Towards a general data model of waste flows

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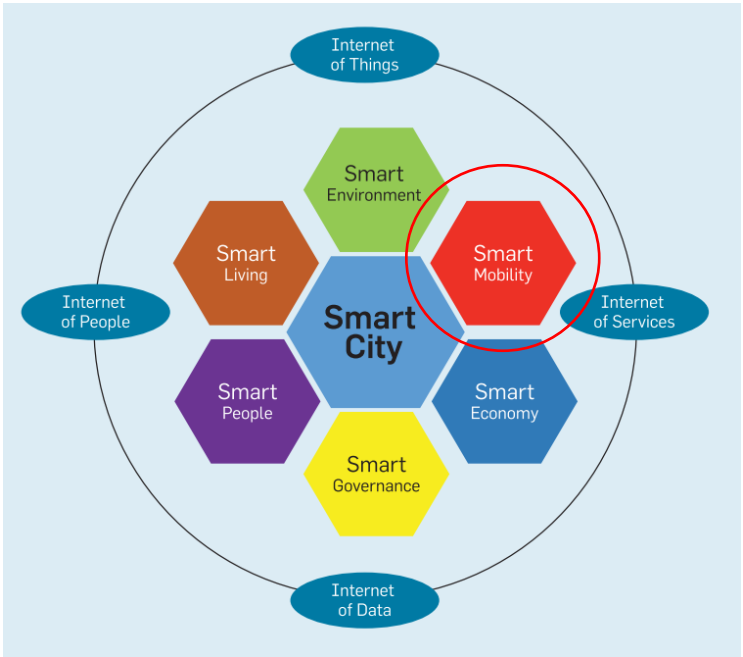
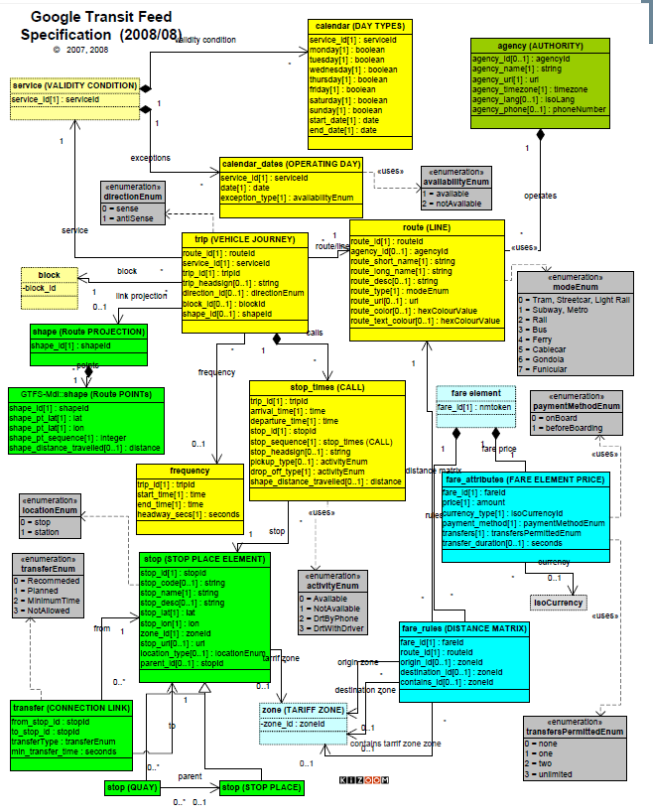
Time plan

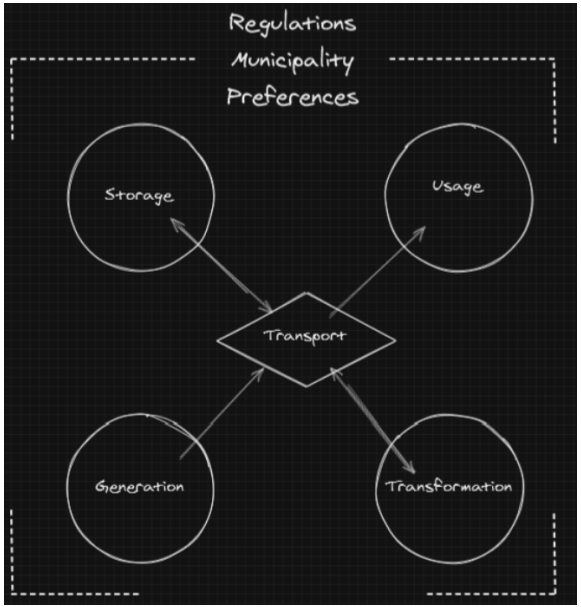
Month	Day	Hs	Activity	Project Milestones (meetings)
September	18	3	Kick off meeting and start the repo	
September	24	8	Model Waste flows as UML	
October	1	8	Formalize the UML as a relational model (like GTFS)	
October	8	8	Develop the data model as SQL	
October	15	8	Develop the data model as SQL	Present UML and data standard
October	22	8	Explore and understand CityGML and ADE	
October	29	8	Select and explore one data case as proof of concept	
November	5	8	Map the case of waste as ADE to CityGML	
November	12	8	Map the case of waste as ADE to CityGML	Present waste as ADE to CityGML
November	19	8	Explore and understand 3dCityDB schema and ADE	
November	26	8	Explore how to bridge between waste systems and CityGML	
December	3	8	Select a case study and explore a case as a proff of concept	
December	10	8	Map the case of waste as ADE to 3dCityDB	Present waste as ADE to 3dCityDB
December	17	8	Collect and generate sample data	
December	23	5	Code to copy sample data into sample database and repo	
January	7	3	Make the ppt and show results	Final PPT and presentation of git repo
Total hours		**115**		

Motivation and vision



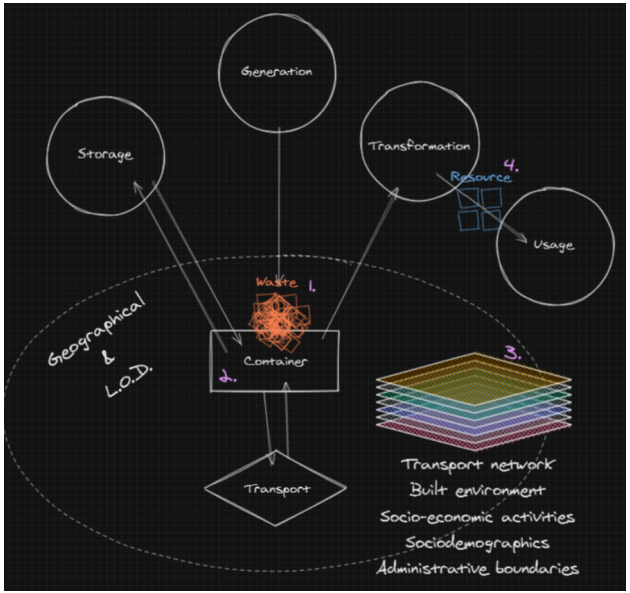


Conceptual model of waste flows I



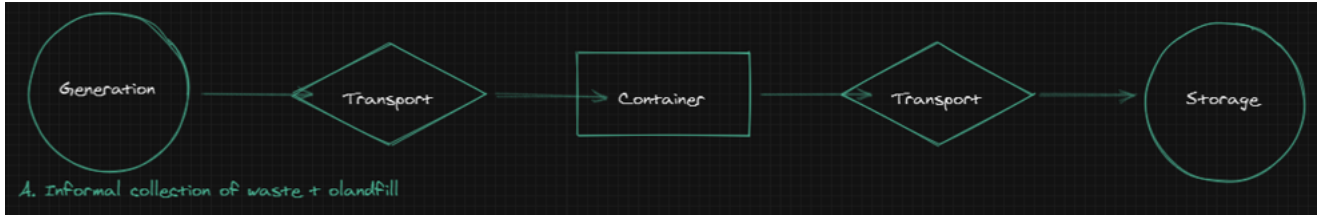
- Any socio-economic activity happening within an urban/regional system need, use and interact with a set of support systems.
  - Physical support systems such as the road and electricity network
  - Institutional support system as the set of laws and regulations that determine how a system should behave
  - Socio-cultural support system that determine how the citizens interact with the system
- Resources (and secondary ones) can be
  1. Created
  2. Used
  3. Transformed
  4. Stored
- In most of cases after one of these actions is executed the resources, goods or waste materials are moved from one place to another

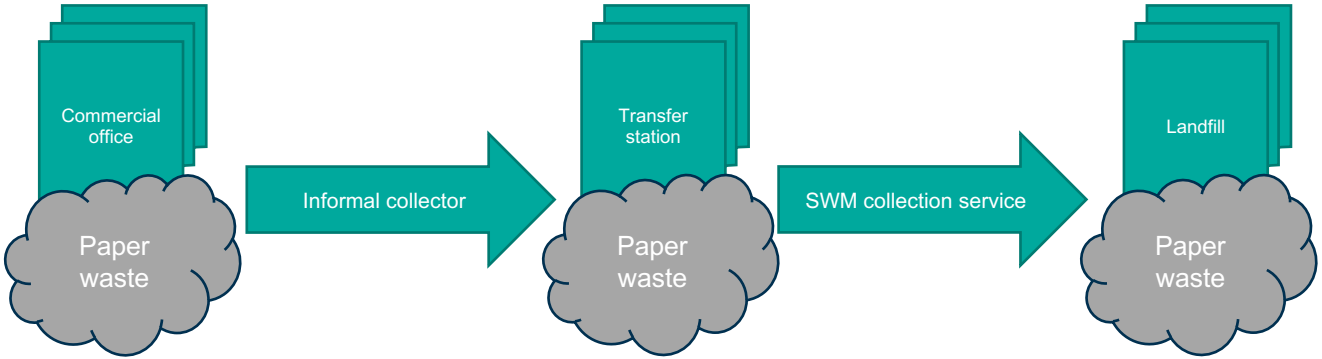
Conceptual model of waste flows II



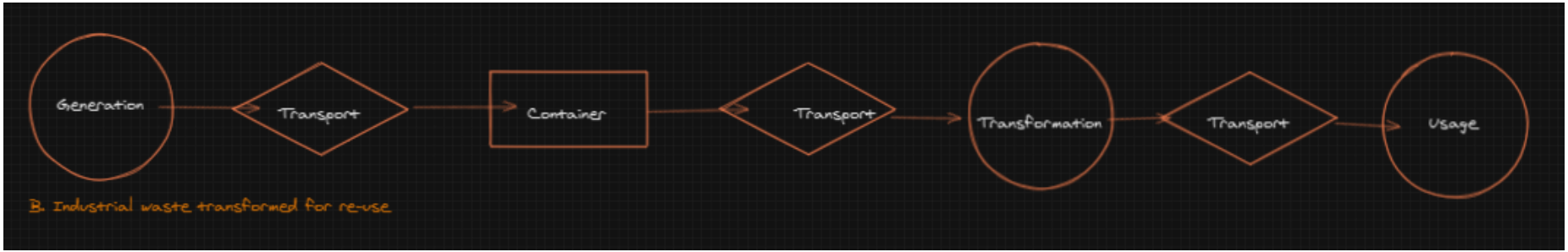
- Generation: Every time there is a process, a by-product is generated. Waste means any substance or object which the holder discards or intends or is required to discard. It has no value. It cannot purchase or sold.
- Transformation: By various means any waste or part of it can be transformed into a resource that can be re-introduced in the market for its use.
- Storage: When ever waste materials are stored over time.
- Usage: After upgrading a by-product, it could be used by another or the same industry.
- Transport: Every time a waste material is moved from one container to another, there is need for transportation
- Containers: Is the physical object or place that contains the waste
- Support systems: Are the geographical and socio-economic systems that allow and determine activities in the territory

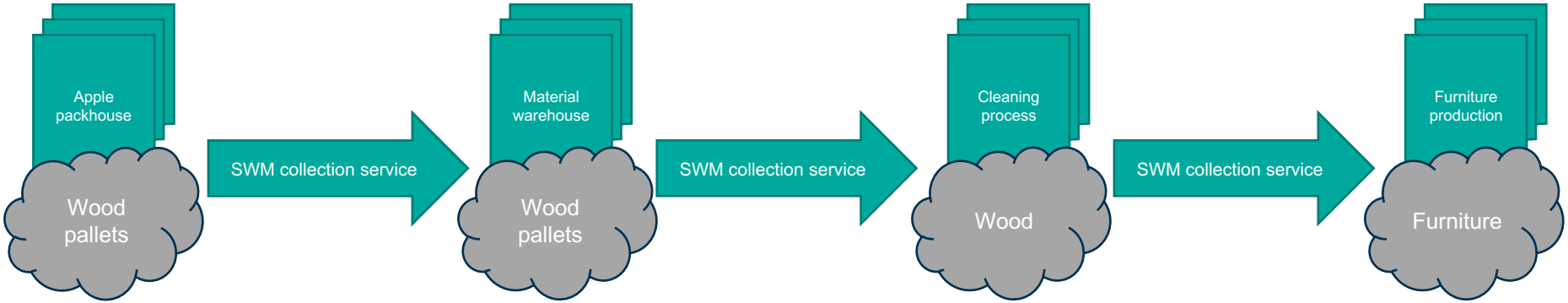
Instances of the model - A



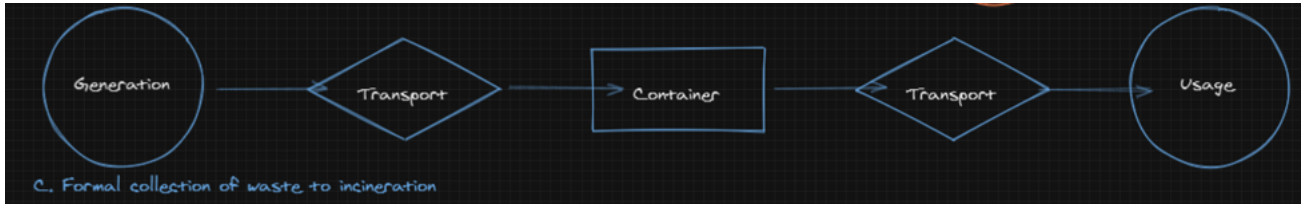


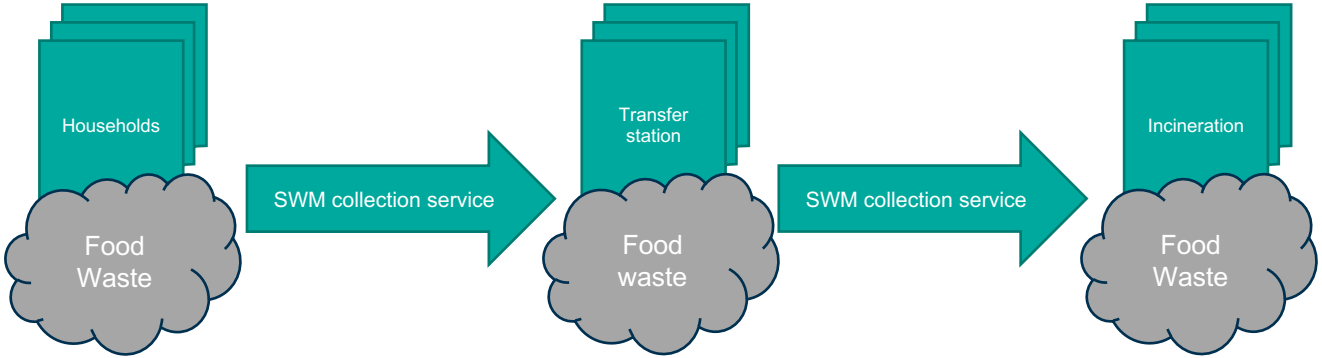
Instances of the model - B





Instances of the model - C





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