

# Keeping People First in the Smart Cities Enterprise



## Smart Cities Initiative

*Jennifer Russell EISE, CSEP* [Jennifer.Russell@incose.net](mailto:Jennifer.Russell@incose.net)

*Matthew Hause* [mhouse@systemxi.com](mailto:mhouse@systemxi.com)

*Lars-Olof Kihlstrom* [lars.olof.kihlstrom@cag.se](mailto:lars.olof.kihlstrom@cag.se)

**UAF Summit**

Washington, D.C.

March 21, 2023

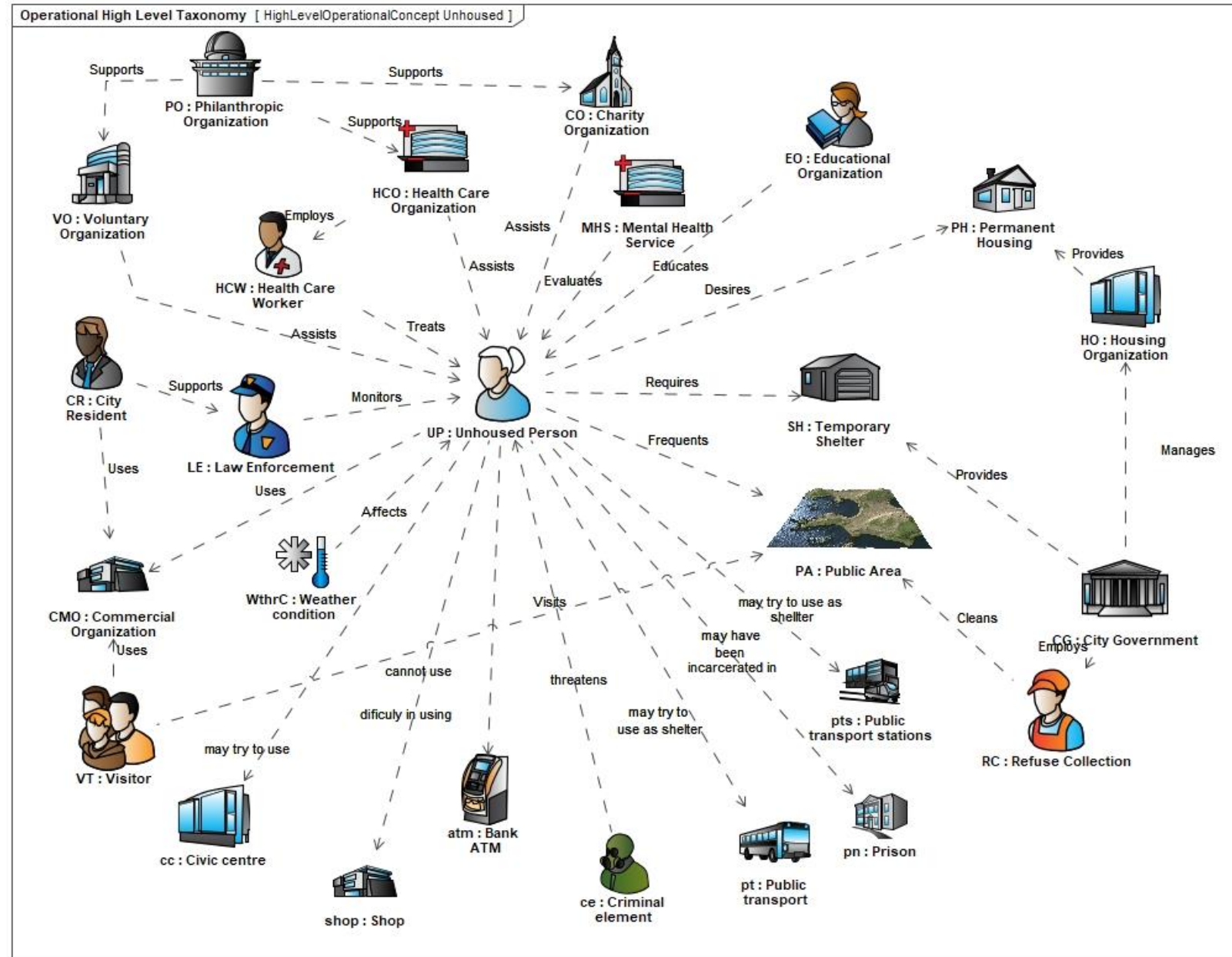
# **Social Enterprises**

## **Part of INCOSE Smart Cities Initiative**

- Autoville has been experiencing an increasing number of unhoused people. They reside in city parks, under bridges, in makeshift encampments, and on the city streets. This has caused increased crime, increased police interactions, overloaded courts, resident complaints, and decreased tourism. Sadly, an increasing number of unhoused people have been dying from violence, overdose, alcohol poisoning, and exposure. The city administration has decided to study the situation and provide services to improve the situation. These include housing, treatment, counseling, and education rather than increased law enforcement or ignoring the problem.

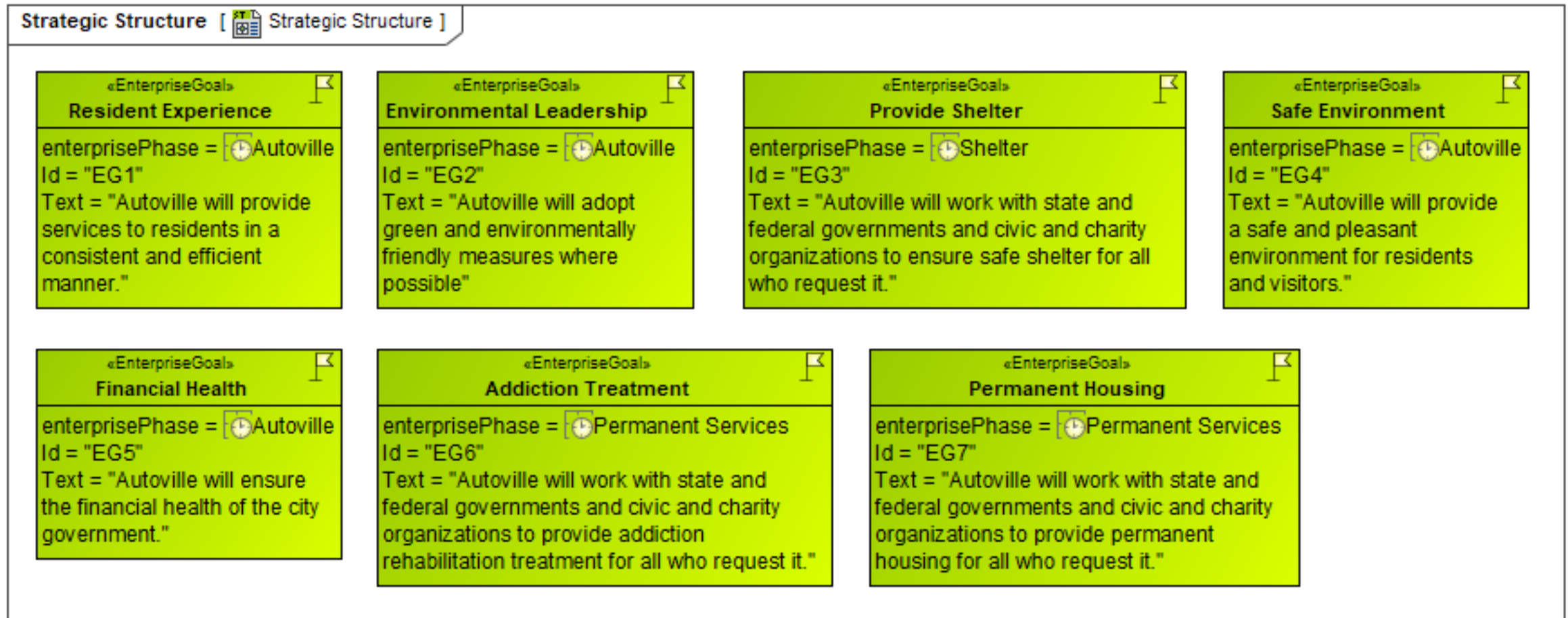
# Autoville Unhoused Person Concept Diagram

- Unhoused people have interactions with multiple organizations and systems in Autoville.
- This helps to understand the positive and negative effects that unhoused people have on city elements, and vice versa.
- Understanding this will help to frame solutions.



# Initial Project Goals

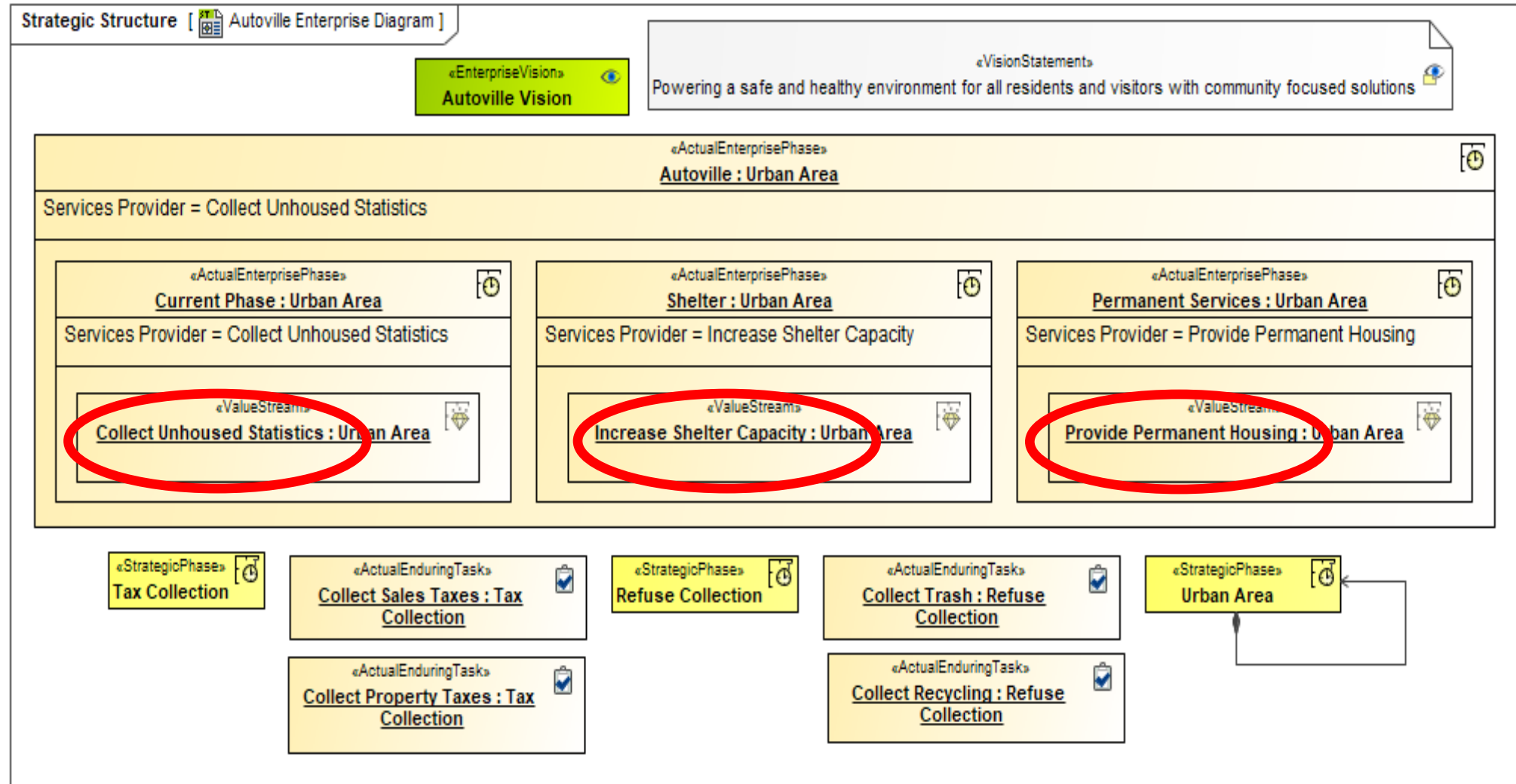
- Setting goals defines what Autoville wants to achieve
- These can be phased over time.





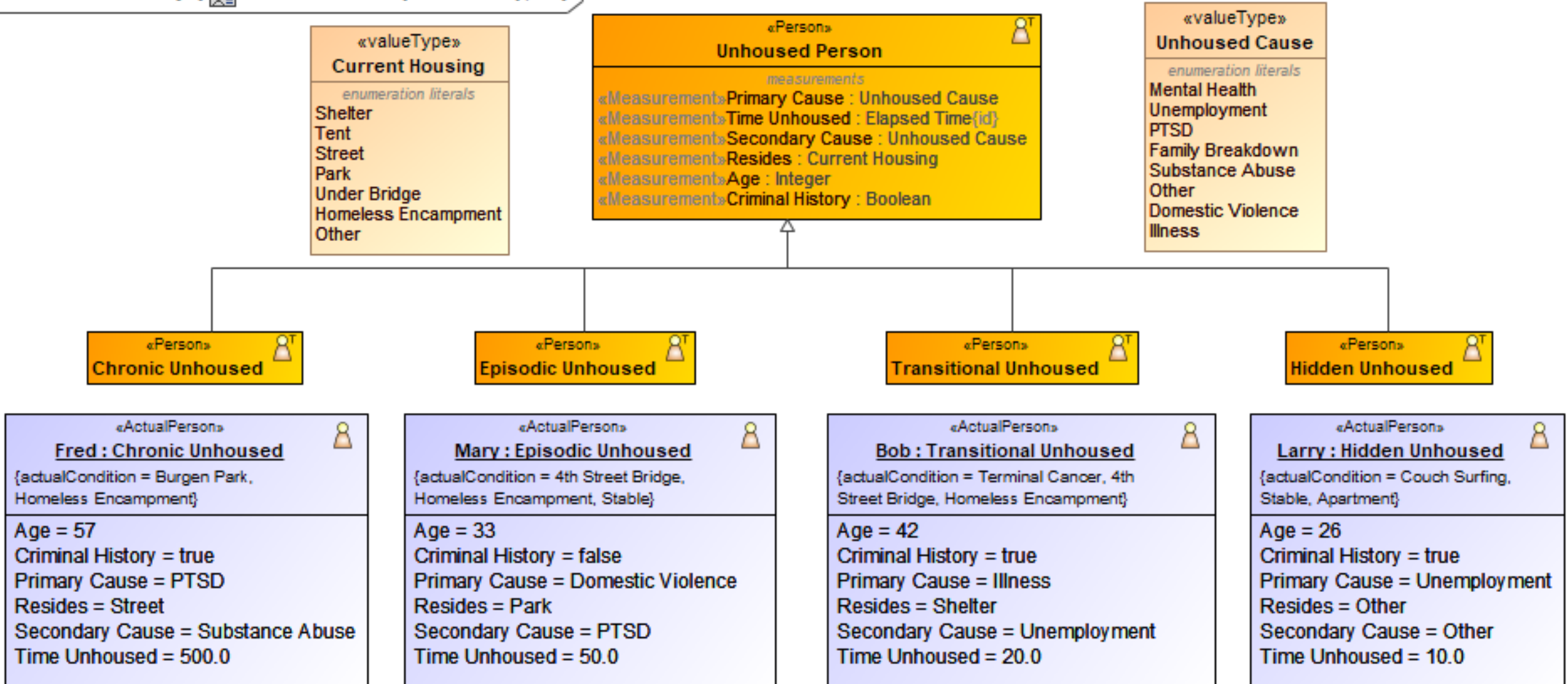
# Autoville Three Phase Project

- Collect Statistics and study the problem
- Increase shelter capacity
- Provide addiction treatment
- Provide permanent housing.
- Increase employment training

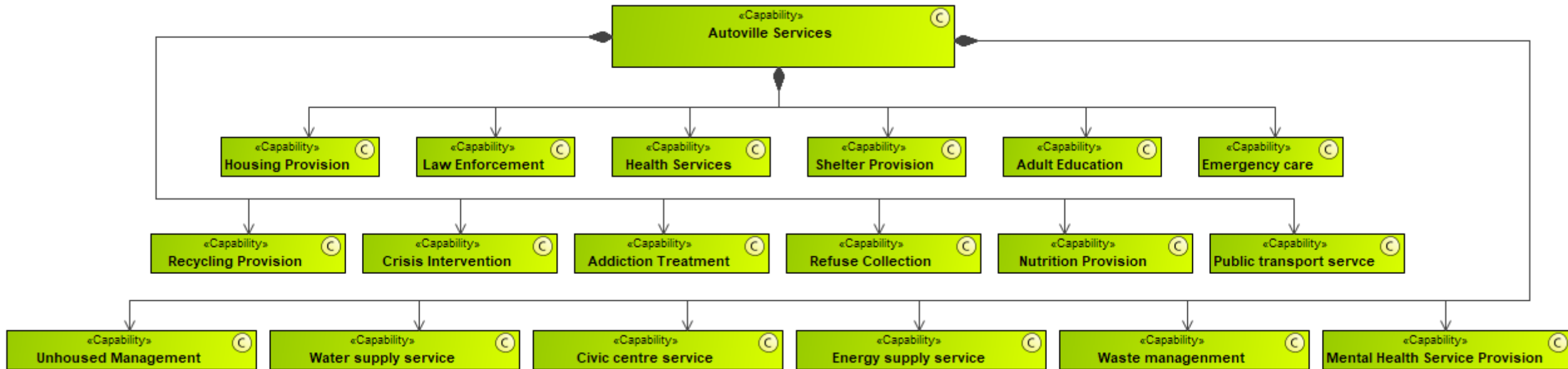


# Types of Homeless People and Their attributes

Personnel Taxonomy [ Personnel Taxonomy Unhoused Types ]



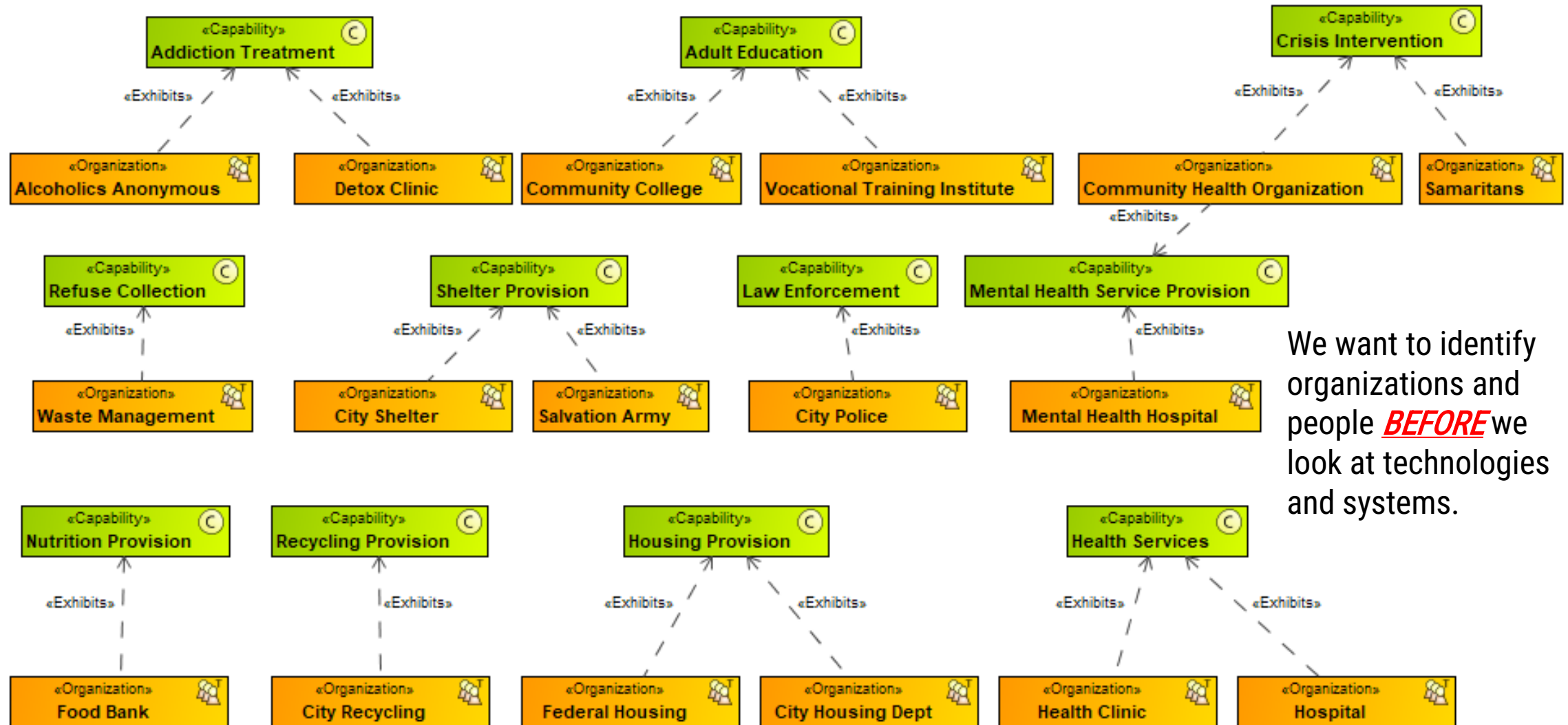
- Existing Autoville Capabilities are identified
- These are provided by the government, volunteer organizations and industry





# Organizations Providing These Capabilities

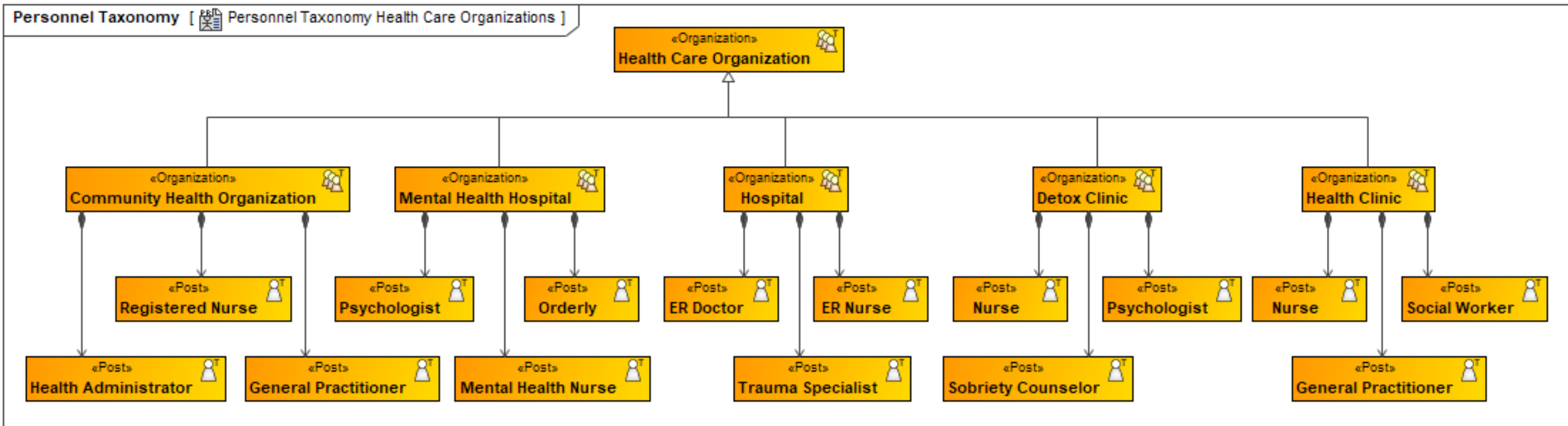
Resources Taxonomy [ Resources Taxonomy Capability Mapping ]



We want to identify organizations and people **BEFORE** we look at technologies and systems.

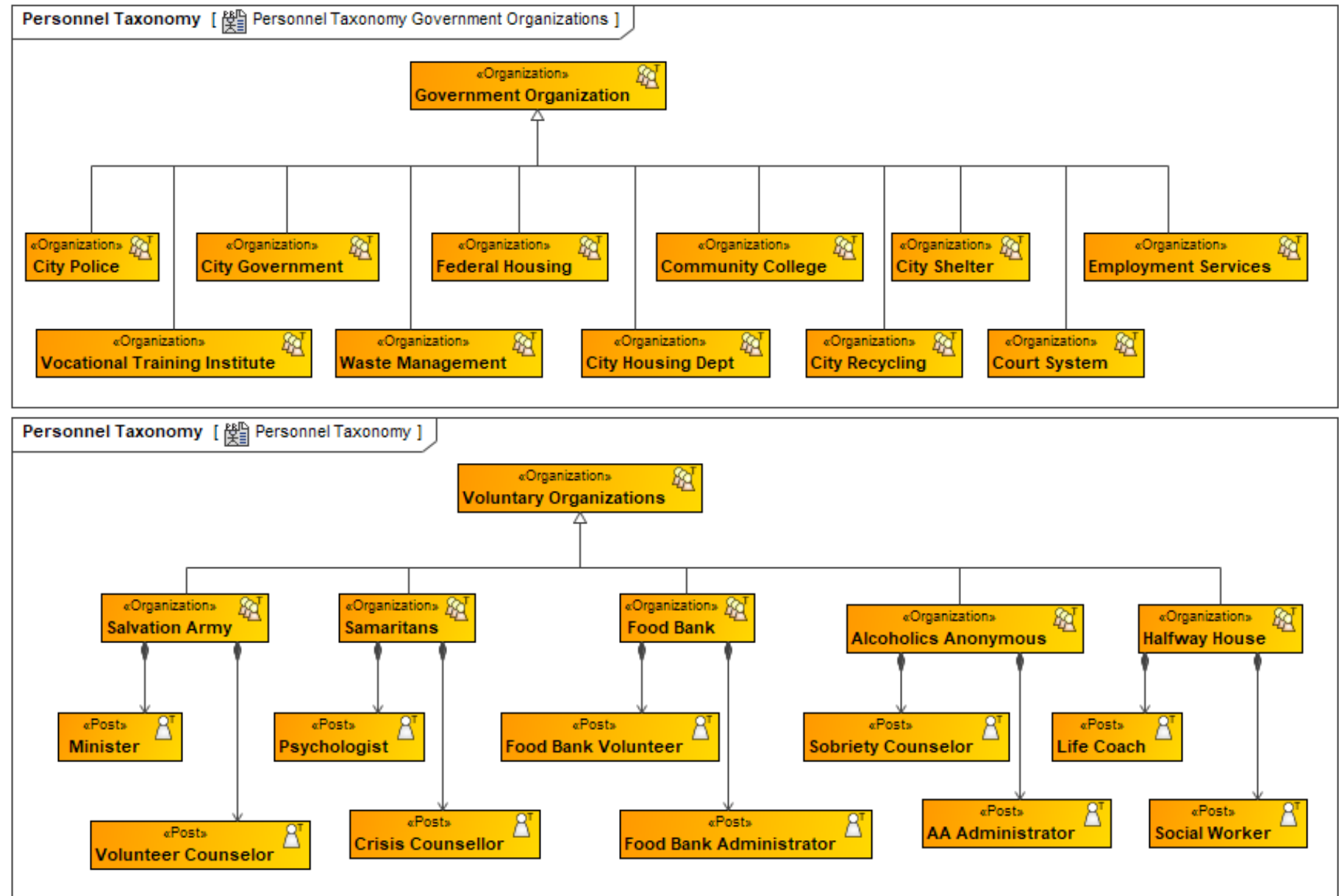
# Healthcare Organizations and Staffing

- Health Care Organizations are both public and private.
- All are charged with a duty of care to the community
- Some offer specialized services



# Organizations Interacting with the Unhoused

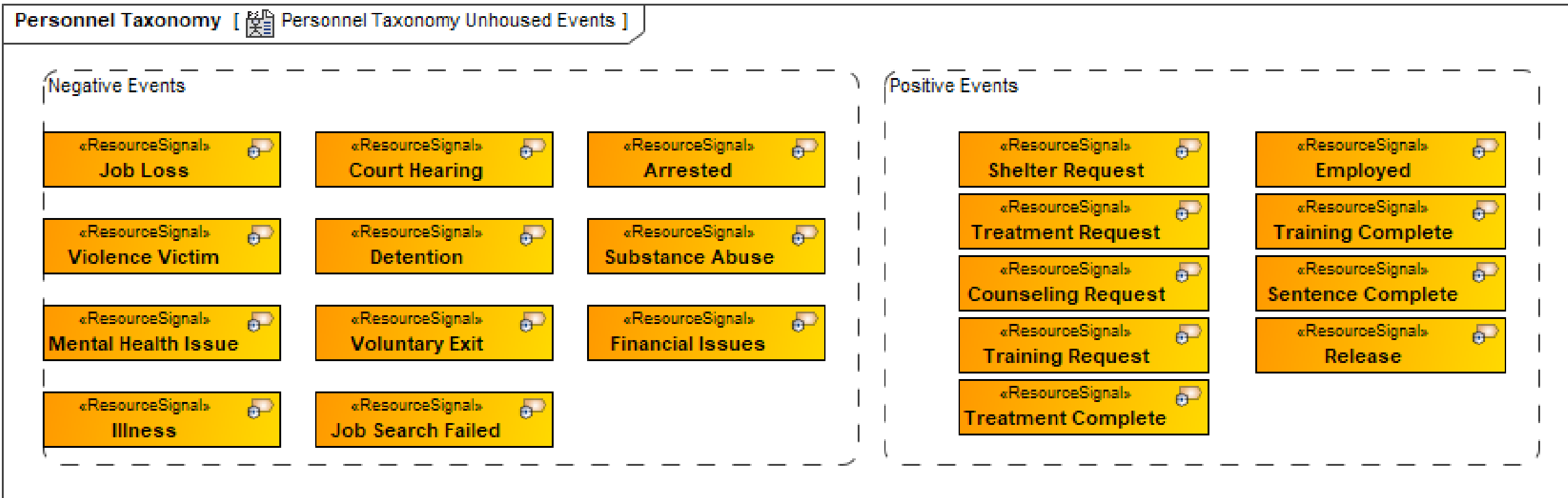
- There are many government, voluntary, and healthcare organizations who interact with the unhoused.
- Documenting the people who provide services helps to understand the problem.



# Events in an Unhoused Person's Life

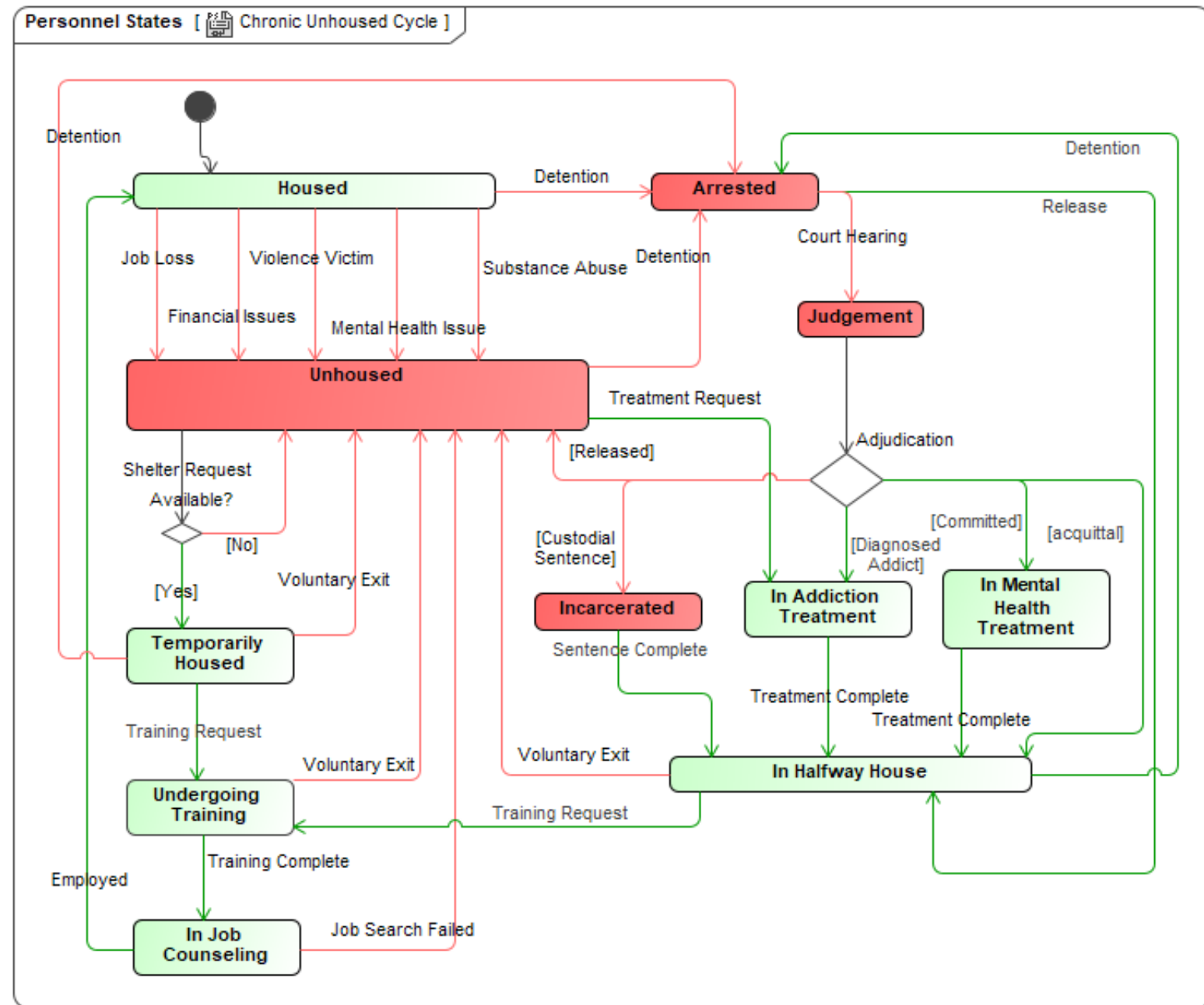


- Positive and negative events occur in the life of an unhoused person.
- These can either escalate the problem, or work towards a solution.
- Understanding this interaction is essential.



# Chronic Unhoused Cycle

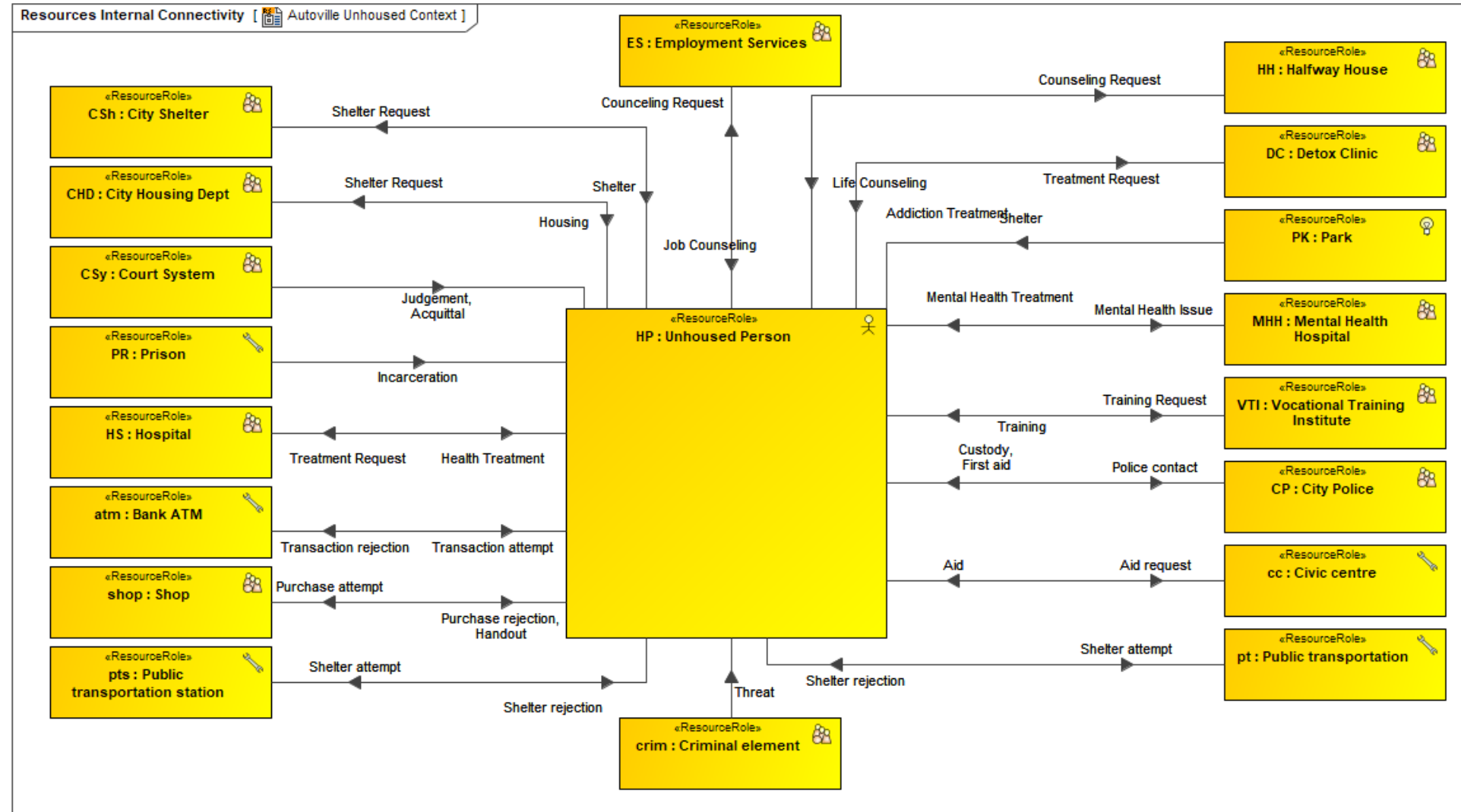
- The previous events have been studied to determine the unhoused vicious and virtuous cycles.
- By documenting these cycles, experts can determine where to intervene to improve things
- This can move the person from the vicious to virtuous cycle



# An Unhoused Person's Interactions With Autoville Organizations



- A more concrete model has been created for the unhoused person interactions.
- The diagram shows a subset.
- This would be overwhelming for anyone.
- A dedicated capability needs to be created to address unhoused residents.





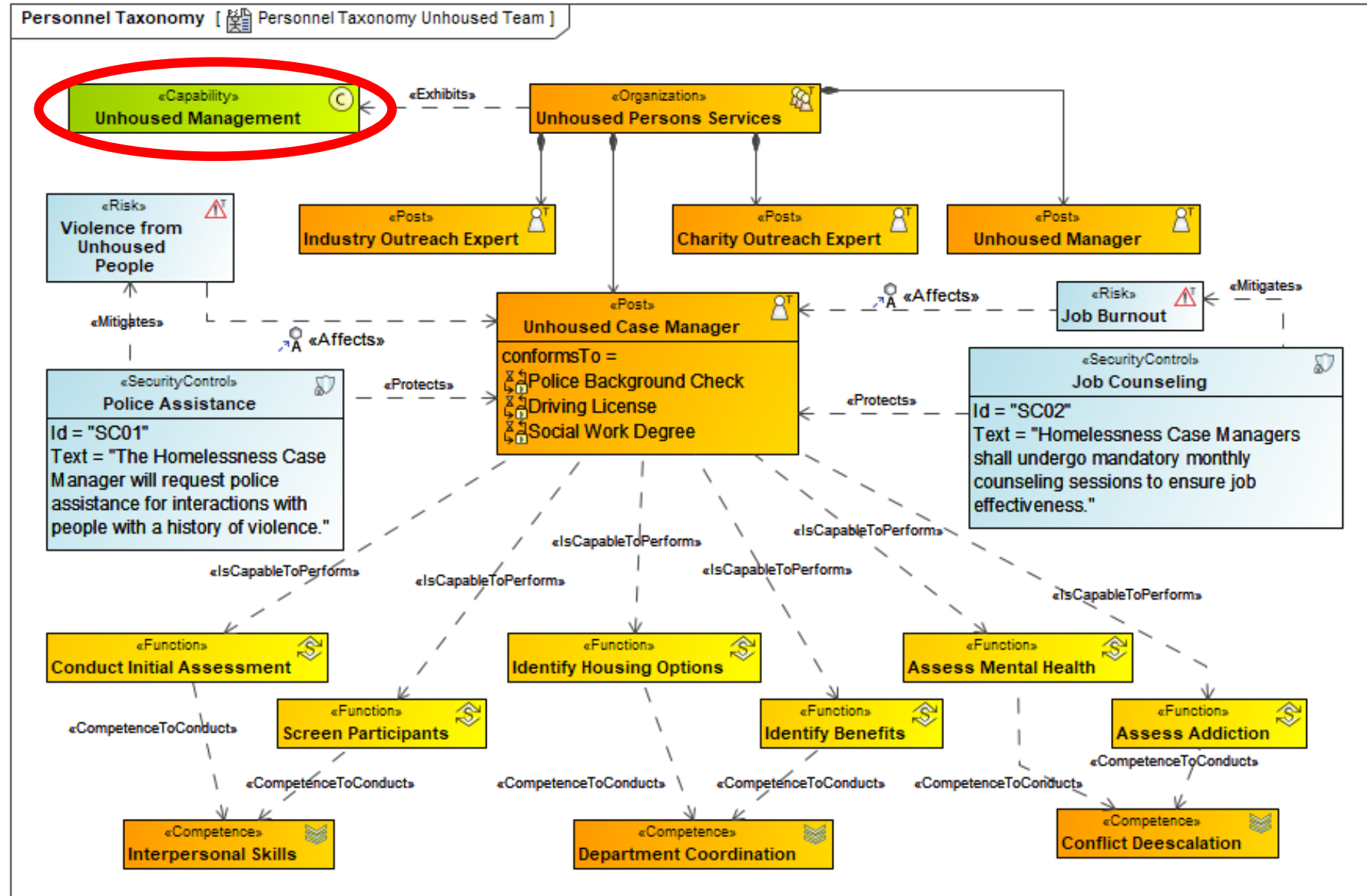
# Unhoused Persons Services Organization



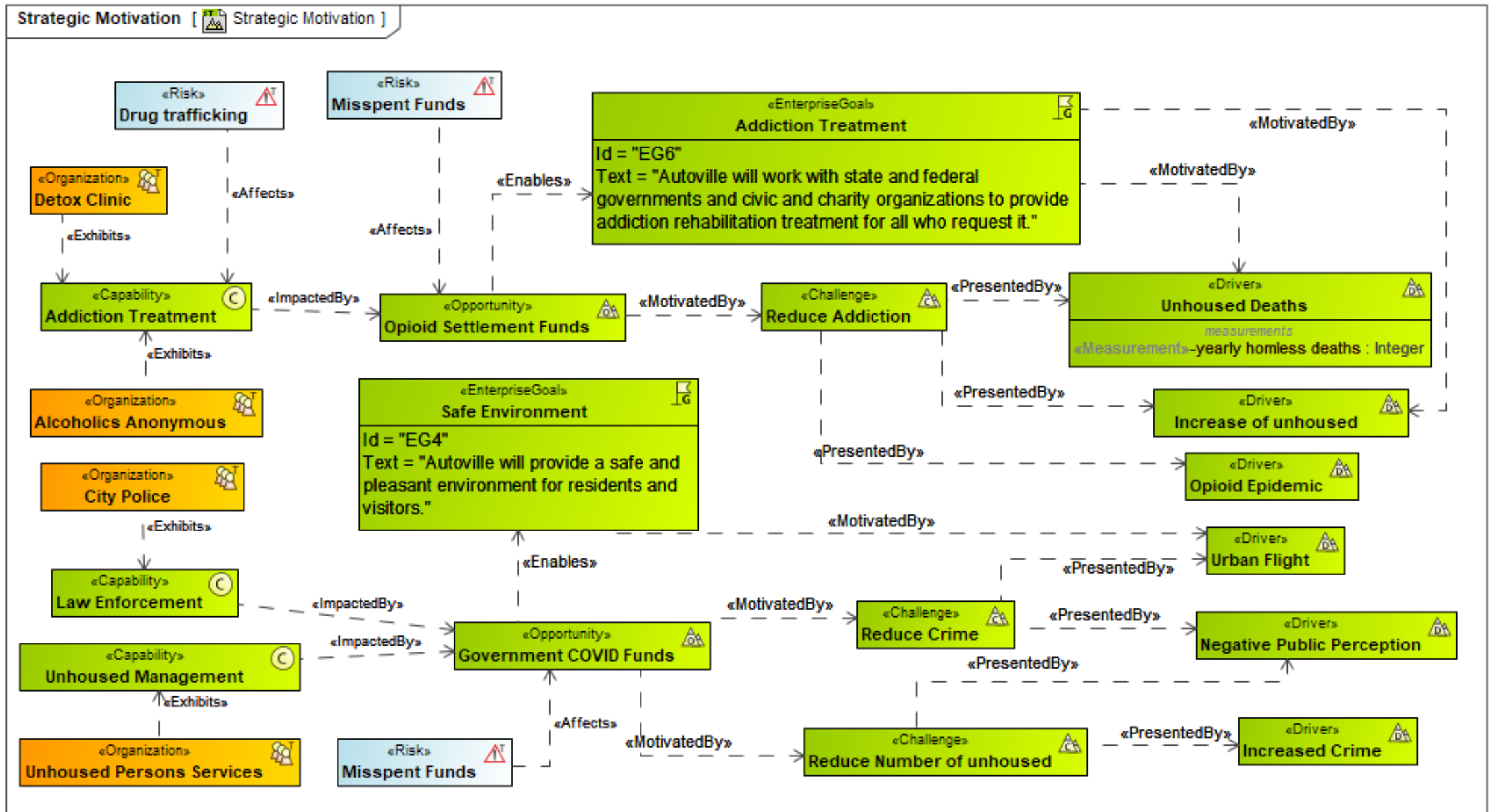
- Currently, unhoused residents are everyone's and no one's problem.
- A specialized team will be created to serve unhoused residents.
- They will work with government departments, industry, medical facilities, and addiction services to find solutions
- Risks and mitigations have been identified and proposed.

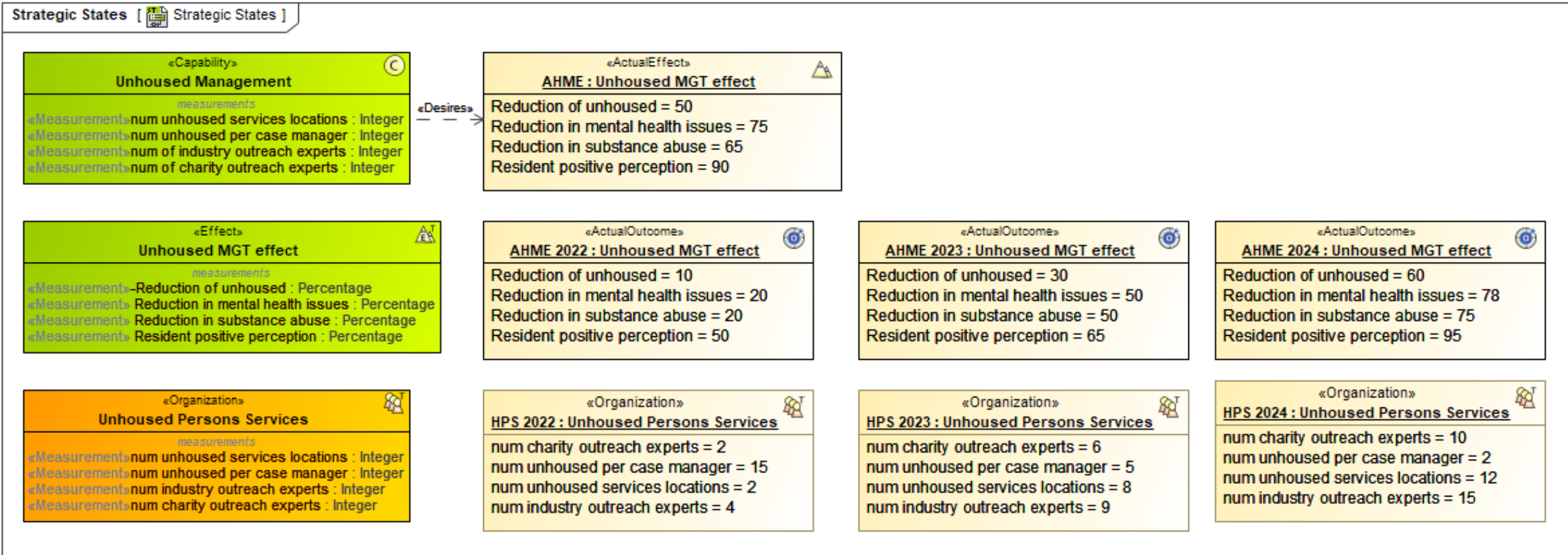


Smart Cities  
Initiative



# Strategy to Help Unhoused People and Improve Autoville





- By understanding the causes of unhoused residents, what the major events are, and the cycle of being involuntary unhoused, Autoville leaders can attempt to intervene and end the cycle.
- A specialized department will be created and funded with authority and responsibility to address the problem.
- Help will be provided with treatment, counseling, jobs and shelter.
- Funds made available will be used to improve the city.
- Autoville will monitor the situation to ensure that the money is well spent, and that the situation is improving for the both the city and the unhoused people.
- Understanding the human dimension allows us to evaluate technology that might help – people before systems.



# Call for Modelers!!

Reference  
Architecture  
Input

Solution  
Architecture  
Development

Interested? Contact us!

Jennifer Russell ([Jennifer.Russell@incose.net](mailto:Jennifer.Russell@incose.net))

Matthew Hause (on site)

Maria Romero (on site)

- Focus areas
  - Unhoused persons
  - Rural High-speed internet
  - Smart Grids