

# Sustainable Manchester

## Conceptual Re-Design

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# Parameters

100% Renewable Energy

Zero Waste to Landfill

80% GHG Reduction

Car Free Living

Affordable

50,000 Residents

17,500 Jobs

# Infrastructures

Sustainable Housing

Renewable Energy

Waste Water Treatment

Smart Transportation

# Sustainable Housing Considerations

100% Renewable Energy  
Internally Managed  
Co-op Ownership  
Low Ecological Footprint  
Car Free Living  
Affordable  
Density: 175 Residents/ha

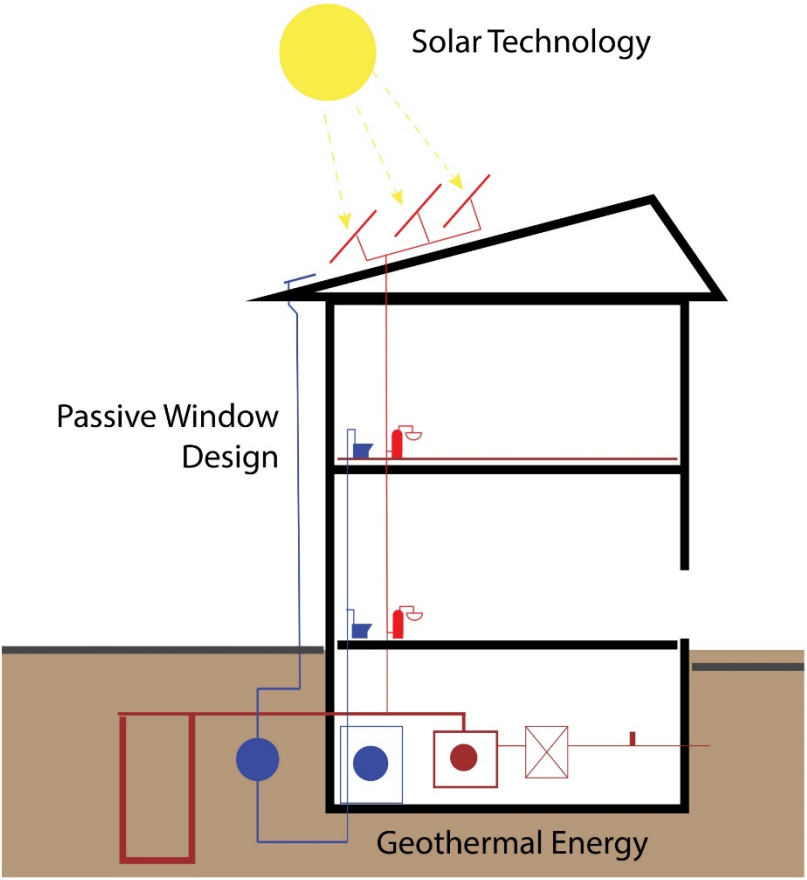
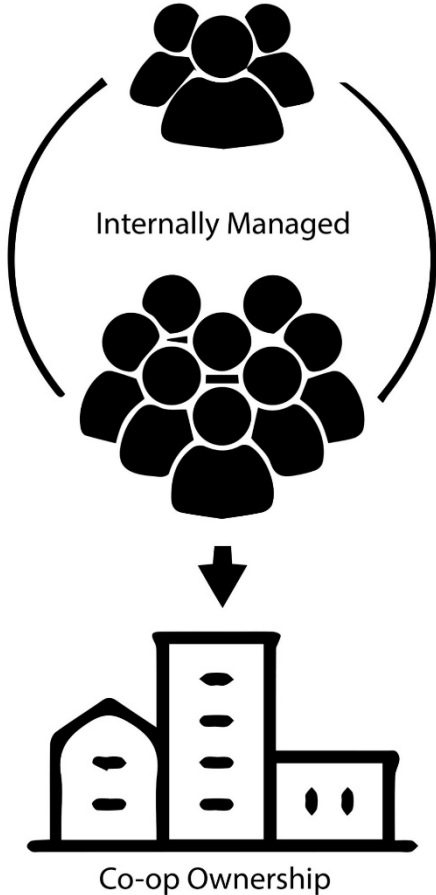


# Sustainable Housing



Co-op Housing, False Creek, Vancouver, BC

# Sustainable Housing

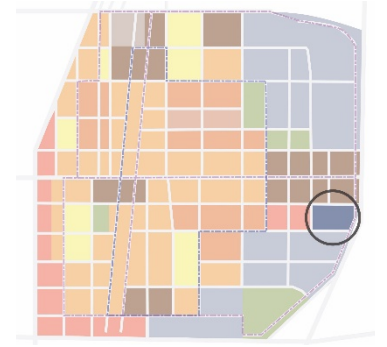


# Renewable Energy Considerations

Biogas

Solar

Geothermal





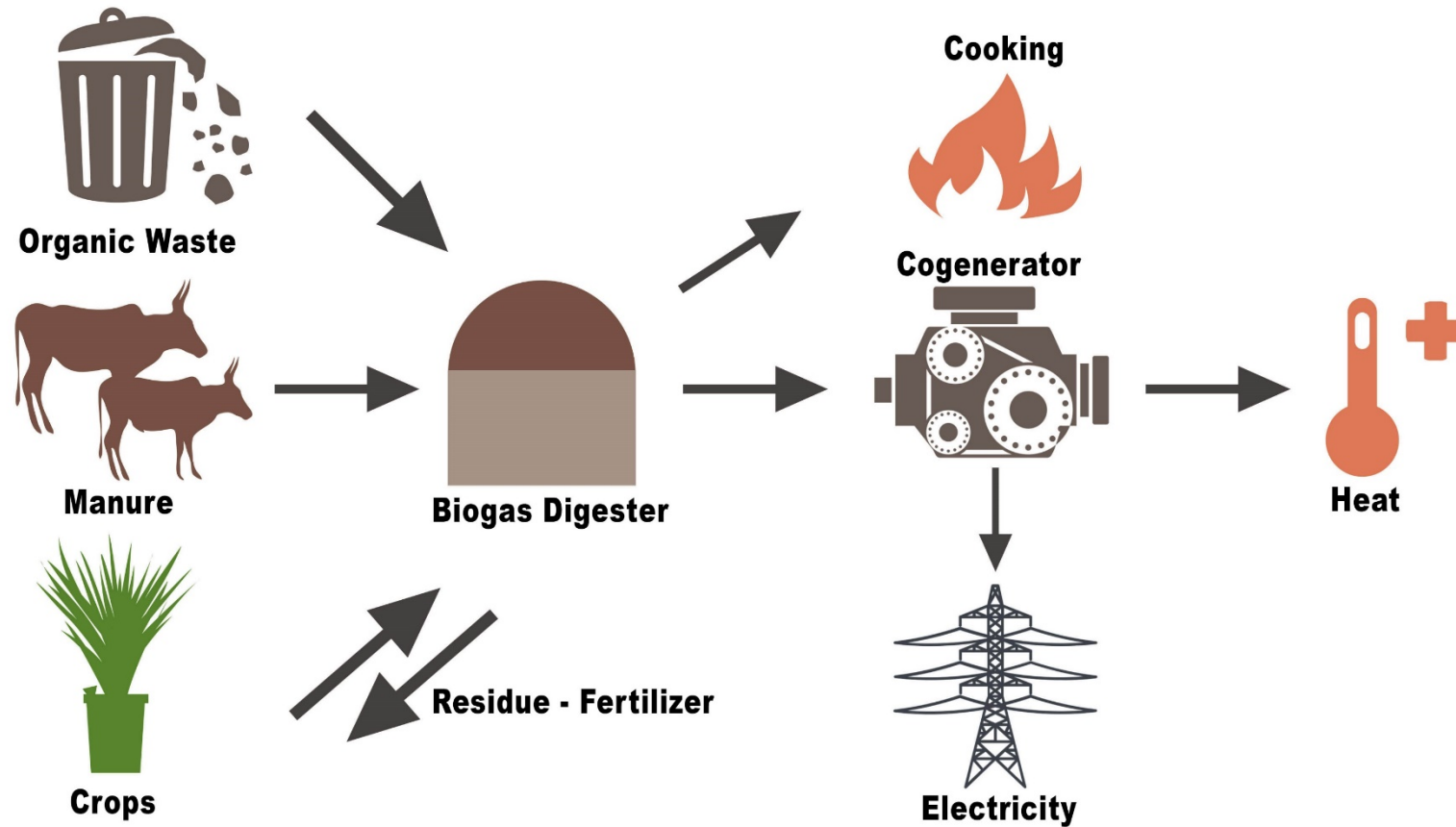
# Renewable Energy



Biogas Plant, Lethbridge, Alberta

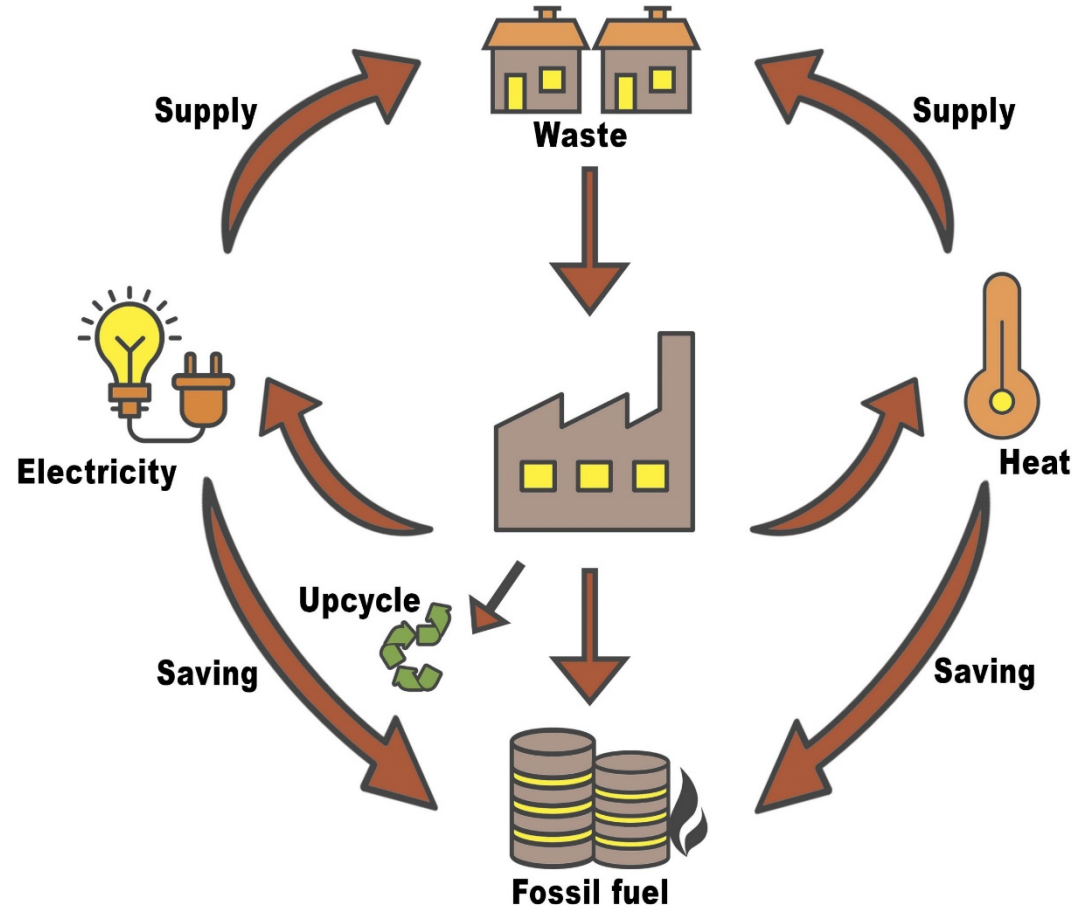


# Renewable Energy



Biogas Diagram

# Renewable Energy



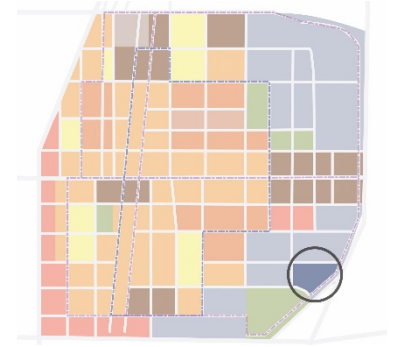
Biogas Diagram

# Water Considerations

Wastewater Treatment Plant as a Botanical Garden

Stromwater management (Sponge City)

Stromwater management (Bioswale)

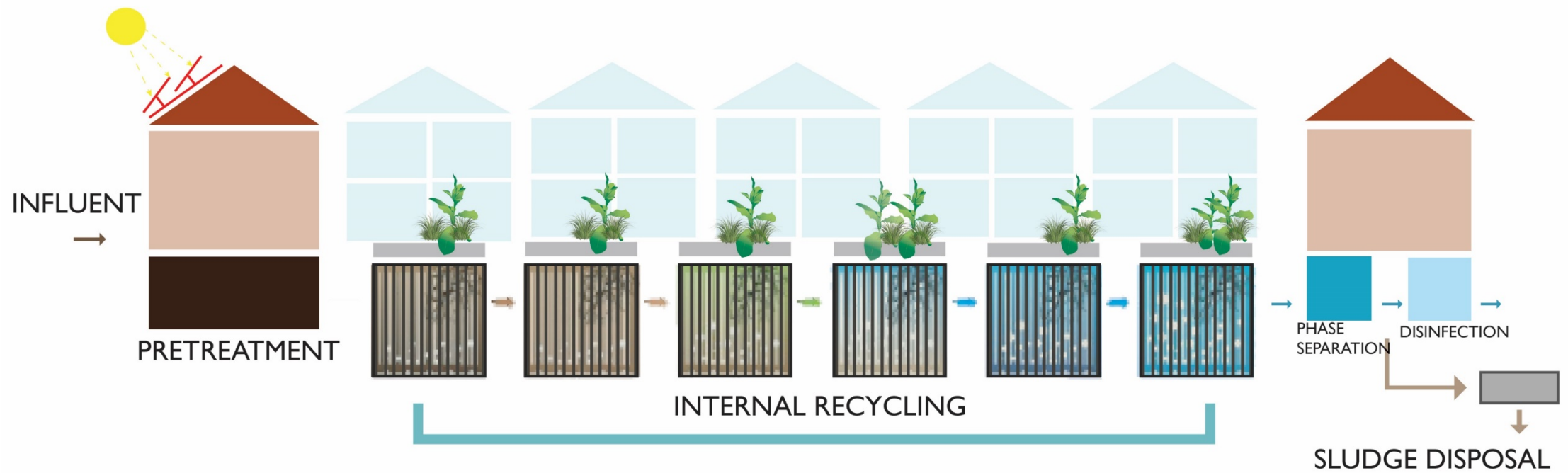


# Waste Water Treatment



Sechelt Water Resource Centre, Vancouver, BC

# Waste Water Treatment



Waste Water Treatment Plant as a Botanical Garden



# Stormwater as an Opportunity



Sponge City, Qunli Stormwater Park, Harbin, China (Turenscape)



# Stormwater as an Opportunity



Bioswale, Chelsea, New York, USA

# Smart Transportation Considerations

Pedestrian and Cycle Friendly Streets

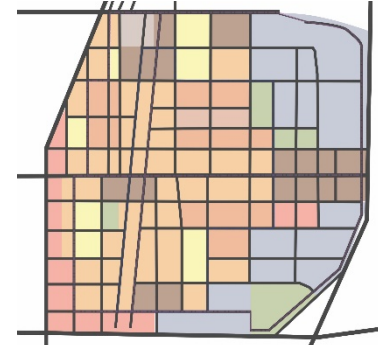
Internal Public Transportation

Shared Mobility Hubs

Street Hierarchy Equity

Waste Disposal Aggregator

Delivery Time and Route Limitations



# Smart Transportation

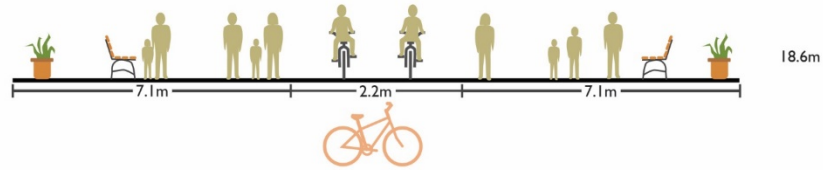


Pedestrian and Cycle Only Street, Copenhagen, Denmark

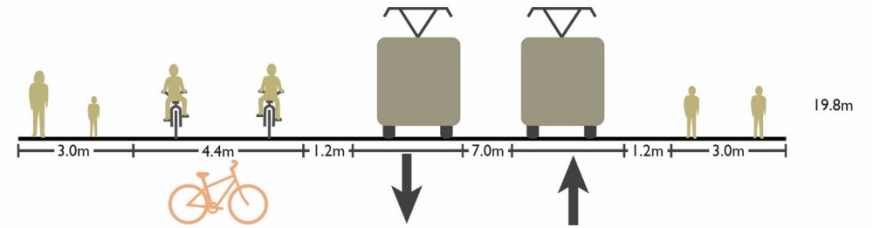


# Smart Transportation

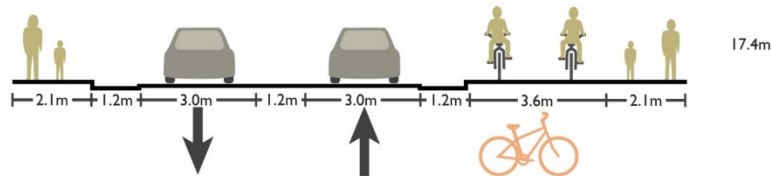
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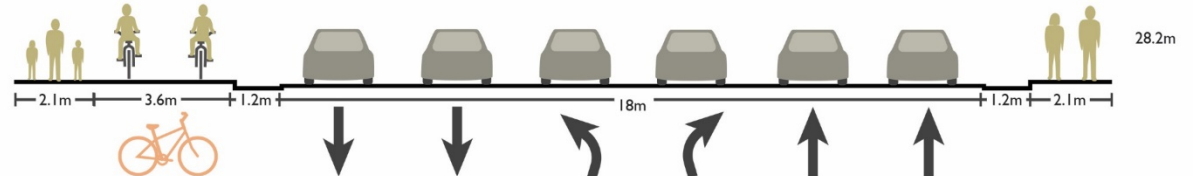
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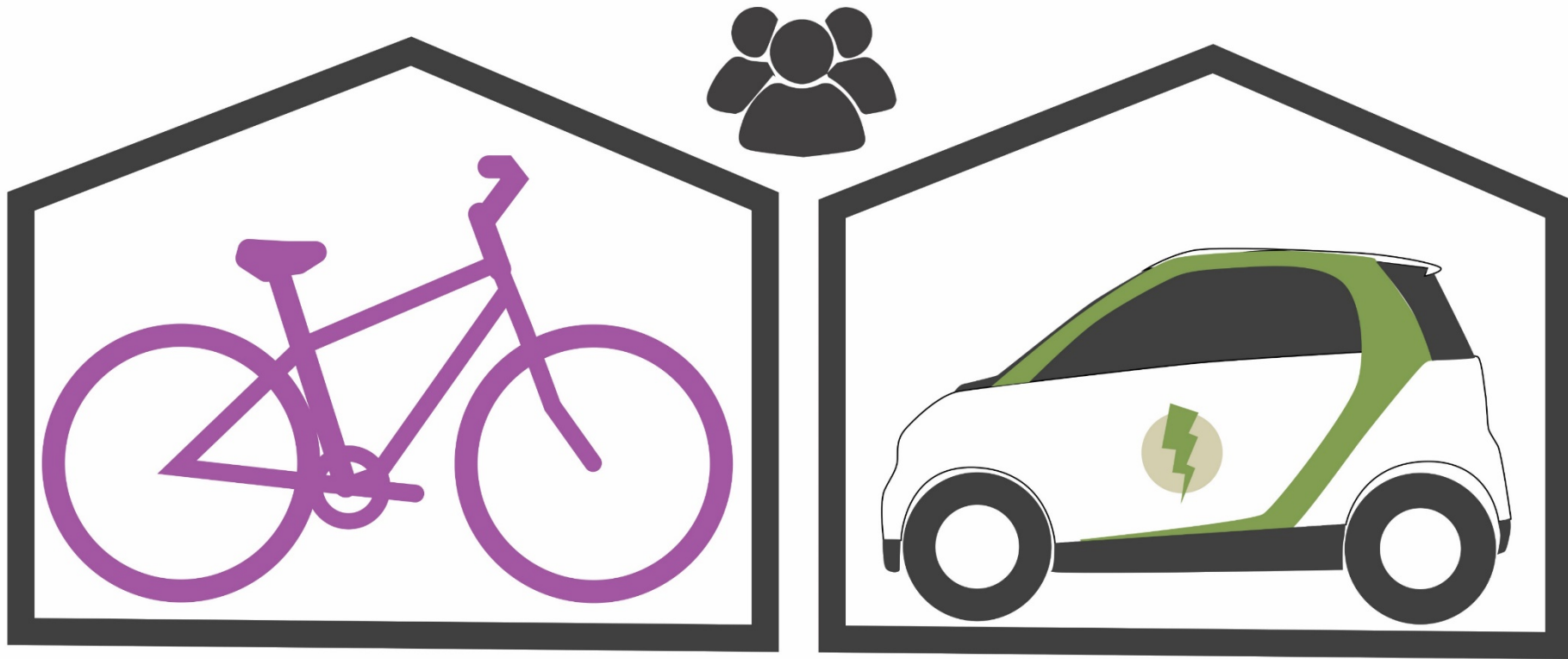


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Proposed Street Profiles

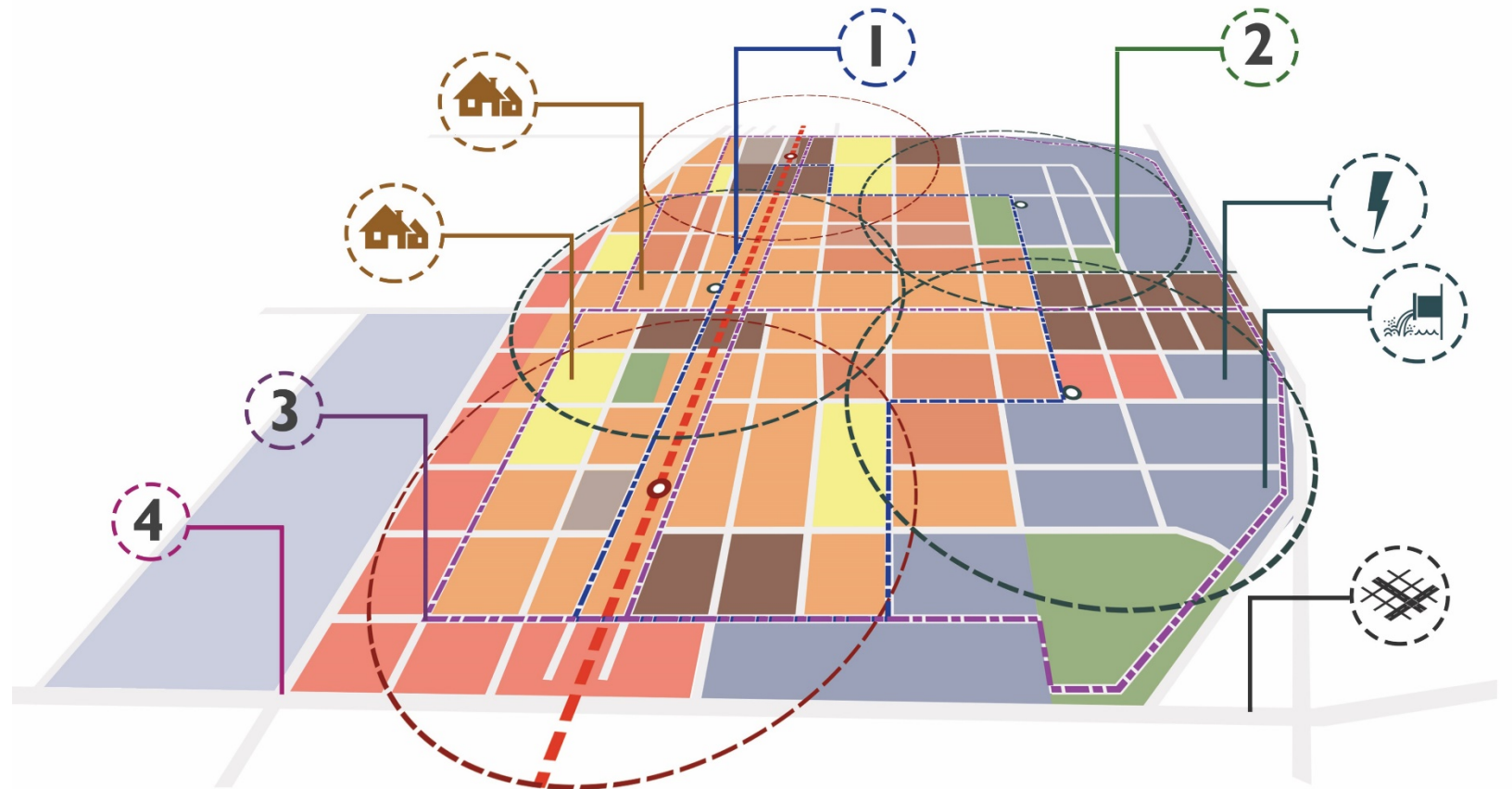
# Smart Transportation



Shared Mobility Hubs

# Concept Design Plan

- Semi-Detached Residential
- Mixed Use Multi-Residential
- High-Rise Apartment
- Townhouse
- Mixed Use Office
- Large Format Retail
- Light Industrial/Commercial
- LRT Station Public Space
- Open/Green Space
- LRT Walkshed
- Bus Walkshed
- Bus Route
- LRT Station
- Bus Stop





# Concept Design Jobs

Technicians

Gardeners/Parks Maintenance Crew

Electrician

Drivers

Construction Crew

Researchers

Maintenance Crew

Commercial/Retail Employees

Industrial Employees

Street Cleaners

Car Share Fleet

Garbage Collection Crew

Waste Maintenance Crew

Road Maintenance Crew

Building Owners/Maintenance Crew

Thank You!

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