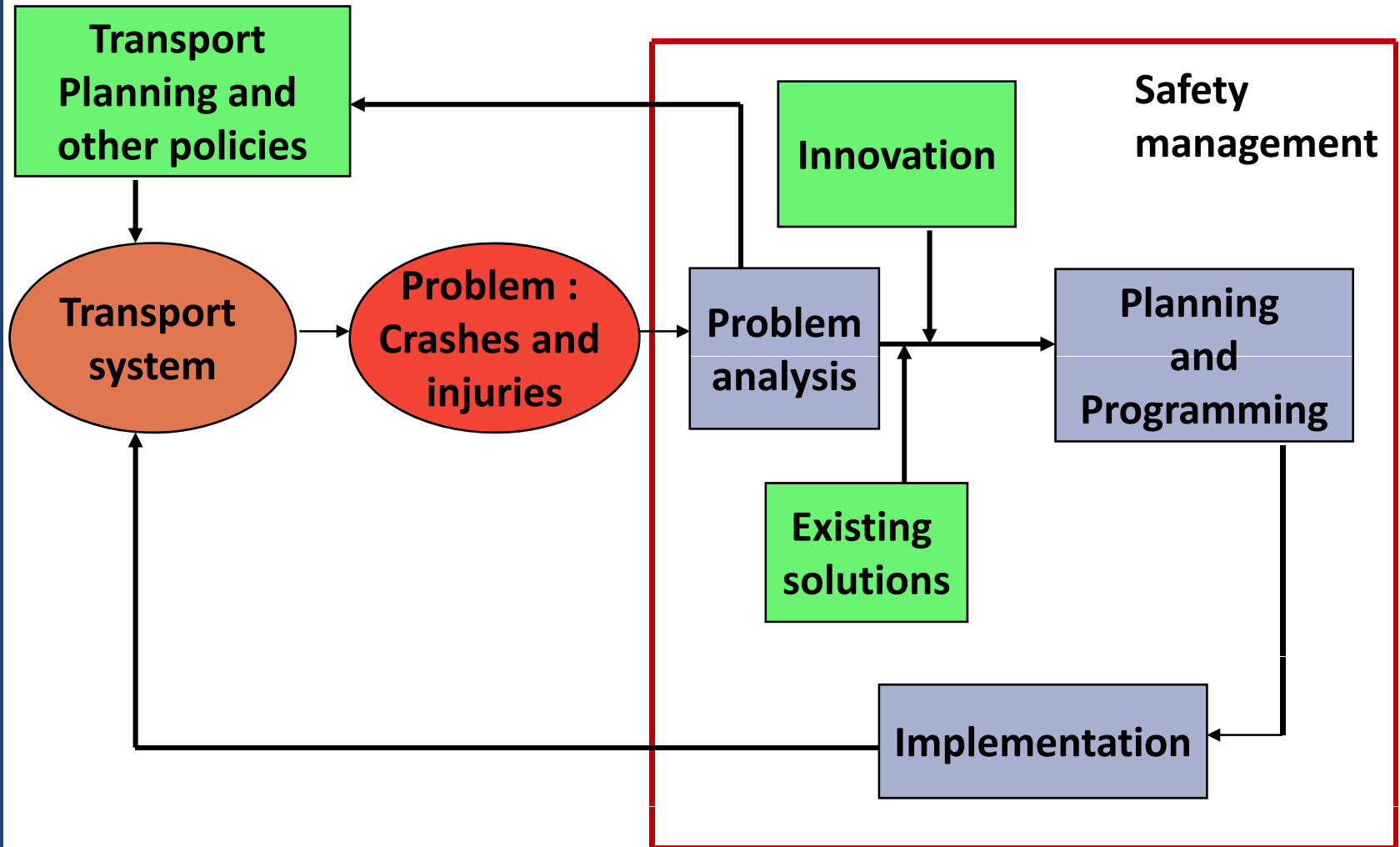


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An optimization process



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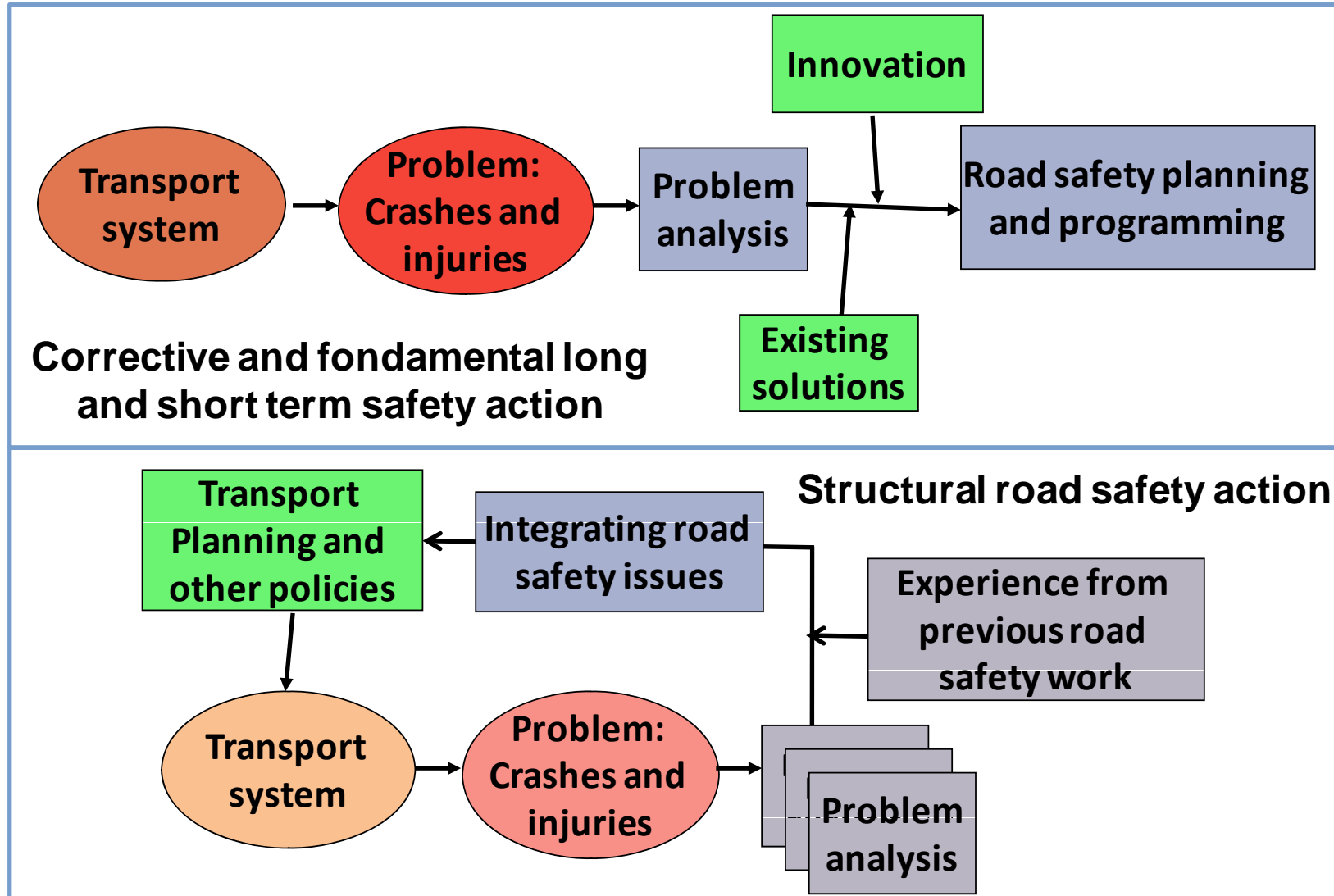


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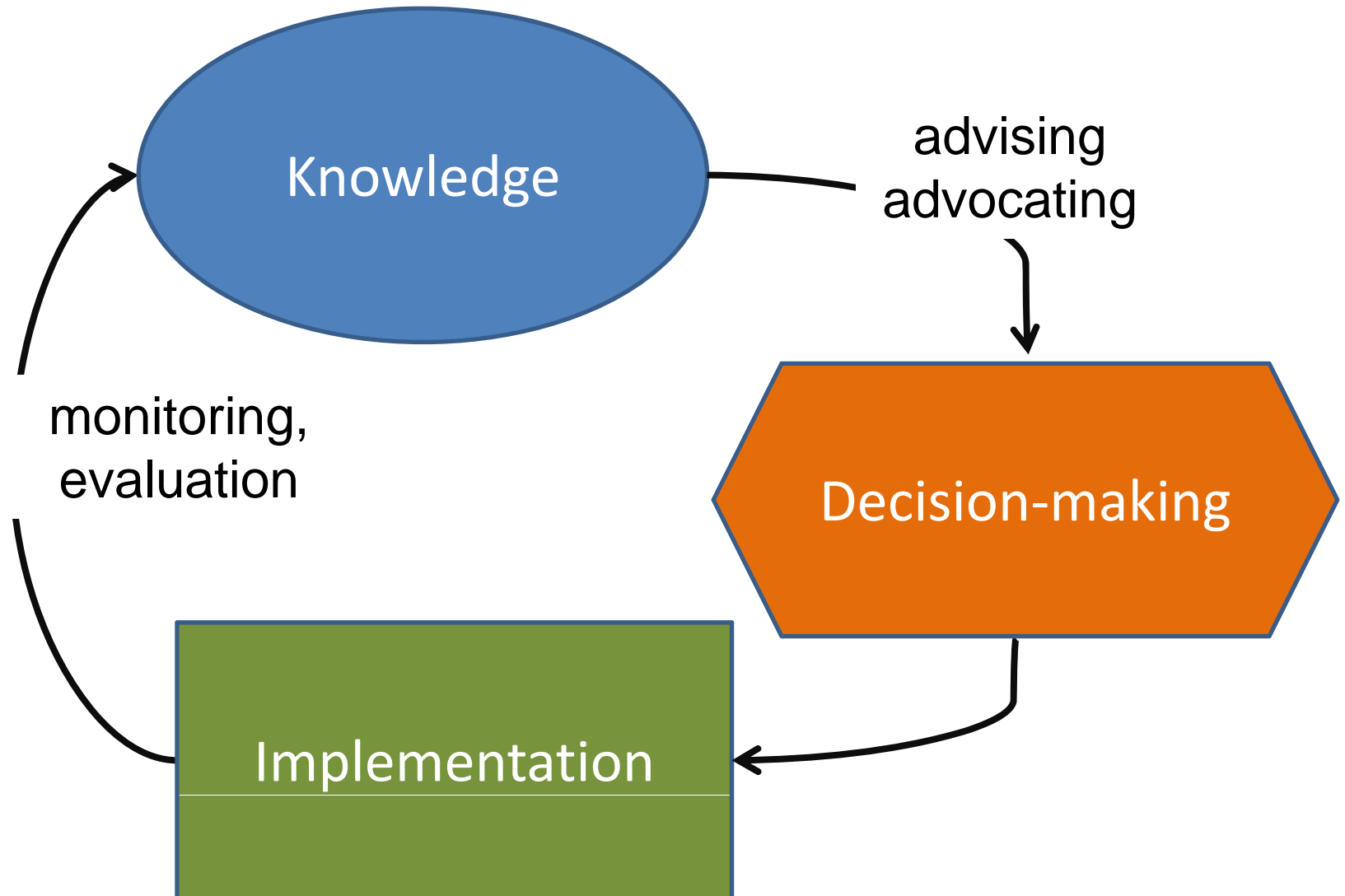
Corrective, fundamental and structural road safety management approaches



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The elementary operational and learning cycle



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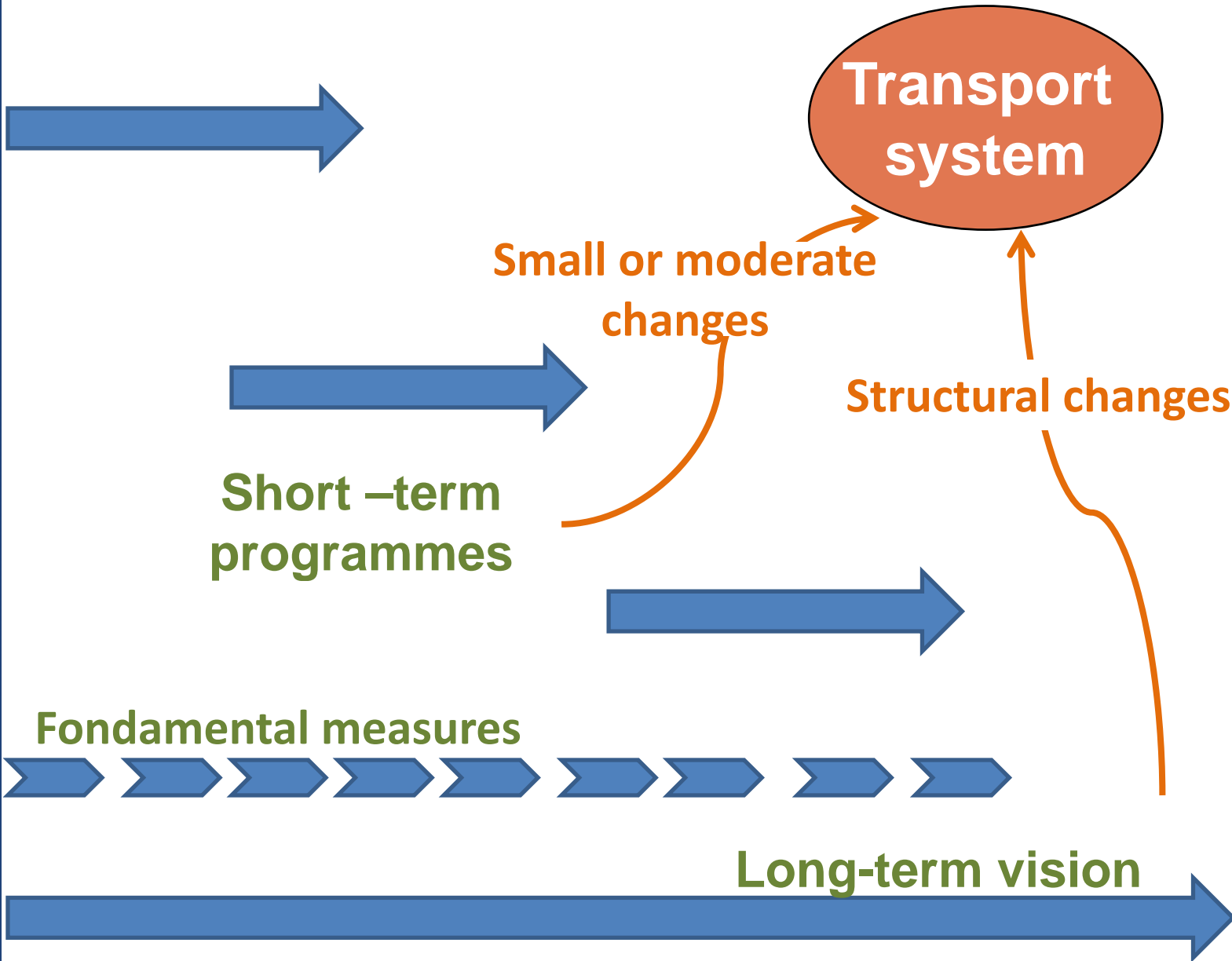
The time factor



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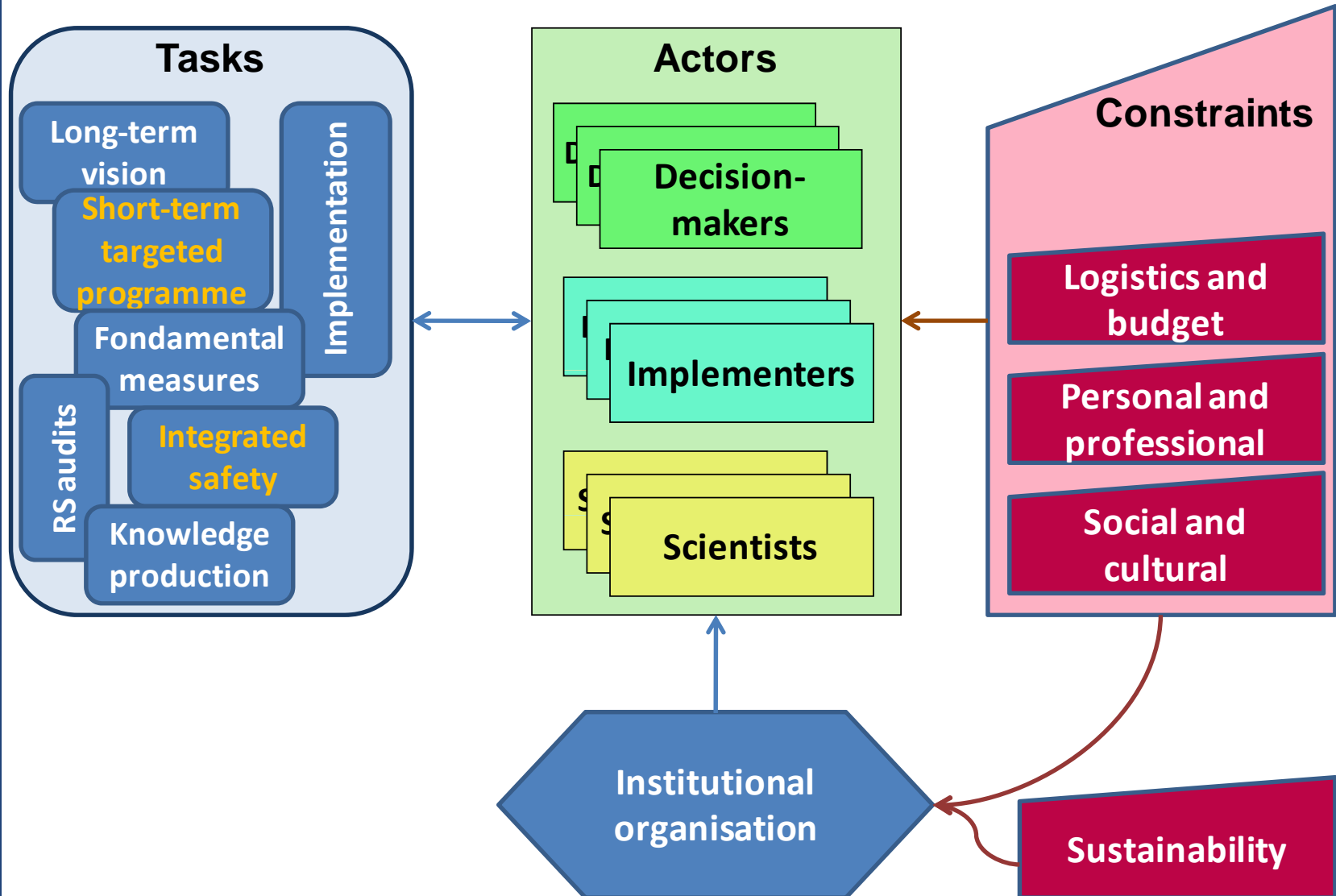
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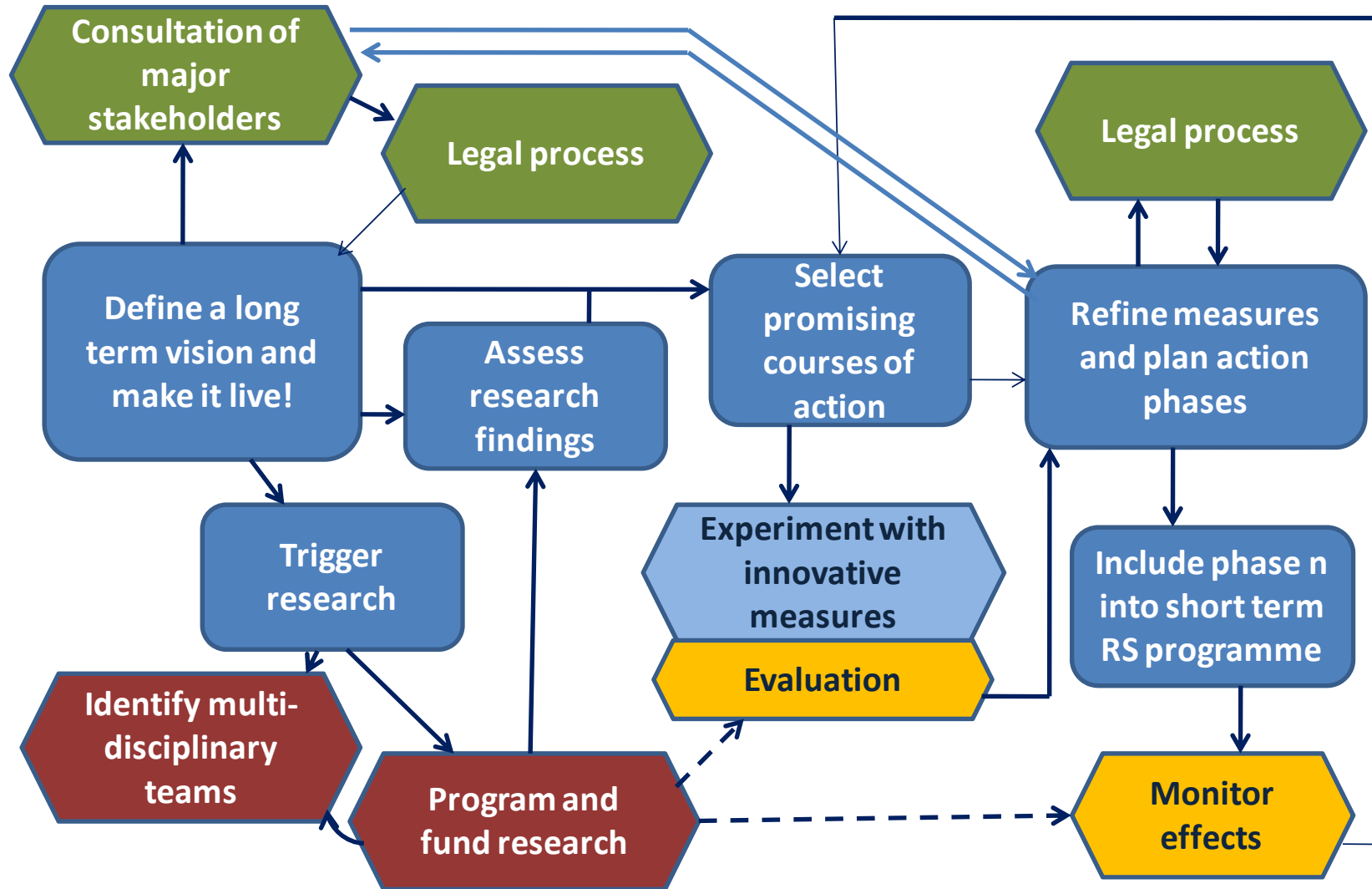
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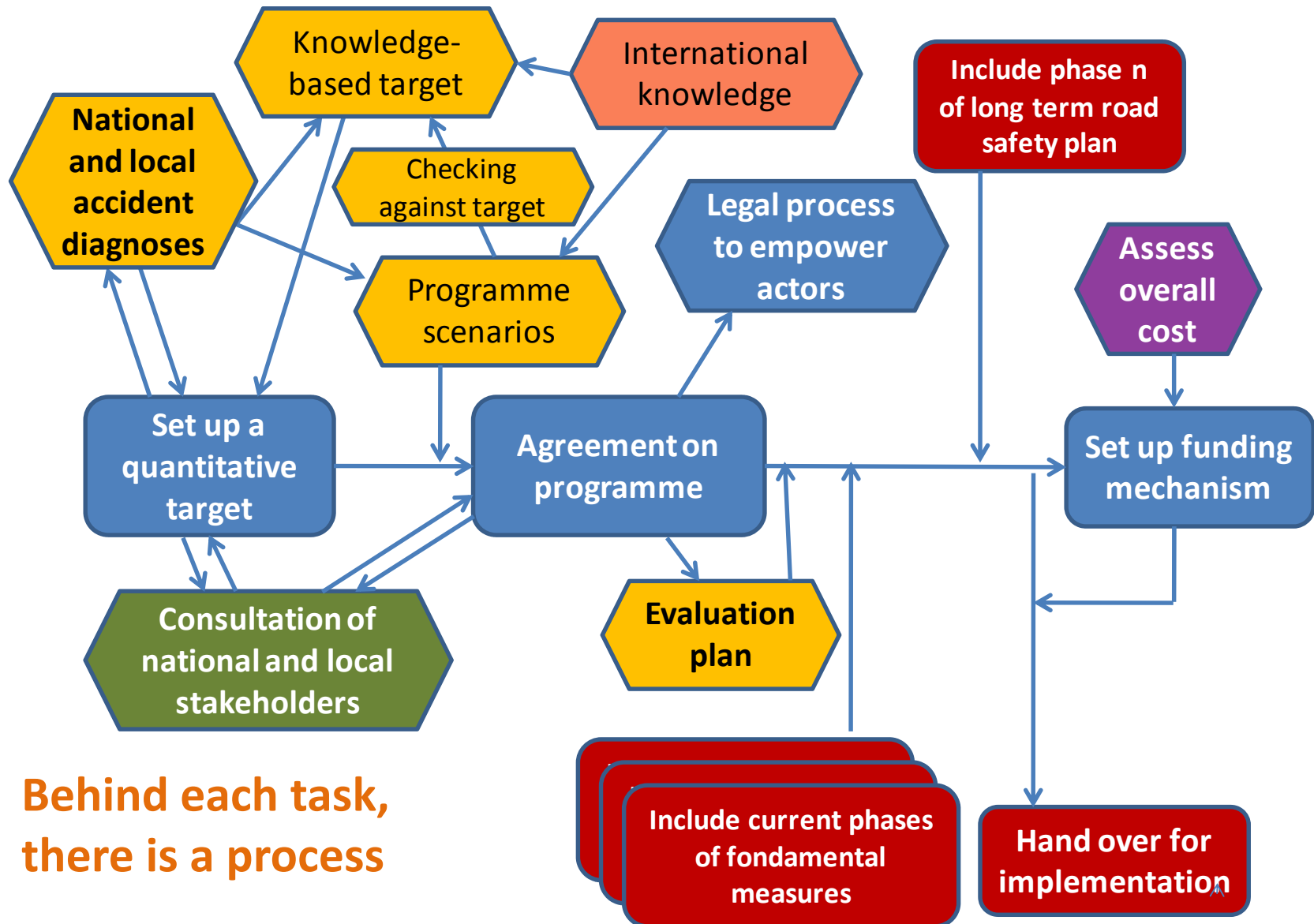
Building the engineering system



Working out a long term vision and planning for road safety



Working out a short term targeted road safety programme



Behind each task,
there is a process

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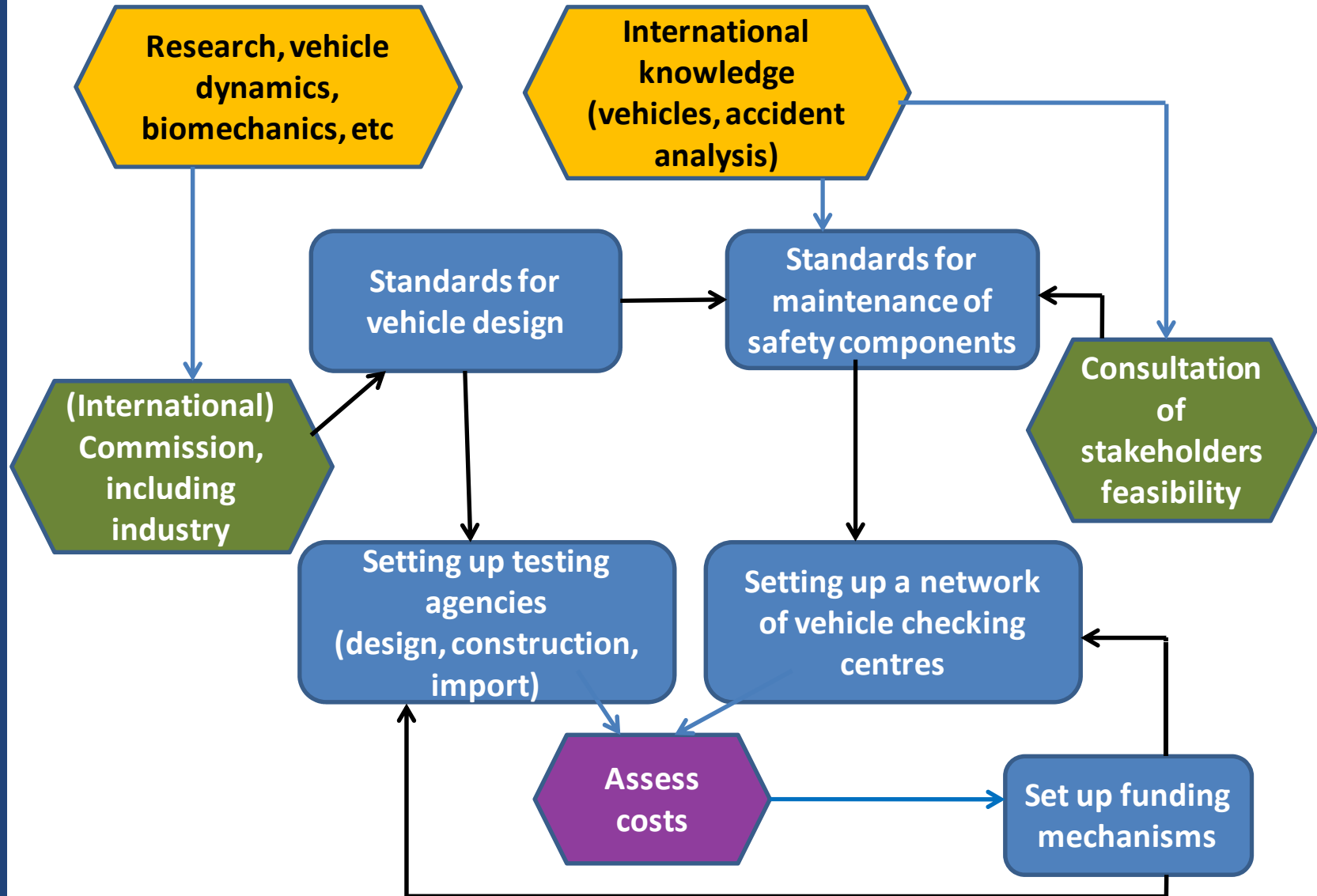


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Improving quality of the vehicle fleet



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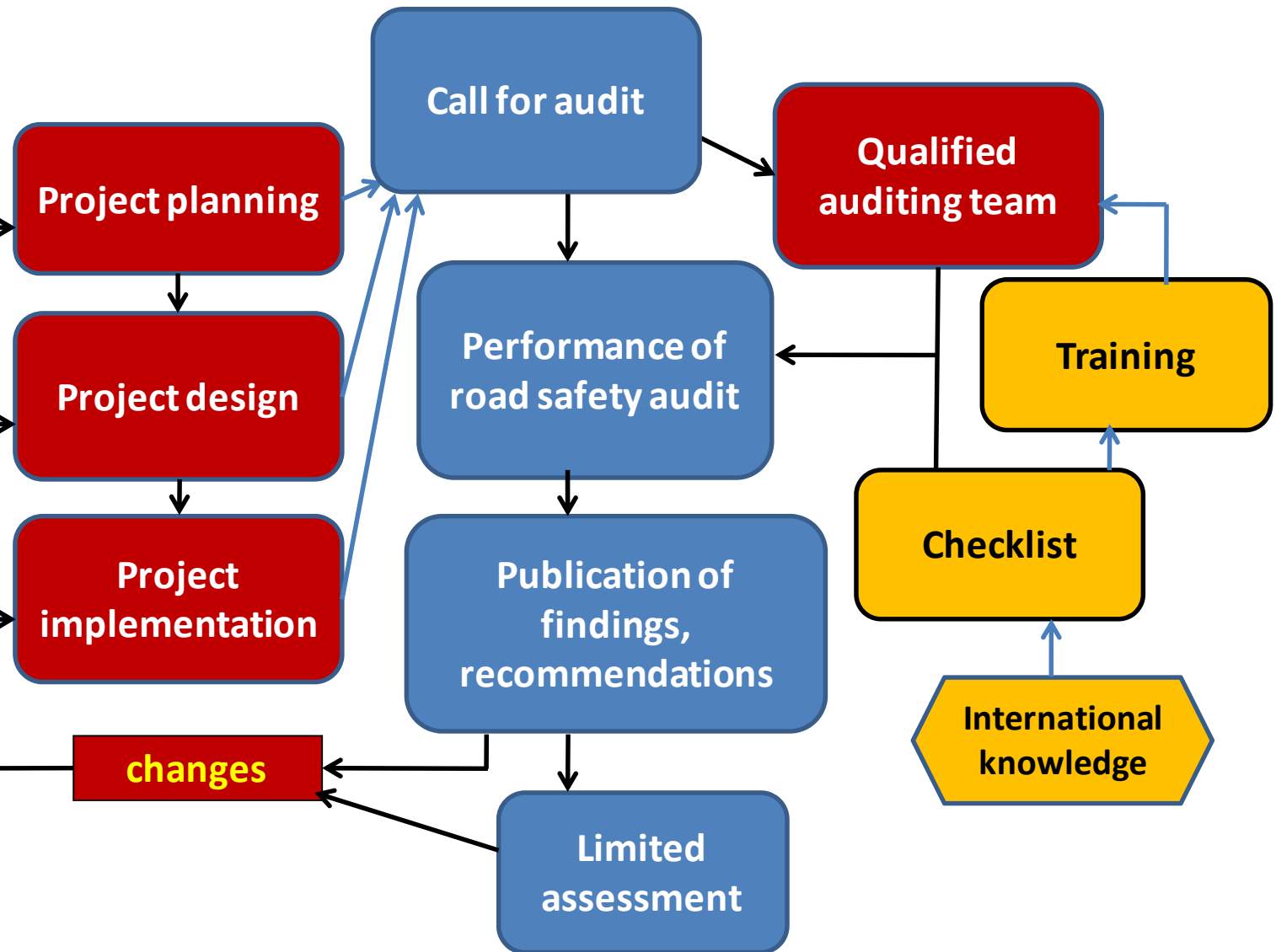
Road safety audits of projects



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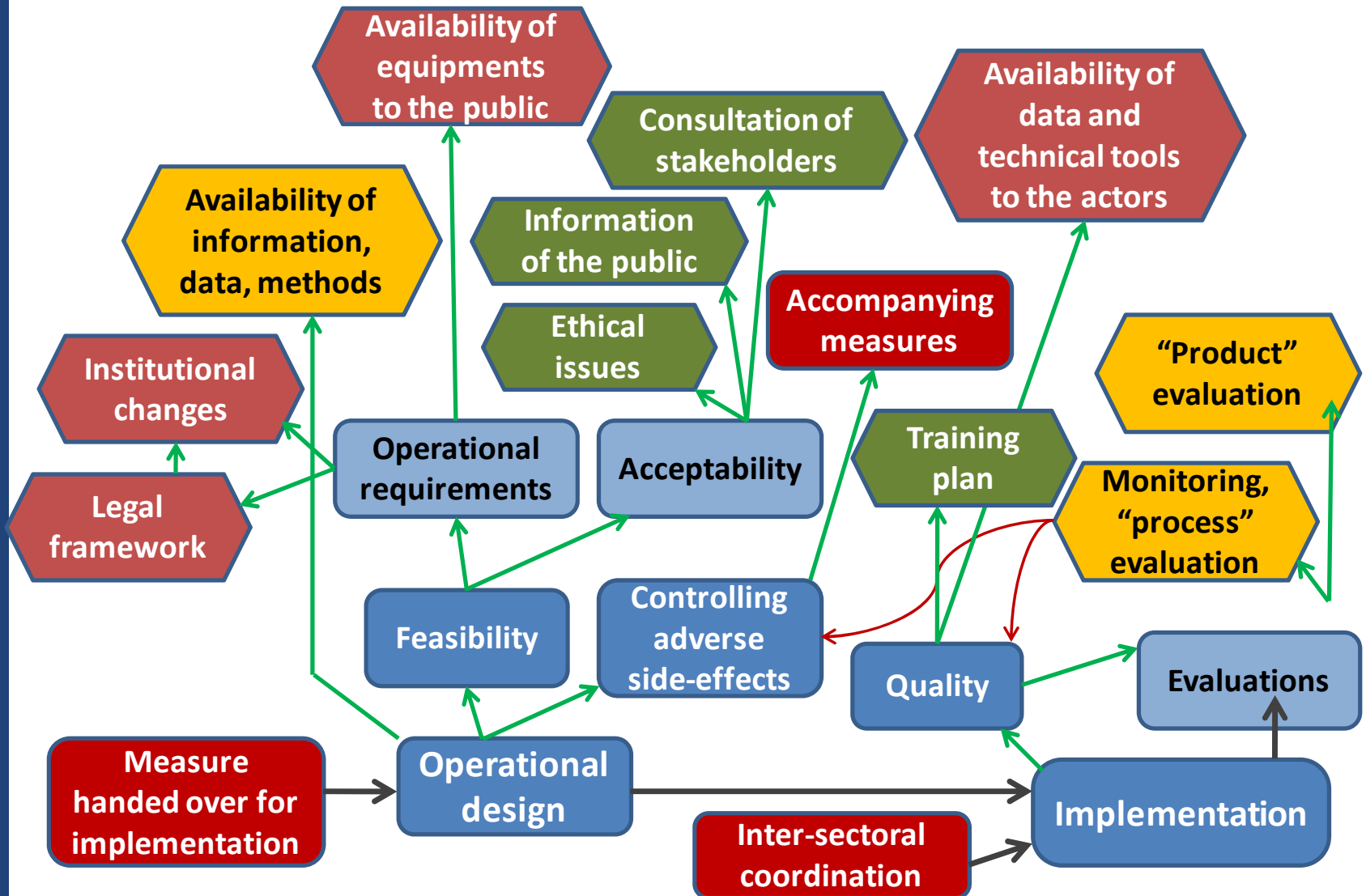
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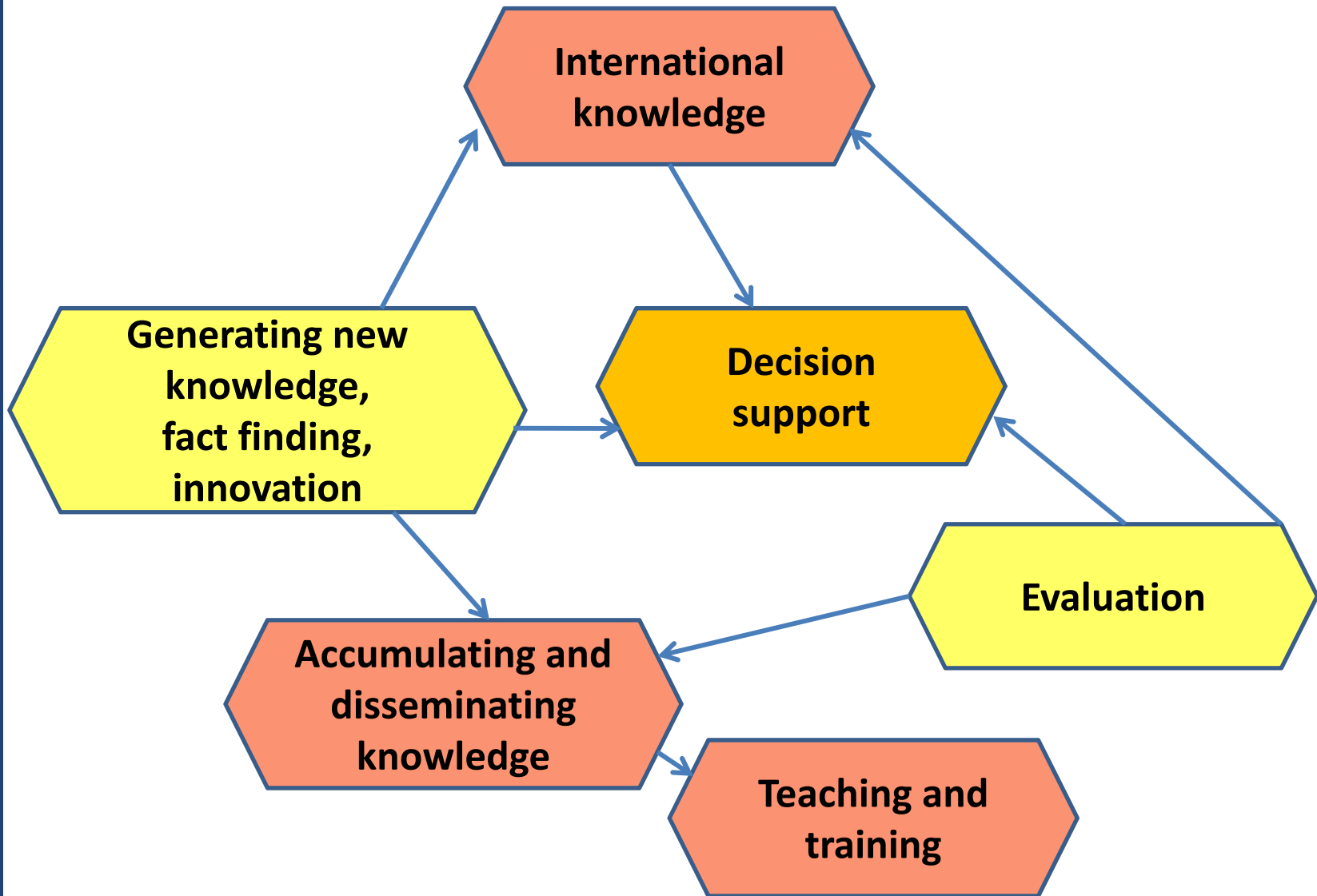
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Implementation



Knowledge production



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Institutional framework

- **Makes it possible to accomplish all the necessary tasks**
 - Knowledge-based decision-making
 - Knowledge production
 - Implementation
- **Works under constraints**
 - Personal, professional
 - Political and social
- **Has to be sustainable**
 - Permanent structure
 - Planned funding



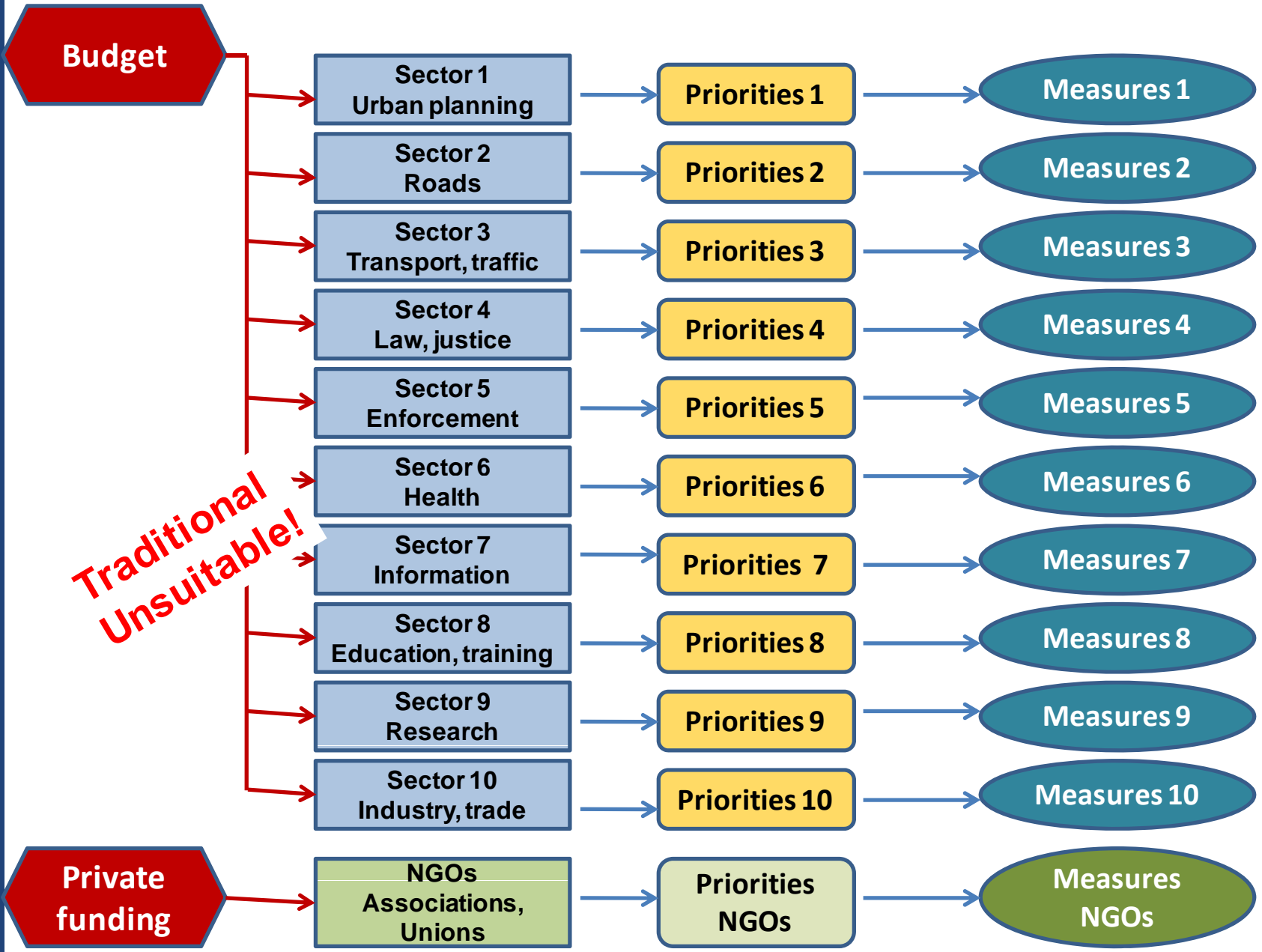
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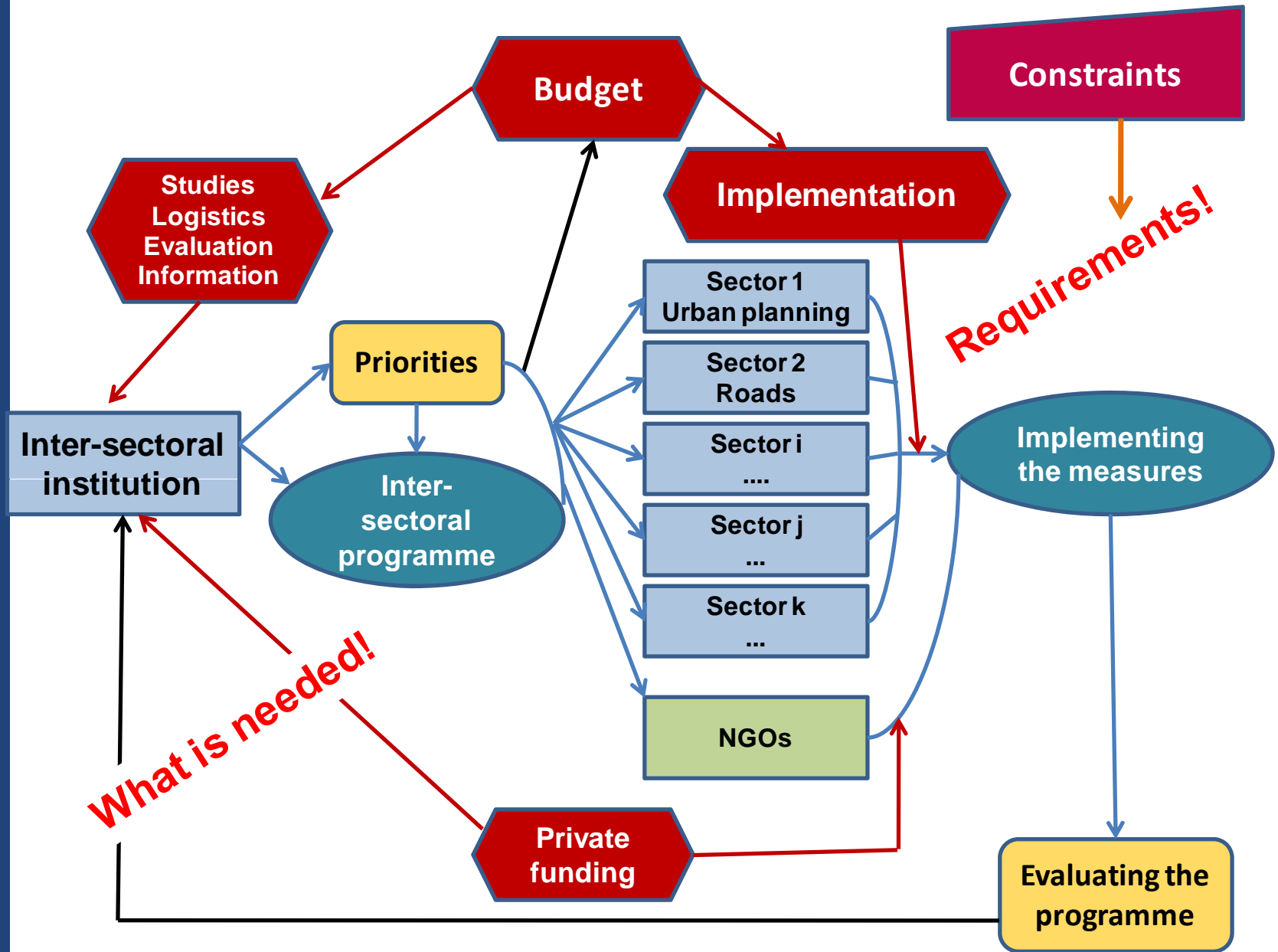
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Perspectives

- **Developing an expert system**
- **Improving road safety management organisation**
- **Integrating road safety into transport safety**
 - **Giving more scope to institutional organisation efforts**
 - **Comparing tasks and coordinating similar ones**
 - **Identifying common problems**
 - **Identifying common problem**