



# **CHOICE: a social dilemma**

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I dedicate this book to my dad.

Who told me I would never become an architect.

“That’s a pipe-dream,” he said.

And to the people who have not yet inherited Earth.

May it still be something worth inheriting.

**We live in a world in which it is okay to waste.  
When we can throw nearly everything we own away and buy new,  
how can we think about the future?  
A Coke can may be disposable, but our Earth is not.**

**We cannot continue to live the way we do now.**

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# THE PROBLEM

# America: and the 'I want it now!' Syndrome

Americans grow up in a world in which they are taught to want, buy, and then throw away almost everything. Let Veruca Salt from Willy Wonka represent this phenomenon of 'I want it now!'.

When Americans make Christmas lists or step into Walmart, they turn into Verucas. They do not think about how what they want was manufactured, composed of, or how it was transported the store where they bought it. Americans certainly do not think about what happens when they are done with what they once wanted and is now on its way to the city dump.

Annie Leonard's book, *The Story of Stuff*, has a picture on the cover of a figure pushing a shopping cart, mirrored by the same figure pulling a trash can of the same stuff. This image captures the very idea of not knowing what to do with the stuff one does not want anymore.

Why do we keep buying stuff and wasting?

What is the ultimate source of these thoughts and behaviors?







# Out of Sight. Out of Mind.

It's Tuesday morning in the average American suburb.

Americans are dragging their garbage cans to the street curb for 'them' to take it 'away'.

The waste is no longer a worry for the American homeowner.

"They" (the garbage men) "took it away" and it will no longer stink up the garage but rather some landfill somewhere.

Since most Americans do not have to worry about this far-off landfill site, they put it out of their minds.

Americans have been taught to put blinders on, like those of a horse, to landfills or starving children.

They know that landfills exist, yet conventional ways have taught us to ignore things like landfills and put more in the shopping cart.



**What if...**

**...advertisements and celebrity endorsements...  
weren't just about buying stuff.**

What if A-list celebrities like Beyonce, instead of posing for perfumes and music videos, endorsed good causes like recycling and waste composting.

Beyonce could use her sex appeal to coach people to make the decision to recycle.

Daniel Craig could pose for bulletin boards advertising composting instead of overpriced watches.

**Hey baby.**

**You know I like it  
when you recycle.**



**Darling,  
You really know how to  
compost that waste.**





# The Story of Stuff

“We depend on this planet to eat, drink, breathe, and live. Figuring out how to keep our life-support system running needs to be our number-one priority. Nothing is more important than finding a way to live together--justly, respectfully, sustainably, joyfully--on the only planet we can call home”

-Annie Leonard  
Author of The Story of Stuff, 2010

There is a story of a photographer who heard about these great birds that live on an island off the American coastline.

When the photographer arrived on the island, he realized that many of the baby birds were dead. He decided to dissect one of the birds and see if he could find what was killing them.

The photographer discovered that their mothers were feeding the young birds plastic and other small objects that they had gathered from a nearby island being used as a landfill.



That is not food for birds.

That is human waste and it's killing baby birds.

<http://accidental-greenie.blogspot.com/2012/03/take-3-initiative-single-use-plastics.htm>

# Stuck in a Paradigm

Leonard gives her idea of what we should be focusing on, “...economic growth should be a value-neutral means toward the real goals: meeting everyone’s basic needs and creating healthier communities, greater equality, cleaner energy, sturdier infrastructure, more vibrant culture, etc.” (Leonard, 2010).

The truth is, Americans are stuck in a paradigm.

Once people realize that there are more important things than having stuff, they can learn to live better and healthier. Not only will this idea help Americans as individuals, but it will help make the world a cleaner and better place.

Veruca is a strong example, but it is obvious that she is blind to the needs and wants of the other people around her. She is so focused on herself that the happiness and other feelings of the Oompa Loompas and Willy Wonka’s other guests mean nothing to her. Maybe if Veruca was not so narcissistic she would be able to see the misery she caused.

Maybe Americans and other people on Earth need to take a step back and see what harm they are doing by wanting more than what they need to live. Leonard gives her encouragement for changing the paradigm, “although changing a paradigm can take generations, it can also happen in a second, when a person suddenly sees things in a new light” (Leonard, 2010).

Just think about the baby birds.



# Making Choices

It all boils down to making choices.

Humans have the power of free will and in America especially: freedom.

As the cover of this book suggests, we have a choice between chocolate or vanilla ice cream. Such a big decision.

Americans are so busy thinking about what ice cream flavor they want, that they forget about the necessities of life and what is really important.

The following pages suggest what choices we, as Americans, should really be making.



boxers

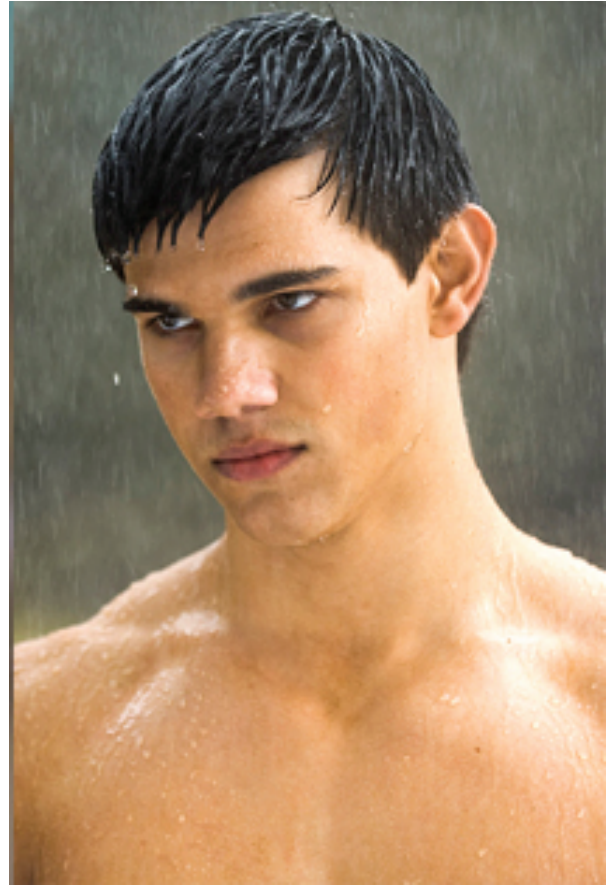
or



briefs



**Team Edward**



**Team Jacob**

or



**paper**

**or**



**plastic**



**clean swimming pool water**

**or**



**clean water to drink**





**crazy Christmas light display**

**or**



**just enough energy to heat  
a small hut in Mongolia**





# THE PROCESS



# Theories of Human Behavior When Making Choices

This process began with the desire to discover the psychological process that a human goes through when making a choice.

There is this big question of: Why do people still do things they know are bad for the environment?

Littering, for example, is something that is supposedly drilled into the heads of every young American, yet one can see the terrible effects of people who make the choice to litter,

“Many people think of pollution as something produced by large, anonymous organizations rather than themselves...a surprising amount of pollution and overuse of resources can be traced to the decisions and acts of individuals...That is why pollution and conservation may be described as behavioral problems, why it is reasonable to include them in a discussion of individual resource management strategies, and why so much research directed at pollution control involves attempts to change the behavior of individuals” (Gifford, 2007).

It is not just the big corporate companies that are dumping oil into the ocean.  
It is everyday people doing their everyday thing and making everyday choices.

From a study of choice-making theories, a connection was discovered and a bubble chart mapping connections was formed to show those interconnections of behaviors (see figure 1).

For instance, humans have the innate tendency to be individualistic and this can translate to a behavior called ‘immediate reward’ under the theory of Social Trap. An illustration of this theory: Sally is walking through the park and finishes her ice cream cone. There is a no trash can to be found and Sally wants to get rid of this sticky wrapper so she throws it on the ground to gain an immediate reward of no more sticky hands and she is free from the sticky wrapper.

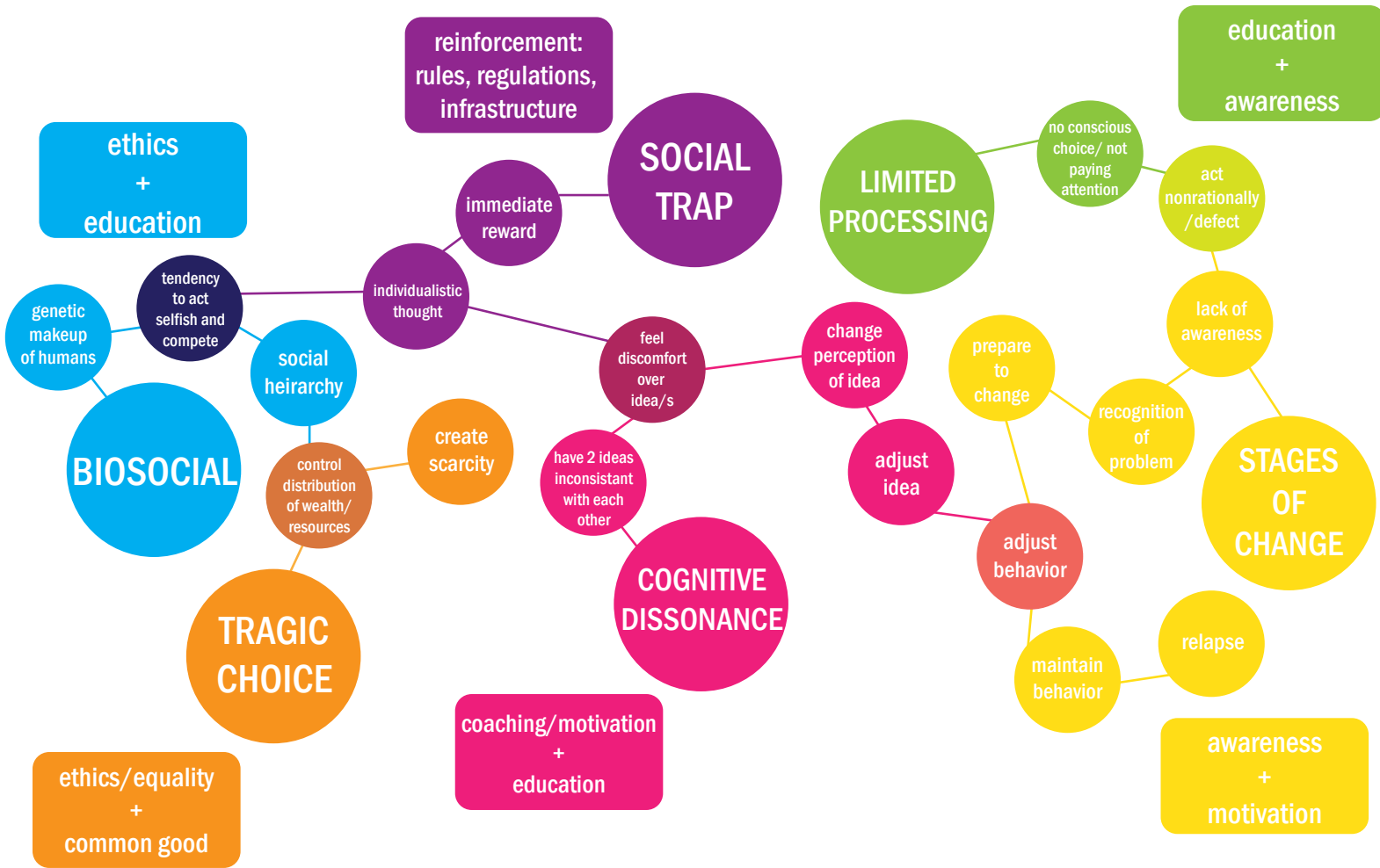


figure 1

# General Behavior Theory Towards Sustainability

To further the study of behaviors when making choices, Robert Gifford, author of *Environmental Psychology: Principles and Practice*, created his own theory of general behavior towards sustainability.

Gifford describes it as a sort of cycle, beginning with the ambient geophysical conditions, i.e. the environment arounds us. This theory says that whether or not humans are aware of it, the environment affects different aspects of our lives such as personal dispositions and values, social life, awareness of effects of resources, personal experiences, technology available, and rules and regulations. This theory is mapped out in figure 2.

All of these life factors affect decisions that humans make and in turn there are two major outcomes.

The first outcome contains three results that affect the person making the choices directly; financial, social, and emotional factors.

The other outcome is the profound effect from millions of people making the same decision. This completes the cycle with those results having a profound effect on the environment.

For example, Riley loves snow and the beautiful snowy Montana. The environment encourages his want to snowmobile. All of Riley's friends go snowmobiling and he loves to as well. Riley is not thinking about nor is he aware of the effects snowmobiling has on the environment: ruining natural landscapes and habitats and not to mention the gas emissions that the snowmobile expels. Riley makes a decision to snowmobile and he sees the result as happiness, the money it costs him to do so, and he was able to bond with his friends. Now Riley himself is really doing minimal damage to the environment, but when millions of people snowmobile for recreation, it can have a large and lasting effect on the environment.

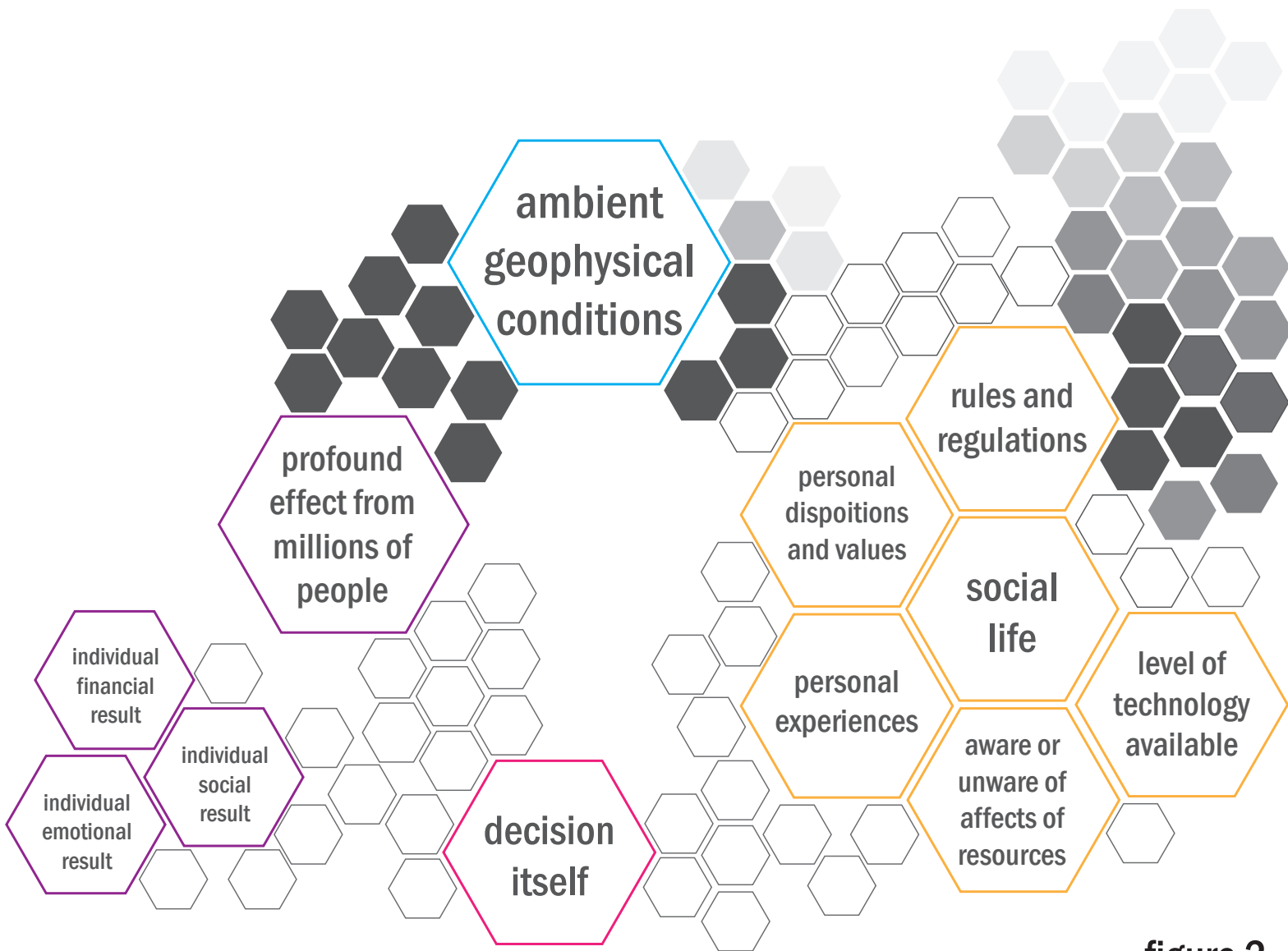


figure 2

# Within These Psychological Theories... Lies the Solution

Walt Disney figured out a solution to the Social Trap theory.

It is called infrastructure and it comes in the form of trash cans and where they are placed in correlation to food stands.

To deal with social trap behavioral issues, Disney had a trash can placed every seventeen steps, because that is how long it took him to finish his hot dog. This unit of measurement is still being used in Disney Parks today.

The rectangles in figure 1 are the ways in which interjections can be made in the choice making process that can have an effect on the outcome of the behavior.

Other common solutions include education and awareness. For example, people are not aware of overfishing or catching regulations when they sit down for a meal at Red Lobster. This is not saying that people need to know every detail about overfishing, but at least they can be aware of the positives and negatives of the source of the shrimp they are about to eat and be able to ask the Red Lobster staff questions or know the company's stance on the regulations.

One of the biggest issues of educating people on making good choices and knowing what the consequences of their actions are is that this education cannot be directed toward one generation or a certain group of people. Choice-making education needs to be available across all generations and groups of people. A major push for this kind of education will be aimed towards the younger and future generations. But current generations still have quite a bit of time left on the planet to do some additional damage, so they must be aware of and understand the negative cost of their actions as well.

# The Big {Thesis} Questions

How can architecture be a catalyst for education and creating awareness for making environmentally-friendly choices?

What is the scale and level of architecture in which an architect should intervene in the choice making process to have the greatest outcome and influence?





THE IDEA



# The Hypothesis

In order for people to make environmentally-friendly choices, they must first begin to care for people that are close to them.

By living in a community with shared living functions, the residents will begin to care about what happens to the environment around them and therefore the people around them.

One such example may be that the septic system of this community could be designed to be within close proximity to the main part of this community. This septic system discharges to a pond of an all-natural, black water filtering system maintained by an ecosystem of living organisms that eat the sewage-waste as a nutrient. Before Sally spills a chemical down the drain, she remembers the itty-bitty creatures that live in her septic system and also the smells and backups that will happen so close to home if she goes through with draining this chemical. Instead Sally takes proper precautions and takes the chemical to a facility to dispose of it properly.

Ultimately, the goal for this thesis is to establish the necessary components for a community based on the environment-behavior relationships researched.

Leonard agrees that “participating in strong, vibrant communities makes us happier and healthier. There’s lots of evidence that the single biggest contribution to our happiness is the quality of our social relationships” (Leonard, 2010).

# Definitions to Guide this Thesis

## Sustainable:

the word, 'sustainability' will not be used in the dialogues or example of this thesis. The word has been watered-down over the years to the point in which many do not know what the real meaning is. Instead of defining it for the purpose of this thesis, the idea will be embedded, but the word omitted.

## Intentional:

awareness of fundamental beliefs and the willingness to make an effort to have behavior reflect these beliefs in a form of integrity in relation to his or her conscience and environment. For example, the people living in this community chose to live here and they realize the effect they have on each other and perhaps even on the world. They live by the community ideals. Leonard expands more on this idea, "having stronger local communities means we buy less stuff, use less energy, consume fewer resources because we can share things and help one another. The more resources we can get locally--from vegetables to borrowed hand tools--the less energy is spent on transporting stuff all over the planet," (Leonard, 2010).

## Regenerative:

restore to a better state while continuing to produce and grow anew. This is the definition that sustainable wants to be. This word helps people who are wary about the whole eco-movement to understand that production and growth will not stop just because current means of producing are poor. This just means that we must think of new ways to produce and construct, but all the while it will be better than ever, because the waste from making the product can be recycled, reduced, or decomposed. Products and packages are pre-designed to handle what we struggle with today. The construction materials needed to build homes may be reusable or easy to deconstruct when changes need to be made. Regeneration allows for innovation, but still have hope for the future at the same time.

# Definitions to Guide this Thesis

## Resilient:

tending to recover or adjust easily to misfortune or change; passive survivability.

For instance, if a brownout occurs, there will be no need to worry at the homestead level. This community will be powered by the sun, will collect rainwater, and will be designed in such a way that air conditioning is not even necessary most days. Perhaps food in the freezer will go bad, but this community can function without being completely connected to the power grid.

## Interdependence:

live as a community and mutually depend on each other.

For example, Bob always tends the community garden, because everyone else takes care of their part of the garden. Not only would it look bad if Bob did not do his part, but he appreciates that his neighbors care enough about the garden to do their part.

## Solidarity:

unity (as a group or class) that produces and/or is based on a community of interests, objectives, and standards.

For example, instead of Noah complaining that his neighbor, Claudia, did not pick up the litter that blew into her garden, Noah goes over to Claudia's house and knocks on her door to make sure everything is okay; it is not like Claudia to forget or ignore something like this. Turns out, all three of her children have the Chicken Pox. No wonder Claudia did not notice the trash in her garden. Noah takes care of it for her. Annie Leonard can speak from experience about this community setting, because she lives in one similar to it in the San Francisco Bay area with her daughter. As a single mom, she finds this community setting to be a mutual exchange of every day functions that are just easier, because she has friends to lean on.

# The Formula

This thesis does not intend to create a copy-paste community or house design. Rather, it looks to produce a formula that informs other designers of the components and design features that a community needs to function.

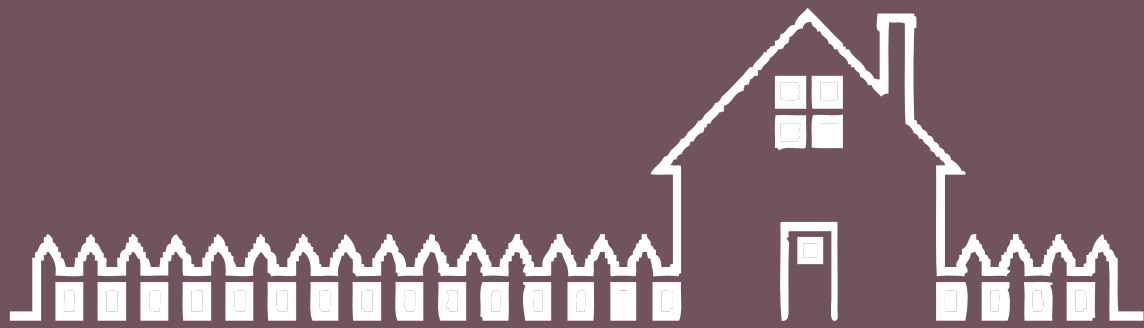
This formula will tell a designer what functions should be shared and where they should connect. It will also explain what needs to be done to incorporate a community such as this one to the existing urban fabric, that includes eco-friendly options and 'green' technologies.

This formula encompasses four areas of importance that cannot be ignored. These areas are economics, low impact, social, and aesthetics. They are crucial and must be balanced well in order for this community to work. No one would want to move to this community if they did not have a job nearby or good schools for their children.

As an architectural thesis, aesthetics will also play an important role in creating a design that is all of the above, but also innovative and creative at the design level.

Using those four areas of importance, a case study analysis took place to seek ideas not only for good, positive ideas, but what was not so good as well. The following four pages illustrate those areas and the pages following those are the eco-case study analyses. If a square is faded in one of the areas for a case study, it means that case is not strong in that area.

**farming** materials **security**  
water-**feature** **creativity**  
SEWAGE **sharings** solar  
recycling **design** architecture



**aesthetics**

**farming** materials **energy**  
**water** awareness  
**SEWAGE** sharings **solar**  
recycling **future** transportation



**low impact**

**culture** neighbors involvement  
**semi-public** **SUPPORTIVE**  
**awareness** cross-income  
community-based **sharing**



**social**



**money** construction **jobs**  
**harvest** **business**  
INDEPENDENCE transportation  
recycling **future** **sharing**



**economics**

# Eco-Design Case Study: Sunshower Home

New Orleans, Louisiana, USA

low impact

-integration of sun and water collection

aesthetics

-design shows awareness of sustainable technology and does not hide it's nature

economics

-experimental charity project (labor, design, and materials were donated)  
-does it really work for low-income families as predicted?

social

-only home like this in area and is seen as an outsider and 'weird'  
-any family that moves in to this home will have to deal with this condition



The Idea

Cloughjordan, Ireland

# Eco-Design Case Study: Cloughjordan Community

low impact

-solar field, district heating, community farm

aesthetics

-lack of design guidelines  
-homeowners built thier own homes based on their own abilities

economics

-middle of nowhere (would this work in an urban setting with different economic conditions?)

social

-very strong community  
-takes a village to raise a child



The Idea

# Eco-Design Case Study: Toronto Apartment Building

Toronto, Ontario, Canada

low impact

-urban permaculture, organic composting

aesthetics

-fits well into Toronto's urban context

economics

-training center and career help within building for people working in the hospitality and restaurant industry

social

-hospitality and restaurant industry worker housing (set culture)



The Idea

Arkansas, USA

# Eco-Design Case Study: Arkansas Multi-Family Community

low impact

-reuse of existing apartments

aesthetics

-new and attractive architecture with reuse of old style with new twist

economics

-new opportunity for northwest Arkansas, first of its kind in area

social

-private and public terraces, communal spaces



The Idea





# THE STUDIES












# Architectural Attributes

In order to realize the scale of architecture at the dwelling level in which can influence choices, a study of architectural attributes was conducted.

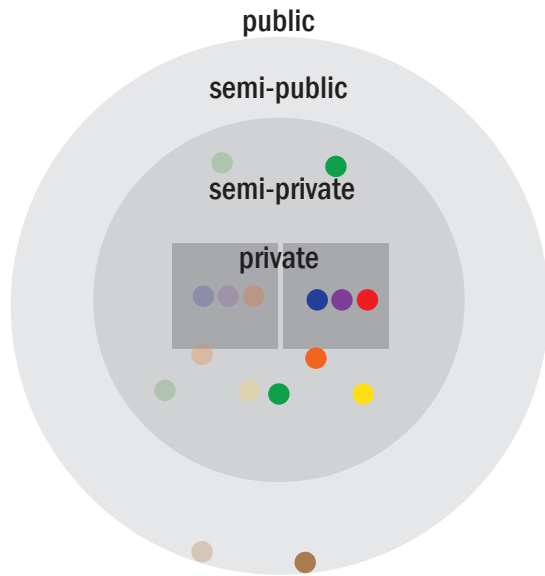
Architectural attributes tell something about the people that use the space, even if they are not using the space at the time.

Categories were determined as the most general sense of these attributes and their descriptions are as follows:

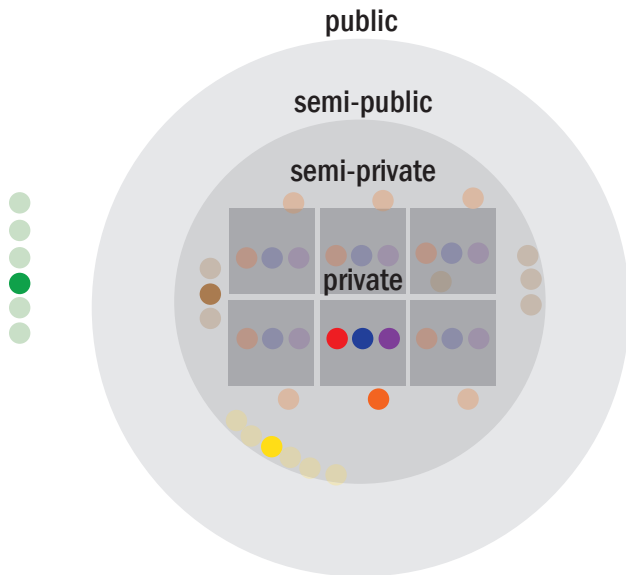
-  **dwelling** : living functions, visibility in/out
-  **connection to public** : sidewalk, walk-up, street setback, neighbor proximity, barriers
-  **transportation** : parking, curb/street, garage, driveway, runoff
-  **greenery/nature** : native species, visual/sound barrier, front/back yard, garden
-  **water** : plumbing in/out, visibility of water use/waste
-  **energy** : electricity/heating in/out
-  **waste** : compost, pickup, recycling, reuse

These architectural attributes were applied to selected case studies of seven typical housing situations. Those housing situations included; apartment, condominium, small single-family house, large single-family house, townhouse, multi-family, and duplex. Two different examples of each housing situation were used to give good representation and a range of results. For each housing situation example, a picture of that specific example was placed next to a diagram of an approximate size and shape in plan of the example within a series of overlapping shaded circles. The darker the circles, the more private the experience of the architectural attribute would be. The circles began on the outer edge with public, moving in with semi-public, semi-private, and private within the shape. Next each architectural attribute was assigned a color and then placed on each circle diagram in accordance with where that attribute took place in relation to the housing situation.

For example, in a small single-family home in Royal Oak, Michigan, the waste function of where the garbage is located is a semi-public function since neighbors can see how much trash the residents put out on garbage day and also it is possible that people can pick through your trash because it is actually city property once it is put out at the curb.

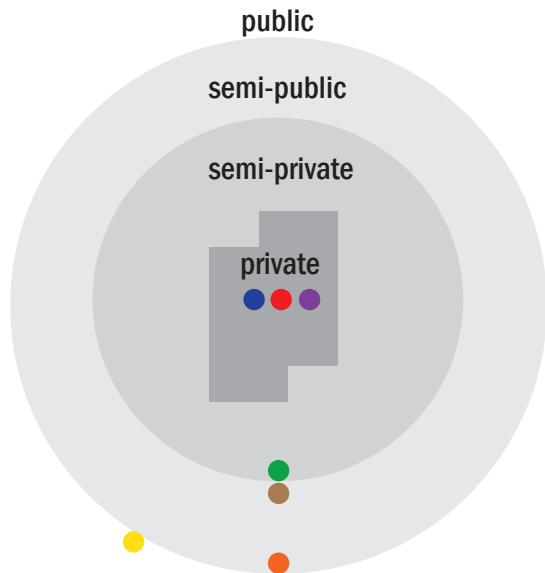


**CONDOMINIUM**{type 1}

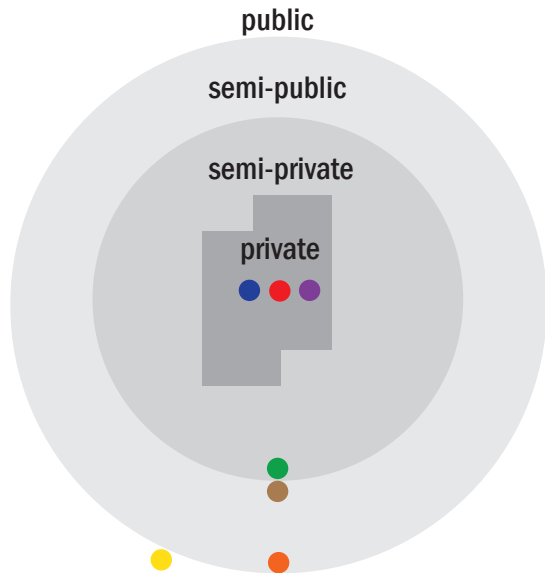


**CONDOMINIUM**{type 2}



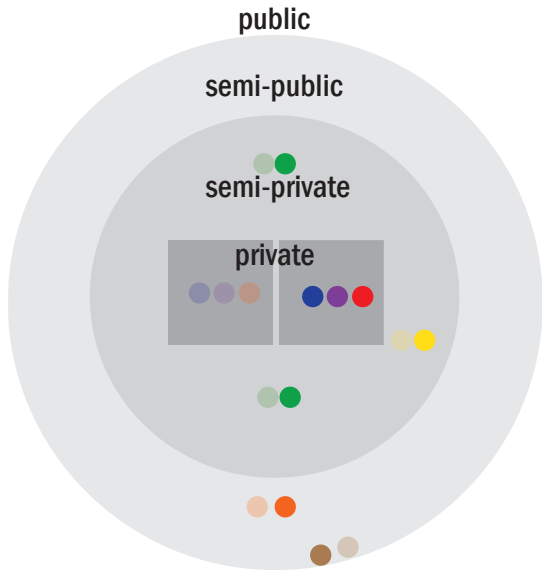


**DUPLEX** {type 1}

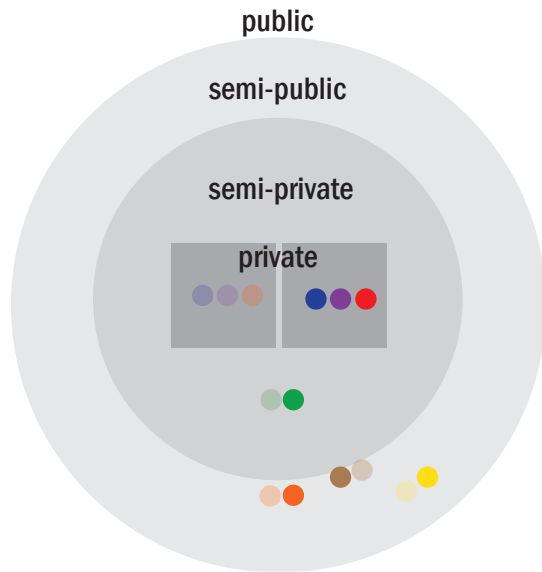


**DUPLEX** {type 2}



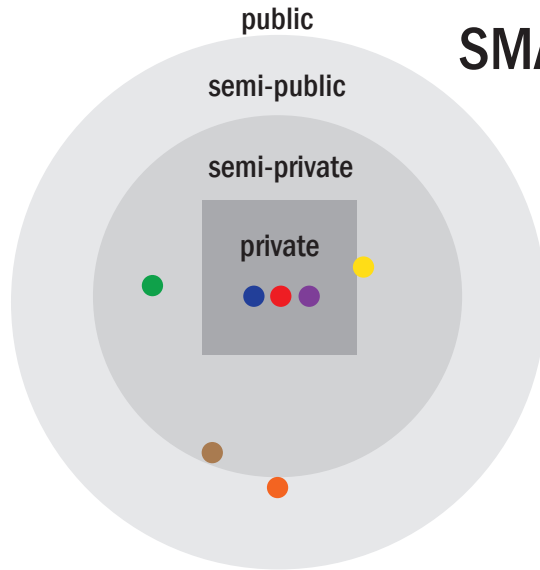


## MULTI-FAMILY {type 1}

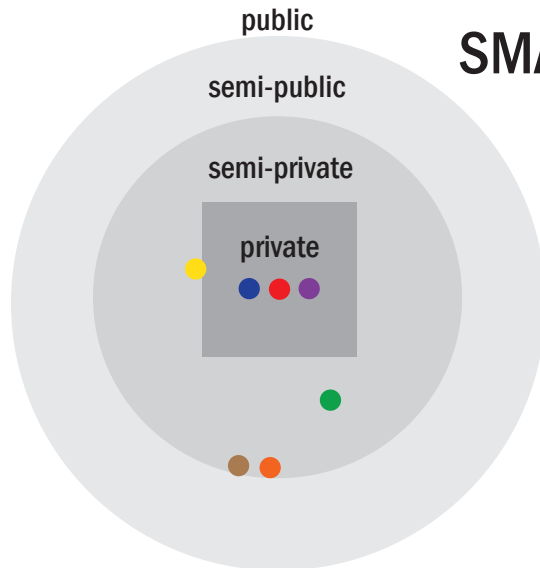


## MULTI-FAMILY {type 2}





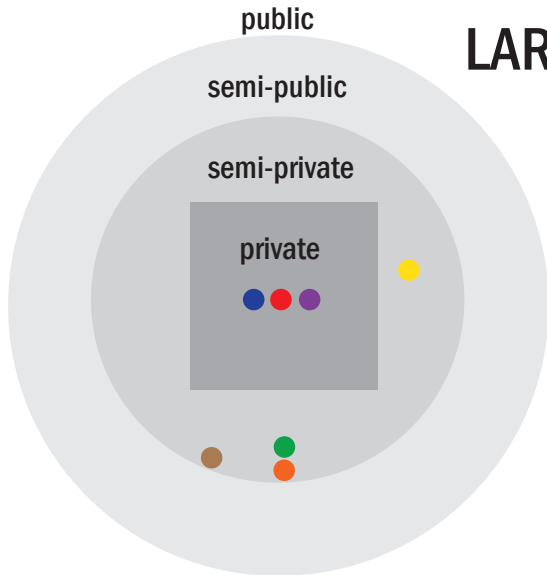
**SMALL SINGLE FAMILY HOUSE{type 1}**



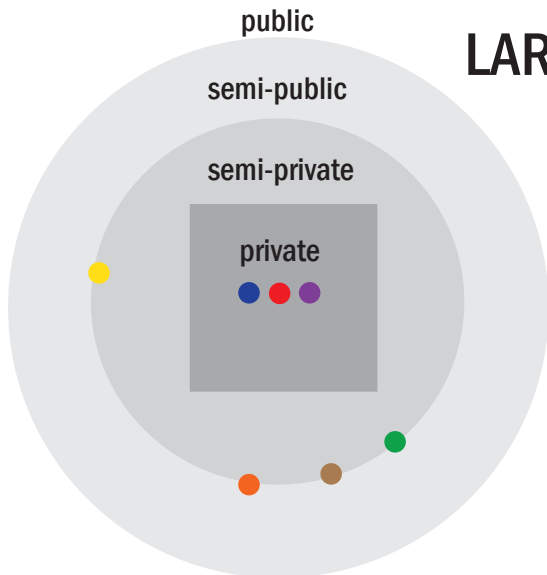
**SMALL SINGLE FAMILY HOUSE{type 2}**





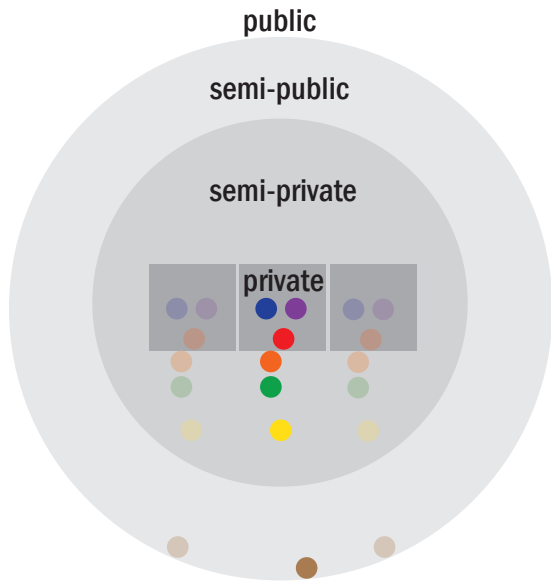


**LARGE SINGLE FAMILY HOUSE {type 1}**

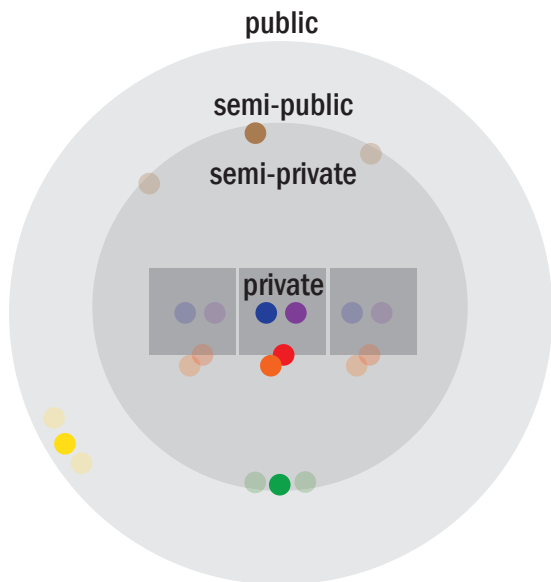


**LARGE SINGLE FAMILY HOUSE {type 2}**





**TOWNHOUSE** {type 1}

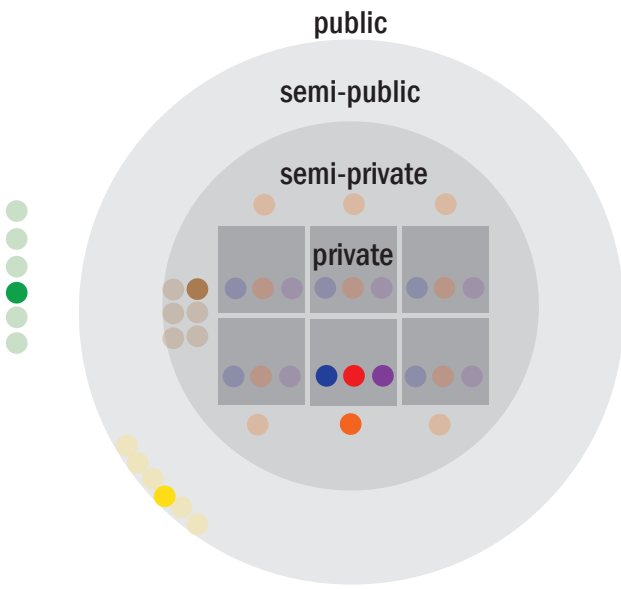
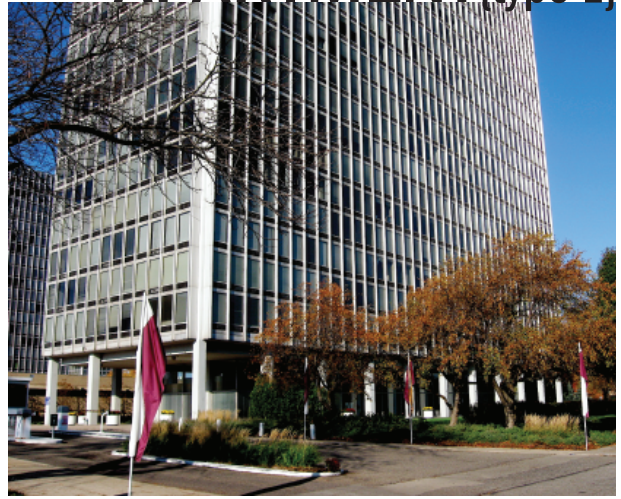


**TOWNHOUSE** {type 2}

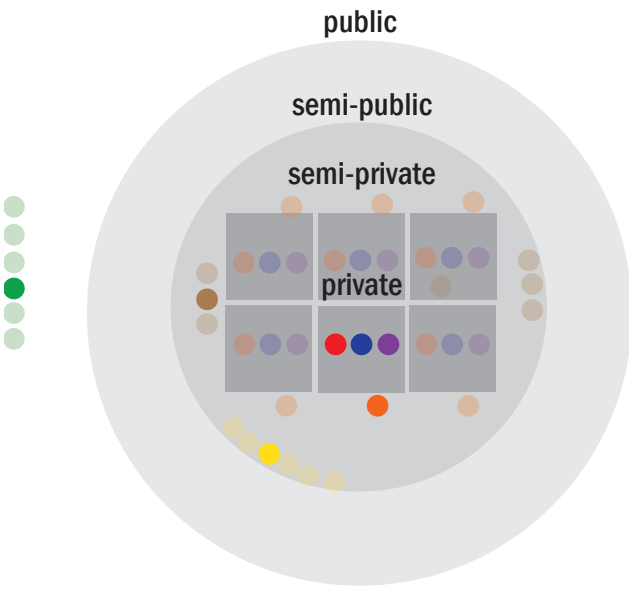




# APARTMENT {type 1}

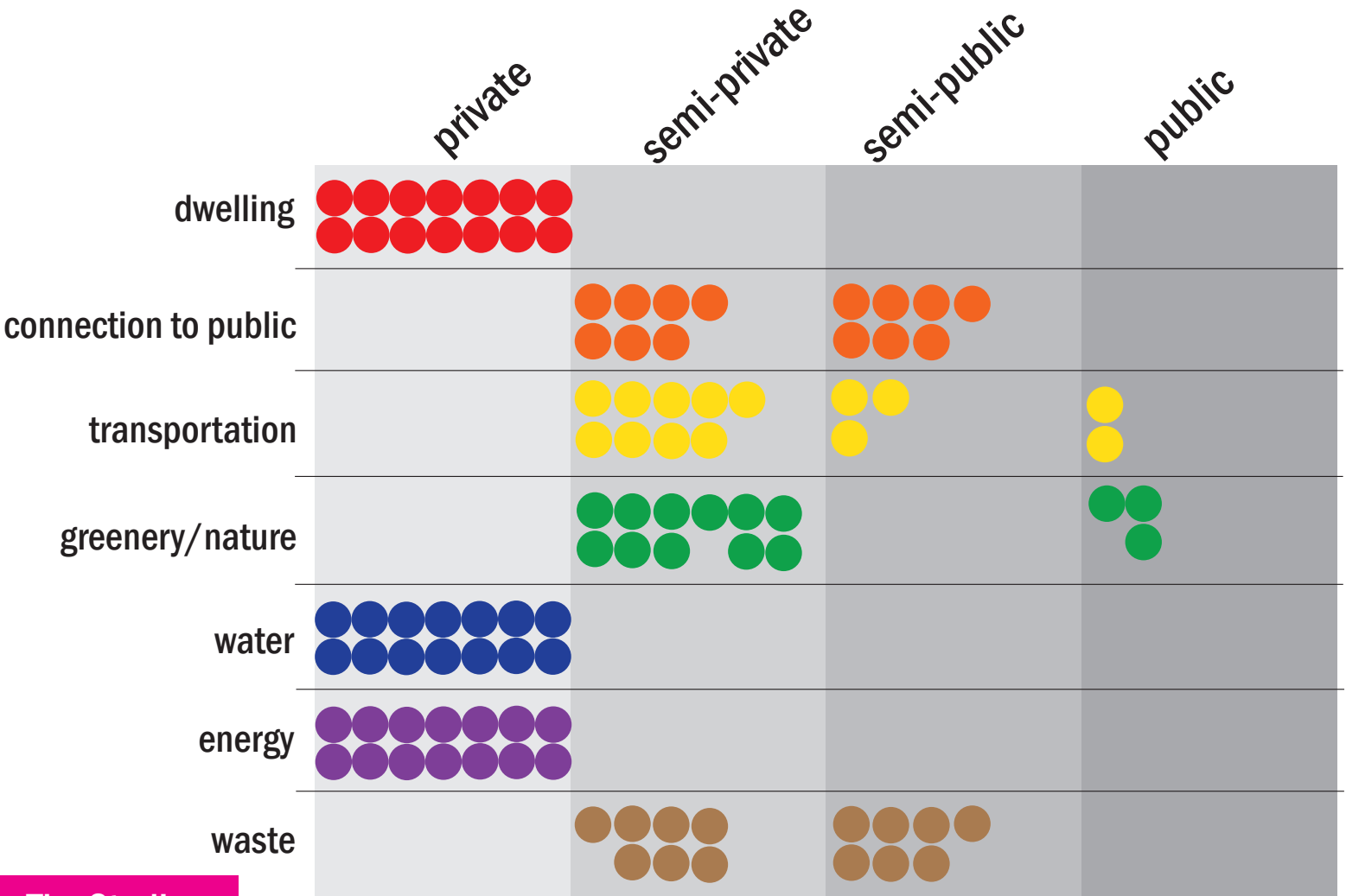


# APARTMENT {type 2}



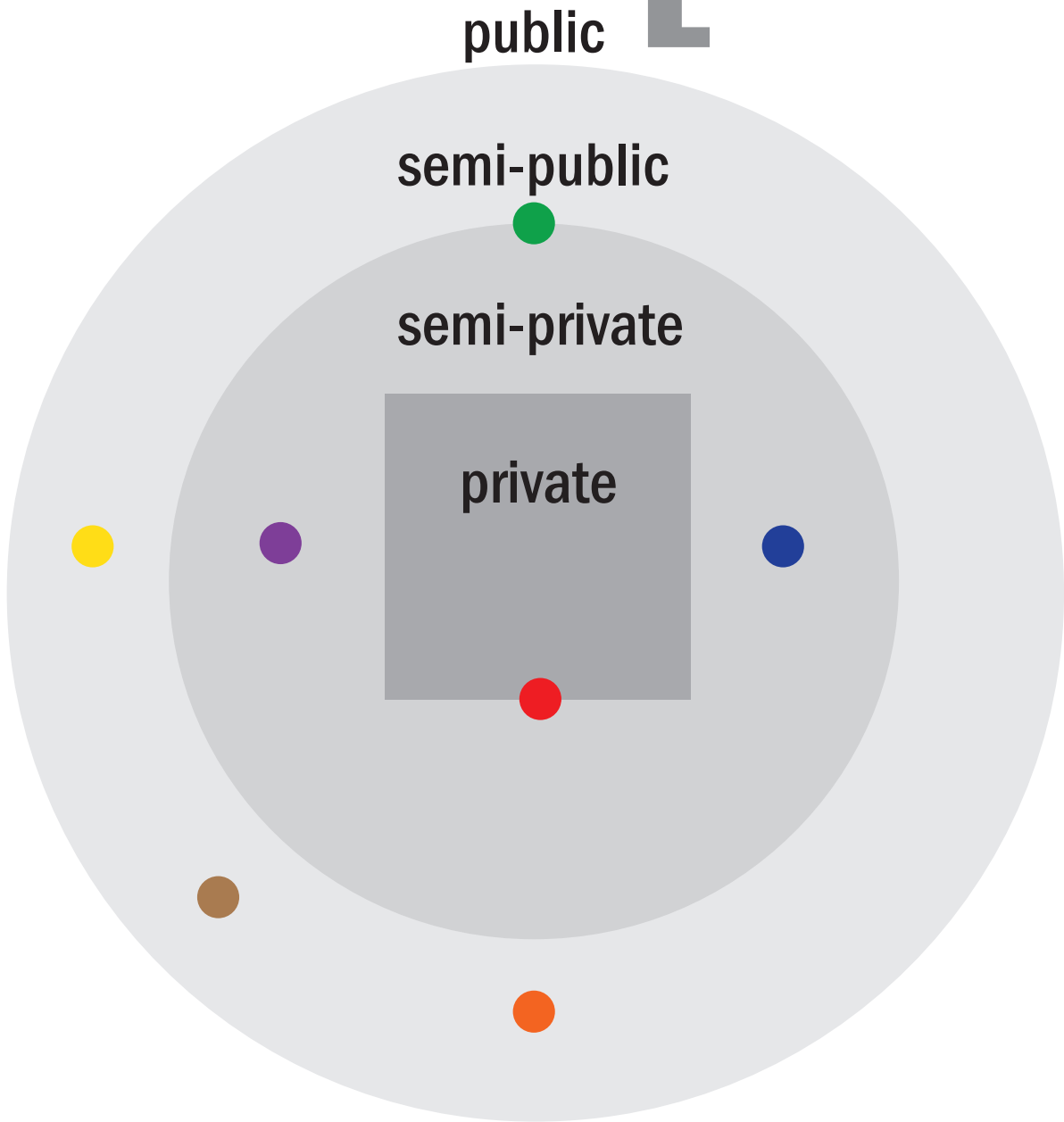
# The Attribute Chart

To compile this analysis, I created a chart to house all of the colored architectural attribute dots and arranged them to see what privacy level each attribute was most common placed. This determines how public or private those architectural attributes should be in the case of this new community that will be created in this architectural thesis. This chart reveals that dwelling, water, and energy attributes are typically worked into the private zone, while the other attributes varied in location.



This analysis uncovers that it would be best for this community to have homes that have the dwelling as private with a views in and out of the home, semi-private energy and water, semi-public greenery, transportation, waste, and the connection to public spaces, with no attributes in the public sector.

# Ideal Attribute Arrangement







THE SITE

# Site Selction

Site selection is a key element to designing a community that will fit into the context and be accepted by the existing fabric and culture of the site. There are a few qualities that the site must have for site integration.

Physically, the site must have a good mix of existing buildings and open land to build new. There is something to be said about using existing homes or at least, their materials. This stresses the idea of using what we already have rather than sending used materials to the landfill and using energy and materials to make new.

Next, the site must have an existing community that is accepting of the ideas and principles that this thesis suggests. As an example, the green technologies and natural septic systems must be allowed and welcomed.

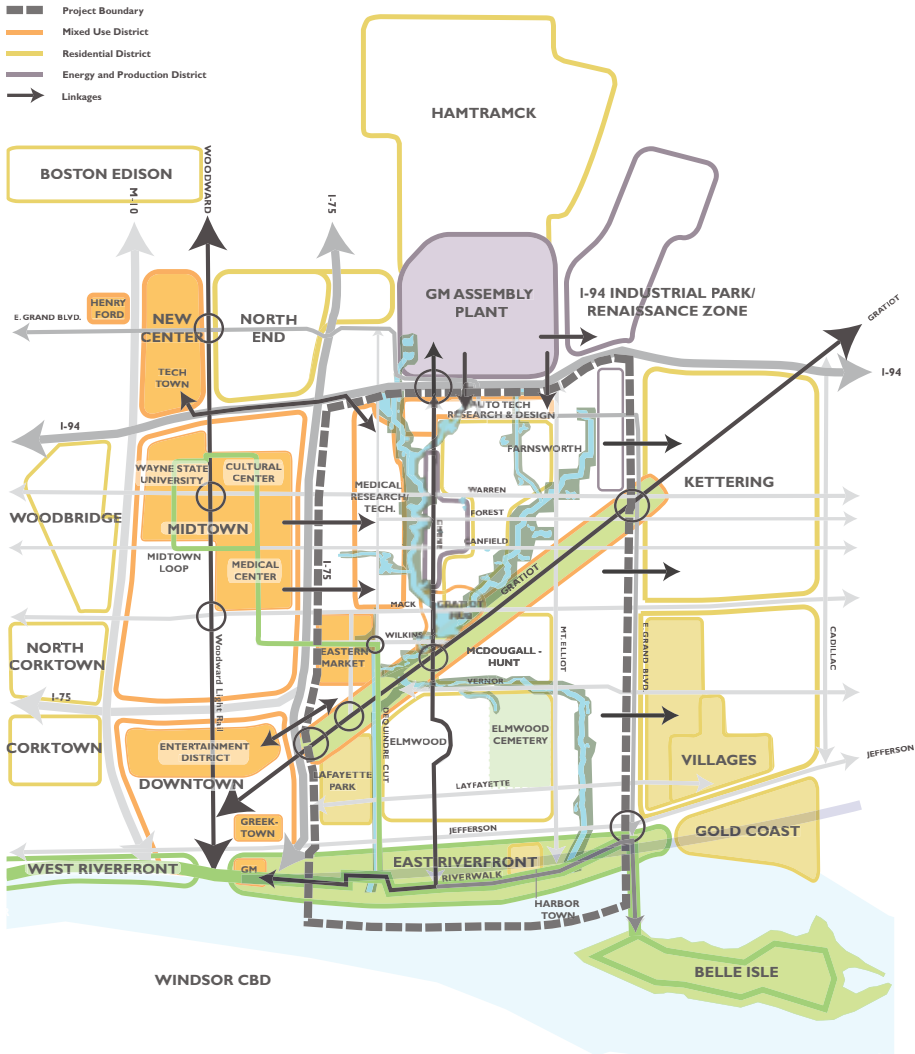
Culturally, the site must have an existing culture to grow upon. It would be much too simple to just design a community in an open, rural area, but submitting these ideas to a more urban yet suburban site is a positive challenge.

One such site that fits these requirements is the Bloody Run Creek development area that includes Eastern Market in Detroit, Michigan. Detroit, Michigan is a prime location for experimenting with new ideas. Detroit also has culture, history, and physically the land and space for the ideas that this thesis proposes.

The Bloody Run Creek is soon to be daylighted as it has been covered for many years. New communities are already starting to bloom in the area including the revitalization of the Eastern Market district. This area is also very close to downtown and midtown Detroit, where jobs can be found in a growing economy.

The unearthing of creek will create new opportunities including bike and nature trails, fresh-start to safe and Earth-friendly housing, and public transportation all incorporated in the overall design plan.

# Bloody Run Creek Development



Context and Linkages Analysis Diagram



Master Plan Development Zones

Images Courtesy of the Detroit Collaborative Design Center (DCdC)

The Site







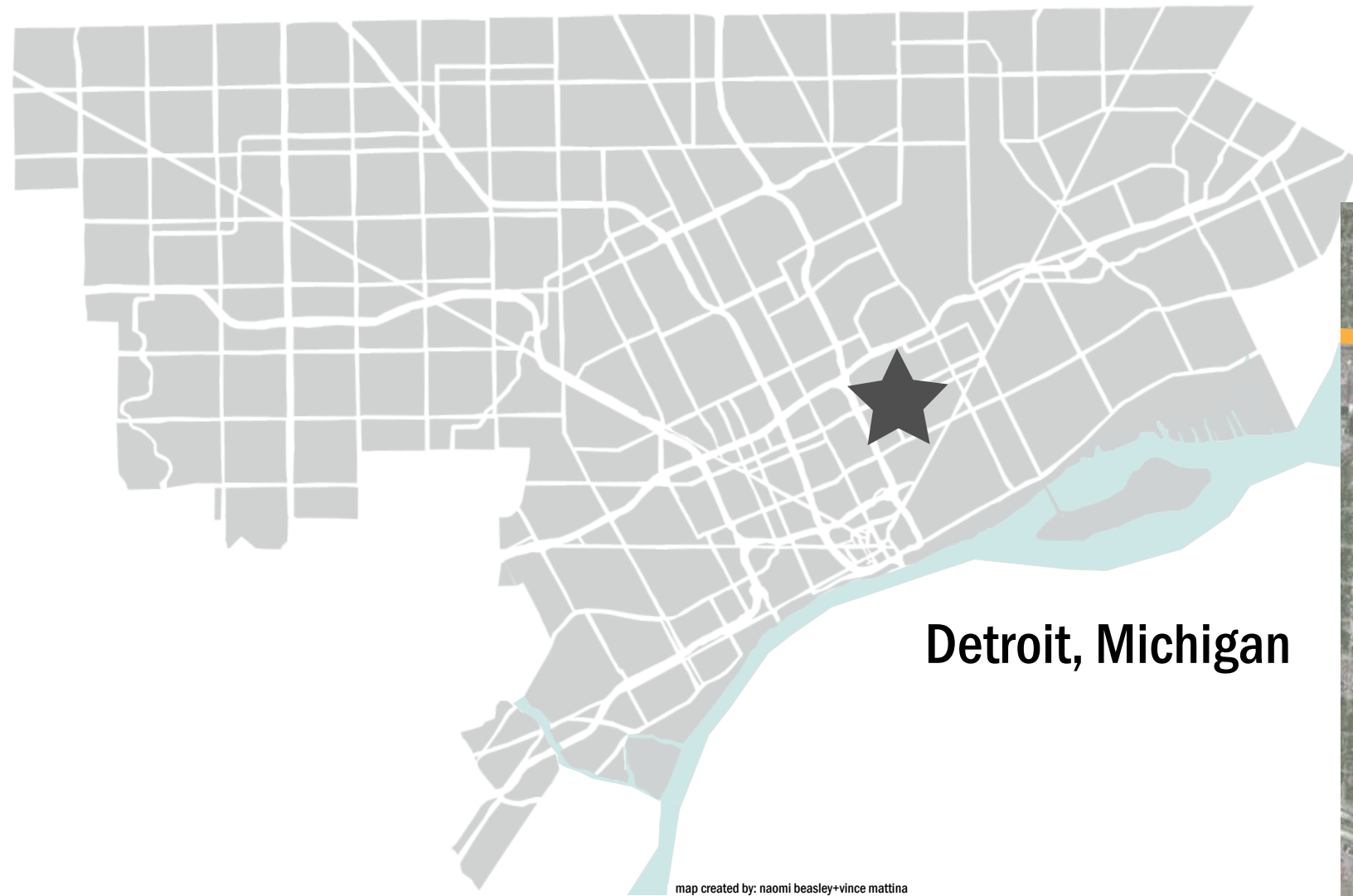
# Detroit Culture: Eastern Market

Eastern Market has rich and developing culture to share and grow with.

The people that live in this community will be able to take a short bike ride down to the market to purchase fresh produce, meat, and even sell their own products each Saturday morning.



The Site



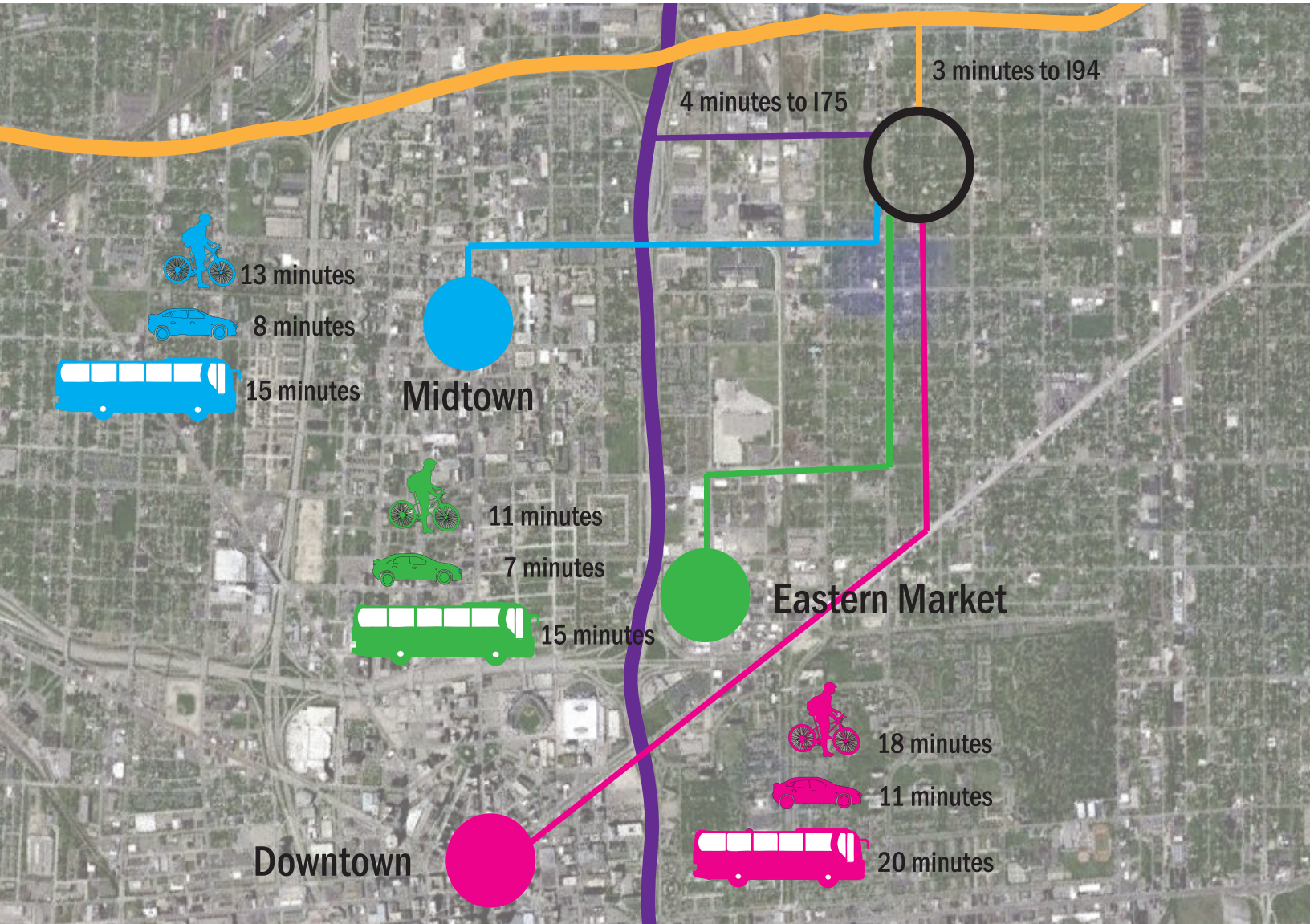
## Detroit, Michigan

map created by: naomi beasley+vince mattina



As the LEED Guide for Neighborhood Development writes,  
“To reduce the effects of sprawl and create more livable communities, preference should be given to locations close to existing town and city centers, sites with good transit access, infill sites, and previously developed sites, and sites adjacent to existing development. Selecting these sites can prevent development of outlying greenfield sites while reducing automobile travel and resulting emissions...these sites often have utilities, roads, and other infrastructure in place, reducing the need for construction of new infrastructure” (USGBC, 2009).

# Smart Location



# Existing Site

It is one thing to see a site on Google Earth and like the what it looks like from afar, but one will get an entirely different feeling after experiencing it.

The following photos were taken in March 2013. They are of the site chosen and the surrounding area.

As one can see, there is existing infrastructure that can be built upon and restored, but also some houses that need to be deconstructed or demolished.

It is clear to the amount of cemeteries, churches, houses, and factories in this area that there was once a thriving community.

“The house itself is of minor importance. Its relation to the community is the thing that really counts’ --Clarence Stein, Pioneer of the Garden City Movement” (Chapin, 2011).



Grandy











Santa  
S. Barbara, C.A.

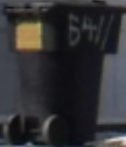








NEIGHBORHOOD  
WATCH



KEEP





# THE PEOPLE

(before the move)

# Narratives Before the Move to Community Life

One of the most important things to incorporate into an architectural design is the user group.

Identifying the user group early in the design process allows the designer to continually be reminded for whom they are designing.

The user group is especially potent in this architectural thesis, because I am designing dwellings.

Every time a new decision had to be made in the design process of this thesis, I went back to the following narratives and I would think about how these people would live based on my different options.

The following narratives are fictitious, but based on real family groups living in the Detroit area.

They represent real problems that real families and individuals deal with daily.

I believe that I can solve many of their problems with my architecture if they moved into the community I have designed.





# George, Russell, and Sally

{partners with 6 year old}

George and Russel adopted Sally when she was just a baby.

As she is growing and in need of friends and a safe environment to play, her dads are looking for a new home where she can grow up and where they can get some help with watching her since sometimes they work long hours.

Russel is a lawyer in Downtown Detroit and George is a server at a bar in Midtown.

Both jobs make them stay over some days, but they still need to balance taking care of Sally.

# Ike and Marcella

{elderly, retired, still active}

Ike and Marcella are in their late 60s and looking to find a home to settle down that is still close to their children and grandchildren that live in Metro Detroit.

Their children requested that they live in an assisted living complex, but Ike and Marcella do not think an 'old folks home' is for them, but understand the concern.

Ike is a recently retired engineer looking for a job that will keep him busy everyday.

Marcella has a long-time dream of owning a resale shop and helping people in her community.





# Mark and Jessica

{young, expecting couple}



Mark is an entrepreneur who is looking into owning a bicycle buy and rental shop somewhere near the Dequindre Cut.

Jessica is a schoolteacher in the Brightmoor community looking for a home that is close to work or at least a short driving distance.

Mark and Jessica are ready to move into a home in which they can raise a family instead of the loft in Midtown that they currently live in.

They love Detroit and want to be close to all the urban action, yet want to live in a community that offers safety and support for them being first-time parents.

# Trisha and Diamond

{single mom with 7 year old}

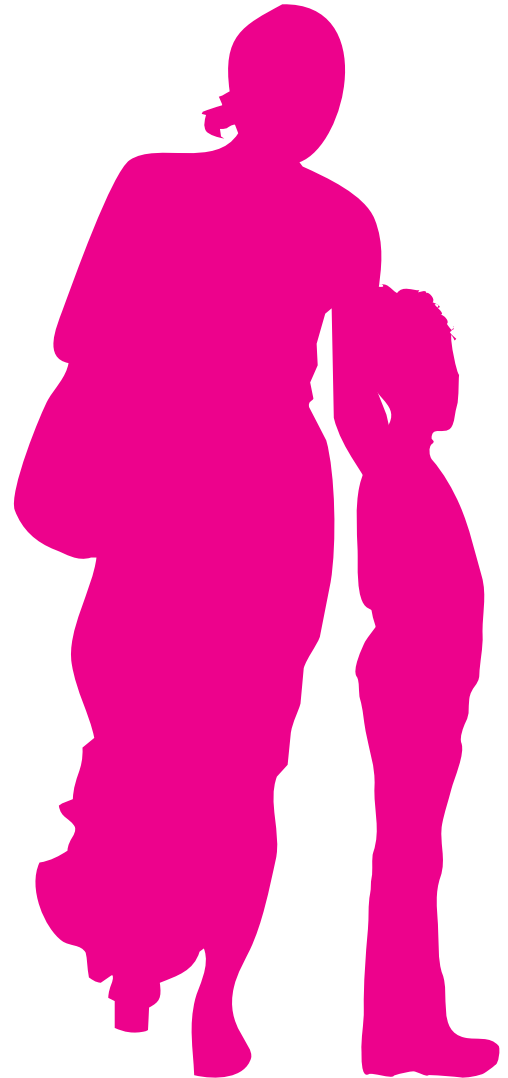
Trisha is a chef at Greektown Casino's Bistro 555.

She is able to take Diamond to school in the morning, but finds it hard to take care of her after school hours.

Trisha's mom helps out, but lives on the west side of Detroit away from where Diamond goes to school and their home.

Trisha loves her job and Diamond is doing well in school.

Both ladies wish for some help and an environment where Diamond can make new friends and play with them after school until Trisha gets home.



## {traditional family of 5}

The Richards currently live in Sterling Heights.

Joe works for Quicken Loans and was recently moved to Downtown Detroit.

Cary is a nurse at Henry Ford Hospital in Detroit.

The kids go to Warren Consolidated Schools, but Joe and Cary wouldn't mind switching them to a private school.

They are looking for a home closer to both their jobs, while also having a safe environment for their kids to grow up in.

# The Richards Family

Joe, Cary, Samantha (13),  
Mitchell (11), and River (8)



The People

# Darnell

{single, low-income}

Darnell is a long-time resident of Detroit.

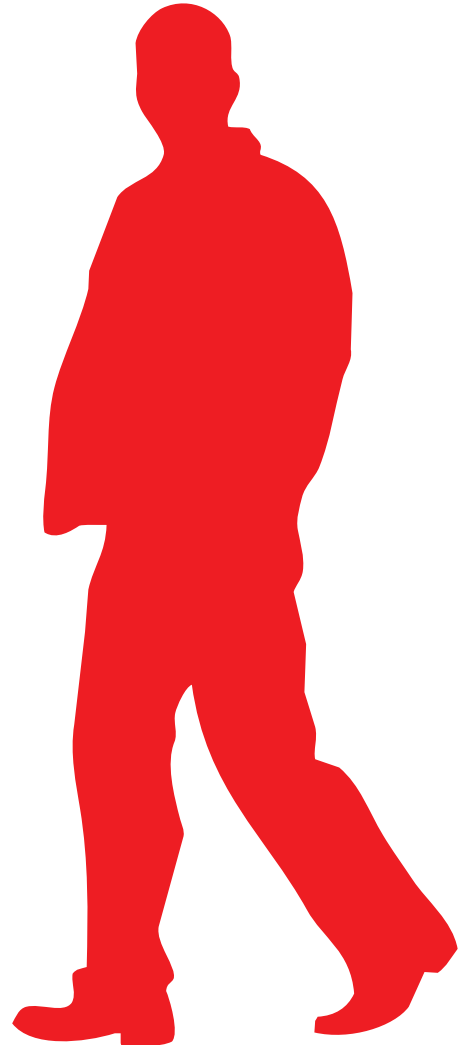
He is looking to move out of his mother's home in Southwest Detroit.

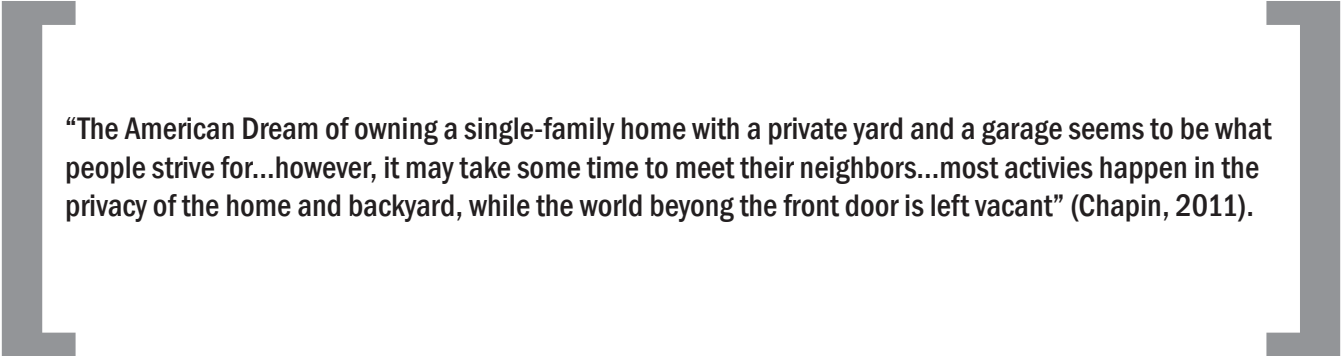
He doesn't want just another apartment somewhere, but a home where he can help in his community and is close to work.

Darnell is a security officer at the Renaissance Center.

As a kid, Darnell visited her grandmother in Alabama who owned a greenhouse where he learned how to do simple farming techniques.

Darnell finds farming relaxing and would like to make it a hobby given the proper circumstances.





**“The American Dream of owning a single-family home with a private yard and a garage seems to be what people strive for...however, it may take some time to meet their neighbors...most activities happen in the privacy of the home and backyard, while the world beyond the front door is left vacant” (Chapin, 2011).**





THE PRECEDENTS



# What is a Pocket Neighborhood?

The pocket neighborhood approach to designing neighborhoods did not step into my thesis until I was halfway through the design phase. As unfortunate as that was, it was still exciting to see that my ideas were valid and reinforced them with prove instances.

From Christopher Alexander's approach to design and planning patterns, Ross Chapin, architect of the Poplar neighborhood, used the following to guide his own design patterns, as I then used it to guide my own as one will see in the components section of my thesis.

Sense of Community and Place

Green at the Heart

Sense of Arrival

Heirarchy of public to private space

Maximum Usability

Front Porch

positive outdoor space

storage building

simple building forms

parking in back



Architect, Ross Chapin, from the state of Washington, has created many different types of pocket neighborhoods across the country, including one in Birmingham, Michigan.

Over the years, he realized that he had to write a book that would explain to future communities and architects exactly what a pocket neighborhood was.

## ‘Single Cluster 2’

Chapin also created typologies based on the successful neighborhoods. The illustrations on this page and page 86 influenced my design as you will see on page 84 of my community design.





# ‘Small Neighborhood 2’







**“A strong sense of community--not security gates--provides our safety’**

**--Katy McCamant,  
Resident of one of Ross Chapin’s Pocket Neighborhoods**







# THE APPLICATION

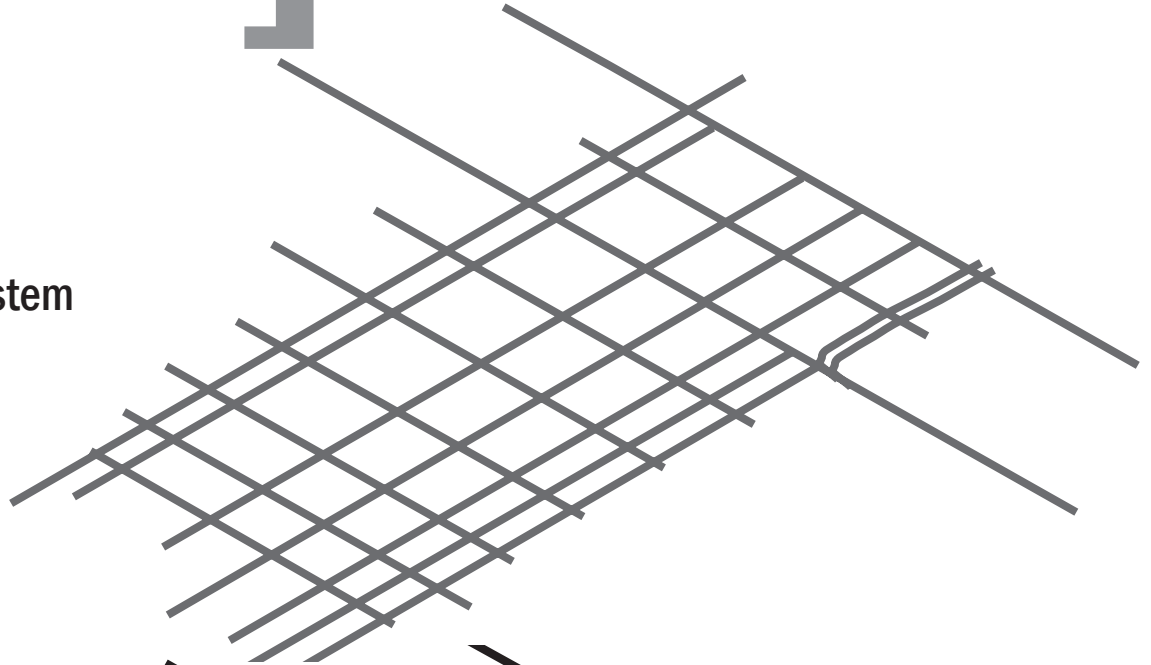


# Existing and New Circulation

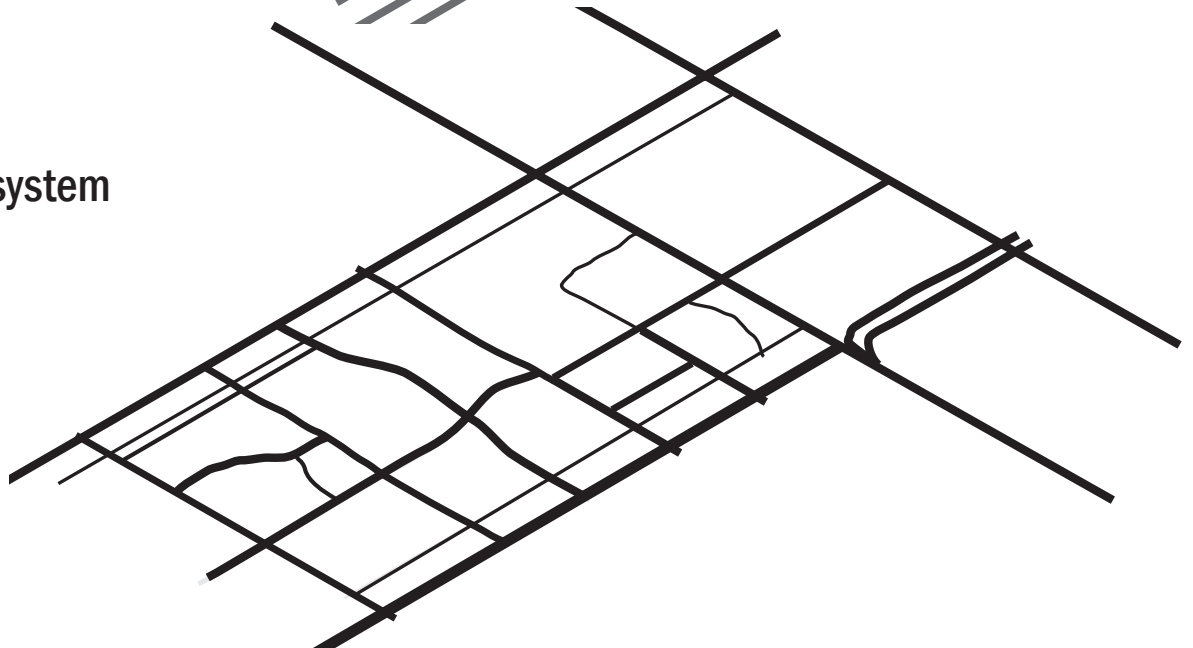
The existing infrastructure of the street system, electrical lines, plumbing, and sewer system were considered when designing the new system.

Even though all new homes are going to be built, they are still connected to the city power grid and sewer system.

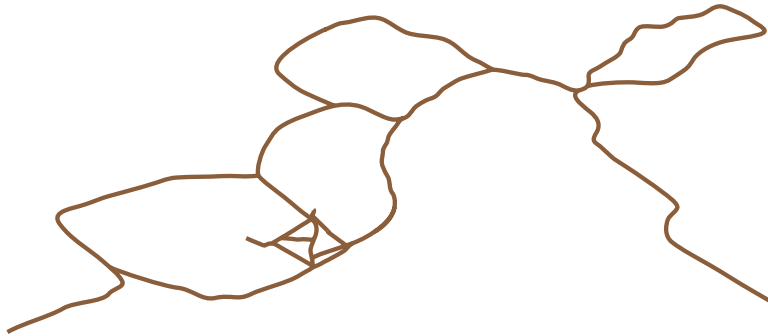
existing street system



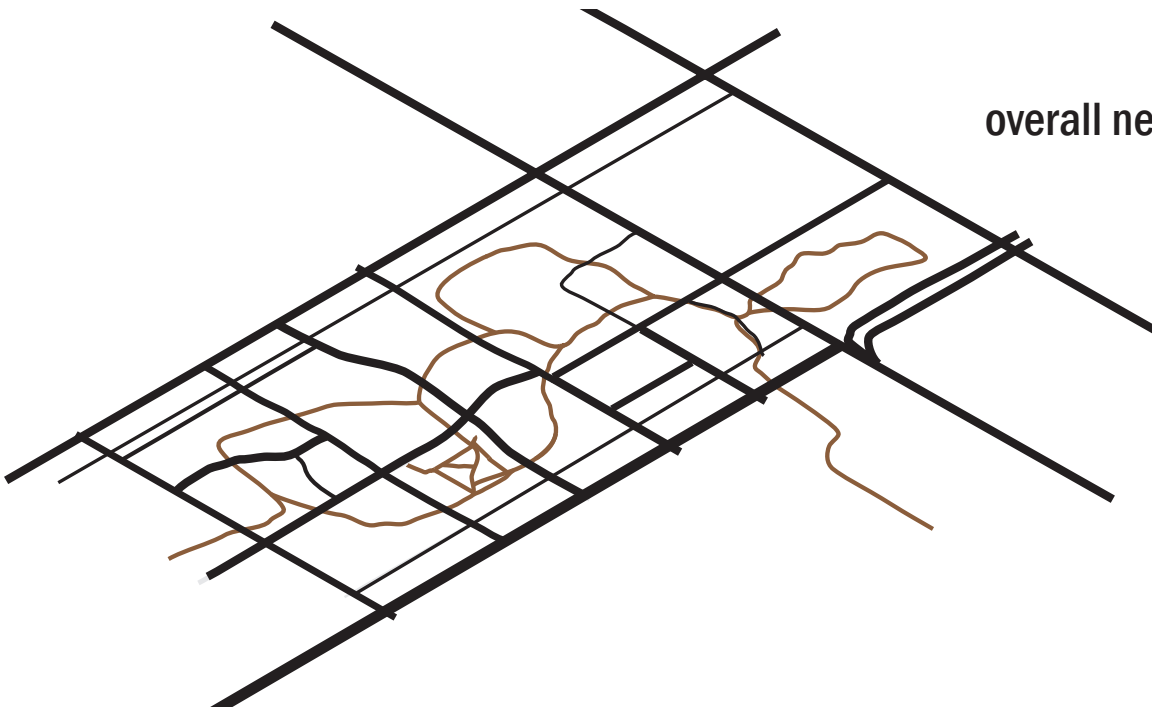
new street system



# Pedestrian Circulation and New Overall

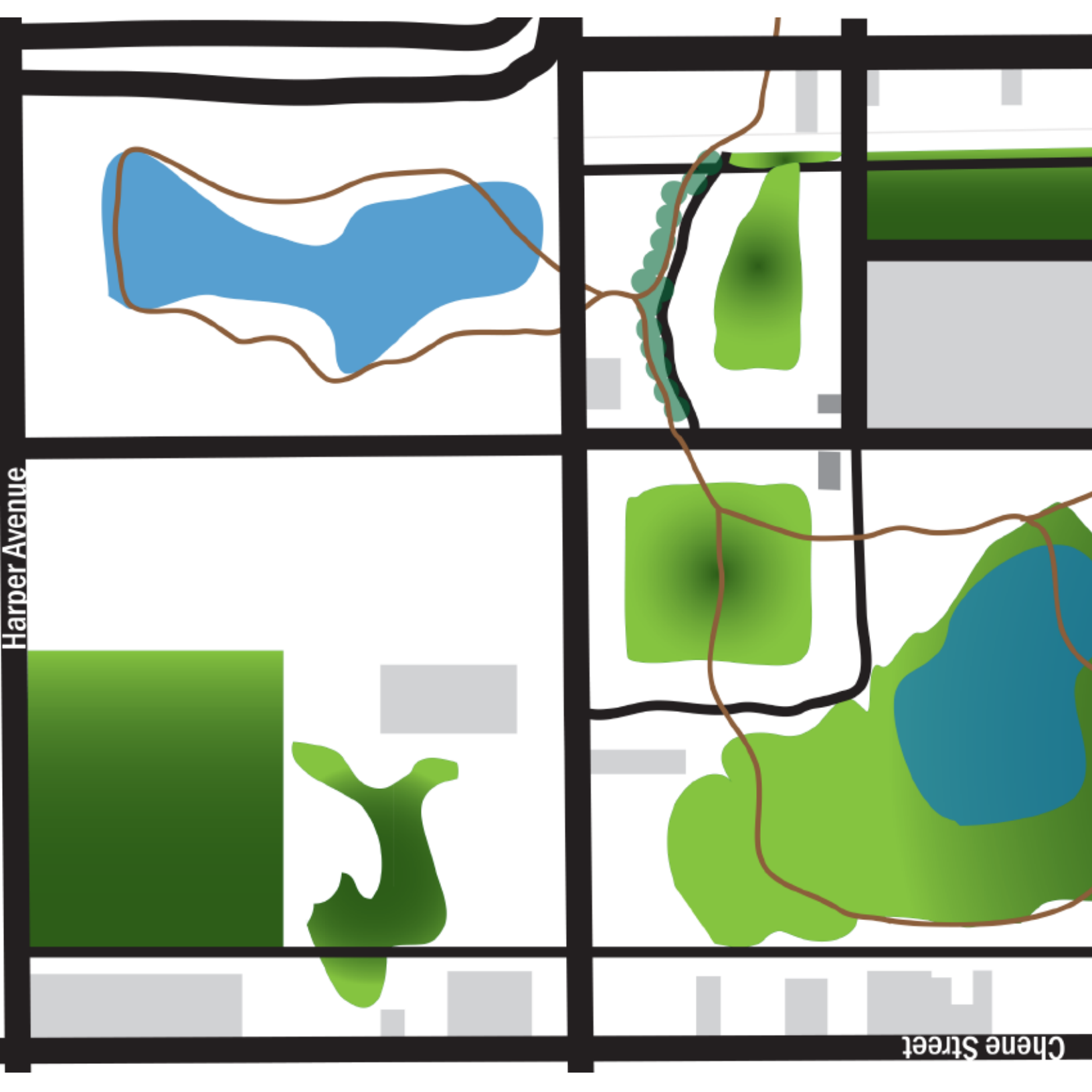


new pedestrian bike trail



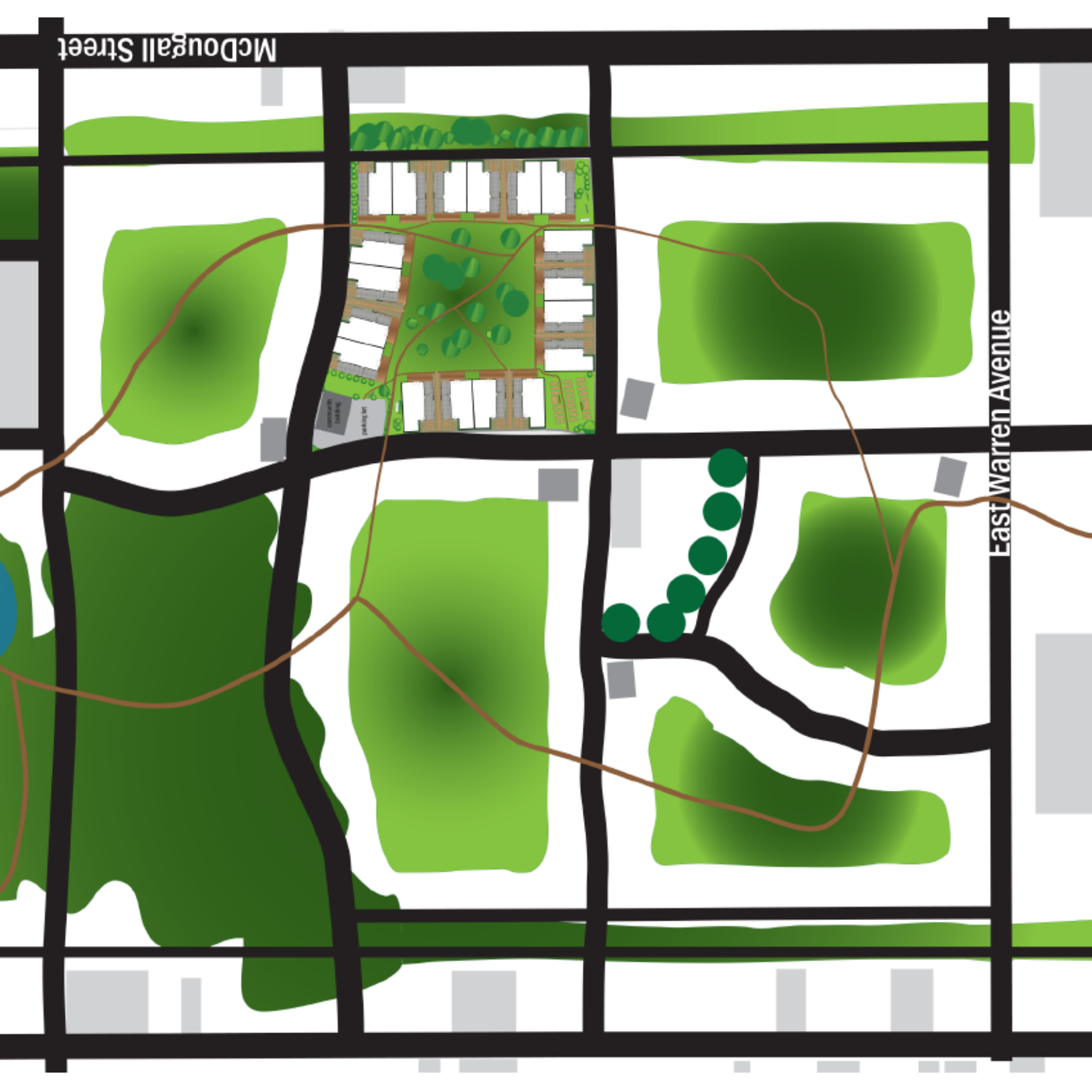
overall new circulation system

Harper Avenue



Chene Street

McDougal Street



East Warren Avenue

The pages prior show the map of the over all area immediately touching my community.

The green spaces with white around them portray future communities, but for the sake of limited time, I choose this particular community to design.

The dark gray shapes that match the color of the community building are also community buildings for each of the connecting communities.

bike rack

community garden



“A pocket neighborhood is not the wider neighborhood of several hundred households, but a realm of a dozen or so neighbors who interact on a daily basis--like a neighborhood within a neighborhood” (Chapin, 2011).





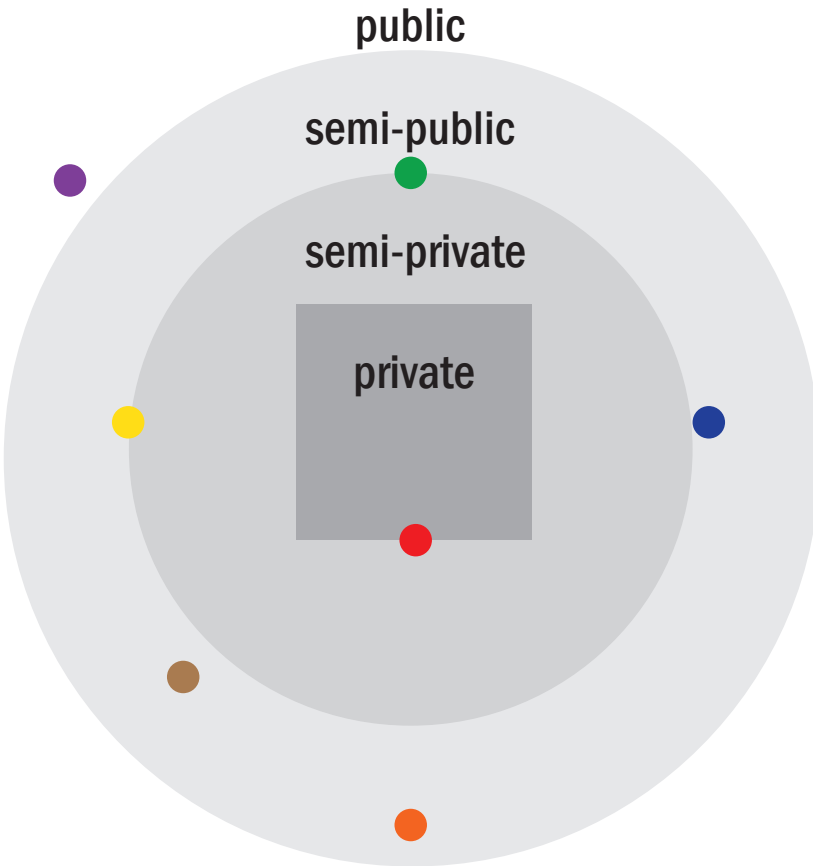




THE COMPONENTS

# Attribute Study Applied

“The key to a successful pocket neighborhood is balancing privacy and community. Homes can have privacy while opening to a common space shared with a cluster of surrounding neighbors. Then, like friends around a dinner table, conversation is effortless’  
--Sarah Susanka” (Chapin, 2011).



There are very few attributes that moved since the projected attribute bubble was presented early in the thesis year.

Mainly, the energy attribute became public. This is because wind turbines have come to represent alternative energy and can be seen from at least a mile away. This makes the energy that this community uses visible to all that can see the wind turbine.

The following pages showcase the components implemented in the design of the community.

Some are more specific and others more general, because they cannot be fully designed by an architect.

● dwelling ● connection to public ● transportation ● greenery/nature ● water ● energy ● waste

# Carpooling and Public Transportation

There will be designated car lots to create carpool programs for those going into the city or elsewhere to save on fuel, money, and gas emissions.

New bus stops will be created to accommodate the new neighborhoods.



# Walk to Main Streets

This area has great potential for main street style commercial districts.

The site is flanked by two streets that have the existing infrastructure to restore what once was. The photos on this page were taken on the site in March 2013.

A famous bar or two, like the Ravenclaw, have survived over the years and would be great amenities to showcase in the revitalization of the area.

The people living in this community and surrounding can take a walk or a bike ride down to the main streets to have dinner, get icecream, or just take a stroll.





# Locally Sourced

With Eastern Market being just a 5 minute car ride away, there will not be much need for any big box-chain grocery stores here.

With fresh, Michigan produce, flowers, books, music, good food, and even jobs close by this community, there is no need to venture out to the suburbs for milk, eggs, or even entertainment.

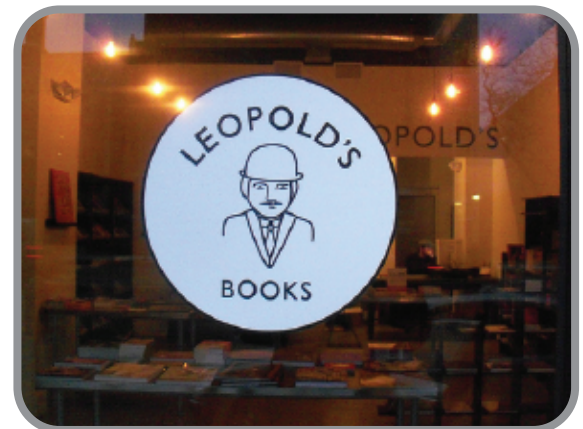
In this community, you and your family are close to the action.



<http://designtrust.blogspot.com/2009/08/le-tour-detroit.html>



<http://www.flickr.com/photos/71288712@N00/8519580731/>



<http://www.flickr.com/photos/29210930@N05/5252658327/>

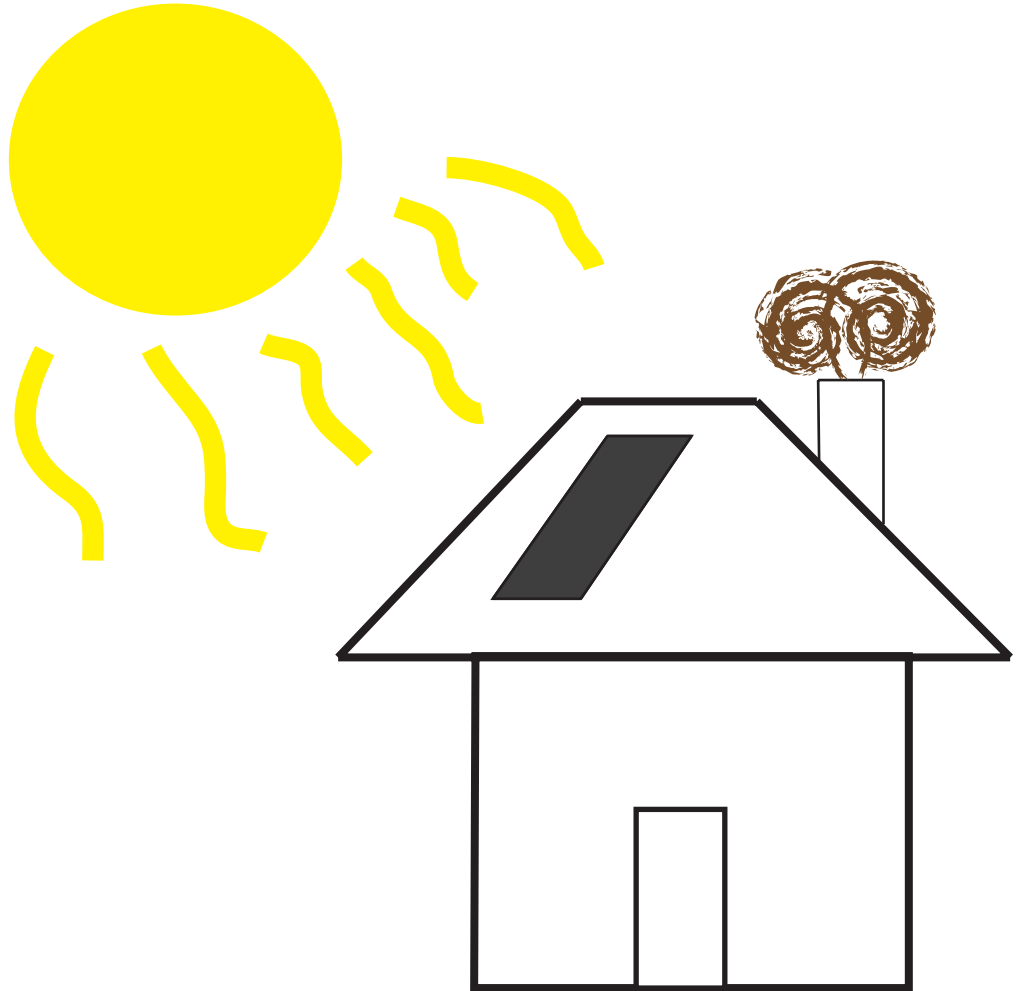
# Heating the Home

When starting fresh on designing new homes, it is important to consider the future of heating the home.

Passive heating will be taken into account in terms of site orientation and maximizing fenestration at the right moments in the dwelling.

At least one solar panel will be attached to each home. These homes are meant to still be attached to the city power grid, but any amount of energy that can come naturally from the sun would be welcomed. This would also help in the time of a brownout so that a family could still run their freezer on this alternative energy reserve.

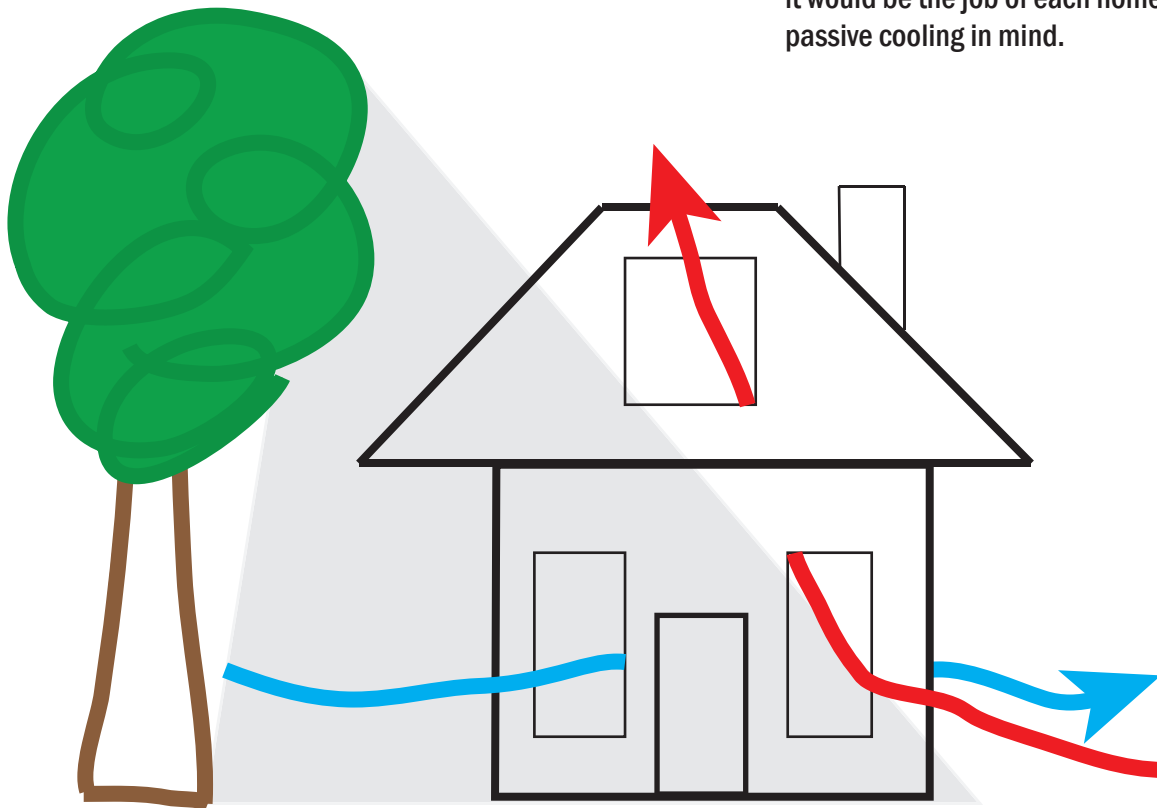
Finally, there will be a fireplace in the main part of the home, not only for aesthetics, but to heat the home in the winter as well.



# Cooling the Home

As for cooling the home, site orientation and shade will also be taken into account.

Since it is not in my thesis to design each individual home, it would be the job of each home's architect to design with passive cooling in mind.



# Protected Forest

The Bloody Run Creek Redevelopment project looks to restore not only the creek, but predevelopment forests in the area.

Beginning the design of the area will leaving a large portion of the land to restoration of natural habitats. This area must be large and dense enough so that animals will want to migrate, live, and build their homes without constant human interaction. This does not mean bears and elk, but deer, racoons, red foxes, and coyotes.

Additionally, this forest would become part of the State of Michigan protected forest list, so that anyone who dumped, littered, or damaged the forest would be fined or arrested.



<http://lightscapephotography.wordpress.com/2010/10/08/in-honor-of-autumn/>



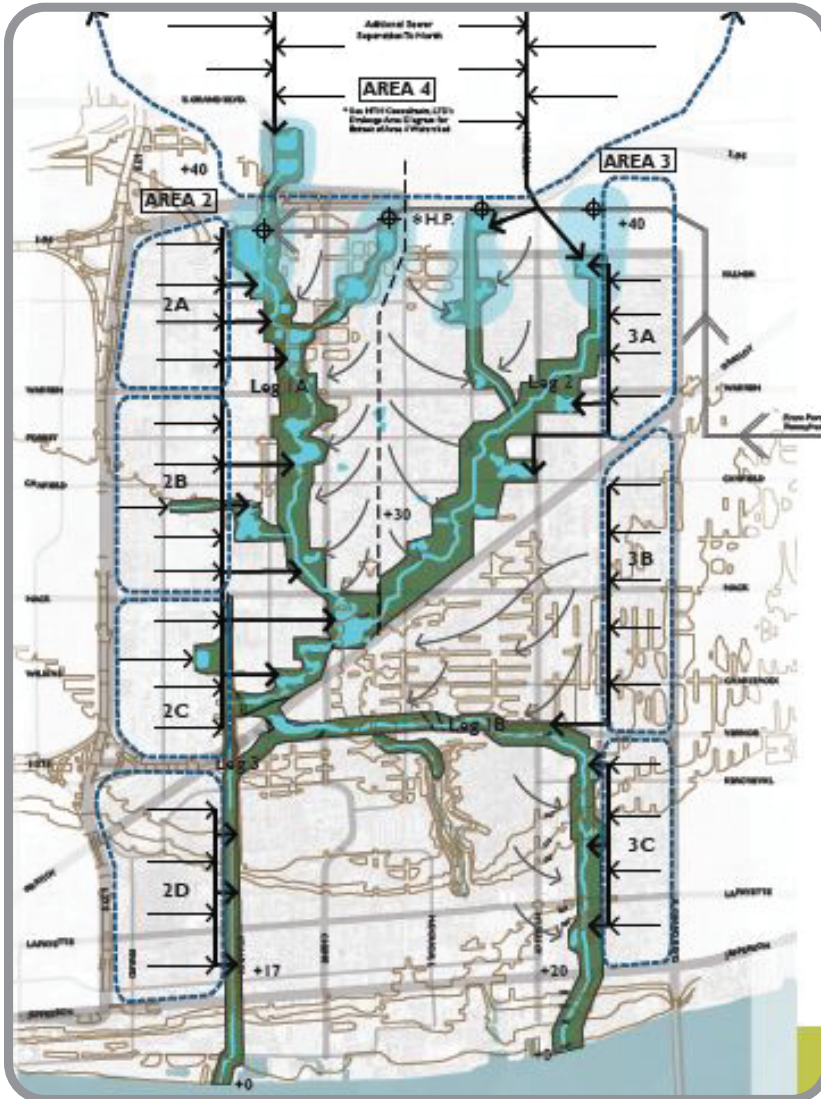
<http://www.michiganforestbiofuels.org/research-project/feedstock-supply-chain-landing-biorefinery>



[www.greatbigcanvas.com](http://www.greatbigcanvas.com)



# Protected Wetlands



courtesy of DCdc

The daylighting of the Bloody Run Creek by the Bloody Run Redevelopment Project will restore native habitats, species, and wetlands to predevelopment.

The restoration of the creek will also recharge underground water reserves and water management systems.

Rather than stormwater all going to the city sewer system, the creek can take the water to reserves, pond, and lakes across the development area.



courtesy of DCdc

The Components



# Composting and Recycling

There really is not much of a need for garbage pickup if nearly everything the community uses can be recycled, reused, or composted. Each community will have an area that is designated for recycling and will be picked up weekly. All other waste, i.e. orange peels, chicken bones, animal waste, can be taken to another designated area to be composted. This area will be away from homes to prevent smells from wafting over and will be maintained by the community. Composting is easier than most people that think, but the only maintenance is shifting the waste every week or so and letting the Earth do the rest.





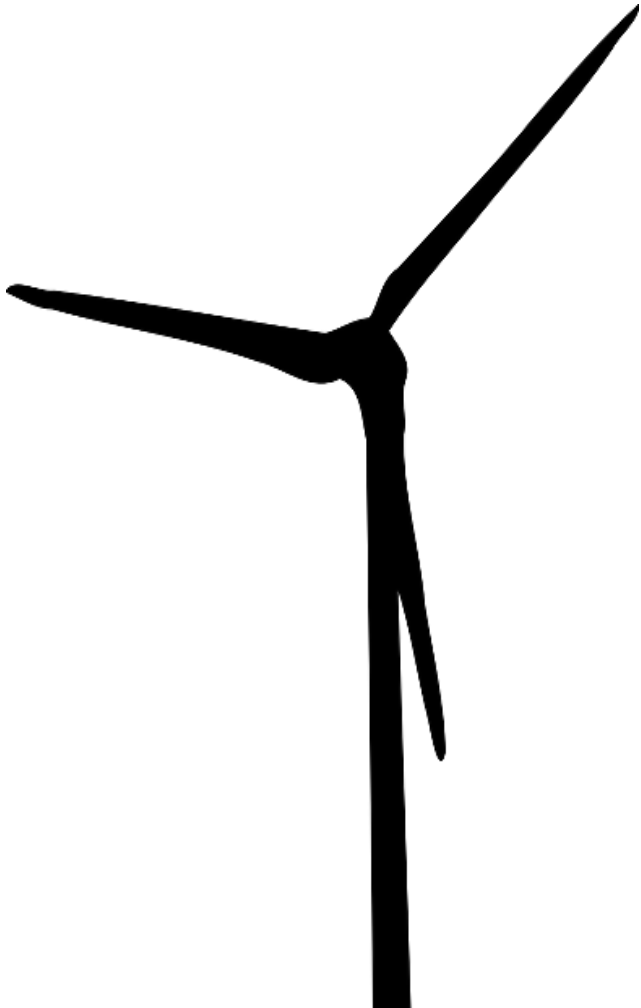
<http://epb.apogee.net/foe/graphics/sosu.jpg>

# Power In and Out

As stated before, the community will still be connected to the city power grid and be transferred to underground lines.

Passive energy will be taken into account for supplemental power and emergencies.

When the community's power is satisfied, it will give back to the city power grid and thus save the community money on their energy bills.



<http://www.managementtrust.com/blog/bid/83433/HOAs-And-The-Adoption-Of-Solar-Energy>



# Mailboxes and Bike Racks

If one lives in this community, the homes are smaller and this usually means less storage space. What this means for the community is a shared bike rack for the summer and winter storage in the commons building so that bikes, especially when there is a family of five, do not have to take up carport or basement space.

Mailboxes in this community will be grouped and placed at two of the corners of the neighborhood. Residents are forced to walk to get their mail and allows for neighborly interaction and guarantees a walk-a-day for at least one member of each household.



[http://www.hometime.com/Hometime\\_4.0/TV\\_Hometime/Shows/PBS/2011/2520.html](http://www.hometime.com/Hometime_4.0/TV_Hometime/Shows/PBS/2011/2520.html)



# Water In and Out

## Precipitation

[32.6"/year in Detroit]  
climate-zone.com



## Rainwater Tank

[60 gallons per 1 inch of rain per 1000 sf]



## Bioswale



## Bloody Run

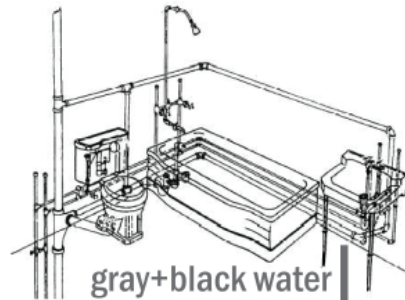


## Evaporation

channeled better with  
permeable driveways



## Residential



black/gray  
water recycling



## Sewer System



# Reuse and Upcycle Materials

Most of the existing houses in the area are too dilapidated and unfit for living, especially if brand new homes would be going in next door. Originally, I wanted to incorporate those houses into the new design, but due to their condition, it was unwise.

Instead of sending all of the materials from the houses to rot in a landfill, the houses would be deconstructed and the materials would be used in the building and decor of the new homes. This idea can be seen as quite poetic in terms of not forgetting what was once there, but bringing history into the future.

Bricks can be used to build the new homes or can be used as pavers for walkways between houses.



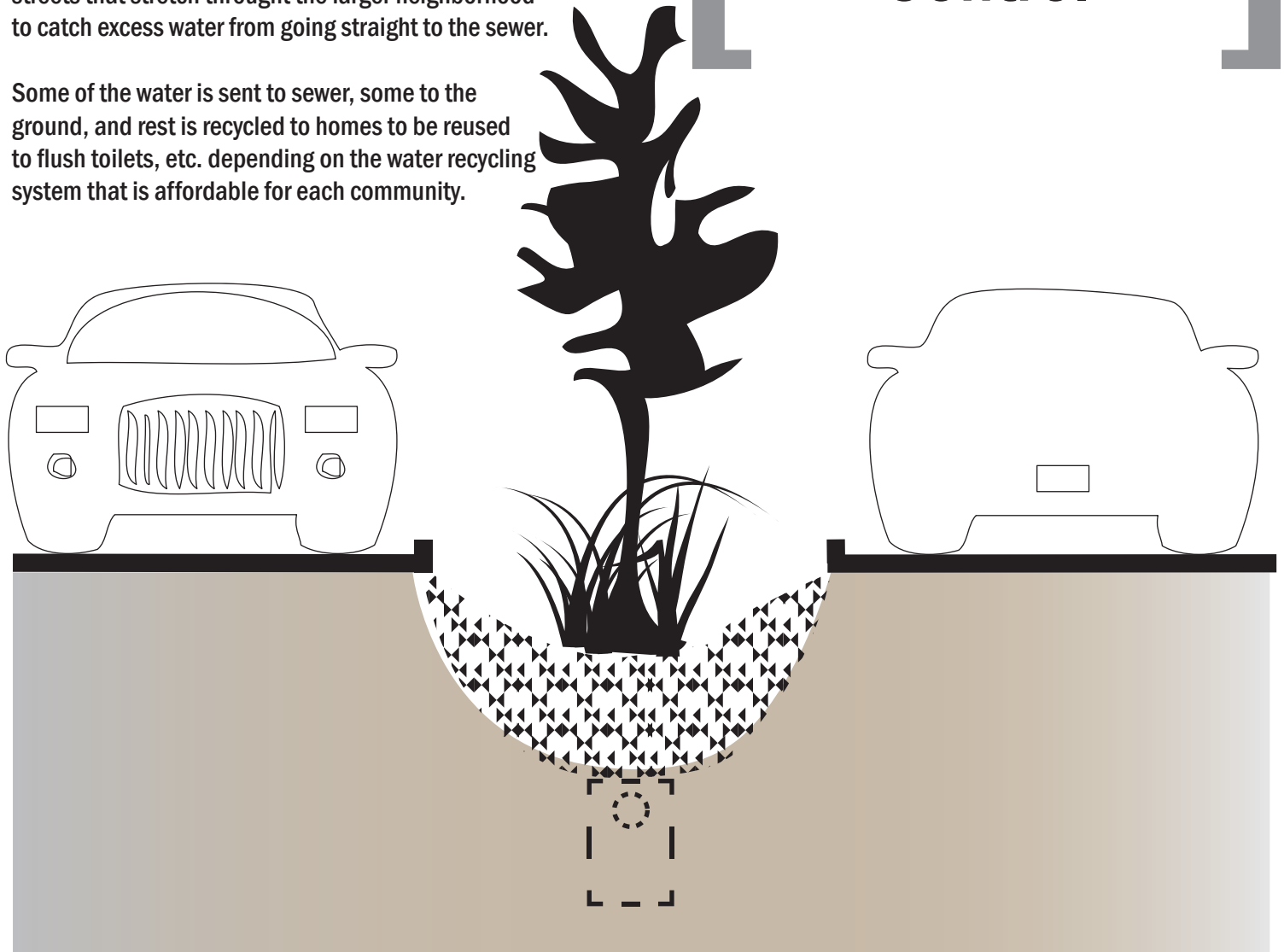


Stormwater control is a problem in almost every city and especially in Detroit.

When using some of the existing sewer infrastructure, there is still room to add and better the system. A bioswale would be installed in the center of the wider streets that stretch through the larger neighborhood to catch excess water from going straight to the sewer.

Some of the water is sent to sewer, some to the ground, and rest is recycled to homes to be reused to flush toilets, etc. depending on the water recycling system that is affordable for each community.

# Stormwater Control



# Commons Building

The commons or community building is one of the most important parts of each community.

Each community can determine as a whole what they would like theirs to function or multifunction as.

Some ideas include a space to hang bikes for the winter, so residents do not have to waste space in their own homes.

A large multipurpose room, this space can be used to house community meetings, dinners, parties, yoga classes, and even boyscout troup meetings.

Additionally, this space will house a kitchen, bathroom, a tool shed for residents to share, and even storage for holiday decorations or whatever else the community decides.



<http://www.goodreads.com/topic/show/114195-cafeteria>



<http://www.pocket-neighborhoods.net/patterns/commons.html>

[examples]



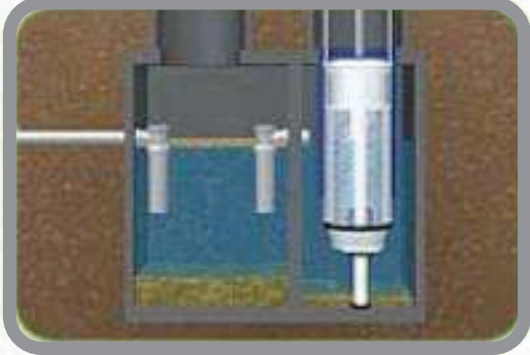
<http://www.ebay.com/itm/SARIS-6020-CYCLE-GLIDE-4-GARAGE-BIKE-RACK-BICYCLE-STORAGE-ORGANIZER-UNIT-/360603800888>

## salish pond cottages

# Septic System and Filtering

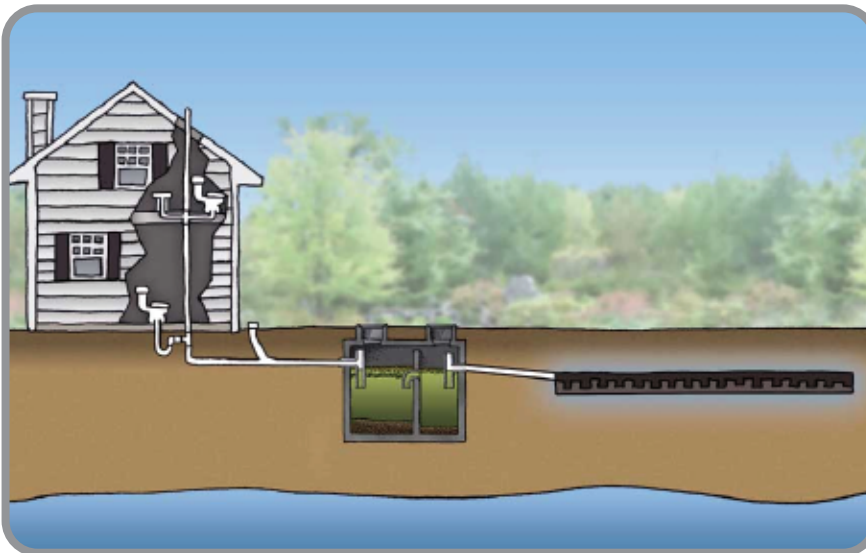


The large grassy area in the center of the community also covers the septic system that filters water for the entire community.



There is no need to send the water, or most of it anyway, to the city sewer system, if it can be filtered, cleaned, and then sent right back into the homes.

Another positive part to the system being until the grassy area is that the trees can be planted away from the filters and if something is wrong with the system, layers of cement etc. do not need to be broken up and repoured. Here, dirt and grass just need to be pushed aside and then replanted.



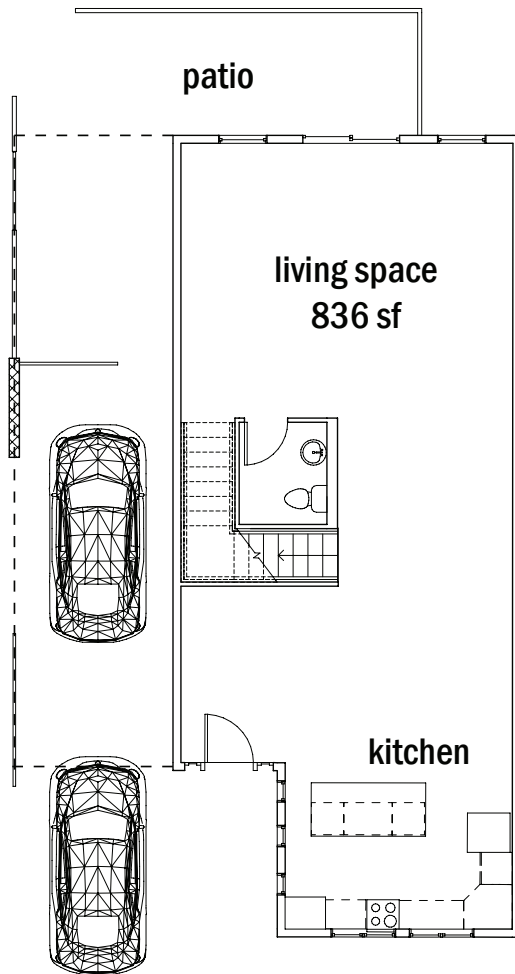
<http://www.grit.com/property/farm/septic-system-design.aspx>

# Floorplan Option

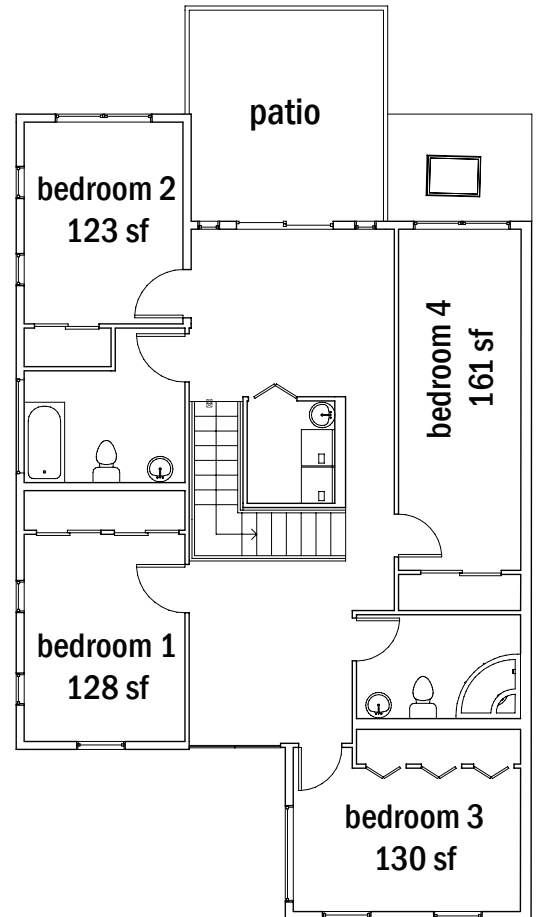
For the sake of illustration, I produced a floorplan option that allowed me to describe my ideas for site orientation and functionality. I also had to determine what size each home would be.

In America, bigger seems to be better, but that should not be the case if we are going to choose to live more Earth-friendly. After looking at the size of my own home, with four of us living in it comfortably and other homes I have visited with similar conditions, I decided that the home should be no larger than 2000 square feet.

The size of the home and lot must also be considered because “even though the number of people per household has decreased from 3.57 to 2.72 over the last fifty years, the amount of land that each individual home consumes has increased by almost sixty percent” (McMahon, 2010).



first floor plan



second floor plan



Garden plots for each household would be assigned at the beginning of each spring season.

Neighbors are held accountable for their plots and must take care of their garden or they may be fined or not allowed to plant the following year.

The community garden encourages reduced food costs, therapeutics, and the celebration of the history of the area being historically agricultural.

# Community Garden





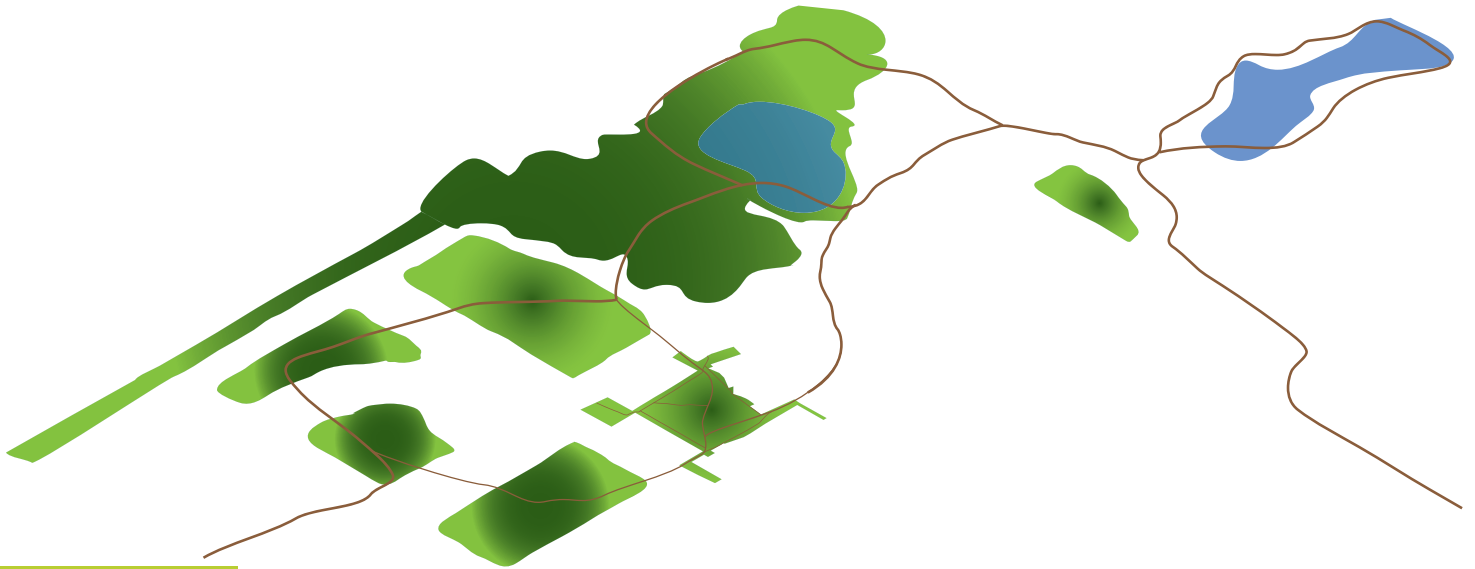
# Pedestrian Bike Trails

The Bloody Run Creek Redevelopment project already looks to establish a pedestrian bike and walking trail through the lakes and forests that will be restored.

This trail will continue through the communities that I have designed, with a more detailed path in the community that I choose to focus on.

This trail promotes recreation along with daily needs of getting to a destination as some paths are more straight-forward.

As LEED requires for this bike trail to get LEED accreditation points, the community must also have a designated spot for bike storage, temporarily and for winter storage. The community building takes care of the winter storage for the entire community and the corners of the community have temporary bike racks for visitors and residents alike.

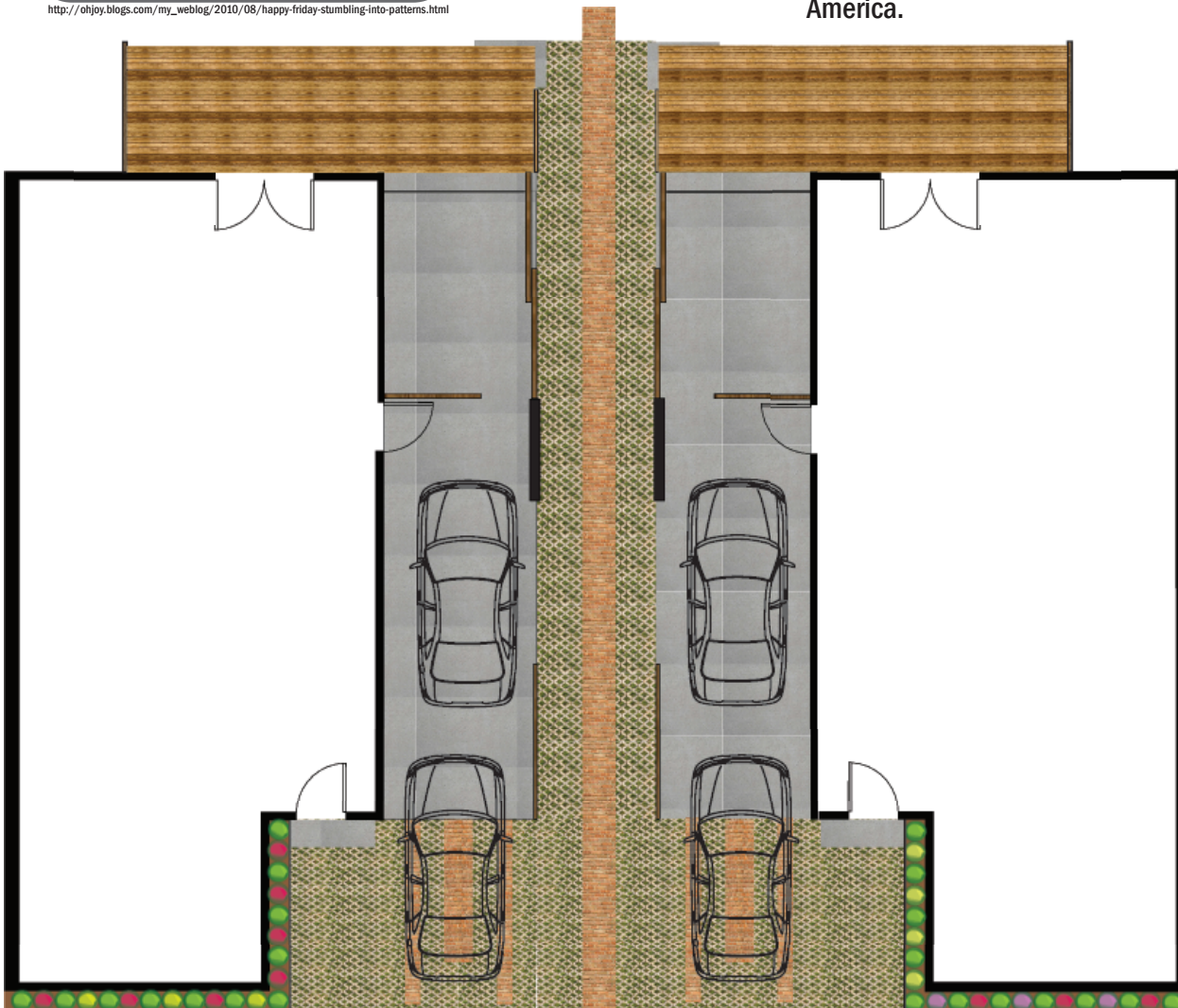




[http://ohjoy.blogs.com/my\\_weblog/2010/08/happy-friday-stumbling-into-patterns.html](http://ohjoy.blogs.com/my_weblog/2010/08/happy-friday-stumbling-into-patterns.html)

# Shared Driveway Condition

Grasscrete or permeable pavers will be used as the material for the driveways as an alternative to long strips of cement that one sees all across suburban homes in America.



Permeable pavers allow runoff water to soak into the ground rather than letting it go straight to the sewer or street to flood.

The paths between the homes lead to the shared greenspace and are made with bricks from the deconstruction of existing homes in the area.

Additionally, this space can be used by the adjacent neighbors as an extra driveway or space for children to play, etc.

The Components





# THE PEOPLE

(after the move)

# Narratives After the Move to Community Life

As one will see in the narratives written for post relocation to the community, they are happy and finding this type of life to be more helpful than they ever imagined.

As you read the following narratives, take notice of the families that intermingle.

You will find Samantha babysitting Sally and Mitchell gardening with Darnell.

These families still exist, but find that they can lean on each other for support in good times and in bad.

“No matter how good a house is, if it’s in a vacuum, it doesn’t work. It must rely on the synergy of lively neighborhood.”

—Bill Struever, developer



# George, Russell, and Sally

{partners with 6 year old}

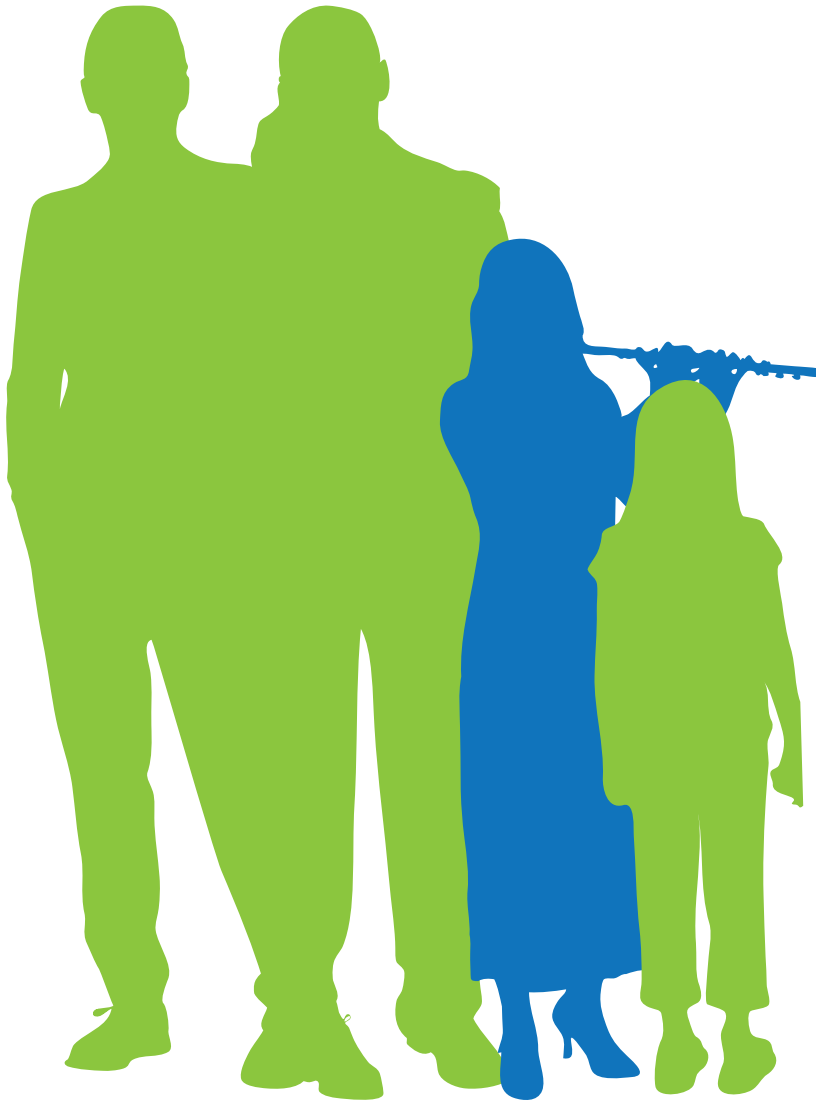
George and Russel are so thankful for their neighbors' help in their new neighborhood.

Samantha, of the Richards family, has been the biggest help to the couple as their babysitter.

Since Diamond and River go to the same school as Sally, the kids' parents take turns taking and picking up the kids from school, which helps them all out tremendously with their busy schedules.

George and Russel find it helpful to have a convience store within walking distance of their home to help with getting stuff for Sally.

The family enjoys taking bike rides to Eastern Market on Saturdays to get fresh meat, flowers, and produce.



# Ike and Marcella

{elderly, retired, still active}

Ike and Marcella's family barely worries about them anymore.

Now that they live in this new community, their neighbors see Ike and Marcella's whereabouts and can check on them if they see something suspicious.

Marcella has accomplished her lifelong dream of owning her own resale shop and the best part is, it's just minutes from her home and most days, she rides her bike to work.

Marcella is able to help people in her community as does her husband.

Ike's job is to maintain the various systems in the neighborhoods of the new development, like the septic systems and commons houses.





# Mark and Jessica

{young, expecting couple}

Mike has opened up a bicycle rental and repair shop near the Dequindre Cut.

Mark and Jessica live very close to Mark's shop, so they are able to share one car.

Jessica uses the car for her reasonable commute to Brightmoor.

Mark and Jessica feel good about the choice they made in their new home.

Their neighbors are ready to support them with new baby coming and they were able to buy baby clothes from Marcella's resale shop just around the corner.

The couple enjoys take their bikes for rides along the Dequindre Cut and up to the Riverfront, not to mention to Midtown for some fresh brews.

# Trisha and Diamond

{single mom with 7 year old}

Diamond, River, and Sally are really getting along.

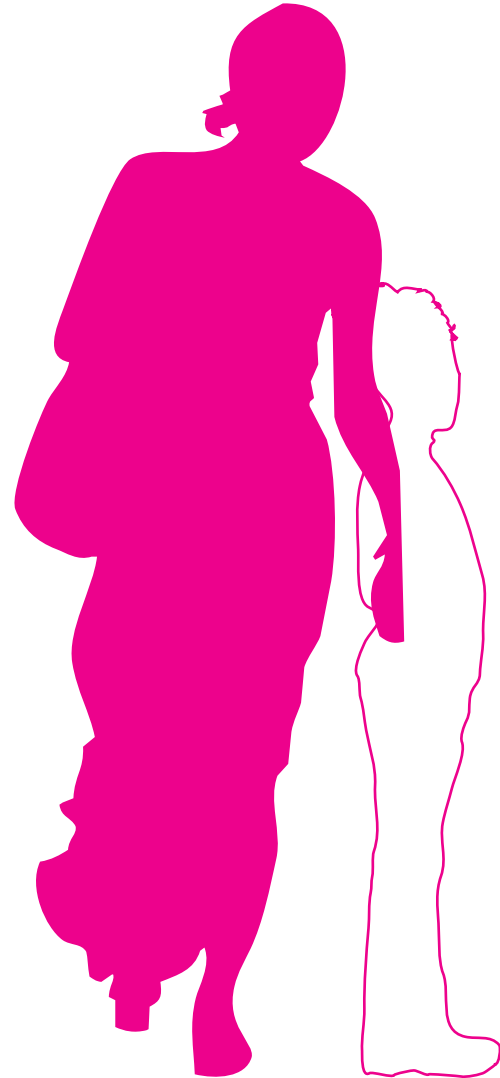
Trisha appreciates the help of the other parents in the neighborhood with helping Diamond with her homework.

Trisha repays the favor by making dinner a few times each month for the neighbors that lend a hand in Diamond's welfare each day.

Trisha is also learning a lot from Ike as he teaches her how to fix some electronics in her home.

Trisha decided to contribute to her community more by hosting a yoga class every Sunday evening in the commons building.

Jessica appreciates the extra yoga exercises that Trisha gives her for her pregnancy since Trisha was once in the same position.

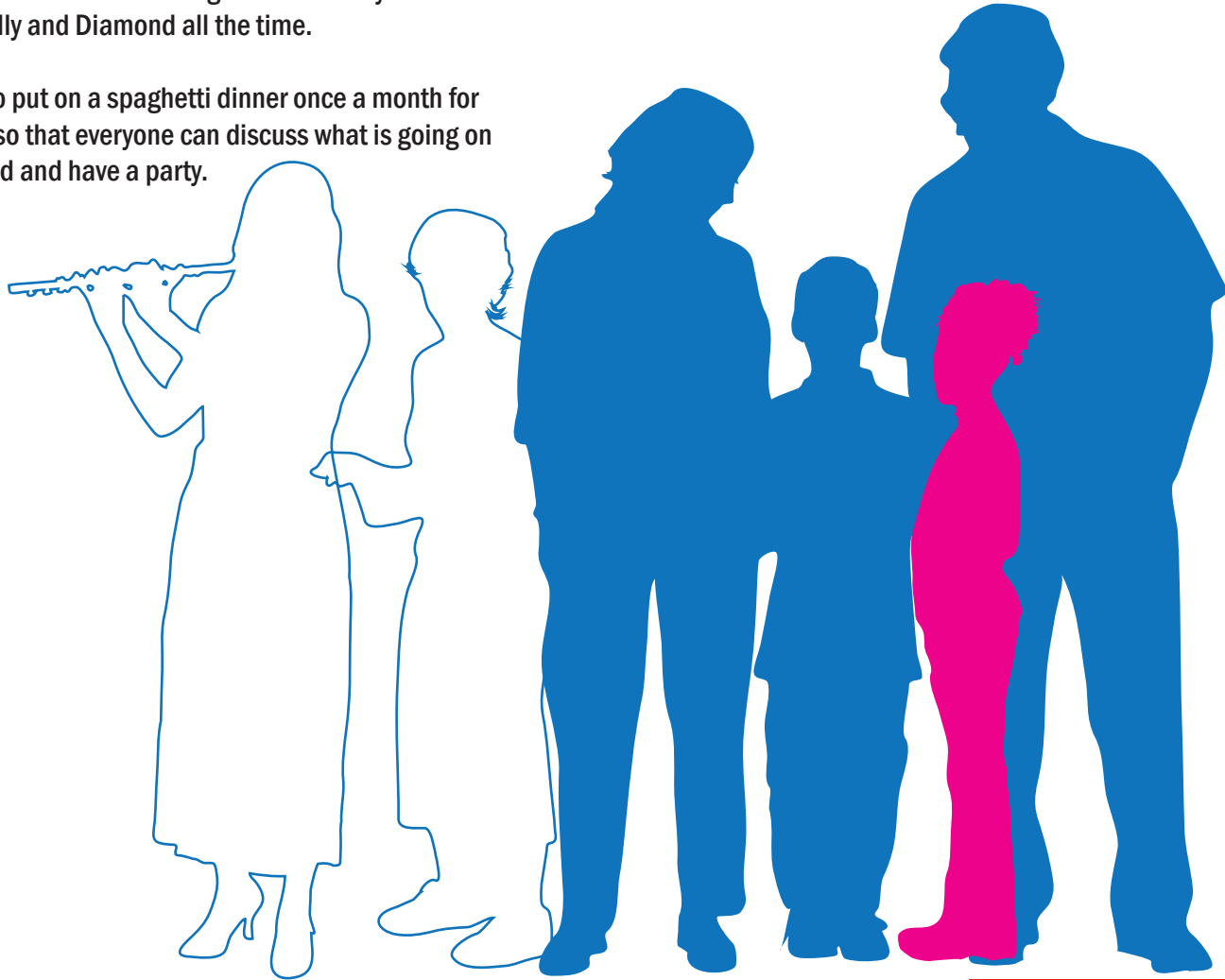


## {traditional family of 5}

The Richards are so glad that they decided to move to Detroit. The children have all made friends with people from the community. Joe and Cary are less stressed, because their commutes are very short now and they can spend more time with the kids.

Mitchell has taken a liking to Darnell and is learning a lot about gardening. Samantha is the neighborhood babysitter and River plays with Sally and Diamond all the time.

Joe and Cary like to put on a spaghetti dinner once a month for the neighborhood so that everyone can discuss what is going on in the neighborhood and have a party.



# The Richards Family

Joe, Cary, Samantha (13),  
Mitchell (11), and River (8)

The People



# Darnell

{single, low-income}

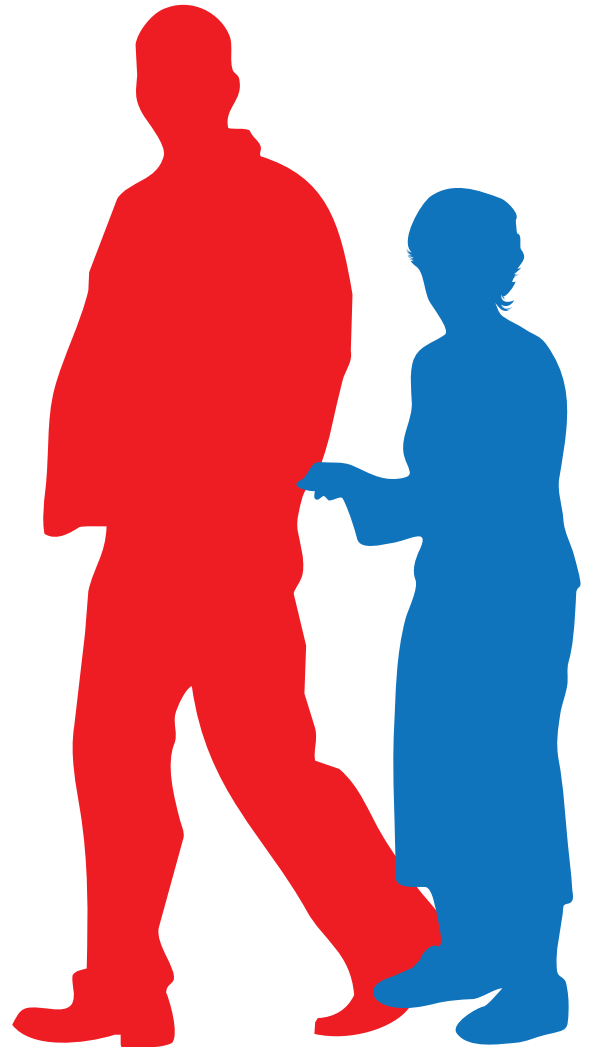
Darnell is very excited to find a home that has everything he's been looking for.

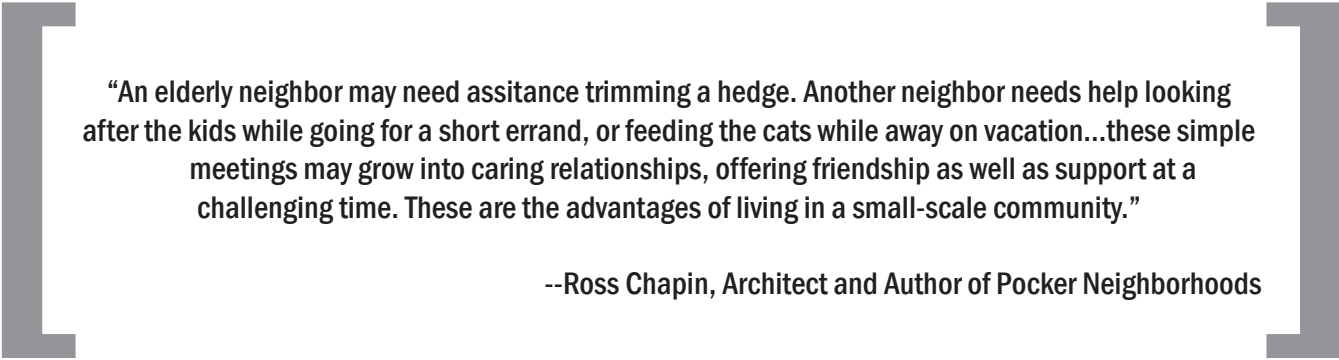
He is able to have independence, take a reasonable bus ride to and from work, and best of all, he gets a garden to tend to.

In his free time, Darnell tends to the community garden.

He not only works on his own plot, but helps those of his neighbors who cannot get it as often and even teaches them how to feed and prune the plants.

George finds gardening to be just as relaxing and like to read a book and talk to Darnell by the gardens.





**“An elderly neighbor may need assistance trimming a hedge. Another neighbor needs help looking after the kids while going for a short errand, or feeding the cats while away on vacation...these simple meetings may grow into caring relationships, offering friendship as well as support at a challenging time. These are the advantages of living in a small-scale community.”**

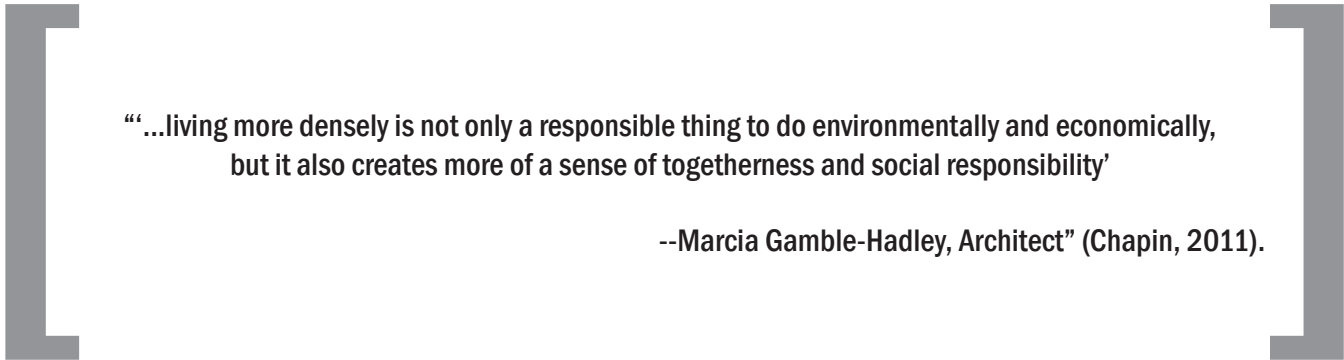
**--Ross Chapin, Architect and Author of Packer Neighborhoods**

# Conclusion

As Sim Van der Ryn was quoted in *Sustainable Cities: Concepts and Strategies for Eco-City Development*, a true ecological community, "...is much more than a dense, efficient land use pattern...It incorporates local food production and waste recycling. Its size is limited to its watershed, and its capacity to recycle wastes without damage to the environment" (Walter, Arkin, and Crenshaw, 1992). Through the components that I have incorporated into my design, I feel that I have laid a foundation for the residents to live a life of making better choices and thinking about the people around them and the effect their choices will have.

Take notice of the disappearance of the front yard that is so famous in America. It is a wasted space. It is usually not safe enough for children to play on, being so close to the street and usually too small to have a good game of kickball. I decided that the residents of this community would make better use of a common greenspace. Putting their efforts into making that shared space special was just one of the ways that I influenced their choices.

"The level and intensity of community involvement varies from one group to another, and rarely are there rules for how much to be involved. It's more a matter of personal choice, and being tolerant of the choices others make" (Chapin, 2011). Ultimately, I, as the architect, cannot force people to make choices that they do not want to make, but I can influence those choices and use architecture to intervene at the right moments as I have shown in my components section of this thesis book.



**“...living more densely is not only a responsible thing to do environmentally and economically,  
but it also creates more of a sense of togetherness and social responsibility’**

**--Marcia Gamble-Hadley, Architect” (Chapin, 2011).**

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**[ Thank  
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To my 28 other architectural thesis graduate friends, may you all find a way to give back to the world and make a difference.