Oak Forest, Illinois

Sustainable Neighborhood Assessment

July 16 - 18, 2014

GLOBAL GREEN USA®

Sustainable Neighborhood Assessment

Through the Sustainable Neighborhood Assessment Tool developed by Global Green USA, public officials and local government staff are using the LEED for Neighborhood Development (LEED-ND) rating system to determine ways for future development in their communities to achieve high levels of environmental, economic, and social sustainability. LEED-ND integrates the principles of smart growth, walkable urbanism and green building into the first national rating system for neighborhood design. In Dubuque, Global Green used the tool as a means to evaluate existing conditions and plans for the Washington neighborhood, in order to identify opportunities to augment current revitalization efforts and develop recommendations to increase the neighborhood's overall level of sustainability.

Assessment Team + Funding

Global Green USA
Walker Wells | Krista Frank
Farr Associates
Christina Bader
US Green Building Council
Jason Hercules

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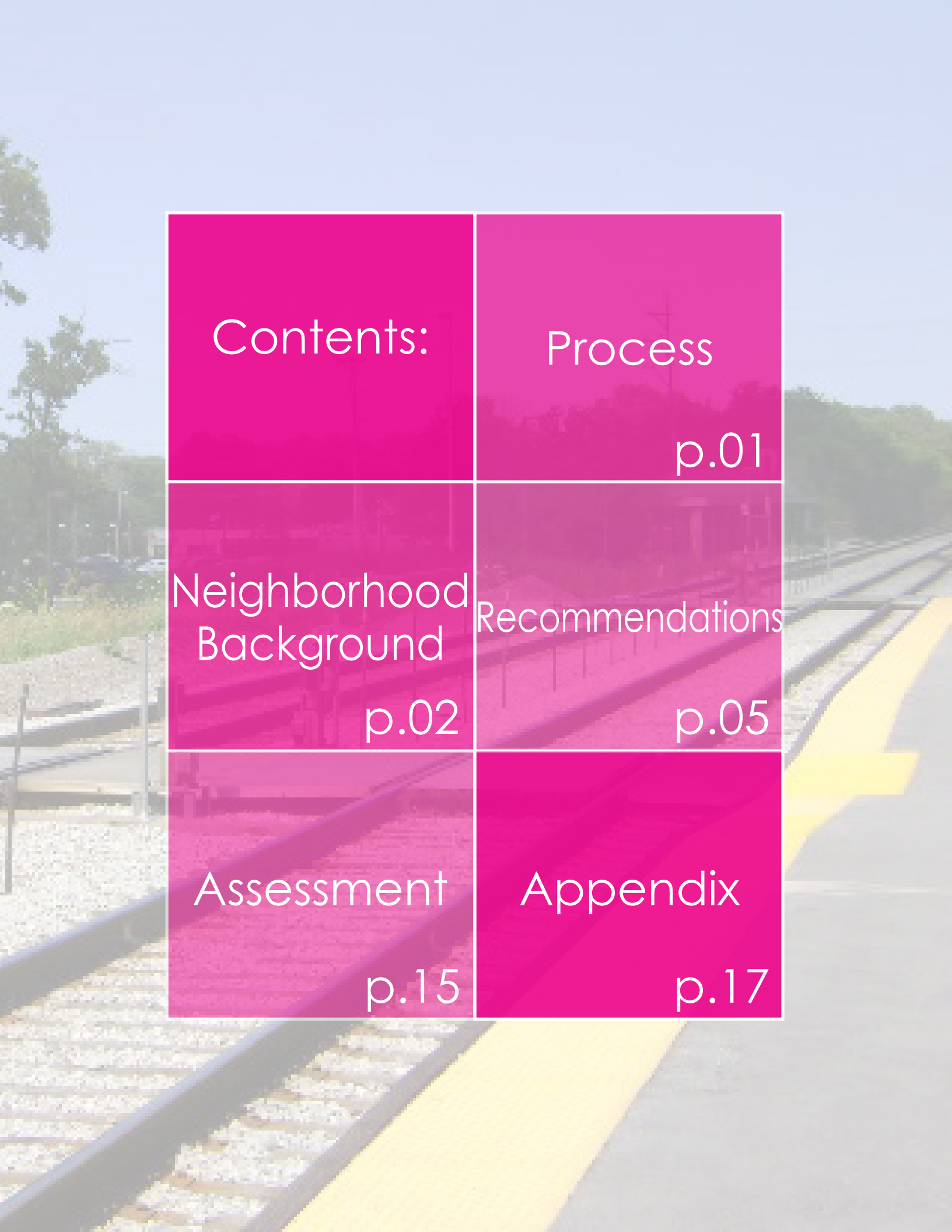

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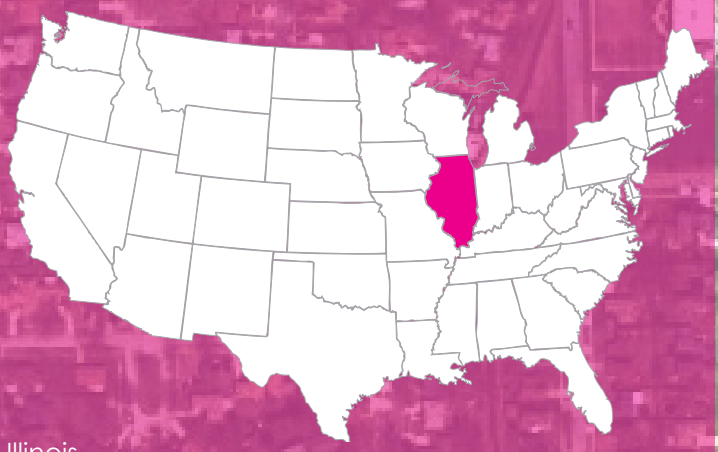

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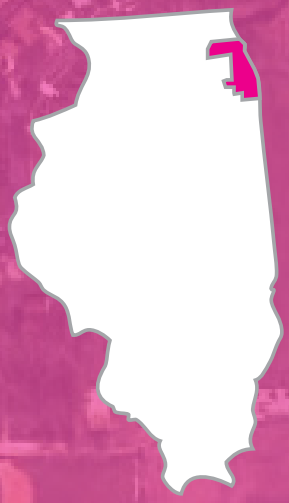

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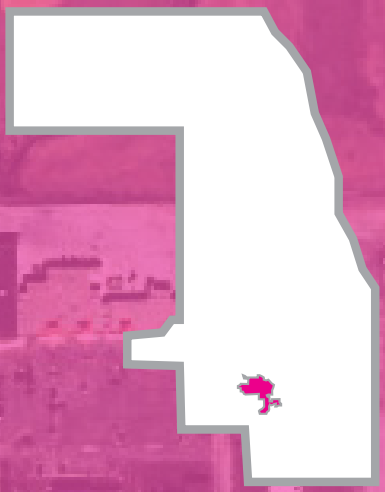
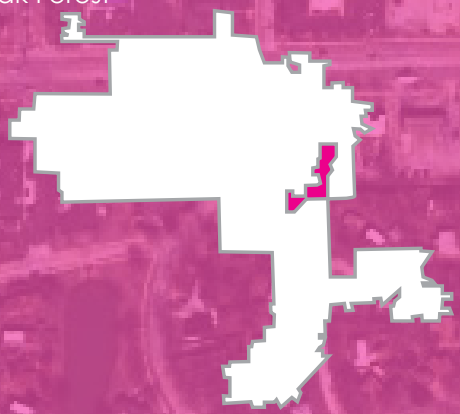


City of Oak Forest



Gateway Corridor Neighborhood

Sustainable Neighborhood Assessment Process

The goal of the Sustainable Neighborhood Assessment process is to identify topical and physical focus areas where policy or planning changes will promote sustainable urban development over the short and long term. To define these focus areas, Global Green USA and its team members utilize the Sustainable Neighborhood Assessment Tool, which is based on the LEED for Neighborhood Development (ND) criteria and checklist.

Prior to visiting the Gateway Corridor neighborhood, the team conducted a thorough baseline review of existing planning documents, code requirements, flood maps, and stakeholder priorities. An initial assessment was then completed, with the credits in each of the three LEED-ND categories (Smart Location & Linkages, Neighborhood Pattern & Design, and Green Infrastructure & Building) marked as "achieved," "not achieved," "unknown," or "not applicable." Each credit is further ranked for the degree that it correlates to regional or local policy priorities, regulatory support, technical feasibility, market support, and stakeholder input.

This initial assessment serves as the point of departure for the Global Green team's three-day site visit and evaluation. During the visit, the team walks each block of the Gateway Corridor neighborhood, photographs examples of positive qualities and areas for improvement, and conducts a series of meetings with targeted stakeholders, city staff, and representatives of relevant public agencies. Throughout the process, the preliminary checklist is edited and refined to incorporate the team's visual observations and contextual issues raised by stakeholders. The initial findings of the evaluation are grouped into broad categories noted on the next page. The final augmented checklist for the Gateway Corridor Neighborhood can be found on pages: 17-20.

The assessment process enables the team to identify a series of recommendations based on LEED-ND credits that are applicable to the unique assets and challenges of the Gateway Corridor neighborhood. Recommendations also cover policy, planning, and development changes which aim to realize a more sustainable future for Oak Forest. Some recommendations can be implemented fairly quickly, while others will require long-term collaboration among public agencies, local institutions, and private sector partners, as well as multiple sources of funding.

Neighborhood Assets

1. Rustic Oaks is an example of quality, market rate apartments that provide higher densities near the Metra station. 2. A Farmers Market is established and thriving at the Metra Station. 3. Cyclists have a place to safely store their bikes, encouraging them to ride to the Metra Station instead of driving. 4. The Gateway Corridor neighborhood's most prolific housing type is stable, single family housing. 5. The Metra Station and development is a key element in spurring development in the Gateway Corridor and making it a more accessible place to live. Many commuters are able to live in Oak Forest and ride the train to their jobs in the city.

Neighborhood Background

Oak Forest's Gateway Corridor neighborhood is flanked by Le Claire on the west, 155th St. to the north, 159th to the south, and Cicero to the east. The neighborhood, composed of quarter-mile-long blocks, encompasses about 240 acres and houses a commercial corridor, apartment complexes, a concrete yard, and a Metra station which serves as its focal point. A majority of the properties within the neighborhood are stable, single-family homes built between 1960-2000, and the community has a low poverty rate compared to Illinois as a whole. The street grid of quarter-mile-long blocks makes for a challenging pedestrian environment, but bicyclists fare well on the backroads. The Metra Station at 159th and Cicero serves as a commuter rail for Oak Forest, and is one of the busiest stations on the Rock Island line. It was modernized in 2013 with a grant from the US Department of Transportation. It is now the focus of development efforts in the Gateway Corridor neighborhood, in which significant thought and investment has already been made. Other neighborhood amenities include acres of public forest with an extensive walk/bike trail system within driving or biking distance, and mature trees in the residential areas.

The City of Oak Forest has been proactively acquiring properties for redevelopment around the Gateway Corridor. Surrounding the Metra Station, the Gateway houses CVS and has many pad-ready parcels ready to be built upon. Just north on 157th St., an aged set of apartments have been deemed blighted and the City is seeking developers like Brinshore, to propose to development such as low to moderate income family housing. The City and Brinshore have discussed how veteran housing programs might work well at this site with the Veterans Affairs office.

On 159th St., south of the Metra station, stands another set of apartments. Some of them, called Rustic Oaks, are high-quality, well maintained apartments that serve as an asset to the neighborhood. The other set of apartments is not maintained as well, and are slated to be purchased by Benchmark, the Rustic Oaks owner/operators for redevelopment. In order to expedite this process, the City plans to offer assistance to Benchmark by filling the gap between the seller price and the purchasing price they have proposed.

The Wille Brother's Concrete facility is the linchpin parcel of the Gateway redevelopment directly adjacent to the Metra Station. It is a site that the City has yet to purchase. Wille Brothers does not want to relocate, but has been in neogiations with the City to come up with a price point and timeline that works for both parties.

To the east and south, high volume roadways that are outside the City's planning jurisdiction intersect the Gateway. These roads have speed limits far exceeding those that LEED-ND recommends for safe pedestrian and bicycle travel. 159th has narrow sidewalks and few opportunities to cross the street safely. Cicero has wider sidewalks, but with no shade from street trees, no transit facilities like covered benches or bus schedules, and few opportunities to cross the street safely. The saving grace of this situation are the bridges that pass over both roads near the Metra station that somewhat mitigate the difficult situation pedestrians and cyclists face in entering or exiting the Gateway.

Neighborhood Challenges

1. New development surrounding the Metra Station was not designed for pedestrians, but rather, for cars. 2. Vacant building along Cicero. Much of the dvelopment on Cicero is car-oriented and set back from far from the road. 3. The Wille Brothers industrial site is a use that is no longer appropriate for its surroundings. 4. Continuous sidewalks are key to a walkable neighborhood-- and a noticeable hurdle that Oak Forest has yet to conquer. 5. 159th, as well as Cicero are difficult for pedestrians to use due to a lack of crosswalks. On 159th, the intersection with Cicero is the only one with a crosswalk in our Study Area. On Cicero, a crosswalk does not occur for over 2,500 feet or half a mile north from 159th.

Recommendation Approach and Strategy

The recommendations presented over the following pages were developed through careful study of regional and local planning documents, city staff and stakeholder interviews, a thorough on-the-ground analysis of community characteristics, and a community workshop. Each of the resulting recommendations have been informed by best practices as identified through LEED-ND.

Four key overarching themes guide the specific recommendations: **1** LEED Certification of the Gateway Corridor, **2** Housing for All Ages and Family Sizes, **3** Connection to the Oak Forests, and **4** Diverse Uses Within the Corridor.

LEED Certification of the Gateway Corridor recognizes the value that LEED-ND provides in aiding the City of Oak Forest in identifying the type and scale of development that will ensure its viability for the future. Many local jurisdictions find that LEED-ND is a meaningful tool to help promote sustainable land development when used as a guideline for revising local codes and to proactively reach out to county, state, federal, and private entities who make infrastructure upgrades, and choose how to develop in the neighborhood.

Housing for All Ages and Family Sizes recognizes the importance of meeting the needs of community members throughout their whole life. A diverse array of housing choices that range from studio apartments to single family houses to high-quality accessible apartments ensures that people of all ages, incomes, and abilities will find what they are seeking in a home.

Connection to the Oak Forests aims to establish a better branded community character for the Gateway Corridor by emphasizing the defining characteristic of Oak Forest - the forest preserves.

Rethinking Cicero and 159th features diagrams depicting the streets as they exist now and what they could look like if they were reconfigured through code and streetscape interventions.

1 LEED Certification of the Gateway Corridor

2 Housing for All Ages and Family Sizes

3 Connection to the Oak Forests

4 Rethinking Cicero

5 Rethinking 159th St.

Recommendation 1

LEED Certification of the Gateway Corridor

For Oak Forest to demonstrate its long-term vision and solidify its commitment to the Gateway Corridor Neighborhood revitalization efforts, the city should codify a cohesive approach. The city is already taking steps to initiate a cohesive zone around the Gateway Corridor by strategically purchasing parcels around the Metra Station. Developers may be more attracted to the area if they know that their investments will be supported by the city's investment there. To achieve this, the efforts made in acquiring individual parcels needs to be leveraged with solid plans for their future development to ensure an expedited process when opportunities arise.

The LEED-ND certification process provides a method of analysis that will aid the City of Oak Forest in identifying the types of development that should happen in the Gateway Corridor in order to secure it as a destination to successfully develop, relocate to and live in for generations. Many local jurisdictions find that LEED-ND is a meaningful tool to help promote sustainable land development when used as a guideline for revising local codes and to proactively reach out to county, state, and federal entities who decide the fate of highways and routes through the city.

Having, for instance, a streetscape plan for roads both within and beyond Oak Forest's jurisdiction will demonstrate to outside entities that make significant infrastructure upgrades what Oak Forest's vision is for those roads in concert with its own plans.

For the vacant parcels that are both privately held and for those being acquired by the city, a clear vision for the types, scale, and aesthetic character of development can be decided upon with stakeholder and community input and clearly defined in order to expedite development processes for those interested.

Global Green's in Oak Forest brought to light the uses missing in the neighborhood. The Gateway Corridor only has a few establishments within a 1/4 mile walk distance that residents might use every day. A mixed-use neighborhood has assets such as a grocery store, pharmacy, hardware store, dry cleaner, childcare, etc., within a convenient distance so residents don't spend all of their time driving to and from other neighborhoods to meet their daily needs.

Transit amenities such as bus shelters with illumination and schedules are an important element in certifying the Gateway Corridor. So is better connectivity to and from the Metra Station.

Action Items

1. **Long-Term Vision:** For Oak Forest to successfully demonstrate a long-term vision and solidify its commitment to the Gateway Corridor Neighborhood revitalization efforts, the city should codify a cohesive approach. Codes that compliement the Comprehensive Plan, and more, should be accessible, and paint a picture of what Oak Forest should *look* like in the future. Many cities find that a form-based code adequately expresses these wishes while allowing for flexibility of uses. Focus should be put on the following topics:
2. **Building Facades / Form-Based Code:** Building facades, especially along Cicero and the future mixed-use area around the Metra station, need to move closer to the street. Oak Forest could reasonably aim for 50% of the total linear distance of building facades facing Cicero and 159th being no more than 18 ft. from the property line. See diagrams in "Rethinking Cicero" on page 22. A way to measure how far back a building should be set from the street is by using a ratio of building height to street width. At least 40% of the block length of the circulation network should have a minimum building height-to-street-centerline ratio of 1:1.5 (at least 1 foot of building height for every 1.5 feet it is set back from the center line of the street). By this measure, Oak Forest should aim for a road diet if possible, and taller buildings close to / abutting the sidewalks with parking placed behind. As a general rule, the smaller the ratio is (the closer the building height is to the distance from the street centerline) the stronger the sense of place and, oftentimes, the higher the real estate value. Spatial enclosure is important on all streets but is particularly important for shopping streets that must compete with shopping malls. This spatial enclosure also gives pedestrians a feeling of safety and a shorter walk distance.
3. **Connectivity / Block Sizes:** Intersections within the Gateway Corridor and within a 1/2 mile of the Gateway Corridor are occur at a rate of 25 intersections per square mile at best. The Gateway Corridor's 1/4-mile block lengths mean that pedestrians have to walk 1/4 of a mile to reach an intersection and that connectivity within the neighborhood is VERY low. Breaking up the large blocks with alleys or new roads will increase connectivity. See diagram on page 16. LEED-ND recommends a through-connection at least every 800 feet. Oak Forest could achieve this by splitting-up block sizes along the corridor in half. This could be achieved through alleys or new roads.

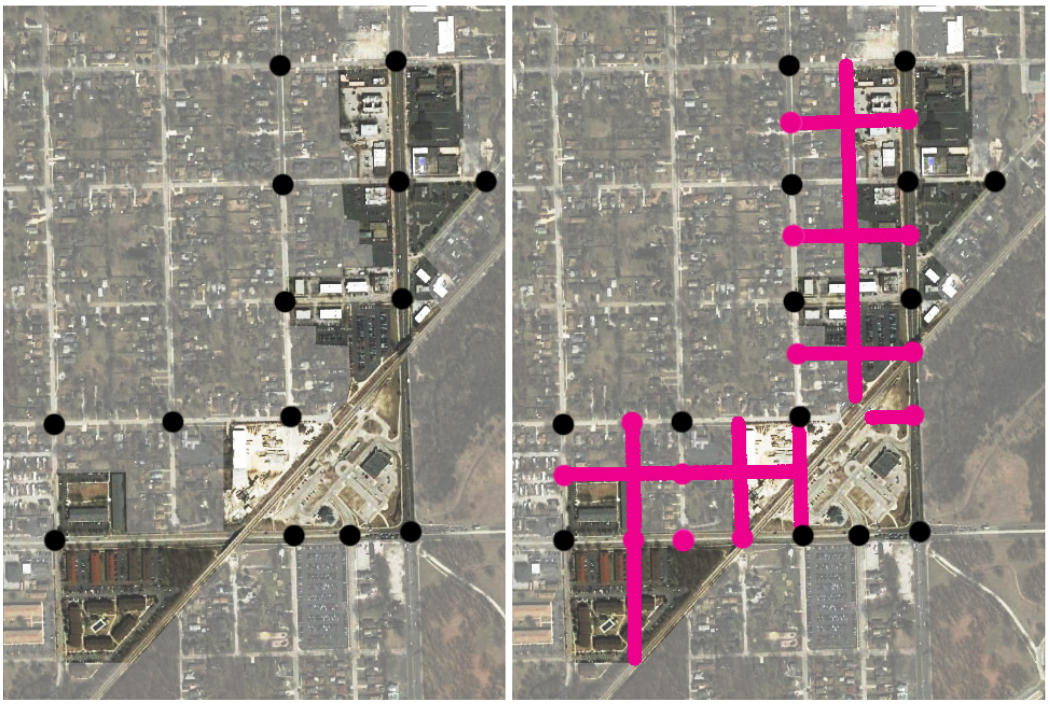
A form-based code is a method that Oak Forest could use to allow for flexible uses of parcels while ensuring a cohesive character for the Gateway. Small setbacks and pedestrian-scale frontages make downtown Tinley Park a desireable location to open a business or live in.

LEED Certification of the Gateway Corridor

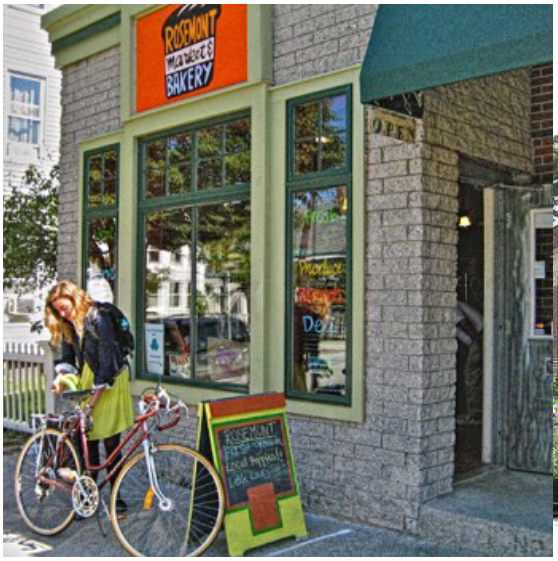
Action Items Continued

4. **Continuous Sidewalks:** Continuous sidewalks are a prerequisite of LEED-ND. All-weather routes for walking must be provided along both sides of 90% of the circulation network block length within the Gateway Corridor and its border with the rest of Oak Forest. New sidewalks must be at least 8 feet wide on retail or mixed use blocks, and 4 feet on all other blocks. The sidewalk policy Oak Forest has in place does not adequately guarantee continuous sidewalks. This policy should be amended so that sidewalks are completed by the time people are occupying the units in a neighborhood.
5. **Bicycle Networks:** 50% of all dwelling units and non-residential use entrances should be located on an existing or planned bicycle network extending 3 continuous miles. Stakeholders identified side streets such as 157th and 158th as already being used for bicycle travel. A bike alley that connects to rear entrances of businesses and mixed uses along Cicero could be a creative solution to navigating around difficult right-of-way issues with the County, however cyclists still need more options for crossing Cicero and 159th. Higher connectivity also makes bicycling more appealing.
6. **Bicycle Storage:** Long term bicycle storage facilities should be provided for at least 30% of all multi-unit building residents, but not less than one storage space per unit. Retail buildings should provide short-term (two for every 5,000 sq. ft. and long-term (for at least 5% of regular building occupants) and at least one on-site shower for the first 100 regular building occupants. Bicycle facilities would need to be specified in the building code.

Connectivity means that residents are able to easily access amenities nearby. Shorter block sizes and more intersections create more direct routes that make walking and biking trips more efficient. The diagrams at left show the existing intersections around the study area, and



7. **Diverse Uses:** People who live in neighborhoods with more business establishments per acre conduct more of their travel within their neighborhood and are more likely to travel by walking. The key is a large number and variety of businesses in a relatively small area. The number of establishments within a 1/4 mile walk distance that residents have available to them in the Gateway corridor is limited. A neighborhood with a good mix of uses usually has assets such as a grocery store, pharmacy, hardware store, dry cleaner, childcare, bank, schools etc., within a convenient distance so residents don't spend all of their time driving to and from other neighborhoods to meet their daily needs. Diverse uses near each other in a neighborhood tend to support one another and reinforce a sense of neighborhood character, while decreasing the need to travel long distances for goods and services.
8. **Access to Civic and Public Spaces:** Oak Forest in general has a lot of acreage of open space close to home. Accessibility to the Forest Preserves will be discussed in "Connection to the Oak Forests." Active recreation spaces such as ballfields or gyms, are slightly less accessible in the Gateway Corridor. Civic spaces such as community centers, arts facilities, education facilities, medical clinics, post offices, and social service centers, or just a passive use space like a small park with a tot lot, are not accessible, meaning they're just too far away to be conveniently accessed on a daily basis. Places that are conveniently accessed are generally located within 1/4 to 1/2 mile of at least 50% of dwelling units in a study area. For the Gateway Corridor, emphasis should be placed on locating these uses within 1/4 to 1/2 mile from the Metra Station.



Practical uses such as neighborhood grocery stores and hardware stores save residents a number of car trips if they can purchase everyday items within walking distance.

Recommendation 2

Housing for All Ages and Family Sizes

The Gateway Corridor neighborhood lacks a diversity of housing types and affordability. LEED-ND utilizes the Simpson Diversity Index to measure diversity. Based on this measure, the Gateway Corridor's housing stock is not very diverse and consists primarily of large detached residential (single family houses) and multiunit buildings with no elevators (apartments). A greater diversity of housing types would accommodate a broader range of residents in their various stages of life. The fastest-growing demographics in America: older, non-family, and non-white households have historically used transit in higher numbers, and will demand and benefit from housing that meets their needs within walking distance of the Metra station.

An integral part of a sustainable community is its ability to meet the housing needs of all generations and family sizes. LEED-ND supports actions that help a neighborhood meet the needs of community members throughout their whole life.

In the Neighborhood Pattern and Design category, LEED-ND spells out methods for improving the sustainability of a neighborhood through credits relating to Diversity of Housing Types, Affordable Housing, and Universal Design. These credits encourage actions that promote socially equitable and engaging neighborhoods by enabling residents from a wide range of economic levels, household sizes, age groups, and abilities to live in a community.

Planned design interventions at the neighborhood level for accessibility, such as interior spaces that are wheelchair accessible, and rights of way that are easily accessible for wheelchairs, walkers, strollers, toddlers, and vision impaired create a place where all people can live out their entire life cycle.

Action Items

1. **Encourage replacement of existing affordable housing with higher quality affordable housing:** Parcels around the Gateway Corridor that are in flux, such as the city-owned properties on 157th and Cicero, the Wille Brothers property, and the trailer park on 159th present an opportunity to lock-in quality affordable housing. Those with the greatest need for affordable transportation to jobs and other uses will benefit most from being able to locate close to the Metra station.
2. **Increase Options within station area and citywide:** A general increase in diversity of housing choices will ensure the long-term viability of the City of Oak Forest. Like a forest, a good mix (young, old, large, and small) of families, incomes, and abilities will ensure that every demand is met and anyone can find something that meets their needs.
3. **Housing and Jobs Proximity:** Though a wide array of jobs are not located within Oak Forest, the City has the benefit of good access to Chicago via the Metra line. This provides an opportunity for Oak Forest to meet the demand for both high-end, high density housing as well as affordable housing near the Metra station.
4. **Housing Element in Comprehensive Plan:** Utilizing the existing housing assessment as well as recommendations from this document to establish conditions and needs, the City of Oak Forest should create clear goals, objectives, and policies to lay a foundation of the City's housing and growth strategy, and provide programs the City intends to implement to create a sustainable, diverse housing market in the Gateway Corridor and throughout Oak Forest. The existing housing section of the Comprehensive plan does not yet solidify and incentivize the future mix and scale of housing that needed. Completing this could help streamline the approval process when developers submit plans for new projects by providing a solid, predictable guide to what Oak Forest is looking for.

A high percentage of units in the Washington neighborhood are single family houses or townhouses. A more diverse housing stock will contribute to the sustainability of the neighborhood by providing housing choices to people in all stages of life.

Recommendation 3

Connection to the Oak Forests

Factors one might consider in deciding to move to the Oak Forest, and especially the Gateway Corridor likely include its proximity to the Metra station and the Forest Preserves. Though many people in the neighborhood utilize proximate Forest Preserves, the major corridors in the Gateway Corridor Neighborhood do not connect aesthetically or visually to the Forest Preserves surrounding them. Much of the strip commercial along Cicero and 159th street could be confused with a commercial strip anywhere in the US.

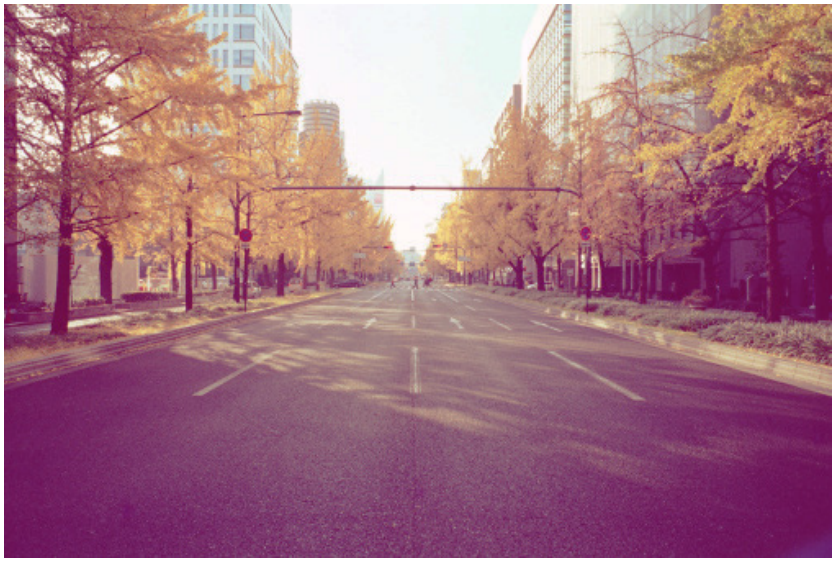
This is a missed opportunity to express the forest element in the public rights-of-way. To achieve this "emotional connectivity" to the Forest Preserves, the City of Oak Forest should set a goal and implement a plan to require a certain percentage of canopy cover on public and private streets. This will provide motivation for private developers to preserve mature trees on the parcels they purchase and plant new trees as part of construction.

LEED-ND recommends tree-lined and shaded streetscapes to encourage walking and bicycling and to discourage speeding. The recommended maximum interval at which trees should be planted according to LEED-ND is 50 feet along at least 60% of all block lengths. Trees should provide shade within 10 years of landscape installation, be non-invasive, and be appropriate for the planting location.

The Central Ave. business corridor is comprised of many historic buildings, many of which are 3 stories with first floor commercial uses, These first floors range from vacant, dilapidated storefronts, to uses such as bars and gun shops, to antique shops.

Action Items

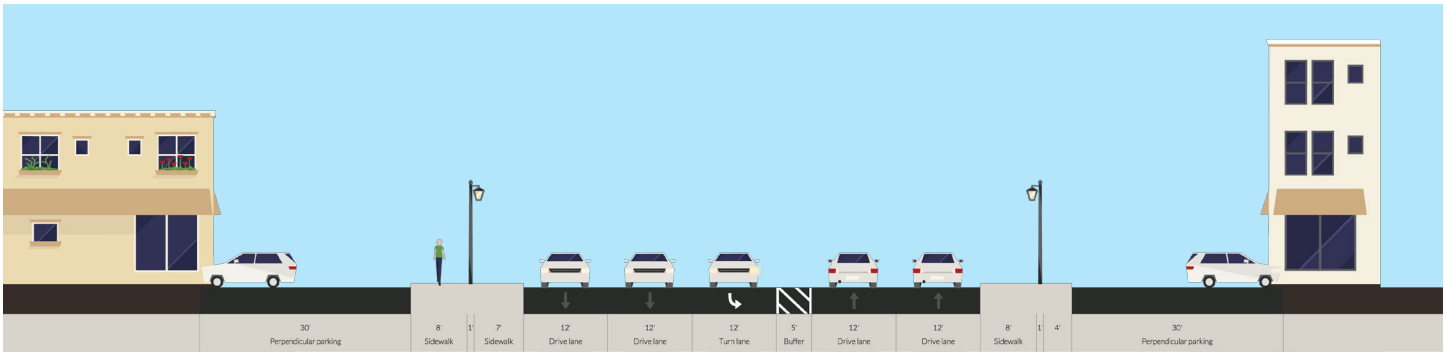
1. **Connectivity to the Forest Preserves:** Though some of the Forest Preserves are within eyesight of the Metra Station exit, the ability for a person to walk or bike to one directly becomes more complicated. Connections to the forest preserves are currently dependent on personal vehicles or a complicated route over either of the main thoroughfares. Real, safe connections that make biking and walking to the forest preserves enjoyable, and accessible to all should be the foremost concern of this proactive planning.
2. **Extending the Forest to the Streetscape:** The City of Oak Forest should look like its name. Its main streets, Cicero and 159th, should be tree-lined and reflect the surrounding Forest Preserves. One should be able to step off of the Metra and into the forest. See the diagrams on pages 22 and 23 for examples on how to incorporate more tree coverage onto Cicero and 159th.
3. **On county site:** The County-owned site which houses a hospital, currently, is a key parcel in the City of Oak Forest. It is situated across the street from the Metra station and is one of the first sites one would see when stepping off the train and into the neighborhood. Coordination between the City of Oak Forest and the County would be conducive to weaving this site into connectivity, forest integration, and land use, bike, and housing plans that the city wants for the future.



La Cocina, a food incubator, rents affordable professional kitchen space to start-up entrepreneurs.

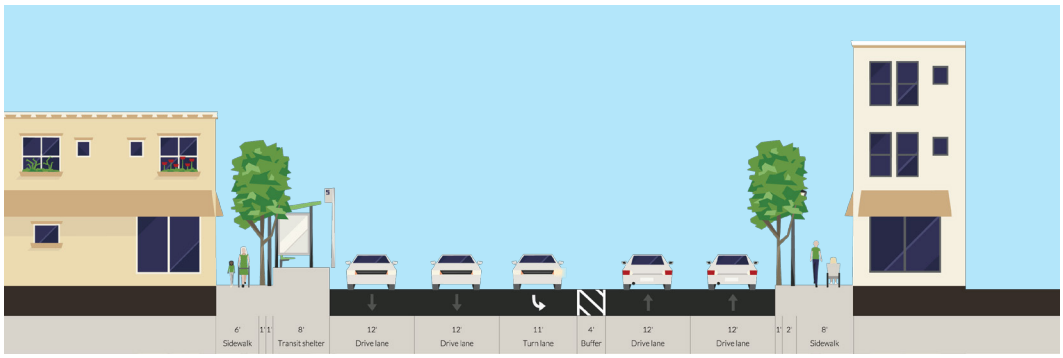
4

Re-thinking Cicero



Cicero Existing

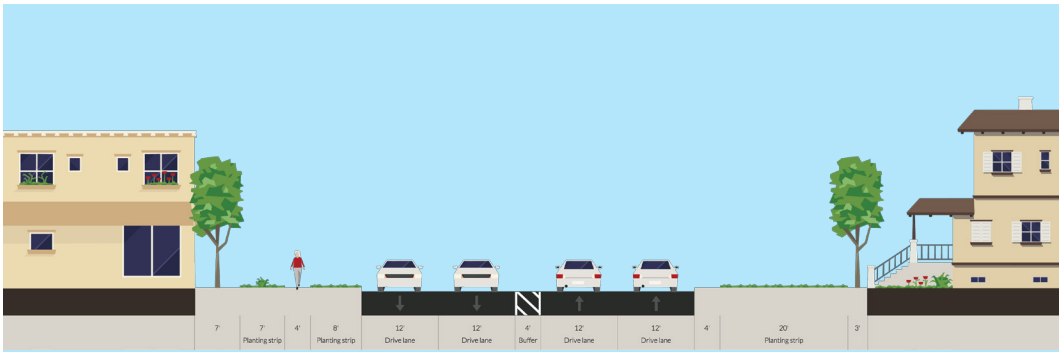
Cicero, the main commercial thoroughfare through the Gateway Corridor, is controlled by the County. The road is a treacherous environment for pedestrians, with few protected crossings, enormous building setbacks, seas of parking, no street trees, and no benches or places to wait for the bus. The roadway, and the sidewalk improvements are mostly out of the City's hands, but strategic zoning and low-hanging fruit of pedestrian, bicycle, and transit amenities, along with street trees could transform Cicero into a more thriving, walkable commercial district that would lure people as they exit the Metra or adjacent bike trail.



Cicero Re-thought

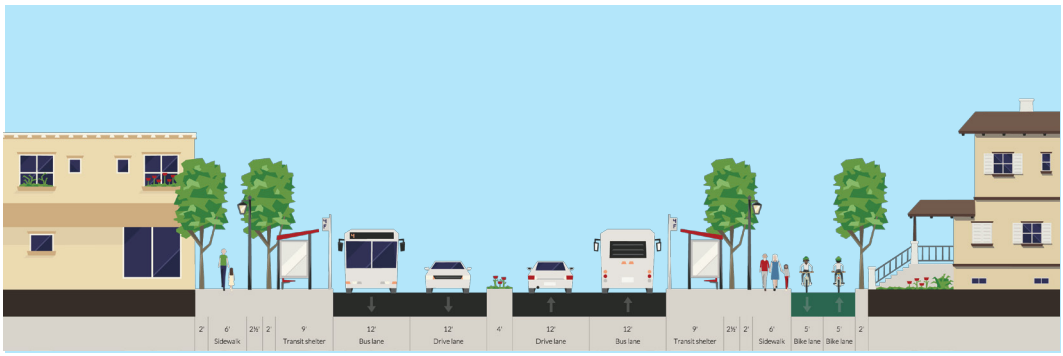
Zoning changes would include significantly smaller building setbacks, where parking is located behind the buildings. Improved pedestrian amenities would include more controlled pedestrian crossings, bus shelters with illumination, and street trees.

Re-thinking 159th St.



159th Existing

159th St, the other main thoroughfare through the Gateway Corridor, is controlled by the State. The road is also a treacherous environment for pedestrians, with few protected crossings, enormous building setbacks, miniscual sidewalks, no street trees, and no benches or places to wait for the bus. The positive about 159th, especially near the Metra station, is that there is a lot of public right-of-way to work with on either side of the street that is currently covered in grass.



159th Re-thought

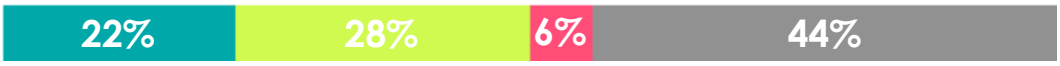
Utilizing this public right-of-way to drastically expand the sidewalk, continue the pedestrian-scaling lighting treatment from Cicero, add buffer street trees, and add transit amenities would drastically change the pedestrian environment along 159th. More creative ideas could include installing a protected bike path on one or more sides, or even specifying smaller setbacks from the street in the zoning code.

Sustainability Assessment

Gateway Corridor Neighborhood, Oak Forest, Illinois

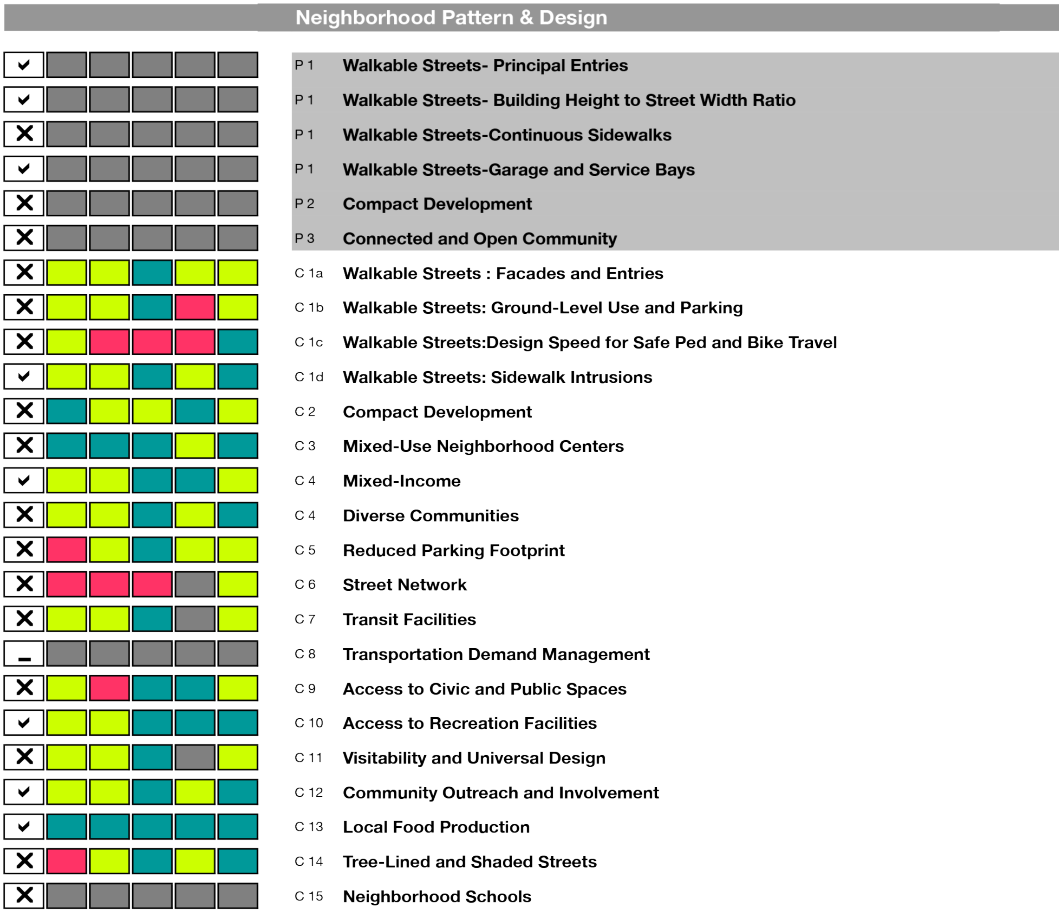
Legend	
✔	Achieved
?	Unkown
✕	Not Achieved
–	Does not exist/ NA
	Explicit support/ no technical issues
	Lack of explicit support/ minor technical issues
	Opposition/ signficant technical issues
	Not Applicable

Baseline Conditions	Local/Regional Planning Priority	Regulatory Support	Technical feasibility	Market Support	Neighborhood Need/ Stakeholder Input		Smart Location & Linkage
✔						P 1	Smart Location
–						P 2	Imperiled Species and Ecological Communities
✔						P 3	Wetland and Water Body Conservation
–						P 4	Agricultural Land Conservation
✔						P 5	Floodplain Avoidance
✕						C 1	Preferred Locations
✔						C 2	Brownfield Redevelopment
✔						C 3	Access to Quality Transit
✕						C 4	Bicycle Network
✕						C 4	Bicycle Storage
✕						C 5	Housing and Jobs Proximity
–						C 6	Steep Slope Protection
–						C 7	Site Design for Habitat or Wetland and Water Body Conservation
–						C 8	Restoration of Habitat or Wetlands and Water Bodies
–						C 9	Long-Term Conservation Management of Habitat or Wetlands and Water Bodies



Based on the in-field assessment, planning document review, various stakeholder meetings, the Global Green team estimated which LEED-ND credits were "Likely," "Possible with Effort," "Unlikely" to be achieved, or "Not Applicable," considering existing conditions, technical feasibility, policy readiness, financial burden, and applicability to neighborhood conditions. The bar graph summary identifies the overall level of sustainable neighborhood performance for the Washington Neighborhood. Many credits fall into the "Likely" category, and of the remaining credits, a significant percentage fall within the "Possible with Effort" category, which shows the large potential for improving the sustainability of the neighborhood, specifically by pursuing the high-priority recommendations described in this report.

Sustainability Assessment



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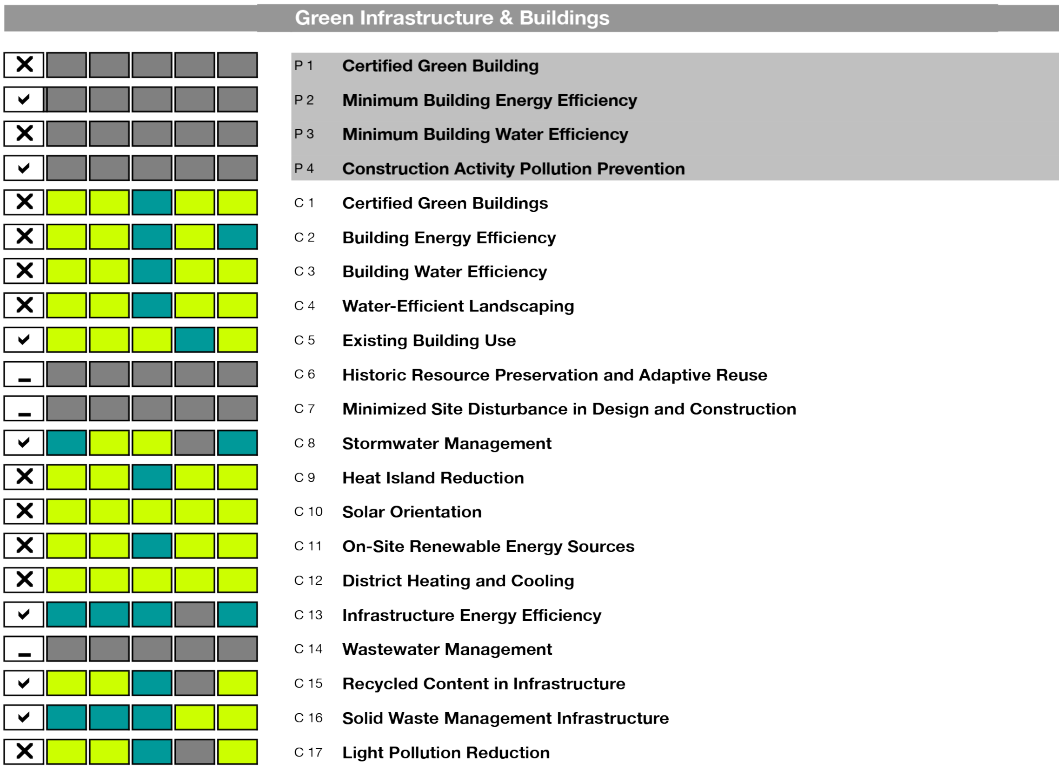
Sustainability Assessment



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Appendix

A. LEED for Neighborhood Development Credit Categories

Smart Location and Linkage [SLL]:
SLL focuses on preserving the environmental characteristics inherent to the site such as water body and steep slope protection and influencing development patterns to reduce sprawl and automobile dependence. Credits in this category encourage locating new developments near city centers with robust public transportation options and sites that have been previously developed or are immediately adjacent to existing development.

Neighborhood Pattern and Design [NPD]:
NPD influences the physical layout and design of the community in question through minimum thresholds for density, internal and external connectivity, and characteristics of a walkable community such as continuous sidewalks or building frontages that face public streets. Credits in this category reward projects that have nearby civic, educational and recreational facilities, limited surface parking and have transportation facilities complete with maps and bicycle racks.

Green Infrastructure and Buildings [GIB]:
GIB emphasizes the importance of the optimized performance of structural systems and city infrastructure through minimum building energy and water efficiency, water-efficient landscaping and on-site renewable energy production. Credits in this category promote the adaptive reuse of existing buildings, on-site stormwater management, recycled content in infrastructure such as roadbeds and energy efficient traffic lights, street lights and water pumps .

For more information, please visit www.usgbc.org

B. Glossary of Terms

Biophilic Design - Design principles founded upon the theory that all humans possess an innate affinity for the natural world.

Bioswale - Stormwater management element filled with vegetation, compost and stones in order to slow, clean and infiltrate runoff. Cistern - An underground tank used for storing water.

Evapotranspiration - The natural process of water entering the atmosphere from soil and plants though evaporation.

Green Infrastructure - Stormwater management strategy that utilizes elements such as bioswales, permeable surfaces, rain gardens and constructed wetlands.

Infiltration - The gradual transfer of captured stormwater from basins into the ground.

Permeable Paving - Specifically engineered asphalt, concrete or other materials which enable stormwater to infiltrate into the ground. Rain Chain - An alternative downspout used to funnel stormwater from roofs into cisterns, rain barrels or rain gardens.

Urban Heat Island Effect - Describes the distinct heat differential between urban and rural areas due to the embodied solar energy stored in elements found in the built environment such as concrete and asphalt.

Global Green USA
Green Urbanism Program
2218 Main Street 2nd Floor
Santa Monica, CA 90405
www.globalgreen.org