IOT PROJECT_PHASE2

PUBLIC TRANSPORT OPTIMIZATION

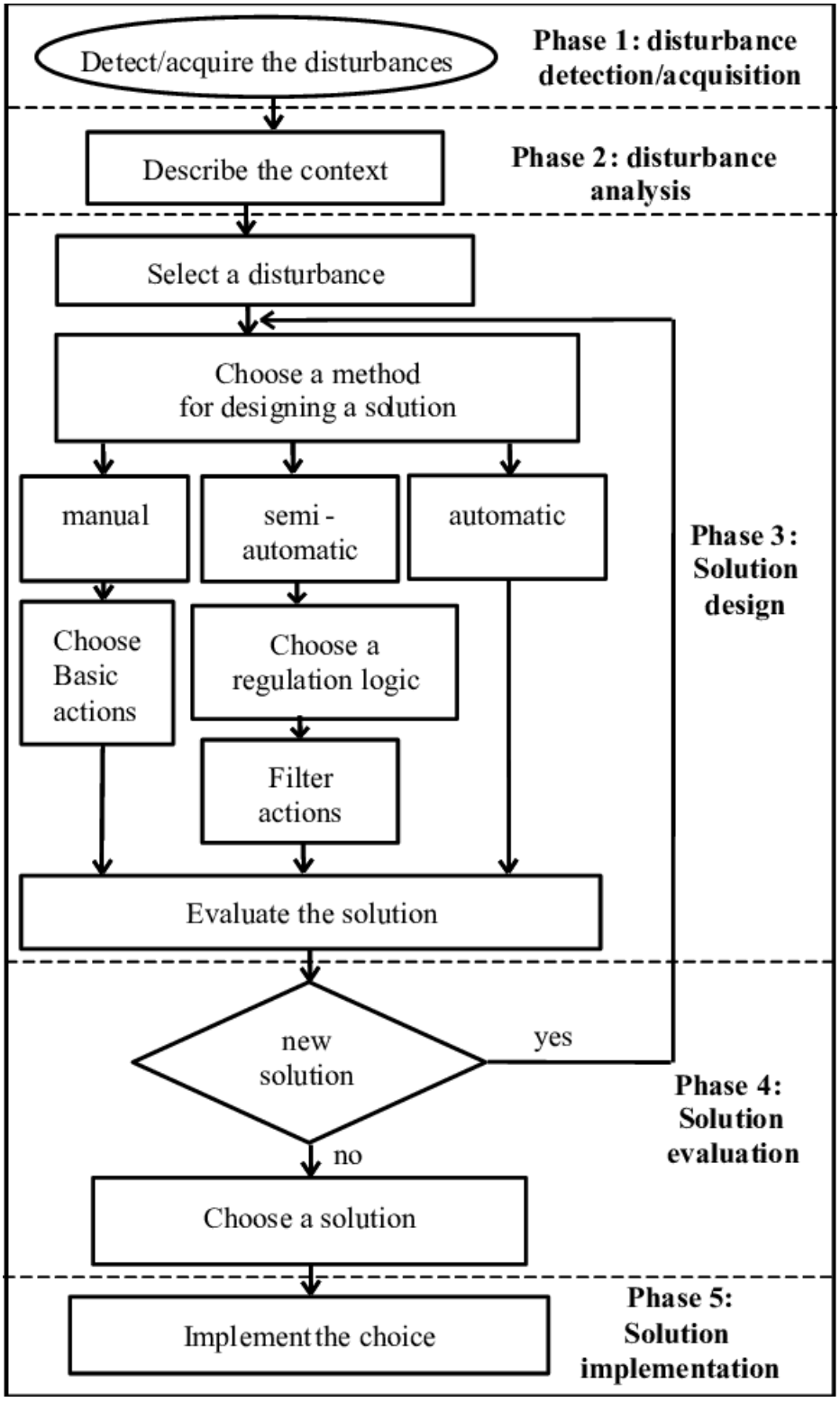
I. INTRODUCTION:

So far, not much attention has been given to the problem of improving public transportation networks. In many cities these networks have been built sequentially and do not fit to the needs of the users any more. The results are long travel times and an unnecessarily high number of people who have to transfer. Compared to other investments for improving the service level of public transportation systems, the costs of rerouting the public vehicles are low and can, yet, highly improve the performance of the system.

II. PRINCIPLE:

This document is based on a set of lecture notes prepared in 2007-2010 for a University of California, Berkeley graduate course, Public Transportation Systems, a course targeted to first year graduate students with diverse academic backgrounds. Systems are examined in order of increased complexity so that generic insights evident in simple systems can be put to use as knowledge building blocks for the study of more complex systems. The document is organized in eight modules: five on planning (general, shuttle systems, corridors, two dimensional systems, and unconventional transit); two on management (vehicles and employees); and one on operations (how to stay on schedule).

III. DESIGN PRINCIPLE(BLOCK DIAGRAM):



(BLOCK DIAGRAM)

IV. COMPONENT SELECTION:

1) Freight data

2) land use information
3) economic development
4) environmental data
5) historic preservation
6) recreation
7) tourism data
8) natural resources

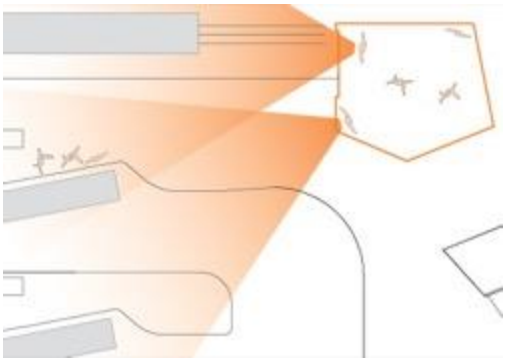
V. PROCEDURE(WORKING PRINCIPLE):

- **ensure convenient pedestrian and bicycle access to railway stations and public transport interchanges**

1. Provide continuous, direct pedestrian and bicycle access routes from the surrounding neighbourhood to railway stations and public transport interchanges.
2. Provide a continuous active frontage along pedestrian approach paths to railway stations and public transport interchanges.
3. Arrange pedestrian approach paths with clear sightlines to and from railway station buildings, and to and from public transport interchanges.
4. Where a bus or tram interchange is co-located with a railway station, connect them with a direct, sheltered pedestrian path.

- **ensure safety and amenity around railway stations and public transport interchanges**

1. Locate active public spaces and secondary uses adjacent to railway stations and public transport interchanges.
2. Locate public transport waiting areas, particularly pick-up and drop-off areas, and taxi ranks where they are clearly visible from the pedestrian approach paths and nearby buildings.
3. Where railway stations are co-located with a bus interchange, arrange waiting areas with clear views to approaching buses.



- **ensure comfortable and serviceable railway stations and public transport interchanges**

1. Provide weather protection, comfortable seating and public amenities, such as waste bins and drinking fountains.
2. Locate way finding signage at logical and visible points along approach paths to and within the railway station or public transport interchange.
3. Locate real–time travel information where it can be seen by waiting passengers in all light conditions.
4. Provide both casual and secure bicycle storage near the railway station or public transport interchange.

- **ensure the railway station or public transport interchange contributes to a sense of place and local character**

1. Develop a palette of materials, furnishings and plantings for public space within the railway station precinct or public transport interchange that is consistent with the preferred palette of the surrounding area.

- **effectively maintain public transport environs**

1. Establish a place management agreement that identifies management and maintenance responsibilities and processes.

VI. CONCLUSION:

Public transportation is more than just a means of getting from one place to another. It is a tool for urban development, social equity, and environmental sustainability. Despite the challenges it faces, with proper planning, sufficient funding, and the integration of advanced technologies, public transportation can continue to serve as a vital component of urban life, shaping our cities for the better.