CITY COUNCIL ACTION REPORT

DATE: June 26, 2008

TO: Phillip L. Nelson, City Manager

FROM: Brian P. Murphy, Assistant City Manager/Economic Development Services
Mark F. Miller, Planning Director

SUBJECT: Approval of Distribution of Draft City of Troy 2008 Master Plan

Background:

- The draft City of Troy 2008 Master Plan was considered by City Council at the April 21, 2008 Regular meeting. City Council postponed the item one week to provide City Council an opportunity to submit written concerns to management for submittal to the Planning Commission.

- Written concerns were provided to City Management from City Council members.

- At the April 28, 2008 Regular meeting, City Council referred the item to the Planning Commission to review and consider comments and recommendations submitted by Council members.

- A revised draft Master Plan was prepared to address these concerns and presented to the Planning Commission.

- At the June 3, 2008 Special/Study meeting, the Planning Commission recommended that the City Council authorize distribution of the draft City of Troy 2008 Master Plan, as per the requirements of the Municipal Planning Act, PA 285 of 1931, as amended.

- At the June 16, 2008 Regular meeting, City Council referred the item to the Planning Commission to consider designating the 25 acres located on the northeast corner of Wattles and Crooks from its Neighborhood Node designation to the Public and Quasi Public designation as requested by White Chapel.

- The Planning Commission considered the item at the June 24, 2008 Special/Study meeting and recommended approval of the attached version of the draft Master Plan, which specifically permits expansion of the cemetery into the northeast quadrant of the node.

Financial Considerations:

- There are no financial considerations associated with this item.

Legal Considerations:

- The Municipal Planning Act, PA 285 of 1931, requires the following: "After preparing a proposed plan, the municipal planning commission shall submit the proposed plan to the legislative body of the municipality for review and comment. The process of adopting a plan shall not proceed further unless the legislative body of the municipality approves the distribution of the proposed plan".

Policy Considerations:

- Updating the Master Plan is consistent with City Council Goal I (Enhance the livability and safety of the community), Goal II (Minimize the cost and increase the efficiency and effectiveness of City government), Goal III (Retain and attract investment while encouraging redevelopment), Goal IV (Effectively and professionally communicate internally and externally), Goal V (Maintain relevance of public infrastructure to meet changing public needs) and Goal VI (Emphasize regionalism and incorporate creativity into the annual strategic planning process).

Options:

- City Council may approve the distribution of the draft City of Troy 2008 Master Plan. If approved, the Planning Commission shall submit the plan to all adjacent communities, Oakland County and the Southeast Michigan Council of Governments (SEMCOG) for review and comment. The review period is 63 days.

- City Council may reject the draft City of Troy 2008 Master Plan. If rejected, the City Council shall submit to the Planning Commission a statement of its objections to the plan. The Planning Commission shall consider the objections and revise the plan so as to address those objections.

Attachments:
1. June 16, 2006 City Council minutes (draft).
2. Memorandum prepared by Carlisle/Wortman Associates, Inc., dated June 25, 2008.
3. June 24, 2008 Planning Commission minutes (draft).
4. Draft City of Troy 2008 Master Plan.

cc: Richard Carlisle, Carlisle/Wortman Associates, Inc.

Prepared by RBS/MFM

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E-11 Proposed Resolution to Approve Distribution of Draft City of Troy 2008 Master Plan

Proposed Resolution to Refer the City of Troy 2008 Master Plan to the Planning Commission

Resolution
Moved by Fleming
Seconded by Howrylak

RESOLVED, That the Troy City Council hereby **REFERS** the 2008 Master Plan back to the Planning Commission to designate the 25 acres located on the northeast corner of Wattles and Crooks from its Neighborhood Node designation to the Public and Quasi-Public designation as requested by White Chapel, owner of the property.

Vote on Resolution to Amend Proposed Resolution to Refer the City of Troy 2008 Master Plan to the Planning Commission

Resolution #2008-06-194
Moved by Fleming
Seconded by Howrylak

RESOLVED, That Troy City Council hereby **AMENDS** the resolution to *Approve Distribution of Draft City of Troy 2008 Master Plan* by **STRIKING** "designate" and **INSERTING** "consider designating".

Yes: Beltramini, Eisenbacher, Fleming, Howrylak, Kerwin, Schilling,
No: None
Absent: Broomfield

MOTION CARRIED

Vote on Resolution to Refer the City of Troy 2008 Master Plan to the Planning Commission as Amended

Resolution #2008-06-195
Moved by Fleming
Seconded by Howrylak

RESOLVED, That the Troy City Council hereby **REFERS** the 2008 Master Plan back to the Planning Commission to consider designating the 25 acres located on the northeast corner of Wattles and Crooks from its Neighborhood Node designation to the Public and Quasi-Public designation as requested by White Chapel, owner of the property.

Yes: Eisenbacher, Fleming, Howrylak, Kerwin, Schilling, Beltramini
No: None
Absent: Broomfield

MOTION CARRIED

CARLISLE/WORTMAN ASSOCIATES, INC.
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MEMORANDUM

TO: Phillip L. Nelson, City Manager

FROM: Richard Carlisle, PCP, AICP

DATE: June 25, 2008

RE: June 25, 2008 Master Plan Draft

Mr. Nelson:

We are pleased to present the City of Troy with a revised draft of the Troy Master Plan. This draft addresses a specific remaining concern discussed by the members of the City Council regarding the northeast corner of the intersection of Wattles and Crooks Roads.

This revised draft includes new language on page 95 that was agreed on by representatives of White Chapel Cemetery, a homeowner living in a home at the northeast corner of the intersection, and the members of the Planning Commission at the meeting of June 24, 2008. That language is located in the description of Neighborhood Node "I" (Wattles and Crooks) at the bottom of page 95. It consists of a new sentence which reads:

> **"The City also recognizes that expansion of the White Chapel Cemetery into the northeast corner of this node would be appropriate."**

The Planning Commission passed a resolution recommending that the City Council authorize distribution of the June 10, 2008 draft with the page 95 text revisions (and other minor grammar and non-substantive amendments, which included a correction of a misspelling and a small formatting change on Page 94). *The product of the Planning Commission's resolution is this revised draft, dated June 25, 2008.*

All other elements of this June 25 draft are the same as they were in the June 10 draft. Please refer to our June 10, 2008 transmittal memo for a detailed description of the changes that have already been made to address the concerns raised by the City Council in May. The representatives of the White Chapel Cemetery agreed that the proposed Neighborhood Node at the Wattles and Crooks Road intersection is appropriate on all four corners as long as the Planning Commission include the new language on page 95 as noted above, which it subsequently did.

Please let us know if you have any additional questions, comments or concerns.

Carlisle/Wortman Associates, Inc.

Richard K Carlisle

Richard Carlisle, PCP, AICP
President

RC:ZB

STUDY ITEMS

7. DRAFT CITY OF TROY MASTER PLAN

Mr. Miller introduced the item.

Mr. Branigan summarized the draft Master Plan, including a description of the conceptual nature of the Future Land Use Plan as described on page 88 of the Master Plan.

Chair Schultz opened the floor for questions.

Dennis Cowan, 38505 Woodward Avenue, Suite 2000, Birmingham, attorney for White Chapel Cemetery, addressed the Planning Commission. Mr. Cowan stated that he and his clients have reviewed the proposed revision which provides for cemetery uses within the Neighborhood Node located at the intersection of Crooks and Wattles. He stated it is a great compromise. He assumed that the Planning Commission would act in good faith when updating the Zoning Ordinance in the future, so that the Zoning Map would be consistent with the Master Plan.

Mr. Hutson stated the proposed revision was a very good compromise.

Deanna Ball, 926 West Wattles, asked what the impacts would be on her residential property if it were to be located within the Neighborhood Node.

Mr. Miller summarized the potential impacts.

Mr. Branigan summarized grammatical and non-substantive changes made to the Master Plan.

Resolution # 2008-06 (motion amended)

Moved by: Tagle
Seconded by: Strat

WHEREAS, The responsibility of cities and villages to adopt and update a master plan is outlined in the Municipal Planning Act, PA 285 of 1931, as amended; and

WHEREAS, The Planning Commission prepared the draft City of Troy 2008 Master Plan; and,

WHEREAS, The Planning Commission has determined that the draft City of Troy 2008 Master Plan represents the long-range vision of the City of Troy.

THEREFORE BE IT RESOLVED, The Planning Commission recommends that the City Council authorize distribution of the draft City of Troy 2008 Master Plan, “June 10 Draft for Distribution”, as per the requirements of the Municipal Planning Act, PA 285 of 1931, as amended, with page 95 being revised as discussed and other minor grammar and non-substantive revisions as discussed.

Discussion on the motion on the floor.

Chair Schultz suggested adding a paragraph to the motion on the floor that White Chapel Cemetery representatives have reviewed the proposed text revision and agrees with the proposed text revision.

General discussion followed.

Resolution # PC-2008-06-079

Moved by: Tagle
Seconded by: Strat

RESOLVED, to add the following to the motion on the floor.

> ***WHEREAS***, The Planning Commission has discussed this issue at two previous meetings and White Chapel Cemetery representatives have reviewed the Master Plan revision and agreed to the revision.

Yes: All (6)
Absent: Sanzica, Vleck, Wright

MOTION CARRIED

Resolution# PC-2008-06-080 (as amended)

Moved by: Tagle
Seconded by: Strat

WHEREAS, The responsibility of cities and villages to adopt and update a master plan is outlined in the Municipal Planning Act, PA 285 of 1931, as amended; and

WHEREAS, The Planning Commission prepared the draft City of Troy 2008 Master Plan; and,

WHEREAS, The Planning Commission has determined that the draft City of Troy 2008 Master Plan represents the long-range vision of the City of Troy; and,

WHEREAS, The Planning Commission has discussed this issue at two previous meetings and the White Chapel Cemetery representatives have reviewed the Master Plan revision and agreed to the revision.

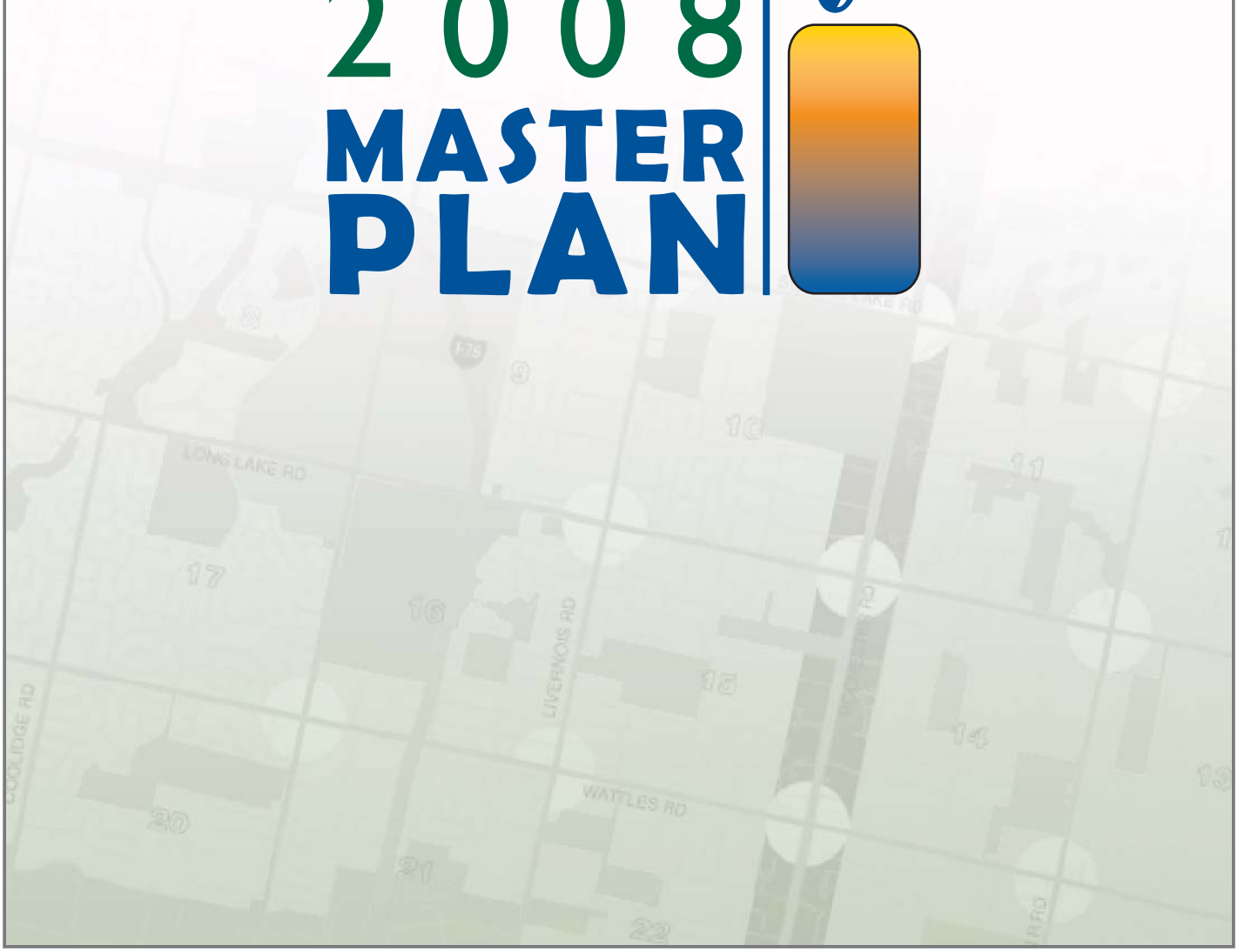
THEREFORE BE IT RESOLVED, The Planning Commission recommends that the City Council authorize distribution of the draft City of Troy 2008 Master Plan, “June 10 Draft for Distribution”, as per the requirements of the Municipal Planning Act, PA 285 of 1931, as amended, with page 95 being revised as discussed and other minor grammar and non-substantive revisions as discussed.

Yes: All (6)
Absent: Sanzica, Vleck, Wright

MOTION CARRIED

June 25, 2008 DRAFT for Distribution

City of Troy 2008 MASTER PLAN



City of Troy 2008 MASTER PLAN

Mayor

Louise E. Schilling

City Council

Martin Howrylak, Mayor Pro-Tem
Robin E. Beltramini
Cristina Broomfield
David Eisenbacher
Wade Fleming
Mary Kerwin

Planning Commission

Chair
Robert Schultz

Members
Michael Hutson
Lawrence Littman
Thomas Strat, AIA
John Tagle, AIA
Kathleen Troshynski
Mark Vleck
Wayne Wright

Student Representatives
Joel Cortright
Jonathan Shin

City Manager

Phil Nelson

Assistant City Manager/Economic Development Services

Brian Murphy

Assistant City Manager/Financial Administration

John Lamerato

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Mark Miller, AICP, PCP, Planning Director
Brent Savidant, AICP, PCP, Principal Planner
Ronald Figlan, Planner
Paula Preston Bratto, RLA, Planner
Kathy Czarnecki, Secretary

Information Technology Department

Gert Paraskevin, I.T. Director
Alex Bellak, GIS Administrator

City Planning Consultant

Carlisle/Wortman Associates
Ann Arbor and Clarkston, Michigan

Photographer

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This Plan was adopted
by the City of Troy on MONTH DATE, 2008

Insert Adoption Resolution Information Here

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Introduction

Introduction

Fueled by necessity and inspired by a changing population, economy and region, the City of Troy has determined that the development of a new Troy Master Plan is critical to help the community cope with the realities of the 21st century in Michigan. The Master Plan is the official policy guide for the resolution of community development issues, and is relied upon to illustrate the desires of the City with regard to future growth and development. Given that the previous Master Plan was originally adopted in 1968, with approximately 20 updates since that time, a large measure of effort became necessary to develop a new, original Master Plan designed around the modern City of Troy.

The City derives its authority for the preparation of a Master Plan from the Municipal Planning Act, P.A. 285 of 1931. Section 6 states, in part:

"The commission shall make and adopt a master plan for the physical development of the municipality, including any areas outside of its boundaries, which, in the commission's judgment, bear relation to the planning of the municipality. The plan, with the accompanying maps, plats, charts, and descriptive matter shall show the commission's recommendations for the development of the territory, including, among other things, the general location, character, and extent of streets, viaducts, subways."

To respond to the changes that have taken place in Troy since the development of the previous Master Plan, the goals and policies contained within this document have been carefully prepared to respond to new conditions and projected trends to make **Troy an attractive place to live and work. Community planning is the process which involves a willful effort to draw from a variety of sources to develop those new goals and policies.**

What is this Master Plan's true function?

The Plan serves many functions and is to be used in a variety of ways including, but not limited to, the following:

- **The Master Plan is a general statement of the City's goals and policies** and provides a single, comprehensive view of the community's desire for the future.
- **The Master Plan serves as an aid in daily decision-making.** The goals and policies outlined in the Master Plan guide the Planning Commission and City Council in their deliberations on zoning, subdivisions, capital improvements, and other matters relating to land use and development. This provides a stable, long-term basis for decision-making.
- **The Master Plan attempts to coordinate public improvements and private development.** For example, public investments such as road improvements should be located in areas identified in the Master Plan as having the greatest benefit to the City and its residents.

- **The Master Plan serves as an educational tool** and gives citizens, property owners, developers, and adjacent communities a clear indication of the City's direction for the future.
- **The Master Plan provides the statutory foundation upon which zoning decisions are based.** The Michigan Zoning Enabling Act (P.A. 110 of 2006, as amended) requires that the zoning ordinance be in accordance with a plan designed to meet the residents' need for natural resources, places of residence, recreation, industry, trade, service, and other uses, and to insure they are situated in appropriate locations.

The Creation and Care of the Master Plan

The Planning Commission of the City of Troy is the primary agency responsible for the preparation of the Troy Master Plan. Supported by City staff, consultants, and public involvement, it is the role of the Planning Commission to develop and adopt this Plan and encourage its implementation.

In a large, complex community such as Troy, however, the Planning Commission must broaden its planning process to go beyond conventional land use planning and explore a variety of topic areas which play a role in the development, redevelopment and well-being of the community. This Plan was designed from the ground up to relate to a broad range of topics and build momentum for the future of Troy.

Master Plan Leadership

The Master Plan is a document that should and must be embraced by as large a representation of the leadership of the City of Troy as possible. While ultimately the responsibility of the Planning Commission, the Master Plan must inspire consistent decision making throughout the community to live up to its potential. The Plan serves as a basis for the fundamental responsibilities of the Planning Commission, such as review of development proposals and maintenance of the Zoning Ordinance, but also serves a larger purpose to inspire informed, innovative community development. In that spirit, it is also the responsibility of the Planning Commission to advocate for the Master Plan outside of its own reach, to ensure that it is implemented community-wide.

Studies Relating to the Master Plan

The concepts introduced in the Master Plan are drawn from many sources, including the previous Master Plan, other planning documents in the City, such as the Big Beaver Corridor Study, the goals of the City Council, and the Ten Tenets of Smart Growth, (see sidebar, next page) explored in depth during this Plan's development. **The Big Beaver Corridor Study shall be considered an integrated component of this Master Plan, and is also adopted as part of the Master Plan adoption process.**

The Ten Tenets of Smart Growth are those principles adopted by the Smart Growth Network to encourage the idea that growth can improve conditions. These Tenets are:

1. *Create a range of housing opportunities and choices.*
2. *Create walkable communities.*
3. *Encourage community and stakeholder collaboration in development decisions.*
4. *Foster distinctive, attractive communities with a strong sense of place.*
5. *Make development decisions predictable, fair, and cost-effective.*
6. *Mix land uses.*
7. *Preserve open space, farmland, natural beauty and critical environmental areas.*
8. *Provide a variety of transportation options.*
9. *Strengthen and direct development towards existing communities.*
10. *Take advantage of compact building design.*

www.smartgrowth.org

The Plan was further inspired by the efforts of the Troy Futures Group; an organization of motivated "civic entrepreneurs" who collectively developed a document entitled "Vision 2020." Troy Futures consisted of over 150 volunteers who served on seven separate task forces eager to work on important issues such as infrastructure, community image, lifestyles, learning, mobility, the role of Troy in the region, and economics. These areas of study, along with the Ten Tenets of Smart Growth, in part inspired the topic areas covered in this Master Plan.

Organization of the Plan

In order to bring together the wide variety of topic areas relating to community development beyond conventional land use planning, the Troy Master Plan represents a new generation of community planning document. The Plan is more strategic in nature and focuses on a series of subjects, such as transportation, urban design, or housing, and is designed to go beyond a simple basis for decision making. The Plan will also act as a vehicle for the development of new ideas in the City.

In many traditional community plans, the master plan is arranged around the process, and seeks to explain the steps taken to complete the Plan, rather than focus on the subject matter itself. While this conventional approach has worked in the past, it is far more useful to a smaller, less developed community for which land use allocation is still a primary concern. In a community such as Troy, where the City is nearly built out and in which the land use pattern is firmly established, new issues emerge. A more focused and strategic approach is necessary to fully appreciate the character, assets, and potential of the community.

In addition, many conventional master plans are simply impractical to use on a daily basis. A burdensome document with hundreds of pages

of background data and exhaustive analysis is difficult to navigate. While this Plan is supported by similar research and analysis, such supporting elements are collected in an appendix and are distributed throughout the document within the topic areas where they are most appropriate. Therefore, when the reader is investigating a topic such as transportation, the salient research and data necessary to substantiate the policies for that topic are found in the most relevant Chapter.

The Plan is also designed to be used as a series of stand-alone documents, where an individual interested in a topic can rely upon the applicable Chapter of the Plan to learn where the City stands and where it desires to go. In that spirit, the Plan has been arranged around the following topics:

Troy's Context: From Local to Global

This Chapter will analyze Troy's role in the regional development and economic landscape, as well as establish the City's ability to position itself as a gateway to global markets. This Chapter focuses on intergovernmental cooperation, as an important practice in the positioning of Troy as a regional leader. The Chapter will create "bookends" with the later "Image and Character" Chapter around the more specific Chapters which discuss recreation and learning, economy, mobility, infrastructure, housing, and natural resource protection.

Building on the concept of a more "global" Troy promoted by Troy Vision 2020, this Chapter will describe Troy's assets and attributes which could ultimately help accomplish ambitious regional goals. This Chapter will position Troy as a regional leader for transit, the development of world-class amenities, and regional responsibility to the environment and to civic infrastructure.

A Place to Learn and Play: the Quality of Life in Troy

A vibrant community must have a variety of elements. This Chapter will connect innovative development styles, economic and social diversity, and cultural, educational, and recreational amenities. The benefits and techniques of maintaining or upgrading current amenities and the creation or encouragement of new ones, both within and outside of Troy, will be explored. This Chapter will specifically emphasize the importance and role of recreation in the evolution of Troy as a global city.

A Place of Prosperity: The Economy of Troy

This Chapter will focus on the changing economic environment and how Troy may develop an optimal mix of land uses for a balanced tax base which also meets the service, employment, and retail needs of the City and the area beyond. Further, this Chapter will build consensus on the role Troy wishes to play in the regional and global economy.

The City in Motion: Local and Regional Mobility

This Chapter will analyze the existing transportation network, including public transit, non-motorized pathways, access to air travel, and roadways within the City of Troy and beyond. It will also explore the technological "virtual pathways" that are emerging for telecommuting and digital commerce, which could significantly impact the way people work and obtain goods and services.

Infrastructure: the Assets and Care of the City

In order to implement most of the measures that will ultimately be recommended by the Master Plan, upgrading and maintaining civil infrastructure must be considered. In that regard, this Chapter will contain the Master Plan's discussion of sewer, water, and stormwater infrastructure. It will describe some of the key needs or opportunities with regard to these utilities and discuss the City's ability to maintain them, while describing and recommending alternative methods of meeting the needs of the City.

Green City: Responsibility to Natural & Energy Resources

This Chapter will provide the City with a forum for establishing itself as a regional and national leader in the responsible treatment of natural resources and energy. The concept of sustainability will appear throughout the Chapter in many areas, from stormwater management to green building technology, to the preservation of natural features.

Specific techniques to preserve the quality of existing natural spaces and features related to development and redevelopment will be discussed. Formal programs such as Low Impact Development (LID) for watershed protection and Leadership in Energy and Environmental Design (LEED) for architecture and site design will be included.

Potential next steps beyond Master Planning will be outlined to provide additional guidance to the City in an effort to allow for the continued growth of green elements in the City while allowing for a balance of new construction and reconstruction.

People: The Changing Face of Housing Demand

This Chapter will analyze the changing nature of Troy's population and compare local trends to regional and national trends. Topics such as household size and age will be used to make recommendations to improve the utility of the City's housing stock to meet the changing demand for housing types of many varieties. The concepts of affordability and housing an aging population will be covered in detail.

Land Patterns: City Design and Image

The goals and objectives established in the previous Chapters of this Plan will be translated into land use policy within this Chapter. The Future Land Use Map will formalize the input, research, and conclusions of the Plan by establishing clear land use policy. While it is intended to be a fluid document, the Future Land Use Map establishes a continuous basis for land use decision-making through changes in the makeup of elected and appointed boards, and therefore encourages the implementation of the long-term goals and objectives adopted within the Master Plan.

This Chapter will also expand on the Future Land Use Map and discuss visual and design characteristics in the City of Troy. The physical differences which affect the daily function and success of developed areas, especially corridors, will be pointed out in order to more accurately focus on those areas which could benefit from change.

The Chapter will promote smart growth principles related to compact, mixed-use development, and will describe the benefits to Troy in this regard. This Chapter will center on a series of sub-area plans and will highlight the importance and utility of form-based codes.

Implementation

The "action plan" to help the City realize the goals of this Plan will be collected in the Implementation Chapter. A description of general tools and measures for Master Plan implementation will also be included.

How will the Plan be used?

Day to day

On a daily basis, the City Staff will refer to the Master Plan when conducting the regular business of the City. Whether discussing development options with a potential developer, working on drafting new Zoning Ordinance amendments, or making recommendations to the Planning Commission or City Council, the Master Plan will inform and guide the policies of the City's professionals. In addition, the Plan will serve as a reference for neighborhood groups, the local investment community, and for non-profit community development organizations.

Month to month

On a weekly or monthly basis, the elected and appointed officials of the City will refer to the Master Plan when making decisions about land use development proposals, and in the setting of City policies relating to community development. The improvement of infrastructure, development of regulations and ordinances, and budgeting of the City will all be influenced by the goals and policies established by this Master Plan.

The five common traits of civic entrepreneurs according to the authors of "Grassroots Leaders for a New Economy" are that they:

1. *See opportunity in the new economy*
2. *Possess an entrepreneurial personality*
3. *Provide collaborative leadership to connect the economy and the community*
4. *Are motivated by broad, enlightened, long term interests*
5. *Work in teams, playing complementary roles*

(Information from "Grassroots Leaders for a New Economy— How Civic Entrepreneurs are Building Prosperous Communities" Collaborative Economics, 1997 and "The civic entrepreneur— a new leadership model is taking root, but not here" Charleston Regional Business Journal 07/30/2001, http://www. charlestonbusiness.com/pub/4_16/news/1875-1.html)

Year to year

It is critical that the Master Plan be annually evaluated to ensure that it still represents the policy direction of the City. The City should audit its effort on a regular basis to reflect on the Plan and recognize the accomplishments it has made towards the execution of the goals and policies of the Plan. Revisions and updates to the Plan should be considered annually to make sure the Plan continues to enjoy widespread support.

Community Participation

The development of a community's master plan must involve not only elected and appointed officials within that community, but also leaders within the community at large. The community participation measures taken throughout the process are essential in establishing public support for the policies within the document, and to ensure that the plan is indicative of the preferences of as broad a representation of the population as possible.

Therefore, during the planning process, the importance of "civic entrepreneurship," such as that displayed by the Troy Vision 2020 group, becomes significant. These and other community leaders have brought their considerable knowledge and experience to the table to ask difficult questions about the future of the City, and to do their part to help the City evolve. The Planning Commission has called on groups such as Troy Vision 2020 to participate in the planning process, as well as other boards, commissions, and agencies throughout City government and beyond.

Civic Entrepreneurs

The phrase "Civic Entrepreneur" was coined in 1997 in the book "Grassroots Leaders for a New Economy—How Civic Entrepreneurs are Building Prosperous Communities" by Collaborative Economics. The main theme of civic entrepreneurship as stated by the authors is that an individual of influence, be it social, economic, political or some combination of these, chooses to volunteer their time and attention for a greater good at a large scale. Often associated with regional initiatives, civic entrepreneurs are known to use their connections and resources to lead opinions and bring visibility to large-scale initiatives.

Collaborative Economics state that civic entrepreneurs "…have the personality traits commonly associated with entrepreneurial business leaders. They are risk takers. They are not afraid of failure. They possess courage born of strong conviction. They are people of vision. They are passionate and energetic. They bring out the best in people and know how to encourage them along."

Workshop

To engage the civic entrepreneurs of Troy, on June 21, 2007, the City conducted a Master Plan workshop which involved a selected participant list of over 150 invitees. Those invited to participate on the workshop process represented a wide cross section of Troy's population, and included residents, business owners, City officials, volunteers, and other participants.

In this workshop, the participants were engaged to employ the "Smart Growth Readiness Assessment Tool," (SGRAT) a new program designed by the Michigan Land Policy Institute at Michigan State University. The tool is designed to help communities learn how to incorporate "Smart Growth" principals into their land use management practices. "Smart Growth" is a term conceived in 1996, when the Environmental Protection Agency lead a group of organizations to form the Smart Growth Network. The Smart Growth Network is a group dedicated to creating new land development practices which "...boost the economy, protect the environment, and enhance community vitality," as stated by the Smart Growth Network.

A comprehensive document including the results of the June 21, 2007 workshop and an analysis of the findings uncovered by the SGRAT can be found in an appendix to this Plan. The Tool is intended to assess how well a community is prepared to develop according to the Ten Tenets, to allow communities to measure progress over time, and to supply resources for communities interested in growing smart. The SGRAT is the most comprehensive such tool in the nation.

Chapters 2 through 8 contain a summary of several questions and responses from the survey and from the SGRAT itself. The sample of SGRAT results chosen for each Chapter were selected to complement the survey results or highlight areas of particular concern as identified through various phases of the planning process. All sections of the SGRAT were considered in the development of the Master Plan.

Troy's Context: From Local to Global

Troy is a leader in Michigan. **Home to a large number of international corporations, and about 6,000 individual businesses, the City of Troy has a workforce of over 120,000 and a daytime population of over 136,000 people, nearly 55,000 more people than reside in the City.** Given the scale of these estimates, it is clear that Troy possesses a business culture rivaling any in the Midwest. Building on this success, the City has an opportunity to establish itself as the international gateway to Southeast Michigan for the global business community.

The national manufacturing economy is becoming a "Knowledge Economy." The Knowledge Economy, which will be explored in subsequent Chapters, is essentially a new competitive environment empowered by the availability of information from new sources. This Master Plan includes any topics which relate directly to managing change in Troy to capitalize on this fundamental shift. Troy has a head start in this regard, given its substantial office presence, and its lesser dependence of conventional manufacturing land uses, when compared with other local communities.

Knowledge Economy businesses depend on global communication and 21st century technology to reach out to markets around the world. These types of practices tie communities together in new ways, for new purposes, than ever before. The emergence of such businesses demands a new set of assets for a City to attract the best new companies and workforce. Knowledge-based businesses, for instance, rely on telecommuting and home-based businesses more than ever before. Businesses that conduct much of their business over the internet may have specific building and use needs, which could benefit Troy in that it has a great deal of available light industrial and office complex property.

The integration of communities like Troy into these worldwide markets also creates opportunities for them to expand their horizons and introduce themselves to new, expanding or relocating businesses that may never have been aware of them otherwise. **Competing for these businesses and the workforce necessary to support them will be a major focus of this Master Plan.**

City of Troy Facts:

Population (Census 2000) - 80,959

Population (Planning Dept., 2007) - 87,594

Annual City Budget - $149 Million

City Millage Tax Rate - 9.28 mils

Market Valuation - $12 Billion

Retail Space - 6.59 Million sq. ft.

Office Space - 17 Million sq. ft.

Manufacturing/Engineering Space - 18.8 Million sq. ft.

Businesses - 5,818

Employment - 125,000

Number of Households - 38,747

Average Cost of Housing - $247,631

Household Income - $88,141

www.troymi.gov

A Global Market

Troy must adopt a strategy to position itself globally, in terms of international business connections and with regard to marketing its assets to attract worldwide investment. Southeast Michigan is a region founded on innovation in industry. Troy is a community within that region with unique attributes which will empower it to serve as a gateway in the 21st century between this important region and the rest of the world. For instance, Troy has a much higher percentage of foreign-born residents than any community in the area, nearly 20 percent, or double that over Oakland County on average. Troy's foreign-born population is over 62 percent Asian, which provides a unique opportunity to link Troy with the fast-growing markets of Asia. Figures 2.1 and 2.2 demonstrate these statistics. The Troy Vision 2020 Wealth Creation Task Force specifically mentioned Troy's Asian population as a asset for worldwide outreach.

The International Population

Troy has embraced international populations and now benefits from a great deal of diversity. The courses of action recommended by Troy Vision 2020 for the City's Asian population are applicable for any potential international group. For instance, Troy Vision 2020 suggests that the City should partner with local Asian business leaders to promote the City in Asia. This could be applied to any country or region of the world. The City should consider developing a task force of international ambassadors for Troy, to represent the community around the world.

The Vision 2020 recommendation that the international community within Troy be encouraged to participate more actively in community affairs is also an important task for the City to accomplish. **By engaging the international population of Troy more actively, and collaborating with people from around the world, Troy will benefit from broad points of view and an international perspective.**

Empowering International Investors

This City plays a central role in the establishment of a new business or the redevelopment of an old business. Approvals and permitting for new facility construction, provision of City services, taxing policies, and other elements of City governance must all be taken into account when a business investigates potential locations or markets. These complex elements become even more intimidating

Figure 2.1 Percent Foreign Born

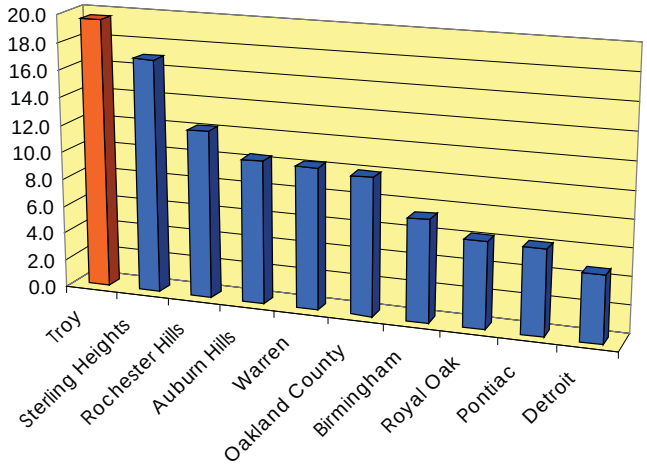
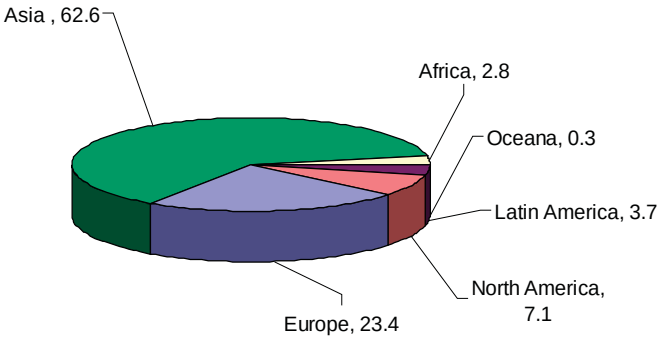


Figure 2.2 Area of Origin by Percentage, Foreign Born Troy Residents



for international businesses, who may be facing hurdles with regard to language or understanding of Federal, State, or local laws and regulations.

With this in mind, **the City should consider partnering with the Chamber of Commerce and Automation Alley to create a "hub" for international investors to find assistance in these areas.** Project managers assigned to potential investors could help these businesses find real estate opportunities, obtain legal or accounting consultation, or overcome communication barriers. These project managers would connect Troy's resources with those who would most benefit from them to make the City a partner for the companies considering Michigan in their business plans.

Troy in the Regional Economy

The use of effective communication is a key ingredient of building and nurturing partnerships or celebrating social, economic and physical diversity. Communication must include all forms of transmission and media. The importance of regional collaboration, a sentiment echoed by Troy Vision 2020, which stresses that Troy is part of a greater region, which must grow together for Troy to meet its full potential. The Regionalism Task Force for Troy Vision 2020 dealt exclusively with developing visions for all of Southeast Michigan, with the goal of contributing to a region with a cooperative spirit, willing to coordinate and consolidate services, and to improve relationships pertaining to water and sewer regional service.

Cities cannot thrive alone. Systems and relationships are needed between the public and private and non-profit environments. Coordination and consolidation efforts between public entities are also critical as resources become more expensive and services more difficult to sustain. Partnerships between

SEMCOG

The Troy Vision 2020 Plan stresses the importance of regional coordination and communication. Troy is a member community in SEMCOG, the Southeast Michigan Council of Governments. SEMCOG is the regional planner in Southeast Michigan. SEMCOG plans in areas that cross jurisdictional boundaries in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties.

At SEMCOG, local governments can deliberate on regional issues, such as improving transportation and water quality. SEMCOG assists local governments and educational institutions in planning for common needs and in recognizing regional opportunities. Policy decisions are made by local elected officials of SEMCOG's member governments, ensuring that regional policies reflect the interests and concerns of member communities.

SEMCOG advocates for changes in public policy, representing Southeast Michigan in Lansing and Washington as a single, strong voice for its local member governments.

SEMCOG is the premier resource for data about Southeast Michigan, gathering and analyzing information for public and private sector decision making on the region's economy and quality of life. SEMCOG's library has a specialized collection of more than 30,000 books and reports on regional planning issues in the areas of transportation, the environment, community and economic development, demographics, land use, and intergovernmental cooperation.

from www.semcog.org

the City and these other agencies, as well as partnerships that are regional in scope, have a place for the City of Troy. Through communication and partnering, the City can take an active part in making all of Southeast Michigan a better place to live and work.

Troy must be willing to take the lead within Oakland County and Southeast Michigan to arrange networking functions, lead regional discussions, host events and functions, and take responsibility for managing projects relating to regional cooperation.

The City of Troy can advocate for common goals in the region by sharing its findings, plans, and studies with other communities. Given Troy's willingness to develop new and innovative ways to develop solutions and provide a high quality of life for its residents, Troy has developed resources that would be helpful in other area communities. The City can set an example for others to follow, and develop consensus on important issues like the environment and transportation.

Leadership

Becoming a regional leader in the areas of transit, environmental concerns, and civic infrastructure is an important theme described by Troy Vision 2020. While the City does have an opportunity to advocate for regional cooperation, it must also establish firm precedents that will gain it increased credibility in the region to position itself as a leader and authority.

In order to provide the most successful example of a community thriving in the 21st Century economy, Troy must think strategically about focused areas which represent community values and which will differentiate Troy amongst its peers. If Troy is to provide leadership to other Southeast Michigan communities to establish firm partnerships geared toward regional improvement, it must select focused areas that serve the dual purpose of inspiring other communities, and in which Troy can be competitive. The City must find niche markets where it can lead the Midwest and the nation, which build on its strengths. Two areas where the City of Troy can excel, and which are important throughout the region, are preservation of the natural environment, and enhanced transportation.

Transportation

Troy is a complex place that contains diverse neighborhoods, business districts, industrial and educational campuses, and a wide variety of roads, from freeways to neighborhood streets. These ingredients are in place and complement one another to make up the City of Troy. To sustain the positive relationship between land uses and street characters, linking and connecting the City through multiple methods is critical. Linking the City to other communities and to the greater region is just as important.

Troy and Birmingham Transit Center

Located on a three-acre parcel of land behind the Midtown Square at Coolidge Highway and Maple Road in Troy, the planned Troy and Birmingham Transit Center will be a $3.5 million facility designed to offer users a central hub for train, taxi, rental car, or bus service. The project would replace the train station in Birmingham with the new facility, primarily located in the City of Troy.

www.michigan.gov/mdot

Mobility, which is presented in a comprehensive Chapter later in this Master Plan, will be a crucial area for the City moving forward with regional cooperation and enhancement. Connecting the employment centers of Troy with a wide variety of housing markets in the area, including those in other nearby communities, and regional shopping, entertainment, and educational facilities is an important strategy for bringing Southeast Michigan together. Shared access to a successful multi-modal transportation framework will be a major step in providing access between communities for all residents, to allow people to experience other regional communities in new ways.

Advocating for enhanced regional transportation is an important step in Troy's goal to become a regional leader. The development of the planned Troy and Birmingham Transit Center will bring Troy and Birmingham to the forefront of Southeast Michigan in providing an example of coordinated planning for new transportation options in Michigan.

Sustainable Development

An area where the City can accomplish a variety of objectives is the adoption of a strong philosophy toward sustainable development. Incorporating new sustainable development standards into City policies will encourage environmentally, socially, and economically responsible development and enhance the preservation of the City and region's assets. This philosophy will also demonstrate to the greater Southeast Michigan Community that Troy is leading the effort to promote sustainability.

This important topic is being addressed in many Michigan communities, providing Troy with another opportunity to promote regional cooperation.

Sustainable Development

The United States Environmental Protection Agency (U.S. EPA) defines sustainability as "the ability to achieve continuing economic prosperity while protecting the natural systems of the planet and providing a high quality of life for its people". It further states that "achieving sustainable solutions calls for stewardship, with everyone taking responsibility for solving the problems of today and tomorrow-individuals, communities, businesses and governments are all stewards of the environment".

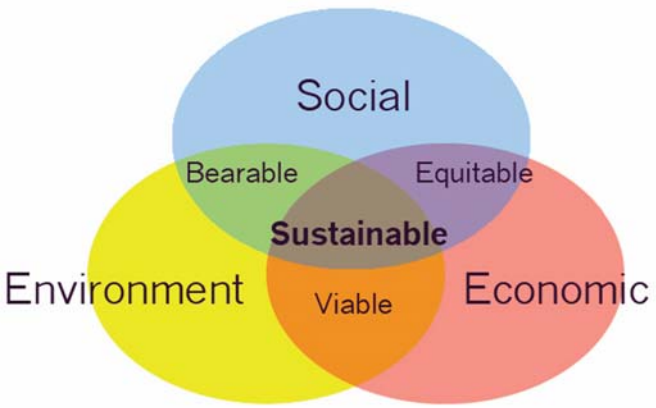
Sustainability covers many areas, including the environment, economics and social responsibility. In terms of the Master Plan, sustainable development *may be the most important concept to be familiar with. Environmentally friendly building design and a reduced dependence on the automobile, for instance, are elements that contribute to a philosophy of sustainable development. A simple, common definition for sustainable development was originally presented in the report "Our Common Future." It reads:*

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development essentially means improving quality of life without increasing the use of natural resources to the point of exhaustion or compromising economic or social well-being.

(Information from http://www.epa.gov/sustainability/, World Commission on Environment and Development (WCED). Our common future. Oxford: Oxford University Press, 1987 p. 43 and http://www.sdgateway.net/introsd/definitions.htm)

FIGURE 2.3: SUSTAINABLE DEVELOPMENT
GRAPHIC BY CARLISLE/WORTMAN, CONTENT FROM JOHANN DRÉO



Another positive benefit that a City-wide philosophy encouraging sustainable development would be the creation of a new global reputation for environmental stewardship, under which the City could market itself to eco-conscious businesses throughout the world. The Master Plan will describe many techniques for enhancing the City's natural features in Chapter 7

By demonstrating and marketing the City's commitment to sustainability, and specifically eco-friendliness, a new niche to attract green energy and other environmentally concerned businesses would emerge. Troy can become the model of an environmentally friendly community envisioned by the Image and Feel Task Force of Vision 2020, while enhancing its attraction to the Creative Class and welcoming Knowledge Economy businesses operating with a renewed interest in environmental protection.

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What can the City of Troy do to continue to attract world-class businesses?

- *Steamline the start up process. Be proactive in soliciting business – domestic and worldwide. Help business to find locations and reasons to locate in Troy (incentives). Accelerate development of the transit center. Improve road conditions and traffic movement.*

What steps would you take to make Troy a more vibrant and engaging place to live and work?

- *Provide mass transit options to access entertainment in metro Detroit.*

What is the most important improvement that Troy can make to ensure that all residents have access to safe and efficient transportation?

- *Lobby and work towards a high density regional transit system with a City component connected to the system.*
- *Create regional public transportation that is efficient, safe and inexpensive.*
- *Make it affordable and convenient not just within the City.*
- *Keep the roads nice – for all transportation.*
- *Promote multi model transportation options in City.*
- *Transit – regional transportation initiative.*

Should Troy play a role in the development of improved regional transportation?

- *Yes, we should work on developing the proposed Transit Center and expand from there.*
- *Yes. We need a method for our residents to get to their place of employment without using single occupant vehicles. We need a method of transportation for youth and seniors. Lastly, we need a method to bring employees to the businesses located in Troy. Continue to develop walkability.*
- *Mass transit will be critical to future vitality of all communities. The leader regionally in mass transit will create financial stability for all. Troy should be the leader in Oakland County.*

Should the City be a model for responsible care of the natural environment?

- *Yes. The City needs to promote green growth in new developments and within its own buildings. City owned property does not need to be all developed into parks, it can be just left in its natural sate. Encourage and educate about mass transit and walkability.*
- *Yes, we only have a natural environment once. The trees, parks and water resources must be protected. The City of Troy is the steward of the resources in the community.*

Do you feel it is important for the City of Troy to promote the advancement of or mandate the practice of sustainable development, such as, but not limited to, the construction of certified "green buildings" and Low Impact Development techniques for stormwater management?

- *I believe promotion is desired for construction of certified "green buildings". Low impact Development techniques for stormwater management are a practice that should be mandated. Economics will determine the practical nature of these areas of development.*
- *Absolutely – we are doing that now with planning.*

What does the Smart Growth Readiness Assessment Tell Us?

Throughout this Master Plan, each Chapter will contain a brief summary of those SGRAT results which most directly inform the topics covered by that Chapter. The SGRAT responses will also play a critical role in the development of implementation policies.

Tenets 3 and 5 contained a series of questions addressing cooperation and collaboration, public outreach, and the practices and procedures which regulate land development in the City. The following summaries provide a short description of the City's score in these areas .

Tenet 3: Encourage community and stakeholder collaboration in development decisions.

Troy was awarded approximately 40 percent of the available points for Tenet 3. While the participants perceived the City of Troy to be very good about collaboration in formal settings, such as the development of new Zoning Ordinance amendments or Master Plan revisions, the perception of collaboration outside of those programs was poor. In other words, respondents felt that the City has room to improve when it comes to general encouragement of an open, collaborative environment with special interest groups, adjoining communities, and the general public, especially as it relates to smart growth principles.

Another area where the City could improve its score in this area is to develop stronger community outreach programs with regard to planning and growth issues. While collaboration with schools scored well, education and collaboration with the general public, especially when initiated by the City itself, was not perceived well.

Tenet 5: Make development decisions predictable, fair, and cost-effective.

The City scored very well with regard to Tenet 5. The City received nearly 75 percent of the available points in this area, thanks to a strong perception that the City diligently maintains it's Zoning Ordinance, Master Plan, and other community planning documents, its consistency between its zoning and planning, and perception of fairness to the development community. Respondents felt that developers are given a fair chance to innovate in Troy, and that most new development makes a strong contribution to the City as a whole.

The City could score even higher in this area were it to permit additional density for developers who propose more smart-growth oriented developments. Also, participants felt that more attention to long-range planning could be paid, although there was a positive recognition that current practices for ongoing development were strong and fair.

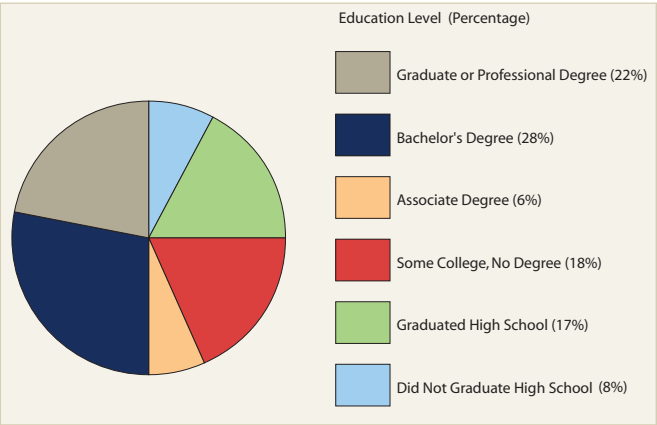
The City received extra points for supporting participation in elected and appointed official training programs, such as the Michigan State University Extension Citizen Planner Program, and continuing education in the area of planning.

A Place to Learn and Play: The Quality of Life in Troy

Quality of life is what makes a community thrive. Elements like schools, parks, and cultural amenities contribute to the quality of life, but must be complemented by innovative development and supporting infrastructure. **A dedication to learning, healthy citizens, and strong institutions will help create a community which attracts a workforce of educated and talented members of young generations.** Excellence in these areas will enhance Troy beyond expectations, and therefore this Chapter provides a foundation for all other areas of this Master Plan.

People have a choice of where to live, and every community has its own unique elements to attract residents. What makes Troy a special community where people aspire to live and work? Troy Vision 2020 explored this issue in depth. **Beyond strong employment, attractive and affordable housing, and efficient access to goods and services, people seek communities with the amenities that will enhance their lives.**

FIGURE 3.1: EDUCATIONAL ACHIEVEMENT OF RESIDENTS OVER 25 YEARS OF AGE
U.S. CENSUS



Troy has invested greatly in its parks and cultural amenities and must continue to do so to grow as a community and differentiate itself from other Southeast Michigan cities and townships. Troy must embrace innovative development styles which capitalize on economic and social diversity, and cultural, educational, and recreational amenities. In that spirit, this Chapter will focus on the enhancement of quality of life issues to secure Troy's status as a global city.

A Philosophy of Learning

A critical theme to emerge from the Troy Vision 2020 was the concept of "Lifetime Learning." In order to become a competitive community in the Knowledge Economy and a community renowned for its attention to the enhancement of its citizens' changing educational needs, the City must adopt a new philosophy. This philosophy includes, but goes beyond, conventional formal education and introduces the idea that all aspects of community life must consider and promote the continued enhancement of Troy's citizens. **The way in which learning is regarded in the City of Troy will continue to support and impact the future enrichment of the community in this area.**

As it stands today, the City of Troy has a well-educated population. As indicated in figure 3.1, almost 75 percent of Troy's residents have some college education. Fifty-six percent of residents have an advanced degree, including a bachelor's, associates or graduate/professional degree. Only 8 percent of residents did not graduate high school.

The Troy Vision 2020 Lifetime Learning Task Force developed ideas to ensure that "Troy will be globally recognized as a community that provides its citizens with the opportunity to achieve social enrichment and personal growth via lifetime learning." The Troy Vision 2020 Report indicates that the Lifetime Learning Task Force was asked to examine "access to personal, professional, and organizational intellectual stimulus and growth" within the Troy community. The Executive Summary from this Chapter of the Report states that the Task Force created a vision statement and a series of goals for learning in Troy:

"Our vision is for Troy to be globally recognized as a community that places a high value on lifetime learning for its citizens. A collective community effort is required for this effort to be successful. The vision can be achieved by taking action on five broad goals:"

1. *Coordinate the efforts of our learning institutions — establish a new City of Troy committee focused on lifetime learning, with the responsibility for strategic coordination of Troy's learning resources. This will strengthen the connection between the needs of the community and Troy's lifetime learning assets.*

2. *Improve communication about the learning opportunities that are available in the Troy community — establish and maintain a "Learning Clearinghouse" and make it the primary resource for information about lifetime learning resources within the Troy community. This will increase the awareness of lifetime learning opportunities; establish a focal point for this information and make efficient use of the resources of the Troy Public Library.*

3. *Utilize the expertise and knowledge of Troy citizens — maintain and expand programs (ex. Sights & Sounds, APT to Succeed) that encourage the shared personal knowledge and discourse among different cultural, professional, public and private organizations. This benefit will strengthen the sense of community in Troy.*

High Quality Schools

The Troy School District operates twelve elementary, four middle, and two high schools within the City. In addition to the schools, the Troy School District has other properties in the City, including Niles Continuing Education Building, the Administration Building, bus garage, and several vacant properties. The Troy School District encompasses most of the City, but small segments along its perimeter are served by six other school districts. Two of these school districts, Birmingham School District and Warren Consolidated Schools, have elementary schools in Troy.

Troy is also home to universities and colleges. Campuses or facilities of Central Michigan University, Michigan State University, ITT Technical Institute, the International Academy of Design and Technology, Walsh College, Spring Arbor College and the University of Phoenix can all be found within Troy.

4. *Invest in world-class lifetime learning services and facilities — build a bigger and better library. Now. The Troy Public Library is extremely popular and far too small. Additional parking and program space are desperately needed.*

5. *Provide opportunity, encouragement and recognition for the highest levels of academic achievement – actively pursue regional and national academic competitions (ex. Math Olympiad) and host them in Troy. Publicly celebrate academic achievement more often than once a year. This will enhance Troy's reputation as a center of high-quality K-16 education.*

These formal goals must be supported by other measures which enhance Troy's culture of learning. To attract the Creative Class, Troy must continue to evolve into a regional leader for innovation. Troy Vision 2020 accurately observes that Southeast Michigan has historically been an "incubator" for innovative ideas, within the industrial sector especially. Troy has an opportunity to rekindle this reputation.

The development of formal City programs and facilities, like the "Learning Clearinghouse" introduced by Troy Vision 2020, and the further improvement or replacement of the Troy Library represent active steps the City can take to establish a basis for lifetime learning. **Continuing education, higher education, job training, career counseling, and a renewed cooperation with local public and private schools, colleges and universities are measures Troy should take to build momentum for a culture of learning.**

The enhancement of educational opportunities throughout all phases of community life will allow people from a wider variety of economic and age groups to enjoy a quality of life already enjoyed by the most educated residents of Troy. Increased job opportunities and better income, as well as a more visible and meaningful role in community life can in this way be made available to anyone in the City. Complemented by the strong reputation of Troy schools, the regional image of Troy as a community dedicated to lifelong enhancement and engagement will continue to grow.

The Integral Role of Educational and Cultural Institutions

Schools, parks, vibrant downtowns, natural features, and many other land uses which factor into a community's quality of life consequently play a large role in the physical development of the community. **The location of schools, for instance, has a profound effect on residential housing values.** In fact, central civic uses like schools have always driven the success of whole communities, especially colleges and universities, which can greatly influence community development.

School Location

With this in mind, the City must closely monitor the demographics to prepare for the changing nature of schools. Given that schools, from elementary through college, are such a critical component of how cities develop, the continued presence of existing facilities and the placement of future facilities must be anticipated by the City through close communication with local public and private school leaders, and university and college officials.

This Master Plan can suggest physical planning and land use policies which support and improve the educational framework in the City by enhancing access and vitality of those areas where educational centers are located. Given the correlation between a good neighborhood school and its effect on nearby property values, the City must ensure that these institutions remain relevant and successful.

In order to secure continued enrollment in neighborhood schools, the City must permit residential densities within their districts which support and are compatible with their student capacity. Furthermore, the City can integrate safe, walkable school access into new mixed-use development in instances where such development is nearby existing or proposed neighborhood schools. As the demand for new or different schools arises, the City must partner with local school leaders to encourage the establishment of schools within mixed-use areas, rather than automobile-dependent locations, to promote interaction between classrooms and the greater community.

Safe Routes to School

Michigan's Safe Routes to School program is managed by the Michigan Department of Transportation (MDOT), with support from the Governor's Council on Physical Fitness, Health and Sports. A State coalition and steering committee provide leadership for all aspects of the program. The Federal Safe Routes to School program was created by Section 1404 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), (P.L. 109-59) of August 10, 2005 (www.saferoutesmichigan.org) The purposes of the Safe Routes to School program are:

- *To enable and encourage children, including those with disabilities, to walk and bicycle to school;*
- *To make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age;*

For the period from 2005 to 2009, at total of 612 million dollars has been set aside for this program across the United States. In this period, Michigan will receive a total over five years of 19.26 million dollars, based on its share of national enrollment in grades K-8.

A City of Villages

Troy does not have a conventional "city center" or downtown. The vibrant core of many successful communities known for their ability to attract the creative class is often cited as a primary determinant of that community's image. **Respondents to the Master Plan survey felt strongly that while Troy may not be able to have a single focused center, it must create activity nodes throughout the City, capitalizing on the diversity of Troy for shopping and entertainment experiences.**

This type of response was preceded by Troy Vision 2020, which introduced the concept of "Villaging" in Troy. **The idea of "Villaging" could be described as a means of staging complementary development in a focused manner intended to create vibrant "nodes" of activity which have an identifiable character.** Similar to smaller towns, these areas would be compact, would have a clear edge, would generally be supported by a common theme, and would incorporate dense, mixed-use development. Such "Villages" should incorporate common community elements, be designed to encourage active living, and should have uses which support a successful business foundation.

The Big Beaver Corridor Study supports the concept of focused development areas. The area described by the Study as the "Troy City Center" is intended to be the "ultimate people place," an area which would build off of its most successful commercial and office tenants, such as Somerset Collection, to foster a mixed-use, vibrant area with significant year-round activity. The Study aspires for the Troy City Center to become the "heart" of Troy, where urban residents can live, work and play in a single area. The predominant

building uses prescribed by the Study in the City Center are large mixed-use buildings with retail at grade and office and residential uses on upper floors.

> *"...the casual introduction of cultural life is part of the historic mission of cities." -Jane Jacobs , Death and Life of Great American Cities*

Cultural Spaces

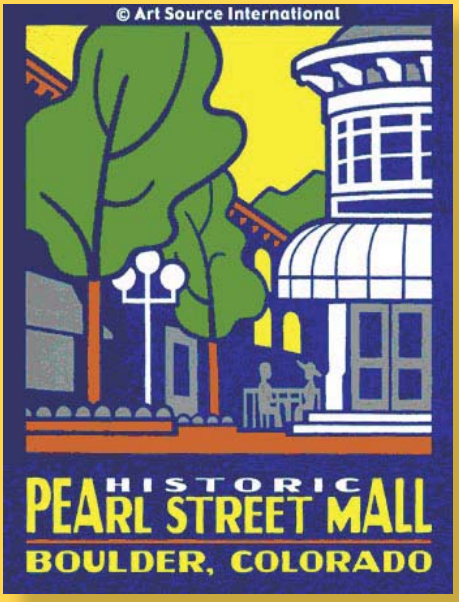
The Big Beaver Study also includes an area labeled "The Promenade" designed for restaurants and entertainment uses in close proximity to hotels and business meeting places. The Promenade would also serve as a large local draw, and could include a gathering public space for enjoyment for residents, visitors, workers, etc. Within Troy's focus areas, the City has an opportunity to leverage physical development to casually introduce cultural life to the City.

How can a City "casually" introduce cultural life? What should a Master Plan, a document focused on land use and physical planning, have to do with cultural life? While it may not be the direction of this document to introduce techniques for programming cultural activities, it can establish a direction for the provision of space for such activities to occur, either formally or informally. **A city must have central, unprogrammed open spaces in close proximity to its homes and businesses to encourage a flourishing cultural atmosphere.**

While many communities are home to traditional brick-and-mortar cultural facilities, such as theaters and art museums, those communities renowned for cultural atmosphere are so recognized for the things that take place in public spaces. Art in the park, street performers, summer theater programs, and many other forms of cultural expression are common in cities that allow for such activity by providing central, unprogrammed open space. Thousands of European cities have supported central parks or small unprogrammed open spaces for centuries.

Pearl Street Mall in Boulder, Colorado. Photo by Mark Ruckman

A good example in the United States of unprogrammed open space is Boulder, Colorado's Pearl Street Mall. Pearl Street Mall is a section of blocks in the center of Boulder which were closed off to automobile traffic, and finished with seating areas, landscaping, and most of all, large areas of open, unprogrammed space. These areas have become popular for political and artistic expression in the summer months. Given their strategic location and limited space, they provide a series of intimate outdoor "rooms" that enhance the surrounding businesses.



The introduction of small, intimate public open spaces in select areas could be a positive step in encouraging a thriving cultural atmosphere in Troy. Those efforts outside of the Master Plan, such as the introduction of formal cultural facilities, are critical for the enhancement of Troy, but they must not be left to stand alone if Troy wishes to achieve the regional reputation expressed by Troy Vision 2020. To be successful, these spaces must have some of these traits:

- Little or no programming; that is, the space cannot be dominated by formal gardens or active recreation, such as baseball fields.
- The space must be located directly adjacent to vibrant, mixed-use development with both residential and commercial concerns nearby, to draw people throughout the day.
- The spaces must be walkable and accessible for pedestrians.
- The space must be located in a central area. Large unprogrammed spaces are located in many European cities at the intersection of major roads. In a community like Troy, they could be best located very near a major corridor, such as Big Beaver, but surrounded by a mixed-use development.
- The space should be intimate, that is, surrounded on several sides by buildings, to provide a feeling of enclosure and protection from the elements.

The creation of common areas for social interaction is a theme that threads throughout the Big Beaver Corridor Study. Along Big Beaver, the Study described potential "Experiential Moments," like a walk along the boulevard, interaction within a large public plaza enhanced by public art, and experiencing pocket parks throughout the community. The Study specifically calls for mixed-use development that makes Big Beaver a round-the-clock "people place," which attracts cultural and entertainment uses to the Corridor.

The central philosophy of the Big Beaver Corridor Study is that social interaction, and therefore quality of life, can be improved by the careful design of new elements and select redevelopment within the Big Beaver Corridor. The provision of public greens for example, is described in the Pedestrian Circulation and Greenspace Plan as focal points amid denser development to help draw people to these focus areas; a strategy for implementing the casual introduction of cultural life in Troy.

Trails and Pathways

The next section of this Chapter will explore the importance of cultural and recreational amenities in the enhancement of the City's quality of life. Furthermore, the Mobility Chapter will include a more specific analysis of the role of trails and pathways in Troy. **However, given the overwhelming call for trails and pathways in the Big Beaver Corridor Study, the Master Plan Survey responses, and the Parks and Recreation Plan, trails and pathways warrant recognition in this section as well.**

Much of the responses collected from these sources and the input of the SGRAT suggest that people consider trails and pathways to be more than simple recreational amenities, and genuinely consider them valid transportation corridors for access to the important places and institutions discussed in this Section. Furthermore, they drive property values and can be seen as an amenity for real estate development.

These assertions support the exploration of programs like Safe Routes to School. They also introduce the idea that residents desire support for an active lifestyle, which provides a platform for the City to develop a network of trails and pathways linking the critical institutions and places of Troy.

Quality of Life, the Knowledge Economy, and the Creative Class

In order to attract a premium workforce and support the long-term health of the City, Troy must recognize that the working world is changing. Many of the most valuable members of the new workforce come from the Creative Class. The term was coined by the sociologist Richard Florida, who describes the Creative Class as an emerging class of working professional from a younger generation. The Creative Class is a demographic of worker with more education and a greater focus on high-tech or intellectual fields, rather than the previous generations, which were primarily based on agriculture and industry.

The Knowledge Economy, put very simply, is a competitive economy centered on knowledge-based industries which require high-tech facilities and which are empowered by the availability of information from new sources around the world. Knowledge-based businesses are less likely to manufacture a product as they are to conceive or design one.

"Creative class people value active outdoor recreation very highly. They are drawn to places and communities where many outdoor activities are prevalent---both because they enjoy these activities and because their presence is seen as a signal that the place is amenable to the broader creative lifestyle."
-Richard Florida, The Rise of the Creative Class

In light of the struggling manufacturing economy of Michigan, the State has initiated programs to help communities more fully understand what they can do to attract the workforce and the employers functioning in these new areas. Troy Vision 2020 explored this concept and developed specific ideas about what Troy can do to become a leader in the cultivation of the Creative Class in Southeast Michigan.

The City of Troy utilized a Parks and Recreation Survey in 2005 during the preparation of the Parks and Recreation Plan. A total of 3,254 surveys were sent out to a 5% random sample of property owners in the Troy community. A total of 946 surveys were returned and analyzed, for a response rate of 31%.

Respondents were asked to list their first, second and third choices of facilities they would like to have in their community. This graph shows that trails were the most popular facility chosen, with 67% of respondents listing it as their first, second or third

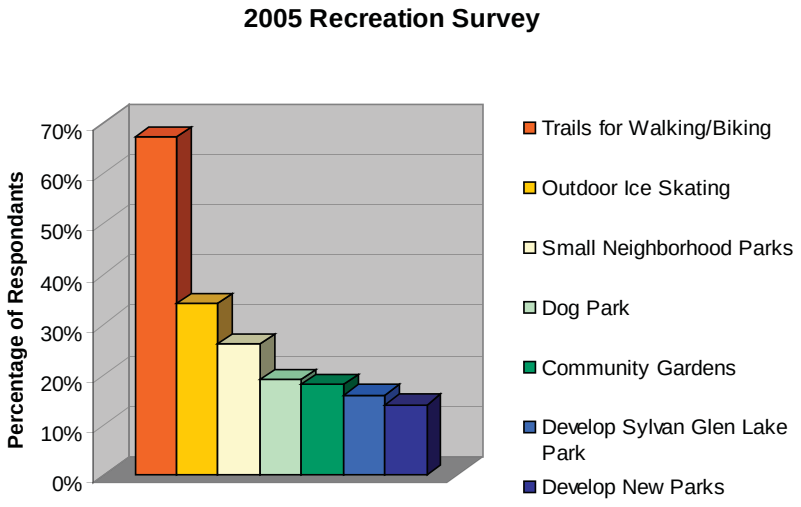


FIGURE 3.2: RESULTS OF THE 2005 RECREATION SURVEY
(RESPONDENTS WERE ASKED TO LIST THEIR 1ST, 2ND, AND 3RD CHOICES FOR FACILITIES NEEDED IN TROY.)

Today, employers are no longer tied to railroads, rivers, highways, or resources to succeed. Knowledge-based businesses, especially, rely totally on the availability of a good workforce comprised of the most talented and creative individuals available. Quite commonly, emerging knowledge-based businesses will succeed in college towns or other communities reputed for an educated workforce and a high quality of life. This is a critical notion; the idea that communities with a high quality of life attract the potential workers who attract the businesses that need them.

What attracts the valuable workforce for knowledge-based businesses? In addition to diverse, vibrant mixed-use areas, which will be explored in depth in subsequent chapters of this Master Plan, these individuals seek communities that embody the lifetime learning philosophy and the availability of amenities that enhance their lives, like quality parks and recreation programs, cultural amenities, and a diverse and welcoming community.

Parks and Recreation

Similar to schools and downtown areas, parks have the potential to transform a neighborhood. Recreational development in Troy is guided by the Parks and Recreation Plan, which is developed under criteria established by the Michigan Department of Natural Resources (MDNR). The current Parks and Recreation Plan was developed with strong public input and contains a series of goals and objectives relating to recreation improvements.

Within the Troy Vision 2020 project, the Lifestyles Task Force took the lead with regard to quality of life issues with a series of preferred futures which speak to recreation, fitness, and community in Troy. The group introduced the idea of a special "Focus on Fitness," helping residents maximize their health and fitness goals by providing health and fitness opportunities

Top 10 Reasons Parks Are Important:

1. Public parks provide the opportunity to be physically active. Physical activity is an essential part of an individual's efforts to stay healthy, fight obesity and prevent chronic conditions that lead to coronary disease, high blood pressure and diabetes.

2. Parks have true economic benefits. Proximity to a park improves property value. Parks provide increased local and regional revenue from heritage tourism, steady jobs, and numerous small business benefits.

3. Parks provide vital green space in a fast-developing American landscape, and keep our living environment healthy.

4. Parks preserve critical wildlife habitat while providing enjoyment and educational opportunities for children and families.

5. Parks provide a meeting place where community members can develop social ties, and where healthy behavior is modeled and admired.

6. Leisure activities in parks improve moods, reduce stress and enhance a sense of wellness.

7. Recreational programs provide organized, structured, enjoyable activities for all ages. Quality recreational programs facilitate safety, good sportsmanship and community participation.

8. Community recreation services provide a refuge of safety for at-risk youth and give valuable life lessons to help steer young people to success.

9. Therapeutic recreation is an outlet that individuals with disabilities have to be physically active, socially engaged and cognitively stimulated.

10. Public parks embody the American tradition of preserving public lands for the benefit and use of all.

Summarized from the original

By Richard J. Dolesh, Monica Hobbs Vinluan

that are accessible, convenient, entertaining and diverse. This vision for the future would require collaboration with the Troy Nature Center, hospitals and other entities and committees. This vision also encourages the idea of more walking and biking paths throughout the City.

Another preferred vision addressing recreation is, "Troy has established an outdoor sports complex through collaboration with other cities providing opportunities to experience diverse organized sports." This vision describes the need for a large, regionally prominent outdoor recreation complex, built in partnership with other nearby communities.

The City must be diligent in executing the Parks and Recreation Plan, which calls for many improvements to the City's existing parks and recreation inventory, and provides a basis for the introduction of new facilities. Successful parks, with good access and a focus on active lifestyles will be a strong asset in the competition for a globally recognized workforce.

The City of Troy offers a wide range of recreational facilities and programming to its residents. The parks system includes eight neighborhood parks and six community parks totaling approximately 360 acres distributed throughout the City. The City also owns and maintains a number of special use facilities, including the following:

- *Troy Community Center*
- *Two (2) 18-hole golf courses*
- *Troy Farm*
- *Troy Family Aquatic Center*

A comprehensive study of each facility can be found in the Troy Parks and Recreation Plan.

Promoting Active Communities (PAC)

The PAC Program is presented by the Michigan Department of Community Health, the Governor's Council on Physical Fitness, Sports and Health, Michigan State University and the Prevention Research Center of Michigan to recognize efforts to make Michigan more active.

Participating in PAC will encourage a shift in thinking about recreational facilities and ties in well with the purpose of this Master Plan. The PAC is an assessment, much like the SGRAT, which analyzes a community's environments, policies, and programs related to promoting physical activity. The goal of a community participating in the PAC is to earn a Community Award recognizing their dedication to "Active Living."

There are five levels of the Promoting Active Communities Award.

Copper: Communities have made a commitment to becoming a healthier place to live and have begun to take steps toward removing barriers to physical activity.

Bronze: Communities have taken steps toward making it easy for people to be active.

Silver: Communities have achieved progress toward making it easy for people to be active.

Gold: Communities document achievements in making it easy for people to be active.

Platinum: Communities are models of commitment to healthy, active living.

Inspired by public feedback and the call of Troy Vision 2020 for Troy to be a community "focused on fitness," this philosophy will ensure that Troy continues to promote compact, walkable

Cultural Amenities

Cultural institutions, like museums and theaters, must be complemented by a wider appreciation of the importance of cultural life in the community. As noted earlier in this Chapter, perhaps the most critical thing Troy can do to enhance the cultural life of the City is to provide the venue for cultural life to emerge in small parks and unprogrammed open spaces.

The Task Force most closely examining the issue of cultural facilities or events was the Vision 2020 Lifestyles Task Force. This group explored a number of concepts selected to help Troy continue to grow into a truly diverse, unique, global community. The Lifestyles Task Force established a direct call for the improvement and encouragement of existing and new cultural facilities in its "Preferred Future 5" which states that "In 2020, Troy is a 'Gotta Have Art' type of place, with opportunities to celebrate and experience all of the fine arts. **This preferred future describes potential public spaces to experience art, and suggests music in the park events, theater, a symphony, art galleries, and public art as areas of focus.**

Another important area where the City can be active in introducing cultural amenities is the encouragement of diverse, mixed-use development. **One of the many positive attributes of mixed-use development, which will be explored throughout this Master Plan, is the creation of new areas for social interaction.** Rather than isolate homes from entertainment and dining venues, and separate places of work from places of play, mixed-use development is uniquely capable of creating energetic, memorable places where a person can experience new points of view, witness personal expression, and enjoy a variety of activities with other people. While this can be said for many types of communities, those places where mixed-use development occurs are more likely to succeed.

*Troy is home to several notable formal **cultural amenities**, and is in a region famous for its cultural diversity. Some amenities in the City of Troy itself include:*

- *The Troy Museum and Historic Village, which is intended to encourage hands-on learning, especially on topics relating to Troy's heritage. The Museum is also responsible for the preservation of cultural heritage through physical structures, collection of artifacts, and archival materials. The Museum is located in the former Troy Township and City Hall.*
- *The Lloyd A. Stage Nature Center is a 100 acre sanctuary with a wide range of programs, including school programs.*
- *The Troy Public Library is a popular, award winning facility which provides free wireless internet service. The Troy Public Library is #1in Michigan among libraries serving populations of 50,000 or greater per Hennen's American Public Library Rating Index.*
- *The Ridgedale Playhouse is home to the Ridgedale Players, one of the oldest community theaters in Michigan. The Players are in their 75th season.*

Public Art

The importance of public art can not be overstated. Many of the great communities of the world are identified by their public works of art. **Public art makes a statement that the community supports the arts, and contributes greatly to the creation of unique, memorable urban places.** The City of Troy can support public art by encouraging private development to include public art, by reserving public funds for art projects, and by pursuing grants for public art initiatives.

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What kind of image do you want people to think of when they are asked about Troy?

- *Excellent schools, nice residential, strong City government and services, shopping.*
- *A well maintained City with excellent schools, neighborhoods, corporations, and good services.*
- *Home to Walsh College, branches for the University of Phoenix, Central Michigan University, Spring Arbor University, ITT Technical Institute and Michigan State University Management Center.*

What can the City of Troy do to continue to attract world-class businesses?

- *In cooperation with Troy School district (plus other educational facilities) continue to promote education, diversity of ethnic groups which constitute the vibrant Troy community.*
- *Offer reasonable incentives. Maintain quality infrastructure. Continue to offer quality City services & A ++ rated schools. Make it attractive for the business community to also want to live here in Troy.*

What steps would you take to make Troy a more vibrant and engaging place to live and work?

- *A need exists for the young teenagers to meet, and hang out in a secure environment. The young adults (18-22 years old) also need a place to meet and congregate. These activities need to be available to these groups year around.*
- *Add paths and trail system in City; increase property maintenance standards; increase art in public places; create synergy.*

What is the most important improvement that Troy can make to ensure that all residents have access to safe and efficient transportation?

- *Create a comprehensive pedestrian pathway system (walking, biking, rollerblading, etc.) that system would help to reduce short trip car drives that add to roadway congestion.*

How can the City better accommodate non-motorized transportation?

- *Emphasize bike paths. Develop specific requirements for safe walk & bike access.*
- *Increase the numbers of walkable/bikeable areas….more trails and information letting people know where the trails and sidewalks are.*
- *Plan the City in small village components that can service the daily needs of nearby residents by sufficient shopping areas central to each village.*

What steps would you take to make Troy a more vibrant and engaging place to live and work?

- *Build an arts center or better venues for music, stand-up comedy, performing arts, night life, etc…, utilize more mixed use development, and connect these elements with pedestrian pathways.*
- *Develop the Civic Center that becomes a focal point for residents to interact and learn.*

Many land use issues result between single-family residential areas adjacent properties proposed for higher density. How can these conflicts be reduced?

- *Include some "entertainment" areas or common areas for use of both groups.*

What does the Smart Growth Readiness Assessment Tell Us?

The SGRAT did not include any questions directly related to the care and management of educational facilities, nor did it specifically address cultural facilities. As a tool primarily directed towards the examination of the Smart Growth Tenets, which are mostly related to physical development and infrastructure, the areas where the SGRAT may most readily apply for this Chapter are related to access to such facilities.

The City scored 33 percent of the available SGRAT points for Tenet 8, "Provide a variety of transportation options." The assessment demonstrated that the City can improve its transportation score in a variety of areas, especially by providing stronger access to public transit, rail service, or a multi-modal method of access to a regional airport. Troy could also gain points by encouraging better infrastructure for cycling as a viable option, and the provision of park-and-ride areas for bus service. Further, the City does not make extensive use of traffic calming devices, which can restrict automobile traffic, but encourage safer non-motorized transportation in certain circumstances.

These results were drawn in part from the City's response to these questions:

Does your community provide infrastructure to promote bicycling as a viable, healthy transportation option by any of the following? (Check all that apply, if any).

A. Providing well-maintained bike lanes, five feet in width along or between local transportation corridors.
B. Providing non-motorized paths that connect recreation facilities and other community destinations.
C. Implementing access management strategies that improve safety and efficiency of both bicycle and vehicular travel.
D. Providing appropriate signage and bike racks in common community destinations such as schools, public buildings, work places and shopping centers.

Best Answer: A, B, C, D
Troy's Response: None

Does your community encourage bicycling through any of the following?

A. Inventorying existing conditions and developing a strategy or plan to improve biking conditions.
B. Programs that promote bicycling to work, school or for recreational purposes.
C. Accommodating advanced or experienced riders, basic or less confident riders and children.

Best Answer: A, B, C
Troy's Response: A

A Place of Prosperity: The Economy of Troy

Troy is in a unique position among Southeast Michigan communities. **The assets of Troy lend themselves to a rapid transition from the manufacturing economy to the knowledge economy.** The high quality of life, availability of prime office and light industrial real estate, and an emerging regional commitment to building a new foundation for global economic leadership make Troy a competitive choice for 21st century businesses. County-wide programs such as the Oakland County Emerging Sectors program and regional organizations like Automation Alley provide the resources for a community like Troy to emerge as a national leader in business growth.

This Chapter will expand on the concepts alluded to in Chapter 2, will discuss sustainability in business, and will describe the needs of new businesses in the changing economy. It is these changing needs that Troy can focus on, coupled with the quality of life elements described in Chapter 3, to become an economically stronger and more sustainable place to live and work.

Sustainable Business

A critical theme in Troy Vision 2020 was the concept of sustainability. As noted in Chapter 2, sustainability involves social responsibility, environmental stewardship, and economic vitality. These three elements contribute to one another. **A commitment to sustainability makes good business sense in that companies can realize a reduction in operating costs, energy consumption, and win over customers with reduced prices and a good image by becoming a good neighbor.** In other words, the first two elements of sustainability, social and environmental responsibility, can contribute to the third component, economic vitality.

The City can promote sustainability in a variety of ways. Leading by example by managing and governing itself using sustainable practices is a start, but the City can also promote sustainable development amongst its businesses, residents, and visitors. **It is critical that the City of Troy encourage sustainable development practices to enhance the quality of life for this generation and future**

generations. Furthermore, the City can secure a positive financial future while protecting the natural environment by supporting sustainable business practices.

There are many measures the City can take with regard to sustainability, perhaps most notably those measures directly relating to environmental protection. Alternative fuel city-owned vehicles, innovative stormwater management, recycling programs and many other programs allow communities to lead by example. Many of these techniques will be described in Chapter 7.

Beyond their own assets and programs, many communities turn to regulation in order to promote sustainable practices. Regulation used alone, however, can often have an adverse effect. While ensuring environmental sustainability, heavy regulation with no reciprocal compensation or incentives could encourage businesses to leave the community. When businesses leave, it impacts economic sustainability and consequently, affects social sustainability.

The Center for Sustainability at Aquinas College in Grand Rapids, Michigan, points out that environmental and consumer protection have advanced significantly in recent years; crediting the role of government in regulating pollution. Governments have concerned themselves with air and water quality more than ever before. Local units of government must continue this positive trend, but should look for new ways, beyond regulation, to affect change.

"Ultimately, regulation is a signal of design failure, while sustainability seeks innovative and effective design. End of pipe solutions employed today often discourage creative problem solving. What if government incentivized innovative, efficient and environmentally effective design?

Sustainable Business *is a non-traditional strategy that strives to maximize efficiency and effectiveness while restoring environmental quality, building social equity and increasing long-term profitability. Since the industrial revolution, industry has intensified environmental degradation by exploiting natural resources and releasing unfathomable quantities of hazardous pollutants into the biosphere. On the other hand, business has spent billions of dollars to comply with governmental regulations aimed at minimizing contamination by prescribing the amount of toxic substances that can enter the air, water and landfills. An adversarial relationship has developed between business people and environmentalists, each seeing the other as a main source of the world's problems.*

Emerging just under two decades ago, a movement began within the business sector to change the way companies operate. People began to recognize that environmental degradation and commerce do not have to go hand in hand. Some of the changes have included:

- *The reduction and, in some cases, elimination of hazardous materials from industrial processes*
- *Equitable treatment of employees, which in turn increases productivity and worker retention*
- *Operating as a responsible member of the community*

The same business practices that improve social and environmental capital have been shown to also improve long-term profitability. When implemented, sustainable business practices provide an avenue to achieve mutual benefits in the natural world, the community, and the economy.

Aquinas College Center for Sustainability
www.ceneterforsustainability.org

ICLEI—*Local Governments for Sustainability*

ICLEI is an international association of local governments and national and regional local government organizations that have made a commitment to sustainable development. More than 630 cities, towns, counties, and their associations worldwide comprise ICLEI's growing membership. ICLEI works with these and hundreds of other local governments through international performance-based, results-oriented campaigns and programs.

ICLEI provides consulting, training, and information services to build capacity, share knowledge, and support local government in the implementation of sustainable development. The basic premise is that locally designed initiatives can provide an effective and cost-efficient way to achieve local, national, and global sustainability objectives.

ICLEI was founded in 1990 as the International Council for Local Environmental Initiatives. The council was established when more than 200 local governments from 43 countries convened at our inaugural conference, the World Congress of Local Governments for a Sustainable Future, at the United Nations.

As the sustainable development and environmental agency for local governments, ICLEI provides information, delivers training, organizes conferences, facilitates networking and city-to-city exchanges, carries out research and pilot projects, and offers technical services and consultancy. ICLEI also provides software and tools to help local governments achieve their sustainable development goals.

ICLEI serves as an information clearinghouse on local sustainable development, producing newsletters, regional updates on activities, case studies, training guides, and fact sheets.

ICLEI also provides a variety of policy and practice manuals on topics ranging from financing energy efficiency projects to solid waste management to the use of municipal economic instruments to increase environmental performance.
www.iclei.org

What if government became the carrot rather than the stick? Instead of industry doing as little as possible to meet emission standards (via a government prescribed license to harm, as described by William McDonough and Michael Braungart in the book *Cradle to Cradle*) we could begin to see eco-effective products gaining the competitive edge on the market rather than outsourced, unregulated products.[1]"

The advantage the City of Troy enjoys in this regard is that developers seek Troy as a desirable place to live and work with a broad portfolio of assets. This puts the community in a position to offer benefits to those who choose to develop sustainable projects which include mixed-use, innovative stormwater management, green buildings, and excellent architecture in exchange for increased density or other benefits. In other words, the City can become the carrot, rather than the stick.

A number of Michigan communities have taken positive steps towards becoming leaders in sustainable development and sustainable business. Ann Arbor, Grand Rapids, Traverse City, and East Lansing, for instance, have joined communities like Portland, OR, San Francisco, CA, and Chicago, IL as members of the international organization ICLEI, Local Governments for Sustainability. This organization seeks to nurture sustainability at the local level, helping communities develop local incentives and programs to encourage and support sustainable businesses, development, and practices.

1 *www.centerforsustainability.org*

B2B

Business-To-Business. A transaction that occurs between two companies, as opposed to a transaction involving a consumer. The term may also describe a company that provides goods or services for another company.

B2C

Business-To-Consumer. A transaction that occurs between a company and a consumer, as opposed to a transaction between companies. The term may also describe a company that provides goods or services for consumers.

www.investorwords.com

The Changing Economic Environment

Shopping, working, communicating, and socializing are all aspects of our daily lives that have been impacted by the advent of the internet. **While industrial properties have traditionally been located near railroads or waterways, new technology-based clean industries are locating nearly anywhere.** In many cases, the prime determination a company must make is where does it want to locate, rather than where must it locate. Chapter 3 detailed the quality of life characteristics of successful communities in the knowledge economy, and recommended courses of action to raise the City's profile in this regard. This section will address three core areas of the local business environment and describe ways in which the City can preserve and enhance its position in these areas:

- retail and service
- office and information technology
- research and research technology

Retail and Services

The past 10 years have seen a revolution in the way people buy goods and secure services. **The emergence of the internet has forever changed the way companies do business around the world.** Small shops and family owned businesses can reach customers around the world, while giant corporations can maximize economics of scale and improve the position immeasurably. In this way the internet can be both a blessing and curse for retail. Those businesses that have embraced the internet to promote and sell their goods and services have an advantage over all but the strongest brick and mortar stores. Convenience and selection have become greater than ever.

There are a number of immediate advantages that traditional retail establishments have over e-commerce businesses. First, web-based businesses do not allow for consumers to see products in person or to speak face-to-face with salespeople who can assist the buyer in determining needs and preferences. Also, some goods do not lend themselves to shipping, such as foods or household items. Convenience is also a factor in many consumers' choice to purchase goods in person. Selecting an item in person and taking it home immediately requires a trip to the store, but usually does not involve a wait or additional costs associated with shipping.

Perhaps one of the more critical elements of retail success is the act of shopping as a social activity. Troy has an advantage in that it has a critical mass of large-scale retail developments, such as Somerset Collection and Oakland Mall, and has the opportunity along Big Beaver Road and other corridors to encourage retail in mixed-use developments with integrated residential units, open spaces, and other uses. **The**

emerging trend of walkable, mixed-use areas enhances traditional retail establishments in that it counts on retail uses as anchors for neighborhood development. Book stores, coffee shops, shopping centers, and other retail and restaurant uses allow for social interaction and contribute to the City's quality of life.

B2B and B2C

It would be unwise to not consider the impact of e-commerce on the traditional retail community. **In 2006, e-commerce accounted for about 3 percent of all retail sales in the United States, and the trend is continuing upward.**[2] Troy serves as a retail hub for the region, and must be prepared to support brick and mortar retail establishments in order to help them remain viable moving forward. Given the central role the primary retail areas in Troy have within the City, it is critical that the continued success of these areas is taken into consideration.

It is important for the City to understand and consider that there are two types of retail or service businesses, business to business (B2B) and business to consumer (B2C). B2C businesses are those conventional retail establishments offering goods and services directly to consumers. Comparison shopping, convenience shopping, and restaurant and service uses fall in this category.

Given Troy's considerable office, commercial, and industrial presence, the City should devote significant marketing and promotional efforts specifically towards B2B uses to make up for any real decline of conventional B2C uses due to e-commerce or other factors. While conventional retail and service remain strong in Troy for many of the reasons outline above, there is no guarantee that this trend will continue indefinitely. In many cases, B2B companies are not the first to come to mind when planning for commercial uses. Given that these uses are not always open to the public, often require warehousing, and rarely market themselves directly to the public, they are not as readily understood.

B2B businesses have embraced the internet as well, and where brick-and-mortar B2C businesses are still relevant for both practical and social reasons, B2B businesses cater to a market concerned only with convenience, quality, cost, service, and availability. **B2B businesses, in other words, may have an even easier time transitioning to an e-commerce platform than conventional retail.**

The City should investigate the needs of B2B businesses in the information age. The availability of office space in Troy can provide easy entry for a B2B business, while the available high-quality industrial properties in Troy's strategic location allows for B2B businesses to develop warehousing and shipping centers nearby. The presence of a significant business community in Troy and throughout Southeast Michigan provides an immediate market for B2B businesses.

Office and Information Technology

The Wealth Creation Task Force for Troy Vision 2020 suggests that Troy must become a link to international business. The City has a head start in that many of its largest office tenants are international corporations based in countries around the world. Troy has 14 million square feet of office space, providing facilities in every imaginable shape, size, and form with any package of amenities a potential tenant may require. The Big Beaver Corridor is home to over 100 businesses and the headquarters for companies like Kelly Services, Kojaian Companies, LaSalle Bank, Behr, National City Bank, Altair Engineering, and Kirco.[3]

2. United States Economic and Statistics Administration

3. Troy Chamber of Commerce: http://www.troychamber.com/gli/whytroy.htm#office

Automation Alley

Automation Alley is a "regionally-focused technology organization" intended to bring local business, educational institutions, and local units of government together in order to coordinate and promote technology-based businesses in Southeast Michigan.

The organization's members are located in Genesee County, Livingston County, Macomb County, Monroe County, Oakland County, St. Clair County, Washtenaw County, Wayne County and the City of Detroit. The mission of the organization is to "…act as a catalyst to enhance the image of Southeast Michigan to help members grow their businesses."

Automation Alley provides products and services to its members to stimulate and highlight technological excellence and economic diversity. Ultimately, Automation Alley aims to help industry, government and academia attract, develop and retain the skilled workforce required to be competitive in the new knowledge-based economy.

Automation Alley assists its members through three specific programs:

- ***International Business Center**: the Automation Alley International Business Center helps small and medium size companies become export ready, organizes trade missions and conducts international business attraction services.*
- ***Technology Center**: the Automation Alley Technology Center leverages businesses, educators and government to help entrepreneurs bring new technologies to market quicker and more efficiently.*
- ***GLIMA Network**: GLIMA, Automation Alley's association for technology professionals, provides significant learning opportunities for individuals within Michigan's technology community.*

www.automationalley.com

What are information technology and other knowledge economy businesses looking for when seeking new office space? Assuming that many new information-based businesses can be very selective in their location, given that they are no longer tied to availability of materials or railroads, etc., when a business has chosen Troy based on other factors, what is a company looking for in a specific facility? If Troy is able to attract new office and high-tech businesses, it must then address the second part of the equation and ensure that the City's office spaces are qualified for the businesses it attracts.

Infrastructure for advanced technology offices and businesses includes fiber optics, wireless communication, multiple carriers, power redundancy and other components. Troy must ensure that new office spaces have this essential technology infrastructure. When new buildings are developed incorporating new technology standards, they enjoy lower vacancy rates and increased lease income based on higher rents.[4]

The City should consider encouraging physical components to ensure that new or redeveloped office spaces are more conducive to knowledge economy businesses. These elements will contribute to the economic sustainability of the structure, and when complemented by green building design will ensure that new or redeveloped structures are competitive and viable for generations to come. These elements could include:

- Elevated Ceiling Heights
- High Floor Load Capacity
- Power Redundancy Components
- Telecommunications Space
- Raised Flooring
- Flexible Connectivity
- Advanced Fire Protection Systems
- Closed Circuit Security Television Monitoring

4. Real Estate Knowledge Center

- Tenant Controlled HVAC
- Flexible Work Stations

Given a choice between a conventional office space and one having many or all of the features described above, with all other factors being equal, the facility with these upgrades will be far more competitive. **The City can explore incentives and regulations which enhance the City's stock of existing office space with an even more technologically advanced stock of desirable spaces.** In this way, the City can ensure that those businesses attracted to Troy by the quality of life and other factors will find a physical space which allows them to excel in their sector and provide an optimal environment to attract the highest quality workforce.

Research and Research Technology

Troy has a tradition of innovation in research and research technology in a variety of sectors. Troy's top employers include automotive industrial giants such as GM, Volkswagen, Chrysler, Ford, Nissan, Delphi, Behr, Magna, Valeo, Lear, Porsche, and Arvin-Meritor. Other top employers include medical entities such as Beaumont, Quest Diagnostics, Trinity Health, Henry Ford, Oakwood, St. John's, and Wayne State Physician's Group.Other technological leaders include IBM, Fanuc Robotics, and ECD Ovonics, a developer of alternative energy products like photovoltaic shingles to capture solar energy and fuel cells under development for alternative automotive power. **It is a mix of companies like these, and especially companies in a growing field such as green energy like ECD Ovonics, for which the City of Troy must compete moving forward.**

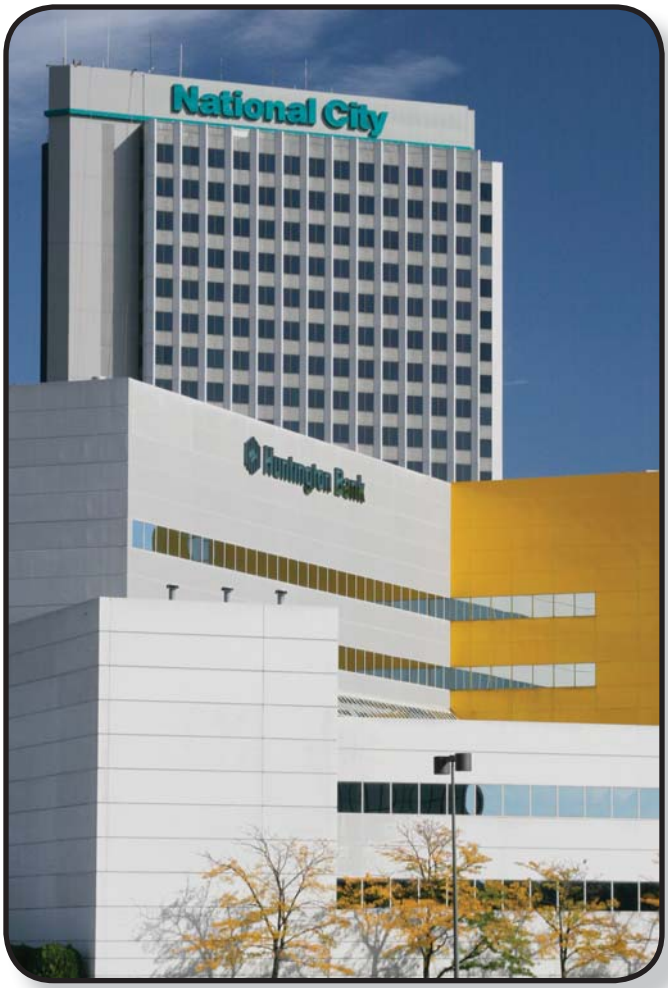
The Emerging Sectors program launched by Oakland County targets ten business sectors in which the County wants to become more competitive. It is designed to capture and develop businesses which operate in the area of new and emerging technology. Emerging Sectors functions first as a promotional program to attract businesses in these ten sectors, and also acts as an information clearinghouse to assist companies considering new locations. The program specifically targets its promotional efforts towards those companies within each sector which the County feels are most likely to consider expanding into Oakland County. These sectors are:

Emerging Sectors

The Oakland County "Emerging Sectors" business attraction strategy, adopted in 2004, is designed to capture and develop businesses which operate in the area of new and emerging technology. Emerging Sectors has identified a number of critical facts which speak well of the success of 21st century businesses in Oakland County:

- More than one third of the research and development facilities in Michigan are located within Oakland County.
- Michigan is second in the nation for research and development spending.
- Michigan companies file for over 3,000 patents a year, which makes Michigan a top ten state in that category.
- Over 40 percent of Oakland County residents have college degrees, about 14 percent higher than the national average.
- Master's Degrees were awarded at a rate of 250 percent of the national average, and Ph.D.s were granted at a rate of nearly 200 percent the national average.

http://www.oakgov.com/econ/sectors/sectors.html



- Advanced Electronics & Controls
- Advanced Materials & Chemicals
- Alternative Energy & Power Generation
- Automotive R & D
- Biotechnology
- Communications & Information Technology
- Homeland Security
- Medical Devices & Instrumentation
- Micro/Nanotechnology
- Robotics & Automation

The Strategy of Emerging Sectors includes:

- Attracting high-tech businesses from around the world to Oakland County.
- Facilitating new collaborations between existing Oakland County businesses and outside companies looking to expand into North America.
- Assisting Oakland County companies as they identify and promote new applications for their existing technologies in domestic and international markets.
- Linking research and development projects at local universities with proven entrepreneurs to accelerate participation in the global marketplace.
- Aggressively identifying and increasing local sources of venture and growth capital for emerging sector companies.
- Continuing to attract and develop a highly-skilled workforce.[5]

One of the primary initiatives the City of Troy has undertaken with regard to targeting emerging sector businesses is the establishment of the Smart Zone. The Big Beaver Corridor Study envisions the Smart Zone as an area in which high-technology uses at the cutting edge of innovation are cultivated. **The Study calls this location a "paragon of innovation" and prescribes a combination of "signature" light industrial, research and development, and office uses.**

As noted previously, Troy is also part of Automation Alley, and is home to the Automation Alley headquarters and Technical Center. Automation Alley is actually a broader multi-community Great Lakes Interchange Smart Zone, with a focus on business and technology in the advanced automotive, information technology and homeland security sectors.[6]

The Troy Chamber of Commerce has developed a Smart Zone website for Troy, which serves as a portal to potential businesses around the world and which highlights the many advantages they can enjoy in the City.

5. http://www.oakgov.com/econ/sectors/sectors.html
6. http://www.troychamber.com/gli/smartzone.htm

The Land Use Balance

A balanced tax base is an essential element of effective community governance. A balanced tax base ensures that residential taxes can be kept at reasonable levels without having to sacrifice quality of services.

Residential properties require $6,274,919 more dollars of taxes for services than they contribute in Troy as of 2005. In other words, the residential properties represent a deficit of $333 toward the cost of City services per acre of residential land. Commercial and industrial properties, on the other hand, pay $6,274,919 more in taxes than the cost of the services they require. This equates to added payments of $1,114 per acre of land.

Like most communities, the additional taxes paid by commercial and industrial properties are levied to offset the usage by residential properties. As of 2005, commercial and industrial properties comprised $521,499,630 less in taxable value than residential properties Citywide.

If the ratio of commercial and industrial taxable value to residential taxable value were to change one way or another, the responsibility per acre of these land use classes to carry the financial obligation of the City would also change. For instance, **if the Citywide land use ratio were to tip towards a commercial and industrial majority, the residential class would pay a reduced portion of the overall costs of services when compared to its usage.** Conversely, if the commercial and industrial taxable value were to decline, residential properties would bear a greater burden of the overall financial obligation of the City, and would have to pay a larger portion of the costs of services when compared to usage.

Mixed-Use and Tax Base

One of the many advantages of mixed-use development is its ability to help offset residential development's impact on the tax base by integrating it with commercial development. That is, while new residential development alone would help tilt the land use balance towards residential overall, therefore requiring that residential pay a larger portion of the overall tax obligation, incorporating commercial, office, or even light industrial development can offset that obligation. Depending on the scale, nature, and location of the mixed use project, the non-residential component could be calculated to directly offset any increased burden created by adding the new residential uses. Employed consistently, mixed-use development could ensure that the tax base balance is maintained as new residential units are developed in Troy.

Troy as a Hub for the Regional Economy

In many ways, Troy is a primary center of urban Oakland County. Over 100,000 people come into Troy every day for work, and thousands more City residents also work in the City. **Troy's workforce is over 120,000 people, yet only about 8,000 of those workers actually reside in the City.**

Troy is an educational hub, with its strong tradition of higher education and exemplary school systems. Troy is also a financial center in Southeast Michigan, as it is home to a large number of international banking and financial institutions. Troy is also home to regionally acclaimed retail and entertainment, and is a central location for shopping in Southeast Michigan. **The City must capitalize on these facts and adopt the philosophies contained in Chapter 3 in order to encourage more of its daytime workforce to consider Troy the best place to live.**

The DDA as a Center for the Regional Hub

The Downtown Development Authority Area is highly visible when compared to the rest of Troy and when compared to the surrounding area. **While Troy may not have a traditional, small-scale downtown, its DDA is a regional center of activity.** Within Troy's Downtown Development Authority boundary, there is approximately 1.1 billion dollars of building market value. The parcels within the DDA comprise only 3 percent of those in the City as a whole, and 1.6 percent of the acreage, but account for about 36 percent of the overall community building market value.

The City of Troy can capitalize on this role by allowing the evolution of the DDA to include increased residential uses and other mixed uses as envisioned in the Big Beaver Corridor Study.

The Study is a forward-thinking blueprint to the continued development of the Corridor, and includes a series of recommendations that will help Troy capture more of the dollars spent by the over 100,000 commuters who enter and leave Troy everyday. **Mixed-use projects with integrated residences will allow more people to live and work in Troy.** The inclusion of more such properties will open Troy up as a popular place for young professionals who seek new residential styles in close proximity to their places of employment. **Often, these individuals have money to spend at Troy retail businesses, and can contribute to the dynamic and vibrant community Troy desires to be.**

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What kind of image do you want people to think of when they are asked about Troy?

- *A commerce metropolis, clean and modern.*
- *A strong business presence; thriving neighborhoods, a balanced mix of residential and business tax base; the cutting edge of environmental sensitivity and walkability.*
- *A center of knowledge; an economy based on information technology.*

What can the City of Troy do to continue to attract world-class businesses?

- *Offer reasonable incentives. Maintain quality infrastructure. Continue to offer quality City services & A ++ rated schools. Make it attractive for the business community to also want to live here in Troy.*
- *Promote Troy as a high-tech corridor and streamline the process of establishing and maintaining a Troy business. Make guidelines for developers very clear, concise, fair and predicable.*
- *Start by realizing that Troy needs the business community. Not long ago, businesses paid more than 50 percent of the taxes, making Troy a very desirable place to live; it has shifted the other way. Work with the Chamber of Commerce and diversify the business base.*

What is the role of the City of Troy in the region? What role should the region play in the future of Troy?

- *Cooperative neighbor that shares ideas and challenges in open communication with neighboring communities, taking on a leadership roll when it is in the best interest for all.*
- *Troy should provide an example of how a city can balance between successful business and a qualified residential base. Recent economic trouble for the state and region has tarnished that image. Troy can provide an example of leadership in how a community can excel as it matures.*
- *A leader and model of an environmentally friendly community.*
- *Troy is perceived as a strong entity and therefore we can be a leader in moving the region to think, govern, buy, and plan regional. The image of the entire region will affect the ability of Troy to attract and retain jobs and the creative class. We need to work together to solve issues of blight, economy, education and mass transit.*
- *Troy should be a role model city of how a community can balance commercial and residential needs so each compliments each other. The City should lead in being flexible to accommodate future needs of the residents.*

What is the future of traditional industrial land uses, such as manufacturing or fabrication, in the City of Troy?

- *We need to be creative as these traditional uses become obsolete. Our PUDs are a positive start for the future of these areas.*
- *Manufacturing is not coming back. Those buildings need to be used for other things. Allow residential use.*
- *Allow some to be developed as described in the Maple Road study. Especially, the work/home development for entrepreneurs. It is important that these work/home developments are visually pleasing.*
- *Information about how industrial parcels could be converted to alternative uses should be made*

What does the Smart Growth Readiness Assessment Tell Us?

Many of the questions asked in the SGRAT have some bearing on the local economy, either directly or indirectly. Those questions which asked about the current trends in the City with regard to redevelopment of existing properties and the ability to develop mixed-use properties relate to the City's strategy for transitioning to the 21st century marketplace. Questions which relate to live-work units and brownfield redevelopment show how the City can improve its ability to accept new development types and encourage manufacturing era properties to redevelop as knowledge-economy facilities.

Are developers actively redeveloping vacant, under-utilized, and/or brownfield properties?

A. Yes
B. No

Best Answer: A
Troy's Response: A

Does your Zoning Ordinance and Master Plan provide strategies and incentives for redeveloping existing urban areas?

A. Yes
B. No

Best Answer: A
Troy's Response: B

In which of the following zoning districts is mixed-use permitted? (Check all that apply, if any).

A. Central business district
B. Neighborhood commercial districts
C. Special mixed-use overlay district
D. Planned Unit Development Districts
E. Other

Best Answer: A, B, C, D, E
Troy's Response: D

Has your local government adopted zoning codes that give as much opportunity for a mixed-use development as for a typical single-use project (e.g., a medium density housing subdivision, strip mall or office park)?

A. Yes
B. No

Best Answer: A
Troy's Response: B

The City in Motion: Local and Regional Mobility

Mobility is changing as rapidly as the economy. Companies are more mobile than ever, telecommuting is rising as a popular way to work, and e-commerce is taking a share of the conventional retail market, all of which have a dramatic effect on transportation needs. Fuel prices have changed the way consumers choose their homes or even plan their daily errands. Non-motorized transportation is becoming a viable option in many communities, especially when integrated with other forms of transportation to create a true multi-modal system. In that spirit, this Chapter will analyze the existing transportation network within the City of Troy and explore new ways the City can think about transportation.

During the Troy Vision 2020 planning process, the Troy Futures members dedicated a separate task force exclusively to mobility. The Vision 2020 Task Force established a series of five preferred futures in the City. These five visions address the need for safer transportation, more transportation options for all age groups, and the desire for a regionally prominent non-motorized transportation network. Vision 2020 also acknowledged the emergence of virtual pathways and their importance as communication supplants transportation in many applications. The final vision of the Mobility Task Force is that Troy will become a "green" city where a series of actions contribute to make Troy on environmentally sustainable place within which to travel.

The results of the SGRAT and the findings of the Master Plan survey also reveal that strong support exists for many of the concepts envisioned by Troy Futures, and specifically for the enhancement of non-motorized transportation options in the form of pathways or bike lanes.

Troy's Existing Transportation Infrastructure

This Section will detail the existing conditions of the transportation infrastructure in Troy and also describe City programs and entities charged with maintaining and developing that infrastructure.

Existing Conditions: Roadways

The primary method of transportation as it stands today in Troy is the private automobile. The City has a comprehensive roadway network, described in the following subsection.

Streets and Roads

The surface street network in the City of Troy is developed and maintained jointly by the City of Troy and the Road Commission for Oakland County (RCOC). Table 5.1, on the following page, demonstrates the major roadway jurisdictions in Troy, from north to south, then west to east.

There are over 319 miles of roads maintained by the City, which equates to over 1700 lane miles. **These roads are used by approximately 400,000 vehicles a day.** The complete road network consists of 364 miles of roads, when all local and County roads are included. The City also maintains over 500 miles of sidewalks in Troy.[1]

1 *www.troymi.gov*

Functional Classification

The National Functional Classification (NFC) System is a planning and identification tool used by most transportation agencies. The classifications are used to group streets and highways into classes according to the character of traffic service they are designed for.

Principal Arterials

These roadways are at the top of the classification hierarchy. The primary function of such roadways is to carry relatively long distance, through-travel movements. Examples include interstates and other freeways as well as state routes between larger cities.

Minor Arterials

Minor arterials include roads connecting intra-urban land uses. These roads tend to accommodate slightly shorter trips than principal arterials.

Major Collectors

Major collectors provide access and mobility within residential, commercial, or industrial use and connect local roads to arterials. Major collectors generally carry more traffic than minor collectors.

Minor Collectors

Minor collectors also provide access amongst varying land uses, but generally have less traffic than Major Collectors.

Local Roads

Local Roads provide access to individual properties and typically have moderate to low speeds. The improvement of local roads typically rates the lowest priority. Most residential streets in Troy are classified as local roads, and are often located in subdivisions.

TABLE 5.1: ROADWAY JURISDICTION
Source: City of Troy Traffic Engineering

Roadway	Jurisdiction
Interstate 75	State of Michigan
South Blvd.	Road Commission for Oakland County.
Square Lake Rd.	City of Troy
Long Lake Rd.	Road Commission for Oakland County
Wattles Rd.	City of Troy
Big Beaver Rd.	Road Commission for Oakland County
Maple Rd.	City of Troy and RCOC
14 Mile Rd.	Road Commission for Oakland County
Adams Rd.	Road Commission for Oakland County
Coolidge Highway	City of Troy
Crooks Rd.	Road Commission for Oakland County
Livernois Rd.	City of Troy and RCOC
Rochester Rd.	City of Troy
Stephenson Highway	City of Troy
John R Rd.	Road Commission for Oakland County
Dequindre Rd.	Road Commission for Oakland County

Roadway Improvement Program

The City has a sophisticated Roadway Improvement Program which forecasts maintenance and enhancement needs for the City's streets. This program identifies timetables, projected costs and scheduling, and assists the City in obtaining transportation dollars and grant funding for road projects.[2]

FAST-TRAC

The City of Troy is a participant in the Road Commission for Oakland County FAST-TRAC (Faster And Safer Travel Through Routing and Advanced Controls) program. The system is a computerized real-time traffic signal timing program employing hardware and software to **monitor and adjust traffic signalization in order to constantly optimize signals based on current traffic demands** at times when traffic demand exceeds roadway capacity. The City of Troy has participated in the program since 1992, and has grown its reach within the

2. City of Troy Traffic Engineering Department

City from 28 signals to over 300 signals.[3]

Traffic Committee

The City of Troy has a Traffic Committee which consists of seven members appointed to three-year terms. The Committee includes the Police Chief, Fire Chief and Traffic Engineer as ex-officio members. The Traffic Committee advises the City Manager and City Council with regard to traffic regulations and safety considerations.

Neighborhood Traffic Harmonization Program

The City of Troy Neighborhood Traffic Harmonization Program is a program of cooperation between the City and residents to reduce the impacts of traffic on neighborhoods. **The three-phase program is designed to give residents an active role in identifying issues with the local streets in their neighborhood and developing a consensus on how to solve the problem or mitigate its negative impact.**

The first phase identifies the problem, provides for a complete explanation of the Program, gains the support of a Core Group of residents, and collects data in the form of speed studies and field review. The second phase involves the planning of educational, enforcement and engineering measures to solve the issue. If ultimately determined necessary, the third and final phase is the installation of any planned physical control devices designed to enhance traffic management and neighborhood safety. The cost to install such devices must be generated from the neighborhood, utilizing a Special Assessment District.[4]

Existing Conditions: Highway Access

The City of Troy is bisected by Interstate 75. The Interstate has access to the City at 14 Mile Road, Rochester Road, Big Beaver Road, Crooks Road, and Adams Road. Interstate 75 is over 1775 miles long and extends from southern Florida to Northern Michigan, and provides regional access to the City of Detroit, Canada, Northern Oakland County and beyond.

Existing Conditions: Air Travel

Within the City of Troy, private, corporate and charter air travelers are able to use the Oakland/Troy Airport, owned and managed by Oakland County. The Oakland/Troy Airport is located at 2672 Industrial Row and is also used for limited air freight service. Aircraft maintenance and fuel are also available.

The Oakland County International Airport is located in Waterford and is the nation's 6th busiest general aviation airport. Originally known as Pontiac Municipal Airport, it provides corporate and general aviation service to Oakland County and Metro Detroit, and also provides a more advanced ground support network including major repair and full contract maintenance, fueling, catering and charter services.

The majority of commercial air passengers in Troy utilize the Detroit Wayne County Metropolitan Airport in Romulus, Michigan. The Airport is owned and operated by Wayne County,

3. Road Commission for Oakland County
3. City of Troy Traffic Engineering Department

SMART

(Suburban Mobility Authority for Regional Transportation).

SMART is Southeast Michigan's bus system. SMART provides fixed route service over 54 routes and also provides a variety of curb-to-curb service including Dial-A-Ride and flexible routes, to access otherwise inaccessible locations.

SMART employs nearly 1,000 people and serves approximately 225,000 riders per week. SMART estimates that nearly 60 percent of its ridership uses the system to access their places of employment. SMART serves nearly all of Wayne and Oakland Counties, and also serves all of Macomb County.

www.smartbus.org

and is managed by The Wayne County Airport Authority. Detroit Wayne County Metropolitan Airport has undergone significant enhancement in recent years, including the construction of a new terminal and runway.

Existing Conditions: Transit

The City of Troy is served by the SMART (Suburban Mobility Authority for Regional Transportation) System. SMART is Southeast Michigan's bus system, which provides fixed route service over 54 routes and also provides a variety of curb-to-curb services including Dial-A-Ride and flexible routes, to access otherwise inaccessible locations.

SMART's primary routes within the City of Troy provide access to Big Beaver Road between Coolidge Road and Livernois Road, all across the City's south boundary, and north to Auburn Hills via Coolidge Road, Long Lake Road, and Interstate 75.

The SMART system extends throughout Oakland, Wayne, and Macomb Counties, and provides regional service to and from major employment centers in Southeast Michigan, including the City of Detroit. SMART also provides a wide variety of special, charter, private, and remote access services.

The Future of Mobility in Troy

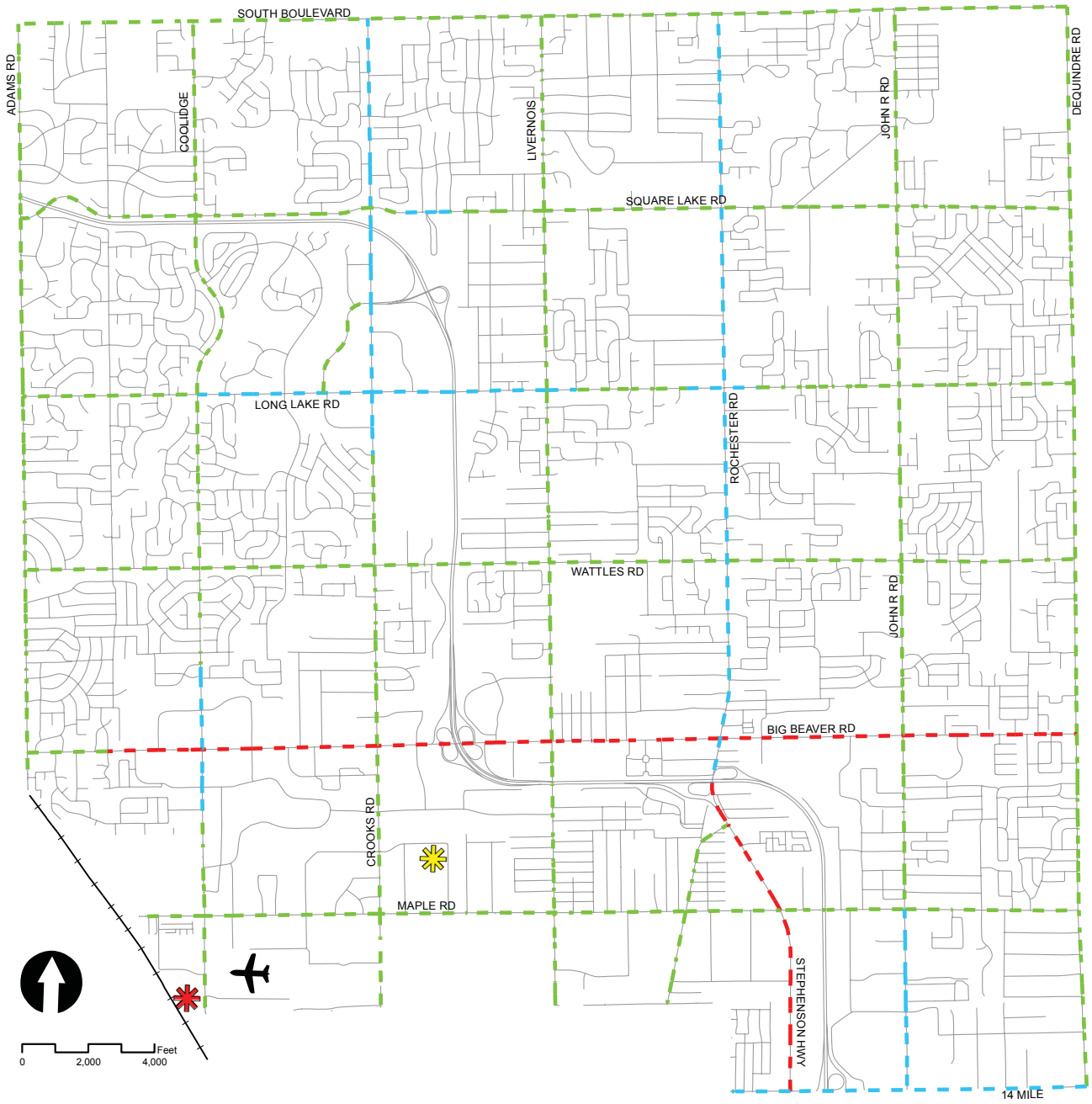
Mobility needs are continuing to evolve. As mentioned in the opening paragraph of this Chapter, many significant factors are changing the way Americans address transportation. This section will introduce new measures intended to ensure that all people in Troy, regardless of age, remain mobile, that the attributes of the City and region are accessible, and that the transportation infrastructure of Troy contributes to a positive quality of life in the City.

Thoroughfare Plan

The City of Troy Thoroughfare Plan (see map, next page) is incorporated as a part of this Master Plan. The Thoroughfare Plan enables the City to better direct resources for roadway improvement by basing its decisions on the planned right-of-way and other enhancements provided on the Plan. The Thoroughfare Plan also enables the coordination of efforts between various levels of City government responsible for the building and improving of roads.

Access Management

Access management is the development of a program intended to ensure that the major arterials, intersections and freeway systems serving a community or region will operate safely and efficiently while adequately meeting the



Legend

- 204 ft. R.O.W.
- 150 ft. R.O.W.
- 120 ft. R.O.W.
- Transit Center
- Transit Service
- Airport

THOROUGHFARE PLAN

CITY of TROY
Oakland County, Michigan

Date: May 27, 2008

Provided By: Carlisle/Wortman Assoc., Inc.
Community Planners & Landscape Architects

Access Management

Basic design principles:

1. Provide a specialized road system; design roadways according to the function they are intended to provide.

2. Limit direct access to major roadways; preserve the traffic function of higher volume roads serving regional thru traffic.

3. Promote intersection hierarchy; transition from one classification of roadway to another.

4. Locate signals to favor through movements; proper placement of signals allows for better coordination of signals, continuous movement of traffic at the desired speed and reduces delays.

5. Preserve the functional areas of intersections and interchanges; the area where motorists respond to the intersection or interchange, decelerate, accelerate, or complete turns.

6. Limit the number of conflict points; collisions and mistakes occur when the driving environment is complex.

7. Separate conflict areas; traffic conflicts can also be reduced by separating conflict areas.

8. Remove turning vehicles from through traffic lanes; when turning vehicles are removed from through traffic lanes, better traffic flow and is maintained, capacity is preserved and safety is improved.

9. Use non-traversable medians to manage left-turn movements; the majority of access-related crashes involve left turns.

10. Provide a supporting street system and circulation system; interconnected street and circulation systems better support alternative forms of transportation.

TRB Access Management Manual, 2003

access needs of the abutting land uses along the roadway. Implementing access management techniques can help increase roadway capacity, manage congestion and reduce crashes. In the case of businesses, there are also less obvious benefits such as a reduction in maintenance and other costs by utilizing shared driveways or eliminating entrance and exit points. Increased road frontage and improved aesthetics are also a result of eliminating driveways. [5]

The Big Beaver Corridor Study includes an analysis of access management concerns within the Big Beaver Corridor. **The Study concludes that while there are many positive attributes with regard to access management in this critical area, there is room for improvement in the future.** Specifically, poor spacing between driveways, frequency of driveways, and driveways too close to certain intersections are areas where access issues have a significant effect on traffic management in the Corridor.

Successful access management practices in the Big Beaver Corridor that were noted by the Study include the area surrounding Somerset Collection, where limited, protected driveway "throats" provide access to consolidated areas. This design results in fewer overall driveways and reduces potential conflict between internal circulation and the entering traffic from Big Beaver Road. The Study also identifies several areas throughout the Corridor where consolidated driveways to Big Beaver Road or to other major north-south roads are used to provide access to multiple sites via collector streets or internal shared driveways.

Non-Motorized Transportation Plans

The City of Troy has initiated a significant City-lead effort to construct and improve trails and pathways in the City. As evidenced by the overwhelming support for trails received during

5. Federal Highway Administration

the Parks and Recreation Master Plan process, the Master Plan Survey, and within Troy Vision 2020, the community has expressed a great deal of interest in alternative transportation.

With that in mind, the City of Troy created the Troy Trails and Pathways Committee, a group charged with developing a world-class trails system in Troy. The Committee was allocated funding for assistance in developing strategies for trails and pathways. The City intends to fund the Parks and Recreation Department for Committee activities in each budget year for the foreseeable future.

The Trails and Pathways Committee determined that there are three main purposes for the development of trails in Troy:

- **Interconnectivity between retail, restaurants, public facilities, and other trails**
- **Recreation**
- **Improved walkability and an opportunity for non-motorized transportation**

In the summer of 2007, the Trails and Pathways Committee developed a series of long term and short term goals. Some of the predominant themes in the long term goals are:

- Provision of scenic trails throughout the City
- Overall safety, security, and sustained funding
- The inclusion of bike lanes, trails and pathways into road construction projects
- The development of bicycle and pedestrian friendly destinations throughout Troy
- The incorporation of trails and pathway systems into private developments
- The development of community education programs about trails and alternative transportation

In the short term, the Trails and Pathways Committee intends to:

- Define the potential users of trails
- Develop an awareness campaign of their efforts
- Address access management in Troy
- Establish timing, funding, and impact of potential projects
- Demonstrate tangible progress
- Create buzz by pursuing media attention
- Re-route existing bike routes as needed
- Investigate the development of a non-motorized transportation plan
- Develop a web page and other marketing

As noted in Chapter 3, the responses collected from the Parks and Recreation Plan Survey and the input of the SGRAT suggest that people consider trails and pathways to be more than simple recreational amenities, and genuinely consider them valid transportation options that drive property values up and can be seen as an amenity for real estate development.

The Transit Center and Transit-Oriented Development

The concept of "Villaging" introduced by Troy Futures in Vision 2020 is one that lends itself to the incorporation of mass transit and the provision of alternative modes of transportation. Vision 2020 calls for the establishment of activity nodes with a connected sense of place, centered on a range of different concepts or themes. These areas would be compact, walkable, and would provide a mix of uses to contribute to an atmosphere of vitality and diversity. The "Villages" throughout the City would each have a unique character and would allow visitors or residents to have access to services, entertainment, and even employment within walking distance, with access to the other nodes, the rest of the City, and areas around the region available by transit.

Transit-oriented development (TOD)

TOD is compact, walkable development centered around transit stations, generally including a mix of uses, such as housing, shopping, employment, and recreational facilities. TOD is designed with transit and pedestrians as high priorities, making it possible for visitors and residents to move around without complete dependence on a car.

Components of TOD include:

- *Walkable design with pedestrian as the highest priority*
- *Train station as prominent feature of town center*
- *A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses*
- *High density, high-quality development within 10-minute walk circle surrounding train station*
- *Collector support transit systems including trolleys, streetcars, light rail, and buses, etc*
- *Designed to include the easy use of bicycles, scooters, and rollerblades as daily support transportation systems*
- *Reduced and managed parking inside 10-minute walk circle around town center / train station*

Massachusetts Bay Transportation Authority, http://www.mbta.com/projects_underway/tod.asp

and

http://www.transitorienteddevelopment.org/index.html

The "Villaging" concept can be achieved by following the principles of Transit Oriented Development, or TOD. The TOD principles are centered on the basic idea that mixed-use, walkable, compact development surrounding transit stations contributes to the health of the community and helps support the transit itself. The non-profit group Reconnecting America, an organization dedicated to encouraging TOD development, states that a TOD is more than development near transit, it is also development that achieves the following:

- It increases "location efficiency" so people can walk, bike, and take transit
- It boosts overall transit ridership and minimizes the impacts of traffic
- It provides a rich mix of housing, jobs, shopping, and recreation
- It provides a value to the public and private sectors, and for both new and existing residents
- It creates a sense of community and sense of place[6]

In order for TOD to work, there are a number of coordinated efforts that must succeed. **First, the City must demonstrate commitment to the provision of transit.** The City of Troy has already expressed its support of transit, and the regional SMART system shows that the region is interested in expanding and enhancing its transit capabilities. The ongoing Troy-Birmingham Transit Center project constitutes a strong local commitment to the provision of efficient, equitable, and world-class transit options for Troy residents.

A successful TOD strategy must also have the support and leadership of elected officials and investors. This is ultimately expressed by the adoption of policies that coordinate development with transit corridors and facilities. Strategies can be incentive-based or

6. Reconnecting America, "Why Transit Oriented Development and Why Now?"

regulatory and could include the development of station area plans, the adoption of higher density, mixed use zoning, the development of design guidelines for station areas, strong public investment policies, and incentives like the sharing of infrastructure development costs, providing for brownfield remediation, or streamlining the development process for TOD projects.[7]

Virtual Pathways

New advances in telecommunications could have dramatic impacts on transportation in the future, but the actual effects are still uncertain. In particular, **the advent of telecommuting will allow a great number of people to work remotely,** usually out of their homes or satellite offices. This kind of arrangement was not possible before high speed internet and other technological breakthroughs.

According to the U.S. Census, telecommuting has been increasing and will likely continue to increase. **In fact, in 2005 about 3.4 percent of workers were telecommuters in the United States and projections indicate that as many as 20 percent could ultimately become home-based.** This projection is based on the federal workforce, where promotion of telecommuting is mandated by law.

On its face, telecommuting would appear to relieve traffic congestion by taking more drivers off the streets and reducing the number of trips per day. However, in the long term, telecommuting could have the same effect that the emergence of knowledge based businesses has had in that workers will no longer be required to locate near their employers. While many employers locate strategically to secure a solid workforce, there are also firms which exist virtually online. That is, employees work all over the country and contribute via the internet.

7. http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-tod.html

Walkable Urbanism Strategic and Implementation Plan: The Troy Birmingham Transit Center

In May of 2007, the Troy Chamber of Commerce and the City of Troy initiated the development of the Walkable Urbanism Strategic and Implementation Plan. The Plan will focus on the area surrounding the planned Troy/Birmingham Transit Center. The study team includes a group of graduate students from the University of Michigan Real Estate Program focused on four areas of analysis:

- *Transportation options*
- *Fiscal impacts*
- *Market potential*
- *Land use patterns*

The final Comprehensive Report, due to be completed in 2008, will provide both a "contextual analysis" and a "strategic and implementation" plan. The Report will identify opportunities and projects which will enhance the area and complement the planned Transit Center.

The study will examine the area at three geographic levels. The first will be the site itself, the second will be the site and it's immediate surroundings, and the third will be the greater context and neighboring "activity nodes." In this manner the study will address how the Center will interact with the neighborhood and with communities beyond Troy and Birmingham.

Given this phenomenon, communities like Troy may have to rely even more heavily on the quality of life elements of the City to retain residents even if industry and professional offices succeed in the community. **In fact, on a regional scale, telecommuting could result in a greater demand for more remote development and could ultimately contribute to urban sprawl. Without the requirement of proximity to an employer, employees can live wherever they wish.**

Impacts of Telecommuting

The Research and Innovative Technology Administration of the Bureau of Transportation Statistics, a department within the United States Department of Transportation, identified a number of key issues with regard to the impact of telecommuting on transportation demand. They include, but are not limited to, the following:

- The actual amount and impact of telecommuting in any particular region will depend strongly on the local transportation environment and travel demand measures.
- The congestion and air quality improvements potentially attainable through telecommuting could be substantially diminished if telecommuters removed from the highways are replaced by the emergence of latent travel demand.
- Telecommuting could stimulate urban sprawl and have other adverse impacts on land use and public transportation.
- Factors which will impact the rate of growth of telecommuting include uncertainty of benefits for employers and the considerable time and effort inherently required to bring about major changes in work styles and ways of doing business.

The City must continue to consider the potential needs of telecommuters in order to combat the potential flight of knowledge economy workers in the City.[8]

8. Transportation Implications of Telecommuting, Bureau of Transportation Statistics

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What can the City of Troy do to continue to attract world-class businesses?

- *Strategic parking plans to make businesses easy to find and convenient and safe for customers and employees to use.*
- *Improve our roads and pedestrian pathways, maintain high standards in architecture, rigorously enforce zoning violations, retain residential character of our neighborhoods in spite of the majority of City Council pushing to commercialize them with large commercial vehicles and large group child care homes, start the customer solutions department, and more.*
- *Provide good roads that are well maintained and well operated.*

What steps would you take to make Troy a more vibrant and engaging place to live and work?

- *Mass transit options to access entertainment in metro Detroit.*
- *Add paths and trail system in City; increase property maintenance standards; increase art in public places; create synergy.*

Should Troy play a role in the development of improved regional transportation?

- *Yes, we should work on developing the proposed Transit Center and expand from there.*
- *Absolutely, we need a creative connector (trolley to Big Beaver Corridor from Maple/Eton Station. More Bike, walking paths from subs to parks. Destination emphasis planning.*
- *Yes, Troy should play an important role in improving regional transportation. Mass regional transportation will enable people to move from "here to work" economically and efficiently. We can't build wide enough roads to move traffic; we need to economically and efficiently move people during the course of the day.*
- *It would help make the City more family friendly. We would be sharing transportation options. It would also help attract world – class business. It is a good selling point.*
- *Yes. If we are to be the hub of business and fun activities (family, night life, etc) we must make it easy for people in nearby communities to visit Troy without getting into a traffic jam.*
- *Yes. We need a method for our residents to get to their place of employment without using single occupant vehicles. We need a method of transportation for youth and seniors. Lastly, we need a method to bring employees to the businesses located in Troy. Continue to develop walkability.*

(continued)

What is the most important improvement that Troy can make to ensure that all residents have access to safe and efficient transportation?

- *Affordable regional mass public transportation.*
- *Create a comprehensive pedestrian pathway system (walking, biking, rollerblading, etc.) that system would help to reduce short trip car drives that add to roadway congestion.*
- *Provide a means within the City to get the residents to the collection points for the regions/ transportation system.*
- *Create regional public transportation that is efficient, safe and inexpensive.*
- *Make it affordable and convenient not just within the City.*
- *Keep the roads nice for all modes of transportation.*
- *Promote the transit center and the transit services to be housed in it. Then make sure adequate walking and bike paths are connected throughout the whole City.*

How can the City better accommodate non-motorized transportation?

- *Emphasize bike paths. Include in all developments specific requirements for safe walk & bike access.*
- *Follow ADA guidelines. Create refugee islands on highways, increase the "walk" time on traffic lights, make bike paths to get bikers off pedestrian sidewalks, and provide adequate lighting.*
- *Better cross town connected bike routes that also have destinations, i.e. mall or civic center. Have a dedicated 4 foot lane for bicycles.*
- *Complete the trailways initiative with a completed infrastructure as recommended by Vision 2020.*
- *The development of pathways and trails is a start. We need an alternate mode of transportation that is cost affective and reliable.*
- *Promote mixed-use development.*
- *Plan the City in small village components that can service the daily needs of nearby residents by sufficient shopping areas central to each village.*

What does the Smart Growth Readiness Assessment Tell Us?

The SGRAT included a section dedicated to the provision of transportation options. Tenet 8 of the Smart Growth Tenets, "Provide a variety of transportation options" was covered by 15 questions ranging from topics like mass transit to air travel. The assessment granted 33 percent of the available points to Troy for Tenet 8. The City received many points for its strong capital improvements planning, access management standards, well-developed subdivision regulations, provision of transportation options for the mobility impaired (either by income restrictions or physical limitations), and the mitigation of the negative impacts of parking on surrounding areas.

The assessment demonstrated that the City can improve its transportation score in a variety of areas, especially by providing stronger access to public transit, rail service, or a multi-modal method of access to a regional airport. Troy could also gain points by encouraging better infrastructure for cycling as a viable option, and the provision of park-and-ride areas for bus service. Further, the City does not make extensive use of traffic calming devices, which can restrict automobile traffic, but encourage safer non-motorized transportation in certain circumstances. Specific questions from this section included:

Does your community have a Transportation Plan (or a transportation element within your Master Plan) that does any of the following? (Check all that apply, if any).

A. Establishes consistent policies that reflect and support the Master Plan, Zoning Ordinance, capital improvement program, access management plan and new development on a regional basis?
B. Coordinates and supports multi-jurisdictional land use and transportation planning along regional transportation corridors?
C. Provides goals, objectives and strategies to enhance an interconnected pedestrian network which serves the entire community?
D. Provides goals, objectives and strategies to implement infrastructure and initiatives to promote bicycling and other non-motorized transportation options?
E. Provides goals, objectives and strategies to implement public transit systems that are appropriate to the size, scale and need of your community?
F. Provides goals, policies and objectives that prioritize improvements and maintenance of existing roads rather than the construction of new roads?
G. Identifies where and when public funding will be necessary to implement context sensitive solutions to transportation issues?
Best Answer: A, B, C, D, E, F, G
Troy's Response: A, B, D, E

(continued)

Does your transportation plan support and your Zoning Ordinance allow different street widths, depending on the functional classification of the roadway, character of the area, the projected volume of traffic, and/or the desired speed of traffic?

A. Yes
B. No
Best Answer: A
Troy's Response: A

Does your community provide infrastructure to promote bicycling as a viable, healthy transportation option by any of the following? (Check all that apply, if any).

A. Providing well-maintained bike lanes, five feet in width along or between local transportation corridors.
B. Providing non-motorized paths that connect recreation facilities and other community destinations.
C. Implementing access management strategies that improve safety and efficiency of both bicycle and vehicular travel.
D. Providing appropriate signage and bike racks in common community destinations such as schools, public buildings, work places and shopping centers.
Best Answer: A, B, C, D
Troy's Response: None

Does your community have transportation policies or programs that increase mobility options for residents who face financial or physical impediments to driving an automobile?

A. Yes
B. No
Best Answer: A
Troy's Response: A

Does your region provide an airport that is supported by efficient multi-modal access to your community, regional distribution centers, public transit, highways and emergency response?

A. Yes
B. No
Best Answer: A
Troy's Response: B

Infrastructure: The Assets and Care of the City

A critical component to Troy's quality of life is the quality of its municipal services. **Excellent water, efficient storm and sanitary sewer facilities, and well-maintained roads are elements that have provided the foundation for Troy's success**. For a community of Troy's population and considerable size, providing these services is a vast undertaking.

Infrastructure, such as water and sewer lines, plays a significant role in what can be developed where, and must be planned in concert with land use to ensure that the City's capacity matches the City's vision for itself. In other words, planning for highly intensive uses is fruitless if the municipal services in the area are unable to support those uses. The converse is also true; planning for low-density uses in an area where desirable land has ready access to excellent sewer and water service is not practical. **Fortunately for Troy, the City has a comprehensive system that allows a great deal of flexibility**.

> *"A civilization's rise and fall is linked to its ability to feed and shelter its people and defend itself.* ***These capabilities depend on infrastructure - the underlying, often hidden foundation of a society's wealth and quality of life.*** *A society that neglects its infrastructure loses the ability to transport people and food, provide clean air and water, control disease, and conduct commerce."*
>
> *United States National Science Foundation, 1995*

With this in mind, this Chapter will describe significant opportunities and issues related to physical infrastructure and discuss the City's efforts to maintain them. Integral to the discussion of infrastructure is adherence to three key principles: **investment, coordination, and innovation**. The investment portion of this Chapter will provide an overview of the scope of the City's services and briefly describe how services are currently provided. Coordination

will emphasize the importance of planning for infrastructure improvements and address the relationship between land use development and infrastructure. The coordination section will also describe how the City can play a role in regional smart growth based on the strength of its infrastructure. The innovation section will identify and reference concepts to improve current practices with sustainability in mind, and will describe regional initiatives to improve water quality and stormwater management. This Chapter will focus only on the physical assets of the City, and will not discuss the City's public services, such as fire and police protection.

Investment

The City of Troy prides itself on providing the highest quality municipal services. In partnership with the Detroit Water and Sewerage Department (DWSD), the Michigan Department of Environmental Quality (MDEQ), and the Oakland County Drain Commission, residents and businesses in Troy enjoy reliable, affordable, municipal services.

Water and sanitary sewer service in the City are managed by the City's Water and Sewer Division within the Department of Public Works. The Division is responsible for ensuring that the quality of the City's water supply exceeds expectations and that water is always available and sufficient to fight fires.

Troy is one of 126 customer communities who work with DWSD for regional water service. In Troy, there are **500 miles of water main, more than 5,300 fire hydrants, and over 26,000 water meters.** Troy residents and businesses use more than 5 billion gallons of water annually.[1]

The Water and Sewer Division is also responsible for monitoring the discharge of wastewater to the Detroit Water and Sewerage Department (DWSD) waste treatment facility.

Stormwater in the City of Troy is managed in partnership with the Oakland County Drain Commission. The City's Streets and Storm Drains Division investigates residential storm water issues and maintains the City's storm water drainage as regulated by Oakland County Storm Water Permit and the MDEQ. In addition to the hundreds of miles of water mains in the City, there are also many hundreds of miles of storm drains, which empty into **134 detention basins and the City's 6 lakes**.[2]

1. 2006 Troy Annual Water Quality Report
2. 2007/8 Streets and Drains Budget

The City of Troy falls within two watersheds. The northwest quarter of the City lies within the **Rouge River Watershed**, specifically, it is entirely within the Main 1-2 Subwatershed of the Rouge River. The remainder of the City is located within the Red Run Subwatershed of the **Clinton River Watershed**. The City is served by a complex and extensive network of County Drains, and many are enclosed. Major open drains in the City include Sprague Ditch, Sturgis Ditch, Big Beaver Creek, and Gibson Drain.

The Streets and Storm Drains Division is responsible for a network of 364 miles of roads and 500 miles of sidewalks, as well as traffic control devices and signs. Troy is a community that is very tightly integrated with its surrounding communities, and as such, is home to many major regional roads and highways. **Many of the City's major thoroughfares are under the jurisdiction of other agencies, as was demonstrated in Chapter 5**.

Coordination

Management of infrastructure assets must include coordination between jurisdictions. Just as with its natural systems, Troy's infrastructure is largely part of a regional joint effort. Coordination also refers to that between departments and between boards and commissions within the City's administration itself.

Troy is a leader in many areas within the region. **The City is a center of commerce, and is second only to the City of Detroit in the State of Michigan in terms of total property valuation**. Consequently, relative to other communities in the area, the City has a low millage rate and excellent property values. This results in a financially stable City prepared to maintain its infrastructure at a very high level.[3]

3. http://www.troychamber.com/gli/whytroy.htm

Regional Smart Growth Development Patterns and Infrastructure Improvements

Given the high quality of Troy's sanitary sewer, water, and storm sewer infrastructure, Troy is able to continue to absorb new development in selected areas. This situation makes Troy unique to other regional communities that suffer from aging infrastructure, facilities already at their maximum capacity, and insufficient finances to update the systems without relying on outside assistance. Therefore, Troy can serve a larger smart growth purpose that extends beyond its own borders in that it can accept a larger regional share of new development than outlying areas in the region.

A national study conducted by the United States Department of Commerce Economic Development Administration (USEDA) showed conclusively that **money spent updating or building new urban water and sewer facilities yielded much greater economic benefits than money spent on new systems in largely rural areas**. Although construction costs for infrastructure projects in urban locations was slightly higher (1.3 times higher) than those in rural areas, the study concluded that the improvements in urban areas allowed new businesses to create 1.9 times as many new, permanent jobs than those in rural areas. Furthermore, the **urban improvements were linked to 2.8 times as much private investment as rural areas realized, and added 2.9 times as much to the tax base** as similar improvements in rural areas.[4,5]

With this in mind, it is plain to see that investment in infrastructure improvements in already established communities results in significant economic and smart growth benefits to the region as a whole. Tenet 9 of the Ten Tenets of Smart Growth challenges communities to "Strengthen and direct development towards existing communities." **In order for this to occur, established communities like Troy must be willing to accept that new development in order to serve as a growth "zone" for the region.** It is especially critical in Troy, as it is more able to accommodate that new development than many of its neighbors.

This philosophy towards Troy's position in the regional growth pattern **complements findings of the Big Beaver Corridor Study and Troy Vision 2020** to be both strategic and selective regarding growth.

Visions presented by Troy Vision 2020 involve economic growth, new development, and redevelopment in the City. The Image and Feel Task Force, for example, seeks to make Troy a community of "village" developments to create a connected sense of place and community with a variety of activity nodes. This vision encourages smart growth in targeted areas. The Big Beaver Corridor Study speaks extensively about infill development throughout the corridor, and taking advantage of the excess space and capacity this area possesses.

In other words, by accepting a degree of new development and redevelopment, Troy can use its strong position in terms of infrastructure capacity to accommodate a significant portion of the region's growth. Consequently, Troy can help alleviate pressure on outlying areas.

Coordination Between Land Use Planning & Capital Improvements

Troy's capital improvement planning is largely done as part of the City's budgeting process. While the City does not have a separate and distinct Capital Improvements Plan, it does forecast needs and plan projects 5 years in

4. United States Department of Commerce Economic Development Administration, "Public Works Program: Perfromance Evaluation, "
5. Bagli, Fagir, "Economic Impact of Water/Sewer Facilities on Rural and Urban Communities," Rural America Vol. 17, Issue 4

advance. Capital improvement planning done as part of budgeting includes planning for roadway, drain, sewer, sidewalk, and water main maintenance and improvements.

TABLE 6.1: CAPITAL IMPROVEMENT PLANNING
Source: City of Troy Budget

Areas of Investment	*Estimated Overall Planned Expenditure, 2007-2012*
Major Roads	*$39,574,000*
Local Roads	*$12,500,000*
Drains	*$6,740,000*
Sidewalks	*$3,000,000*
Water Services	*$28,480,000*
Sanitary Sewer Services	*$13,300,000*
Total	*$103,594,000*

Table 6.1 indicates that in the next 5 years, the City anticipates investing more than 100 million dollars into the continued improvement of its infrastructure.

As noted previously, it is critical that areas planned for additional development be coordinated with capital improvement planning to ensure that City facilities can accommodate the vision for that specific area. Conversely, the City should be aware that spending on infrastructure improvements in some areas may not be a priority, given the recommendations of this Master Plan.

The City should develop a capital improvement planning schedule designed to be conducted alongside the regular review and update of this Master Plan. Chapter 11, Implementation, will describe methods the City should consider for the regular updating and monitoring of this Master Plan, and should incorporate a regular function ensuring that capital improvements are scheduled alongside projected development in the most critical areas of the City.

Innovation

The City has an opportunity to encourage and practice innovative infrastructure design and management, as well as encourage practices that help protect water supplies and reduce the stress on stormwater management, sanitary sewer, and water services. **The primary area where the City of Troy can have an immediate impact with regard to environmental sustainability as it relates to infrastructure is stormwater management**.

Low Impact Development

Later in this Master Plan, Chapter 7 will include Low Impact Development (LID) in its discussion of environmental sustainability, however, LID represents a new approach to stormwater management and must be introduced in this Chapter. It is a series of design techniques that manage rainfall at the source using uniformly distributed, decentralized techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.

The primary concept behind LID is that stormwater runoff must be treated as a resource, rather than a waste product to be eliminated as efficiently as possible. Irrigation is perhaps the most obvious use for collected stormwater, but LID includes far more potential techniques for maximizing the potential of runoff. LID techniques generally stress infiltration rather than detention, and reduce the dependency on central stormwater systems. By allowing rainwater to infiltrate on site, there are many environmental benefits and often cost savings which result in a reduced need for underground systems. Innovation in stormwater management must be encouraged in both commercial and residential development.

Specific LID techniques include, but are not limited to, the following:

- Use permeable pavers for emergency stopping areas, crosswalks, sidewalks, road shoulders, on-street parking areas, vehicle crossovers and low-traffic roads.
- Disconnect the downspouts from roofs and direct the flow to permeable pavement or other vegetated infiltration and filtration practices.
- Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems.
- Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.
- Landscape with a rain garden to provide on-lot detention, filtering of rainwater, groundwater recharge, and to reduce runoff volume
- Redirect the flow from gutters and downspouts to a rain garden or retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden irrigation.
- Combine rain gardens with grassed swales to replace a curb-and-gutter system.
- When parking demands do not dictate, build narrower residential streets or restrict parking and sidewalk areas to one side of the road rather than both. Replace the space gained with pervious areas, bioretention (planted areas designed to retain and filter runoff), or vegetated channels.
- Use a linear bioretention cell in the highway median to treat runoff. [6]

6. Low Impact Development Center, www. lid-stormwater.net

Water Quality

The limitation of contaminants which ultimately enter the water system is the best way to ensure that water supplies will remain clean and viable. This is an area where SEMCOG has invested a great deal of energy locally, and which the City of Troy can play a large role. SEMCOG's **"Seven simple steps to clean water" is an example of a successful approach to limiting water supply contamination at its source.** This program is designed to educate individuals about basic techniques that they can adopt in order to help limit pollution. They include:

1. Help keep pollution out of storm drains: Sweep, rather than hose off your driveway, and keep storm drains clean.
2. Fertilize sparingly and caringly: Use fertilizer with low or no phosphorus, allow your lawn to remain taller, and prevent fertilizer from getting on the driveway or other impermeable surfaces, where it is likely to be swept up in runoff.
3. Carefully store and dispose of household cleaners, chemicals, and oil: Practice responsible disposal of potential pollutants.
4. Clean up after your pet: Practice appropriate pet waste disposal by using refuse containers or by flushing material down the toilet.
5. Practice good car care: Wash your car on the grass or go to a car wash facility, where dirty water is treated before it is allowed to leave the site.
6. Choose earth friendly landscaping: Choose native plants, use mulch around the base of trees to retain water, and be conservative with watering and irrigation.
7. Save water: Collect rainwater for irrigation or use less water generally for lawns and other plants. [7]

7. www.semcog.org/OursToProtect

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What kind of image do you want people to think of when they are asked about Troy? (i.e., an office building? A shopping center? A fine restaurant or an evening at a show? A residential neighborhood? Something else?)?

- *Efficient, low cost government (low cost – not cheap). I want Troy to continue to be know as the one place you can drive after (or during) a snow storm; a good place to shop, work and live, a place with helpful people in City hall.*
- *A well maintained City with excellent schools, neighborhoods, corporate residents and good city services.*

Do you feel it is important for the City of Troy to promote the advancement of or mandate the practice of sustainable development, such as, but not limited to, the construction of certified "green buildings" and Low Impact Development techniques for stormwater management?

- *I believe promotion is desired for construction of certified "green buildings". Low impact Development techniques for stormwater management are a practice that should be mandated. Economics will determine the practical nature of these areas of development.*
- *The City should promote such efforts thru various incentives and demonstration but should not mandate.*
- *Yes – storm water will only become a bigger problem as the years progress. We need to promote sustainable development at the very least and perhaps it should be required or mandated. However, we should be prepared to address the arguments that these activities are cost prohibitive.*

What can the City of Troy do to continue to attract world-class businesses?

- *Clean and well-maintained infrastructure.*
- *Offer reasonable incentives. Maintain quality infrastructure. Continue to offer quality City services & A ++ rated schools. Make it attractive for the business community to also want to live here in Troy.*
- *Provide good services, good infrastructure, low tax rate, good debt ratings, and a solid residential community.*

What does the Smart Growth Readiness Assessment Tell Us?

The provision of excellent municipal services is clearly a critical element to the future growth and development (or redevelopment) of the City. However, the Ten Tenets of Smart Growth do not specifically speak to infrastructure in and of itself. Consequently, none of the Sections of the SGRAT are directed exclusively towards infrastructure. There were individual questions, though, designed to bring attention to the issue of utilities and City services. The following questions, taken from Section 9, "Strengthen and direct development towards existing communities," address infrastructure issues:

Does your community know the capacity of its infrastructure and natural environment to accept new development, by location, type and amount of new development?

A. Yes
B. No

Best Answer: A
Troy's Response: A

If your community provides public sewer and/or water (or is included in a public sewer/water district), does the public sewer and water service area include:

A. Only developed areas with streets or areas immediately adjacent to the developed areas planned for urban growth?
B. Undeveloped areas outside the urban service area not immediately adjacent to the developed area and not planned for urban growth?

Best Answer: A
Troy's Response: A

Has your community adopted a "fix-it-first" policy as part of the Capital Improvement Program process that sets priorities for upgrading existing facilities and infrastructure before new facilities or infrastructure are built?

A. Yes
B. No
C. No, the community is all built out with no opportunity for new facilities in new locations

Best Answer: A, C
Troy's Response: A

Green City: Responsibility to Natural & Energy Resources

Every level of government bears responsibility for the protection of the natural environment. The United States Government sets policy and protects national resources, like the national parks and other important wildlife refuges. The State of Michigan regulates wetlands and sets uniform statewide policies for the protection of critical Michigan resources. The State also empowers local units of government to establish laws to protect those resources in their own front yards. **Local units of government are the front line of environmental protection and natural resource conservation.** This Chapter will establish the philosophy of environmental sustainability in Troy, framed around a series of policies designed to make the most of the tools available to the City.

Troy Vision 2020 envisions Troy as a vibrant and engaging place to live and work, where environmental and ecological resources play a role in creating a community that will draw the best workforce in the region. Troy can be an environmental leader, demonstrating to others how to grow while embracing its natural resources, and making wise use of energy resources. As discussed in Chapter 2, sustainable cities integrate the concepts of sustainability into policies covering social, economic and environmental topics. Troy and its citizens can use the community's environmental resources responsibly, without compromising the ability of tomorrow's residents to meet their needs.

Stormwater Basin in Troy; Photograph by Jennifer Lawson

Preservation and Enhancement of Existing Natural Features

Economic growth and environmental preservation are elements that are commonly perceived as two forces that must be at odds. However, **environmental considerations have the ability to enhance economic developmen**t. Efficiency reduces the cost of products and services, and preservation of natural features increases the value of developed properties.

The City of Troy is nearly built out. However, the City currently owns approximately 360 acres of developed parks, with more new parks planned. Some of the existing park land is used for active recreation areas, and some is maintained as natural areas for passive recreation and general open space. The City's current Parks and Recreation Master Plan identifies these City-owned properties, and provides a brief description of each.

It is critical that Troy inventory existing natural resources and understand their relative quality. **The City needs to know what it has before it can decide what to do with it**. Such an evaluation can be collected in a

Property Values and Open Space

In Washington County, Minnesota, a study commissioned by an organization known as Embrace Open Space revealed to the Metropolitan Council (a regional planning agency for the Twin Cities) that home prices are definitely higher in areas adjoining open space, with all other variables being equal. The study looked at home purchase prices between 2002 and 2005, and was adjusted to account for all other variables (floor area, lot size, number of bedrooms, etc.). The study concluded that buyers paid up to $15,000 more for a home "within 100 feet of a natural area." Given the average $15,000 in additional value per home, when extrapolated to homes next to natural areas throughout the entire county, the study "concluded the total property value increase countywide amounted to $162 million."

http://www.metrocouncil.org/Directions/development/dev2006/OpenSpaceStudyNov06.htm

Natural Areas Plan and will form the basis for preservation policies, future acquisition efforts, and the setting of priorities for future activities. Therefore, a comprehensive evaluation of the City's natural areas should be conducted to determine:

- The ecological condition of these areas
- A ranking order for the properties (highest to lowest environmental quality);
- Appropriate management activities to either enhance each natural area through restoration, or preserve them more effectively;
- Priorities for management activities, acquisition possibilities, public education of residents whose properties include or abut important natural areas, and potential partnerships with property owners for the few remaining undeveloped parcels; and,
- Resources, such as the Rouge River and Clinton River, where partnerships with adjacent communities would be required for preservation.

The City has initiated this process by contracting with Carlisle/Wortman Associates in 2007 to inventory the City's potential wetlands.

Development and Natural Feature Preservation

The value of home sites adjacent to open space, parks, wetlands, greenbelts and other green amenities is greater, all things being equal, to similar sites not adjacent to such amenities. A report published by the Metropolitan Council, a regional planning agency for the Twin Cities of Minneapolis and St. Paul and surrounding seven-county metropolitan area, showed a conclusive positive impact of open space on residential property values.[1]

In addition, **preservation of the existing natural systems can reduce infrastructure costs.** For example, the preservation of woodlands and open space reduces the amount of stormwater infrastructure necessary to accommodate the site's runoff. Clustering of home sites is another preservation technique that reduces costs in that the developer does not need to unnecessarily extend underground infrastructure to accommodate a more sprawling site layout. The reduction of infrastructure costs results in a greater return on investment.

Encouraging natural feature preservation can

1. *http://www.metrocouncil.org/Directions/development/dev2006/OpenSpaceStudyNov06.htm*

be accomplished through ordinance regulations or guidelines that ensure the least amount of impact on a site so that it continues to function at its pre-development level. This can be done by limiting disturbance, imitating natural systems with built replacements, and mitigating the reduction in vegetation and infiltration when the land is covered with impervious surfaces. These design techniques are called Low Impact Development (LID) techniques. While these techniques generally concentrate on stormwater management, they also help preserve existing natural features, like woodlands, that contribute more to the community than just absorbing stormwater runoff. Troy does not have wetland or woodland protection ordinances in place.

The City of Troy must engage its neighbors to preserve features that cross more than one jurisdiction, such as a wetland system or watershed. **Natural features provide significantly more benefits if they are maintained in larger units**, such as a complex system of woodlands, wetlands, and rivers or streams. These larger, connected systems are more successful at maintaining their ecological integrity. The less fragmented natural features are, the higher quality they remain.

Urban Redevelopment

Troy Futures suggested several development methods that will influence natural feature preservation within the City. Villaging, for instance, will act to cluster commercial and cultural services in higher density locations within the community. This, in turn, will allow the few remaining greenfields, or undeveloped areas, to be less densely developed, enhancing the possibility of natural feature preservation on these sites.

For the remaining undeveloped parcels, emphasis should be placed on preserving any existing natural features to the greatest extent

Low Impact Development

Low Impact Development (LID) represents a different way of thinking about stormwater. It is a series of design techniques that manage rainfall at the source using uniformly distributed, decentralized techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.

Under LID, stormwater runoff is not a waste product, but a resource. For instance, LID techniques such as cisterns and rain barrels use collected rain water for irrigation, or as gray water for toilet flushing. LID also advances the idea that almost all elements of a site plan (open space and built features) can be used for stormwater control. For instance, the parking lot can be made out of porous pavement. When stormwater drains through the pavement, it recharges the groundwater. Similarly, rooftops can be used as planting areas, soaking up rainwater and reducing runoff.

LID techniques often cost less to construct than traditional closed designs. Case studies conducted by the Low Impact Development Center show a 25-30 percent reduction in site development costs over traditional techniques. One reason for the lower costs is that LID techniques keep stormwater on top of the ground, rather than building the infrastructure underground to handle stormwater. Another reason is that small infiltration areas are generally less expensive to construct than one large detention area, particularly if the site is designed to limit the amount of stormwater generated by impervious surfaces.

Low Impact Development Center, www.lowimpactdevelopment.org

possible, clustering in already cleared areas of each site, and ensuring that open spaces are contiguous with adjoining open spaces.

Redevelopment of obsolete or underutilized properties provides opportunities to restore or recreate vegetated communities that enhance the sites ecological value. While not completely natural systems, tree plantings mimic woodlands or native wildflowers plantings that simulate a meadow can be aesthetically pleasing and provide environmental benefits. For instance, one LID technique is to plant deep rooted plants, such as tall grasses typically found in a prairie. The root systems of these grasses grow up to 8 feet deep, and as they grow and die, they provide tiny waterways through the soil that improves infiltration of stormwater runoff. While these techniques would provide benefits in any situation, they could be especially effective in the case of a redevelopment property.

Brownfield Redevelopment Authority

The City Council established the Brownfield Redevelopment Authority in 1999, expressing Troy's interest in redeveloping brownfield and other idle or underutilized sites in the city. The Brownfield Redevelopment Authority can offer financial incentives for cleanup and redevelopment or for demolition of functionally obsolete buildings in the form of Tax Increment Financing (TIF) reimbursements.

TIF Reimbursement: The Brownfield Authority may capture the incremental real and personal property tax revenues generated by a developer's project to pay for eligible environmental clean up and contamination prevention incurred on the property.

Single Business Tax Credit: A tax credit of 10 percent up to ten million dollars is available for an owner or operator of a facility for capital and equipment expenditures for redevelopment.

Benefits of Brownfield Redevelopment

There are obvious environmental benefits to cleaning up brownfield sites in a community. These actions create a cleaner and safer environment, reducing risks to public health, safety and welfare, and other benefits:

- *Redeveloping a brownfield site transforms property that is most likely not generating substantial tax revenues to a property that contributes to the local tax base, eliminating an opportunity cost. Also, by not redeveloping brownfields, they could potentially have a depressing effect on property values, leading to further tax revenue loss.*
- *Idle properties that were once viable businesses do not contribute to the job base. Turning them over for new, productive uses creates new job opportunities.*
- *It is likely that brownfield sites have the infrastructure in place to serve a new land use. This can represent a substantial savings by a community or developer compared to building on a green field site.*
- *Re-using property in urban areas decreases development pressure in green fields, which in turn, increases the opportunity to preserve open space and combat urban sprawl.*

Brownfield Redevelopment Guide; Consumers Renaissance Development Corporation; 1998.

The Troy Brownfield Redevelopment Authority has assisted in the redevelopment of sites throughout the community. Its first project was the redevelopment of the former Ford New Holland Tractor Plant at the southwest corner of Maple Road and Coolidge Highway. The site, which sat underutilized for nearly a decade because of liability and other issues concerning contamination, is now know as Midtown Square,

a $200 million mixed use development boasting 600,000 square feet of retail space and 285 residential units.

Redevelopment Incentives

Ordinance regulations are the first line of environmental stewardship in many communities. However, there are other ways of encouraging sustainable development. **The following incentive-based techniques encourage sustainable development:**

- Fee adjustments for infill housing: Riverside, California waives certain fees, such as grading permit fees and water distribution fees, if the property being redeveloped meets the definition of residential infill.[2]

- Smart Growth Zone: Developments in Smart Growth Zones in the City of Austin Texas are charged reduced fees for zoning, subdivision, and site plan applications, and for water and wastewater capital recovery fees.[3]

- Primary employer incentives: Incentives such as application fee waivers, utility and transportation improvements, streetscape improvements, and expedited processing of development applications are offered by the City of Austin, Texas to guide large employers to the Desired Development Zone. These types of employers generate significant levels of growth, both within their specific project and in the surrounding area.[4]

- Built Green Program: In partnership with local counties and builders, the City of Seattle promotes best known practices in energy, air quality, stormwater management and water efficiency to give homeowners added value and home builders a competitive advantage. To stimulate growth in Built Green-certified homes, the City launched a design competition, and highlighted winners on their website.[5]

- Green Review Track: King County, Washington, offers a dedicated "Green Track" for green buildings and projects that incorporate Low Impact Development techniques. Proposals on this track are assigned to a green team, composed of County staff with expertise in green development practices. Staff provides assistance to customers on sustainable development techniques including green roofs, alternative energy systems (solar, wind, geothermal), rain water collection, resource efficient framing, recycled materials, and Low Impact Development site design. Green developments follow a customized review schedule with a single point of contact.[6]

Transportation

Methods to reduce the dependence on the automobile were introduced in Chapter 5. **Improving opportunities for non-motorized transportation, transit-oriented development, mixed-use, and technological pathways will contribute to the changing mobility needs of Troy**. Another transportation-based technique to contribute to overall community sustainability is the introduction of flex-fuel stations, facilities offering alternative fuels.

The two fuel alternatives currently available to motorists are E85 and Biodiesel. E85 is a mixture of 85 percent ethanol and 15 percent gasoline and is the most commonly used fuel mixture for flex fuel vehicles (FFV). Most FFVs produce lower carbon monoxide and dioxide emissions. Since E85 is domestically produced, it helps reduce

2. www.riversideca.gov/planning/infill.htm
3. www.ci.austin.tx.us/smartgrowth/sgincentives.htm
4. www.ci.austin.tx.us/smartgrowth/sgincentives.htm
5. www.seattle.gov/dpd/GreenBuilding/OurProgram/Design-ToolsStrategies/BuiltGreen/default.asp
6. http://www.metrokc.gov/dnrp/swd/greenbuilding/

U.S. dependence on foreign oil, and because it's made from crops like corn and grain, it is a renewable resource. However, some scientists believe it takes more energy to create a gallon of ethanol than the fuel actually produces, resulting in a net negative environmental impact.

There is a great deal of research currently underway on developing other types of bio-materials like switchgrass into ethanol which could impact the fuel's long term environmental impact and availability. (www.autoclubgroup.com) While 53 stations sell E85 in Michigan, none are located in Troy.

Biodiesel is another alternative fuel produced from renewable resources, such as soybeans. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in diesel engines with little or no modifications. Biodiesel has lower emissions compared to petroleum diesel, and since it is made in the US from renewable resources, it also decreases our dependence on foreign oil and contributes to our economy. There are 51 locations where a Michigan resident can purchase biodiesel, none of which are located in Troy.

Natural gas is a third alternative in limited use around the country for passenger vehicles. Compressed natural gas is popular for power generation, but has not been widely adopted in the United Stated for automobiles, although it enjoys wider use in several countries, including Argentina, Brazil, Pakistan, Italy, India and Bangladesh.[7] In the future, natural gas home refueling stations could allow automobile owners to fuel their vehicles at their home using their existing natural gas supply.

7. http://www.iangv.org/statistics.html

Green Building

There is an emerging, global trend to encourage the development of environmentally sustainable buildings and neighborhoods. Commonly referred to as "green building," this trend has been fueled by numerous organizations who have worked to develop standards around which architects and builders can design their projects. The most

What is LEED?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED provides a roadmap for measuring and documenting success for every building type and phase of a building lifecycle.

United States Green Building Council, www.usgbc.org

prominent of these groups is the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program.

The LEED rating system was originally designed for individual buildings. LEED Certification can be achieved through the use of green techniques applied to new construction or renovations to existing buildings, including historic structures. Over 4,000 buildings have either already been LEED certified, or are registered and going through the certification process in the U.S. Michigan has almost 200 LEED-certified buildings including office buildings, university buildings, churches, nature centers and private residences.

Many green buildings across the country have been completed because the owner was self-motivated, based on the benefits those buildings enjoy. However, **communities can also develop incentives to encourage green buildings** and green site design techniques. Incentives could include property tax credits, tax abatement and tax exemptions, density bonuses, expedited permit review and waiving of permit fees.

In Troy, several notable green buildings have gained regional notoriety. The Kresge Foundation, highlighted on this page, is a model of green development located on Big Beaver Road. **Walsh College** is also adopting a green building philosophy. The College's 15 million dollar expansion at the Troy Campus will seek LEED Certification by choosing recycled or environmentally sensitive material, by incorporating rain water harvesting for irrigation and other uses, and the use of design techniques to capitalize on solar energy for heating.

Troy is also home to the first previously existing building in Michigan to earn LEED Certification. **LaSalle Bank's Midwest Headquarters** in Troy earned gold status due to its use of many environmentally-friendly technologies. The LaSalle Headquarters has the second largest green roof in Michigan, over 53,000 square feet in area. The building also uses heat generated from the computer servers to warm the building, heat water, and melt snow. Other features include the use of underground well to provide water to the decorative fountain, whose wastewater is used to irrigate the landscaping and pull heat from the building during hotter periods.

In addition to LEED, the National Association of Homebuilders have developed their own, voluntary certification program for residential construction, which the Michigan Association

Kresge Foundation

In 2006, the Kresge Foundation completed renovations to its headquarters in Troy, which included the addition of a new 19,500 square foot structure and a series of environmentally friendly site improvements. The project also restored 19th century farm buildings on the 3 acre site. The use of green roof materials, geothermal wells, and recycled materials help the facility function efficiently. The Kresge Foundation also provides challenge grants to other non-profits that adopt green building principles.

KRESGE FOUNDATION HEADQUARTERS
Source: www.worldarchitecturenews.com

LEED Across Michigan

Michigan is a national leader in the area of green building. As of spring, 2007, there are 192 LEED projects under development in the State, and 36 which have actually received LEED certification. West Michigan is especially successful in its encouragement of green building. In fact, the City of Grand Rapids has been recognized by the U.S. Green Building Council as a national award-winner in green building. Grand Rapids has more square footage per capita of LEED certified buildings than any other city in the United States. The City itself has lead the way with the development of its own new LEED certified Water and Environmental Services Facility, which uses 23 percent less gas and 35 percent less water than similar buildings of its use and size.

Private industry in Grand Rapids has also taken the green building initiative seriously. Steelcase and Herman Miller have voluntarily followed environmentally safe procedures for manufacture of furniture and Crystal Flash, a gasoline station chain, has begun offering biodiesel on a more widespread scale.

These and other Michigan companies, including large corporations like Ford, have begun to realize the benefits to green building in more ways that one. Not only do these companies realize actual savings in terms of building maintenance and energy use, but they also contribute to their public image by encouraging environmental stewardship.

Michigan Business Report; Michigan Economic Development Corporation, Volume 5, Issue 2, 2007

of Homebuilders have adopted as part of their program known as GreenBuilt. **GreenBuilt is a program intended to allow Michigan homebuilders to create more sustainable home developments that are energy efficient and more respectful of natural resources**. The GreenBuilt program requires that all members who elect to secure GreenBuilt status attend a 3-hour Green Built training session. GreenBuilt also provides professional assistance to members.[8]

In Troy, the Cedar Pines of Troy project is the only entirely GreenBuilt project in southeast Michigan. This project includes homes that are designed to use 52 percent less electricity, 54 percent less natural gas, and 46 percent less water. The development also features homes with dual flush toilets, rain water harvesting, low flow faucets, renewable flooring materials, no VOC Paints, trim made from sustainable forests and plantations, high efficiency dual stage furnaces, high efficiency water heaters, and photovoltaic solar cells.[9]

Other green development techniques are reflected in projects such as Caswell Town Center, which incorporated innovative stormwater management techniques.

Urban Form and Neighborhood Design

Neighborhoods can be designed to reduce energy consumption by providing opportunities for shorter vehicle trips and the use of alternative forms of transportation. Some techniques include the locating of residential units near neighborhood shops and existing utilities, the provision of bicycle and transit facilities, and proximity to schools and parks.

8. www.greenbuiltmichigan.org
9. Wake-Pratt Construction Company

The U.S. Green Building Council is piloting a program for energy-efficient neighborhoods. The LEED Neighborhood Development Pilot Program includes many site design techniques that preserve natural features, habitat and open space, such as:[10]

- Limit parking to encourage people to use alternative methods of transportation, like walking or bicycling.
- Promote local food production to minimize the impacts of transporting food long distances. Farmer's markets allow such goods to be sold locally.
- Use energy saving technology for infrastructure needs such as street lights, water and waste water pumps.
- Capture and use stormwater runoff and use in place of potable water for irrigation and toilet flushing.
- Use recycled concrete and asphalt for roadways and parking lots.

Community Energy Planning

In light of rising energy prices, many communities are looking for ways to reduce their energy consumption and their carbon footprint. **New ideas like community energy planning are emerging to identify ways communities can reduce the amount of energy they use.** Community energy planning also encourages communities to closely analyze transportation and land use planning in light of energy efficiency and consumption.

10. Pilot Version, LEED for Neighborhood Development Rating System, U.S. Green Building Council

Lawrence Technological University Solar Decathlon House

The Solar Decathlon house, located adjacent the Troy Community Center, is an energy-positive house designed and built by a team of students and faculty from Lawrence Technological University with help of volunteers from the Michigan Regional Council of Carpenters and Millrights in 2007. The house uses a variety of advanced energy conservation features to showcase potential "green" housing options.

The Solar Decathlon, held in Washington, D.C., was an event which included a competition between more than 20 schools that contributed a solar-powered structure to a "solar village,' which was set up on the National Mall.

The Troy Chamber of Commerce purchased the home and donated it to the City to maintain as a showcase for environmentally-friendly development.

Troy should consider developing a Comprehensive Energy Plan (CEP), developed as a separate document, focused on energy efficiency and how the City can reach energy goals. Unique features of a CEP include creating an energy profile by identifying where the community's energy comes from, how much it costs, and how it affects the local and global environment. Involvement of local energy and water utilities in the plan development process is also important, since they may be involved in the implementation of the plan. Elements that could be explored in a CEP could include:

- Land Use Planning and Transportation; to develop compact complete land use patterns where a variety of uses are mixed to increase alternatives to automobile travel. Strategies include contiguous development patterns, parking plans, street design and traffic rules, trip reduction measures, and stakeholder participation.

- Site Planning and Building Design; to increase the use of design to improve energy performance. Strategies include building and appliance efficiency, solar orientation of buildings, landscaping, wind shielding and shading, pedestrian facilities and orientation, and transit facilities and orientation.
- Infrastructure Efficiency; to increase the use of energy-efficient infrastructure, and to increase the production of energy from regional or municipal facilities. Areas where the City can analyze energy efficiency are water supply and use, wastewater collection and storm drainage, recycling programs, heat and power recovery, and joint infrastructure planning and delivery.
- Alternative Energy Supply; to increase local and high efficiency energy supply options. Strategies include waste heat utilization, heat pumps, co-generation of heat and power, wood-waste systems, solar technologies, and alternative fuels.[11]

City Demonstration Projects

Many of the ideas presented in this chapter for environmental preservation and energy efficiency are long-term techniques. However, there are many initiatives the City can accomplish relatively quickly to communicate its commitment to the environment. These "next steps" will engage citizens and inspire community members to think about the environmental issues Troy is facing.

Hands-On Projects

One way to foster a bond between residents and a particular natural feature, such as a wetland or stream, is to get them involved in a hands-on restoration or clean-up project on City-owned properties. **Once people have been introduced to the plants in the ecosystem, and the function that those plants play, they have a greater understanding and appreciation for that place.** Hands-on projects give residents a chance to learn about the ecosystems in the City. Once the project is complete, interpretive signage should be installed to describe the "why," "what" and "who" of the project.

The City currently has such a program in **River Day**, a volunteer-driven annual project focused

Waste Wise

WasteWise is a free, voluntary, EPA program through which organizations eliminate costly municipal solid waste and select industrial wastes, benefiting their bottom line and the environment. WasteWise is a flexible program that allows partners to design their own waste reduction programs tailored to their needs.

All organizations within the United States may join the program. Large and small businesses from any industry sector are welcome to participate. Institutions, such as hospitals and universities, non-profits, and other organizations, as well as state, local, and tribal governments, are also eligible to participate in WasteWise.

Waste reduction makes good business sense because it can save your organization money through reduced purchasing and waste disposal costs. WasteWise provides free technical assistance to help you develop, implement, and measure your waste reduction activities. WasteWise offers publicity to organizations that are successful in reducing waste through EPA publications, case studies, and national and regional events. These events also provide networking opportunities for organizations to share waste reduction ideas and success stories.

http://www.epa.gov/wastewise/about/overview.htm

11. http://www.wcel.org/issues/urban/sbg/Part1/integratedplanning/CEP.htm

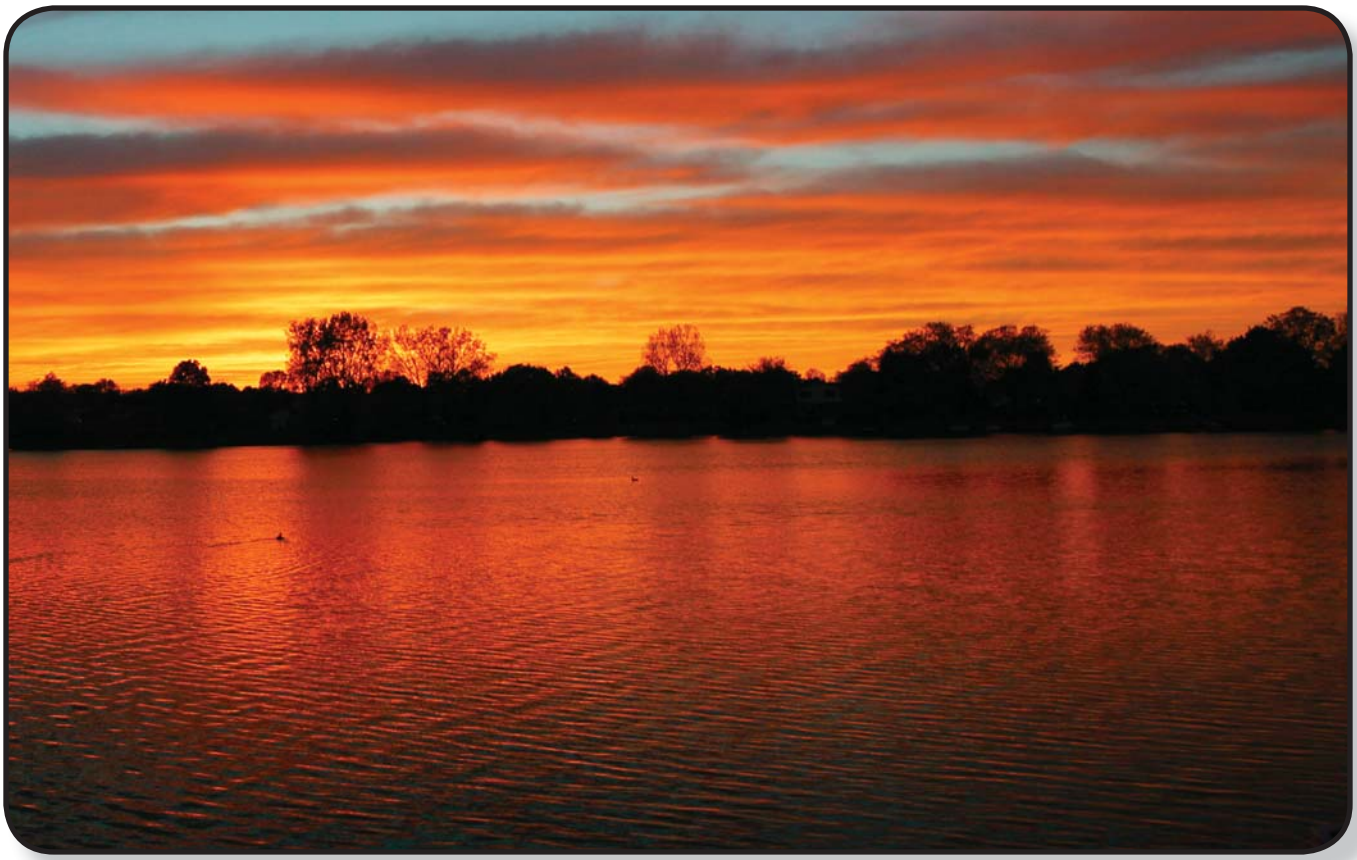
on environmental cleanup projects. In 2007, along a tributary to the Clinton River, over 70 volunteers dedicated over 400 total volunteer hours to stabilize 300 feet of streambank by creating new wildflower beds and planting native species.

Maintenance of Parks and Recreation Facilities

Another relatively short-term effort is to ensure that the City staff maintain parks and natural areas in an environmentally friendly way. New alternatives for maintaining turf, ball fields, roadways and other elements of City parks are now available. Better practices ensure that facility maintenance does not negatively impact adjacent wetlands or other natural features. A regular evaluation of how City activities are done should be considered in light of natural feature preservation objectives. If practices do change, interpretive signage can be used to inform the public of changes to a park's visual appearance.

Planting Trees

Climate change and stormwater management are two important environmental topics. One common thread between these two is the impact trees have on each. Trees sequester a large amount of carbon, a greenhouse gas. For example, a 2.5 acre Oak woodland can sequester about 3 tons of carbon in one year. Trees also intercept and absorb a large amount of stormwater. A typical woodland can absorb 20,000 gallons of rain in one hour through holding water on its leaves and trunk, absorption into the tree, and absorption into the deep leaf litter on the woodland floor. The City can lead community planting programs and encourage additional trees with incentive techniques in the Zoning Ordinance.



Planting trees can be an annual community event that is also relatively inexpensive. The City is now working with the Alliance of Rouge Communities (ARC) to conduct a City-wide tree canopy survey using City Green software to quantify and evaluate the City's urban forest.

Waste Reduction

While the City has an extensive recycling program for its residents, the City could also institute a waste reduction program for its own operations. Waste reduction makes good business sense because it saves money through reduced purchasing and waste disposal costs. The US Environmental Protection Agency has a program called "WasteWise" that provides free technical assistance to help develop, implement, and measure waste reduction activities.

Adaptive Reuse

The City should also continue to identify opportunities for adaptive reuse of obsolete properties within its own facilities network. A good example of City-initiated adaptive reuse is the creation of the Sanctuary lakes Golf Course from a former landfill site. This 18-hole golf course is a critically acclaimed asset to the City and makes use of challenging property to create a significant asset for the community.

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What is the role of the City of Troy in the region? What role should the region play in the future of Troy? Are there any other additional thoughts or input with regard to community character or image not reflected in the questions of this Section?

- *A leader and model of an environmentally friendly community.*
- *Preserve as much open and park land as possible.*

Should the City be a model for responsible care of the natural environment?

- *Oh yes! Lead the way! Look at Chicago's efforts! Bring others on board, garden groups, retailers, community organizations.*
- *Yes, we only have a natural environment once. The trees, parks and water resources must be protected. The City of Troy is the steward of the resources in the community.*
- *Yes, but they aren't. They are not "totally" neglected, but many opportunities have arisen over the years where they looked the other way or they have not acted to become more responsible for the natural environment.*
- *Yes. The City needs to promote green growth in new developments and within its own buildings. City owned property does not need to be all developed into parks, it can be just left in its natural state. Encourage and educate about mass transit and walkability.*
- *Yes, we are doing good things but we can always do better. Don't develop every inch because someone can make a profit, do things for the good of the community.*
- *It would be very difficult for a City the size of Troy to be such a model in all its various parts. Responsible stewardship and promotion of sustainable building can be done. Troy needs to keep growing its tax base to maintain its level of services, thus redevelopment is needed and that cannot always be done in an environmentally friendly way.*

Do you feel it is important for the City of Troy to promote the advancement of or mandate the practice of sustainable development, such as, but not limited to, the construction of certified "green buildings" and Low Impact Development techniques for stormwater management?

- *I believe promotion is desired for construction of certified "green buildings." Low Impact Development techniques for stormwater management are a practice that should be mandated. Economics will determine the practical nature of these areas of development.*
- *If it helps our environment and future generations – yes.*
- *Sure, if we can afford it. Who pays?*
- *The City should promote such efforts thru various incentives and demonstration but should not mandate.*

What do you consider to be natural features worth preserving in the City of Troy?

- *Our lakes within neighborhoods, the rivers, park system, Nature Center/Troy Farm, trees and landscaping within our rights-of-way.*
- *The rookery area, wetlands preservation, the parks, and lakes in the City. The streams need to be safe guarded.*

What does the Smart Growth Readiness Assessment Tell Us?

The implementation of Smart Growth principles over time can have a positive and meaningful impact on the preservation of natural features. Compact development, leading to fewer, shorter vehicle trips and a reduction in impervious surface complemented by other benefits of Smart Growth techniques help preserve areas that could have otherwise been threatened by conventional development. Tenet 7, in fact, is directly related to the preservation of natural features, open space, and farmland. A selection of SGRAT questions which relate to natural features preservation directly or indirectly are included here.

Does your community Master Plan establish goals, policies and strategies to preserve forest lands (e.g. exclusive forestry district, purchase of development rights program, quarter-quarter zoning, TDR, etc.).

A. Yes
B. No

Best Answer: A
Troy's Response: B

Does your community have provisions within the Site Plan Review standards of the Zoning Ordinance to identify and protect renewable resource lands such as farmland and forest land?

A. Yes
B. No

Best Answer: A
Troy's Response: B

Are developers implementing projects which contain public open spaces (such as parks or natural areas) that connect to adjacent open spaces and/or preserve sensitive natural features?

A. Yes
B. No

Best Answer: A
Troy's Response: B

In public and private meetings, do community leaders and elected officials:

A. Promote cluster housing development as an approach to preserve open space in the community?
B. Oppose the development of cluster housing development?

Best Answer: A
Troy's Response: A

People: The Changing Face of Housing Demand

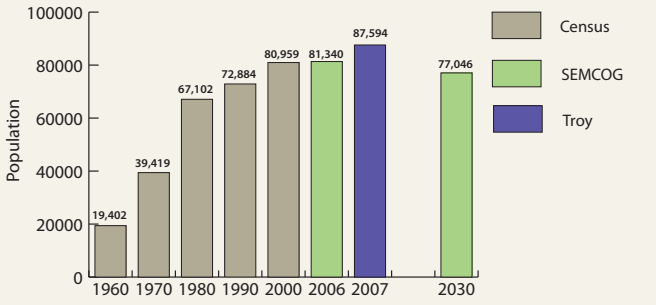
A mix of housing types allows communities to retain existing residents while attracting new residents. The supply of entry level housing and housing which allows aging residents to "age in place" must be proportional to the population of those potential buyers. In the case of Troy, a community seeking to position itself as a leader in the knowledge economy, the most desirable housing to attract the best workforce must exist at a variety of housing values in order to capitalize on other quality of life factors in the City. In other words, **the City must strive to have the right housing for the right workforce at the right time**, all without jeopardizing the previous generation's ability to continue their life in Troy.

This Chapter, therefore, will analyze the changing nature of Troy's population and compare certain local demographic and housing trends to regional and national trends. Household size, the age of the population, and other statistics will be used to make recommendations designed to improve the utility of the City's housing stock to meet the changing demand for housing types of many varieties.

Population and Households: Who are we and who are we becoming?

The population of the City of Troy has steadily increased since the 1960 U.S. Census. As shown in figure 8.1, the current population, according to SEMCOG's September 2006 projections, is 81,340 people. This represents a 12 percent increase over the 1990 Census figure of 72,884. The City of Troy's own projection is 87,594 for 2007.

FIGURE 8.1: CITY OF TROY FUTURE POPULATION
Source: 2000 U.S. Census, SEMCOG, City of Troy



However, SEMCOG predicts that by the year 2030, the City of Troy can expect to have a total population of 77,046, a decrease of 5 percent from the 2000 Census population. As illustrated in figure 8.2, the majority of communities surrounding Troy are also expected to experience population decreases between 2000 and 2030, with the exception of Auburn Hills, Pontiac, Rochester Hills, and Sterling Heights. The communities where growth is expected are located to the north and east of the City of Troy.

FIGURE 8.2: POPULATION TRENDS, TROY & NEARBY COMMUNITIES
Source: 2000 U.S. Census, SEMCOG

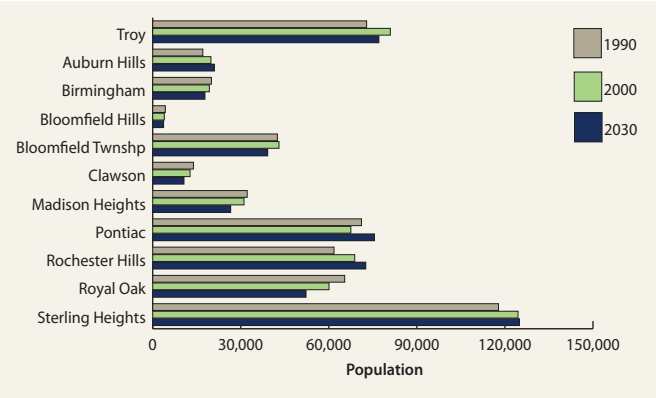
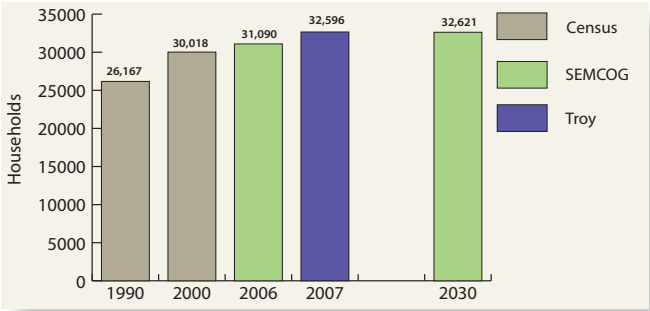


FIGURE 8.3: NUMBER OF HOUSEHOLDS
Source: 2000 U.S. Census, SEMCOG, City of Troy



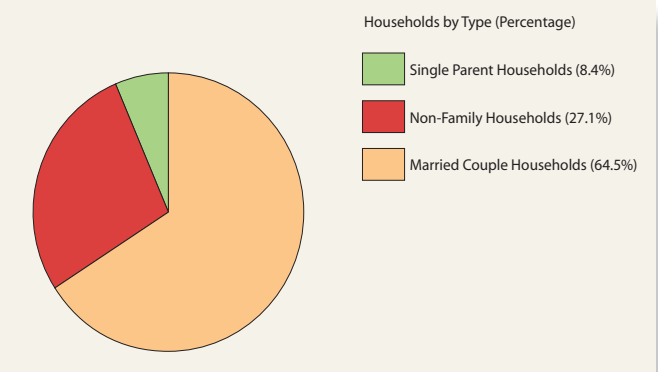
According to 2007 estimates from the City of Troy, the community has 32,596 households. By the year 2030, SEMCOG predicts that the number of households will increase by approximately 9 percent from the 2000 Census (figure 8.3). Current household size in the City of Troy is 2.69 (2000 U.S. Census). But this is changing. A common trend in Southeast Michigan is a higher rate of increase in the number of households than total population growth. Between 1990 and 2000, Troy's total population increased by 11 percent while the number of households rose by 14 percent.

Commensurate with an increased number of households is a decrease in the size of households. By 2030, household size in Troy is projected to be 2.35 persons per household. **Given that fewer people in Troy will be living in each household, the demand for housing may actually increase, even though the population is dropping.** The trend towards an increased number of households with a decline in total population is due to factors such as the increase in single parent households, of empty-nest households, and single seniors living alone.

The following summarized population characteristics, complemented by the population growth projections above, provide critical information to be considered moving forward with regard to housing in the City of Troy:

- *Household Type*: **Over 72 percent of the City's population live in family households**. The percentage of family households is slightly higher than Oakland County's which is 66.9 percent. The remainder of the population is composed of non-family households (figure 8.4). Non-family households consist of a group of unrelated persons or one person living alone.

FIGURE 8.4: HOUSEHOLDS by type
Source: 2000 U.S. Census

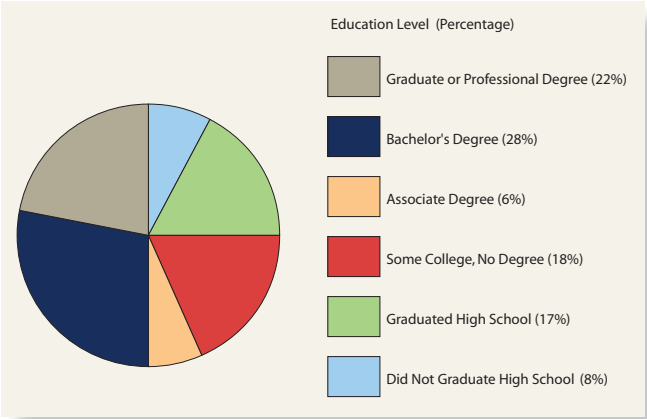


- *Income*: **The City of Troy has experienced an increase in affluence compared to the previous decade**. According to the 2000 Census, the median household income in the City of Troy was $77,538 (1999 dollars), a 4 percent rise from the 1990 median income of $74,251 (1999 dollars). More recent analysis from the U.S. Census Bureau, in its 2005 American Community Survey, indicates that Troy's income continues to rise, and that the 2005 median household income in the City of Troy was $81,111 (in 2005 inflation-adjusted dollars). This well exceeds the most recent Oakland County analysis from the same survey. It indicates that Oakland County's 2005 median income was $64,022 (in 2005 inflation-adjusted dollars)

- *Education*: **The City of Troy has a well-educated population**. As indicated in figure 8.5, almost 75 percent of Troy's residents have some college education. Fifty-six percent of residents have an advanced degree, including

a bachelor's, associate's or graduate/ professional degree. By comparison, only 44.8 percent of Oakland County residents and 28.8 percent of Statewide residents had achieved an advanced degree. Only 8 percent of Troy residents did not graduate high school, similar to Oakland County as a whole, but about half of the Statewide average.

FIGURE 8.5: EDUCATIONAL ACHIEVEMENT OF RESIDENTS OVER 25 YEARS



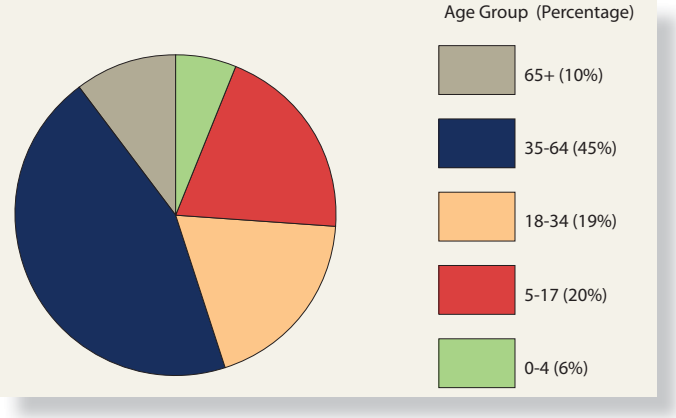
- *Racial Composition*: **The City of Troy's population is diverse with a higher percentage of Asian residents than any other city in Michigan**. According to the 2000 U.S. Census, the racial makeup of the City was 82.30 percent White, 2.09 percent African American, 0.15 percent Native American, 13.25 percent Asian, 0.02 percent Pacific Islander, 0.36 percent from other races, and 1.82 percent from two or more races. 1.46 percent of the population is of Hispanic or Latino origin.

- *Age Composition*: **As it stands now, more than half of the population of the City of Troy is over the age of 35**. As shown in figure 8.6, 45 percent of Troy's residents are between the ages of 35-64. The 5-17 and 18-34 age ranges contain the next highest proportion of residents, with 20 percent and 19 percent respectively. The median age in the City of Troy is 36.7 according to the 2005 American Community Survey produced by the U.S. Census Bureau. All trends remaining the same, a substantial shift is expected in the age distribution by 2030. **As indicated in table 8.1, the age 65 or older age range will increase from 10 percent to 22 percent by the year 2030**.

TABLE 8.1: 2030 AGE FORECAST
Source: 2000 U.S. Census

Age Groups	2000 Census	2030 Forecast
Age 0-4	4,991 (6%)	4,422 (6%)
Age 5-17	16,227 (20%)	13,514 (18%)
Age 18-34	15,225 (19%)	12,639 (16%)
Age 35-64	36,230 (45%)	29,868 (39%)
Age 65+	8,286 (10%)	16,603 (22%)
Total Population	80,959	77,046

FIGURE 8.6: POPULATION DISTRIBUTION BY AGE GROUP (2000)
Source: SEMCOG



Troy Vision 2020 described a future vision of the City as a vibrant, dynamic and prosperous city, which showcases a variety of business and residential areas. One of the suggested actions provided by the Image and Feel Task Force designed to implement that vision was to develop and implement a variety of housing options. Given what we know about the current population, and trends based on historical data, what must the City do to best respond? The next section of this Chapter will explore specific solutions to specific issues facing the City in this regard.

Housing Options in Troy

The most challenging part of long-range planning for housing a changing population involves taking account of the existing housing stock in the City and understanding in what areas it could be augmented to meet the anticipated changes in demand based on population trends and characteristics. **There are several critical themes facing the City with regard to housing.** First, national trends and local projections indicate that the residents of Troy are aging. As people mature, their needs change with regard to housing. Secondly, the City desires to encourage homeownership, and must therefore be concerned with ensuring that high-quality, but affordable housing options are available. Finally, as the City labors to provide modern amenities and foster a globally recognized center for knowledge economy businesses, it must ensure that this workforce finds Troy to be rich with the best housing options in the region.

Housing an Aging Population

The next generation of older adults is one with a new perspective on retirement; one that includes being physically active, staying close to family and friends, moving into a new second career, pursuing education, or accomplishing a lifelong dream. Given the expected shift in the City of Troy's population, this Plan must address how the housing needs of active seniors will be met. It is important to note that population age shifts and the resulting housing demands are largely cyclical, though not necessarily consistent, from cycle to cycle.

The Civic Infrastructure Task Force for Troy Vision 2020 established a vision for Troy where seniors continuously find meaningful ways in which to be involved in and to contribute to the City as they enjoy a great quality of life. A big part of that vision is the provision of adequate housing that meets the needs of an aging population, regardless of their condition or income level.

Where the previous generation of older Americans may have aspired to live in a resort-style destination community, **today's active seniors are staying active longer than ever before.** According to Del Webb, one of America's foremost developers of age-restricted, "active-adult" lifestyle communities, as long as 8 years ago, more than 85 percent of nearly retired respondents to a company study preferred to remain in close proximity to their existing neighborhoods.[1]

To this end, the development community must address a number of outstanding concerns with regard to the safety and security of older adults to empower them to age in place. In addition to diversifying the housing stock, **communities must ensure that new housing opportunities for older adults are designed from the ground up to ensure that the homes being built can evolve with the owner's stage in life**. Given the complications, limitations, and expense in retrofitting existing homes to meet the needs of an aging tenant, many homes no longer remain practical as the homeowner ages.

If considered at the conceptual phase, a new home can not only appeal to both the younger and older populations, it can easily be converted to a structure which provides for the safety and security of an elderly tenant, allowing that tenant to remain in place much longer than could have otherwise been possible.

"**Visitability**" is a first step towards making homes more inclusive, and one which can empower a homeowner to age in place. Coined in the 1980s, the term "visitability" is used to describe a few basic, affordable design options which broaden the equity in housing accessibility without necessarily stressing full accessibility for persons with disabilities, or older adults: These design elements are far more important to the functionality and safety of a home than many

1. Riddle, Lyn (1998), "The Formula for Sun City Moves East and North", The New York Times, 4 January

Visitability Standards

The concept of "visitability" emerged in the 1980s and has been a growing trend nationwide. Some of the states and localities that have already incorporated visitability standards include Naperville, Bollingbrook, and Champagne, Illinois, Atlanta, Vermont, Texas, Kansas, and Arizona. The term refers to single-family housing designed to be lived in or visited by people with disabilities.

(http://www.accessiblesociety.org/topics/housing/visit-

traditional full-accessibility standards, such as lower mirrors and sinks, etc. These features are critical to even permit the entry of a disabled or aging person into the structure. The elements include:

- Each unit must have at least one no-step entrance;
- All doors and hallways wide enough to navigate through with a walker or wheelchair; and,
- There must be a bathroom on the first floor big enough to get into in a wheelchair, and close the door.

In any new development or redevelopment, designers can easily gain a wider market by thinking about access and visitability at the concept phase. The visitability movement argues all new homes should be made visitable, which allows for them to be more easily converted to full-accessibility for an aging resident, and to provide for increased mobility for all persons, and therefore increased social equity. The proponents of visitability argue that if only those homes occupied by disabled or older adults are designed for visitability or full accessibility, that housing suitable for aging in place of older adults will be effectively cut-off from the mainstream public.

For those residents desiring a more structured housing situation or those that need a higher level of care or assistance, a wide variety of housing products are available. Traditional age-restricted multiple-unit senior housing developments continue to thrive in communities across the United States. Assisted living and nursing home care centers, which can provide different levels of care from basic assistance to full dementia care, are also growing.

A newer concept taking hold in the senior housing industry is the "continuous care" facility. These developments provide a series of different independent living and assisted care options in one large campus or, in some cases, one building. Continuous care facilities market themselves as adaptable, safe environments for seniors as they advance in age and require higher levels of care. Many facilities offer detached, independent condominium style housing, multiple-unit independent housing, assisted living, nursing care, and dementia care on one site.

Housing for the Knowledge Economy

In order to capitalize on the quality of life elements this Plan suggests to create a lively and vibrant community, the City must also have the right housing to attract the knowledge economy workforce it desires. As was discussed in Chapter 5, mobility and proximity between civic elements, quality parks, shopping, dining and other amenities is critical, but what is even more critical is the proximity of those elements to innovative new housing.

There is no single housing solution for Troy that will fit the knowledge economy workforce. Like the companies themselves, workers are no longer necessarily tied to commutes or proximity to specific resources. Both companies and workers can locate wherever they wish, regardless of profession, given new access to the global workplace via the internet. As stated earlier in this Plan, therefore, the City of Troy must concentrate its efforts on the quality of life in the City to ensure that, provided choice, new residents choose Troy over anywhere else.

Over 125,000 people work in Troy every day, but only about 8,000 of those people reside in the City. The City must identify ways to capture more new residents from this critical group. Two factors contributing to this phenomenon could be the cost barrier, which will be discussed in the next subsection, and the availability of innovative housing styles. Based on the 2000 U.S. Census, 75 percent of housing units in the City of Troy are owner-occupied units, 22 percent are renter occupied units and the rest are vacant. **The predominant housing type in the City of Troy (73 percent) is a single-family detached home.** Twenty-percent of units are multi-unit apartments with the remaining 7 percent being one-family attached homes or duplexes and townhomes.

Live-Work Units

As jobs and companies evolve for the 21st century, new housing types centered on living and working in the same place are gaining popularity. The City should explore new possibilities to accommodate and encourage live-work units for all types of professions. Some units, designed for full-time, low impact and low traffic uses may coexist with existing residential areas, and some uses that may have limited external impacts, such as increased traffic, noise, etc., may fit in more mixed-use and transitional areas.

FIGURE 8.7: LIBERTY LOFTS, ANN ARBOR
Source: www.libertyloftsannarbor.com

Lofts and Urban Housing Options

Only recently has the City begun to fully embrace more "urban" housing styles, by encouraging their development as part of mixed-use, planned unit development projects. **The City of Troy must recognize the importance of having a variety of housing styles represented within the community, and describes how having these units will help Troy become a more vibrant place.** While not all knowledge-economy workers and their families are seeking urban lifestyles, this is an area where Troy has room to grow.

An excellent example of a contemporary housing type not widely available in southeast Michigan is the "loft." Loft projects, like Liberty Lofts in Ann Arbor (figure 8.7), are characterized by large, open floor plan units designed to allow the homeowner room to design and use the space tailored to their individual needs. Originally, loft projects were found almost exclusively in instances where former non-residential structures in urban areas had been retrofitted for residential use. This is not a new idea, but the adaptation of this concept into new development is an emerging trend. The Liberty Lofts project, for instance, offers different floor plans in a unique building near the center of Ann Arbor. It is part of a unique neighborhood and is close to many amenities. Liberty Lofts includes both the renovation of an older building and new construction.

Troy has an opportunity to integrate new, open floor plan housing situated amidst the most vibrant parts of the City. Mixed use projects with an urban housing component should be encouraged, especially in those areas where it will complement the goals of other City initiatives, such as the Big Beaver Corridor Study.

Housing for First Time Homebuyers

While most people characterized as part of knowledge economy workforce benefit from rising incomes and a great deal of investment mobility, not all members of this valuable demographic have the means to buy into new housing. **Many members of this workforce will be first time homebuyers**.

According to the 2004-2005 Community Profiles compiled by the Oakland County Department of Planning and Economic Development, housing costs in the City of Troy have risen in recent years. The average housing cost in 1999 was $215,062, compared to $253,889 in 2001 and 270,745 in 2003. The City of Troy Assessor reports that the 2006 average sale price was $332,076, a significant increase.

The increase in housing costs is attributable to new construction, the increased popularity of the City of Troy as a residential and business setting within the metropolitan Detroit community and general rises in housing costs within southeast Michigan.

With new white-collar business also comes a need for additional service industry businesses, which require a high-quality workforce themselves. **Many members of the service workforce are priced out of communities they work in, and must commute into places like Troy.** In order to meet the challenges established by Troy Vision 2020, the City must continue to encourage sustainable practices, as the provision of high-quality entry level housing contributes to creating a sustainable City. Not only does excellent, affordable housing allow service workers and first time homebuyers to make a long term commitment to the City of Troy, it

contributes to the diversity and vibrancy of the community as a whole, and reduces dependence on transportation for the import and export of workers every day while keeping more of the spending dollars of these potential residents in the Troy economy.

High quality entry level housing does not necessarily mean subsidized or public housing. Housing becomes affordable when supply and demand for different housing types are balanced. For instance, if a majority of housing units in a community are small lot, small square footage, older homes, the few large, new homes with property may be all the more desirable, and vice versa. Conversely, if a community is exclusively single family detached homes and the only attached units are downtown luxury condominiums with 2,000 or more square feet, entry-level housing becomes scarce and the market for it becomes competitive.

In order to combat this in Troy, the City must encourage a variety of housing types to allow for a balanced housing stock. Smaller units for sale in newer developments allow for new homebuyers to invest in the City without a high cost barrier for entry.

Survey Responses

A primary source from which many of the ideas in this Plan have been derived is the supplemental survey given to SGRAT Workshop participants, City department heads, and the Planning Commission. The following are a selection of questions and responses which helped inform this Chapter.

What steps would you take to make Troy a more vibrant and engaging place to live and work?

- *We need to start redeveloping our community to fit into the requirements of a global economy. The ways in which we lived in 1957 is not how we live today or will live in 2020. Areas where we can redevelop should be mixed use of housing, retail and business. They should incorporate the latest technology and be green.*

What new and innovative approaches should be encouraged in the City of Troy to provide a better housing stock for the aging population?

- *Facilitate loans for home repair and improvement to keep aging populations in their older homes and to prevent blight. Keep housing affordable. Canvas the aging population to determine what they are looking for and what they would buy*
- *Allow some more assisted – living facilities/nursing homes. More single story condos.*
- *Mixed use developments with independent and assisted living components, with barrier free walkability.*
- *High end options are needed. Currently there is no where in Troy to appeal to seniors selling their $400,00+ houses. Multi family units on city golf course? Seniors want activities.*
- *Smaller single family homes on one floor.*
- *Variety of housing stock. Site condo that look like ranch style homes, condos, assisted living, nursing care. Location needs to provide proximity to shopping, health care, transportation, necessary services and recreation.*
- *Keep prices reasonable! Many are so expensive only the really well to do can afford to stay in Troy. Ask all the seniors what they want, you may be surprised.*
- *The City should encourage any type of residential use that will attract economically desirable residents. The current interest in mixed uses should be encouraged as well as all new future types that will attract solid citizens*

Is the available housing stock in Troy sufficient to serve the City's needs?

- *No, fewer children and many older residents wanting to stay without upkeep require creative building ideas and economy and green spaces.*
- *We don't have residential units that also serve as business. Troy's ordinances work against having both a residence and a business in the same building. Changes should be made to allow for that. Some residential areas could serve in that function and zoning (a new zoning class) should be made.*
- *Number of units is sufficient, but more condos should be available for those not choosing to cut grass and shovel snow.*

Do you have any additional thoughts or input with regard to housing?

- *Starter homes. Young families with lower income don't have much opportunity to buy in Troy.*
- *We need a development of mixed use housing for seniors that included individual small residents, assisted living, senior apartments, nursing home so that a person can remain at one development. Incorporate recreation, transportation and other amenities for seniors.*
- *We need more affordable housing for younger population. Not everyone can afford million dollar homes. Get them young and keep them to move up.*

What does the Smart Growth Readiness Assessment Tell Us?

The SGRAT includes a section dedicated to Tenet 1: "Create a range of housing opportunities and choices." The results of this portion of the analysis in Troy revealed that while Troy has made some steps towards smart growth as it relates to affordability of a wide variety of housing types, it has room for improvement. For instance, while the City has funded training for City staff for housing affordability programs, it has not actively promoted housing affordability. Further, while there are a variety of housing types in the City that may allow for an array of people to become homeowners, the City has not proactively pursued funding assistance or renovation assistance for the lowest ends of the economic spectrum. Specific questions contributing to these results include:

Are homes or apartments readily available in your community that people of all income levels can buy or rent (from service industry workers, to teachers, police and small business owners, to the elderly, young marrieds, professionals and executives)?

A. Yes
B. No

Best Answer: A
Troy's Response: A

Do community leaders and elected officials actively promote a wide range of housing types to meet the full spectrum of household incomes and preferences?

A. Yes
B. No

Best Answer: A
Troy's Response: B

Do many of the people who work in your community live in another community because they cannot afford housing in your community?

A. Yes, most workers, especially those earning low/moderate incomes, live outside the community.
B. No, most of the people who work in our community, including low to moderate income workers, live in our community.

Best Answer: B
Troy's Response: A

Does the Zoning Ordinance provide for areas zoned multi-family residential or for mobile home parks that are close to job centers and transit or other access opportunities? In order to answer yes, areas must be zoned and not fully developed in order to count.

A. Yes
B. No

Best Answer: A
Troy's Response: B

Land Patterns: City Design and Image

Future Land Use Categories

Single Family Residential	91
Neighborhood Nodes	93
High Density Residential	99
Big Beaver Road	101
Rochester Road	103
Maple Road	105
South John R Road	107
Northfield	109
Smart Zone	111
Automall	113
Transit Center	115
21st Century Industry	117
Recreation and Open Space	119
Public and Quasi-Public	119

The term "Future Land Use" brings to mind a prescription for isolated, parcel-by-parcel land use classifications that permit the development of a very limited number of land uses. This model tends to perpetuate the separation of land uses, even when it is not always the best option. This type of traditional land use planning was brought about in an age when zoning was in its infancy and land was readily available. There was less concern about the conservation of natural resources, and economic factors took precedence. While frequently effective, this kind of planning has had unintended consequences.

As cities and regions have grown over the years, traditional land use plans have fostered sprawl in Southeast Michigan and impeded compact communities served by close proximity to jobs, schools, and community services. At risk has been quality of life, an area which is critical to remaining competitive in the 21st Century, as discussed in detail in many Chapters of this Plan.

Today, Troy and many other communities have begun looking for new ways to improve quality of life by creating vibrant, mixed-use areas where jobs, great schools, opportunities for social interaction, excellent services and shopping, and high-quality neighborhoods exist in close proximity. Techniques such as Planned Unit Development (PUD) have been developed for just this reason. PUDs demonstrate that different land uses are compatible and supportive of each another.

As a result, this Future Land Use Plan will expand on the concept of "villaging" established by Troy Vision 2020, and translate that concept into policies that manifest themselves on the Future Land Use Map. It will introduce the concept of the "Social Neighborhood" and describe how it is intended to interact with the "Economic Neighborhood." It will describe the character and role of places like the Big Beaver Corridor and Oakland Mall, an alternative way to think about Maple and Rochester Roads, and the industrial areas of the City.

There are many traditional land use elements that should be maintained in Troy. Adherence to conventional approaches in all areas of the community will not allow the City to realize its vision.

A shortfall of traditional land use planning is the primary focus on land use, and the lack of attention toward physical form. The Troy Master Plan will incorporate city design and image as primary areas of focus. This Chapter will establish future land use categories on which the Plan is based, and define the urban design characteristics of established categories.

Land Use and City Design

The Troy Future Land Use Map does not allocate specific uses on a parcel-by-parcel basis, but **represents a graphic illustration of the overall policies of this Plan, and describes the intended character of the various areas of the City**. The primary categories will be supported by urban design guidelines and, in certain cases, sub-area plans which provide additional detail with regard to the intended styles and patterns of development.

The Future Land Use Plan of the City of Troy will be implemented through a variety of techniques. The most significant of these tools is the application of Zoning Classifications consistent with the Plan. It is important to note, however, that the Future Land Use Map is a long-range guide, and is not a "Zoning Map" intended to indicate the geographic extent of all land use classifications or to enable all indicated uses to occur immediately. The Future Land Use Map is included on the following page.

Neighborhoods are vital components of the City. **Historically, neighborhoods provide societal, educational, recreational and economic needs within a half-mile walking distance.** The Vision 2020 strategy establishes the idea of fostering "villages" within the City. Residents want to enjoy a personal sense of place which is best found at the neighborhood scale. **For Troy, the ingredients are in place for classic walkable neighborhoods.** Major thoroughfares delineate square mile grid patterns. Elementary and Middle Schools are centrally located within many of the neighborhoods. The corners of most neighborhoods are developed with convenience retail and service businesses.

The Master Plan recognizes that current lifestyles warrant modifying the walkable neighborhood concept. Not every person will walk a half-mile to get to a store or school. Most people will walk five minutes, or about one quarter of a mile. Typical comparison shopping for clothing, hardware and the like are measured by service radii related to drive times which

Elements of Great Streets and Neighborhoods

Great Streets

- *Accommodate many users with various modes of transportation.*
- *Connect smoothly with the rest of the street network.*
- *Encourage social interaction.*
- *Allow for safe and pleasant pedestrian activity.*
- *Have a unique sense of public space created through physical elements.*
- *Consider the scale and architecture of surrounding building infrastructure.*
- *Benefits from community involvement.*
- *Reflect the culture or history of the community.*
- *Complement the visual qualities of the community.*
- *Utilize green and sustainable practices.*

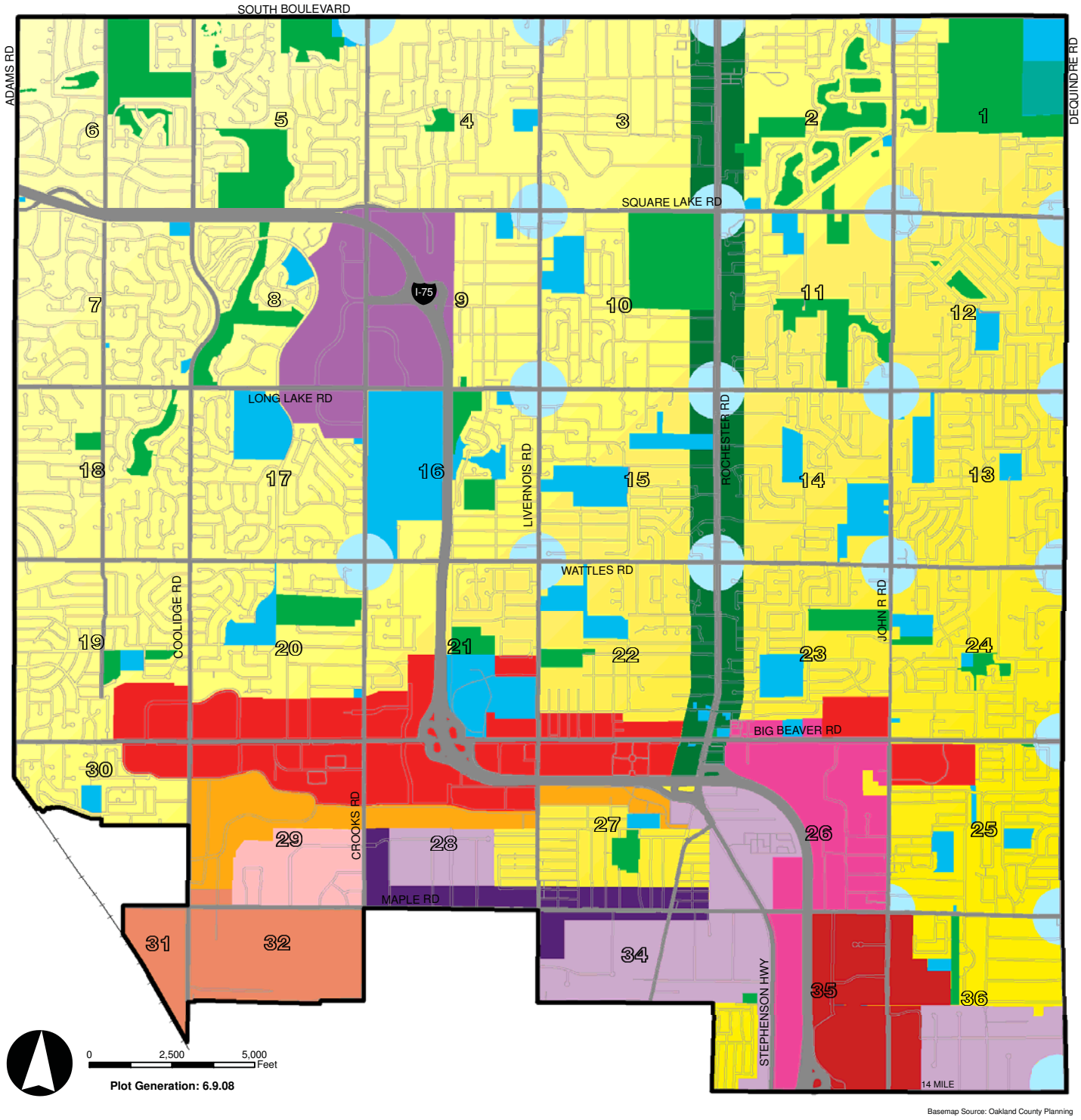
Great Neighborhoods

- *Consider the scale and architecture of the building infrastructure.*
- *Foster social interaction.*
- *Enable multiple modes of transportation safely and efficiently.*
- *Are safe.*
- *Are good stewards of the natural environment.*
- *Reflect the community's character and have unique characteristics that provide a sense of place.*
- *Retain the community's history.*
- *Promote and protect air quality and stewardship of natural resources.*
- *Protect or enhance the local environment and biodiversity.*

Great Streets and Neighborhoods:

- *Implement LEED standards in construction and neighborhood design.*
- *Have planted street trees.*
- *Reuse materials when possible.*
- *Make recycling convenient.*
- *Facilitate non-motorized and/or public transportation.*

Planning and Zoning News, October 2007

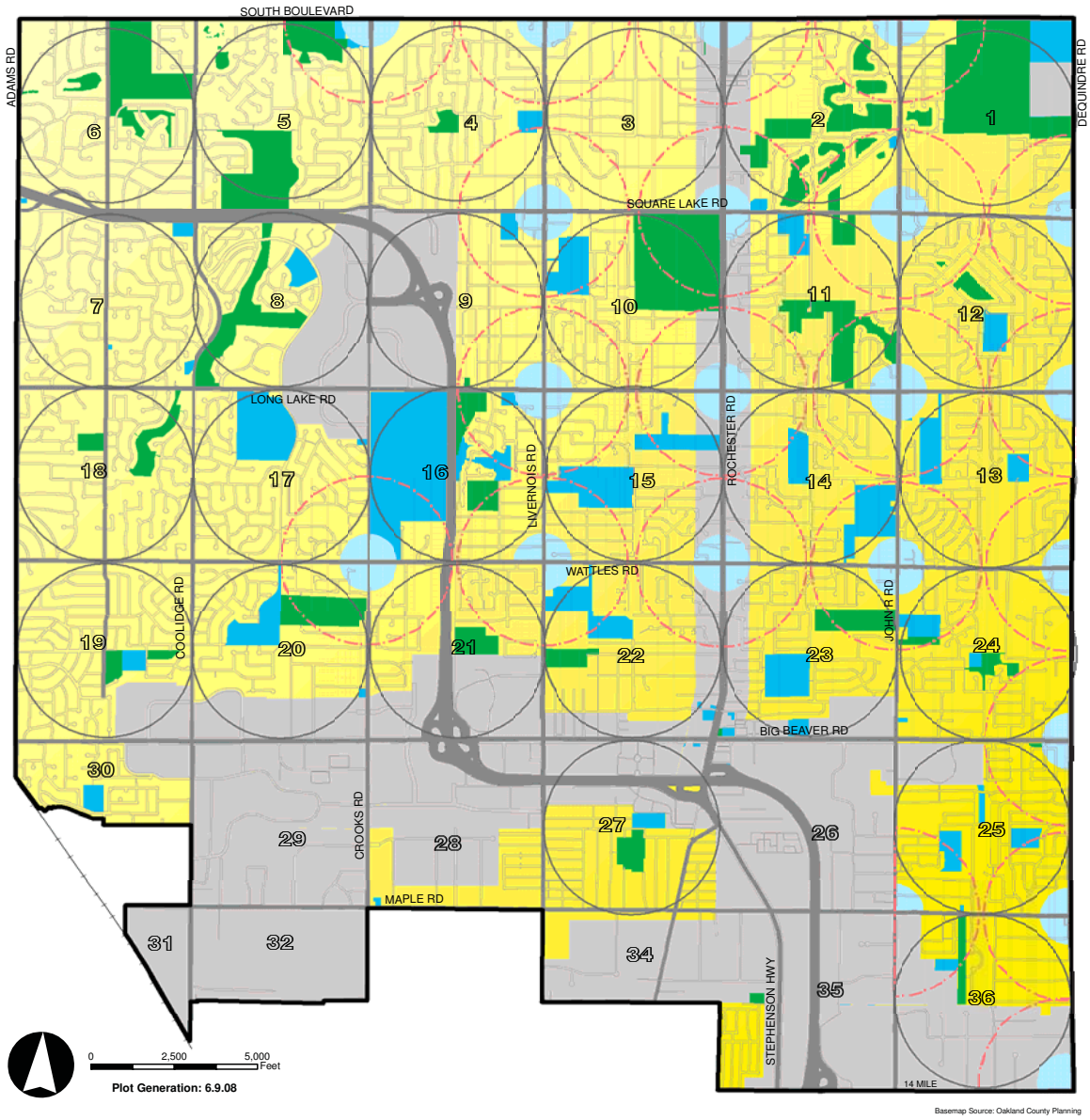


Future Land Use

- Single Family Residential
- High Density Residential
- Neighborhood Nodes
- South John R. Road
- Big Beaver Road
- Rochester Road
- Maple Road
- Northfield
- The Smart Zone
- Automall
- The Transit Center
- 21st Century Industrial
- Public and Quasi-Public
- Recreation and Open Space
- 15 Section Number

are not realistically walkable. Furthermore, Michigan has cold winters that limit year-round walkability. Troy's neighborhoods, now and in the foreseeable future, will serve its residents in two roles: the Social Neighborhood and the Economic Neighborhood.

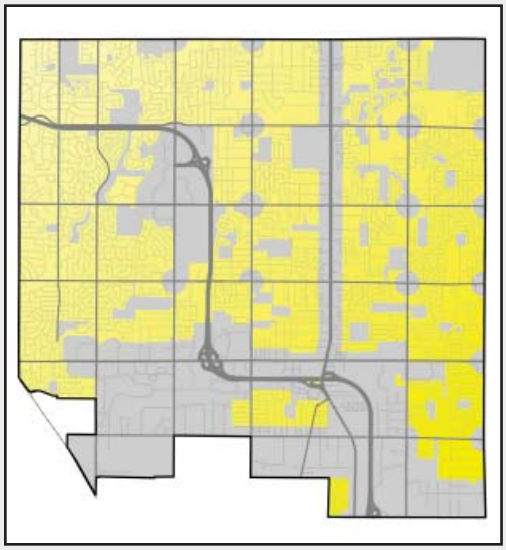
The Social and Economic Neighborhoods of the City are shown on this Neighborhoods Map. The circles surrounding the Neighborhood Nodes and the circles within the Social Neighborhoods are meant to demonstrate a rough service area for each neighborhood. While not necessarily precise, the circles are meant to demonstrate the basic relationship between the Social Neighborhood and the Economic Neighborhood. The circles are not meant to establish a formal land use category or policy in and of themselves, but rather to validate the planned uses at and around the Economic Nodes.



Neighborhoods

- Social Neighborhood
- Single Family Residential: The Social Neighborhood
- Economic Neighborhood
- Neighborhood Nodes: The Economic Neighborhood
- Recreation and Open Space: Extraordinary Amenities
- Public and Quasi-Public: The Foundation of Troy's Neighborhoods
- All Other Uses
- 15 Section Number

Single-Family Residential: The Social Neighborhood



- *Social units of the City.*
- *Walkable, safe places to live.*
- *Centered on schools or other community facilities.*
- *Linked with nearby services.*

The predominant land use in the City of Troy is single family residential. **This category is intended to preserve the existing quality residential neighborhoods of the City while recognizing the need for other uses that support the main function of residential areas.** The single family areas of the City are arranged around Social Neighborhoods. Social Neighborhoods are unique, self-contained areas bounded by Troy's main thoroughfares. They are mostly single-family areas centered on community elements like schools or parks. Social Neighborhoods are described in more depth at the end of this Chapter, and are illustrated by the solid circles shown on the Neighborhoods Map.

In the Single Family Residential areas of the City, non-residential uses will be considered only when the use is clearly incidental to and ancillary to single-family residential, or when the use is a park, school, or other community-oriented public or quasi-public use.

The Social Neighborhoods of the City are bounded by the mile square grid pattern of Troy's thoroughfares. These defined areas can provide the sense of place that Vision 2020 and this Master Plan are striving for. **In most cases, they have a school as central focus.** Schools continue to be a means of stimulating social interaction on many fronts; children establish their first friendships, parents meet other local parents, schools often host public events. Furthermore, the play areas at school provide readily accessible recreation opportunities. Many Social Neighborhoods in Troy have sidewalks promoting accessibility and exercise, and Troy schools have walking paths that are open to the public.

The ideal Social Neighborhood will exemplify the safer, more enjoyable walking environments envisioned by the "Safe Routes to School" program.

DESIGN CONCEPT

- Neighborhoods are approximately 15 minutes walking from end-to-end.
- A wide variety of residential architecture characterizes the various neighborhoods of the City. Non-residential architecture for schools and places of worship complement the residential setting.

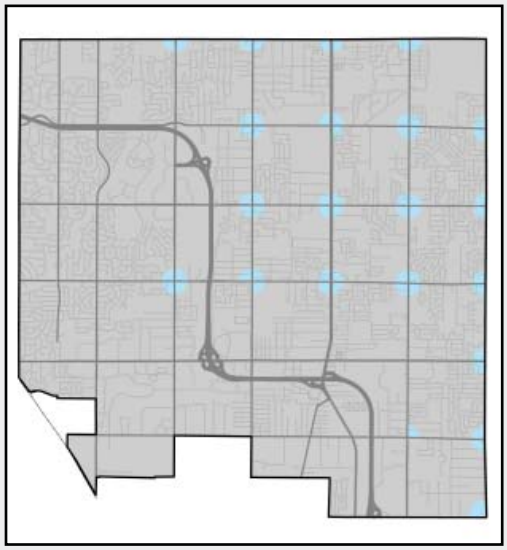
BUILDING LOCATION

- Homes must be located in relation to the street in a manner that complements surrounding, established homes.

SITE DESIGN ATTRIBUTES

- Walks which link residences to destinations such as schools, libraries, abutting neighborhood commercial service areas, coffee shops, and other neighborhoods are critical.
- The neighborhoods must include improved perimeter walks that are functional and aesthetically pleasing. These exterior walks will directly connect to the activity nodes at major intersections and adjacent neighborhoods. Wide walks will be constructed which will incorporate landscaping and innovative stormwater detention areas. These areas will be artistically developed, but functional landforms that carry visual interest. The perimeter walks have the ability to bring residents of adjacent neighborhoods together.
- Neighborhoods should be connected to one another to increase the area where residents can readily navigate on foot and expand the boundaries of social interaction. Crosswalks near the mid-mile areas of each grid will improve outside linkages.
- Lighting will not encroach on adjacent properties, and will be used carefully to provide safety and security, and for accent illumination.

Neighborhood Nodes: The Economic Neighborhood



- *Located at intersections of the City's main roads.*
- *Work together with Social Neighborhoods to create a more livable community.*
- *Mixed use.*
- *Provide neighborhood gathering places.*
- *Accommodate the daily needs of residents.*

Neighborhood Nodes are the concentrated, commercial and mixed-use centers situated at major intersections of Troy thoroughfares that serve as the center of the City's Economic Neighborhoods. The nodes are specifically identified on pages 95 and 96. Economic Neighborhoods are destinations created as "go to" places that take on a social role, serving both as a place to meet basic needs of the community and as 21st century village centers. The attributes of Economic Neighborhoods are described in more detail in the final section of this Chapter, and the urban design characteristics of Neighborhood Nodes will be described in depth in Chapter 10. The nodes will typically permit a mix of commercial, office, and high-density residential, although the predominant uses in any Neighborhood Node development must be in keeping with the node characteristics described on pages 95 and 96. Industrial uses and single-family residential will not be permitted in the Neighborhood Nodes.

The Economic Neighborhoods of Troy also center on the square mile grid system. Unlike the social neighborhood, the **Economic Neighborhoods are centered on major road intersections where commercial and office development occurs.** When destinations are created, these nodes become a "go to" place and take on a social role. Each of these nodes serves four quadrants of the overlapping social neighborhoods and has the ability to bring residents of four neighborhoods together.

These Economic Neighborhood nodes are destinations that draw people, visually distinguished from the balance of corridor strips through greater density and scale. Variation in building height will often be used to separate the node from the surrounding area, but will not be so extreme as to visually overpower abutting neighborhoods. The separation of building heights at intersections with the "between" segments of corridors stimulates the visual concept of "pulsing" development and sets up a system of visual anchors.

Moderately dense residential environments may be encouraged within some nodes to provide steady activity for longer periods of the day. In these cases, residences may be mixed with offices on upper floors or be developed immediately adjacent to the commercial areas. Connections between the commercial activity and residences must be directly and seamlessly integrated.

During the course of the planning process, the Planning Commission closely analyzed the need for additional neighborhood nodes throughout the City. The City will continue to consider the demand for additional nodes as part of subsequent plan revisions.

DESIGN CONCEPT

- These nodes are within a fifteen minute walking distance of residential neighborhoods to permit alternative modes of transportation.
- Development will be denser and taller than the surrounding area, encouraging visual prominence to signal a gathering space.
- Nodes should be generally confined to a 1,000 foot radius from a major intersection.
- The nodes provide uses and spaces that attract and welcome neighborhood residents.

SITE DESIGN ATTRIBUTES

- Buildings should be separated from the right-of-way line by a landscaped greenbelt, one lane of off-street parking or a pedestrian walk, or a combination of these.
- Primary parking areas will be located within rear or interior side yards.
- Off-street parking should be screened from the public right-of-way by a knee wall or low decorative fence with a hedge of plantings.
- Walks will connect adjacent developments and the public sidewalks.
- Well-defined crosswalks with timed signalization will permit safe crossings.
- Flexible use of space allowing modest outdoor gathering spaces, such as plazas, will be encouraged.

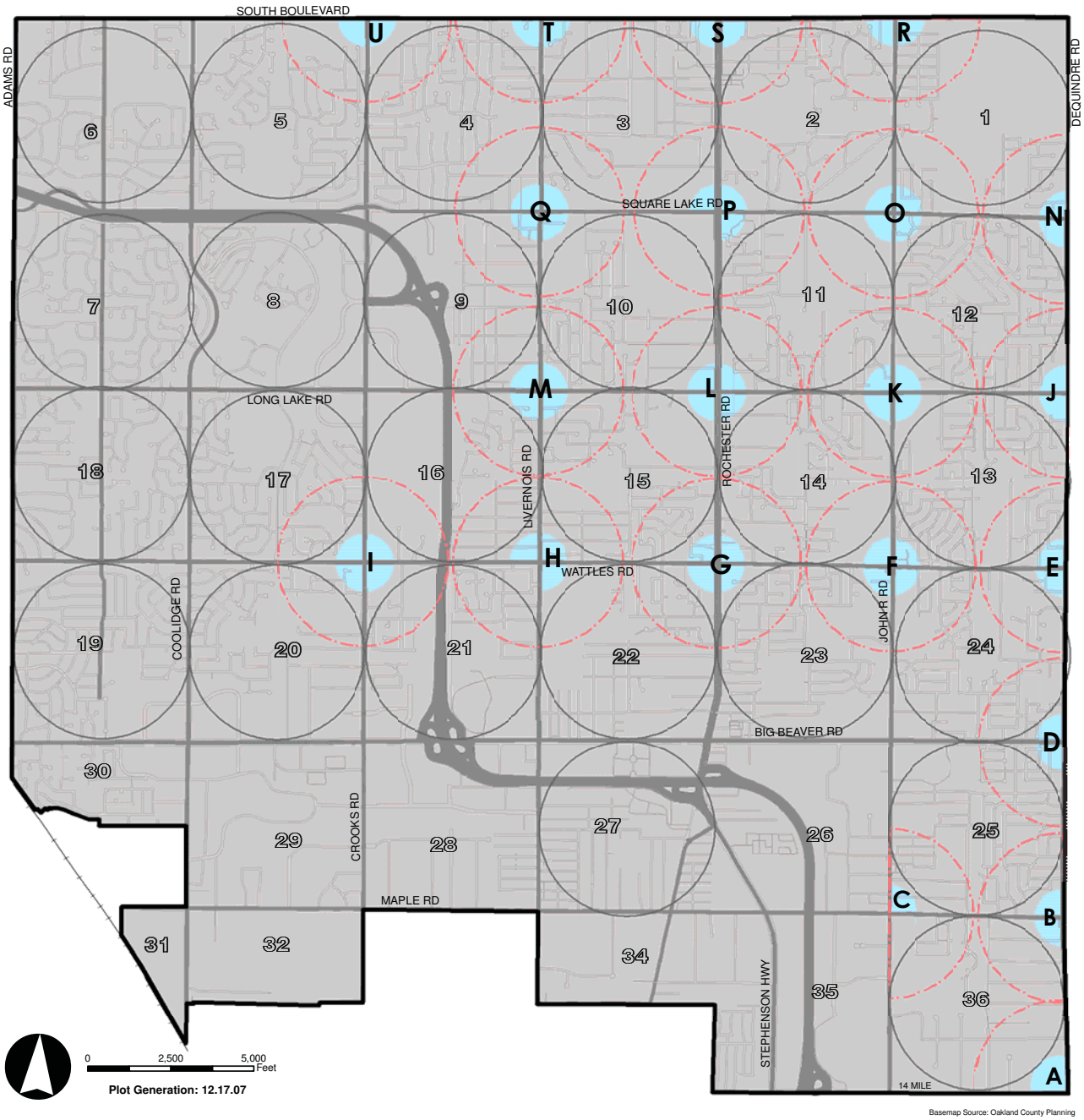
BUILDING DESIGN ATTRIBUTES

- Buildings should be between two and three stories, although one–story structures accommodating gas stations or other special situations may be permitted.
- One-story buildings should have a minimum exterior height of sixteen feet.
- A ground level story should have a minimum height of twelve feet from finished floor to finished ceiling.
- Facades facing major thoroughfares will be treated as fronts and should have a minimum of half transparent glass and special architectural design treatments.
- Fenestration (the arrangement of windows and doors) should be highlighted through the use of awnings, overhangs or trim detailing.
- Lighting will be carefully managed so as not to encroach on adjacent residential areas.

The following pages contain a table describing the primary intended uses and character of the Neighborhood Nodes designated on the Future Land Use Map. Individual Nodes are numbered and identified on the Economic Nodes Map following the table.

	Node/Intersection	Primary Uses and Character
A	14 Mile and Dequindre Road	Non-residential uses catering to the day-to-day needs of the workforce in the surrounding industrial area. Restaurants and convenience needs integrated with banks and other service uses in compact developments would suit the needs of this area.
B	Maple Road and Dequindre Road	The unique neighborhood node is home to a collection of uses serving the local Polish population. Uses complementary to the cultural center and bank which help this area serve as a gathering place and focus area for the neighborhood could include limited housing, service uses, or specialty retail and dining.
C	John R. Road and Maple Road	The node would best serve the area with a predominantly commercial mix of uses catering to the immediate residential area coming and going from their homes. The node should serve as a transition to the more intense commercial development to the south.
D	Big Beaver Road and Dequindre Road	This area should be a high-intensity, high-density, compact area that serves as a notable entry point to the community. Development may include residential, retail, office, and service-oriented uses, but should be designed to create a very noticeable "gateway" into Troy with it's complex, high-density, mixed-use character.
E	Wattles Road and Dequindre Road	The predominant use in this node should be offices, both medical and professional. Limited commercial service uses designed to complement the main focus of the area as a office node serving this area of the City may also be permissible, if clearly secondary to the primary office character of the area.
F	John R Road and Wattles Road	This node may include all uses from high-density residential in combination with restaurants, limited office, and retail. Development at this intersection should include at least two of these uses in any one development, in order to better complement and strengthen the already mixed-use character of the node.
G	Rochester Road and Wattles Road	A careful blend of commercial uses and office uses, effectively transitioned into the adjoining residential neighborhoods, should be the main uses at this intersection. Recent residential development in the area has taken pedestrian access to the intersection into consideration with effective pathways and sidewalks, and any new development at the intersection must continue this positive trend.
H	Livernois Road and Wattles Road	This lower-intensity area is characterized by single-family residential directly abutting the southwest corner of the intersection, and uses which generate only sporadic activity, such as churches and day care. This node contains the Troy Museum and Historic Village. New development or redevelopment at this node must be especially considerate of the adjoining residential and low-intensity uses and should not include any retail or restaurant uses. Office and other uses similar the existing uses would likely provide the best combination here.
I	Crooks Road and Wattles Road	Development at this location should be low-impact and provide a high benefit to the neighborhood using the least amount of land. Compact, walkable mixed use development with a combination of uses serving the immediate surroundings would be an ideal fit. Integrated compact development which would allow a user to park once and meet several daily needs would be a positive contribution to the node. The City also recognizes that expansion of the White Chapel Cemetery into the northeast corner of this node would be appropriate.
J	Dequindre Road and Long Lake Road	Predominantly commercial, catering to both local needs and regional traffic, new development and redevelopment should be mostly commercial, identifying opportunities for small office mixed-use and variations in floor area to allow for a wide range of commercial types. Pedestrian access to the adjoining area and effective screening should be primary areas of focus during the site design process.

	Node/Intersection	Primary Uses and Character
K	John R Road and Long Lake Road	Like Crooks Road and Wattles Road, compact, walkable mixed use development with a combination of uses serving the immediate surroundings would be an ideal fit. Integrated compact development which would allow a user to park once and meet several daily needs would be a positive contribution to the node.
L	Rochester Road and Long Lake Road	Intersections L, M, and U and should remain, predominantly commercial, catering to local needs and regional traffic, new development and redevelopment should be mostly commercial and should serve to further enhance this successful commercial area. Opportunities for integrated residential or office development should be considered only when clearly secondary to commercial development.
M	Livernois Road and Long Lake Road	Intersections L, M, and U and should remain, predominantly commercial, catering to local needs and regional traffic, new development and redevelopment should be mostly commercial and should serve to further enhance this successful commercial area. Opportunities for integrated residential or office development should be considered only when clearly secondary to commercial development.
N	Dequindre Road and Square Lake Road	Low-intensity commercial uses should remain, but redevelopment should include an integrated compact residential component, live/work units, or small office. Service-oriented use development in combination with new residential development would provide a unique setting here.
O	John R Road and Square Lake Road	Near a known heron rookery, this node must be careful to respect this important natural resource. New development or redevelopment should complement the churches and limited commercial uses in the area, and should incorporate above-average landscaping, natural buffers, and conscientious site design to enhance the known natural features in the area.
P	Rochester Road and Square Lake Road	Major commercial uses dominate and should continue to provide a foundation for this neighborhood node. While uses in the area may cater to regional traffic, service uses, retail, and limited office uses designed to provide service to the immediate residential neighborhood should be incorporated into any new development or redevelopment plans.
Q	Livernois Road and Square Lake Road	Development in this area should be especially considerate of the remaining historic asset of the neighborhood. Adaptive use of existing historic structures must be considered before demolition or relocation of these resources. Low-intensity uses working in conjunction with one another to form a central neighborhood village, walkable and accessible, would create an ideal complement to the predominantly residential surroundings.
R	John R Road and South Boulevard	Small local commercial uses and office uses should be the focus of this node, to complement the large scale office development across the City's boundary to the north, within the City of Rochester Hills.
S	Rochester Road and South Boulevard	This neighborhood node provides a suitable mix of uses to cater to the daily needs of the immediate residential area, while also providing a unique opportunity for specialty retailers, compact walkable residential development, and small-scale office development in an integrated, mixed-use setting.
T	Livernois Road and South Boulevard	Limited local commercial and housing for seniors in a dense development pattern should remain the primary focus of this neighborhood node.
U	Crooks Road and South Boulevard	Intersections L, M, and U and should remain, predominantly commercial, catering to local needs and regional traffic, new development and redevelopment should be mostly commercial and should serve to further enhance this successful commercial area. Opportunities for integrated residential or office development should be considered only when clearly secondary to commercial development.



Economic Nodes

- Social Neighborhood
- Economic Neighborhood
- Neighborhood Nodes: The Economic Neighborhood
- 15 Section Number
- A Economic Node
- All Other Uses

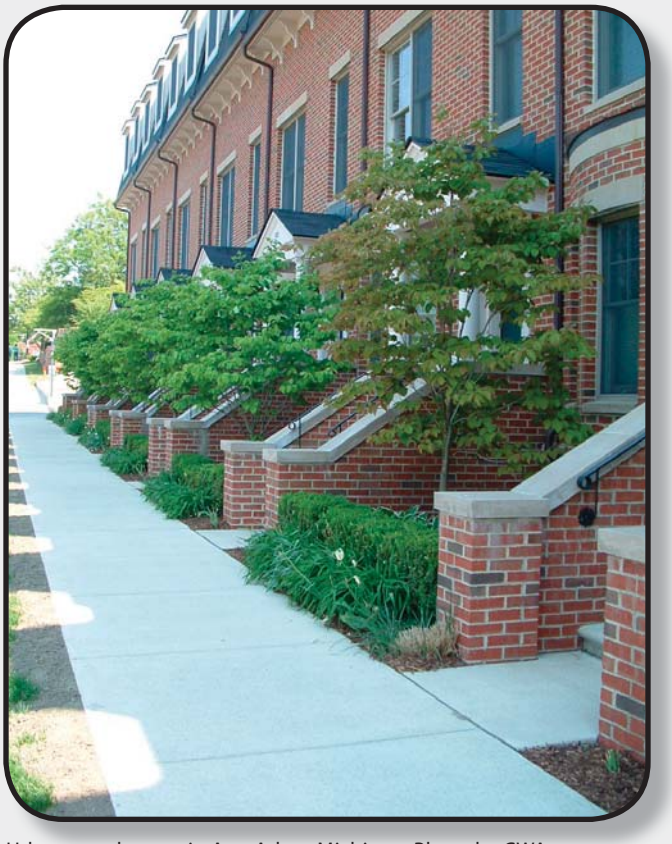
High Density Residential: Housing Choice

- *In close proximity to the most high-intensity nonresidential areas of the City.*
- *Diversify the City's housing stock.*
- *Excellent regional access and multi-modal access.*
- *Complementary to Big Beaver Road.*

The High Density Residential classification primarily includes multiple-family residential development made up of housing having three or more dwelling units per structure. This classification may have some limited mixed-use elements, especially those non-residential uses primarily geared towards day-to-day service needs of the resident population, although it is intended primarily to serve as the most dense residential development permitted by the City. The primary use in any development within this area must be residential.

The High-Density Residential classification is not the only area in the City in which high-density residential development may be appropriate. This category is, however, specifically identified for areas where high-density residential should be the primary, or exclusive land use. Other areas of the community, where mixed-use development is called for, may also integrate high-density residential as part of a mixed-use development. **High-density residential development may also be appropriate along Maple Road in redevelopment projects or new development projects with a focus on open-floorplan, loft-style housing in new or renovated buildings.**

The High-Density Residential classification may also include some redevelopment areas which may be better used for uses that support high-density residential. On a limited basis, small scale commercial development designed to cater to the day-to-day needs of the residents may be appropriate. **The City should continually monitor the status of this classification to ensure that it remains viable, given the growing trend of integrating high-density residential projects in mixed-use settings.**



Urban townhouses in Ann Arbor, Michigan; Photo by CWA

DESIGN CONCEPT

- The high-density residential district is integrated with surrounding land uses, and not simply considered a transitional use between traditionally intense and less-intense land uses.
- These areas will have a path system for access, exercise and leisurely strolls, designed to link residential communities, provides more land use efficiency with open space and access to neighborhood shopping and other services.
- Buildings frame the street network enclosing outdoor spaces.

SITE DESIGN ATTRIBUTES

- Front greenbelts with large street trees, decorative trees and low landscaping soften the environment between the street and building.
- Creative storm water detention should be designed as a focal point, including the use of appropriate landscaping and sitting areas.
- A path system that connects the building entries, parks, public sidewalk system and adjacent developments should be included in new development.
- Sites will be well-appointed with large trees and landscaping.

ARCHITECTURAL ATTRIBUTES

- Buildings will be between two and four stories.
- Front porches and tenant entries will be clearly defined through the use of canopies, overhangs, façade treatment or landscape.
- Fenestration will be accentuated with architectural trim work or decorative brick or stonework.

Urban townhouses in Ann Arbor, Michigan; Photo by CWA

Internal public spaces in a high-density residential development

Innovative facade and architecture in a high-density setting

Big Beaver Road: A World Class Boulevard

- ***Home to large, landmark projects and mixed-use regional destinations.***
- ***Central gathering area of the community.***
- ***A collection of international corporations, local companies, and establishments which complement these high-visibility uses.***

The Big Beaver Road corridor is responsible for the first impression many people have throughout Michigan when they think of the City of Troy. The high-rise buildings, Somerset Collection, and its immediate proximity to I-75 are frequently the main elements visitors remember about the Corridor and the City. **In order to remain competitive and continue to be a leader in economic development in Southeast Michigan, Troy must plan for this Corridor to evolve in light of a changing economy.** In that spirit, the City adopted the key concepts of the Big Beaver Corridor Study in 2006:

- Gateways, Districts and Transitions
- Trees and Landscape as Ceilings and Walls
- Walking Becomes Entertainment - Much to Observe & Engage In
- Mixing the Uses Turns on the Lights - Energetic Dynamic of Mixed Uses with a Focus on Residential
- The Automobile & Parking are No Longer #1.
- Civic Art as the Wise Sage of the Boulevard

The uses and character of this future land use category are driven by the recommendations of the Big Beaver Corridor Study and subsequent efforts of the Planning Commission to create new zoning techniques to implement those recommendations.

This Study provided a comprehensive analysis of the existing and potential characteristics of this important area. The planned future land uses in the Big Beaver Corridor are in large part considered mixed-use, to allow for a wave of new residential development and the redevelopment of individual sites to make a more meaningful contribution to the quality of life of the City. The main difference between the various mixed-use districts planned in the Study is building height. The intended characteristics of the various districts are also very different, and are the topic of in-depth analysis in the Study. Some important recommendations of that Study are listed below.

- Moving toward the creation of distinct physical districts by building from lot line to lot line along the right-of-way rather than continuing to be a collection of isolated towers.
- Becoming flexible with land use relationships. The use of vertically integrated mixed-use commercial, office and residential towers should be promoted. The use of prominent ground floor retail, restaurants and cafes allows visual interest and activity for visitors and residents.
- Contain parking in structures that are shared by surrounding developments. Do not allow off-street parking to be visible from major thoroughfares.
- Landscape Big Beaver and intersecting thoroughfares with rows of mature trees.

DESIGN CONCEPT

- This will be a vibrant high-rise business and residential district.
- Pedestrian use will be promoted through massive landscaping, wide sidewalks, outdoor cafes, and public art.
- The Big Beaver Corridor Study and Big Beaver Development Code provide for a specific land development pattern.
- Architectural design must create an interesting visual experience for both sidewalk users at close range and for those viewing the skyline from a distance.

SITE DESIGN ATTRIBUTES

- Parking should be located in rear yards.
- Development should include intense street tree planting along Big Beaver.
- Cafes, plazas, parks and similar amenities to draw pedestrians will be encouraged.
- Buildings will frame the street network by building to the front and side property lines. Exceptions for cafes, plazas and access roads may be permitted.

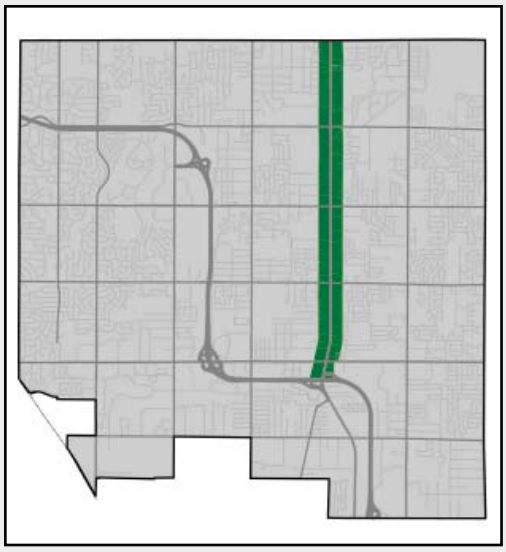
BUILDING DESIGN ATTRIBUTES

- Buildings should rise in height toward Crooks Road in the east-west direction.
- Buildings should rise in height toward Big Beaver in the north-south direction.
- Ground level stories should be a minimum of twelve feet in height; with large expanses of transparent glass.
- Fenestration at the ground level should be highlighted through the use of awnings, overhangs or trim detailing, and building caps or roofs should provide a visually interesting skyline.

Big Beaver Corridor Study; Birchler Arroyo Associates, Inc.

Concept Sketch from the Big Beaver Corridor Study; Birchler Arroyo Associates, Inc.

Rochester Road: Green Corridor



- *Regional model for a green corridor*
- *A strong focus on access management*
- *Heightened emphasis on strong stormwater management techniques*
- *Retail catering to regional traffic*
- *Innovative site design techniques applied through PUD use to allow for redevelopment for shallow lots*

Rochester Road carries high volumes of traffic causing backups at intersections. The abutting development pattern from Big Beaver Road north to Long Lake Road is a continuous row of highway-oriented commercial uses. North of Long Lake Road, the land use pattern evolves, becoming a mix of commercial and office near the intersections and older single-family homes and multiple-family complexes in between.

If Rochester Road is to have a defined role and pleasing character in the City, it must undergo a significant transformation over time. Ultimately, the Rochester Road Corridor will become a regional showcase for effective stormwater management and enhancement of the natural environment, while encouraging a combination of high-quality land uses. Effective landscaping focused on native plantings, and improved land use and access management along Rochester will create a green corridor that provides a high level of service for motorists, and which provides an effective natural buffer between high traffic volumes and people visiting adjacent properties. The creation of this green corridor would occur primarily in the right-of-way along road frontages and in the median of a future boulevard.

While the emphasis on innovative stormwater management is specifically called on for the Rochester Road Corridor, new low-impact techniques are to be encouraged elsewhere throughout the City of Troy. As noted in Chapter 7, innovative stormwater management is a priority for the community. Rochester Road will play an important role in this City-wide initiative by proving a regional showcase for such techniques.

New construction along the corridor may include detention and retention basins that work together from site-to-site with other features to create a continuous, linear landscape feature. By connecting properties, the basins create visual relief from traffic. **Low impact development methods will be used throughout the corridor to filter stormwater runoff.** Rochester Road will also be characterized by effective new signage, high-quality lighting, and effective, complementary site and architectural design.

Uses along Rochester Road will include a variety of mixed uses, established in a "pulsing" pattern where the most intense mixed-use or exclusively non-residential development will occur near the Neighborhood Nodes situated along its main intersections. Lower-impact uses, such as small scale retail or condominiums should be encouraged along the corridor frontage between these nodes.

DESIGN CONCEPT

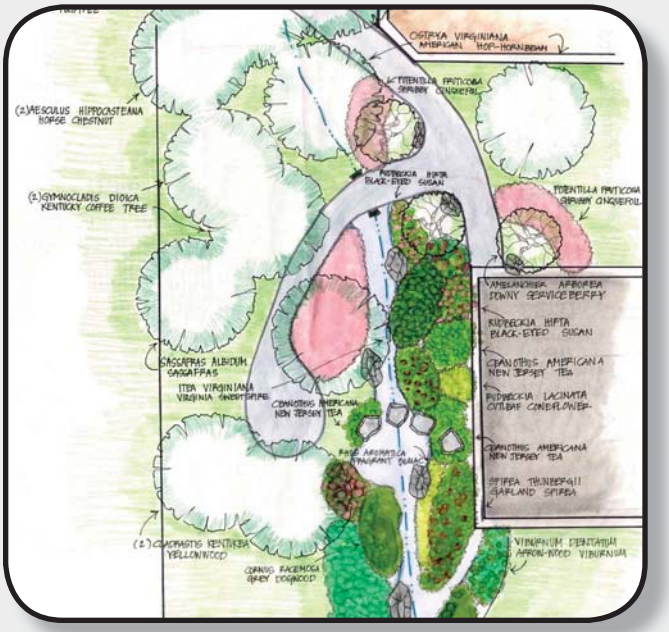
- Commercial strip development should be limited and gradually replaced with mixed use.
- Commercial development should be encouraged to expand in the form of dense multi-story mixed-use concentrations at major intersections. Concentrations are limited to within 1,000 feet of the intersection.
- The areas between nodes should develop as lower-rise office and multiple-family. The height differences encourage a visual "pulse."

SITE DESIGN ATTRIBUTES

- Parking areas should be within rear yards or interior parts of the site. A single row of parking may be appropriate in front and exterior side yards in limited applications.
- Parking will connect to adjacent sites, eventually linking several developments with a rear access lane. The number of drives connecting to Rochester Road should be minimized.
- Defined internal walks will connect the businesses and buildings together.
- Internal walks will be connected to the public sidewalk system.
- Buildings will be separated from street traffic by a greenbelt or sculptural storm water detention basin.
- Height and size of signage will be reduced to contain visual clutter.

BUILDING DESIGN ATTRIBUTES

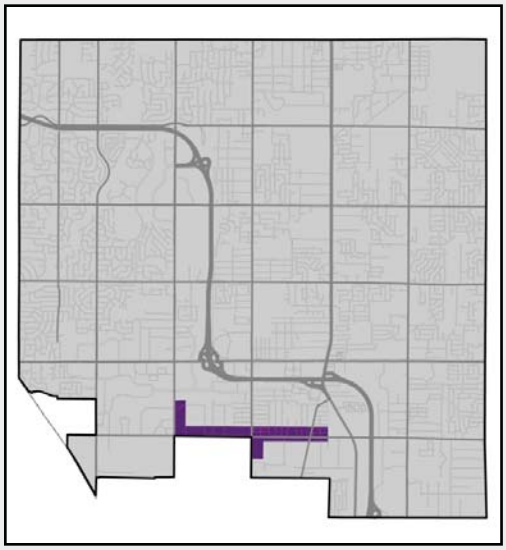
- The height at nodes will be multi-story not exceeding four stories.
- The height between nodes should not exceed two stories.
- Ground level stories should be, at a minimum, twelve feet in height; with large expanses of transparent glass at intersection nodes.
- Fenestration for the ground level of buildings in nodes will be accentuated through the use of awnings, overhangs or trim detailing.



Design for a Rain Garden in Troy; City of Troy

Lovell Pond in Troy; an example of an innovative, urban stormwater basin; Photo by Jennifer Lawson

Maple Road: Mixed-Use



- *Predominantly industrial area, but with limited opportunities for transitional or service-oriented uses that complement the primary adjacent industrial areas*
- *Potential for urban-style open floorplan housing in redeveloping areas*
- *Focus on the quality of access management throughout Maple Road*

The Maple Road Corridor provides an opportunity for new, emerging land use types in the City of Troy. Limited development of industrial-style 3 to 4 story buildings with open-floorplan housing, developed in a transit-oriented setting, for instance, may be appropriate in some places. This type of development would help diversify the City's housing stock and provide a more effective buffer between the Corridor and the industrial uses located in the immediate area.

Uses designed to support the workforce in the area may also be appropriate. Local commercial or small, mixed-use developments having a combination of such uses could greatly improve the character and image of this area. Such amenities would also help smaller, local industrial uses to recruit the best workforce.

New loft style, open floorplan residential development in Nashville

DESIGN CONCEPT

- This area will be a high-quality, eclectic mix of land uses and architectural types.
- Emphasis should be placed less on land use and more on building and site design. Design should not reflect traditional forms of "colonial" architecture.
- Development should be linked together visually and functionally throughout the corridor.

SITE DESIGN ATTRIBUTES

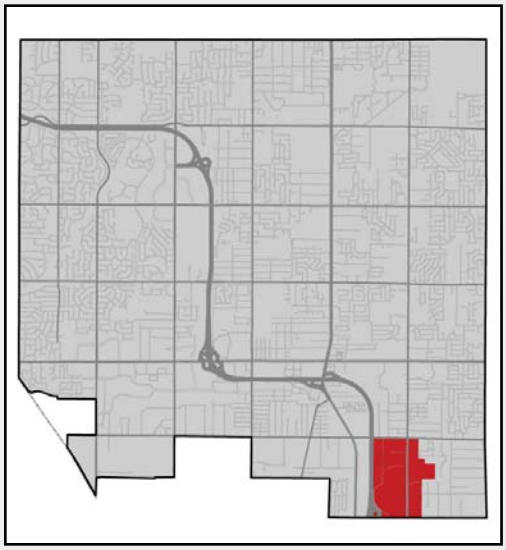
- Uniform "build-to" lines guiding a uniform containment of open space within the right-of-way should be established.
- Primary parking areas should be within rear or interior side yards.
- Landscape design creativity will be encouraged by setting general parameters relating to environmental sustainability such as limiting storm water runoff.
- Larger sites with deep set buildings should redevelop with buildings near the Maple Road right-of-way line.
- Mass transit stops should be accommodated (see page 115)

BUILDING DESIGN ATTRIBUTES

- Maximum height should not exceed four stories and limited to two stories for properties abutting single-family residential neighborhoods.
- Design creativity with regard to materials will be encouraged, although low quality materials or building designs that inhibit activity on the corridor will not be permitted.
- Primary parking areas within rear or interior side yards.
- Landscape design creativity should be encouraged by setting broad general parameters relating to environmental sustainability such as limiting storm water runoff or reusing gray water for irrigation.

Maple Road may provide a unique venue to expand opportunities for public art placement and for area artists to work and live.

South John R Road: Connections



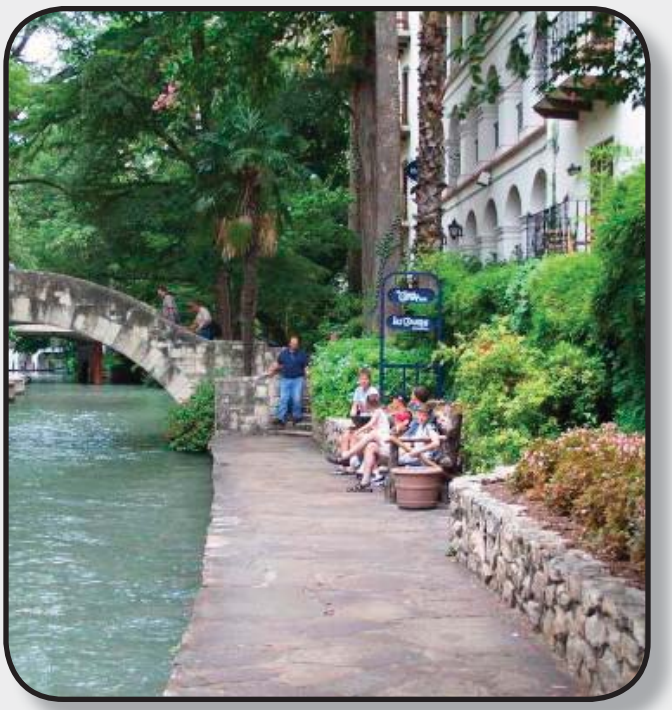
- *Provides a significant entryway into the City*
- *Walkable, mixed-use development and redevelopment*
- *Provides a central focus for the southeast area of the City*
- *Enhanced focus on Transit Oriented Design (page 48)*

The South John R Road future land use designation is reserved for Oakland Mall and the immediate surrounding area along John R Road. This classification is intended to allow for the continued operation and long term improvement to the area, focused on the provision of "comparison" commercial products. This area serves a large region, beyond the City of Troy, and blends with the area to the south, outside the City's boundaries.

However, the City recognizes that the nature of traditional retail is changing throughout the United States and that many conventional enclosed shopping centers are being redeveloped into a variety of new uses. Mixed-use developments with office and residential, and walkable outdoor shopping centers are two examples of uses that have replaced former enclosed shopping centers. The current configuration of Oakland Mall and its surrounding area may no longer be competitive in the near future and may necessitate additional study for this area.

Redevelopment in this area should carefully consider the opportunity for restoration of natural features. Existing underground drains, for instance, should be analyzed for potential to be integrated within redevelopment projects, Native landscaping and innovative stormwater management techniques should be considered in the area. The resurrection of urban waterways may provide an opportunity to introduce a valuable asset and differentiating feature for redevelopment projects in the South John R area.

Aracadia Creek Festival Place in Downtown Kalamazoo, Michigan, offers an excellent case study of the renovation of an historic urban stream to create a new, vibrant urban gathering place.



The San Antonio Riverwalk

DESIGN CONCEPT

- This area will be a mix of retail, office and higher-density uses in multi-story buildings in an urban village.
- Building height will increase toward the center of the site.
- Height should not compete with the Big Beaver area.
- This area of opportunity will transform to a district of linked developments accentuated by significant landscaping and open space to off-set the increased height and density.
- Workforce housing, a part of the City's economic strategy, can be incorporated here.

SITE DESIGN ATTRIBUTES

- Buildings setback from the major road right-of-way should have a minimum distance that permits a greenbelt, single row of parking and wide sidewalk.
- Primary parking areas should be within rear or interior side yards, separated into modest-sized components for better storm water management and landscaping
- Internal walk system connects businesses, adjacent developments and the public sidewalks. Walks designed with trees, landscaping, water features or similar features to enhance the experience.
- Storm water detention should be captured in pedestrian friendly landscaped designs.
- Mass transit stops should be accommodated (see page 115).

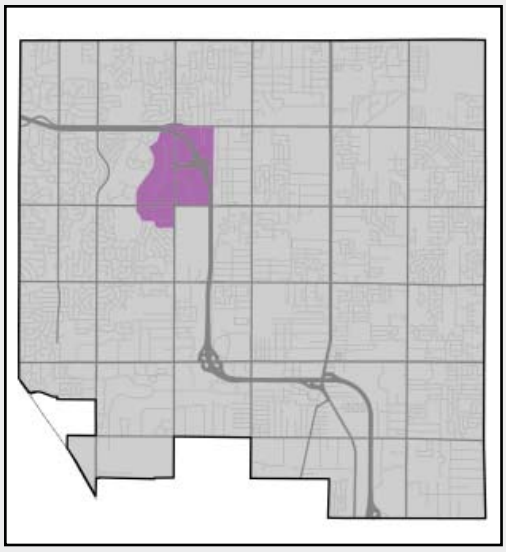
BUILDING DESIGN ATTRIBUTES

- A maximum of three stories or equivalent height in feet should be allowed at the perimeter of a site.
- A minimum of three stories and maximum of six stories or equivalent height in feet should be allowed near the center. One-story retail buildings should have a minimum height of twenty four feet.
- Ground level stories should have a minimum height of twelve feet from finished floor to finished ceiling.
- Facades should be over half transparent glass.
- Entries must be well-defined.
- Fenestration should be highlighted through the use of awnings, overhangs or trim detailing.

Walkable, mixed-use development with integrated parking

Walkable development; a stand alone restaurant

Northfield: A Focus On Innovation



- *A complement to the Smart Zone, but with an even broader mix of uses*
- *Outlot development to provide services to workers in the area*
- *Consistent site design throughout the District to create a unique identity*

The Master Plan identifies two primary districts for the encouragement of 21st Century, Knowledge Economy business development. The Smart Zone is situated along Big Beaver Road and an area to the south, along Interstate 75. **Northfield, the second office and research area, is similar to the Smart Zone in its makeup, but will reflect its own unique style of development.**

In terms of use, the emphasis in Northfield will be placed on office and planned research-office uses. Other uses primarily relating to the support of workers and activities in Northfield, such as supporting commercial uses, will also be considered on a limited basis. Residential uses, traditional industrial uses, and regional commercial uses will be encouraged within mixed-use developments only when they are designed to support the primary function of the Northfield area.

Medical, professional, general, service-related office uses, and research –based uses, especially those planned in a campus or park-like setting, will be the primary focus in Northfield. These uses are intended to be enclosed within a building, and in the case of research and development uses, external effects are not to be experienced beyond their property boundaries.

DESIGN CONCEPT

- The contemporary architectural image should be continued.
- Infill construction will provide a physical link between semi-isolated towers.
- Demarcated crosswalks, an internal and external walk system and plazas/pocket parks will support physical linkages.
- Higher-density housing of twenty units per acre will be encouraged at the immediate periphery.
- Streets will be framed and the public right-of-way space will be delineated.

SITE DESIGN ATTRIBUTES

- Primary parking areas will be within rear or interior side yards and separated into modest-sized components by storm water management and landscaping.
- Walks will connect businesses, adjacent developments and public sidewalks.
- Storm water detention should be captured in pedestrian friendly landscape designs.
- Outdoor cafes, plazas, pocket parks and similar pedestrian amenities will be key features.
- Mass transit stops should be accommodated (see page 115).

BUILDING DESIGN ATTRIBUTES

- Ground level story should have a minimum height of twelve feet from finished floor to finished ceiling.
- Facades should be half transparent glass.
- Entries should be well-defined.
- Fenestration on the ground level should be highlighted through the use of awnings, overhangs or trim detailing.

Successful infill development providng services to office developments in Northfield; Photo by Brent Savidant

The Smart Zone: Big Beaver and Beyond

- *A special focus on high-technology uses that complement one another*
- *Potential high-density housing in proximity of 21st Century knowledge economy employers*
- *Regionally prominent location for technologically advanced companies*

The Smart Zone was strongly emphasized in the Big Beaver Corridor Study and is the only proposed district within the Study to be called out specifically as a future land use category in the Master Plan. **The Study envisions the Smart Zone as a unique area dominated by high-technology uses which are at the cutting edge of innovation.** The Study calls this location a "paragon of innovation" and prescribes a combination of "signature" light industrial, research and development, and office uses.

The Master Plan uses this category in an area expanded beyond the boundaries shown in the Big Beaver Corridor Study. **The area south of the main Smart Zone area, situated around Interstate 75 provides an opportunity to foster additional Smart Zone uses and development.**

Furthermore, much of this area is occupied by vacant or underutilized office and industrial facilities that could be readily redeveloped into Knowledge Economy uses, or into uses that work in direct support of those uses. This area is highly visible from Interstate 75. Business-to-business functions, such as materials suppliers or office support uses also represent an ideal fit in this southern section of the Smart Zone.

Ford Rouge LEED Rated Assembly Plant and Visitor Center

Automation Alley Technology Park in Troy; Photo by Brent Savidant

DESIGN CONCEPT

- New construction and redeveloping properties should be set in an integrated campus environment.
- Paths, generous landscaping, water features and similar features found in first-class business parks should be infused throughout the site.
- Mass-transit stops should be located along routes to accommodate the workforce.

SITE DESIGN ATTRIBUTES

- Primary parking areas will be within rear or interior side yards and separated into modest-sized components by storm water management and landscaping.
- All parking should be screened from view by landscaping or walls.
- Walks should connect businesses, adjacent developments and the public sidewalks.
- Storm water detention should be captured in pedestrian friendly landscaped designs.
- Mass transit stops should be provided on the exterior and within the interior of the district.

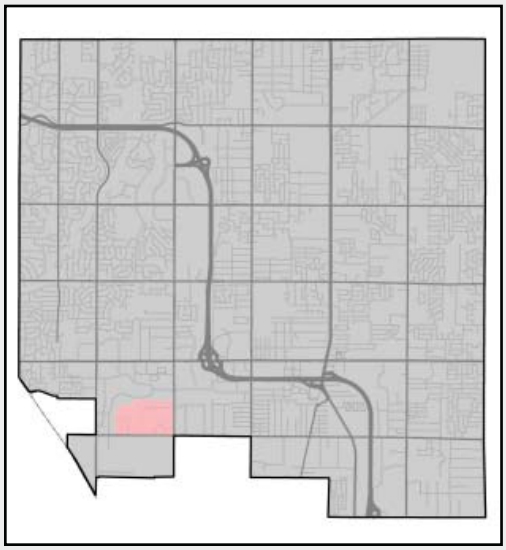
ARCHITECTURAL ATTRIBUTES

- Height should be encouraged in cases where the development makes unique contributions to the area.
- Non-industrial portions of businesses should face the street system.
- Durable metal, glass, masonry and other materials should be used to promote the scientific image of emerging technology.
- Entries should be well-defined.

Automation Alley Headquarters in Troy; Photo by Brent Savidant

High-tech industries within the Smart Zone; Photos by Brent Savidant

Automall: A Unique Approach & Competitive Advantage



- *A coordinated collection of automobile sales lots that have a competitive advantage in that they provide a comparison shopping experience in one area*
- *New development should include walkable elements to allow for users to experience more than one dealership without moving their car*
- *Coordinated site design characteristics throughout the area.*

The Automall is a category that is unique to Troy. This area is home to a comprehensive collection of retailers of nearly every automobile make in the Country, and their grouping in one small, planned district provides a distinct advantage over similar automobile retailers around the region. In this location, potential buyers can see a variety of makes and models up close and make more informed buying decisions. The City continues to encourage the development of the Automall for this purpose. While the predominant use in this location is auto dealerships, other ancillary uses directly relating and in support of these dealerships will also be considered.

Auto dealerships in the Automall should be encouraged to develop outstanding automotive displays and engaging facades. The combination of these upscale automobile dealerships in a dense collection, offering unique permanant displays will complement one another to create a showcase for automotive design as well as for autombile sales and service.

The Michigan Design Center, located at the northwest corner of the Automall area on Stutz Drive, provides a unique asset for Troy. This facility offers a unique collection of over 40 showrooms in a 215,000 square foot facility. These showrooms display the latest in home furnishings and interior design elements. Primarily geared toward design professionals, the facility also provides an exceptional resource for design students. Potential future opportunities for open floorplan, artist-loft residential development or other land uses located to capitalize on and strengthen the relationship to the Michigan Design Center should be strongly encouraged in the western section of the Automall area.

DESIGN CONCEPT

- The unique atmosphere of the Automall will be enhanced. Vehicle displays will provide the enhancement.
- Showrooms will provide the setting for the people and products.
- Large expanses of transparent glass, and uniquely designed outdoor lighting will define the experience.

SITE DESIGN ATTRIBUTES

- Install pervious surfaces for walks and low-use parking areas to limit surface storm water runoff.
- Development should conform to a uniform "build-to" line corresponding to the line of currently existing buildings.
- Support businesses for the dealerships shall locate on Maple Road and not infill between dealerships.

BUILDING DESIGN ATTRIBUTES

- Showrooms should have a minimum height of sixteen feet.
- A minimum of 75 percent of a showroom façade should be sheathed in transparent glass.
- Support businesses not conducting individual customer sales will locate the office portion of the business along the public street. Site and building maintenance will be the primary design emphasis.
- Dealerships should visually differentiate themselves from one another; the variety of architectural styles will enhance the diversity of the product offerings.

High quality display area within the Automall; Photo by Brent Savidant

The Transit Center: Air, Train, and Transit in a Unique Setting

- ***Uses focused on providing pedestrian access***
- ***New infill development designed to be compact and complement the Troy/ Birmingham Transit Center and airport***
- ***Integration of new transit options as they become available will make this area a true hub for multi-modal transportation and a gateway for the community for those entering by rail, plane, or bus, or for those people seeking a rental car.***

The Transit Center is a mixed use area made up of a complementary combination of residential, commercial, and service-oriented land uses. This mixed-use area is centered between the existing Oakland/Troy Airport and the planned Troy/ Birmingham Transit Center. **The combination of air, rail, bus and non-motorized transportation in one compact area, supported by a high-density residential development and regional commercial uses, will work to create a vibrant gateway to the southwest corner of Troy.**

The Transit Center provides a unique amenity to the area in that it will ultimately evolve into a fully walkable area where visitors to the City can experience a variety of activities and enjoy access to more than one transportation option to get around Troy, or the Southeast Michigan Region. The continuation of the existing development pattern in this area is encouraged, as are the long-term infill of existing open areas and underutilized parking areas with uses complementary to the vision of a vibrant multi-modal transit hub are encouraged. Cooperation with the City of Birmingham provides a valuable opportunity for establishing a strong working relationship with adjacent communities.

The Troy Oakland Airport is a critical part of the Transit Center. The Airport's approach plan is provided in Appendix 1.5.

DESIGN CONCEPT

- This will be a high-density mid-rise area in close proximity to the proposed train station and business airport.
- The area will become a lively village for residents and business customers alike.
- The amount of surface parking will be limited.

A step in transit

Troy could become regional center for buses, light rail

By Daniel Duggan
Crain's Detroit Business

In Transit
A proposed transit center brings hopes of regional connections between Troy, Birmingham and possibly Detroit.

Somerset Collection
Pavilions of Troy
Big Beaver Rd.
Troy
Coolidge Highway
Downtown Birmingham
Maple Rd.
Transit Center

High hopes surround a plan for a $3 million transit center in Troy that is expected to spur walkable development and connect the sprawling suburb to Detroit and other communities.

Regional planners say the center, near the edge of Birmingham, could act like a regional transit point as the area's struggling transportation system develops around it.

Whether it's the first step toward mass transit in the Motor City or part of the growing Troy-Birmingham rail district,

Blouse

Blouse, president and CEO of the Detroit Regional Chamber,

"If we want to stop the talent-job drain and preserve the knowledge-based jobs here, we have to create a different quality of life," he said at a two-day real estate conference in Troy last week. "Mass transit is a very important piece for an economic transformation."

SITE DESIGN ATTRIBUTES

- New construction will provide parking at the periphery of development sites.
- The internal street network is encouraged to use a grid pattern of access streets to divide the larger area into a network of development "blocks."
- Storm water detention will be captured in pedestrian friendly landscaped designs.
- Outdoor cafes, plazas, pocket parks and similar pedestrian amenities will be key features.
- Non-motorized transportation will be encouraged and enhanced by pathways and storage for bicycles, rollerblades, skateboards, and new emerging types of personal transportation.

BUILDING DESIGN ATTRIBUTES

- Height should be between two and four stories or equivalent height in feet. Federal Aviation Administration requirements limiting building height take precedence.
- Building massing will frame external and internal streets.
- The ground level story should have a minimum height of twelve feet from finished floor to finished ceiling.
- Facades should be at least half transparent glass to promote connectivity between the interior private space and exterior public space.
- Entries will be well-defined.
- Fenestration should be highlighted through the use of awnings, overhangs or trim detailing.
- Materials that instill a sense of permanence will be encouraged.

CALDOT Transit-Oriented Development in Oakland, CA City Center

21st Century Industry: A New Opportunity for Growth

- *Continued encouragement of a variety of industrial uses*
- *Light industrial uses with no outdoor storage or external nuisances are especially encouraged*
- *The emphasis for site design should be on screening, landscaping, buffering, and effective transitioning to allow this important category to succeed without negative impacts on residential or commercial areas of the City*

The 21st Century Industry classification provides area for conventional manufacturing and assembly uses, but with a broader interpretation of what industrial areas can become. In addition to conventional industrial uses, shops, and warehousing, this category can be home to business-to-business uses that don't require a significant public presence, but which work in tandem with the Knowledge Economy uses encouraged within the Smart Zone and Northfield. Suppliers, fabricators, printers, and many other supporting uses which strengthen the City's appeal as a home to 21st Century businesses are all encouraged in this category.

An alternative use that may be considered on a very limited basis in the 21st Century Industrial area is loft-style residential development in reclaimed industrial buildings. Opportunities for artist lofts and open-floorplan residential development may exist within new, innovative mixed-use projects. Such projects would be an ideal fit within the 21st Century Industrial area. Such housing will only be considered when all potential environmental limitations have been identified, and if necessary, neutralized.

The majority of the 21st Century Industrial lands in Troy surround the Maple Road category (see page 105), although they are intermingled with areas planned for the Automall, the Smart Zone, and the Transit Center. **Existing land uses along Maple Road vary widely, and do not have a clear, identifiable character.** Maple Road is primarily experienced as a series of nodes that center on north-to-south traffic leading into and out of Troy from the Big Beaver Corridor. For this reason, Maple Road is planned as a series of areas designed to support the Big Beaver Corridor and the Smart Zone, such as the business-to-business uses noted above.

DESIGN CONCEPT

- This area will recognize that manufacturing and distribution will continue to provide valuable jobs and a tax base. Emphasis will be on maintaining a strong image by concentrating on site and building maintenance as well as redevelopment, rather than redevelopment alone.
- Code enforcement will be a critical tool to maintain the visual and physical health of the district.
- As land becomes available, green space should double and storm water management should improve.

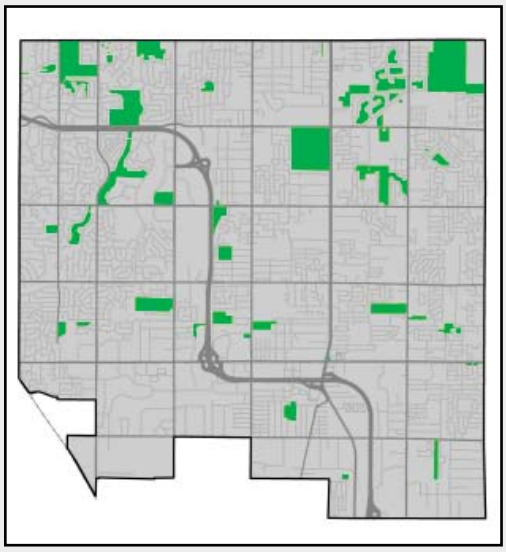
SITE DESIGN ATTRIBUTES

- Primary parking areas are located within rear or interior side yards.
- Front yards will be landscaped and well-maintained to continue an improved image.
- Green space will be placed along property perimeters to assist with controlling surface storm water runoff.

BUILDING DESIGN ATTRIBUTES

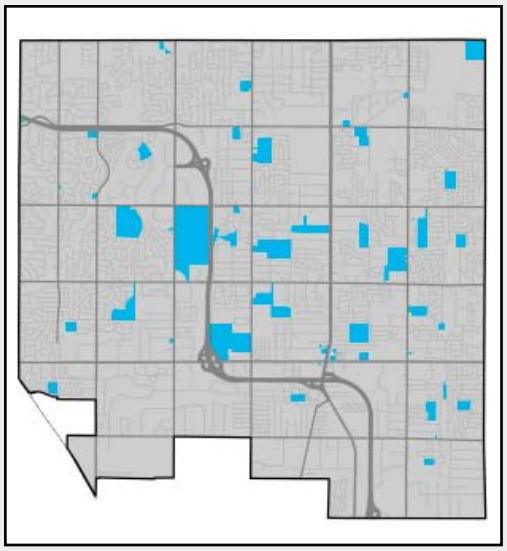
- The office portion of industrial developments will locate nearest the public street.

Recreation and Open Space: Extraordinary Amenities



The designation of Recreation and Open Space provides areas for both active recreation and conservation of natural resources. This land use can be either publicly or privately owned. Maintenance of these areas are essential to the preservation of fish and wildlife habitat, water quality, wetlands, scenic amenities, and outdoor recreation opportunities. Other significant areas are designated throughout the City and include private parks and common open areas associated with other private development.

Public and Quasi-Public: The Foundation of Troy's Neighborhoods



The Future Land Use Plan designates existing areas set aside for institutional uses such as schools, cemeteries, and other public and quasi-public activities. These sites are scattered throughout the City and are often at the center of the social neighborhood. Schools, especially, play a large role in the creation of social neighborhoods and provide a community center function.

This category also includes the Civic Center site, which contains the main operations of the City of Troy. Since the acquisition of the former Troy High School site in 1993 and construction of the Troy Community Center, this location has empowered the City to greatly enhance its operations and plan for future growth. With the addition of the model Solar Decathlon house and the potential future improvements to other facilities, the City has an outstanding opportunity to showcase innovative and responsible development practices in a visible location. It is expected that the current City, Court, and Library functions will continue at the present location.

This future land use category also includes the Beaumont Health Care Campus on Dequindre Road. The City supports the long term development of this site and encourages its growth and success.

Finally, the quality of utilities and service are inextricably tied to the quality of living, working and conducting business in the City. This category includes some areas reserved for meeting the basic needs and expectations of City residents through utility installations. Detention and retention basins are also included in this category.

Implementation

The Master Plan is essentially a statement of policies designed to accommodate future growth and redevelopment. The Plan forms the philosophical basis for technical and specific implementation measures. It must be recognized that development and change will occur either with or without planning, and that the Plan will have little effect upon future development unless adequate implementation programs are established. This Chapter identifies actions and programs available to help the Plan succeed. These are separated into 5 categories:

1. ***Regulation***
2. ***Spending***
3. ***Further Planning and Study***
4. ***Updates and Maintenance***
5. ***Promotion of the Plan***

REGULATION

Zoning

Zoning is the development control that has been most closely associated with planning. Originally zoning was intended to inhibit or reduce nuisances and protect property values. However, zoning also serves additional purposes which include:

- Promoting orderly growth and redevelopment in a manner consistent with policies within the Master Plan.
- Promoting aesthetic quality in the City's physical environment.
- Accommodating special, complex or unique uses through such mechanisms such as special districts, planned unit developments, overlay districts, or special use permits.
- Mitigating the potential impact of development of conflicting land uses in close proximity (i.e. industrial uses adjacent to residential areas).
- Preserving and protecting conforming land uses until such time as they may change in accordance with the Master Plan.
- Promoting the positive redevelopment of underutilized or economically obsolete areas of the City in a manner designed to contribute to the philosophies contained within the Master Plan.
- Protecting the natural environment.
- Promoting culture and art through the conception of high-quality public spaces and architecture.

In that spirit, the City must evaluate the entire Zoning Ordinance, and should initiate the process of a comprehensive Ordinance revision, rather than a series of individual amendments. The Ordinance revision should be designed to specifically address the policies contained within this Plan.

Zoning Districts

Certain areas of the City are located within land use classifications in the Master Plan which conflict with either existing zoning or existing land uses. These designations were developed in order to guide the desired development of these areas. Certain areas may benefit from a City-initiated rezoning in order to provide more consistency. Other areas may continue

with an existing zoning designation which may currently conflict with the Master Plan, and may be rezoned in the future once the existing use terminates or conditions change. In addition, conditions in these areas may change following amendments to the Zoning Ordinance.

In particular, the City's M-1, Light Industrial district may require significant revision, or full replacement, with a new or series of new zoning categories. While titled "Light" industrial, this District permits a wide range of more conventional manufacturing uses that make the creation of a high-tech environment difficult. The allowing of uses which require regular heavy truck traffic or which may create nuisances complicate the development of a light industrial environment primarily geared toward research and other more technologically advanced 21st Century industrial uses. The District should continue to accommodate wholesale activities, warehouses, and should be specifically geared toward industrial operations dedicated to the business-to-business market whose external effects are restricted to the immediate area.

Overlay or Special Districts

The City should consider the development of special zoning districts or overlay districts in areas like Rochester Road, the Transit Center, or Maple Road in order to create site-specific regulations for special areas of the City. Big Beaver Road, for example, is the focus of a special development code being drafted in 2008. This code will be designed to implement the specific policies of the Big Beaver Corridor Study. The code will require development in the Big Beaver Corridor to incorporate characteristics of the Study and will offer incentives to developers to go beyond minimum requirements. For instance, a height and area bonus may be granted for appropriate site design and the inclusion of green development standards.

The City is using overlay districts to realize the potential of speacial areas in the City.

Planned Unit Development:

Planned Unit Development (PUD) is a powerful tool in the City of Troy that will play an important role in the development of land within the City in accordance with this Master Plan. As of the adoption of this Master Plan, the current Zoning Ordinance does not specifically permit mixed-use development; however, this Master Plan encourages mixed use in many areas. While in some instances the development of special district regulations, such as the Big Beaver Development Code, may eventually allow the City to permit mixed-use development by right, PUD will undoubtedly remain a critical tool in the development of mixed-use projects.

Given the extensive areas of the City in which mixed-use development is encouraged by the policies of Chapter 9, the PUD option will be used extensively in the coming years. Developments which include a mixture of land use opportunities, including residential, office, commercial land uses and parks or open space are important for fostering the high quality of life envisioned within this plan, and as noted above, PUD may be the only tool available to allow it to move forward. A PUD also offers the benefits of flexible design and encourages innovative and creative planning. Consequently, PUD should be encouraged within any area of the City planned for mixed-use development.

Conditional Rezoning

Conditional zoning is a technique permitted in Michigan which allows an applicant seeking a rezoning to voluntarily attach conditions to the request which would further restrict the property, should the rezoning be approved. In other words, an applicant may wish to voluntarily submit a rezoning request to an intense commercial category, with an added condition that the property will not be used for a fast-food establishment. The technique can not be used to loosen regulations of the underlying zoning district. The primary application for conditional zoning may be in cases where a specific intended use an applicant has in mind would require a rezoning to a much more intense category than necessary. In order to protect the community from the other uses that could be permitted by the more intense category, the applicant can voluntarily propose conditions that would prohibit the use of the property for the more intense uses. Conditional zoning must be introduced by the applicant; the City is not permitted to request conditions.

SPENDING

Capital Improvements

The City Council adopts a budget which includes an in-depth analysis of planned capital expenditures developed within individual departments. This budget is carefully developed with input of the City's department heads. However, the City does not have a comprehensive, coordinated plan for major improvements and purchases, and this budgeting process is not done within the context of planning.

A Capital Improvement Plan (CIP) is a blueprint for planning a community's capital expenditures, typically over a five (5) year timeframe. This Capital Improvement Plan would be a long range plan, designed to be evaluated yearly. It coordinates planning, financial capacity and physical development. The Capital Improvement Plan would be used as a management tool for the City budget and planning processes. The Plan would help to achieve maximum use of taxpayers' dollars, encourage more efficient government administration, aid in grant processes and help maintain sound finances.

A wide range of public facilities and equipment should be considered in capital improvement planning. **Capital improvement planning deals with the purchase or construction of, major repair, reconstruction or replacement of capital items, such as buildings, utility systems, roadways, bridges, parks and heavy equipment which are of high cost and have a longer useful life.** A Capital Improvement Plan has a number of advantages including;

- Facilitates coordination between capital needs and operational budgets.
- Allows for better scheduling of public improvements and coordination of construction.
- Enhances the community's credit rating, control of its tax rate, and avoids sudden changes in its debt service requirements.

Typically, there are two (2) parts to a Capital Improvement Plan. First, the capital budget, which is the year's spending plan for capital items. Second is the capital plan, which is the strategic plan for the five (5) year span of capital improvements.

A critical part of the Capital Improvement Plan process is the relationship to the Master Plan. The Master Plan was developed with broad citizen input and participation throughout the plan process. The Master Plan encourages sound planning principals both with private development and with the services that the City provides to residents. The Plan recognizes that public facilities and services directly impact the quality of life, and that quality of life must be a prime focus of the City in order to compete for a 21st Century workforce. **Therefore, capital improvements should be carefully planned and developed in a manner which minimizes adverse affects on the City's environment, population and economy.**

A proven process for preparing a five (5) year Capital Improvement Plan involves a series of steps relying upon the participation of individual City Department Directors. The process would be as follows:

1. Initial Meetings. The Department Directors would meet as a group and would be asked to identify anticipated capital improvements. Directors would be asked to provide priority rankings, without identifying a specific year for implementation. The results of these meetings would then be compiled. After which possible opportunities for cooperation, as well as potential conflicts, would be identified.
2. Plan Formulation. Following the input of the Department Directors, the plan would be drafted. The draft plan is then presented to the City Council.

City Council Input. In a study session, the City Council would provide feedback to the Department Directors. The City Council should offer policy guidance and input on the priority projects listed in the plan.

A CIP will allow the City to plan for local improvements which specifically support the high quality of life, transit-oriented features, and mixed-use, walkable character for which this Master Plan advocates.

Corridor Improvement Authorities:

A new tool is available to Troy targeting aging commercial corridors. This is new community development tool signed into law in 2005. This tool is available throughout Michigan and is described here for informational purposes only. Any consideration of establishing a Corridor Improvement Authority would be done at the City Council level. **The Act allows communities to create "Corridor Improvement Authorities" (CIA) which function in a manner similar to a**

Downtown Development Authority (DDA), but with special powers, conditions, and criteria unique to commercial corridors. One of the chief features of a CIA is the ability to fund improvements through the use of tax increment financing. A CIA must have an adopted development plan to establish how it intends to utilize its funds.

The Act is intended to combat the deterioration of existing business districts and promote economic development efforts within these districts. Unlike DDAs, communities are permitted to create as many CIA districts as they wish, provided no single parcel is located within more than one CIA district.

Like a DDA, a CIA is granted specific powers and duties to empower it to accomplish its mission. Specific objectives may include:

- Construction and improvement of public facilities and infrastructure
- The acquisition, owning, conveyance, disposal of or leasing all or part of land, real or personal property, or interests in property.
- Accepting of grants and donations of property, labor or other things of value needed to implement projects identified in CIA planning documents.

In order to create a Corridor Improvement Authority, the City is required to pass a resolution of intent to establish such an authority for a specific area. As noted above, the establishment of a CIA and the use of TIF to fund its progress require a development plan. The plan sets forth the objectives for the improvement of the CIA District, provides a schedule of implementation, anticipated revenues, procedures for the spending of revenues and disbursement of excess revenues.

The boundaries of a CIA district are referred to in the Act as the "development area." The Act provides criteria to determine what may constitute a development area; and states that the proposed area must comply with all of the following:

- The development area must be situated adjacent to an arterial or collector road, as defined by the Federal Highway Administration manual "Highway Functional Classification- Concepts, Criteria, & Procedures."
- The development area must contain no less than 10 contiguous parcels or at least 5 contiguous acres.
- No less than 50 percent of the existing ground floor area must be commercial within the proposed development area.
- Residential, commercial or industrial uses have been permitted and/or conducted within the development area for the past 30 years.
- The development area must currently be served by municipal water and sewer.
- The development area must be zoned to allow mixed use development, including high-density residential.
- The City must agree to expedite the permitting and inspection process, and to modify the Master Plan to provide for walkable, non-motorized interconnections, such as sidewalks and streetscapes, within the development area.

Downtown Development Authority

The Troy Downtown Development Authority (DDA) is an existing committee appointed by the Mayor and City Council, charged with the planning for the DDA area. The DDA may acquire land, build or renovate buildings, and buy, create, or renovate public facilities within the DDA boundary. The Boundary of the Troy DDA surrounds the most intense parts of the Big Beaver Corridor. The DDA is able to use tax increment financing to build a financial structure to proactively improve parts of the DDA area.

Brownfield Redevelopment Authority

As described in Chapter 7, the City of Troy Brownfield Redevelopment Authority can offer financial incentives for cleanup and redevelopment in the form of Tax Increment Financing (TIF) reimbursements and the Single Business Tax Credit.

Using these resources, the work of the Brownfield Redevelopment Authority has resulted in redevelopment of sites throughout the community that could otherwise have remained vacant or underutilized.

FURTHER PLANNING AND STUDY

Site and Architectural Pattern Books

The City of Troy Master Plan envisions a community of unique neighborhoods, corridors, and public places. The mixture of uses, accessibility, architecture and site design all contribute to the final product. Techniques adopted within the Zoning Ordinance will allow the City of Troy to drive development that includes an appropriate mix of land uses, while meeting established minimums for area, bulk, height, and site layout. **However, the less quantifiable elements of development, such as aesthetic quality, material choices, and architectural elements are harder to regulate. In most cases, the City should not specify a homogeneous style, but should provide a framework within which site designers and architects can work so that their project, while an expression of the owners vision, is complementary to the character of the setting in which it is placed.**

Given that many of the mixed-use developments that are and will occur within Troy will be developed under the City's Planned Unit Development option, the City will have a certain degree of latitude with regard to site and architectural design. **Consequently, the City should consider developing a pattern book which may also be known as a site and architectural design guide, to inform the planning process, and to empower designers to create projects that are most appropriate in the setting within which they are working.** Ultimately, the pattern book, or a series of pattern books for different areas, will drive development that is consistent with the intended character of areas throughout the City while allowing for variety from project to project.

The pattern book is essentially a master plan for aesthetics. In other words, it establishes a series of philosophies about site and architectural design. The pattern book is intended to provide a foundation upon which City staff, the Planning Commission, and City Council can evaluate design choices in the context of the intended character of an area, especially in cases where PUD regulations are being used.

Pattern books are best applied in small areas, to incubate the look or character of a special neighborhood, corridor, or district. In many cases, communities would benefit from having several pattern books throughout the City, each designed after a public participation process in the area for which it is being developed. A

combination of local analysis, public input, and professional expertise is necessary to draft such a document. Ultimately, the draft will be filtered through the lens of this Master Plan, and finally, it would be adopted by the Planning Commission as a policy. The pattern book is then provided to prospective applicants and local decision makers to help these two parties come together more quickly on development projects.

While an applicant may not be expected to fulfill all the standards within a pattern book, they will often find comfort in that the pattern book is a document created by the Planning Commission in order to better communicate the design ideas they most value. The Planning Commission and City Council, when considering a site plan, special land use, or PUD, will have the added benefit of the pattern book's guidance to discuss potential site design characteristics with an applicant.

Small areas with unique characteristics, such as the historic area, may benefit from a pattern book to address special design needs.

Areas in the City where the creation of a pattern book may be most appropriate include, but are not limited to, Rochester Road, the area surrounding Oakland Mall, and the Transit Center area.

Green Building Manual

The City should consider the development of a Green Development Manual. This Manual would be applicable throughout the City and would describe the most desirable green practices the City seeks in development and redevelopment projects. The Manual would serve in a capacity similar to a site and architectural pattern book, which sets standards upon which designers could base their work. The Manual could include a wide variety of techniques, many of which may help a project achieve LEED Certification, although the obtaining of LEED Certification itself should not be a specific focus of the Manual. Instead, the Manual would introduce a wide variety of green techniques, explain where they would be most appropriate, describe the potential pros ad cons, costs and impacts, and provide alternatives.

Incorporation of elements introduced in the Manual would be used as additional incentives during the approval process for PUDs, site plans, or other projects within the City. The manual would be heavily illustrated, regularly updated, and widely distributed. In the spirit of regional leadership, such a document could be shared throughout the Southeast Michigan area to help other communities create their own green development manuals or standards.

The manual would provide specific direction for designers and could also prioritize those green features that would make the largest impact in a given area of the community. For instance, the green manual could call for specific storm water management techniques along Rochester Road. More than a simple manual for green techniques, it could serve as a policy guide as well.

Development Standards

The City of Troy employs Development Standards to regulate the physical specifications for engineering elements throughout the City. One of the many areas covered by the Development Standards is the design of detention and retention basins. Many LID techniques can be applied to these necessary features to make them more effective, to encourage infiltration, to reduce maintenance, and to help them become more aesthetically pleasing. The City should consider revising the existing Development Standards, especially with regard to stormwater management, to ensure that LID strategies are employed whenever possible.

Subarea Plans

Special zoning districts and overlay districts are powerful regulatory tools, and pattern books are beneficial advisory tools that allow the City to tailor development in specific areas of the community. **In order to develop these tools, however, the City must first engage in a planning process to build a foundation for these regulations or standards.** The creation of target areas, or subarea plans, is an advisable step designed to build consensus and inform the City's administration. Such studies can help the City Council make spending decisions, help the Planning Commission make development decisions, and assist potential developers in selecting the best sites for their intended projects.

The unique characteristics of certain areas within Troy warrant additional study that goes beyond the scope of this Master Plan. The level of detail necessary to more fully understand the physical characteristics of certain neighborhoods would require a degree of analysis that must be included in a stand-alone document. These stand-alone documents can be incorporated by reference into this Master Plan. The Big Beaver Corridor Study, for instance, is incorporated as an adopted part of this Master Plan, although it was developed separately. The creation of a Big Beaver Development Code relies on the special planning process and collected data and recommendations made in the Big Beaver Corridor Study.

While pattern books may be sufficient to assist in the development review process where PUDs and isolated projects are proposed in certain areas, very special areas that have little or no similarity with the rest of Troy may require their own special zoning provisions. The area surrounding the Transit Center, Rochester Road, or Oakland Mall should first be analyzed in a separate subarea study. Additional study will reveal the best course of action in such locations, be it a special district, an overlay district, pattern books, or other methods best suited to realize the intended character of the area being studied.

UPDATES & PLAN MAINTENANCE

The planning process, in order to be effective, must be continuous. The Master Plan must have a character that encourages its regular use in the planning process, as it represents the City's policies for the future. If the Plan is to perform its proper function in a continuous planning process and serve as the official reference for discussions and decisions on many different matters, it must be kept up-to-date. This program for revision of the Master Plan is therefore necessary.

In addition to keeping the Master Plan up to date, a regular monitoring program has several other benefits. First, such a program broadens the area of community agreement on development policies over time. The process invites open reconsideration of alternatives to major decisions and encourages exploration of new issues and secondary questions.

Review of the Plan at regular intervals will broaden and deepen the Planning Commission's and City Council's knowledge of the Plan, and help to identify its shortcomings. Along with the Plan's use in day-to-day decision making, a regular review process will assure that the Plan will be a living document. The Plan's policies, while firm and definite, must not be frozen in time.

Regular review will avoid delays that might otherwise be caused by calls for more study on certain issues before the Plan updates are adopted. A regular review program assures that issues requiring further examination will be studied at proper levels of detail at appropriate times and that policy changes resulting from such studies can be made swiftly.

The Master Plan maintenance program will have two objectives:

1. Determine the extent to which the City is actually implementing the policies of the Master Plan.
2. Determine whether the Plan's policies are still desirable and appropriate in light of changing circumstances.

The program will consist of an annual review by the Planning Commission; the results of which will be transmitted to the City Council in a report. Such review might result in a recommendation to change a portion of the Plan. A more comprehensive review of the Master Plan should be made at intervals no longer than five years to comply with State of Michigan enabling legislation. This practice will also enable the Planning Commission and City Council to see the implications of accumulated annual revisions in perspective and to make proper adjustments. Annual reviews may indicate the need for a major review in less than five years.

The actual components of an annual review will be determined by the Planning Commission at the start of the review. The following should be among the elements studied by the Commission; others might be added as circumstances suggest.

- Development proposals approved or denied: rezoning petitions, site plans, PUDs, etc.
- Land use regulations: Zoning Ordinance amendments made in the past year or expected to be needed in the future.
- Building permits issued, by land use category; estimate of number of dwelling units, by type, added to the housing stock; estimates of current population of the planning area.
- Sanitary sewer and water capacities and planned improvements.
- State equalized valuation, by assessor's categories.
- Traffic counts in relation to road capacities.
- Programmed road improvements.
- Changes in public transportation service, past year and proposed in the future, that affect the planning area.
- Major zoning and land use changes in the past year and likely in the coming year.

PROMOTION OF THE PLAN

Citizen involvement and support will be necessary as the Plan is implemented. Local officials should constantly strive to develop procedures which make citizens more aware of the planning process and the day to day decision making which affects implementation of the Plan. **A continuous program of discussion, education, and participation will be extremely important as the City moves toward realization of the philosophies contained within the Master Plan.**

The City may wish to consider developing a marketing strategy for the Master Plan involving promotion of the Plan's adoption, distribution of the document digitally over the City's website or a dedicated website designed exclusively for the Plan, and a series of workshops. The City may also consider development of an executive summary poster, pamphlet, or brochure with widespread distribution throughout the City. A single point person should be trained and available at the City to give a consistent, accessible voice to the Master Plan.

A comprehensive marketing program for the Master Plan will help the City more fully incorporate the policies and philosphies of the Plan in everyday decision making throughout City departments and at the Council level.

Implementation Summary

Regulation

- Initiate a comprehensive Zoning Ordinance revision.
- Consider creation of new zoning classifications or major revisions to existing categories.
- Create special districts or overlay districts for target areas.
- Use Planned Unit Development in areas prescribed for mixed-use development, especially where underlying zoning complicates execution of projects in keeping with this Master Plan.
- Utilize conditional rezoning to allow for the creation of special zoning considerations for unique sites and in instances where special attention to potential negative impacts must be observed.

Spending

- Develop a separate Capital Improvements Planning process, independent of the City's budget process, to ensure that planned improvements are in keeping with the philosophies and policies of the Master Plan.
- Consider the use of Corridor Improvement Authorities along Rochester Road and Maple Road in order to capture tax increment financing to accomplish policies set forth in the Master Plan.
- Coordinate with the Downtown Development Authority and Brownfield Redevelopment Authority to ensure that these important entities are supporting projects most in keeping with the philosophies and policies of the Master Plan.

Further Planning and Study

- Develop site and architectural pattern books for areas throughout the City where special characteristics differentiate the area from the rest of the community, especially in areas where PUD will be used to accomplish the goals of the Master Plan.
- Create a green development manual for the City to encourage and consider environmentally sustainable development.
- Revise the City's Development Standards to mandate the use of innovative stormwater management techniques throughout the City.
- Develop subarea plans for special areas, such as the Rochester Road Corridor, where unique characteristics of the area require in-depth study to determine the specific courses of action the City should take to achieve the larger goals of the Master Plan.

Updates and Maintenance

- Adopt a regular monitoring program for the Master Plan involving annual Planning Commission review and a comprehensive review every five years or less.

Promotion of the Plan

- Continuously promote the Master Plan in regular business of the Planning Commission and City Council, and within the departments of the City.
- Develop a marketing strategy involving the internet, promotional materials, and public workshops to promote and educate users about the Master Plan.

Index of Key Concepts

This Master Plan includes a great deal of material on a wide variety of topics. However, it focuses on a series of important concepts that were supported by Troy Vision 2020, the SGRAT workshop, the Community Survey, and the feedback of the Planning Commission and City Staff. This Index is intended to help the reader find references to these main ideas more quickly.

Each Key Concept or topic area below is followed by a series of pages on which references to it can be found:

***Aging population**: 77, 79, 80, 81*

***Art**: 22, 26, 101, 102, 106, 113, 117, 121*

***Brownfields**: 40, 49, 66, 126*

***Civic Entrepreneurs**: 3, 7, 8, 141*

***Downtown Development Authority**: 38, 124, 126*

***Education and Learning**: 17, 18, 19, 23, 24, 27, 28, 38, 39, 88*

***Energy and Energy Planning**: 14, 29, 31, 35, 36, 59, 60, 63, 67, 68, 69, 70, 71, 72*

***Knowledge Economy**: 9, 14, 17, 23, 24, 29, 31, 32, 34, 49, 50, 80, 81, 82, 83, 109, 111*

***Leadership in Energy and Environmental Design (LEED)**: 68, 69, 70, 71, 88, 111, 127*

***Low Impact Development (LID)**: 5, 15, 58, 59, 61, 65, 67, 75, 103*

***Mixed-use**: 5, 20, 21, 22, 24, 26, 27, 31, 32, 33, 37, 38, 40, 48, 49, 52, 67, 71, 85, 87, 93, 99, 01, 103, 104, 105, 107, 109, 115, 117, 123, 124, 126*

***Non-motorized transportation, pathways and trailways**: 4, 22, 23, 27, 41, 46, 47, 52, 53, 67, 88, 95, 125*

***Sustainability and Sustainable Development**: 13, 14, 15, 29, 30, 31, 34, 40, 55, 58, 61, 63, 67, 68, 70, 75, 83, 88, 106*

***Transit**: 12, 13, 15, 39, 40, 44, 47, 48, 49, 51, 53, 52, 54, 67, 70, 72, 75, 86, 105, 106, 107, 108, 110, 112, 115, 116, 117, 122, 124*

***Villaging**: 20, 27, 47, 48, 52, 57, 65, 87, 88, 93, 96, 108, 115*

Appendix 1.1

Current Land Use Conditions

An existing land use inventory is a critical planning tool. **In the development of long range planning goals, the City must possess a clear understanding of the current conditions in the community.**

Table A.1: Existing Land Use Inventory By Percentage

Land Use Category	Acres	SQ Mile	% of Total Land Use
Residential Low Density	10122.1	15.8	47.0
Rights of Way / Private Roadway	3708.1	5.8	17.2
Industrial	1631.8	2.5	7.6
Public / Quasi Public	1463.8	2.3	6.8
Recreation / Open Space / Water	1291.4	2.0	6.0
Office High Intensity	513.6	0.8	2.4
Residential High Density	499.0	0.8	2.3
Office General	460.1	0.7	2.1
Research & Technology	382.4	0.6	1.8
Commercial Local	386.5	0.6	1.8
Residential Medium Density	267.0	0.4	1.2
Utility	205.8	0.3	1.0
Commercial Center	184.8	0.3	0.9
Commercial Regional	175.7	0.3	0.8
PUD	113.7	0.2	0.5
Auto Dealership	100.6	0.2	0.5

Consequently, this Appendix includes a complete Existing Land Use Inventory. The Inventory was prepared using the City's Geographic Information System (GIS) using data provided by the City's Assessing Department, and was current as of March, 2007.

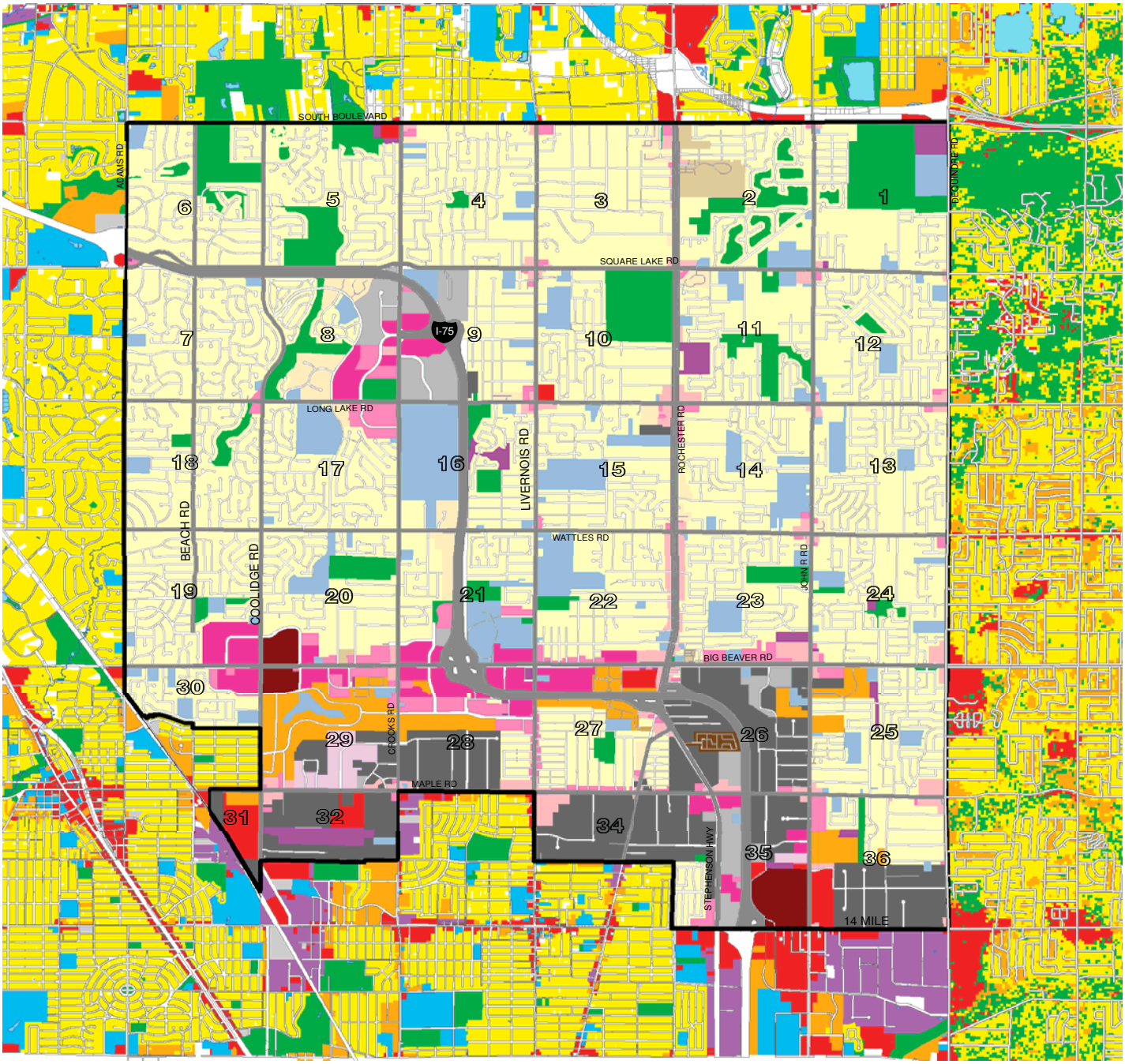
Note that vacant buildings and property are not specifically designated in this inventory. For example, a vacant lot in a residential is shown to be a residential lot. Notable vacant buildings and sites in Troy include the following:

- There is a vacant 24 acre parcel at the northwest corner of Crooks and Long Lake Road, in section 8.
- The office building on the 40-acre Kmart site at the northwest corner of Coolidge and Big Beaver is vacant and is scheduled for demolition. On October 15, 2007, conceptual development plan approval was granted for The Pavilions of Troy PUD, a mixed use development.
- Approximately 15 percent of all industrial buildings in Troy are vacant.

Residential Uses

The pattern of existing land use in Troy is heavily influenced by the rapid post-World War II investment in new development. **The most intense period of residential growth occurred between 1960 and 1980, a period characterized nationwide by a trend of suburbanization. Approximately 51 percent of Troy's existing residential properties were developed during these two decades.** Residential growth continued at a slower pace throughout the 1980's and 1990's, then slowing significantly during the new millennium as the City approached build-out.

Residential land uses in the City have been classified under the following categories within the Existing Land Use Inventory:



Basemap Source: Oakland County Planning
City Land Use Source: City of Troy
Surrounding Land Use Source: Oakland County and USGS National Land Cover Data

0 2,500 5,000 10,000 Feet

Plot Generation: 1.28.08

City of Troy - Existing Land Use

- Residential Low Density
- Residential Medium Density
- Residential High Density
- Residential Manufactured Housing
- Office General
- Office High Intensity
- Commercial Local
- Commercial Center
- Commercial Regional
- Auto Dealership
- Research & Technology
- Industrial
- Recreation / Open Space Water
- Public / Quasi Public
- PUD
- Utility
- City Boundary

Surrounding - Existing Land Use

- Vacant
- Single Family Residential
- Multiple Family Residential
- Mobile Home Park
- Commercial / Office
- Industrial
- Public / Institutional
- Transportation / Utility / Communication
- Recreation / Conservation

Table A.2: Residential Properties Built By Year

Year	Number of Properties	% of Total	Total Sq. Ft.	% Sq Ft
Prior to 1910	66	0.26	166,357	0.31
1910 - 1919	53	0.20	77,678	0.14
1920 - 1929	281	1.09	391,747	0.73
1930 - 1939	249	0.96	325,294	0.60
1940 - 1949	642	2.48	905,893	1.68
1950 - 1959	2,344	9.06	3,643,936	6.77
1960 - 1969	3,716	14.37	6,840,259	12.72
1970 - 1979	9,542	36.90	18,454,895	34.31
1980 - 1989	3,263	12.62	8,066,919	15.00
1990 - 1999	3,849	14.88	10,247,788	19.05
2000 - 2007	1,854	7.17	4,667,904	8.68
Totals	25,859	100.00	53,788,670	100.00

Low Density Residential

This category includes areas containing detached single-family dwelling units and accessory structures in subdivisions or site condominiums (0 to 5 units per acre). This is the most predominant land use in the City, comprising almost one-half of the area of the City. Lot sizes are generally largest in the northwest corner of the City and get smaller as you move in a southeasterly direction.

Medium Density Residential

This category includes areas containing attached dwelling units and accessory structures (6 to 10 units per acre). These consist of a variety of housing forms, including duplexes, townhouses, apartments and assisted living facilities. These uses are generally located on major thoroughfares and have historically been thought of as transitional uses between the road and low density residential neighborhoods.

High Density Residential

This category includes areas containing multiple attached dwelling units and accessory structures (11 or more units per acre). These consist of a variety of housing forms, ranging from three-story buildings to high-rise apartments. These uses are generally located in the southern third of the City.

Manufactured Housing Community

This category includes manufactured housing community and accessory structures, buildings and open spaces. The only manufactured housing community in Troy is the 285-unit Troy Mobile Home Villas, located east of Stephenson Highway in Section 26.

Table A.3: Commercial and Office Properties Built By Year

Year	Number of Properties	% of Total	Total Sq. Ft.	% Sq Ft
Prior to 1910	5	0.31	138,112	0.25
1910 - 1919	3	0.19	9,362	0.02
1920 - 1929	2	0.12	13,022	0.02
1930 - 1939	3	0.19	3,417	0.01
1940 - 1949	14	0.87	62,314	0.11
1950 - 1959	63	3.91	955,189	1.76
1960 - 1969	344	21.33	10,306,018	18.99
1970 - 1979	534	33.11	16,683,112	30.74
1980 - 1989	389	24.12	16,518,995	30.43
1990 - 1999	147	9.11	5,688,012	10.48
2000 - 2007	109	6.76	3,901,245	7.19

Commercial and Office Uses

The rate of commercial and industrial growth accelerated in the 1960's and peaked during the 1970's. Approximately 57 percent of Troy's commercial and industrial properties, about 33,000,000 square feet of space, were constructed during this time. Approximately 5.2 million square feet of office was developed during the 1970's and 9.7 million square feet of office was developed during the 1980's, as Big Beaver evolved into the preeminent office market in Metropolitan Detroit.

General Office

This category includes smaller office buildings that are one, two, or three stories in height. General office uses are mostly located along major thoroughfares in Troy, with some areas along Big Beaver Road, Maple Road, and Kirts Boulevard.

High Intensity Office

This category includes larger office buildings that are four or more stories in height. High intensity office uses are generally located along Big Beaver Road and Stephenson Highway and in the Northfield Hills Corporate Center area. Some high intensity office buildings include attached accessory uses such as restaurants or commercial retail.

Local Commercial

This category includes commercial uses designed to meet the daily convenience, shopping and service needs of persons residing in adjacent residential neighborhoods. These uses are generally located along major thoroughfares.

Center Commercial

This category includes commercial uses designed to meet the needs of a larger consumer population than is served by Local Commercial uses. Commercial centers are comprised of a large commercial anchor with smaller supporting commercial businesses. These uses are generally located at the intersection of major thoroughfares.

Regional Commercial

This category includes commercial uses designed to meet regional shopping needs, characterized by the presence of large-scale comparison shopping establishments. There are two regional commercial areas in the City, Troy Somerset Collection on the north and south sides of Big Beaver in sections 20 and 29 and Oakland Mall on the north side of 14 Mile in section 36.

Automobile Dealership

This category includes the automobile dealerships located within the planned automobile dealership center located north of Maple Road in section 29. There is also an isolated automobile dealership located on John R, north of 14 Mile in section 35.

Planned Unit Developments

This category includes uses that are designed and approved through the Planned Unit Development (PUD) approval process. These locations encompass a variety of different land use types, and are often home to a mix of land uses on the same site, and may include residential as well as commercial or office development.

Industrial Uses

The City of Troy has a significant industrial area south of Big Beaver Road. While experiencing a high rate of vacancy in recent years, between 15 and 18 percent[1], the availability of prime industrial or former industrial sites in the City provides a unique opportunity to encourage and implement many of the techniques described throughout this plan to attract knowledge economy businesses. The following use categories have been assigned to the industrial areas of the City:

Research and Technology

This category includes industrial-research and office-research uses. These uses are generally located in the Northfield Hills Corporate Center area in sections 8 and 9, south of Big Beaver in

1. City of Troy Assessing Department, July 2007

section 26 and in the Stephenson Highway area in section 35.

Industrial

This category includes uses where materials are processed, fabricated, assembled, manufactured or where equipment, materials or wastes are stored indoors or outside.

Industrial areas are generally located within industrial parks in the southern third of the City. Two industrial parcels are exceptions to this rule, Versa Tube in section 15 on Rochester Road and KAMAX-G.B. Dupont, L.P. at the northeast corner of Long Lake and I-75.

Public Uses

Public/Quasi-Public

This category includes publicly owned facilities such as public schools, parks, government buildings, and cemeteries and quasi-public uses such as public land, churches, clubs, and schools.

- The Troy School District operates twelve elementary, four middle, and two high schools within the City. These schools occupy about 390 acres of land. In addition to the schools, the Troy School District has other properties in the City, including Niles Continuing Education Building, the Administration Building, bus garage, and several vacant properties. The Troy School District encompasses most of the City, but small segments along its perimeter are served by six other school districts. Three of these school districts, Birmingham School District, Anandale School District, and Warren Consolidated Schools, have elementary schools in Troy. In many cases throughout Troy, local schools are located at or near the center of the individual sections of the City, providing an excellent framework for the social neighborhoods of the City, which will be explored in more detail in the future land use discussion later in this Chapter.
- There are 56 churches distributed throughout Troy, occupying approximately 415 acres in area.
- Troy has four publicly-owned cemeteries. In addition, White Chapel Cemetery is a 205-acre private cemetery located west of I-75 in section 16.
- Government buildings located in Troy include Troy City Hall and Troy Police Department (500 W. Big Beaver), Troy Department of Public Works (4693 Rochester Road) and 52-4 District Court (520 W. Big Beaver).
- There are six fire stations spread throughout the City. The Fire/Police Training Center is located at 4850 John R in section 11. Administrative Offices are located in City Hall, 500 W. Big Beaver.

Recreation / Open Space / Water

This category includes public and private parks, preserved or dedicated open space and open water features.

The Troy Parks and Recreation Department manages more than 850 acres of parkland including 14 existing parks, two golf courses, a nature center, community center and family aquatic center. Parks are generally located near residential neighborhoods. There are presently 12 undeveloped City-owned parcels that are under consideration for development as parks.

The most significant water feature in Troy is the Rouge River, which flows southerly through the northwestern portion of the City. Several creeks and drains provide drainage to other

areas within Troy. There are some small lakes and ponds scattered throughout the City. A concentration of seven lakes in section 2 is surrounded by single-family development.

Utility / Retention Basin / Airport

This category includes public utilities such as the Detroit Sewer & Water facility in section 1, all retention basins and the Oakland/Troy Airport in section 32.

Rights of Way / Private Roadway

This category includes public rights of ways and private roads.

Appendix 1.2

Smart Growth Readiness Assessment

Excerpt from the Introduction

"To engage the civic entrepreneurs of Troy, on June 21, 2007, the City conducted a Master Plan workshop which involved a selected participant list of over 150 invitees. Those invited to participate on the workshop process represented a wide cross section of Troy's population, and included business owners, City officials, volunteers, and many other participant groups.

In this workshop, the participants were engaged to employ the "Smart Growth Readiness Assessment Tool," (SGRAT) a new program designed by the Michigan Land Policy Institute at Michigan State University. The tool is designed to help communities learn how to incorporate "Smart Growth" principals into their land use management practices. "Smart Growth" is a term conceived in 1996, when the Environmental Protection Agency lead a group of organizations to form the Smart Growth Network. The Smart Growth Network is a group dedicated to creating new land development practices which "...boost the economy, protect the environment, and enhance community vitality," as stated by the Smart Growth Network.

A comprehensive document including the results of the June 21, 2007 workshop and an analysis of the findings uncovered by the SGRAT can be found in an appendix to this Plan. The Tool is intended to assess how well a community is prepared to develop according to the Ten Tenets, to allow communities to measure progress over time, and to supply resources for communities interested in growing smart. The SGRAT is the most comprehensive such tool in the nation."

The following Appendix section is the Summary report identified in the Introduction.

Introduction

On June 21, 2007, the City of Troy conducted a Master Plan workshop which involved a selected participant list of over 150 invitees. Those invited to participate in the workshop process represented a wide cross section of Troy's population, and included business owners, City officials, volunteers, and many other participant groups.

This workshop was designed to help the City Planning Commission work with a focused group of individuals to complete a program designed by the Michigan Land Policy Institute at Michigan State University called the "Smart Growth Readiness Assessment," or SGRAT. The SGRAT was designed to help communities learn how to incorporate Smart Growth principals into their land use management practices. The Smart Growth framework, and consequently the Smart Growth Readiness Assessment Tool, is organized around a set of Ten Tenets. These Tenets are:

1. Create a range of housing opportunities and choices.
2. Create walkable communities.
3. Encourage community and stakeholder collaboration in development decisions.
4. Foster distinctive, attractive communities with a strong sense of place.
5. Make development decisions predictable, fair, and cost-effective.
6. Mix land uses.
7. Preserve open space, farmland, natural beauty and critical environmental areas.
8. Provide a variety of transportation options.
9. Strengthen and direct development towards existing communities.
10. Take advantage of compact building design.

What is the Smart Growth Readiness Assessment Tool?

- It is a set of online assessments for scoring how well a community is prepared to develop according to the Smart Growth principles.
- It is designed to provide communities with a baseline score, and can be used to measure progress.
- It provides extensive resources for communities interested in growing smart, including case studies of Michigan communities successfully following Smart Growth principles.

- The assessment is based on the ready/set/go model. Scoring will help a community determine if it is:
    - Ready for smart growth. It will measure if the community has the necessary plans in place.
    - Set to act. It will measure if the community has the necessary regulations adopted or capital improvement resources secured.
    - Go. It will measure whether the community has already initiated action such as implemented a regulation or capital improvement that supports smart growth.
- The purpose of the facilitated Smart Growth Readiness Assessment is to help guide communities through an evaluation of growth in their community, an evaluation of the plans and implementation tools they currently use to guide growth, and an identification of tools that may better help communities produce a smart pattern of growth in the future.

Why did Troy decide to use the Smart Growth Readiness Assessment Tool?

The SGRAT is the most comprehensive such tool in the nation- especially with the comprehensive set of online resources and local case studies provided at the conclusion of the assessment.

By measuring Troy's Smart Growth Readiness, the City will be able to:

- Point to successes as a source of community pride and marketing.
- Understand and use successful best practices.
- Spot the gaps in your community's Master Plan, Zoning Ordinance and similar documents that limit the capacity to grow smart.
- Use it as an educational opportunity for a wide range of community stakeholders on what it takes for a community to grow smart.
- Organize dialogue with neighboring jurisdictions regarding growth issues that cross boundaries.
- Realize cost efficiencies.

Executive Summary

The following is an executive summary, by Tenet, of the results of the Smart Growth Readiness Assessment Tool in Troy.

Tenet 1: Create a range of housing opportunities and choices.

Points Awarded	150
Points Missed	610
Percentage	20%

The SGRAT indicates that while Troy has made some steps towards smart growth as it relates to affordability of a wide variety of housing types, it has room for improvement. For instance, while the assessment highlights the fact that the City has funded training for City staff for housing affordability programs, it does not actively promote housing affordability or formally encourage diversity of housing types in its existing planning documents. Further, while there are a variety of housing types in the City that may allow for an array of people to become homeowners, the City has not proactively pursued funding assistance or renovation assistance for the lowest ends of the economic spectrum.

Tenet 2: Create walkable communities.

Points Awarded	272
Points Missed	284
Percentage	49%

Troy scored well in the area of walkability, having earned nearly half of the available points for this Tenet. For the most part, Troy scored well on the basis of existing conditions rather than on formal requirements for pedestrian facilities. In other words, the City has done a great job encouraging developers to incorporate pedestrian amenities, and has provided them on its own, without the backing of strong formal planning and zoning requirements.

The assessment indicates that existing sidewalks and paths are largely contiguous, with very few breaks; however, those pedestrian systems may not always provide pedestrian access to the most desirable places. That is, while subdivisions or other areas may be well provided with continuous sidewalks, they may not ultimately provide access to shopping or civic uses, specifically schools. Children and seniors are more likely to walk or ride bicycles when

compared with younger adults, who most frequently have access to private automobiles, however, the assessment seems to indicate that access to schools or other civic buildings, used most frequently by seniors and children, are not provided strong access via sidewalks or pathways.

In short, the assessment identified a weakness with regard to formal walkability requirements or planning, strength in maintenance of existing networks, and a need for access to specific facilities most used by populations most in need of pedestrian access. Therefore, the City may consider devoting new recourses to more aggressive sidewalk and pathway planning and requirements, especially where mixed-use areas and civic uses are concerned.

Tenet 3: Encourage community and stakeholder collaboration in development decisions.

Points Awarded	222
Points Missed	330
Percentage	40%

Troy was awarded approximately 40 percent of the available points for Tenet 3, which promotes collaboration between the community and its stakeholders. While the participants perceived the City of Troy to be very good about collaboration in formal settings, such as the development of new Zoning Ordinance amendments or Master Plan revisions, the perception of collaboration outside of those programs was poor. In other words, respondents felt that the City has room to improve when it comes to general encouragement of an open, collaborative environment with special interest groups, adjoining communities, and the general public, especially as it relates to smart growth principles.

The assessment did identify that the city has funded Staff education, and that officials have developed new programs or positions on various topics as result of new information provided by Staff as a result.

Another area where the City could improve its score in this area is to develop stronger community outreach programs with regard to planning and growth issues. While collaboration with schools scored well, education and collaboration with the general public, especially when initiated by the City itself, was not perceived well.

Tenet 4: Foster distinctive, attractive communities with a strong sense of place.

Points Awarded	197
Points Missed	422
Percentage	32%

The assessment awarded Troy just over 30 percent of the available points with regard to the fostering of attractive communities with a sense of place. The most points were awarded to the City for its strength in the area of promoting good site design for neighborhood commercial and highway commercial development. The City missed points in the areas of historic preservation, light regulation, and streetscape design. Perhaps most notably, the City has not actively promoted historic preservation programs, although the extent of resources which could be preserved is not factored in.

While site design practices for commercial development scored well, the same was not true for residential developments or for streetscapes in general. In particular, areas for increased scores could be found for streetscape landscaping, natural features preservation, or the development of more residential units in mixed-use developments.

Tenet 5: Make development decisions predictable, fair, and cost-effective.

Points Awarded	400
Points Missed	140
Percentage	74%

The City scored very well within the Tenet 5 section, which dealt with land use development decision-making. The City received nearly 75 percent of the available points in this area, thanks to a strong perception that the City diligently maintains it's Zoning Ordinance, Master Plan, and other community planning documents, its consistency between its zoning and planning, and perception of fairness to the development community. Respondents felt that developers are given a fair chance to innovate in Troy, and that most new development makes a strong contribution to the City as a whole.

The City could score even higher in this area were it to permit additional density for developers who propose more smart-growth oriented developments. Also, participants felt that more attention to long-range planning could be paid, although there was a positive recognition that current practices for ongoing development were strong and fair.

The City received extra points for supporting participation in elected and appointed official training programs, such as the Michigan State University Extension Citizen Planner Program, and continuing education in the area of planning

Tenet 6: Mix land uses.

Points Awarded	230
Points Missed	531
Percentage	30%

The City received only 30 percent of the available points possible for Tenet 6, which emphasizes the importance of mixed-use development. While the assessment rewarded Troy for having encouraging language regarding the development of mixed-use projects in its planning documents, it lost points with regard to actual regulations permitting or encouraging mixed-uses. For instance, while the City has received vocal input from a variety of groups with regard to mixed-use development, and has taken steps to plan for such development, the Zoning Ordinance still only permits such projects exclusively within planned unit developments, or PUDs.

Consequently, there was a perception among respondents that developers were not pursuing mixed-use as much as they could, as they are more likely to develop projects that are permitted by right in their zoning district. Furthermore, the assessment highlighted the lack of service or commercial uses within walking distance of dense residential areas or high-employment centers, and the limitations on live-work units and home occupations.

Tenet 7: Preserve open space, farmland, natural beauty and critical environmental areas.

Points Awarded	380
Points Missed	1070
Percentage	26%

Troy received only 26 percent of the available points for Tenet 7, which highlights the preservation of open space, farmland, natural beauty, and critical environmental areas. It must be noted that, in our opinion, as a nearly built-out community many of the questions within this section disproportionately penalize a community of Troy's maturity.

Troy received the most points within this area from its efforts in preparing inventories for natural features and open space, its strong parks and recreation planning, permitting and promotion of cluster housing developments, and water quality preservation techniques. The City was penalized for a number of responses that are typical and in many cases, acceptable for a more built-out community, given that the SGRAT does not take into consideration the fact that a community may not have any farmland, open space, or critical natural features that require regulation or formal protection efforts. These areas where Troy did not score well include formal forest land or agricultural preservation requirements, site plan or subdivision review standards which help identify or protect critical farmland or large open space areas, the presence of eco-tourism or agri-tourism in the community, or the presence of non-profit groups dedicated to natural features, open space or farmland preservation.

Troy could gain points in this area mainly with regard to better management of stormwater, more active watershed planning, or the active preservation of areas of natural beauty or of critical environmental concern.

Tenet 8: Provide a variety of transportation options.

Points Awarded	268
Points Missed	548
Percentage	33%

The assessment granted 33 percent of the available points to Troy for Tenet 8, which is concerned with transportation options. The City received many points for its strong capital improvements planning, access management standards, well-developed subdivision regulations, provision of transportation options for the mobility impaired (either by income restrictions or physical limitations), and the mitigation of the negative impacts of parking on surrounding areas.

The assessment demonstrated that the City can improve its transportation score in a variety of areas, especially by providing stronger access to public transit, rail service, or a multi-modal method of access to a regional airport (which are all common shortfalls for many of Southeast Michigan's communities and are not necessarily unique to Troy). Troy could also gain points by encouraging better infrastructure for cycling as a viable option, and the provision of park-and-ride areas for bus service. Further, the City does not make extensive use of traffic calming devices, which can restrict automobile traffic, but encourage safer non-motorized transportation in certain circumstances.

Tenet 9: Strengthen and direct development towards existing communities.

Points Awarded	286
Points Missed	484
Percentage	37%

Tenet 9 is largely geared towards communities that have, or are part of, an urban "edge," that is, an area where development is occurring adjacent to undeveloped areas and growth management is very important. Given Troy's location in the greater Southeast Michigan context, and its nature as a built-out community, Troy was not always able to achieve maximum points in that some of the practices encouraged within this Section would not apply in this situation. With that in mind, Troy was awarded about 37 percent of the available points for Tenet 9.

While Troy does get points for strict observation of its development capacity with regard to infrastructure, it was unable to gain points for the provision of any sort of urban growth boundary, given its nature, as noted above. The City did score well by focusing in the maintenance of existing infrastructure as opposed to the development of new infrastructure, the

utilization of brownfield redevelopment programs, the appropriate location of schools and other civic buildings.

Troy could gain additional points within Tenet 9 by using a wider variety of tools, such as Business Improvement Districts, Principal Shopping Districts, or Business Improvement Zones, as the need for such support arises. The City could also gain points by using more of the federal or state programs available for economic incentives for business recruitment, such as, but not limited to, Community Development Block Grant funds, Cool Cities Grants, or the Main Street Program.

Troy does not currently get maximum points for the encouragement of redevelopment, or promotion of infill development. The City did score well with regard to adaptive reuse, but could gain additional points by focusing new efforts on historic preservation, providing density bonuses for projects which are redeveloping an existing site, or developing new programs to help turn over tax delinquent property in developed areas.

Tenet 10: Take advantage of compact building design.

Points Awarded	200
Points Missed	330
Percentage	38%

Troy scored just under 40 percent for Tenet 10. Tenet 10 encourages communities to take advantage of compact building design. Primarily, Troy lost points for this Tenet based on its lack of a formal city center, with very high density development in a central, limited area. While community leaders have expressed support for a compact city center, the Zoning Ordinance does not expressly concentrate such development in a single, limited central area.

No restrictions have been placed on the design of big-box retailers in Troy to encourage their design to be more compatible with the tighter urban pattern encouraged by this Tenet, nor has the City taken steps to permit or encourage “Traditional Neighborhood Development,” (a type of mixed-use town-style design) which could both gain additional points for Troy’s next assessment. Other areas for additional points could include the integration of parks and residential uses in conventionally commercial-only areas, and the reuse of vacant industrial or warehouse buildings for residential development.

While the City is currently considering adoption of a form-based code along an area of Big Beaver, the lack of any form-based codes on the books at the time of this assessment cost the City additional points in this area.

Appendix 1.3

Glossary

The following document, "Planning and Zoning Concepts for a Sustainable Future" was provided to the City at the beginning of the Master Plan Process and has been available for use and reference by project particpants throughout the process.

City of Troy Master Plan

Planning and Zoning Concepts for a Sustainable Future

Access Management **Civic Entrepreneur** **Comprehensive Plan** **Form-Based Code**

Green Building **Infill Development** **LEED** **Low Impact Development** **Mixed Use Zoning**

New Urbanism **Overlay Zone** **Performance Zoning** **Sustainability**

Traditional Neighborhood Development **Transit Oriented Development** **Wayfinding**

The following pages have been prepared by Carlisle/Wortman to define some key planning and zoning concepts that may arise in discussions related to the Big Beaver Corridor Study and Master Plan Update.

January, 2007

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Glossary of Terms

Access Management

Access management is the process or development of a program intended to ensure that the major arterials, intersections and freeway systems serving a community or region will operate safely and efficiently while adequately meeting the access needs of the abutting land uses along the roadway (FHWA, ITE, 2004). Implementing access management techniques can help increase roadway capacity, manage congestion and reduce crashes. Examples of less obvious benefits, in the case of businesses, include: reduction in maintenance and other costs by utilizing shared driveways or eliminating entrance/exit points and increased road frontage and improved aesthetics as a result of eliminating driveways.

There are a number of physical design and policy-related tools and techniques that can be used to achieve access management. Some of the basic design principles are described below:

1) Provide a specialized road system—design and manage roadways according to the function they are intended to provide.

2) Limit direct access to major roadways—preserve the traffic function of higher volume roads serving regional thru traffic.

3) Promote intersection hierarchy—intersection types should reflect roadway hierarchy. For example, two major arterials would form a junction as would a driveway and a local street.

4) Locate signals to favor through movements—Allows for better coordination of signals, continuous movement of traffic at the desired speed and reduces delays.

5) Preserve the functional areas of intersections and interchanges—The area where motorists respond to the intersection or interchange is the area required for safety and efficiency. Access points too close to intersections or interchange ramps should be avoided.

6) Limit the number of conflict points—Simplifying the driving environment by limiting the number of conflict points among vehicles, pedestrians, bicyclists and transit helps improve safety.

7) Separate conflict areas—Traffic conflicts can also be reduced by separating conflict areas. Encourage less cluttered sight distance for the motorist, thus allowing longer reaction time and improving safety.

8) Remove turning vehicles from through traffic lanes—When turning vehicles are removed from through traffic lanes, better traffic flow and is maintained, roadway capacity is better preserved and safety is improved.

9) Use non-traversable medians to manage left-turn movements—Research shows the majority of access-related crashes involve left turns. Use medians to channel turning movements.

10) Provide a supporting street system and circulation system—Well-planned communities with a supporting network of local and collector streets, unified property access and circulation systems are better able to accommodate development.

(Information from TRB Access Management Manual, 2003)

Civic Entrepreneur

"Civic Entrepreneur" is a phrase coined in 1997 in the book *"Grassroots Leaders for a New Economy—How Civic Entrepreneurs are Building Prosperous Communities"* by Collaborative Economics. The basic principle of civic entrepreneurship is that an individual of influence, be it social, economic, political or some combination of these, chooses to volunteer their time and attention for a greater good at a large scale. Often associated with regional initiatives, civic entrepreneurs are known to use their connections and resources to lead opinions and bring visibility to large-scale initiatives.

Collaborative Economics state that civic entrepreneurs "…have the personality traits commonly associated with entrepreneurial business leaders. They are risk

takers. They are not afraid of failure. They possess courage born of strong conviction. They are people of vision. They are passionate and energetic. They bring out the best in people and know how to encourage them along."

The five common traits of civic entrepreneurs according to the authors of "Grassroots Leaders for a New Economy" are that they:

— See opportunity in the new economy

— Possess an entrepreneurial personality

— Provide collaborative leadership to connect the economy and the community

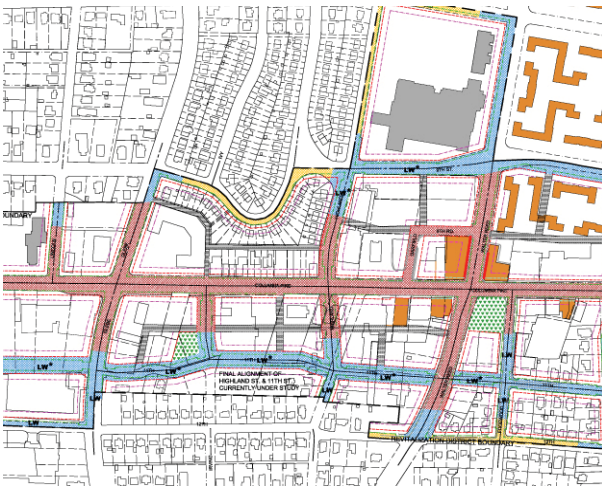
— Are motivated by broad, enlightened, long term interests

— Work in teams, playing complementary roles

(Information from "Grassroots Leaders for a New Economy— How Civic Entrepreneurs are Building Prosperous Communities" Collaborative Economics, 1997 and "The civic entrepreneur — a new leadership model is taking root, but not here" Charleston Regional Business Journal 07/30/2001, http://www.charlestonbusiness.com/pub/4_16/news/1875-1.html)

Comprehensive Plan

A document or series of documents prepared by a planning commission or department setting forth policies for the future of a community. In Michigan, the MZEA requires that a Zoning Ordinance be based on the plan. It is normally the result of considerable citizen participation, study and analysis of existing physical, economic, and social conditions, and a projection of future conditions. Typical elements include Goals and Policies, a Land Use Plan, Thoroughfare Plan, Greenways/Open Space Plan and Implementation Strategies. It serves as a guide for many public decisions, especially land-use changes and preparation of capital improvements programs, and the enactment of zoning and related growth management legislation.



EXAMPLE OF HOW A FORM-BASED CODE CAN SPECIFY DIFFERENT BUILDING TYPES FOR EACH FACE OF THE BLOCK, ALLOWING MORE FLEXIBILITY THAN CONVENTIONAL ZONING WHICH ASSIGNS A SINGLE USE/DENSITY CATEGORY FOR AN ENTIRE BLOCK OR GROUP OF BLOCKS.

Form-Based Code

An emerging approach to land regulation, influenced by new urbanism that has recently been applied in a number of communities, including: Arlington County, Virginia (http://www.arlingtonva.us/Departments/CPHD/forums/columbia/currentCPHDForumsColumbiaCurrentCurrentStatus.aspx) and Azusa, California (http://www.ci.azusa.ca.us/com_development/PDFs/04-0623%20development%20code.pdf). The approach "places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of 'place'. Standing in contrast to conventional land development regulations (which, it is argued, favor regulating use over form), form-based regulations are designed to place the ultimate form of the development in a superior position to the use to which the property is put" *(Form-Based Land Development Regulations, Robert J. Sitkowski, Brian W. Ohm, THE URBAN LAWYER VOL. 38, NO. 1 WINTER 2006).*

As explained by the Form-Based Codes Institute:

Form-based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. The regulations and standards in form-based codes, presented in both diagrams and words, are keyed to a regulating plan that designates the appropriate form and scale (and therefore, character) of development rather than only distinctions in land-use types. This is in contrast to conventional zoning's focus on the segregation of land-use types, permissible property uses, and the control of development intensity through simple numerical parameters (e.g., FAR, dwellings per acre, height limits, setbacks, parking ratios). Not to be confused with design guidelines or general statements of policy, form-based codes are regulatory, not advisory.

" Form-Based Code places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of 'place'."

Form-based codes commonly include:

Regulating Plan. A plan or map of the regulated area designating the locations where different building form standards apply, based on clear community intentions regarding the physical character of the area being coded.

Building Form Standards. Regulations controlling the configuration, features, and functions of buildings that define and shape the public realm.

Public Space/Street Standards. Specifications for the elements within the public realm (e.g., sidewalks, travel lanes, street trees, street furniture, etc.).

Administration. A clearly defined application and project review process.

Definitions. A glossary to ensure the precise use of technical terms.

Form-based codes also sometimes include:

Architectural Standards. Regulations controlling external architectural materials and quality.

Annotation. Text and illustrations explaining the intentions of specific code provisions.

(Information from http://www.formbasedcodes.org/)

Green Building

"Green Building is a collection of design and construction strategies that significantly reduce or eliminate environmental impacts of a building while providing healthy indoor space for its occupants. Building green requires an integrated design approach that looks at all components of the building project and evaluates the interrelationships among the building, its specific components, its surroundings and its occupants." Some of the benefits of Green Buildings include: more efficient and cost effective use of building resources, energy and operational savings, improved productivity and reduced absenteeism among occupants and reduced air pollution and stormwater impacts. Recent analysis show that the upfront cost of building green ranges from 0-5% of the total construction cost, but is often recouped over the life of the building and often within the first few years, due to reduced operational costs.

THE FORD ROUGE FACTORY TOUR VISITOR CENTER IN DEARBORN, MICHIGAN RECEIVED GOLD LEED CERTIFICATION IN 2004
SOURCE: FORD MOTOR COMPANY

(Information from Building Green Building Smart, Arlington County, VA, March 2005)

LEED CATEGORY	AREAS OF IMPACT
Sustainable Sites	Project location, how building is situated on the property, and how it relates to the surrounding community
Water Efficiency	Water efficiency for landscaping and potable supply
Energy and Atmosphere	Energy efficiency and global warming issues
Materials and Resources	Reuse and recycling of materials, materials selection
Indoor Environmental Quality	Indoor air quality, ventilation, daylight
Innovation and Design	Creative green building applications

Infill Development

It has become clear in recent years that current patterns of sprawling, low-density development at the urban fringe of many U.S. cities is consuming land (including farmlands, wetlands, and other resource lands) at a much faster rate than population growth. Increased traffic congestion, overburdened public facilities, increased housing and infrastructure costs, loss of open space and loss of other valued community resources are some of the problems associated with such patterns.

An emphasis on infill development is one way to reverse some of the growing problems caused by sprawling development patterns. Infill development focuses on developing vacant or under-utilized parcels within existing urban areas that are already developed. The focus should not be on piecemeal development of individual lots. Rather, infill development should fill in gaps within the neighborhood, fit the neighborhood context, contribute to a healthy mix of uses, support transportation choices and add convenience for residents.

(Information from Infill Development Strategies for Shaping Livable Neighborhoods , June 1997 - Report No. 38 http://www.mrsc.org/Publications/textfill.aspx)

LEED

The LEED™ (Leadership in Energy and Environmental Design) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), is the national benchmark for high performance green buildings. The LEED rating system allots points in 6 major categories and using LEED as a guide, a project can attain one of the following LEED award levels:

- Certified (26-32 points)
- Silver (33-38 points)
- Gold (39-51 points)
- Platinum (52-69 points)

As part of the LEED certification process, the project team must document specific credits to be obtained. Once the project is completed, the USGBC reviews the documentation package submitted by the applicant and confirms that the project is "green" and assigns an award level.

LEED is flexible in that the project team decides which points offer the greatest benefit for the project. Also, if there is a specific aspect of the project that enhances environmental aspects, but does not fit within a specific category, there is an option to develop four Innovation Credits.

(Information from Building Green Building Smart, Arlington County, VA, March 2005)

Low Impact Development (LID)

LID principles began with the introduction of bioretention technology in Prince George's County, Maryland in the mid-1980's. It was pioneered to address growing economic and environmental limitations of conventional stormwater management.

EXAMPLE OF A MIXED-USE DEVELOPMENT AT AN INTERSECTION IN CHERRY HILL VILLAGE, A NEIGBORHOOD BASED ON THE PRINCIPLES OF NEW URBANISM LOCATED IN CANTON, MICHIGAN
SOURCE: CYBURBIA IMAGE GALLERY

LID is an innovative stormwater management approach whose basic principle is modeled after nature: managing rainfall at the source using uniformly distributed decentralized micro-scale controls. The goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source. LID addresses stormwater through small, cost-effective landscape features located at lot level, rather than conveying and managing/treating stormwater in large, costly end-of-pipe facilities located at the bottom of drainage areas. LID's landscape features are known as Integrated Management Practices (IMPs) and can include almost all components of the urban environment, such as: open space, rooftops, parking lots, streetscapes, sidewalks and medians. LID's approach is versatile and can be applied to new development, urban retrofits and redevelopment and revitalization projects.

(Information from http://www.lid-stormwater.net/intro/background.htm)

Mixed Use Zoning

Zoning that permits a combination of two or more land uses within a single development project. The term has often been applied to major developments, often with several buildings, that may contain offices, shops, hotels, apartments and related uses. Optimal mixed-use development promotes a variety of uses (residential, work, recreation, retail, etc.) in close proximity to residents. Many zoning districts specify permitted combinations of uses, for example, residential and retail/office.

In the 1990s, **m**ixed use emerged as a key component of Smart Growth, Transit Oriented Development (TOD), Sustainable Development and other movements.

(Information from http://www.mncppc.org/html/glossary2.htm and Land Development East, May 2006 http://ncppp.org/resources/papers/surprenant_development.pdf#search=%22optimal%20mixed%20use%20development%22)

New Urbanism

An approach to urban planning that borrows from traditional city planning concepts, particularly those of the years 1900-1920, and applies them to modern society. New urbanism advocates integrating housing, workplaces, shopping, parks and civic

facilities into compact, pedestrian-friendly, mixed-use neighborhoods linked by transit and bikeways. Developments are characterized by buildings placed directly along relatively narrow streets, with parking and driveways located to the rear, complemented by pedestrian-oriented amenities such as front porches and sidewalk cafes. (see Traditional Neighborhood Development)

(Information from http://www.indygov.org/eGov/City/DMD/Planning/Resources/glossary.htm#M and http://planning.city.cleveland.oh.us/cwp/glossary/glossary.php)

Overlay Zone

Within their zoning ordinances, communities may choose to include overlay zones (districts) or "combining zones" to protect particular natural or cultural areas, such as historic districts, steep slopes, waterfronts, scenic views, agricultural areas, aquifer recharge area, wetlands, watersheds, or downtown residential enclaves. Overlay zones may also be instituted for a specific purpose within a neighborhood. For example, an overlay zone could be used to promote a mixed-use development near a community center or could be used to allow affordable housing as a use by right in areas selected by the community, regardless of the current zoning.

As part of the Zoning Ordinance, overlay zones build on the underlying zoning for a given area, by establishing additional or stricter standards and criteria. Developments within the overlay zone must conform to the requirements of both zones or the more restrictive of the two.

The primary advantage of overlay zones is to allow the community the flexibility to impose specific requirements for area-specific or site specific needs. A disadvantage is that too many zones may result from this approach, and it can be difficult to identify all relevant requirements for a particular site. The overlay zone is a relatively standard zoning tool within the overall Euclidean framework of most cities' zoning ordinances.

(Information from http://www.co.tompkins.ny.us/planning/vct/tool/overlayzones.html and http://www.city.palo-alto.ca.us/planning-community/zon-code_frmtsdp.html#Types)

Performance Zoning

Performance standards are zoning controls that regulate the effects or impacts of a proposed development or activity on the community, instead of separating land uses into various zones. It was initially developed to set commercial and industrial standards (e.g., noise, vibration, odor, glare, air pollution, toxics, outdoor storage) in the 1950's, but was expanded in the 1960's and 1970's to include: impervious cover limitations, building coverage, landscape surface ratio, trip generation, and water/sewer impacts . Although performance zoning was intended to minimize discretion in project review, these criteria are more commonly used to supplement "use" provisions and dimensional standards, rather than to supplant them. For example, with regards to home occupation, a performance standard may read: "The number of square feet used for conducting the home occupation, whether in the residence or other permitted structure, shall not exceed twenty-five percent (25%) of the total area of the home plus attached garage, not to exceed 500 square feet." In some communities, performance zoning has been used to create point systems to evaluate development, however, still relying on some highly discretionary criteria, such as "neighborhood compatibility," for approval.

"Performance standards are zoning controls that regulate the effects or impacts of a proposed development or activity on the community, instead of separating land uses into various zones."

An advantage of performance zoning is to provide flexibility regarding density and floor area requirements, rather than focusing on project impacts. Disadvantages of the performance approach include: a) impacts are frequently site-specific, so that a set of numbers may not be adequate to address all impacts; b) the requirements can be difficult to implement, since they often involve complex calculations not

familiar to those who use the code; and c) performance zoning to replace "use" limitations ignores some of the fundamental reasons to provide for or prohibit uses (such as providing for neighborhood-serving commercial uses or prohibiting liquor stores in a single-family residential area).

EXAMPLE OF A MIXED-USE PUD IN HOWELL, MICHIGAN DESIGNED USING TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND) PRINCIPLES.
SOURCE: HTTP://WWW.TOWNCOMMONSLLC.COM/OVERVIEW.HTML

Cities have been reluctant to deviate from density and intensity limits and/or a highly discretionary review process to apply a performance zoning approach. Performance zoning in codes today is generally limited to providing special standards for specific uses, such as the nuisance-related criteria for industrial uses, or standards for large-family day care facilities, home occupations, etc., to minimize discretion in the review of some of these uses.

(Information from City of Palo Alto Discussion Paper, Types of Zoning Codes and Formats, http://www.city.palo-alto.ca.us/planning-community/zon-code_frmtsdp.html)

Sustainability

The United States Environmental Protection Agency (U.S. EPA) defines sustainability as "the ability to achieve continuing economic prosperity while protecting the natural systems of the planet and providing a high quality of life for its people". It further states that "achieving sustainable solutions calls for stewardship, with everyone taking responsibility for solving the problems of today and tomorrow-individuals, communities, businesses and governments are all stewards of the environment".

Sustainability covers many areas. In terms of the Master Plan, sustainable development may be the most important concept to be familiar with. A simple, common definition for sustainable development was originally presented in the report "Our Common Future." It reads:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development essentially means improving quality of life without increasing the use of natural resources to the point of exhaustion.

(Information from http://www.epa.gov/sustainability/, World Commission on Environment and Development (WCED). Our common future. Oxford: Oxford University Press, 1987 p. 43 and http://www.sdgateway.net/introsd/definitions.htm)

Traditional Neighborhood Development (TND)

Traditional Neighborhood Development (TND), sometimes called Neotraditional Development, Neoclassical Development or New Urbanism, refers to a pattern of land planning and development that emulates the towns and suburbs built in the early to mid-20th century. TNDs stress a walkable scale, an integration of different housing types and commercial uses, and the building of true town centers with civic uses. The idea of TNDs arose in the 1980s and gained popularity in the 1990s, due to dissatisfaction with the by-products of suburban development patterns over the proceeding decades.

TNDS often include a variety of housing types and land uses in a defined area. The variety of uses permits educational facilities, civic buildings and commercial establishments to be located within walking distance of private homes. A TND is often served by a network of paths, streets and lanes suitable for pedestrians as well as vehicles. Public and private spaces have equal importance, creating a balanced community that serves a wide range of home and business owners.

"TNDs stress a walkable scale, an integration of different housing types and commercial uses, and the building of true town centers with civic uses."

Some TNDs that are substantially built and have gained significant national attention include: Kentlands (Gaithersburg, MD), Seaside (Florida), Harbor Town, (Memphis, TN), Celebration (Florida), and Laguna West (Sacramento County, CA). Many zoning and subdivision ordinances do not permit the development of TNDs because of the codes' requirements for large lots, large setbacks, wide streets, and separation of uses. PUD ordinances have allowed development of TNDs in certain locations and some communities have adopted their own TND ordinances.

(Information from http://www.tndtownpaper.com/neighborhoods.htm and NAHB)

RENDERING OF ASSEMBLY SQUARE, A MIXED-USE, TOD DEVELOPMENT IN SOMMERVILLE, MA
SOURCE: MBTA

Transit Oriented Development (TOD)

"Transit-oriented development (TOD) is compact, walkable development centered around transit stations. Generally including a mix of uses—such as housing, shopping, employment, and recreational facilities—TOD is designed with transit and pedestrians as high priorities, making it possible for visitors and residents to move around without complete dependence on a car." *(Massachusetts Bay Transportation Authority, http://www.mbta.com/projects_underway/tod.asp)*

Components of TOD include:

- *Walkable design with pedestrian as the highest priority*
- *Train station as prominent feature of town center*
- *A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses*
- *High density, high-quality development within 10-minute walk circle surrounding train station*
- *Collector support transit systems including trolleys, streetcars, light rail, and buses, etc*
- *Designed to include the easy use of bicycles, scooters, and rollerblades as daily support transportation systems*
- *Reduced and managed parking inside 10-minute walk circle around town center / train station*

(Information from http://www.transitorienteddevelopment.org/index.html)

Benefits of TOD include:

- *Quality of Life: "Quality of life" is often used to represent a host of factors that collectively describe a good place to live. It includes concepts such as safe neighborhoods, access to jobs and recreation, a sense of community, ease of getting around, and moderate cost of living.*
- *Increased Mobility Choice: Because of their pedestrian orientation, mix of uses, and access to transit, TODs increase the number and of proportion of all trips made by transit, walking, and cycling.*
- *Reduced Congestion: To the extent that TOD allows more people to use transit, walk, and bicycle, it reduces road and highway congestion.*
- *Conservation of Land and Open Space: By concentrating development, TOD helps to curtail sprawl, which protects open space.*
- *Health Benefits: By providing more opportunities for walking and bicycling, TODs offer direct health benefits—significant at a time when obesity has become a national epidemic, fueled partly by the sedentary lifestyle associated with sprawl.*
- *Enhanced Sense of Community: Research suggests that residents in suburban sprawl neighborhoods feel no strong "sense of community." TOD, however, provides and emphasizes public space that affords residents spending opportunities for face-to-face contact.*
- *Economic & Social Benefits: TOD can lower cost housing costs and reduce household transportation spending.*
- *Jobs-Housing Balance: A jobs-housing imbalance occurs when jobs are located far from housing. Bringing jobs, housing, and services closer together and linking them with transit helps mitigate this mismatch.*

- *Redevelopment Opportunities: TOD can combine public and private investment, so that scarce public funds can be used most efficiently and effectively.*

(Information from Business Transportation and Housing Agency and California Department of Transportation, 2002. Massachusetts Bay Transportation Authority, http://www.mbta.com/projects_underway/tod.asp)

Wayfinding

Properly designed wayfinding enables people to navigate the community and find destinations. "Wayfinding is defined as a succession of clues comprising visual, audible and tactile elements. The components of any visual wayfinding system exceed signs to encompass architecture, lighting, landscape, and landmarks. Good wayfinding helps users experience an environment in a positive way and facilitates getting from point A to point B. When executed successfully, the system can reassure users and create a welcoming environment, as well as answer questions before users even ask them" *(Definition from Patrick Gallagher, principal of Gallagher and Associates (Washington, D.C.), and president of the Society for Environmental Graphic http://www.signweb.com/ada/cont/wayfinding.html)*.

Some of the basic design strategies communities can use to improve orientation and wayfinding include:

1) Outside spaces should be easily recognized and identifiable with landscaping that supports orientation;

2) Use community landmarks to help to provide memorable locations and orientation clues. Visibility and memorability are important features of landmarks that can assist in wayfinding;

3) Provide signs and maps, use color coding, institute landmarks, form points along paths, achieve spatial hierarchies, and give sensory clues for orientation and wayfinding;

4) Paths should be well-structured and not meandering or confusing;

5) Use sight lines to give an indication of what is ahead;

6) Observe legibility standards. Typeface, font, size and spacing between letters and words are important elements in wayfinding. For example, a combination of uppercase and lowercase letters is easier to read than only uppercase. Color contrast is also important to improve readability of signs. There also must be attention to the speed, visual environment and distance from which the information is viewed on a sign to avoid too much or too little information. *(http://www.signweb.com/ada/cont/wayfinding.html)*; and,

7) Do not provide too many choices to the user.

Appendix 1.4

Demographics

An important prerequisite to community planning is to develop a common understanding of the current state of the City as well as anticipated trends. Information gathered through this process is critical to the accurate projection of future needs and development patterns and the formulation of policies.

The following report provides the basic demographic background information collected as part of the planning process. Some of the text, graphics, and figures may appear in summary or in their enturety within the main Chapters of the Master Plan.

Existing and Projected Population

The population of the City of Troy has steadily increased since the 1960 U.S. Census. As shown in the figure below, the current population, according to SEMCOG's September 2006 projections is 81,340 people, which represents a 12% increase over the 1990 Census figure of 72,884.

SEMCOG predicts that by the year 2030, the City of Troy can expect to have a total population of 77,046, a decrease of 5% from the 2000 Census population. As illustrated in Figure ?, the majority of communities surrounding Troy are expected to experience population decreases between 2000 between 2000 and 2030, with the exception of Auburn Hills, Pontiac, Rochester Hills, and Sterling Heights. The communities where growth is expected are located to the north and east of the City of Troy.

Existing and Projected Household Number and Size

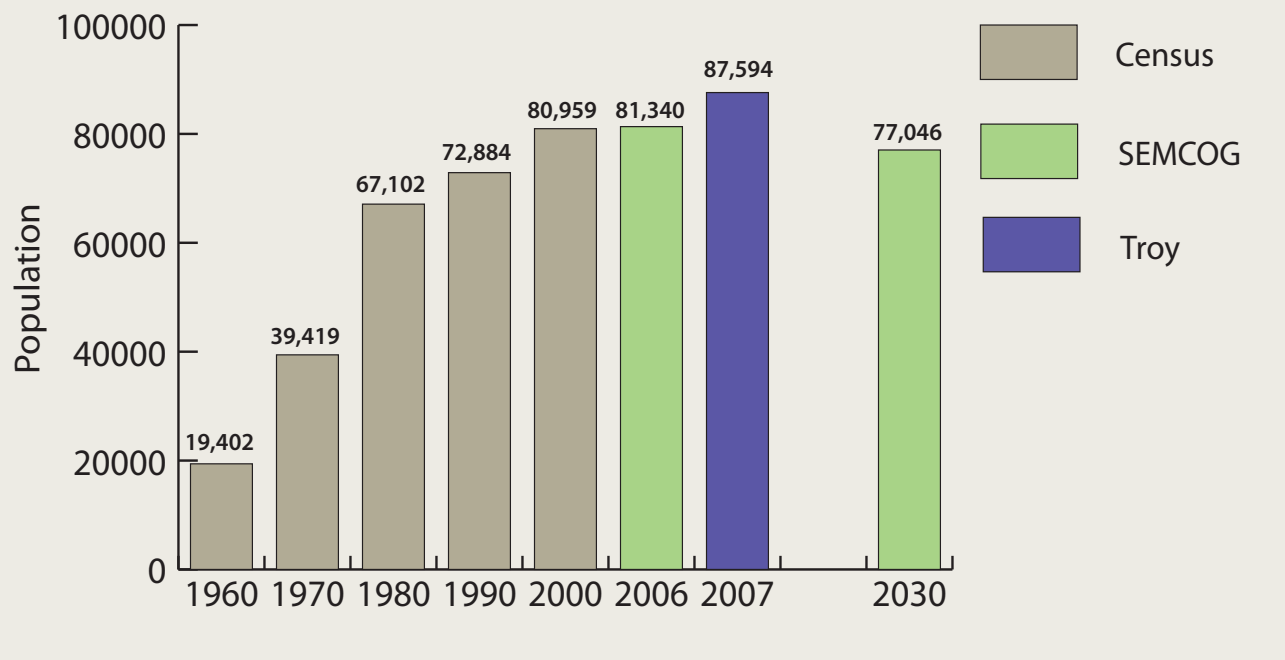
According to the 2000 U.S. Census, the City of Troy has 30,018 households. By the year 2030, SEMCOG predicts that the number of households will increase by approximately 9%. The figure below reflects the number of existing and projected households in Troy. Current household size in the City of Troy is 2.69 (2000 U.S. Census) and 38% of households have children.

A common trend in Southeast Michigan is a higher rate of increase in the number of households than total population growth. In the City of Troy, between 1990 and 2000, total population increased by 11% while the number of households rose by 14%. Commensurate with an increased number of households is a decrease in the size of households. By 2030, household size in Troy is projected to be 2.35 persons per household. The trend towards increased households with a decline in total population is due to several factors, including: a decrease in the number of children being born to women, couples having children later in life and an increasing number of aging baby boomers or "empty nesters".

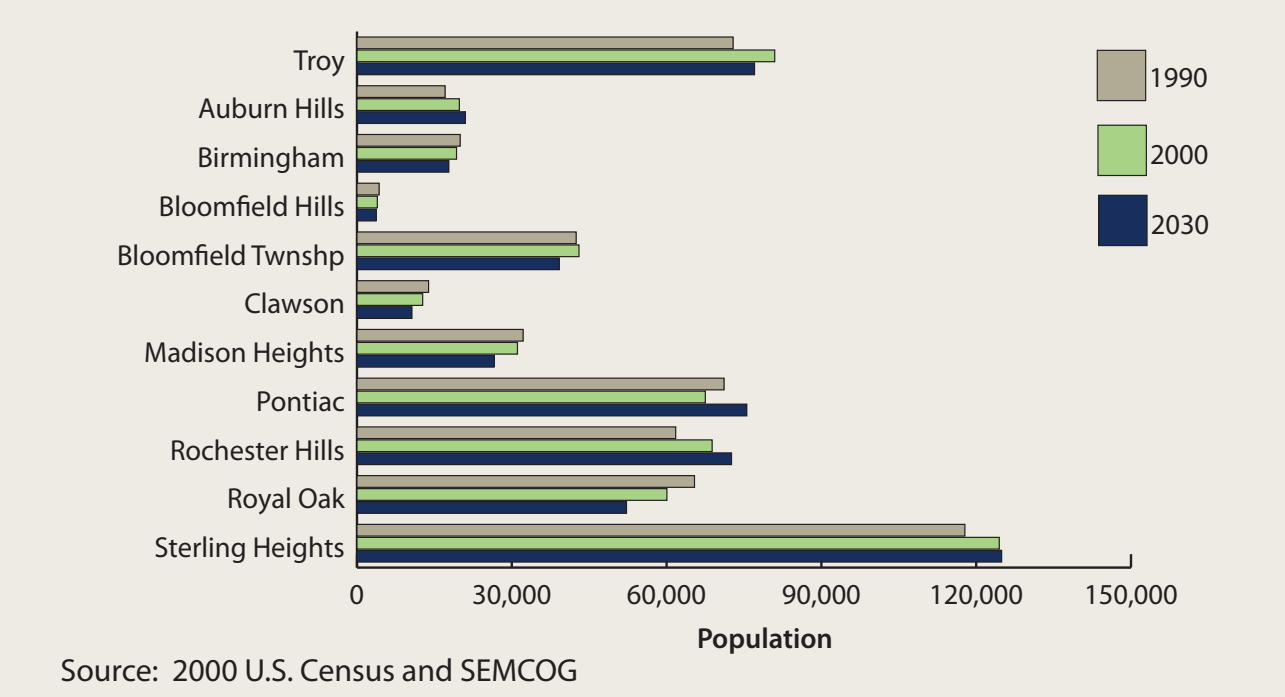
Population Characteristics

Population characteristics play an important role in determining the future land use needs of a community. The following pages provide a brief summary of some of the key characteristics of residents in the City of Troy.

CITY OF TROY POPULATION

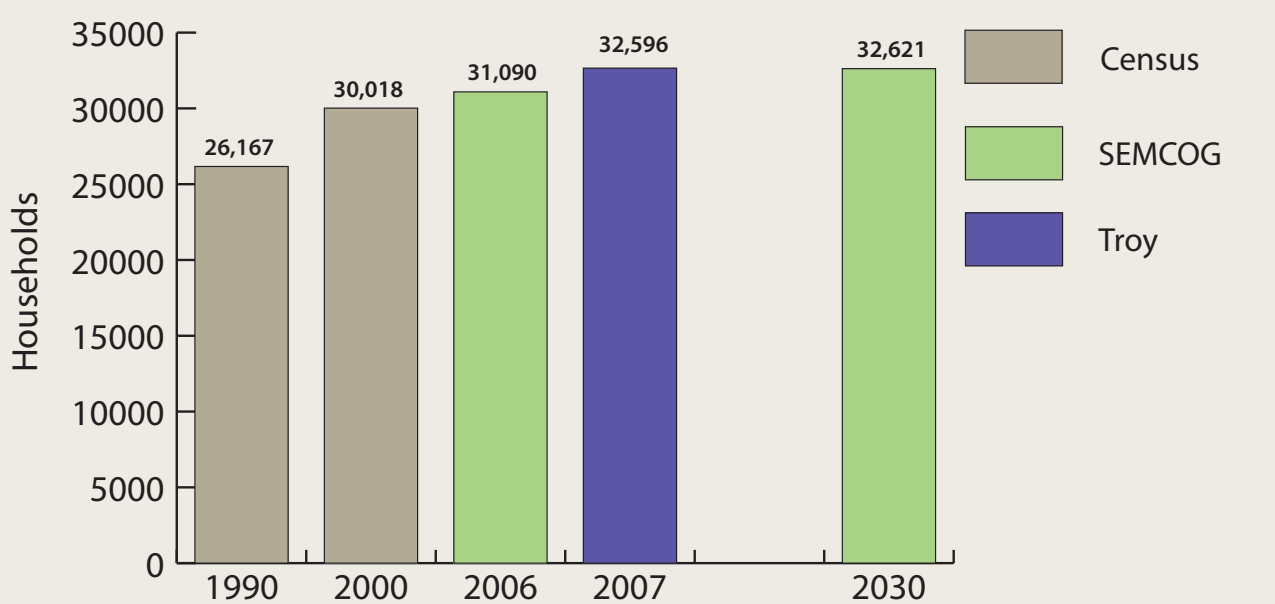


POPULATION TRENDS, TROY AND SURROUNDING COMMUNITIES



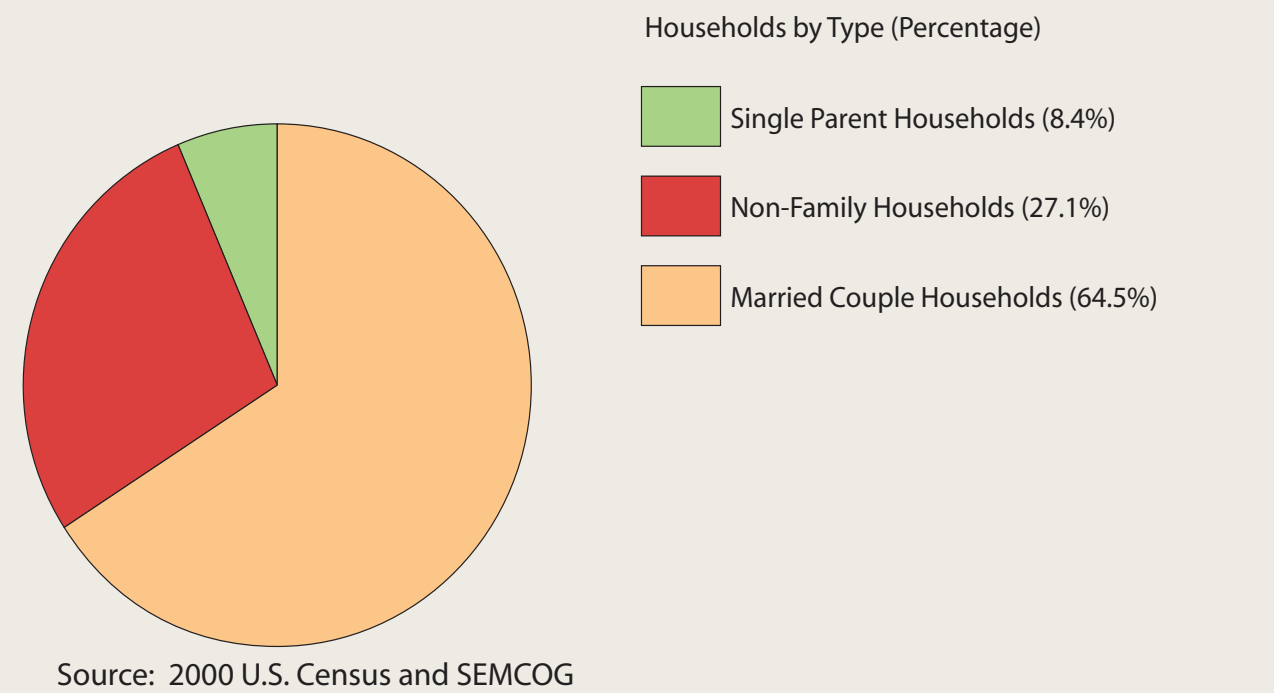
Source: 2000 U.S. Census and SEMCOG

NUMBER OF HOUSEHOLDS



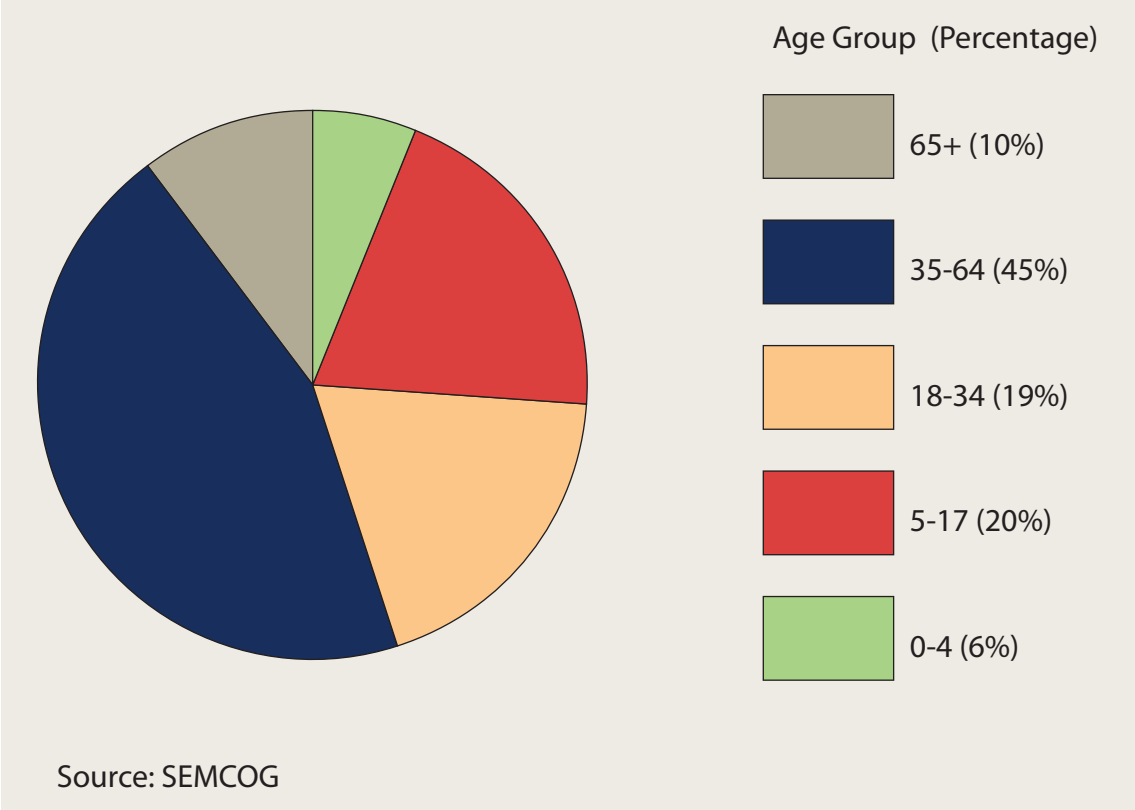
Source: 2000 U.S. Census, SEMCOG, City of Troy

HOUSEHOLDS BY TYPE

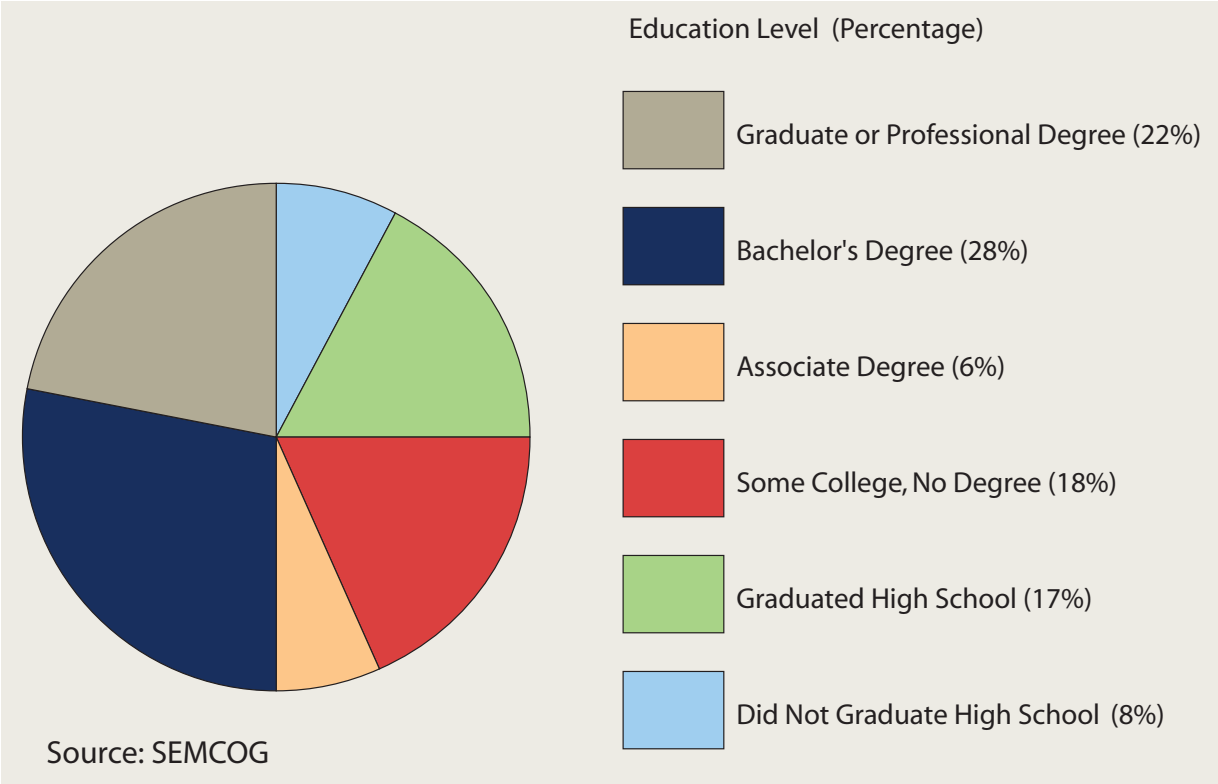


Source: 2000 U.S. Census and SEMCOG

POPULATION DISTRIBUTION BY AGE GROUP (2000)



EDUCATIONAL ACHIEVEMENT OF RESIDENTS OVER 25 YEARS OF AGE



Household Type

Over 72% of the City's population live in family households. The percentage of family households is slightly higher than Oakland County's which is 66.9%. The remainder of the population is composed of non-family households. Non-family households consist of a group of unrelated persons or one person living alone.

Racial Composition

The City of Troy's population is diverse with a higher percentage of Asian residents than any other city in Michigan. According to the 2000 U.S. Census, the racial makeup of the City was 82.30% White, 2.09% African American, 0.15% Native American, 13.25% Asian, 0.02% Pacific Islander, 0.36% from other races, and 1.82% from two or more races. 1.46% of the population is of Hispanic or Latino origin.

Age Composition

More than half of the population of the City of Troy is over the age of 35. As shown in the figure below, 45% of residents are between the ages of 35-64. The 5-17 and 18-34 age ranges contain the next highest proportion of residents, with 20% and 19% respectively. The median age in the City of Troy is 36.7 according to the 2005 American Community Survey produced by the U.S. Census Bureau.

By 2030, a substantial shift is expected in the age distribution. As indicated in the table below, the age 65+ age range will increase from 10% to 22% by the year 2030.

Income

The City of Troy has experienced an increase in affluence compared to the previous decade. According to the 2000 Census, the median household income in the City of Troy was $77,538 (1999 dollars), a 4% rise from the 1990 median income of $74,251 (1999 dollars). The U.S. Census Bureau 2005 American Community Survey reported that the 2005 median household income in the City of Troy was $81,111 (2005 inflation-adjusted dollars). This well exceeds the Oakland County 2005 median income of $64,022 (2005 inflation-adjusted dollars).

Education

The City of Troy has a well-educated population. As indicated in the figure below, almost 75% of Troy's residents have some college education. Fifty-six percent of residents have an advanced degree, including a bachelor's, associate's or graduate/professional degree. Only 8% of residents did not graduate high school.

2030 AGE FORECAST

Age Groups	2000 Census	2030 Forecast
Age 0-4	4,991 (6%)	4,422 (6%)
Age 5-17	16,227 (20%)	13,514 (18%)
Age 18-34	15,225 (19%)	12,639 (16%)
Age 35-64	36,230 (45%)	29,868 (39%)
Age 65+	8,286 (10%)	16,603 (22%)
Total Population	80,959	77,046

Source: 2000 U.S. Census

Residential Characteristics

The 2000 U.S. Census reported 30,872 housing units in the City of Troy, an increase of 13.5% over the 27,197 units reported in 1990. The U.S. Census Bureau American Community Survey tallied 33,172 housing units in the City of Troy as of 2005.

Housing Unit Type

Based on the 2000 U.S. Census, 75% of housing units in the City of Troy are owner-occupied units, 22% are renter occupied units and the remainder are vacant. The predominant housing type in the City of Troy (73%) is a single-family detached home. Twenty-percent of units are multi-unit apartments with the remainder being one-family attached homes or duplexes/townhomes.

Age of Housing

The City of Troy's housing stock is relatively new and built mostly after the 1970's. The following table indicated the approximate number of units and percentage of the housing stock built for each given year.

Housing Costs

According to the 2004-2005 Community Profiles compiled by the Oakland County Department of Planning and Economic Development, housing costs in the City of Troy have risen in recent years. The average housing cost in 1999 was $215,062, compared to $253,889 in 2001 and 270,745 in 2003.

The increase in housing costs is attributable to new construction, the increased popularity of the City of Troy as a residential and business setting within metropolitan Detroit community and general rises in housing costs within southeast Michigan.

AGE OF CITY OF TROY'S HOUSING STOCK

Year	Number of Units	% of Total Number of Units
1999-Mar. 2000	486	1.6%
1995-19958	1,545	5.0%
1990-1994	2,531	8.2%
1980-1989	4,522	14.6%
1970-1979	12,096	39.2%
1960-1969	5,363	17.4%
1940-1959	3,580	11.6%
1939 or earlier	749	2.4%

Source: 2000 U.S. Census

Appendix 1.5

Troy Oakland Airport Approach Plan

In 2006, the State of Michigan enacted a new Michigan Zoning Enabling Act, Public Act 110 of 2006. Section 203 of the Act requires that If a local unit of government adopts or revises a master plan (as they are required to do if they utilize zoning) after an airport layout plan or airport approach plan has been filed with that local unit of government, the master plan shall incorporate that layout or approach plan. This appendix has been added to satisfy this important requirement. The airport approach plan for Troy Oakland Airport is included on the following page .

LAND USE ZONING
FOR
Troy, Oakland / Troy
MICHIGAN DEPARTMENT OF TRANSPORTATION
AERONAUTICS DIVISION
LANSING, MICHIGAN
MDOT
ZONING
63-06
REVISIONS
N
SCALE
1"=1000'
0 1000 2000 3000
CITY OF TROY
CLAWSON
ROYAL OAK
BIRMINGHAM
BEVERLY HILLS
3550' X 60'
5'
5
1
2
3
4
75
1
LANE DR.
SPENCER DR.
MAIN ST.
ELMWOOD AVE.
ROCHESTER RD.
MAPLE RD.
CROOKS RD.
BIG BEAVER RD.
COOLIDGE RD.
14 MILE RD.
COOLIDGE HWY.
WOODWARD AVE.
G.T.W. RR
ADAMS RD.
GREENFIELD RD.
PIERCE RD.
LINCOLN DR.
MICHIGAN AERONAUTICS COMMISSION
EST. 1919