

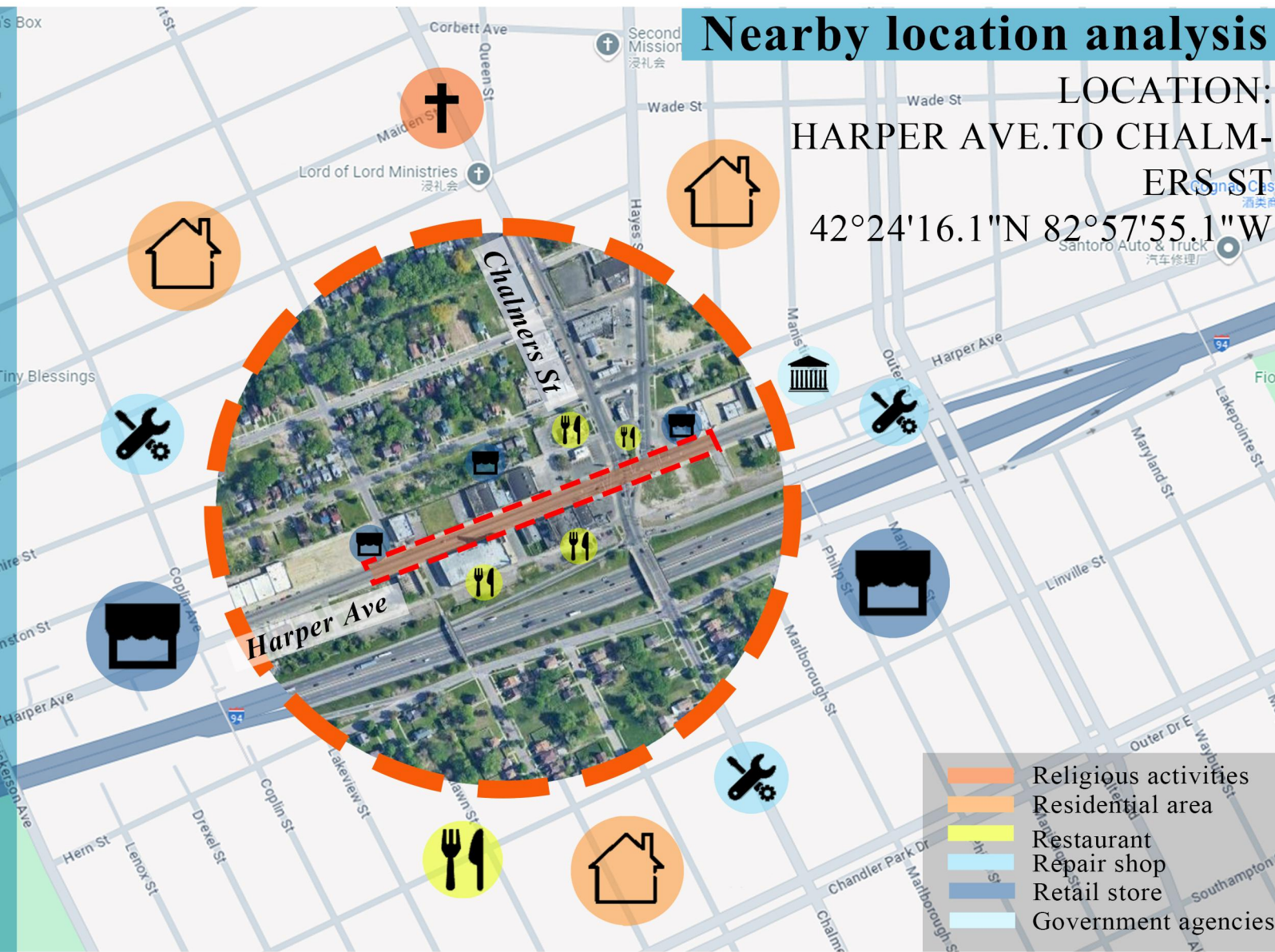
GEOGRAPHICAL LOCATION ANALYSIS

Location analysis



Nearby location analysis

LOCATION:
HARPER AVE. TO CHALMERS ST
42°24'16.1"N 82°57'55.1"W



The area is located at the intersection of Harper Avenue and Chalmers Street in Detroit, Michigan, adjacent to Interstate 94. It is primarily surrounded by residential neighborhoods, but also features a variety of different types of establishments, such as churches, repair service shops, retail stores, fast-food restaurants, artistic music halls, and government agencies performing public functions.

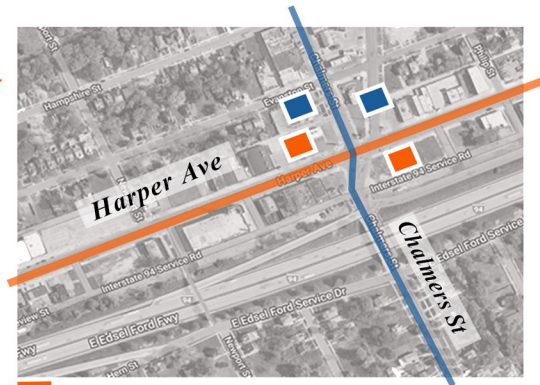
CURRENT STATUS OF THE SITE

TRAFFIC ANALYSIS



- Vehicular
- Pedestrian / Cyclist
- Expressway

BUS ROUTES AND STOPS



- 67 Bus Stop
- 68 Bus Stop
- 67 Cadillac-Harper
- 68 Chalmers

EXISTING BUSINESSES



- 1. Restaurant
- 2. Concert hall
- 3. Building
- 4. Hotel
- 5. Shop
- 6. Restaurant
- 7. Restaurant
- 8. Restaurant

ZONING & LAND USE



- R1-Single-family Residential District
- R2-Two-family Residential District
- B4-General Business District
- P1-Open Parking District

TIMELINE OF DETROIT

Middle history

From 1805 to 1847, Detroit was the capital of Michigan. At the end of the 19th century, Detroit ushered in a golden age of urban development.

Middle history

At the beginning of 2015, there was a significant rebound in the urban economy.



Early history

In 1701, Fort Pontchartrand on the Detroit River was established here. In 1796, according to the Jay Treaty, Detroit joined the United States of America.

Modern period

Detroit experienced a painful decline in the 1960s and 1970s. In the 1980s, the US economy was in a slump.



STREET PROBLEM ANALYSIS

SITE CONDITION ANALYSIS



1. Pedestrians jaywalking



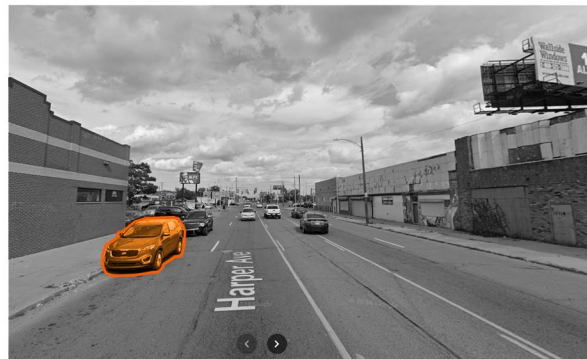
2. Roadside infrastructure such as signboards is poor



3. The bus station is simple and there is no rest area for passengers



4. Lack of planning for motor and non-motorized vehicle lanes

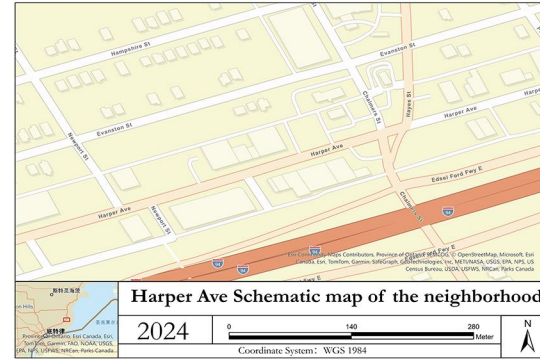


5. Vehicles parked randomly on the roadside



6. The traffic situation at the intersection is complicated and there is a lack of traffic diversion signs

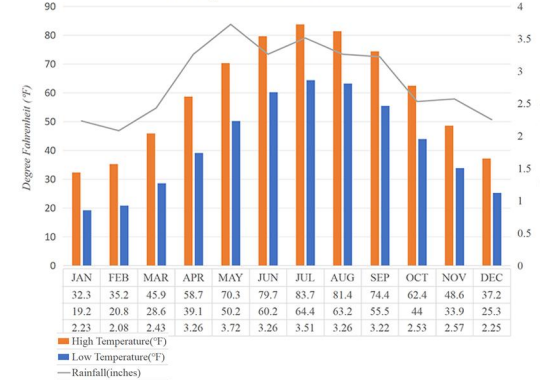
AREA MAP



Area map: This map uses online street basemap data provided by ArcGIS Pro. Harper Ave is located in the western part of the city of Detroit, and the design of the plates shows the location of Harper Ave and its adjacent streets.

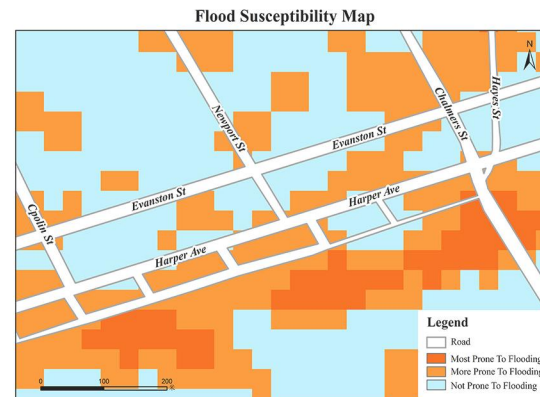
STATISTICAL CHART

Monthly maximum and minimum temperature and precipitation map for the city of Detroit in 2023



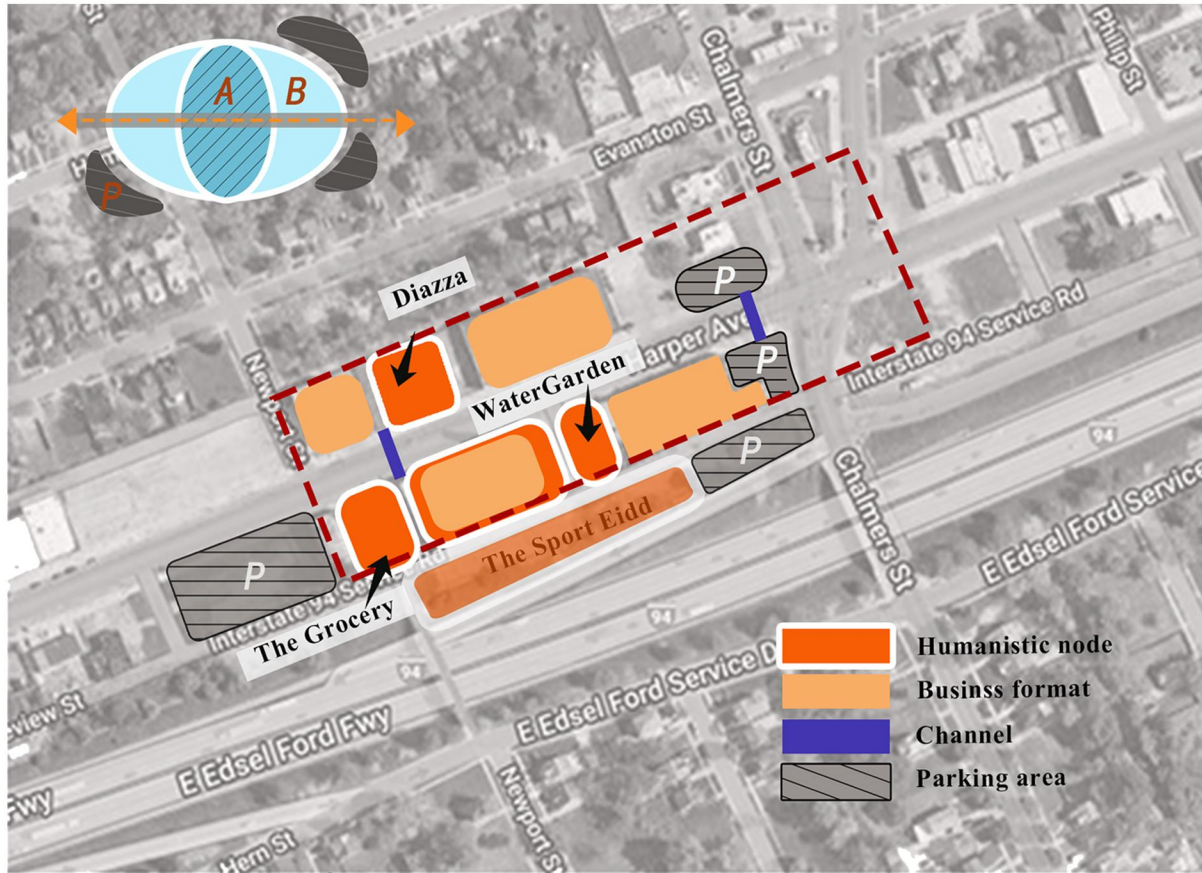
As you can see from the chart, the city of Detroit has a typical Midwestern United States temperate climate, with warm summers with more rainfall and cold winters with moderate snowfall. The highest temperature of the year is 83.7°F in July and the lowest temperature is 19.2°F in January. Overall, the city of Detroit has a more livable climate.

FLOOD SUSCEPTIBILITY

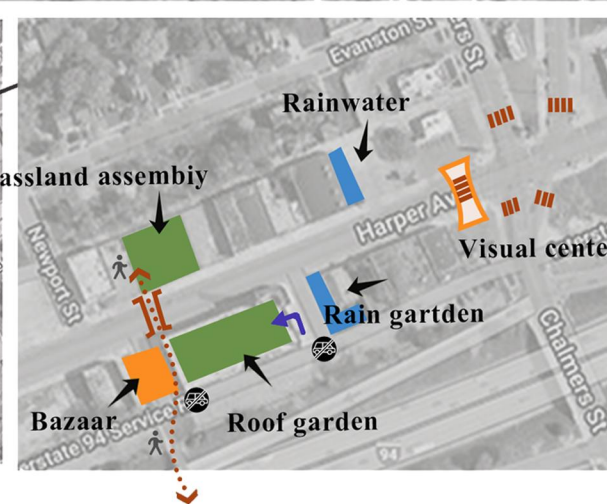
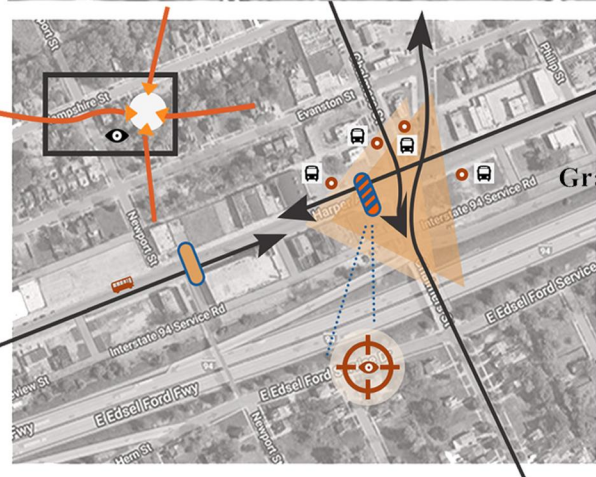


Where blue indicates that the area is less prone to flooding, and the redder the color indicates that the area is more prone to flooding. As you can see from the map, Harper Ave Street and its underneath are more prone to flooding, with the block being flooded on either side of the main lakewood ave.

STREET DESIGN STRATEGY

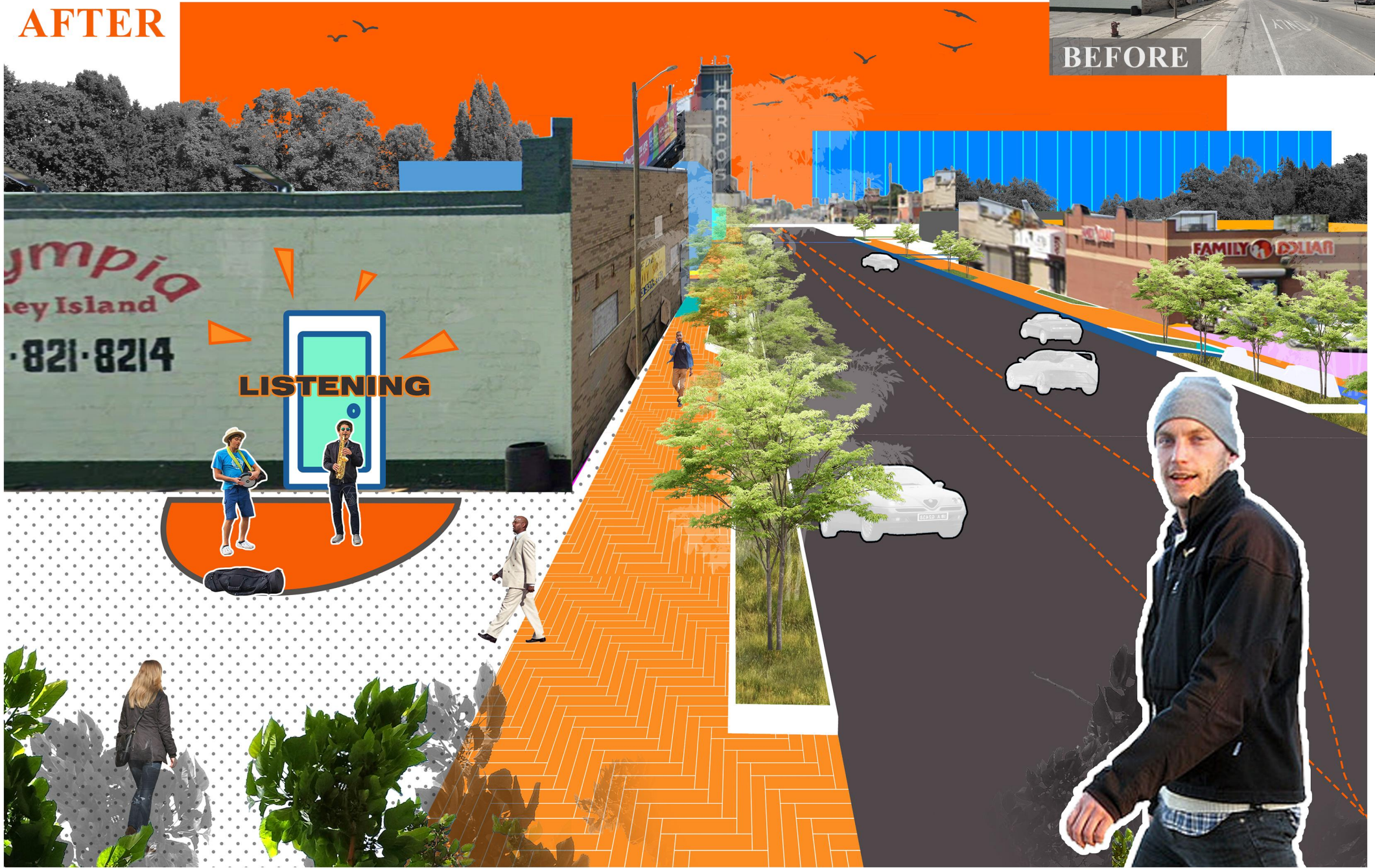


We divide the site into three layers for design. From inside to outside, they are humanistic nodes, basic business forms and public facilities. Visual focal points are set up at intersections through vehicle flow and population flow lines to attract people and increase the degree of stagnation. After analyzing the flow lines, we find that the traffic function of Street A is very weak. So Street B and Street C are set as non-traffic roads, and traffic lights and zebra crossings are set up at the T-junction. In this way, we have a pedestrian passage connecting the north and south sides on the west side of the site. According to this idea, we will set up various functional land such as bazaars, grassland rallies, urban balconies in roof spaces, rain gardens, and road greening in the site, thereby enhancing the vitality of the site and creating a multifunctional commercial street.

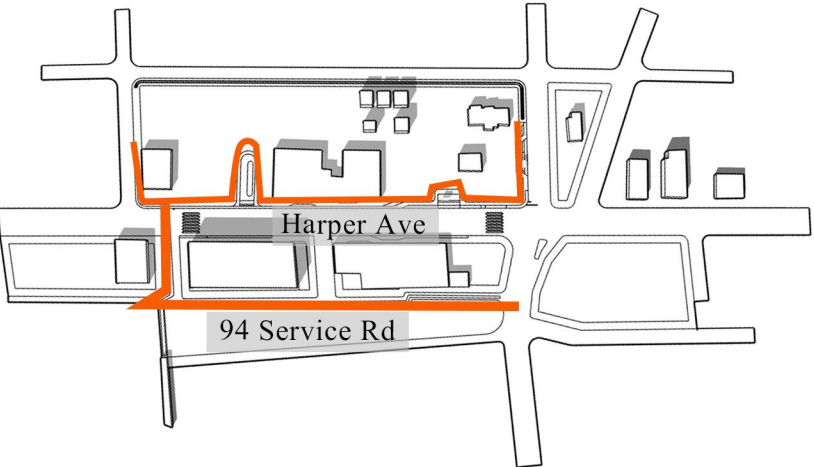


REVITALIZATION STREET

AFTER



REVITALIZATION STREET

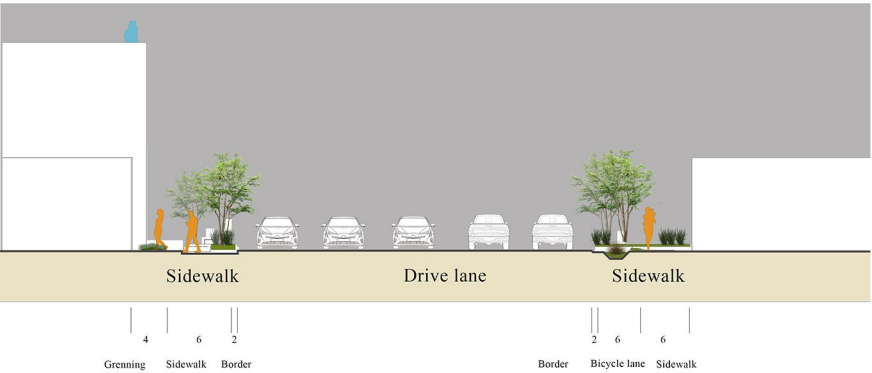


The traffic function of Interstate 94 Service Rd on the east side of the site has serious defects, which is difficult to play an effective role. Therefore, the plan sets the small Interstate 94 Service Rd street as an area only for pedestrians, thereby guiding vehicles to avoid the Interstate 94 Service Rd route and urging vehicles to concentrate on the main road Harper Ave, thus strengthening the traffic function of the main road. It also cuts Interstate 94 Service Rd's operating costs.

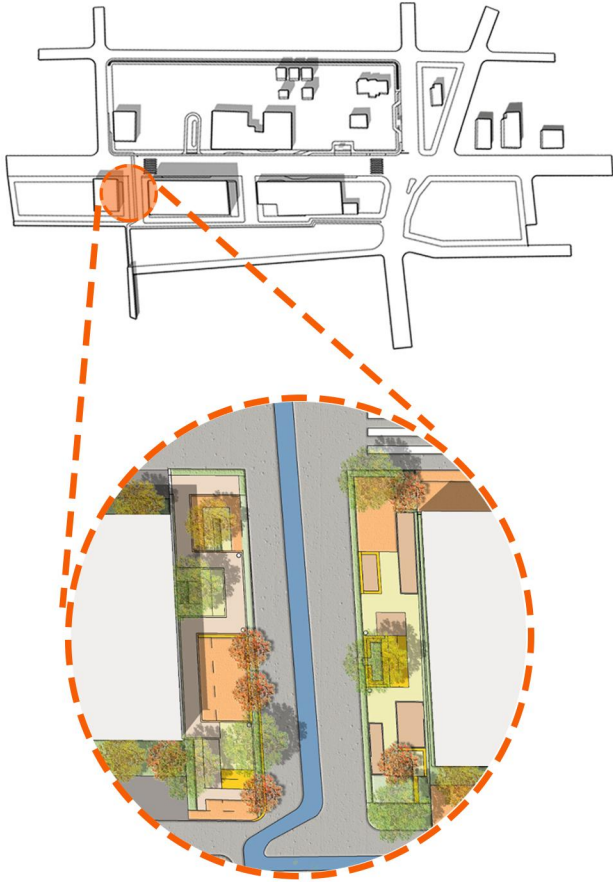
BEFORE



AFTER



FREE TRADE MARKET



Transform this vacant area into a lively market, set up multiple fashionable and mobile stalls, and create several sunken spaces for people to relax. Planting local specialty flowers and shrubs on both sides of the road and pedestrian walkways can effectively block the interference of road traffic on people in the market area. The terrain in this area is high in the north and low in the south. A drainage culvert has been laid underground from north to south, and plants have been planted above the culvert, which effectively stores and utilizes rainwater and reduces the risk of flooding.

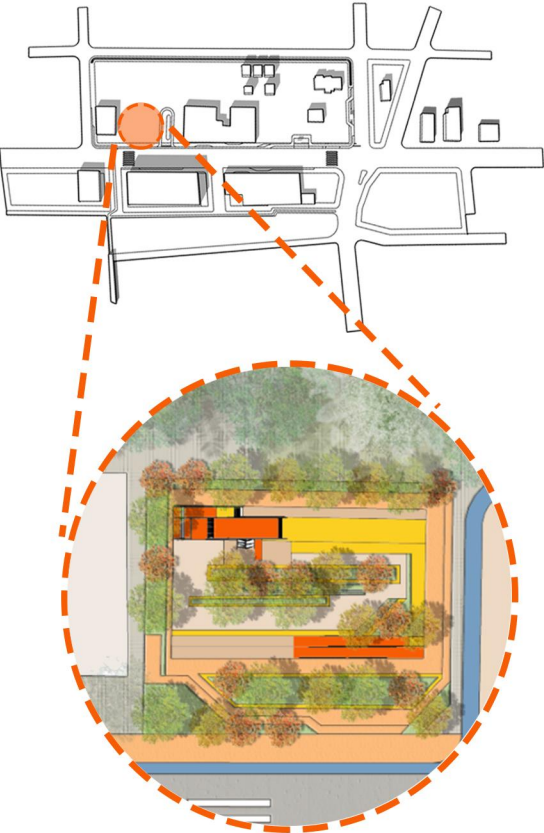
AFTER



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LIVABLE GREEN SPACE

The plot is located between two shops, providing nearby residents with a place to relax after busy work and life. This makes the neighborhood more suitable for the life and travel of local residents.



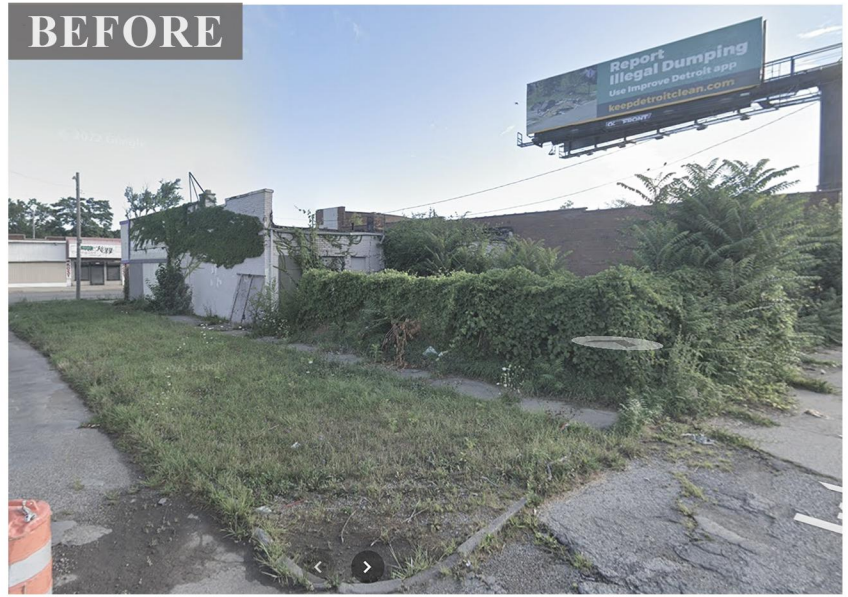
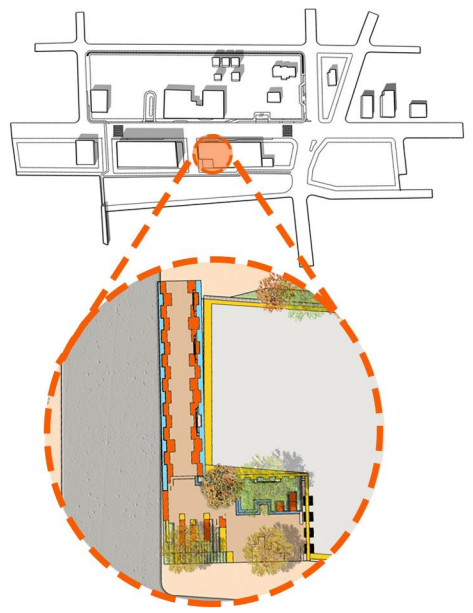
AFTER



BEFORE



RAIN AND FLOOD BUFFER ZONE



Rain garden design

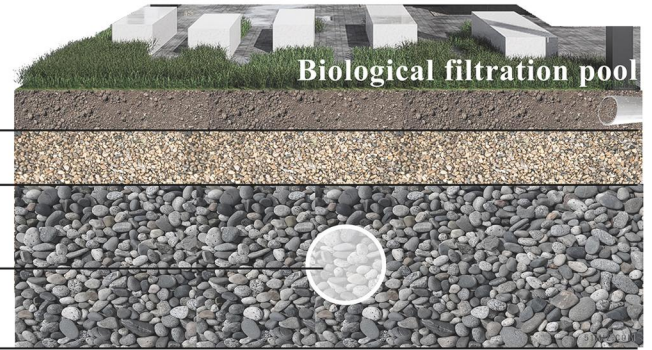


This site is located in a low-lying area within the community, and water from all around flows here. Rainwater flows into the bioretention pond through the streets and sidewalks. The structure design of the pond allows rainwater to be effectively collected and diverted according to certain flow directions and proportions.

- Planting soil layer
- Reservoir
- Permeable brick

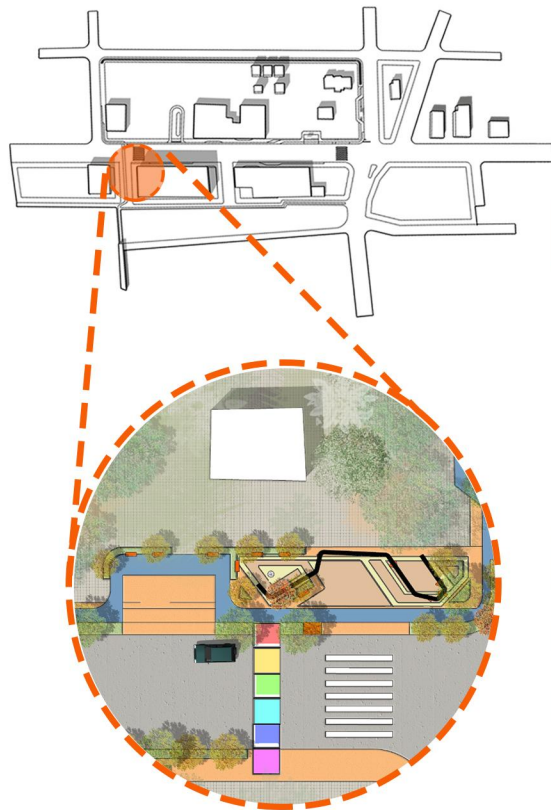
When environmental conditions, original soils, or other factors limit infiltration, a design with an impermeable sub-base and drainage system can be constructed to collect rainwater, filter it through the soil medium, and direct the purified water to a designated location using underground pipes.

- Covering layer
- Sand and gravel layer
- Perforated pipe
- Grayelbed

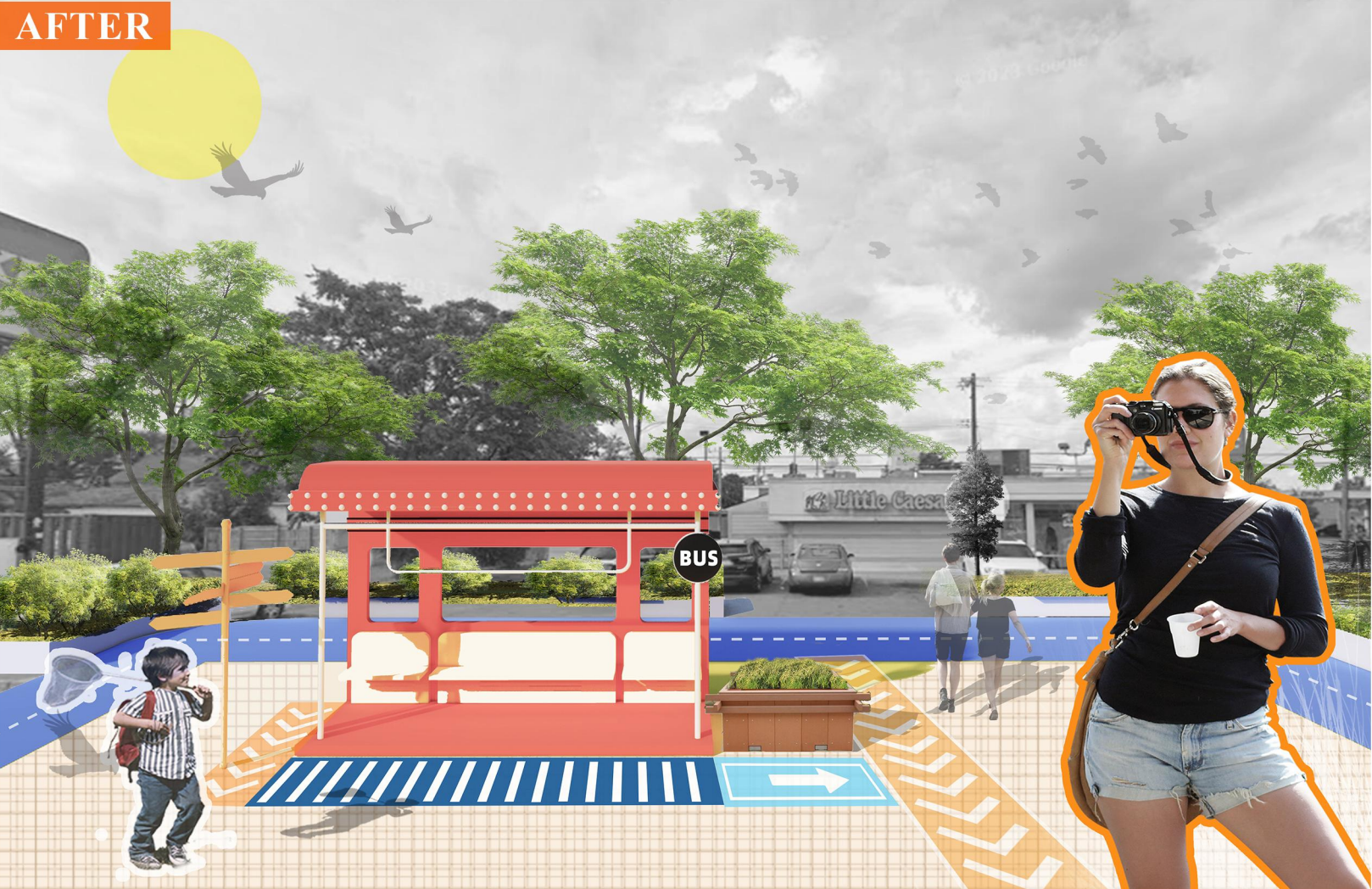


BUS STATION

The existing bus stations are too old to meet the functional and aesthetic needs. In view of this, a new bus station is built on the site to meet the functional needs of the block, while giving a new community appearance, and the bus station can fit the theme of the block.



AFTER



BEFORE

