

2014

Penn Place transit plan: Connecting & engaging the EMU-Ypsilanti community

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Penn Place Transit Plan

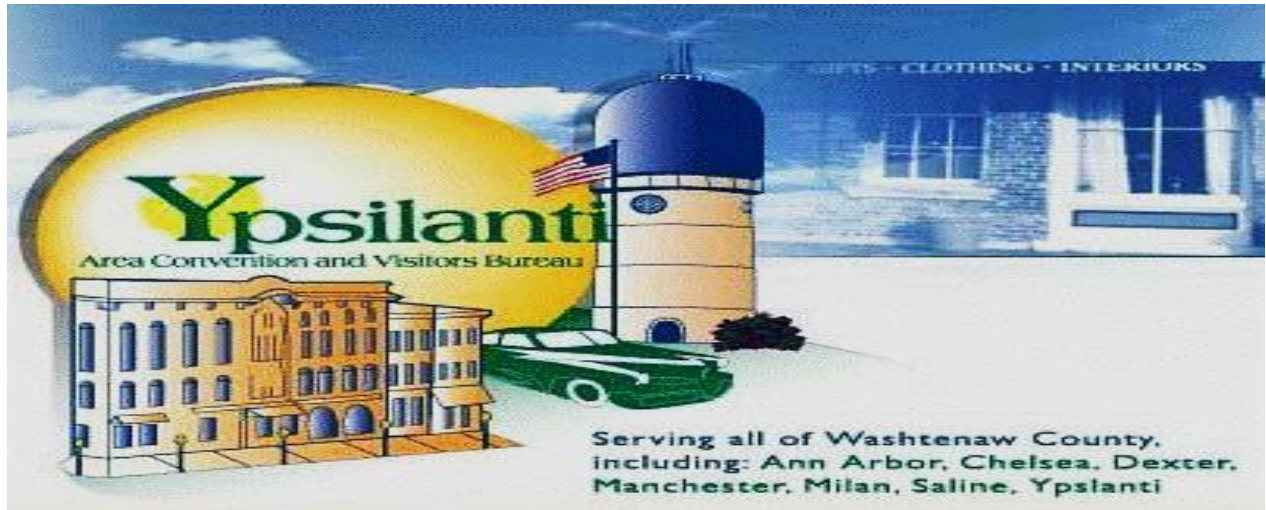
Connecting & Engaging the EMU-Ypsilanti Community



Michael Strugala

Eastern Michigan University
June 15, 2014

Independent Study



Mission Statement/Vision Statement:

The overall mission and vision for the Peninsular Place Neighborhood Study area is to increase collaboration amongst stakeholders, residents, businesses, and the EMU community to increase walkability, enhance pedestrian safety (in and around the park), deter criminal activity, repair broken and outdated infrastructure including sidewalks and antiquated lighting. Furthermore, the Peninsular Place Neighborhood Plan from a transportation perspective will focus on creating nodes of interest, developing key gateway entry points, connecting users to the AATA route, and establishing connectivity between Eastern Michigan University, Peninsular Place Park, Frog Island Park, and Depot Town. Additionally, the transportation plan will provide a robust vision plan for future growth.

against the elements. Additionally, because it is not a secure structure, it is open to vandalism and can detract individuals from actually wanting to utilize Peninsular Park despite the fact that the Ypsilanti Police Department has described the park as a low crime area. These challenges and opportunities will be explored more in detail below.

Acknowledgements:

**City of Ypsilanti Planning
& Development Department**

City Planner:
Teresa Gillotti
Planner I:
Bonnie Wessler
Planning Assistant:
Connie Locker
Preservation Planner:
Cynthia Kochanek

**Major Participating
Stakeholders:**

Peninsular Place
University Green Apartments
Peninsular Park
Eastern Michigan University
Ypsilanti Police Department
Ypsilanti Fire Department
Ypsilanti Planning Department
Ypsilanti Housing Commission

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Introduction:

Neighborhood Plan Guiding Principles:

Six major components comprise the guiding principles: The plan is to strengthen and enhance:

- ❖ Safety
- ❖ Sustainability
- ❖ Connectivity
- ❖ Accessibility
- ❖ Economic Development
- ❖ Quality of Life

There is also a commitment to collaborate with all community stakeholders, neighborhood residents, city officials, and interested parties on a continual basis throughout the planning process and into phased implementation to keep all constituents informed. Neighborhood plans typically are smaller in scope, focusing in on a specific community. They are better for giving residents a voice, identifying needs and details, as well as empowering them in the democratic process. Additionally, neighborhood plans tend to garner increased levels of community involvement and help to accomplish neighborhood goals, projects and improvements.

The planning process:

The planning process entails a Statement of Purpose, Stakeholder Identification, SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats) of the study area, Vision Statement, Zoning Critique, and a Community Survey Tool which helps guides our Goals and Objectives.

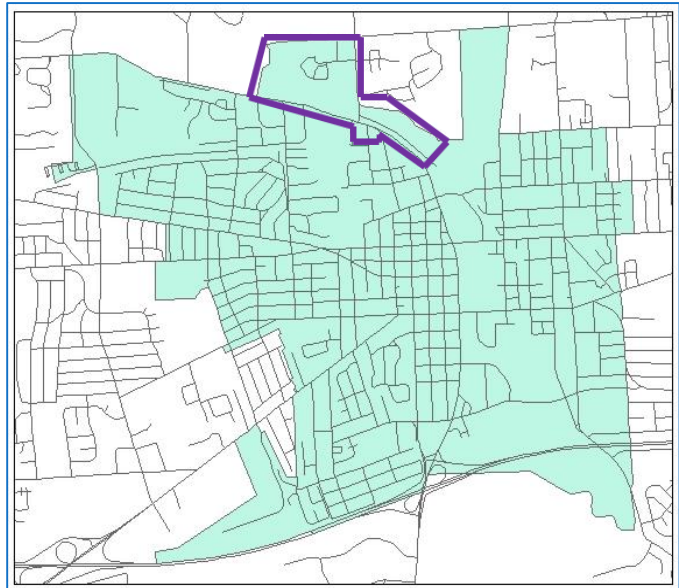
Guide to use the neighborhood plan:

Moreover, the neighborhood plan can serve as a tool to guide the future, aid in planning for development or capital improvement projects. On a final note, neighborhood plans can serve as an educational informative guide for residents and stakeholders as well as a source for community research.

Study Area Description:

The Peninsular Place study area encompasses a multitude of unique environments. There are many multi-family high density residential units in the area. There are also challenging mobile and pedestrian pathways; any improvements will need thoughtful and practical solutions. The Huron River runs directly through the study area.

On the southern border, there is a major thoroughfare, Huron River Drive, which presents opportunities and challenges in and of itself. Huron River in its current condition is adequately moving traffic that collects



from the south and moves east-west. However, the pavement is in dire need of replacement and upgrading. The northernmost route of the study area is Clark Road which is bound by a simple two lane road and high density low-income residential. The westernmost border of the study area is bound by Oakwood Avenue which is also a major

thoroughfare traveling through Eastern Michigan University’s campus and is adjacent to the Eastern Plaza strip mall.

Neighborhood Identity Components:

City of Ypsilanti:

The City of Ypsilanti is a small, dense urbanized community comprising 4.5 square miles within 15 miles of Detroit Metro Airport and 10 miles of Ann Arbor. It was the second city to incorporate in the State of Michigan, and has the fifth largest historic district in the state. The historic character is a wonderful complement to a youthful population – more than 35% of residents are aged 18-24. Ypsilanti’s population density is one of the highest in Washtenaw County, at roughly 6.4 people per acre. Opportunities for growth are primarily in the form of redevelopment, as the City is largely built-out. Approximately 40% of the land area is in use by non-profits; Eastern Michigan University is the largest land owner in the City.

History and Background:

Historically, the site on which the Peninsular Place apartment sits was used as a paper mill for light industrial use. The old power plant still exists which is still standing unused in Peninsular Park. The area was settled in the early 1800’s and was known for its location on the Huron River. The mill and paper company originally began as a trading post. As the company began to flourish, with it came permanent settlers at around



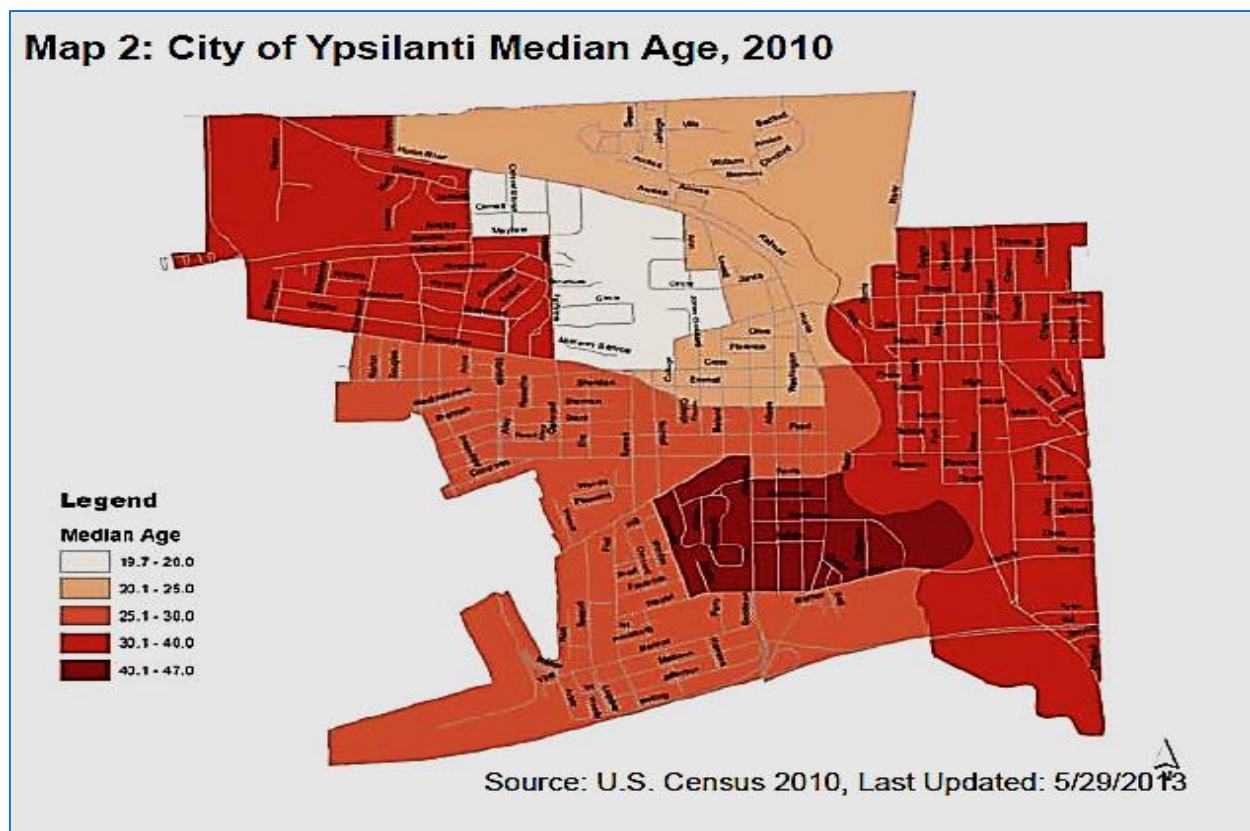
the same time the University (then Michigan State Normal College) was established, 1849. What followed later in 1890 was the development of Michigan’s first interurban railway which extended itself from Ypsilanti to Ann Arbor and later to a larger regional system that reached as far as Detroit, Jackson, Kalamazoo, Bay City, and Cincinnati. The automobile would later put the Interurban out of business in the late 1920s.

Demographics:

Population

- ❖ The population in the study area is primarily college-aged students with an average age of 25 years. Additionally,
- ❖ 61.5% are White
- ❖ 29.2% are African American
- ❖ 0.6% are Native American
- ❖ 3.4% are Asian
- ❖ 3.9% are Hispanic or Latino and
- ❖ 1.1% identify as Other Races

Map 2: City of Ypsilanti Median Age, 2010



Demographics: Age

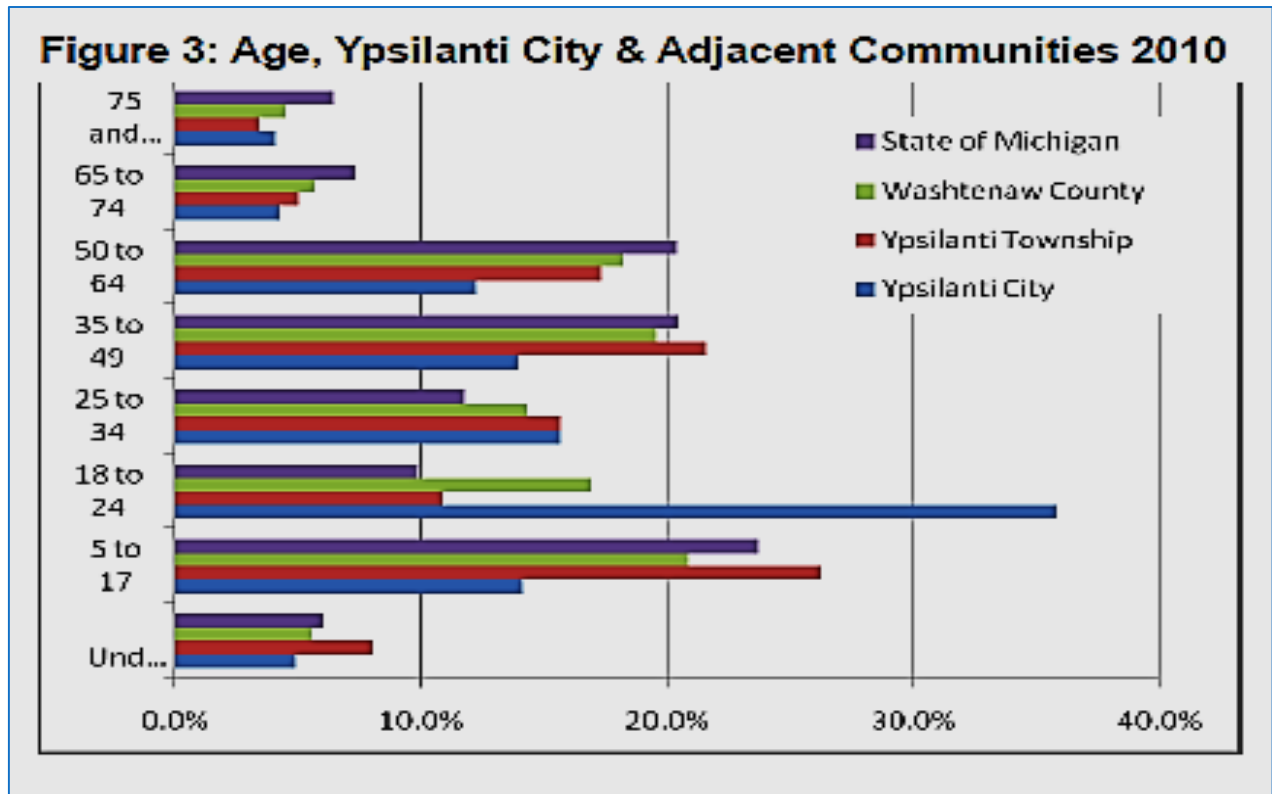


Figure: Percent Minority

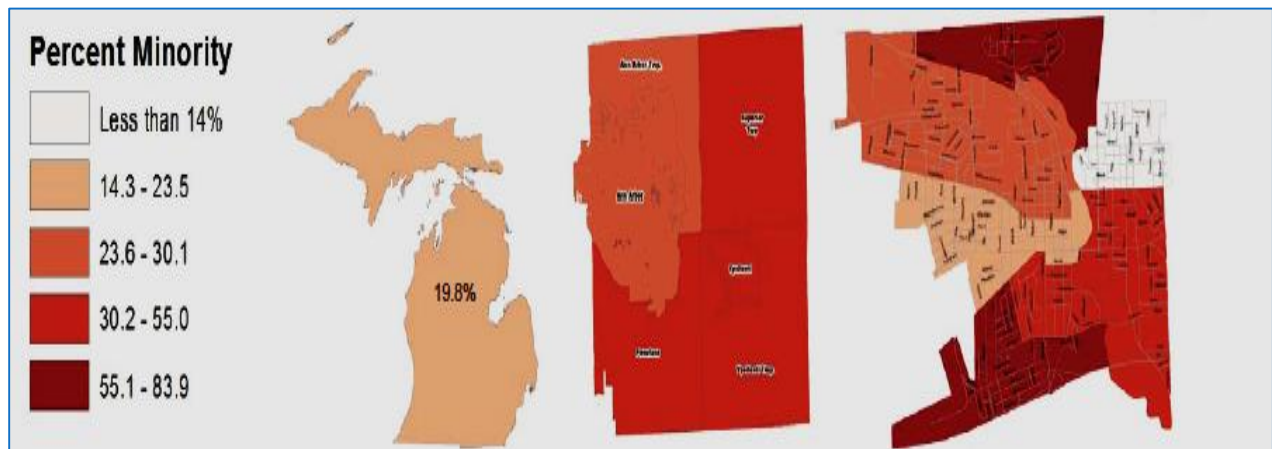


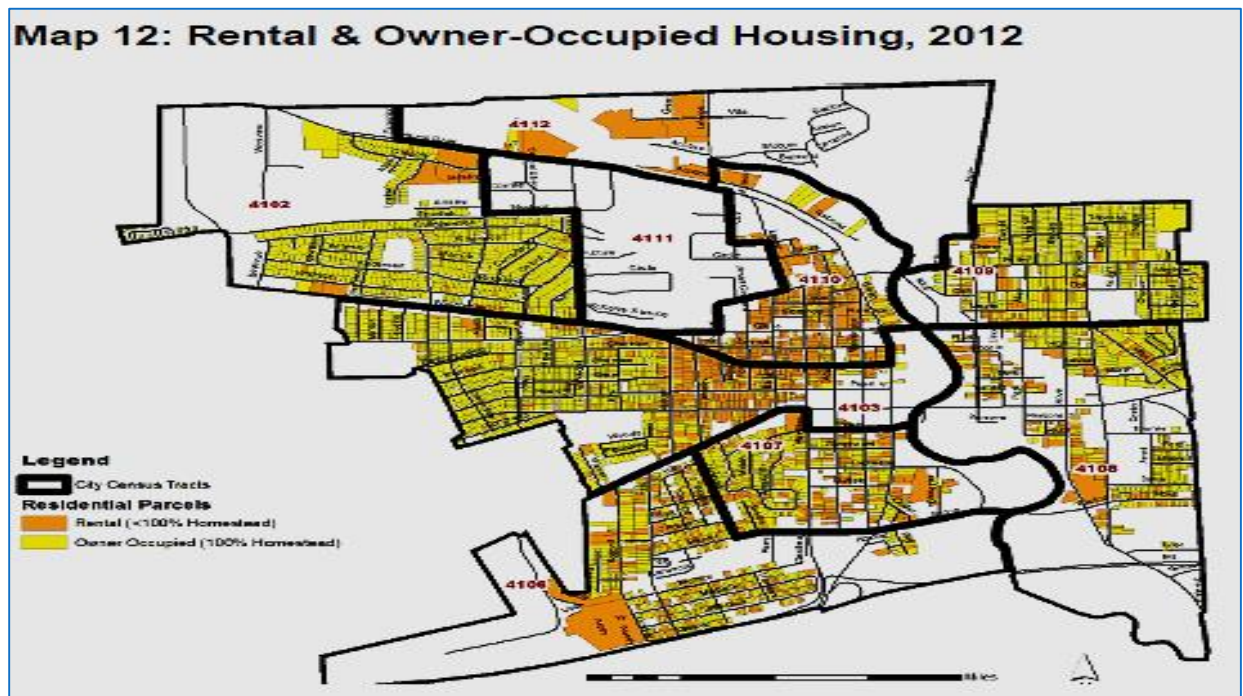
Figure: Per Capita



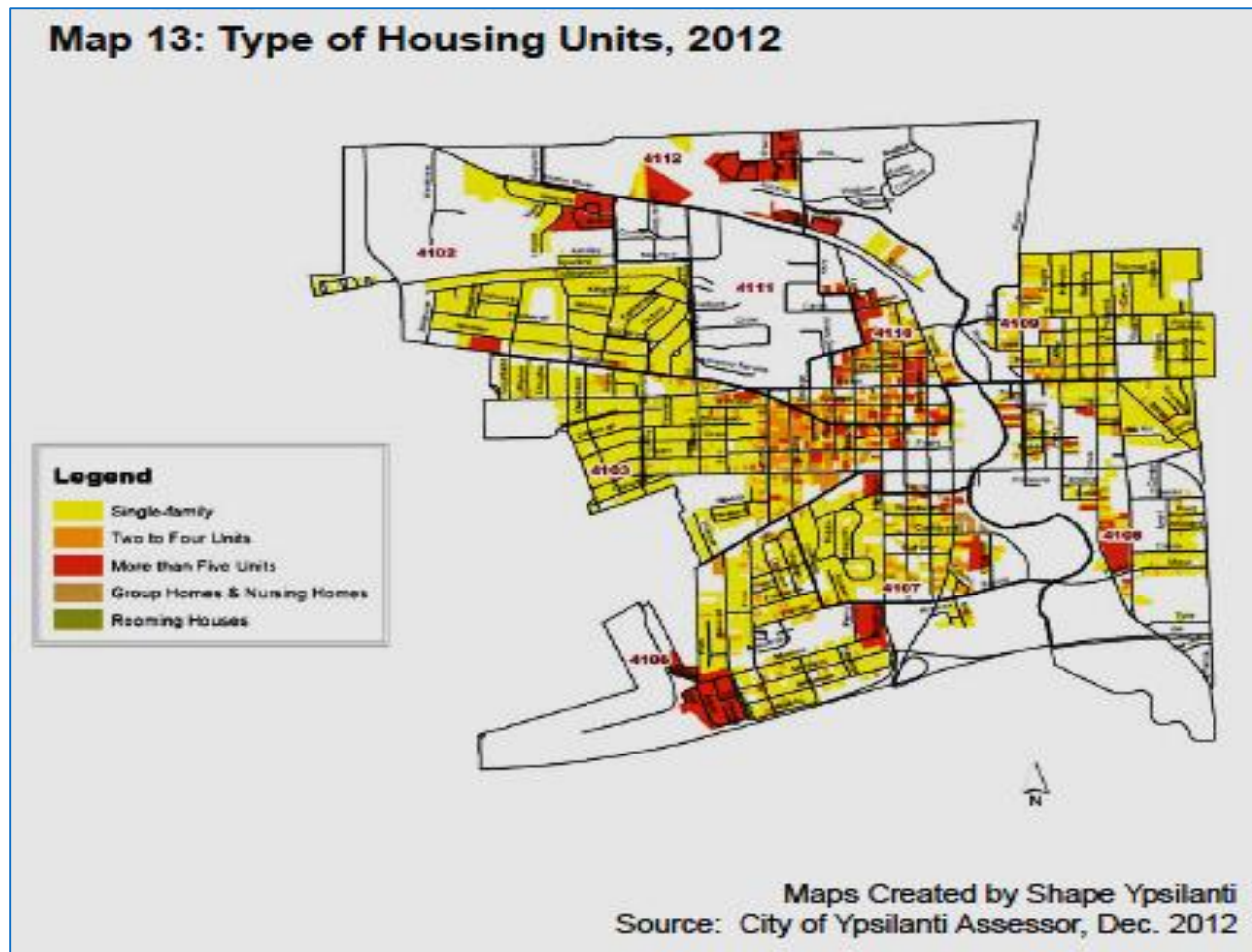
Housing:

Housing is dominated by high-density low income housing in the study area. The following maps are courtesy of Ypsilanti’s Shape Ypsi Master Plan and illustrate this in greater detail.

Map 1:



Map 2:



Defining Characteristics:

❖ Landmarks:

The Historic Peninsular Paper Mill Company power plant is still standing, unused unfortunately, and in disrepair. The architecture is unique to its time and could be a pinnacle for park redevelopment.

❖ **Visual Amenities:**

The study area is adjacent to Eastern Michigan's campus, the Huron River is accessible, residential housing is nearby, the Eastern Plaza business area is in close proximity as well as a local Laundromat, neighborhood park and restaurants/pubs in Depot Town.



Land Use and Zoning:

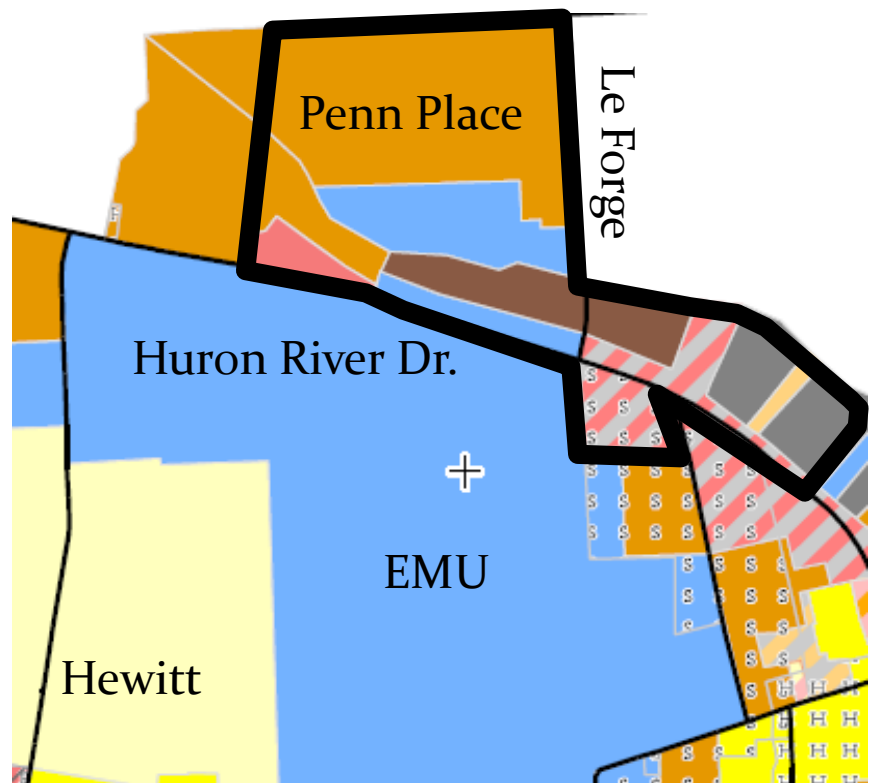
City Zoning Framework: Form Based Codes

- ❖ Design Guidelines will be based on form based codes that work in tandem with Ypsilanti's Master Plan to give us a cohesive and strategized vision of what the Penn Study Area will look like.
- ❖ Form based codes focus on the natural connections that exist in the physical environment and look at how they can be enhanced through design.
- ❖ Require functional street patterns, open space design, uniform architectural treatments, proper building orientation, provide standards, and connections that exist between uses.
- ❖ Form based codes give developers a guide to adhere to and are more flexible with mixed uses; USER FRIENDLY.

Zoning: Current Land Use and Future Land Use

Zoning Districts

-  H-OL Historic Preservation Overlay
-  S-OL Student Overlay
-  E-OL Entryway Overlay
-  RC-OL Residential-Commercial Overlay
-  RO Residential-Office
-  R1 Single-Family Residential
-  R2 One- and Two-Family Residential
-  R3 Multiple-Family Medium Density Residential
-  R4 Multiple-Family High Density Residential
-  RC Residential Commercial
-  B4 General Business
-  B3 Central Business
-  B2 Community Business
-  B1 Neighborhood Business
-  CI Commercial-Industrial
-  WS Workshop Studio
-  M1 Light Manufacturing
-  M2 General Manufacturing
-  PL Public Land
-  PUD Planned Unit Development



Recommendations:

There are several recommendations that the project team came up with based on the current zoning layout and future land uses. It is suggested that the current vacant public and industrial properties be rezoned for business commercial uses to meet needs not currently met. For instance, there is no immediate grocery store in the vicinity and based on the community feedback survey was cited as one of the high needs for the area. Since there is a unique historical and architectural component attached to the Penn Paper Mill converting it to an adaptive re-use function such as a museum or retail stores will serve the community well. Moreover, we propose to rezone a portion of the

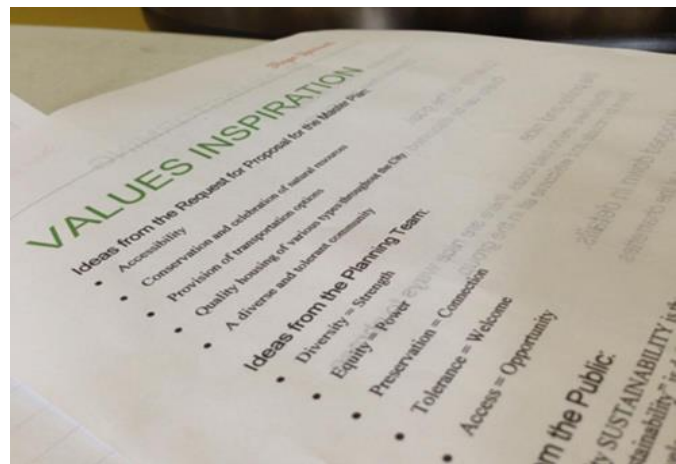
Peninsular Place apartment complex ground floor for business commercial use to act as an incubator to further service needs in the community.



As this plan began to take shape and come to fruition the following list is a guide to which all policies attempt to attain to. This is striving for ethical and responsible action that speaks to the needs of the community and enhances their experience; in some cases building and expanding upon existing connections. The underlining objective is to continually involve the public throughout this neighborhood planning process.

Checklist Items (Overall Theme):

- ❖ Livable Built Environment
- ❖ Harmony with Nature
- ❖ Resilient Economy
- ❖ Interwoven Equity
- ❖ Healthy Community
- ❖ Responsible Regionalism
- ❖ Authentic Participation
- ❖ Accountable Implementation

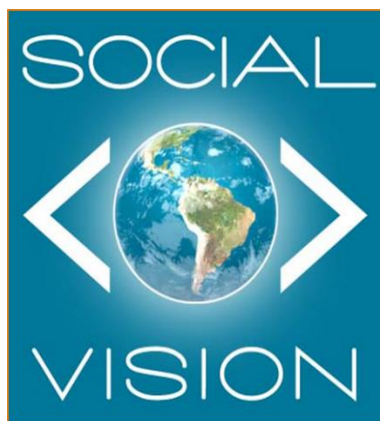


Community Form:

Details what the community looks like, how it functions, what form the citizens would like the community to take.

Social Policies:

This part of a comprehensive plan would include parameters for citizen and community input and feedback as part of the process. Since we're serving the public who better to get feedback from than the people that reside in the local community. More importantly, gathering background information from the community should include population, household and employment forecasts, demographic trends, education levels, income levels and employment characteristics that would assist the government unit in developing its comprehensive plan. (Ohm, Required Elements of a Local Comprehensive Plan)



Social Vision Statement:

The social vision details improved neighborhood safety and services, exemplary neighborhood design for sustainability, improved infrastructure to enhance the community, and multiple housing types to provide a diverse selection to residents.

Social Goal 1: Sustainability

- ❖ Organize on-going sustainability initiatives and educational outreach
- ❖ Create brochure for residents to learn about sustainable practices for home and yard
- ❖ Work with energy providers to assist homeowners with improving household energy efficiency

Social Goal 2: Connectivity

- ❖ Establish partnerships with Eastern Michigan University and local agencies
- ❖ Work with local government agencies to reduce traffic impacts and identify solutions for any problems

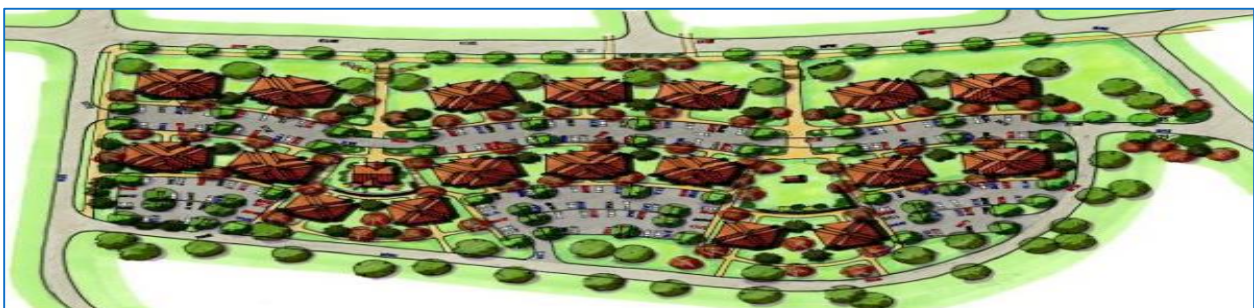
Social Goal 3: Renew Peninsular Place

- ❖ Repair parking lot
- ❖ Update the complex exterior and surroundings with adequate signage and lighting
- ❖ Implement safety measures such as cameras or security personnel



Social Goal 4: Repurpose Housing

- ❖ Create incentives to encourage residents to stay in Ypsilanti permanently
- ❖ Encourage the purchase of property instead of renting to maintain residents for a longer period of time
- ❖ Repurpose the vacant housing for better use



Social Goal 5: Improve Existing Infrastructure to Enhance the Community

- ❖ Establish standards to review the quality of services and infrastructure provided in the neighborhood, including:
 - ❖ Utilities
 - ❖ Public Safety
 - ❖ Schools
 - ❖ Communications

Social Goal 6: Improve Neighborhood Safety

- ❖ Address public safety and security issues to improve the overall image and character of the neighborhood and for long-term neighborhood revitalization to be successful
- ❖ Strengthen and expand the Neighborhood Watch Program to involve more residents and property owners and reduce criminal and suspicious activity
- ❖ Expand the presence of the police within the neighborhood to help alleviate safety issues and concerns, e.g. foot and bike patrols



Implementation:

Years 1-2

- Create brochure for residents to learn about sustainable neighborhood
- Renew Peninsular Place apartments
- Improve neighborhood safety

Years 3-4

- Repurpose Housing
- Improve the existing infrastructure to enhance the community
- Work with local government agencies to reduce traffic impacts and identify and solve any problems

ECONOMIC GROWTH



Economic Policies:

This encompasses and embodies policies, strategies, tactics and programs geared towards stabilizing, promoting and retaining the economic base. Best practices for meeting the resilient economy principles include providing physical capacity for economic growth, maintaining a balanced land-use mix to support fiscal sustainability, planning for commercial and industrial land development/job creation, identifying and promoting potential commercial and industrial lands for redevelopment; identifying, developing, and supporting a region’s comparative advantages, promoting local ownership and production of goods/services; and responding to regional retail and employment competition. (Chapter 2: Godschalk & Anderson, pg. 14)

Economic Vision Statement:

The economic vision for this portion of the neighborhood plan is designed to accomplish the following:

- ❖ Increase in commercial activity
- ❖ Stabilization of the neighborhood and fostering of new commercial opportunities
- ❖ Consistent employment for local residents
- ❖ Decrease in vacant land and properties

- ❖ Establishment of an economic corridor leading to area development
- ❖ Sensible commercial and industrial zoning

Economic Goal 1: Redevelop Vacant Land

- ❖ Draft policies to encourage redevelopment efforts
- ❖ Update applicable structures
- ❖ Market potential uses to developers

Economic Goal 2: Increase Connectivity Between Businesses and Residential Areas

- ❖ Determine current and future walking paths
- ❖ Identify pedestrian needs
- ❖ Collaborate with transportation groups and organizations
- ❖ Build new infrastructure and utilize traffic calming devices

Economic Goal 3: Develop marketing strategies to retain businesses

- ❖ Highlight local businesses and their contributions to the community in Ypsilanti website and local newsletter
- ❖ Identify the opportunities within the neighborhood to attract small businesses
- ❖ Provide grants and local incentives for small businesses
- ❖ Increase resident awareness about public and private services in the neighborhood

Economic Goal 4: Attract new development

- ❖ Support the development of commercial uses in selected locations that serve the needs of the neighborhood
- ❖ Address retail development opportunities
- ❖ Create and maintain vital commercial districts by providing sufficient amenities such as:
 - ❖ Pedestrian-oriented parking
 - ❖ Sidewalks
 - ❖ Lighting
 - ❖ Transit opportunities

Economic Goal 5: Rezoning for Commercial Development

- ❖ Conduct a parcel study of inappropriately zoned properties to determine the feasibility of rezoning these properties



- ❖ Rezone underutilized, blighted, or underdeveloped properties within neighborhood for commercial use

Economic Goal 6: Revitalization for current commercial area

- ❖ Create local revitalization authority task with hosting events and promoting the area
- ❖ Ensure that development efforts are accompanied by public outreach and neighborhood involvement

Implementation:

Years 1-2
<ul style="list-style-type: none">• Create policies to encourage redevelopment.• Identify accessibility plan for increased connectivity.• Conduct a parcel study to determine the rezone possibility.• Provide grant and local incentives for small businesses.

Years 3-4
<ul style="list-style-type: none">• Redevelop vacant structures.• Build new walkable infrastructure between businesses and residential areas.• Rezone appropriated area for commercial use.• Support the development of commercial uses in selected locations that serve the needs of the neighborhood



Environmental Policies:

There is a human-nature relationship that exists and we have finite resources (water, soil, food). We should adapt policies that ensure future security of these natural resources without completely destroying or depleting them. Systems should be developed

that aim to reduce dependency or put resources back into the environment in healthy sustainable methods; adaptive reuse and system integrity. Subset categories may include preservation, sustainability, recreation and open space. Preservation may include topics covering preservation of land for agriculture practices, protection of wetlands and historical significant structures. This section would also detail land use requirements and intended purposes. (Chapter 5: Kelly, pg. 79)

The environmental policy will focus on enhancing the asset of the Huron River by providing improved recreational activities at Peninsular Park. These activities would include festivals and community events centered on Michigan's outdoor water sport heritage.

- ✓ Environmental Awareness
- ✓ Sensitivity to physical environment
- ✓ Ecological sustainable resource use



Environmental Mission Statement:

The environment is a crucial component of this plan. It is the very physical areas with which we interact. Pride and care should be a high priority. The neighborhood will have increased green spaces, community gardens, and opportunities to engage in a multitude environmental activities.

- Reduce air pollution and run off into the river
- Increase energy efficiency
- Reduce dependency on automobiles
- Better parks and infrastructure

- Protect sensitive areas near Huron River
- Increase environmental community/volunteer groups



Environmental Goal 1: Create Environmental Landscaping

- ❖ Construct vegetative buffers
- ❖ Build permeable sidewalks to allow run-off to be absorbed by the ground. Materials include permeable pavers, concrete or asphalt.

Environmental Goal 2: Create Green Spaces

- ❖ Floral Gardens
- ❖ Pocket Parks
- ❖ Community Vegetable Gardens
- ❖ Grass and tree-planting programs

Environmental Goal 3: Redesign Peninsular Park

- ❖ Analyze existing conditions
- ❖ Fill in pot holes and uneven gravel
- ❖ Parking lot improvements-drainage, increased number of spaces for users
- ❖ Develop new areas for bike trails, hiking trails, and pathways
- ❖ Reconstruct picnic areas, barbeque pits, and play structures

Environmental Goal 4: Repurpose Paper Mill Structure

- ❖ Clean off graffiti
- ❖ Recognize the historical significance of the structure to area residents
- ❖ Obtain alternative uses for the structure
 - Small museum, brewery, or pavilion for group events

Environmental Goal 5: Green Initiatives

Specifically look at Penn Power Plant dam and investigate feasibility of removing or replacing dam with structure that is safer.

- ❖ Environmental Hazard and Pollution Mitigation Techniques
 - ❖ Incorporating use of bio-swales to aid in stormwater run-off

- ❖ Placement of such feature in Peninsular Park to prevent run-off pollution from entering into Huron River.
- ❖ Use of landscaped raingardens, planting of indigenous trees and species

- ❖ Open Space and Natural Systems
 - ❖ Recreational Opportunities on Huron River
 - ❖ Development of Riverwalk at Peninsular Park
 - ❖ Preservation of sensitive areas
 - ❖ Well defined hiking trails

Environmental Goal 6: Lighting Enhancements

- ❖ Streetlights
 - ❖ Enhance visibility
 - ❖ Improve safety of pedestrians
 - ❖ Improve vehicle navigation
- ❖ LED switch program
 - ❖ 5 year plan to upgrade lighting to efficient low-energy LED lighting



Implementation:

Years 1-2
<ul style="list-style-type: none">• Develop community volunteer groups• Begin writing policy initiatives and new ordinances• Create affordable green spaces

Years 3-4
<ul style="list-style-type: none">• Build landscape buffers and vegetative buffers



Transportation Policies:

Transportation is an important piece; considers travel by land, air, sea and which primary mode should be the focus for the community. This in more detail should cover automobile, pedestrian, bicycle, light rail, bus, air, water and truck transit systems as well as accommodate those with disabilities and special needs. This section would compare the local governmental unit's objectives, policies and goals to the state and regional transportation plans. (Ohm, Required Elements of a Local Comprehensive Plan)

Peninsular Place Transportation Vision Statement:

The transportation vision will incorporate a complete streets policy where non-motorized and motorized traffic are accounted for. This includes policies that would enhance overall safety for the public and improve access to the University and apartment complexes due north of Huron River Drive. With minimal funding available, seek State and Federal Grants to implement change that can improve safety and efficiency for all modes of transportation. Give the local population alternatives to using an automobile to access local businesses. Reduce reliance on fossil fuels and improve environmental quality

through best practices in planning. Foster Transit oriented developments that promote nodes of activity that enhance local business and attract new ones.

- ❖ To enhance pedestrian mobility and safety as a primary focus of this study area.
- ❖ Circulation and Traffic Recommendations
- ❖ Functional sidewalks
- ❖ Access to apartment complexes
- ❖ Buffers between key areas of interest-Peninsular Park, Huron River and Railroad
- ❖ Improve intersection at Leforge and Huron River
- ❖ Implement bike lanes

Small Area Transportation Plan:

We often conduct small scale neighborhood plans with all intent and purposes of being detailed as possible. One may ask, why then develop a small area transportation plan? First, it allows us to meet future transportation needs and accommodate them sufficiently. It also gives citizens alternative modes of transit that cost less than traditional modes; thus reducing reliance on the automobile as the primary mode further cutting down on personal costs. A transportation plan can also promote local business, encourage local investment and promote walkability of the city when they are coordinated efficiently.

Strategic Overview:

- ❖ Multi-use paths
 - ❖ The current Border to Border Trail system is a county-wide system that currently runs just south of Peninsular Park, just a block away. Connecting the B2B Trail system to Peninsular Park and Frog Island Park would further these connections offering residents recreational opportunities.

- ❖ Make Streets Better not Wider
 - ❖ Capacity doesn't equal Quality
 - ❖ Multi-modes should be incorporated into a road diet and follow a Complete Streets Model



- ❖ Be Ready for Opportunities
- ❖ Reward the Short Trip
 - ❖ Facilitate and focus on the walk between neighborhoods, bike to work or bus trips within City and Penn Study Area.
- ❖ Community Feedback
 - ❖ Include stakeholders and transportation users to gauge.
 - ❖ Communication should be a continual, constant and open process between all parties.
 - ❖ This feedback guides the vision plan.



Non-Motorized Plan:



Dedicated parking area to accommodate new bus stop and shuttle service to EMU campus.

- Plan will encourage non-motorized modes
- Proximity to campus-reduce automobile use
- Creating active, thriving, & engaged environments



Upgrades to access at Penn Park.

- Removing brush and updating entry point signage
- Parking
- Traffic Circulation upgrades



Working with City of Ypsilanti, MDOT, SEMCOG, AATA to implement bike lanes along Huron River.



Working with Stakeholders to develop and implement sidewalk infrastructure plan.

Sidewalk Network & Safety

- ❖ Sidewalk development to encourage walkability to EMU and surrounding Node Districts.
- ❖ Infrastructure improvements to enhance pedestrian experience and improve navigation at Leforge and Huron River.
- ❖ Incorporate developments from regional Border to Border trail system
- ❖ Slow speed limit from 45 to 40 or 35mph to enhance safety
- ❖ Second pedestrian crossing near railroad



Traffic Volume & Counts

Daily Counts:

Leforge: [Year 2006]

(North of Huron River Dr.):

12,900

Huron River Dr.: [Year 2008]

(East of Hewitt):

16,500



Transit Vision & Districts

- ❖ Identified Hub Regions that will promote access and promote transit oriented developments.
- ❖ Transit focused developments, gateways, entry-points
- ❖ Developing attractive points of interest
- ❖ A sense of ARRIVAL, a DESTINATION
- ❖ Promotion of efficient systems
- ❖ Easily accessible, USER friendly
- ❖ Enhancing established routes-AATA



Transportation Goal 1: Improve Traffic Circulation within Peninsular Place Study Area.

- ❖ Improve functionality/efficiency of intersection of Leforge and Huron River Drive.

This intersection is congested, disjointed, and disconnected to surrounding destinations. Ideally, a reconfiguration and reconstruction is proposed to efficiently move

vehicular traffic through the area. The re-visioning of this thoroughfare should include elements to accommodate pedestrians and safety should be a priority consideration as referenced in the community feedback survey.

Transportation Goal 2: Improve Lighting.

Get non-working streetlights in working condition and add several at key locations- Peninsular Park and along Huron River drive.

❖ **Strategies**

The strategies set forth in this goal aim to

- ❖ **Enhance visibility**
- ❖ **Improve safety of pedestrians and**
- ❖ **Improve vehicle navigation**



Transportation Goal 3: Improve Signage.

Improved signage will assist in vehicle/pedestrian wayfinding and help intersection at Huron River/Leforge be less confusing.

❖ **Strategies**

- ❖ Uniform signage should be constructed to promote ease of use and navigation in and around the Peninsular Place Study Area.
- ❖ Signs should promote accessibility and sense of place. This ensures access to visitors and residents alike.
- ❖ Finally, the signage should be clean, clear, simple, directional and intentional. Again, the idea here is to promote EASE of USE; USER FRIENDLY.



Transportation Goal 4: Improve pedestrian walkability

Improve access to Peninsular Place and surrounding apartment complexes.

Strategies:

Implement a sidewalk network and infrastructure that increases pedestrian access as well as safety.

Transportation Goal 5: Enhance Access within Peninsular Place Study Area.

Enhance access along Huron River Dr.

❖ **Strategies**

Implement mid-block crossings and traffic calming devices.



Transportation Goal 6: Improve Bus Access

Relocation of AATA Bus Stop for greater accessibility by residents.

❖ **Strategies:**

- ❖ Relocate bus stop to a safer, accessible location that provides users with sheltered and protected facility.
- ❖ Relocation would be in compliance with Ypsilanti city ordinance.

Goal 7: Enhance buffering between residential zones and commercial districts

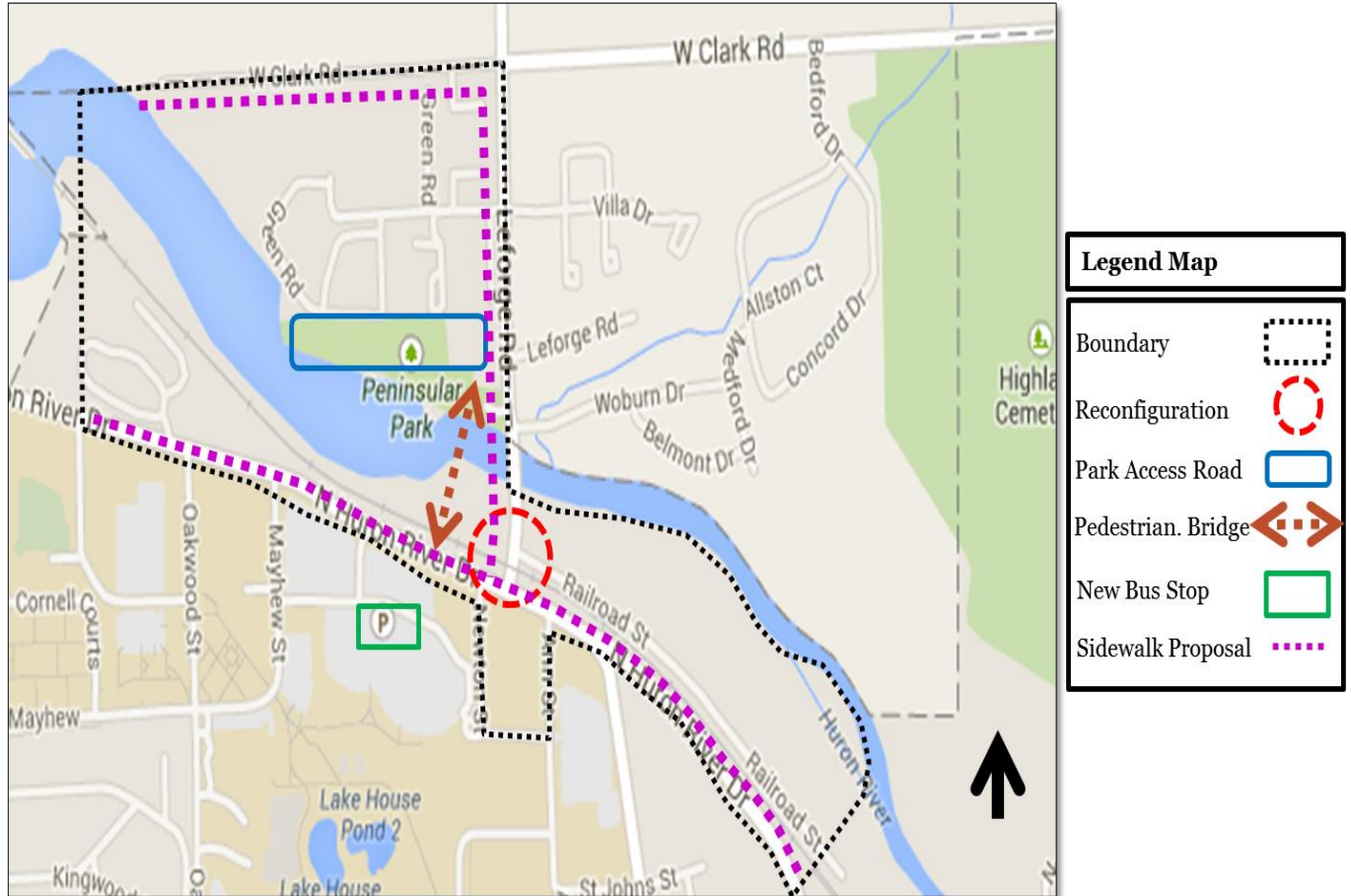
Deter usage of unsafe crossings at railroad

❖ **Strategies**

- ❖ Use of local indigenous species to build and construct landscaped curtain walls along railroad tracks.

- ❖ This provides an enhanced safety component to pedestrians walking on the North side of Huron River Dr.

Transit Recommendations:



Implementation:

Years 1-3
<ul style="list-style-type: none"> • Sidewalk network & traffic navigation signage • Establishing Gateway signs • Construct new entryway to Peninsular Park • Volunteer Corp.

Years 3-6
<ul style="list-style-type: none"> • Develop & Construct River-walk • Re-strip Huron River to accommodate bicycle lanes

Years 6-10
<ul style="list-style-type: none"> • Reconstruct Leforge & Huron River intersection • Collaborate with Ypsilanti & EMU Master Plan • New Pedestrian Bridge

Utilities and Infrastructure:

I feel infrastructure is an important aspect to include in a comprehensive plan because it details not only are roadways, rail, highways, freeways, bridges, tunnels and the like but also the underlying framework of pipes, sewers and waterways that service our cities; including stormwater drainage, trash/refuse and pollution control/prevention. Not only do these systems account for the physical framework but should include methods and practices that utilize energy conservation techniques. This section should specifically describe the location, capacity of existing public utilities and community facilities that serve the local unit; include forecasts for future expansion and assess these needs based on use of the facilities. (Ohm, Required Elements of a Local Comprehensive Plan) Per the specific application to Peninsular Place this is of utmost importance with high density low-income residential nearby in addition to the proximity to the Huron River and the environmental sensitivity that exists there (wildlife and plant life).

Institutions:

Includes the larger big picture entity of what comprises a city: government, social structures, education and the complexity of policies and decisions that shape and change the urban landscape. This includes planning for adequate police, hospital and fire response/prevention systems. Specifically, should evaluate the efficiency of the local government to adjacent municipal entities and its relationship to the state and region. Furthermore, the plan should identify potential conflicts and pursue resolution upon them. In pursuant to our specific study area, Eastern Michigan University's President

Susan Martin has launched a joint effort between the university's police department, Washtenaw County Sheriff Department, and the Ypsilanti Police Department in targeted patrols aimed at reducing crime outside of the campus borders .(Hoch, Chapter 2).

Additional institutions within proximity to our study area include: EMU, Washtenaw Community College, Cleary College, GM, Willow Run, St. Joseph Mercy Hospital, Ypsilanti District Library, City Hall, police, fire, EMS and local public schools.

Plan Implementation:

Fundamental Steps:

The first fundamental step to plan implementation is to identify areas of concern. This step is usually completed by



conducting a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. The second step in this process involves developing a vision plan. Before a vision plan can be develop, the planner and project team must design or coordinate a community feedback mechanism; without such a tool, the plan will hold little value. Each study area will have unique challenges.

Community Relationship Building:

In order for a successful neighborhood plan to be implemented, positive relationships must be forged between stakeholders, residents, planners, city officials, and interested organizations. Communication is key; it takes initiative and is an ongoing process that must exist between all parties involved. The positive relationship building is

a key ingredient that leads to public support and approval of the plan, distribution of the community survey, and productive visioning sessions.

Roles of City and Stakeholders:

The City has a crucial role in this process. Under its authority, the city has the power to adopt the plan and put it into motion. Stakeholders are vital as well molding the plan into its final form with their invaluable input. Furthermore, stakeholders assist in promotion of the plan by garnering community support and help in volunteer efforts.

Budgeting:

Budgeting involves a diligent and scrupulous process to get all applicable funding for projects. This can include developing grant language for Capital Improvement Plans (CIPs), Tax Increment Financing (TIF) districts, recreational improvements, environmental mitigation, or transportation enhancements.

Evaluation and Monitoring:

Metrics will be established and phased to measure the goals and objectives effectively and in a timely manner. Implementable goals that can be measured will allow



the plan to be adopted as funding becomes available. Such metrics would include daily trips per household or apartment, vehicles mile driven, ridership counts on local AATA routes, crash rates, and daily volumes on select

thoroughfares (Huron River and Leforge). These metrics would be monitored on a

continual basis and changes made accordingly as new information becomes available. Benchmarks provide a good way to gauge our progress and allows us to take necessary precautions to make sure we are meeting needs voiced by the community. Similar in scope to a comprehensive plan, the neighborhood plan document would be evaluated every year, updated every five and rewritten every twenty, thus instituting a continual monitoring of improvements in the study area. Budgetary needs remain a top priority, once again to support and make the neighborhood plan a livable functional reality.

Conclusion:

The Peninsular Place study area has tremendous potential. The park itself has incredible opportunities to engage the community at a relatively low up front cost. The transit plan will focus on overall improvements to



vehicular circulation, improvements to pedestrian access and safety issues, street realignment-Leforge and Huron River, signal prioritization, navigation and wayfinding, reduced number of signs along Leforge, user friendly signage to improve vehicle flow and efficiency, and finally to establish Peninsular Place Study Area as a TIF (Tax Increment Financing) district to capture funds for improvements to be implemented in phased stages.

Figure 1: Site Design Process (Courtesy Kenneth Bednark, M.S., AICP)

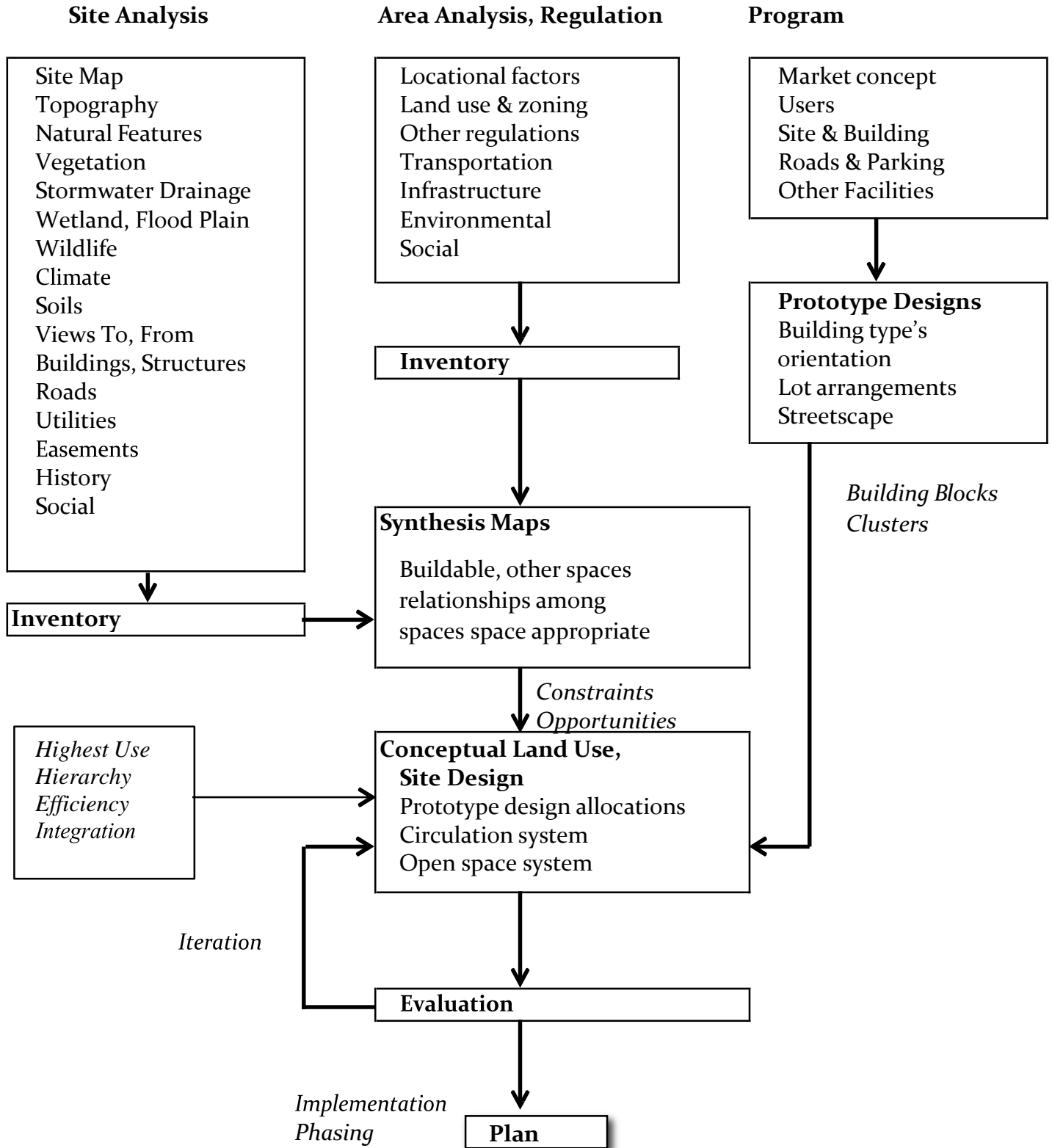
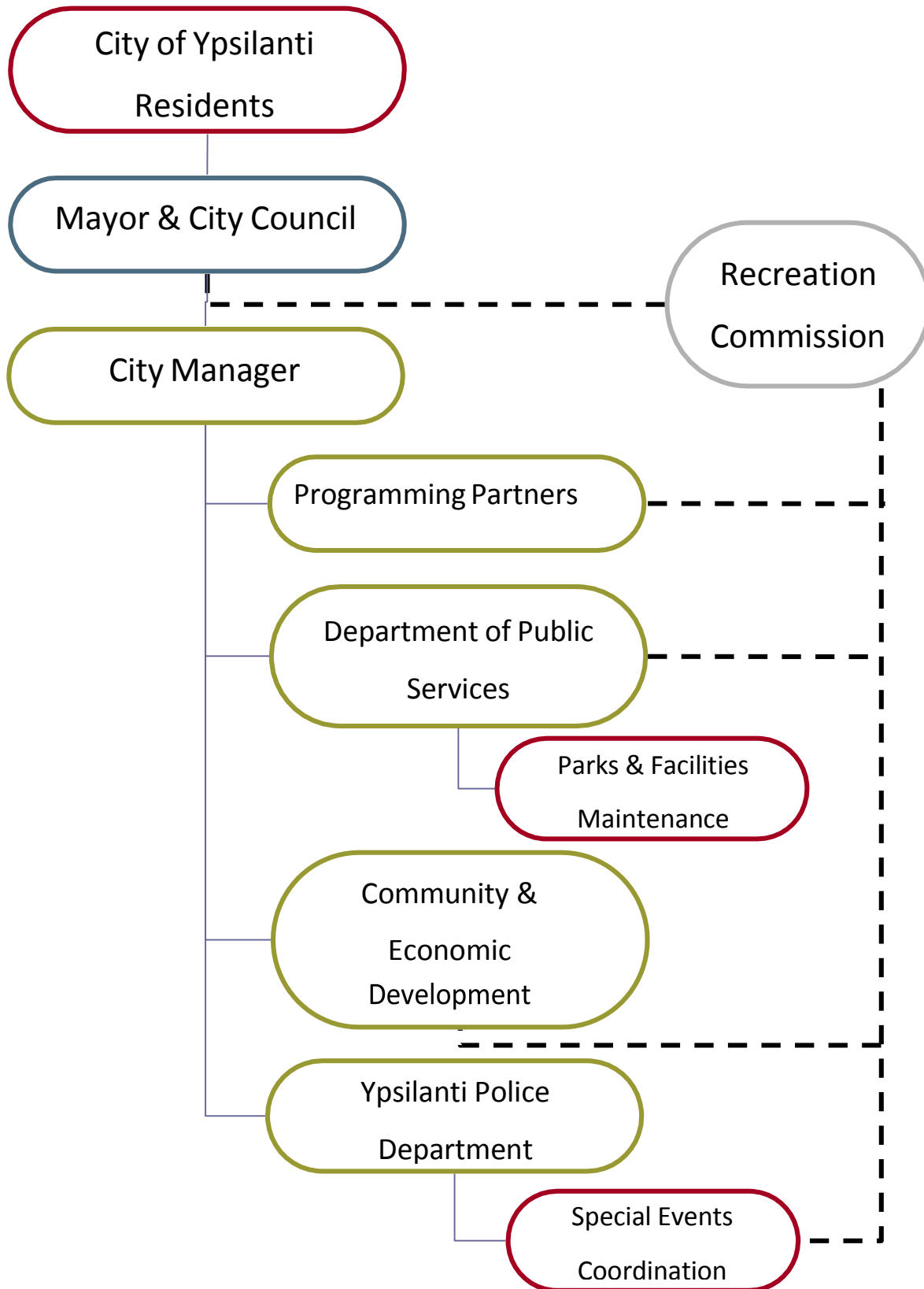


Figure 2: (Administrative Structure)



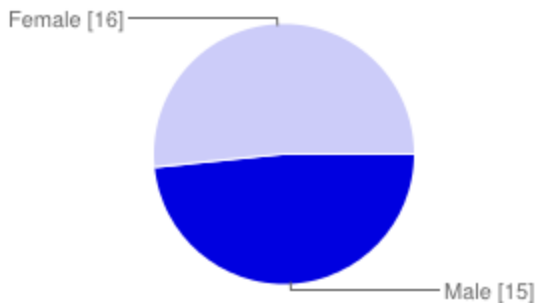
Appendices A:

Summary of Community Feedback Mechanism

31 Responses

Summary

1. Gender

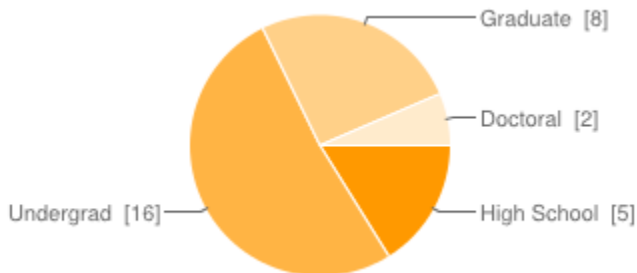


Male	15	48%
Female	16	52%

2. Age

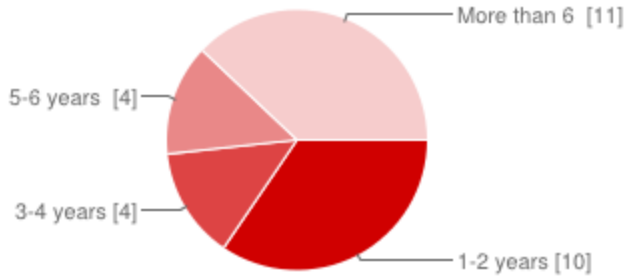
35 33 34 43 41 22 24 25 26 27 30 31 19 21 20 45 44 54

3. Education



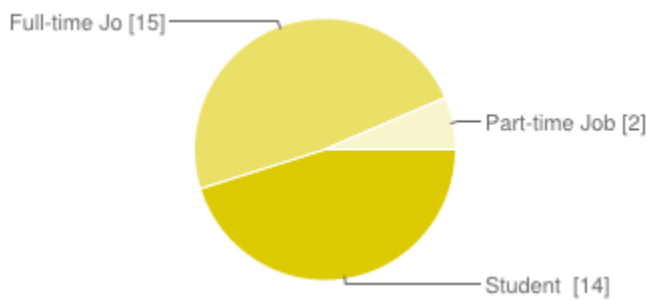
High School	5	16%
Undergrad	16	52%
Graduate	8	26%
Doctoral	2	6%

4. How long have you been living, working, or visiting in the neighborhood?



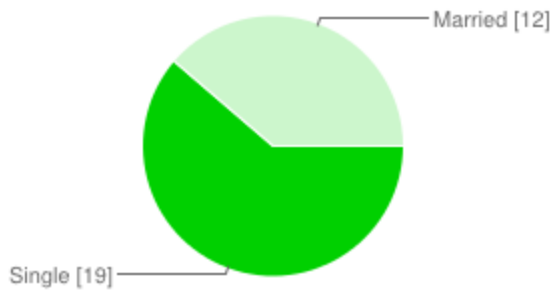
1-2 years	10	34%
3-4 years	4	14%
5-6 years	4	14%
More than 6 years	11	38%

5. What is your current employment status?



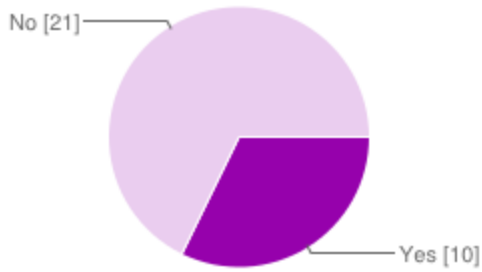
Student	14	45%
Full-time Job	15	48%
Part-time Job	2	6%

6. Marital status



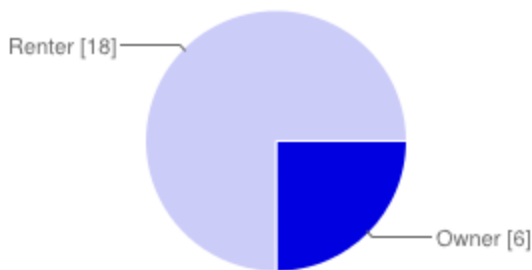
Single	19	61%
Married	12	39%

7. Do you have any children?



Yes	10	32%
No	21	68%

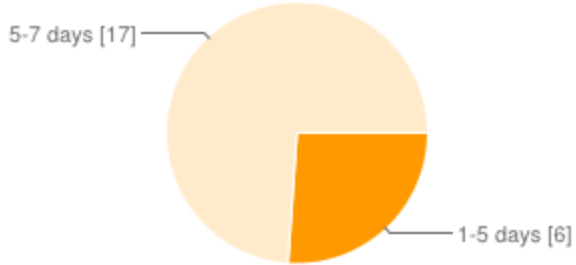
8. Do you own property in this neighborhood or do you rent?



Owner	6	25%
Renter	18	75%

Boundary Map

9. How many overnights on a given week do you reside in Ypsilanti?



1-5 days	6	26%
5-7 days	17	74%

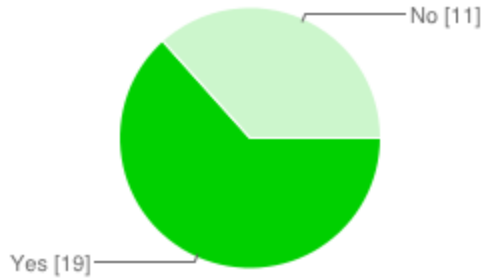
10. What do you like the most about your community? (Check all that apply)

Close to the university	25	56%
Affordable housing	10	22%
Proximity to parks	7	16%
Other	3	7%

11. What do you least like about your community? (Check all that apply)

Safety	16	26%
Poor quality roads and sidewalks	27	44%
Vacant structures	8	13%
Poor access to public transportation	8	13%
Other	3	5%

12. Do you feel safe in your community?



Yes	19	63%
No	11	37%

13. If no, what makes you feel unsafe? (Check all that apply)

Vandalism	9	21%
Burglary	18	42%
Gang activity	8	19%
Drugs	7	16%
Other	1	2%

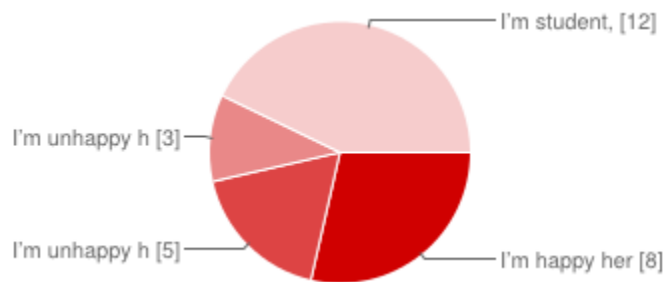
14. What are some of the improvements you would like to see in your neighborhood? (Choose the five most important)

High-quality building standards	11	9%
Church communities	1	1%
Low crime	24	20%
Parks, open space, and trails	21	18%
Community events/activities	9	8%
Transit options	9	8%
Property maintenance	9	8%
Variety of housing types	6	5%
Access to schools	6	5%
Proximity to shopping	13	11%
Low or moderate taxes	7	6%
Employment opportunities	18	15%

**15. What safety improvements would you like to see in your neighborhood?
(Choose any that apply)**

Additional lighting	17	33%
Additional sidewalks	12	24%
Additional benches	1	2%
Increased signage	6	12%
Improved buffers (trees/fencing)	8	16%
Additional bus stop shelter	7	14%

16. Which of these statements best describes how you feel about your neighborhood?

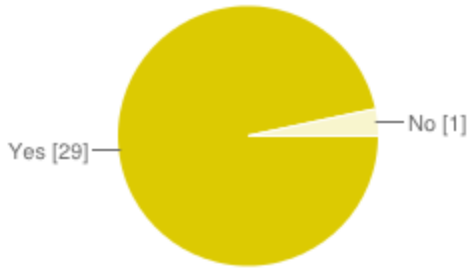


I'm happy here and will probably stay for the next 5 years	8	29%
I'm unhappy here but will probably stay for the next 5 years	5	18%
I'm unhappy here and will probably move in the next 5 years	3	11%
I'm student, living here for studying only, and will move after graduation	12	43%

17. Which businesses and services in your neighborhood do you frequent?

I usually drive further for more options. Recently Sweetwater's coffee and sometimes Subway's coffee, restaurants and bars including new Biggby on Washtenaw, Beezy's, B-24's Bona Sera, Sidetracks, Aubree's, Corner Brewery, The Rocket Need Auto service Depot Town EMU Student Center, Starbucks, Subway, EMU Eateries, Taproom, Wurst Bar, Ugly Mug, and local bakery. There are no sidewalks to get to businesses. Starbucks, Meijer, and Subway.

18. Would you like to see new development in your area?

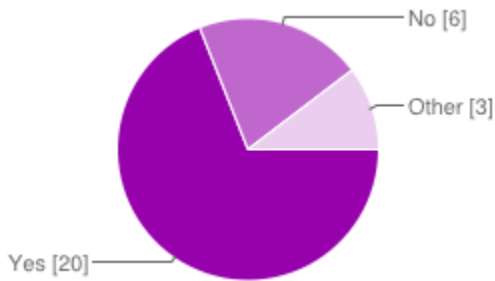


Yes	29	97%
No	1	3%

**19. What type of services would you like to be added to your neighborhood?
(Check all that apply)**

Grocery store	26	45%
Pharmacy	6	10%
Convenient store	7	12%
Restaurants/bar	15	26%
Other	4	7%

20. Do the parks in your neighborhood satisfy your needs?

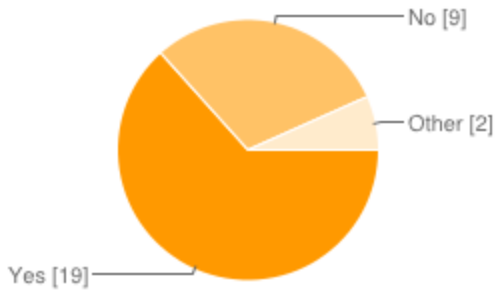


Yes	20	69%
No	6	21%
Other	3	10%

21. What changes would influence you to use Peninsular Park more often? (Check all that apply)

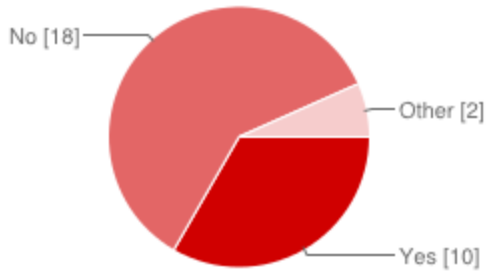
Updated signs	13	12%
Improved roads/trails	17	16%
Improved lighting	21	19%
More greenery	12	11%
More picnic areas	11	10%
Updated play structures	8	7%
More defined hiking trails	12	11%
Bike trails	9	8%
Other	6	6%

22. Would you like to see improvements made to the historical paper mill structure?



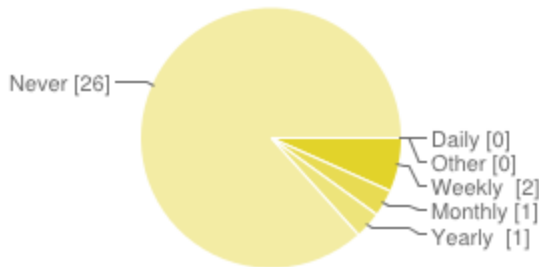
Yes	19	63%
No	9	30%
Other	2	7%

23. Do you feel the Huron River is being negatively impacted environmental by activities in your neighborhood?



Yes	10	33%
No	18	60%
Other	2	7%

24. How frequently do you use AATA bus service for your needs?



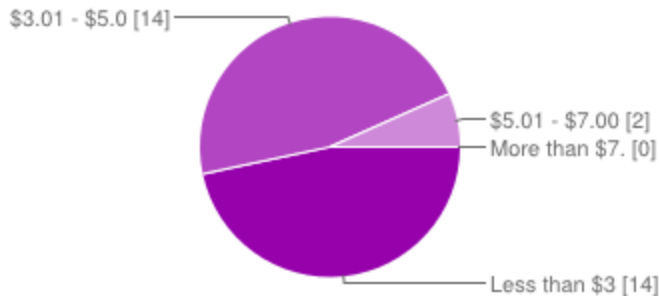
Daily	0	0%
Weekly	2	7%
Monthly	1	3%
Yearly	1	3%
Never	26	87%
Other	0	0%

25. How important would each of the following characteristics be in your decision to use a transportation service (such as a cab or bus)? (Please select the top 3 choices)

Service from home to work	5	8%
Evening service	11	17%

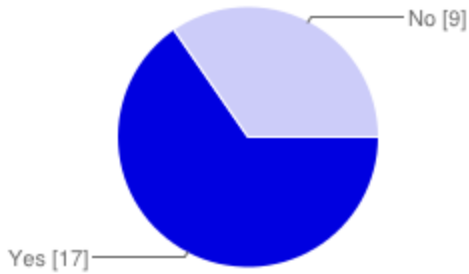
Weekend service	9	14%
Very few stops	1	2%
Easy to arrange	6	9%
Wheelchair accessible	0	0%
Flexibility	5	8%
Late-night service	7	11%
Guaranteed ride home	7	11%
Clear fare structure	6	9%
Same day scheduling	2	3%
Bike rack/storage	5	8%
Other	0	0%

26. How much would you be willing to pay a transportation service (such as a cab or bus) for commute for round trip? (Please check one that most applies)



Less than \$3.00	14	47%
\$3.01 - \$5.00	14	47%
\$5.01 - \$7.00	2	7%
More than \$7.01	0	0%

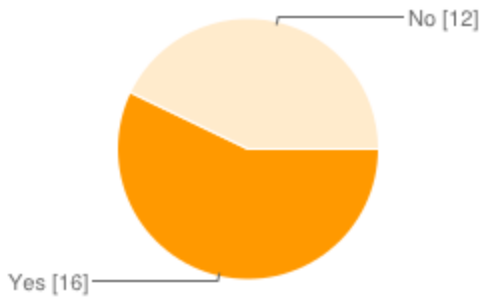
27. Do you feel another pedestrian crossing should be built between Huron River and Clark Roads (used to cross LeForge Road)?



Yes **17** 65%

No **9** 35%

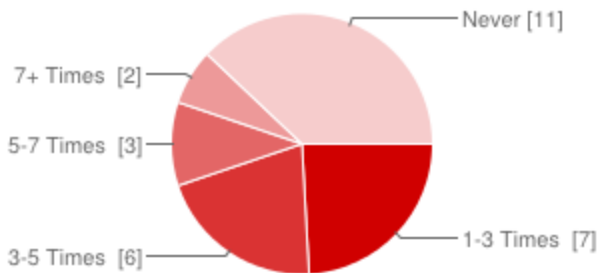
28. Would you use bicycle lanes if they were built?



Yes **16** 57%

No **12** 43%

29. How often do you walk to the Eastern Plaza or Eastern Michigan University on a weekly basis?

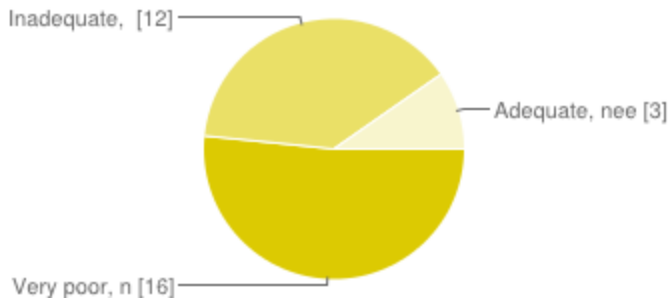


1-3 Times **7** 24%

3-5 Times **6** 21%

5-7 Times	3	10%
7+ Times	2	7%
Never	11	38%

30. How do you feel about the conditions of the sidewalks? (Check all that apply)



Very poor, needs major improvement	16	52%
Inadequate, needs minor improvement	12	39%
Adequate, needs no improvement	3	10%

31. Please leave any comments or recommendations that would improve neighborhood quality.

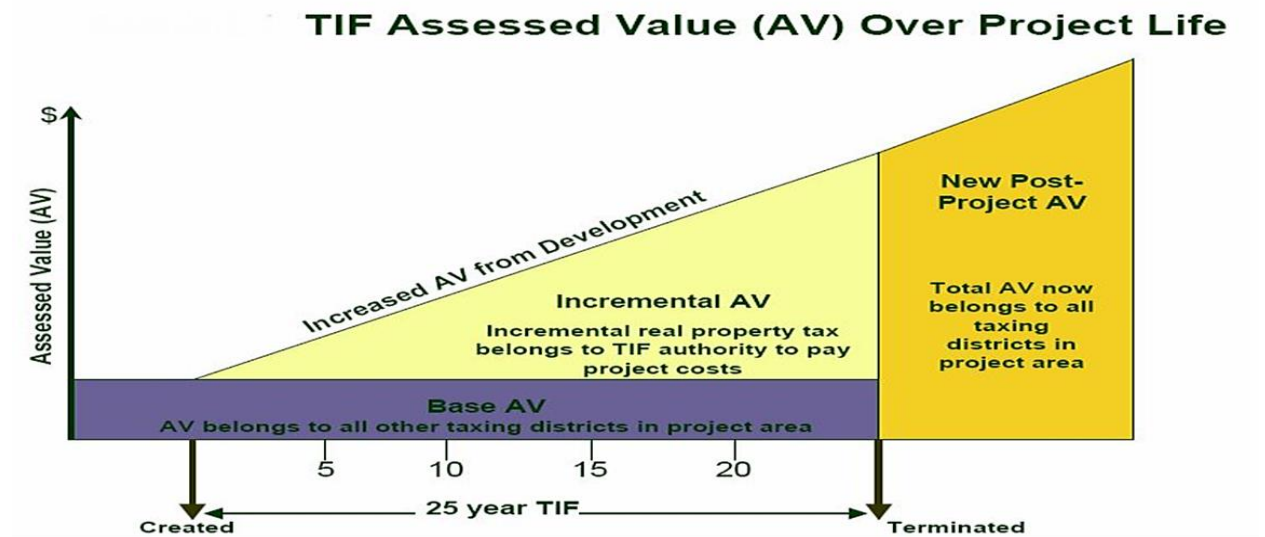
I live in College Heights but have regular business in the subject neighborhood. Needs new infrastructure and new businesses. Everything looks too run-down. Definitely improve the Leforge and Huron River Drive intersection. This is a very poor crossing that I feel unsafe walking through as a pedestrian. I think enhancing this area by implementing a new sidewalk network would help immensely. In addition, I feel improved signage and lighting would assist both pedestrians and vehicles navigating this confusing and congested intersection.

Appendices B:

POTENTIAL FUNDING SOURCES

- (1) Federal Transit Grants
 - ❖ ISTEА (Intermodal Surface Transportation)
 - ❖ TIGER (Transportation Investment Generating Economic Recovery)
 - ❖ SAFETEA-LU (Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users)
 - ❖ TAP (non-motorized)- Transportation Alternatives Program
- (2) State Grants
 - ❖ DEQ-CDBG (Department of Environmental Quality-Community Development Block Grants)
 - ❖ MDOT (MI Department of Transportation) for signal improvements
 - ❖ DNR (Department of Natural Resources) for park improvements
 - ❖ Great Lakes Basin Program
 - Soil & Erosion Control
- (3) Dedicated property millage
- (4) Special Assessment District- (Develop a Tax Increment Financing-TIF district)
- (5) General Fund
- (6) Private partnerships
- (7) User fees

Figure: TIF (Tax Increment Financing) Explanation Graph



Appendices C:

GENERAL GLOSSARY OF TERMS

Capacity Building-“Community capacity building efforts tend to focus on some combination of four major strategies. *Leadership development* centers on the skills, commitment, engagement, and effectiveness of individuals in the community building process. *Organizational development* includes the creation of new organizations or the strengthening of existing ones so they can do their work better or take on new roles. *Community organizing* targets the associational aspects of community functioning and mobilizing of individual stakeholders for particular collective ends. Finally, *inter-organizational collaboration* builds the organizational infrastructure of communities through the development of relationships and collaborative partnerships on the organizational level. *Building Community Capacity* (Chaskin, et. al., 2001, p.25)

Citizen participation or involvement: The key question for real participation is who gets to use the information to create a plan. Using citizens for input or to review plans created by consultants or the organization uses citizens as a passive information source. Active participation requires residents to be involved from the very beginning before crucial decisions that frame everything else are made. Real participation requires that everyone is aware of the entire process and knows who does what, when, what the roles are, how each party’s contribution is related to the overall process and how decisions are made. Citizens are passive when they are asked to review or provide information that someone else will analyze. Citizens are active when they gather information, learn about their neighborhood, receive alternative to review and develop priorities.

Community Capacity: “Community capacity is the interaction of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collectible problems and improve or maintain the well-being of that community. It may operate through informal social processes and/or organized efforts by individuals, organizations, and social networks that exist among them and between them and larger systems of which the community is a part”. *Building Community Capacity* (Chaskin, et. al., 2001, p.7). Overall capacity at the community level will be a function of the following characteristics that provide a foundation for action:

- (1) A sense of community;
- (2) Commitment to the community among its members;

- (3) The ability to solve problems; and
- (4) Access to resources.

Comprehensive Planning: Traditionally in urban planning literature, a comprehensive or master plan is a broad brushstroke kind of plan addressing multiple issues in a geographic area. It usually takes the form of a series of interrelated policy statements, with some maps showing areas of generally preferred uses. A comprehensive plan will address such topics as land use, housing, transportation, economy, culture, utilities, services, parks, and neighborhoods. Comprehensive neighborhood planning draws upon this tradition in terms of the topics covered but focuses on a specific geographic area in greater detail. It also identifies neighborhood priorities and specific goals, defines the interrelationship between goals (how changes in one will impact the others), and develops specific strategies that take into account the identified interrelationships.

Healthy Neighborhood: (Michael Schubert, year) A place where it makes economic sense for people to invest time, energy and money in the upkeep of the neighborhood, and where neighbors have the capacity to manage the day-to-day issues in the neighborhood. Schubert argues that the above definition recognizes the importance of the real estate market as a defining characteristic in all neighborhoods. The real estate market is the depository of a wide range of beliefs, perceptions, and facts about any given place. It indicates whether neighborhoods are valued or devalued and how the neighborhood is perceived, both from the inside and out. The health of a neighborhood is determined, in part, by the degree of confidence neighbors and others have in the future of the neighborhood.

Master Plan: Not a widely used term in neighborhood planning. More often used in facilities planning or institutional planning.

Neighborhood: The Chicago School of sociologists (Park, Burgess, & Mckenzie, 1925) defined neighborhood based on human ecology, where natural relationships between individuals, families and institutions formed around common geographic location. This definition led to the still popular notion of neighborhood as an urban village. Suttles (1972) and Gans (1991) criticized this approach as too simplistic and unable to account for the many relationships people are involved in that are not geographically centered but based on employment, interests, or needs. Urban planning pioneer Jane Jacobs (1961) also rejected the notion of the tight and cozy geographic neighborhood but did recognize neighborhoods are a critical part of a more fluid set of relationships in the urban context. Jacobs argued for three levels of neighborhood and her notion of a street neighborhood seems most relevant to neighborhood planning. Street neighborhoods have the ability to effectively organize and maintain order in their small areas through the “networks of

small-scale, everyday public life and thus of trust and social control” (Jacobs, 1961, p.119). In this view, the neighborhood has an aspect of self-governance and at the same time maintains linkages with people resources and institutions outside that space.

Neighborhood and community are often used interchangeable. Peterman (2000) holds that while neighborhood typically refers to geographic space and community to some common or shared way of life, neighborhood planning should include more than physical space. He argues that neighborhood planning should “not be about creating isolated, independent, self-sufficient villages in the city. Rather it should be about building community, and doing this involves identifying not only the local needs but also identifying the ways in which people in neighborhoods link with communities beyond some limited and artificial boundary”. (Peterman, 2000, p.22).

Planning area boundaries are determined by the neighborhoods within the proposed planning area. The planning areas need to reflect common interests, geographic features and shared services. The key to an effective size for a planning area is that it is large enough to present opportunities for new ideas while still allowing for the participating groups to work together effectively. Planning areas may be larger than a single neighborhood organization but should not be so large that the area has issues that cannot be effectively addressed through a neighborhood process. (City of Austin-Neighborhood Planning, undated)

Neighborhood Planning. Although the literature does not have a consistent definition of neighborhood planning, there are some common words and concepts. Some examples of definitions include:

From *Community Based Neighborhood Planning: A Step-by-Step, How-To Guide*, by Michael Downie at the Enterprise Foundation, 1999.

- A blueprint for all city/nonprofit revitalization efforts in a particular locality.
- A consensus within the neighborhood on specific redevelopment initiatives to be undertaken and implemented.

From *Neighborhood Planning Primer*, prepared for the U.S. Department of Housing and Neighborhood Development by Urban Systems Research & Engineering, September 1980.

- A guide for the future redevelopment of a neighborhood—to be able to respond to development opportunities. The process of identifying and solving neighborhood problems.

From *Neighborhood Planning: A Guide for Citizens and Planners*, by Bernie Jones for the American Planning Association, 1990.

- Goal is to create neighborhoods of choice that build the wealth of the residents.
- Some other reasons to plan: contributing to comprehensive city plans, shaping agendas by common interests versus special interests, providing a framework for public and private investment decisions, getting a place at the table, deciding what to keep and what to tear down, and building a foundation to address broader social and economic issues.
- Because they represent the articulated shared visions about the future, the plan can provide a guide for future development of the area. It also identifies tasks that need to be carried out to improve the area. The information can be used to justify requests or proposals made to the city or other funding sources for services or funds.

From *Planning to Stay: Learning to See the Physical Features of Your Neighborhood*, by William Morrish and Catherine Brown (2000) in Minneapolis, 2000.

- Neighborhood planning is primarily a process to learn about where you live, how to shape it for the better, and how to sustain it for the long term.
- To envision their own futures and build upon the positive resources of the neighborhood—thus shaping public policy development and capital investment in the community.
- A way that residents can become involved in making decisions about their futures.

From a local planning consulting, The Cobalt Group

- A plan that encourages and directs social and economic investments in a neighborhood.

Social Capital: Increasingly, social capital is recognized as an important element that must be considered in developing strategies for neighborhood revitalization. Investing in social capital incorporates a people through place strategy (Chupp, 1999). Social capital rests among community residents, social organizations, and civic institutions (Putnam, 1993). Putnam (2000) stresses the decline in social capital as defined by civic engagement, especially through participation in voluntary associations, such as bowling leagues and bridge clubs. The trend across all of America toward less association and connection diminishes the role social networks play in community problem-solving, a role essential for the revitalization of distressed neighborhoods. Social capital must be context-specific,

include both bonding (close ties or social support) and bridging (weak links to resources) qualities and operate through organizations of all types—from formal to informal, public to private. Social capital is therefore useful as a framework for neighborhood planning in that it provides a theoretical framework for understanding how the interrelationships between networks, organizations, markets, and public policy function to generate all forms of capital—human, economic, and social. “Social capital investment is a process of investing in people through place, played out in local organizations, whereby networks of trust and reciprocity facilitate access to resources for neighborhood development” (Chupp, 1999, pp.46-47)

Quality of Life: Quality of life refers to the level of both amenities and undesirable characteristics (i.e. crime), the stability of the area, and at the abstract level of sense of community or desirability of an area. The broadest definition is a neighborhood of choice where people want to live and there is a sense of community. No neighborhood is perfect and meets all needs, however residents’ perception of the quality of life is important to document as part of the planning process. An assessment of quality of life can be derived by looking at data that details amenities available, quality of the housing, neighborhood aesthetics, and rates of crime, income and unemployment. A sense of community can also be assessed through survey questions: do people know one another, do they even talk to one another; do they help one another, are there common values, do people work together to solve problems, is there a viable and effective neighborhood organization, are there manifestations of pride in the neighborhood, are there shared symbols?

Appendices D:

TRANSIT GLOSSARY OF TERMS

Access

Connectivity between a TAZ and the network. Access can be distinguished between highway and transit networks, and between automobile and pedestrian modes.

Alightings

The number of persons getting off a transit vehicle.

Area Type

Network link code representing the type of land use in the area.

Attraction

The desirability of a zone. For non-home-based trips, attractions in a zone can be considered synonymous with trip destinations in that zone.

Auto Occupancy Rate

Average number of persons per vehicle.

Best Path

One of many paths between a specific origin and destination pair in a transit network determined to be the most efficient means of traveling from the origin to the destination. The default transit path methodology used in Florida.

Boardings

The number of persons getting on a transit vehicle.

Calibration

A process where models are adjusted to simulate trip-making characteristics of households in the model study area to match observed traffic activity in the study area.

Capacity

The maximum number of vehicles that can pass over a given section of a lane or roadway in one direction (or in both directions for a two-lane or three-lane highway). It is the maximum rate of flow that has a reasonable expectation of occurring. The terms “capacity” and “possible capacity” are synonymous. In the absence of a time modifier, capacity is an hourly volume. In expressing capacity, it is essential to state the prevailing roadway and traffic conditions under which the capacity is applicable. The capacity would not normally be exceeded without changing one or more of the conditions that prevail.

Centroid

Centroids are nodes used to identify the center of activity within a traffic analysis zone.

Centroid Connector

The Centroid Connector connects the traffic analysis zone centroid to the surrounding network links.

Cordon Line

An imaginary line encircling a study area. Traffic counts, travel origins and destinations, and other traffic data are collected at the locations where the imaginary line intersects the roads entering and leaving the study area. Used in modeling to estimate traffic entering and exiting the study area.

Cube Voyager

A modeling software, developed by Citilabs, used as a modeling engine for the Florida Standard Model.

Demand

A desire for travel from an origin to a destination. Demand is not a fixed amount of travel, but a function of level of service.

Destination

Location to which trips are made, variously identified as a zone of specified area (in aggregate travel forecasting) or a location with a specified “attraction power,” measured by things such as employees (for work trips) or square feet of sales area (for shopping trips).

Desire Line

Lines on a map representing the number of trips between zones. The thicker the line, the larger the number of trips.

EE Trips

External-External trips represent trips that travel through but have both trip ends outside of the model study area.

Facility Type

A network link code representing the type of service a roadway provides, such as principal arterial, minor arterial, collector, etc. The facility type does not always match the functional classification, as the facility type is used for modeling purposes only to simulate actual conditions.

Friction Factors (F-Factors, FF)

Reflects the regional sensitivities toward certain trip lengths for certain trip purposes. For example, home-based shopping trips may tend to be shorter than home-based work trips. Used to modify impedance during trip distribution.

Gravity Model

A mathematical model of trip distribution based on the premise that trips produced in any given area will distribute themselves in accordance with the accessibility of other areas and the opportunities they offer.

Headway

The amount of wait time between arrivals at a given transit stop for a given transit line.

Highway-Only Model

A model that only includes a roadway network thereby excluding transit.

Home-Based Trip

A trip with one end at the residence of the person making the trip.

HOV Trips

High Occupancy Vehicle trips, or carpool trips, represent the number of trips with usually two or more persons in the vehicle, including the driver.

Impedance

More general than Friction Factors, impedance shows the effect that various levels of time and cost will have on travel between zones. Impedance can include various types of time (walking, waiting, riding, etc.) and cost (fares, operating costs, tolls, parking costs, etc.). Other factors, such as comfort, convenience, personal safety, etc., may also be included.

IE Trips

Internal-External trips represent trips that have one end inside the model study area and one end outside the model study area.

II Trips

Internal-Internal trips represent trips that have both ends inside the model study area.

Intrazonal Trip

A trip with both its origin and destination in the same zone.

Kiss-and-Ride

A type of transit trip characterized by a transit rider being dropped off at a transit station by automobile and boarding a transit line.

Level of Service

Multidimensional characteristics of the transportation service provided that are usually identified specifically by the location of the origin and destination of a trip and that are divided into those that are quantifiable (travel time, travel cost, number of transfers) and those that are difficult to quantify (comfort, mode image).

Link

A basic component of a network representing a segment of roadway. This component is a primary unit of analysis and carries data pertaining to roadway characteristics, traffic volumes, and performance measures.

Micro-coding

A transit modeling technique used to introduce a higher level of detail at transit stations by separating access points between modes and introducing links connecting them. Allows for a more realistic representation of transferring between modes.

Mode Choice

Mode choice models calculate which trips will use the highway network and which will use the transit network. The model predicts how the trips will be divided among variable modes of travel.

Mode of Travel

Means of travel such as auto driver, vehicle passenger, mass transit passenger, walking or bicycle.

Nested Logit Model

Analytical form for demand modeling that is suited to modeling of multiple travel choice situations by grouping different modes of travel according to their likelihood for direct competition.

Network

Set of nodes and connecting links that represent transportation facilities in an area. Attributes normally associated with links are distances, levels of service, capacities, and volumes.

Node

A point where two links join in a network, usually representing a decision point for route choice but sometimes indicating only a change in some important link attribute.

Occupancy Model

Converts person trips to vehicle trips using auto occupancy factors.

Origin

The location of the beginning of a trip or the zone in which a trip begins.

Park-and-Ride

A type of transit trip characterized by the act of parking at a transit station and boarding a transit line.

Path

A set of links representing a possible route between an origin and a destination. There can be a number of paths between any specific origin and destination pair.

Peak Period

The period during which the maximum amount of travel occurs. This may be one or more hours. Generally, there is a morning peak and an afternoon peak and traffic assignments may be made for each period.

Productions

The number of home-based trip ends in the zone of residence. For all non-home based trips, productions are synonymous with origins.

Ridership

Number of individuals using a transit line. Used as an assessment of a transit line's attractiveness.

RMSE

Root Mean Square Error is a measure of total error defined as the square root of the sum of the variance and the square of the bias. It assumes that larger forecast errors are of greater importance than smaller ones; hence they are given a more than proportionate penalty.

Screenline

An imaginary line, usually along a physical barrier such as a river or railroad tracks, splitting the study area into parts. Traffic counts and possibly interviews are conducted along this line, and the crossings are compared to those calculated from the home interview data as a check of survey accuracy. Crossing may also be compared with model estimates as part of calibration.

Selected Link Analysis

Traces the entire length of each trip passing through a particular link or set of links along the network to determine where such trips are coming from and going to.

Selected Zone Analysis

Traces the entire length of each trip traveling to or from a particular zone or set of zones.

Shortest Path

A path representing the least cost option of traveling between any specific origin and destination pair.

Socioeconomic Data

Demographic data, such as household, population, and employment characteristics, that are input into the model to determine the impact on trip-making patterns.

SOV Trips

Single Occupancy Vehicle trips, or drive-alone trips, represent the number of trips with only one person in the vehicle, including the driver.

Special Generators

Concentrations of activities of such size or unusual nature to warrant special consideration in trip generation analysis.

Station

A node in the transit network that offers an opportunity for automobile access.

Stop Node

A node along a transit line that represents an opportunity for boardings and alightings.

Study Area Boundary

The area that is expected to take on urban characteristics in the next 20 to 30 years (by the end of the planning period).

TAZ

Traffic Analysis Zone - a small geographic area that serves as the primary unit of analysis in a travel forecasting model.

Traffic Count

The observed number of trips collected at a specific location. Used to assist with model validation.

Transit Legs

Distinct units of a transit line representing a segment from one stop to the next. Transit paths are built by assessing the relative costs of available transit legs.

Transit Line

A collection of transit stops arranged into a route along which public transport vehicles travel. A system of interacting transit lines is a transit network

Transportation Model

A mathematical description of a transportation system's characteristics including traffic volumes, land use, roadway type and population. After a mathematical relationship is established, the model is used to predict traffic volumes based on anticipated changes in the other characteristics.

Trip Assignment

The process of determining route or routes of travel and allocating the zone-to-zone trips to these routes.

Trip Distribution

The process by which the movement of trips between zones is estimated. The data for each distribution may be measured or estimated by a growth factor process, or by synthetic model.

Trip End

Either a trip origin or a trip destination.

Trip Generation

A general term describing the analysis and application of the relationships that exist among the trip makers, the urban area, and trip making. It is used to determine the number of trip ends in any part of the urban area.

Trip Purpose

The reason for making a trip, normally one of several possible purposes. Each trip may have a purpose at each end; (e.g., home to work) or may be classified by the purpose at the non-home end (e.g. home to shop).

Trip Table

A table showing trips between zones -- either directionally or total two-way. The trips may be separated by mode, by purpose, by time period, by vehicle type, or other classification.

Trip Rate

The average number of trips per household for specific trip purposes. In Florida, trip rates are usually applied by household size and auto availability within each zone by trip purpose.

Validation

The procedure used to adjust models to simulate base year traffic conditions. A preliminary step that must be undertaken before models may be reasonably used to forecast future traffic conditions.

VHT

Vehicle hours of travel.

VMT

Vehicle miles of travel.

Volume-to-Capacity Ratio

The number of trips simulated in the model divided by the capacity of the link. A volume-to-capacity ratio of 1.0 represents 100 percent of the capacity.

Volume-to-Count Ratio

The number of trips simulated in the model divided by the count on the link. A volume-to-count ratio of 1.0 represents an exact match between the simulated volumes and the observed counts. Typically assessed only during validation.