Mapping Downtown Ann Arbor

-State & Liberty Area

The State and Liberty area in downtown Ann Arbor is replete with ***edges, paths, districts, landmarks,*** and ***nodes*** ready for a Kevin Lynch's style analysis. Our analysis focused on the space within and surrounding E. Huron, S. State, E. Williams, Thompsons, and S. Division Street. This one-week group assignment for the course "Spatial Thinking and Environmental Systems" received grade 23.5/25 (highest in class).

My responsibility:
Map Design
Poster Design

Team members: Joseph Blair, Dan Commer, Yichen Chen, Samuel Kollar, Jiawen Qiao, Rebecca Villagas

Mapping Downtown Ann Arbor

1 The District

A clear boundary emerges between the district and historic Old Fourth Ward neighborhood.
Key delineation between retail, and housing along Thompson St.
A transition between campus and commercial.

2 Michigan Theatre - Landmark

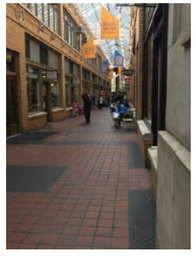
The walkway that expands the theater welcomes pedestrians to admire what shows are playing.
The signage that protrudes from the theater further attracts attention.
Seating could could transform the space into a more comfortable place to reside.

3 State St, E Liberty St, State Theatre - Landmark, Node

The retail space underneath the State Theater tugs on people's curiosity with over 50% pedestrians slowing their pace.
The three-way also allows pedestrians to gather in small and large groups as they meet.

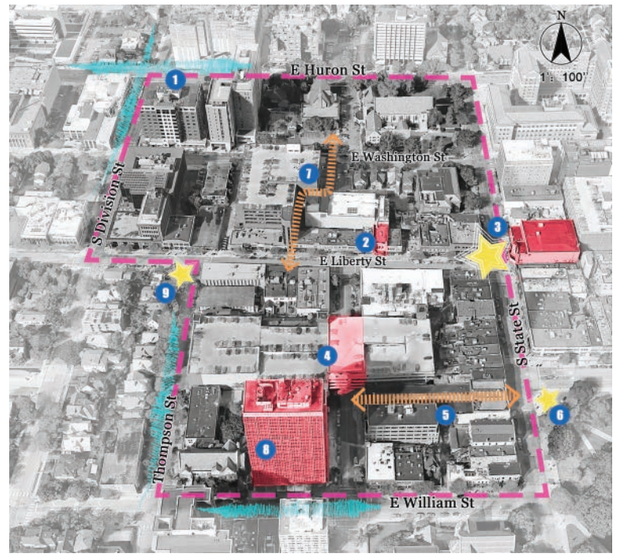
4 State St, E Liberty St, State Theatre - Landmark, Node

By allowing pedestrians to walk through, the space eases navigation. However, the dimly lit garage is uninviting and erodes the the vibrancy of an inviting district, which makes the area more unpleasant.
The space could be made to feel safe with better lighting, especially when taking in consideration of nightlife.



5 Nickels Arcade - Path, Node, Landmark

The tall ceilings and glass doors that seem to always be open inviting pedestrians to curiously walk through Nickel's Arcade and slow their pace as they Inspect the various shops that align their path.

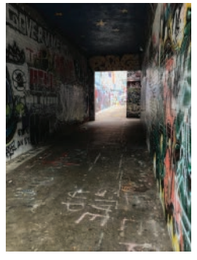


Node
Edge
District
Path
Landmark

6 "Diag" Corner - Edge, Node

Setting the southeast edge of the district, the "Diag" corner is a lively, well-shaded intersection of many paths.

7 Graffiti Alley - Path, Landmark



Graffiti Alley serves as both a path that connects Liberty St. and Washington St. and a well-known landmark that has attracted various visitors. However, the lack of lighting and activities in the inner parts of the alley leads to our further recommendations to bring illumination and food vendors.

8 Tower Plaza - Landmark, Edge

Known as the tallest building that has ever been built in Ann Arbor, the 26-story Tower Plaza creates density in downtown Ann Arbor. However, it fails the activate the public realm surrouding it. It also dwarfs the surrounding building and is out of character for this district.

9 Liberty Plaza - Node

The sunken design typography creates barriers to entry. This place results in an uninviting spacce.

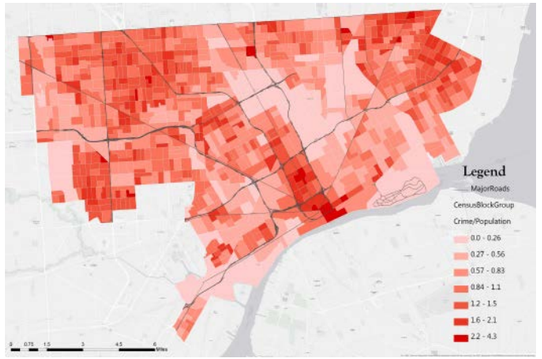
Mapping Crimes in Detroit

Mapping Crimes in Detroit is the final project for the course "Introduction to GIS". We are asked to used the ArcGIS software to demonstrate a real-world analysis. Therefore, we decided to use data retrieved from the Open Data Portal and visualize the pattern of crime distribution. This project received grade A and the presentation poster was selected for display at the hallway of Taubman College.

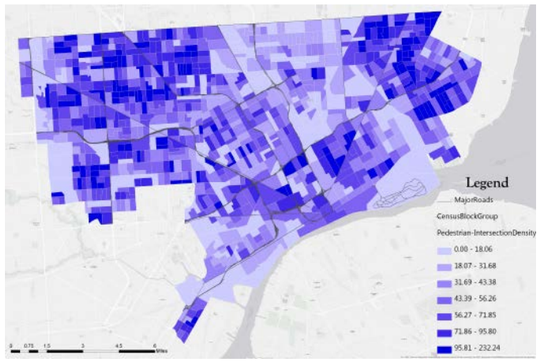
My responsibility:
Online data collection
Crime data visualization and analysis using ArcGIS
Design of the final poster

Team members: Yichen Chen, Tian Xie

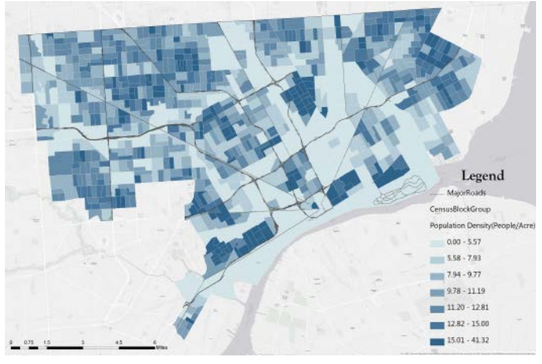
Mapping Crimes in Detroit



Crime rates (Number of crime incidents/Population)



Pedestrian-Intersection Density

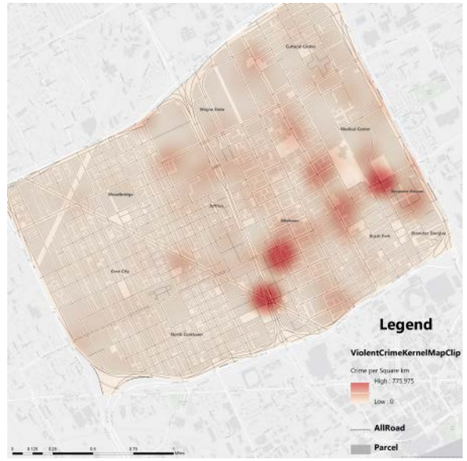


Population Density

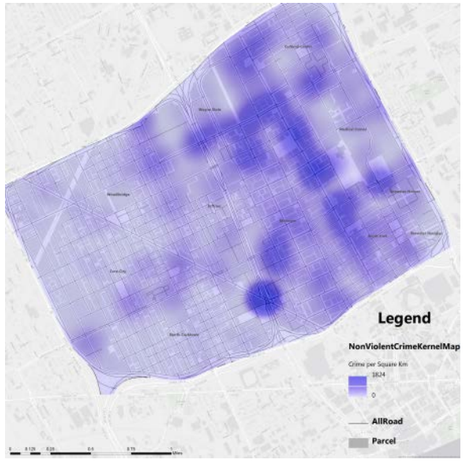
Detroit tops the nation with its high murder and violent crime rates. Public safety has been a concern for its dwellers, tourists and planners. Based on the Detroit crime data from December 6, 2016 to December 1, 2017, our project aims to answer the questions a. What are the factors that are most likely related to crime incidents? b. What is the most dangerous zone in the neighborhoods of Core City and Midtown? c. Which zoning types have the highest crime rates?

We seek to find the factors that are most likely related to the rate of crime incidents based on the similarity of the map patterns. Also, we set the two neighborhoods - Core City and Midtown, on the scope to visualize the crime distribution in detail (crime categories by violent crimes and nonviolent crimes, crime frequency by roads and zoning districts). In this way, we are going to find the most dangerous area and its zoning type in these neighborhoods.

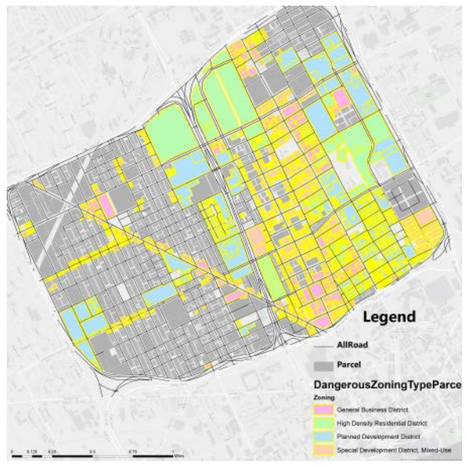
According to the map results, pedestrian oriented intersection density and population density are the likely factors related to the distribution of crime rate in Detroit. For the neighborhoods of Core City and Midtown, the area around *John C Lodge Freeway*, *Grand River Avenue* and *3rd Street* is the most dangerous. General Business District, High Density Residential District, Planned Development District, Mixed-Use Special Development District are the zoning districts where most crimes occurred.



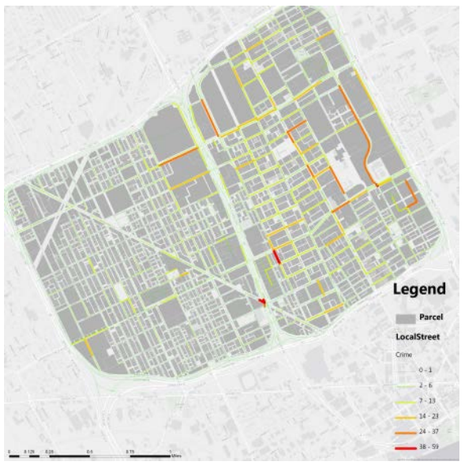
Violent Crimes Heat Map



Non-Violent Crimes Heat Map



Zoning Districts with most Crime Incident Occurance



Level of Crime Incident Occurance on Street

Reimagining South Industrial

Reimagining South Industrial is a a conceptual planning practice for the course "Spatial Thinking and Environmental Systems". In this project, we proposed a redevelopment plan for the designated land in southern Ann Arbor, which remains an underutilized site. We aimed to transform this underused site by creating a community node that promotes vibrant community activities.

My Responsibility:
Research for site inventory - demographics, land use, site context, zoning code
Coming up with Planning solutions collaboratively
Creating graphic works (final posters, charts and maps)

Team members: Alex Abramowitz, Sean Burnett, Josh Childs, Yichen Chen, Nick Schrader

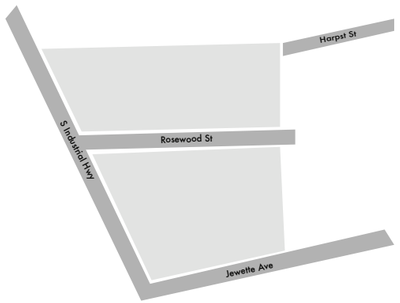
Reimagining South Industrial

Site Inventory

Located on Roswood St., RoosRoast Coffee is one of the most popular local coffee shops in Ann Arbor.

The only commercial building within the site has a hair salon, an estate shop and a printing shop.

From the Southeast corner of the site, there is a vacant space and few trees are planted along the north side of Jewette Ave.

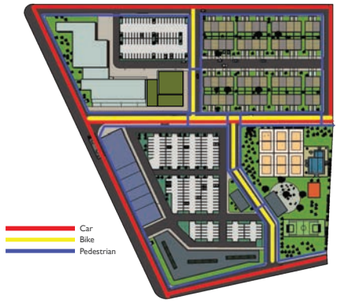


- A lot of under-utilized space is located in the site. An existing industrial space is across from S Industrial Hwy.
- Lack of accessibility remains a big problem since the entire northern boudary is separated by fences.

Proposed Redevelopment

Site Layout

Traffic Circulation



Bike Lane & Parking

- New street parking: along added North/South street in NE quadrant.
- Each split-level townhome has one parking space and a driveway space.
- Shared parking lots in mixed-use sections and parking lots with semi-permeable pavement.
- Added buffered cycling lane on Rosewood St and two new N/S streets in the center of the site and bike parking.

Green Infrastructure

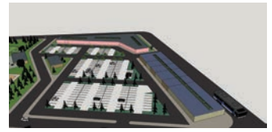
- New Site has 660,000+ square feet of semi-permeable surface area, more than nine times the amount in the existing site.
- This includes 10,000 square feet of rain garden surrounding the SW commercial building, 5,500 total square feet of rain gardens in front of townhomes, 13,650 square feet of green roofage, and 50,000 square feet of permeable pavement in the parking lots.

Housing

- 56 new townhome units in the NE quadrant. .

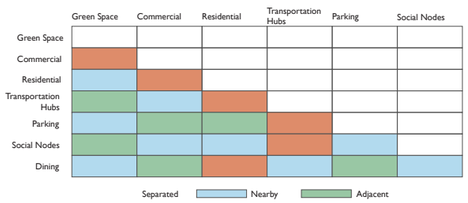
- 54 Mixed-income apartments in mixed-use development in NW quadrant.

Retail & Commercial



- RoosRoast Coffee relocated right across Rosewood.
- We imagine a mix of office/retail/restaurant/possibly grocery(convenience store) space in the site. A community health clinic or nonprofit office space is located for the NE site.

Adjacency Matrix



Land Use Changes

Land Use (ft2)	Existing	Proposed
Residential	-	162,560
Commercial/Retail	9,560	108,000
Green/Recreation	32,045	95,244
Industrial	43,093	-
Storage	21,317	-
Auto Service	21,572	-
Underutilized/Vacant	59,041	-
Total Semi-Permiable Surface	74,318	665,644
# Housing Units	-	110
# Total Parking Spaces	300	416

The Park

The Park in the SE quadrant serves as a community node for residents living nearby, as well as a versatile green recreation center for people coming from different areas of town.
It features volleyball courts, a swimming pool with a locker room, a soccer field and a food court. It welcomes residents in the community and can also be an area for special public events.

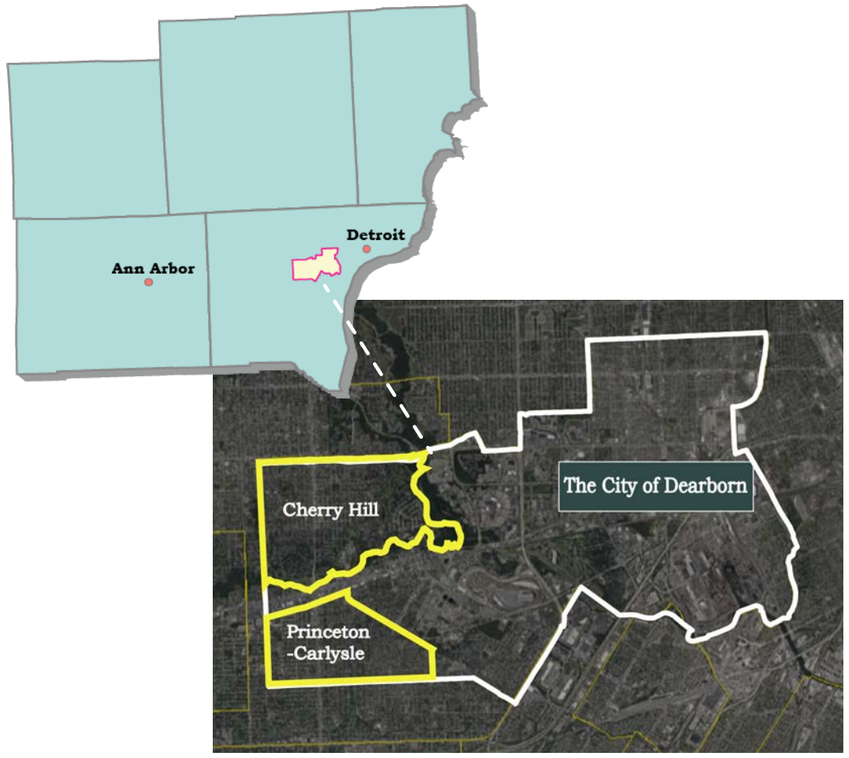
Greening West Dearborn

Greening West Dearborn is a semester-long group project for the course "Fundamentals of Planning Practices". Upon the request of our client - City of Dearborn Planning Department, we teamed up as KYLAR Associates and started working on the study of tree canopy maintenance in the area of Princeton-Carlyse and Cherryhill neighborhoods in West Dearnborn. This project received an A grade at the end of this course.

My responsibility:
Data collection and GIS analysis for site suitability assessment
Graphic design of maps
Writing of project proposals, community engagement, and final report

Team members: Karis Tzeng, Yichen Chen, Liz Gunden, Andong Chen, Ruben Shell

Greening West Dearborn



Background

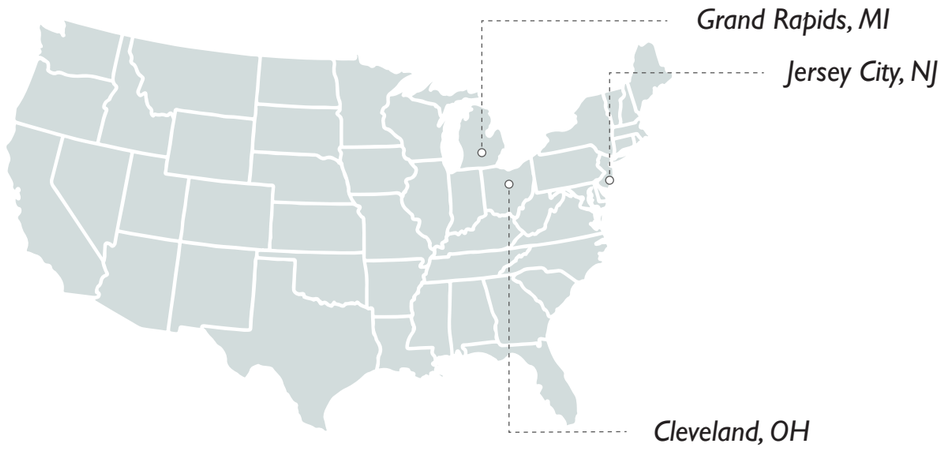
The tension between improving critical infrastructure in the city and protecting the urban tree canopy became clear in 2017, when numerous old-growth trees were destroyed for a utilities upgrade. As both infrastructure upgrades and the tree canopy are essential to a city's health, the City of Dearborn needs to determine a systematic approach to balance these needs.
This report assesses the conditions of the urban tree canopy in West Dearborn, Michigan, an area that includes the Cherry Hill and Princeton-Carlylse neighborhoods in the City of Dearborn.

Community Engagement

KYLAR Associates believes that both inter-departmental engagement and external engagement, which includes: ***focus groups, training sessions, survey, community-wide meeting, pop-up meetings*** and ***volunteer groups***.

Case Studies

We selected 3 cities with similar environment to our site and studied their successful tree canopy assessment and planning documents. We learned about specific fundings, strategies and management etc.



Recommendations

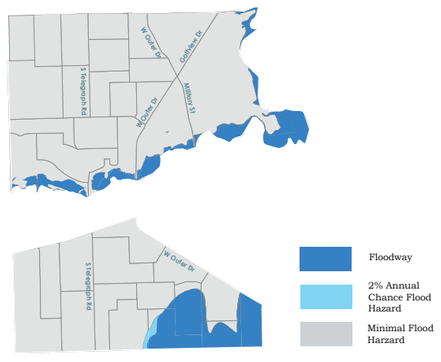
We first outline a set of best practices for planting trees. Then we define best practices for tree canopy maintenance. We also provide a list of recommended tree species.

Implementations

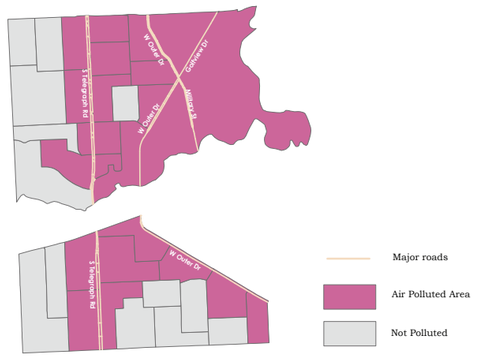
1. Maintain and enhance the existing tree canopy system.
2. Establish greening networks in Dearborn.
3. Create a more ecologically diverse environment.

Greening West Dearborn

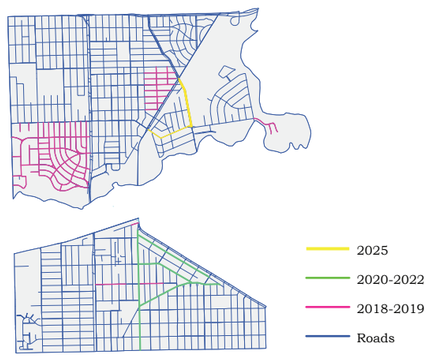
Floodplain



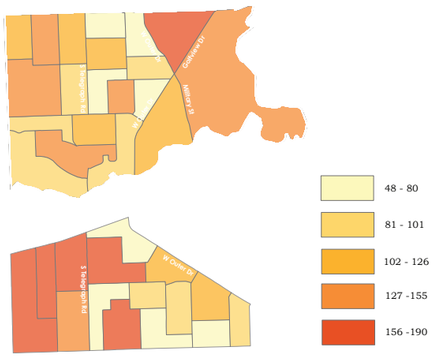
Air Polluted Areas



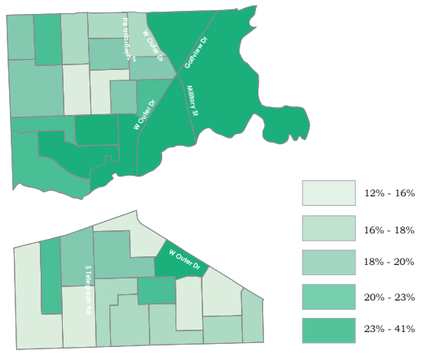
Infrastrucuture Project Phasing



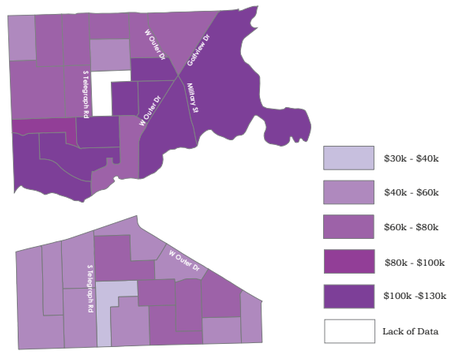
 # Residents at 65 or over



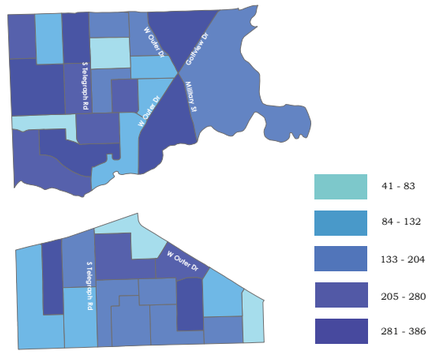
Tree Canopy Coverage



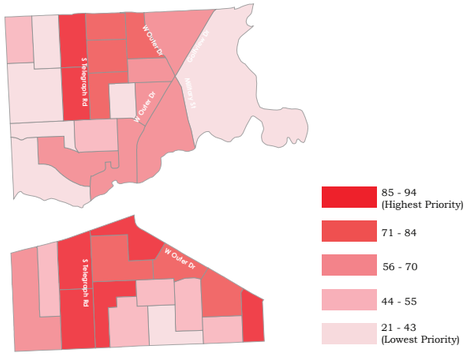
Annual Median Household Income



 # Residents at 18 or under



Prioritized Tree Planting Area



Site Suitability Analysis

A site suitability assessment answers the question, "Where should the City prioritize tree plantings in West Dearborn?" A suitability analysis identifies multiple criteria to determine the suitability of an area for a specific use through the use of Geographic Information Systems (GIS). This section explains the methodology and results of our site suitability assessment.

We combined three vector layers into one index and rescaled the values from their original values to a weighted scale of 1 to 100, where 100 indicated highest possible priority for planting trees. We converted them into raster layers and gave all raster layers the same pixel resolution in order to use a weighted sum to create one final index.