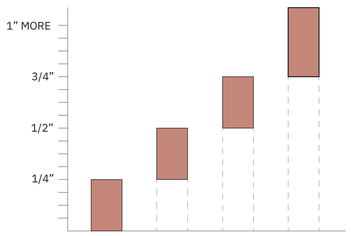
LOS ANGELES **INFRASTRUCTURE**
ROAD & SIDEWALKS

"FOR EVERY CUBIC METEER OF CONCRETE USED, WE GENERATE 100 TO 300 KG OF EMBODIED CO2."

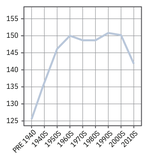
The rapid growth of urban centers leaves little room, and time, to adequately receive the population influx. Buildings are demolished and rebuilt, while informal communities burgeon with new dwellers. The construction debris generated in the wake of redevelopment projects is exponentially increasing, in some cases annually resulting in millions of tons. This rate of dangerous development begs to be relinquished. Our building and construction system have failed us.

1. Clifford, Brandon. The Cannibal's Cookbook, 2017.

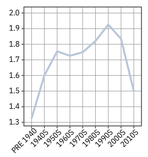


PAVEMENT CONDITION INDEX

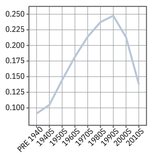
AVERAGE STREET LENGTH



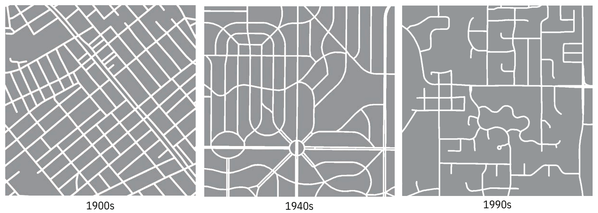
VEHICLES PER HOUSEHOLD



DEAD-END PROPORTION



*STREET GRID **CHANGES** OVER TIME*



Early 20th-century urban planning favored dense, interconnected, walkable grids. However, post-World War II, there was a shift towards car-centric suburban development with more circuitous layouts. This trend culminated in the 1990s with the dominance of disconnected, dendritic, car-dependent sprawl. Indicators of street network design (griddedness, connectedness, density, and straightness) consistently declined from their pre-war peak through the 1990s, regardless of the estimation method used. Notably, these negative trends have reversed in the past two decades.

Pre-1940 urban areas exhibit significantly higher griddedness (84% more) and lower proportions of dead-ends (163% less) compared to 1990s urban areas. Street networks in the earlier period were also finer-grained, with double the intersection density and 20% shorter street segments. However, since 2000, griddedness and similar indicators have rebounded to levels comparable to the mid-20th century.

2. "Off the Grid...and Back Again?", Geoff Boeing, https://geoffboeing.com/2020/11/off-grid-back-again/

Vancouver, Canada
1,273 miles away

Irwindale, CA
20 miles away

WHERE DOES **CONCRETE GO?**

The city of Los Angeles gives a list of construction and demolition debris approved recycling facilities. It goes to the recycling facilities. There are three locations near project site.

3 locations near project site:

- 3720 Noakes St., Los Angeles, CA 9002 (3 miles away from the project site)
- 2221 E Washington Blvd., Los Angeles, CA 90021 (3 miles away from the project site)
- 6510 Stanford Ave., Los Angeles, CA 90001 (7 miles away from the project site)

The concrete chunks will put through the crushing machine then filtered again for enhanced purity. The recycled concrete is used in numerous applications including:

- Gravel for new construction projects
- Dry aggregate for making new concrete
- Riprap revetments for controlling strembank erosion
- As an attractive substitute for landscaping mulch or stone
- As crushed concrete to create retaining walls and privacy screening walls

4. "Facility List," Public Works, https://pw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf

17 81 The establishment of the original settlement laid the groundwork for the street grid and urban development of Los Angeles. The initial layout, centered around the Plaza, dictated the orientation of some of the earliest streets.

18 49 Following the U.S. acquisition of California, Ord's survey provided a formal plan for the city's streets, extending and confirming existing routes. This was crucial for the city's first real estate boom.

18 86 The extension of Los Angeles Street eliminated the alley and today the site adjoins the Hollywood Freeway.

18 91 The very first concrete street in Los Angeles history was paved in 1891. The first paved streets are Main, Spring, and Fort (now Broadway).

19 22 The increasing popularity of automobiles necessitated better road infrastructure. This era saw the initial paving and improvement of key streets to accommodate motorized vehicles.

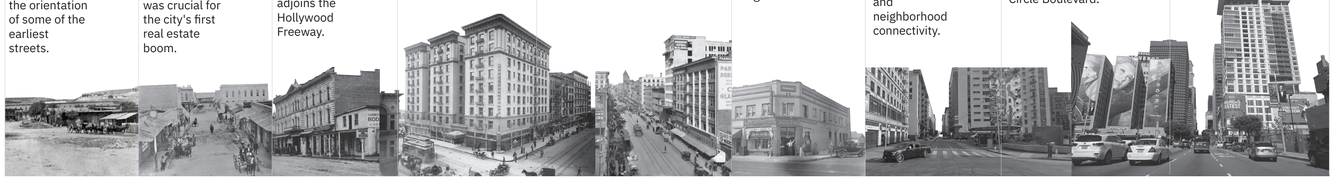
19 30 Development of Iconic Boulevards like Wilshire and Sunset: These grand boulevards became central arteries of the city, shaping commercial and residential development and embodying the image of Los Angeles.

19 50 The extensive development of the freeway system dramatically altered the landscape and usage of surface streets, for better and worse, impacting traffic patterns and neighborhood connectivity.

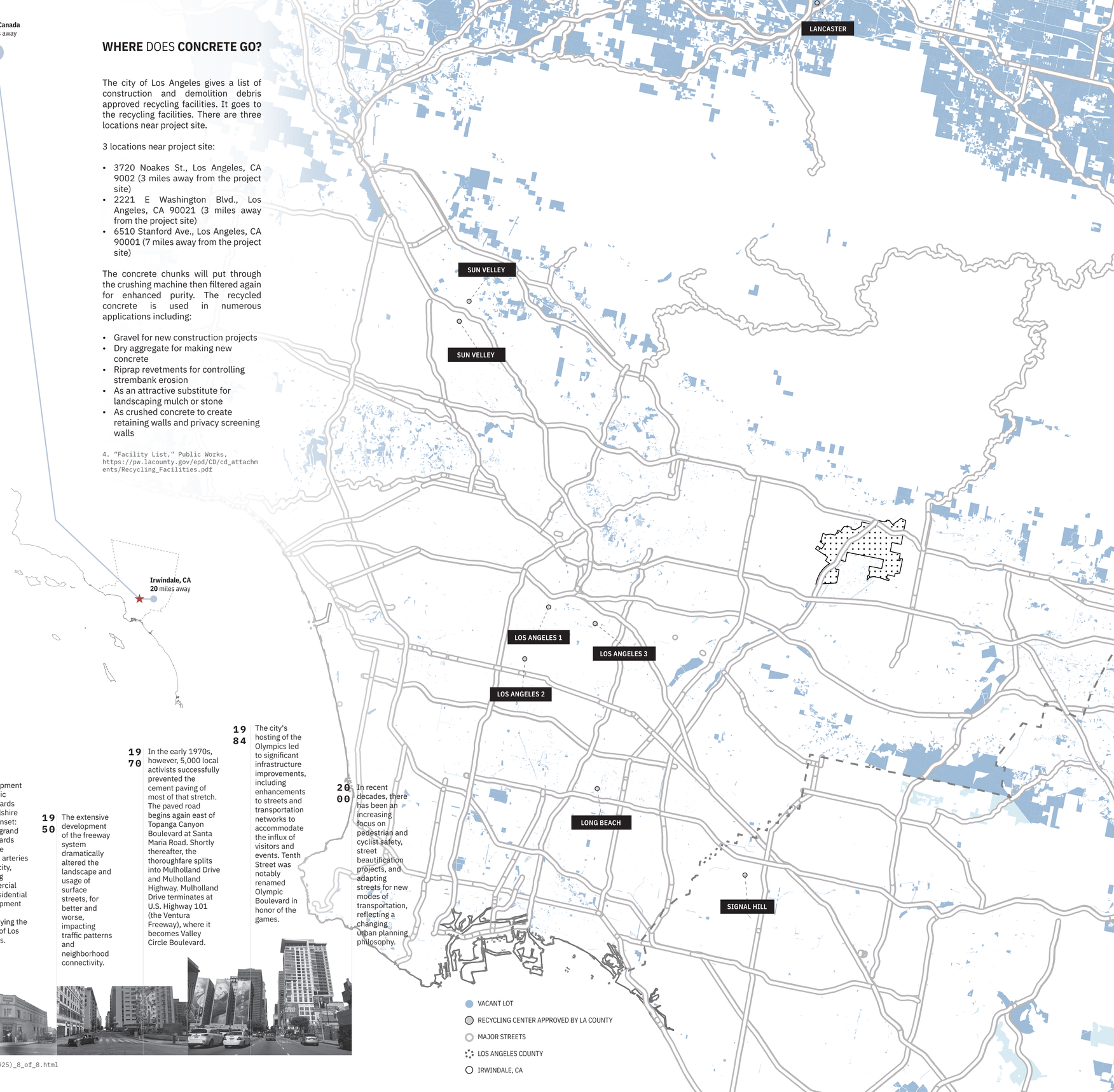
19 70 In the early 1970s, however, 5,000 local activists successfully prevented the cement paving of most of that stretch. The paved road begins again east of Topanga Canyon Boulevard at Santa Maria Road. Shortly thereafter, the thoroughfare splits into Mulholland Drive and Mulholland Highway. Mulholland Drive terminates at U.S. Highway 101 (the Ventura Freeway), where it becomes Valley Circle Boulevard.

19 84 The city's hosting of the Olympics led to significant infrastructure improvements, including enhancements to streets and transportation networks to accommodate the influx of visitors and events. Tenth Street was notably renamed Olympic Boulevard in honor of the games.

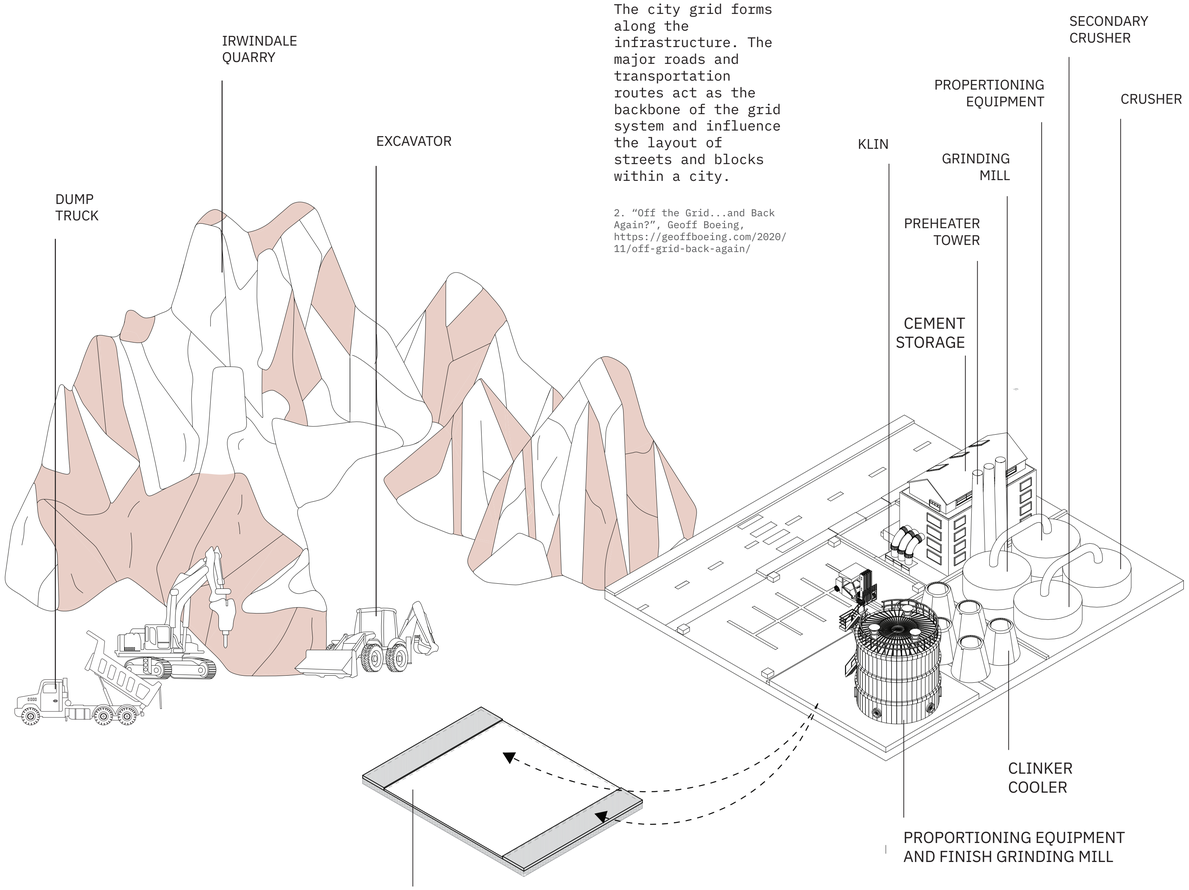
20 00 In recent decades, there has been an increasing focus on pedestrian and cyclist safety, street beautification projects, and adapting streets for new modes of transportation, reflecting a changing urban planning philosophy.



3. "Early Los Angeles City Views," Water and Power Associates, https://waterandpower.org/museum/Early_City_Views%20(1900%20-%201925)_8_of_8.html



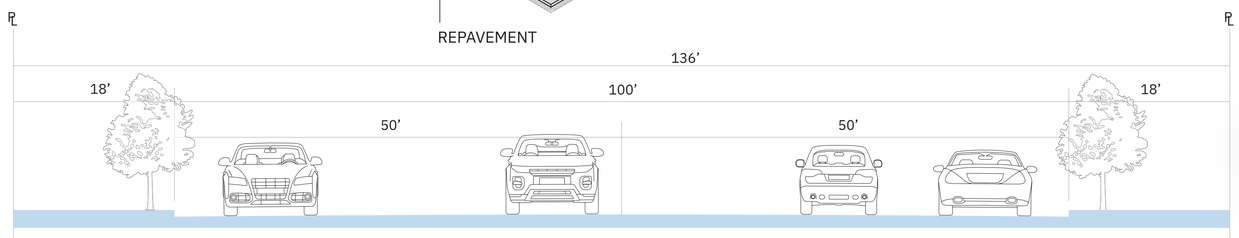
STREETS THAT NEEDS TO BE REPAVED



The city grid forms along the infrastructure. The major roads and transportation routes act as the backbone of the grid system and influence the layout of streets and blocks within a city.

2. “Off the Grid...and Back Again?”, Geoff Boeing, https://geoffboeing.com/2020/11/off-grid-back-again/

DEAD END LOCATIONS



STREET ***& WEIGHT***

OVERALL

It is difficult to provide exact quantity of concrete used for streets in Los Angeles County, but according to Bureau of Street Services, the City of Los Angeles has approximately **6,500 miles of streets**, with 5,840 miles paved with asphalt concrete and 493 miles with Portland cement concrete.

Bureau of Street Services performs nearly all resurfacing and reconstruction of residential and major streets and alleys averaging up to **200 miles of resurfacing per year.** (5)

5. “Custodian Citys Street System,” Los Angeles Streets LA, https://streetsla.lacity.org/bureau-street-services-custodian-citys-street-system#:~:text=It%20performs%20nearly%20all%20resurfacing,subways%2C%20tunnels%20and%20public%20walkways.

BOULEVARD

FOR STREET:	FOR SIDEWALK:
5280 ft. x 100 ft. = 528,000 sq. ft.	5280 ft. x 18 ft. = 95,040 sq. ft.
528000 sq. ft. x 0.5 ft. = 264,000 cu. ft.	95,040 sq. ft. x 0.92 ft. = 87,436.8 cu. ft.
9777.8 cu. yd. using for street	3,238.4 cu. yd. using for one side walk 6,476.8 cu. yd. for both side walks

TOTAL: **16,254.6 cu. yd.** needed

AVENUE

FOR STREET:	FOR SIDEWALK:
5280 ft. x 70 ft. = 369,600 sq. ft.	5280 ft. x 15 ft. = 79,200 sq. ft.
369,600 sq. ft. x 0.5 ft. = 184,800 cu. ft.	79,200 sq. ft. x 0.92 ft. = 72,864 cu. ft.
6,844 cu. yd. using for street	2,698.7 cu. yd. using for one side walk 5,397.4 cu. yd. for both side walks

TOTAL: **12,241.4 cu. yd.** needed

COLLECTOR STREET

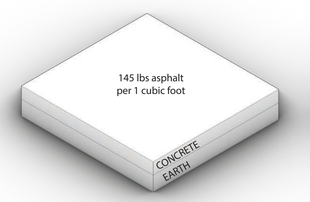
FOR STREET:	FOR SIDEWALK:
5280 ft. x 40 ft. = 211,200 sq. ft.	5280 ft. x 13 ft. = 68,640 sq. ft.
211,200 sq. ft. x 0.5 ft. = 105,600 cu. ft.	68,640 sq. ft. x 0.92 ft. = 63,148.8 cu. ft.
3,911 cu. yd. using for street	2,338.8 cu. yd. using for one side walk 4,677.6 cu. yd. for both side walks

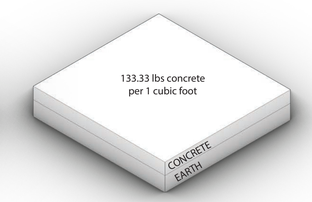
TOTAL: **8,588.6 cu. yd.** needed

LOCAL STREET

FOR STREET:	FOR SIDEWALK:
5280 ft. x 36 ft. = 190,080 sq. ft.	5280 ft. x 12 ft. = 63,360 sq. ft.
190,080 sq. ft. x 0.5 ft. = 95,040 cu. ft.	63,360 sq. ft. x 0.92 ft. = 58,291.2 cu. ft.
3,520 cu. yd. using for street	2,158.9 cu. yd. using for one side walk 4,317.8 cu. yd. for both side walks

TOTAL: **7,837.8 cu. yd.** needed



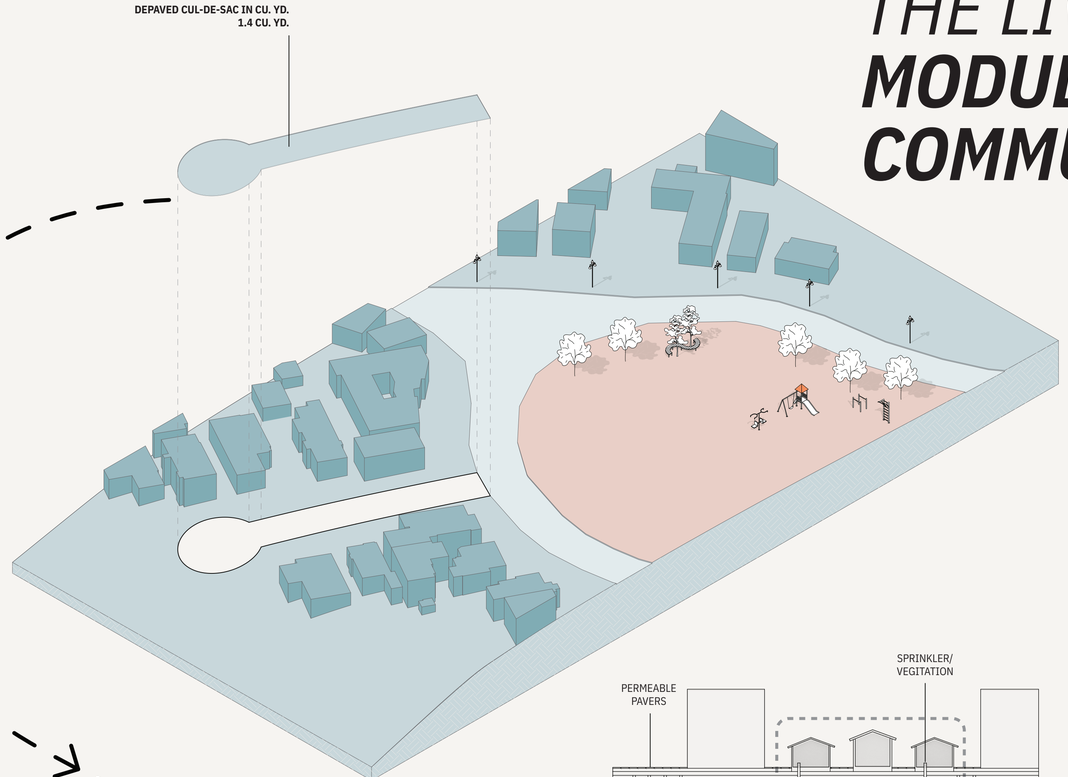


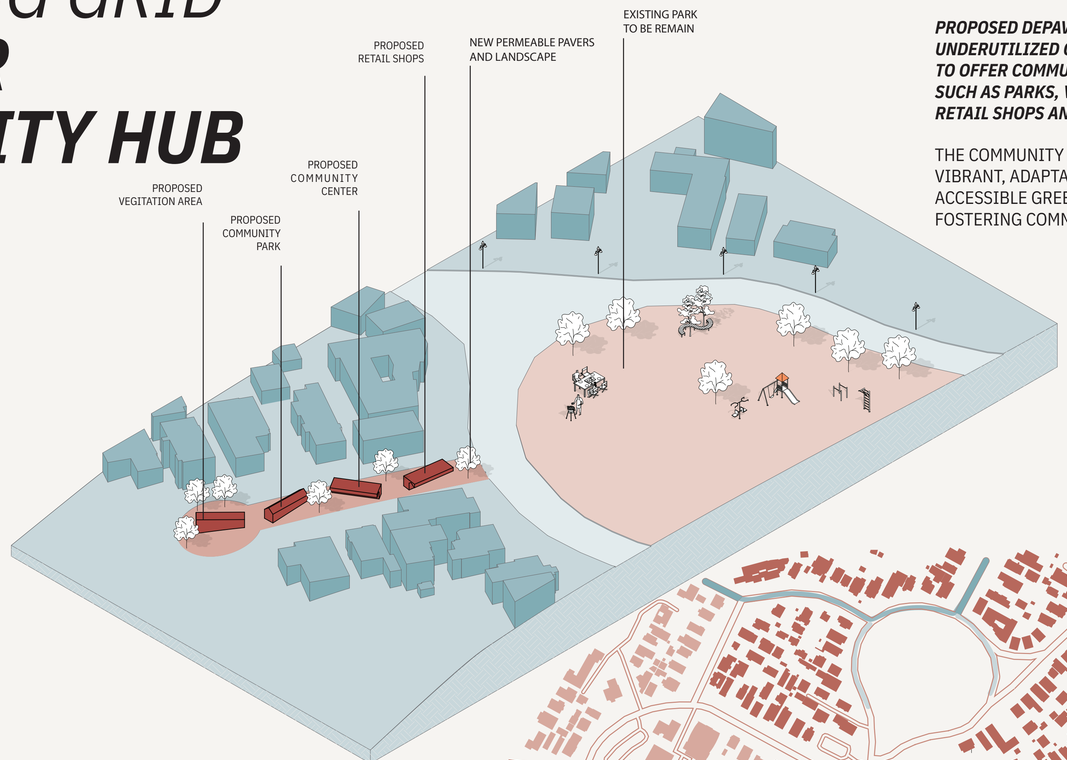
THE LIVING GRID
MODULAR COMMUNITY HUB

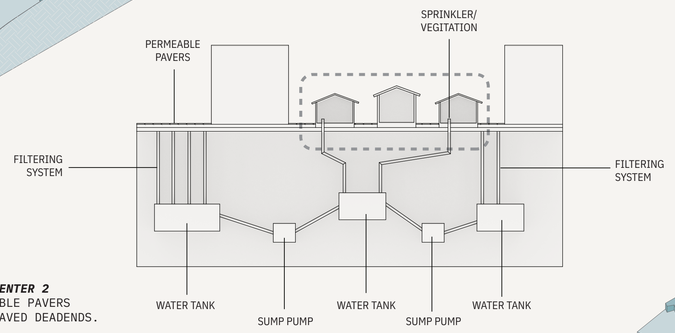
SITE A
BOYLE HEIGHTS

PROPOSED DEPAVEMENT OF UNDERUTILIZED CUL-DE-SAC TO OFFER COMMUNITY SPACE SUCH AS PARKS, VEGITATION AREAS, RETAIL SHOPS AND COMMUNITY CENTER.

THE COMMUNITY HUB WILL VIBRANT, ADAPTABLE PARKS, OFFERING ACCESSIBLE GREEN SPACES, AND FOSTERING COMMUNITY INTERACTION.







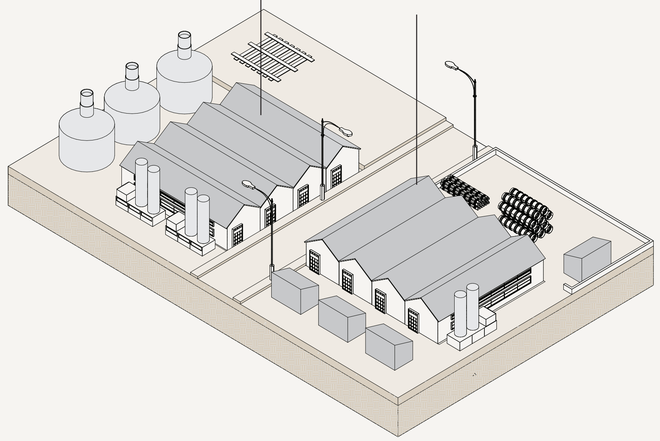
DESIGN PROPOSAL

THE PROPOSED PROJECT ENVISONSS A DUAL TRANSFORMATION: THE REVITALIZATION OF AN UNDERUTILIZED STREET INTO A DYNAMIC COMMUNITY HUB AND THE SUSTAINABLE REHABILITATION OF MAJOR ROADWAYS THROUGH THE RESOURCEFUL REUSE OF DEPAVED MATERIALS. THIS INTERCONNECTED APPROACH BEGINS WITH THE CAREFUL DISMANTLING OF THE SELECTED STREET, YIELDING VALUABLE ASPHALT AND CONCRETE.

SIMULTANEOUSLY, PLANS FOR THE COMMUNITY HUB WILL TAKE SHAPE, INCORPORATING FEATURES THAT ENCOURAGE COMMUNITY ENGAGEMENT AND GREEN INFRASTRUCTURE. THE SUBSEQUENT PROCESSING AND APPLICATION OF THE RECLAIMED MATERIALS TO THE MAIN STREETS WILL THEN COMPLETE THE CYCLE, DEMONSTRATING A HOLISTIC AND ENVIRONMENTALLY CONSCIOUS APPROACH TO URBAN DEVELOPMENT.

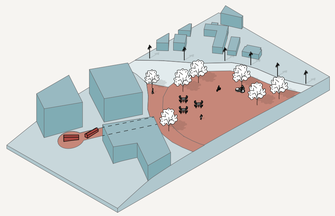
RECYCLING CENTER 2
MAKE PERMEABLE PAVERS FOR ALL DEPAVED DEADENDS.

RECYCLING CENTER 1
MAKE CONCRETE AGGREGATE OUT OF DISPOSED OR DEMOLISHED CONCRETE. EXPORT IT TO THE LOCAL STREET REPAVEMENT



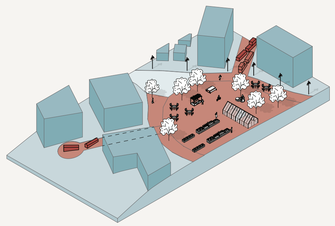
10 YEARS:

THE NEW COMMUNITY AREA IS FORMED. THE COMMUNITY HUB CONNECTS WITH THE NEAR BY PARK AS ONE COMMUNITY HUB.



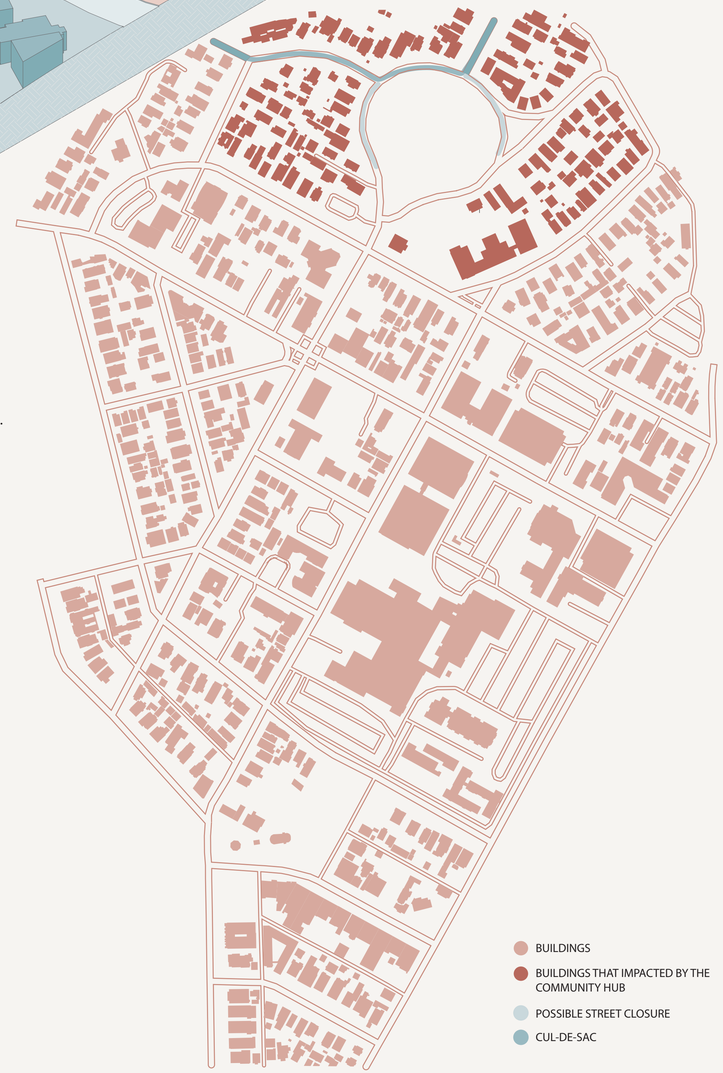
25 YEARS:

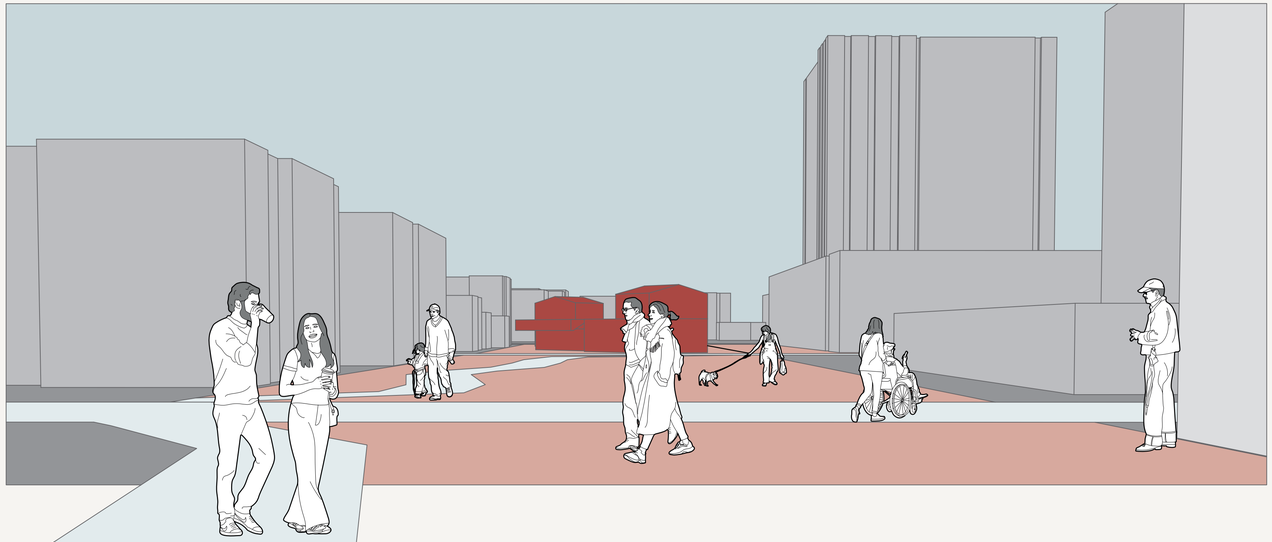
THE HUB BECOME A DEEPLY INGRAINED PART OF THE SOCIAL FABRIC OF THE DEAD-END NEIGHBORHOODS IT SERVES. MULTI-FAMILY APARTMENT PROJECTS ARE DEVELOPED, AND MORE STREET TO BE DEPAVED AND CLOSED.

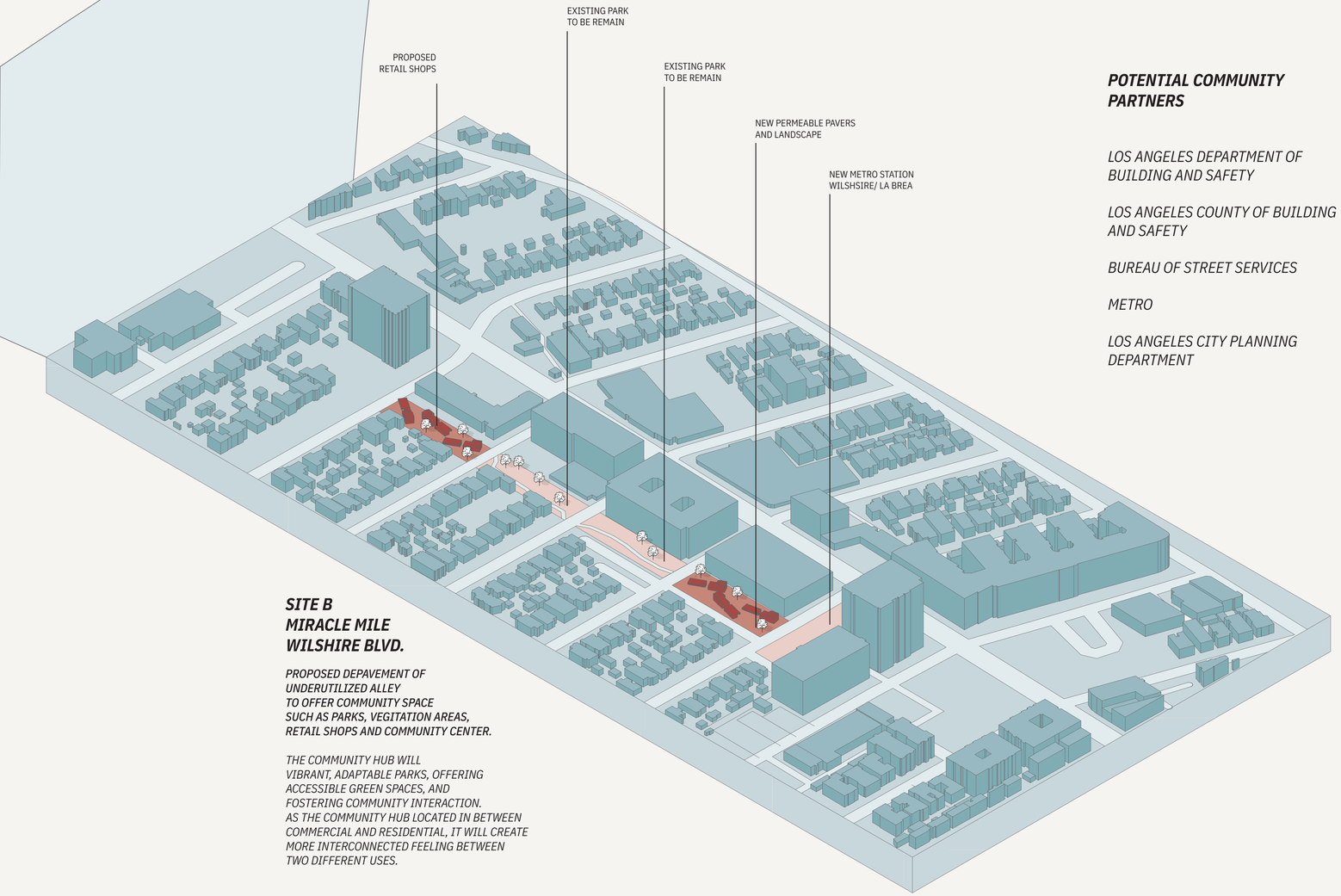


50 YEARS:

MORE MULTI-FAMILY APARTMENT PROJECTS ARE DEVELOPED. THE COMMUNITY HUB IS NOW CONNTECT ALL INTERSECTIONS NEAR THE EXISTING PARK.







SITE B
MIRACLE MILE
WILSHIRE BLVD.

PROPOSED DEPAVEMENT OF
UNDERUTILIZED ALLEY
TO OFFER COMMUNITY SPACE
SUCH AS PARKS, VEGITATION AREAS,
RETAIL SHOPS AND COMMUNITY CENTER.

THE COMMUNITY HUB WILL
VIBRANT, ADAPTABLE PARKS, OFFERING
ACCESSIBLE GREEN SPACES, AND
FOSTERING COMMUNITY INTERACTION.
AS THE COMMUNITY HUB LOCATED IN BETWEEN
COMMERCIAL AND RESIDENTIAL, IT WILL CREATE
MORE INTERCONNECTED FEELING BETWEEN
TWO DIFFERENT USES.

POTENTIAL COMMUNITY PARTNERS

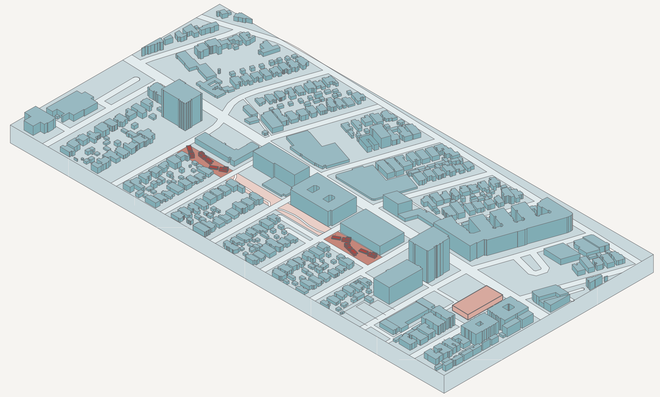
LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY

LOS ANGELES COUNTY OF BUILDING AND SAFETY

BUREAU OF STREET SERVICES

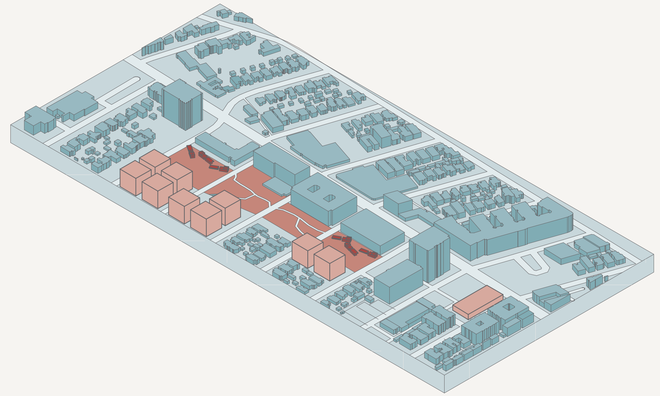
METRO

LOS ANGELES CITY PLANNING DEPARTMENT



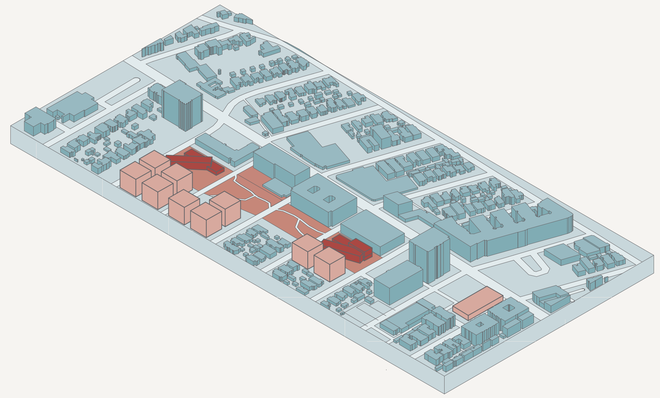
10 YEARS:

THE NEW COMMUNITY AREA IS FORMED. THE COMMUNITY HUB CONNECTS WITH THE NEAR BY PARK AS ONE COMMUNITY HUB.



25 YEARS:

THE HUB IS A CENTRAL NODE, DRAWING PEOPLE FROM BOTH RESIDENTIAL AREAS SEEKING LOCAL AMENITIES AND THE COMMERCIAL AREAS FOR LUNCH BREAKS OR AFTER WORK ACTIVITIES. THE METRO STATION IS MAKING THE HUB A CONVENIENT MEETING POINT AND DESTINATION. AS A GROWTH OF THE DEPAVEMENT OF THE STREET, NEW RECYCLING CENTER WILL LOCATE NEAR THE SITE.



50 YEARS:

AS MORE MULTI FAMILY APARTMENT DEVELOPED, THE COMMUNITY HUB GETS BIGGER. THE HUB SERVE MULTIPLE GENERATIONS, FOSTERING LONG-TERM SOCIAL CONNECTIONS AND THE DEPAVED CONCRETE AGGREGATES WILL REUSE FOR REPAVEMENT OF THE MAJOR STREETS.