
FAMES
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THE CLIOS PROCESS

**STAGE 2: DESIGN, EVALUATION AND
SELECTION**

**STAGE 3: IMPLEMENTATION
(INTRODUCTORY COMMENTS)**

PART I

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MIT**

March 13, 2007 and forward

12 Steps in a CLIOS Analysis

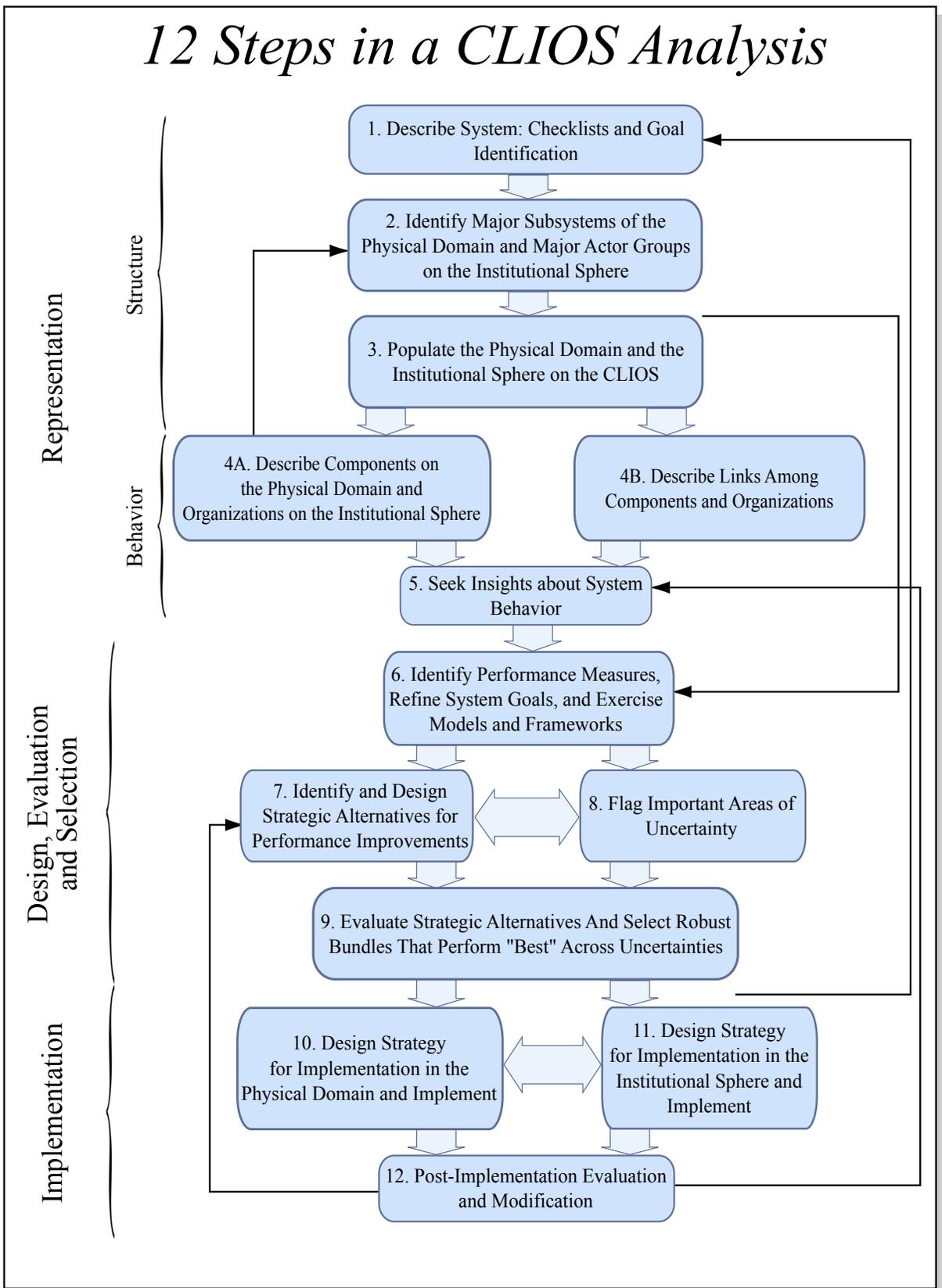


Figure by MIT OpenCourseWare.

Transition to the Design, Evaluation and Selection (DES) Stage

We have completed the Representation Stage and have a first-order understanding of our the CLIOS System.

We have characterized the issues we face.

We have identified preliminary goals.

We have some insight of the CLIOS System behavior

- ◆ In the physical domain
- ◆ In the institutional sphere
- ◆ In the interactions between the two

CLIOS STAGE CHARACTERISTICS

Stage 1	Primarily Qualitative
Representation	<p><i>Key Idea:</i> Understanding the CLIOS System Establishing Preliminary Goals</p>
Stage 2	Both Qualitative and Quantitative
Design, Evaluation, and Selection	<p>Aimed at improvement of the CLIOS System</p> <p><i>Key Idea:</i> Developing bundles of strategic alternatives</p>
Stage 3	Pragmatic in nature.
Implementation	<p>How to implement bundles of strategic alternatives</p> <p><i>Key Idea:</i> Follow-through: changing and monitoring the performance of the CLIOS System</p>

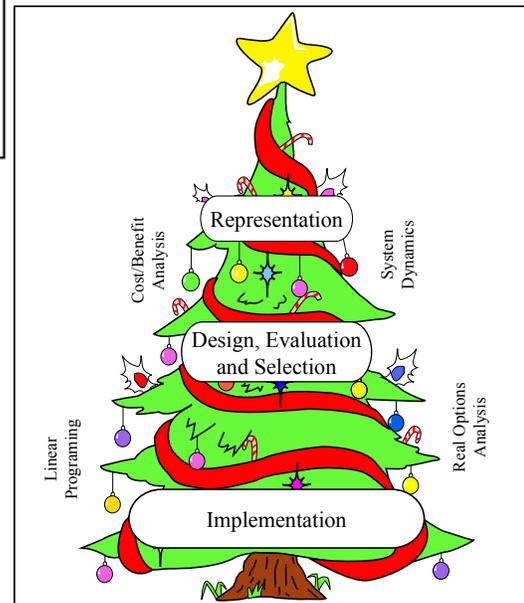


Figure by MIT OpenCourseWare.

Stage 2: DES Diagram

**6. Refine CLIOS System
Goals & Identify
Performance Measures**

**7. Identify & Design
Strategic Alternatives for
System Improvements**

**8. Identify Important
Areas of Uncertainty**

**9. Evaluate Strategic
Alternatives & Select
Bundles**

DES Stage

- ♦ **Creative in nature – we are *designing* our CLIOS System—**
- ♦ **But we are doing so with humility, recognizing its complexity, and the challenge we face**
- ♦ **Another “d-word”, “discernment” for more effective decision-making is a better term**
- ♦ **But keep in mind, at the end of the “day,” we do have to move forward. We don’t simply study our CLIOS System--- we implement bundles of strategic alternatives to improve performance**

Step 6: *Refine CLIOS System Goals*, Identify Performance Measures, and Develop Models and Frameworks (1)

- ◆ Evolve from Preliminary System Goals to Refined Goals (given our more sophisticated understanding at this stage of the process)
- ◆ Decide how to measure performance as we strive towards goals

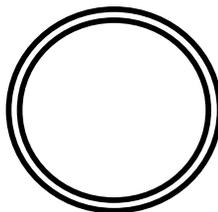
Step 6: Refine CLIOS System Goals, *Identify Performance Measures*, and Develop Models and Frameworks (2)

- Performance is often difficult to define and will vary according to the stakeholders involved
 - Understanding *their* measures for performance is key
 - Especially where policymakers/stakeholders compete for influence
- Performance measures shown diagrammatically as double lines:

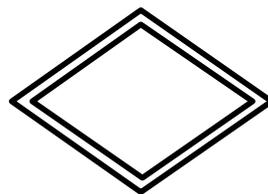
Policy Levers



Components



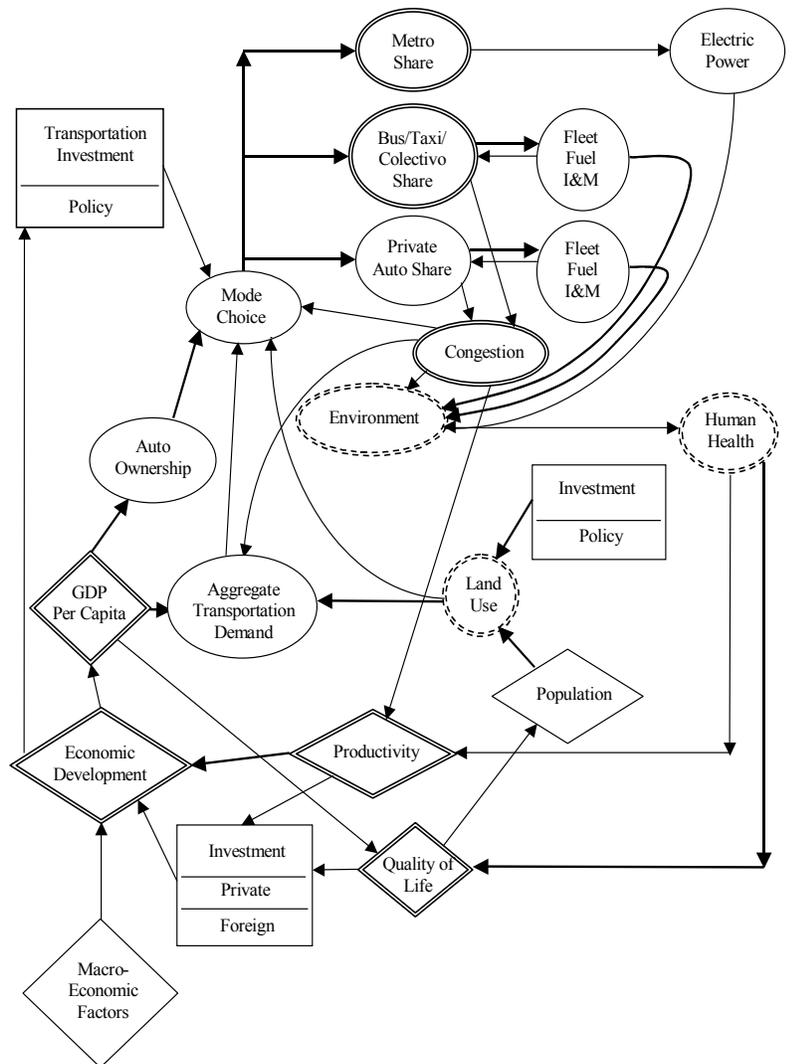
Common Drivers



CLIOS Representation of Mexico City

Notation for different components

- Components, common drivers, and policy levers
- Including performance measures
- Some components can be expanded (here identified by dashed lines) or perhaps treated as separated subsystems (a matter of taste)



Step 6: Refine CLIOS System Goals, Identify Performance Measures, and *Develop Models and Frameworks* (3)

- ◆ Build and test models of the current CLIOS System
- ◆ Roughly speaking, the equivalent of the qualitative representation in Stage 1
 - ◆ System-wide models
 - ◆ Case-specific models

Step 7: Identify and Design Strategic Alternatives for CLIOS System Improvement

- ◆ This is the creative step in the CLIOS Process. We are interested in improving the performance of our CLIOS System.
 - ◆ Searching the “solution space”
 - ◆ Thinking “outside the box” – new / fresh ideas, cutting across the CLIOS System
 - ◆ But don’t overlook conventional strategic alternatives
 - ◆ Be sensitive to the behavioral complexity in our CLIOS System

Design as a Multi-level Concept

Macro-design
Conceptual
“Architecture”

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-
-
-

Micro-design
Detailed in nature
Example--sizing--how
many lanes do we need