PLANNING COMMISSION
MEETING AGENDA
REGULAR MEETING

500 W. Big Beaver
Troy, MI 48084
(248) 524-3364
www.troymi.gov
planning@troymi.gov

Donald Edmunds, Chair, Philip Sanzica, Vice Chair
Ollie Apahidean, Karen Crusse, Carlton M. Faison, Michael W. Hutson
Tom Krent, Padma Kuppa and John J. Tagle

December 22, 2015 **7:00 P.M.** **Council Board Room**

1. ROLL CALL

2. APPROVAL OF AGENDA

3. MINUTES – December 8, 2015

4. PUBLIC COMMENT – For Items Not on the Agenda

5. ZONING BOARD OF APPEALS (ZBA) REPORT

6. DOWNTOWN DEVELOPMENT AUTHORITY (DDA) REPORT

7. PLANNING AND ZONING REPORT

STREET VACATION

8. PUBLIC HEARING - STREET VACATION REQUEST (SV 191) – 10 Foot of Alley east of John R between Gabriel and Vermont, Abutting Parcel 2020 Gabriel on the East and Vacant Parcel 88-20-25-309-002 on the West, Section 25, Currently Zoned R-1E (One Family Residential) District (abutting properties)

ZONING ORDINANCE TEXT AMENDMENT

9. PUBLIC HEARING - ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 248) – Woodland Protection

OTHER BUSINESS

10. MASTER PLAN UPDATE

11. PUBLIC COMMENT – Items on Current Agenda

12. PLANNING COMMISSION COMMENT

ADJOURN

NOTICE: *People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at clerk@troymi.gov or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.*

Chair Edmunds called the Regular meeting of the Troy City Planning Commission to order at 7:00 p.m. on December 8, 2015 in the Council Board Room of the Troy City Hall.

1. ROLL CALL

Present:
Ollie Apahidean
Karen Crusse
Donald Edmunds
Carlton M. Faison
Michael W. Hutson
Tom Krent
Padma Kuppa
Philip Sanzica
John J. Tagle

Also Present:
R. Brent Savidant, Planning Director
Ben Carlisle, Carlisle/Wortman Associates, Inc.
Julie Q. Dufrane, Assistant City Attorney
Kathy L. Czarnecki, Recording Secretary

2. APPROVAL OF AGENDA

Chair Edmunds requested to reverse the order of Agenda items 8 and 9.

Resolution # PC-2015-12-070
Moved by: Krent
Seconded by: Faison

RESOLVED, To approve the Agenda as revised.

Yes: All present (9)

MOTION CARRIED

3. APPROVAL OF MINUTES

Resolution # PC-2015-12-071
Moved by: Sanzica
Seconded by: Tagle

RESOLVED, To approve the minutes of the November 10, 2015 Regular meeting as submitted.

Yes: Apahidean, Crusse, Edmunds, Faison, Hutson, Krent, Sanzica, Tagle
Abstain: Kuppa

MOTION CARRIED

4. PUBLIC COMMENT – Items not on the Agenda

There was no one present who wished to speak.

5. ZONING BOARD OF APPEALS (ZBA) REPORT

There was no Zoning Board of Appeals meeting in November.

6. DOWNTOWN DEVELOPMENT AUTHORITY (DDA) REPORT

Mr. Savidant reported on the December 2, 2015 Downtown Development Authority meeting; specifically addressing Property Assessed Clean Energy (PACE).

7. PLANNING AND ZONING REPORT

Mr. Savidant addressed the December 22, 2015 Planning Commission meeting agenda.

PRELIMINARY SITE PLAN REVIEWS

9. PRELIMINARY SITE PLAN REVIEW (File Number SP 1003) – Proposed DTE Ariel Substation, South of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, Currently Zoned IB (Integrated Industrial and Business) District

Mr. Carlisle reported on the Preliminary Site Plan application for the DTE Ariel Substation and recommended to grant Preliminary Site Plan approval.

Present to represent DTE were Michael Palschesko, Tom Phillips, Mick Blunden, Teresa Tran and Mark Ferris. Also present was Daryl Poprave of ITC Holdings.

There was discussion on:
- Layout; design, operation and function of substation.
- Utilitarian construction material; Company standard design.
- Perimeter concrete wall, gate and fencing.
- Photograph of wall circulated detailing design and natural two-tone gray color.
- Landscaping of wall as relates to Federal regulations.
- Location of substation near Transit Center.

Resolution # PC-2015-12-072
Moved by: Krent
Seconded by: Sanzica

RESOLVED, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed DTE Ariel Substation, located south of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, within the IB (Integrated Industrial and Business) District, be granted, subject to the following:

1. That along the north side of the property, there's a continuous stretch of greenery that is within the allowable limits of the height restrictions of the regulating governmental agency and along the railroad within the limits of ITC requirements.
2. The wall detail shall match the wall detail of the photograph circulated at tonight's meeting.
3. The fencing visible to the public shall not be chain link but some decorative ornamental type fencing with a durable finish on it.

Discussion on the motion on the floor.

Mr. Hutson indicated he would vote no on the Resolution. Mr. Hutson said it is his opinion that approval of the site plan application as submitted should be granted because the plan conforms to the Zoning Ordinance and meets all regulations.

Vote on the motion on the floor.

Yes: Apahidean, Crusse, Edmunds, Faison, Krent, Kuppa, Sanzica, Tagle
No: Hutson

MOTION CARRIED

8. PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed Bradley Square Condominiums, East side of Rochester between Bradley and Shallowdale, Section 14, Currently Zoned RT (One Family Attached Residential) and R-1C (One Family Residential) Districts

Mr. Carlisle reported on the Preliminary Site Plan application for Bradley Square. Mr. Carlisle said he supports the development of the site but asked the Planning Commission to give consideration to the proposed site layout, stormwater features and architectural elements.

Present were Tim Loughrin and Paul Robertson of Robertson Homes.

There was discussion on:
- Elevations; architectural style and details.
- Landscaping along Rochester Road.

Resolution # PC-2015-12-073
Moved by: Krent
Seconded by: Crusse

RESOLVED, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed Bradley Square Condominiums, including thirty-one (31) units, located on the east side of Rochester between Bradley and Shallowdale, Section 14, within the RT (One-Family Attached Residential) and R-1C (One Family Residential) Districts, be postponed for the following reasons:

1. The facades do not meet requirements of the Zoning Ordinance for enough variation change.
2. The development does not meet the tree ordinance for landscaping along Rochester Road.

Yes: All present (9)

MOTION CARRIED

OTHER BUSINESS

10. 2016 PLANNING COMMISSION MEETING DATES

It was the consensus of the Board to adopt the 2016 November meeting dates as revised; delete October 25 meeting date and schedule November meeting dates on the 1st and 29th.

11. PUBLIC COMMENT – Items on Current Agenda

There was no one present who wished to speak.

12. PLANNING COMMISSION COMMENT

There were general Planning Commission comments.

The Regular meeting of the Planning Commission adjourned at 9:04 p.m.

Respectfully submitted,

_____
Donald Edmunds, Chair

_____
Kathy L. Czarnecki, Recording Secretary

G:\Planning Commission Minutes\2015 PC Minutes\Draft\2015 12 08 Regular Meeting_Draft.doc

DATE: December 14, 2015

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PUBLIC HEARING - STREET VACATION REQUEST (SV 191) – Alley east of John R between Gabriel and Vermont, Abutting parcel 2020 Gabriel on the East and Vacant Parcel 88-20-25-309-002 on the West, Section 25, Currently Zoned R-1E (One Family Residential) District (abutting properties)

GENERAL INFORMATION

Name of applicant(s):
The applicant is Naveed V Syed, owner of the vacant parcel abutting the alley on the west (Tax ID# 88-20-25-309-002).

History of Right of Way:
Sussex Park Subdivision was platted in 1925. Most of the 20-foot wide alley has been vacated since 1925. There are some 10-foot wide and 20-foot wide segments remaining. This application is consistent with previous efforts to vacate sections of the alley.

Length and width of right of way.
The section of the alley proposed to be vacated is 40 feet long by 10 feet wide. The applicant proposes to vacate only half of the alley, for the purpose of expanding the building envelope for a single family home.

ANALYSIS

Reason for street vacation (as stated on the Street/Alley Vacation Application):
The application states the following:
“We want to build a house but the size is very small, if we get 10 feet from the alley we will be able to build at least 25’X50’ instead of 25’X40’.”

Impact on access to existing lots or buildings (including emergency service vehicles):
Access to abutting properties will not be affected by vacation of this portion of the alley.

Impact on Utilities
There is an 8-inch underground sanitary sewer line within the alley, as well as overhead utilities. An easement must be maintained for the underground and overhead utilities. Furthermore, no buildings or structures may be constructed within the easement.

Future Land Use Designation:
The area is designated on the Future Land Use Plan as Single Family Residential.

CITY MANAGEMENT RECOMMENDATION

City Management recommends approval of the street vacation request as submitted, subject to the following:

1. An easement shall be maintained for overhead and underground utilities.
2. No structures or buildings shall be constructed within the easement.

Attachments:

1. Maps
2. Plat drawing of Sussex Park Subdivision
3. Application

G:\STREET VACATION\SV 191 Alley on John R between Gabriel and Vermont Sec 25\SV 191 PC Memo 12 08 2015.doc

PROPOSED RESOLUTION

PUBLIC HEARING - STREET VACATION REQUEST (SV 191) – Alley east of John R between Gabriel and Vermont, Abutting Parcel 2020 Gabriel on the East and Vacant Parcel 88-20-25-309-002 on the West, Section 25, Currently Zoned R-1E (One Family Residential) District (abutting properties)

Resolution # PC-2015-12-
Moved by:
Seconded by:

RESOLVED, That the Planning Commission hereby recommends to the City Council that the street vacation request, as submitted, for an alley located east of John R, between Gabriel and Vermont, approximately 10 feet wide by 40 feet in length, abutting lots 45 and 46 of Sussex Park Subdivision, Section 25, be approved, subject to the following:

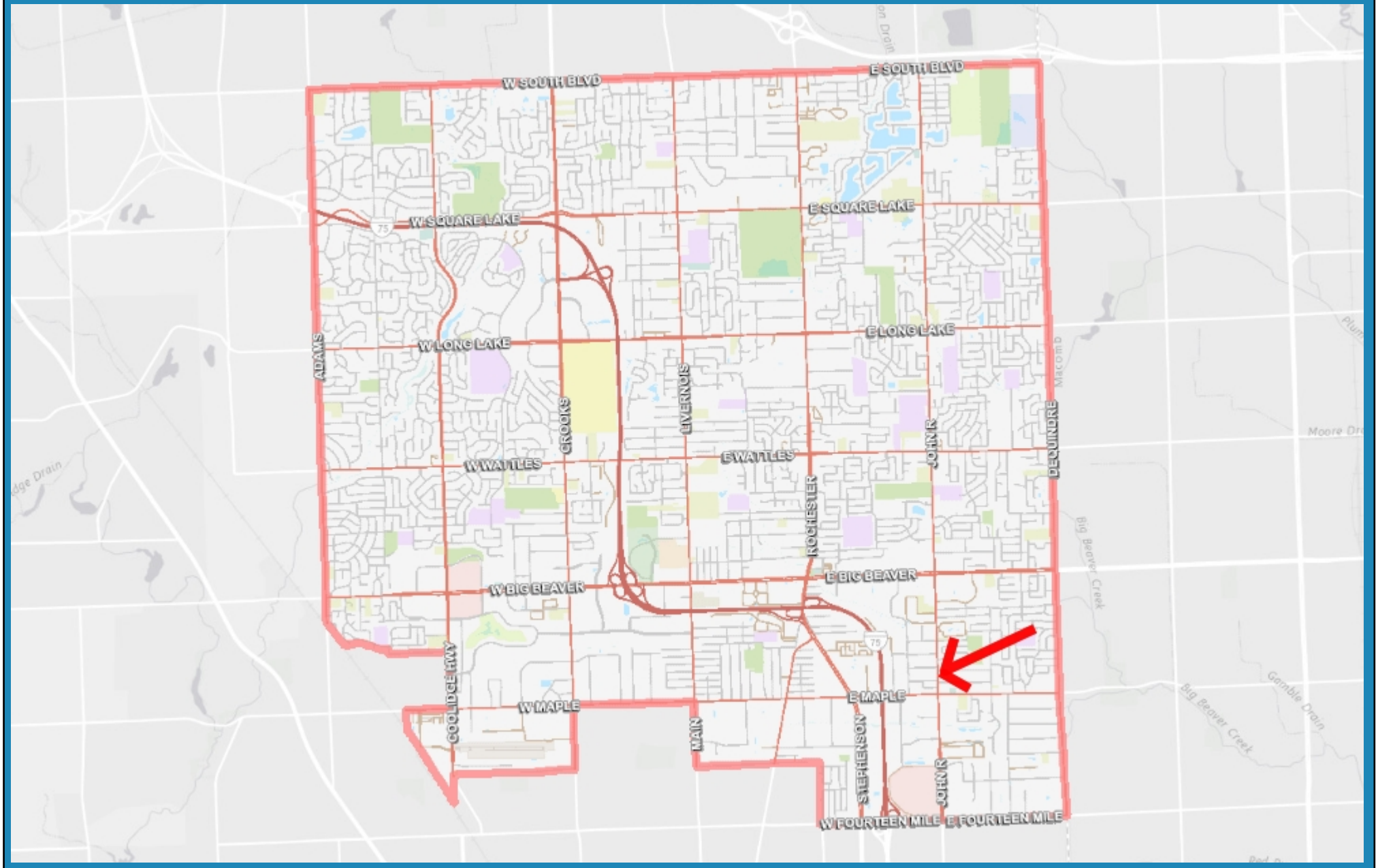
1. An easement shall be maintained for underground and overhead utilities.

Yes:
Absent:

MOTION CARRIED / FAILED

G:\STREET VACATION\SV 191 Alley on John R between Gabriel and Vermont Sec 25\Proposed PC Resolution 12 22 2015.doc

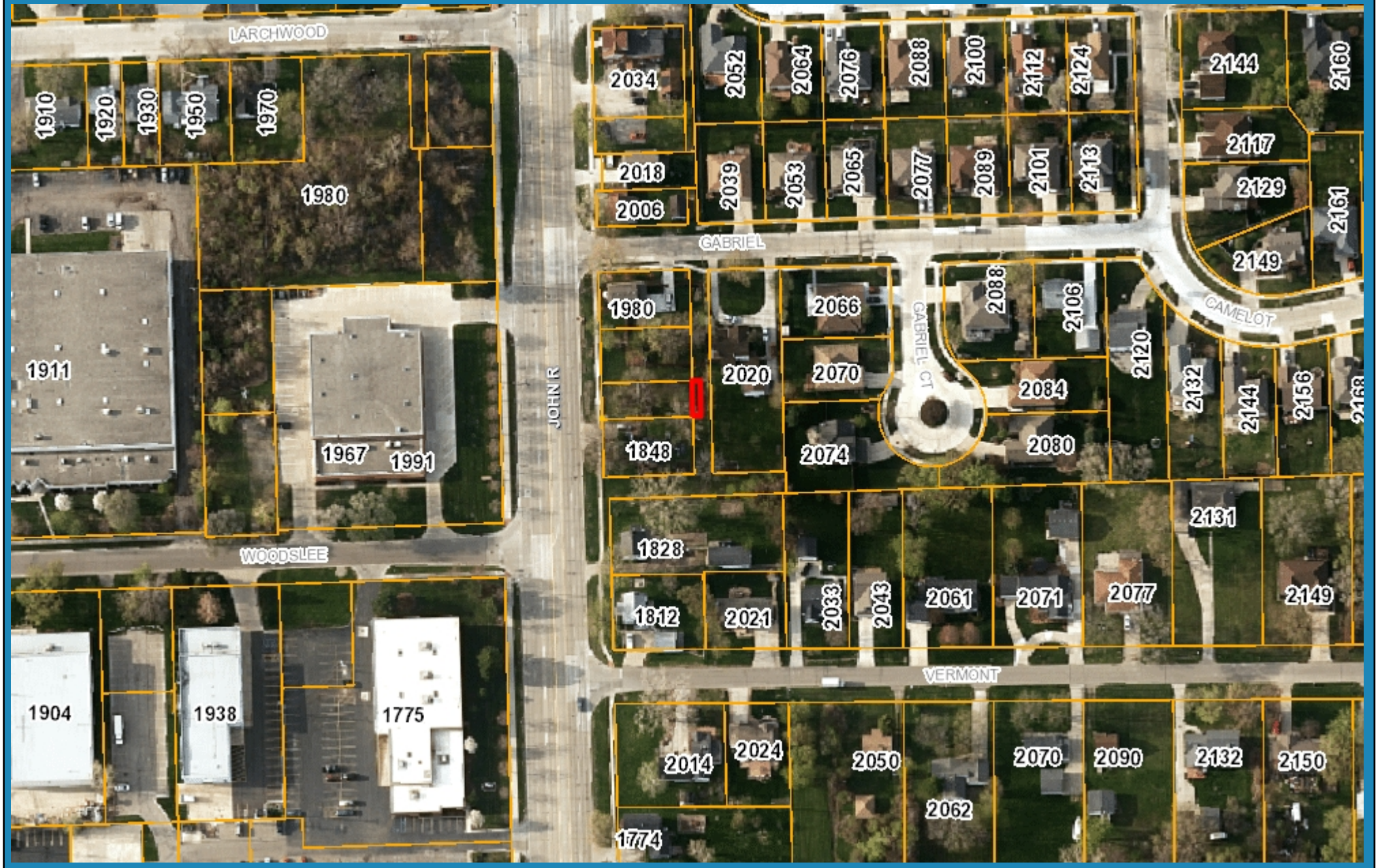
City of Troy GIS Online



15,416 0 7,708 15,416 Feet

Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

City of Troy GIS Online



395 0 197 395 Feet

Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

City of Troy GIS Online

197 0 99 197 Feet

Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

City of Troy GIS Online

395 0 197 395 Feet

Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

20254

COPY

Oakland County. } ss.

Plat of Sussex Park was Recorded this 31st day of Mar A.D. 1925 at 2 o'clock P M. in liber 36 of Plats on Page 12

Lucile Avery Whitfield
Register of Deeds

ORIGINAL COPY

Examined and Approved
Mar 27-1925
[illegible]
Deputy Auditor General

"SUSSEX PARK"

BEING A SUBDIVISION OF THE N.W 1/4 OF THE S.W. 1/4 OF SEC. 25-T2N, R11E. TROY TOWNSHIP - OAKLAND COUNTY - MICHIGAN.

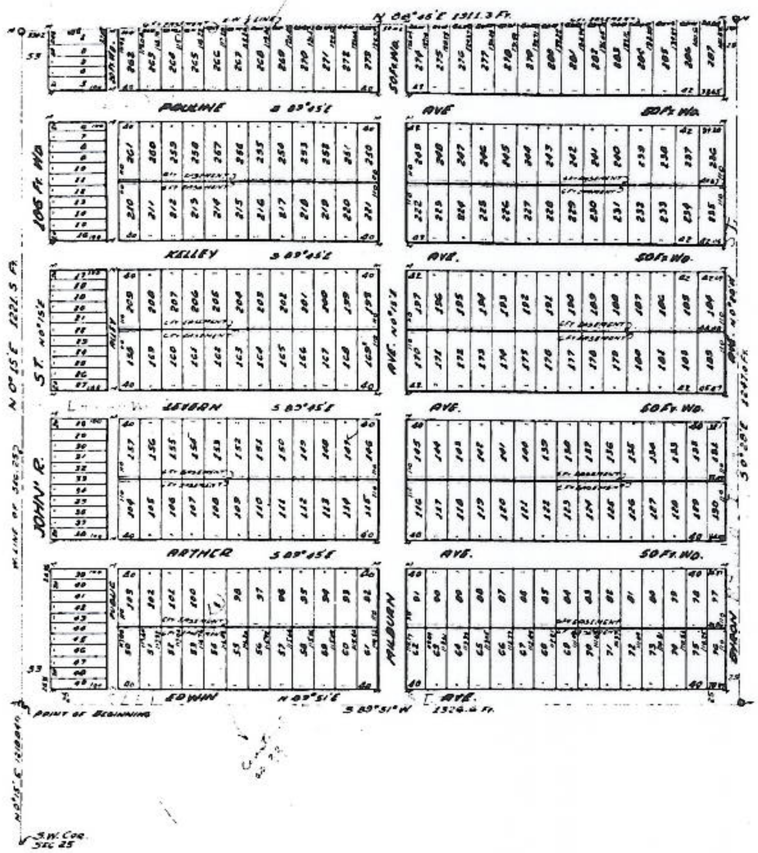
SCALE 1 inch = 150 feet
All dimensions given in feet or decimals thereof.

H.F. Cushing
Registered Surveyor
1309 Lafayette Bldg. Detroit.

I HEREBY CERTIFY THAT THIS COPY IS A TRUE ... [illegible]

Mar 27-1925
[illegible]
DEPUTY AUDITOR GENERAL

FILED IN AUDITOR GENERAL'S DEPT.
April 1, 1925
[illegible]
DEPUTY AUDITOR GENERAL



Know all men by these presents, that Henry Preisel and Ida Preisel, his wife as proprietors have caused the land embraced in the annexed plat to be surveyed, laid out and platted, to be known as "Sussex Park" being a subdivision of the N.W. 1/4 of the S.W. 1/4 of Sec 25 - T.2N, R.11E. Troy Township, Oakland County, Michigan. and that the streets, alleys and easements as shown on said plat are hereby dedicated to the use of the public.

Signed and sealed in presence of
W. Arthur Wise
Carl T. Wise

Henry Preisel
Ida Preisel L.S.
his Wife

State of Michigan } ss.
County of Wayne
On this 27th day of February 1925 before me, a Notary Public in and for said County, personally appeared the above named Henry Preisel and Ida Preisel, his wife to me known to be the persons who executed the above dedication, and acknowledged the same to be their free act and deed.

W. Arthur Wise
Notary Public Wayne Co. Mich.

My Commission Expires Nov. 30, 1926

I hereby certify that the Plat hereon Delineated is a correct one and that permanent monuments consisting of 1/2 x 18 inch Iron Stakes have been placed at points marked "O" as thereon shown at all angles in the boundaries of the land platted and at all intersections of streets or streets and alleys.

H.F. Cushing
Registered Surveyor

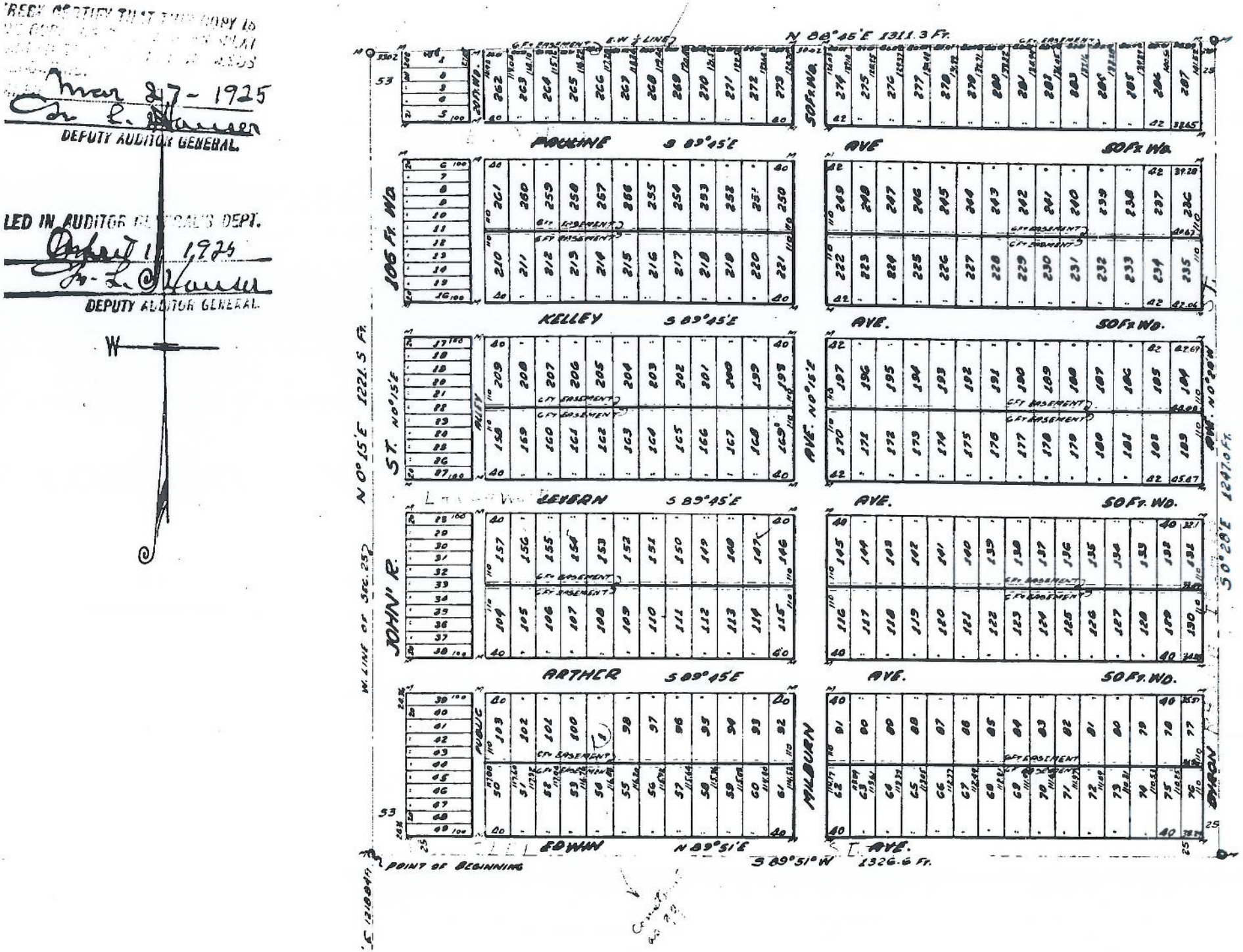
Oakland County Treasurer's Certificate
(Required by Section 19, Acts 206, Laws of 1893)
This is to Certify, that there are no Tax Liens or Titles held by the State or any individual against, and that all Taxes on lands described in the annexed instrument bearing Treasurer's No. 7-4449 have been paid FIVE YEARS prior to the date thereof, according to the records of this office, except as stated.
F.H. Loea
County Treasurer.
Pontiac, Mich. Mar 2 1925

This plat was approved by the Township Board of the Township of Troy at a meeting held February 28th 1925
Morris A. Wattles
Clerk

This plat was approved on the 3 day of March
[illegible]
Auditor
Edward Sumner
Auditor
[illegible]
Auditor

DESCRIPTION

The land embraced in the annexed plat is more particularly described as follows: Beginning at a point on the West line of Section 25, said point being destant N. 0°15' E. 1316.34 ft. from the S. W. corner of Sec. 25, T. 2-N. R. 11 E. thence, N. 0°15' E. along the W. line of Sec. 25 - 1331.5 ft. to the E. & W. 1/4 line of Sec. 35, thence, N. 88°45' E. 1311.3 ft. to a point, thence, S. 0°38' E. 1347.0 ft. to a point, thence, S. 89°51' W. 1326.6 ft. to the place of beginning, said property to be known as "SUSSEX PARK" being a Subdivision of the N.W. 1/4 of the S.W. 1/4 of Sec. 25- T. 2-N. R. 11 E., Troy Township, Oakland County, Michigan.



RECEIVED AUDITOR GENERAL'S DEPT.
Mar 27 - 1925
DEPUTY AUDITOR GENERAL.

FILED IN AUDITOR GENERAL'S DEPT.
April 1 1925
DEPUTY AUDITOR GENERAL.

STREET / ALLEY VACATION APPLICATION
CITY OF TROY

CITY OF TROY PLANNING DEPARTMENT
500 W. BIG BEAVER
TROY, MICHIGAN 48084
248-524-3364
FAX: 248-524-3382
E-MAIL: planning @troymi.gov

FILE NUMBER SV 191
DATE FILED _____
STREET VAC. FEE ($500.00) pd
ESCROW FEE ($1,500.00) n/a

NOTICE TO THE APPLICANT

REGULAR MEETINGS OF THE TROY CITY PLANNING COMMISSION ARE HELD ON THE SECOND TUESDAY OF EACH MONTH AT 7:00 P.M. AT THE CITY HALL. APPLICATIONS FOR **VACATIONS** SHALL BE FILED NOT LATER THAN THIRTY (30) DAYS BEFORE THE SCHEDULED DATE OF THE MEETING.

PLEASE FILE ONE (1) SIGNED ORIGINAL APPLICATION FORM

RECEIVED
NOV - 5 2015
PLANNING

THE **ESCROW FEE** IS AN ADDITIONAL FEE ABOVE THE NON-REFUNDABLE APPLICATION FEE WHICH SHALL BE USED TO PAY PROFESSIONAL REVIEW EXPENSES OF OUTSIDE CONSULTANTS.

TO THE CITY COUNCIL:

I (WE), THE UNDERSIGNED, DO HEREBY RESPECTFULLY PETITION AND MAKE APPLICATION TO THE TROY CITY COUNCIL FOR VACATION OF THE RIGHT- OF- WAY OR EASEMENT WHICH IS DESCRIBED AS FOLLOWS:
10' OF ALLEY BEHIND THE PROPERTY FROM THE EXISTING 20' VACANT ALLEY.

PID 88-20-25-309-002 East of John between Gabriel and Vermont

APPLICANT(S) FOR VACATION:

NAME NAVEED V SYED
COMPANY _____
ADDRESS 2564 MARCUS DRIVE
CITY TROY STATE__ ZIP 48083
TELEPHONE 313 922 7777
E-MAIL naveedexpress@aol.com

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE ___ ZIP _____
TELEPHONE _____
E-MAIL _____

ADDRESS(S) AND/OR PARCEL NUMBER(S) OF PROPERTY OWNED BY APPLICANT(S) WHICH ABUTS OR INCLUDES THE AREA FOR WHICH VACATION IS REQUESTED: _____

THIS REQUEST FOR VACATION IS MADE FOR THE FOLLOWING REASON(S) :
We want to build a house but the lot size is very small, If we get 10 feet from the alley we will be able to build atleast 25'X50' instead of 25' x 40'.

(Attach additional informational pages if necessary)

■ **ATTACHED IS A MAP INDICATING THE AREA FOR WHICH VACATION IS REQUESTED, THE LOCATION OF THE APPLICANT(S) PROPERTY, AND OTHER ABUTTING PROPERTIES. (1" = 200' MIN. SCALE)**

SIGNATURE(S) OF THE APPLICANT(S):

Naveed Syed DATE: 11/4/15

_____ DATE: _____

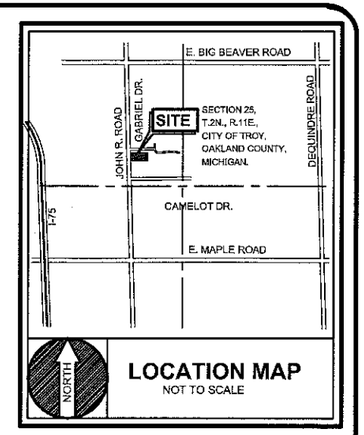
TOPOGRAPHIC SURVEY
LOTS 45 AND 46
SUSSEX PARK
PARCEL ID # 20-25-309-002

DESCRIPTION OF PROPERTY

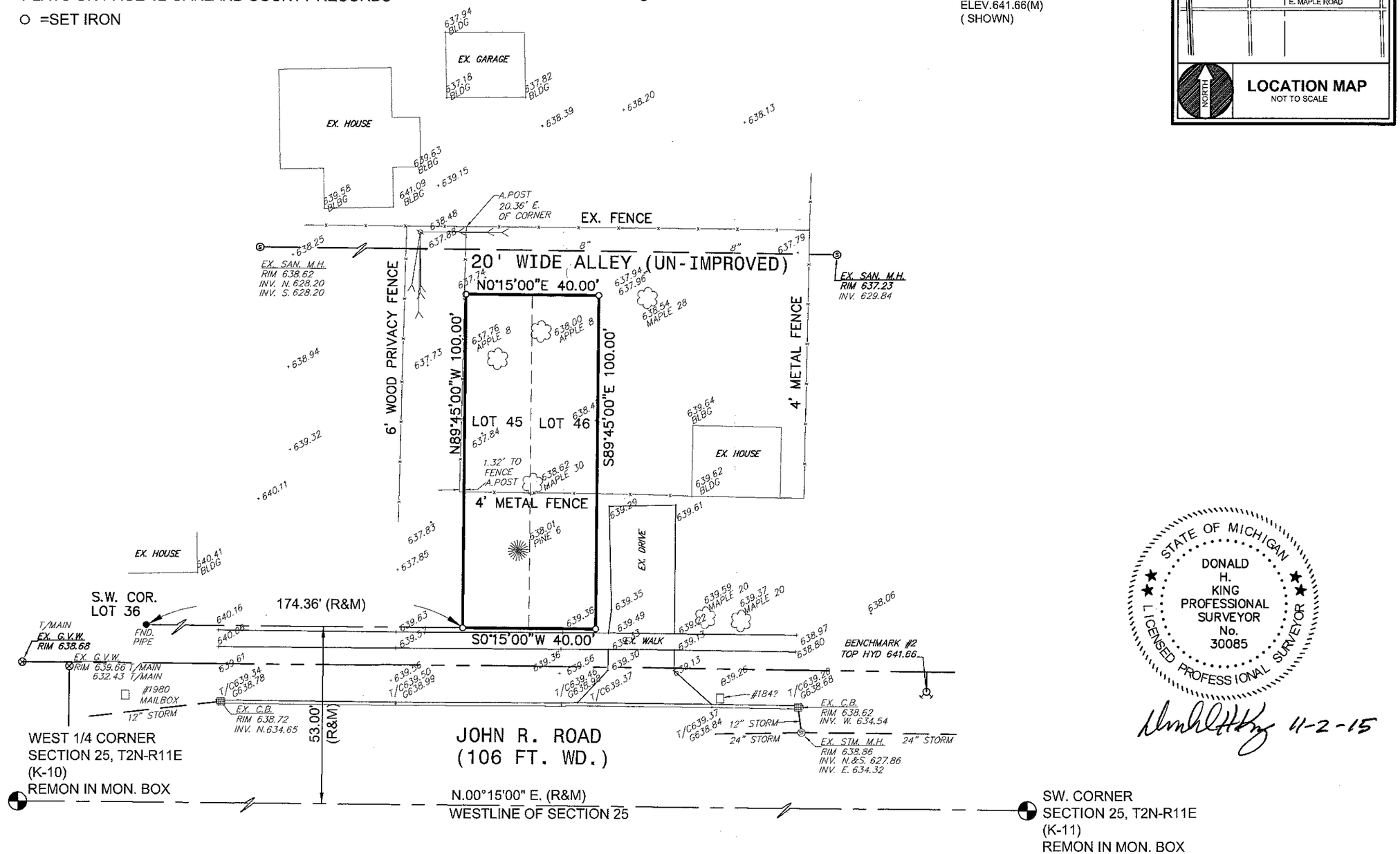
LOT 45 AND 46 OF "SUSSEX PARK" BEING A SUBDIVISION OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 25, T.2N., R.11E, CITY OF TROY, OAKLAND COUNTY, MICHIGAN
ACCORDING TO THE PLAT AS RECORDED IN LIBER 36 OF PLATS ON PAGE 12 OAKLAND COUNTY RECORDS

O =SET IRON

BENCHMARK:
1. ARROW ON TOP OF HYD.,WEST SIDE OF JOHN R. ROAD, 75' N. OF NORTHERN ELECT. DRIVE ELEV. 641.69(R) (NOT SHOWN)
2. ARROW ON TOP OF HYD.,EAST SIDE OF JOHN R. ROAD. ELEV.641.58(R) ELEV.641.66(M) (SHOWN)



LOCATION MAP
NOT TO SCALE



STATE OF MICHIGAN
DONALD H. KING
PROFESSIONAL SURVEYOR
No. 30085
LICENSED PROFESSIONAL SURVEYOR

11-2-15

CALL MISS DIG 72 HOURS (3 WORKING DAYS) BEFORE YOU DIG 1-800-482-7171 or 811 (TOLL FREE)

FAZAL KHAN & ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
43279 SCHOENHERR STERLING HEIGHTS, MI 48313
PHONE (586) 739-8007 FAX (586) 739-6994
WWW.FAZALKHAN.COM

PROJECT NO. 15-0199A	DATE 10-26-15	DRAWN BY O.G.	CHECKED BY S.H.
CLIENT NAVEED SYED		SCALE 1" = 30'	
SHEET NO. 1			

DATE: December 14, 2015

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PUBLIC HEARING - PROPOSED ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 248) – Woodland Protection

On April 28, 2015 the Planning Commission discussed woodland protection as a first step in developing Zoning Ordinance provisions. On May 26, 2015 the Planning Commission discussed a general outline of woodland protection provisions. A draft Zoning Ordinance text amendment was presented to the Planning Commission on July 28, 2015. The Planning Department forwarded the document to the City Attorney for review. The City Attorney reviewed the document and suggested some minor revisions which were incorporated into the attached draft.

There are a number of ordinances and standards that regulate trees in Troy. The attached table summarizes these documents, and the modifications that need to be made to each to make them consistent. The proposed revisions will be presented to Planning Commission for review at a future meeting. It is intended that all of the revisions be adopted by City Council concurrently.

A public hearing has been scheduled for the December 22, 2015 Planning Commission Regular meeting.

Attachments:

1. Table: Documents Regulating Trees/Landscaping In Troy
2. Draft Zoning Ordinance Text Amendment (File Number ZOTA 248)

G:\ZOTAs\ZOTA 248 Woodland Protection\PC Memo 12 22 2015.doc

PROPOSED RESOLUTION

ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 248) – Woodland Protection

Resolution # PC-2015-12-
Moved by:
Seconded by:

RESOLVED, That the Planning Commission hereby recommends to the City Council that Articles 8 and 13 of Chapter 39 of the Code of the City of Troy, which includes miscellaneous provisions related to woodland protection, be amended as printed on the proposed Zoning Ordinance Text Amendment.

Yes:
No:
Absent:

MOTION CARRIED / DENIED

G:\ZOTAs\ZOTA 248 Woodland Protection\Proposed PC Resolution 12 22 2015.doc

DOCUMENTS REGULATING

TREES/LANDSCAPING IN TROY

DOCUMENT	WHAT IT REGULATES	PROPOSED REVISIONS	PC ACTION REQUIRED
Chapter 39 Zoning Ordinance **Article 13, Section 13.02**	Regulates landscaping including location, species and size.	Add Woodland Protection provisions.	Hold public hearing. Make recommendation to City Council.
Chapter 39 Zoning Ordinance **Article 8, Section 8.05.A**	Requires submittal of Tree Inventory as part of Preliminary Site Plan Approval.	Eliminate reference to Landscape Design and Tree Preservation Standards.	Hold public hearing. Make recommendation to City Council.
Chapter 41 Subdivision Control Ordinance	Regulates review and approval of subdivisions in Troy.	Eliminate reference to Landscape Design and Tree Preservation Standards.	No formal action required.
Landscape Design and Tree Preservation Standards	Includes requirements for tree preservation plans and waivers, landscape and review fees and plant requirements.	Rescind. These standards are outdated and unnecessary since landscape standards are included in Article 13 of Zoning Ordinance.	No formal action required.
Chapter 28 Tree Regulations	Regulates planting of trees on City property including in rights-of-ways and in public parks.	Rescind existing language. Adopt comprehensively rewritten Chapter 28.	No formal action required.

CITY OF TROY

AN ORDINANCE TO AMEND
CHAPTER 39 OF THE CODE
OF THE CITY OF TROY
CITY COUNCIL PUBLIC HEARING DRAFT

The City of Troy ordains:

Section 1. Short Title

This Ordinance shall be known and may be cited as an amendment to Chapter 39, Zoning Ordinance, of the Code of the City of Troy.

Section 2. Amendment

Chapter 39 of the Code of the City of Troy is amended as follows:

Revise Section 8.05.A to read as follows:

9. A tree inventory ~~preservation plan~~ in accordance with Article 13 ~~the City of Troy Landscape Design and Tree Preservation Standards~~ shall be attached to all applications for Site Plan Approval. This requirement may be waived by the Zoning Administrator, in those instances where the Topographic Survey and/or other written information provided by the applicant demonstrate that the nature of the site is such that a tree inventory ~~Tree Preservation Plan~~ would not be applicable, or would serve no practical purpose.

10. A landscape plan prepared in conformance with Article 13 ~~the City of Troy's Landscape Design and Tree Preservation Standards~~.

Add Section 13.07 to read as follows:

Section 13.07: Woodland Protection:

A. Purpose and Intent. It is the intent of these regulations to help prevent unregulated and, in many cases, unnecessary removal of trees and related natural resources. The protection of trees, woodlands and woodland resources will promote the preservation of important physical, aesthetic, recreational and economic assets for both present and future generations. Specifically, it is found that:
    1. Trees and woodlands provide for public welfare and safety through the reduction of erosion, siltation, and flooding;
    2. Trees and woodlands help protect water quality by protecting groundwater recharge areas, reducing risk of groundwater contamination and maintaining base flows in streams and rivers, thus reducing the risk of

degrading vegetation, wildlife, wetlands and surface water systems throughout the city;

3. Trees and woodlands increase the economic value of land for most uses;
4. Tree and woodland growth protects public health through the absorption of air pollutants and contamination and reduces carbon dioxide content of the ambient air; and
5. Tree and woodland growth serves as an essential component of the general welfare of the City by maintaining natural beauty, recreation, and natural heritage.

The purpose of this section is as follows:

1. To encourage the preservation of trees and related natural resources of the woodland ecosystem on undeveloped and underdeveloped land and in connection with the development of land;

2. To provide for the protection, preservation, proper maintenance and use of trees and woodlands in order to minimize damage from erosion and siltation, loss of wildlife and vegetation, and/or from the destruction of the natural habitat;

3. To protect trees and woodlands (including woodland resources) for their economic support of local property values when allowed to remain uncleared and/or unharvested in whole or in significant part, and for their natural beauty, character, and ecological or historical significance; and

4. To provide for the paramount public concern for these natural resources in the interest of the health, safety and general welfare of the residents of the City, consistent with Article II, Section 201 of the Michigan Zoning Enabling Act of 2006, and in keeping with Article IV, Section 52 of the Michigan Constitution of 1963 and the intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994.

B. Applicability:

1. The provisions of tree protection shall apply prospectively to all parcels in the City where site plan review is required as set forth in Section 8.02, and any Subdivision as set forth in Chapter 41 of the City Code.

2. If it is determined that based on associated historical aerial photographs or other evidence, an owner or developer of property required to comply with this section has removed or cleared protected trees within five (5) years of the time of site plan or subdivision approval , the Planning Commission may require the property owner or developer to install additional landscaping as required by the site plan or subdivision approval and to offset the impact of the new development upon adjacent properties.

C. Protected Trees as Defined:

1. Landmark Tree: A woody plant, in a healthy, live condition (has a health and condition standard factor of over 50% based on standards established by the International Society of Arboriculture). The following species that meet the minimum size (DBH) requirement are considered landmark trees.

Common Name	**Botanical Name**	**Size (inches)**
Basswood	*Tilia*	18"
Beech, American	*Fagus grandifolia*	18"
Black Cherry	*Prunus serotina*	18"
Black Walnut	*Juglans nigra*	18"
Buckeye, Ohio	*Aesculus glabra*	18"
Douglas Fir	*Pseudotsuga menziesii*	18"
Fir	*Abies*	18"
Kentucky Coffeetree	*Gymnocladus dioicus*	18"
London Planetree/American Sycamore	*Platanus*	18"
Pine (All species)	*Pinus*	18"
Spruce	*Picea*	18"
Tulip Poplar	*Liriodendron tulipifera*	18"
Hickory	*Carya*	16"
Honey Locust	*Gleditsia tricanthos*	16"
Maple (Red)	*Acer rubrum*	16"
Maple (Sugar)	*Acer saccharum*	16"
Oak (All species)	*Quercus*	16"
Arborvitae	*Thuja*	12"

Bald Cypress	*Taxodium distichum*	12"
Birch	*Betula*	12"
Black Tupelo	*Nyssa sylvatica*	12"
Cherry, Flowering	*Prunus spp.*	12"
Crabapple/Hawthorne	*Malus/crataegus*	12"
Dawn Redwood	*Metasequoia glyptostroiboides*	12"
Ginkgo	*Ginkgo*	12"
Hackberry	*Celtis occidentalis*	12"
Hawthorn	*Crataegus*	12"
Hemlock	*Tsuga*	12"
Larch/Tamarack	*Larix*	12"
Magnolia	*Magnolia*	12"
Pear	*Pyrus spp.*	12"
Persimmon	*Diospyros virginiana*	12"
Sassafras	*Sassafras albidum*	12"
Sweetgum	*Liquidamber styraciflua*	12"
Yellow Wood	*Cladrastis lutea*	12"
Blue-Beech/Hornbeam	*Carpinus caroliniana*	8"
Butternut	*Juglans cinera*	8"
Cedar of Lebanon	*Cedrus spp.*	8"
Chestnut	*Castanea*	8"
Dogwood, Flowering	*Cornus florida*	8"
Hop-Hornbeam/Ironwood	*Ostrya virginiana*	8"

Maple, Mountain/Striped	*Acer spicatum/pensylvanicum*	8"
Paw Paw	*Asimina triloba*	8"
Redbud	*Cercis canadensis*	8"
Serviceberry	*Amelanchier*	8"
Any healthy tree with a DBH 24" or greater, (except invasive species), or a healthy tree of the species described above with the minimum DBH listed.		

2. Woodlands: Trees in a Woodland, which is defined as one-quarter (¼) acre or more of contiguously wooded land where the largest trees measure at least six (6) inches in diameter at breast height (DBH). The acreage is to be measured from the dripline to dripline of trees on the perimeter. Contiguous shall be defined as the majority of the one-quarter (¼) acre being under the vegetation dripline.

D. Tree Inventory. A Tree Inventory is required as a component of the preliminary site plan submission as set forth in Section 8, and any Subdivision as set forth Chapter 41 of the City Code.
   1. Tree Inventory shall contain the following:
      a. Location of all trees over six (6) inches in DBH.
      b. Common and botanical names of all identified trees, their size in inches at their DBH, and a description of each tree's health.
      c. Indication of all trees to be removed.
      d. Indication of all trees to be preserved.
   2. A Tree Inventory must be prepared by either a certified forester or Registered Landscape Architect.

E. Tree Replacement:

   1. When as part of a site plan or subdivision approval the Troy Planning Commission authorizes the removal of Landmark Trees and trees within a Woodland, the removal shall be mitigated as follows:
      a. Woodland Trees six (6) inches or larger DBH shall be mitigated by installation of replacement trees equal to a minimum of fifty percent (50%) of the original DBH removed.
      b. Landmark Trees (including those located within Woodlands to be removed) shall be mitigated by installation of replacement trees equal to a minimum of one hundred percent (100%) of the original DBH of the tree(s) removed.
      c. Replacement trees shall be non-sterile varieties of species native to southeast Michigan, and not prohibited by Chapter 28 of the City of

Troy ordinance. The minimum size of a deciduous replacement tree shall be two and one-half (2.5) inch caliper. The minimum size of a coniferous replacement tree shall be six (6) feet in height. Deciduous replacement of one-half (.5) caliper inch is equal to one foot in height for coniferous replacement.

2. A Tree Replacement Plan must be prepared by either a certified forester or Registered Landscape Architect. The property owner shall have the proposed Tree Replacement Plan approved by the Planning Commission.
3. These tree replacement requirements are separate from and in addition to the landscape requirements set forth in Article 13.02

F. Tree Replacement Alternatives:

1. Any identified Woodland and Landmark Tree that is retained onsite as part of the development may count towards two (2) times the inch for inch replacement requirement.
2. When reviewing site plans, the Planning Commission prioritizes Landmark and Woodland Tree protection and mitigation in order as follows:
   a. Protecting and preserving existing onsite Landmark and Woodland Trees.
   b. Providing all required mitigation on the site of development.
   c. Paying into a tree fund, only if protecting and preserving on site, or mitigation on site has been explored by applicant and due to unique circumstance as outlined in section 3 below is not possible.
3. The Planning Commission may allow for tree replacement off-site at the request of the applicant when site factors including the size of the parcel (no available area for planting), tree condition or development requirements may make conformity to this section difficult or undesirable. If the Planning Commission permits the applicant to plant off-site the applicant shall be required to pay the equivalent fee of the cost of the tree replacement, including the cost of installation to the City Tree Fund. The City Tree Fund shall be used to plant trees on public property.

G. Exemptions from Replacement:

1. The following shall be exempt from the requirements of these Tree Replacement as set forth in Section 13.07.F:
   a. Parcels of land that are not subject to site plan review.
   b. Tree trimming and removal necessary to the operation of essential service facilities of a municipal or other governmental department or agency or public utility franchised to operate in the City.
   c. Tree clearing within an existing public road right-of-way or an existing private road easement.
   d. The removal of any tree which is demonstrated by the property owner to the Zoning Administrator or designee's satisfaction to have a health and

condition standard factor of less than 50 percent based upon the standards established by the International Society of Arboriculture.

e. Trees that are considered invasive by the International Society of Arboriculture
f. Removal of trees that have become a potential danger to human life or property.

H. Tree Protection. Protected trees, shall be preserved to the greatest extent practicable through the use of site development techniques including but not limited to the following:

1. In general, Landmark Trees should not be removed for development. Site design should consider any Landmark Tree on a site as an important design element.
2. Locate development in areas of the site that are already disturbed or cleared of trees and woody vegetation.
3. Minimize clearing and grading of the site by working with the site's existing topography. Grading, roads, walkways, utility lines, and all other aspects of soil disturbance shall be minimized to the extent possible considering standards of sound design and public safety. Clearing for buildings should be limited to the smallest area needed for safe and effective building work.
4. Use retaining walls and other techniques to minimize grade changes near trees.
5. Maintain trees along the perimeter of sites to provide buffer.
6. Maintain grades and moisture conditions within the Critical Root Zone (CRZ) of trees. Many of the native hardwood trees: oaks, hickories, maples and beeches, for example, and most old trees do not adapt to environmental changes brought about by construction. Grading changes should not occur within the CRZ of a tree. In addition, grading on a site should neither increase or decrease moisture conditions within a tree's CRZ. The area of concern around an important tree may be significantly larger than the CRZ. The drip line of the tree shall be used for comparison, and if larger than the CRZ, the dripline should be used to determine how best to protect an important tree.
7. Locate utility lines away from trees to be retained. If this is not possible, install utility lines through bored tunnels instead of trenches.
8. Conduct any necessary excavation around trees by hand.
9. Applicant must provide a Tree Protection Plan that is compliant with requirements as set forth Chapter 28, Tree Regulations.
10. Upon reasonable notice to the property owner and/or Applicant, the City shall have the right to periodically inspect the site during site plan review, land clearing, and/or construction to ensure compliance.

I. Tree Removal as a Result of Construction Activity:

1. Any protected tree identified for preservation on an approved site plan that has died within three years (3) of the start of construction shall be replaced under the appropriate Landmark Tree and Woodland replacement requirement.

J. Site Plan Approval and Enforcement:

1. Tree protection and mitigation as approved by the Planning Commission is a condition of Site Plan approval and enforced as such.

K. Appeals and Variances. All appeals or requests for variances from the provisions of this section shall be made to the City of Troy Zoning Board of Appeals in accordance with Article 15 of the City of Troy Zoning Ordinance.

L. Violations and Penalties. Violations of the provisions of this section are violations of the City of Troy Zoning Ordinance and subject to Article 3 of the City of Troy Zoning Ordinance.

Section 3. Savings

All proceedings pending, and all rights and liabilities existing, acquired or incurred, at the time this Ordinance takes effect, are hereby saved. Such proceedings may be consummated under and according to the ordinance in force at the time such proceedings were commenced. This ordinance shall not be construed to alter, affect, or abate any pending prosecution, or prevent prosecution hereafter instituted under any ordinance specifically or impliedly repealed or amended by this ordinance adopting this penal regulation, for offenses committed prior to the effective date of this ordinance; and new prosecutions may be instituted and all prosecutions pending at the effective date of this ordinance may be continued, for offenses committed prior to the effective date of this ordinance, under and in accordance with the provisions of any ordinance in force at the time of the commission of such offense.

Section 4. Severability Clause

Should any word, phrase, sentence, paragraph or section of this Ordinance be held invalid or unconstitutional, the remaining provision of this ordinance shall remain in full force and effect.

Section 5. Effective Date

This amendment to the Zoning Ordinance shall take effect ten (10) days after publication, which shall be published within 15 days of adoption, as required the Michigan Zoning Enabling Act (Act 110 of 2006).

This Ordinance is enacted by the Council of the City of Troy, Oakland County, Michigan, at a regular meeting of the City Council held at City Hall, 500 W. Big Beaver, Troy, MI, on the _____ day of _____, 2016.

_____
Dane Slater, Mayor

_____
Aileen Dickson, City Clerk

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City of Troy MASTER PLAN

Mayor

Dane Slator

City Council

Ed Pennington, Mayor Pro Tem

Edna Abrahim

Ethan Baker

Jim Campbell

Dave Henderson

Ellen Hodorek

Planning Commission

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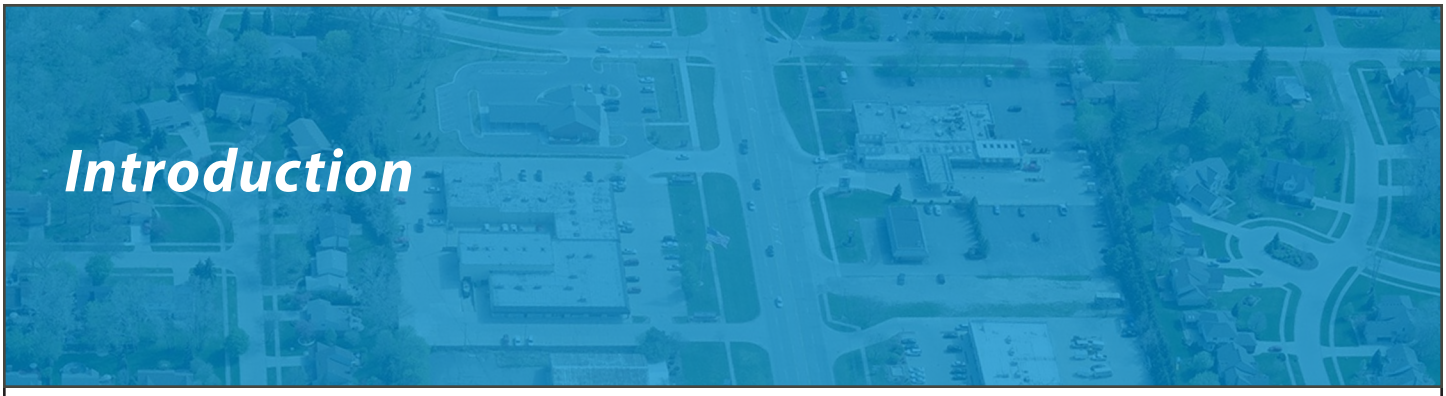


Introduction

Introduction

Fueled by necessity and inspired by a changing population, economy and region, the City of Troy has determined that the preparation and periodic revision of the 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. The Master Plan adopted in 2008 represented a major effort to rewrite the plan that was originally adopted in 1965.

The 2008 Master Plan remains relevant and needs little revision. However, specific goals and policies within this document have been revised to respond to the changes that have taken place in Troy. These changes in goals and policies are necessary to respond to new conditions and projected trends in order to continue to ensure that **Troy is 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.** In addition, background data which serves as the foundation of the Plan has been updated.

The City derives its authority for the preparation of a Master Plan from the Municipal Planning Act, P.A. 33 of 2008.

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 Introduction

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 Plan was further inspired by the previous 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

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

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:

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: Planning a Community for All Ages and Stages

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.

Special Area Plans

As part of the 2015 Master Plan update, the city undertook a special area study of four areas of the city: Rochester Road, Maple Road, North Troy, and Big Beaver.

While the future land use plan ensures compatible and coordinated growth throughout Troy, key areas of the City will undergo significant change. In those areas where substantial development and redevelopment activity is likely, special area plans provide an illustrative framework to guide development in a way that fosters a sense of place and establishes community identity in key locations.

The plans provide schematic representations of potential development areas at a variety of scales and levels of detail, and may include illustrative configurations for new streets, buildings, parking, open space and circulation as may be appropriate to the area. They are accompanied by descriptive text that explains existing site characteristics, planning challenges, design considerations, and planning goals for each area.

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.

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

An extensive public engagement program was conducted in conjunction with the Master Plan adopted in 2008. A Master Plan workshop which involved a selected participant list of over 150 invitees initiated the public engagement process. 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.

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)

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" principles 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.

2015 Master Plan Public Engagement

For the current revision of the Master Plan, public engagement was equally extensive but more targeted to specific subject matter. The following summarizes the content of each workshop:

Real Estate Forum

The City of Troy hosted a Real Estate Forum on Tuesday, April 29, 2014 at the Troy Community Center. Over 60 community leaders, business owners, real estate developers, and interested citizens participated in a productive dialogue regarding the future direction of key economic areas of the city, specifically Maple Road, Big Beaver, North Troy, and Rochester Road. Participants were presented with target area snapshots and were asked to identify and describe the assets and challenges of these four areas. Participants also offered strategies for reinforcing assets, re-envisioning challenges, and ultimately attracting new development that is right for the corridor and the community. Participants emphasized the need for collaboration between city departments and community stakeholders, as well as a coordinated vision that is responsive to market demands and focused on quality of life. By building on the unique strengths of each area, activating established nodes and reinforcing new development with pedestrian amenities, transit connections, and a desirable mix of uses those sites that were once viewed as challenges will appear as opportunities for reinvestment.

Key takeways from Real Estate Forum:

- Density is key
- Plan should be market driven and forward thinking
- Transportation and pedestrian improvements are important
- Zoning should align with the Master Plan and offer flexibility to encourage the right development at the right time
- North/South corridors provide important connections between the target areas and adjacent communities
- Residential development should attract and accommodate different ages, lifestyles, and income levels
- New developments should be connected
- Strategic, tactical, and creative placemaking strategies can activate node

Move Across Troy Symposium

The opportunity exists to create a transportation corridor along Big Beaver Road that is not only unique in Michigan, but in the United States

– a corridor that not only carries a high volume of vehicles, but is walkable, hosts continuous pedestrian activity, and provides a variety of transportation options. To identify and address transportation and pedestrian options along and across Big Beaver, the City hosted a Symposium with both the general public and key stakeholders. Two sessions were held. The first was a technical meeting with representatives from MDOT, Oakland County, and City of Troy. The purpose of the meeting to discuss specialized solutions to address issues.

The second session was a public meeting to identify potential pedestrian issues and solutions. Over 60 attendees provided comments on targeted elements including I-75 underpass, grade-seperated crossings, intersection crossings, and mid-block crossings. The results informed the Big Beaver Pedestrian Special Area Plan.

High School Forum

In order to gain input from the future leaders, a session way held with twenty high school students (ten each from Troy and Athens High Schools). The students were intended to serve as a cross-section of the high school population. The students were quite impressive and were motivated at their responses.

Attendances were asked to use one word to describe Troy today and one word to describe Troy in 10 years:

Troy Today	Troy in 10 Years
Versatile	Fun
Peaceful	Advanced
Family-oriented	Utopia
Upscale	Safer
Quiet	Educated
Potential	Expanded
Diverse	More Diverse
Well-rounded	Innovative
Residential	Modern
Safe	Creative
Fun	Changing

Busy	Less-Congested
Close	Professional
Engaging	Busy
Boring	Beautiful
Suburbia	Affordable
Opportunity	Home-owner oriented

The students were then asked a series of questions about Troy including what they like best about living in Troy, what they like least, their desire to move back to Troy after school, and Troy's most pressing needs. The full results are located in the appendix. The students enjoy the quality of schools; however most students noted that they do not plan on moving back to Troy in the future. If they did move back to Troy it would be because of family and the quality of the schools. They note that Troy is missing entertainment options, and "cool" housing options, and does not provide walkable or bike-able places. Most students desire to live in a big city after college graduation.

Neighborhood Association Forum

City of Troy hosted a neighborhood forum with Presidents and representatives from the various neighborhood associations. All geographic residential portions of the city were represented.

We started the discussion with asking those in attendance one word to describe Troy today and one word to describe Troy in 10 years:

Troy Today	Troy in 10 Years
Suburban	Advanced
Future	Economic Leader
Random	Attractive
Evolving	Progressive
Bedroom-community	Education
Attractive	Birmingham; More Parking
Youth	Envied
Opportunity	Futuristic
Diverse	The standard
Accommodating	Smart
Modern	Advanced

Participants were asked a series of 15 questions. The full results are located in the appendix. The questions focused on neighborhood issues affecting their neighborhoods including property upkeep and maintenance, transportation improvements, land use transitions and buffers, desired community amenities, and need for housing options.

There were two big takeaways from the neighborhood forum discussion. The first takeaway was that residents like living in Troy and cited a number of reasons including high quality of the public schools, entertainment options, safety, and housing stability. Maintaining a quality school district was cited of critical importance, especially for neighborhood and property value stabilization. The second major takeaway was the biggest issue facing Troy is a lack services within walking distance and lack of non-automobile transportation options.

Boomer and Shaker Forum -

The City of Troy hosted a Boomer and Shaker Forum on Monday, August 17, 2015 at the Troy Community Center. The purpose of the forum was to meet with Troy residents to identify issues and determine strategies to ensure Troy assists its aging population and creates an aging friendly place. The intent was to focus on issues facing Troy's boomer and senior population but also address issues that cross-generational lines:

- Housing
- Transportation
- Placemaking
- Walkability
- Safety and Security
- Health Services
- Recreation and Cultural Activities

Over 80 community residents participated in a productive input session to make Troy an aging friendly location.

Most of the participating residents are likely to remain living in Troy as they age. Many noted the high quality of life living in the city. For those that identified that they are likely to leave Troy, the most listed reason was a lack of housing option and a lack of transportation options. Underserved senior housing options and a need for increased public and dedicated senior transportation options was a common discussion point of the Forum.

The first major takeaway was there is an identified underserved housing type of senior-friendly housing such as smaller, single-family homes, condominiums, or apartments with first floor master bedrooms. Housing affordability was listed as a significant housing limitation. Many remarked that they are on a fixed income and cannot afford a $400,000 house/condo. They noted that affordable, smaller housing options are difficult to find in Troy and the city should push development of those types.

The second major takeaway was the need for improved transportation options, particularly serving seniors. Most attendees noted that because they are able to drive they are able to obtain their daily needs (health services, retail goods, social, recreational, and cultural). However, they are unsure if they will be able to once they are unable to drive.

To improve transportation options, the city should work with SMART to increase bus hours

and locations. While Medi-go, a transportation service for Troy disabled residents and those age 60, provides a valuable service, the hours are limited and should be expanded. Medi-go should be complimented with a dedicated transportation system or on-call shuttle service for seniors for daily needs in addition to just medical appointments, like grocery shopping, recreation activities, etc. Lastly, the City should focus on improving the sidewalk system and street crossing at major thoroughfares, and build trails. The results from the community engagement was used to establish the vision, priorities, and policies as set forth in the 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 129,000 and a daytime population of over 170,000 people, nearly twice as many 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 seized upon the 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 many 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 on 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.**

A Global Market

Troy has adopted a strategy to position itself globally, in terms of international business connections and with regard to marketing its assets to attract worldwide investment. Southeast

City of Troy Facts:

Population (Census 2010) - 80,980

Population (SEMCOG est. 2015) - 81,261

Retail Space - 7 Million sq. ft.

Office Space - 18 Million sq. ft.

Manufacturing/Engineering Space - 20 Million sq. ft.

Businesses - 6,100

Employment - 129,000

Number of Households - 30,703

Average Cost of Housing - $226,200

Household Income - $86,469

www.troymi.gov

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.

The International Population

Troy has embraced international populations and now benefits from a great deal of diversity. 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.

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 are taken into account when a business investigates potential locations or markets. These complex elements become even more intimidating 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 has formed a strong partnership with Automation Alley, home of the International Business Center.**

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

Figure 2.1 Percent Foreign Born

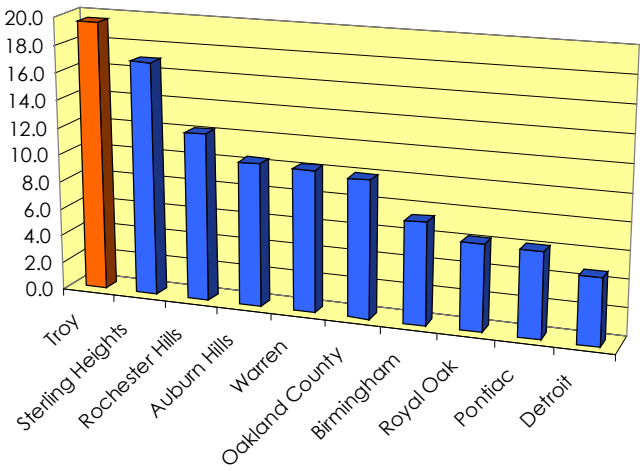
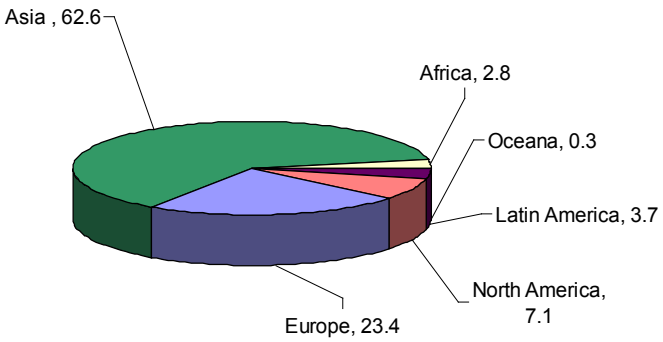


Figure 2.2 Area of Origin by Percentage, Foreign Born Troy Residents



difficult to sustain. Partnerships between 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 will continue 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 of the Master Plan. 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.

Regional Collaboration

The City of Troy, in collaboration with public and private-sector partners, is focused on helping businesses grow. The City of Troy has formed a strong alliance with key stakeholders including Automation Alley, Walsh College, Troy Chamber of Commerce, Oakland County's Economic Development Office and the Michigan Economic Development Corporation to provide targeted business assistance. Through an economic gardening approach, Troy's economic development staff assists local companies by identifying specific business needs and providing the information, infrastructure and connectivity necessary to address those needs. By leveraging Troy's unique community assets, partnerships and available tools to promote business growth, the City is creating an environment for investment.

One of the key regional assets that the City makes use of is Automation Alley. There is no better example of regional collaboration than Automation Alley with the bulk of its members located in Oakland, Macomb, Wayne and Washtenaw Counties and membership growing in Livingston, Genesee, Ingham and St. Clair Counties.

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.

Advocating for enhanced regional transportation

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

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.

Troy Transit Center

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

www.michigan.gov/mdot

Sustainable Development

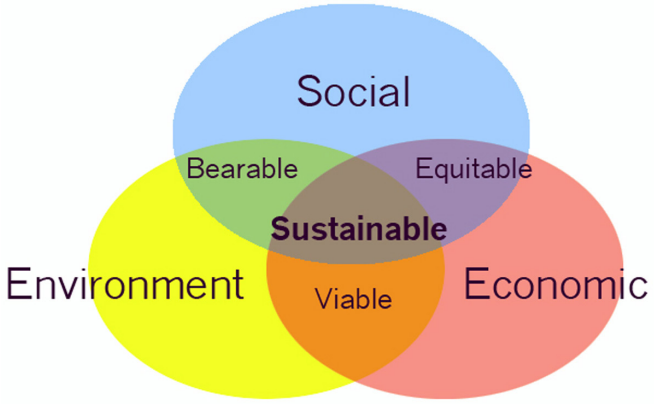
An area where the City can accomplish a variety of objectives is the adoption of a strong philosophy toward sustainable development. Continuing to incorporate sustainable development standards into City policies will encourage environmentally, socially, and economically responsible development and enhance 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.

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.

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



Sustainable Development

"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.

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."*

(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)

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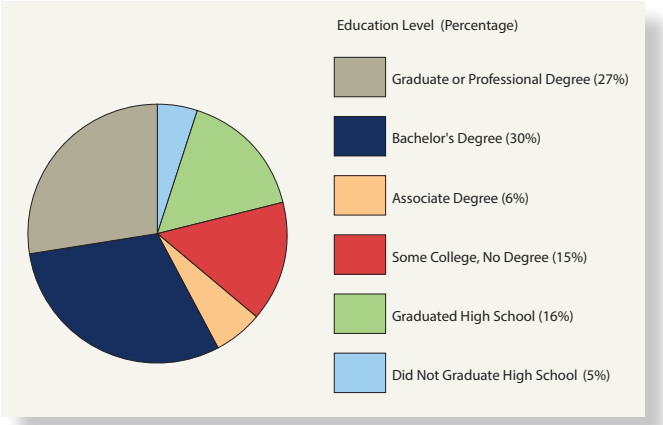
A Place to Learn and Play: The Quality of Life in Troy

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 78 percent of Troy's residents have some college education. Twenty-six percent of residents have graduate/professional degrees. Only 5 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 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.*

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*

High Quality Schools

The Troy School District operates twelve elementary, four middle, and three 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. Three of these school districts, Birmingham School District, Warren Consolidated Schools, and Avondale 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.

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.

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.

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.

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.

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:

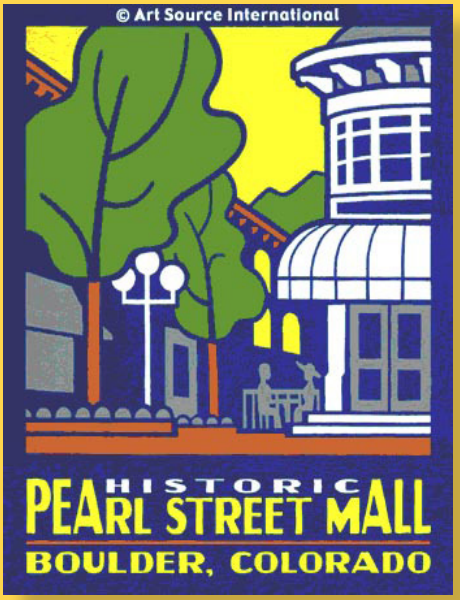
- Little or no programming; that is, the space cannot be dominated by formal gardens or active recreation, such as baseball fields.
- The space must be located directly adjacent to vibrant, mixed-use development with both residential and commercial concerns nearby, to draw people throughout the day.
- 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 casual introduction of cultural life is part of the historic mission of cities." -Jane Jacobs , Death and Life of Great American Cities

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 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.

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.

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.

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.

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.

Much of the public input suggests 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.

The development of a trail system in Troy is the City's number one recreational priority based on the results of the public input. There is a wide range of benefits associated with the establishment of a trail system:

- Health and physical fitness
- Increases property values
- Promotes community enrichment/character
- Provides connectivity to neighboring communities
- Improve landscape aesthetics
- Recreation for diverse users
- Income for Michigan's tourism related business

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 and Michael Phillips

- Linkages for a statewide network of trails
- Safe non-motorized transportation routes
- Conservation of green space and wildlife habitat
- Environmental quality education opportunities
- Transportation alternative
- Connect with existing and proposed bicycle lanes

The City of Troy's Trail and Pathway Project's goal is to provide safe, accessible and convenient non-motorized transportation facilities to support and encourage increase level of bicycling and walking throughout the city while providing connections to local and regional amenities. The City of Troy hosted two public engagement meetings where it received numerous responses and useful information from residents about the type of route the trails and pathway should be. After compiling information and results from the meetings, it was determined that the Transportation Pathway was the most desired option among those who participated in our public engagement efforts, which uses major roads for placement of the trail and pathway. The Troy City Council gave their approval for this plan by resolution. City staff along with Trail and Pathway Committee actively is pursuing implementing this project.

Parks and Recreation Mission Statement

It is the mission of the Parks and Recreation Departments to enhance the quality of life for residents and businesses by providing recreation programs, facilities, and related services. The Department promotes a healthy lifestyle for all age groups regardless of physical abilities, and enriches cultural and natural resources through community programs.

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.

The City of Troy utilized a Parks and Recreation Survey in preparation of the Parks and Recreation Plan complete in 2013. Surveys were posted on the City's website and distributed in City offices. A total of 931 surveys were returned and analyzed.

Respondents were asked to list their first, second and third choices of facilities they would like to have in their community. Trails were the most popular facility chosen, followed by building and a dog park.

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.

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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.

Hub for Employment

With a large number of employees and robust economic activity, it is not surprising that Troy is home to nearly 130,000 jobs. Of the people who work in Troy only 14% actually reside in Troy.

The major industry of employment are knowledge-based services, which will continue to grow at a much higher rate than any other source of employment. Currently, 35% of the workforce is employed in a knowledge-based industry. The next two highest sources of employment are retail trade and private education and health care.

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.

The City took a major step towards promoting economic sustainability by adopting an economic gardening approach. The traditional approach to economic development placed a focus on seeking out and attracting the relocation of large companies. While some communities applying this "hunter and gatherer" method have had limited success, this approach has significant limitations including: 1) expense; 2) the layout of substantial financial incentives without the sure guarantee of success; 3) the requirement of a significant amount of time to see a positive return on such investment; 4) inefficiently leveraging a community's existing assets; 5) the cost of providing tax abatement and incentives reduces tax revenues. The economic crisis of the past ten (10) years has shown that a recalibration of the traditional approach to business development is needed.

A more successful method of economic development consists of a "Grass Roots" approach. Appropriately labeled as "Economic Gardening", this approach focuses on retaining and "cultivating" local 'second stage' businesses in the community by investing in and promoting existing community assets and infrastructure. A large company that was not founded in Troy may be able to survive in Troy for a short period of time, but if the economic climate is not suitable or the foundation for potential growth is weak or unstable, there is no guarantee that the company will have a prolonged survival. The emphasis instead is on cultivating and improving the foundation for existing Troy companies that have already shown growth. These companies already have firm roots in the community and may ultimately be the key to stimulating the economy.

Troy's economic gardening initiative is called **Troy Michigan Business Connect.** The program provides assistance to all growing Troy companies, particularly those considered "second stage" (generally between 6 and 99 employees and $750,000 to $50M in annual revenue). Through a partnership network, a wide

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

Michigan's Premier Address for Business, Retail and Commerce

Troy is the prime location for new and expanding businesses like yours. Home to 7 million square feet of retail space, 21 million square feet of office and engineering space and 16 million square feet of manufacturing space, Troy's business environment is progressive and diverse with a solid mix of major corporations and small local businesses. Troy is home to Automation Alley, Michigan's largest technology business association driving growth in Southeast Michigan's economy, and at the center of global technology and manufacturing. Troy is also a major contributor for Michigan's ranking as one of the largest high-tech workforce employers in the country.

Troy was one of only eight Michigan communities named a "Top Performing Community" for attracting and retaining entrepreneurial companies in 2012 by the University of Michigan-Dearborn's eCities study. Combine the City's abundant job opportunities with an excellent quality of life and it comes as no surprise that Troy is one of the nation's fastest-growing employment centers.

https://www.troymi.gov/WorkHere/LocateYourBusinessHere

range of assistance is provided to help Troy companies grow. Assistance is available in areas such as business development, market analysis, logistics, Geographic Information Systems (GIS), finance, human resources development, talent recruitment, supported employment, site selection, utility issues, building permits and inspections, planning, zoning and other areas. By leveraging Troy's unique community assets, partnerships and available tools to promote business growth, the City is creating an environment for investment.

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.

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

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

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.**[1] 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

1. *United States Economic and Statistics Administration*

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, Bank of America, Behr, National City Bank, Altair Engineering, and Kirco.[2]

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.[3]

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
- 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.**

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

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

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:

- Advanced Electronics & Controls
- Advanced Materials & Chemicals
- Aerospace
- Automotive
- Alternative Energy & Power Generation
- Communications & Information Technology
- Film & Digital Media
- Robotics & Automation
- Defense and Homeland Security
- Oakland County's Medical Main Street

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.[4]

One of the primary initiatives the City of Troy has

4. https://www.oakgov.com/advantageoakland/International/Pages/emerging-sectors-default.aspx

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.[5]

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.

The City has a reputation of strong, diversified tax base. However, as with many Michigan communities, there are challenges. The City's taxable value was $4.3 billion in fiscal year 2014. This is roughly equal to the value in 2013 and indicates a leveling trend of the significant declines incurred from 2008's great recession. As a point of reference, the fiscal year 2008 taxable value was $5.5 billion.

Despite the challenges faced by the great recession, Troy's diversified business community, strong residential market and conservative financial management perpetuates a stable economy through regional and national market fluctuations. A wide range of industries in the business community, well maintained neighborhoods, excellent schools, and continued investment into roads and infrastructure all contribute to Troy's resilience.

Emerging Sectors

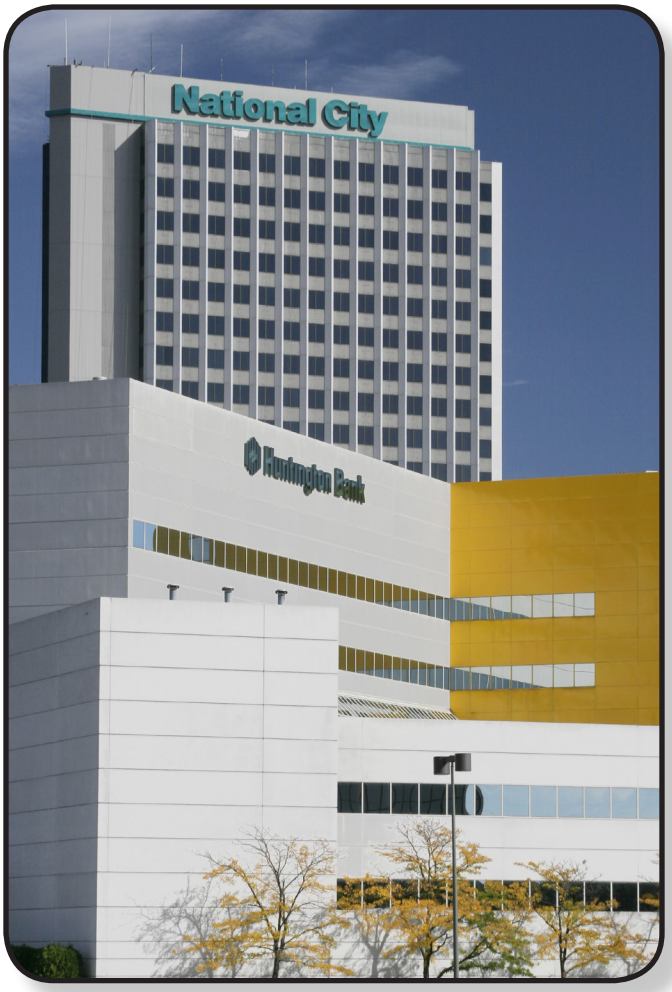
Job creation and diversification are transforming Oakland County's economy from manufacturing-based to knowledge-based through Oakland County's Emerging Sectors initiative. Since inception, the initiative has generated $3.2 billion in private investment and has created and retained more than 57,000 jobs.

- *$3.2 Billion in private investment*
- *36,630 jobs created*
- *20,704 jobs retained*
- *Successes 358*

https://www.oakgov.com/advantageoakland/International/Pages/emerging-sectors-default.aspx

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 121,000 people, yet only about fourteen (14%) percent 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.**

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.

Previous work by 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 was that Troy will become a "green" city where a series of actions contribute to make Troy an environmentally sustainable place within which to travel.

Stakeholder input also reveals 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 High-way	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 City from 28 signals to over 300 signals.[3]

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

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.

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

The Oakland/Troy Airport is owned and managed by Oakland County and provides executive airport service for private, corporate and charter air travel. 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, 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.

Transit Center

As mentioned in Chapter 2, the City developed the Troy Transit Center to provide a central, multi-modal hub primarily for rail and bus service. The Troy Transit Facility will serve the region by strengthening the existing transit options in the area through a centralized facility that will allow users to access intercity rail service, regional bus routes and other modes such as air and taxi services. A bridge over the railway line will provide a barrier-free non-motorized link between the regional bus terminal in Troy with the rail platform in Birmingham. This facility is included as a hub in the Detroit Regional Mass Transit plan (DRMT) and will serve included as a hub in the Detroit

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

Regional Mass Transit plan (DRMT) and will serve as a catalyst for coordinated regional and mass transit in Southeastern Michigan.

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 government responsible for the building and improving of roads.

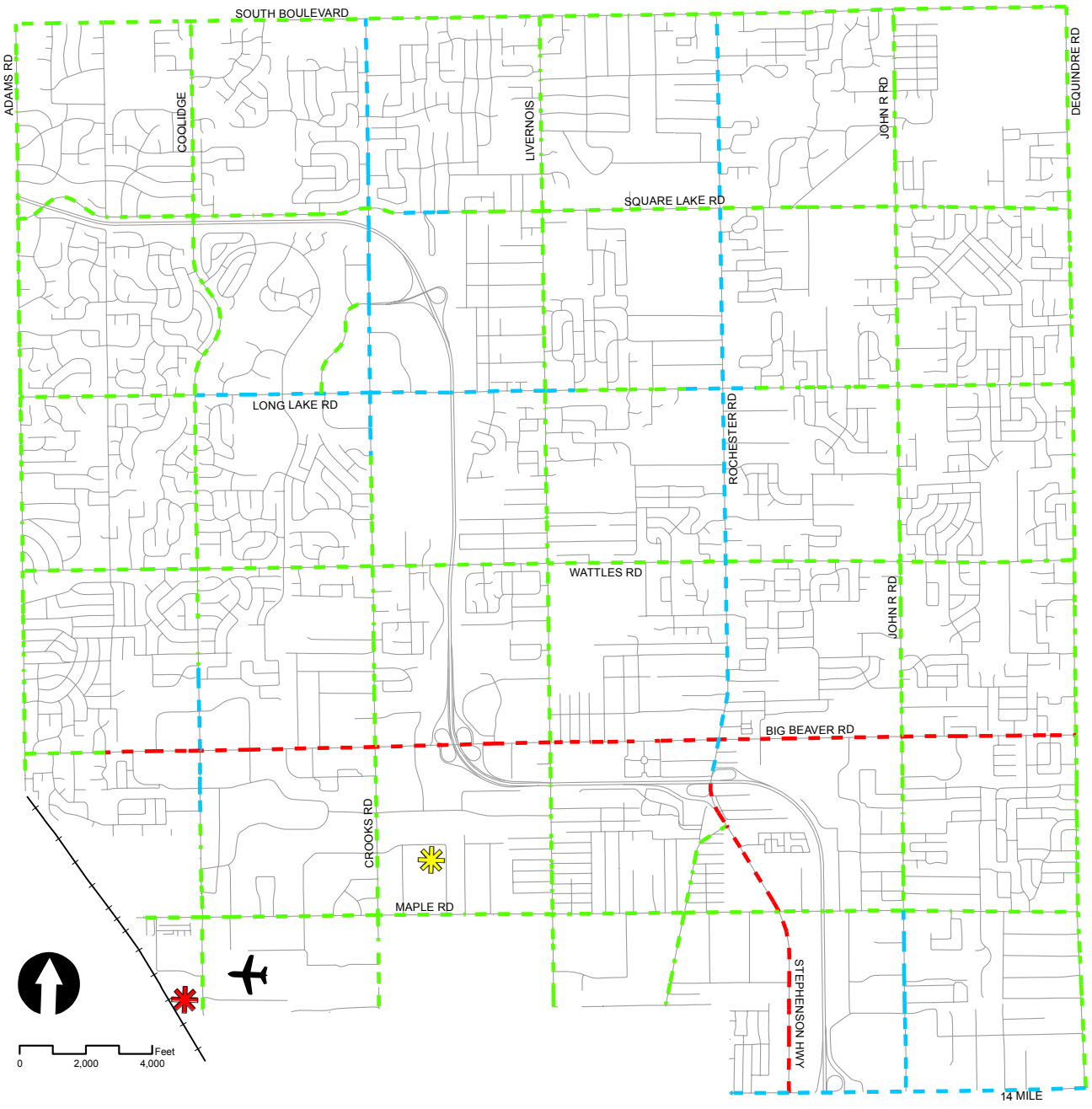
Access Management

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 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. [4]

The Big Beaver Corridor Study included 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.

4. Federal Highway Administration



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

Complete Streets

The MICHIGAN COMPLETE STREETS legislation was signed into law in 2010 through two public acts, Public Act 134 and Public Act 135. The Michigan Planning Act was also amended to require the consideration of complete streets in the Master Plan. The legislation defines Complete Streets as "roadways planned, designed, and constructed to provide appropriate access to all legal users...whether by car, truck, transit, assistive device, foot or bicycle." It gives new responsibilities to local government and county and state transportation agencies to address transportation needs of all legal users (including pedestrians and bicyclists) in their community Master Plans.

Communities with Complete Streets policies help to ensure that roadways are designed to accomodate all users, not just motorists. Facilities that make a street "complete" depend on existing conditions and the intended users. It's never a "one-size-fits-all" scenario. Examples include curb ramps, audible or tactile signals for blind pedestrians, longer crossing times, smooth sidewalks and bike lanes that are free of obstacles.

The Road Commission for Oakland County (RCOC) developed Complete Streets guidelines for use when

COMPLETE STREETS

Complete Streets provide a number of benefits including, but not limited to:

- *Improved safety for all users, including pedestrians, bicyclists, transit riders and drivers;*
- *Improved human health by encouraging walking and bicycling;*
- *Decreased car traffic, reducing dependence on gasoline and petroleum products, and improved air quality;*
- *More transportation options; and*
- *Fosters livable communities and improved quality of life.*

designing future road improvements and considering the transportation needs of all legal users. The guidelines evaluate issues such as liability, funding, maintenance, connectivity, local involvement, environmental concerns and specific user needs.

To that end, the City will need to address the following key principles in all planning related to Complete Streets:

1. Consider all legal users - vehicles, bicycles and pedestrians of all ages and abilities - in the discussion of its transportation system.

2. Encompass all modes of transportation.

3. Ensure that the improvements identified in the Plan are appropriate to the context of the community.

4. Identify the means of cooperating with the Road Commission or MDOT when implementing transportation elements of the plan.

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 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

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

A central theme of the Master Plan includes 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.

The "Villaging" concept can be achieved by following the principles of Transit Oriented

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

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[5]

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 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 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.[6]

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

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

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. **Approximately 4 percent of Michigan workers are telecommuters and projections indicate that as many as 20 percent could ultimately become home-based.**

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.

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.[7]

7. Transportation Implications of Telecommuting, Bureau of Transportation Statistics

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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]

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]

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.

1. 2006 Troy Annual Water Quality Report
2. 2007/8 Streets and Drains Budget
3. http://www.troychamber.com/gli/whytroy.htm

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." Given the quality of its infrastructure, Troy is in an excellent position to accomodate and absorb new development. 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.

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. As part of the Capital Improvements Plan process, the City forecasts needs and plans projects 5 years in advance. Capital improvement planning done as part of budgeting includes planning for roadway, drain, sewer, sidewalk, and water main maintenance and improvements.

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

In the next 5 years, the City anticipates investing more than 118 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.

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. LID represents 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]

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:

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

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

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 is characterized 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.

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 manages over 900 acres of parkland. 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.

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 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.

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

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

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 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 site's 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.

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.

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.

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]

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/

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**.

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 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. **Bank of America's facility i**n Troy earned gold status due to its use of many environmentally-friendly technologies. The Bank of America facility 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 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.[7]

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.[8]

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

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.

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:[9]

- 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.

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

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.

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

Troy has developed a Comprehensive Energy Plan (CEP), 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 were considered in the CEP included:

- 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.[10]

Kresge Foundation

In 2006, the Kresge Foundation has completed renovations to its headquarters in Troy in 2006 and 2015, which include the addition of a new 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

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.

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

LEED Across Michigan

Michigan is a national leader in the area of green building. As of 2013 there are 410 LEED certified projects in Michigan. 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 than 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

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 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.

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.

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

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People: Planning a Community for All Ages and Stages

Since 2008, Troy's housing market has changed dramatically. While the focus on "Urban Villages" and promoting mixed use residential has been a positive force on the market, the foreclosure crisis and economic recession had serious consequences for homeowners and housing developers. What did we learn in the last 5 years? When change is the only constant, diversity is the City's key to success. A diverse mix of housing types is essential to meeting the needs of current residents, while attracting new households to the community. The City of Troy is a leader in the Knowledge Economy and should continue to meet the needs of this young, ambitious workforce by providing desirable entry level housing options. The City is also a leader in public education, recreation amenities, and community services; such quality of life factors make Troy an attractive community for families and empty nesters.

The City should continue to protect homeowners and the character of residential neighborhoods, while providing new opportunities and greater flexibility. Supporting townhomes and other multi-family housing options as infill development will allow residents to transition through the various housing types while staying rooted in the Troy community.

This Chapter will analyze the changing nature of Troy's population and compare certain local demographic and housing trends to regional and national trends. Household size, age and other characteristics of the population will be used to make recommendations designed to improve the utility of the City's housing stock as well as other community elements to meet the changing demand.

The driving force behind many changes Troy will experience is changing characteristics of its population. The median age of Troy's population has increased and by 2030 over 26% of the population will be over 65. While the City will remain very attractive for families, both the younger and older population will desire a community that looks somewhat different than the current one.

Changing demographics can have the most profound impact on housing. 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 a community that is also seeking to position itself as a leader in the knowledge economy, the most desirable housing to attract a younger 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.

A healthy and livable city is also one that provides a variety of elements that contribute to a high quality of life including; economic and education opportunities; access to cultural, religious, recreation, shopping and entertainment resources; quality built and natural environment; and the ability to have a safe and healthy lifestyle.

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

The changes in Troy's population will occur not so much in number but in characteristics.

The population of the City of Troy has steadily increased since the 1960 U.S. Census but this growth trend has tapered off since 2008. As shown in figure

8.1, the population in 2010 was 80,980, a modest increase over 2000. In 2015, SEMCOG estimates the population to be 81,261.

As with similar communities, approaching a "built out" stage, population growth is slowing. SEMCOG predicts that by the year 2040, the City of Troy can expect to have a total population of 83,062, an increase of 2.6 percent from the 2010 Census population.

According to the 2010 Census, the community had 30,703 households. By the year 2040, SEMCOG predicts that the number of households will increase by approximately 6 percent from the 2000 Census (figure 8.2). Current household size in the City of Troy is 2.63 (2010 U. S. Census) and 35 percent 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 2000 and 2010, total population increased by 0.03 percent while the number of households rose by 2.23 percent.

Commensurate with an increased number of households is a decrease in the size of households. By 2040, household size in Troy is projected to be 2.50 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 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, individuals born between 1946 and 1964.

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

- *Household Type:* Over 75 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. Non-family households consist of a group of unrelated persons or one person living alone.

FIGURE 8.1: CITY OF TROY FUTURE POPULATION
Source: 2010 U.S. Census and 2015 SEMCOG estimates.

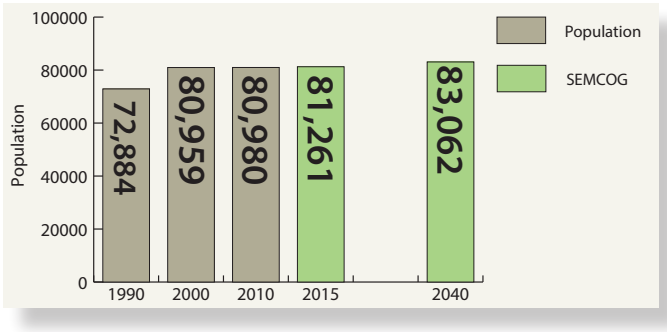
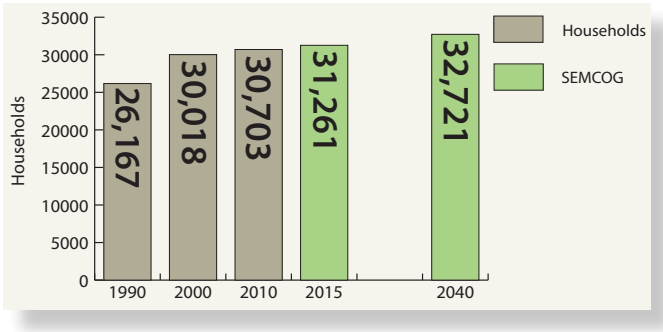


FIGURE 8.2: NUMBER OF HOUSEHOLDS
Source: 2010 U.S. Census, SEMCOG, City of Troy



Today's Seniors
How they are different

- *Living longer*
- *Highly educated*
- *Diverse*
- *Wealthy but with debt*
- *Remaining in workforce*
- *Technologically savvy*
- *More single living arrangements*
- *Physically active*

- *Age Composition*: **Consistent with State and National trends, the population of Troy is aging.** As shown in figure 8.3, 45 percent of Troy's residents are between the ages of 35-64. The median age in the City of Troy is 41.8 years, as opposed to 38.1 in 2000 according to the U.S. Census Bureau. All trends remaining the same, a substantial shift is expected in the age distribution by 2030. **As indicated in figure 8.3, the age 65 or older age range is currently 14% of the population up from 10% in 2000. Over 26 % of the population will be 65 and older by 2030.**

- *Income*: Like many Michigan communities, the City of Troy experienced a significant drop in household income levels due to the economic recession of 2008. According to 2008-2012 ACS Estimates, the median household income in the City of Troy was $86,465 (2012 dollars), a 16.9 percent decrease from the 2000 median income of $101,092 (2012 inflation-adjusted dollars). Despite setbacks and slow growth through 2012, the City of Troy maintains its position as "Michigan's Premier Address for Business, Retail, and Commerce," and well exceeds the Oakland County 2012 median household income of $64,637 (2012 dollars).

- *Education*: **The City of Troy has a well-educated population**. As indicated in figure 8.4, over 78 percent of Troy's residents have some college education. Twenty-six percent of residents have a graduate/professional degree. Only 5.3 percent of Troy residents did not graduate high school, similar to Oakland County as a whole, but about half of the Statewide average.

- *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 2010 U.S. Census, the racial makeup of the City was 81.3 percent White, 2.1 percent African American, 13.2 percent Asian, and 1.7 percent from two or more races. 1.5 percent of the population is of Hispanic or Latino origin.

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.

FIGURE 8.3: POPULATION DISTRIBUTION BY AGE GROUP (2010)
Source: SEMCOG

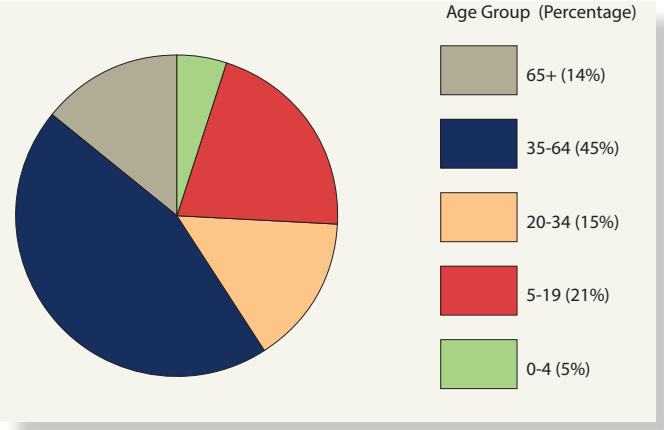
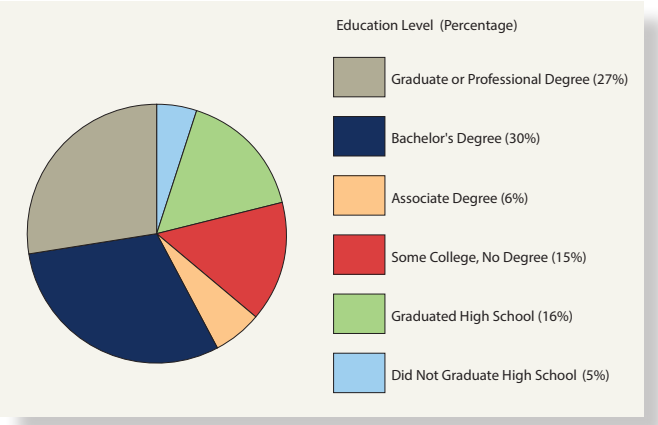


FIGURE 8.4: EDUCATIONAL ACHIEVEMENT OF RESIDENTS OVER 25 YEARS



Housing Options in Troy

Ranked as one of the "Best Places to Live" in America in 2012, the City has become a desirable place to call home for people of all backgrounds (CNN Money, 2012). 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. For many years, Troy has been a magnet for families. Excellent schools, a safe environment, and attractive amenities have made Troy a very desirable place to live. The characteristics of the population have also driven the housing stock. As depicted in Figure 8.5, housing in Troy is overwhelmingly single-family detached.

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 as a result in changes in employment, household size, mobility, income, and personal needs. 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.

Nothing in this plan is intended to change the overwhelmingly single family nature of the community. However, changes in the age and characteristics of the population will influence the characteristic of the housing stock. Large three and four bedroom homes appeal to families, but may not be ideal for seniors, young professionals or small families.

Plans for the future must include a variety of housing options for both a younger workforce as well as an aging population.

Housing an Aging Population

The next generation of older adults is one with a new perspective on aging; 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. Many of the concepts described here also provide options both for a younger population as well as persons with disabilities in Troy.

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.

Key Findings of Boomers and Shakers Forum

Most of the participating residents are likely to remain living in Troy as they age. Many noted the high quality of life living in the city. For those that identified that they are likely to leave Troy, the most listed reason was a lack of housing option and a lack of transportation options. Underserved senior housing options and a need for increased public and dedicated senior transportation options was a common discussion point of the Forum.

The most identified underserved housing type was senior-friendly housing such as smaller, single-family homes, condominiums, or apartments with first floor master bedrooms. Housing affordability was listed as a significant housing limitation. Many remarked that they are on a fixed income and cannot afford a $400,000 house/condo. They noted that affordable, smaller housing options are difficult to find in Troy and the city should push development of those types.

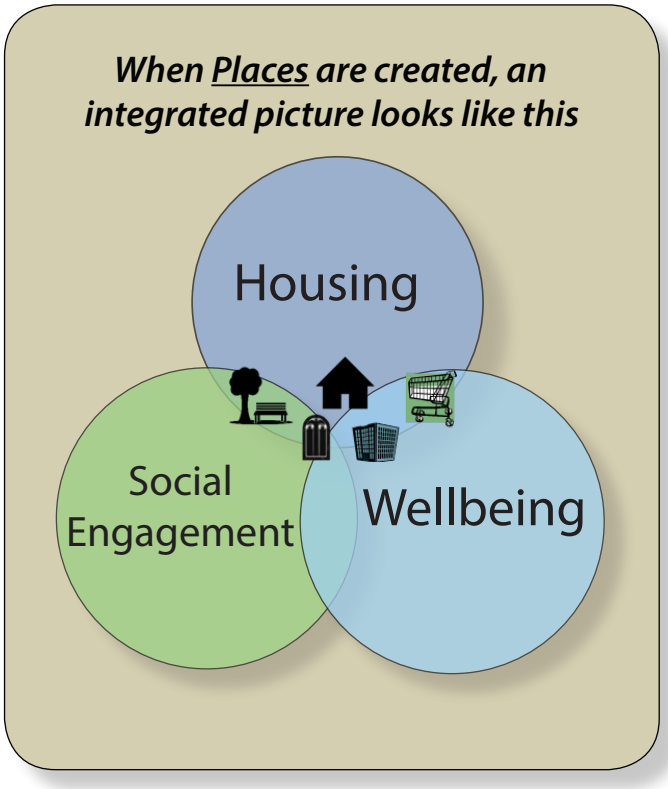
To that end, there is an overwhelming desire of the "over 65" population to age in place. Given the complications, limitations, and expense in retrofitting existing homes to meet the needs of an aging tenant, many homes no longer remain practical as the homeowner ages.

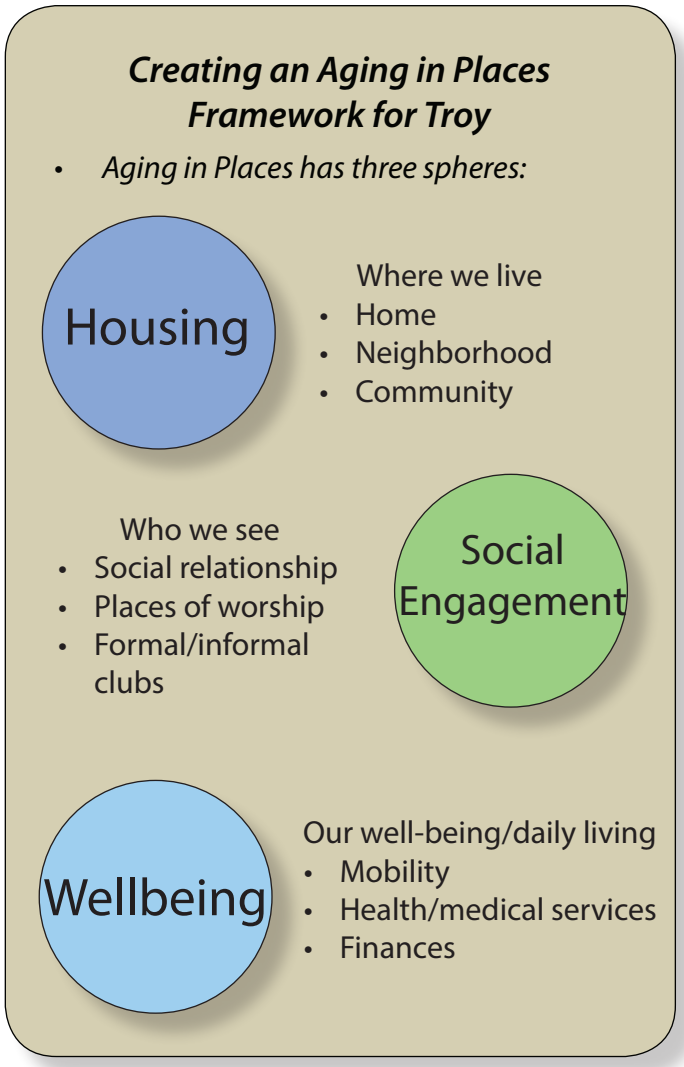
Promoting an **Aging in Places** strategy will more fully address the full complement of the needs of an aging population. While Aging in Place is the preference of the vast majority of seniors, there can be limitations in fulfilling every need. Active seniors are looking for a rich social environment, walkable neighborhoods and access to needed services, as well as living in a comfortable home. A full environment for active seniors can be created by addressing the housing, well being and social engagement needs on a more complete basis.

"Universal Design" and "Visitability" are first steps towards making a community and its housing more inclusive, and one which can empower a homeowner to age in place. Universal Design is a broad concept which involves design products and spaces so they can be used by the widest range of possible users. 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 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:

- At least one no-step entrance;
- All doors and hallways wide enough to navigate through with a walker or wheelchair; and,
- 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 or to a resident with disabilities, 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.

Missing Middle Housing

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 retain and attract the changing population, 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.

Over 125,000 people work in Troy every day, but only about 12,000 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, and the availability of innovative housing styles. 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.

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.

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.

There is a mismatch between the current housing stock in Troy and both the characteristics and desires of the population. There is increased preference for living in walkable environment, near shopping and parks. The solution is neither found in building large

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-ability)

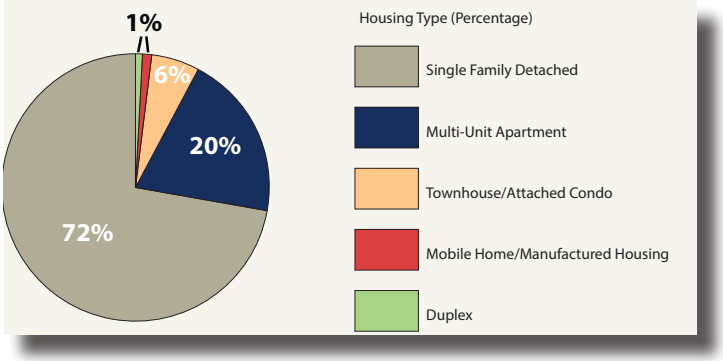
single family homes nor in traditional multiple family apartments.

The type of housing option that is lacking in Troy is the "Missing Middle." Missing middle housing is composed of smaller single family homes, duplexes, fourplexes, lofts, townhouses, mid-scale apartments and live-work units. Missing middle housing achieves moderate density that can be appealing to both younger and older populations. Missing middle housing offers a range of multi-unit or clustered housing types compatible in scale with single-family homes.

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.

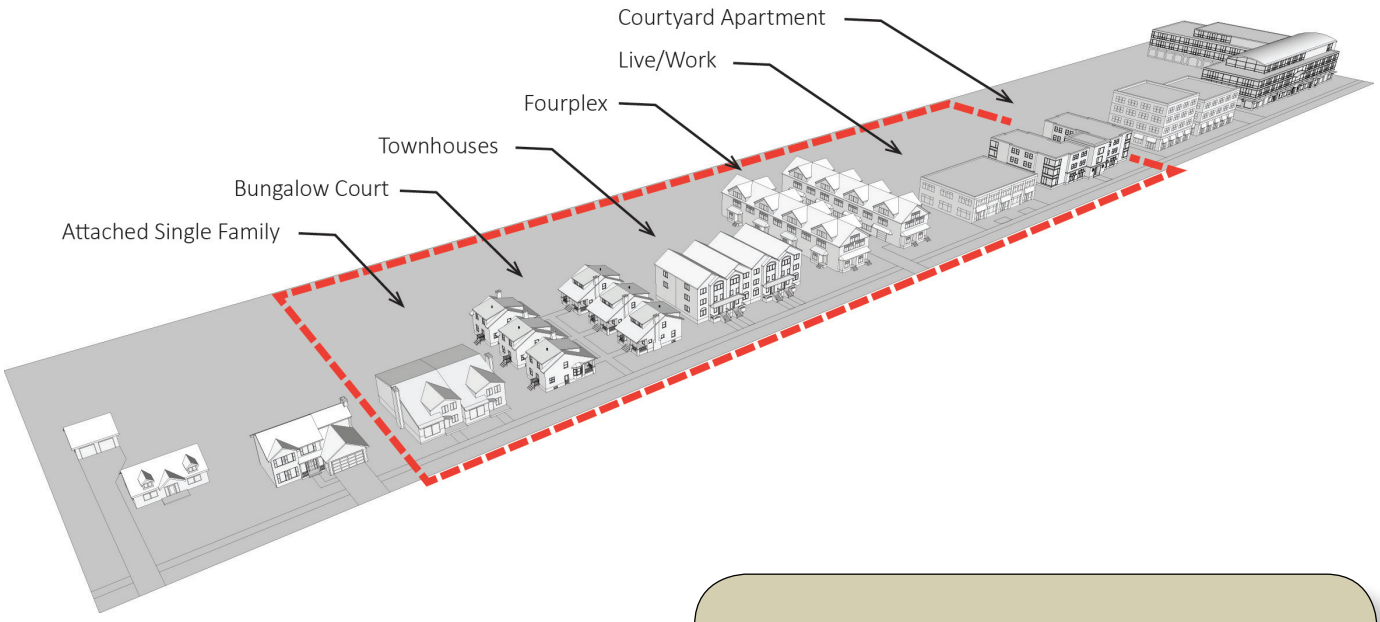
In order to combat this in Troy, the City must encourage a variety of housing types to allow for a balanced housing stock. Smaller units for sale in newer developments allow for new homebuyers to invest in the City without a high cost barrier for entry.

FIGURE 8.5: TROY HOUSING BY TYPE (2010)
Source: SEMCOG



"Missing Middle" Housing can include attached single-family, fourplex, townhome, live-work, or apartment.

The Missing Middle



Targeted Locations in Troy for Missing Middle

- *Neighborhood Nodes*
- *Maple Road*
- *Big Beaver, as part of mixed use development*
- *Rochester Road*

Characteristics of Missing Middle Housing

- *Walkable context and sense of community - Location within an area which is in walking distance of services and amenities is essential. Sense of community is created through shared community space, either within or in close proximity to the development.*
- *Transitional density - The Missing Middle Market offers an opportunity to create housing at densities which fall between traditional single family and multiple family. Introducing a mixture of design and styles can reduce the perception of density.*
- *Smaller, well designed units. Combined with smaller footprints, there is a strong emphasis on quality and efficient use of space.*
- *De-emphasizing parking. Providing too much parking on-site defeats many of the efficiencies to be achieved. Again, location in a walkable environment, preferably near transit, can reduce the need for on-street parking.*

(Source: Dan Parolek, blog post, Apr. 3, 2012, Better Cities and Towns)

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Land Patterns: City Design and Image

Future Land Use Categories

Single Family Residential	75
Neighborhood Nodes	77
High Density Residential	83
Big Beaver Road	85
Rochester Road	87
Maple Road	89
South John R Road	91
Northfield	93
Smart Zone	95
Automall	97
Transit Center	99
21st Century Industry	101
Recreation and Open Space	103
Public and Quasi-Public	103

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

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.*

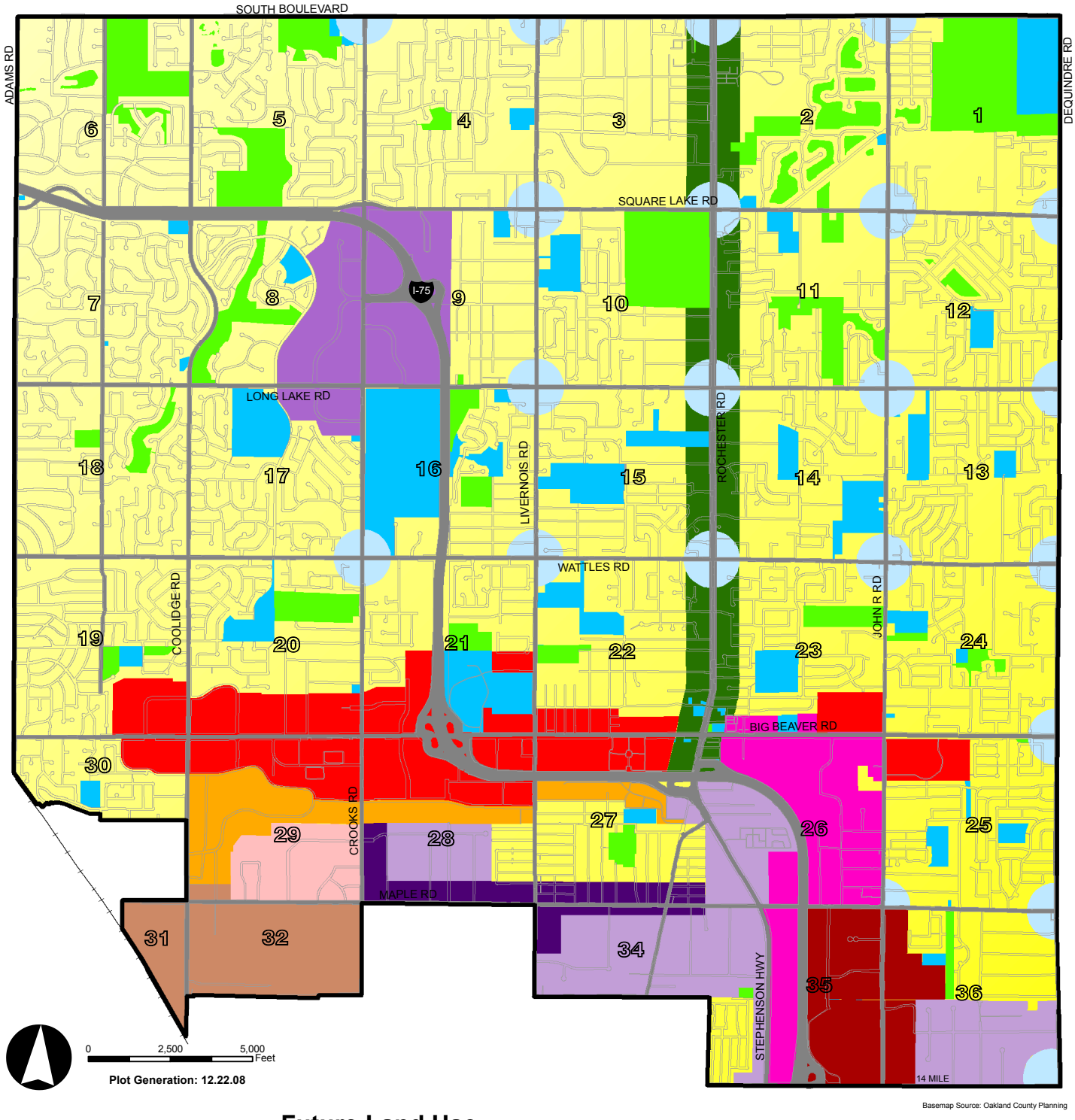
Great Streets and Neighborhoods:

- *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

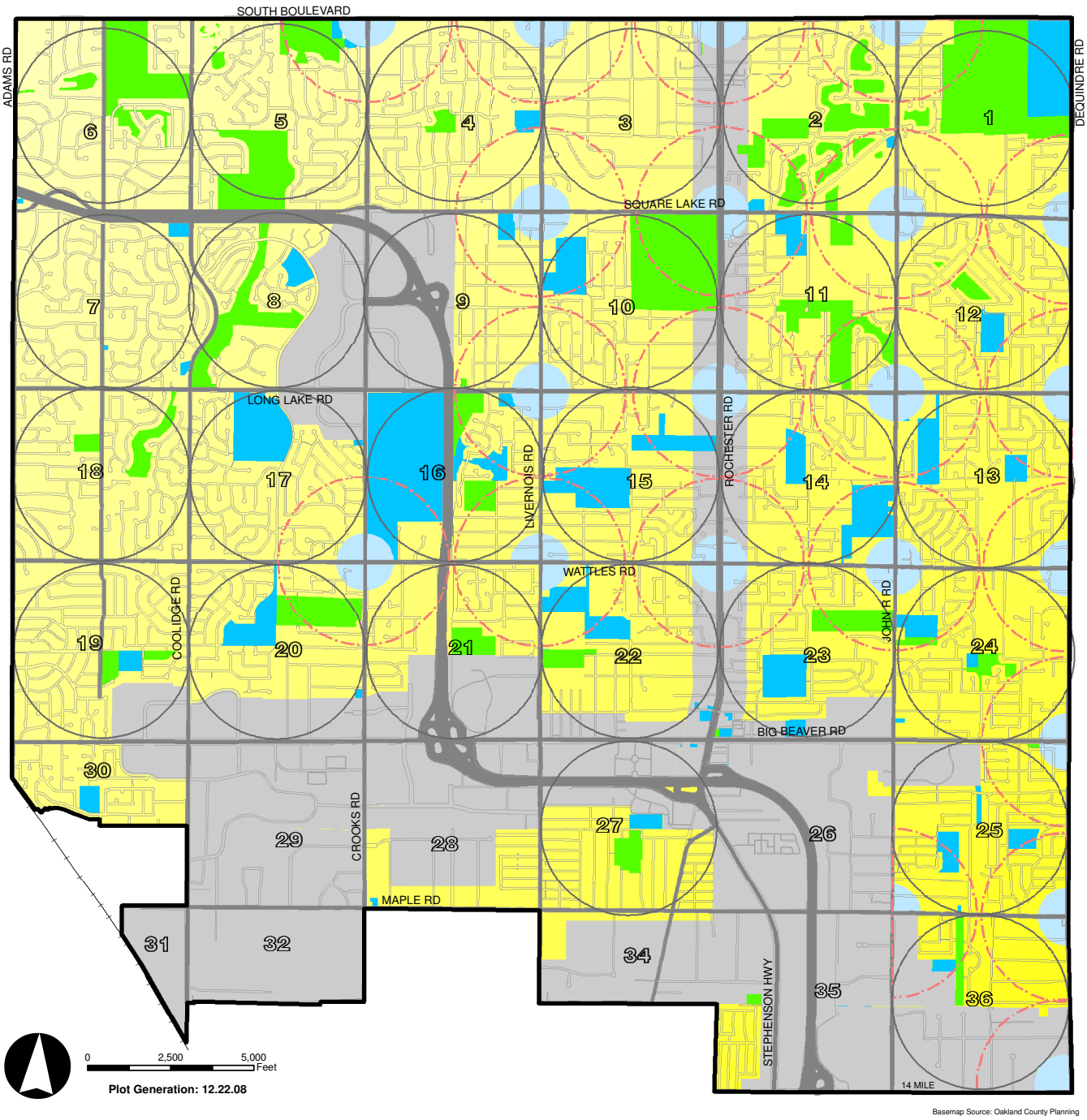
walk a half-mile to get to a store or school. Most people will walk five minutes, or about one quarter of a mile. Typical comparison shopping for clothing, hardware and the like are measured by service radii related to drive times which are not realistically walkable. Furthermore, Michigan has cold winters 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.



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



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

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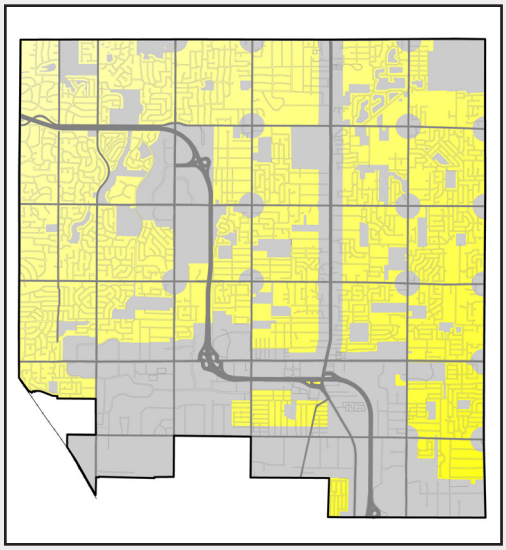
Single-Family Residential: The Social Neighborhood



- ***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.

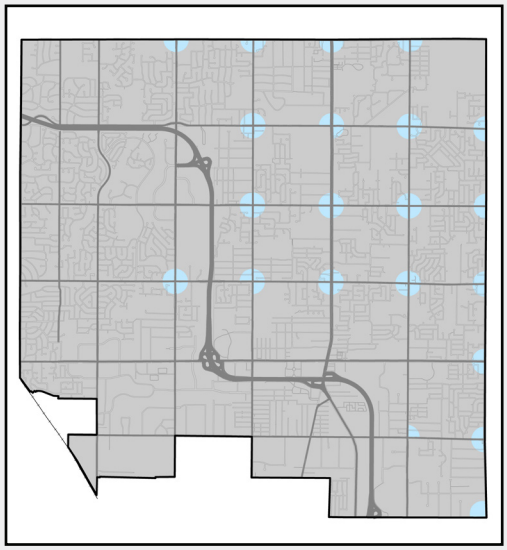
BUILDING LOCATION

- 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 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.

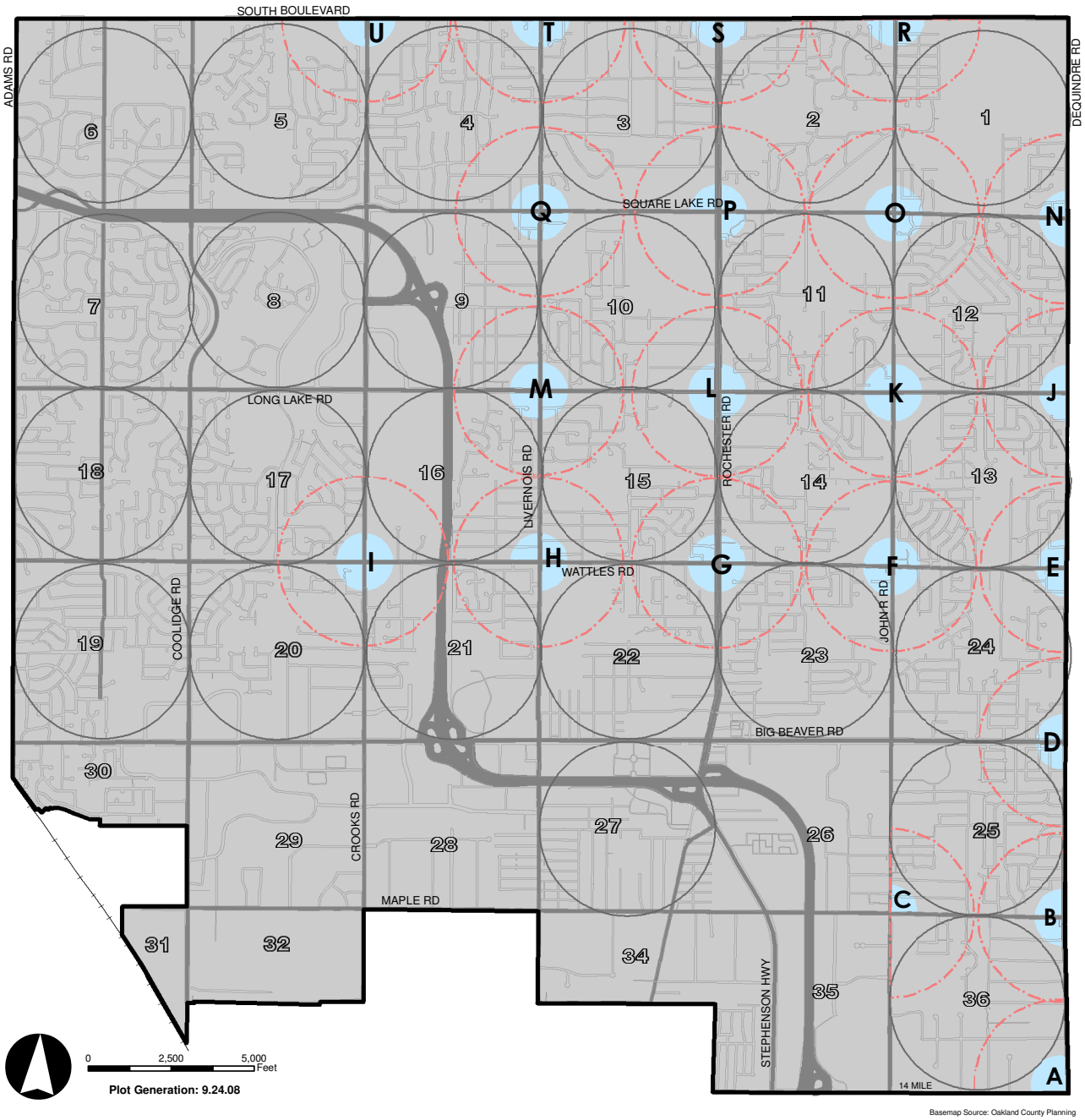
BUILDING DESIGN ATTRIBUTES

- 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 its 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 an 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 to 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

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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

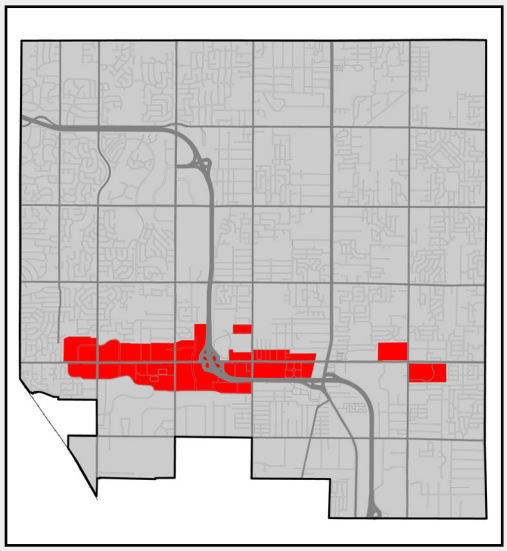
- Buildings will be between two and four stories.
- Front porches and tenant entries will be clearly defined through the use of canopies, overhangs, façade treatment or landscape.
- Fenestration will be accentuated with architectural trim work or decorative brick or stonework.

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

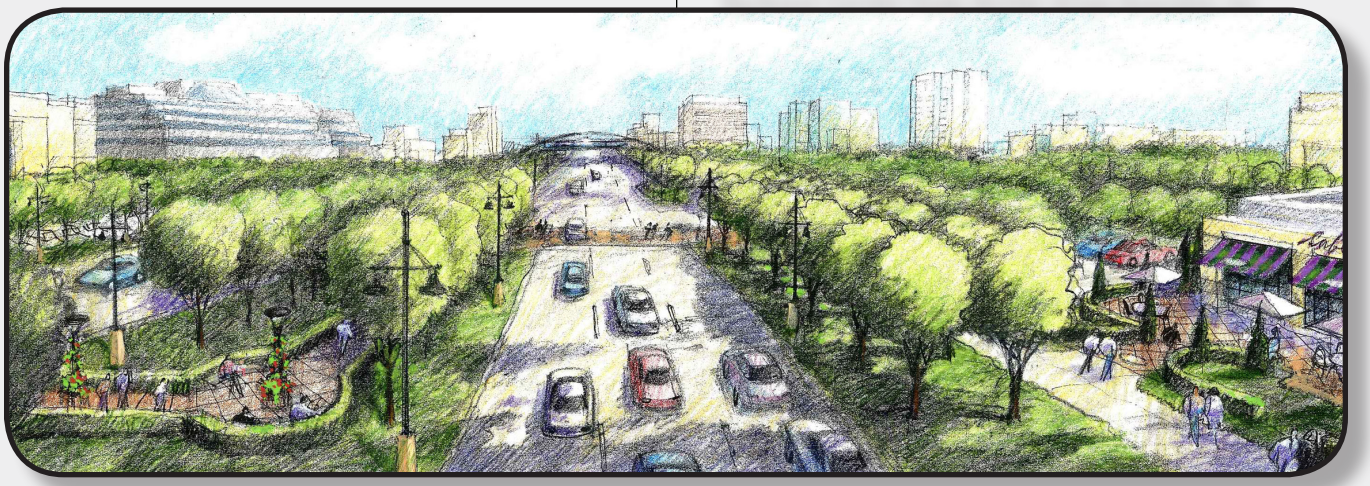
- Parking should be located in rear yards.
- Development should include intense street tree planting along Big Beaver.
- Cafes, plazas, parks and similar amenities to draw pedestrians will be encouraged.
- Buildings will frame the street network by building to the front and side property lines. Exceptions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

Additional goals, policies, and strategies for Big Beaver are set forth in the Big Beaver Pedestrian Special Area Plan on Page 205.

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."

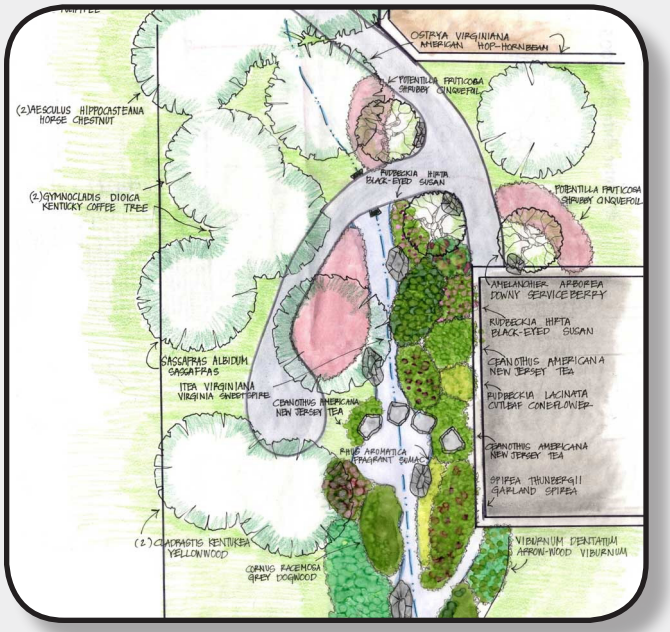
SITE DESIGN ATTRIBUTES

- 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.

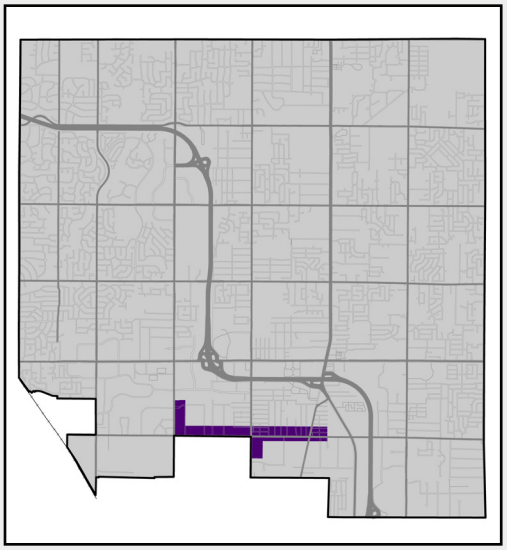
Additional goals, policies, and strategies for Rochester Road are set forth in the Rochester Road Special Area Plan on Page 113.



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.

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.

New loft style, open floorplan residential development in Nashville

- 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)

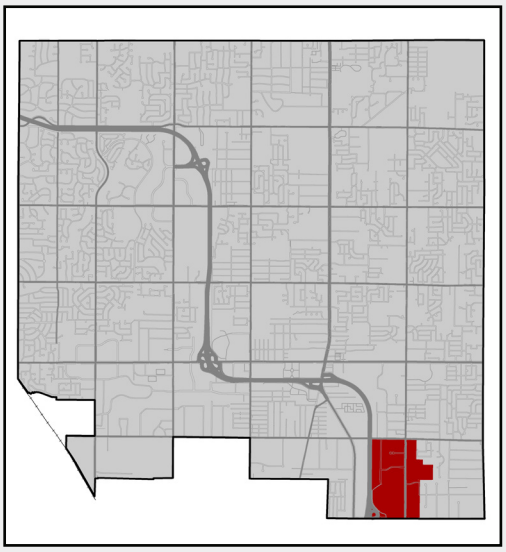
BUILDING DESIGN ATTRIBUTES

- 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.

Additional goals, policies, and strategies for Maple Road are set forth in the Maple Road Special Area Plan on Page 139.

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

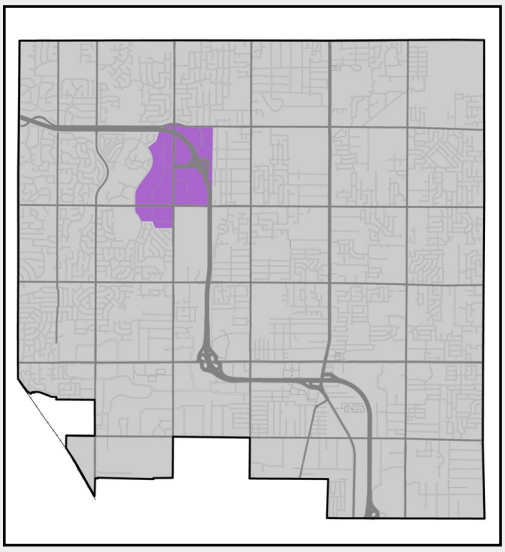
- Buildings setback from the major road right-of-way should have a minimum distance that permits a greenbelt, single row of parking and wide sidewalk.
- Primary parking areas should be within rear or interior side yards, separated into modest-sized components for better storm water management and landscaping
- 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

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.

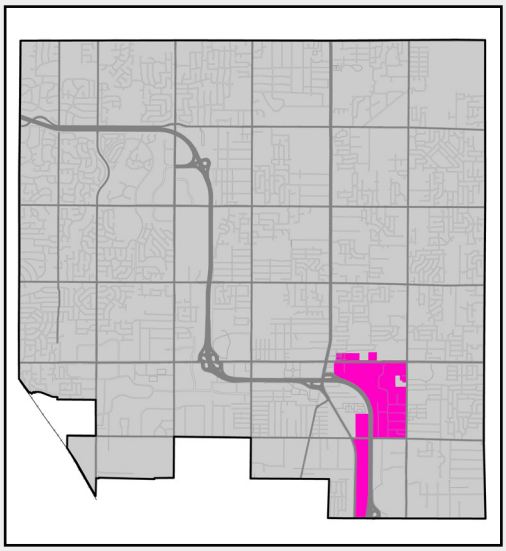
- Mass transit stops should be accommodated.

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.

Additional goals, policies, and strategies for Rochester Road are set forth in the Rochester Road Special Area Plan on Page 113.

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.

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

Ford Rouge LEED Rated Assembly Plant and Visitor Center

Automation Alley Technology Park in Troy; Photo by Brent Savidant

business parks should be infused throughout the site.

- Mass-transit stops should be located along routes to accommodate the workforce.

SITE DESIGN ATTRIBUTES

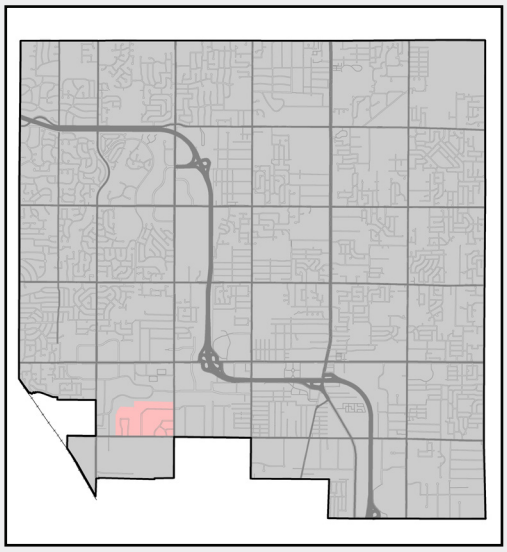
- Primary parking areas will be within rear or interior side yards and separated into modest-sized components by storm water management and landscaping.
- All parking should be screened from view by landscaping or walls.
- Walks should connect businesses, adjacent developments and the public sidewalks.
- 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.

High-tech industry 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.

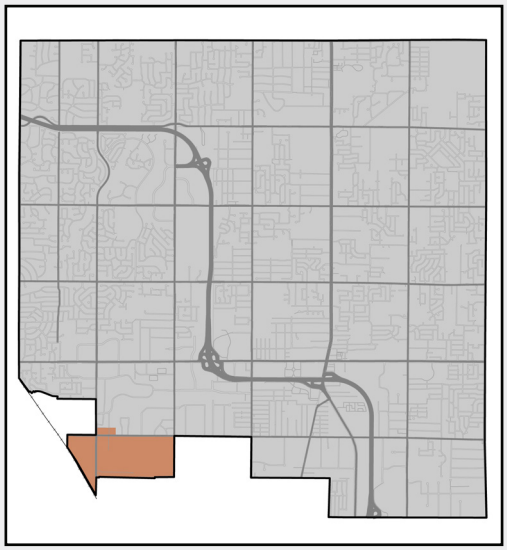
- A minimum of 75 percent of a showroom façade should be sheathed in transparent glass.

- 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 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. The Troy Oakland Airport is a critical part of the Transit Center.

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

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
Eton St.
Maple Rd.
Transit Center
Downtown Birmingham
Woodward Ave.

By Daniel Duggan
Crain's Detroit Business

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.

CALDOT Transit-Oriented Development in Oakland, CA City Center

- Fenestration should be highlighted through the use of awnings, overhangs or trim detailing.
- Materials that instill a sense of permanence will be encouraged.

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.

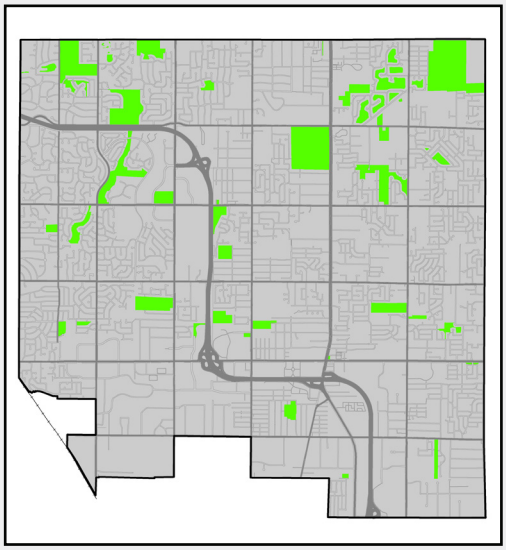
SITE DESIGN ATTRIBUTES

- 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

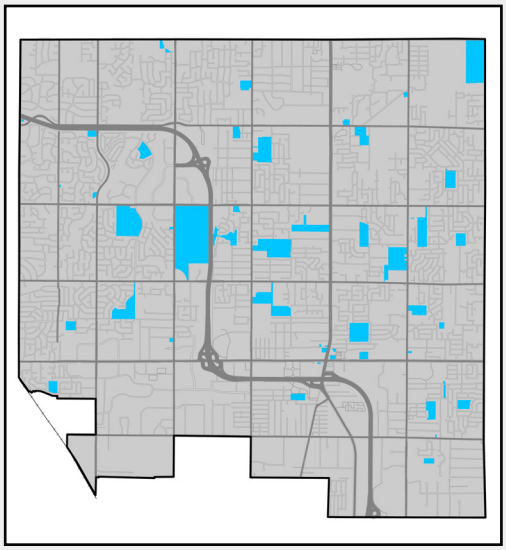
- The office portion of industrial developments will locate nearest the public street.

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.

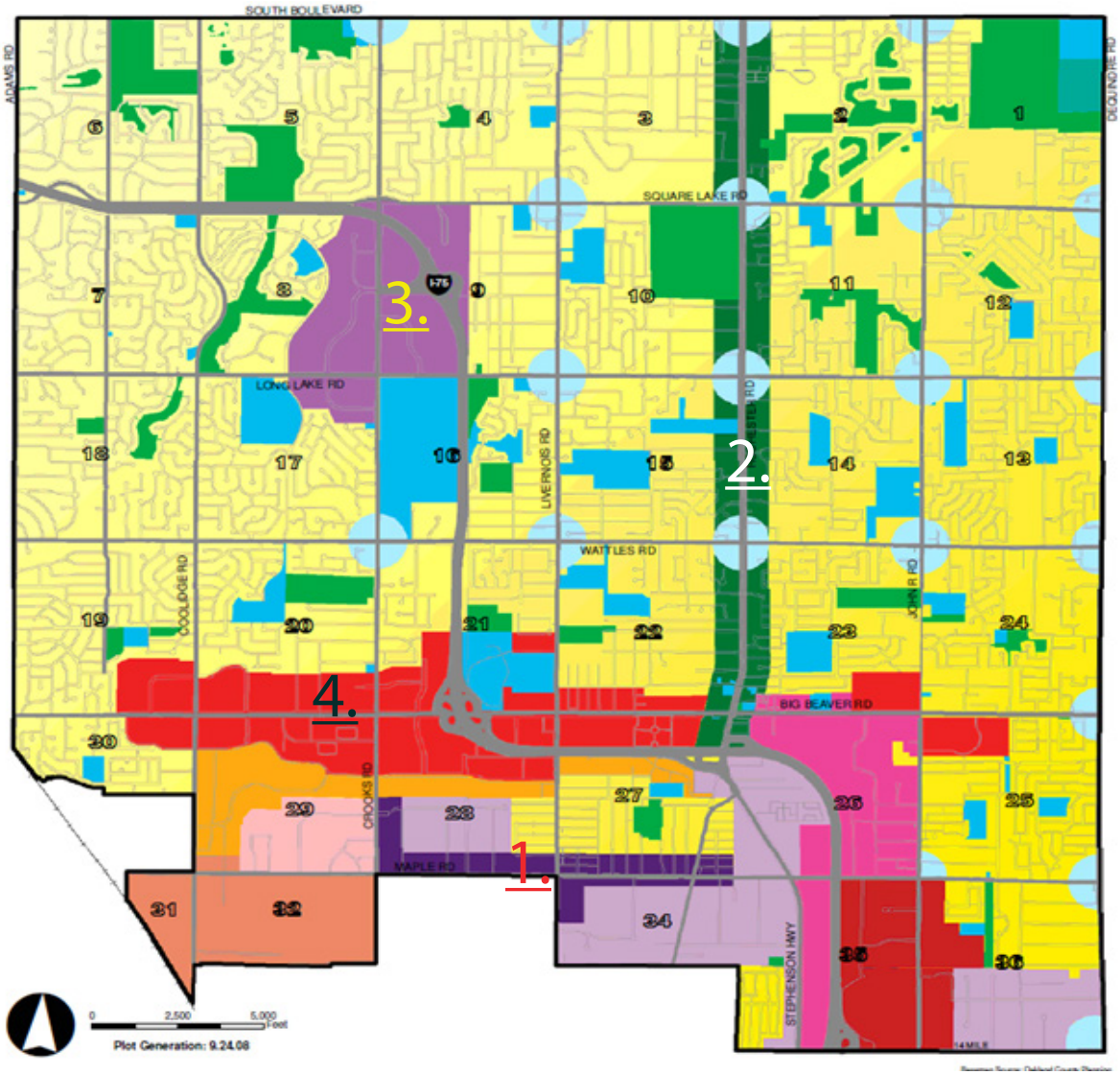
Special Area Plans

Rochester Road Special Area Plan	113
Maple Road Special Area Plan	139
North Troy Special Area Plan	179
Big Beaver Pedestrain Special Area Plan	205

As part of the 2015 Master Plan update, the city undertook a special area study of four areas of the city: Rochester Road, Maple Road, North Troy, and Big Beaver.

While the future land use plan ensures compatible and coordinated growth throughout Troy, key areas of the City will undergo significant change. In those areas where substantial development and redevelopment activity is likely, special area plans provide an illustrative framework to guide development in a way that fosters a sense of place and establishes community identity in key locations.

The plans provide schematic representations of potential development areas at a variety of scales and levels of detail, and may include illustrative configurations for new streets, buildings, parking, open space and circulation as may be appropriate to the area. They are accompanied by descriptive text that explains existing site characteristics, planning challenges, design considerations, and planning goals for each area.



Target Area	*Geographic Area*	*Focus of Study*
1. Maple Rd and IB Zoning Area	The Transit Center, Maple Road, 21st Century Industrial, and the Smart Zone as described in Master Plan that are located along Maple Road/ Stephenson Road and south to the city border	Market issues, pedestrian circulation, and minor zoning code amendments.
2. Rochester Rd	Big Beaver Road to Wattles Road	Address concerns of adjacent neighbors regarding height, and land use buffers and transitions. Will require amendments to zoning regulations for GB and CB.
3. North Troy	The Northfield area as described in Master Plan	Office vacancy and diversifying land uses
4. Big Beaver Pedestrian	The Big Beaver Form-Based District and the area from Rochester Road to John R. Road	Pedestrian circulation

In 2008, the City of Troy inquired about a comprehensive revision to the Master Plan. The previous plan was adopted in 1965 and had twenty amendments with a complete revision.

The Michigan Planning Enabling Act, PA 33 of 2008 requires that the Master Plan shall be reviewed by the Planning Commission at least every five (5) years. The purpose of such review is to determine if the Plan requires revision. The Planning Commission reviewed the Plan and made a determination that a complete revision of the Plan was not necessary although there were several specific areas of the Plan which should be addressed.

While the future land use plan ensures compatible and coordinated growth throughout Troy, there are identified areas of the city that are undergoing significant change. In those areas where substantial development and redevelopment activity is likely, special area plans provide an illustrative framework to guide development in a way that fosters a sense of place and establishes community identity in key locations. The plans are intended to act as a catalyst for future economic redevelopment within the boundaries established by each plan.

As part of the 2015 Master Plan update, the city undertook a special area study of four areas of the city: Rochester Road, Maple Road, North Troy, and Big Beaver.

While the future land use plan ensures compatible and coordinated growth throughout Troy, key areas of the City will undergo significant change. In those areas where substantial development and redevelopment activity is likely, special area plans provide an illustrative framework to guide development in a way that fosters a sense of place and establishes community identity in key locations.

The plans provide schematic representations of potential development areas at a variety of scales and levels of detail, and may include illustrative configurations for new streets, buildings, parking, open space and circulation as may be appropriate to the area. They are accompanied by descriptive text that explains existing site characteristics, planning challenges, design considerations, and planning goals for each area.

Public Engagement

The city pursued a unique approach in public engagement by holding a series of targeted forums focusing on specific issues. Feedback from the community guided the overall direction of the plan. The following summarizes the content of each forums:

Real Estate Forum -

The City of Troy hosted a Real Estate Forum on Tuesday, April 29, 2014 at the Troy Community Center. Over 60 community leaders, business owners, real estate developers, and interested citizens participated in a productive dialogue regarding the future direction of key economic areas of the city, specifically Maple Road, Big Beaver, North Troy, and Rochester Road. Participants were presented with target area snapshots and were asked to identify and describe the assets and challenges of these four areas. Participants also offered strategies for reinforcing assets, re-envisioning challenges, and ultimately attracting new development that is right for the corridor and

the community. Participants emphasized the need for collaboration between city departments and community stakeholders, as well as a coordinated vision that is responsive to market demands and focused on quality of life. By building on the unique strengths of each area, activating established nodes and reinforcing new development with pedestrian amenities, transit connections, and a desirable mix of uses those sites that were once viewed as challenges will appear as opportunities for reinvestment.

- Density is key
- Plan should be market driven and forward thinking
- Transportation and pedestrian improvements are important
- Zoning should align with the Master Plan and offer flexibility to encourage the right development at the right time
- North/South corridors provide important connections between the target areas and adjacent communities
- Residential development should attract and accommodate different ages, lifestyles, and income levels
- New developments should be connected
- Strategic, tactical, and creative placemaking strategies can activate node

Move Across Troy Symposium -

The opportunity exists to create a transportation corridor along Big Beaver Road that is not only unique in Michigan, but in the United States – a corridor that not only carries a high volume of vehicles, but is walkable, hosts continuous pedestrian activity, and provides a variety of transportation options. To identify and address transportation and pedestrian options along and across Big Beaver, the City hosted a Symposium with both the general public and key stakeholders. Two sessions were held. The first was a technical meeting with representatives from MDOT, Oakland County, and City of Troy. The purpose of the meeting to discuss specialized solutions to address issues.

The second session was a public meeting to identify potential pedestrian issues and solutions. Over 60 attendees provided comments on targeted elements including I-75 underpass, grade-seperated crossings, intersection crossings, and mid-block crossings. The results informed the Big Beaver Pedestrian Special Area Plan.

High School Forum -

In order to gain input from the future leaders, a session way held with twenty high school students (ten each from Troy and Athens High Schools). The students were intended to serve as a cross-section of the high school population. The students were quite impressive and were motivated at their responses.

Attendances were asked to use one word to describe Troy today and one word to describe Troy in 10 years:

Troy Today	Troy in 10 Years
Versatile	Fun
Peaceful	Advanced
Family-oriented	Utopia
Upscale	Safer
Quiet	Educated
Potential	Expanded
Diverse	More Diverse
Well-rounded	Innovative
Residential	Modern
Safe	Creative
Fun	Changing
Busy	Less-Congested
Close	Professional
Engaging	Busy
Boring	Beautiful
Suburbia	Affordable
Opportunity	Home-owner oriented

The students were then asked a series of questions about Troy including what they like best about living in Troy, what they like least, their desire to move back to Troy after school, and Troy's most pressing needs. The full results are located in the appendix. The students enjoy the quality of schools; however most students noted that they do not plan on moving back to Troy in the future. If they did move back to Troy it would be because of family and the quality of the schools. They note that Troy is missing entertainment options, and "cool" housing options, and does not provide walkable or bike-able places. Most students desire to live in a big city after college graduation.

Neighborhood Association Forum -

City of Troy hosted a neighborhood forum with Presidents and representatives from the various neighborhood associations. All geographic residential portions of the city were represented.

We started the discussion with asking those in attendance one word to describe Troy today and one word to describe Troy in 10 years:

Troy Today	Troy in 10 Years
Suburban	Advanced
Future	Economic Leader
Random	Attractive
Evolving	Progressive
Bedroom-community	Education
Attractive	Birmingham; More Parking

Youth	Envied
Opportunity	Futuristic
Diverse	The standard
Accommodating	Smart
Modern	Advanced

Participants were asked a series of 15 questions. The full results are located in the appendix. The questions focused on neighborhood issues affecting their neighborhoods including property upkeep and maintenance, transportation improvements, land use transitions and buffers, desired community amenities, and need for housing options.

There were two big takeaways from the neighborhood forum discussion. The first takeaway was that residents like living in Troy and cited a number of reasons including high quality of the public schools, entertainment options, safety, and housing stability. Maintaining a quality school district was cited of critical importance, especially for neighborhood and property value stabilization. The second major takeaway was the biggest issue facing Troy is a lack services within walking distance and lack of non-automobile transportation options.

Boomer and Shaker Forum -

The City of Troy hosted a "Boomer and Shaker" Forum on Monday, August 17, 2015 at the Troy Community Center. The purpose of the forum was to meet with Troy residents to identify issues and determine strategies to ensure Troy assists its aging population and creates an aging friendly place. The intent was to focus on issues facing Troy's boomer and senior population but also address issues that cross-generational lines:

- Housing
- Transportation
- Placemaking
- Walkability
- Safety and Security
- Health Services
- Recreation and Cultural Activities

Over 80 community residents participated in a productive input session to make Troy an aging friendly location.

Most of the participating residents are likely to remain living in Troy as they age. Many noted the high quality of life living in the city. For those that identified that they are likely to leave Troy, the most listed reason was a lack of housing option and a lack of transportation options. Underserved senior housing options and a need for increased public and dedicated senior transportation options was a common discussion point of the Forum.

The first major takeaway was there is an identified underserved housing type of senior-friendly housing such as smaller, single-family homes, condominiums, or apartments with first floor master bedrooms. Housing affordability was listed as a significant housing limitation. Many remarked that they are on a fixed income and cannot afford a $400,000 house/condo. They noted that affordable, smaller housing options are difficult to find in Troy and the city should push development of those types. The second major takeaway was the need for improved transportation options, particularly

serving seniors. Most attendees noted that because they are able to drive they are able to obtain their daily needs (health services, retail goods, social, recreational, and cultural). However, they are unsure if they will be able to once they are unable to drive.

To improve transportation options, the city should work with SMART to increase bus hours and locations. While Medi-go, a transportation service for Troy disabled residents and those age 60, provides a valuable service, the hours are limited and should be expanded. Medi-go should be complimented with a dedicated transportation system or on-call shuttle service for seniors for daily needs in addition to just medical appointments, like grocery shopping, recreation activities, etc. Lastly, the City should focus on improving the sidewalk system and street crossing at major thoroughfares, and build trails.

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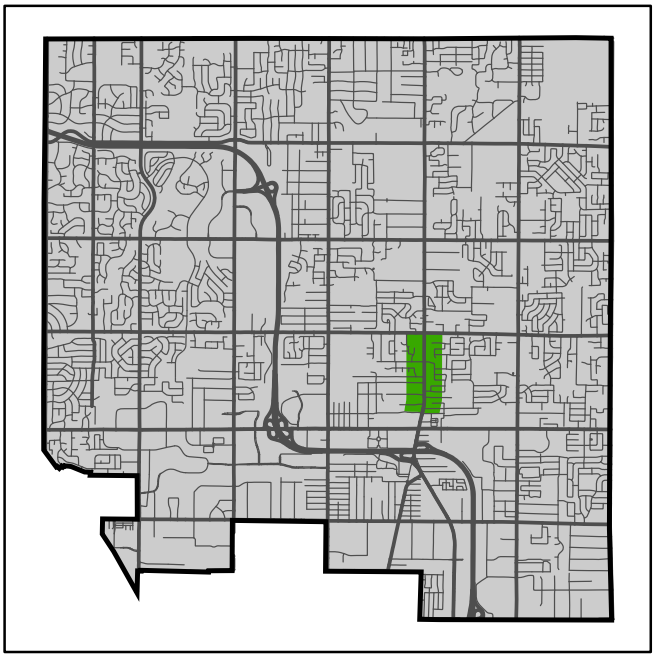
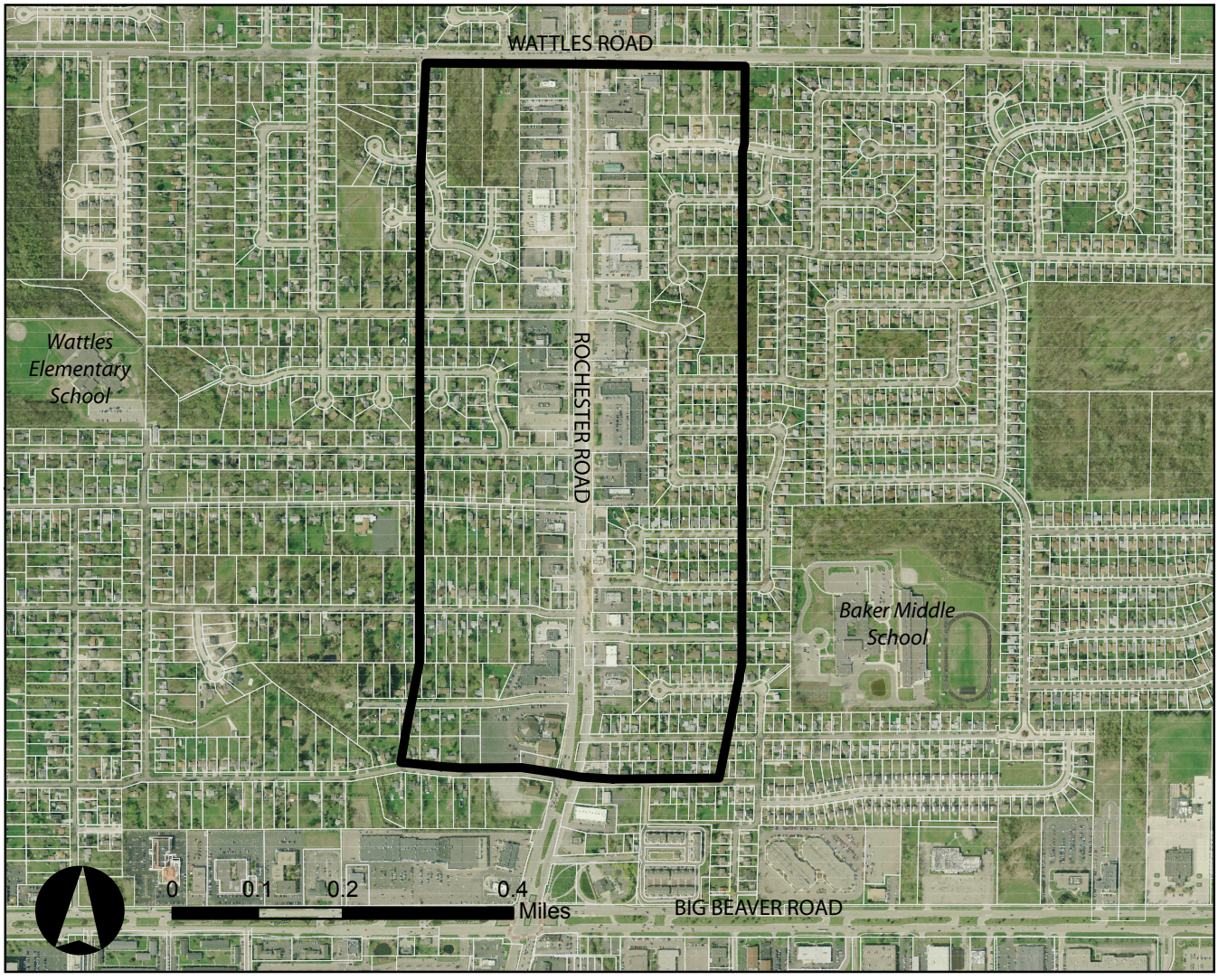
Rochester Road

Special Area Plan



Right: *Locator map*
Below: *Target Area map*



Introduction

The Rochester Road corridor is a major north-south thoroughfare traversing Oakland County, with convenient access to I-75, M-59, Big Beaver Road, Maple Road, and Stephenson Highway. Recent road improvements and the creation of a boulevard have improved traffic flow along the corridor but the vision of a green corridor as envisioned in the 2008 Master Plan has not yet been realized. Development along the corridor has been inconsistent with variation in the size and location of buildings. Other challenges include the location of parking areas, outdated façades and nondescript architecture, landscaping, lighting, and signage. The goal of this Plan is to provide a unifying framework built around public and private improvements that will change the function and character of the corridor over time. Rochester Road has the potential to become a hub for small businesses, independent restaurants, neighborhood services, and live-work development.

Evolving to Meet New Challenges

Rochester Road offers a convenient local commercial node close to the Big Beaver corridor. Adjacent to attractive neighborhoods of primarily single family homes in a great school district; it is principally service and retail use. The challenge for Rochester Road is to develop an active, aesthetically pleasing, commercial corridor that will attract customers, increase taxable value, provide and grow the Troy economy, while protecting the adjacent residential neighborhoods.

In general, Rochester Road has a split personality. In terms of traffic, commuters are trying to get through the area as fast as possible, while residents and businesses are calling for a much slower pace that will provide a safe, pedestrian friendly environment. The new boulevard has improved traffic; however it is only the first step in effectively addressing the pedestrian realm and access management. Continued public/private investment will be needed to transform the corridor. In terms of development, real estate professionals reiterate that "density is key" for corridor revitalization, while residents push to maintain height restrictions. The area is dominated by shallow, narrow lots with limited pedestrian access and inconsistent setbacks. Most users agree that excessive signage and inconsistent façade design result in the perception of visual clutter.

Development along the corridor has been uneven with tremendous variation in the size and scope, location of parking areas and roadway access, architecture, landscaping, lighting and signage. The goal of this Plan is to provide a unifying framework built around public and private improvements that will change the function and character of the corridor over time. The plan identifies three complementary concepts for dealing with these issues and creating a solution that all users will welcome. The first concept deals with restructuring the pattern of land use and development lining the corridor, the second involves incorporating the redesign of the public right-of-way, and finally, creating a cohesive image and stronger identity for the corridor.

Vision Statement

Rochester Road will be a welcoming, pedestrian friendly neighborhood shopping destination known for its small business incubation and stormwater management best practices. Green infrastructure, landscaping, and streetscaping enhance the character of the corridor, while also providing a buffer between commercials areas and adjacent residential uses.

Existing Conditions

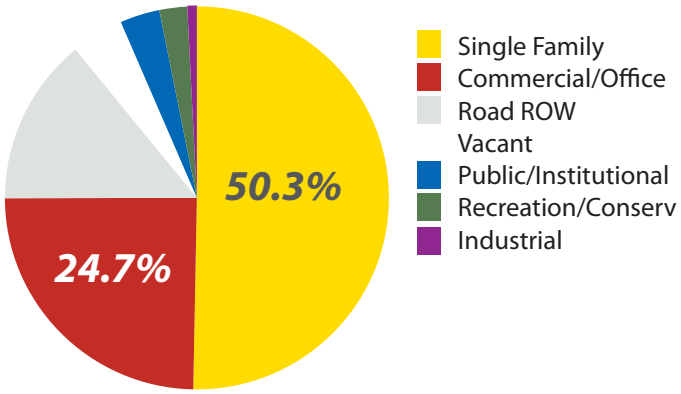
2013 Target area statistics

Total taxable value	$43,612,770
Total area (acres)	164
Total businesses	131
Total employees	1,037

2010 Market area statistics [1]

Population	9,651
Households	3,321
Percent owner occupied	81.4 %
Median household income	$86,712
Per capita income	$34,928

Land Use[2]



Source: Esri 2013 Estimates Business Summary from Oakland County EDCA, Census 2010, City of Troy GIS data 2013 Note: 1. Market Area includes households within 1 mile of Target Area. 2. Employee and Business data use NAICS codes. 2. Land Use calculations include all parcels within the Target Area.

Property Data

	Target Area	Commercial	Industrial	Residential
Total Parcels	392	57	1	334
Total Structures	376	53	1	322
Total Acres	164	50	1	113
Median Year Structure Built		1982	NA	1976
Total Floor Area (SF)		379,321	NA	601,131
Median Floor Area (SF)		4,800	NA	1,709
Total Taxable Value	$ 43,612,770	$ 14,911,860	NA	$ 28,700,910

Source: City of Troy GIS data 2013

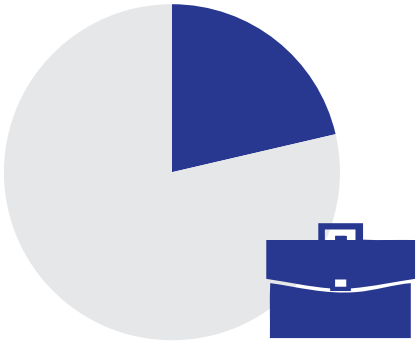
Top Industries in Target Area by Employment [2]

32.1% ***Finance & Insurance***

	Employees	Percent (%)
Finance & Insurance	333	32.1
Administrative & Support & Waste Management	135	13.0
Accommodation & Food Services	124	12.0
Retail Trade	109	10.5
Professional, Scientific & Tech Services	83	8.0

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

Top Industries in Target Area by Number of Businesses



21.4 % ***Professional, Scientific & Tech Services***

	Businesses	Percent (%)
Professional, Scientific & Tech Services	28	21.4
Administrative & Support & Waste Management	22	16.8
Retail Trade	15	11.5
Other Services (except Public Administration)	11	8.4
Health Care & Social Assistance	10	7.6

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

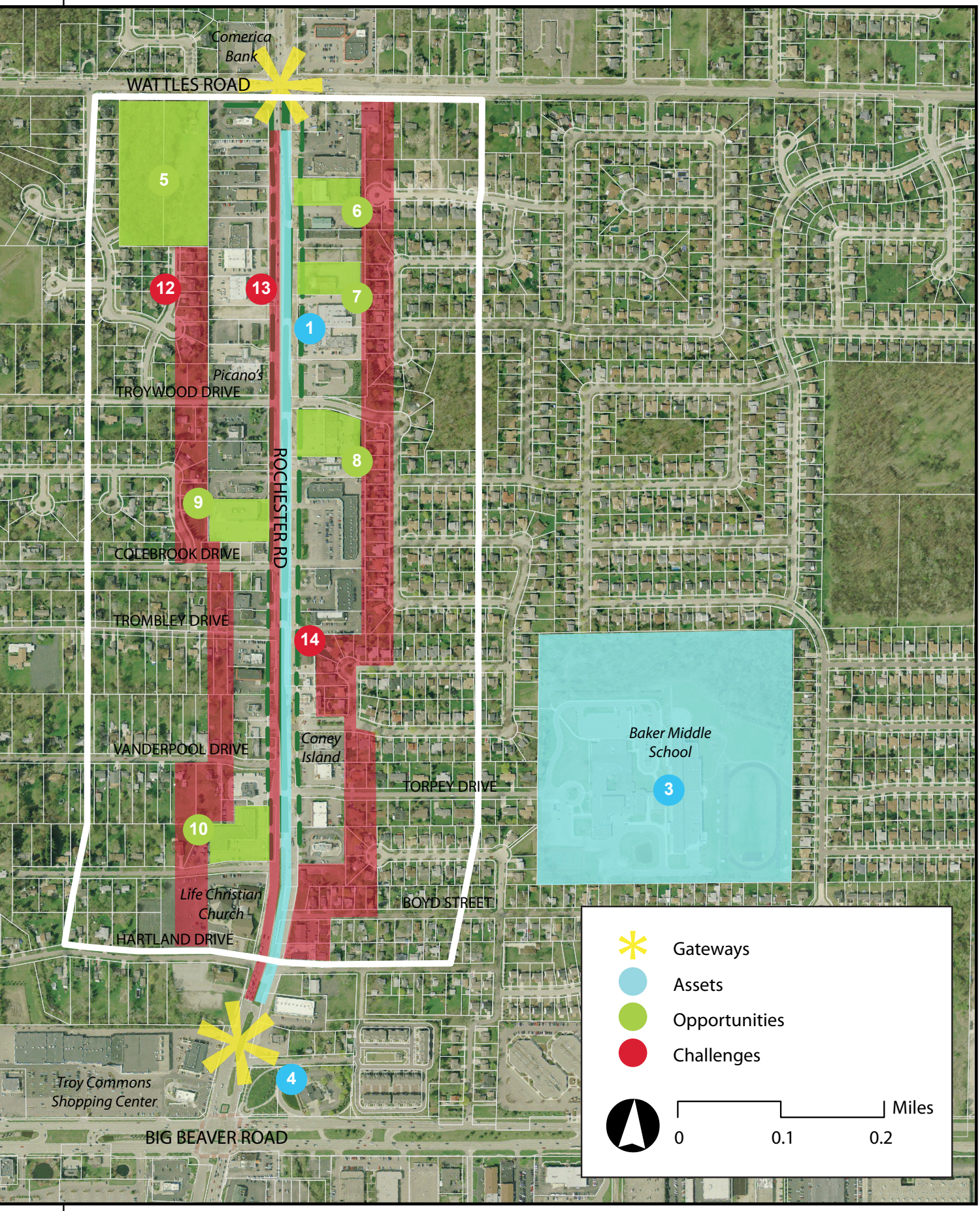
Existing Conditions

Gateways
- Wattles Road
- Big Beaver Road

Assets
1. Rochester Road street improvements
2. Wattles Elementary School
3. Baker Middle School
4. Gateway Park on Big Beaver Road

Opportunities
5. Potential development site
6. Recent redevelopment
7. Potential development site
8. SE of Rochester Rd and Troywood Drive
9. NW of Rochester Rd and Colebrook Drive
10. Troy Pointe Plaza
11. Mom and Pop character

Challenges
12. Boundary/transition between single-family residential Boundary/transition between single-family residential
13. Inconsistent building setback
14. Shallow depth of commercial frontage


Comerica Bank
WATTLES ROAD
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12
13
1
14
3
4
Picano's
TROYWOOD DRIVE
ROCHESTER RD
COLEBROOK DRIVE
TROMBLEY DRIVE
VANDERPOOL DRIVE
Coney Island
TORPEY DRIVE
Baker Middle School
Life Christian Church
BOYD STREET
HARTLAND DRIVE
Troy Commons Shopping Center
BIG BEAVER ROAD
Gateways
Assets
Opportunities
Challenges
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Rochester Road Public Engagement Findings

Rochester Road offers a convenient economic node close to residential neighborhoods. It is primarily service and retail use. The corridor could be marketed as the "Entrepreneurial Center" for the city as it provides an incubator for small start-up businesses. The area is dominated by shallow, narrow lots with limited pedestrian access and inconsistent setbacks. Excessive signage and inconsistent façade design result in the perception of visual clutter. New development may require the consolidation of parcels, but there are concerns from the community about increasing building heights where adjacent to residential properties.

There needs to be a conscious effort in branding Rochester Road and making it a notable place. Streetscape should not be underestimated. Sidewalk connections and pedestrian access must be accommodated in new developments. In some ways infrastructure can be used to mask the visual clutter and give the corridor a unified image.

Considerations

- Keep integrity of residential as more commercial frontage is developed
- Reface retail and create more pedestrian friendly intersections
- Clean corridor and remove or revitalize obsolete buildings by finding incentives for redevelopment
- Reduce setbacks and parking associated with strip malls
- Develop retail and restaurants that reflect the needs of nearby residents
- Encourage senior housing and compatible uses

Priorities and Strategies

This plan recommends three priorities for establishing Rochester Road as a vibrant and walkable corridor with ample pedestrian amenities, convenient neighborhood services, and great accessibility. These priorities and strategies include:

Priority and Strategy Interconnection: *These priorities and their strategies are not mutually exclusive; rather they reinforce each other and together they have the ability to attract users and spark investment, and ultimately achieve these aims of vibrancy, identity, and walkability.*

1. Enhance the image and identity through private investment and public/private partnerships

Strategies:

- Adopt Design Guidelines/Standards
- Establish building improvement programs
- Coordinate streetscape improvements
- Encourage innovative stormwater management

2. Improve access management

Strategies:

- Implement Rochester Road Access Management Plan between Big Beaver and Wattles Road
- Support lot consolidation
- Require consistent building and parking location placement

3. Preserve adjacent residential character and encourage compatible development

Strategies:

- Provide rear setback and landscape buffers between Rochester Road frontage parcel and adjacent residential properties

Priority 1: Enhance image and identity through private investment and public/ private partnerships

Rochester Road offers a different kind of retail environment, one that is focused on neighborhood service and affordable to small businesses. Despite recent improvements to the right-of-way, Rochester Road lacks a unified identity and cohesion. Excessive signage and outdated strip malls result in the corridor feeling visually cluttered. Updating existing buildings, eliminating blight, and creating a cohesive streetscape will require financial incentives, comprehensive planning, and coordinated public and private investment. However, with targeted interventions and plan implementation the corridor can elevate the aesthetic quality of the area and embrace its green corridor identity.

Renovating commercial storefronts and addressing code violations will enhance the corridor's appearance and economic strength.

Rochester Road Image and Identity

Priority 1: Enhance image and identity through private investment and public/ private partnerships

Strategy: Develop Design Guidelines

The City has made a significant investment in the public portion of Rochester Road and private development should reflect that high quality investment. Design guidelines will facilitate the phased redevelopment of the corridor. These standards are a paradigm shift - from customary single use zoning and automobile oriented development patterns to development decisions focused on building placement, integrated use, universal access, and pedestrian amenities. The fundamental element of the Design Guidelines is the relationship of the building to the street which includes building mass, site access, parking arrangement, and treatment of the pedestrian realm.

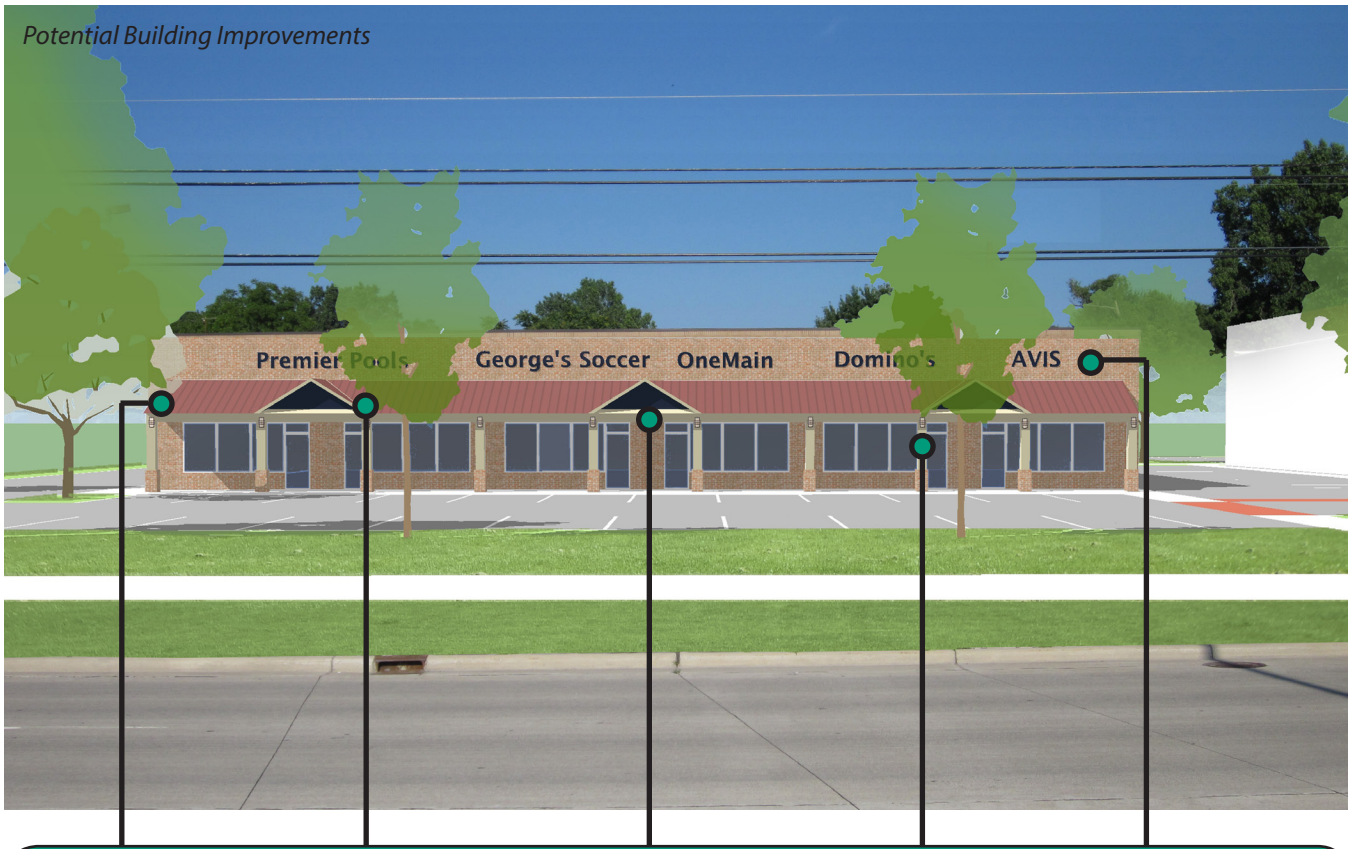
It is important the design guidelines be crafted to encourage quality design while not reducing development incentives.

Strategy: Establish building improvement programs

Many of the commercial buildings along Rochester Road are over 30 years old, including a few structures built in the 1950s and 60s. Establishing a façade improvement grant program will provide the necessary incentive and guidance to update and enhance tired exteriors. Increased focus on beautification and code enforcement is necessary, and can be promoted through social media and neighborhood groups. Even the newer buildings constructed in the last 10 years will benefit from formal design guidelines.

Existing Conditions

Potential Building Improvements



New awning

High quality materials

Architectural details

New light fixtures

Consistent signage

Priority 1: Enhance image and identity through private investment and public/ private partnerships

Strategy: Coordinate streetscape improvements

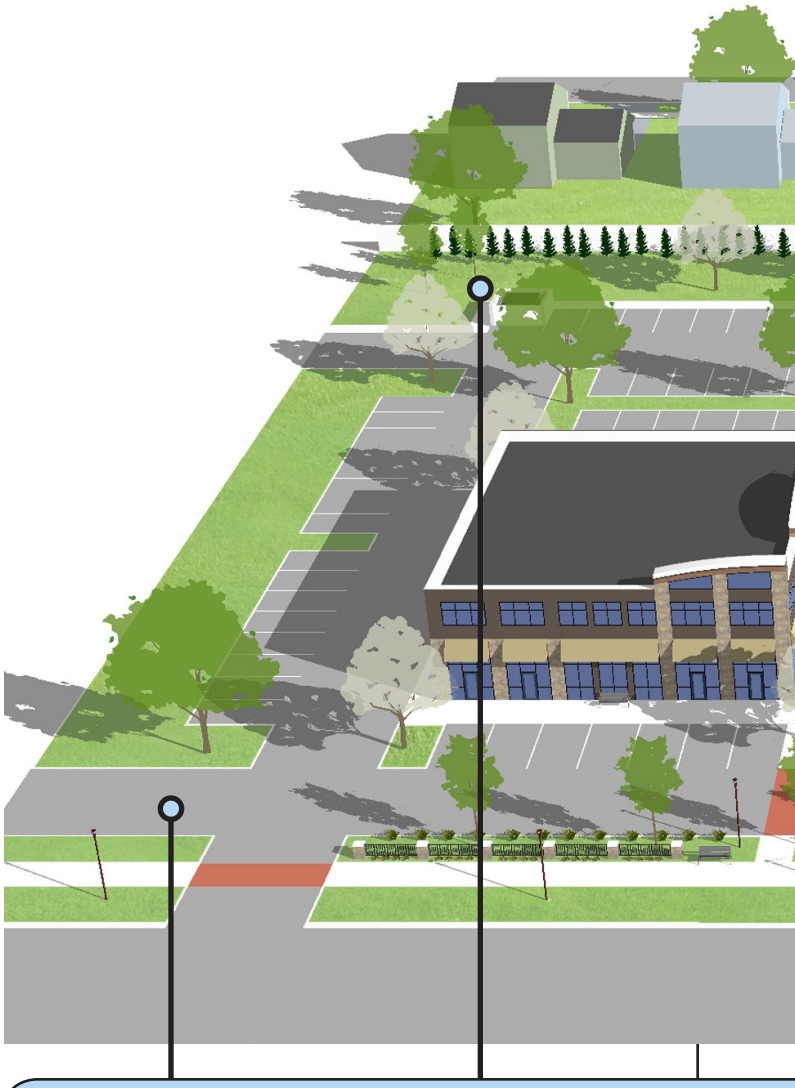
Streetscape elements can identify an area as a special and distinct place for residents, shoppers, visitors, and employees. The City should establish a conceptual Streetscape Plan that sets recommended standards for landscaping, signage, lighting, sidewalks, intersections and access. The Rochester Road streetscape should provide:

- A defined edge between the pedestrian and automobile areas
- A unified relationship between the public/ pedestrian realm and private domain
- The use of street trees and landscaping, furniture, paving, lighting, and other streetscape elements
- Attractive street lighting that reinforces the corridor image and minimizes extraneous light

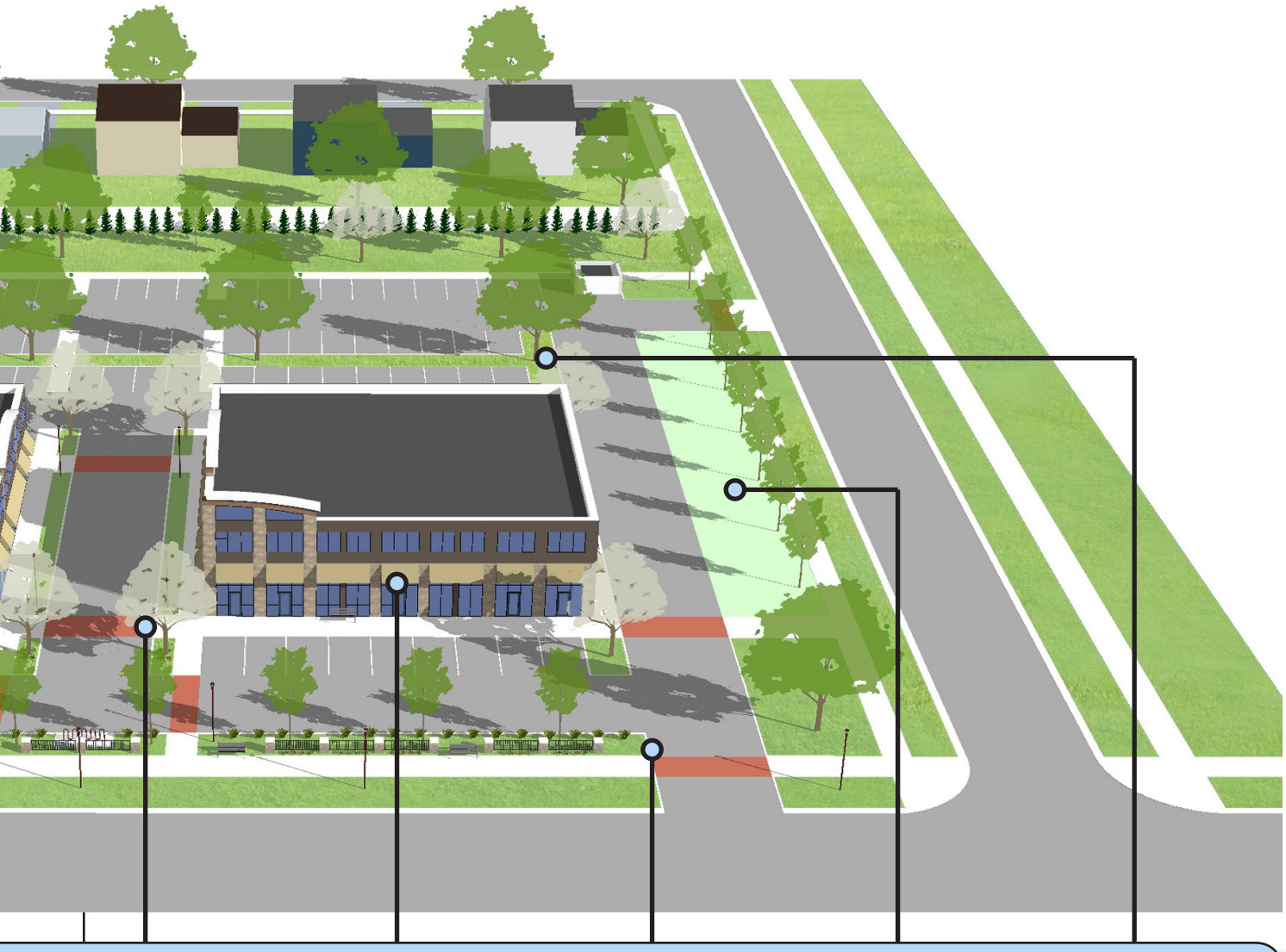
Streetscape may occur corridor wide or occur as redevelopment does.

Strategy: Encourage innovative stormwater management

The 2008 plan identified Rochester Road as a green corridor as this section of the corridor is intersected by the Shanahan and Lane Drains. Use of green infrastructure in coordination with infrastructure and nonstructural stormwater best management practices (BMP) should be incorporated. New development should protect natural flow pathways and reduce impervious surfaces. The Plan encourages installing rain gardens, vegetated filter, pervious pavement, vegetated roof, and native plants. Project considerations should include land use, runoff quality, site factors, costs, construction coordination, and maintenance issues. Property owners should reference the Low Impact Development (LID) Manual for Michigan produced by SEMCOG.



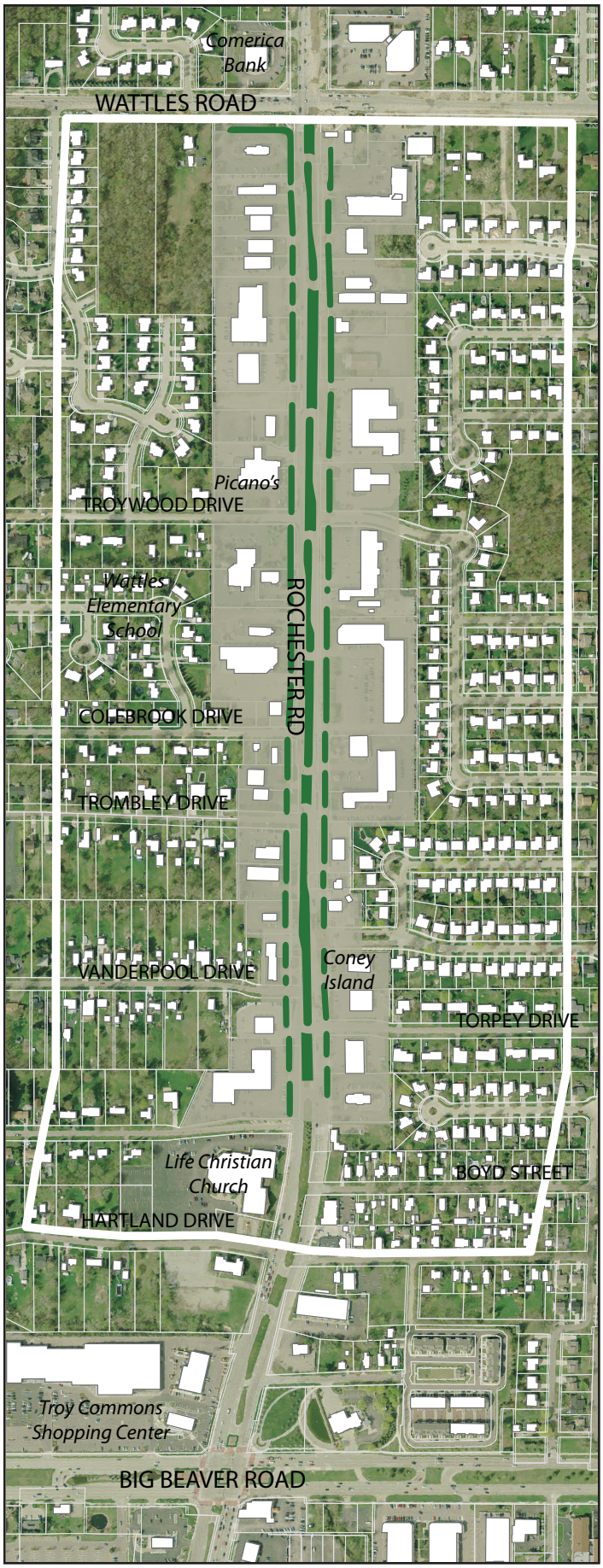
Cross Access	*Buffering between Land Uses*
Provides vehicular access between adjacent sites in order to create a safer pedestrian and automobile environment by reducing the need for multiple site curb cuts.	Development edges should provide a transition to adjacent parcels.



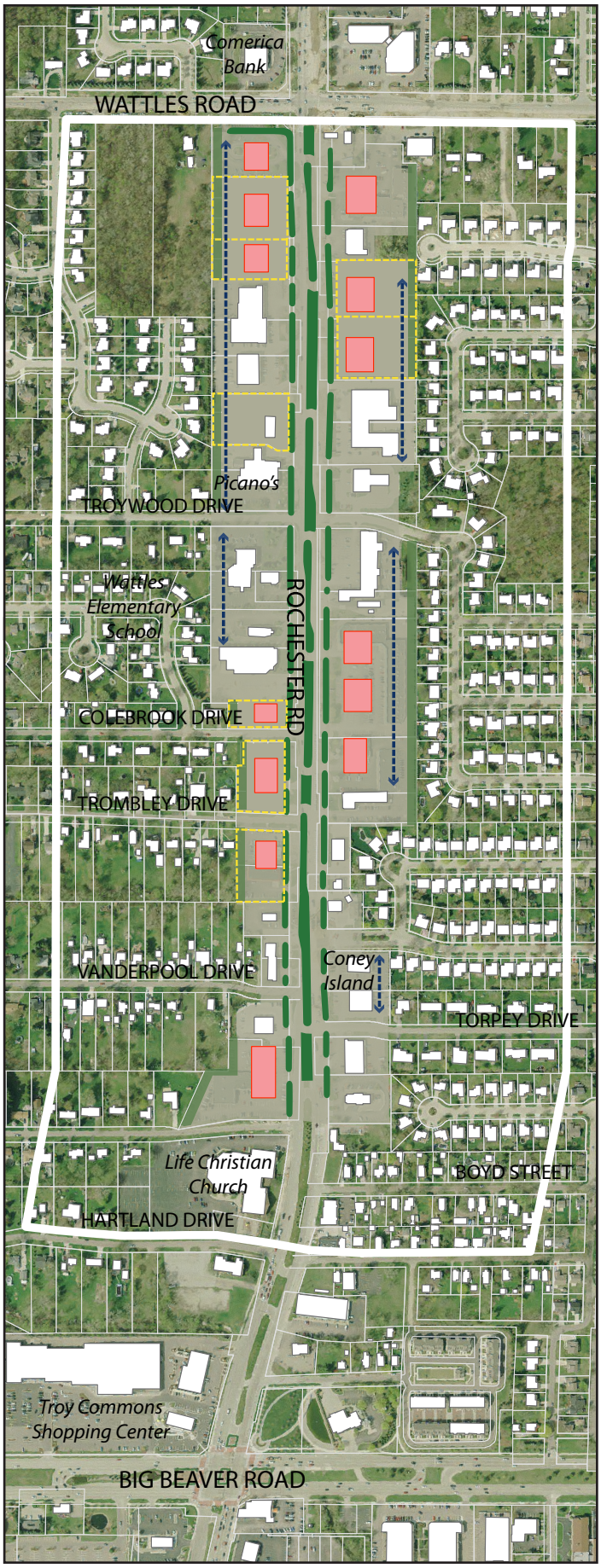
Pedestrian Connections	*Building Form*	*Streetscape*	*Stormwater Management*	*Parking Lot Landscaping*
Properly designed sidewalks and crosswalks that provide internal and external site connections to adjacent parcels and the Rochester Road public sidewalk.	Building form and design should result in an integrated and high quality development. The building massing and material should be complementary of context and enrich the corridor environment.	Streetscape amenities such as decorative lighting, special pavers, bollards, trash cans, and benches can enhance an area's pedestrian environment and commercial viability.	New development should incorporate stormwater management best practices, including Low Impact Development (LID).	Parking should be conveniently provided but located behind buildings and screened with necessary landscape and design elements.

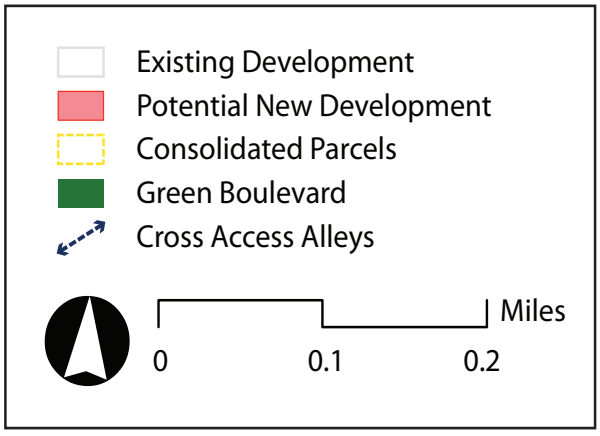
Priority 2: Improve site access and building orientation

Drivers often experience difficultly entering and exiting sites along Rochester Road. Curb cuts and inconsistent setbacks also deter pedestrian and non-motorized traffic. Access management along Rochester Road is necessary to ensure roadway safety and efficient operations while providing reasonable access to the adjacent land uses. Eliminating driveway redundancy and establishing consistent building placement and parking locations actually increase business access and visibility, and also create a safer, more inviting automobile and pedestrian environment.



Existing Conditions


Comerica Bank
WATTLES ROAD
Picano's
TROYWOOD DRIVE
Wattles Elementary School
ROCHESTER RD
COLEBROOK DRIVE
TROMBLEY DRIVE
VANDERPOOL DRIVE
Coney Island
TORPEY DRIVE
Life Christian Church
BOYD STREET
HARTLAND DRIVE
Troy Commons Shopping Center
BIG BEAVER ROAD


Existing Development
Potential New Development
Consolidated Parcels
Green Boulevard
Cross Access Alleys
Miles
0
0.1
0.2

Proposed

Priority 2: Improve site access and building orientation

Building oriented to Rochester Road

Access management is a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways, increase the capacity of these roads, manage congestion, and reduce crashes.
Source: Federal Highway Administration

Benefits of Access Management:

- ***Safety – reduces crashes***
- ***Capacity – improves traffic flow***
- ***Walkability/Transit - reduces conflicts***
- ***Aesthetics– increases landscaped areas***
- ***Business Vitality – improves customer ingress/egress***
- ***Preserve Investment – very cost effective***

Source: Rochester Road Access Management Plan, 2011

Strategy: Implement Rochester Road Access Management Plan between Big Beaver and Wattles Road

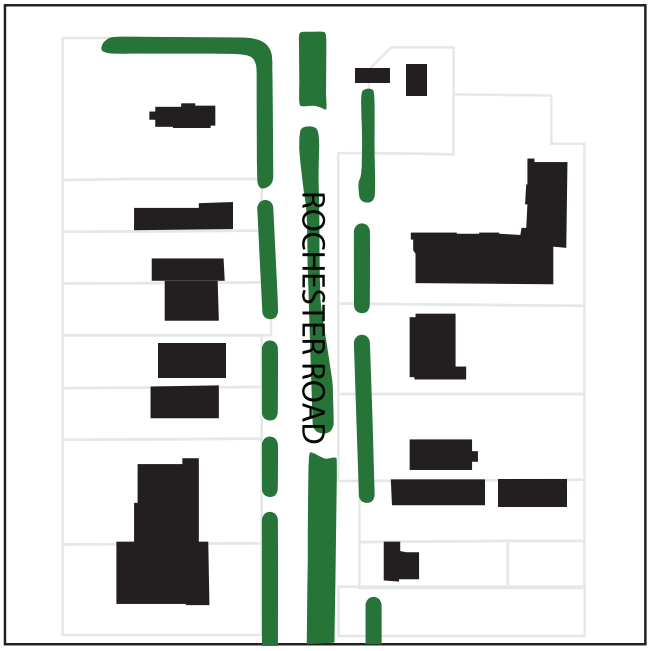
In 2011, the City of Troy participated in the creation of the Rochester Road Access Management Plan along with four other communities, Southeast Michigan Council of Governments (SEMCOG), Michigan Department of Transportation (MDOT), and Road Commission of Oakland County (RCOC). Based on MDOT's Access Management Guidebook, the Plan recommends improved road design, modified access, increased walking and biking, and coordinated low impact development along the entire corridor. In addition to these overarching principles, the following corridor segment specific recommendations should be implemented for the portion of Rochester Road between Big Beaver and Wattles Road:

- Reduce driveway density by removing 11 of the 38 total existing access points
- Increase visibility of the un-marked bike route crossing at Bishop/Troywood
- Connect properties at the rear with parking lot connections, access easements, or an alley

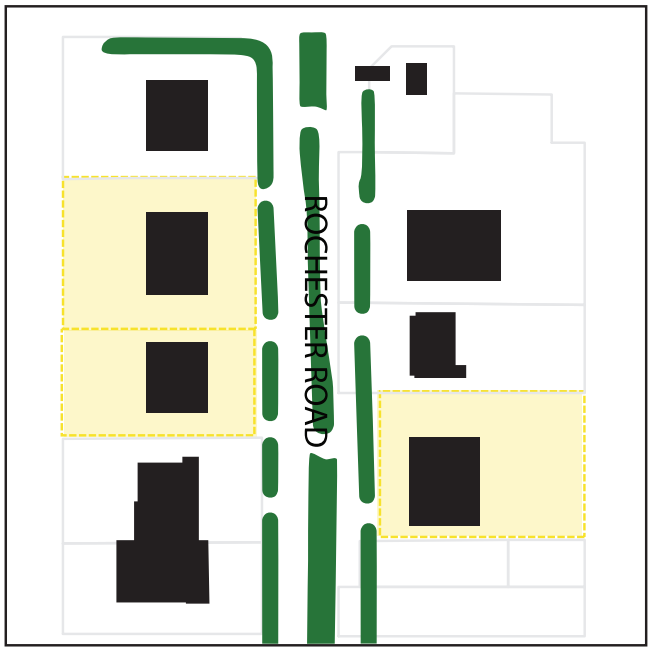
The City has recently made significant roadway improvements, introducing a boulevard. Recommendations from the Access Management Plan should be implemented as development occurs. The City should also coordinate implementation with other local initiatives, capital improvements, and road construction projects.

Strategy: Support lot consolidation

Lot consolidation provides two significant benefits. First, lot consolidation permits the elimination of curb cuts. Reducing curb cuts increases safety for motorists, cyclists, and pedestrians reducing points of vehicular conflict. Secondly, lot consolidation creates larger lots, which permit greater design flexibility and are easier to develop. Contiguous parcels on Rochester Road create challenges for coordinated development and design continuity. Land assembly can work to the advantage of both a developer and property owners. Property owners benefit from increased property values, and developers get a large enough parcel to build on for today's markets.



Existing Conditions



After Lot Consolidation

Strategy: Require a consistent building placement and parking location

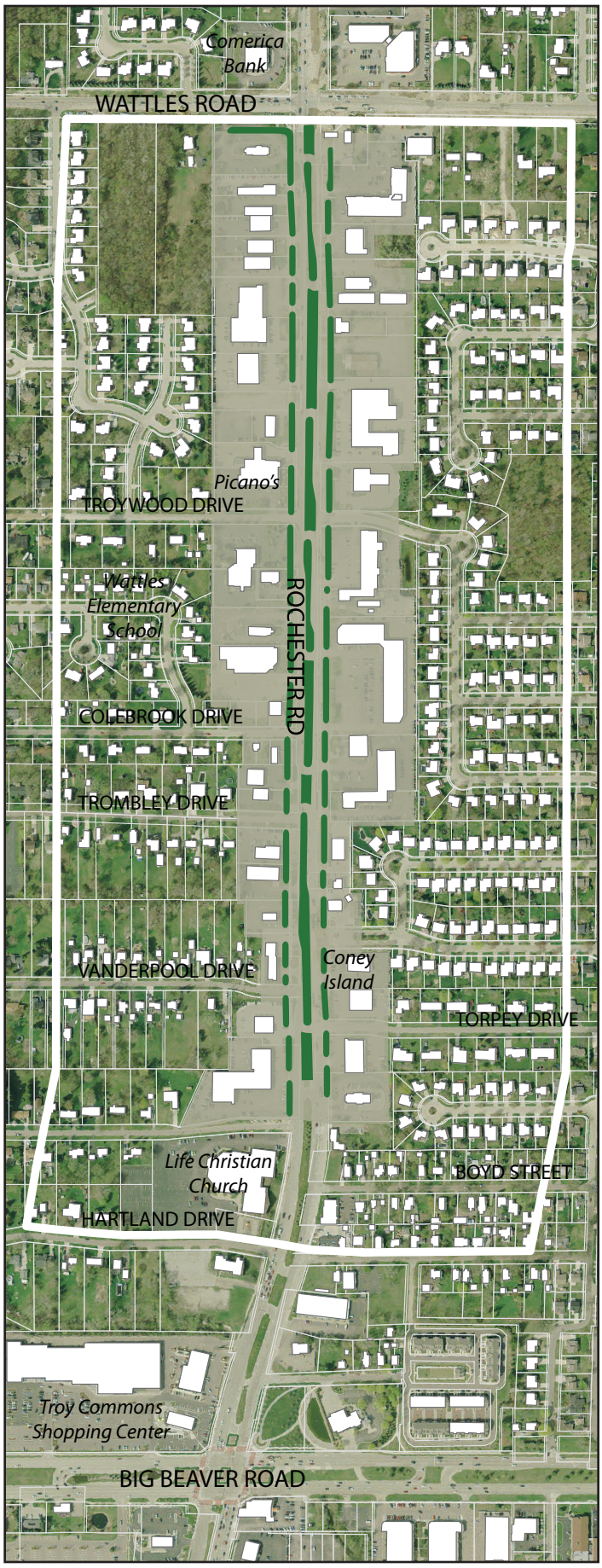
A consistent building placement and parking location will help improve access management and establish a defined street wall. As noted in the Rochester Road Access Management Plan, some of the buildings are set too close to the right-of-way to allow cross access between properties. On the other hand, the strip retail centers are set back to accommodate parking, providing limited pedestrian connections and little to no landscaping in the parking area. Orientation should avoid overcrowding and allow for functional use of the space between buildings and in the front and rear yards. Parking should not be the dominant visual element on the site; instead the building should provide a welcoming entrance – preferably covered – that provides convenient access to all users.

A street wall is formed when buildings front onto a street with consistent setbacks. The placement, scale and design quality of the building's street wall determine the character of the streetscape and reinforce pedestrian objectives.

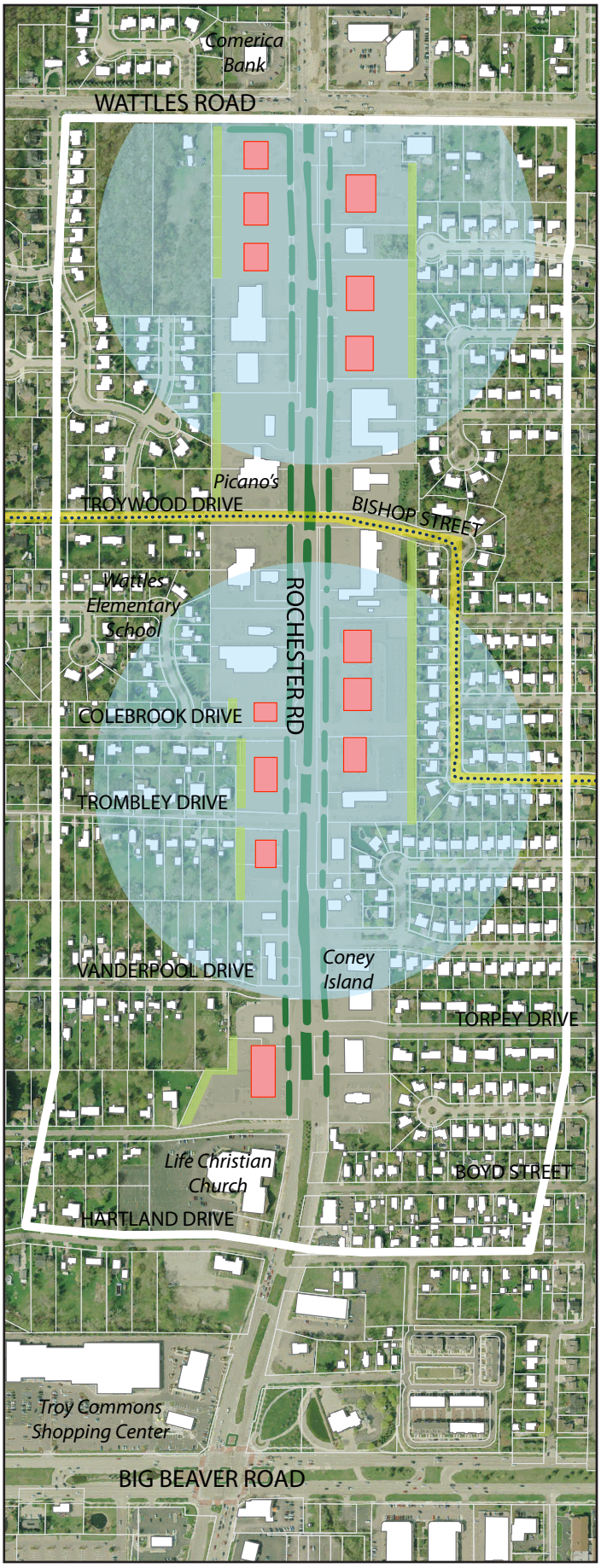
Priority 3: Preserve adjacent residential character and encourage compatible development

Rochester Road functions as a link, connecting the single family neighborhoods to the larger commercial corridors and regional highways. This function presents both an opportunity and a challenge for the corridor. Redevelopment along Rochester Road must respond to a range of land use patterns and existing conditions.

A tenet of both the Master Plan and Zoning Ordinance is the protection of residential properties. Balancing development priorities and surrounding neighborhood character will be vital to the success and health of the corridor. Senior housing, casual dining, professional office, and neighborhood services are some of the desirable uses for this community. Mixing uses, horizontally and vertically, will also provide for a more walkable and vibrant area. Too much flexibility can appear inconsistent at times, so establishing clear regulations on building form and use is essential. Many of the commercial properties are outdated, particularly the strip retail stores. These larger sites and, through lot consolidation, the properties near the Wattles intersection offer great potential for redevelopment.



Existing Conditions


Comerica Bank
WATTLES ROAD
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COLEBROOK DRIVE
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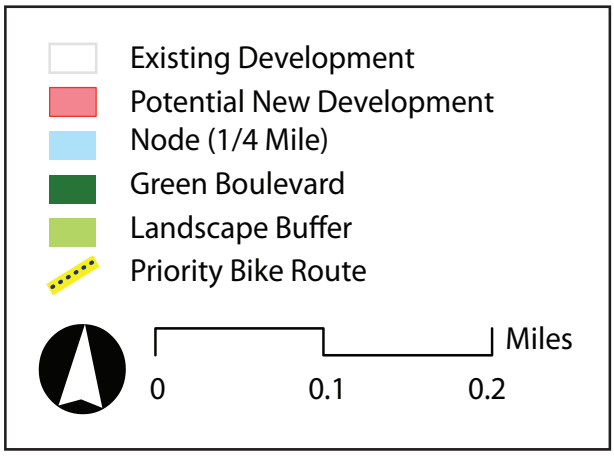
Life Christian Church
BOYD STREET
HARTLAND DRIVE
Troy Commons Shopping Center
BIG BEAVER ROAD


Existing Development
Potential New Development
Node (1/4 Mile)
Green Boulevard
Landscape Buffer
Priority Bike Route
Miles
0
0.1
0.2

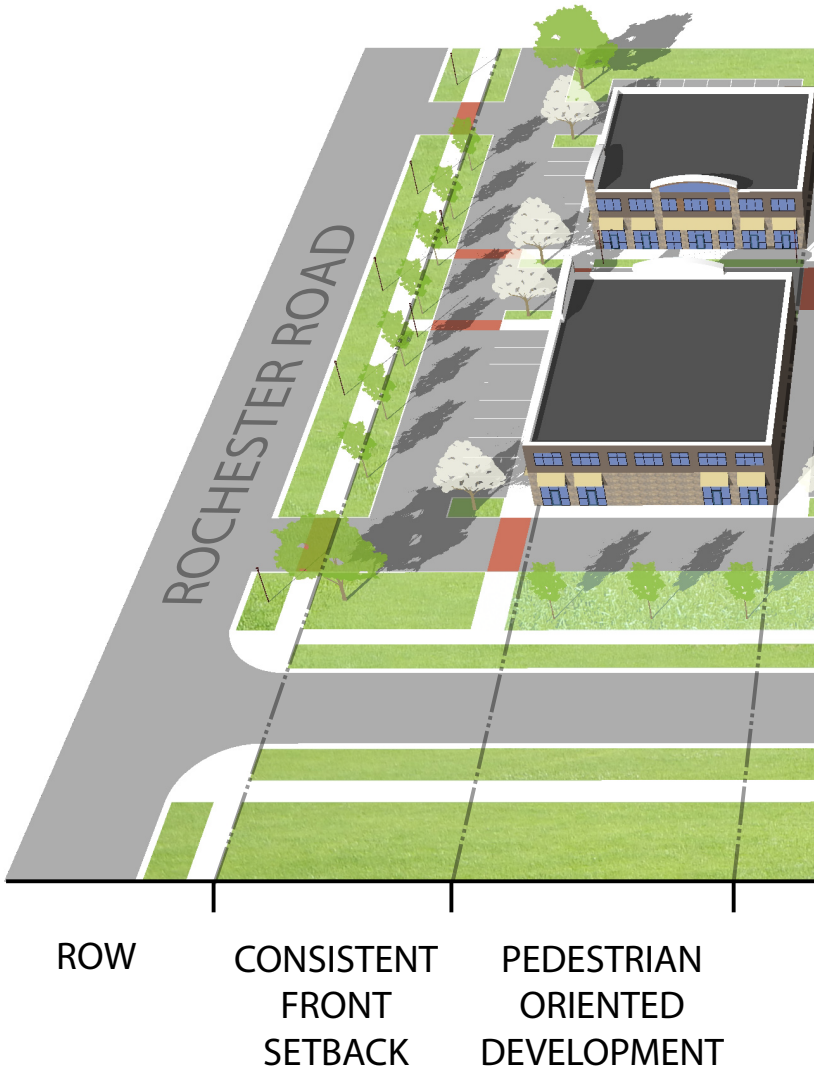
Proposed

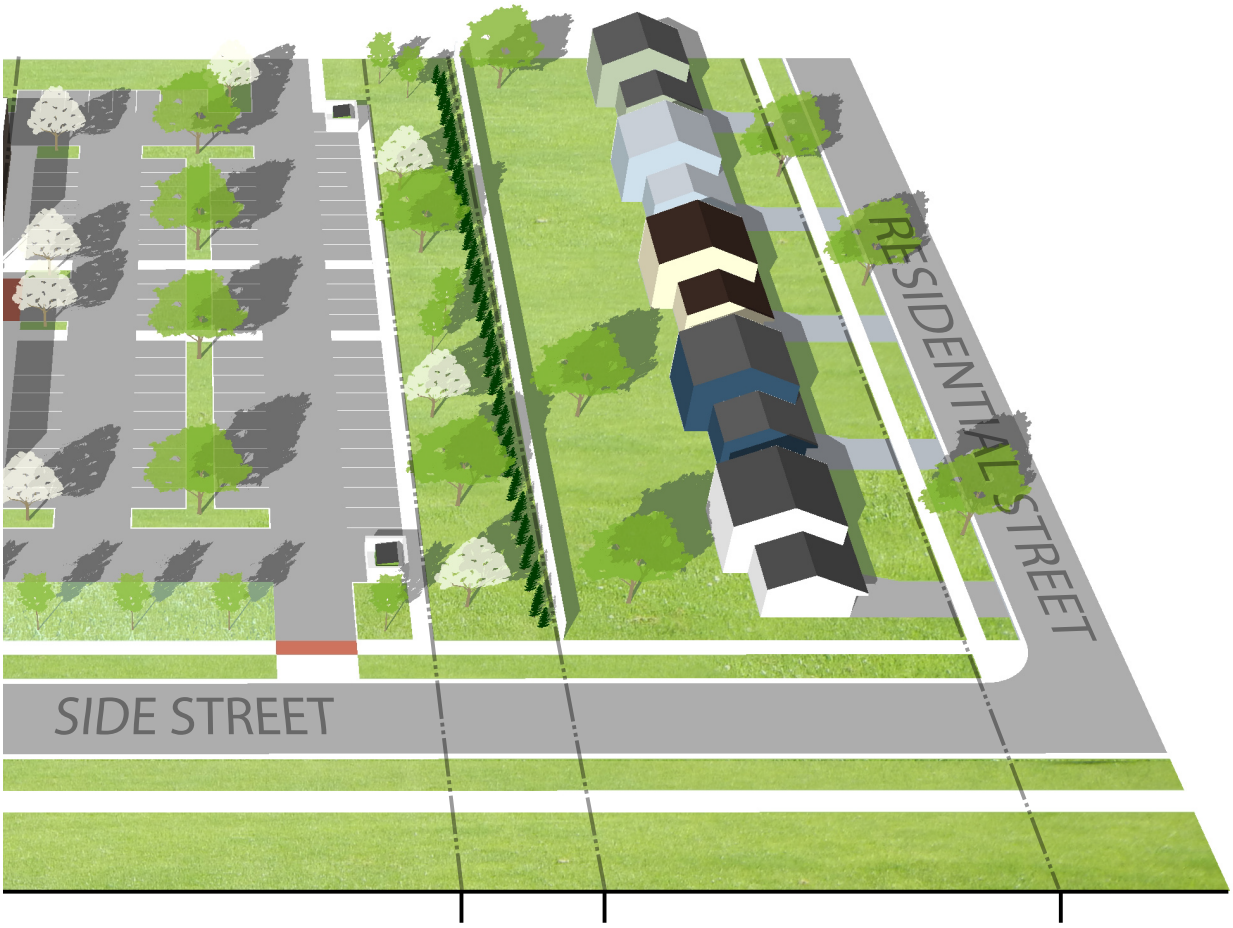
Priority 3: Preserve adjacent residential character and encourage compatible development

Strategy: Provide buffer and landscape between Rochester Road frontage parcel and adjacent residential properties.

Shallow parcel depth along Rochester Road is a constraint on site design. Parcels range in size from 90 to 300 feet deep, with frontages ranging from 60 to 460 feet. In order to protect residential properties, additional buffers and transitions should be applied for commercial and industrial developments adjacent to residential uses. The buffers can be in the form of setbacks, greenbelts, and increased landscape requirements.

Transition between Commercial Uses and Residential Uses




RESIDENTIAL STREET
SIDE STREET
REAR SETBACK BASED ON BUILDING HEIGHT
LANDSCAPE BUFFER
ADJACENT RESIDENT
ROW

Action Plan and Implementation

The Rochester Road Plan is organized into multiple projects so the vision can be refined and implemented in phases over time in a flexible manner. Priority transformative projects like the streetscape projects and facade improvement programs entail multiple phases given their scale and ambition and serve as economic catalysts enhancing the image of the corridor. The timeframe to implement the Plan will depend on many factors, including market conditions, financing, approvals, and other city initiatives.

	Strategy
Priority 1 ***Enhance the image and identity through private investment and public/private partnerships***	Design Guidelines
	Establish building improvement program
	Coordinate streetscape improvements
	Encourage innovative stormwater management

	Strategy
Priority 2 ***Improve access management***	Implement Rochester Road Access Management Plan between Big Beaver and Wattles Road
	Support lot consolidation
	Require a consistent building placement and parking location

	Strategy
Priority 3 ***Protect adjacent residential***	Provide buffer and landscape between Rochester Road frontage parcel and adjacent residential properties

Phasing
Near 1-2 years
Mid 3-5 years
Long 6-10 years

Actions	*Phasing*	*Responsibility*
Develop and adopt Design Guidelines	Near	City
Incorporate Design Guidelines into Zoning Ordinance	Near	City
Implement Design Guidelines as development occurs	Near/Mid	City, Private entities
Research building improvement programs and best practices	Mid	City
Determine managing body and identify program resources and funding	Mid	City
Adopt criteria from Design Guidelines/Standards	Mid	City
Develop and implement Building Improvement Program	Mid	City
Develop Rochester Road Streetscape Plan	Near	City
Implement Streetscape Plan comprehensively or as development occurs	Near/Mid	City, Private entities
Develop Rochester Road Stormwater Plan	Near	City
Implement Stormwater Plan comprehensively or as development occurs	Mid	City, Private entities

Actions	*Phasing*	*Responsibility*
Eliminate identified access points as development occurs	Near	City, Private entities
Create parking connections as development occurs	Near	City
Improve crossing safety for bicycles at Troywood/Bishop	Near	City
Create Rochester Road Overlay or amend Community Business (CB) and General Business (GB) District zoning regulations	Near	City
Encourage/require lot consolidation as development occurs	Near	City
Create Rochester Road Overlay or amend CB and GB zoning regulations	Near	City

Actions	*Phasing*	*Responsibility*
Create Rochester Road Overlay or amend CB and GB zoning regulations	Near	City

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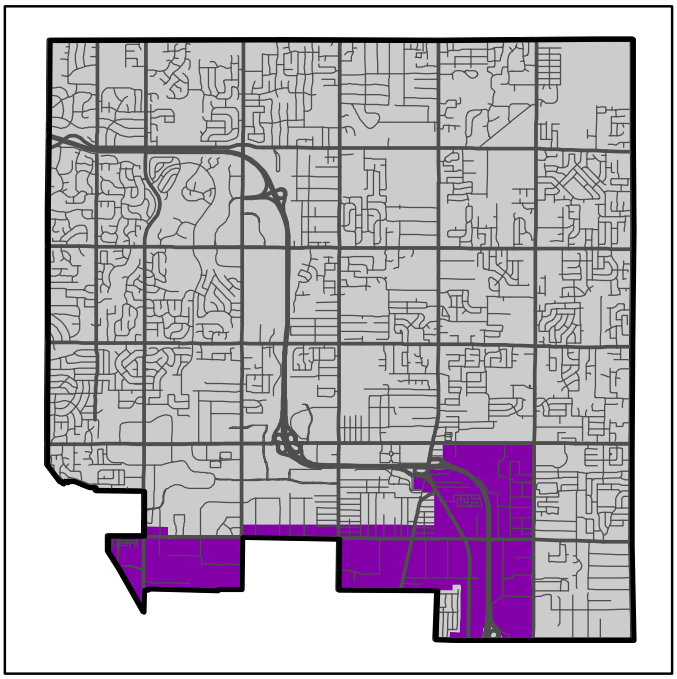
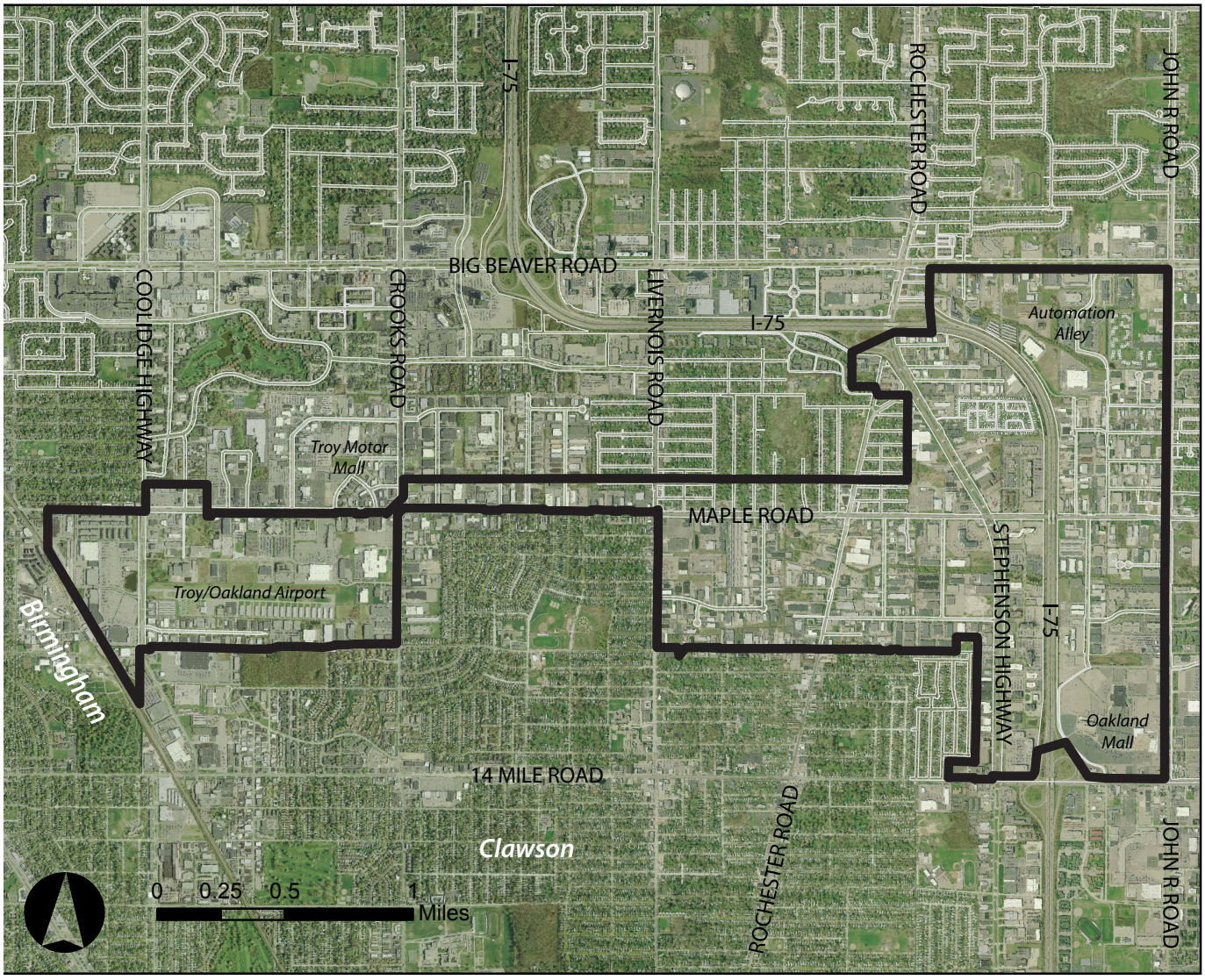
Maple Road
Special Area Plan



Right: Locator map
Below: Target Area map



Introduction

The six (6) mile stretch of Maple Road serves as a primary regional east-west roadway connecting Troy with the surrounding communities of Birmingham and Bloomfield to the west, and Sterling Heights to the east. Historically, the Maple Road and Stephenson Highway corridors have been home to Troy's industrial and technology development base. The Maple Road area also includes the Troy Smart Zone Campus and is home to the Automation Alley headquarters. Industries along the corridor provide essential services including business-to-business (B2B) and business-to-consumer (B2C) transactions, and help diversify Troy's economy. It is vital to Troy's long-term economic standing to maintain a viable industrial base. Over the past 30 years of growth and development, Maple Road has evolved incrementally. It is now comprised of an eclectic mix of uses including industrial, research and development, automobile dealerships, big box retail, smaller neighborhood retail, office, and both single-family and multiple-family residential. Due to a diversification of land uses, mixed parcel sizes, and abutting municipal boundaries the pattern and character of Maple Road is difficult to classify. To ensure that future development is intentional and high quality, Troy recognized that a new focus for Maple Road needs to be considered.

Evolving to Meet New Challenges

Maple Road exemplifies the car-dominated environment that is typical of the modern American landscape. Recent redevelopment interest along Maple Road and the success of the Big Beaver corridor to the north provides an opportunity to change the rules for new development so that the corridor will be more economically viable and people-oriented. Maple Road is a corridor of contrast in terms of land use, building placement, and investment. Comprehensive corridor redevelopment requires careful attention to both sides of the corridor's right-of-way line. While Maple Road has experienced recent reinvestment, there are pockets of disinvestment, resulting in vacant, abandoned, and underused properties. Nevertheless, Maple Road presents an opportunity to build on the existing diversity of land uses, transportation options, and proximity to residential. For properties lining the corridor, revitalization requires a restructuring of development patterns, with less emphasis on land use and more focus on quality, accessibility, and innovative redevelopment. For those parcels in the industrial areas located off the corridor, a focus on protection and reinvestment of the industrial and technology development base should be emphasized. The repurposing of Maple Road offers three key priorities based on the following land patterns: the development nodes at major mile intersections, the linear segments of the corridor between the major mile intersections, and the industrial and employment areas located off the corridor.

Vision Statement

There are moments in the development of a city where an opportunity presents itself, and where entrepreneurs are rewarded. With less focus on land use, and more focus on quality development, businesses incubation, creation of anchors, and reinvestment through entrepreneurship, Maple Road can become a choice location.

Existing Conditions

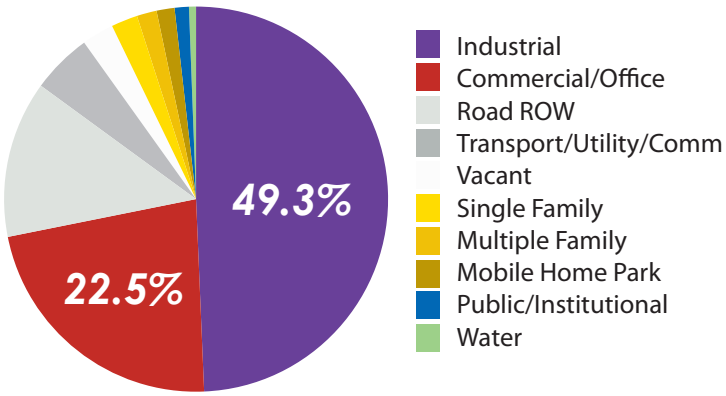
2013 Target area statistics

Total taxable value	$341,823,442
Total area (acres)	1,828
Total businesses	1,625
Total employees	24,576

2010 Market area statistics [1]

Population	10,677
Households	4,681
Percent owner occupied	58.5%
Median household income	$52,475
Per capita income	$28,402

Land Use



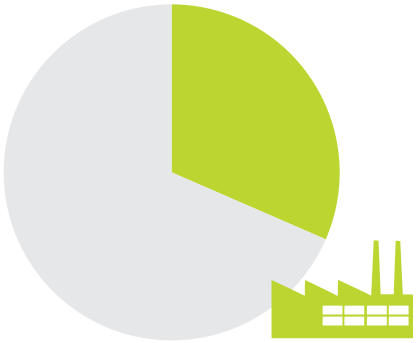
Source: Esri 2013 Estimates Business Summary from Oakland County EDCA, Census 2010, City of Troy GIS data 2013
Note: 1. Market Area includes households within 1 mile of Target Area. 2. Employee and Business data use NAICS codes.

Property Data

	Target Area	Commercial	Industrial	Residential
Total Parcels	392	57	1	334
Total Structures	376	53	1	322
Total Acres	164	50	1	113
Median Year Structure Built		1982	NA	1976
Total Floor Area (SF)		379,321	NA	601,131
Median Floor Area (SF)		4,800	NA	1,709
Total Taxable Value	$ 43,612,770	$ 14,911,860	NA	$ 28,700,910

Source: City of Troy GIS data 2013

Top Industries in Target Area by Employment [2]

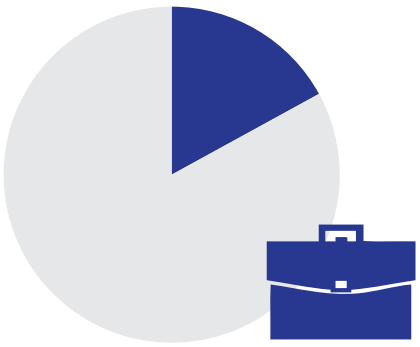


31.5% *Manufacturing*

	Employees	Percent (%)
Manufacturing	7,745	31.5
Professional, Scientific & Tech Services	3,723	15.1
Retail Trade	2,918	11.9
Wholesale Trade	2,199	8.9
Health Care & Social Assistance	1,675	6.8

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

Top Industries in Target Area by Number of Businesses



17.0% *Professional, Scientific & Tech Services*

	Businesses	Percent (%)
Professional, Scientific & Tech Services	277	17.0
Wholesale Trade	211	13.0
Manufacturing	205	12.6
Retail Trade	204	12.6
Administrative & Support & Waste Management & Remediation	130	8.0

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

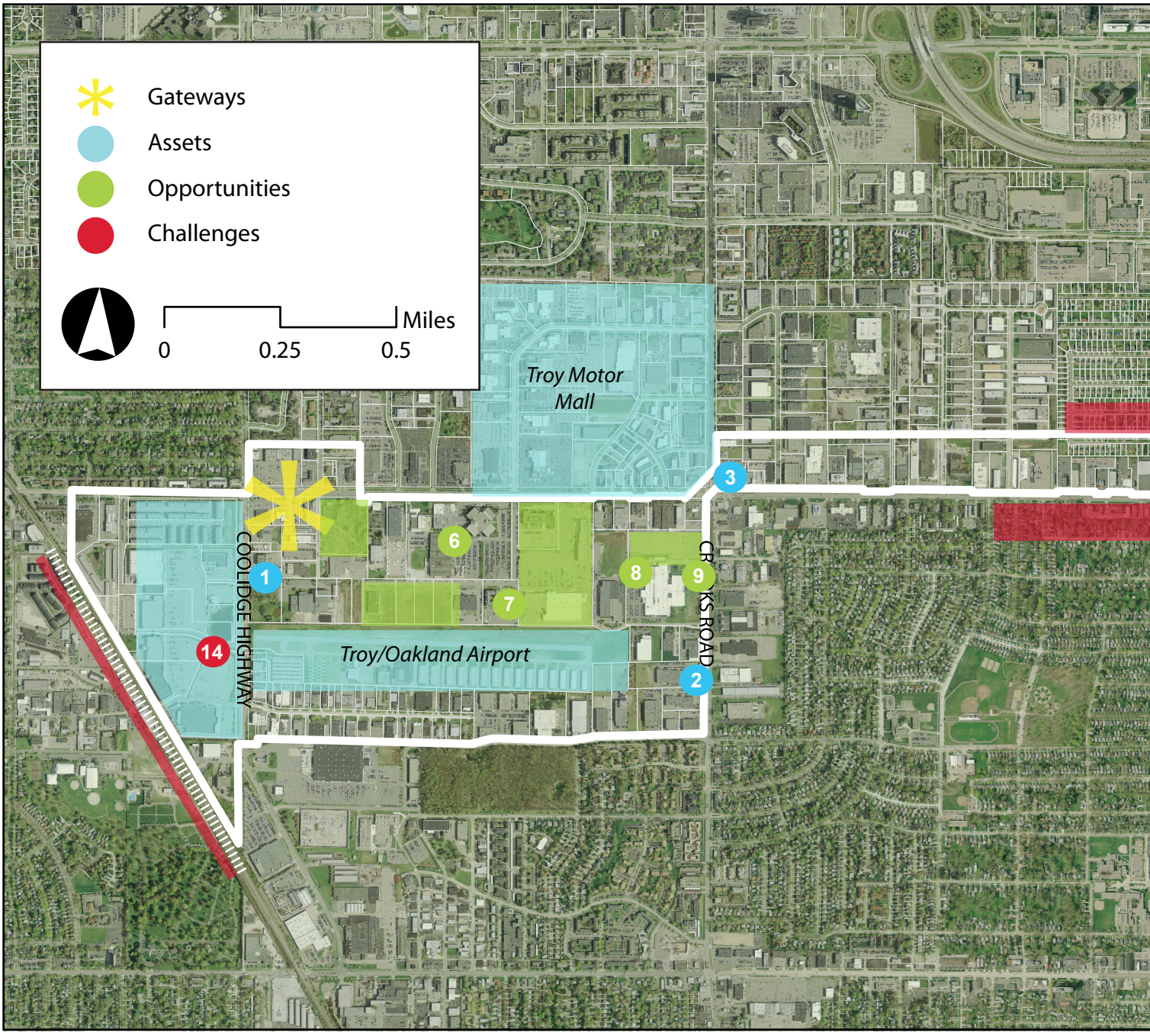
Existing Conditions

Gateways

- Coolidge Highway and Maple Road
- Stephenson Highway and 14 Mile Road
- Big Beaver Road and John R Road

Assets

1. Midtown Square
2. Troy/Oakland Airport
3. Troy Motor Mall
4. Automation Alley/SmartZone
5. MJR Theater

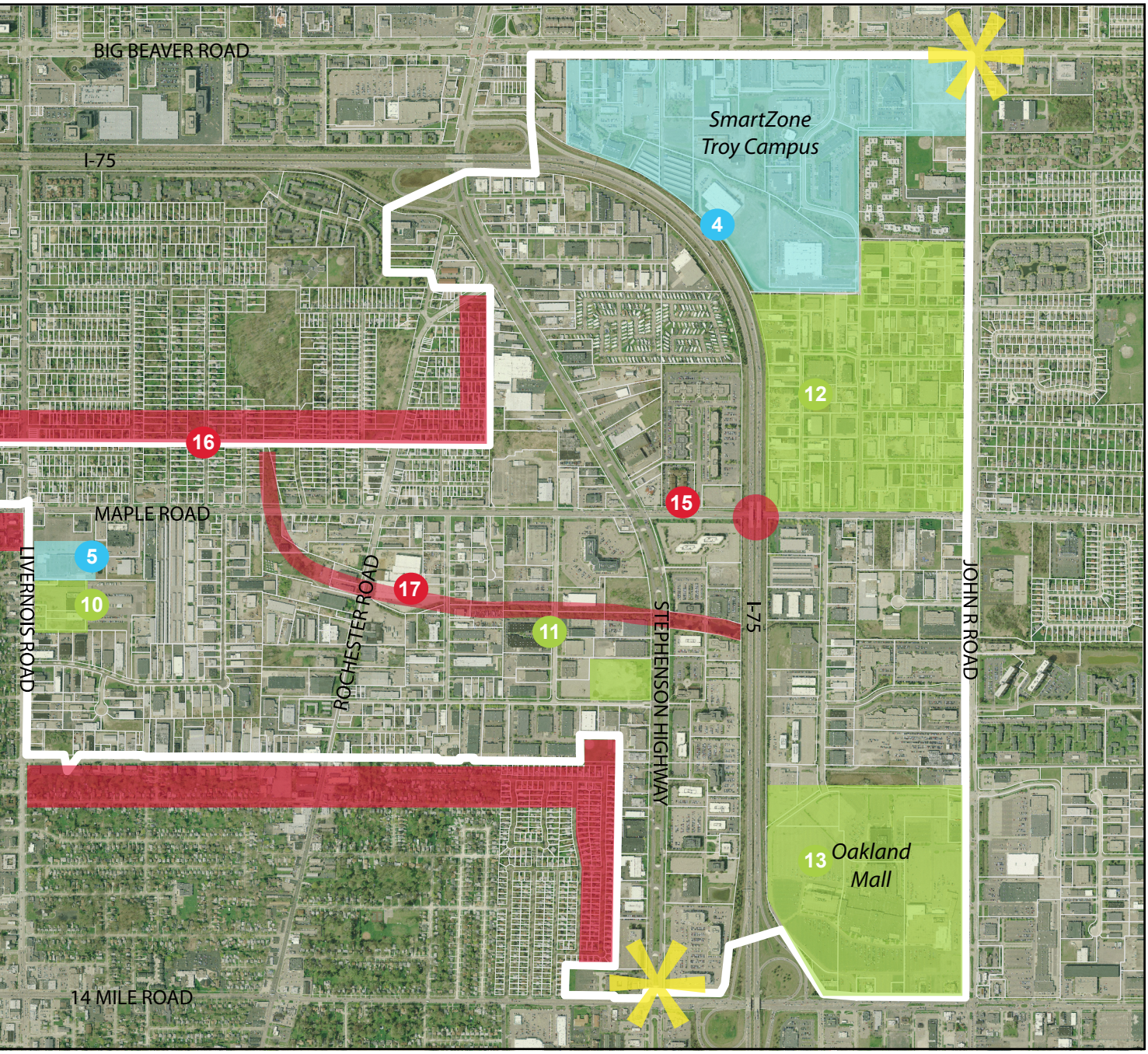


Opportunities

6. South of Maple Road at Axtell Drive
7. Adjacent to airport along Equity Drive
8. Cambridge Crossing outlot development
9. South of Maple, west of Crooks Road
10. South of Maple, east of Livernois Road
11. Rankin Drive and Stephenson Highway
12. Light industrial reuse/repurpose
13. Oakland Mall infill development

Challenges

14. Railroad acts as a barrier to Eton Road
15. No access to or from I-75
16. Boundary/transition to single family
17. Spencer Drain



Maple Road Public Engagement Findings

Maple Road provides a great central location with a well-established traffic flow and close proximity to residential areas. Midtown Square, Automation Alley, and the new MJR theater can serve as anchors for the corridor and should be reinforced by complementary uses including retail, dining, and multifamily residential. Industrial and office spaces offer architecturally unique redevelopment opportunities and could foster a live/work culture if marketed to local startups, small tech companies, or creative design firms with a need for light manufacturing facilities or collaborative work spaces.

Access, connectivity, and convenient parking are major challenges for sites along Maple Road. Strip development and industrial uses are segregated and offer limited connection to the surrounding residential communities and current business sector. While the zoning ordinance provides site design flexibility through the Sustainable Development Project (SDP) option, the city staff may need to educate potential investors on how to take advantage of this development tool and communicate the overall vision for Maple Road.

Considerations

- Think creatively about attracting companies and investment
- Encourage circulation planning that integrates public transit stops and connects pedestrian nodes to greenway trails and residential sidewalks
- Cluster pedestrian activities through redevelopment of underutilized properties
- Support mixed-use development with strong ties to the Transit Center and transit-oriented development
- Expand SmartZone and establish an overall vision for Maple Road
- Consider transit impact study for I-75 access onto Maple Road

Priorities and Strategies

This plan recommends three priorities for establishing Maple Road as a safe, active, and vibrant district with opportunities for investment, entrepreneurship, and innovation. These priorities and strategies include:

1. Generate investment at development nodes

Strategies:

- Encourage high-quality commercial /mixed-use development at major mile intersections
- Engage surrounding residential neighborhoods through linkage
- Incentivize development through zoning

2. Encourage entrepreneurism and redevelopment

Strategies:

- Preserve and enhance traditional-innovative-entrepreneurial industrial areas
- Promote creation of districts and encourage compatible industries

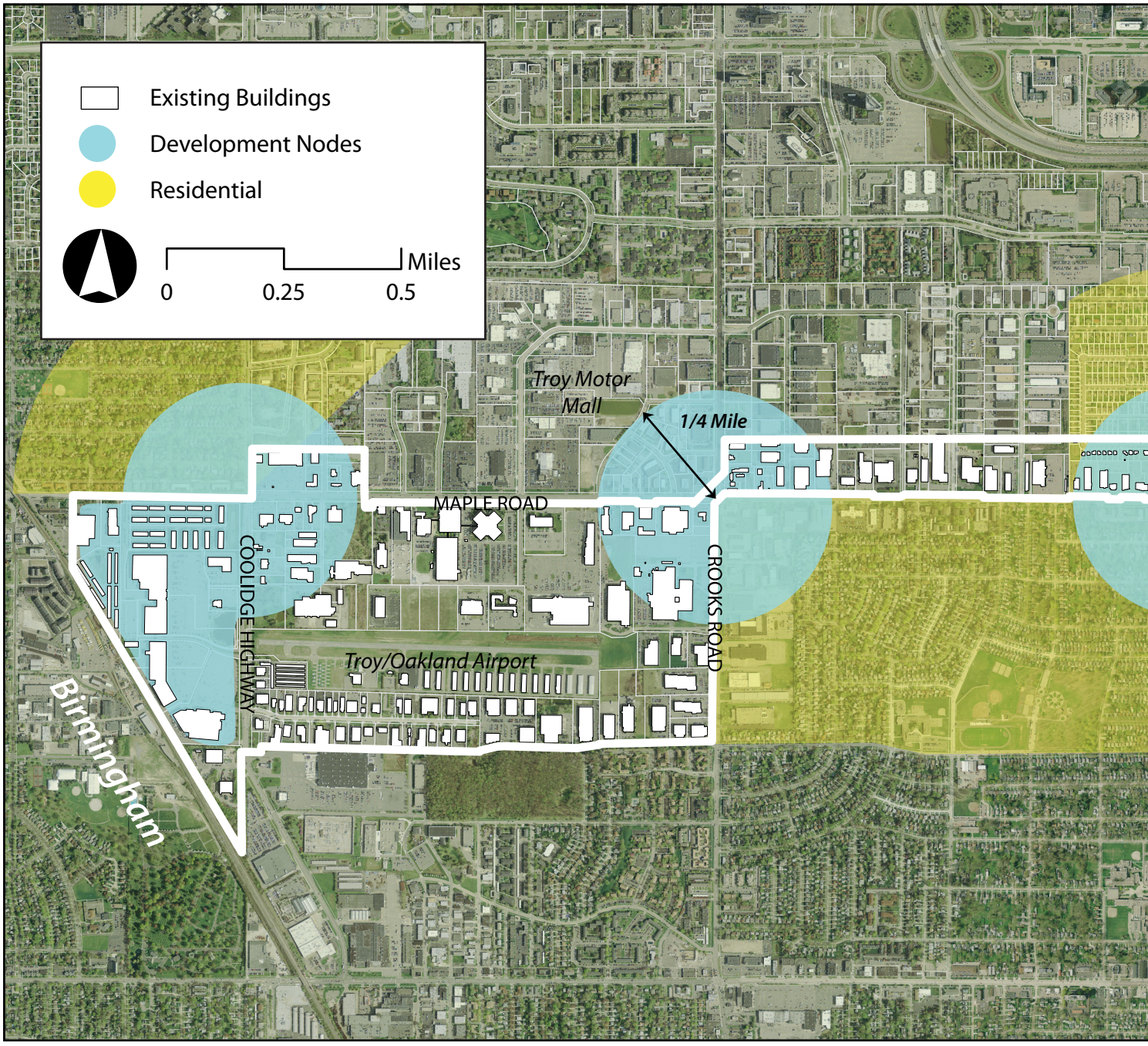
3. Enhance and strengthen segments between major mile intersections

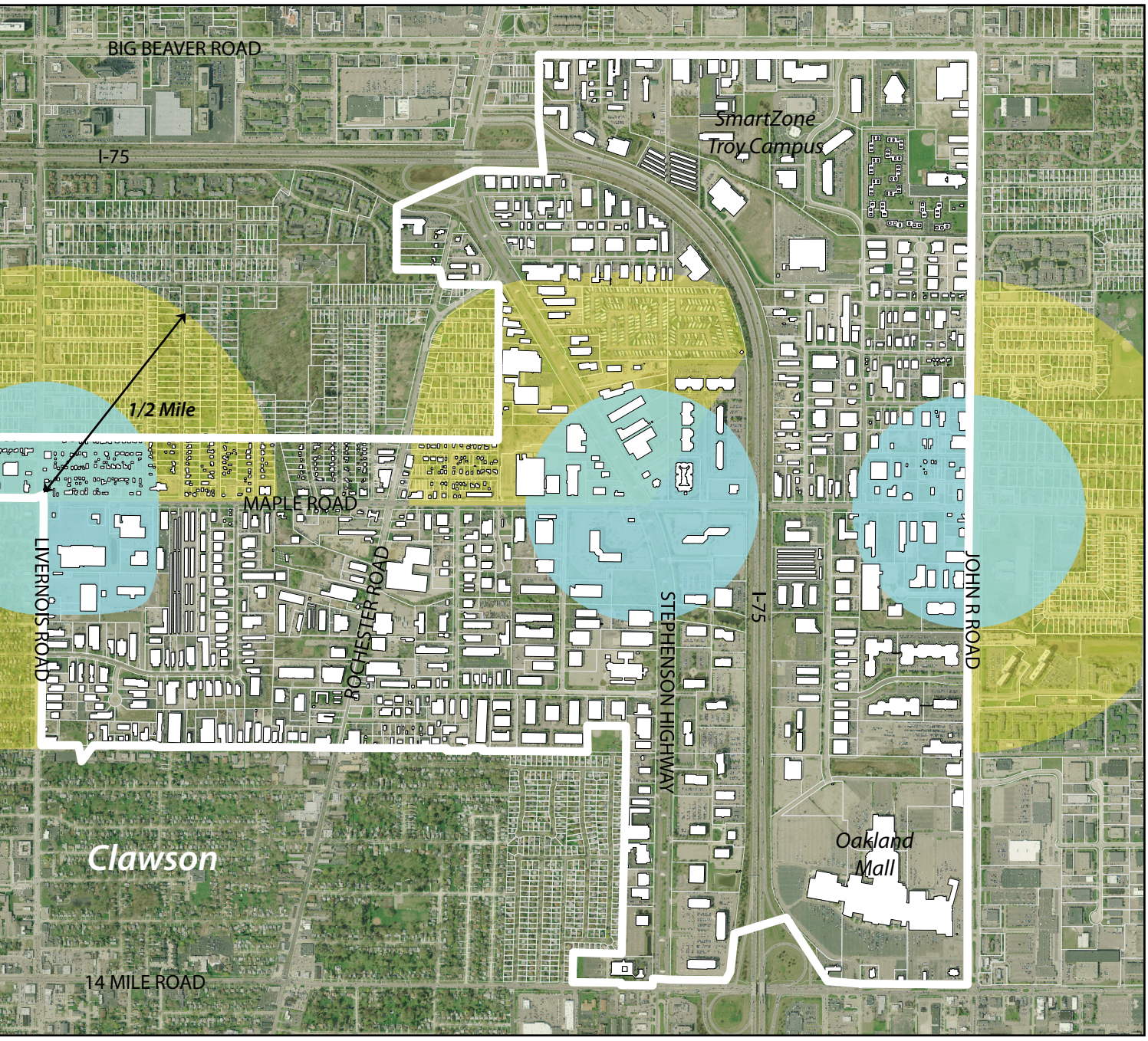
Strategies:

- Identify alternative value for challenging sites
- Implement zoning amendments to permit flexibility
- Improve pedestrian access
- Improve pedestrian crossing

Priority and Strategy Interconnection: *These priorities and their strategies are not mutually exclusive; rather they reinforce each other and together they have the ability to attract users and spark investment, and ultimately achieve these aims of vibrancy, identity, and economic resiliency.*

Priority 1: Generate investment at development nodes




BIG BEAVER ROAD
I-75
SmartZone
Troy Campus
1/2 Mile
MAPLE ROAD
LIVERNOIS ROAD
ROCHESTER ROAD
STEPHENSON HIGHWAY
I-75
JOHN R ROAD
Clawson
Oakland
Mall
14 MILE ROAD

Existing Conditions

Coolidge Highway

Coolidge Highway

Crooks Road

Livernois Road

Stephenson Highway

John R Road

Priority 1: Generate investment at development nodes

The age, scale, and condition of structures along Maple Road vary considerably. This incremental and inconsistent development pattern has also resulted in incompatibilities between land uses. Mixing land uses can be effective and prosperous when implemented in conjunction with standards and policies. Maple Road is a major east-west thoroughfare bordered by residential neighborhoods that depend on services and convenience retail within walking distance. Maple Road serves many important functions as a commercial and industrial corridor, but its lack of identity, cohesion, and consistency are very apparent to residents, employees, and investors.

In response to increasing traffic and aging infrastructure conditions, changing patterns of retail development that favor newer sites in outlying areas, and the evolving needs of the industrial sector, many properties along Maple Road are suffering from ongoing disinvestment. Although Maple Road has pockets of investment, there are many underperforming areas with high vacancy rates, lower sales per square foot, and a lack of money to reinvest in aging structures.

In order to realign the Maple Road corridor to be consistent with the forces of market demand, portions of the corridor should be significantly and deliberately restructured into a form which property owners, developers, and communities will once again invest. Since market-driven forces in the retail industry are cause for the change along commercial corridors, Maple Road planning should start with a reevaluation of commercial, particularly retail, development patterns along the corridor.

To compete, the Maple Road corridor will need to evolve beyond its aging commercial center reality to better appeal to prospective customers, residents, and businesses. The strategy for the corridor's future should focus on improved aesthetics and creation of exciting new mixed-use clusters at major mile intersection nodes.

Eight Principles of Good Urban Design

1. Imageability: *Quality of a place that makes it distinct, recognizable, and memorable.*

2. Enclosure: *Degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other vertical elements.*

3. Human Scale: *Size, texture, and articulation of physical elements that match the size and proportions of humans, and equally important, correspond to the speed at which humans walk.*

4. Transparency: *Degree to which people can see or perceive what lies beyond a building façade*

5. Complexity: *Visual richness of a place including number and kinds of buildings, architectural diversity, landscape elements, street furniture, signage and human activity.*

6. Coherence: *Sense of visual order including scale, character and arrangement of buildings, landscaping, street furniture, and other physical elements.*

7. Legibility: *Ease with which the spatial structure of a place can be understood and navigated as a whole.*

8. Linkage: *Physical and visual connections-from building to street, building to building, space to space, or one side of the street to the other-that tend to unify disparate elements.*

Source: Pedestrian & Transit-Oriented Design (2013)

Priority 1: Generate investment at development nodes

Strategy: Encourage high-quality commercial / mixed-use development at major mile intersections

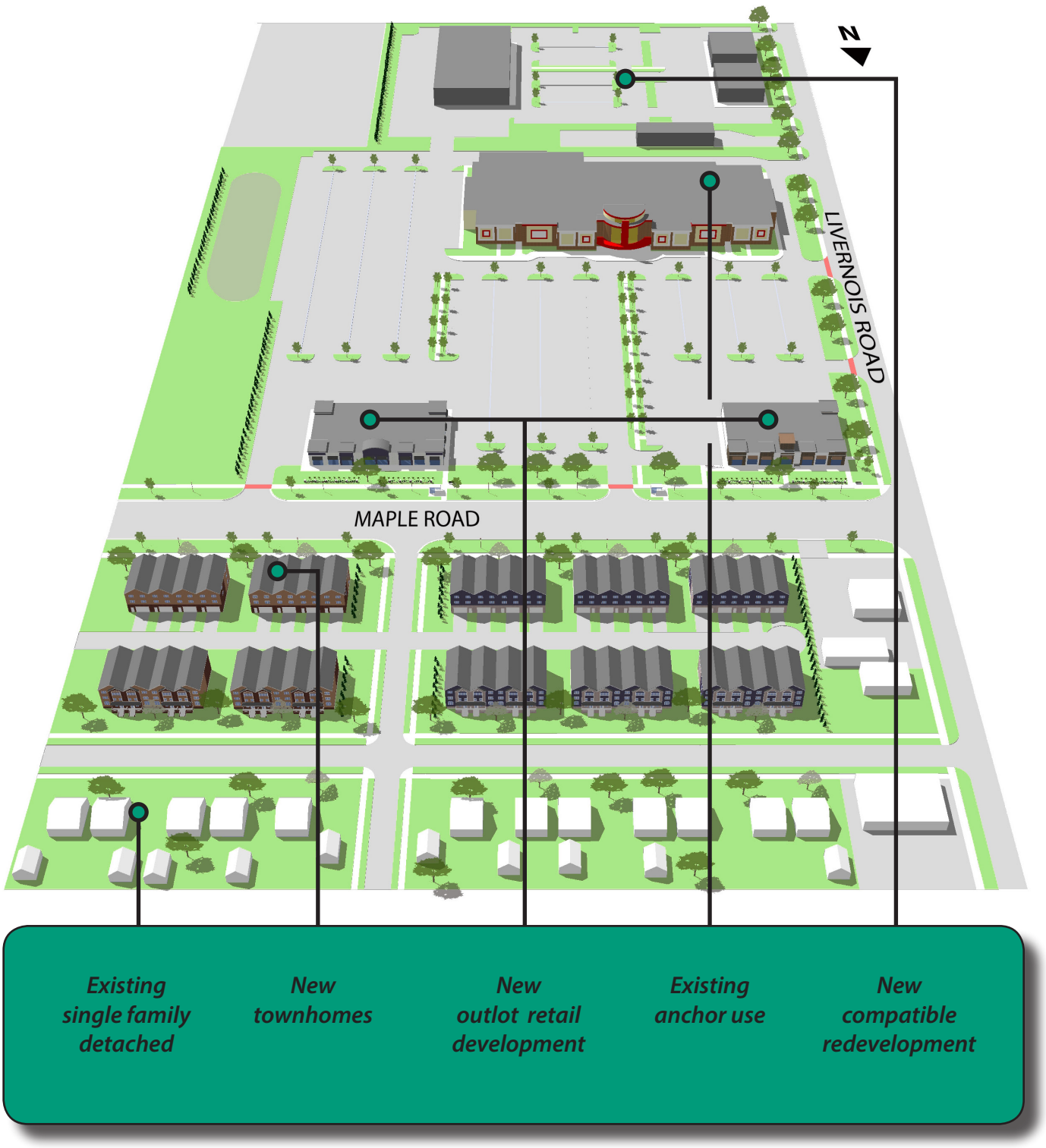
Maple Road has a scattered mix of retail development along the corridor; however many of the parcels along the corridor are not ideal for intense retail or mixed use development. Some of the parcels between nodes lack depth and size, which are essential elements for retail development. They also have limited access, limited visibility, and lower traffic counts, and adjacent to residential, which are hindrances to retail development. Alternatively many of the parcels located at major mile intersections have the significant size and depth, and offer greater access options, visibility, and higher traffic counts.

The 6-mile study section of Maple Road includes six (6) major mile intersections including Coolidge, Crooks, Livernois, Rochester/Stephenson, John R, and Dequindre. The restructuring along Maple Road should encourage and accommodate the transformation from a linear strip retail corridor to one with clustered retail at the major mile intersections. These intersections can become successful economic nodes that concentrate activity by virtue of the intensity of development and the density of their mix of uses. The greater development intensity of nodes makes them easy to distinguish and areas of economic activity that distinguish from other parts of the corridor.

These nodal intersections should be visibly taller, denser, and busier than other sections of the corridor. The key characteristics of successful economic nodes are activity, demand, and mix. Retail, food service, and entertainment venues are primary activity-generating uses, the key ingredients for street life and urban vitality.

Key Principles:

- Encourage and incentivize lot consolidation
- Consider internal pedestrian connectivity to create walkable developments
- Require shared parking facilities and cross access easements
- Ensure every hard corner has a building rather than parking
- Ground-level retail should be a focus of buildings in activity zones
- Build off existing anchors such as the MJR theater at Livernois and Maple
- Encourage a variety in design yet overall consistency
- Ensure a balanced and compatible mix of uses to create more reasons for people to frequent the district over the course of a day.
- Ensure that outlot development is compatible and connected with anchor development
- Require good design including consistent signage, pedestrian lighting, and increased landscaping along roadways and in parking lots.



Potential redevelopment strategy at Maple and Livernois

Priority 1: Generate investment at development nodes

Strategy: Engage surrounding residential neighborhoods through linkages

As traffic congestion rises, there is increasing attention devoted to the role of infrastructure investments in affecting travel behavior. Bringing trip origins and destinations closer together is a necessary step to reduce overall travel distances and promote use of "active transportation" modes such as walking and bicycling.

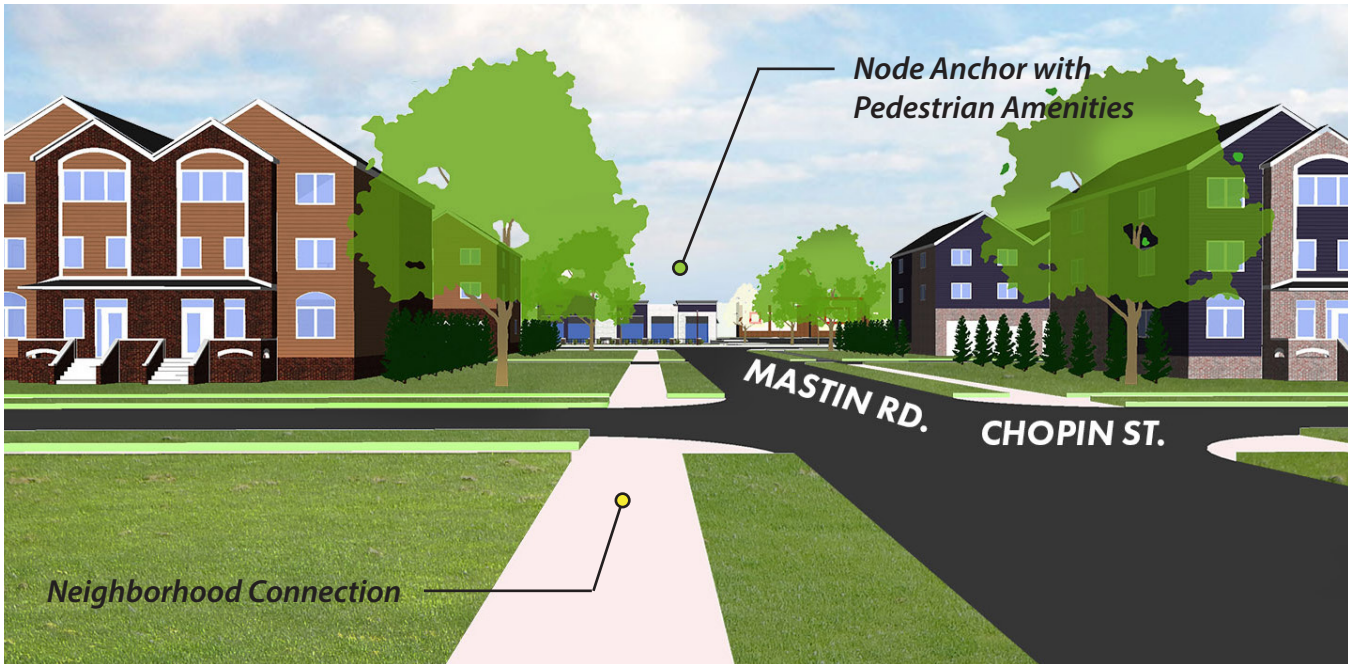
Within a ½ mile walking distance of the Maple Road major mile intersections, there are thousands of residents from the communities of Troy, Clawson, Sterling Heights, and Birmingham. One-half (½) mile is the typical maximum distance people without mobility limitations are willing to walk. These residents are a captive market who desire shopping areas and service uses that can serve their daily needs within walking distance.

Future development at the Maple Road nodes should provide a link between the Maple Road and adjacent neighborhoods. Linkages can be defined as features that promote the interconnections of different places and provide convenient access between them. Linkages may be in the form of physical or visual connections.

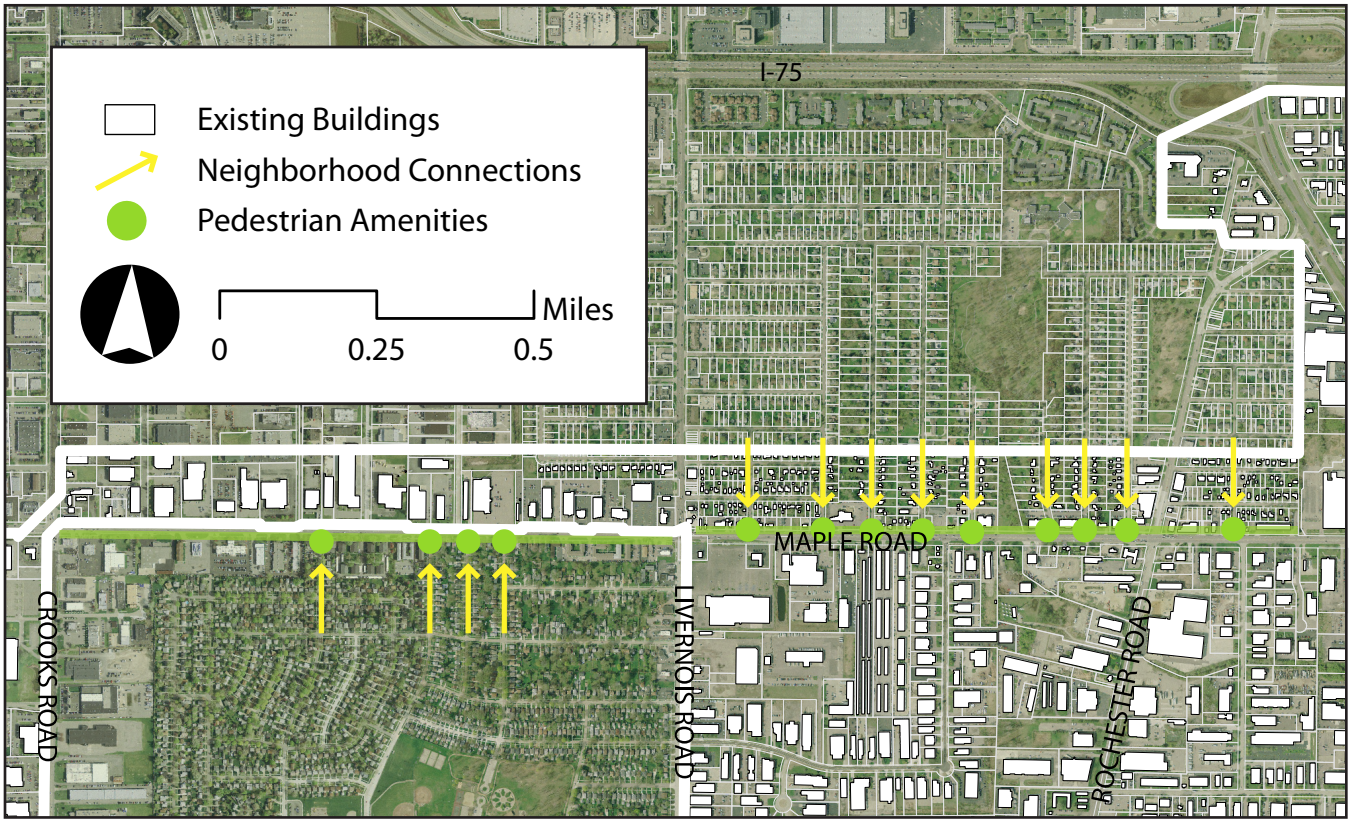
Additional improvements to engage the surrounding residential neighborhood is to improve public transportation and improve the linkage to the new Troy Transit Center. The City should work with SMART to improve bus service along the corridor and upgrade the SMART bus stops to shelters.

Key Recommendations:

- Focus on the ½ mile radius of the major mile nodes
- Uses should provide everyday services and evening/weekend amenities including restaurants, retail, service, open space, and entertainment appropriate for the market
- Provide convenient neighborhood access to sites
- Utilize the appropriate landscape buffering/screening
- Improve public transportation and linkages to the new Troy Transit Center.



Maple Road and Livernois Road Node



Neighborhood Connections

Priority 1: Generate investment at development nodes

Strategy: Incentivize development through zoning

Current zoning permits the type of development envisioned: taller, denser, and busier; however current Maple Road market realities may not be reflective of the development density and intensity permitted by zoning. While zoning cannot create a market, it can be used to incentivize the type of development desired.

To promote redevelopment and stimulate reinvestment along the corridor, the Maple Road form-based zoning can be amended to provide flexibility to create a system of development incentives that entice transformative development. The development flexibility must provide a benefit to the developer and the community.

Potential flexibility incentives may include:

- Drive-through use;
- Build-to-line flexibility;
- Increase in building height;
- Site Reclassification;
- Increased signage; and/or
- Parking in front of the building.

As a trade-off for providing flexibility incentives the applicant must provide a benefit. Potential benefits may include:

- Lot consolidation;
- Mixed use development;
- Transit amenity;
- Sustainable design and development;
- Pedestrian facility and/or amenity; or
- Public art.

Providing greater site design flexibility will encourage investment in challenging sites. In return, the applicant can provide certain amenities or benefits to the community. The chart to the right shows the relationship between potential flexibility incentives and community benefits.

Mixed Use Development

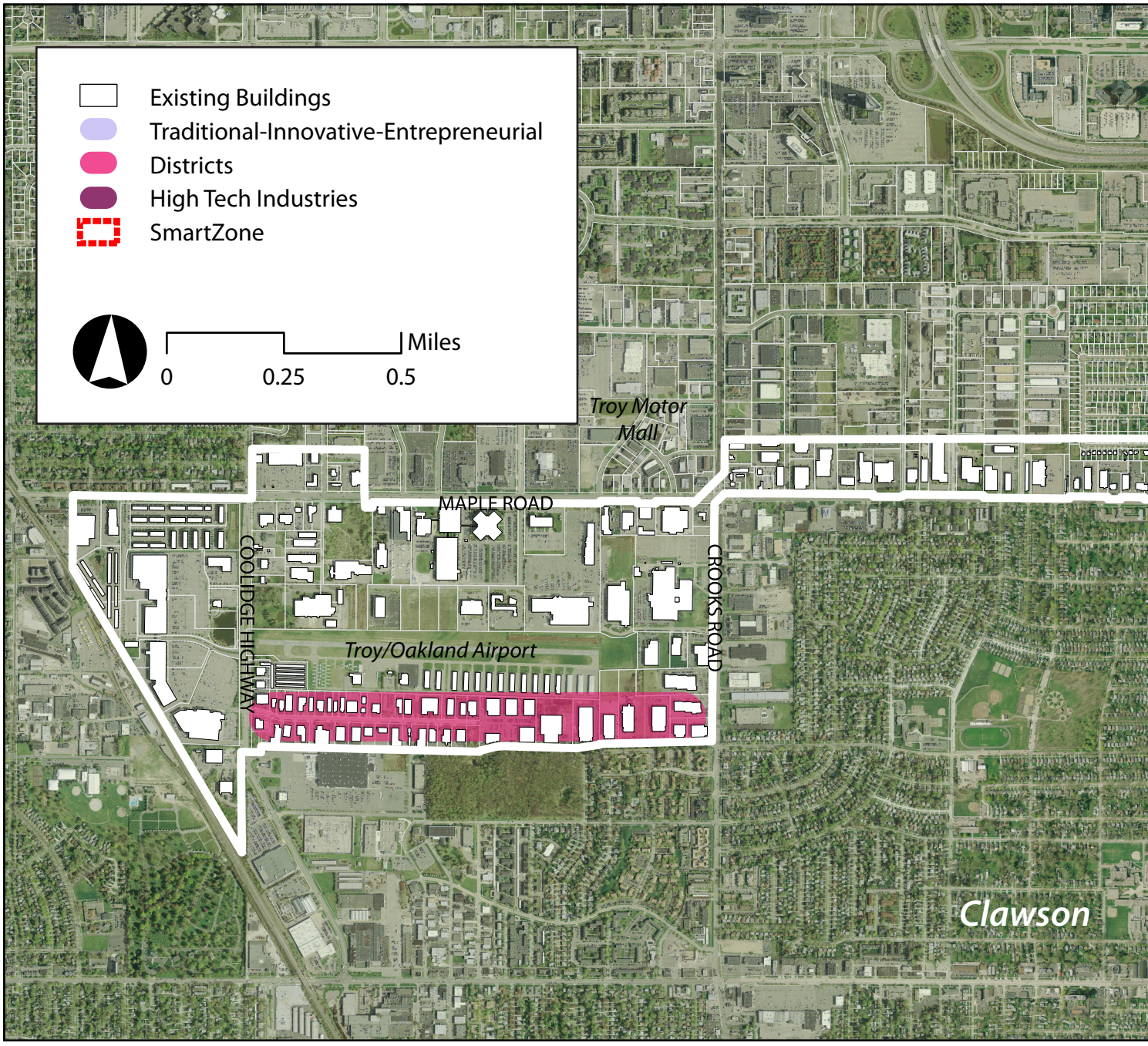
	Recognized Benefit
(a) Lot Consolidation	
(b) Mixed Use Development	
(c) Inclusion of Transit Amenity	
(d) Sustainable Design and Development	
(e) Pedestrian Facilities and/or Amenity	
(f) Public Art	

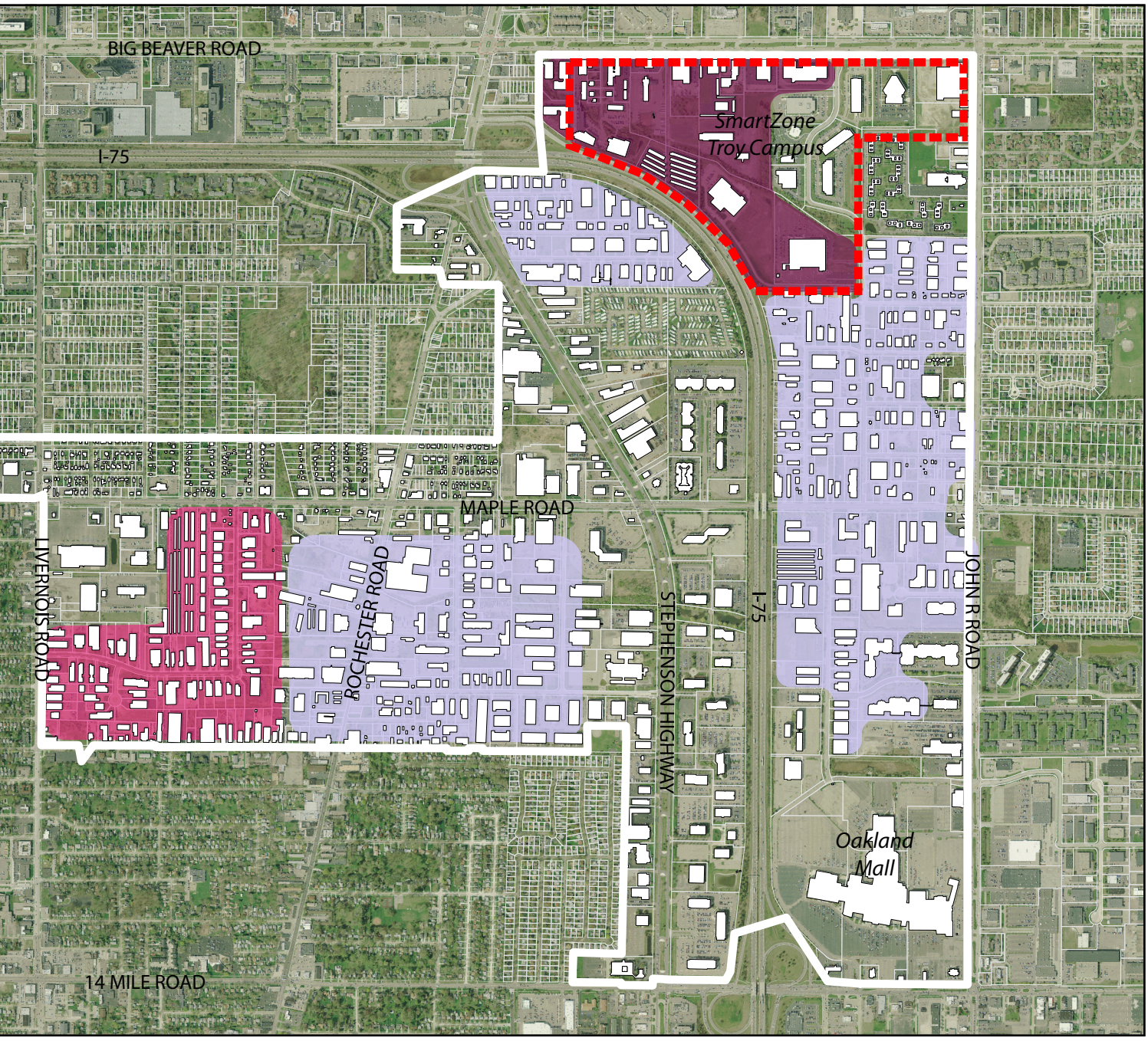
Potential Flexibility Incentives and Recognized Benefits

Transit Amenity - Troy Transit Center

Pedestrian Amenity in Orland Park, IL

	Flexibility in Application of Zoning Standards				
	(1) Drive-thru	(2) Build-to-Line Flexibility	(3) Increased Building Height	(4) Site Reclassification	(5) Increased Signage
				x	
	x	x	x		x
		x	x		x
	x	x	x		x
			x		x
					x


Existing Buildings
Traditional-Innovative-Entrepreneurial
Districts
High Tech Industries
SmartZone
Miles
0
0.25
0.5
Troy Motor Mall
MAPLE ROAD
COOLIDGE HIGHWAY
CROOKS ROAD
Troy/Oakland Airport
Clawson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I-75
SmartZone
Troy Campus
MAPLE ROAD
LIVERNOIS ROAD
ROCHESTER ROAD
STEPHENSON HIGHWAY
I-75
JOHN R ROAD
Oakland
Mall
14 MILE ROAD

Existing Conditions

Rochester-Rankin

Chicago-Bellingham

Industrial Row

Park-Combermere

Bellingham

Automation Alley

Priority 2: Encourage entrepreneurism and redevelopment

The character and land use pattern of Maple Road, also known regionally as 15 Mile Road, changes dramatically between the City of Walled Lake to the west and Clinton Township to the east. For example, it has a distinctly residential character through West Bloomfield Township and Bloomfield Township to the west, while it is one of the main roads in Birmingham's downtown. In Troy, the Maple Road corridor is known for its commercial and industrial uses. To many residents and visitors, this segment of Maple Road - between Eton Street and John R Road - presents an assortment of uses and building typologies. Revitalizing the properties along Maple Road and reinvesting at the major nodes is critical for the long-term success and sustainability of this corridor, but the Plan must also address the areas to the north and south of Maple Road.

These areas consist primarily of industrial buildings and warehouses. The structures range in age and square footage, although many share similar architectural qualities including few windows, large warehouse doors, and brick or masonry block construction. Generally, these areas lack walkability, curb appeal, and a vibrant pedestrian realm but they serve a very important function for the City of Troy.

These industrial areas are home to a variety of uses including manufacturing and equipment repair, construction trades and material suppliers, staff and business services, event rentals and beverage suppliers, marketing and communications, as well as professional design services. In short, these areas offer diversity within Troy's economy.

The significance of a Special Area Plan is to recognize the intricacies of these target areas and to redefine that which was once considered a shortcoming when viewed out of context. The businesses located in the industrial areas north and south of Maple Road can be classified into three categories: traditional, innovative, and entrepreneurial.

***Traditional**: The traditional businesses are characterized as long-standing companies and traditional industrial and manufacturing uses.*

***Innovative**: The innovative businesses have a good reputation and highly-rated services. Due to lower land costs these companies have been able to focus on product innovation rather than overhead costs.*

***Entrepreneurial**: Finally, the entrepreneurial businesses are comprised of lifestyle businesses and startup companies, including cross fit gyms, pet daycare facilities, and several photography studios.*

If one were to view the City metaphorically as machine, one might consider that Maple Road keeps the community and its economy in motion. Improving public services and infrastructure and expanding business development and financial support are strategies to support existing and future businesses. Changing the perception of Maple Road's industrial core is not just about the physical environment, it also requires marketing and rebranding. There are clusters of entrepreneurial energy and complimentary industries within this industrial fabric that should be identified and reinforced.

Priority 2: Encourage entrepreneurism and redevelopment

Strategy: Preserve and enhance traditional-innovative-entrepreneurial industrial areas

There are three distinct industrial areas that fit into the traditional-innovative-entrepreneurial industry classification: Rochester and Rankin, Naughton-Wheaton-Piedmont, and Bellingham-Chicago. Home to a wide range of manufacturing and equipment repair facilities from automotive, marine, and aviation to HVAC and computer technology, these areas form the backbone of Troy's industrial and technology base. They also provide for the health, safety, and welfare of the community and support important regional economic sectors.

These areas allow companies big and small to focus on product and service innovation rather than overhead costs, and also afford opportunities for startup companies. Preservation of this industrial fabric is desirable for the overall sustainability of Troy's economy. Public infrastructure improvements related to the construction of sidewalks, installation of street lights at intersections, and stormwater management improvements are essential to maintain these areas as viable Industrial areas. Again, this strategy is not just about physical improvement, traditional-innovative-entrepreneurial businesses may also benefit from local incentives and targeted use of state and federal funds.

Construction Business

Tree Service Business

Priority 2: Encourage entrepreneurism and redevelopment

Eton Road Corridor in Birmingham, MI

Container City in Las Vegas, NV

Strategy: Promote creation of districts and encourage compatible industries

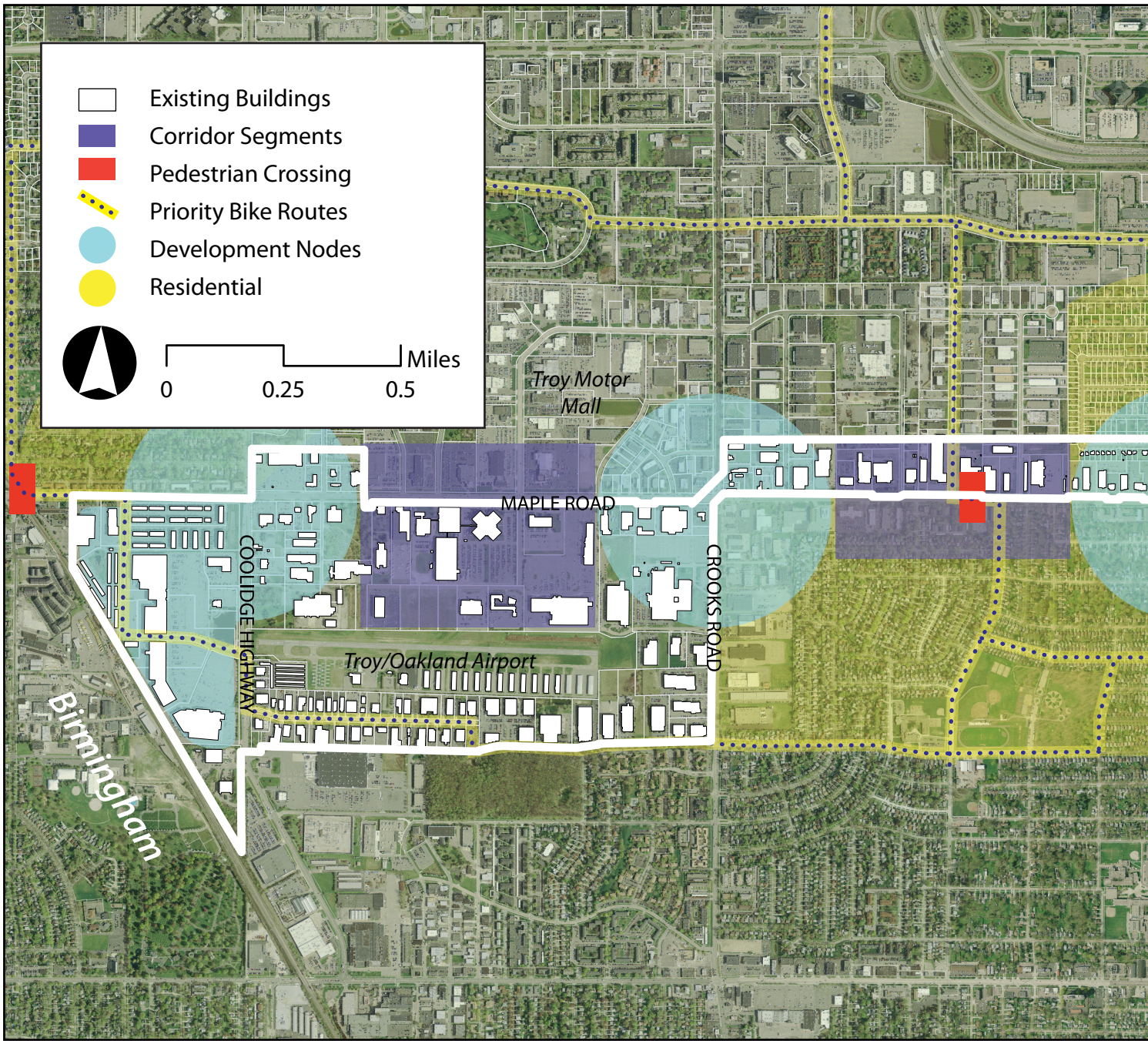
Similar to original land use pattern of Birmingham's Eton Road Corridor, Industrial Row and Parks-Combermere provide ideal locations for the creation of "districts." Industrial Row and Parks-Combermere have notable concentrations of similar industries including construction trades and material suppliers, creative and marketing services, landscaping, and professional design firms. These existing businesses provide the foundation for an industry specific rebranding. Districts are not limited to a certain use but they tend to have an overarching theme.

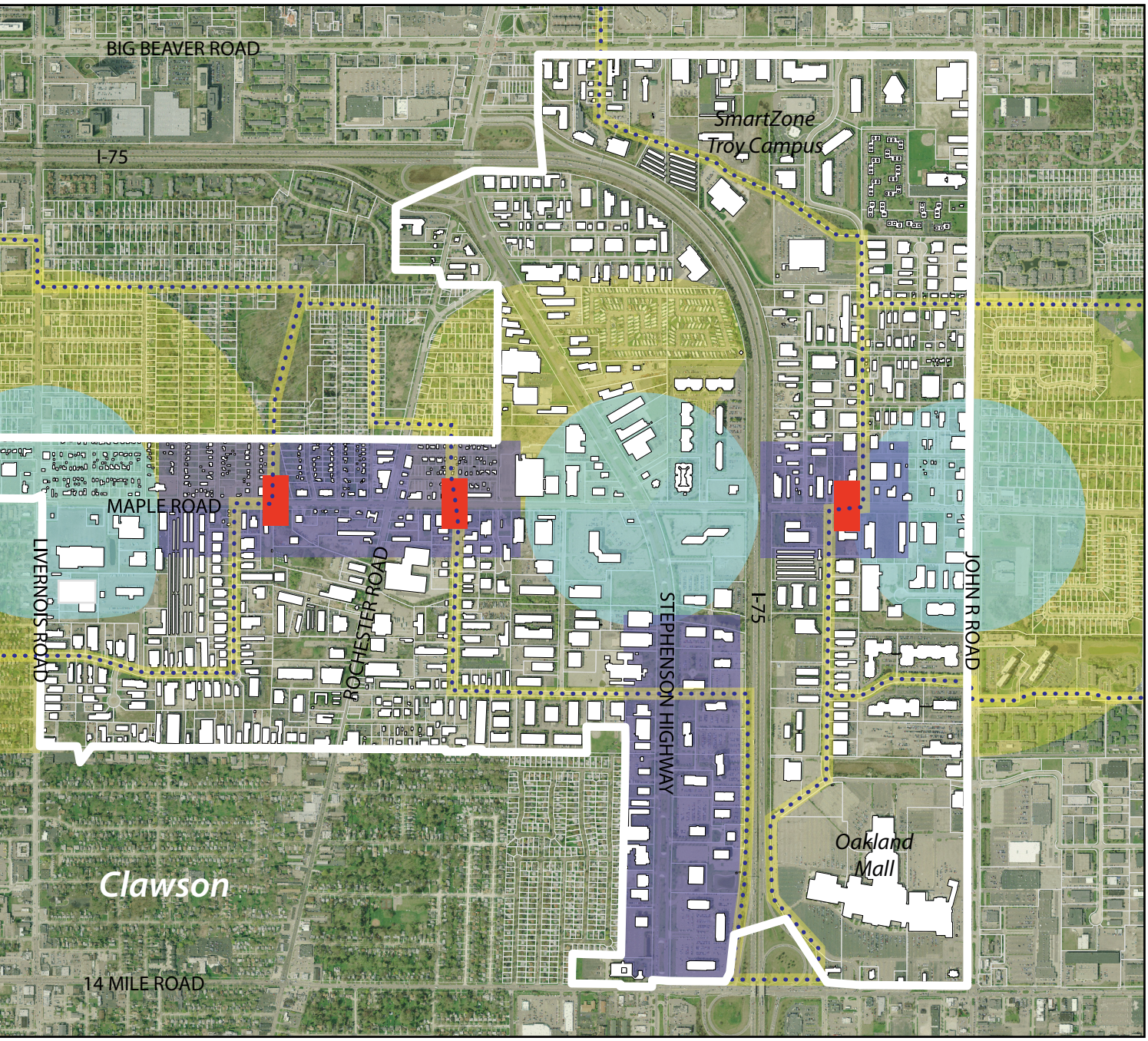
- **Design-Creative:** construction trades, design, interior furnishings, landscaping
- **Technology:** Engineering, software, research
- **Entertainment:** microbrewery, distillery, music hall, comedy club
- **Health and Wellness:** personal training, nutrition, indoor sports, gymnastics

Industrial Row and Parks-Combermere are located adjacent to the proposed development nodes at Coolidge Highway and Livernois Road respectively. The curation of a mixed-use environment with a dynamic edge focused on related enterprises can be an important component of placemaking.

These districts have the potential to become catalysts for collaboration and engagement between businesses, residents, and the community. This will be the place to encourage adaptive reuse and sustainable technology, social networking, and strategic placemaking through public/private partnerships. Bridging the space between development nodes and residential neighborhoods, the districts will ultimately foster a richer work-live environment.

Priority 3: Enhance and strengthen segments between major mile intersections

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STEPHENSON HIGHWAY
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Clawson
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Priority 3: Enhance and strengthen segments between major mile intersections

By focusing retail development into major mile intersections, the interior corridor segments—the long portions of corridor between centers—need consideration. These segments, one-half (1/2) mile long, include hundreds of separately owned parcels. While, the character and uniqueness of these parcels vary, many of them currently lack the necessary size and depth for redevelopment for commercial purpose. The Plan must consider strategies to enhance and strengthen the interior corridor segments between major mile intersections.

Strategy: Identify Alternative Value

The extensive and effective retail trade competition offered by major mile road intersection development nodes, Big Beaver, and Oakland Mall reduce the potential for new retail development along the interior corridor segments of Maple Road. Development nodes, Big Beaver, and Oakland Mall sites offer either existing cluster shopping locations or offer the potential to combine parcels to create cluster shopping locations. The parcels in the segments between the major mile intersections are often too shallow or too narrow to support cluster retail uses. As such, the segments between major mile intersections should be planned for alternatives to strip retail and shopping centers.

The corridor's future opportunities along these segments should be focused on entrepreneurial development and growth. This strategy focuses on eliminating barriers and creating a sense of entrepreneurism to identify and promote new uses and development types that can restore values. The Plan intent is to accommodate the widest possible spectrum of uses to ensure flexibility and provide for entrepreneurism.

Shopping Center

Family Business

Entrepreneurial Business

Priority 3: Enhance and strengthen segments between major mile intersections

Reinforce and build on value already in place

If a corridor segment is doing well, leave well enough alone. For example, the interior corridor segment between Coolidge and Crooks is an automobile dealership, supply, and service cluster. The plan supports these stable assets and supports the extension of their market draw by promoting investment in similar or complementary uses on nearby property.

Residential-Missing Middle Housing

Residential

Permit alternative land uses including residential and usable open space

For segments without a strong existing market, alternative uses including residential and usable open space may be a market driven solution. Troy has started to experience a demand for alternative housing options. Segments along Maple Road supply vast areas of underused land that is available to meet the demand for alternative housing types. Because many sections of Maple Road are bordered by residential neighborhoods, it is much easier for these segments to attract reinvestment by integrating with the surrounding neighborhoods rather than compete with larger, developable parcels at major mile intersections. Furthermore, since many established residential neighborhoods are only one parcel off of Maple Road, converting some segments to residential replaces the conflicting land use with a compatible land use that completes the neighborhood along the Maple Road boundary. Re-making sections of the corridor by putting some residential on the frontage is an opportunity to complete the residential neighborhood and provide an appropriate transition.

The usable open space of parks and squares are the civic glue that binds an area. These are the places that create community culture and pride; they are the gathering areas for planned and chance meetings; they serve as the front door to development; and make both the motorized and non-motorized experience more enjoyable. A network of usable open space comprises both the distinct parks and plazas, but also the linkages – streets and trails - that connect them.

Additional housing, particularly the missing middle, and usable open space along the corridor would enhance the retail development nodes at the intersections.

Priority 3: Enhance and strengthen segments between major mile intersections

Strategy: Implement zoning amendments to permit flexibility

While it is recognized that zoning cannot create a market, it can surely stifle one. Acknowledging that the interior corridor segments have less of a market demand and that some parcels along the corridor do not have the necessary parcel size, the Plan recommends that targeted zoning amendments should be considered.

Build-to-line Flexibility

Redevelopment in the interior corridor segments should focus less on building placement and rather emphasize quality architecture and design. By relaxing the build-to-line requirements, zoning in these segments become less of a hindrance to site redevelopment. The recommendation of build-to-line flexibility is intended for the interior segments of Maple Road, but not at the nodes (intersections of major mile roads).

Extend Maple Road Form Base District North to Chopin Road

The north side of Maple Road between Livernois and Rochester has very limited depth, as little as 100 feet. A 100-foot parcel depth is not sufficient to accommodate any reasonable commercial or office development without significantly encroaching on the single family residential it abuts. Alternatively, extending the Maple Road Form Based District north to Chopin Road would permit greater land assemblage which would allow for the redevelopment of those parcels. The target land use for this section would be multiple-family residential, which would provide an alternative housing option. The change in zoning would permit these single family homes to remain in perpetuity but increase their property values with increased redevelopment opportunities.

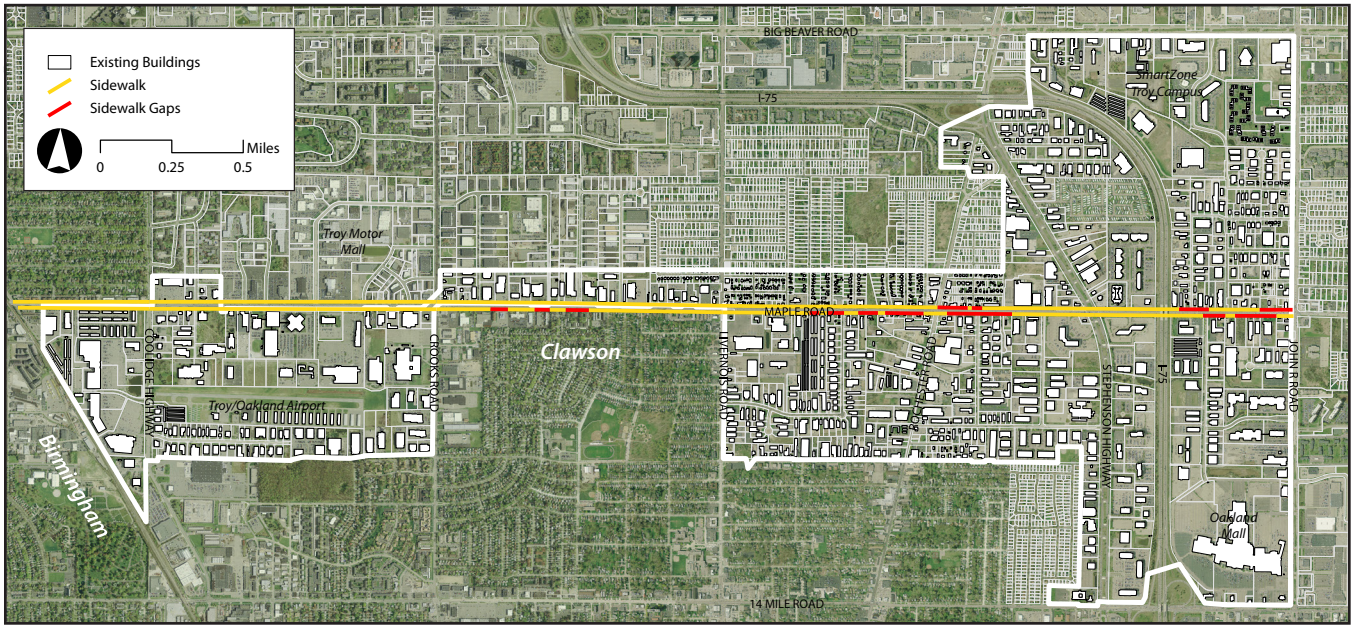
Strategy: Improve pedestrian access

The street is the largest public open space along the Maple Road and should be considered part of the public realm. The corridor segments between the nodes are a tremendous untapped resource that provides a link between the adjacent residential neighborhoods and the commercial nodes at the major mile intersections. In order to provide for a pedestrian friendly corridor, pedestrian amenities must be improved. Maple Road should be made more a comfortable place to walk by providing continuous, wide sidewalks and recognizing the importance of the public realm in "place" creation through the inclusion of elements such as trees, landscaping, lighting, public art, special pavement treatments, and bus shelters, etc.

Sidewalk connections and cross-access easements

Additional pedestrian amenities should be considered along the corridor. The City should consider coordinated streetscape improvements along Maple Road. Streetscape elements can identify an area as a special and distinct place for residents, shoppers, visitors, and employees. The City should establish a conceptual Streetscape Plan that sets recommended standards for landscaping, signage, lighting, sidewalks, intersections, and access.

In addition, there are existing gaps in the sidewalk along the Maple Road. Most of the gaps are along the south side, including some in the City of Clawson; however there are some gaps on the north side. Even if redevelopment does not occur, the City of Troy should work with property owners to fill in these sidewalk gaps and should encourage the City of Clawson to do the same.



Existing Sidewalk Gaps

The Maple Road streetscape should provide:

- A defined edge between the pedestrian and automobile areas
- A unified relationship between the public/pedestrian realm and private domain
- The use of street trees and landscaping, furniture, paving, lighting, and other streetscape elements
- Attractive street lighting that reinforces the corridor image and minimizes extraneous light

Streetscape may occur corridor wide or occur as redevelopment does.

Streetscape Improvements:

- Street trees and landscaping
- Transit amenity
- Decorative fencing
- Furniture
- Pedestrian style lighting

Priority 3: Enhance and strengthen segments between major mile intersections

Strategy: Improve pedestrian crossings

Due to the auto-centric nature of Maple Road, including multiple travel lanes and long blocks, employees and residents who venture out on foot to destinations have difficulty crossing. Providing safe crossings for pedestrians and cyclists is an integral strategy for walkability. Maple Road crossing improvements should take place both at major mile intersections and mid-block. Improvements at major mile intersections may include better marked crosswalks and improvements to pedestrian signals.

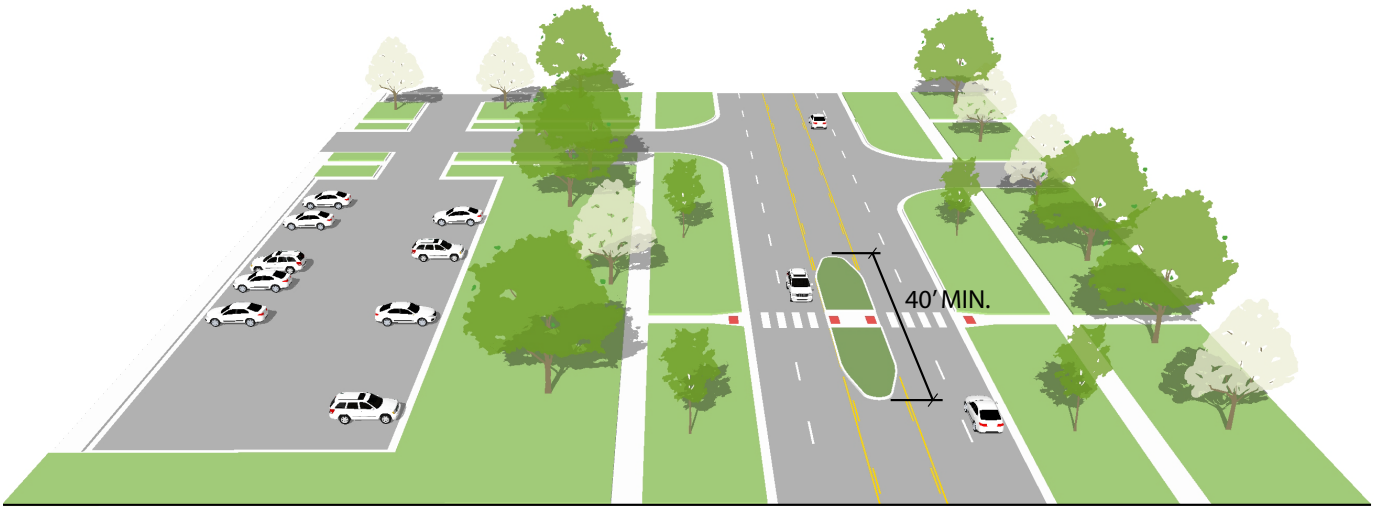
Mid-block crossings for Maple Road will further integrate and strengthen the connection with the adjacent residential neighborhood. Pedestrian refuge islands and signalized crossings are some of the techniques for providing mid-block crossing. Applicability should be determined based on site context and budget.

Priority pedestrian crossing improvements should be considered:

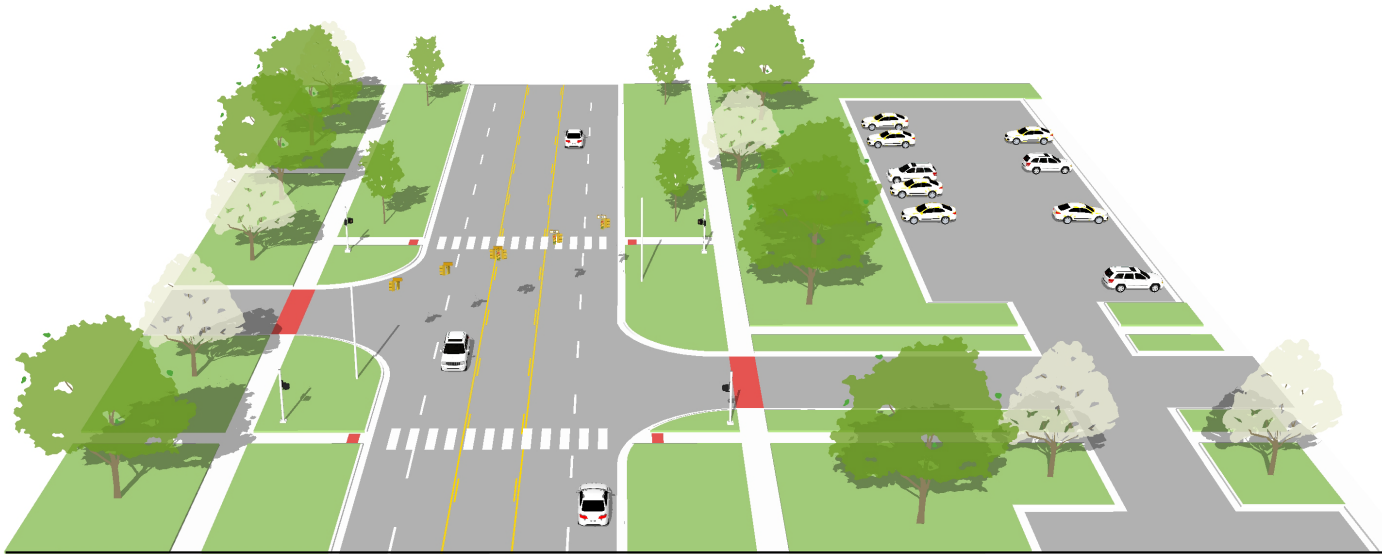
- At all major mile road intersections
- Improvements to existing crossing at Edenborough Road (Birmingham)/Doyle Drive
- Crosswalk at light at Maplelawn
- Mid-block crossing near Heide Drive/Bywood Avenue (Clawson)
- Improvements to existing crossing at Combermere Drive
- Mid-block crossing near Bellingham Drive/ Chicago Road

Provide Pedestrian Crossing near SMART Bus Stops

Improve Striping at Intersection Crosswalks

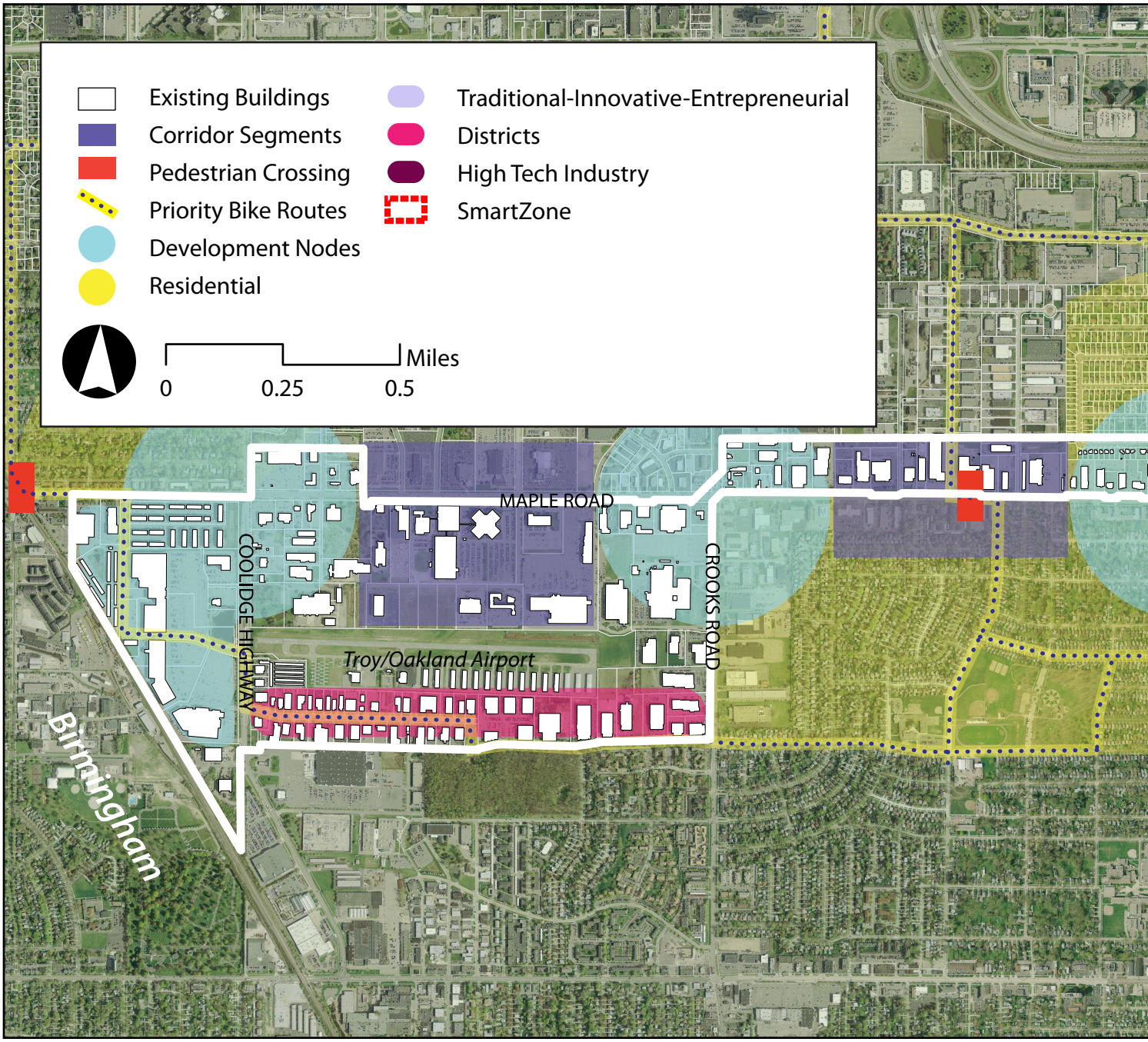


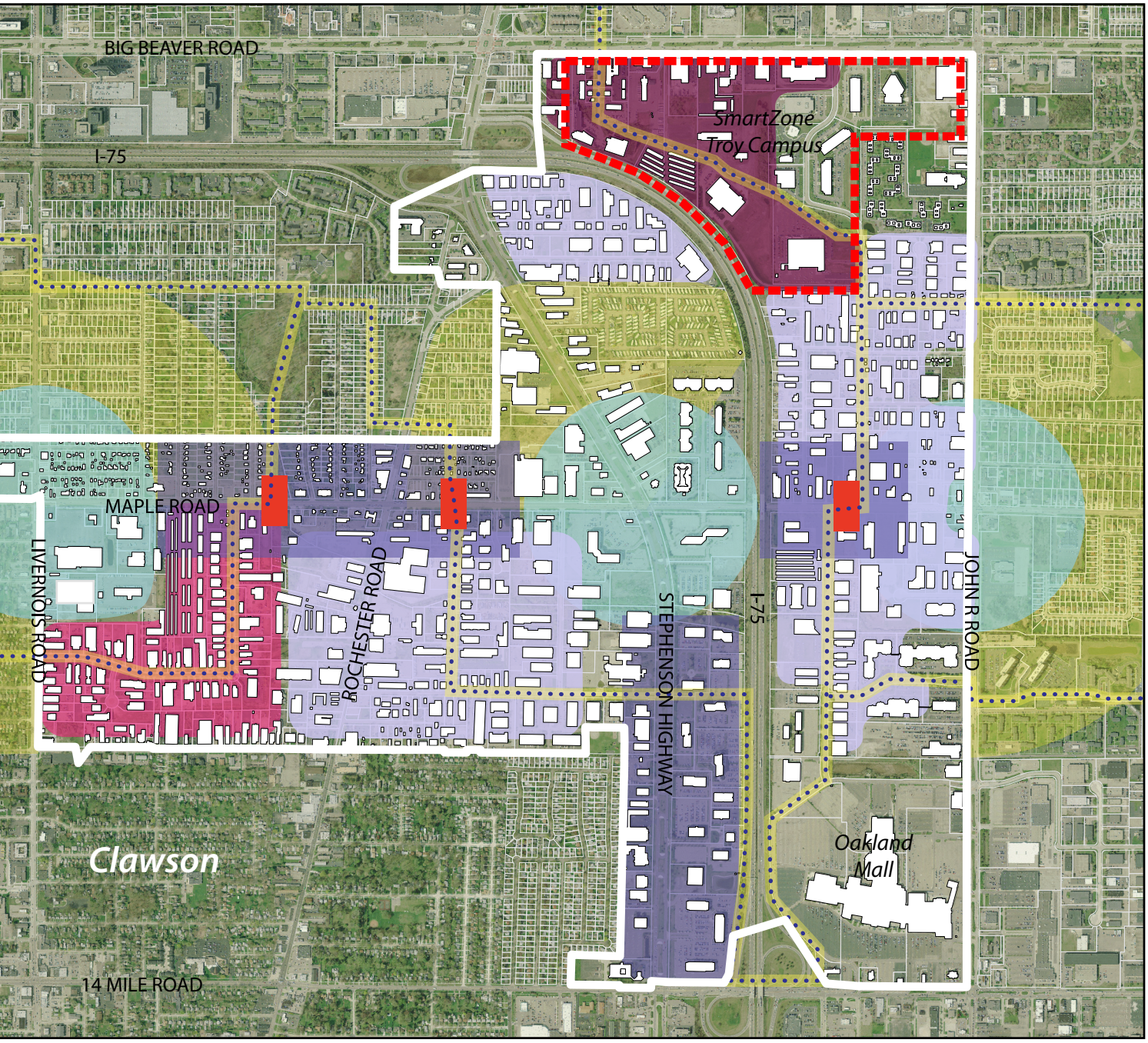
Unsignalized Pedestrian Mid-Block Crossing



Signalized Pedestrian Mid-Block Crossing

Maple Road Strategic Plan Map

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Action Plan and Implementation

The Maple Road Plan is organized into multiple projects so the vision can be refined and implemented in phases over time in a flexible manner. Priority transformative projects like the streetscape projects and facade improvement programs entail multiple phases given their scale and ambition and serve as economic catalysts enhancing the image of the corridor. The timeframe to implement the Plan will depend on many factors, including market conditions, financing, approvals, and other city initiatives.

	Strategy
Priority 1 **Generate investment at development nodes**	Encourage high-quality commercial /mixed-use development at major mile intersections
	Engage surrounding residential neighborhoods through linkages
	Incentivize development through zoning

Phasing

Near 1-2 years
Mid 3-5 years
Long 6-10 years

Actions	*Phasing*	*Responsibility*
Evaluate all tools to encourage and incentivize lot consolidation	Near	City
When evaluating new developments: • Review cross-access easements and pedestrian access to create walkable developments • Require shared parking facilities where appropriate • Ensure a balanced and compatible mix of uses to that provide everyday services and evening/weekend amenities including restaurants, retail, service, open space, and entertainment appropriate for the market • Ensure that outlot development is compatible with anchor development • Require good design including consistent signage, pedestrian lighting, and increased landscaping along roadways and in parking lots	Near	
Ensure redevelopment of corners of major mile intersections are redeveloped with buildings at the hard corner	Mid/Long	City, Private Entities
Evaluate pedestrian infrastructure improvements within ½ mile radius of the major mile nodes	Long	City
Evaluate zoning to require appropriate landscape buffering / screening	Near	City
Work with SMART to improve public transportation along the corridor and link to the new Troy Transit Center	Mid	City, SMART
Interview developers, brokers, and real estate professionals, and market economists to determine market driven incentives	Near	City, Private Entities
Develop appropriate zoning flexibility incentives and development benefits based on market input	Near	City
Implement zoning flexibility and development benefits into zoning ordinance	Near	City

	Strategy
Priority 2 ***Encourage entrepreneurism and redevelopment***	Preserve and enhance tradition-innovation-entrepreneurship industrial areas
	Promote creation of districts and encourage compatible industries

	Strategy
Priority 3 ***Enhance and strengthen segments between major mile intersections***	Identify alternative value
	Implement zoning amendments to permit flexibility
	Improve pedestrian access
	Improve pedestrian crossings

Actions	Phasing	Responsibility
Evaluate public infrastructure needs in industrial areas	Mid	City
Work with existing firms in industrial areas to provide city resources and assist in obtaining regional, state, and federal resources	Near	City
Evaluate city codes and policies to remove any barriers to adaptive reuse	Near	City

Actions	Phasing	Responsibility
Evaluate interior corridor segments for areas of stable assets and encourage entrepreneurial development and growth	Mid	City
Permit alternative land uses including residential and useable open space	Mid	City
Find opportunities along corridor to install public spaces	Mid	City, Private Entities
Evaluate the existing zoning for interior corridor segments and amend zoning as necessary	Near	City
Reach out to property owners regarding rezoning Chopin Road to Maple Road Form Base District	Mid	City
Rezone Chopin Road area to Maple Road Form Base District	Mid	City, Property Owners
Develop Maple Road Streetscape Plan	Mid	City
Infill sidewalk gaps and implement Streetscape Plan comprehensively or as development occurs	Mid	City
Evaluate new developments for cross-access easements and pedestrian access	Mid	City, Private Entities
Evaluate and improve pedestrian crossings at all major mile road intersections	Near	City
Improve existing pedestrian crossings at Edenborough Road (Birmingham) / Doyle Drive and Combermere Drive	Near	City
Install crosswalk and crosswalk light at Maplelawn Road	Mid	City
Evaluate and install new midblock crossing near Heide Drive/Bywood Avenue (Clawson) and near Bellingham Drive/ Chicago Road	Long	City

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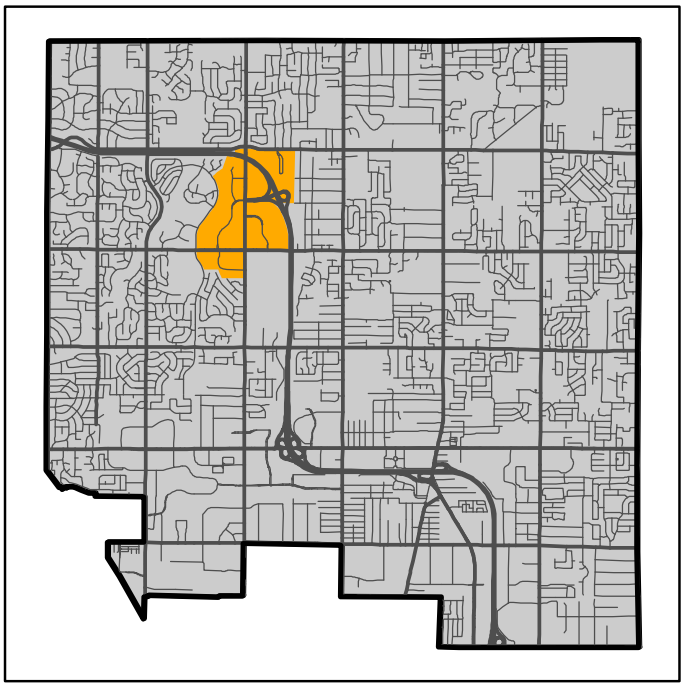
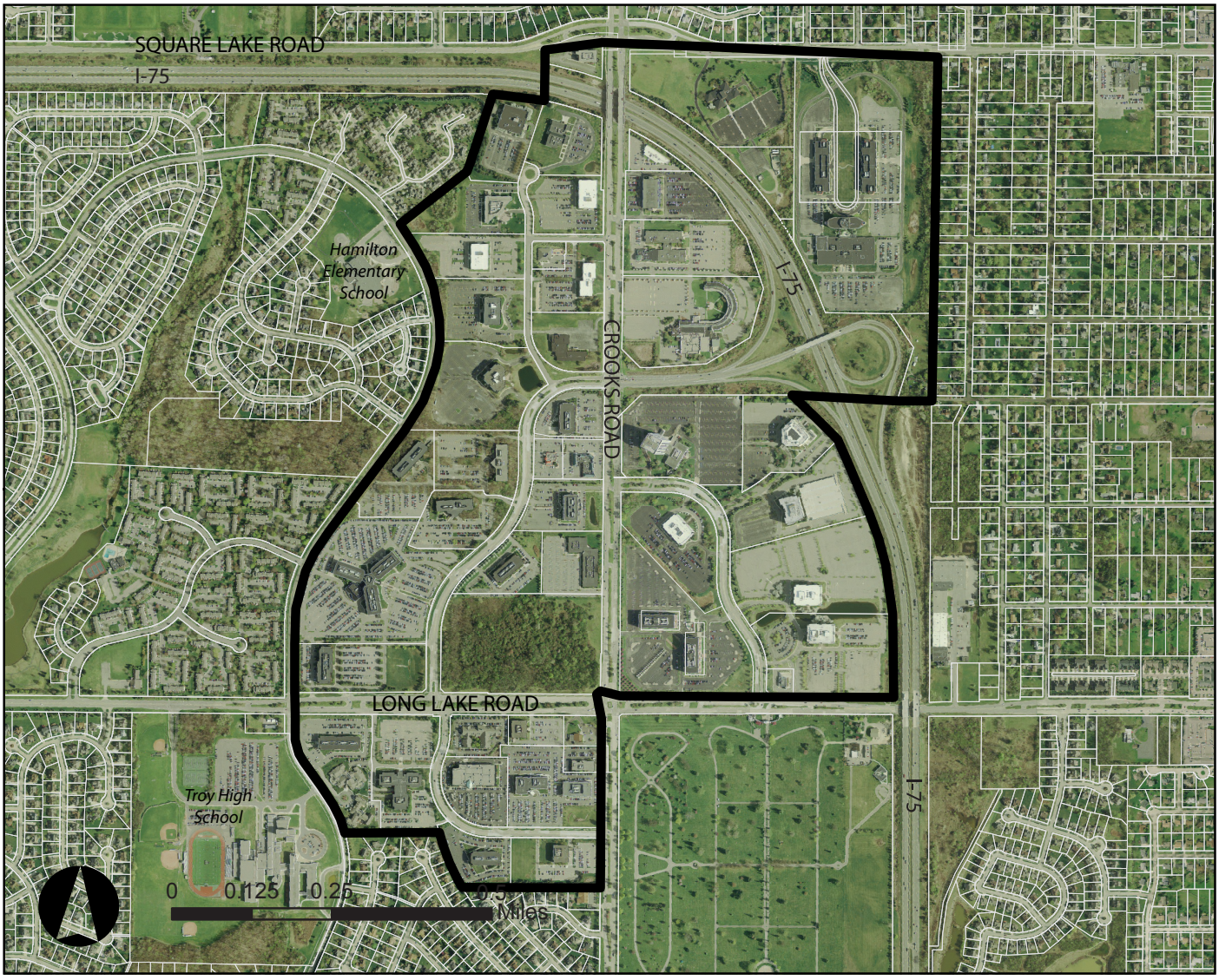
North Troy
Special Area Plan



Right: Locator map
Below: Target Area map



Introduction

North Troy serves as the business and employment hub for the north side of the city. The area is dominated by office use, specifically mid-rise buildings and towers with large footprints built primarily in the mid-1980s to early 1990s. These buildings provide Class A and B space with ample parking, convenient highway access, fiber optic connections, and well manicured grounds. They have been marketed as ideal for corporate headquarters facilities. However, in order to maintain this position as a business and employment hub for the future, the area must evolve to serve the future office worker. Providing a compatible mix of uses, increasing amenities, and creating unique identity will help attract new tenants and keep employees and residents in the area beyond the work hour.

Evolving to Meet New Challenges

In today's world, many of the qualities that made North Troy so successful in the 20th Century run counter to current market trends. Whereas earlier generations of American workers fled urban areas for newly constructed suburban campuses and car-accessible employment centers, today's innovation workers seek the greater connectivity, convenient amenities, and vitality that comes from a denser mix of uses, as well as a firmer commitment to sustainability.

North Troy faces a turning point. Its original development pattern should evolve to meet new challenges in the marketplace. Both employers and employees must be flexible and nimble to respond to demands in competition. As such, their facilities must adapt to fulfill evolving, diverse requirements in the workplace. Many of today's knowledge workers expect entertainment and service amenities nearby as well as opportunities and spaces to connect and share ideas. The isolated buildings in North Troy do not reflect this trend. There is no central, defining place that represents the heart and vision of North Troy. Creating this balanced mix of uses and a sense of place will create a symbiotic relationship with the adjacent neighborhoods, where employment, service, and residential uses are interconnected. Fortunately, North Troy has ample opportunities to evolve and create a modern, preferred employment hub. The challenge and opportunity is determining how and where the potential can be unlocked.

Vision Statement

North Troy will be a dynamic, high-amenity employment district with where the business and office core contributes to the health and welfare of the employees. The area will include a balanced mix of uses that supports the needs of the community and businesses by providing services and amenities for all individuals, from employer to employee to resident. The physical environment will promote an active lifestyle, while the new uses and creative programming encourage healthy choices and work together to build social capital.

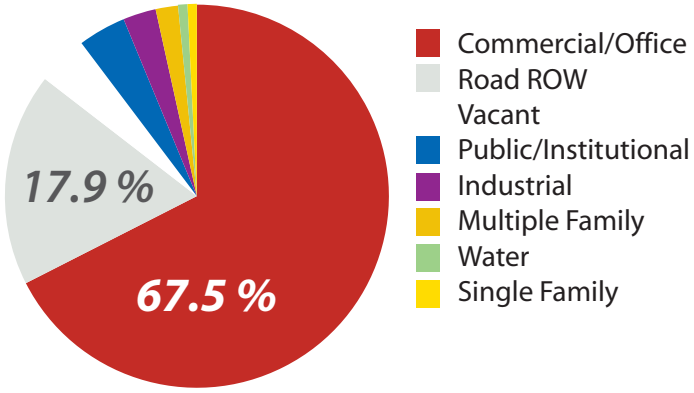
2013 Target area statistics

Total taxable value	$119,423,759
Total area (acres)	461
Total businesses	282
Total employees	5,042

2010 Market area statistics [1]

Population	5,908
Households	2,370
Percent owner occupied	86.6 %
Median household income	$86,217
Per capita income	$44,887

Land Use



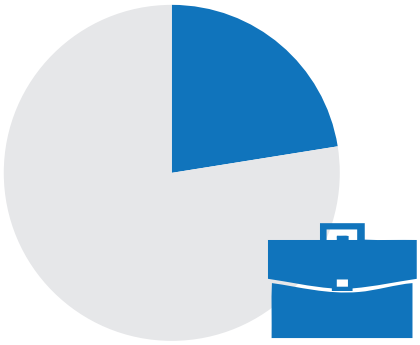
Source: Esri 2013 Estimates Business Summary from Oakland County EDCA, Census 2010, City of Troy GIS data 2013
Note: 1. Market Area includes households within 1 mile of Target Area. 2. Employee and Business data use NAICS codes.

Property Data

	Target Area	Commercial	Industrial	Residential
Total Parcels	61	55	3	3
Total Structures	48	45	3	NA
Total Acres	461	415	17	29
Median Year Structure Built		1988	1998	NA
Total Floor Area (SF)		95,916	44,457	NA
Median Floor Area (SF)		5,232,280	143,213	NA
Total Taxable Value	$ 119,423,759	$ 114,897,329	$ 4,370,860	NA

Source: City of Troy GIS data 2013

Top Industries in Target Area by Employment [2]

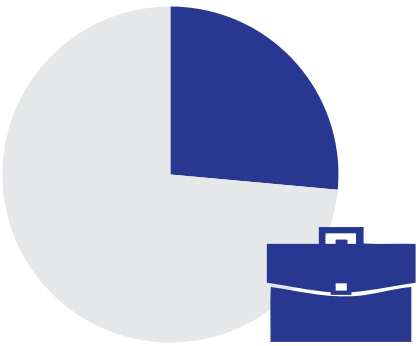


21.5 % *Professional, Scientific & Tech Services*

	Employees	Percent (%)
Professional, Scientific & Tech Services	1,084	21.5
Manufacturing	1,035	20.5
Finance & Insurance	683	13.5
Administrative & Support & Waste Management	521	10.3
Real Estate	408	8.1

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

Top Industries in Target Area by Number of Businesses



27.0 % *Professional, Scientific & Tech Services*

	Businesses	Percent (%)
Professional, Scientific & Tech Services	76	27.0
Administrative & Support & Waste Management	43	15.2
Finance & Insurance	37	13.1
Manufacturing	17	6.0
Real Estate	17	6.0
Other Services (except Public Administration)	17	6.0

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

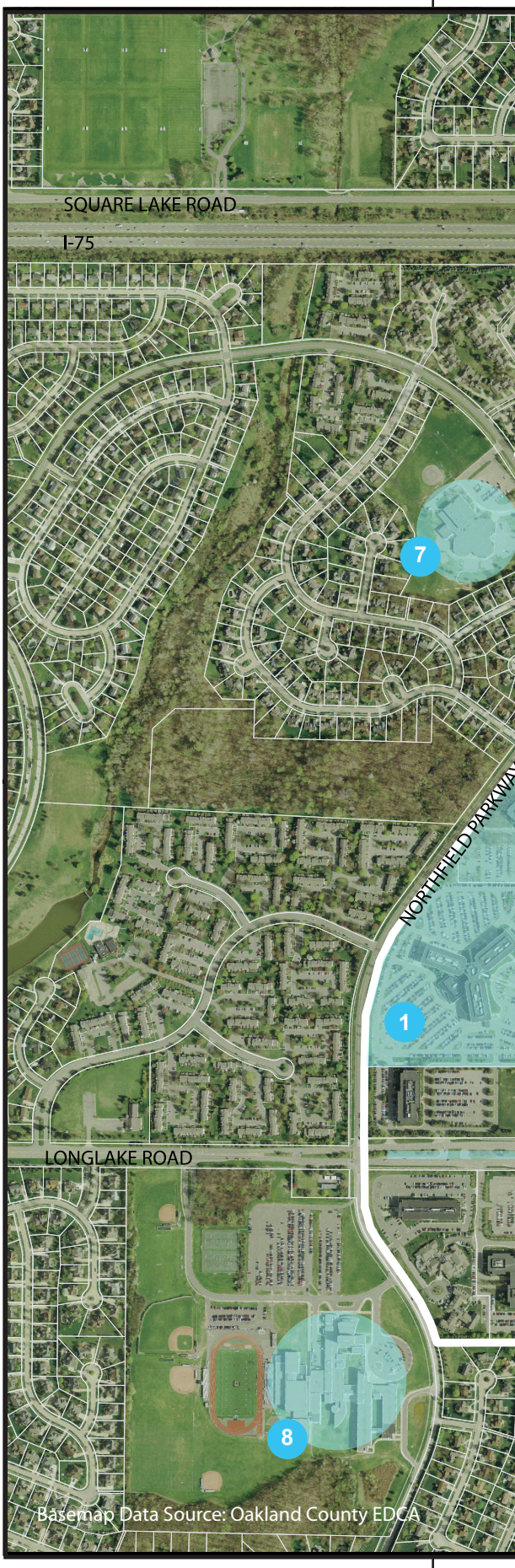
Existing Conditions

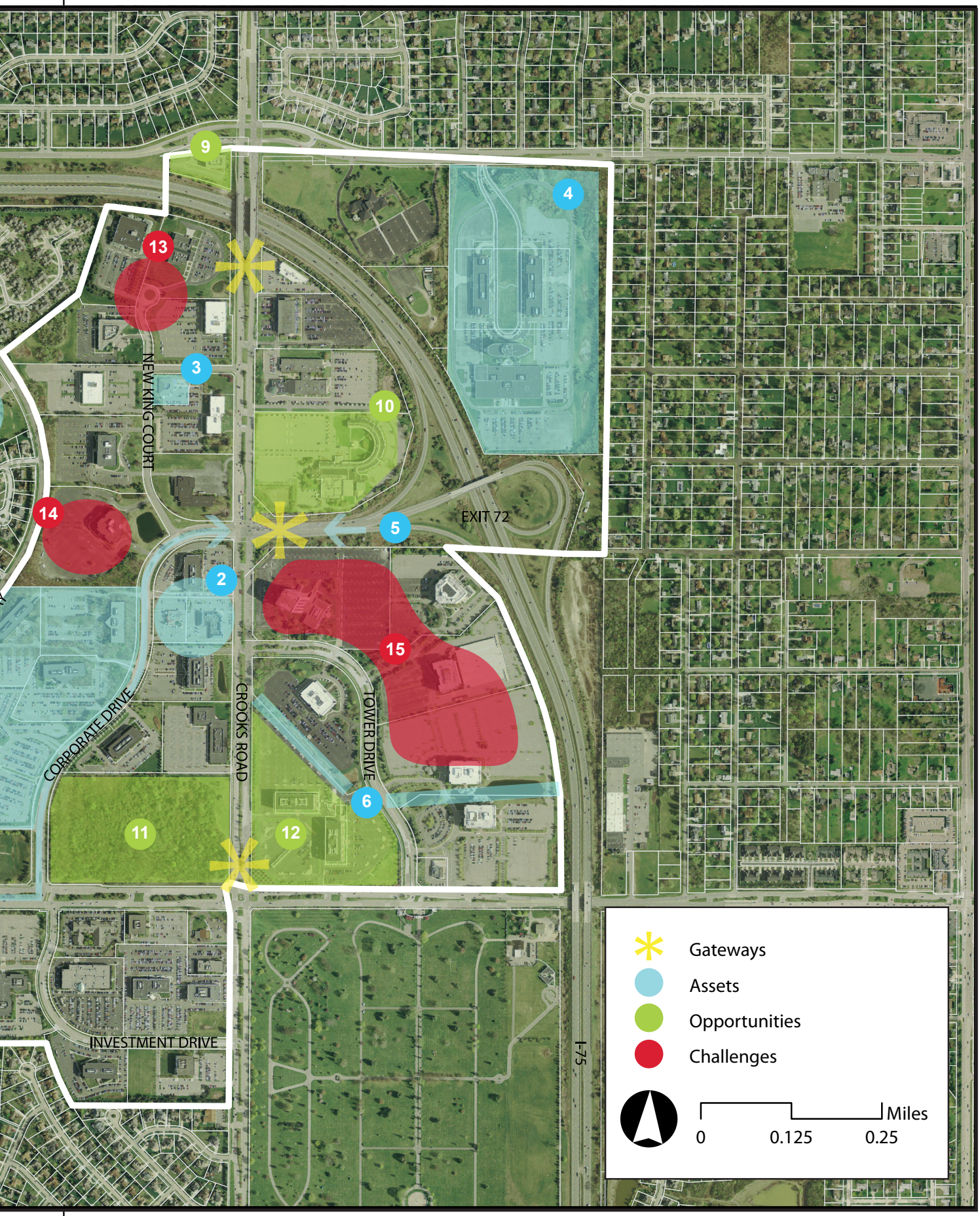
Gateways
- Square Lake Road
- Corporate Drive
- Long Lake Road

Assets
1. Flagstar Bank Headquarters
2. Northfield Point Marketplace
3. The Learning Experience childcare facility
4. Delphi Headquarters
5. Direct access to and from I-75
6. Quality stormwater management design
7. Hamilton Elementary School
8. Troy High School

Opportunities
9. SW corner Crooks Road and Square Lake Road
10. Infill at MET Hotel
11. NW corner Crooks Road and Long Lake Road
12. NE corner Crooks Road and Long Lake Road

Challenges
13. Access management along New King Court
14. Lack of pedestrian connection to New King Court and Corporate Drive development
15. Large surface parking lots surrounding Tower Drive properties




9
4
13
3
10
NEW KING COURT
14
EXIT 72
5
2
15
CROOKS ROAD
TOWER DRIVE
CORPORATE DRIVE
6
11
12
INVESTMENT DRIVE
I-75
Gateways
Assets
Opportunities
Challenges
Miles
0
0.125
0.25

North Troy Public Engagement Findings

North Troy consists primarily of office use with excellent freeway access to I-75 and close proximity to a large employee base. Large setbacks and wooded areas provide a desirable campus setting for certain sites. Natural features provide amenities and may help attract mixed-use and multi-family development, if desired by the community. Existing corporate companies may look to build or expand in under-utilized areas. Looking at the area as a whole, North Troy lacks identity and character. Office space has been slow to fill resulting in high vacancy. Regional access is good but internal connectivity and pedestrian access is not optimal. The area is dominated by cars with few alternative mobility options or usable green space. It also lacks entertainment for younger families. Road repair around the area needs to be addressed.

Downtown Detroit has been experimenting with pop-ups and initiating corporate programs to get employees out of the office. High quality food trucks provide indirect competition to brick and mortar establishments. Ultimately it's about options and getting people exposed to business. Right now North Troy is just an employment center. It needs uses and amenities to complement the office uses and to keep people around after 5 pm.

Considerations

- Establish more convenience uses such as restaurants, retail, and daycare
- Experiment with tactical placemaking, such as food trucks and pedestrian improvements, to provide more amenities to workforce
- Increase flexibility of current zoning to widen development of potential uses
- Encourage more parking structures
- Encourage quality stormwater management for improved drainage and connected green space

Priorities and Strategies

This plan recommends three priorities for establishing North Troy as a safe, active, and walkable district with premiere office space and generous amenities for employees and residents. These priorities and strategies include:

1. Provide a Compatible and Vibrant Mix of Use

Strategies:

- Promote service infill through property repurposing
- Promote residential infill through property repurposing
- Develop and strengthen core
- Create a community gathering space

2. Improve Multi-modal Circulation and Safety

Strategies:

- Study and implement road diets
- Introduce pedestrian mid-block crossings
- Establish consistent landscape buffer and setbacks

3. Inspire Tactical Placemaking to Create a Lively Place

Strategies:

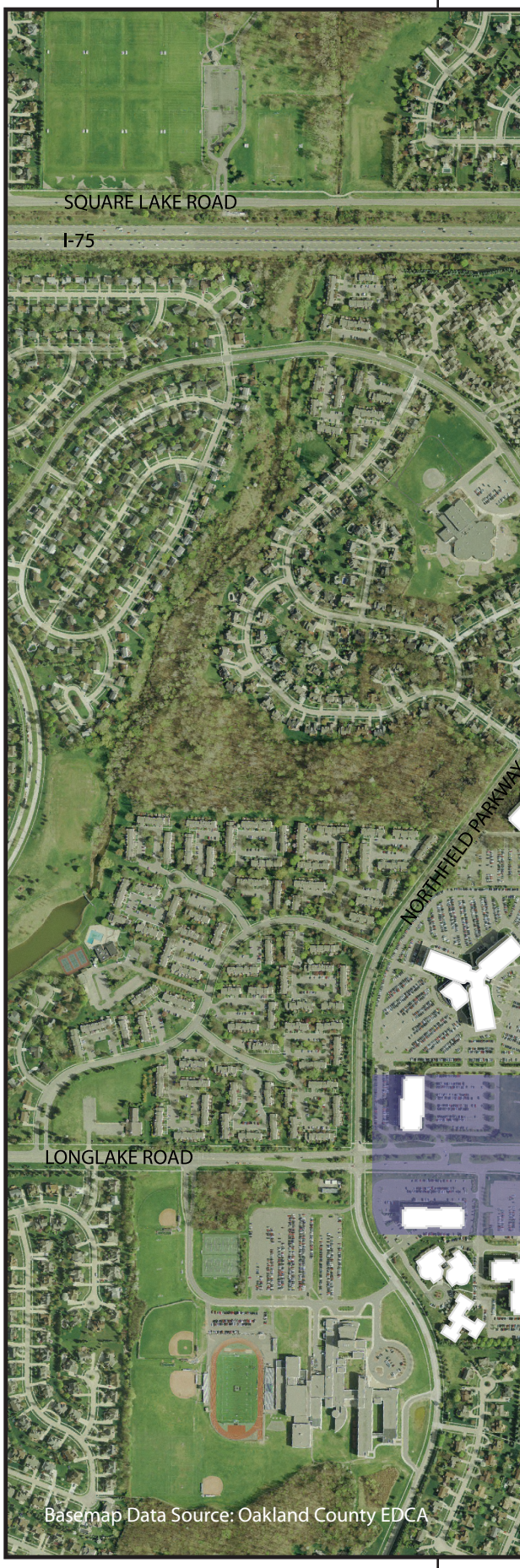
- Create an identity through gateways and wayfinding
- Facilitate health and wellness initiatives
- Encourage creative programming

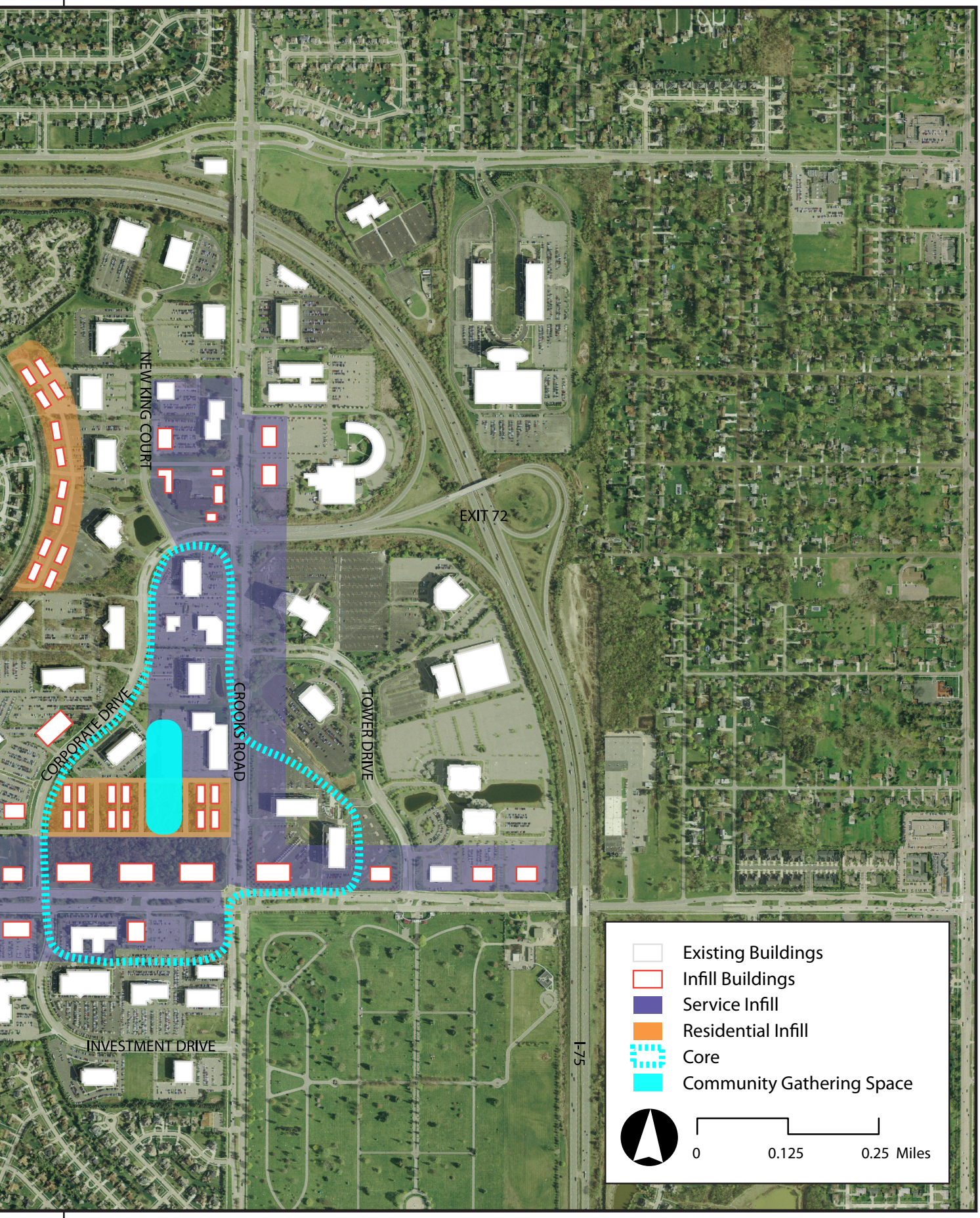
Priority and Strategy Interconnection: *These priorities and their strategies are not mutually exclusive; rather they reinforce each other and together they have the ability to attract users and spark investment, and ultimately achieve these aims of vibrancy, identity, and walkability.*

Priority 1: Provide a Compatible and Vibrant Mix of Uses

Located at the intersection of two main arterial roads with a direct access ramp to I-75, North Troy is strategically located to serve as a major employment hub for Oakland County. North Troy currently is home to over 5,000 primarily daytime employees; in addition, there are over 2,000 households within one mile of the area. However, the area is dominated by single-use office buildings with limited interconnections, and few amenities for these workers and nearby residents.

Preparing North Troy for the next generation of growth will require a broader and more creative real estate strategy that will tap into regional trends and market opportunities in order to create a more vibrant, attractive, and flexible work environment. A compatible and vibrant mix of uses will create a life and vibrancy, provide interconnections and a relationship with the adjacent neighborhoods, reduce automobile trips, and enhance walkability by providing destinations.




NEW KING COURT
EXIT 72
CORPORATE DRIVE
CROOKS ROAD
TOWER DRIVE
INVESTMENT DRIVE
I-75
Existing Buildings
Infill Buildings
Service Infill
Residential Infill
Core
Community Gathering Space
0
0.125
0.25 Miles

Priority 1 : Provide a Compatible and Vibrant Mix of Uses

Big Beaver retail development in Troy, MI

Grocery store in Kansas City, MO

Strategy: Promote service infill through property repurposing

The land use pattern of North Troy is primarily single use office space. Given the existing market conditions, many of these buildings are over-served by parking. As a means to attract new business to North Troy, these under-utilized parking areas may be repurposed for service infill development. Infill development is increasingly recognized as an effective way to achieve a variety of goals, including making better use of existing infrastructure; locating community services, jobs, and shopping in close proximity to neighborhoods; and reducing auto trips by supporting walking, biking, and transit.

Location

Service infill should be focused on Crooks Road, Long Lake Road, and the area around Northfield Market Place.

Uses

Mixed use, casual and family dining, personal services, dry cleaning services, health and wellness, grocery, pharmacy, and childcare.

Characteristics

Mixed use buildings, placed closed to the street, use of high quality materials, naturalized stormwater treatment, and woodland protection. Specific design features can promote this interconnections including the layout and orientation of buildings, the network of sidewalks and pathways, the location of parking relative to structures and walkways, and the amount and placement of green space, landscaping, benches, and other amenities.

Strategy: Promote residential infill through property repurposing

North Troy has the opportunity to re-envision the underutilized land adjacent to Northfield Parkway and the vacant lot on the northwest corner of Crooks Road and Long Lake Road as single-family attached residential. Single-family attached residential will provide residents with convenient access to work, schools, and the new infill service amenities. It will also provide an appropriate transition between the more intense multiple story office use and the less intense single family neighborhoods.

Rezoning transitional areas between the service core and surrounding social neighborhoods as mixed use would also enable property owners to repurpose the upper stories of underutilized office buildings as residential use. Introducing housing to North Troy will provide attractive housing options for rising professionals as well as active seniors.

Location

East side of Northfield Parkway and vacant lot on corner of Crooks Road and Long Lake Road.

Uses

Single-family attached residential, live-work lofts

Characteristics

Two-to-three story urban style residential development set close to the street with appropriate landscaping buffer, use of high quality materials, and alleys or rear loading garages. Vehicular access should be limited off Northfield Parkway.

Rochester Commons PUD in Troy, MI

Townhomes in Victoria, BC

Priority 1 : Provide a Compatible and Vibrant Mix of Uses

Strategy: Develop and strengthen the core

The Master Plan addresses the need for concentrated investment, activity, and services within the Target Areas.

Within each Target Area, the Plan identifies specific sites and nodes that can be utilized to build this physical fabric and social atmosphere, and support economic development. Building off the surrounding employment base and the highly trafficked Northfield Point Marketplace, the vacant parcel on the northwest corner of Long Lake and Crooks Road offers an opportunity to establish a core for North Troy. This core will provide a compatible mix of uses and should be the starting place of other strategies in the Plan, including pedestrian circulation improvements, landscaping, wayfinding, and creative programming. At the heart of the core is the community gathering space.

Town Center in Novi, MI

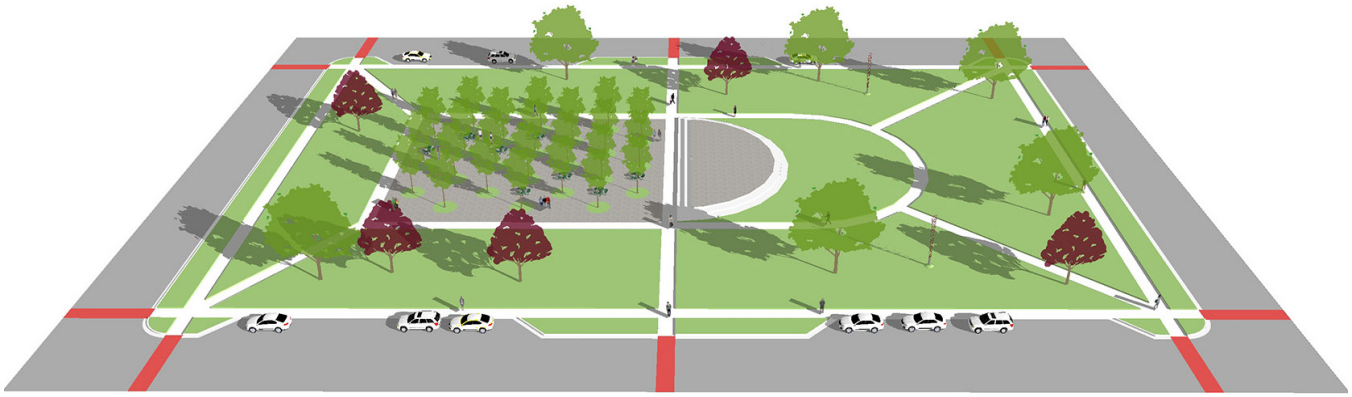
Strategy: Create a community gathering space

The community gathering space will serve as the heart of North Troy, providing physical amenities and social programming for employees and residents. Given that the area is known primarily as an office campus, North Troy is fairly green. Many of the corporate sites offer attractive landscaping, mature trees, and even water features, but most of these facilities are designed for aesthetics not for use.

Creating a community gathering space in the vacant land and underutilized parking area will enhance North Troy's sense of place. This area should combine landscaping and hardscape, and include amenities such as cafe seating, movable chairs, bike racks, water features, permanent and seasonal shaded areas, public art, and performance space. This combination of plaza and green space will provide a space for corporate programming and neighborhood recreation, supporting the adjacent office, service, and residential uses.

Conceptual design for North Troy community gathering space

Shopping Center in Orland Park, IL

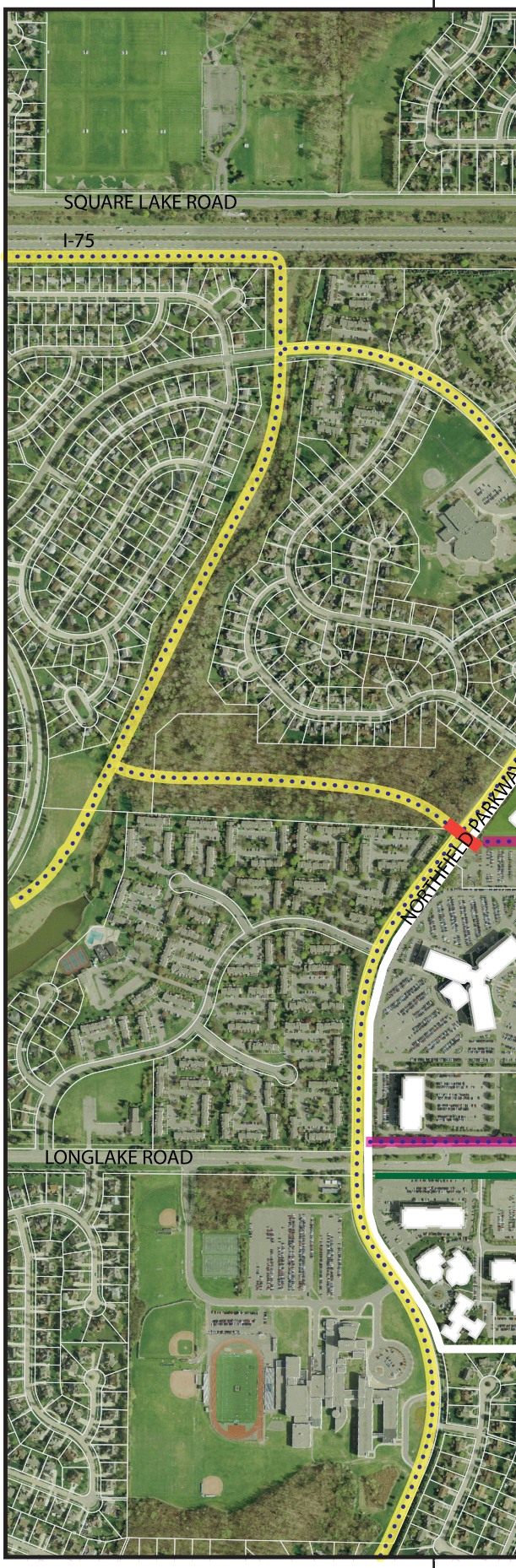


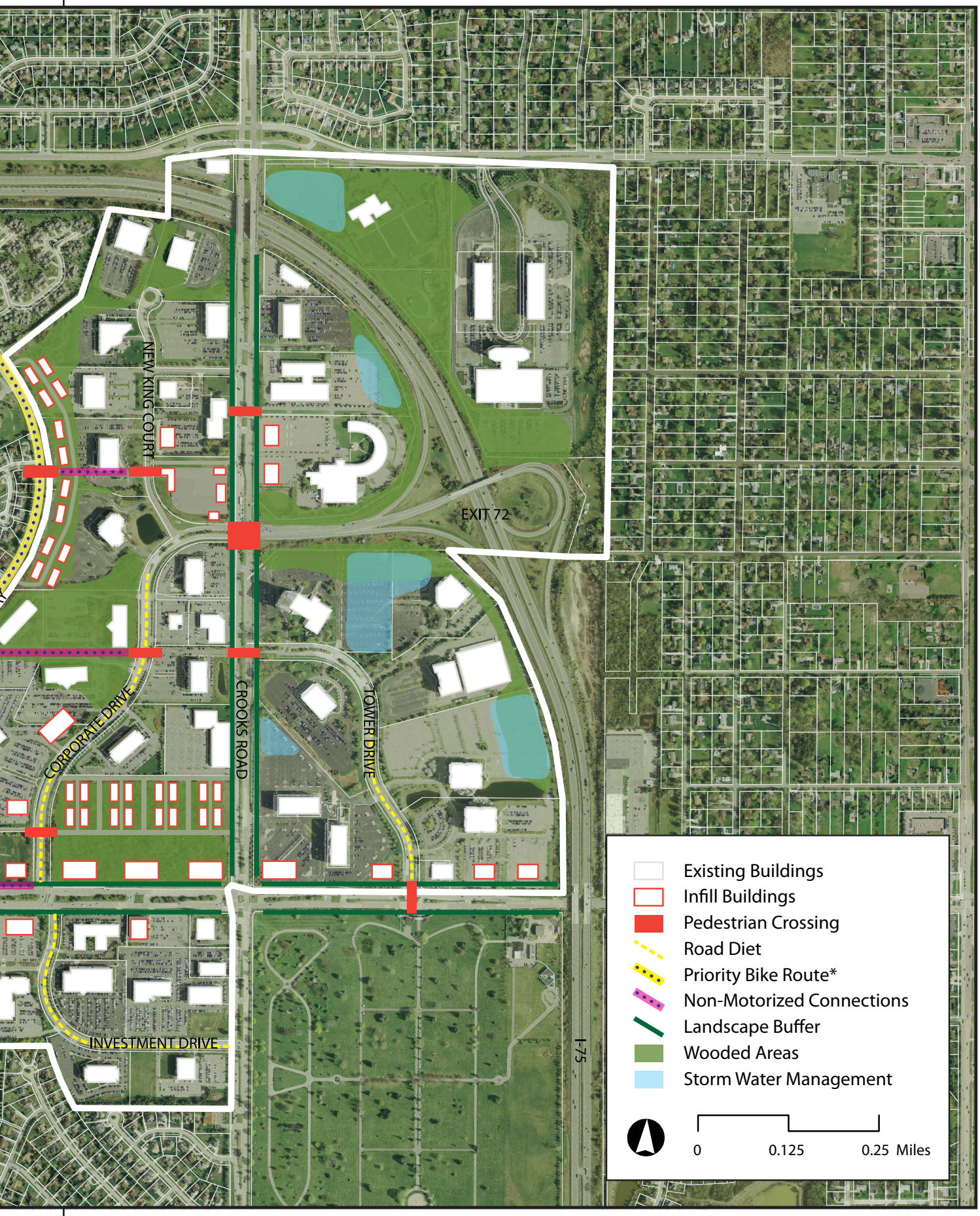
Conceptual design for North Troy community gathering space

Priority 2: Improve Multi-modal Circulation and Safety

At some point during our commute to work or school, everyone becomes a pedestrian. North Troy provides a beautiful campus setting with large lawns, water features, and woodland areas, but it is auto-oriented and lacks walkability. There are sidewalks but they don't really function for pedestrians and cyclists, they don't lead to desired destinations, and they often follow indirect routes. Changes to landscaping and transportation infrastructure within the right-of-way, coupled with strategic infill, will improve safety and encourage walkability.

It will be important to link new circulation paths across North Troy to the non-motorized facilities along Northfield Parkway. Northfield Parkway is highlighted as a Priority Bike Route on the Priority Bike Routes Neighborhood Greenways Map* in the 2009 City of Troy Trails and Pathways Master Plan. In the short term, Long Lake Road will serve as the primary connection to the parkway and as development occurs there will be more opportunities to create non-motorized connections using public easements. In addition to perimeter sidewalks, private developers should be encouraged to improve internal pedestrian circulation, creating convenient, logical, and attractive walkways.




NEW KING COURT
EXIT 72
CROOKS ROAD
TOWER DRIVE
CORPORATE DRIVE
INVESTMENT DRIVE
I-75
Existing Buildings
Infill Buildings
Pedestrian Crossing
Road Diet
Priority Bike Route*
Non-Motorized Connections
Landscape Buffer
Wooded Areas
Storm Water Management
0
0.125
0.25 Miles

Priority 2: Improve Multi-modal Circulation and Safety

Strategy: Study and implement road diets

North Troy was designed for the automobile in the mid-1980s and cars remain the dominant transportation choice. In order to provide for multi-model transportation options, the City should look to integrate principles of complete streets and best management practices (BMP) into capital projects. Road diets offer a strategy for reconfiguring travel lanes to better accommodate non-motorized transportation such as walking, biking, and transit, while also incorporating landscaping and green infrastructure. As secondary connector streets with large right-of-way (ROW) widths and less than 1,000 vehicles per hour (vph) at peak times, Investment Drive (86 foot ROW), Corporate Drive (120 foot ROW), and Tower Drive (105-120 ROW) provide appropriate locations to implement 4-to-3 lane conversions with striped bike lanes or a protected multi-use pathway.

Complete Streets

"**Complete streets** means roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle."

Together Michigan Public Act 134 and Public Act 135 of 2010 form the Complete Streets legislation. These laws effect project planning and coordination between government and state transportation agencies, and ensure that complete streets policies consider the local context, functional road classification, project costs, and most importantly, the mobility of all legal users.

FIGURE A.1: Corporate Drive Existing Conditions (120 foot ROW)

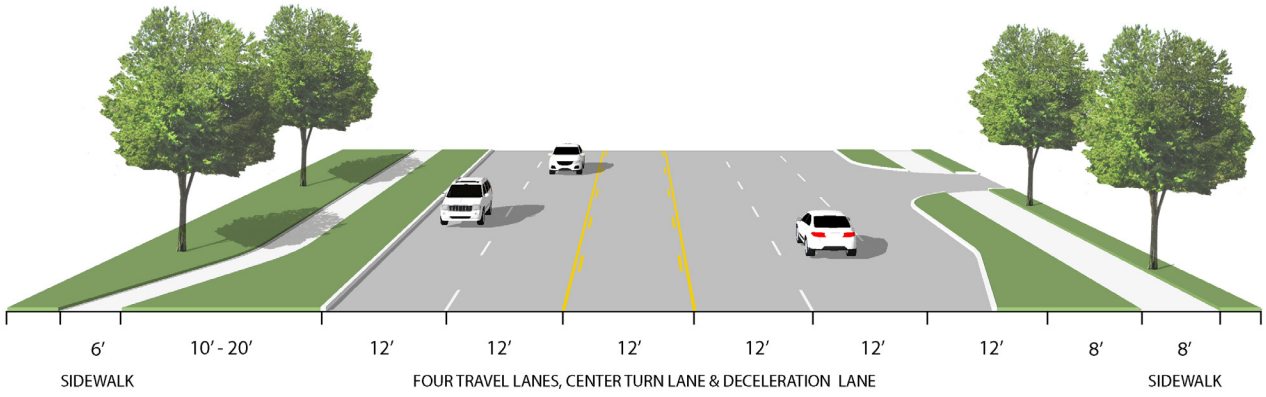


FIGURE A.2: Corporate Drive Proposed Conversion (120 foot ROW)

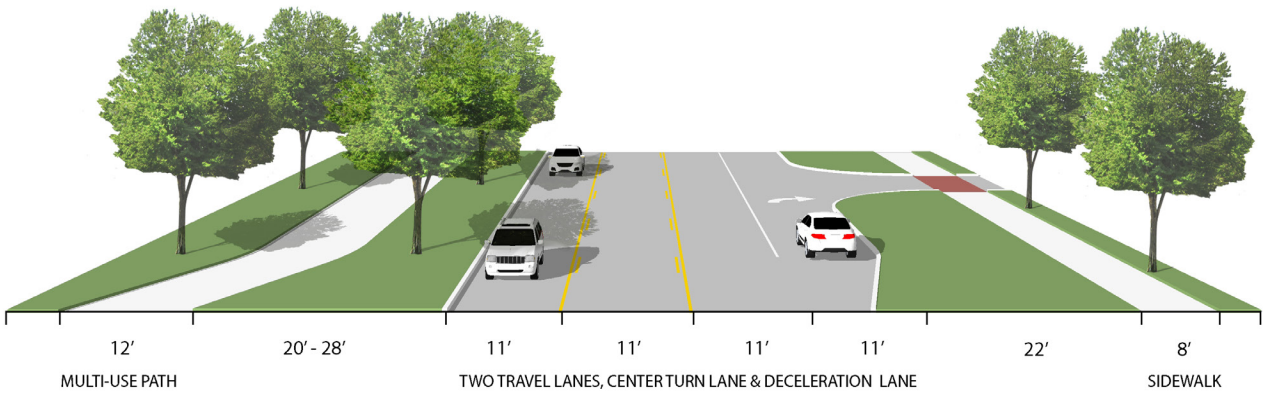


FIGURE A.3: Investment Drive Existing Conditions (86 foot ROW)

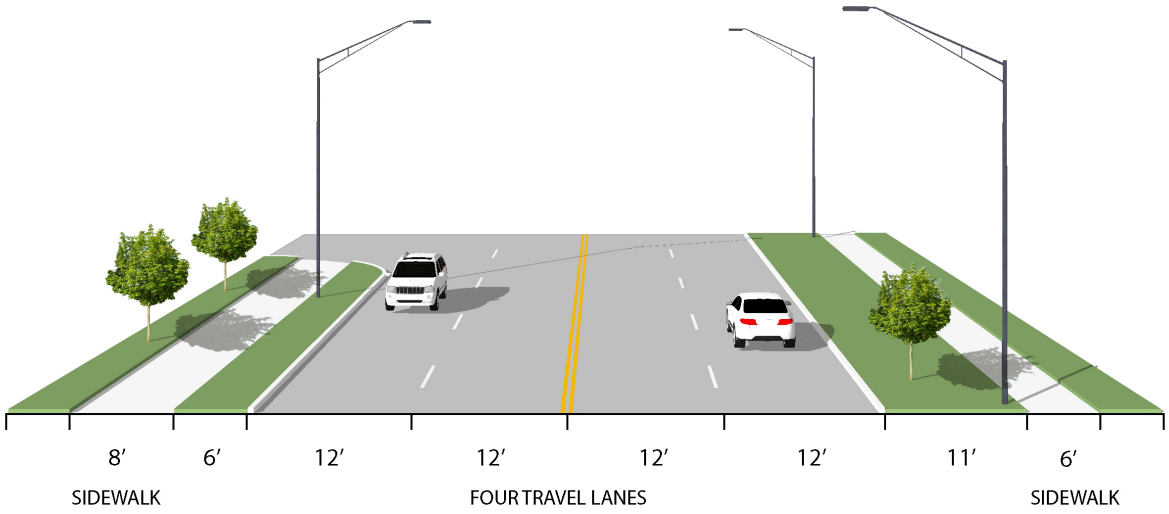


FIGURE A.4: Investment Drive Proposed Conversion 1 (86 foot ROW)

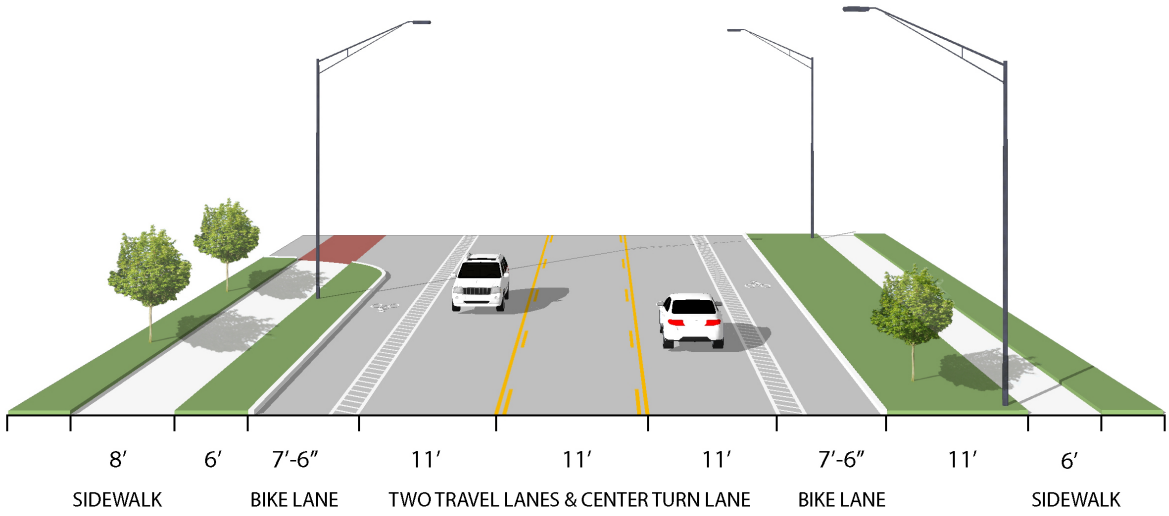
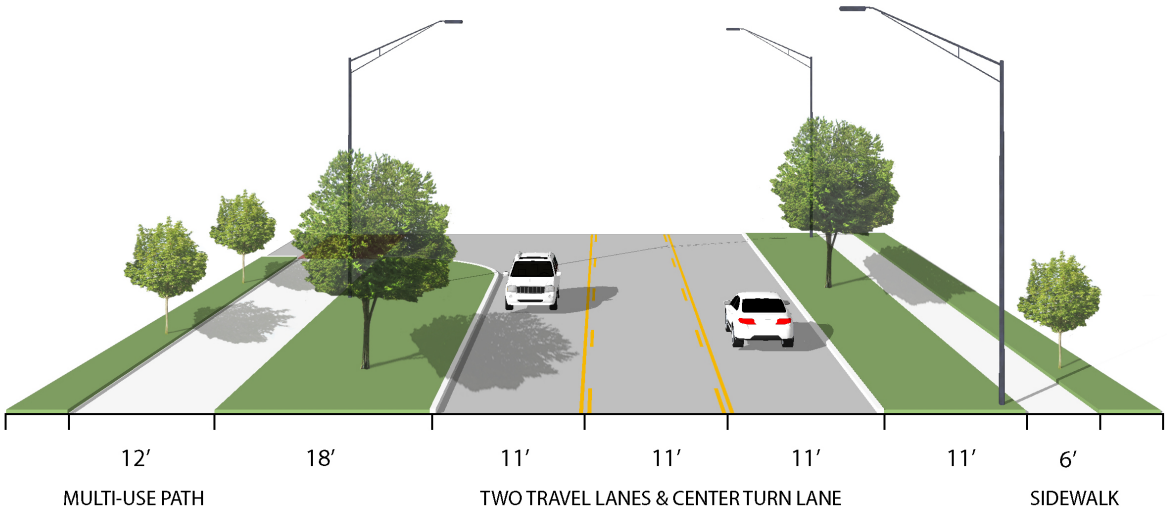


FIGURE A.5: Investment Drive Proposed Conversion 2 (86 foot ROW)



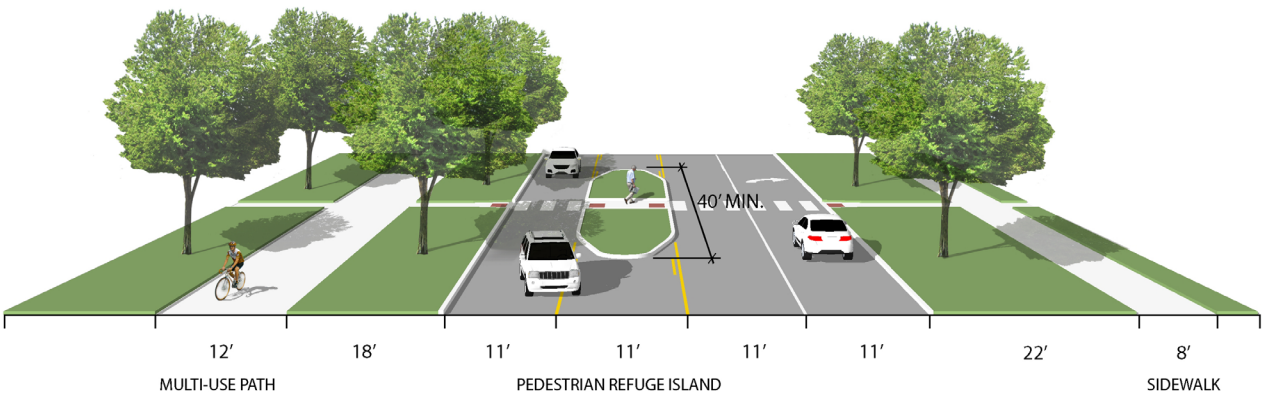
Cyclist at Corporate Drive and Crooks Road

Crosswalk in Chicago, IL

Strategy: Introduce pedestrian mid-block crossing

Due to the auto-centric nature of North Troy, including multiple travel lanes, curving roads with reduced visibility, and long blocks, employees and residents who venture out on foot to destinations such as the Northfield Pointe Marketplace have difficulty crossing Corporate Drive and Crook Road. Providing safe mid-block crossings for pedestrians and cyclists is an integral strategy for walkability. Mid-block crossings for Northfield Parkway will further integrate and strengthen the connection with the adjacent residential neighborhood. Pedestrian refuge islands and signalized crossings are some of the techniques for providing mid-block crossing. Applicability should be determined based on site context and budget. Priority pedestrian routes will develop based on new infill development.

FIGURE A.6: Corporate Drive Pedestrian Mid-Block Crossing

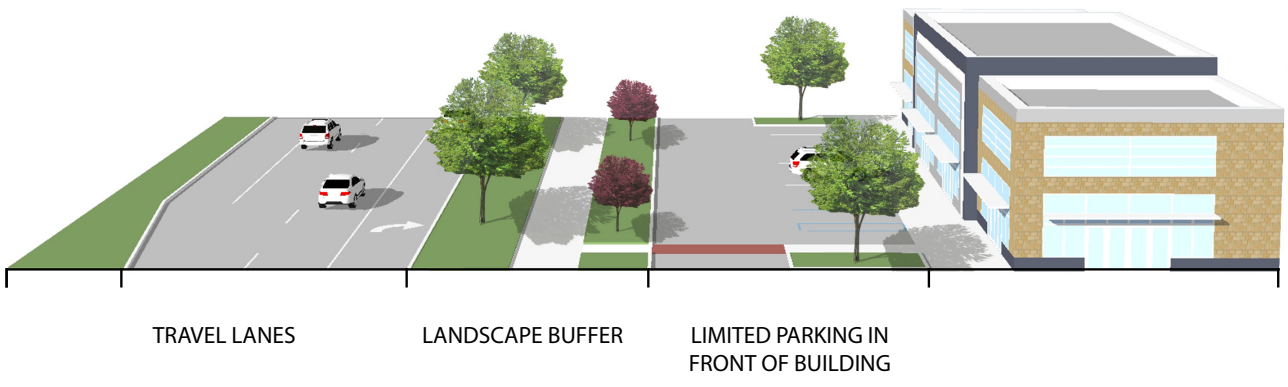


New Development along Big Beaver in Troy, MI

Strategy: Establish consistent landscape buffer and setbacks

The office uses in North Troy have large setbacks and landscaping designed to produce a dramatic approach via car. Pedestrians are walled off by vegetation, forced to walk through parking lots, or left on sidewalks that lead to nowhere. New residential and service development should front the street, creating a more consistent street wall. Sidewalks along Crooks Road and Long Lake Road should be pushed back away from the edge of pavement to accommodate vertical elements such as street lights and street trees in the landscape buffer. These elements provide real and perceived protection to pedestrians on the sidewalk. Low shrubs also offer a separation between the flow of traffic and the pedestrian realm.

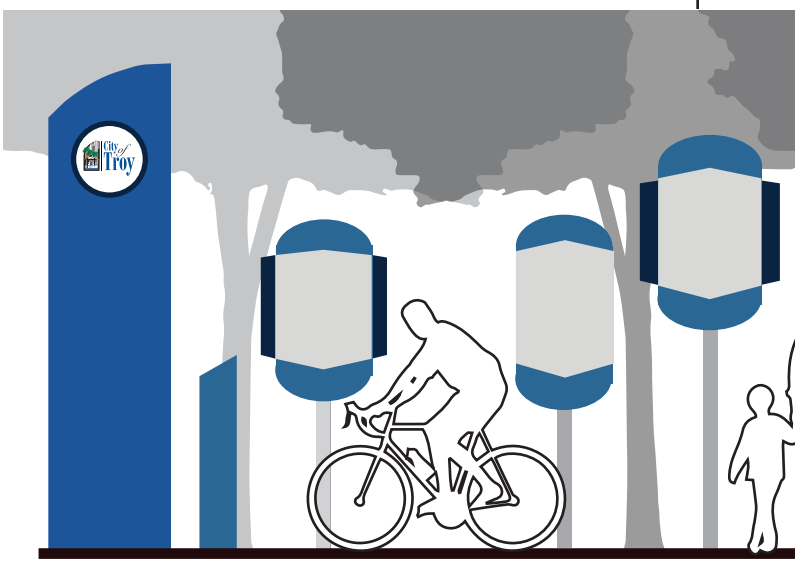
FIGURE A.7: Long Lake Road and Crooks Road Improved Landscape Buffer



Priority 3: Tactical Placemaking

Tactical placemaking will allow the City and private partners to experiment with physical interventions and social programs using a lighter, quicker, cheaper approach to transforming the image and identity of North Troy. Placemaking is as much about the process of engagement as it is about improving the physical environment. Through community education and public-private partnerships, there are things the City can start work on today to get employees and residents interacting with the place and each other. Tactical placemaking feeds into the North Troy's overall strategy of strategic placemaking, which has recently become Michigan's statewide approach to economic development. The MI Place Initiative includes business and talent attraction and retention.

North Troy Corporate Park signage



Wayfinding signage

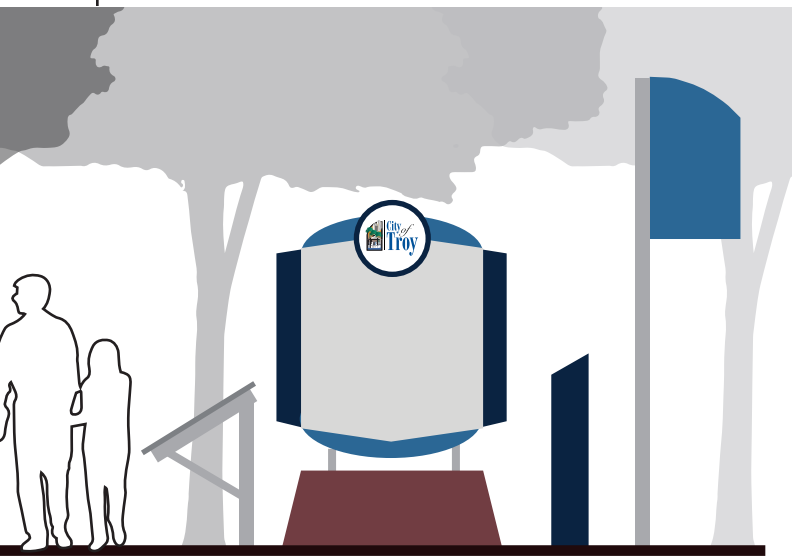
Eleven Principles for Creating Great Community Places

1. Recognize the community as the expert
2. Create a place, not a design
3. Look for partners
4. Observe existing spaces
5. Establish a vision
6. Use *Lighter, Quicker, Cheaper* approach
7. Triangulate by linking streetscape elements, amenities, and activity
8. Build on small projects
9. Allow form to support function
10. Remember that money is not the issue
11. Embrace Placemaking as a process rather than a product

Projects for Public Spaces

Mark's Carts in Ann Arbor, MI

Flagstar Bank Headquarters driveway



Clinton River Trail in Rochester, MI

Strategy: Create an identity through gateways and wayfinding

North Troy currently lacks an identity. Public wayfinding and site identification and directional signs are important elements of a project. North Troy's location offers a prime opportunity to capitalize upon the entrance into the City of Troy along I-75. In addition, several smaller gateways will provide project identification for the business park development. Directional and information signs, as well as street signs, will help users navigate the area.

Strategy: Facilitate health and wellness initiatives

Many North Troy employees already walk during the lunch hour. Establishing a walking and biking loop with wayfinding and mile markers will encourage this culture. These non-motorized pathways should be connected to the priority bike route along Northfield Parkway. Public-private programming, similar to Oakland County's Count Your Steps Initiative or the University of Michigan's BlueBike rental program, can encourage employees to utilize non-motorized facilities.

Strategy: Encourage creative programming

North Troy would benefit from the City's "Lunch in Troy" program which brings in mobile food vendors, or food trucks to sites with few brick and mortar dining options for workers. The City can expand this program by working with member vendors of the Michigan Mobile Food Vendors Association (MMFVA). Introducing movable chairs and tables will help create an atmosphere for socializing. Other corporate sponsored programming will expand vibrancy to the area.

Action Plan and Implementation

The North Troy Plan is organized into multiple projects so the vision can be refined and implemented in phases over time in a flexible manner. Priority transformative projects like the road diet projects entail multiple phases given their scale and ambition and serve as economic catalysts for tapping the development potential of the area for years to come. The timeframe to implement the Plan will depend on many factors, including market conditions, financing, approvals, and other city initiatives.

Priority 1 **Provide a Compatible and Vibrant Mix of Use**	***Strategy***
	Promote service infill through property repurposing
	Promote residential infill through property repurposing
	Develop and strengthen core
	Create a community gathering space

Priority 2 **Improve Multi-modal Circulation and Safety**	***Strategy***
	Study and implement road diets
	Introduce pedestrian mid-block crossing
	Establish consistent landscape buffer and setbacks

Priority 3 **Inspire Tactical Placemaking to Create a Lively Place**	***Strategy***
	Create an identity through gateways and wayfinding
	Facilitate health and wellness initiatives
	Encourage creative programming

Phasing
Near 1-2 years
Mid 3-5 years
Long 6-10 years

	Actions	***Phasing***	***Responsibility***
	Identify sites for infill and meet with property owners	Near	City, Private entities
	Amend zoning if necessary	Near	City
	Identify sites for infill and meet with property owners	Mid/Long	City, Private entities
	Amend zoning if necessary	Mid/Long	City
	Implement infrastructure improvements	Mid/Long	City, Private entities
	Encourage development of the core	Mid/Long	City, Private entities
	Design and construct public space	Mid/Long	City, Private entities

	Actions	***Phasing***	***Responsibility***
	Implement Road Diet for Investment Drive	Mid	City, Private entities
	Implement Road Diet for Corporate Drive	Long	City, Private entities
	Implement Road Diet for Tower Drive	Long	City, Private entities
	Identify location(s) for mid-block crossing	Near	City, Private entities
	Identify type of crossing based on location and funding source	Near	City, Private entities
	Implement crossing	Near	City
	Amend zoning if necessary and implement appropriately scaled landscape buffers and setbacks when new development occurs	Near	City, Private entities
	Implement new streetscape along Crooks and Long Lake Road	Long	City, Private entities

	Actions	***Phasing***	***Responsibility***
	Create and install gateway and wayfinding program	Mid	City, private entities
	Work with existing corporations to establish common identification signage	Mid	Private entities
	In cooperation with gateway and wayfinding program, identify North Troy walking and biking loop	Mid	Private entities
	City to establish initial programming efforts such as City's "Lunch in Troy" program	Near	City
	Work with existing corporations to establish long-term programming	Mid	City, Private entities

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Big Beaver Pedestrian

Special Area Plan

EVERYBODY WALKS.

Walking is the most basic form of transportation; however we more often view ourselves as drivers, passengers, and even cyclists, and overlook the walking part of the journey. As a result walking is often disregarded in the quest to build more sophisticated transportation systems.

It's time to pay attention to the pedestrian. As Troy, and more specifically Big Beaver Road evolves, the desire to walk along and across Big Beaver Road has increased. The City realizes that walking along and across Big Beaver is difficult. That is why we need your help.

Big Beaver Corridor Study adopted in 2006

Vision established for transforming Big Beaver into a World Class Boulevard

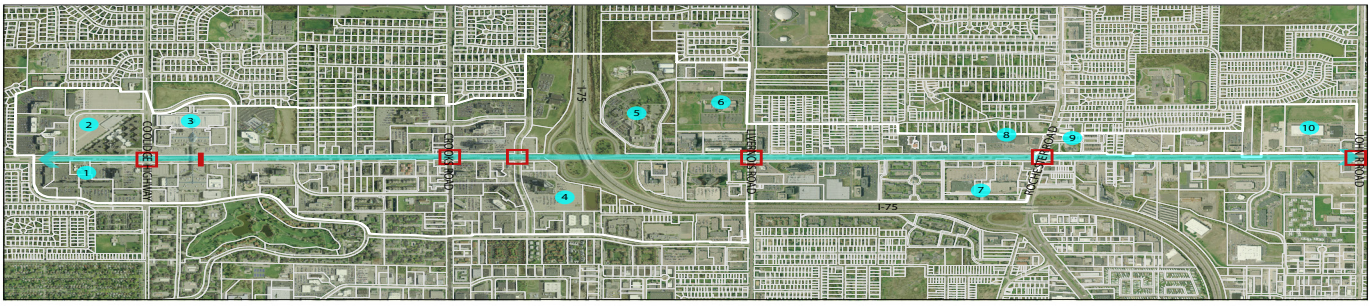
Key Concepts:
1. Gateways, Districts and Transitions
2. Trees and Landscape as "Ceilings and Walls"
3. Walking Becomes Entertainment
4. Mixing the Uses Turns on the Lights
5. The Automobile and Parking are no Longer #1
6. Civic Art as the Wise Sage of the Boulevard

Recent Investment on/near Big Beaver Road

- Big Beaver is attracting new users/businesses
- New users/businesses are generating more pedestrian activity
- Limited options available to cross Big Beaver
- I-75 acts as physical and mental barrier
- Big Beaver employment and commercial centers are not aligned with existing crossings

Big Beaver Challenges

- Granite City Food and Brewery - Restaurant
- Galleria of Troy – Retail and hotels
- Big Beaver Center - Retail and single family residential
- Troy Shoppes - Retail
- Fifth Third Bank – Bank branch
- DMC Children's Hospital – Hospital
- Amber Town Center Townhomes and Lofts – Loft apartments



0 0.25 0.5 1 Miles

TRAFFIC COUNTS	EB	WB
Adams to Coolidge	12,950	12,790
Coolidge to Crooks	14,980	20,970
Crooks to I-75	28,800	27,670
I-75 to Livernois	21,010	20,120
Livernois to Rochester	20,590	20,360
Rochester to John R	24,110	18,700

Source: AADT SEMCOG, 2011

MAP LEGEND

- Big Beaver Road
- 1 Landmark
- Intersection Crossing
- Mid-Block Crossing

1. Kresge Foundation
2. Vacant Kmart Headquarters
3. Somerset Collection
4. PNC Tower
5. Troy City Hall Campus
6. Troy Community Center
7. Troy Market Place shopping center
8. Troy Commons shopping center
9. Gateway Park
10. Troy Sports Center

Introduction

The Big Beaver corridor represents one of the most important components to economic development in Southeast Michigan. Home to the Somerset Collection, numerous corporations, foundations, and other thriving businesses, the corridor draws tens of thousands of people to Troy on a daily basis. Additionally, the roadway itself has always functioned as a critical vehicular arterial, carrying 50,000 vehicles per day, many of which use it to access Interstate 75, Interstate 94 or travel east-west across the region. Because of this vehicular demand and connection, the corridor was designed and constructed to move vehicles as efficiently as possible.

One of the most dramatic changes that has recently occurred along the corridor is the increased amount of pedestrian activity. Reflecting a trend that is occurring both regionally and nationally, more people are walking on Big Beaver Road. Whether it's to grab a coffee in the morning, get lunch, or socialize after work, these "pedestrian pioneers" are taking advantage of the existing infrastructure for pedestrians. Pedestrians along the corridor enjoy continuous sidewalks and retail frontage along both sides of Big Beaver. These are examples of the many benefits of form-based code which requires new businesses to have their front door adjacent to the sidewalk. However, there exist many challenges that pedestrians need to overcome to reach their destination. Simply crossing Big Beaver can be difficult for many people, particularly those with limited mobility. Both big barriers, for instance crossing the interchanges to I-75, and small, such as the large turning radii at key intersections, impact the walkability of the corridor as a whole. Additionally, the overall length of the corridor makes it unlikely that a person will walk long distances during their lunch hour.

The opportunity exists to create a transportation corridor along Big Beaver Road that is not only unique in Michigan, but in the United States – a corridor that not only carries a high volume of vehicles, but is walkable, hosts continuous pedestrian activity, and provides a variety of transportation options. Recognizing that the majority of people will still likely drive to their place of work along the corridor, the guiding philosophy of this plan is "Park Once". Employees and visitors will park once when they arrive to their initial destination, then will be able to walk, bike, or take transit along the corridor to reach other destinations throughout the day.

Accomplishing this goal will require considerable change ranging from how the existing infrastructure operates, to the design of future developments, to the overall culture of all users of the corridor. This is a big task that will require a number of large infrastructure projects such as pedestrian bridges, new transit options, and the elimination of infrastructure barriers. But, there are a number of projects that can immediately improve conditions for Big Beaver's pedestrian pioneers and build more pedestrian activity. These now-term projects are the first step toward building momentum and support for catalytic infrastructure projects.

Sam Schwartz Engineering and Carlisle/Wortman Associates were retained by the City of Troy to develop this plan. The project included a workshop with key stakeholders and an open house that brought out a considerable number of residents, business owners, and employees. The recommendations in this report reflect the feedback received during these meetings.

Sam
Schwartz
Engineering
D.P.C.

Existing Conditions

Big Beaver Road is a six-mile long, six-lane boulevard with a 50-55 ft landscaped median separating eastbound and westbound traffic along much of the corridor. Traffic signals are provided with major mile roads, Interstate 75 ramps, and a number of other intersections. Between Coolidge Highway and John R Road, there are 22 left-turn opportunities for eastbound vehicles and 23 left-turn opportunities for westbound vehicles. Big Beaver Road is under the jurisdiction of the Road Commission for Oakland County.

The average daily traffic volumes (and the year they were collected) at different locations along the corridor are listed below:

- Coolidge Highway – 41,153 vehicles (2011)
- Butterfield Road – 35,976 vehicles (2011)
- Crooks Road – 54,987 vehicles (2012)
- Wilshire Drive – 56,599 vehicles (2011)
- Civic Center Drive – 41,153 vehicles (2011)
- Livernois Road – 50,280 vehicles (2010)
- Charter Drive – 32,890 vehicles (2014)
- Rochester Road – 53,629 vehicles (2012)

The corridor's geometrics were designed to accommodate these large traffic volumes during the weekday morning and evening peak hours. However, this leaves a considerable amount of capacity during the day and on weekends. This sometimes encourages vehicles to travel above the posted speed limit.

There is a considerable amount of pedestrian infrastructure along the Big Beaver corridor. Wide sidewalks are provided on both sides of the street for the entire corridor. Continental style crosswalks are located at most signalized intersections. Refuge islands are provided in the landscaped median at midblock crossing locations. Pedestrian signal heads are provided at all signalized locations, with countdown timers informing pedestrians how much time is left to cross the street at most locations. Pedestrian push buttons are also at all signalized intersections to allow pedestrians to call a walk signal.

Additionally, recent developments along the corridor have been planned and constructed to make it much easier for pedestrians to access. Instead of the typical commercial building that is set far back from the sidewalk—which forces pedestrians to walk through a surface parking lot—recent developments, including the Starbucks and Carrabba's Italian Grill have been built adjacent to the sidewalk. This orientation encourages pedestrian access. This is a result of the progressive form based code that the City of Troy recently developed and implemented.

There still remain a number of challenges for pedestrians that want to walk along the corridor to their destination, including:

- High speeds of vehicular traffic, particularly during hours outside of the normal morning and evening commuting hours.
- There are only seven pedestrian crossings across Big Beaver along the entire corridor. The spacing between the crossings in some locations exceeds one mile.
- There are only three signalized midblock crossings along the entire length of the corridor.
- The width of Big Beaver Road, particularly at major intersections, requires pedestrian crossings at some locations to exceed 150'. For some pedestrians, this equates to 50 seconds to cross the entire street.
- Interstate 75 essentially divides the corridor for pedestrians. The pedestrian underpass is narrow, dark, and feels unsafe and unpleasant and the ramp designs encourage vehicles to speed on to the ramps and not stop for pedestrians.

- The radii at most intersections are designed for large trucks, further increasing the distance pedestrians have to cross and encouraging higher speed turns for vehicles.
- Surface parking lots are the most common land use next to the sidewalk.
- There exists a lack of pedestrian crossings on the minor streets and access drives intersecting Big Beaver Road.
- There exists a lack of places to sit along the entire corridor.

The Suburban Mobility Authority for Regional Transportation (SMART) runs a fixed route bus service along the Big Beaver Corridor. However, it only operates during the morning and afternoon/evening commuting hours and has 30 minute headways. They also run a Somerset Collection Shuttle that provides point to point service in the area, but requires a phone call within 60 minutes of your desired pick-up time.

Case Studies

The following case studies provide real examples of how other communities in the United States and across the globe have addressed pedestrian connectivity.

Canyon Boulevard

Boulder, Colorado

Canyon Blvd has two vehicle lanes in each direction and a wide, contiguous sidewalk along its north side. Canyon (between 9th and 14th) has several examples of midblock, and side-street connection crossings through planted medians using pedestrian actuated Rapid Flash Beacons. This stretch of roadway utilizes raised curbs and landscaping in the central median for aesthetic appeal; this has the added benefit of discouraging jaywalking outside of designated crossings.

Mandela Parkway

Oakland, California

Mandela Parkway is a median divided street with an on-street bike lane in each direction. The street is designed with a linear park occupying an extremely wide center median, complete with a wide walking path, landscaped and grassy lawns. This spatial configuration makes sense for safe pedestrian passage; Mandela Parkway is lined with industrial land use with many truck loading docks breaking up the sidewalks on either side of the street. A center running pedestrian walkway allows for safe, uninterrupted walking or biking along the corridor, and adds much needed green space to the immediate area.

West Side Highway

New York City, New York

New York's West Side Highway (reconstruction completed 2001) is a 6- to 8-lane urban boulevard. Alongside the highway roughly between Battery Park and the Washington Bridge there is a barrier protected two-way bike lane, called the Hudson River Greenway, alongside a walking path. The active transportation is separated from vehicular traffic in most places by a planted median. The large central median splitting the two directions of vehicular traffic provides a refuge island for pedestrians crossing this busy street.

Da Praia Street

Rio de Janeiro, Brazil

This beach-side highway has 2-3 lanes of vehicular traffic in each direction, and a two-way bike facility at street level, separated from vehicular traffic by a 2 ft curb. At intersections, the bike lane is raised to sidewalk level, giving pedestrians the priority as they cross the bike lane. A large central median provides a pedestrian refuge island for those crossing the street. The central median and sidewalk use decorative pavers to highlight the wide pedestrian boardwalk lined with small kiosks and shops. The patterns of these pavers vary by neighborhood.

Highway 7

Toronto, Canada

Highway 7 in Toronto integrates Bus Rapid Transit into a multi lane roadway, complete with pedestrian crossing safety measures, and bike facilities. Textured pavers add visual interest to the continental marked crossing paint. Due to the width of the roadway, pedestrians must cross using two pedestrian countdown cycles, after waiting in the pedestrian refuge islands in the center medians. Highway 7 illustrates the importance of clear signage for all modes.

The Toolbox

Both the speed of cars along Big Beaver and the overall roadway width pose challenges for pedestrians attempting to cross the street safely. Visibility and consistent physical treatment of crossings is key to ensuring that motorists recognize a pedestrian crossing far enough in advance of the crosswalk to stop safely, without encroaching on the pedestrian's space. By repeating the elements of crossing treatments at many nodes along the Big Beaver corridor, a predictable relationship will be built between cars and pedestrians at intersections.

The following treatments are best practices and should be installed consistently along the corridor.

Marked crosswalks

Fundamentally, marked crosswalks designate paths where pedestrians may safely cross the street, and where drivers can expect them to cross. Continental style crosswalks provide the highest visibility to pedestrians. At a higher cost, material options such as bricks or decorative pavers are often used as an alternative to white paint designating a pedestrian crossing for their aesthetic benefit to the pedestrian environment. At signalized intersections, the vehicular stop bar should be placed at least 10 ft before the pedestrian crossing to ensure cars do not encroach on the crosswalk. Use decorative patterns or color to make pedestrian crossings exciting and unique. Decorative crossing patterns such as those in Pasadena, CA can be created using basic paint and stencil methods.

Pasadena, CA

Application

Marked crosswalks are already located at a number of locations along the corridor. Marked crosswalks should be installed at all crossing locations. Faded or otherwise deteriorating crosswalks should be improved.

Pedestrian Countdown Timers

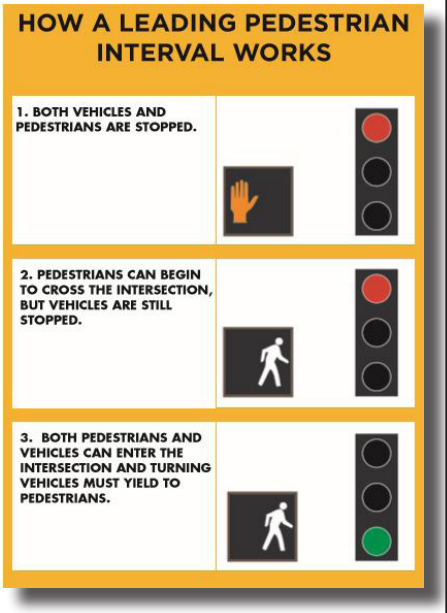
A pedestrian countdown timer is an alternative to the typical pedestrian crossing signals, with the addition of numbers counting down the time remaining for pedestrians to clear the crosswalk. The pedestrian countdown timer begins in conjunction with the flashing "DON'T WALK" signal interval.

Application

The majority of crossings along the corridor already have pedestrian countdown timers. All new or modernized traffic signals should include countdown timers. Existing signalized intersections can be retrofitted with this type of signal. All countdown timers should be programmed to allow pedestrians to cross the street at a maximum walking speed of 3.5 ft per second. Walking speeds slower than 3.5 ft per second should be considered at all locations, particularly at crossings typically used by children, seniors, and people with disabilities.

Leading Pedestrian Intervals

A leading pedestrian interval (LPI) gives pedestrians a head start into an intersection before vehicles by changing the signal timing of the intersection.



Application

LPIs should be installed at intersections with high pedestrian crossing volumes, and are installed by re-timing an existing traffic signal. Typically, the 'WALK' signal is turned on approximately three seconds before vehicles are given a green signal.

Pedestrian Refuge Islands

A pedestrian refuge island is a protected area in the center of a multi lane crossing which gives pedestrians a space to pause safely between traffic lanes in each direction. Pedestrian refuge islands should be at least 6 ft wide and should be protected by a curbed median on both sides. Detectable warnings, using truncated dome surface areas, must also be installed to allow pedestrians who are visually impaired to detect the refuge island.

Application

Pedestrian refuge islands located within the existing median should be considered at all crossing locations on Big Beaver.

Corner Radius Design

Reducing corner radii can be achieved by reconstructing curbs at the corners of an intersection or simply using paint. Smaller corner radii effectively slow turning vehicles, resulting in a shorter pedestrian crossing distance and better pedestrian ramp alignment. The size of the corner radius relates directly to the length of the crosswalk. Larger turning radius requires pedestrians to walk a longer distance in the roadway to reach the opposite sidewalk.

Application

Smaller corner radii should be considered at all intersections and side-street connections along Big Beaver. Where it is not possible to reconstruct a curb immediately, a new radius can be a delineated using interim material such as paint, planters, and bollards. The actual radius should be designed to accommodate delivery vehicles with a turning speed of 15 mph or less.

Crossing Ramps & Truncated Domes

All pedestrian crossings should be designed to the Americans with Disabilities Act (ADA), specifications which outline the slope, rise, width, and landing requirements. Ideally there should be a separate curb ramp for each crosswalk; ramps installed diagonally toward the center of an intersection serving two crosswalks are not preferred. All new crossing treatments should be outfitted with truncated dome textured ground surface indicators which advises the visually impaired of a change from pedestrian path to vehicular path.

Application

Truncated domes should be installed in consistent design and color to new and existing crossings. The color must provide contrast from the path/ramp.

Speed Tables and Raised Crosswalks

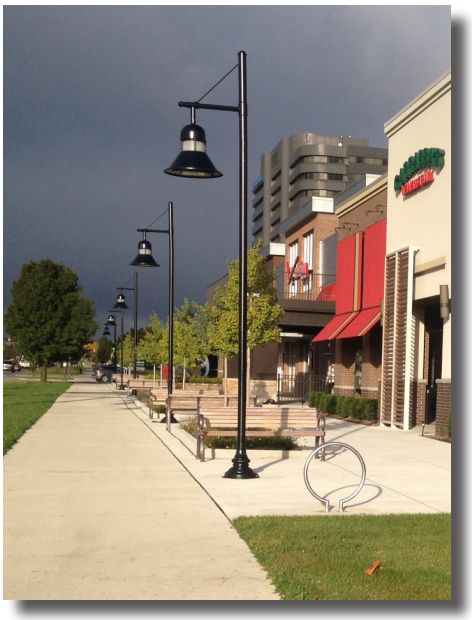
A speed table and a raised intersection are essentially longer speed humps used to raise the crosswalk or intersection and reduce vehicle speeds. This type of intersection treatment gives priority to the pedestrian by making a seamless, sidewalk level connection across vehicle lanes.

Application

Speed tables or raised crosswalks can be installed at channelized right-turn lanes or minor side-street connections to Big Beaver to alert drivers to the sidewalks continuing across these small streets.

Lighting

Sidewalks and intersections should have lighting installed at a pedestrian scale, and directed onto pedestrian paths. Lighting installed along a major roadway is positioned such that the roadway is washed with as much even lighting for vehicle lanes as possible. Sidewalks adjacent to such roadway do not have direct lighting at an appropriate height to serve pedestrians.



Application

A secondary system of pedestrian scale lighting should be installed adjacent to all sidewalks and crossings, similar to the existing segment on the north side of Big Beaver, west of I-75. The lights should be installed more frequently approaching each intersection. Many lighting designs offer the opportunity to incorporate banners or signage. These types of additional aesthetic enhancements should also consistently appear more frequently around designated central crossing nodes.

Planted curbs and edges

Consistent landscaping and edge treatments can also be used to make the pedestrian environment safer and more predictable for drivers. Planting trees between sidewalks and the roadway provide physical barriers, improved aesthetic environment, and sound absorption. A contiguous buffer of low plants along the sidewalk edge approaching a pedestrian crossing discourages pedestrians from jaywalking, or crossing outside the crosswalk itself. Snow mounds resulting from street snow removal must be shoveled out of pedestrian ramps and sidewalk connections at intersections. In addition, efforts should be made to identify native or salt-tolerant plants for these areas.

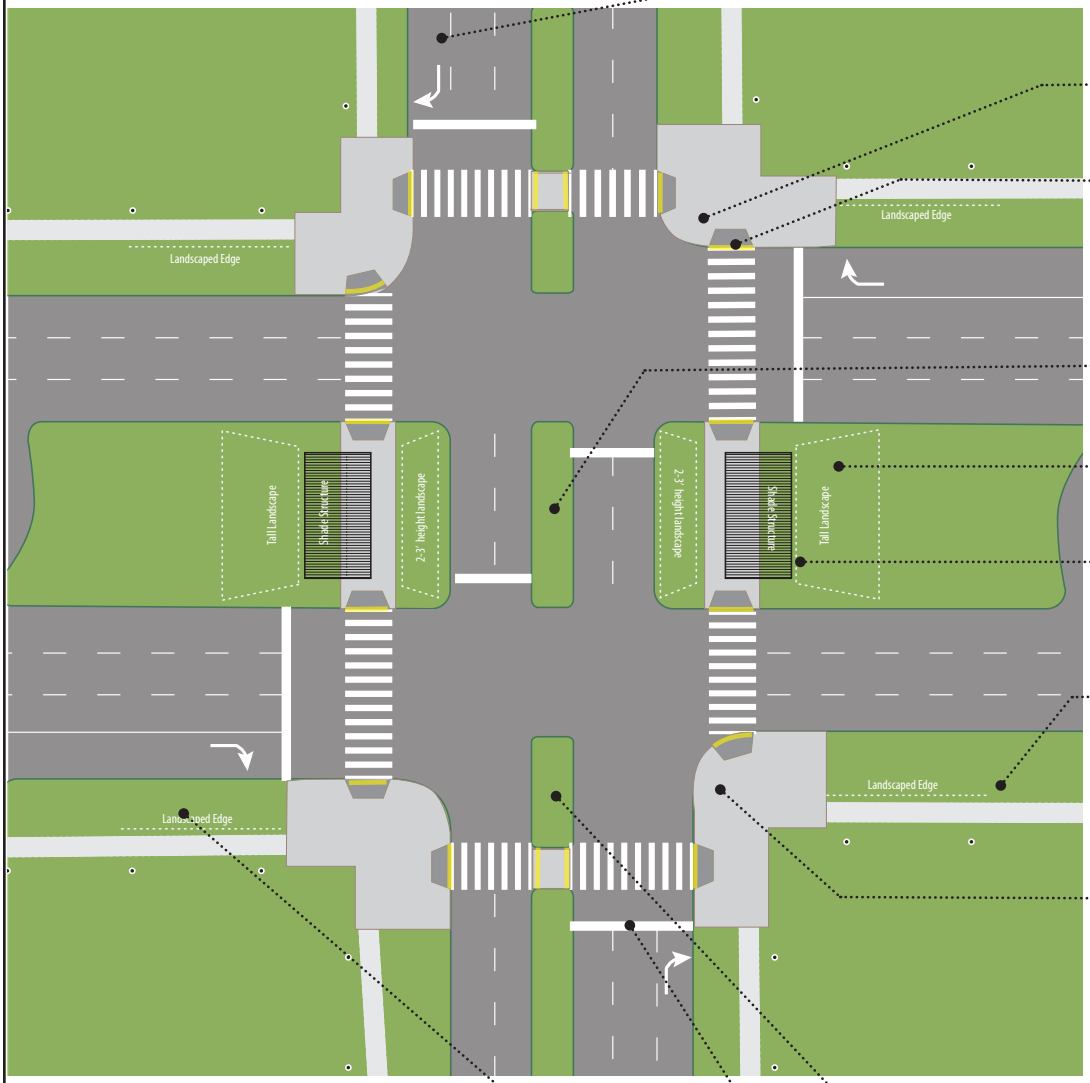
Application

Landscaping around intersections should be low so as not to block views of pedestrians approaching a crosswalk. Trees and tall landscaping should not be planted within a 25 ft view triangle at intersections or side street connections. Most lengths of sidewalk along Big Beaver are offset 10-15 ft from the shoulder. Locating a small trench along the shoulder will help chemicals and salt water runoff drain away from plants lining the sidewalk.

Multi-Use Path

A multi-use pathway is a facility built for combined bicycle and pedestrian traffic, and is physically separated from motor vehicle traffic. Multi-use trails intended to accommodate both pedestrians and cyclists need to be wide enough and have clear sight-lines to accommodate users moving at different speeds, and should be clearly marked. The minimum width for such pathways is 10 ft to accommodate both pedestrians and bicyclists. Where possible, a minimum 5 ft buffer should exist between the multi-use path and the roadway; vertical separation is preferred.

Toolbox: Typical Intersection



Dedicated turning lanes with 'No Turn On Red' restrictions

Generous waiting space at each corner

ADA compliant ramps to street level with detectable warning strips

Planted central median island

Landscaping, art installations, and shade structures on center median, provided they do not obstruct sight distance

Pedestrian scale lighting positioned frequently along path approaching intersection

Reduced curb radius to slow turning vehicles and reduce pedestrian crossing distances

Build curb out to edge of vehicle through lanes creating pedestrian refuge islands

Pull stop bar away from crosswalk

Landscape street-side of sidewalk to discourage jay-walking

Recommendations

The Basics:

Continuity - Pedestrians should have a continuous path from the sidewalk along Big Beaver Road, across intersections, and to the front entrance of adjacent businesses along the corridor.

Consistency - Use intentional and consistent physical treatments of intersections and pathways ensure predictable movement of pedestrians, cyclists, and cars to minimize conflicts.

Ease - Make it easy, safe, interesting, and fun to walk around the Big Beaver corridor nodes to encourage more people to walk to nearby destinations.

Start Now

1. Establish 'Nodes' Along Big Beaver Road

   Due to the overall size of the corridor, it is recommended that improvements be focused in specific areas, or nodes, instead of a scattershot approach. This method will not only provide the maximum benefit to the area, but will also allow for trial and error to determine if changes should be made before moving on to the next node.

   Within each node, establish a high-priority crossing (or crossings) which will receive the full set of intersection treatments described in the Toolbox. Focus first on the crossing at Automation Alley Smart Zone. Identify future crossing locations so crossings are within 600 ft of each other.

   Recommended nodes and key intersections are included in the Short-term and Long-term Recommendations.

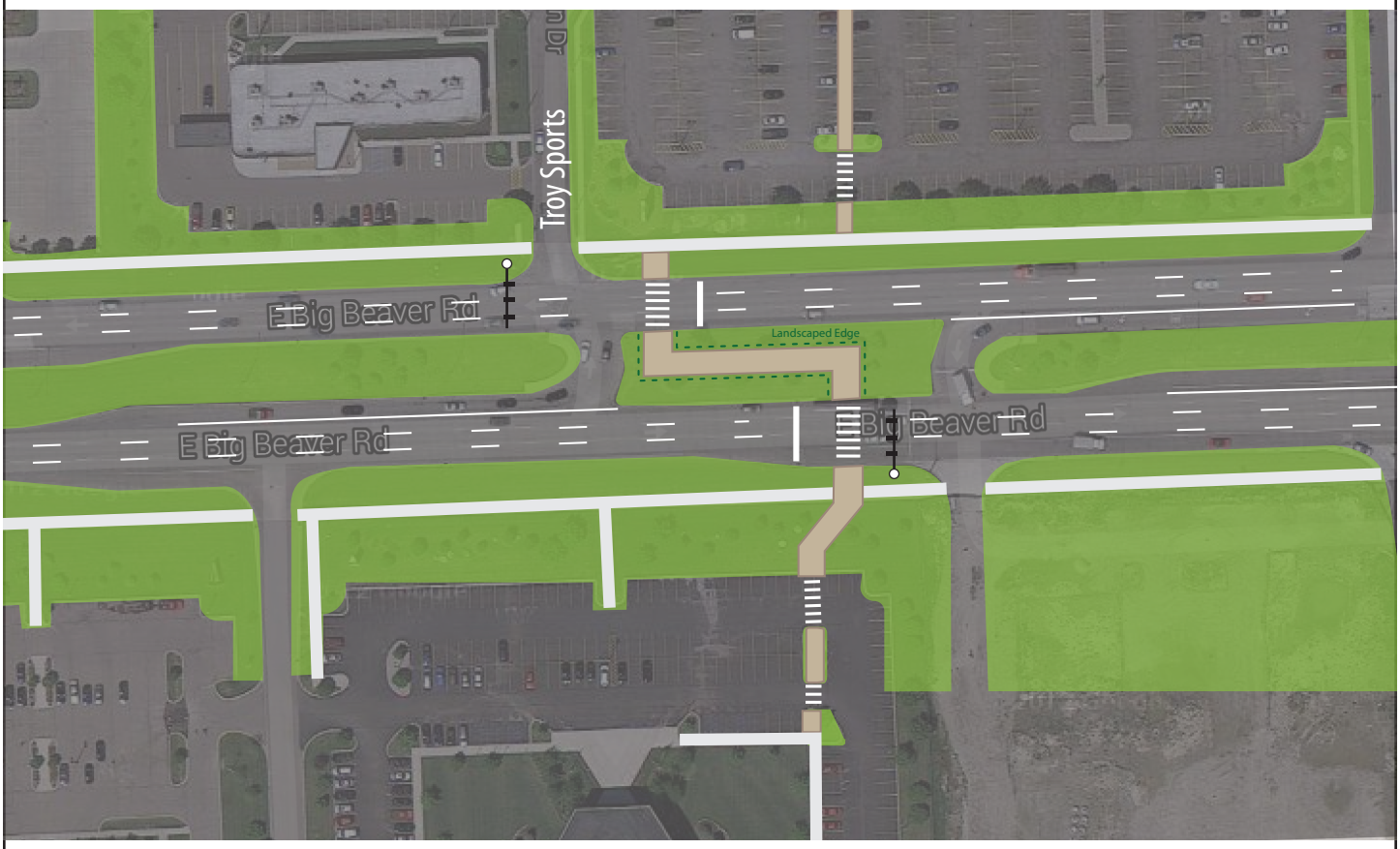
2. Focus Initial Efforts at Automation Alley Smart Zone Crossing

   A new mid-block crossing should be installed, approximately 850 ft west of John Road, to allow employees of Automation Alley Smart Zone to easily access Starbucks and the numerous restaurant and retail options on the north side of the street. The crossing should include the following:

   - A new traffic signal.
   - Continental crossings using thermoplastic or paint at all legs of the intersections within the node. Work with Automation Alley Smart Zone to incorporate their branding into one of the crossings.
   - Directional and distance signs for dining and/or shopping destinations in all four directions consistent with larger wayfinding system along the corridor.
   - Signage to make pedestrians aware of the new crossing.
   - New pedestrian walkways through the parking lots of both Altair Engineering and the shopping center of the north side of the street.

3. Outreach
   - Focus immediately on establishing website and basic graphics and marketing materials -- such as maps and pamphlets --for use in future outreach and awareness events.
   - Set a goal for the number of outreach events to occur in the following year.

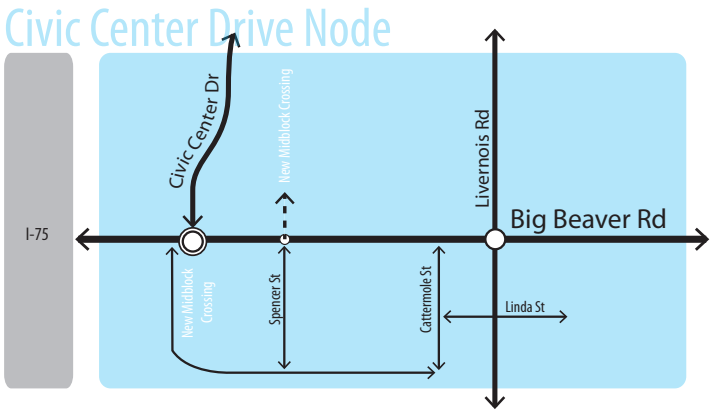
John R Road Node - Automation Alley Smart Zone Midblock Crossing



Short Term

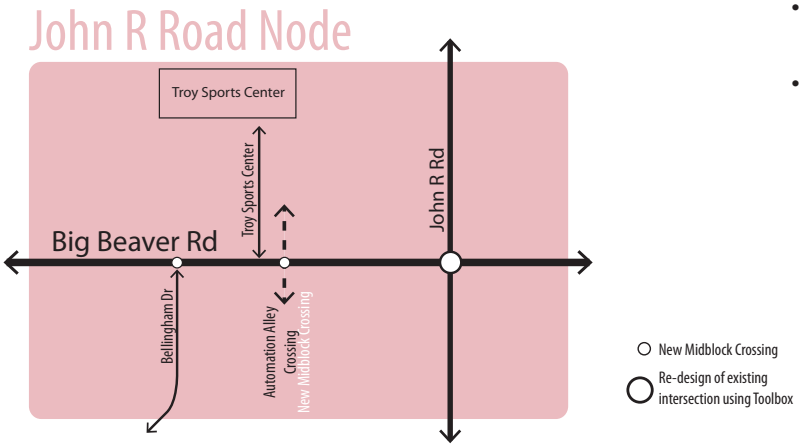
1. Establish Nodes Along Big Beaver Road

   The node diagrams included here provide general guidance on the location of new midblock crossings, and high priority crossings to be considered for full install of intersection treatments described in the Toolbox. All new midblock crossings should have a full traffic signage for vehicles.



Civic Center Drive Node*

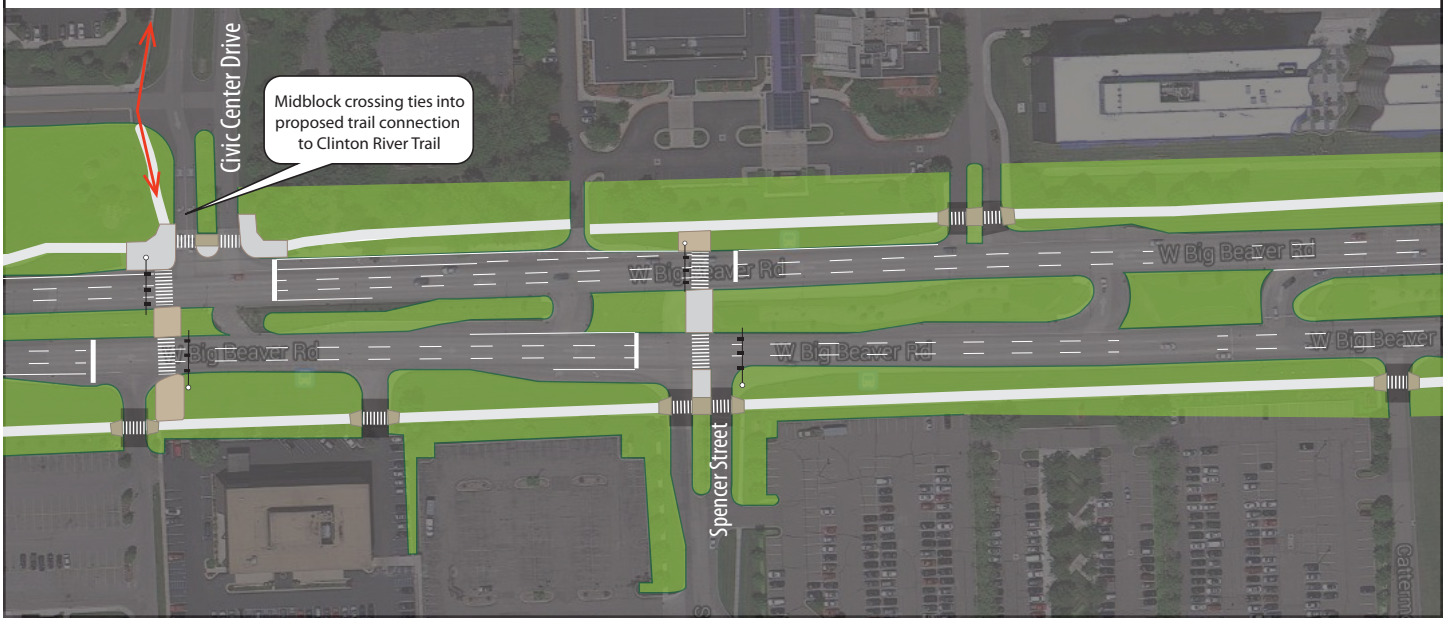
- Install new intersection at Civic Center Drive with signalized pedestrian crossing.
- Explore midblock crossing at Spencer Street connecting Columbia Center and Liberty Center across the center median
- Update Livernois Road intersection with Toolbox treatments



John R Road Node

- Explore additional midblock crossing connecting at Bellingham Drive
- Update John R Road intersection with Toolbox treatments
- Consider a pedestrian overpass to connect Automation Alley Smart Zone with the development on the north side of the street

Civic Center Drive Node Reconfiguration



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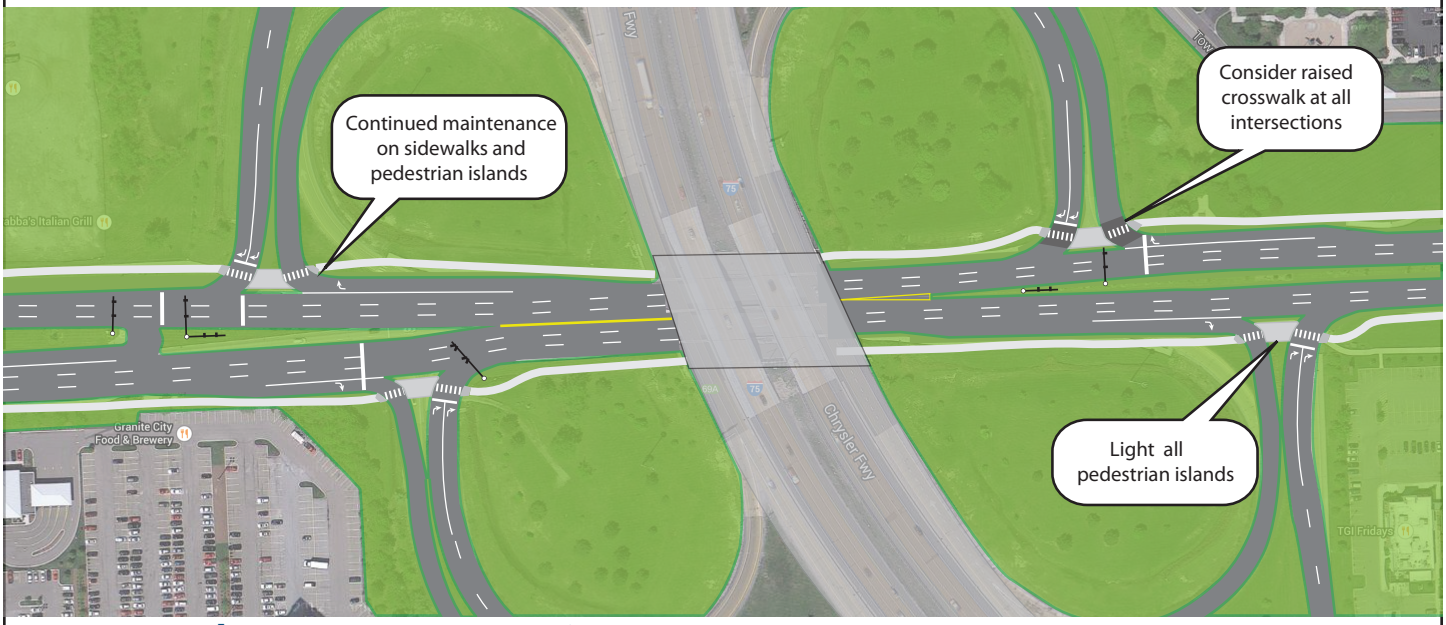
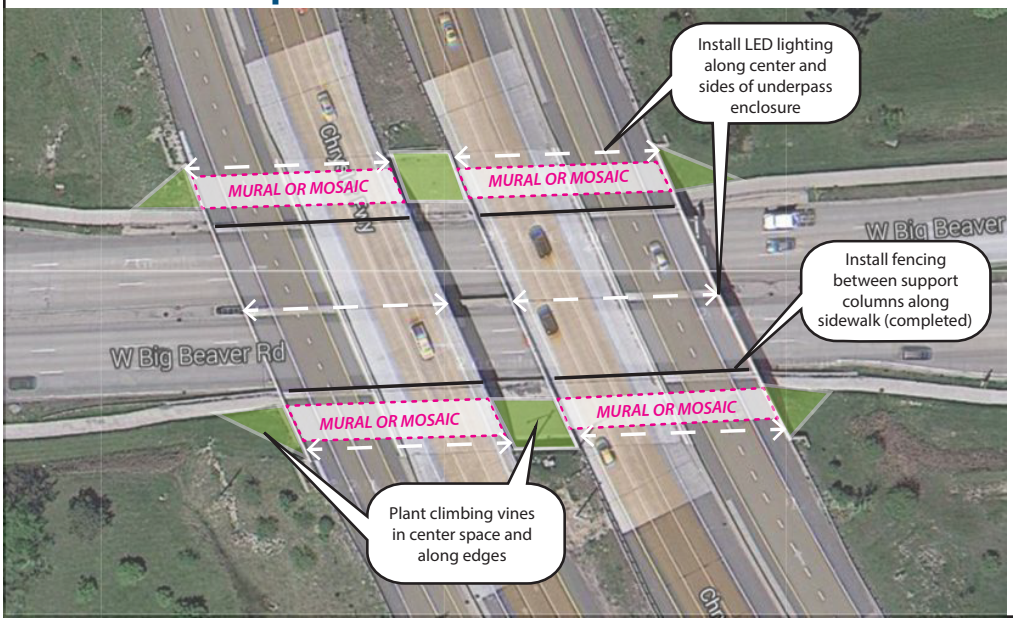
2. Interstate 75

   The I-75 highway underpass is a barrier that separates the two sides of Big Beaver for pedestrians. The many challenges it poses include diminished light, narrow sidewalks positioned much closer to vehicle right-of-way, amplified vehicle noise, in addition to generally unpleasant aesthetic conditions. Additionally, the on-ramps to I-75 are one of the most dangerous places for pedestrians because vehicles do not have to stop and are accelerating to get up to the speed of vehicles on I-75. Because reconfiguring these underpasses can be prohibitively expensive and time intensive, instead focus on cosmetic changes which can effectively alleviate some of these harsh conditions for pedestrians.

I-75 Interchange Reconfiguration



I-75 Underpass Interventions



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   Create standard 90 degree intersections

   - Relocate ramp entrances and exits so they create 90 degree intersections with Big Beaver Road.

   Soften the concrete edges of the underpass

   - Plant climbing plants at the edges of the underpass, as well as in the open space between the two-highway directions. This will soften the concrete edges in the space, and bring greenery in from the outside toward the enclosed sidewalk. Building a trellis in the center gap space and along the sides of the underpass will encourage growth in these areas. These types of plants must be maintained to avoid their creeping onto the roadways above and below. Plants will also help to dampen echoes in the space by absorbing bouncing vehicle noise.
   - Engage the community in the design or installation of a large mural or mosaic installed along the angled concrete faces underneath the overpass. If a

mosaic is selected, integrate reflective materials to bounce light further into the space. Explore three-dimensional artwork and sculpture to break up the concrete faces. This texture and visual interest will significantly improve the pedestrian experience.

Increase lighting and separation

- Install bright LED lighting along all sidewalks. In addition, direct light down the angled concrete faces illuminating the art installation at night. Differentiate -- through light color or lighting style variation-- between pedestrian space and vehicular space.
- Install segments of fencing between support columns separating the sidewalk and vehicle right of way. Position the fencing as close to the vehicular edge of the support structure as possible.

3. All Intersection Treatments:

   All intersection treatments described in the Toolbox should be considered at high priority and midblock crossings. In addition to those baseline treatments, implement the following at high priority and midblock crossings:

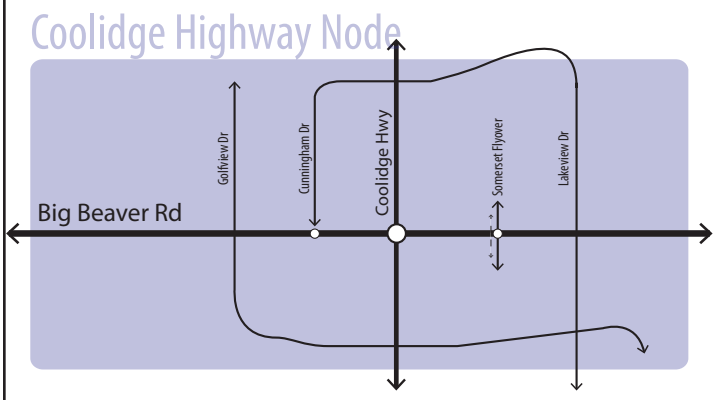
   - Install MUTCD compliant signage on the approach to and at all pedestrian crossings along the corridor.
   - Document and evaluate intersection geometry pilot projects installed with paint and bollards.
   - Install speed tables at high volume access drives along Big Beaver Road .
   - Install "Sharrow" symbols on all possible low-/mid-volume streets intersecting Big Beaver. Begin building a bicycle network to support need for multi-use trail conversion (Long term).
   - Increase the supply of highly visible bicycle parking at all establishments along Big Beaver to encourage active transportation along the corridor. This lays the groundwork for the long-term goal of expanding the sidewalks along Big Beaver Road into a multi-use trail.

4. Lighting and Landscaping improvements:
   - Install pedestrian scale sidewalk lighting along full length of Big Beaver per Toolbox guidance. Begin with higher frequency clustering around major intersections and midblock crossings. Follow with infill between nodes.
   - Establish landscaping guidelines for the Big Beaver corridor. Include a selection of native or salt-tolerant plants. Focus first on landscaping sidewalk segments approaching midblock and major crossings with trees and shrubs per Toolbox guidance. Follow with tree infill between nodes.
   - Encourage businesses along the corridor to participate in City placemaking and outreach initiatives.

5. Transit
   - Pilot a trolley system on the corridor for one summer, a few days a week. Consider partnering with another municipality to share costs.
   - Install shelters, benches, and bike racks at all bus stop locations with real-time bus arrival data.

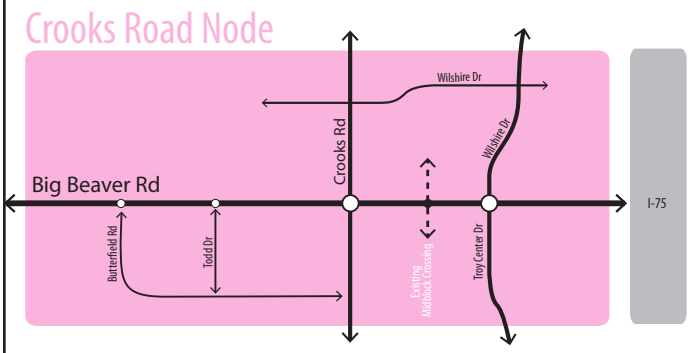
6. Legal/Ordinance:
   - Consider pursuing a "shared parking lot" development ordinance.

Long Term



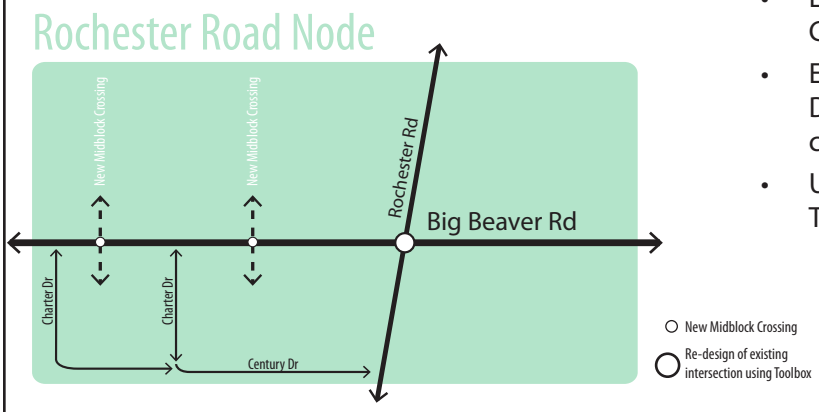
Coolidge Highway Node

- Update Coolidge Highway intersection with Toolbox treatments
- Update midblock crossing at Somerset Flyover with Toolbox treatments
- Explore midblock crossing at Cunningham Drive



Crooks Road Node

- Update Crooks Road intersection and Troy Center Drive/Wilshire Drive with Toolbox treatments
- Explore midblock crossing at Butterfield Road or Todd Drive
- Existing midblock crossing at Troy Center Drive/ Wilshire Drive connecting to the City Center building entrance



Rochester Road Node

- Explore midblock crossing location between Charter Drive(west) and Charter Drive(east)
- Explore midblock crossing near Pei Wei Asian Diner. Extend sidewalk connections to shopping center(s) across parking lots
- Update Rochester Road intersection with Toolbox treatments

Additional Recommendations

- Determine feasibility of streetcar, bike share, or other high capacity pedestrian accelerator. Conduct feasibility study for the corridor.
- Expand sidewalk along one side of Big Beaver into a multi-use trail. Connect pathway to all housing adjacent to the Big Beaver corridor.
- Build pedestrian bridges at major intersection crossing locations, both signalized and mid-block.
- At all high-priority intersections with wide medians, install shade structures. Installing high-profile features such as artistic or colorful shade/weather protection structures for pedestrians crossing the street will signal to drivers that pedestrians are likely to be present in the space.
- Infill development of retail businesses within established nodes. Incentivize shared parking lots and buildings positioned facing Big Beaver; make direct connections with Big Beaver multi-use trail.
- Continue to expand bicycle infrastructure throughout the area providing direct connections to the Big Beaver multi-use trail.

Placemaking, Outreach and Events

For the City: Initiatives

Simply building infrastructure does not ensure that people will use it. An encouragement effort, led by the City, will have a tremendous impact on increasing the amount of pedestrian activity along the corridor.

1. Create a Move Across Troy website:
   - This should be a one-stop shop with updates on new multi-modal infrastructure, safety tips, event information, and "Node-Maps" listing destinations and businesses within walking distance.
   - Post a list of "walking facts," information about the economic benefits of driving less, and the numerous health benefits of walking.
2. Create and distribute a Big Beaver corridor "Node-Maps" or "Lunch-Maps" to large business centers/towers informing workers of the walkable food, personal services and shopping destinations nearby. These maps should show the contiguous sidewalks and highlight new intersection designs. This could be part of a business promotion campaign highlighting lunch-time specials at individual establishments.
3. Install wayfinding and directional signage along the corridor. At all major intersections, post similar sign posts with nearby businesses and amenities. By creating a cohesive signage system, pedestrians navigating the corridor know they can depend on consistent information along the way.
4. Produce an eye-catching pamphlet with information on walking and biking connections along the corridor, and destinations to provide to hotel reception desks, and post at business entrances, message boards, and coffee shops.
5. Use the sidewalk as a canvas. Post distance and directional queues to nearby businesses or destinations, and "walking facts" on the pavement in temporary paint or decals. Informing pedestrians how far they are from the next safe crossing will encourage the use of the crossing instead of jaywalking. Parking lots and sidewalks also serve as great canvases for temporary community artwork. Many washable, or chalk based paints exist for such purposes.

For the City: Events

Hold 2-3 outdoor events in the community during fair-weather months to raise awareness and encourage outdoor activity. Also, consider locating events on the lawn in front of the Civic Center complex after the Civic Center Drive improvements are complete.

Events to consider might include:

- Ciclovia: A number of cities, large and small, have had great success with closing major corridors on an annual basis and using the day to encourage walking and biking. The City should work with Somerset Collection and other businesses to ensure an event like this helps businesses and doesn't harm them.
- Sidewalk or parking lot game days: Create oversized game boards on unused parking lot or sidewalk space.
- Restaurant Walk Weeks: Raise awareness for walkable dining destinations by featuring one restaurant per week of the summer; offer prizes to those who walked or biked to reach them.
- Celebrate Big Beaver's food options: Host food truck or local food markets in business center parking lots.
- Bike/Walk-to-Work Week or Pedometer Challenge: Kick off a week-long bike or walk to work competition. Participating businesses log miles traveled on foot or bike into the event website. Host a kickoff celebration, daily prizes or smaller events, and offer prizes to the company and individual who log the most miles.
- Walk-a-thon or Fun-Run: Host a charity walk-a-thon or Fun-Run utilizing sidewalks along the length of Big Beaver.
- Parking Day: Work with local businesses to install temporary mini-parks in parking spaces. Consider making successful projects permanent.

Help Start-up Running, Walking, or Stroller Clubs:

Contact local businesses and residents to start running, walking, or stroller clubs around the area. Promote and encourage the use of paths with pedestrian infrastructure improvements.

Create an Outdoor Beautification Campaign:

Encourage all businesses to improve their sidewalks and outdoor space to help give the Big Beaver corridor a more comfortable outdoor environment. Encourage the businesses to install signage drawing attention to the larger area-wide effort.

Find Opportunities for Community Driven Murals and Artwork:

Wall murals and sidewalk/pavement art adds life and personality to the built environment. There are many ways to garner community involvement in creating a public art piece. For instance, artwork options could be posted as a web-vote, artwork could be created by local schools, or an artist could be selected in a public competition.

Focus first on the Interstate 75 Underpass. Install a mural or mosaic using vegetation, reflective materials, and lots of color to increase light and comfort walking through the space.

Celebrate New Pedestrian Infrastructure:

Install large eye-catching temporary installations on the central median to celebrate the new pedestrian improvements at major intersections or midblock crossings. Median awareness should also be included, such as ribbon cuttings, press releases, and email announcements.

Pop-Up Events:

Look for opportunities to create a display of information at non-City sponsored events planned in the area. Contact schools, churches, and businesses along the corridor to find out when they have scheduled large events. Use these opportunities to spread the word about the City's new walking amenities, events, and opportunities.

Adopt-a-Sidewalk along Big Beaver Road:

Encourage businesses to 'adopt' the stretch of Big Beaver adjacent to their building or parking lot. Provide support

for additional landscaping, maintenance, connections, or sidewalk expansion along their adopted segment.

For Law Enforcement:

Bolster law enforcement to support physical changes along Big Beaver.

- Issue warnings and ticket drivers who fail to stop behind the white stop bar at intersections.
- Issue warnings and ticket drivers who fail to yield to pedestrians while turning right.
- Feature local police officers and firemen in a short video describing pedestrian and bike safety best practices, and post it on the City's information website.
- Install radar speed signs along the corridor to alert drivers to the Big Beaver corridor speed limit.

For Drivers:

Add signage for drivers clarifying vehicle movements approaching intersections with pedestrian crossings. Refer to the Manual on Uniform Traffic Control Devices (MUTCD) for clarification on sign selection and legal signage placement.

- To supplement traffic signal control, 'STOP HERE ON RED' signs (MUTCD: R10-6 or R10-6a) can be considered to keep vehicles away from crosswalks. Along the Big Beaver corridor, these signs should be paired with moving the stop bar at least 10 ft away from the pedestrian crosswalk at all intersections.
- A 'Pedestrian Crossing' (MUTCD: W11-2) warning sign may be placed overhead or may be post-mounted with a diagonal downward pointing arrow (W16-7P) plaque at the crosswalk location where 'Yield Here To ('Stop Here For') Pedestrians' signs have been installed in advance of the crosswalk.
- 'Yield Here To (Stop Here For) Pedestrians' (MUTCD: R1-5 series) signs can be used if yield (stop) lines are used in advance of a marked crosswalk that crosses an uncontrolled multi-lane approach. This sign may be used even if a stop bar is not present to indicate where a driver may stop.
- 'In-Street Pedestrian Crossing' (MUTCD: R1-6 or R1-6a) signs or the 'Overhead Pedestrian Crossing' (MUTCD: R1-9 or R1-9a) signs may be used to remind drivers of laws regarding right-of-way at an unsignalized pedestrian crosswalk.

For Families:

- Focus on youth and families to begin to change the culture of transportation on Big Beaver.
- Distribute information to all day-care, pre-school, and elementary school locations.
- Encourage community leaders and educators to visit and share facts and information from the Move Across Troy website.
- Host pop-up tables during school pick-up times and community events with information about new pedestrian infrastructure and walkability.

For Businesses:

- Encourage businesses to not only advertise their proximity to walkable destinations, but to participate in events and educational campaigns run by the City.
- Encourage all businesses to create and update their profiles on social media with key words like "walk-up""outdoor seating" or information with distances from the nearest major intersection and connections to sidewalks on Big Beaver. Include a link to the 'Node-Map' on website with walking directions.
- Encourage businesses to engage the sidewalk. Encourage the use of temporary sidewalk chalk paint or decals to direct people to destinations. Also, encourage businesses to provide outdoor shade structures, lighting, and seating to patrons.
- Distribute destination "Node-maps" or "Lunch-Maps" to large business centers/towers informing workers of the walkable destinations nearby.

APPENDIX

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" principles 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.

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.

Though produced 8 years ago, the results of the SGRAT greatly influenced the creation of the 2008 Master Plan. Recognizing their importance, this appendix includes the detailed results of the SGRAT survey.

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 state. 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 its 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.

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

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 role 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 complements 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 available. Selectively purchase vacant industrial properties that can be used as parking lots to other nearby buildings and allow those buildings to have alternative commercial uses.*

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

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

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

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.*
- *The few remaining wetland and lake prairie areas left (situated in the northern part of the City in the Square Lake Road area) and head waters of the River Rouge.*

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

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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