

The Transportation for Livable Communities Initiative

The Federal Transit Administration initiated the Livable Communities Initiative (TLCI) to strengthen the link between transit and communities. In Cuyahoga County, Ohio, the Northeast Ohio Areawide Coordinating Agency (NOACA), the area’s metropolitan planning organization, coordinates this planning initiative for local municipalities. Plans created through this initiative are expected to include pedestrian and bicycle transportation improvements, redevelopment scenarios and design guidelines for public and private improvements that promote mixed-use development and policy recommendations. The City of Euclid applied for this planning grant and included health impact assessment as an innovative way to engage residents and to ensure health and equity were considered in this plan. In March of 2011, Euclid was awarded a TLCI grant by NOACA, to develop a transportation plan for a four mile stretch of Euclid Avenue.

Goals for the TLCI of Euclid Ave

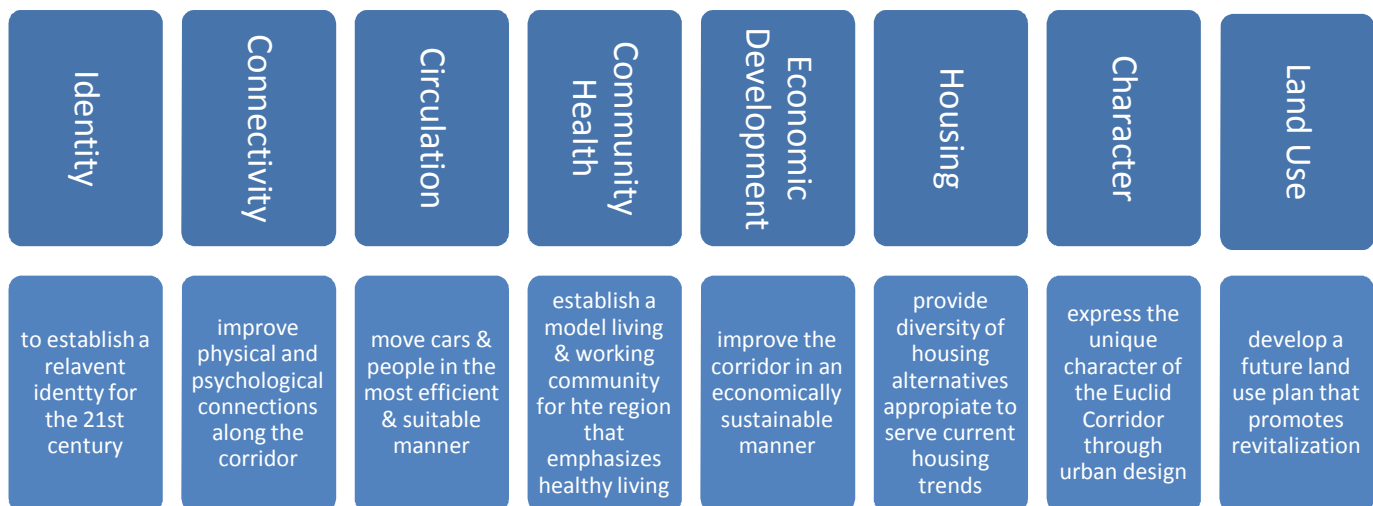


Figure 1. Goals for the TLCI Plan of Euclid Ave. in Euclid, OH

The Cuyahoga County Board of Health, along with the City of Euclid, Cuyahoga County Planning Commission, and the Northeast Ohio Areawide Coordinating Agency (NOACA) conducted a Health Impact Assessment of *Destination Euclid: The Euclid Avenue Recreationway Corridor* (the title of their TLCI Plan) recognizing that there were clear impacts that “Destination Euclid” could have on health and equity.

What is Health Impact Assessment (HIA)?

HIA is a public engagement and decision-support tool that can be used to assess policy and planning proposals and to make recommendations that can lead to improved health outcomes associated with those proposals. The fundamental goal of HIA is to ensure that health and equity are considered in the decision-making process using an objective and scientific approach, while engaging community stakeholders.

Why Conduct an HIA?

The Cuyahoga County Board of Health (CCBH) applied for and received the HIA mentorship award from NACCHO, which assisted by providing expertise from others who had conducted transportation HIA's in the past. The Euclid TLCI plan emerged as an opportunity through the existing partnership with the CCBH's Creating Healthy Communities (CHC) coalition and work focused to improve the health of the community. As a cooperative effort involving various stakeholders, the City of Euclid and the CHC project plan to further the City's commitment to the CHC program principles to address the shared goals to reduce chronic disease including heart disease, diabetes, cancer and stroke through a health equity framework in this diverse inner ring suburb (See figure 2 for study area demographics). Funded by the Ohio Department of Health's Preventive Health and Health Services Block Grant, the CHC program focuses on policy, system, and environmental changes. In addition to the NACCHO and CHC support, the Saint Luke's Foundation of Cleveland also provided funding support and technical support with Human Impact Partners to complete the HIA process.

Although the Euclid TLCI plan did consider health in a basic sense, the HIA team wanted to elevate and broaden the focus on health and emphasize a focus on equity assuring that recommendations responded to issues important to the community. The HIA also provided the opportunity to influence the City Planning Department to value projects from a community perspective rather than an economical perspective.

The HIA for “Destination Euclid” occurred concurrently with the TLCI planning process with the intent to integrate recommendations which promote health and mitigate potential negative health impacts, ensuring that Euclid is addressing important quality of life issues of residents. Through this HIA process, the team sought to inform and influence partners such as NOACA to adopt a “Health and Equity in all Policy” approach within their systems.

Figure 2. Study Area Demographics

The study area of the TLCI plan consists of 6 census tracts along the Euclid Avenue corridor, within Euclid, Ohio.

- *Six census tracts in this area are considered low to moderate income*
- *26% of households in this area are estimated to be below the poverty line*
- *High concentrations of minority and lower income residents*
- *70% of the individuals living in this area report themselves as non-White/non-Hispanic*
- *Over 7000 residents in this area are both low income and further away than 1.5 miles from a grocery store*
- *28% of households along this corridor do not have access to a car or truck for private use*
- *247 vacant parcels of property within study area at time of HIA development*

What were the Research Priorities?

The HIA team received stakeholder input about priorities by conducting a focus group with residents, interviewing Euclid officials, conducting a community garden online poll, community surveys, and reviewing the draft “Destination Euclid” plan. The health determinants that were prioritized for this HIA included **Access to Healthy Food, Vacant Lands, and Water Quality**. The rationale for choosing these determinants is outlined in the sections below.

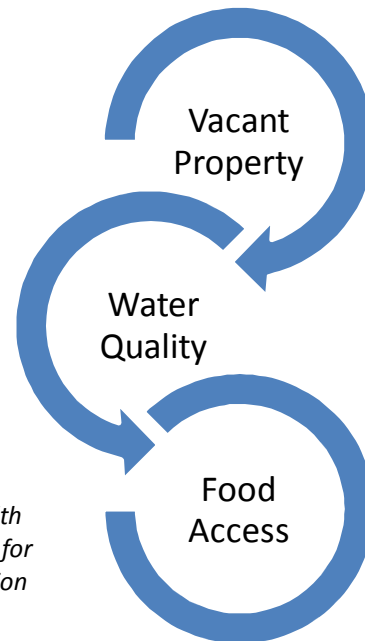


Figure 3. Health determinants for the “Destination Euclid HIA”

Table 1. Assessment methods used in the “Destination Euclid” HIA

Research Method	Activities
Analysis of Existing Data	Review of food access data/maps, land use data/maps, vacant property inventory, crime data, vacant land maintenance data, water quality data, leaky underground storage tank (LUST) database, brownfield data, economic studies on grocery stores and farmers’ markets, property value data, census/demographic data, and public transportation data
Literature Review	Literature review of empirical research studies on the relationship between vacant land and health (physical, mental and environmental), food access and health (physical and mental), water quality and health (physical and environmental)
Mapping	Original maps were created for leaky underground storage tank (LUST) locations, land use, crime near vacant property, and property values
Original Data Collection	Euclid community residents provided original data via a TLCI focus group series and stakeholder meetings, a community garden poll (82 responses), and an HIA recommendations survey (over 200 responses)



Image 1. Heritage Square on Euclid Ave. Euclid, OH

“The stores I like are too far away from where I live. I’d like to be able to walk.”
~Euclid Resident

Access to Healthy Food

The definition of a “food desert” by the U.S. Department of Agriculture is an area in the United States with limited access to affordable and nutritious food, particularly areas composed of predominantly lower-income neighborhoods and communities, or areas “distant from mainstream grocery stores.” People living farther from full-scale grocery stores tend to eat a less nutritious diet, which contributes to chronic diseases. The HIA team decided to focus on *Access to Healthy Food* given the data showing that the TLCI Euclid Ave study area is considered a “food desert” for over 7000 residents. Compared to the rest of the community, the study area for the TLCI is a much worse food desert than other areas of Euclid and most areas in Cuyahoga County, with a large number of low income residents living over 1.5 miles from even a medium sized grocery store. Residents responding to the HIA recommendations survey expressed a lot of concern about the limited access to healthy food, especially access to high quality fresh food.

Figure 4. Food Access Map of the TLCI study area

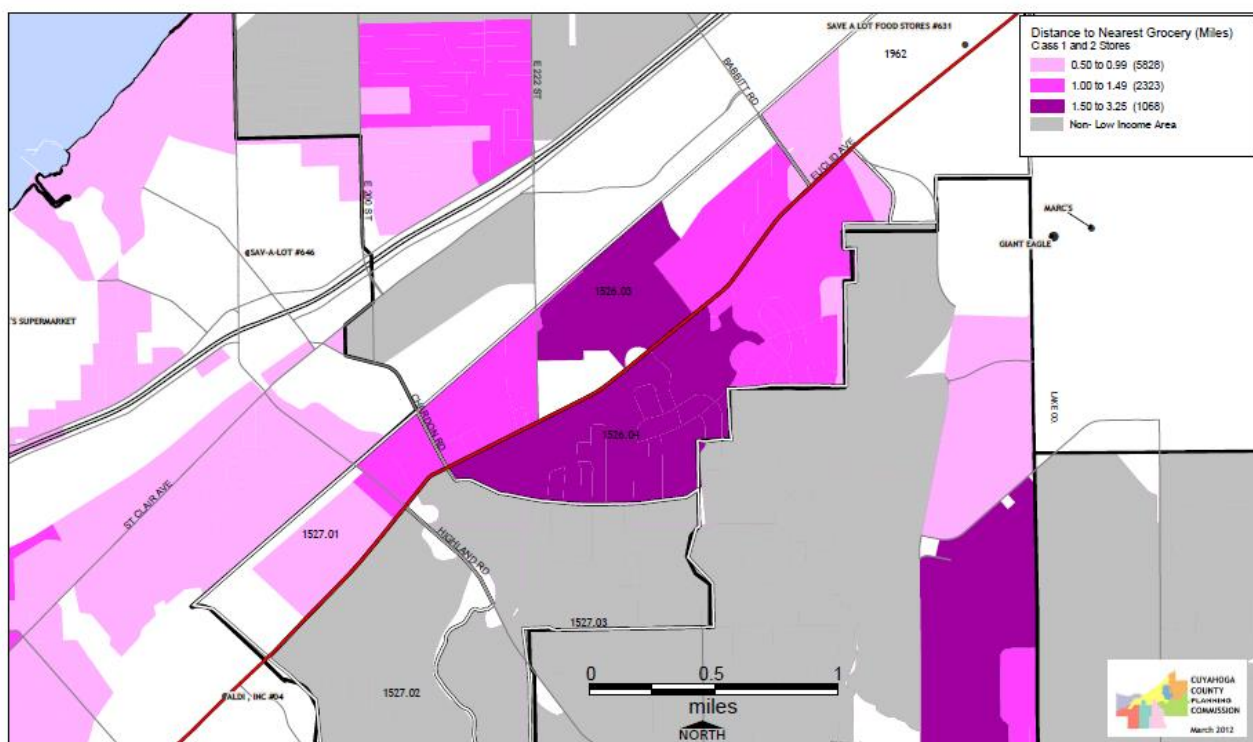


Table 2. Access to Healthy Food Predictions

Predicated impact	Magnitude	How will this happen?
Elimination of food deserts	For over 7,000 limited income Euclideans	Incentivize a grocery store in planning area
Improved diet	Increase likelihood of healthier diet by 25% - 46%	Locate grocery store in planning area
	Gardeners are 3.5 times more likely to consume 5 servings of fruits and vegetables each day and be more physically active than non-gardeners	Add community gardens
Increased property values	Increase in property values by as much as 9% within 5 years	Add community gardens
Jobs provided	100 - 200 new jobs	Locate grocery store in planning area
Economic revitalization	Approximately \$250,000 in annual economic growth	Add a seasonal mid-size farmers' market
	Over \$89 Million gap in retail food and beverage in the 2-10 mile radius of the plan area	Locate grocery store in planning area

Healthy Food Access Opportunities in the “Destination Euclid” Plan Area

The findings of the HIA team provided compelling arguments for the inclusion of several healthy food access opportunities along the Euclid Avenue corridor. Adding a full service grocery store will likely improve the nutrition quality of the diets of those living nearby, resulting in lower incidence of chronic disease, while improving the economic vitality of the area through job creation. Although the TLCI planners did recommend increasing food retail in the area, the group only suggested the addition of a 25,000 square foot store. This size of store is typically an economy type of grocer. The majority of residents (66% or 135 people) responding to the HIA recommendations survey clearly preferred a “full service, high quality, larger store”, which is typically around 40,000 square feet or larger.

One or more community gardens nestled within residential areas will improve the health (both nutritionally and physically) of those gardening and likely improve property values of nearby properties by up to 9% in 5 years. Eighty seven percent (87%) of respondents to the community garden poll reported that they would like to see more community gardens in Euclid.

Image 2. Memorial Park Community Garden, Euclid, OH



Access to Healthy Food Recommendations

1. The City of Euclid should identify and provide incentives to incorporate a grocery store in the Euclid TLCI planning area.
2. The City of Euclid should zone vacant properties within residential clusters in the planning area for community gardens, and develop programming to market and support residents who want to begin community gardens.
3. Add a seasonal mid-size farmers’ market in a densely populated highly visible, easily accessible site within the planning area.

Image 3. A Community Supported Agriculture Program “Fresh Stop” on Euclid Ave providing discounted fresh local produce shares to approximately 25 Euclid families per week.



Vacant Properties & Brownfields

The Environmental Protective Agency (EPA) defines brownfields as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant”. Contaminants found embedded in brownfields can be carcinogenic or pose other health risks. Vacant properties are properties with empty land (lots) and with buildings located on the properties. Examples of vacant land reuse strategies may include converting lots/properties to a community garden, park, greenspace and/or side yard expansion. Vacant properties can impact health because of the healthy reuse potential (physical activity and exposure to nature, healthy food production) and because if unaddressed, can lead to physical disorder and crime. Over 80% of responses of the HIA recommendations survey reported that they were concerned about vacant property. The major concerns included having a negative community appearance, decrease nearby property values, and crime.

Table 3. Vacant Properties and Brownfields

Predicated impact	Magnitude	How will this happen?
Decreased stress, improved mental health	Philadelphia saw a reduction in gun assaults in over a 9 year period due to vacant land revitalizing strategies Research showed a decrease in 15 of 24 disease clusters in a 1 km radius in environments with more green space. This relationship was strongest for anxiety disorders and depression, and for children and lower income populations.	Designate land for future parks, open space or reforestation
Increased physical activity	Area residents utilizing converted vacant lots	Designate land for future parks, open space or reforestation
Improved diet	Residents using community gardens	Add community gardens on vacant lands and brownfields
Toxic exposure	15 leaky underground storage tanks (LUST) sites and other unrecognized brownfield sites; 247 vacant parcels with unknown former uses	Consider addressing soil pollution on vacant lands in TLCI Plan (not currently addressed)
Decreased city costs	The city will save approximately \$200 per lot per year once reallocated	Vacant land reuse (disposal) strategies
Improved property values	Properties adjacent to vacant lands have decreased property value. Cleanup and redevelopment of brownfield properties increase property values between 5-15% within 3/4mile of the site. Vacant land improvements result in surrounding housing values increased by as much as 30%.	Convert vacant lots to community gardens, parks, open space, or forests.
Unmarketable Brownfield sites	15 LUST sites and other as yet unrecognized brownfield sites	Consider addressing brownfields in TLCI Plan

Vacant Property risks and opportunities in the “Destination Euclid” plan area

The HIA team examined research and the existing landscape of the TLCI planning area. The existing TLCI plan did not directly address vacant properties, specifically brownfields or other negative impacts of vacant properties, thus recommendations were provided to address soil contamination, to reduce the risk for exposure to carcinogens for residents living near vacant properties that are potential brownfields.

Utilizing vacant property for parks and open space can reduce violent crime (gun assaults), decrease anxiety disorders and depression. Providing a plan for the City of Euclid to reuse vacant property will help save the city approximately \$200 per lot once reused. Utilizing vacant land for gardens, parks and open space or forests could increase nearby property values by 5-15% within $\frac{3}{4}$ mile. Euclid residents responding to the HIA recommendations survey were supportive of the vacant property reuse ideas including using them for community gardens, growing vegetables and fruits, creating mini parks, and planting trees and native plants.

Image 4. Vacant residential property near Euclid Ave.



Vacant Property Recommendations

1. The City of Euclid should conduct a vacant property assessment to identify brownfields and former uses through assessment grant funding.
2. Investigate LUST sites for remediation and reuse; grant resources are available to remediate environmental contaminants.
3. Promote current City interim use agreements for land bank vacant lots to encourage community gardens, pocket parks & green spaces.
4. Consider planting tree nurseries or permanently reforest vacant properties.
5. Incorporate requirements to plant native trees on sites of redevelopment, greenspace or mixed land use plans.

Image 5. Mini park example



Water Quality

As defined by the U.S. Geological Survey, “water quality” can be thought of as a measure of the suitability of water for a particular use based on selected physical, chemical, and biological characteristics. To determine water quality, scientist’s first measure and analyze characteristics of the water such as temperature, dissolved mineral content, and number of bacteria. Selected characteristics are then compared to numeric standards and guidelines to decide if the water is suitable for a particular use. Standards and guidelines are established by the U.S. Environmental Protection Agency (USEPA) and the States to designated uses such as drinking, recreation, agricultural irrigation, or protection and maintenance of aquatic life. Standards for drinking-water quality ensure that public drinking-water supplies are as safe as possible. Other standards protect aquatic life, including fish, and fish-eating wildlife. Along with data from water quality stewards, a large number (46.8%) of Euclid residents reported in the HIA recommendations survey that they are concerned about pollution in their local streams. Also, the majority (73.9%) were aware of the problem that stormwater can cause pollution to local streams.

Image 4. Euclid Creek



Table 4. Water Quality

Predicated impact	Magnitude	How will this happen?
Fewer sewage releases into receiving streams	There were 101 sewage releases from 2011 – 2013 in the City of Euclid. The study area has 13 combined sewer systems draining into the Euclid Corridor. Releases happen due to weather and infrastructure failures.	Increase in Best Management Practices (BMP): more permeable surface area, vegetative filter strips, parks, installation of bioretention cells and other BMPs. This will reduce the volume of water flowing into the sewage system during storms.
Less nutrient load within the watershed drainage areas.	Reduction of ammonia, sodium, phosphorus levels and presence of E-Coli in the watershed.	Increase in BMP’s: implementation of a sensible salt policy, more permeable surface area, vegetative filter strips, installation of bioretention cells and other BMPs.
Reduced incidence of water-borne illness	Reduction from current 16 waterborne illnesses between 2008 and 2012.	Through the reduction of CSO releases into watershed drainage area/receiving streams.
Protection from closure of beaches for recreation and fishing	For residents and visitors.	Through the reduction of CSO releases into watershed drainage area/receiving streams.

Water Quality Opportunities in the “Destination Euclid” plan area

Currently the TLCI plan proposes to reduce the width of areas along Euclid Ave, this will benefit stormwater management through increasing landscaping and plantings, however specifics were not provided. The HIA team recommended integrating best management practices such as permeable pavement, vegetative filler strips, increasing parks, trees, bioretention cells to improve stormwater filtration and slow sewer uptake, which will reduce the number of sewage releases into streams and Lake Erie. These best management practices, once implemented will reduce the number of recreation beach closures, the incidence of waterborne disease illnesses and the number of E-coli in streams and Lake Erie. Implementing a sensible salt policy could lead to reduced ammonia, sodium, phosphorus in streams and Lake Erie. Over 53% of the residents responding to the HIA recommendations survey supported the idea of a sensible salt policy, which involves reducing the amount of salts used on the roads in winter months. Implementing a regular street sweeping policy will reduce harmful nutrient contamination in streams and Lake Erie. These recommendations were supported by the residents responding to the HIA recommendations survey.

Water Quality Recommendations

1. Implement non-infrastructure and infrastructure improvements related to storm water management. For example, reforestation/replanting; wildflower replanting/ grassing; and permeable pavement policy.
2. Incorporate BMP's for stormwater runoff into the Draft Plan in conjunction with each other.
3. Require development designs to collect runoff for infiltration into the soil.
4. Review zoning regulations to implement policies that allow for narrower street widths.

Conclusion

The “Destination Euclid” plan impacts local area residents, businesses and surrounding cities. Incorporating the HIA recommendations will enhance the plan with health and equity considerations that were not initially reflected during the planning process. By incorporating these recommendations throughout the “Destination Euclid” plan, the HIA aims to address health concerns and improve quality of life of the residents, while building the economic vitality of the area with alternative solutions. Please see the full Euclid Ave. TLCI HIA report.

Contact information:

Michele Benko, M.S., R.D., L.D.
Cuyahoga County Board of Health
216-201-2001 x1528
mbenko@ccbh.net

Ann Stahlheber, M.S., R.D., L.D.
Cuyahoga County Board of Health
216-201-2001 x1544
astahlheber@ccbh.net